

PRODUCT CATALOGUE



WABCO



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We have prepared our new WABCO Customer Centre to support you on finding and ordering what you need easier, faster, and with lots of new features you'll come to love.

www.wabco-customercentre.com

WABCO

Dear WABCO customer,

Welcome to the new WABCO Customer Catalogue. This extensive reference work has been designed to support and simplify your daily operational performance by providing you with an exhaustive overview of our product availability. The catalogue enables you to quickly find and order replacement parts and services essential to supporting your customer's ability to achieve reduced downtime.

A lot has changed since the last imprint, and the new publication contains up-to-date details of our latest products and services, designed and developed for today's commercial vehicle industry, one which is quickly transitioning to an Autonomous, Connected and Electric future.

Backed by over 150 years of expertise in the supply of commercial vehicle parts and built on a long collaboration with the world's leading Original Equipment Manufacturers, every WABCO component is designed and manufactured to the highest quality standards and supported by a powerful, global customer service network. Our high quality standards have been put in place to delivery you, that essential peace of mind - knowing that when you order from the WABCO catalogue, every item is a like for like replacement part to the original OE part.

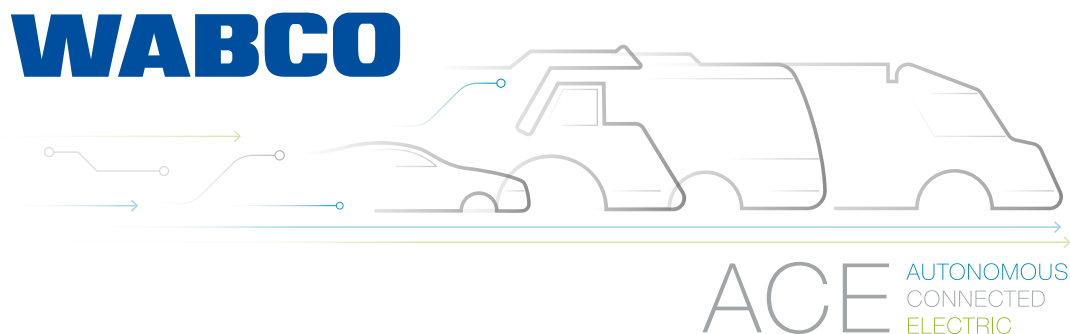
Within these pages you will find detailed specifications of our growing range of systems and components for trucks, trailers and buses. The catalogue has been designed to deliver a one-stop shop for every workshop and distributor.

Serving you with a complete overview of our offer, this catalogue also provides details on our REMAN SOLUTIONS offering, leading repair solutions, as well as WABCO ACADEMY trainings and diagnostics. We hope you find this catalogue useful.

Orders may be placed through our online portal wabco-customercentre.com catalogue, or you are welcome to reach out to our expert staff that is readily available to provide full technical and business support, ensuring you find the right product, training course or service.

We are confident that this catalogue, with its comprehensive offering of parts and services will play a key part in achieving our joint ambition: to enable the commercial vehicle transport industry achieves safer, greener and leaner operations.

Your WABCO team



ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 162,000 employees worldwide with approximately

260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO).

With the integration of WABCO, the leading global supplier of braking control systems and other advanced technologies that improve the safety, efficiency and connectivity of commercial vehicles ZF will create a new level of capability to pioneer the next generation of solutions and services for original equipment manufacturers and fleets globally. WABCO, with almost 12,000 people in 40 locations worldwide, will now operate under the ZF brand as its new Commercial Vehicle Control Systems division.

Welcome to the WABCO family!

Are you searching for the ways to bring down the cost of your business, enable simplicity in your operations, train your staff, improve productivity across the board, increase uptime, and simply reduce the carbon footprint? We are here for you!

This catalogue proudly offers you an overview of our aftermarket OE proven parts, repair solutions, diagnostic tools, training and re-manufacturing services.



WABCO Original Equipment and Repair Kits

Our OE parts deliver peace of mind, built on decades of experience and on our extensive industry partnerships with the commercial vehicle sector as a whole. To ensure we deliver the highest quality, we use high-grade materials, as well as subject these parts to comprehensive tests and inspections designed to meet the most rigorous production and safety standards. Today our parts and services proudly serve over 100 OE companies worldwide.

Not looking to replace the whole part? If you need a cost-effective refresh without requiring the entire component to be replaced you can choose from our extensive range of repair solutions. On top, many of these components require no additional specialist tooling, making the repair quick and easy.



ECO LOGICAL
NOMICAL

WABCO REMAN SOLUTIONS

Our extensive REMAN SOLUTIONS offer customers a remanufactured product that matches the level of quality of a new part and is the perfect cost-efficient choice when core return is ensured. This solution, which builds on the need for the industry to return used cores back to WABCO, supports a significant cut down on waste, supporting our contribution to a greener planet and allows us to return used cores back to the market as new.



ProVia

Looking to strike a balance between safety, reliability and cost as an alternative to the low-end budget parts which can often fall short of quality and reliability expectations? Don't want to invest in premium aftermarket parts for trucks, buses, and trailer? Then ProVia is the perfect solution for you. Want to know more? Visit the dedicated ProVia catalogue, for a detailed portfolio overview on www.provia-auto.com.

Your journey with WABCO

Order & delivery

The greater your fleet operations uptime, the higher the satisfaction levels of your customers, stakeholders and drivers. Finding the right replacement part for your vehicles therefore plays a key role in enabling improved uptime! To help you find and order the part quickly, we have recently introduced the new WABCO Customer Centre – the online tool for all your WABCO parts and service needs. If you prefer personal contact, we look forward to answering your call or welcoming you to one of our almost 5000 distribution points worldwide. To find the nearest one use “Find us” on:
www.wabco-customercentre.com

Repair & maintenance

When the vehicle is constantly on the road, it has to be continuously maintained. WABCO offers a comprehensive range of customized aftermarket solutions and dedicated support services tailored to your repair and maintenance needs, enabling you to operate safely and efficiently. In our extensive offering you will find spare parts and a repair kits for almost all commercial vehicles worldwide, tailored to your budget and vehicle age.

Customer support

Have a question? Missing some information? We are here for you! Our trained specialists at the WABCO Customer Care Centre are always on hand to answer your technical and commercial questions, providing the help you need in your local language where available:
www.wabco-auto.com/Get-in-touch

Digital & diagnostic tools

To prevent is better than to cure. Vehicle downtime can be a real thorn in a fleet and workshop manager’s side. One effective way to increase uptime across your fleet operations is by being on top of the health of your vehicles at all times.

To enable you to detect onboard system failures early on and optimize vehicle maintenance scheduling, WABCO offers a powerful combination of diagnostics solutions that will monitor the technical performance of your vehicle on the road and support diagnostic work in the workshop, enabling mechanics can react quickly to improve the uptime.



Training

Enabling your specialists to quickly assess the condition of a vehicle, decide on the right replacement part and effectively repair it to reduce the truck’s downtime requires continued training. WABCO ACADEMY provides advanced technical training and consulting services to fleet managers, professional drivers, garage managers, distributors and mechanics. As the industry and the technology around it evolve, WABCO ACADEMY is there to enable you and your teams to stay on top of the latest trends and technological changes.

To meet varying customer demands and in a drive to offer the most convenient forms of training, WABCO ACADEMY offers a number of different training options:

- e-learning,
- classroom training,
- in-house training,

Visit www.wabco-academy.com and choose an option that meets your needs today!

Upgrade & update

Keeping your vehicles up to speed with the changing market is a challenging task for any fleet manager and when replacement is not an option, you can turn to WABCO’s extensive offering of Retrofit solutions. It’s a portfolio specifically designed to keep you vehicles up to date, thanks to an ability to upgrade your existing vehicles with the latest state-of-the-art technology and ensure they are up to standard (e.g. Advanced Driver Assistance Systems or our newest Trailer EBS).

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Cross reference list

To quickly identify the right spare part for your vehicle open the „Cross Reference List“, document 815 010 054 3 and follow 3 quick and easy steps, described within the document.

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Important instructions

Safety & testing instructions

Repair

Repairs must be made by qualified expert technicians with specific knowledge of the system only.

It is imperative that the applicable accident prevention regulations of the company as well as national regulations are observed.

It is imperative that the vehicle manufacturer's specifications and instructions are complied with.

Adjustment

Even where devices have the same product number, they may have different operating principles. Electronic control units especially are often produced universally and then adjusted for a particular application by the vehicle manufacturer setting corresponding parameters. If a replacement is required the device must be calibrated or parameterized with diagnosis equipment. Therefore you need to attend an adequate system training course and have the knowledge of special settings.

Apart from electronic control units, automatic load-dependent brake-power distribution is also likely to require special adjustments and settings.

Test

After replacing or repairing a device, a functional test of the entire system must be performed.

It is imperative that universal devices are tested on the basis of the vehicle manufacturer's data (such as load sensing valve label, brake calculation etc.).

Perform a test drive after finishing work on the vehicle.

Description of pneumatical ports

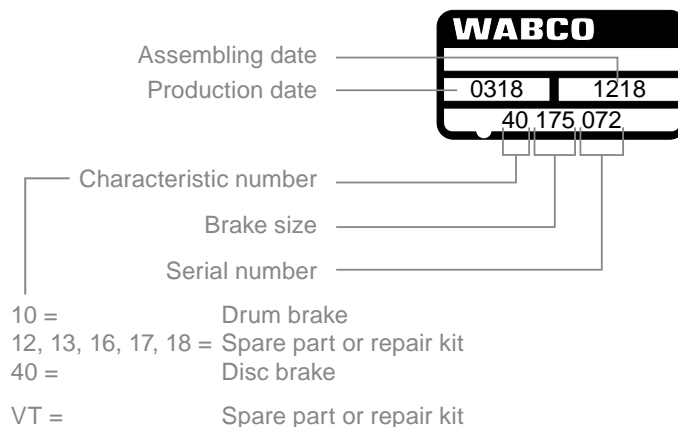
The markings consist of a number comprising a maximum of 2 digits. The first digit stands for:

- 0 - intake connection
- 1 - supply of energy
- 2 - energy delivery (not for delivery to atmosphere, see no. 3)
- 3 - exhaust port
- 4 - control port (device inlet)
- 5 - additional pneumatic port
- 6 - free
- 7 - anti-freeze connection
- 8 - oil connection
- 9 - cooling water connection (compressor)

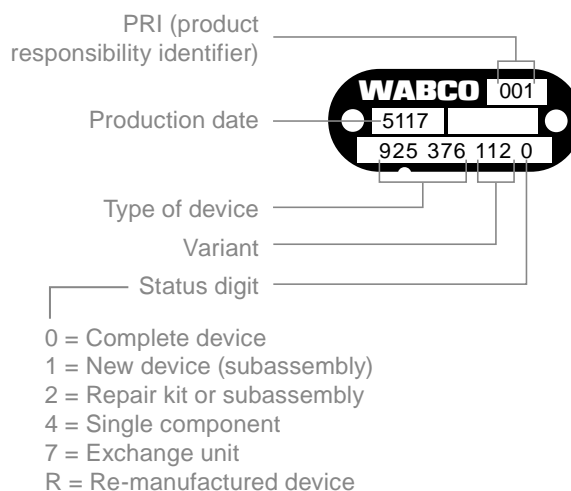
Structure of the WABCO number

WABCO part numbers consist of 8 or 10 digits.

8 digit product number (wheel brakes)



10 digit product number



A second digit is there required when several similar connections, e.g. multi-circuit systems, are available. The relevance of the second digits is up to the manufacturers. They should begin at 1 and be used consecutively, e.g. 21, 22, 23, etc. If a modular system is used, deviations from this are permitted.

The following numbers are not available for free selection:

- 7.1 - anti-freeze supply
- 7.2 - anti-freeze discharge
- 8.1 - oil supply
- 8.2 - oil discharge
- 9.1 - cooling water supply
- 9.2 - cooling water discharge

WABCO

ADVANCED DIGITAL SOLUTIONS



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Advanced digital solutions

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Telematics



Modern-day transport companies face a multitude of challenges in a world that is fast changing, driven by higher customer expectations, more regulation and fast-paced technological change. The advent of cloud technology, Big Data and the Internet of Things (IoT) is having a significant impact on industries worldwide and is already delivering new levels of safety and efficiency to transport operators globally.

WABCO offers a unique combination of advanced digital solutions, an extensive support network and services designed to connect the many ecosystem players in transport today. The company's ever expanding and evolving telematics and cloud-based Fleet Management Solutions (FMS) allows transport operators to continuously improve their connectivity across the ecosystem enabling these to operate in an increasingly safer, greener and leaner manner. This includes advanced and connected solutions to enable fuel savings, driver satisfaction, event recording, regulatory compliance, intelligent cargo management, optimized planning, administrative automation, and supply chain connectivity.

On the next pages you will find an extract of our FMS systems, platforms and functionalities. Want to learn more? We invite you to visit www.wabco-solutioncentre.com or see www.transics.com to review the full portfolio.

Entry-level telematics

TRAXEE™

| | |
|-------------------------|------------------------------------|
| ■ Description | Fleet management assistant |
| ■ Product number | 446 297 002 2 TRAXEE Standard Pack |
| ■ Training | E-learning: TRAXEE 200 300 117 0 |



| Content | TRAXEE Standard Pack 446 297 002 2 |
|------------------------------------|---------------------------------------|
| FMS connector kit | 1x |
| Remote data download connector kit | 1x |
| Tacho connector kit | 1x |
| Hardware unit | 1x |
| 1 st year subscription | 1x |
| Quick start guide | 1x |
| Safety instructions | 1x |
| FMS CAN cable | 1x |
| Power input/output cable | 1x |

| Features |
|--|
| Driver identification |
| Fleet position and status |
| Tacho times |
| Remaining driving and resting times |
| Activity management |
| Automatic and remote tacho data download and archiving |

| Features |
|--|
| Historical routes |
| Text messaging |
| ECO driving style analysis |
| GeoZones |
| Advanced reports and alarms |
| Truck-friendly route calculation, including toll costs |

Accessory

| Product number | Accessory | Application |
|----------------|--------------------------|---|
| 446 297 100 2 | Optional hardware type 1 | DAF XF95 / XF105 / XF106 MAN TGX / TGA / TGS / TGM / TGL IVECO Stralis Euro 4 ... 5 Scania P / R / T Renault T / K / C (Euro 6) Volvo FH / FM (Euro 6) |
| 446 297 101 2 | Optional hardware type 2 | Mercedes Actros / Antos / Arocs / Atego / Axor Iveco Hi-Way (>2016) Scania R / S / G / P (Euro 6 >2018) Volvo / Renault (Euro 5 and older) |

Advanced telematics

TX-SKY

TX-SKY is a powerful on-board computer, touchscreen-operated and dashboard mounted. It is fully integrated into Transics' multifunctional TX-CONNECT back office software and connects as standard to the vehicle's CAN bus and tachograph. It registers all driver and truck information as well as data from other sources, such as temperature sensors and document scanners. As a secured gateway, TX-SKY enables drivers and dispatchers to exchange information in real time. TX-GO 2



TX-GO 2

TX-GO 2 is an on-board computer without a display, designed for installation behind the dashboard. It is connected to the truck's digital tachograph, allowing real-time tacho activity follow-up, automated activity management and remote download of mass memory and driver cards. TX-GO 2 can also be connected to the CAN bus, allowing fuel management, trend reporting and driver scoring. Integrated within the powerful TX-CONNECT back office platform, TX-GO 2 is a secured gateway for fleet data, and enables real-time fleet follow-up.



TX-CONNECT (MP)

This interactive platform for transport, logistics and distribution companies better integrates fleet information, allowing improved functionality of daily communication between planners, manager, subcontractors and customers. TX-CONNECT is the beating heart of our solutions and can be strengthened via the integration of vehicle peripherals and office software.



TX-SOCIAL

TX-SOCIAL is an intuitive software package for managing tacho read-outs and social data. It helps drivers understand when to drive and rest, while also managing and archiving their tacho data. The software provides activity and expense reports, with an exporting function to share the information as required. It can also be used to simplify payroll administration.



TX-ECO

TX-ECO is a brand-independent program that objectively evaluates and stimulates driver performance for economical and environmentally-friendly driving. The program combines in-cabin driver tools, key performance indicators, driver scores and trend reporting, using telemetry captured from a truck's CAN-bus. TX-ECO is fully integrated into the back-office software TX-CONNECT.



TX-REPORTS

Charts fleet performance. TX-REPORTS is part of TX-CONNECT and is a perfect basis for detailed reporting. As it records and charts the performance of the fleet, it can help find ways to optimise productivity and profitability.



TX-DASHBOARDS

TX-DASHBOARDS is an assessment platform that helps fleet managers identify and monitor strategic objectives. It translates fleet data into trend reporting and measures that against company targets for vehicle efficiency, driver performance, fuel consumption and customer service.



TX-TANGO

TX-TANGO is a web service platform offering quick integration capabilities between Transics' solution and a wide range of other popular back office applications used by fleet managers.



TX-FLEX SOLO

Designed to simplify collaboration with freelance or subcontracted drivers. TX-FLEX SOLO is a driver app that is compatible with Android smartphones and tablets. The app allows back offices to track and trace trucks, while allowing drivers to perform tasks such as messaging, planning, pallet handling, barcode & document scanning, picture transfer, problem tracking and so forth...



TX-DIAGNOSTIX (remote diagnostics)

TX-DIAGNOSTIX enables a detailed and remote assessment of the technical health of any European truck brand. Co-developed with WABCOWÜRTH, a reliable diagnostics specialist for commercial vehicles, TX-DIAGNOSTIX reads out all fault codes, translates them into understandable language, then goes on to describe the root cause of the failure and even explains how the problem should be solved. The solution is fully integrated in TX-CONNECT, your powerful FMS back office platform.



Trailer telematics

TX-TRAILERGUARD

TX-TRAILERGUARD is a robust trailer telematics solution that optimizes trailer management. It includes track & trace and also features EBS data, remote reefer management, connection to data loggers and peripherals such as door-lock or tire-pressure monitoring systems. Designed to maximize connectivity, it can be used with any type of trailer and mixed fleets containing many different types of trailer, including refrigerated, specialty, or high-security units. It features a rechargeable & long-lasting battery for uninterrupted data availability.

TX-TRAILERPULSE

TX-TRAILERPULSE is a robust trailer telematics unit without battery. The device has been specifically designed to capture a maximum of data on trailers with limited electronics, such as curtain siders, box trailers or flatbed chassis trailers. On top of its Track & Trace capabilities, TX-TRAILERPULSE captures and forwards EBS-data sourced from multibrand EBS systems. The unit is also capable of relaying data from available WABCO braking, stability, efficiency and safety systems to TX-CONNECT.

| | | |
|-------------------------|---------------|------------------------------|
| ■ Product number | 346 291 000 0 | TX-TRAILERPULSE |
| | 346 292 000 0 | TX-TRAILERPULSE with battery |
| ■ Accessory | 346 297 000 4 | TX-TRAILERPULSE bracket |
| ■ Training | 200 300 127 0 | E-learning: TX-TRAILERPULSE |



346 291 000 0

TX-GEO 2

TX-GEO 2 is a robust tracking solution that pinpoints the location of powered or unpowered objects, such as trailers, containers or portable cabins. Fitted with an embedded motion sensor and advanced GPS technology, TX-GEO 2 responds to the slightest movement and immediately sends precise position data to a TX-CONNECT back office software platform. A durable battery ensures TX-GEO 2 remains operational for up to seven years.



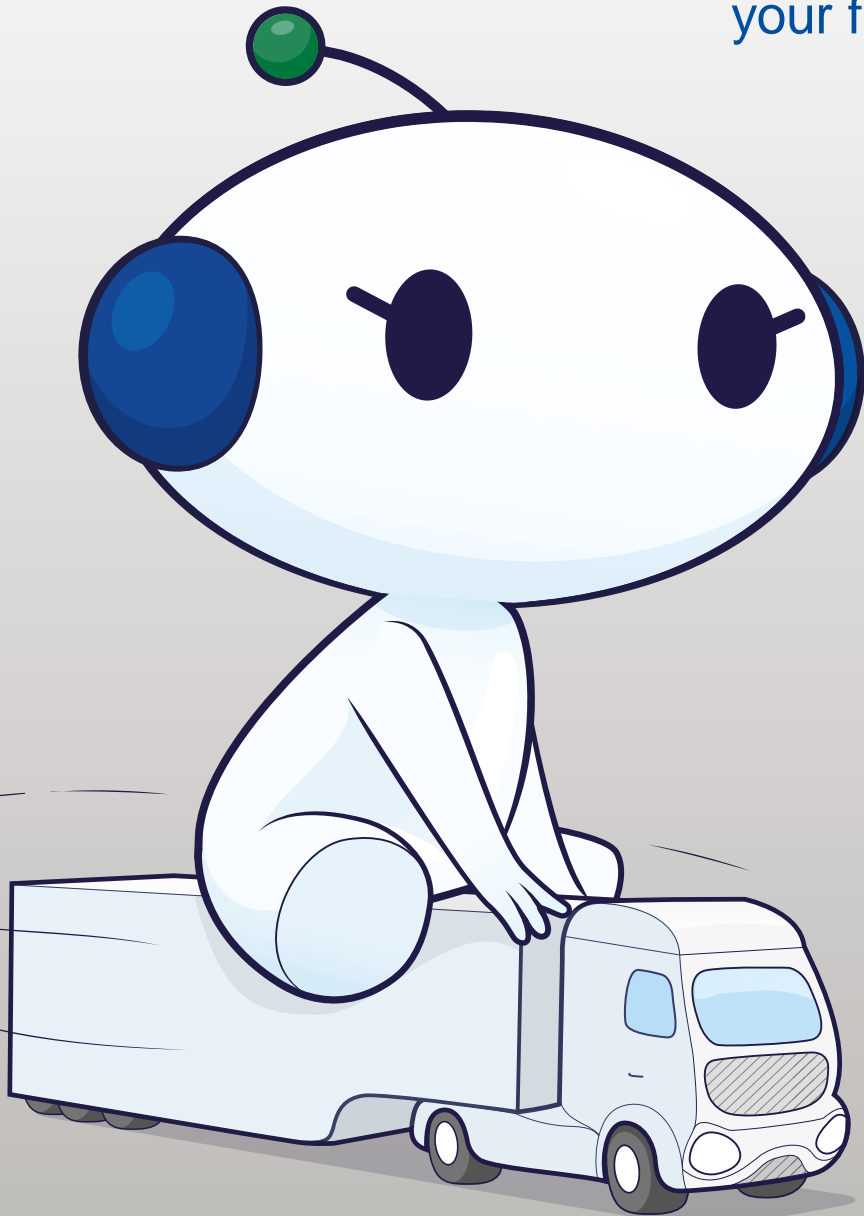
TX-CONNECT (MP)

This interactive platform for transport, logistics and distribution companies better integrates fleet information, allowing improved functionality of daily communication between planners, manager, subcontractors and customers. TX-CONNECT is the beating heart of our solutions and can be strengthened via the integration of vehicle peripherals and office software.



TRAXEE

your fleet management assistant



Hello!

I'm TRAXEE, your fleet management assistant, designed to make your life easier.

I can tell you where your trucks and drivers are and how they are doing at any moment at any device. This gives you, your drivers and your customers peace of mind and provides better insight into your overall productivity.

www.wabco-traxee.com

WABCO

WABCO

TRUCK & BUS



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Truck & bus

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Air supply and processing

Air compressor

- **Port description**
 - 0 - intake connection
 - 2 - energy delivery
 - 8 - oil connection
 - 9 - cooling water connection
 - 8.1 - oil supply
 - 8.2 - oil discharge
 - 9.1 - cooling water supply
 - 9.2 - cooling water discharge

Compressor - foot mounted (single cylinder)

- **Lubrication** UD - Lubrication supplied from engine
- **Crankshaft thread** M18x1.5



411 003 011 0



411 034 501 0



411 052 300 0



411 140 000 0



411 141 000 0

| Product number | Cooling | Max. pressure | Operating speed | Swept volume | Port |
|--------------------------------|-------------|---------------|-----------------|---------------------|---|
| 411 141 000 0 411 141 000 R | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 141 001 0 | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 141 002 0 411 141 002 R | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 (closed) |
| 411 141 008 0 411 141 008 R | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 141 103 0 411 141 103 R | Air | 8.5 bar | 3000 1/min | 159 ccm | 0, 2: M26x1.5; 8.1, 8.3: M10x1, 8.2: closed |
| 411 141 503 0 | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: 2x M10x1, 1x closed; 8.2: 2x M22x1.5, 1x closed |
| 411 141 507 0 | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 141 551 0 | Water / Oil | 16.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2, 9.1, 9.2: M22x1.5 |
| 411 141 640 0 | Air | 18.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 141 703 0 | Air | 10.0 bar | 3000 1/min | 159 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |
| 411 142 681 0 | Water / Oil | 18.0 bar | 3000 1/min | 229 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2, 9.1, 9.2: M22x1.5 |
| 411 143 805 0 | Air | 10.0 bar | 3000 1/min | 293 cm ³ | 0, 2: M26x1.5; 8.1: M10x1 |
| 911 004 511 0 | Air | 17.0 bar | 4000 1/min | 76 cm ³ | 0, 2: M22x1.5; 8.1: M10x1 |
| 912 970 064 0 | Air | 10.0 bar | 3000 1/min | 120 cm ³ | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M22x1.5 |

AIR SUPPLY AND PROCESSING

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|----------------------------------|---------------|--------------------------------|-----------------|---------------|--------------------------------|
| ■ 411 141 000 0 411 141 000 R | 411 140 002 2 | Bearing + cylinder head gasket | ■ 411 141 507 0 | 411 140 002 2 | Bearing + cylinder head gasket |
| | 411 141 923 2 | Bearing | | 411 141 923 2 | Bearing |
| | 411 141 926 2 | Cylinder head | | 411 141 927 2 | Piston + rod |
| | 411 141 927 2 | Piston + rod | | | |
| ■ 411 141 001 0 | 411 140 002 2 | Bearing + cylinder head gasket | ■ 411 141 551 0 | 411 140 003 2 | Gasket |
| | 411 141 923 2 | Bearing | | 411 141 923 2 | Bearing |
| | 411 141 927 2 | Piston + rod | | 411 141 927 2 | Piston + rod |
| | | | | 411 145 921 2 | Cylinder head |
| ■ 411 141 002 0 411 141 002 R | 411 140 002 2 | Bearing + cylinder head gasket | ■ 411 141 640 0 | 411 140 002 2 | Bearing + cylinder head gasket |
| | 411 141 923 2 | Bearing | | 411 141 923 2 | Bearing |
| | 411 141 926 2 | Cylinder head | | 411 141 927 2 | Piston + rod |
| | 411 141 927 2 | Piston + rod | | 411 141 928 2 | Cylinder head |
| ■ 411 141 008 0 411 141 008 R | 411 141 927 2 | Piston + rod | ■ 411 141 703 0 | 411 140 002 2 | Bearing + cylinder head gasket |
| | 411 141 928 2 | Cylinder head | | 411 141 923 2 | Bearing |
| ■ 411 141 103 0 411 141 103 R | 411 141 925 2 | Magnet | | 411 141 927 2 | Piston + rod |
| | 411 141 025 2 | Clutch | | 411 141 928 2 | Cylinder head |
| | 411 141 928 2 | Cylinder head | | | |
| ■ 411 141 503 0 | 411 140 002 2 | Bearing + cylinder head gasket | ■ 411 142 681 0 | 411 033 923 2 | Gasket |
| | 411 141 923 2 | Bearing | | 411 141 923 2 | Bearing |
| | 411 141 927 2 | Piston + rod | | 411 142 003 2 | Gasket |
| | | | ■ 411 143 805 0 | 411 141 923 2 | Bearing |
| | | | | 411 142 002 2 | Gasket |
| | | | ■ 911 004 511 0 | 911 004 004 2 | Valve plate |

Compressor - flange mounted (single cylinder)

- **Operating speed** 3000 1/min
911 146 003 0: 2890 1/min
912 210 000 0: 3500 1/min
- **Lubrication** UD - Lubrication supplied from engine



| Product number | Cooling | Max. pressure | Swept volume | Crankshaft thread | Port |
|--------------------------------|---------|---------------|---------------------|-------------------|--|
| 411 144 003 0 | Air | 14.0 bar | 106 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1 |
| 411 145 057 0 | Water | 12.5 bar | 159 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M22x1.5 |
| 411 145 507 0 | Water | 12.5 bar | 203 cm ³ | M20x1.5 LH | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M22x1.5 |
| 411 146 003 0 | Air | 10.0 bar | 229 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1 |
| 411 147 062 0 | Water | 12.5 bar | 293 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M22x1.5 |
| 411 147 066 0 | Water | 10.0 bar | 293 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M22x1.5 |
| 411 151 000 0 | Water | 12.5 bar | 238 cm ³ | M20x1.5 LH | 0, 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 151 000 1 | Water | 12.5 bar | 238 cm ³ | M20x1.5 LH | 0, 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 151 004 0 411 151 004 R | Water | 12.5 bar | 238 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: Ø 10.2 mm; 9.1, 9.2: M14x1.5 |

| Product number | Cooling | Max. pressure | Swept volume | Crankshaft thread | Port |
|--------------------------------|---------|---------------|---------------------|-------------------|--|
| 411 151 009 0 411 151 009 R | Water | 12.5 bar | 238 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 151 012 1 | Water | 12.5 bar | 238 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 153 502 0 | Water | 12.5 bar | 318 cm ³ | M20x1.5 | 0: Ø 30 mm; 2: M26x1.5; 4: M12x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 154 004 0 411 154 004 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 154 005 0 411 154 005 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 411 154 005 1 | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 412 352 003 0 412 352 003 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: Ø 10.2 mm; 9.1, 9.2: M14x1.5 |
| 412 352 020 0 412 352 020 R | Water | 14.0 bar | 352 cm ³ | M18x1.5 | 0, 2: M26x1.5; 4: M12x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M18x1.5 |
| 412 352 025 0 412 352 025 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 4: M12x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 412 352 026 0 412 352 026 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5 (closed); 22: M26x1.5; 4: M12x1.5; 8.1: Ø 4 mm; 9.1, 9.2: M16x1.5 |
| 412 352 026 1 | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5 (closed); 22: M26x1.5; 4: M12x1.5; 8.1: Ø 4 mm; 9.1, 9.2: M16x1.5 |
| 412 352 027 0 412 352 027 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 4: M12x1.5; 8.1: Ø 4 mm; 9.1, 9.2: M16x1.5 |
| 412 352 027 1 | Water | 12.5 bar | 352 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 4: M12x1.5; 8.1: Ø 4 mm; 9.1, 9.2: M16x1.5 |
| 412 352 029 0 | Water | 12.5 bar | 352 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M16x1.5; 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 412 352 030 0 412 352 030 R | Water | 12.5 bar | 352 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M12x1.5; 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 884 503 586 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0: 1.5/16"-12 UN; 2: Ø 16 mm; 8.1: 7/16"-20 UNF-2A; 9: 2x Ø 12.7 mm |
| 911 145 060 0 | Water | 12.5 bar | 159 cm ³ | M18x1.5 | 0: Ø 18 mm; 2: M26x1.5; 8.1: Ø 6.8 mm; 9.1, 9.2: M16x1.5 |
| 911 145 560 0 911 145 560 R | Water | 12.5 bar | 221 cm ³ | M18x1.5 | 0: Ø 18 mm; 2: M26x1.5; 8.1: Ø 6.8 mm; 9: 2x M16x1.5 |
| 911 146 003 0 | Water | 11.0 bar | 229 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1.5; 8.2: Ø 10 mm; 9.1: 3/8"-18 NPT; 9.2: 3/4"-14 NPTF |
| 911 153 001 0 | Water | 12.0 bar | 318 cm ³ | M18x1.5 | 0, 2: M26x1.5; 8.1: Ø 4 mm; 8.2: Ø 15 mm; 9: 2x M14x1.5 |
| 911 153 548 0 | Water | 12.0 bar | 318 cm ³ | M20x1.5 LH | 0, 2: 3/4"-14 NPTF; 4: M10x1; 8.1: 1/8"-27 NPTF; 9: 2x 1/2"-14 NPTF |
| 911 153 552 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 LH | 0, 2: 3/4"-14 NPTF; 4: M10x1; 8.1: 1/8"-27 NPTF; 9: 2x 1/2"-14 NPTF |
| 911 153 553 0 | Water | 12.0 bar | 318 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: Ø 13 mm; 9: 2x M16x1.5 |
| 911 155 001 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0: Ø 25.4 mm; 2: 3/4"-14 NPTF; 4: M10x1; 8.1: 7/16"-20 UNF-2A; 9.1, 9.2: Ø 12.7 mm |
| 911 155 062 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0: 1.5/16"-12 UN; 2: Ø 16 mm; 8.1: 7/16"-20 UNF-2A; 9.1, 9.2: 1/2"-SAE J2044 |
| 911 155 511 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0: Ø 19.05 mm; 2: Ø 16 mm; 4: M10x1; 8.1: 7/16"-20 UNF-2A; 9.1, 9.2: Ø 12.7 mm |
| 911 155 518 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0, 2: M22x1.5; 8.1: 1/8"-27 NPTF; 9: 2x M20x1.5 |
| 911 155 519 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0, 2: 3/4"-14 NPTF; 4: M10x1; 8.1: 1/8"-27 NPTF; 9: 2x 1/2"-14 NPTF |
| 911 155 521 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 | 0: M30x1.5; 2: M26x1.5; 8.1: 1/8"-27 NPTF; 9.1, 9.2: M16x1.5 |
| 912 112 002 0 | Water | 14.0 bar | 318 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M16x1.5; 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |

AIR SUPPLY AND PROCESSING

| Product number | Cooling | Max. pressure | Swept volume | Crankshaft thread | Port |
|--------------------------------|---------|---------------|---------------------|-------------------|--|
| 912 116 000 0 912 116 000 R | Water | 12.5 bar | 238 cm ³ | M18x1.5 | 0, 2: M26x1.5; 8.1: Ø 10.2 mm; 9.1, 9.2: M14x1.5 |
| 912 116 001 0 912 116 001 R | Water | 12.5 bar | 238 cm ³ | M18x1.5 | 0, 2: M26x1.5; 8.1: Ø 10.2 mm; 9: M14x1.5 |
| 912 117 000 0 | Water | 12.5 bar | 352 cm ³ | M18x1.5 | 0, 2: M26x1.5; 8.1: Ø 10.2 mm; 9.1, 9.2: M14x1.5 |
| 912 124 000 0 912 124 000 R | Air | 10.0 bar | 238 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1 |
| 912 125 000 0 | Water | 12.0 bar | 238 cm ³ | M18x1.5 | 0, 2: ¾"-14 NPTF; 8.1: M10x1; 9: 2x ½"-14 NPTF |
| 912 126 002 0 | Air | 10.0 bar | 238 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1 |
| 912 126 004 0 912 126 004 R | Water | 8.5 bar | 318 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 140 006 0 | Water | 10.0 bar | 238 cm ³ | M20x1.5 LH | 0, 2: ¾"-14 NPTF; 4: M10x1; 8.1: Ø 14.1 mm; 9.1, 9.2: ½"-14 NPTF |
| 912 140 011 0 | Water | 10.0 bar | 318 cm ³ | M20x1.5 LH | 0: M30x1.5; 2: M26x1.5; 4: M12x1.5; 8.1: M10x1; 9.1, 9.2: M16x1.5 |
| 912 140 015 0 | Water | 14.0 bar | 318 cm ³ | M20x1.5 LH | 0: ¾"-14 NPTF; 2: M26x1.5; 4: 10x1; 8.1: Ø 4 mm; 9: 2x ½"-14 NPTF |
| 912 150 001 0 | Water | 10.0 bar | 238 cm ³ | M20x1.5 | 0: Ø 25 mm; 2: M24x1.5; 8.1: M10x1.5; 9: 2x M18x1.5 |
| 912 151 001 0 | Water | 14.0 bar | 318 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 912 160 002 0 | Water | 12.5 bar | 318 cm ³ | M20x1.5 | 0: M28x1.5; 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M16x1.5 |
| 912 210 000 0 | Water | 12.5 bar | 393 cm ³ | M20x1.5 LH | 0: Ø 34.9 mm; 2: M26x1.5; 4: M12x1.5 (closed); 8.1: Ø 5 mm; 9.1, 9.2: M18x1.5 |
| 912 210 002 0 | Water | 12.5 bar | 393 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 912 970 001 0 | Air | 8.0 bar | 160 cm ³ | M18x1.5 LH | 0, 2: M22x1.5; 8.1: Ø 4 mm |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|----------------------------------|--|---|----------------------------------|--|---|
| ■ 411 144 003 0 | 411 141 926 2 411 144 002 2 | Cylinder head Gasket | ■ 411 154 004 0 411 154 004 R | 411 151 923 2 411 151 925 2 411 154 002 2 411 154 003 2 412 352 928 2 412 352 929 2 | Gasket Valve plate Cylinder head Valve plate Piston + rod Piston + rod |
| ■ 411 145 057 0 | 411 145 000 2 411 145 921 2 | Valve plate Cylinder head | ■ 411 154 005 0 411 154 005 R | 411 151 926 2 411 154 002 2 411 154 003 2 412 352 928 2 412 352 929 2 | Piston + rod Cylinder head Valve plate Piston + rod Piston + rod |
| ■ 411 145 507 0 | 411 145 000 2 411 145 921 2 | Valve plate Cylinder head | ■ 412 352 003 0 412 352 003 R | 412 352 001 2 412 352 924 2 412 352 928 2 | Gasket Cylinder head Piston + rod |
| ■ 411 146 003 0 411 146 003 R | 411 146 000 2 411 146 921 2 | Gasket Cylinder head | ■ 412 352 020 0 412 352 020 R | 412 352 005 2 412 352 928 2 | Cylinder head Piston + rod |
| ■ 411 147 066 0 | 411 142 003 2 | Gasket | ■ 412 352 025 0 412 352 025 R | 412 352 006 2 412 352 929 2 912 510 927 2 | Valve plate Piston + rod Piston + rod |
| ■ 411 151 000 0 411 151 000 R | 411 151 921 2 411 151 927 2 411 153 000 2 412 352 928 2 | Valve plate Crankshaft Gasket Piston + rod | ■ 412 352 026 0 412 352 026 R | 412 352 002 2 412 352 922 2 412 352 923 2 412 352 925 2 412 352 927 2 412 352 929 2 | Valve plate Cylinder head Gasket Piston + rod Crankshaft Piston + rod |
| ■ 411 151 004 0 411 151 004 R | 411 151 000 2 411 151 920 2 412 352 928 2 | Valve plate Cylinder head Piston + rod | | | |
| ■ 411 151 009 0 411 151 009 R | 411 151 923 2 411 151 925 2 411 151 927 2 411 151 929 2 411 154 002 2 411 154 003 2 | Gasket Valve plate Crankshaft Piston + rod Cylinder head Valve plate | | | |
| ■ 411 153 502 0 | 911 153 925 2 | Flange | | | |

| Product number | Repair kit | Content |
|--|--|--|
| ■ 412 352 027 0 412 352 027 R | 412 352 002 2 412 352 922 2 412 352 923 2 412 352 925 2 412 352 927 2 412 352 929 2 | Valve plate Cylinder head Gasket Piston + rod Crankshaft Piston + rod |
| ■ 412 352 029 0 412 352 029 R | 412 704 943 2 | Piston + rod |
| ■ 412 352 030 0 412 352 030 R | 412 704 943 2 | Piston + rod |
| ■ 884 503 586 0 | 911 155 920 2 911 155 923 2 911 155 924 2 | Valve plate Piston + rod Crankshaft |
| ■ 911 153 001 0 | 411 151 921 2 911 153 941 2 912 512 929 2 | Valve plate Cylinder head Piston + rod |
| ■ 911 153 548 0 | 911 155 920 2 911 155 926 2 | Valve plate Piston + rod |
| ■ 911 153 552 0 | 911 155 920 2 911 155 926 2 | Valve plate Piston + rod |
| ■ 911 153 553 0 | 911 155 926 2 | Piston + rod |
| ■ 911 155 001 0 | 911 155 926 2 | Piston + rod |
| ■ 911 155 062 0 | 911 155 920 2 911 155 923 2 911 155 924 2 | Valve plate Piston + rod Crankshaft |
| ■ 911 155 511 0 | 911 155 926 2 | Piston + rod |
| ■ 911 155 518 0 | 911 155 926 2 | Piston + rod |
| ■ 911 155 519 0 | 911 155 921 2 911 155 925 2 911 155 926 2 | Valve plate Crankshaft Piston + rod |
| ■ 911 155 521 0 | 911 155 923 2 911 155 924 2 | Piston + rod Crankshaft |

| Product number | Repair kit | Content |
|--|---|--|
| ■ 912 112 002 0 912 112 002 R | 412 352 920 2 912 112 921 2 912 518 924 2 | Cylinder head Crankshaft Piston + rod |
| ■ 912 116 000 0 912 116 000 R | 411 151 928 2 412 352 001 2 412 352 924 2 | Piston + rod Gasket Cylinder head |
| ■ 912 116 001 0 912 116 001 R | 411 151 928 2 | Piston + rod |
| ■ 912 117 000 0 912 117 000 R | 412 352 001 2 412 352 924 2 412 352 928 2 | Gasket Cylinder head Piston + rod |
| ■ 912 125 000 0 | 411 151 926 2 912 125 920 2 | Piston + rod Gasket |
| ■ 912 126 002 0 912 126 002 R | 912 126 920 2 912 126 921 2 | Gasket Cylinder head |
| ■ 912 126 004 0 912 126 004 R | 911 153 925 2 912 512 929 2 | Flange Piston + rod |
| ■ 912 140 011 0 | 412 352 002 2 412 352 923 2 | Valve plate Gasket |
| ■ 912 140 015 0 | 912 140 051 2 | Cylinder head |
| ■ 912 150 001 0 | 412 352 928 2 912 112 921 2 912 518 924 2 | Piston + rod Crankshaft Piston + rod |
| ■ 912 160 002 0 | 912 512 939 2 | Piston + rod |
| ■ 912 210 000 0 912 210 000 R | 912 210 922 2 912 210 923 2 912 210 924 2 | Piston + rod Cylinder head Valve plate |
| ■ 912 210 002 0 | 912 210 920 2 912 210 921 2 912 210 922 2 | Cylinder head Valve plate Piston + rod |
| ■ 912 970 001 0 | 912 970 920 2 912 970 921 2 912 970 922 2 | Crankshaft Connecting rod Gasket |

AIR SUPPLY AND PROCESSING

Compressor - flange mounted (twin cylinder)

- **Cooling** Water
- **Lubrication** UD - Lubrication supplied from engine



412 442 000 0



412 704 027 0



911 504 506 0



912 510 104 0



912 514 009 0

| Product number | Max. pressure | Operating speed | Swept volume | Crankshaft thread | Port |
|--------------------------------|---------------|-----------------|---------------------|-------------------|--|
| 412 442 000 0 | 12.5 bar | 3000 1/min | 442 cm ³ | M20x1.5 | 0, 2: M26x1.5; 4: M12x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 412 442 001 0 | 12.5 bar | 3000 1/min | 442 cm ³ | M24x1.5 | 0, 2: M26x1.5; 4: M12x1.5; 8.1: Ø 11.16 mm; 9.1, 9.2: M14x1.5 |
| 412 704 008 0 412 704 008 R | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 412 704 009 0 | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 412 704 013 0 412 704 013 R | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 412 704 014 0 | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 412 704 019 0 | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 412 704 024 0 412 704 024 R | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 412 704 027 0 412 704 027 R | 14.0 bar | 3000 1/min | 704 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M16x1.5 (closed); 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 886 902 519 0 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 4: M12x1.5; 8.1: Ø 4 mm; 9: M12x1.5 (closed); 9.1, 9.2: M16x1.5 |
| 911 504 506 0 911 504 506 R | 12.5 bar | 3000 1/min | 442 cm ³ | M12 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 911 505 150 0 911 505 150 R | 12.5 bar | 2400 1/min | 704 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M16x1.5 |
| 911 506 054 0 | 12.5 bar | 3000 1/min | 442 cm ³ | M18x1.5 | 0: Ø 24 mm; 2: Ø 16 mm; 8.1: Ø 6.8 mm; 9: 2x Ø 16 mm |
| 911 506 505 0 | 12.5 bar | 3000 1/min | 442 cm ³ | M18x1.5 | 0: Ø 24 mm; 2: Ø 16 mm; 8.1: Ø 6.8 mm; 9: 2x Ø 16 mm |
| 911 553 007 0 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 2: M26x1.5; 4: M12x1.5; 8.1: Ø 4 mm; 9: M12x1.5 (closed); 9.1, 9.2: M16x1.5 |
| 912 510 001 0 912 510 001 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 4: M12x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 912 510 003 0 912 510 003 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 912 510 005 0 912 510 005 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |
| 912 510 005 1 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0, 2: M26x1.5; 8.1: Ø 6 mm; 9.1, 9.2: M14x1.5 |

| Product number | Max. pressure | Operating speed | Swept volume | Crankshaft thread | Port |
|--------------------------------|---------------|-----------------|---------------------|-------------------|--|
| 912 510 103 0 912 510 103 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5 (closed); 22: M26x1.5; 4: M12x1.5; 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 510 104 0 912 510 104 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 4: M12x1.5; 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 510 200 0 912 510 200 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5 (closed); 22: M26x1.5; 4: M12x1.5; 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 510 201 0 912 510 201 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 4: M12x1.5; 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 510 201 1 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: M30x1.5; 21: M26x1.5; 22: M26x1.5 (closed); 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 512 006 0 912 512 006 R | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M16x1.5; 8.1: M12x1.5; 9: 2x M16x1.5 |
| 912 512 007 0 | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4: M16x1.5; 8.1: M12x1.5; 9: 2x M16x1.5 |
| 912 512 015 0 912 512 015 R | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2, 9.3, 9.4: M16x1.5 |
| 912 512 029 0 912 512 029 R | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 912 512 033 0 912 512 033 R | 14.0 bar | 3000 1/min | 636 cm ³ | M16x1 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 912 514 009 0 | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 912 514 013 0 | 14.0 bar | 3000 1/min | 636 cm ³ | M16x1 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 912 518 206 0 | 12.5 bar | 3000 1/min | 476 cm ³ | M16 | 0: M30x1.5; 2: M27x2 / M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 912 518 207 0 | 12.5 bar | 3000 1/min | 636 cm ³ | M16 | 0: M30x1.5; 2: M26x1.5; 4, 8.1: M12x1.5; 9.1, 9.2: M16x1.5 |
| 912 522 002 0 | 14.0 bar | 3000 1/min | 636 cm ³ | M16x1 | 0: Ø 30 mm; 2: Ø 21.75 mm; 4: M10x1; 8.1: Ø 6 mm; 9: 2x Ø 19.8 mm |
| 912 526 000 R | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0: Ø 30 mm; 2: M26x1.5; 4: M12x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 540 003 0 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 LH | 0, 2: M26x1.5; 4: M12x1.5; 8.1: Ø 13.86 mm; 9.1, 9.2: M18x1.5 |
| 912 542 007 0 | 14.0 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0: Ø 34.9 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5; 8.1: M12x1.5 |
| 912 550 003 0 | 10.0 bar | 3000 1/min | 636 cm ³ | M24x1.5 | 0: Ø 25 mm; 2: M27x2m; 8.1: M10x1.5; 9: 2x M18x1.5 |
| 912 551 003 0 | 12.5 bar | 3000 1/min | 476 cm ³ | M20x1.5 | 0, 2: M26x1.5; 4: M12x1.5; 8.1: Ø 5 mm; 8.2: Ø 10 mm; 9.1, 9.2: M16x1.5 |
| 912 560 003 0 | 10.0 bar | 3000 1/min | 476 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 560 007 0 912 560 007 R | 10.0 bar | 1250 1/min | 636 cm ³ | M24x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 560 008 0 | 10.0 bar | 1250 1/min | 636 cm ³ | M24x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 561 000 0 | 10.0 bar | 3000 1/min | 476 cm ³ | M20x2.5 | 0, 2: M26x1.5; 8.1: M10x1; 9.1, 9.2: M14x1.5 |
| 912 562 000 0 | 12.5 bar | 3000 1/min | 636 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: Ø 5 mm; 9: 2x M14x1.5 |

AIR SUPPLY AND PROCESSING

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---|--|-----------------|---|---|
| ■ 412 442 000 0 | 412 442 000 2 911 503 921 2 911 504 925 2 911 504 932 2 | Cylinder head Piston Gasket Piston + rod | ■ 912 510 200 0 | 412 352 929 2 | Piston + rod |
| ■ 412 442 001 0 | 412 442 000 2 911 503 921 2 911 504 925 2 911 504 932 2 | Cylinder head Piston Gasket Piston + rod | ■ 912 510 200 R | 912 510 930 2 912 510 931 2 | Cylinder head Valve plate |
| ■ 412 704 008 0 | 412 704 932 2 | Cylinder head | ■ 912 510 201 0 | 412 352 929 2 | Piston + rod |
| ■ 412 704 008 R | 412 704 942 2 | Piston + rod | ■ 912 510 201 R | 912 510 928 2 912 510 930 2 912 510 931 2 | Crankshaft Cylinder head Valve plate |
| ■ 412 704 013 0 | 412 704 934 2 | Cylinder head | ■ 912 510 201 1 | 412 352 929 2 912 510 930 2 912 510 931 2 | Piston + rod Cylinder head Valve plate |
| ■ 412 704 013 R | 412 704 936 2 412 704 939 2 412 704 942 2 | Gasket Valve plate Piston + rod | ■ 912 512 006 0 | 912 512 925 2 | Cylinder head |
| ■ 412 704 014 0 | 412 704 933 2 412 704 939 2 412 704 942 2 | Cylinder head Valve plate Piston + rod | ■ 912 512 006 R | 912 512 927 2 | Gasket |
| ■ 412 704 019 0 | 412 704 937 2 412 704 938 2 412 704 943 2 | Cylinder head Valve plate Piston + rod | ■ 912 512 007 0 | 912 512 925 2 912 512 927 2 | Cylinder head Gasket |
| ■ 412 704 027 0 | 412 352 925 2 | Piston + rod | ■ 912 512 015 0 | 412 704 938 2 | Valve plate |
| ■ 412 704 027 R | 912 512 935 2 912 512 936 2 | Cylinder head Valve plate | ■ 912 512 015 R | 912 512 928 2 912 512 930 2 912 518 924 2 | Valve plate Crankshaft Piston + rod |
| ■ 911 504 506 0 | 911 503 921 2 | Piston | ■ 912 512 029 0 | 912 512 935 2 | Cylinder head |
| ■ 911 504 506 R | 911 504 922 2 911 504 925 2 911 504 932 2 | Cylinder head Gasket Piston + rod | ■ 912 512 029 R | 912 512 936 2 912 518 924 2 | Valve plate Piston + rod |
| ■ 911 505 150 0 | 412 704 942 2 | Piston + rod | ■ 912 512 033 0 | 912 512 043 2 | Valve plate |
| ■ 911 505 150 R | 911 505 001 2 911 505 920 2 | Gasket Cylinder head | ■ 912 512 033 R | 912 512 900 2 912 512 937 2 912 512 940 2 912 512 941 2 | Piston + rod Cylinder head Clutch Actuation unit |
| ■ 911 506 054 0 | 911 506 927 2 | Cylinder head | ■ 912 514 009 0 | 912 512 935 2 | Cylinder head |
| ■ 911 506 505 0 | 911 506 926 2 911 506 928 2 | Cylinder head Valve plate | ■ 912 514 009 R | 912 512 936 2 912 518 924 2 | Valve plate Piston + rod |
| ■ 911 553 007 0 | 911 553 921 2 | Cylinder head | ■ 912 514 013 0 | 412 704 938 2 | Valve plate |
| ■ 912 510 001 0 | 411 553 924 2 | Crankshaft | ■ 912 514 013 R | 912 512 043 2 912 512 937 2 912 512 938 2 912 512 940 2 912 527 921 2 | Valve plate Valve plate Cylinder head Valve plate Clutch Valve plate |
| ■ 912 510 001 R | 912 510 922 2 | Cylinder head | ■ 912 518 206 0 | 912 510 929 2 912 518 922 2 | Valve plate Cylinder head |
| ■ 912 510 003 0 | 411 553 924 2 | Crankshaft | ■ 912 518 207 0 | 912 510 929 2 912 518 922 2 | Valve plate Cylinder head |
| ■ 912 510 003 R | 912 510 934 2 912 510 935 2 | Cylinder head Valve plate | ■ 912 522 002 0 | 912 522 921 2 | Valve plate |
| ■ 912 510 005 0 | 411 553 924 2 | Crankshaft | ■ 912 522 002 R | 912 522 922 2 912 522 925 2 912 522 926 2 | Clutch Valve plate Clutch |
| ■ 912 510 005 R | 912 510 923 2 912 510 934 2 912 510 935 2 | Leaf Cylinder head Valve plate | ■ 912 542 007 0 | 912 512 935 2 | Cylinder head |
| ■ 912 510 103 0 | 412 352 929 2 | Piston + rod | ■ 912 542 007 R | 912 512 936 2 912 518 924 2 | Valve plate Piston + rod |
| ■ 912 510 103 R | 912 510 920 2 912 510 927 2 912 510 928 2 912 510 929 2 | Cylinder head Piston + rod Crankshaft Valve plate | ■ 912 550 003 0 | 412 352 928 2 912 510 927 2 912 512 929 2 912 550 924 2 912 560 922 2 | Piston + rod Piston + rod Piston + rod Cylinder head Cylinder head |
| ■ 912 510 104 0 | 412 352 929 2 | Piston + rod | ■ 912 560 007 0 | 912 560 921 2 | Gasket |
| ■ 912 510 104 R | 912 510 920 2 912 510 927 2 912 510 928 2 912 510 929 2 912 510 933 2 | Cylinder head Piston + rod Crankshaft Valve plate Screws | ■ 912 560 007 R | | |
| | | | ■ 912 560 008 0 | 912 560 921 2 | Gasket |
| | | | ■ 912 560 008 R | | |

| Product number | Repair kit | Content |
|-----------------|--------------------------------|------------------------------|
| ■ 912 561 000 0 | 912 560 922 2 | Cylinder head |
| ■ 912 562 000 0 | 912 512 939 2 912 518 924 2 | Piston + rod Piston + rod |

| Product number | Repair kit | Content |
|-----------------|--------------------------------|-----------------------------|
| ■ 412 704 024 0 | 412 704 933 2 | Cylinder head |
| 412 704 024 R | 412 704 939 2 412 704 943 2 | Valve plate Piston + rod |

Compressor - flange mounted (special cylinder)

| | |
|-------------------|---------------------------------------|
| ■ Cooling | Water |
| ■ Lubrication | UD - Lubrication supplied from engine |
| ■ Operating speed | 3000 1/min |



912 518 004 0

| Product number | Type | Max. pressure | Swept volume | Crankshaft thread | Port |
|--------------------------------|-----------------|---------------|-------------------------|-------------------|---|
| 911 514 002 0 | V-Compressor | 12.0 bar | 568 cm ³ | M20x1.5 | 0, 2: M26x1.5; 8.1: M10x1; 8.2: M26x1.5; 9.1, 9.2: M14x1.5 |
| 912 510 303 0 912 510 303 R | Triple cylinder | 12.5 bar | 636/210 cm ³ | M20x1.5 LH | 0: Ø 25; 2: M26x1.5; 4: M10x1.5; 8.1: Ø 4 mm; 8.2: Ø 15.5 mm; 9.1, 9.2: M16x1.5 |
| 912 518 004 0 912 518 004 R | Twin cylinder | 12.5 bar | 352/119 cm ³ | M20x1.5 | 0: M33x2; 2, 8.1: M22x1.5; 4: M14x1.5; 9.1, 9.2: M16x1.5 |
| 912 518 006 0 912 518 006 R | Twin cylinder | 12.5 bar | 352/119 cm ³ | M20x1.5 | 0: M33x2; 2, 8.1: M22x1.5; 4: M14x1.5; 9.1, 9.2: M16x1.5 |
| 912 718 000 0 | Twin cylinder | 14.0 bar | 440/124 cm ³ | M20x1.5 | 0: Ø 25 mm; 2: Ø 20 mm; 4: M14x1.5; 8.1: M22x1.5; 9.1, 9.2: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|----------------------------------|--------------------------------|-------------------------|
| ■ 911 514 002 0 | 911 514 000 2 912 510 925 2 | Gasket Cylinder head |
| ■ 912 510 303 0 912 510 303 R | 912 510 924 2 912 510 926 2 | Cylinder head Gasket |

| Product number | Repair kit | Content |
|----------------------------------|--------------------------------|------------------------------|
| ■ 912 518 006 0 912 518 006 R | 912 518 923 2 912 518 925 2 | Valve Plate Cylinder head |

Compressor - stand alone

| | |
|------------|-------------|
| ■ Mounting | Stand alone |
|------------|-------------|



415 404 001 0



913 500 002 0



913 500 003 0

| Product number | Type | Cooling | Max. pressure | Operating speed | Swept volume | Port |
|----------------|----------------------------|---------|---------------|-----------------|---------------------|--|
| 415 404 001 0 | Air supply unit | | 6.1 bar | | | |
| 913 500 002 0 | Twin cylinder with E-Motor | Water | 12.5 bar | 2000 1/min | 476 cm ³ | 0: Ø 39 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5 |
| 913 500 003 0 | Twin cylinder with E-Motor | Water | 12.5 bar | 2000 1/min | 476 cm ³ | 0: Ø 39 mm; 2: M26x1.5; 4, 9.1, 9.2: M16x1.5 |

AIR SUPPLY AND PROCESSING

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------------|
| ■ 913 500 003 0 | 913 500 921 2 | Cylinder head |
| ■ 913 500 002 0 | 913 500 920 2 | Damper |

Air processing

Air Processing Unit (APU)

| | | |
|--------------------------------|--|--|
| ■ Description | Air dryer with multi circuit protection valve | |
| ■ Notes | ¹⁾ MCPV: Multi circuit protection valve ²⁾ Silencer 432 407 012 0 retrofittable ³⁾ Silencer 432 407 015 0 retrofittable ⁴⁾ Elbow for PA tube connection | |
| ■ Electrical connection | MCPV ¹⁾ Heater ⁵⁾ | Pressure sensor: DIN bayonet 72585, 7-pin Heating connection: Kostal: M27x1 Bayonet: DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Accessories | 432 407 012 0 432 407 015 0 432 410 932 2 432 420 920 2 894 590 151 2 894 600 451 2 | Silencer Silencer Heater kit (Bayonet) Heater kit (Kostal) Cable for heater (Bayonet) Cable for heater (Kostal) |



| Product number | Air Dryer MCPV ¹⁾ Solenoid valve | Pressure | | Voltage | Temperature | MCPV ¹⁾ pressure sensor | Heater ⁵⁾ | Silencer |
|----------------|---|----------|----------|---------|----------------|------------------------------------|-----------------------|-----------------|
| | | Working | Cut-out | | | | | |
| 932 500 003 0 | 932 400 003 0 934 705 002 0 – | 13 bar | 10.0 bar | – | –40 ... +65 °C | – | – | 432 407 012 0 |
| 932 500 008 0 | 932 400 003 0 934 705 002 0 884 501 634 0 | 13 bar | 10.0 bar | 12 V | –40 ... +65 °C | – | – | 432 407 012 0 |
| 932 500 009 0 | 932 400 003 0 934 705 002 0 884 501 634 0 | 13 bar | 10.0 bar | 12 V | –40 ... +65 °C | – | – | – ²⁾ |
| 932 500 012 0 | 932 400 003 0 934 705 002 0 884 501 940 0 | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | – | 432 407 012 0 |
| 932 500 015 0 | 932 400 024 0 934 705 003 0 – | 13 bar | 12.0 bar | 24 V | –40 ... +65 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 016 0 | 932 400 013 0 934 705 005 0 – | 13 bar | 12.0 bar | 24 V | –40 ... +65 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 021 0 | 932 400 014 0 934 705 008 0 – | 13 bar | 11.5 bar | 24 V | –40 ... +65 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 027 0 | 932 400 003 0 934 705 002 0 884 501 837 0 | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | – | 432 407 012 0 |
| 932 500 028 0 | 932 400 007 0 934 705 002 0 884 501 837 0 | 13 bar | 10.0 bar | 24 V | –40 ... +80 °C | – | – | 432 407 012 0 |
| 932 500 030 0 | 932 400 003 0 934 705 002 0 – | 13 bar | 10.0 bar | – | –40 ... +80 °C | – | – | 432 407 012 0 |

| Product number | Air Dryer MCPV ¹⁾ Solenoid valve | Pressure | | Voltage | Temperature | MCPV ¹⁾ pressure sensor | Heater ⁵⁾ | Silencer |
|----------------|---|----------|----------|---------|----------------|------------------------------------|-----------------------|-----------------|
| | | Working | Cut-out | | | | | |
| 932 500 035 0 | 432 415 904 0 934 714 151 0 – | 10 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 039 0 | 932 400 017 0 934 705 005 0 – | 13 bar | 12.0 bar | – | –40 ... +65 °C | ✓ | – | – ³⁾ |
| 932 500 040 0 | 932 400 018 0 934 705 005 0 – | 13 bar | 12.0 bar | 24 V | –40 ... +65 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 044 0 | 432 415 050 0 934 714 110 0 – | 13 bar | 11.0 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 012 0 |
| 932 500 047 0 | 432 415 051 0 934 714 152 0 – | 10 bar | 9.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 052 0 | 432 415 051 0 934 714 152 0 – | 10 bar | 9.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 054 0 | 432 415 052 0 934 714 151 0 – | 13 bar | 9.3 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 055 0 | 932 400 021 0 934 705 009 0 – | 13 bar | 12.5 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 056 0 | 432 415 054 0 934 705 010 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 057 0 | 432 415 055 0 934 705 010 0 – | 13 bar | 10.0 bar | – | –40 ... +65 °C | – | – | 432 407 015 0 |
| 932 500 060 0 | 432 415 060 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 061 0 | 432 415 056 0 934 714 031 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 062 0 | 432 415 057 0 934 714 161 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 063 0 | 432 415 058 0 934 705 013 0 – | 13 bar | 9.3 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 064 0 | 432 415 061 0 934 714 153 0 – | 10 bar | 9.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 012 0 |
| 932 500 068 0 | 932 400 016 0 934 705 008 0 – | 13 bar | 11.5 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 080 0 | 432 413 070 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 081 0 | 432 413 071 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 082 0 | 432 413 072 0 934 714 161 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 087 0 | 432 415 062 0 934 714 110 0 – | 13 bar | 11.0 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |

AIR SUPPLY AND PROCESSING

| Product number | Air Dryer MCPV ¹⁾ Solenoid valve | Pressure | | Voltage | Temperature | MCPV ¹⁾ pressure sensor | Heater ⁵⁾ | Silencer |
|----------------|--|----------|----------|---------|----------------|---------------------------------------|-----------------------|-----------------|
| | | Working | Cut-out | | | | | |
| 932 500 089 0 | 432 415 906 0 934 714 161 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 098 0 | 432 415 065 0 934 714 154 0 – | 13 bar | 10.6 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 099 0 | 432 415 066 0 934 714 151 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 101 0 | 432 416 001 0 934 705 021 0 – | 13 bar | 11.0 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | – ⁴⁾ |
| 932 500 102 0 | 432 416 002 0 934 705 022 0 – | 13 bar | 10.5 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | – ⁴⁾ |
| 932 500 103 0 | 432 416 003 0 934 705 023 0 – | 13 bar | 12.5 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | – ⁴⁾ |
| 932 500 104 0 | 432 416 004 0 934 705 021 0 – | 13 bar | 11.0 bar | – | –40 ... +80 °C | ✓ | – | – ⁴⁾ |
| 932 500 105 0 | 432 415 063 0 934 714 170 0 – | 13 bar | 9.5 bar | – | –40 ... +65 °C | – | – | – ⁴⁾ |
| 932 500 107 0 | 932 400 055 0 934 705 014 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 109 0 | 432 415 068 0 934 705 010 0 – | 13 bar | 10.0 bar | – | –40 ... +65 °C | – | – | – ³⁾ |
| 932 500 110 0 | 932 400 024 0 934 705 005 0 – | 13 bar | 12.0 bar | 24 V | –40 ... +80 °C | ✓ | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 111 0 | 932 400 033 0 934 705 004 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | ✓ | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 112 0 | 432 421 058 0 934 714 161 0 – | 13 bar | 9.3 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 113 0 | 432 421 059 0 934 714 161 0 – | 13 bar | 9.3 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 114 0 | 432 421 060 0 934 714 161 0 – | 13 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 115 0 | 432 415 067 0 934 714 151 0 – | 10 bar | 8.8 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 118 0 | 432 415 070 0 934 714 161 0 – | 10 bar | 10.0 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | 432 407 015 0 |
| 932 500 119 0 | 432 415 071 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Kostal ⁵⁾ | 432 407 015 0 |
| 932 500 123 0 | 432 415 075 0 934 714 160 0 – | 13 bar | 9.1 bar | – | –40 ... +65 °C | – | – | 432 407 015 0 |
| 932 500 160 0 | 432 415 160 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |

| Product number | Air Dryer MCPV ¹⁾ Solenoid valve | Pressure | | Voltage | Temperature | MCPV ¹⁾ pressure sensor | Heater ⁵⁾ | Silencer |
|----------------|--|----------|----------|---------|----------------|---------------------------------------|-----------------------|-----------------|
| | | Working | Cut-out | | | | | |
| 932 500 180 0 | 432 413 170 0 934 714 161 0 – | 13 bar | 9.3 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 269 0 | 432 413 069 0 934 714 161 0 – | 13 bar | 10.8 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 380 0 | 432 413 370 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 500 480 0 | 432 413 470 0 934 714 161 0 – | 13 bar | 8.5 bar | 24 V | –40 ... +65 °C | – | Bayonet ⁵⁾ | – ³⁾ |
| 932 507 001 0 | 432 417 101 2 934 707 001 0 – | 13 bar | 10.5 bar | – | –40 ... +65 °C | – | – | 432 407 070 0 |
| 932 507 002 0 | 432 417 102 2 934 707 001 0 – | 13 bar | 11.1 bar | – | –40 ... +65 °C | – | – | 432 407 070 0 |
| 932 507 003 0 | 432 417 103 2 934 707 001 0 – | 13 bar | 10.7 bar | – | –40 ... +65 °C | – | – | 432 407 070 0 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|-------------------------------------|-----------------|--|---|
| ■ 932 500 008 0 | 932 400 920 2 | Test port | ■ 932 500 081 0 | 932 400 920 2 932 500 154 2 | Test port Protection valve |
| ■ 932 500 009 0 | 932 400 920 2 | Test port | ■ 932 500 082 0 | 932 400 920 2 932 500 154 2 | Test port Protection valve |
| ■ 932 500 012 0 | 932 400 920 2 | Test port | ■ 932 500 098 0 | 432 410 002 2 | Valve |
| ■ 932 500 015 0 | 932 400 920 2 | Test port | ■ 932 500 101 0 | 932 505 000 2 432 410 935 2 | Pressure sensor module Valve body |
| ■ 932 500 016 0 | 932 505 000 2 932 400 920 2 | Pressure sensor module Test port | ■ 932 500 102 0 | 432 410 935 2 932 505 000 2 | Valve body Pressure sensor module |
| ■ 932 500 021 0 | 932 400 920 2 | Test port | ■ 932 500 103 0 | 432 410 935 2 932 505 000 2 | Valve body Pressure sensor module |
| ■ 932 500 027 0 | 932 400 920 2 | Test port | ■ 932 500 104 0 | 932 505 000 2 432 410 935 2 | Pressure sensor module Valve body |
| ■ 932 500 030 0 | 932 400 920 2 | Test port | ■ 932 500 110 0 | 932 505 000 2 932 400 920 2 | Pressure sensor module Test port |
| ■ 932 500 039 0 | 932 400 920 2 932 505 000 2 | Test port Pressure sensor module | ■ 932 500 111 0 | 932 400 920 2 | Test port |
| ■ 932 500 040 0 | 932 505 000 2 932 400 920 2 | Pressure sensor module Test port | ■ 932 500 112 0 | 932 400 920 2 | Test port |
| ■ 932 500 054 0 | 932 400 920 2 | Test port | ■ 932 500 114 0 | 932 400 920 2 | Test port |
| ■ 932 500 055 0 | 932 400 920 2 | Test port | ■ 932 500 119 0 | 932 400 920 2 | Test port |
| ■ 932 500 060 0 | 932 500 154 2 932 400 920 2 | Protection valve Test port | ■ 932 500 160 0 | 932 500 154 2 | Protection valve |
| ■ 932 500 061 0 | 932 400 920 2 | Test port | ■ 932 500 269 0 | 932 500 154 2 | Protection valve |
| ■ 932 500 062 0 | 932 400 920 2 932 500 154 2 | Test port Protection valve | ■ 932 507 001 0 | 432 410 924 2 934 705 921 2 932 400 920 2 | Valve piston Valve body + spring Test port |
| ■ 932 500 063 0 | 932 505 000 2 | Pressure sensor module | ■ 932 507 002 0 | 934 705 921 2 932 501 922 2 432 410 924 2 932 400 920 2 | Valve body + spring Valve Valve piston Test port |
| ■ 932 500 064 0 | 432 415 923 2 432 410 002 2 | Exhaust valve Valve | | | |
| ■ 932 500 068 0 | 932 400 920 2 | Test port | | | |
| ■ 932 500 080 0 | 932 500 154 2 | Protection valve | | | |

AIR SUPPLY AND PROCESSING

| Product number | Repair kit | Content |
|-----------------|---------------|---------------------|
| ■ 932 507 003 0 | 432 410 924 2 | Valve piston |
| | 934 705 921 2 | Valve body + spring |
| | 932 400 920 2 | Test port |
| | 932 501 922 2 | Valve |

Electronic Air Processing Unit (EAPU) - FuelGuard™

| | |
|---------------|------------------------------------|
| ■ Training | E-learning: APS-EAPU 200 300 301 0 |
| ■ Diagnostics | Diagnostic software "APS-EAPU" |



| Product number | Working pressure | Silencer | Temperature |
|--------------------------------|------------------|---------------|----------------|
| 932 510 009 0 932 510 009 R | 12.5 bar | 432 407 070 0 | -40 ... +65 °C |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|------------------------------|
| ■ 932 510 009 0 | 432 901 228 2 | Cartridge |
| | 932 510 952 2 | Solenoid valve |
| | 932 510 953 2 | Exhaust |
| | 932 510 954 2 | Non-return valve |
| | 932 510 955 2 | Safety valve |
| | 932 510 956 2 | Air dryer repair unit |
| | 932 510 957 2 | Gasket kit |
| | 932 510 958 2 | Protection valve repair unit |
| | 932 510 959 2 | Manifold block repair unit |
| | 932 510 960 2 | Gasket kit |
| | 932 510 964 2 | Air dryer repair kit |
| | 932 510 965 2 | Protection valve repair kit |

Unloader

| | |
|--------------------|---|
| ■ Temperature | -40 ... +100 °C (975 300 111 / 113 / 114 0: -40 ... +150 °C) |
| ■ Working pressure | 25 bar (975 300 111 / 113 / 114 0: 15 bar) |
| ■ Notes | Port 1-2: Tire inflation port * Tire inflation port 1-2 closed: 975 303 920 2 retrofit kit |



| Product number | Pressure | | One-way valve | Port |
|----------------|----------|----------|---------------|--|
| | Cut-out | Opening | | |
| 975 300 111 0 | 7.3 bar | - | ✓ | 1, 21: M22x1.5; 1-2: ✓; 3: Union Ø 15 mm |
| 975 300 113 0 | 8.1 bar | - | ✓ | 1, 21: M22x1.5; 1-2: ✓; 3: Union Ø 15 mm |
| 975 300 114 0 | 8.1 bar | - | ✓ | 1, 21: M22x1.5; 1-2: closed (M22x1.5); 3: Union Ø 15 mm |
| 975 303 000 0 | 5.3 bar | 10.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 001 0 | 8.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 003 0 | 7.0 bar | 15.0 bar | ✓ | 1, 21: M22x1.5; 1-2: -; 3: Union Ø 20 mm; 4: M12x1.5 |
| 975 303 040 0 | 7.3 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 060 0 | 8.1 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 061 0 | 8.1 bar | 12.0 bar | - | 1, 21: M22x1.5; 1-2: -; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |

| Product number | Pressure | | One-way valve | Port |
|----------------|----------|----------|---------------|--|
| | Cut-out | Opening | | |
| 975 303 063 0 | 8.1 bar | 12.0 bar | ✓ | 1, 21: ¼"-14 NPTF; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 068 0 | 8.0 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 071 0 | 8.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 072 0 | 8.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 075 0 | 8.7 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 3: Union Ø 20 mm; 4: M12x1,5 |
| 975 303 080 0 | 9.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 081 0 | 9.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 23: M12x1.5; 3: Union Ø 20 mm |
| 975 303 082 0 | 9.8 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 23: M12x1.5; 3: Union Ø 20 mm |
| 975 303 084 0 | 9.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 23: M12x1.5; 3: Union Ø 20 mm |
| 975 303 088 0 | 9.5 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: –; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 089 0 | 9.5 bar | 14.0 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 091 0 | 9.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 120 0 | 11.0 bar | 15.5 bar | ✓ | 1, 21: M22x1.5; 1-2: –; 23: M12x1.5; 3: Union Ø 20 mm |
| 975 303 121 0 | 11.0 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: –; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 140 0 | 12.5 bar | 15.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 141 0 | 12.5 bar | 17.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 23: M12x1.5; 3: Union Ø 20 mm |
| 975 303 220 0 | 16.0 bar | 20.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 222 0 | 16.5 bar | 20.0 bar | ✓ | 1, 21: M22x1.5; 1-2: closed*; 3: Union Ø 20 mm |
| 975 303 441 0 | 7.8 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 442 0 | 7.3 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 23, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 443 0 | 7.8 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 446 0 | 7.8 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 447 0 | 7.3 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 449 0 | 7.3 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 463 0 | 8.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 464 0 | 8.1 bar | 10.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 3: Union Ø 20 mm |
| 975 303 465 0 | 8.1 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 469 0 | 8.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 472 0 | 8.5 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 473 0 | 8.1 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 474 0 | 8.1 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 475 0 | 8.1 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 478 0 | 8.1 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 480 0 | 9.5 bar | 12.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 491 0 | 8.5 bar | 12.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 503 0 | 10.0 bar | 14.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 303 504 0 | 10.0 bar | 14.0 bar | – | 1, 21: M22x1.5; 1-2: ✓; 22, 4: M12x1.5; 3: Union Ø 20 mm |
| 975 303 580 0 | 14.0 bar | 20.0 bar | ✓ | 1, 21: M22x1.5; 1-2: ✓; 22: M12x1.5; 3: Union Ø 20 mm |
| 975 400 083 0 | 8.5 bar | – | – | 1, 21: ½"-27 NPTF; 3: exhaust |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 975 300 111 0 | 975 300 000 2 | Valve | ■ 975 303 068 0 | 975 303 000 2 | Valve |
| ■ 975 303 000 0 | 975 303 000 2 | Valve | ■ 975 303 071 0 | 975 303 000 2 | Valve |
| ■ 975 303 040 0 | 975 303 000 2 | Valve | ■ 975 303 072 0 | 975 303 000 2 | Valve |
| ■ 975 303 060 0 | 975 303 000 2 | Valve | ■ 975 303 075 0 | 975 303 000 2 | Valve |
| ■ 975 303 061 0 | 975 303 000 2 | Valve | ■ 975 303 080 0 | 975 303 000 2 | Valve |
| ■ 975 303 063 0 | 975 303 000 2 | Valve | ■ 975 303 081 0 | 975 303 000 2 | Valve |

AIR SUPPLY AND PROCESSING

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 975 303 082 0 | 975 303 000 2 | Valve | ■ 975 303 449 0 | 975 303 001 2 | Valve |
| ■ 975 303 084 0 | 975 303 000 2 | Valve | ■ 975 303 463 0 | 975 303 001 2 | Valve |
| ■ 975 303 088 0 | 975 303 000 2 | Valve | ■ 975 303 464 0 | 975 303 001 2 | Valve |
| ■ 975 303 089 0 | 975 303 000 2 | Valve | ■ 975 303 465 0 | 975 303 001 2 | Valve |
| ■ 975 303 120 0 | 975 303 000 2 | Valve | ■ 975 303 469 0 | 975 303 001 2 | Valve |
| ■ 975 303 121 0 | 975 303 000 2 | Valve | ■ 975 303 472 0 | 975 303 001 2 | Valve |
| ■ 975 303 140 0 | 975 303 000 2 | Valve | ■ 975 303 473 0 | 975 303 001 2 | Valve |
| ■ 975 303 141 0 | 975 303 000 2 | Valve | ■ 975 303 474 0 | 975 303 001 2 | Valve |
| ■ 975 303 220 0 | 975 303 000 2 | Valve | ■ 975 303 475 0 | 975 303 001 2 | Valve |
| ■ 975 303 222 0 | 975 303 000 2 | Valve | ■ 975 303 478 0 | 975 303 001 2 | Valve |
| ■ 975 303 441 0 | 975 303 001 2 | Valve | ■ 975 303 480 0 | 975 303 001 2 | Valve |
| ■ 975 303 442 0 | 975 303 001 2 | Valve | ■ 975 303 491 0 | 975 303 001 2 | Valve |
| ■ 975 303 443 0 | 975 303 001 2 | Valve | ■ 975 303 503 0 | 975 303 001 2 | Valve |
| ■ 975 303 446 0 | 975 303 001 2 | Valve | ■ 975 303 504 0 | 975 303 001 2 | Valve |
| ■ 975 303 447 0 | 975 303 001 2 | Valve | ■ 975 303 580 0 | 975 303 001 2 | Valve |

Charging valve

- Temperature -40 ... +80 °C



| Product number | Return flow | Pressure | | Nominal Ø | Port | |
|----------------|-------------|----------|----------|-------------------------|---------|---------|
| | | Charging | Working | | 1 | 2 |
| 434 100 020 0 | ✓ | 3.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 021 0 | ✓ | 3.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 022 0 | ✓ | 4.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 023 0 | ✓ | 5.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 024 0 | ✓ | 6.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 025 0 | ✓ | 6.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 026 0 | ✓ | 1.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 027 0 | ✓ | 0.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 028 0 | ✓ | 5.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 032 0 | ✓ | 10.5 bar | 13.0 bar | 1-2: 3 mm, 2-1: 8 mm | M22x1.5 | M22x1.5 |
| 434 100 033 0 | ✓ | 7.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 034 0 | ✓ | 6.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 037 0 | ✓ | 1.6 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 038 0 | ✓ | 7.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 039 0 | ✓ | 8.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 043 0 | ✓ | 5.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 047 0 | ✓ | 10.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 048 0 | ✓ | 8.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 049 0 | ✓ | 9.2 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 051 0 | ✓ | 10.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 080 0 | ✓ | 4.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |

| Product number | Return flow | Pressure | | Nominal Ø | Port | |
|----------------|-------------|----------|----------|-----------|-------------------|-----------------|
| | | Charging | Working | | 1 | 2 |
| 434 100 082 0 | ✓ | 4.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 083 0 | ✓ | 4.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 122 0 | – | 4.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 123 0 | – | 5.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 124 0 | – | 5.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 125 0 | – | 6.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 126 0 | – | 6.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 127 0 | – | 6.7 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 128 0 | – | 5.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 130 0 | – | 7.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 131 0 | – | 7.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 133 0 | – | 7.6 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 136 0 | – | 10.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 139 0 | – | 8.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 143 0 | – | 9.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 144 0 | – | 10.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 150 0 | – | 6.1 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 153 0 | – | 7.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 202 0 | limited | 6.2 bar | 10.0 bar | 5 mm | M22x1.5 | M22x1.5 |
| 434 100 203 0 | limited | 4.0 bar | 10.0 bar | 5 mm | M22x1.5 | M22x1.5 |
| 434 100 220 0 | limited | 4.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 221 0 | limited | 5.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 222 0 | limited | 6.2 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 223 0 | limited | 4.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 224 0 | limited | 1.7 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 225 0 | limited | 6.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 226 0 | limited | 5.3 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 227 0 | limited | 5.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 228 0 | limited | 6.4 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 229 0 | limited | – | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 230 0 | limited | – | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 231 0 | limited | – | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 232 0 | limited | 8.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 233 0 | limited | 7.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 234 0 | limited | 8.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 235 0 | limited | 4.2 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 236 0 | limited | 1.1 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 244 0 | limited | 7.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 249 0 | limited | 10.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 251 0 | limited | 0.8 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 253 0 | limited | 6.1 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 257 0 | limited | 5.6 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 260 0 | limited | – | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 262 0 | limited | – | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 310 0 | ✓ | 8.2 bar | 8.3 bar | 8 mm | female ½"-14 NPTF | male ½"-14 NPTF |
| 434 100 504 0 | limited | – | 10.0 bar | 7 mm | M16x1.5 | M16x1.5 |
| 434 100 505 0 | limited | – | 13.0 bar | 7 mm | M16x1.5 | M16x1.5 |
| 434 100 600 0 | – | 8.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 602 0 | – | 10.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 603 0 | – | 2.0 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |
| 434 100 604 0 | – | 7.5 bar | 13.0 bar | 8 mm | M22x1.5 | M22x1.5 |

Protection valve

- **Opening pressure** Circuit 1: 5.2 bar
 Circuit 2: 6.0 bar



| Product number | Working pressure | Temperature | Port |
|----------------|------------------|----------------|-----------------------------|
| 434 700 003 0 | 10.0 bar | -40 ... +80 °C | 1, 21, 22: M22x1.5 |
| 934 700 040 0 | 20.0 bar | -40 ... +90 °C | 1: M22x1.5; 21, 22: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------|
| ■ 934 700 040 0 | 934 700 000 2 | Diaphragm + valve |



Triple protection valve

- **Temperature** -40 ... +90 °C
- **Working pressure** 20 bar

| Product number | Opening pressure | | | Port |
|----------------|------------------|-----------|-----------|---------------------------------|
| | Circuit 1 | Circuit 2 | Circuit 3 | |
| 934 701 000 0 | 5.7 bar | 5.7 bar | 5.2 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |
| 934 701 001 0 | 6.0 bar | 6.0 bar | 5.5 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |
| 934 701 005 0 | 5.4 bar | 5.4 bar | 4.9 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |
| 934 701 040 0 | 6.0 bar | 6.0 bar | 5.5 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |
| 934 701 041 0 | 7.0 bar | 7.0 bar | 6.5 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |
| 934 701 110 0 | 7.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23: M16x1.5 |

Quadruple circuit protection valve - flange mounted

- **Temperature** -40 ... +90 °C
 ¹⁾ -40 ... +65 °C
 ²⁾ -40 ... +90 °C
- **Pressure sensor** * electrical connection
 DIN bayonet 72585, 7-pin
- **Mounting** Port 1 flange mounted at air dryer



884 503 144 0



934 705 008 0



934 714 152 0

| Product number | Working pressure | Pressure limiting | | Opening pressure | | Pressure sensor* | Port |
|----------------|------------------|-------------------|---------------|------------------|---------------|------------------|--|
| | | Circuit 1 / 2 | Circuit 3 / 4 | Circuit 1 / 2 | Circuit 3 / 4 | | |
| 884 503 144 0 | 13.0 bar | - | 8.5 bar | 9.0 bar | 7.5 bar | ✓ | 1: thread M8; 21, 22, 23, 24, 25, 26: M22x1.5 |
| 934 702 073 0 | 13.0 bar | - | - | 8.0 bar | 8.4 bar | - | 1: 2 bolts M8; 21, 22, 23, 24: M22x1.5 JED-388 |

| Product number | Working pressure | Pressure limiting | | Opening pressure | | Pressure sensor* | Port |
|-----------------------------|------------------|-------------------|---------------|------------------|----------------------|------------------|---|
| | | Circuit 1 / 2 | Circuit 3 / 4 | Circuit 1 / 2 | Circuit 3 / 4 | | |
| 934 705 002 0 | 13.0 bar | – | 8.5 bar | 9.0 bar | 7.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5 |
| 934 705 003 0 | 13.0 bar | 10.0 bar | 8.5 bar | 9.0 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 004 0 | 10.2 bar | – | 8.5 bar | 8.6 bar | 7.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5 |
| 934 705 005 0 | 13.0 bar | 10.0 bar | 8.5 bar | 9.0 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 008 0 | 13.0 bar | 10.6 bar | 8.6 bar | 9.0 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 009 0 | 13.0 bar | 10.0 bar | – | 9.0 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 010 0 | 13.0 bar | – | 8.5 bar | 6.5 bar | 6.0 / 7.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5 |
| 934 705 011 0 | 13.0 bar | – | 10.0 bar | 9.0 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 013 0 | 13.0 bar | – | – | 6.9 bar | 7.3 / 6.9 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 014 0 | 10.2 bar | – | 9.0 bar | 8.6 bar | 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 015 0 | 13.0 bar | – | 8.5 bar | 6.5 bar | 6.0 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 705 021 0 | 13.0 bar | 8.5 bar | 8.5 bar | 7.5 bar | 5.35 ÷ 7.5 / 7.5 bar | ✓ | 1: 2 bolts M8; 21, 22, 23, 24, 26: M22x1.5 |
| 934 707 010 0 ¹⁾ | 13.0 bar | – | 8.5 bar | 9.0 bar | 7.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 707 011 0 ¹⁾ | 13.0 bar | – | 8.5 bar | 9.0 bar | 7.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24, 25, 26: M22x1.5; 27, 28: M12x1.5 |
| 934 714 151 0 ²⁾ | 13.0 bar | – | – | 6.5 bar | 7.5 / 6.5 bar | – | 1: 2 bolts M8; 21, 22, 23, 24: M16x1.5 |
| 934 714 152 0 ²⁾ | 13.0 bar | – | – | 6.0 bar | 7.0 / 6.0 bar | – | 1: 2 bolts M8; 21, 22, 23, 24: 3/8"-18 PTF |
| 934 714 160 0 ²⁾ | 13.0 bar | – | – | 6.5 bar | 7.2 bar | – | 1: 2 bolts M8; 21, 22, 23, 24: M16x1.5 |

Temperature: ¹⁾ –40 ... +65 °C; ²⁾ –40 ... +90 °C

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content | |
|-----------------|---------------|---------------------|-----------------|-----------------|---------------------|---------------------|
| ■ 934 705 002 0 | 934 705 001 2 | Valve | ■ 934 705 011 0 | 934 705 920 2 | Valve body | |
| | 934 705 920 2 | Valve body | | 934 705 921 2 | Valve body + spring | |
| | 934 705 921 2 | Valve body + spring | | ■ 934 705 021 0 | 934 705 921 2 | Valve body + spring |
| ■ 934 705 003 0 | 934 705 920 2 | Valve body | 934 705 923 2 | | Valve | |
| | 934 705 921 2 | Valve body + spring | ■ 934 714 152 0 | | 934 714 920 2 | Diaphragm |
| ■ 934 705 005 0 | 934 705 920 2 | Valve body | | ■ 934 714 160 0 | 934 714 920 2 | Diaphragm |
| | 934 705 921 2 | Valve body + spring | | | 934 714 922 2 | Diaphragm + valve |
| | | | 934 714 925 2 | | Diaphragm + valve | |

AIR SUPPLY AND PROCESSING

Quadruple circuit protection valve



934 702 040 0



934 702 210 0



934 702 260 0



934 714 400 0



934 714 740 0

| Product number | Temperature | Working pressure | Opening pressure | | Port |
|----------------|---------------|------------------|------------------|---------------|---|
| | | | Circuit 1 / 2 | Circuit 3 / 4 | |
| 934 702 000 0 | -40 ... +90°C | 10.0 bar | 6.0 bar | 5.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 002 0 | -40 ... +90°C | 10.0 bar | 6.3 bar | 6.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 005 0 | -40 ... +90°C | 10.0 bar | 6.3 bar | 6.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 040 0 | -40 ... +90°C | 10.0 bar | 6.0 bar | 5.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 041 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 042 0 | -40 ... +90°C | 10.0 bar | 5.4 bar | 4.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 045 0 | -40 ... +90°C | 10.0 bar | 6.5 bar | 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 047 0 | -40 ... +90°C | 10.0 bar | 6.3 bar | 5.8 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 082 0 | -40 ... +90°C | 20.0 bar | 7.9 bar | 7.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 100 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 6.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 101 0 | -40 ... +90°C | 10.0 bar | 6.1 bar | 4.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 110 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 120 0 | -40 ... +90°C | 10.0 bar | 6.0 bar | 5.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 122 0 | -40 ... +90°C | 13.0 bar | 9.3 bar | 7.3 / 6.3 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 191 0 | -40 ... +90°C | 10.0 bar | 7.9 bar | 7.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 192 0 | -40 ... +90°C | 10.0 bar | 7.5 bar | 7.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 210 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |
| 934 702 220 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |
| 934 702 221 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |
| 934 702 223 0 | -40 ... +90°C | 20.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |
| 934 702 240 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 6.5 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |
| 934 702 250 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 251 0 | -40 ... +90°C | 20.0 bar | 6.5 bar | 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 252 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.7 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 260 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1, 21, 22, 23, 24: M22x1.5 |
| 934 702 261 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.7 bar | 1, 21, 22, 23, 24: M22x1.5 |
| 934 702 270 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1, 11, 12, 21, 22, 23, 24: M22x1.5 |
| 934 702 271 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1, 11, 12, 21, 22, 23, 24: M22x1.5 |
| 934 702 300 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 302 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 304 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 320 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 322 0 | -40 ... +90°C | 20.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 323 0 | -40 ... +90°C | 20.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 324 0 | -40 ... +90°C | 20.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 330 0 | -40 ... +90°C | 10.0 bar | 6.3 bar | 5.5 / 5.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 340 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 342 0 | -40 ... +90°C | 10.0 bar | 6.5 bar | 6.7 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 380 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 381 0 | -40 ... +90°C | 20.0 bar | 6.5 bar | 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 387 0 | -40 ... +90°C | 10.0 bar | 6.5 bar | 7.5 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |

| Product number | Temperature | Working pressure | Opening pressure | | Port |
|----------------|---------------|------------------|------------------|---------------|---|
| | | | Circuit 1 / 2 | Circuit 3 / 4 | |
| 934 702 388 0 | -40 ... +90°C | 20.0 bar | 7.0 bar | 7.4 / 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 390 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 6.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 702 391 0 | -40 ... +90°C | 10.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 001 0 | -40 ... +90°C | 13.0 bar | 6.4 bar | 5.9 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 003 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 6.9 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 004 0 | -40 ... +90°C | 13.0 bar | 7.5 bar | 7.5 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 006 0 | -40 ... +90°C | 13.0 bar | 7.2 bar | 5.7 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 010 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 011 0 | -40 ... +90°C | 13.0 bar | 7.2 bar | 7.7 / 7.3 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 014 0 | -40 ... +90°C | 13.0 bar | 6.7 bar | 6.7 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 016 0 | -40 ... +90°C | 13.0 bar | 7.5 bar | 7.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 019 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 030 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 109 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 110 0 | -40 ... +90°C | 13.0 bar | 7.5 bar | 7.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 111 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.2 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 119 0 | -45 ... +90°C | 13.0 bar | 6.5 bar | 6.7 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 123 0 | -40 ... +90°C | 13.0 bar | 8.0 bar | 8.5 / 8.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 124 0 | -40 ... +90°C | 13.0 bar | 6.5 bar | 7.4 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 125 0 | -40 ... +90°C | 13.0 bar | 6.2 bar | 6.2 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 126 0 | -45 ... +90°C | 13.0 bar | 6.5 bar | 7.2 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 137 0 | -40 ... +90°C | 13.0 bar | 6.2 bar | 6.2 bar | 1: ½"-14 PTF; 21, 22, 23, 24: ⅜"-18 PTF |
| 934 714 145 0 | -45 ... +90°C | 13.0 bar | 6.5 bar | 7.2 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 211 0 | -40 ... +90°C | 13.0 bar | 6.5 bar | 7.4 / 6.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 302 0 | -40 ... +90°C | 13.0 bar | 7.0 bar | 7.0 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 320 0 | -40 ... +90°C | 13.0 bar | 7.9 bar | 8.3 / 7.9 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 400 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1, 21, 22, 23, 24: M22x1.5 JED-388 |
| 934 714 401 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1, 21, 22, 23, 24: M22x1.5 JED-388 |
| 934 714 403 0 | -40 ... +90°C | 13.0 bar | 6.9 bar | 7.0 / 6.9 bar | 1, 21, 22, 23, 24: M22x1.5 JED-388 |
| 934 714 404 0 | -40 ... +90°C | 13.0 bar | 6.7 / 6.6 bar | 5.8 bar | 1, 21, 22, 23, 24: M22x1.5 JED-388 |
| 934 714 730 0 | -40 ... +90°C | 13.0 bar | 7.0 bar | 7.5 / 7.0 bar | 1, 21, 22, 23: M22x1.5; 24: M16x1.5 |
| 934 714 732 0 | -40 ... +90°C | 13.0 bar | 7.5 bar | 8.5 / 7.5 bar | 1: M22x1.5; 21, 22, 23, 24: M16x1.5 |
| 934 714 740 0 | -45 ... +90°C | 13.0 bar | 6.3 bar | 5.8 bar | 1: M22x1.5; 11, 12, 21, 22, 23, 24: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------|-----------------|---------------|-------------------|
| ■ 934 702 000 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 120 0 | 934 901 002 2 | Diaphragm + valve |
| ■ 934 702 002 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 191 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 702 005 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 192 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 702 040 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 210 0 | 934 702 005 2 | Diaphragm + valve |
| ■ 934 702 041 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 220 0 | 934 702 005 2 | Diaphragm + valve |
| ■ 934 702 042 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 221 0 | 934 702 009 2 | Diaphragm + valve |
| ■ 934 702 045 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 223 0 | 934 702 900 2 | Diaphragm + valve |
| ■ 934 702 047 0 | 934 702 000 2 | Diaphragm + valve | ■ 934 702 250 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 702 082 0 | 934 702 008 2 | Diaphragm + valve | ■ 934 702 252 0 | 934 702 901 2 | Diaphragm + valve |
| ■ 934 702 100 0 | 934 702 001 2 | Diaphragm + valve | ■ 934 702 260 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 702 101 0 | 934 702 001 2 | Diaphragm + valve | ■ 934 702 261 0 | 934 702 901 2 | Diaphragm + valve |
| ■ 934 702 110 0 | 934 702 001 2 | Diaphragm + valve | ■ 934 702 270 0 | 934 702 009 2 | Diaphragm + valve |

AIR SUPPLY AND PROCESSING

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------|
| ■ 934 702 300 0 | 934 702 004 2 | Diaphragm + valve |
| ■ 934 702 302 0 | 934 702 004 2 | Diaphragm + valve |
| ■ 934 702 304 0 | 934 702 004 2 | Diaphragm + valve |
| ■ 934 702 320 0 | 934 702 001 2 | Diaphragm + valve |
| ■ 934 702 322 0 | 934 702 900 2 | Diaphragm + valve |
| ■ 934 702 323 0 | 934 702 900 2 | Diaphragm + valve |
| ■ 934 702 330 0 | 934 702 000 2 | Diaphragm + valve |
| ■ 934 702 340 0 | 934 901 002 2 | Diaphragm + valve |
| ■ 934 702 342 0 | 934 901 002 2 | Diaphragm + valve |
| ■ 934 702 380 0 | 934 702 006 2 | Diaphragm + valve |
| ■ 934 702 381 0 | 934 702 006 2 | Diaphragm + valve |
| ■ 934 702 387 0 | 934 702 902 2 | Diaphragm + valve |
| ■ 934 702 390 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 702 391 0 | 934 901 005 2 | Diaphragm + valve |
| ■ 934 714 001 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 004 0 | 934 714 921 2 | Diaphragm + valve |

| Product number | Repair kit | Content |
|-----------------|---------------|------------------------------|
| ■ 934 714 006 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 011 0 | 934 714 922 2 | Diaphragm + non return valve |
| | 934 714 925 2 | Diaphragm + valve |
| ■ 934 714 016 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 030 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 109 0 | 934 714 924 2 | Diaphragm + valve |
| ■ 934 714 119 0 | 934 714 923 2 | Diaphragm + valve |
| ■ 934 714 123 0 | 934 714 923 2 | Diaphragm + valve |
| ■ 934 714 124 0 | 934 714 920 2 | Diaphragm |
| ■ 934 714 137 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 302 0 | 934 714 921 2 | Diaphragm + valve |
| ■ 934 714 403 0 | 934 714 920 2 | Diaphragm |
| | 934 714 922 2 | Diaphragm + non return valve |
| | 934 714 925 2 | Diaphragm + valve |
| ■ 934 714 732 0 | 934 714 925 2 | Diaphragm + valve |



434 608 204 0



434 608 220 0



434 612 004 0

Safety valve

| Product number | Temperature | Opening pressure | Port 1 | Wrench size | Length |
|----------------|-----------------|------------------|------------|-------------|---------|
| 434 608 202 0 | -40 ... +80 °C | 10.7 bar | M16x1.5 | 19 mm | 97.0 mm |
| 434 608 204 0 | -40 ... +80 °C | 15.5 bar | M14x1.5 | 19 mm | 97.0 mm |
| 434 608 207 0 | -40 ... +80 °C | 10.8 bar | ¼"-18 NPTF | ¾" | 72.0 mm |
| 434 608 208 0 | -40 ... +100 °C | 9.7 bar | M16x1.5 | 22 mm | 74.0 mm |
| 434 608 209 0 | -40 ... +80 °C | 10.4 bar | M16x1.5 | 19 mm | 97.0 mm |
| 434 608 220 0 | -40 ... +80 °C | 10.0 bar | M16x1.5 | 22 mm | 59.0 mm |
| 434 608 221 0 | -40 ... +80 °C | 9.0 bar | M16x1.5 | 22 mm | 59.0 mm |
| 434 608 226 0 | -40 ... +80 °C | 15.0 bar | M16x1.5 | 22 mm | 59.0 mm |
| 434 612 001 0 | -40 ... +80 °C | 9.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 002 0 | -40 ... +80 °C | 10.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 003 0 | -40 ... +80 °C | 11.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 004 0 | -40 ... +80 °C | 13.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 005 0 | -40 ... +80 °C | 13.8 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 014 0 | -40 ... +80 °C | 7.5 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 015 0 | -40 ... +80 °C | 8.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 016 0 | -40 ... +80 °C | 8.5 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 017 0 | -40 ... +80 °C | 10.5 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 018 0 | -40 ... +80 °C | 12.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 434 612 054 0 | -40 ... +80 °C | 13.0 bar | M16x1.5 | 24 mm | 72.0 mm |
| 434 612 055 0 | -40 ... +80 °C | 14.5 bar | M16x1.5 | 24 mm | 72.0 mm |

| Product number | Temperature | Opening pressure | Port 1 | Wrench size | Length |
|----------------|-----------------|------------------|---------------------------------|-------------|---------|
| 434 612 064 0 | -40 ... +80 °C | 12.0 bar | M16x1.5 | 24 mm | 72.0 mm |
| 434 612 065 0 | -40 ... +80 °C | 14.0 bar | M16x1.5 | 24 mm | 72.0 mm |
| 434 612 066 0 | -40 ... +80 °C | 15.0 bar | M16x1.5 | 24 mm | 72.0 mm |
| 434 612 100 0 | -40 ... +80 °C | 13.0 bar | M22x1.5 | 24 mm | 72.0 mm |
| 884 502 074 0 | -40 ... +80 °C | 19.0 bar | M22x1.5 | 27 mm | 53.0 mm |
| 934 602 001 0 | -40 ... +100 °C | 10.5 bar | G $\frac{1}{4}$ " (NFE 003 005) | 24 mm | 41.5 mm |
| 934 602 150 0 | -40 ... +100 °C | 10.0 bar | M14x1.5 | 24 mm | 43.5 mm |

Air dryer - single chamber (Standard cartridge)

| | |
|----------------------|---|
| ■ Temperature | -40 ... +65 °C |
| ■ Heating connection | Bayonet DIN = DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Air reg. | Air regeneration reservoir port (if no regeneration valve) |
| ■ Port | ¹⁾ JED-388; ²⁾ JED-152; ³⁾ JED-464 |



432 410 023 0

432 410 083 0

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|--------------|------------------|----------|---|
| 432 410 000 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 003 0 | M39 | 12 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 005 0 | M39 | - | 13 bar | retrofitable | 10.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 007 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 020 0 | M39 | - | 13 bar | Kostal M27x1 | 9.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 021 0 | M39 | - | 13 bar | retrofitable | 9.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 022 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 9.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 023 0 | M39 | - | 13 bar | retrofitable | 11.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 026 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 9.8 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 027 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 10.0 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 028 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 031 0 | M39 | - | 13 bar | retrofitable | 7.8 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 033 0 | M39 | - | 13 bar | retrofitable | 12.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 034 0 | M39 | 24 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 035 0 | M39 | 24 V | 13 bar | Bayonet DIN | 11.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 036 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 7.3 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 041 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 042 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 066 0 | M39 | - | 13 bar | retrofitable | 8.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 067 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 069 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 10.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 073 0 | M39 | - | 13 bar | retrofitable | 11.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 074 0 | M39 | - | 13 bar | retrofitable | 12.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |

AIR SUPPLY AND PROCESSING

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|---------------------------|------------------|----------|---|
| 432 410 075 0 | M39 | – | 13 bar | Bayonet DIN | 11.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 076 0 | M39 | – | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 079 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M16x1.5 |
| 432 410 080 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 9.8 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 083 0 | G1¼" / SW30 | – | 13 bar | D.T.06-2S-CE01 | 9.3 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 087 0 | M39 | – | 13 bar | HDSCS 2-Pole | 12.0 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 088 0 | M39 | – | 13 bar | Kostal M27x1 | 12.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 094 0 | M39 | 24 V | 10 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 096 0 | M39 | – | 13 bar | retrofitable | 9.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ ; control port: M12x1.5 ²⁾ (closed) |
| 432 410 097 0 | M39 | – | 13 bar | retrofitable | 10.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ ; control port: M12x1.5 ²⁾ (closed) |
| 432 410 098 0 | M39 | – | 13 bar | retrofitable | 8.4 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ ; control port: M12x1.5 ²⁾ (closed) |
| 432 410 099 0 | M39 | – | 13 bar | retrofitable | 9.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ ; control port: M12x1.5 ²⁾ (closed) |
| 432 410 102 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 104 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 111 0 | M39 | – | 13 bar | retrofitable | 12.5 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 112 0 | M39 | 24 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 113 0 | M39 | – | 13 bar | retrofitable | 12.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 114 0 | M39 | 24 V | 13 bar | Bayonet DIN | 8.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 115 0 | M39 | – | 13 bar | retrofitable | 8.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 116 0 | M39 | 24 V | 13 bar | Bayonet DIN | 10.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 117 0 | M39 | – | 13 bar | retrofitable | 10.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ |
| 432 410 118 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.8 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 122 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 12.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 127 0 | M39 | 12 V | 13 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 129 0 | M39 | 24 V | 10 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21, 22: M22x1.5 |
| 432 410 134 0 | M39 | 24 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22, control port: M16x1.5 ¹⁾ |
| 432 410 138 0 | M39 | – | 13 bar | retrofitable | 10.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22: M16x1.5 ¹⁾ ; control port: M12x1.5 ²⁾ (closed) |
| 432 410 140 0 | M39 | 24 V | 10 bar | Bayonet DIN | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 152 0 | M39 | 24 V | 10 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 162 0 | M39 | 12 V | 13 bar | Bayonet DIN | 8.5 bar | ✓ | 1, 21: M22x1.5 ²⁾ ; 22: M12x1.5 ²⁾ ; control port: M12x1.5 |
| 432 410 200 0 | M39 | 24 V | 13 bar | Bayonet (Schlemmer) 3-pin | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 201 0 | M39 | – | 13 bar | retrofitable | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 202 0 | M39 | – | 13 bar | retrofitable | 8.1 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5 |
| 432 410 204 0 | M39 | – | 13 bar | retrofitable | 10.0 bar | ✓ | 1: M22x1.5; 21: M22x1.5 ¹⁾ ; 22, control port: M16x1.5 ¹⁾ |

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|---------------------------|------------------|----------|--|
| 432 410 221 0 | M39 | 12 V | 13 bar | Bayonet DIN | 8.1 bar | ✓ | 1, 21: M22×1.5 ²⁾ ; 22: M12×1.5 ²⁾ |
| 432 410 250 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 10.0 bar | ✓ | 1, 21, 22: M22×1.5 |
| 432 410 262 0 | M39 | 12 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 411 167 0 | M39 | 24 V | 13 bar | Bayonet (Schlemmer) 3-pin | 12.5 bar | ✓ | 1, 21: M22×1.5; 22: M12×1.5 |
| 432 411 168 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.1 bar | ✓ | 1, 21: M22×1.5; 22: M12×1.5 |
| 432 412 002 0 | M39 | 12 V | 13 bar | Kostal M27×1 | 7.5 bar | – | 1, 21: M22×1.5; control port: M12×1.5 |
| 432 413 002 0 | M39 | 24 V | 10 bar | Delphi metri pack 280 | 7.9...9.0 bar | – | 1, 21: ½"-14 NPTF; control port: ¼"-18 NPTF |
| 432 413 003 0 | M39 | 12 V | 10 bar | Delphi metri pack 280 | 7.9...9.0 bar | – | 1, 21: ½"-14 NPTF; control port: ¼"-18 NPTF |
| 432 413 007 0 | M39 | 12 V | 10 bar | Delphi metri pack 280 | 7.9...9.0 bar | – | 1, 21: ½"-14 NPTF; control port: ¼"-18 NPTF |
| 432 415 000 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.0 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ |
| 432 415 003 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.0 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ |
| 432 415 005 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 9.0 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ |
| 432 415 006 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.5 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ |
| 432 415 013 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.3 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 015 0 | M39 | 24 V | 13 bar | retrofitable | 11.0 bar | – | 1, 21: M22×1.5; control port: M12×1.5 |
| 432 415 016 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 11.0 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 019 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 12.5 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 022 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 9.8 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 027 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 10.0 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ |
| 432 415 028 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.0 bar | – | 1: M22×1.5; 21: M22×1.5 ¹⁾ |
| 432 415 030 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 8.3 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 032 0 | M39 | 12 V | 13 bar | Kostal M27×1 | 8.3 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 033 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 10.5 bar | – | 1: M22×1.5 ¹⁾ ; 21: M22×1.5 ³⁾ |
| 432 415 037 0 | M39 | 24 V | 13 bar | Bayonet DIN | 8.3 bar | – | 1: M22×1.5; 21: M22×1.5 ³⁾ ; control port: M12×1.5 |
| 432 415 059 0 | M39 | 12 V | 13 bar | Kostal M27×1 | 11.0 bar | – | 1, 21: M22×1.5 ²⁾ ; control port: M12×1.5 |
| 432 415 124 0 | M39 | – | 13 bar | – | 12.5 bar | – | 1, 21: M22×1.5 ¹⁾ |
| 432 415 138 0 | G1¼" | – | 13 bar | retrofitable | 10.0 bar | – | 1: M22×1.5 ¹⁾ ; 21: M22×1.5 ³⁾ |
| 432 415 921 0 | M39 | 12 V | 13 bar | Kostal M27×1 | 8.3 bar | – | 1, 21: M22×1.5 ³⁾ |
| 432 420 000 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 13.0 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 420 002 0 | M39 | – | 13 bar | retrofitable | 13.0 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 420 003 0 | M39 | 12 V | 13 bar | Kostal M27×1 | 13.0 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 420 008 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 13.0 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 421 000 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 13.0 bar | ✓ | 1, 21: M22×1.5 ¹⁾ ; 22, control port: M16×1.5 ¹⁾ |
| 432 421 002 0 | M39 | – | 13 bar | retrofitable | 13.0 bar | ✓ | 1, 21: M22×1.5 ¹⁾ ; 22, control port: M16×1.5 ¹⁾ |

AIR SUPPLY AND PROCESSING

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|-----------------------|------------------|----------|--|
| 432 421 003 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 7.5...13 bar | ✓ | 1, 21: M22x1.5 ²⁾ ; 22, control port: M12x1.5 ²⁾ |
| 432 421 007 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 13.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22, control port: M16x1.5 ¹⁾ |
| 432 421 008 0 | M39 | – | 13 bar | retrofittable | 13.0 bar | ✓ | 1, 21: M22x1.5 ¹⁾ ; 22, control port: M16x1.5 ¹⁾ |
| 432 421 009 0 | M39 | 12 V | 13 bar | Delphi metri pack 280 | 7.9...9.0 bar | ✓ | 1, 21: ½"-14 NPTF; 22, control port: ¼"-18 NPTF |
| 432 421 012 0 | M39 | 24 V | 10 bar | Kostal M27x1 | 10.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 421 014 0 | M39 | – | 10 bar | retrofittable | 10.0 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 421 028 0 | M39 | 24 V | 10 bar | Kostal M27x1 | 8.1 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|-----------------|--------------------------|-----------------|-----------------|--------------------------|
| ■ 432 410 000 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 410 026 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 001 2 | Unloader valve | | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | | 432 410 005 2 | Valve set |
| ■ 432 410 003 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 410 027 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 001 2 | Unloader valve | | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | | 432 410 005 2 | Valve set |
| | 432 420 921 2 | Heater | ■ 432 410 028 0 | 432 410 000 2 | Exhaust + charging valve |
| ■ 432 410 005 0 | 432 410 000 2 | Exhaust + charging valve | | 432 410 001 2 | Unloader valve |
| | 432 410 001 2 | Unloader valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 005 2 | Valve set |
| | 432 410 005 2 | Valve set | | ■ 432 410 031 0 | 432 410 000 2 |
| ■ 432 410 007 0 | 432 410 001 2 | Unloader valve | 432 410 001 2 | | Unloader valve |
| | 432 410 002 2 | Exhaust valve | 432 410 002 2 | | Exhaust valve |
| | 432 410 005 2 | Valve set | 432 410 005 2 | | Valve set |
| | 432 420 920 2 | Heater | ■ 432 410 033 0 | 432 410 001 2 | Unloader valve |
| ■ 432 410 020 0 | 432 410 000 2 | Exhaust + charging valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 001 2 | Unloader valve | ■ 432 410 034 0 | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | ■ 432 410 035 0 | 432 410 001 2 | Unloader valve |
| ■ 432 410 021 0 | 432 410 000 2 | Exhaust + charging valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 001 2 | Unloader valve | ■ 432 410 036 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 001 2 | Unloader valve |
| | 432 410 005 2 | Valve set | | 432 410 002 2 | Exhaust valve |
| ■ 432 410 022 0 | 432 410 000 2 | Exhaust + charging valve | 432 410 005 2 | Valve set | |
| | 432 410 001 2 | Unloader valve | ■ 432 410 041 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 001 2 | Unloader valve |
| ■ 432 410 023 0 | 432 410 001 2 | Unloader valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 005 2 | Valve set |
| | ■ 432 410 042 0 | 432 410 001 2 | Unloader valve | 432 410 001 2 | Unloader valve |
| 432 410 002 2 | | Exhaust valve | 432 410 002 2 | Exhaust valve | |
| 432 410 005 2 | | Valve set | 432 410 005 2 | Valve set | |

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---|---|-----------------|--|---|
| ■ 432 410 066 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 112 0 | 432 410 001 2 432 410 002 2 432 410 932 2 | Unloader valve Exhaust valve Heater |
| ■ 432 410 067 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 113 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve |
| ■ 432 410 069 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 114 0 | 432 410 001 2 432 410 002 2 432 410 005 2 432 410 932 2 | Unloader valve Exhaust valve Valve set Heater |
| ■ 432 410 073 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 115 0 | 432 410 001 2 432 410 002 2 432 410 005 2 | Unloader valve Exhaust valve Valve set |
| ■ 432 410 074 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 116 0 | 432 410 001 2 432 410 002 2 432 410 932 2 | Unloader valve Exhaust valve Heater |
| ■ 432 410 075 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 932 2 | Exhaust + charging valve Unloader valve Exhaust valve Heater | ■ 432 410 117 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve |
| ■ 432 410 076 0 | 432 410 001 2 432 410 002 2 432 410 932 2 | Unloader valve Exhaust valve Heater | ■ 432 410 118 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set |
| ■ 432 410 079 0 | 432 410 001 2 432 410 002 2 432 410 005 2 | Unloader valve Exhaust valve Valve set | ■ 432 410 122 0 | 432 410 005 2 | Valve set |
| ■ 432 410 080 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set | ■ 432 410 127 0 | 432 410 005 2 | Valve set |
| ■ 432 410 083 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve | ■ 432 410 129 0 | 432 410 005 2 | Valve set |
| ■ 432 410 087 0 | 432 410 001 2 432 410 002 2 432 410 935 2 | Unloader valve Exhaust valve Valve body | ■ 432 410 134 0 | 432 410 001 2 432 410 002 2 432 410 932 2 | Unloader valve Exhaust valve Heater |
| ■ 432 410 088 0 | 432 410 005 2 | Valve set | ■ 432 410 138 0 | 432 410 002 2 | Exhaust valve |
| ■ 432 410 094 0 | 432 410 002 2 432 410 005 2 | Exhaust valve Valve set | ■ 432 410 140 0 | 432 410 002 2 432 410 005 2 432 410 932 2 | Exhaust valve Valve set Heater |
| ■ 432 410 096 0 | 432 410 924 2 932 400 002 2 | Valve piston Valve set | ■ 432 410 152 0 | 432 410 001 2 432 410 002 2 432 410 005 2 | Unloader valve Exhaust valve Valve set |
| ■ 432 410 097 0 | 932 400 002 2 | Valve set | ■ 432 410 162 0 | 432 410 924 2 432 415 923 2 | Valve piston Exhaust valve |
| ■ 432 410 098 0 | 432 410 924 2 932 400 002 2 | Valve piston Valve set | ■ 432 410 200 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set |
| ■ 432 410 102 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 432 420 920 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set Heater | ■ 432 410 201 0 | 432 410 000 2 432 410 005 2 | Exhaust + charging valve Valve set |
| ■ 432 410 104 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set | ■ 432 410 202 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set |
| ■ 432 410 111 0 | 432 410 000 2 432 410 001 2 432 410 002 2 432 410 005 2 | Exhaust + charging valve Unloader valve Exhaust valve Valve set | ■ 432 410 204 0 | 432 410 001 2 432 410 002 2 | Unloader valve Exhaust valve |

AIR SUPPLY AND PROCESSING

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|--------------------------|--------------------|--------------------|--------------------------|
| ■ 432 410 221 0 | 432 410 001 2 | Unloader valve | ■ 432 415 013 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 001 2 | Unloader valve |
| | 432 410 005 2 | Valve set | | 432 410 002 2 | Exhaust valve |
| | 432 410 940 2 | Exhaust + charging valve | | 432 410 005 2 | Valve set |
| ■ 432 410 250 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 415 015 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 001 2 | Unloader valve | | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | | 432 415 000 2 | Diaphragm |
| ■ 432 410 262 0 | 432 415 923 2 | Exhaust valve | ■ 432 415 016 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 425 927 2 | Exhaust valve | | 432 410 001 2 | Unloader valve |
| ■ 432 411 168 0 | 432 410 000 2 | Exhaust + charging valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 001 2 | Unloader valve | | 432 415 000 2 | Diaphragm |
| | 432 410 002 2 | Exhaust valve | ■ 432 415 019 0 | 432 410 000 2 | Exhaust + charging valve |
| ■ 432 413 002 0 | 432 413 075 2 | Valve piston | | 432 410 001 2 | Unloader valve |
| | 432 413 924 2 | Heater | | 432 410 002 2 | Exhaust valve |
| | 432 413 929 2 | Valve + exhaust | | 432 410 005 2 | Valve set |
| | 432 413 930 2 | Diaphragm + filter | 432 415 000 2 | Diaphragm | |
| | 432 413 933 2 | Valve set | ■ 432 415 022 0 | 432 410 000 2 | Exhaust + charging valve |
| 432 413 934 2 | Valve body | 432 410 001 2 | | Unloader valve | |
| ■ 432 413 003 0 | 432 413 075 2 | Valve piston | | 432 410 002 2 | Exhaust valve |
| | 432 413 925 2 | Valve body | | 432 410 005 2 | Valve set |
| | 432 413 930 2 | Diaphragm + filter | 432 415 000 2 | Diaphragm | |
| | 432 413 934 2 | Valve body | 932 500 235 2 | Regeneration valve | |
| ■ 432 413 007 0 | 432 413 075 2 | Valve piston | ■ 432 415 027 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 413 923 2 | Heater | | 432 410 001 2 | Unloader valve |
| | 432 413 925 2 | Valve body | | 432 410 002 2 | Exhaust valve |
| | 432 413 929 2 | Valve + exhaust | | 432 410 005 2 | Valve set |
| | 432 413 930 2 | Diaphragm + filter | 432 415 000 2 | Diaphragm | |
| | 432 413 934 2 | Valve body | 932 500 235 2 | Regeneration valve | |
| ■ 432 415 000 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 415 028 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 001 2 | Unloader valve | | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | | 432 410 005 2 | Valve set |
| | 432 413 075 2 | Valve piston | 432 415 000 2 | Diaphragm | |
| | 432 415 000 2 | Diaphragm | 932 500 235 2 | Regeneration valve | |
| ■ 432 415 003 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 415 030 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 001 2 | Unloader valve | | 432 410 001 2 | Unloader valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 002 2 | Exhaust valve |
| | 432 410 005 2 | Valve set | | 432 410 005 2 | Valve set |
| | 432 415 000 2 | Diaphragm | 432 415 000 2 | Diaphragm | |
| ■ 432 415 005 0 | 432 410 000 2 | Exhaust + charging valve | 932 500 235 2 | Regeneration valve | |
| | 432 410 001 2 | Unloader valve | ■ 432 415 032 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 002 2 | Exhaust valve | | 432 410 001 2 | Unloader valve |
| | 432 410 005 2 | Valve set | | 432 410 002 2 | Exhaust valve |
| | 432 415 000 2 | Diaphragm | | 432 410 005 2 | Valve set |
| ■ 432 415 006 0 | 432 410 000 2 | Exhaust + charging valve | 432 415 000 2 | Diaphragm | |
| | 432 410 001 2 | Unloader valve | 432 420 921 2 | Heater | |
| | 432 410 002 2 | Exhaust valve | ■ 432 415 033 0 | 432 410 000 2 | Exhaust + charging valve |
| | 432 410 005 2 | Valve set | | 432 410 001 2 | Unloader valve |
| | 432 415 000 2 | Diaphragm | | 432 410 002 2 | Exhaust valve |
| | | 432 410 005 2 | | Valve set | |
| | | 432 415 000 2 | Diaphragm | | |
| | | 432 420 921 2 | Heater | | |
| | | 432 410 005 2 | Valve set | | |
| | | 932 500 235 2 | Regeneration valve | | |

| Product number | Repair kit | Content | Product number | Repair kit | Content | | | |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------|
| ■ 432 415 037 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 421 000 0 | 432 410 000 2 | Exhaust + charging valve | | | |
| | 432 410 001 2 | Unloader valve | | 432 410 002 2 | Exhaust valve | | | |
| | 432 410 002 2 | Exhaust valve | | 432 413 075 2 | Valve piston | | | |
| | 432 410 005 2 | Valve set | ■ 432 421 002 0 | 432 410 000 2 | Exhaust + charging valve | | | |
| | 432 410 932 2 | Heater | | 432 410 002 2 | Exhaust valve | | | |
| 432 415 000 2 | Diaphragm | 432 413 075 2 | Valve piston | ■ 432 421 003 0 | 432 421 000 2 | Exhaust valve | | |
| ■ 432 415 138 0 | 432 410 001 2 | Unloader valve | 432 413 075 2 | | Valve piston | | | |
| | 432 410 002 2 | Exhaust valve | ■ 432 421 007 0 | | 432 410 000 2 | Exhaust + charging valve | | |
| | 932 500 235 2 | Regeneration valve | | 432 410 002 2 | Exhaust valve | | | |
| ■ 432 415 921 0 | 432 410 005 2 | Valve set | 432 413 075 2 | Valve piston | ■ 432 421 008 0 | 432 410 000 2 | Exhaust + charging valve | |
| | ■ 432 420 000 0 | 432 410 000 2 | Exhaust + charging valve | 432 410 002 2 | | Exhaust valve | | |
| 432 410 002 2 | | Exhaust valve | 432 413 075 2 | Valve piston | ■ 432 421 009 0 | 432 410 002 2 | Exhaust valve | |
| 432 413 075 2 | | Valve piston | 432 413 075 2 | Valve piston | | 432 413 075 2 | Valve piston | |
| ■ 432 420 002 0 | 432 410 000 2 | Exhaust + charging valve | 432 413 923 2 | Heater | ■ 432 421 012 0 | 432 410 005 2 | Valve set | |
| | 432 410 002 2 | Exhaust valve | 432 413 929 2 | Valve + exhaust | | 432 413 075 2 | Valve piston | |
| | 432 413 075 2 | Valve piston | 432 413 934 2 | Valve body | 432 413 934 2 | Valve body | | |
| ■ 432 420 003 0 | 432 410 000 2 | Exhaust + charging valve | 432 420 920 2 | Heater | ■ 432 421 028 0 | 432 410 001 2 | Unloader valve | |
| | 432 410 002 2 | Exhaust valve | ■ 432 421 010 0 | 432 410 005 2 | | Valve set | 432 410 002 2 | Exhaust valve |
| | 432 413 075 2 | Valve piston | | 432 413 075 2 | | Valve piston | 432 413 934 2 | Valve body |
| 432 420 921 2 | Heater | ■ 432 420 008 0 | 432 410 000 2 | Exhaust + charging valve | ■ 432 421 028 0 | 432 410 001 2 | Unloader valve | |
| 432 410 000 2 | Exhaust + charging valve | | 432 410 002 2 | Exhaust valve | | 432 413 934 2 | Valve body | |
| 432 410 002 2 | Exhaust valve | | 432 413 075 2 | Valve piston | | | | |

Air dryer - single chamber (Air System Protector)

- **Temperature** –40 ... +65 °C
- **Heating connection** Bayonet DIN = DIN 72585-A1-2.1-1-Sn/K2
- **Air reg.** Air regeneration reservoir port (if no regeneration valve)



432 410 023 0

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|----------------|------------------|----------|---|
| 432 410 144 0 | G 1¼" / SW30 | 24 V | 13 bar | D.T.06-2S-CE01 | 9.3 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 014 0 | M39 | – | 13 bar | retrofitable | 9.0 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 016 0 | M39 | – | 13 bar | retrofitable | 10.0 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 017 0 | M39 | – | 13 bar | retrofitable | 9.2 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 064 0 | M39 | – | 13 bar | retrofitable | 8.2 bar | ✓ | 1, 21: M22x1.5; 22: M12x1.5; control port: M12x1.5 (closed) |
| 432 410 130 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 8.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |
| 432 410 169 0 | M39 | 24 V | 13 bar | Kostal M27x1 | 9.5 bar | ✓ | 1, 21: M22x1.5; 22, control port: M12x1.5 |

AIR SUPPLY AND PROCESSING

| Product number | Cartridge port | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|----------------|---------|---------------|--------------|------------------|----------|---|
| 432 410 191 0 | M39 | 24 V | 13 bar | Bayonet DIN | 12.0 bar | ✓ | 1, 21: M22×1.5 JED-152; 22, control port: M12×1.5 JED-152 |
| 432 410 192 0 | M39 | 24 V | 13 bar | Bayonet DIN | 8.5 bar | ✓ | 1, 21: M22×1.5 JED-152; 22, control port: M12×1.5 JED-152 |
| 432 410 720 0 | M39 | – | 13 bar | retrofitable | 12.5 bar | ✓ | 1: M22×1.5; 21: M22×1.5 JED-388; 22: M16×1.5 JED-388 |
| 432 410 735 0 | M39 | 24 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22×1.5; 22: M16×1.5; control port: M12×1.5 (closed) |
| 432 410 907 0 | M39 | 24 V | 13 bar | Kostal M27×1 | 9.8 bar | ✓ | 1, 21: M22×1.5; 22, control port: M12×1.5 |
| 432 415 051 0 | M39 | 24 V | 10 bar | Bayonet DIN | 9.5 bar | – | 1: M22×1.5 JED-152; 21: M22×1.5; control port: M12×1.5 JED-152 (closed) |
| 432 415 061 0 | M39 | 24 V | 10 bar | Bayonet DIN | 9.5 bar | – | 1, 21: M22×1.5; control port: M12×1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--|---|-----------------|--|--|
| ■ 432 410 014 0 | 932 400 002 2 432 410 005 2 | Valve set Valve set | ■ 432 410 192 0 | 432 410 002 2 432 410 932 2 432 410 935 2 432 420 920 2 | Exhaust valve Heater Valve body Heater |
| ■ 432 410 016 0 | 932 400 002 2 | Valve set | ■ 432 410 735 0 | 432 410 932 2 | Heater |
| ■ 432 410 017 0 | 932 400 002 2 432 410 005 2 | Valve set Valve set | ■ 432 410 907 0 | 432 410 005 2 | Valve set |
| ■ 432 410 064 0 | 432 410 001 2 432 410 002 2 432 410 005 2 932 400 002 2 | Unloader valve Exhaust valve Valve set Valve set | ■ 432 415 051 0 | 432 410 005 2 432 410 932 2 932 500 235 2 | Valve set Heater Regeneration valve |
| ■ 432 410 130 0 | 432 410 005 2 | Valve set | ■ 432 415 061 0 | 432 410 932 2 432 415 922 2 432 415 923 2 932 500 235 2 | Heater Valve set Exhaust valve Regeneration valve |
| ■ 432 410 191 0 | 432 410 002 2 432 410 932 2 432 410 935 2 432 420 920 2 | Exhaust valve Heater Valve body Heater | | | |

Air dryer - single chamber (Air System Protector Plus)

| | |
|----------------------|--|
| ■ Temperature | –40 ... +65 °C |
| ■ Cartridge port | M39 |
| ■ Heating connection | Bayonet DIN = DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Air reg. | Air regeneration reservoir port |



432 410 166 0

| Product number | Voltage | Max. pressure | Heating | Cut-out pressure | Air reg. | Port |
|----------------|---------|---------------|--------------|------------------|----------|---|
| 432 410 166 0 | 24 V | 13 bar | Bayonet DIN | 12.5 bar | ✓ | 1, 21: M22×1.5 JED-388; 22: M16×1.5 JED-388 |
| 432 410 167 0 | 24 V | 13 bar | Kostal M27×1 | 9.5 bar | ✓ | 1, 21: M22×1.5; 22: M12×1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|-----------|
| ■ 432 410 166 0 | 432 410 932 2 | Heater | ■ 432 410 167 0 | 432 410 005 2 | Valve set |

Air dryer - single chamber with external filling port (Standard cartridge)

| | |
|----------------------|--|
| ■ Temperature | -40 ... +65 °C |
| ■ Cartridge port | M39 |
| ■ Max. pressure | 13 bar |
| ■ Heating connection | Bayonet DIN = DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Air reg. | Air regeneration reservoir port (if no regeneration valve) |



932 400 014 0

| Product number | Voltage | Heating | Cut-out pressure | Air reg. | Port |
|----------------|---------|--------------|------------------|----------|--|
| 432 413 071 0 | 24 V | Bayonet DIN | 8.5 bar | - | 11, 21: M22x1.5; 12: M16x1.5 (closed); 22: Tire inflation device M16x1.5; control port: M12x1.5 |
| 932 400 003 0 | - | retrofitable | 10.0 bar | ✓ | 11, 21: M22x1.5; 12: M12x1.5 (closed); 22: M16x1.5 JED-388; 23: Tire inflation device M16x1.5 |
| 932 400 014 0 | 24 V | Bayonet DIN | 11.5 bar | ✓ | 11, 21: M22x1.5; 12: M12x1.5; 22: M16x1.5 JED-388; 23: Tire inflation device M16x1.5; 24: M22x1.5 JED-388; control port: M10x1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|--------------------|-----------------|-----------------|----------------|
| ■ 432 413 071 0 | 432 410 005 2 | Valve set | ■ 932 400 003 0 | 432 410 001 2 | Unloader valve |
| | 432 410 932 2 | Heater | | 932 400 000 2 | Valve set |
| | 432 413 934 2 | Valve body | | 932 400 001 2 | Valve set |
| | 932 400 920 2 | Test port | | 932 400 920 2 | Test port |
| | 932 500 235 2 | Regeneration valve | | ■ 932 400 014 0 | 432 410 001 2 |
| | | 932 400 000 2 | Valve set | | |
| | | 932 400 920 2 | Test port | | |

Air dryer - single chamber with external filling port (Air System Protector)

| | |
|----------------------|--|
| ■ Temperature | -40 ... +65 °C |
| ■ Cartridge port | M39 |
| ■ Max. pressure | 13 bar |
| ■ Heating connection | Bayonet DIN = DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Air reg. | Air regeneration reservoir port (if no regeneration valve) |
| ■ Port | ¹⁾ JED-388; ²⁾ JED-152 |



932 400 024 0

| Product number | Voltage | Heating | Cut-out pressure | Air reg. | Port |
|----------------|---------|--------------|------------------|----------|--|
| 432 416 004 0 | - | retrofitable | 11.0 bar | - | 1, 12, 21: M22x1.5; 25, control port: M16x1.5; 26: Tire inflation port M22x1.5 |
| 932 400 016 0 | 24 V | Bayonet DIN | 11.5 bar | ✓ | 11, 21: M22x1.5; 12: M12x1.5; 22: M16x1.5 ¹⁾ ; 23: Tire inflation device M16x1.5; 24: M22x1.5 ¹⁾ ; control port: M10x1.5 ¹⁾ |
| 932 400 017 0 | - | retrofitable | 12.0 bar | ✓ | 11, 21: M22x1.5 ²⁾ ; 12: M12x1.5 ²⁾ ; 22: M16x1.5 ¹⁾ ; 23: Tire inflation device M16x1.5; 24: M22x1.5 ¹⁾ ; control port: M10x1.5 ¹⁾ |
| 932 400 018 0 | 24 V | Bayonet DIN | 12.0 bar | ✓ | 11, 21: M22x1.5 ²⁾ ; 12: M12x1.5 ²⁾ ; 22: M16x1.5 ¹⁾ ; 23: Tire inflation device M16x1.5; 24: M22x1.5 ¹⁾ ; control port: M10x1.5 ¹⁾ |

AIR SUPPLY AND PROCESSING

| Product number | Voltage | Heating | Cut-out pressure | Air reg. | Port |
|----------------|---------|-------------|------------------|----------|--|
| 932 400 021 0 | 24 V | Bayonet DIN | 12.5 bar | ✓ | 11, 21: M22x1.5 ²⁾ ; 12: M12x1.5 ²⁾ ; 22: M16x1.5 ¹⁾ ; 23: Tire inflation device M16x1.5; 24: M22x1.5 ¹⁾ ; control port: M10x1.5 ¹⁾ |
| 932 400 024 0 | 24 V | Bayonet DIN | 12.0 bar | ✓ | 11, 21: M22x1.5; 12: M12x1.5; 22: M16x1.5 ¹⁾ ; 23: Tire inflation device M16x1.5; 24: M22x1.5 ¹⁾ ; control port: M10x1.5 ¹⁾ (closed) |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------------|-----------------|---------------|----------------|
| ■ 432 416 004 0 | 432 415 922 2 | Valve set | ■ 932 400 018 0 | 432 410 001 2 | Unloader valve |
| ■ 932 400 016 0 | 432 410 001 2 | Unloader valve | | 932 400 000 2 | Valve set |
| | 432 410 932 2 | Heater | | 932 400 920 2 | Test port |
| | 432 413 925 2 | Valve body | ■ 932 400 021 0 | 932 400 920 2 | Test port |
| | 932 400 000 2 | Valve set | ■ 932 400 024 0 | 432 410 932 2 | Heater |
| | 932 400 920 2 | Test port | | 932 400 000 2 | Valve set |
| | | | | 932 400 920 2 | Test port |

Air dryer - twin chamber with unloader (Standard cartridge)

| | |
|-----------------------|--|
| ■ Temperature | -40 ... +65 °C |
| ■ Cartridge port | M39 |
| ■ Max. pressure | 13 bar |
| ■ Voltage | 24 V |
| ■ Heating connection | ¹⁾ Bayonet (Schlemmer) 3-pin ²⁾ Bayonet DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Solenoid connection | ³⁾ Bayonet DIN 72585-A1-2.1-1-Sn/K1 |
| ■ Port | ⁴⁾ JED-388; ⁵⁾ JED-388-1; ⁶⁾ JED-388-3; ⁷⁾ JED-388-4 |
| ■ Silencer | Not equipped, retrofittable: 432 407 012 0 432 407 060 0: 432 432 008 0 |



432 433 206 0

| Product number | Heating | Solenoid | Cut-out pressure | Port |
|----------------|---------------------------|---------------------------|------------------|---|
| 432 432 000 0 | Bayonet ¹⁾ | Kostal M24x1 | 12.5 bar | 1, 21: M22x1.5 |
| 432 432 001 0 | Kostal M27x1 | Kostal M24x1 | 8.1 bar | 1, 21: M22x1.5 |
| 432 432 002 0 | Bayonet ¹⁾ | Kostal M24x1 | 10.0 bar | 1, 21: M22x1.5 |
| 432 432 005 0 | Bayonet ¹⁾ | Kostal M24x1 | 8.1 bar | 1, 21: M22x1.5 |
| 432 432 007 0 | Bayonet DIN ²⁾ | Kostal M24x1 | 11.0 bar | 1, 21: M22x1.5 |
| 432 432 008 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 1, 21: M22x1.5 |
| 432 432 017 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 1, 21: M22x1.5; control port: M16x1.5 |
| 432 432 018 0 | retrofittable | Kostal M24x1 | 12.5 bar | 1, 21: M22x1.5 |
| 432 432 019 0 | Bayonet DIN ²⁾ | Kostal M24x1 | 12.5 bar | 1, 21: M22x1.5 |
| 432 432 021 0 | Kostal M27x1 | Bayonet DIN ³⁾ | 10.0 bar | 1, 21: M22x1.5 |
| 432 432 024 0 | Bayonet DIN ²⁾ | Bayonet DIN ³⁾ | 8.1 bar | 1, 21: M22x1.5 |
| 432 432 199 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 1, 21: M22x1.5 |
| 432 433 005 0 | Bayonet DIN ²⁾ | Bayonet DIN ³⁾ | 12.0 bar | 11, 21: M22x1.5 ⁴⁾ ; 12: M22x1.5; 22: Tire inflation device M16x1.5; control port: M10x1.5 ⁵⁾ |
| 432 433 200 0 | Bayonet ¹⁾ | Kostal M24x1 | 12.5 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 202 0 | Bayonet ¹⁾ | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |

| Product number | Heating | Solenoid | Cut-out pressure | Port |
|----------------|---------------------------|---------------------------|------------------|--|
| 432 433 205 0 | Bayonet ¹⁾ | Kostal M24x1 | 8.1 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 206 0 | Bayonet DIN ²⁾ | Bayonet DIN ³⁾ | 12.0 bar | 11: M22x1.5; 21: M22x1.5 ⁶⁾ ; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 217 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 218 0 | retrofitable | Kostal M24x1 | 12.5 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 278 0 | Bayonet ¹⁾ | Kostal M24x1 | 8.1 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 279 0 | Bayonet ¹⁾ | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |
| 432 433 299 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁷⁾ (closed) |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|------------------------|---|--|------------------------|---|--|
| ■ 432 432 000 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | ■ 432 433 202 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port |
| ■ 432 432 001 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | ■ 432 433 205 0 | 432 433 921 2 932 400 920 2 | Outlet valve Test port |
| ■ 432 432 002 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | ■ 432 433 206 0 | 432 410 932 2 432 433 920 2 432 433 921 2 932 400 920 2 | Heater Valve body Outlet valve Test port |
| ■ 432 432 005 0 | 432 410 001 2 | Unloader valve | ■ 432 433 217 0 | 432 433 921 2 432 433 924 2 432 433 925 2 932 400 920 2 | Outlet valve Valve body Solenoid Test port |
| ■ 432 432 007 0 | 432 410 001 2 432 410 932 2 432 432 000 2 | Unloader valve Heater Valve + solenoid | ■ 432 433 218 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port |
| ■ 432 432 017 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | ■ 432 433 219 0 | 432 410 924 2 432 433 921 2 432 433 925 2 432 433 926 2 932 400 920 2 | Valve piston Outlet valve Solenoid Valve + exhaust Test port |
| ■ 432 432 018 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | ■ 432 433 278 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port |
| ■ 432 432 019 0 | 432 410 001 2 432 410 932 2 432 432 000 2 | Unloader valve Heater Valve + solenoid | ■ 432 433 279 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port |
| ■ 432 432 024 0 | 432 410 932 2 | Heater | ■ 432 433 299 0 | 432 433 921 2 432 433 924 2 432 433 925 2 932 400 920 2 | Outlet valve Valve body Solenoid Test port |
| ■ 432 432 199 0 | 432 410 001 2 432 432 000 2 | Unloader valve Valve + solenoid | | | |
| ■ 432 433 005 0 | 432 410 932 2 432 433 921 2 932 400 920 2 | Heater Outlet valve Test port | | | |
| ■ 432 433 200 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port | | | |

Air dryer - twin chamber with unloader (Air System Protector)

| | |
|-----------------------|---|
| ■ Temperature | -40 ... +65 °C |
| ■ Cartridge port | M39 |
| ■ Max. pressure | 13 bar |
| ■ Voltage | 24 V |
| ■ Heating connection | ¹⁾ Bayonet (Schlemmer) 3-pin ²⁾ Bayonet DIN 72585-A1-2.1-1-Sn/K2 |
| ■ Solenoid connection | ³⁾ Bayonet DIN 72585-A1-2.1-1-Sn/K1 |
| ■ Port | ⁴⁾ JED-388-1; ⁵⁾ JED-388-3; ⁶⁾ JED-388-4 |
| ■ Silencer | Not equipped, retrofittable: 432 407 012 0 |



432 433 062 0

| Product number | Heating | Solenoid | Cut-out pressure | Port |
|----------------|---------------------------|---------------------------|------------------|---|
| 432 432 023 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 1, 21: M22x1.5; control port: M16x1.5 |
| 432 433 062 0 | Bayonet DIN ²⁾ | Bayonet DIN ³⁾ | 12.0 bar | 11, 21: M22x1.5 ⁵⁾ ; 12: M22x1.5; 22: Tire inflation device M16x1.5; control port: M10x1.5 ⁴⁾ |
| 432 433 201 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 ⁶⁾ (closed) |
| 432 433 219 0 | Bayonet DIN ²⁾ | Kostal M24x1 | 12.5 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 223 0 | Kostal M27x1 | Kostal M24x1 | 10.0 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 296 0 | Bayonet DIN ²⁾ | Bayonet DIN ³⁾ | 12.5 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 298 0 | Bayonet ¹⁾ | Kostal M24x1 | 8.5 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|-----------------|----------------|-----------------|---------------|-----------------|
| ■ 432 433 062 0 | 432 410 001 2 | Unloader valve | ■ 432 433 223 0 | 432 433 921 2 | Outlet valve |
| | 432 410 932 2 | Heater | | 432 433 925 2 | Solenoid |
| | 432 433 921 2 | Outlet valve | | 932 400 920 2 | Test port |
| | 932 400 920 2 | Test port | ■ 432 433 296 0 | 432 433 204 2 | Solenoid |
| ■ 432 433 201 0 | 432 410 924 2 | Valve piston | | 432 433 921 2 | Outlet valve |
| | 432 420 920 2 | Heater | | 432 433 922 2 | Valve body |
| | 432 433 921 2 | Outlet valve | | 932 400 920 2 | Test port |
| | 432 433 925 2 | Solenoid | ■ 432 433 298 0 | 432 433 921 2 | Outlet valve |
| 432 433 926 2 | Valve + exhaust | 432 433 924 2 | | Valve body | |
| 932 400 920 2 | Test port | 432 433 925 2 | | Solenoid | |
| ■ 432 433 219 0 | 432 410 932 2 | Heater | | 432 433 926 2 | Valve + exhaust |
| | 432 433 921 2 | Outlet valve | 932 400 920 2 | Test port | |
| | 432 433 925 2 | Solenoid | | | |
| | 932 400 920 2 | Test port | | | |

Air dryer - twin chamber without unloader

- **Cartridge type** Standard Cartridge (M39)
Air System Protector (M39): 432 433 191 0
Air System Protector Plus (M39): 432 433 282 0
- **Temperature** -40 ... +65 °C
- **Voltage** 24 V
- **Silencer** Not equipped, retrofittable: 432 407 012 0



432 433 209 0

| Product number | Heating | Solenoid | Max. pressure | Port |
|----------------|--------------|--------------|---------------|---|
| 432 431 010 0 | HDSCS 2-Pole | HDSCS 2-Pole | 13 bar | 1, 21: M22x1.5; control port: M16x1.5 |
| 432 431 199 0 | Kostal M27x1 | Kostal M24x1 | 13 bar | 1, 21: M22x1.5; control port: M16x1.5 |
| 432 433 108 0 | HDSCS 2-Pole | HDSCS 2-Pole | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 191 0 | HDSCS 2-Pole | HDSCS 2-Pole | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 209 0 | Kostal M27x1 | Kostal M24x1 | 10 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 JED-388-4 |
| 432 433 273 0 | Kostal M27x1 | Kostal M24x1 | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 274 0 | Kostal M27x1 | Kostal M24x1 | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 280 0 | Kostal M27x1 | Kostal M24x1 | 10 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 JED-388-4 |
| 432 433 281 0 | Kostal M27x1 | Kostal M24x1 | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |
| 432 433 282 0 | Kostal M27x1 | Kostal M24x1 | 13 bar | 11, 21: M22x1.5; 22: Tire inflation device M16x1.5; control port: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---|---|-----------------|--|---|
| ■ 432 431 010 0 | 432 431 002 2 | Valve + exhaust | ■ 432 433 273 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port |
| ■ 432 431 199 0 | 432 420 920 2 432 431 000 2 | Heater Valve + solenoid | ■ 432 433 274 0 | 432 433 921 2 432 433 924 2 432 433 925 2 932 400 920 2 | Outlet valve Valve body Solenoid Test port |
| ■ 432 433 108 0 | 432 433 921 2 432 433 924 2 932 400 920 2 | Outlet valve Valve body Test port | ■ 432 433 280 0 | 432 430 926 2 432 431 933 2 432 433 921 2 | Heater Solenoid Outlet valve |
| ■ 432 433 191 0 | 432 433 921 2 432 433 924 2 932 400 920 2 | Outlet valve Valve body Test port | ■ 432 433 281 0 | 432 433 921 2 432 433 923 2 432 433 925 2 932 400 920 2 | Outlet valve Valve body Solenoid Test port |
| ■ 432 433 209 0 | 432 433 921 2 432 433 925 2 932 400 920 2 | Outlet valve Solenoid Test port | | | |

Air dryer - electrically controlled (ECAD)

- **Cartridge type** Air System Protector (M39)
Standard Cartridge (M39): 432 425 010 0
- **Temperature** -40 ... +65 °C
- **Max. pressure** 13 bar
- **Heating connection** Bayonet DIN = Bayonet DIN 72585-A1-2.1-1-Sn/K2
- **Solenoid connection** Bayonet DIN 72585-A1-2.1-1-Sn/K1



432 425 101 0

| Product number | Voltage | Heating | Silencer | Port |
|----------------|---------|---------------|------------------------------------|--|
| 432 425 010 0 | 12 V | Bayonet DIN | — (432 407 060 0 retrofittable) | 11, 21: M22×1.5 JED-388-4; 12: M16×1.5; control port: M12×1.5 |
| 432 425 101 0 | 24 V | Bayonet DIN | 432 407 060 0 | 11, 21: M22×1.5 JED-388-4; 12: M16×1.5; control port: M12×1.5 |
| 432 425 105 0 | 24 V | retrofittable | 432 407 060 0 | 11, 21: M22×1.5; 12: M16×1.5; control port: M12×1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|------------------------|---------------|---------------|------------------------|---------------|---------------|
| ■ 432 425 101 0 | 432 410 002 2 | Exhaust valve | ■ 432 425 105 0 | 432 410 935 2 | Valve body |
| | 432 410 932 2 | Heater | | 432 425 920 2 | Solenoid |
| | 432 410 935 2 | Valve body | | 432 425 922 2 | Exhaust valve |
| | 432 425 920 2 | Solenoid | | 432 425 927 2 | Exhaust valve |
| | 432 425 922 2 | Exhaust valve | | 432 425 928 2 | Exhaust valve |

Heater



| Product number | Voltage | Connector | Temperature | |
|----------------|---------|--------------------------------|-------------|---------|
| | | | Cut in | Cut out |
| 894 260 040 2 | 24 V | M27×1, 2-pin | 7.0 °C | 29.5 °C |
| 894 260 043 2 | 24 V | HDSCS 2-pole | 7.0 °C | 29.5 °C |
| 894 260 045 2 | 24 V | Bayonet plug (Schlemmer) 3-pin | 7.0 °C | 29.5 °C |
| 894 260 046 2 | 12 V | Delphi metri pack 280 | 7.0 °C | 29.5 °C |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|------------------------|---------------|---------------------|------------------------|---------------|---------------------|
| ■ 894 260 040 2 | 432 420 920 2 | Heater, accessories | ■ 894 260 045 2 | 432 410 932 2 | Heater, accessories |
| | 894 260 067 2 | Cartridge heater | | 894 260 067 2 | Cartridge heater |
| ■ 894 260 043 2 | 432 430 926 2 | Heater, accessories | ■ 894 260 046 2 | 432 413 923 2 | Heater, accessories |
| | 894 260 067 2 | Cartridge heater | | | |

Pressure limiting valve (475 009 ... 0)

■ Supply Nominal Ø: 4 mm



475 009 008 0

| Product number | Pressure | | Temperature | Port |
|----------------|--------------|--------------------------|----------------|-------------------------|
| | Max. working | Delivered | | |
| 475 009 000 0 | 10 bar | 5.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 004 0 | 10 bar | 0.4 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 005 0 | 10 bar | 0.3 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 007 0 | 10 bar | 0.5 bar at p1 = 9.5 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 008 0 | 10 bar | 0.7 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 009 0 | 10 bar | 2.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 010 0 | 10 bar | 3.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 012 0 | 12 bar | 0.3 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 013 0 | 10 bar | 0.45 bar at p1 = 9.5 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 014 0 | 12 bar | 0.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 015 0 | 10 bar | 4.8 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 021 0 | 10 bar | 1.2 bar at p1 = 2.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 022 0 | 10 bar | 2.0 bar at p1 = 3.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 026 0 | 10 bar | 3.0 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 027 0 | 12 bar | 2.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 031 0 | 10 bar | 2.2 bar at p1 = 4.5 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 032 0 | 10 bar | 1.7 bar at p1 = 2.0 bar | -40 ... +80 °C | 1, 2: M12x1.5 |
| 475 009 152 0 | 12 bar | 0.5 bar at p1 = 8.5 bar | -30 ... +70 °C | 1, 2: M16x1.5 JED-388-3 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------|-----------------|---------------|-------------------|
| ■ 475 009 000 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 013 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 004 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 014 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 005 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 021 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 007 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 022 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 008 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 026 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 009 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 027 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 010 0 | 475 009 000 2 | Valve + diaphragm | ■ 475 009 031 0 | 475 009 000 2 | Valve + diaphragm |
| ■ 475 009 012 0 | 475 009 000 2 | Valve + diaphragm | | | |

Air dryer cartridge

Essential cartridge

- **Recommended service interval** Up to one year system protection
- **Vehicle air consumption** Low
- **Accessory** 897 788 720 4 O-ring ISO 3601-33x5



| Product number | Working pressure | Port | Colour |
|----------------|------------------|---------|--------|
| 432 410 222 7 | 14 bar | M39x1.5 | white |
| 432 415 220 7 | 14 bar | G1¼ | white |

Standard cartridge

- **Recommended service interval** Up to two years system protection
- **Vehicle air consumption** Low
- **Accessory** 897 788 720 4 O-ring ISO 3601-33x5



| Product number | Working pressure | Port | Colour | Comment |
|----------------|------------------|---------|--------|----------------------------|
| 432 410 020 2 | 14 bar | M39x1.5 | black | |
| 432 410 080 2 | 10 bar | M39x1.5 | black | |
| 432 410 120 2 | 14 bar | M39x1.5 | black | |
| 432 410 220 2 | 20 bar | M42x1.5 | black | |
| 432 410 226 1 | 14 bar | G1¼ | black | Wrench size: Hexagon SW 30 |
| 432 410 229 2 | 14 bar | M39x1.5 | black | |
| 432 410 241 2 | 10 bar | M39x1.5 | black | |
| 432 410 868 2* | 13 bar | M39x1.5 | blue | |
| 432 410 927 2 | 14 bar | G1¼ | black | Wrench size: Hexagon SW 30 |

* Recommended service interval: up to 6 months system protection, vehicle air consumption: extra low

Air System Protector

| | |
|--------------------------------|------------------------------------|
| ■ Recommended service interval | Up to two years system protection |
| ■ Vehicle air consumption | Medium |
| ■ Filter type | Coalence filter |
| ■ Accessory | 897 788 720 4 O-ring ISO 3601-33x5 |



| Product number | Working pressure | Port | Colour | Comments |
|----------------|------------------|------------|--------|--|
| 432 901 223 2 | 14 bar | M39x1.5 | silver | |
| 432 901 228 2 | 14 bar | G1¼ | silver | Wrench size: hexagon SW 30 |
| 432 901 245 2 | 14 bar | M39x1.5 LH | silver | |
| 432 901 246 2 | 14 bar | M41x1.5 | silver | |
| 432 901 247 2 | 14 bar | M39x1.5 | silver | |
| 432 901 251 2 | 14 bar | M41x2.0 | silver | |
| 432 901 252 2 | 14 bar | M39x1.5 LH | silver | |
| 432 901 253 2 | 14 bar | M39x1.5 | silver | Wrench size: hexagon SW 30, special sealing ring DAF |
| 432 901 500 2 | 15 bar | – | – | Air System Protector ^{INSERT} |

Air System Protector Plus

| | |
|--------------------------------|-------------------------------------|
| ■ Recommended service interval | Up to three years system protection |
| ■ Vehicle air consumption | High |
| ■ Filter type | Coalence filter |
| ■ Accessory | 897 788 720 4 O-ring ISO 3601-33x5 |



| Product number | Working pressure | Port | Colour | Comments |
|----------------|------------------|------------|--------|----------------------------|
| 432 410 244 2 | 14 bar | M39x1.5 | gold | |
| 432 911 228 2 | 14 bar | G1¼ | gold | Wrench size: hexagon SW 30 |
| 432 911 245 2 | 14 bar | M39x1.5 LH | gold | |
| 432 911 246 2 | 14 bar | M41x1.5 | gold | |

Pressure limiting unit

- **Temperature** −40 ... +80 °C

- **Voltage** 24 V

- **Nominal flow rate** 0.025 (m³/min)

- **Electrical connection** Bayonet DIN 72585 A1-2.1-Sn/K2



975 009 001 0

| Product number | Type | Pressure | | Nominal diameter | Port |
|----------------|------------------------|--------------|----------------------------|------------------|--|
| | | Max. working | Delivered | | |
| 975 009 001 0 | Air control unit | 13 bar | 5.5 bar at p1 = 8.5 bar | 1.8 mm | 1, 2: M16×1.5 JED-388-3; 3: exhaust |
| 975 009 003 0 | Pressure limiting unit | 13 bar | 5.5 bar at p1 = 8.5 bar | 1.8 mm | 1, 2: M16×1.5 JED-388-3; 3: exhaust |
| 975 009 211 0 | Pressure limiting unit | 10 bar | 5.5 bar at p1 = 9 bar | 1.0 mm | 1,2, 2: M16×1.5 JED-388-3; 3: exhaust |

Air storage

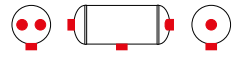


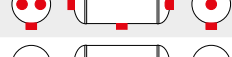

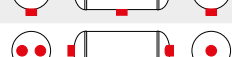


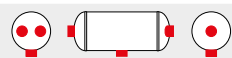


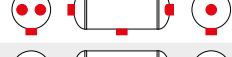
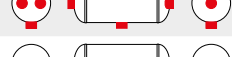

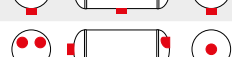



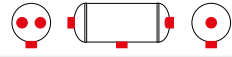
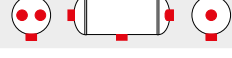

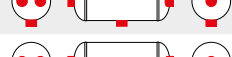
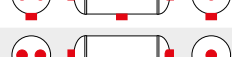
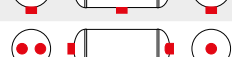






Air reservoir

| | |
|----------------------|--|
| ■ Material | Steel *) Aluminum |
| ■ Colour | Black Grey: 950 020 011 0, 950 020 013 0 Non-painted: 950 530 903 0, 950 740 904 0, 950 960 002 0 |
| ■ Temperature | -50 ... +100 °C **) -50 ... +200 °C |



| Product number | Capacity | Ø | Length | Working pressure | Port | |
|-----------------|----------|--------|----------|------------------|------------|--------|
| | | | | | Thread | Number |
| 950 001 003 0** | 0.6 l | 102 mm | 129.0 mm | 15.5 bar | ½"-14 NPSI | |
| 950 020 000 0 | 10.0 l | 206 mm | 371.0 mm | 15.5 bar | M22x1.5 | |
| 950 020 001 0 | 4.0 l | 144 mm | 321.0 mm | 15.5 bar | M22x1.5 | |
| 950 020 002 0 | 25.0 l | 246 mm | 606.5 mm | 15.5 bar | M22x1.5 | |
| 950 020 004 0 | 25.0 l | 276 mm | 494.5 mm | 15.5 bar | M22x1.5 | |
| 950 020 005 0 | 35.0 l | 276 mm | 662.5 mm | 15.5 bar | M22x1.5 | |
| 950 020 006 0 | 20.0 l | 246 mm | 496.5 mm | 15.5 bar | M22x1.5 | |
| 950 020 007 0 | 25.0 l | 246 mm | 604.5 mm | 15.5 bar | M22x1.5 | |
| 950 020 008 0 | 4.0 l | 154 mm | 273.0 mm | 12.5 bar | M22x1.5 | |
| 950 020 010 0 | 40.0 l | 310 mm | 604.0 mm | 12.5 bar | M22x1.5 | |
| 950 020 011 0 | 30.0 l | 276 mm | 568.0 mm | 14.5 bar | M22x1.5 | |
| 950 020 012 0 | 36.0 l | 300 mm | 609.0 mm | 12.5 bar | M22x1.5 | |
| 950 020 013 0 | 30.0 l | 250 mm | 705.0 mm | 13.0 bar | M22x1.5 | |
| 950 060 003 0 | 60.0 l | 310 mm | 893.0 mm | 12.5 bar | M22x1.5 | |
| 950 060 004 0 | 60.0 l | 396 mm | 580.0 mm | 10.0 bar | M22x1.5 | |
| 950 080 002 0 | 80.0 l | 396 mm | 750.0 mm | 10.0 bar | M22x1.5 | |
| 950 100 002 0 | 100.0 l | 396 mm | 915.0 mm | 10.0 bar | M22x1.5 | |
| 950 105 001 0 | 5.0 l | 154 mm | 341.0 mm | 20.0 bar | M22x1.5 | |
| 950 108 002 0 | 7.7 l | 154 mm | 486.0 mm | 15.5 bar | M22x1.5 | |
| 950 110 002 0 | 10.0 l | 154 mm | 615.0 mm | 20.0 bar | M22x1.5 | |
| 950 310 001 0 | 10.0 l | 206 mm | 386.0 mm | 15.5 bar | ½"-14 NPSI | |
| 950 405 001 0 | 4.5 l | 206 mm | 185.0 mm | 15.5 bar | M22x1.5 | |

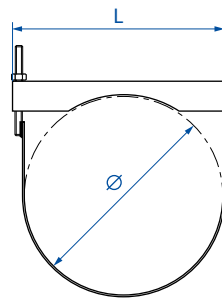
AIR STORAGE

| Product number | Capacity | Ø | Length | Working pressure | Port | |
|----------------|----------|--------|-----------|------------------|------------|---|
| | | | | | Thread | Number |
| 950 406 001 0 | 6.0 l | 206 mm | 241.0 mm | 15.5 bar | M22x1.5 |  |
| 950 410 004 0 | 10.0 l | 206 mm | 368.0 mm | 15.5 bar | M22x1.5 |  |
| 950 410 902 0 | 10.0 l | 206 mm | 355.0 mm | 15.5 bar | M22x1.5 |  |
| 950 415 005 0 | 15.0 l | 206 mm | 527.0 mm | 15.5 bar | M22x1.5 |  |
| 950 420 003 0 | 20.0 l | 206 mm | 691.0 mm | 15.5 bar | M22x1.5 |  |
| 950 430 001 0 | 30.0 l | 206 mm | 992.0 mm | 15.5 bar | M22x1.5 |  |
| 950 515 003 0 | 15.0 l | 246 mm | 380.0 mm | 15.5 bar | M22x1.5 |  |
| 950 516 004 0 | 16.0 l | 246 mm | 411.0 mm | 15.5 bar | M22x1.5 |  |
| 950 520 003 0 | 20.0 l | 246 mm | 495.0 mm | 15.5 bar | M22x1.5 |  |
| 950 525 001 0 | 25.0 l | 246 mm | 601.0 mm | 15.5 bar | M22x1.5 |  |
| 950 527 005 0 | 27.0 l | 246 mm | 645.0 mm | 15.5 bar | M22x1.5 |  |
| 950 530 002 0 | 30.0 l | 246 mm | 709.0 mm | 15.5 bar | M22x1.5 |  |
| 950 530 903 0* | 30.0 l | 246 mm | 729.5 mm | 12.5 bar | M22x1.5 |  |
| 950 540 001 0 | 40.0 l | 246 mm | 927.0 mm | 15.5 bar | M22x1.5 |  |
| 950 560 002 0 | 60.0 l | 246 mm | 1365.0 mm | 15.5 bar | M22x1.5 |  |
| 950 620 005 0 | 20.0 l | 246 mm | 503.0 mm | 15.5 bar | M22x1.5 |  |
| 950 620 006 0 | 20.0 l | 246 mm | 487.0 mm | 15.5 bar | M22x1.5 |  |
| 950 630 002 0 | 30.0 l | 246 mm | 708.0 mm | 12.5 bar | ½"-14 NPSI |  |
| 950 630 005 0 | 30.0 l | 246 mm | 718.0 mm | 15.5 bar | M22x1.5 |  |
| 950 630 006 0 | 30.0 l | 246 mm | 718.0 mm | 15.5 bar | M22x1.5 |  |
| 950 720 005 0 | 20.0 l | 276 mm | 414.0 mm | 14.5 bar | M22x1.5 |  |
| 950 722 002 0 | 22.0 l | 276 mm | 452.0 mm | 14.5 bar | M22x1.5 |  |
| 950 730 006 0 | 30.0 l | 276 mm | 590.5 mm | 14.5 bar | M22x1.5 |  |
| 950 730 007 0 | 30.0 l | 276 mm | 583.0 mm | 14.5 bar | M22x1.5 |  |
| 950 740 002 0 | 40.0 l | 276 mm | 758.0 mm | 14.5 bar | M22x1.5 |  |
| 950 740 904 0* | 40.0 l | 276 mm | 766.0 mm | 15.5 bar | M22x1.5 |  |
| 950 740 906 0 | 40.0 l | 310 mm | 618.0 mm | 12.5 bar | M22x1.5 |  |
| 950 760 002 0 | 60.0 l | 276 mm | 1108.0 mm | 14.5 bar | M22x1.5 |  |
| 950 820 001 0 | 20.0 l | 300 mm | 381.0 mm | 12.5 bar | M22x1.5 |  |
| 950 830 004 0 | 30.0 l | 300 mm | 528.0 mm | 12.5 bar | M22x1.5 |  |
| 950 836 001 0 | 36.0 l | 300 mm | 603.0 mm | 12.5 bar | M22x1.5 | |

| Product number | Capacity | Ø | Length | Working pressure | Port | |
|-----------------|----------|--------|----------|------------------|---------|---|
| | | | | | Thread | Number |
| 950 845 001 0 | 45.0 l | 300 mm | 743.0 mm | 12.5 bar | M22x1.5 |  |
| 950 845 002 0 | 45.0 l | 300 mm | 743.0 mm | 12.5 bar | M22x1.5 |  |
| 950 860 004 0 | 60.0 l | 300 mm | 942.0 mm | 12.5 bar | M22x1.5 |  |
| 950 960 002 0* | 60.0 l | 310 mm | 902.0 mm | 11.0 bar | M22x1.5 |  |
| 951 002 133 0 | 4.0 l | 206 mm | 192.0 mm | 12.5 bar | M22x1.5 |  |
| 951 002 157 0 | 4.25 l | 206 mm | 192.0 mm | 15.5 bar | M22x1.5 |  |
| 951 002 158 0 | 4.0 l | 154 mm | 278.0 mm | 15.5 bar | M22x1.5 |  |
| 951 005 010 0** | 1.0 l | 102 mm | 170.0 mm | 15.5 bar | M22x1.5 |  |

Clamp band

- Colour black
- Wrench size 19 mm
- Mounting 2x Ø 11.0 mm



Version 1-part



Version 2-parts

| Product number | Version | Distance between holes | Length | Nominal Ø |
|----------------|---------|------------------------|--------|-----------|
| 451 999 206 2 | 1-part | 124 mm | 225 mm | 206 mm |
| 451 999 246 2 | 1-part | 164 mm | 265 mm | 246 mm |
| 451 999 276 2 | 1-part | 194 mm | 295 mm | 276 mm |
| 451 999 310 2 | 1-part | 229 mm | 330 mm | 310 mm |
| 451 999 396 2 | 1-part | 309 mm | 410 mm | 396 mm |
| 950 001 351 2 | 2-parts | 262 mm | 410 mm | 396 mm |
| 950 405 351 2 | 2-parts | 77 mm | 225 mm | 206 mm |
| 950 515 351 2 | 2-parts | 117 mm | 265 mm | 246 mm |
| 950 720 351 2 | 2-parts | 147 mm | 295 mm | 276 mm |
| 950 949 351 2 | 2-parts | 182 mm | 330 mm | 310 mm |

Drain valve

Drain valve - manually operated

- Working pressure 20.0 bar (434 300 009 0: 12.5 bar)
- Temperature -40 ... +80 °C (934 300 041 / 042 0: -40 ... +100 °C)



| Product number | Ring | Port | Sealing | Wrench size |
|----------------|------|--------------|---------|-------------|
| 434 300 009 0 | ✓ | Male M22x1.5 | ✓ | 27 mm |
| 934 300 001 0 | - | Male M22x1.5 | - | 27 mm |
| 934 300 002 0 | - | Male G½" | ✓ | 28 mm |

AIR STORAGE

| Product number | Ring | Port | Sealing | Wrench size |
|----------------|------|-----------------------------|---------|-------------|
| 934 300 003 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 005 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 006 0 | ✓ | Male ½"-14 PTF-SAE short | – | 22 mm |
| 934 300 007 0 | ✓ | Male ½"-14 PTF-SAE short | – | 22 mm |
| 934 300 009 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 016 0 | – | Male M22x1.5 | – | 27 mm |
| 934 300 023 0 | ✓ | Male 2x ½"-14 PTF-SAE short | – | 27 mm |
| 934 300 024 0 | ✓ | Male ½"-14 PTF-SAE short | – | 27 mm |
| 934 300 025 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 038 0 | ✓ | Male M22x1.5 | ✓ | 28 mm |
| 934 300 041 0 | ✓ | Male 2x M22x1.5 | – | 27 mm |
| 934 300 042 0 | ✓ | Male 2x M22x1.5 | – | 27 mm |

Drain valve - automatic with control port

- Working pressure 10.0 bar
- Temperature –40 ... +80 °C

| Product number | Port | Sealing |
|----------------|-------------------|---------|
| 434 300 000 0 | Female 2x M12x1.5 | – |
| 434 300 003 0 | Female 2x M12x1.5 | – |



Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 434 300 000 0 | 434 300 000 2 | Piston |
| ■ 434 300 003 0 | 434 300 000 2 | Piston |

Drain valve - automatic

- Temperature –30 ... +80 °C
- Port Male M22x1.5
- Wrench size 27 mm

| Product number | Working pressure | Drain function |
|----------------|------------------|----------------------------|
| 934 301 000 0 | 20.0 bar | $\Delta p < 0.4$ bar |
| 934 301 003 0 | 20.0 bar | $0.3 < \Delta p < 0.7$ bar |
| 934 301 005 0 | 10.0 bar | $\Delta p > 0.6$ bar |



Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------|
| ■ 934 301 000 0 | 934 301 000 2 | Diaphragm + filter |
| ■ 934 301 003 0 | 934 301 000 2 | Diaphragm + filter |

Conventional braking components

Foot brake valve

Foot brake valve (without actuation)

■ Accessory

433 801 020 0 Treadle



461 315 008 0



461 315 077 0



461 315 180 0



461 315 263 0



461 315 264 0

| Product number | Max. pressure | Predominance | Temperature | Port |
|----------------|---------------|--------------|----------------|--|
| 461 111 002 0 | 8.5 bar | – | –40 ... +80 °C | 11, 21: M16x1.5; 3: union |
| 461 307 439 0 | 8.0 bar | 0.25 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 307 458 0 | 8.0 bar | 0.25 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: flap |
| 461 307 479 0 | 8.0 bar | 0.25 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: flap |
| 461 315 004 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 008 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: union |
| 461 315 012 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 315 019 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 315 036 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 315 038 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 315 040 0 | 8.5 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 315 042 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 057 0 | 10.0 bar | 0.3 bar | –35 ... +80 °C | 11, 12: M16x1.5 + ¼"-18 NPT; 21, 22: M16x1.5; 3: union |
| 461 315 061 0 | 8.5 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 064 0 | 8.5 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 065 0 | 8.5 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 069 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 315 077 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 082 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 315 086 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 315 100 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 150 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: union |
| 461 315 156 0 | 10.0 bar | 0.3 bar | –35 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 157 0 | 10.0 bar | 0.3 bar | –35 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 315 162 0 | 10.0 bar | 0.3 bar | –35 ... +80 °C | 11, 12, 21, 22: ¾"-18 NPTF; 3: union |
| 461 315 170 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12: M22x1.5 + M16x1.5; 21, 22: M22x1.5; 3: union |
| 461 315 180 0 | 9.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12, 21, 22: flange 12 mm; 3: silencer |
| 461 315 240 0 | 10.0 bar | 0.0 bar | –40 ... +80 °C | 11, 12, 21, 22, 3: M22x1.5 |
| 461 315 245 0 | 10.2 bar | 0.0 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 246 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 247 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 248 0 | 10.0 bar | 0.3 bar | –40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Max. pressure | Predominance | Temperature | Port |
|----------------|---------------|--------------|----------------|---|
| 461 315 250 0 | 10.0 bar | 0.3 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 254 0 | 9.5 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 255 0 | 9.5 bar | 0.3 bar | -35 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 258 0 | 10.2 bar | 0.4 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 259 0 | 10.0 bar | 0.2 bar | -40 ... +80 °C | 11, 12, 21, 22, 3: M22x1.5 |
| 461 315 261 0 | 10.2 bar | 0.4 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 263 0 | 10.2 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: silencer |
| 461 315 264 0 | 10.2 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: silencer |
| 461 315 265 0 | 10.2 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: silencer |
| 461 315 267 0 | 10.2 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: union |
| 461 315 269 0 | 10.2 bar | 0.5 bar | -40 ... +80 °C | 1, 12, 21, 22: M22x1.5/Voss 230 NG 12; 3: silencer |
| 461 315 459 0 | 10.0 bar | 0.0 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 315 479 0 | 10.0 bar | 0.0 bar | -40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 315 482 0 | 8.5 bar | 0.0 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 489 0 | 8.5 bar | 0.3 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 315 490 0 | 8.5 bar | 0.3 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 491 0 | 9.5 bar | 0.5 bar | -40 ... +80 °C | 11, 12, 21, 22: M16x1.5; 3: union |
| 461 315 495 0 | 10.0 bar | 0.3 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 315 497 0 | 10.0 bar | 0.3 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 315 500 0 | 10.0 bar | 0.0 bar | -40 ... +80 °C | 11, 12, 21, 22: M22x1.5; 3: snap-on contour |
| 461 316 002 0 | 10.0 bar | 0.0 bar | -40 ... +80 °C | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 323 014 0 | 20.0 bar | - | -40 ... +80 °C | 11, 12, 21, 22: 2x M20x1.5; 3: flap |
| 884 503 124 0 | 10.0 bar | 0.3 bar | -40 ... +80 °C | 11, 12: 3/8"-18 NPTF + 1/4"-18 NPTF; 21, 22: 3/8"-18 NPTF; 3: union |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------|-----------------|--------------------------------|----------------|
| ■ 461 111 002 0 | 461 106 000 2 | Valve ring | ■ 461 315 069 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 307 439 0 | 461 307 002 2 | Valve ring | ■ 461 315 077 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 307 479 0 | 461 307 002 2 | Valve ring | ■ 461 315 082 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 004 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 315 086 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 008 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 315 100 0 | 461 315 934 2 | Valve |
| ■ 461 315 012 0 | 461 315 916 2 | Valve | ■ 461 315 150 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 019 0 | 461 315 918 2 | Valve | ■ 461 315 156 0 | 461 315 928 2 461 315 930 2 | Valve Valve |
| ■ 461 315 036 0 | 461 315 915 2 | Valve | ■ 461 315 157 0 | 461 315 928 2 461 315 930 2 | Valve Valve |
| ■ 461 315 038 0 | 461 315 915 2 | Valve | ■ 461 315 180 0 | 461 315 907 2 461 315 924 2 | Valve Valve |
| ■ 461 315 040 0 | 461 315 915 2 | Valve | ■ 461 315 240 0 | 461 315 902 2 461 315 920 2 | Valve Valve |
| ■ 461 315 042 0 | 461 315 917 2 | Valve | ■ 461 315 245 0 | 461 315 928 2 461 315 004 2 | Valve Valve |
| ■ 461 315 061 0 | 461 315 906 2 461 315 923 2 | Valve Valve | | | |
| ■ 461 315 064 0 | 461 315 906 2 461 315 923 2 | Valve Valve | | | |
| ■ 461 315 065 0 | 461 315 005 2 461 315 915 2 | Valve Valve | | | |

| Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------|
| ■ 461 315 250 0 | 461 315 928 2 461 315 004 2 | Valve Valve |
| ■ 461 315 254 0 | 461 315 928 2 461 315 004 2 | Valve Valve |
| ■ 461 315 255 0 | 461 315 928 2 461 315 004 2 | Valve Valve |
| ■ 461 315 258 0 | 461 315 902 2 461 315 920 2 | Valve Valve |
| ■ 461 315 259 0 | 461 315 902 2 461 315 920 2 | Valve Valve |
| ■ 461 315 261 0 | 461 315 908 2 461 315 925 2 | Valve Valve |
| ■ 461 315 263 0 | 461 315 908 2 461 315 925 2 | Valve Valve |
| ■ 461 315 264 0 | 461 315 927 2 461 315 914 2 | Valve Valve |
| ■ 461 315 267 0 | 461 315 927 2 | Valve |
| ■ 461 315 269 0 | 461 315 927 2 | Valve |

| Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------|
| ■ 461 315 459 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 479 0 | 461 315 917 2 | Valve |
| ■ 461 315 482 0 | 461 315 916 2 | Valve |
| ■ 461 315 489 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 490 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 491 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 495 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 497 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 315 500 0 | 461 315 904 2 | Valve |
| ■ 461 316 002 0 | 461 315 005 2 461 315 915 2 | Valve Valve |

Foot brake valve (with actuation)

| | | |
|---------------|----------------|-----------|
| ■ Temperature | -40 ... +80 °C | |
| ■ Accessories | 461 314 790 2 | Actuation |
| | 461 314 791 2 | Actuation |
| | 461 314 793 2 | Actuation |
| | 461 317 784 2 | Actuation |
| | 461 317 790 2 | Actuation |
| | 433 801 020 0 | Treadle |



461 113 001 0



461 317 000 0



461 317 021 0



461 482 095 0



461 491 102 0



461 499 005 0

| Product number | Basic valve | Actuator | Pedal angle | Max. pressure | Predominance | Port |
|----------------|---------------|---------------|-------------|---------------|--------------|--|
| 461 106 100 0 | 461 106 478 0 | 461 314 790 2 | 35° | 8.0 bar | – | 11, 21: M22x1.5; 3: flap |
| 461 106 102 0 | 461 106 478 0 | 461 314 790 2 | 35° | 8.0 bar | – | 11, 21: M22x1.5; 3: flap |
| 461 106 106 0 | 461 106 478 0 | 461 314 791 2 | 20° | 8.0 bar | – | 11, 21: M22x1.5; 3: flap |
| 461 113 001 0 | 461 111 002 0 | ✓ | 45° | 8.5 bar | – | 11, 21: M16x1.5; 3: union |
| 461 307 202 0 | 461 307 479 0 | 461 314 790 2 | 35° | 8.0 bar | 0.25 bar | 11, 12, 21, 22: M22x1.5; 3: flap |
| 461 307 399 0 | ✓ | ✓ | – | 8.0 bar | 0.25 bar | 11, 12, 21, 22: M22x1.5; 3: flap |
| 461 307 521 0 | 461 307 479 0 | 461 314 793 2 | 30° | 8.0 bar | 0.25 bar | 1, 12, 21, 22: M22x1.5/Voss 230 NG 12; 3: flap |
| 461 317 000 0 | 461 315 004 0 | 461 317 790 2 | 35° | 10.0 bar | 0.30 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 317 001 0 | ✓ | 461 317 790 2 | 35° | 8.5 bar | 0.00 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Basic valve | Actuator | Pedal angle | Max. pressure | Predominance | Port |
|----------------|---------------|---------------|-------------|---------------|--------------|---|
| 461 317 002 0 | ✓ | ✓ | 30° | 8.5 bar | 0.30 bar | 11, 12, 21, 22: M16×1.5; 3: snap-on contour |
| 461 317 006 0 | 461 315 043 0 | 461 317 784 2 | 30° | 10.0 bar | 0.00 bar | 11, 12, 21, 22: M16×1.5; 3: snap-on contour |
| 461 317 008 0 | 461 315 004 0 | ✓ | 30° | 10.0 bar | 0.30 bar | 11, 12: M16×1.5 + M12×1.5; 21, 22: M16×1.5; 3: union |
| 461 317 019 0 | ✓ | ✓ | 45° | 8.5 bar | 0.30 bar | 11, 12, 21, 22: M16×1.5; 3: flap |
| 461 317 021 0 | 461 315 012 0 | ✓ | 45° | 10.0 bar | 0.30 bar | 11, 12, 21, 22: M16×1.5; 3: flap |
| 461 317 029 0 | ✓ | ✓ | 30° | 10.0 bar | 0.00 bar | 11, 12, 21, 22: M16×1.5; 3: snap-on contour |
| 461 317 050 0 | ✓ | ✓ | 25° | 10.0 bar | 0.30 bar | 11, 12: M16×1.5 + M12×1.5; 21, 22: M16×1.5; 3: with fording ability |
| 461 317 053 0 | ✓ | ✓ | 25° | 10.0 bar | 0.00 bar | 11, 12: M16×1.5 + M12×1.5; 21, 22: M16×1.5; 3: silencer |
| 461 317 054 0 | ✓ | ✓ | 25° | 10.0 bar | 0.30 bar | 11, 12: M16×1.5 + M12×1.5; 21, 22: M16×1.5; 3: silencer |
| 461 482 011 0 | ✓ | ✓ | – | 10.0 bar | 0.20 bar | 11, 12, 21, 22: M16×1.5; 3: snap-on contour |
| 461 482 095 0 | ✓ | ✓ | – | 10.0 bar | 0.30 bar | 11, 12, 21, 22: M16×1.5; 3: flap |
| 461 491 102 0 | 461 307 479 0 | ✓ | – | 8.0 bar | 0.25 bar | 11, 12, 21, 22: M22×1.5; 3: flap |
| 461 499 005 0 | ✓ | ✓ | – | 7.5 bar | 0.25 bar | 11, 12, 21, 22: M22×1.5; 3: flap |
| 961 317 000 0 | ✓ | ✓ | 40° | 9.5 bar | 0.20 bar | 11, 12, 21, 22: ¾" NPTF; 3: union |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---|--|-----------------|--|---|
| ■ 461 106 100 0 | 461 106 000 2 461 318 924 2 | Valve ring Pedal mounting piece | ■ 461 317 008 0 | 461 318 920 2 461 318 924 2 | Pedal cover Pedal mounting piece |
| ■ 461 106 102 0 | 461 106 000 2 | Valve ring | ■ 461 317 021 0 | 461 318 924 2 | Pedal mounting piece |
| ■ 461 106 106 0 | 461 106 000 2 | Valve ring | ■ 461 317 050 0 | 461 318 920 2 461 318 924 2 461 315 005 2 461 315 915 2 | Pedal cover Pedal mounting piece Valve Valve |
| ■ 461 113 001 0 | 461 318 920 2 461 318 924 2 461 111 000 2 | Pedal cover Pedal mounting piece Valve | ■ 461 317 053 0 | 461 318 920 2 461 318 924 2 461 315 915 2 | Pedal cover Pedal mounting piece Valve |
| ■ 461 307 202 0 | 461 307 002 2 | Valve ring | ■ 461 317 054 0 | 461 318 920 2 461 318 924 2 461 315 005 2 461 315 915 2 | Pedal cover Pedal mounting piece Valve Valve |
| ■ 461 307 399 0 | 461 307 002 2 | Valve ring | ■ 461 482 011 0 | 461 315 917 2 | Valve |
| ■ 461 317 000 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 482 095 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 317 001 0 | 461 318 920 2 | Pedal cover | ■ 461 491 102 0 | 461 307 002 2 | Valve ring |
| ■ 461 317 002 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 499 005 0 | 461 499 000 2 | Actuation boot |
| ■ 461 317 006 0 | 461 318 920 2 461 318 924 2 461 315 917 2 | Pedal cover Pedal mounting piece Valve | | | |

Foot brake valve with empty load function (461 319 ... 0)

■ Temperature -40 ... +80 °C



461 319 250 0



461 319 264 0



461 319 273 0



461 319 274 0

| Product number | Max. pressure | Predominance | Port |
|----------------|---------------|--------------|--|
| 461 319 008 0 | 8.5 bar | 0.3 bar | 1, 12, 21, 22: M16x1.5; 3: union |
| 461 319 011 0 | 10.0 bar | 0.3 bar | 1, 12, 21, 22: M16x1.5; 3: silencer |
| 461 319 018 0 | 10.0 bar | 0.3 bar | 1, 12, 21, 22: M16x1.5; 3: union |
| 461 319 082 0 | 8.5 bar | 0.0 bar | 1, 12, 21, 22: M16x1.5; 3: M22x1.5 JED-463 |
| 461 319 088 0 | 8.5 bar | 0.3 bar | 1, 12, 21, 22: M16x1.5; 3: M22x1.5 JED-463 |
| 461 319 090 0 | 8.5 bar | 0.0 bar | 1, 12, 21, 22: M16x1.5; 3: union |
| 461 319 250 0 | 10.0 bar | 0.4 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 260 0 | 10.0 bar | 0.4 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 262 0 | 10.2 bar | 0.3 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 263 0 | 10.2 bar | 0.3 bar | 1, 12, 21, 22: M22x1.5; 3: silencer |
| 461 319 264 0 | 10.2 bar | 0.3 bar | 1, 12, 21, 22: M22x1.5; 3: silencer |
| 461 319 270 0 | 10.0 bar | 0.3 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 271 0 | 10.0 bar | 0.4 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 272 0 | 10.2 bar | 0.5 bar | 1, 12, 21, 22: M22x1.5; 3: union |
| 461 319 273 0 | 10.2 bar | 0.5 bar | 1, 12, 21, 22: M22x1.5; 3: silencer |
| 461 319 274 0 | 10.2 bar | 0.5 bar | 1, 12, 21, 22: M22x1.5; 3: silencer |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 461 319 008 0 | 461 319 007 2 | Valve | ■ 461 319 264 0 | 461 319 900 2 | Valve |
| | 461 319 908 2 | Valve | | 461 319 911 2 | Valve |
| ■ 461 319 018 0 | 461 319 007 2 | Valve | ■ 461 319 270 0 | 461 319 002 2 | Valve |
| | 461 319 908 2 | Valve | | 461 319 903 2 | Valve |
| ■ 461 319 082 0 | 461 319 005 2 | Valve | ■ 461 319 271 0 | 461 319 006 2 | Valve |
| ■ 461 319 088 0 | 461 319 005 2 | Valve | | 461 319 907 2 | Valve |
| ■ 461 319 090 0 | 461 319 005 2 | Valve | ■ 461 319 272 0 | 461 319 009 2 | Valve |
| ■ 461 319 250 0 | 461 319 004 2 | Valve | | 461 319 910 2 | Valve |
| | 461 319 905 2 | Valve | ■ 461 319 273 0 | 461 315 930 2 | Valve |
| ■ 461 319 260 0 | 461 319 002 2 | Valve | | 461 319 901 2 | Valve |
| | 461 319 903 2 | Valve | | 461 319 912 2 | Valve |
| ■ 461 319 262 0 | 461 319 008 2 | Valve | ■ 461 319 274 0 | 461 315 930 2 | Valve |
| ■ 461 319 263 0 | 461 319 900 2 | Valve | | 461 319 901 2 | Valve |
| | 461 319 911 2 | Valve | | 461 319 912 2 | Valve |

CONVENTIONAL BRAKING COMPONENTS

Foot brake valve with retarder control

■ Temperature -40 ... +80 °C



461 318 026 0



461 318 059 0



461 318 604 0



461 318 609 0



461 324 520 0



461 478 000 0

| Product number | Basic valve | Actuator | Pedal angle | Max. pressure | Predominance | Port |
|----------------|---------------|---------------|-------------|---------------|--------------|--|
| 461 310 550 0 | ✓ | ✓ | 20° | 8.0 bar | 0.25 bar | 11, 12, 21, 22, 3: M22x1.5 |
| 461 318 000 0 | ✓ | ✓ | 20° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 001 0 | ✓ | ✓ | 20° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 002 0 | ✓ | ✓ | 20° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 318 003 0 | 461 315 086 0 | 461 904 798 2 | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 318 005 0 | 461 315 479 0 | 461 318 798 2 | 30° | 10.0 bar | 0.0 bar | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 006 0 | ✓ | ✓ | 35° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 318 009 0 | 461 315 482 0 | ✓ | 25° | 8.5 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 014 0 | ✓ | ✓ | 25° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 019 0 | ✓ | ✓ | 25° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 318 022 0 | ✓ | 461 318 798 2 | 30° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 025 0 | 461 315 459 0 | ✓ | 20° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 026 0 | ✓ | ✓ | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: silencer |
| 461 318 028 0 | ✓ | 461 904 798 2 | 25° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: silencer |
| 461 318 035 0 | 461 315 086 0 | 461 904 798 2 | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 318 036 0 | ✓ | ✓ | 45° | 8.5 bar | 0.3 bar | 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 318 040 0 | ✓ | ✓ | 35° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: silencer |
| 461 318 047 0 | ✓ | ✓ | 35° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 049 0 | ✓ | ✓ | 45° | 8 | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 318 050 0 | ✓ | ✓ | 20° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union 90° |
| 461 318 051 0 | ✓ | ✓ | 45° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 053 0 | ✓ | ✓ | 45° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |

| Product number | Basic valve | Actuator | Pedal angle | Max. pressure | Predominance | Port |
|----------------|---------------|---------------|-------------|---------------|--------------|---|
| 461 318 056 0 | ✓ | ✓ | 35° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 057 0 | ✓ | ✓ | 35° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: silencer |
| 461 318 059 0 | ✓ | ✓ | 20° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 318 070 0 | 461 315 240 0 | ✓ | 43° | 10.0 bar | 0.0 bar | 11, 12, 21, 22, 3: M22x1.5 |
| 461 318 071 0 | 461 315 086 0 | ✓ | 43° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 318 495 0 | ✓ | ✓ | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 318 551 0 | ✓ | ✓ | 43° | 8.5 bar | 0.3 bar | 11, 12, 21, 22: M22x1.5; 3: union 90° |
| 461 318 601 0 | 461 315 459 0 | ✓ | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 603 0 | ✓ | ✓ | 43° | 10.0 bar | 0.0 bar | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 604 0 | ✓ | ✓ | 43° | 10.0 bar | 0.0 bar | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 605 0 | 461 315 459 0 | ✓ | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 606 0 | ✓ | ✓ | 25° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 609 0 | ✓ | ✓ | 45° | 10.0 bar | 0.0 bar | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 318 611 0 | ✓ | ✓ | 30° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 324 001 0 | ✓ | 461 324 790 2 | 20° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 324 006 0 | ✓ | 461 324 791 2 | 25° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 324 008 0 | ✓ | 461 324 790 2 | 20° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 324 009 0 | ✓ | 461 324 791 2 | 25° | 10.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 324 012 0 | 461 315 489 0 | ✓ | 35° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 324 018 0 | 461 315 479 0 | ✓ | 30° | 10.0 bar | 0.0 bar | 11, 12, 21, 22: M16x1.5; 13, 23: M12x1.5; 3: snap-on contour |
| 461 324 022 0 | ✓ | ✓ | 20° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: union |
| 461 324 027 0 | ✓ | 461 324 797 2 | 25° | 8.5 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 324 034 0 | ✓ | 461 324 791 2 | 25° | 10.0 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: flap |
| 461 324 039 0 | ✓ | 461 324 791 2 | 25° | 8.0 bar | 0.0 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: M22x1.5 |
| 461 324 040 0 | ✓ | 461 324 792 2 | 30° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |
| 461 324 041 0 | ✓ | 461 324 797 2 | 25° | 8.5 bar | 0.3 bar | 11, 12: M16x1.5 + M12x1.5; 13, 23: M12x1.5; 21, 22: M16x1.5; 3: snap-on contour |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Basic valve | Actuator | Pedal angle | Max. pressure | Predominance | Port |
|----------------|---------------|---------------|-------------|---------------|--------------|---|
| 461 324 042 0 | 461 315 479 0 | ✓ | 30° | 8.5 bar | 0.0 bar | 11, 12, 21, 22: M16×1.5; 13: 2× M12×1.5; 23: M12×1.5; 3: snap-on contour |
| 461 324 043 0 | ✓ | 461 324 792 2 | 30° | 8.5 bar | 0.3 bar | 11, 12: M16×1.5 + M12×1.5; 13, 23: M12×1.5; 21, 22: M16×1.5; 3: snap-on contour |
| 461 324 046 0 | 461 315 459 0 | 461 324 790 2 | 20° | 10.0 bar | 0.0 bar | 11, 12: M16×1.5 + M12×1.5; 13, 23: M12×1.5; 21, 22: M16×1.5; 3: snap-on contour |
| 461 324 520 0 | – | – | – | 10.0 bar | – | 13, 23: M12×1.5 |
| 461 324 522 0 | – | – | – | 8.5 bar | – | 13, 23: M12×1.5 |
| 461 478 000 0 | ✓ | ✓ | – | 10.0 bar | 0.3 bar | 11, 12: M16×1.5 + M12×1.5; 13, 23: M12×1.5; 21, 22: M16×1.5; 3: flap |
| 461 478 007 0 | ✓ | ✓ | – | 8.5 bar | 0.3 bar | 11, 12: M16×1.5 + M12×1.5; 13, 23: M12×1.5; 21, 22: M16×1.5; 3: flap |
| 461 494 707 0 | ✓ | ✓ | 25° | 12.5 bar | 0.45 bar | 11, 12, 21, 22: M16×1.5; 3: silencer |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|------------------------|---|--|------------------------|---|---|
| ■ 461 310 550 0 | 461 310 000 2 461 318 920 2 461 307 002 2 | Pedal cover Pedal cover Valve ring | ■ 461 318 050 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 318 000 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 051 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 318 001 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 053 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 318 002 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 056 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 318 003 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 057 0 | 461 318 924 2 461 315 915 2 | Pedal cover Valve |
| ■ 461 318 005 0 | 461 315 917 2 | Valve | ■ 461 318 070 0 | 461 315 902 2 461 315 920 2 | Valve Valve |
| ■ 461 318 006 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 495 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 | Pedal cover Valve Valve Pedal mounting piece |
| ■ 461 318 009 0 | 461 315 916 2 | Valve | ■ 461 318 551 0 | 461 315 904 2 | Valve |
| ■ 461 318 014 0 | 461 315 916 2 | Valve | ■ 461 318 601 0 | 461 318 924 2 461 318 925 2 | Pedal mounting piece Electrical cover |
| ■ 461 318 019 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 603 0 | 461 315 005 2 461 315 915 2 | Valve Valve |
| ■ 461 318 022 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 604 0 | 461 315 005 2 461 315 915 2 461 318 924 2 461 318 925 2 461 318 926 2 | Valve Valve Pedal mounting piece Electrical cover Electrical switch |
| ■ 461 318 025 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 605 0 | 461 318 924 2 461 318 925 2 461 318 926 2 | Pedal mounting piece Electrical cover Electrical switch |
| ■ 461 318 026 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 606 0 | 461 318 920 2 461 318 924 2 461 318 925 2 | Pedal cover Pedal mounting piece Electrical cover |
| ■ 461 318 028 0 | 461 315 005 2 461 315 915 2 | Valve Valve | ■ 461 318 609 0 | 461 318 924 2 461 318 926 2 | Pedal mounting piece Electrical switch |
| ■ 461 318 047 0 | 461 315 005 2 461 315 915 2 461 318 924 2 | Valve Valve Pedal mounting piece | | | |
| ■ 461 318 049 0 | 461 315 005 2 461 315 915 2 461 318 924 2 | Valve Valve Pedal mounting piece | | | |

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---|--|-----------------|---|--|
| ■ 461 318 611 0 | 461 318 925 2 | Electrical cover | ■ 461 324 034 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring |
| ■ 461 324 001 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring | ■ 461 324 039 0 | 461 318 920 2 461 315 916 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Pedal mounting piece Pressure control relay valve spring |
| ■ 461 324 006 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring | ■ 461 324 040 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring |
| ■ 461 324 008 0 | 461 318 920 2 461 318 924 2 461 324 000 2 | Pedal cover Pedal mounting piece Pressure control relay valve spring | ■ 461 324 041 0 | 461 318 920 2 461 318 924 2 | Pedal cover Pedal mounting piece |
| ■ 461 324 009 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring | ■ 461 324 042 0 | 461 318 920 2 461 318 924 2 | Pedal cover Pedal mounting piece |
| ■ 461 324 012 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 324 000 2 | Pedal cover Valve Valve Pressure control relay valve spring | ■ 461 324 043 0 | 461 318 920 2 461 318 924 2 | Pedal cover Pedal mounting piece |
| ■ 461 324 018 0 | 461 318 920 2 461 315 917 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Pedal mounting piece Pressure control relay valve spring | ■ 461 324 046 0 | 461 318 920 2 461 315 005 2 461 315 915 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Valve Pedal mounting piece Pressure control relay valve spring |
| ■ 461 324 022 0 | 461 315 005 2 461 315 915 2 461 324 000 2 | Valve Valve Pressure control relay valve spring | ■ 461 324 520 0 | 461 324 000 2 | Pressure control relay valve spring |
| ■ 461 324 027 0 | 461 318 920 2 461 315 916 2 461 318 924 2 461 324 000 2 | Pedal cover Valve Pedal mounting piece Pressure control relay valve spring | ■ 461 324 522 0 | 461 324 000 2 | Pressure control relay valve spring |
| | | | ■ 461 478 000 0 | 461 315 005 2 461 315 915 2 461 324 000 2 | Valve Valve Pressure control relay valve spring |
| | | | ■ 461 478 007 0 | 461 315 005 2 461 315 915 2 461 324 000 2 | Valve Valve Pressure control relay valve spring |
| | | | ■ 461 494 707 0 | 461 318 925 2 | Electrical cover |

Foot brake valve (461 494 ... 0)

- Temperature -40 ... +80 °C
-30 ... +80 °C: 461 494 100 0,
461 494 111 0



| Product number | Pedal angle actuator | Max. pressure | Predominance | Port |
|-----------------------------|----------------------|---------------|--------------|---|
| 461 494 100 0 | – | 15.0 bar | – | 1, 2: 2x M16x1.5; 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 494 110 0 ¹⁾ | – | 8.0 bar | 0.00 bar | 11, 12, 21, 22: M16x1.5; 3: union |
| 461 494 111 0 | – | 15.0 bar | 0.00 bar | 1, 2: 2x M16x1.5; 11, 12, 21, 22: M16x1.5; 3: flap |
| 461 494 113 0 ²⁾ | – | 8.0 bar | 0.00 bar | 11, 12, 21, 22: M16x1.5; 3: snap-on contour |
| 461 494 500 0 | – | 12.5 bar | 0.00 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 502 0 | – | 12.5 bar | 0.30 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 509 0 | – | 12.5 bar | 0.45 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 510 0 | – | 10.0 bar | 0.30 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 511 0 | – | 10.0 bar | 0.15 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 512 0 | – | 12.5 bar | 0.15 bar | 11, 12, 21, 22: Ø 16 mm, 3: silencer |
| 461 494 700 0 | 25° | 12.5 bar | 0.30 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |
| 461 494 701 0 | 25° | 12.5 bar | 0.30 bar | 11, 12, 21, 22: M16x1.5; 13, 23: M12x1.5; 3: silencer |
| 461 494 702 0 | 25° | 12.5 bar | 0.45 bar | 11, 12, 21, 22: M16x1.5; 13, 23: M12x1.5; 3: silencer |
| 461 494 703 0 | 25° | 12.5 bar | 0.45 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |
| 461 494 704 0 | 25° | 12.5 bar | 0.45 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |
| 461 494 705 0 | 25° | 12.5 bar | 0.15 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |
| 461 494 706 0 | 35° | 12.5 bar | 0.30 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |

¹⁾ basic valve 461 315 150 0

²⁾ basic valve 461 315 154 0

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------|-----------------|-----------------|-------------------|
| ■ 461 494 500 0 | 461 494 923 2 | Silencer | ■ 461 494 700 0 | 461 494 923 2 | Silencer |
| | 461 494 926 2 | Piston | | 461 318 920 2 | Pedal cover |
| ■ 461 494 502 0 | 461 494 923 2 | Silencer | | 461 494 925 2 | Electrical switch |
| | 461 494 926 2 | Piston | ■ 461 494 701 0 | 461 494 923 2 | Silencer |
| ■ 461 494 509 0 | 461 494 923 2 | Silencer | | 461 318 920 2 | Pedal cover |
| | 461 494 926 2 | Piston | ■ 461 494 702 0 | 461 318 920 2 | Pedal cover |
| ■ 461 494 510 0 | 461 494 923 2 | Silencer | | ■ 461 494 703 0 | 461 494 923 2 |
| | 461 494 926 2 | Piston | 461 494 925 2 | | Electrical switch |
| ■ 461 494 511 0 | 461 494 923 2 | Silencer | ■ 461 494 704 0 | 461 494 923 2 | Silencer |
| | 461 494 926 2 | Piston | | ■ 461 494 705 0 | 461 494 923 2 |
| ■ 461 494 512 0 | 461 494 923 2 | Silencer | 461 494 925 2 | | Electrical switch |
| | 461 494 926 2 | Piston | ■ 461 494 706 0 | 461 494 925 2 | Electrical switch |

Foot brake valve digital (461 333 ... 0)

■ Temperature -40 ... +80 °C



461 333 000 0

461 333 003 0

| Product number | Max. pressure | Predominance | Port |
|----------------|---------------|--------------|--------------------------------------|
| 461 333 000 0 | 12.5 bar | 0.3 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |
| 461 333 003 0* | 12.5 bar | 0.3 bar | 11, 12, 21, 22: M16x1.5; 3: silencer |

* different Electronic Control Unit (ECU) compared to 461 333 000 0

Relay valve

Relay valve - simple (973 00. ... 0)

■ Temperature -40 ... +80 °C

■ Accessories
 432 407 070 0 Silencer (port JED-463)
 432 407 060 0 Silencer (port M22x1.5)



973 001 020 0



973 006 001 0



973 006 003 0

| Product number | Max. pressure | | | Port |
|----------------|---------------|----------|----------|--|
| | Control | Supply | Response | |
| 973 001 010 0 | 10.0 bar | 22.0 bar | 0.3 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 001 013 0 | 8.0 bar | 22.0 bar | 0.3 bar | 1, 3, 4: M22x1.5; 2: 2x M22x1.5 |
| 973 001 018 0 | 10.0 bar | 22.0 bar | 0.3 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: JED-463 |
| 973 001 020 0 | 8.0 bar | 22.0 bar | 0.3 bar | 1: M22x1.5; 2: 2x M16x1.5; 3: exhaust; 4: M16x1.5 |
| 973 001 030 0 | 8.0 bar | 22.0 bar | 0.3 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 001 031 0 | 8.0 bar | 22.0 bar | 0.3 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 001 210 0 | 10.0 bar | 22.0 bar | 0.2 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 001 221 0 | 10.0 bar | 22.0 bar | 0.3 bar | 1, 3: M22x1.5; 2: 2x M16x1.5; 4: M16x1.5 |
| 973 006 001 0 | 10.0 bar | 10.0 bar | 0.2 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 973 006 003 0 | 8.5 bar | 8.5 bar | 0.9 bar | 1: V22x1.5 JED-388-2; 2: 2x V22x1.5 JED-388-2; 3: silencer 432 407 027 2; 4: M16x1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|------------|-----------------|---------------|------------|
| ■ 973 001 010 0 | 973 001 000 2 | Valve ring | ■ 973 001 210 0 | 973 001 002 2 | Valve ring |
| ■ 973 001 020 0 | 973 001 000 2 | Valve ring | ■ 973 001 221 0 | 973 001 006 2 | Valve ring |

CONVENTIONAL BRAKING COMPONENTS

Relay valve - simple (973 011 ... 0)

- **Temperature** -40 ... +80 °C
- **Accessories** 432 407 070 0 Silencer (port JED-463)
 432 407 060 0 Silencer (port M22x1.5)



973 011 000 0



973 011 004 0



973 011 050 0

| Product number | Max. pressure | | | Port |
|----------------|---------------|----------|----------|--|
| | Control | Supply | Response | |
| 973 011 000 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5; 2: 2x M22x1.5; 3: JED-463; 4: M16x1.5 |
| 973 011 001 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 973 011 002 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1, 3: M22x1.5; 2: 2x M22x1.5; 4: M16x1.5 |
| 973 011 004 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 4: M16x1.5 JED-388 |
| 973 011 006 0 | 10.0 bar | 13.0 bar | 0.28 bar | 1: 3/4"-14 NPTF; 2: 4x 3/8"-18 NPTF; 3: exhaust; 4: 1/4"-18 NPTF |
| 973 011 007 0 | 10.2 bar | 13.0 bar | 0.20 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: exhaust; 4: M16x1.5 JED-388 |
| 973 011 008 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 4: M16x1.5 JED-388 |
| 973 011 009 0 | 10.0 bar | 13.0 bar | 0.50 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 4: M16x1.5 JED-388 |
| 973 011 010 0 | 10.0 bar | 13.0 bar | 0.38 bar | 1, 3: M22x1.5; 2: 2x M22x1.5; 4: M16x1.5 |
| 973 011 011 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5; 2: 2x M22x1.5; 3: JED-463; 4: M16x1.5 |
| 973 011 018 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1, 4: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 011 021 0 | 10.0 bar | 13.0 bar | 0.28 bar | 1: 1/2"-14 NPTF; 2: 3/8"-18 NPTF; 3: exhaust; 4: 1/4"-18 NPTF |
| 973 011 024 0 | 10.0 bar | 13.0 bar | 0.38 bar | 1: 1/2"-14 NPTF; 2: 2x 3/8"-18 NPTF; 3: exhaust; 4: 1/4"-18 NPTF |
| 973 011 025 0 | 10.0 bar | 13.0 bar | 0.28 bar | 1: Ø 24 mm; 2: 3/8"-18 NPTF; 3: exhaust; 4: Ø 14.5 mm |
| 973 011 026 0 | 10.0 bar | 13.0 bar | 0.38 bar | 1: Ø 24 mm; 2: 3/8"-18 NPTF; 3: exhaust; 4: Ø 14.5 mm |
| 973 011 050 0 | 10.0 bar | 13.0 bar | 0.20 bar | 1: M22x1.5 JED-152; 21: 2x M16x1.5 JED-152; 22, 4: M16x1.5 JED-152; 3: M22x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------------|-----------------|---------------|---------|
| ■ 973 011 000 0 | 973 011 000 2 | Valve | ■ 973 011 011 0 | 973 011 000 2 | Valve |
| | 973 011 003 2 | Valve | ■ 973 011 021 0 | 973 011 000 2 | Valve |
| ■ 973 011 001 0 | 973 011 000 2 | Valve | ■ 973 011 024 0 | 973 011 000 2 | Valve |
| ■ 973 011 002 0 | 973 011 000 2 | Valve | ■ 973 011 025 0 | 973 011 000 2 | Valve |
| | 973 011 003 2 | Valve | ■ 973 011 026 0 | 973 011 000 2 | Valve |
| ■ 973 011 004 0 | 973 011 000 2 | Valve | ■ 973 011 050 0 | 973 011 002 2 | Valve |
| ■ 973 011 008 0 | 973 011 000 2 | Valve | | | |
| ■ 973 011 009 0 | 973 011 000 2 | Valve | | | |
| ■ 973 011 010 0 | 472 195 926 2 | Valve + filter | | | |

Relay valve - simple (with predominance)

- **Temperature** –40 ... +80 °C

- **Predominance** adjustable

- **Accessories** 432 407 070 0 Silencer (port JED-463)
 432 407 060 0 Silencer (port M22x1.5)



973 003 007 0

| Product number | Predominance | Max. pressure | | | Port |
|----------------|--------------|---------------|----------|----------|---|
| | | Control | Supply | Response | |
| 973 003 000 0 | 1.0 bar | 12.0 bar | 12.0 bar | 0.3 bar | 1, 41: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 973 003 002 0 | 0.0 bar | 10.0 bar | 10.0 bar | 0.3 bar | 1, 3, 41: M22x1.5; 2: 2x M22x1.5 |
| 973 003 006 0 | 0.5 bar | 10.0 bar | 10.0 bar | 0.3 bar | 1: M22x1.5 JED-464; 2: 2x M22x1.5 JED-464; 3: silencer 432 407 050 0; 41: M22x1.5 JED-464 |
| 973 003 007 0 | 0.5 bar | 10.0 bar | 10.0 bar | 0.3 bar | 1, 2, 3, 41: M22x1.5 |
| 973 003 008 0 | 0.0 bar | 10.0 bar | 10.0 bar | 0.3 bar | 1: M22x1.5 JED-464; 2: 2x M22x1.5 JED-464; 3: silencer 432 407 050 0; 41: M22x1.5 JED-464 |
| 973 003 010 0 | 0.4 bar | 11.0 bar | 13.0 bar | 0.3 bar | 1: M22x1.5 JED-388-3; 2: 2x M22x1.5 JED-388-3; 3: silencer 432 407 560 2; 41: M22x1.5 |
| 973 003 012 0 | 0.0 bar | 11.0 bar | 13.0 bar | 1.0 bar | 1: M22x1.5 JED-388-3; 2: 2x M22x1.5 JED-388-3; 3: silencer 432 407 560 2; 41: M22x1.5 |

Overload protection relay valve

- **Temperature** –40 ... +80 °C

- **Accessories** 432 407 070 0 Silencer (port JED-463)
 432 407 060 0 Silencer (port M22x1.5)



473 017 001 0



973 011 200 0



973 011 201 0



973 011 205 0



973 011 206 0

| Product number | Max. pressure | | | Port |
|----------------|---------------|----------|-----------------|--|
| | Supply | Control | Response | |
| 473 017 000 0 | 10.0 bar | 10.0 bar | 0.4 bar | 1, 41, 42: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 473 017 001 0 | 10.0 bar | 10.0 bar | 0.4 bar | 1, 3, 41, 42: M22x1.5; 2: 2x M22x1.5 |
| 973 011 200 0 | 13.0 bar | 10.0 bar | 0.2 ... 0.3 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 41, 42: M16x1.5 JED-388 |
| 973 011 201 0 | 12.0 bar | 10.0 bar | 0.2 ... 0.3 bar | 1: M22x1.5; 21: 2x M16x1.5; 22, 41, 42: M16x1.5; 3: JED-463 |
| 973 011 203 0 | 10.0 bar | 10.0 bar | 0.2 ... 0.3 bar | 1: M22x1.5 JED-152; 2: 2x M22x1.5 JED-152; 3: JED-463; 41, 42: M16x1.5 JED-152 |
| 973 011 205 0 | 13.0 bar | 10.0 bar | 0.2 ... 0.3 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 41, 42: M16x1.5 JED-388 |
| 973 011 206 0 | 13.0 bar | 10.0 bar | 0.2 ... 0.3 bar | 1: M22x1.5 JED-388; 21: 2x M22x1.5 JED-388; 22, 41, 42: M16x1.5 JED-388; 3: silencer 432 407 050 0 |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Max. pressure | | | Port |
|----------------|---------------|----------|-----------------|--|
| | Supply | Control | Response | |
| 973 011 250 0 | 13.0 bar | 10.0 bar | 0.2 ... 0.6 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 41, 42: M16x1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|------------|-----------------|---------------|---------|
| ■ 473 017 000 0 | 473 017 000 2 | Valve ring | ■ 973 011 203 0 | 973 011 000 2 | Valve |
| ■ 473 017 001 0 | 473 017 000 2 | Valve ring | ■ 973 011 205 0 | 973 011 000 2 | Valve |
| ■ 973 011 200 0 | 973 011 000 2 | Valve | ■ 973 011 206 0 | 973 011 006 2 | Valve |
| ■ 973 011 201 0 | 973 011 000 2 | Valve | ■ 973 011 250 0 | 973 011 007 2 | Valve |

Empty-load relay valve

- Temperature -40 ... +80 °C
- Accessory 432 407 050 0 Silencer



973 011 109 0

| Product number | Max. regulating ratio | Max. pressure | | | Port |
|----------------|-----------------------|---------------|----------|----------|---|
| | | Supply | Control | Response | |
| 973 011 106 0 | 1:1.5 | 13.0 bar | 10.0 bar | 0.25 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 41, 42: M16x1.5 JED-388 |
| 973 011 107 0 | 1:2.7 | 13.0 bar | 10.0 bar | 0.25 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 41, 42: M16x1.5 JED-388 |
| 973 011 109 0 | 1:1.5 | 13.0 bar | 10.0 bar | 0.50 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 41, 42: M16x1.5 JED-388 |
| 973 011 110 0 | 1:2.7 | 13.0 bar | 10.0 bar | 0.50 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer 432 407 050 0; 41, 42: M16x1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 973 011 106 0 | 973 011 001 2 | Valve |
| ■ 973 011 107 0 | 973 011 001 2 | Valve |
| ■ 973 011 109 0 | 973 011 001 2 | Valve |
| ■ 973 011 110 0 | 973 011 001 2 | Valve |



973 011 300 0

Relay valve - special

- Temperature -40 ... +80 °C

| Product number | Max. pressure | | | Port |
|----------------|---------------|----------|-----------------|---|
| | Supply | Control | Response | |
| 973 011 300 0 | 13.0 bar | 11.0 bar | 0.0 ... 2.3 bar | 1, 12: M22x1.5 JED-388-0, 2: 2x M22x1.5 JED-388-0; 3: exhaust; 4: M16x1.5 JED-388-0 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 973 011 300 0 | 973 011 005 2 | Valve |

Pressure limiting valve

Pressure limiting valve (475 010 ... 0)



475 010 006 0



475 010 333 0



475 010 400 0

| Product number | Pressure | | Temperature | Port |
|----------------|--------------|--------------------------|----------------|---------------|
| | Max. working | Delivered | | |
| 475 010 000 0 | 20 bar | 7.0 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 001 0 | 20 bar | 5.3 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 002 0 | 20 bar | 1.8 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 006 0 | 20 bar | 8.0 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 008 0 | 20 bar | 3.0 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 009 0 | 20 bar | 7.5 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 010 0 | 20 bar | 4.0 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 011 0 | 20 bar | 3.5 bar at p1 = 8.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 012 0 | 20 bar | 5.5 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 015 0 | 20 bar | 7.3 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 016 0 | 20 bar | 1.2 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 017 0 | 20 bar | 0.45 bar at p1 = 9.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 025 0 | 20 bar | 4.0 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 032 0 | 20 bar | 8.5 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 |
| 475 010 200 0 | 20 bar | 8.0 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Pressure | | Temperature | Port |
|----------------|--------------|---------------------------|----------------|---|
| | Max. working | Delivered | | |
| 475 010 201 0 | 20 bar | 10.0 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 300 0 | 20 bar | 8.5 bar at p1 = 10 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 301 0 | 20 bar | 10.0 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 302 0 | 20 bar | 5.3 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 303 0 | 20 bar | 1.8 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 304 0 | 20 bar | 7.5 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 305 0 | 20 bar | 6.0 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 306 0 | 20 bar | 5.0 bar at p1 = 9.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 307 0 | 20 bar | 1.8 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 308 0 | 20 bar | 7.8 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 309 0 | 20 bar | 5.7 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 310 0 | 20 bar | 4.0 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 311 0 | 20 bar | 3.5 bar at p1 = 8.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 312 0 | 20 bar | 5.5 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 313 0 | 20 bar | 3.3 bar at p1 = 7.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 314 0 | 20 bar | 7.0 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 317 0 | 20 bar | 6.5 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 318 0 | 20 bar | 8.0 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 322 0 | 20 bar | 4.2 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 324 0 | 20 bar | 1.4 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-152 |
| 475 010 325 0 | 20 bar | 3.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 328 0 | 20 bar | 2.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 330 0 | 20 bar | 6.5 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 332 0 | 20 bar | 3.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 333 0 | 20 bar | 9.3 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 335 0 | 20 bar | 8.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M22x1.5 JED-388 |
| 475 010 400 0 | 20 bar | 8.0 bar at p1 = 9.8 bar | -40 ... +80 °C | 1,1, 1,2, 2,1, 2,2, 2,3: M22x1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------|-----------------|--------------------------------|----------------|
| ■ 475 010 000 0 | 475 010 000 2 | Valve | ■ 475 010 201 0 | 475 010 001 2 475 010 002 2 | Valve Valve |
| ■ 475 010 001 0 | 475 010 000 2 | Valve | ■ 475 010 300 0 | 475 010 001 2 | Valve |
| ■ 475 010 002 0 | 475 010 000 2 | Valve | ■ 475 010 301 0 | 475 010 001 2 | Valve |
| ■ 475 010 006 0 | 475 010 000 2 | Valve | ■ 475 010 302 0 | 475 010 001 2 | Valve |
| ■ 475 010 008 0 | 475 010 000 2 | Valve | ■ 475 010 303 0 | 475 010 001 2 | Valve |
| ■ 475 010 009 0 | 475 010 000 2 | Valve | ■ 475 010 304 0 | 475 010 001 2 | Valve |
| ■ 475 010 010 0 | 475 010 000 2 | Valve | ■ 475 010 305 0 | 475 010 001 2 | Valve |
| ■ 475 010 011 0 | 475 010 000 2 | Valve | ■ 475 010 306 0 | 475 010 001 2 | Valve |
| ■ 475 010 012 0 | 475 010 000 2 | Valve | ■ 475 010 307 0 | 475 010 001 2 | Valve |
| ■ 475 010 015 0 | 475 010 000 2 | Valve | ■ 475 010 308 0 | 475 010 001 2 | Valve |
| ■ 475 010 016 0 | 475 010 000 2 | Valve | ■ 475 010 309 0 | 475 010 001 2 | Valve |
| ■ 475 010 017 0 | 475 010 000 2 | Valve | ■ 475 010 310 0 | 475 010 001 2 | Valve |
| ■ 475 010 025 0 | 475 010 000 2 | Valve | ■ 475 010 311 0 | 475 010 001 2 | Valve |
| ■ 475 010 032 0 | 475 010 000 2 | Valve | ■ 475 010 312 0 | 475 010 001 2 | Valve |
| ■ 475 010 200 0 | 475 010 001 2 475 010 002 2 | Valve Valve | ■ 475 010 313 0 | 475 010 001 2 | Valve |

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 475 010 314 0 | 475 010 001 2 | Valve |
| ■ 475 010 317 0 | 475 010 001 2 | Valve |
| ■ 475 010 318 0 | 475 010 001 2 | Valve |
| ■ 475 010 322 0 | 475 010 001 2 | Valve |
| ■ 475 010 324 0 | 475 010 001 2 | Valve |

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 475 010 325 0 | 475 010 001 2 | Valve |
| ■ 475 010 333 0 | 475 010 002 2 | Valve |
| ■ 475 010 335 0 | 475 010 002 2 | Valve |
| ■ 475 010 400 0 | 475 010 002 2 | Valve |



475 015 063 0



475 015 512 0

Pressure limiting valve (475 015 ... 0)

| Product number | Pressure | | Temperature | Port |
|----------------|--------------|---------------------------|----------------|-------------------------|
| | Max. working | Delivered | | |
| 475 015 001 0 | 20 bar | 7.4 bar at p1 = 16.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 004 0 | 10 bar | 3.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 005 0 | 20 bar | 8.0 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 009 0 | 20 bar | 5.3 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 010 0 | 20 bar | 5.7 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 014 0 | 8 bar | 3.0 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 015 0 | 20 bar | 4.0 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 016 0 | 20 bar | 7.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 018 0 | 20 bar | 8.0 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 026 0 | 14 bar | 2.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 028 0 | 20 bar | 7.5 bar at p1 = 8.9 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-464 |
| 475 015 030 0 | 20 bar | 6.0 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 031 0 | 14 bar | 7.5 bar at p1 = 11.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 032 0 | 14 bar | 11.0 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 033 0 | 20 bar | 7.0 bar at p1 = 8.9 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-464 |
| 475 015 035 0 | 20 bar | 8.7 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 036 0 | 14 bar | 6.7 bar at p1 = 11.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 037 0 | 14 bar | 9.5 bar at p1 = 11.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 039 0 | 14 bar | 8.5 bar at p1 = 11.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 040 0 | 20 bar | 0.45 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 048 0 | 20 bar | 7.0 bar at p1 = 11.0 bar | -30 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 049 0 | 10 bar | 4.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 057 0 | 20 bar | 2.8 bar at p1 = 12.5 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-464 |
| 475 015 063 0 | 20 bar | 8.5 bar at p1 = 12.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 072 0 | 15 bar | 8.5 bar at p1 = 11.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 073 0 | 15 bar | 7.5 bar at p1 = 10.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-152 |
| 475 015 300 0 | 20 bar | 1.8 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 400 0 | 20 bar | 4.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 500 0 | 20 bar | 6.5 bar at p1 = 8.0 bar | -40 ... +80 °C | 1, 2: M16x1.5 |
| 475 015 512 0 | 14 bar | 5.5 bar at p1 = 8.5 bar | -40 ... +80 °C | 1, 2: M16x1.5 JED-388-3 |

CONVENTIONAL BRAKING COMPONENTS

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|-----------------|---------------|-----------------------|
| ■ 475 015 001 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 037 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 004 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 039 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 005 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 040 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 009 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 048 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 010 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 063 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 015 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 072 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 016 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 400 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 018 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 500 0 | 475 015 001 2 | Valve + venting guide |
| ■ 475 015 035 0 | 475 015 001 2 | Valve + venting guide | ■ 475 015 512 0 | 475 015 001 2 | Valve + venting guide |

Pressure limiting valve (475 019 ... 0 / 475 020 ... 0)

- Temperature -40 ... +80 °C



475 019 000 0



475 020 011 0

| Product number | Pressure | | Electrical connection | Port |
|----------------|--------------|--------------------------|------------------------|--|
| | Max. working | Delivered | | |
| 475 019 000 0 | 12 bar | 0.5 bar at p1 = 12.0 bar | – | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388 |
| 475 020 006 0 | 13 bar | 4.1 bar at p1 = 10.2 bar | DIN 72585 1A-2.1-Sn/K2 | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388 |
| 475 020 011 0 | 13 bar | 5.0 bar at p1 = 8.5 bar | DIN 72585 1A-2.1-Sn/K2 | 1: M22×1.5 JED-152; 2: 2× M22×1.5 JED-152 |
| 475 020 012 0 | 13 bar | 6.0 bar at p1 = 8.5 bar | DIN 72585 1A-2.1-Sn/K2 | 1: M22×1.5 JED-152; 2: 2× M22×1.5 JED-152 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|------------|
| ■ 475 019 000 0 | 973 001 000 2 | Valve ring |

Load sensing valve

Load sensing valve - mechanical

- Temperature –40 ... +80 °C
- Max. pressure 10 bar
- Max. regulating ratio 1:4



475 701 001 0

| Product number | Break point | Stroke | | Port |
|----------------|-------------|---------------|---------------|-----------------------|
| | | Total | Control | |
| 475 701 001 0 | – | –40° ... +40° | –40° ... +30° | 1, 2: M22x1.5 JED-152 |
| 475 701 007 0 | – | –40° ... +40° | –40° ... +30° | 1, 2: M22x1.5 JED-152 |
| 475 701 012 0 | – | –40° ... +40° | –40° ... +30° | 1, 2: M22x1.5 JED-152 |
| 475 701 020 0 | – | –21° ... +35° | –21° ... +13° | 1, 2: M22x1.5 JED-152 |
| 475 702 020 0 | 0.5 bar | –21° ... +35° | –21° ... +13° | 1, 2: M22x1.5 JED-152 |
| 475 702 022 0 | 0.5 bar | –21° ... +35° | –21° ... +13° | 1, 2: M22x1.5 JED-152 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 475 701 001 0 | 475 701 009 2 | Diaphragm |
| ■ 475 701 007 0 | 475 701 009 2 | Diaphragm |
| ■ 475 701 012 0 | 475 701 009 2 | Diaphragm |
| ■ 475 701 020 0 | 475 701 000 2 | Diaphragm |
| ■ 475 702 020 0 | 475 702 001 2 | Lever joint + diaphragm |
| ■ 475 702 022 0 | 475 702 001 2 | Lever joint + diaphragm |

CONVENTIONAL BRAKING COMPONENTS

Load sensing valve - mechanical with integrated relay valve

| | |
|--------------------------------|---|
| ■ Temperature | -40 ... +80 °C -45 ... +80 °C: 475 710 128 0, 475 710 129 0, 475 710 156 0 |
| ■ Max. control pressure | 10 bar 475 710 136 0: 10.2 bar; 475 800 301 0: 8.0 bar |
| ■ Comment | 1) Operating assembly (lever) 2) Test port 3) Test port, solenoid valve (connection DIN 72585-A1-3.1-SN/K1) 4) Regulation (0 ... 7.2 bar) 5) Silencer 432 407 050 0 |
| ■ Accessories | 432 407 060 0 Silencer (port M22x1.5) 432 407 070 0 Silencer (port JED-463 / snap-on contour) |



475 710 128 0



475 710 136 0



475 720 003 0



884 057 811 0



884 057 812 0

| Product number | Break point | Max. supply line pressure | Max. regulating ratio | Stroke | | Port |
|-----------------------------|-------------|---------------------------|-----------------------|--------------|--------------|---|
| | | | | Total | Control | |
| 475 710 000 0 | 0.7 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 4: M16x1.5 JED-152; 2: 2x M16x1.5 JED-152; 3: JED-463 |
| 475 710 003 0 | 0.6 bar | 10 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: M22x1.5 |
| 475 710 006 0 | 0.3 bar | 10 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5; 2: 2x M16x1.5; 3: M22x1.5; 4: M16x1.5 |
| 475 710 007 0 | 0.6 bar | 10 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: M22x1.5 |
| 475 710 008 0 | 0.6 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 011 0 | 0.6 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 012 0 | 0.6 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 013 0 | 0.6 bar | 10 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5; 2: 2x M16x1.5; 3, 4: JED-463 |
| 475 710 016 0 | 0.6 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 020 0 | 0.7 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1, 4: M16x1.5 JED-152; 2: M16x1.5 JED-152; 3: JED-463 |
| 475 710 021 0 | 0.6 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |
| 475 710 022 0 ¹⁾ | 0.5 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |
| 475 710 024 0 | 0.5 bar | 12 bar | 1:8 | -40°...+110° | 0°...+34°30' | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 025 0 | 0.6 bar | 12 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |
| 475 710 027 0 ¹⁾ | 0.5 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 029 0 ¹⁾ | 0.5 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |
| 475 710 033 0 ¹⁾ | 0.5 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |

| Product number | Break point | Max. supply line pressure | Max. regulating ratio | Stroke | | Port |
|-----------------------------|-------------|---------------------------|-----------------------|--------------------|-------------|--|
| | | | | Total | Control | |
| 475 710 035 0 | 0.5 bar | 13 bar | 1:12.5 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-464; 2: 2x M16x1.5 JED-464; 3: JED-463; 4: M16x1.5 JED-464 |
| 475 710 036 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 040 0 ¹⁾ | 0.4 bar | 10 bar | 1:8 | -50°...+90° | 0°...+20° | 1: M22x1.5; 2: 2x M16x1.5; 3: snap-on contour; 4: M16x1.5 |
| 475 710 042 0 | 0.6 bar | 13 bar | 1:8 | -50°...+90° | 0°...+20° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 044 0 | 0.5 bar | 12 bar | 1:8 | -50°...+90° | 0°...+20° | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 108 0 ¹⁾ | 0.7 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463 |
| 475 710 121 0 | 0.7 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: M22x1.5; 4: M16x1.5 |
| 475 710 122 0 | 0.7 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: M22x1.5; 4: M16x1.5 |
| 475 710 128 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 129 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5 |
| 475 710 134 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 135 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4: M16x1.5 JED-388 |
| 475 710 136 0 | 0.6 bar | 13 bar | 1:8 | -54°...+86° | 0°...+16° | 1: M22x1.5 JED-388; 2: M22x1.5 JED-388 / M16x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 710 144 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-152; 2: 2x M22x1.5 JED-152; 3: JED-463; 4: M16x1.5 JED-152 |
| 475 710 151 0 | 0.6 bar | 10 bar | 1:8 | -54°...+86° | 0°...+16° | 1, 3: M22x1.5; 2: 2x M22x1.5; 4: M16x1.5 |
| 475 710 156 0 | 0.6 bar | 13 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-464; 2: 2x M16x1.5 JED-464; 3: JED-463; 4: M16x1.5 JED-464 |
| 475 710 157 0 | 0.5 bar | 10 bar | 1:8 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: M22x1.5; 4: M16x1.5 JED-388 |
| 475 720 001 0 ²⁾ | 0.8 bar | 13 bar | 1:5.3 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 720 002 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -30°...+110° | 0°...+60° | 1: M22x1.5 JED-152; 2: 2x M22x1.5 JED-152; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-152 |
| 475 720 003 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 720 004 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 720 005 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -54°...+86° | 0°...+16° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: Voss 232 - NG 8 |
| 475 720 006 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -51.5°... 88.5° | 0°...+18.5° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 720 008 0 ²⁾ | 0.8 bar | 13 bar | 1:5.3 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-152; 2: 2x M16x1.5 JED-152; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-152 |
| 475 720 500 0 ³⁾ | 0.8 bar | 13 bar | 1:5.3 | -45°...+95° | 0°...+30° | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ⁵⁾ ; 4: M16x1.5 JED-388 |
| 475 722 000 0 ²⁾ | 0.6 bar | 13 bar | 1:5.3 | -30°...+110° | 0°...+52° | 1, 4: M16x1.5 JED-152; 2: M16x1.5 JED-152; 3: JED-463 |
| 475 800 301 0 ⁴⁾ | – | 8 bar | 1:5.3 | – | -30°...+30° | 1, 2: M12x1.5 |
| 884 057 811 0 ¹⁾ | 0.7 bar | 13 bar | 1:8 | -45°...+105° | 0°...+30° | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463 |
| 884 057 812 0 | 0.7 bar | 13 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463 |
| 884 502 270 0 | 0.6 bar | 10 bar | 1:8 | -30°...+110° | 0°...+60° | 1, 3: M22x1.5; 2: 2x M22x1.5; 4: M16x1.5 |

CONVENTIONAL BRAKING COMPONENTS

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|-----------------|---------------|-------------------------|
| ■ 475 710 000 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 033 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 003 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 035 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 006 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 036 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 007 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 040 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 008 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 042 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 011 0 | 475 710 002 2 | Diaphragm | ■ 475 710 044 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 012 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 121 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 013 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 122 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 016 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 128 0 | 475 710 002 2 | Diaphragm |
| ■ 475 710 020 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 129 0 | 475 710 002 2 | Diaphragm |
| ■ 475 710 021 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 134 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 022 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 135 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 024 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 136 0 | 475 710 002 2 | Diaphragm |
| ■ 475 710 025 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 710 144 0 | 475 710 001 2 | Lever joint + diaphragm |
| ■ 475 710 027 0 | 475 710 001 2 | Lever joint + diaphragm | ■ 475 800 301 0 | 475 800 004 2 | Sealing |
| ■ 475 710 029 0 | 475 710 001 2 | Lever joint + diaphragm | | | |

Load apportioning valve (475 604 ... 0)

| | |
|-----------------|------------------|
| ■ Temperature | −40 ... +85 °C |
| ■ Max. pressure | 10 bar |
| ■ Port | 1, 2: M22x1.5 |
| ■ Mounting | Flange DIN 71501 |



475 604 011 0



475 604 013 0

| Product number | Adjustment (pre-adjusted) | | | | |
|----------------|---------------------------|---------|-------------------------|---------|----------------|
| | Empty | 1/4 | 1/2 | 3/4 | Fully loaded |
| 475 604 010 0 | 0.8...2.2 bar (1.6 bar) | – | 2.8...3.7 bar (3.7 bar) | – | Inlet pressure |
| 475 604 011 0 | 1.4...2.8 bar (2.1 bar) | – | 3.4...4.3 bar (4.0 bar) | – | Inlet pressure |
| 475 604 012 0* | 0.8...2.2 bar (1.6 bar) | – | 2.8...3.7 bar (3.7 bar) | – | Inlet pressure |
| 475 604 013 0* | 1.4...2.8 bar (2.1 bar) | – | 3.4...4.3 bar (4.0 bar) | – | Inlet pressure |
| 475 604 041 0 | 1.4...2.8 bar (2.1 bar) | – | 3.4...4.3 bar (4.0 bar) | – | Inlet pressure |
| 475 604 110 0 | 0.7...1.2 bar (0.8 bar) | 1.7±0.3 | 2.8...3.5 bar (2.8 bar) | 4.1±0.3 | Inlet pressure |
| 475 604 112 0* | 0.7...1.2 bar (0.8 bar) | 1.7±0.3 | 2.8...3.5 bar (2.8 bar) | 4.1±0.3 | Inlet pressure |

* without release position

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 475 604 010 0 | 475 604 002 2 | Valve | ■ 475 604 041 0 | 475 604 002 2 | Valve |
| ■ 475 604 011 0 | 475 604 002 2 | Valve | ■ 475 604 110 0 | 475 604 002 2 | Valve |
| ■ 475 604 012 0 | 475 604 002 2 | Valve | ■ 475 604 112 0 | 475 604 002 2 | Valve |
| ■ 475 604 013 0 | 475 604 002 2 | Valve | | | |

Load sensing valve - pneumatic

- **Temperature** −40 ... +80 °C
- **Control medium** Air
- **Comments** ¹⁾ Flange mounted DIN 1501
²⁾ Universal valve with transformation set;
flange mounted DIN 71501
³⁾ Test port



475 700 126 0

475 700 220 0

| Product number | Break point | Operation | Max. pressure | | Max. regulating ratio | Port |
|-----------------------------|-------------|------------------|---------------|----------|-----------------------|--|
| | | | Control | Braking | | |
| 475 700 122 0 ¹⁾ | 0.4 bar | 1.0 ... 4.6 bar | 8.0 bar | 10.0 bar | 1:4.1 bar | 1, 2: M22×1.5; 3: exhaust; 4: M12×1.5 |
| 475 700 126 0 ¹⁾ | 0.4 bar | 0.5 ... 4.1 bar | 8.0 bar | 10.0 bar | 1:4.1 bar | 1, 2: M22×1.5; 3: exhaust; 4: M12×1.5 |
| 475 700 220 0 ²⁾ | 0.4 bar | 0.7 ... 4.25 bar | 8.0 bar | 10.0 bar | 1:3.1 bar | 1, 2: M22×1.5; 3: exhaust; 4: M12×1.5 |
| 475 723 000 0 ³⁾ | 0.7 bar | 1.0 ... 4.6 bar | 10.0 bar | 10.0 bar | 1:5.3 bar | 1/4, 22: M16×1.5 JED-152; 3: JED-463; 41: M12×1.5 JED-152 |
| 475 723 001 0 ³⁾ | 0.7 bar | 0.5 ... 4.1 bar | 10.0 bar | 10.0 bar | 1:5.3 bar | 1/4, 22: M16×1.5 JED-152; 3: JED-463; 41: M12×1.5 JED-152 |

Load sensing valve - pneumatic with integrated relay valve

- **Temperature** −40 ... +80 °C
- **Test connection** **Port 43:** M16×1.5
- **Port 3** ¹⁾ Silencer 432 407 050 0
- **Accessories** 432 407 050 0 Silencer (port bayonet)
432 407 070 0 Silencer (port JED-463 / snap-on contour)



475 711 034 0

475 711 118 0

475 711 155 0

475 721 008 0

| Product number | Break point | Operation | Max. pressure on port | | | Port |
|----------------|-------------|------------------|-----------------------|----------|----------|--|
| | | | 1 | 4, 1/4 | 41, 42 | |
| 475 711 009 0 | 0.4 bar | 0.5 ... 6.0 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22×1.5; 2: 2× M16×1.5; 3: JED-463; 4: M16×1.5; 41, 42: M12×1.5 |
| 475 711 012 0 | 0.5 bar | 0.35 ... 7.2 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16×1.5; 2: 2× M16×1.5; 3: JED-463; 41, 42: M12×1.5 |
| 475 711 022 0 | 0.6 bar | 0.85 ... 4.9 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 3: JED-463; 4, 41, 42: M16×1.5 JED-388 |
| 475 711 024 0 | 0.6 bar | 0.6 ... 4.3 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 3: JED-463; 4, 41, 42: M16×1.5 JED-388 |
| 475 711 025 0 | 0.6 bar | 0.6 ... 4.3 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 3: JED-463; 4, 41, 42: M16×1.5 JED-388 |
| 475 711 026 0 | 0.6 bar | 0.8 ... 3.5 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 3: JED-463; 4, 41, 42: M16×1.5 JED-388 |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Break point | Operation | Max. pressure on port | | | Port |
|----------------|-------------|------------------|-----------------------|----------|----------|--|
| | | | 1 | 4, 1/4 | 41, 42 | |
| 475 711 030 0 | 0.7 bar | 0.6 ... 3.5 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: bayonet; 41, 42: M12x1.5 |
| 475 711 034 0 | 0.7 bar | 0.4 ... 5.6 bar | 12.0 bar | 10.0 bar | 12.5 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: snap-on contour; 41, 42: M12x1.5 |
| 475 711 037 0 | 1.2 bar | 1.8 ... 5.4 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5; 41, 42: M12x1.5 |
| 475 711 040 0 | 0.8 bar | 1.2 ... 4.8 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5; 41, 42: M12x1.5 |
| 475 711 042 0 | 0.5 bar | 0.2 ... 5.5 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 051 0 | 0.5 bar | 0.4 ... 6.6 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 052 0 | 0.3 | 0.8 ... 7.0 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463; 41, 42: M12x1.5 |
| 475 711 060 0 | 0.7 bar | 0.6 ... 4.9 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463; 41, 42: M12x1.5 |
| 475 711 074 0 | 0.5 bar | 0.5 ... 5.0 bar | 13.0 bar | 10.0 bar | 12.0 bar | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5; 41, 42: M12x1.5 |
| 475 711 075 0 | 0.5 bar | 0.5 ... 6.0 bar | 13.0 bar | 10.0 bar | 12.0 bar | 1: M22x1.5; 2: 2x M16x1.5; 3: JED-463; 4: M16x1.5; 41, 42: M12x1.5 |
| 475 711 076 0 | 1.2 bar | 1.3 ... 4.3 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 087 0 | 0.5 bar | 0.3 ... 4.0 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 089 0 | 0.7 bar | 0.6 ... 5.5 bar | 13.0 bar | 10.0 bar | 12.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463; 41, 42: M12x1.5 |
| 475 711 097 0 | 0.5 bar | 0.45 ... 5.0 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 099 0 | 0.5 bar | 0.35 ... 7.2 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 110 0 | 0.7 bar | 1.4 ... 3.1 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463; 41, 42: M12x1.5 |
| 475 711 111 0 | 0.5 bar | 0.4 ... 3.5 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 114 0 | 0.8 bar | 1.2 ... 4.8 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 118 0 | 0.6 bar | 0.5 ... 3.0 bar | 13.0 bar | 10.2 bar | 13.0 bar | 1: 2x M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 119 0 | 0.6 bar | 0.5 ... 4.5 bar | 13.0 bar | 10.2 bar | 13.0 bar | 1: 2x M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 120 0 | 0.7 bar | 0.5 ... 5.2 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1, 4: M16x1.5; 2: 2x M16x1.5; 3: JED-463; 41, 42: M12x1.5 |
| 475 711 122 0 | 0.4 bar | 0.4 ... 8.2 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 125 0 | 0.5 bar | 0.4 ... 5.8 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 126 0 | 0.5 bar | 0.5 ... 5.9 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 127 0 | 0.5 bar | 0.8 ... 8.0 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 128 0 | 0.5 bar | 0.5 ... 4.8 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 143 0 | 1.4 bar | 0.5 ... 6.7 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |

| Product number | Break point | Operation | Max. pressure on port | | | Port |
|----------------|-------------|------------------|-----------------------|----------|----------|--|
| | | | 1 | 4, 1/4 | 41, 42 | |
| 475 711 148 0 | 0.6 bar | 1.2 ... 3.0 bar | 13.0 bar | 10.2 bar | 13.0 bar | 1: 2x M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 149 0 | 0.6 bar | 1.2 ... 4.5 bar | 13.0 bar | 10.2 bar | 13.0 bar | 1: 2x M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: silencer ¹⁾ ; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 154 0 | 0.8 bar | 0.5 ... 7.7 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 711 155 0 | 0.8 bar | 0.5 ... 6.7 bar | 13.0 bar | 10.0 bar | 13.0 bar | 1: M22x1.5 JED-388; 2: 2x M16x1.5 JED-388; 3: JED-463; 4, 41, 42: M16x1.5 JED-388 |
| 475 721 000 0 | 0.8 bar | 0.5 ... 4.7 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 001 0 | 0.6 bar | 0.6 ... 5.0 bar | – | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 002 0 | 2.8 bar | 0.4 ... 2.7 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 003 0 | 2.0 bar | 0.3 ... 4.65 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 005 0 | 0.6 bar | 0.5 ... 4.5 bar | 13.0 bar | 10.2 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: Voss 232-NG 8 |
| 475 721 006 0 | 0.6 bar | 0.55 ... 4.1 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 007 0 | 0.6 bar | 0.55 ... 3.1 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |
| 475 721 008 0 | 0.6 bar | 0.5 ... 3.0 bar | 13.0 bar | 10.2 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: Voss 232-NG 8 |
| 475 721 009 0 | 0.6 bar | 0.5 ... 2.0 bar | 13.0 bar | 10.2 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: Voss 232-NG 8 |
| 475 721 018 0 | 0.6 bar | 0.5 ... 3.0 bar | 13.0 bar | 10.2 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: Voss 232-NG 8 |
| 475 721 500 0* | 0.8 bar | 0.5 ... 4.7 bar | 13.0 bar | 10.0 bar | 10.0 bar | 1: M22x1.5 JED-388; 2: 2x M22x1.5 JED-388; 3: silencer ¹⁾ ; 1/4, 41, 42: M16x1.5 JED-388 |

* with solenoid valve (connection DIN 72585-A1-3.1-SN/K1)

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|-----------------|---------------|-------------------------|
| ■ 475 711 009 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 075 0 | 475 711 001 2 | Diaphragm + valve |
| ■ 475 711 012 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 076 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 022 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 087 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 024 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 089 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 025 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 097 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 026 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 099 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 030 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 110 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 034 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 111 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 037 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 114 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 040 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 118 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 042 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 119 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 051 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 122 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 052 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 126 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 060 0 | 475 711 000 2 | Lever joint + diaphragm | ■ 475 711 127 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 074 0 | 475 711 001 2 | Diaphragm + valve | ■ 475 711 128 0 | 475 711 000 2 | Lever joint + diaphragm |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 475 711 148 0 | 475 711 000 2 | Lever joint + diaphragm |
| ■ 475 711 149 0 | 475 711 000 2 | Lever joint + diaphragm |

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 475 711 155 0 | 475 711 000 2 | Lever joint + diaphragm |

Load sensing valve - hydraulic

| | |
|------------------|--|
| ■ Temperature | -40 ... +80 °C |
| ■ Control medium | Mineral oil |
| ■ Comments | Universal valve with transformation set; flange mounted DIN 71501 |



475 700 402 0

| Product number | Break point | Operation | Max. pressure | | Max. regulating ratio | Port |
|----------------|-------------|---------------|---------------|----------|-----------------------|---|
| | | | Control | Braking | | |
| 475 700 402 0 | 0.4 bar | 10 ... 65 bar | 300 bar | 10.0 bar | 1:3.1 bar | 1, 2: M22x1.5; 3: exhaust; 41, 42: M12x1.5 |

Adapting valve

Adapting valve (473 30 ... 0)

| | |
|-----------------|-----------------------------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Max. pressure | 10 bar 473 303 ... 0: 10.2 bar |
| ■ Break point | 473 303 ... 0: 1.0 bar |



473 301 003 0



473 302 021 0



473 303 002 0

| Product number | Opening pressure (p1) | Regulating ratio | Port |
|----------------|-----------------------|------------------|--|
| 473 300 000 0 | - | 4:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 001 0 | - | 3.3:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 003 0 | - | 2:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 004 0 | - | 1.5:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 005 0 | - | 1.35:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 006 0 | - | 1.15:1 | 1: M22x1.5/M12x1.5; 2: 2x M22x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 012 0 | - | 2.7:1 | 1: M16x1.5/M12 x1.5; 2: 2x M16x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 013 0 | - | 2:1 | 1: M16x1.5/M12 x1.5; 2: 2x M16x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 014 0 | - | 1.5:1 | 1: M16x1.5/M12 x1.5; 2: 2x M16x1.5; 3: exhaust; 4: M12x1.5 |
| 473 300 061 0 | - | 3.3:1 | 1: M16x1.5/M12 x1.5; 2: 2x M16x1.5; 3: M22x1.5; 4: M12x1.5 |
| 473 300 062 0 | - | 2.7:1 | 1: M16x1.5/M12 x1.5; 2: 2x M16x1.5; 3: M22x1.5; 4: M12x1.5 |
| 473 301 000 0 | - | 2:1 | 1: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 473 301 001 0 | - | 1.5:1 | 1: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 473 301 002 0 | - | 1.35:1 | 1, 2.1, 2.2: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 473 301 003 0 | - | 1.15:1 | 1: M22x1.5; 2: 2x M22x1.5; 3: exhaust |
| 473 301 042 0 | - | 1.35:1 | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 473 301 054 0 | - | 1.7:1 | 1, 3: M22x1.5; 2: 2x M22x1.5; 4: M12x1.5 |
| 473 302 001 0 | - | 2:1 | 1, 2.1, 2.2, 4: M16x1.5; 2: 2x M16x1.5; 3: exhaust |
| 473 302 021 0 | - | 2:1 | 1, 2.1, 2.2, 4: M16x1.5; 2: 2x M16x1.5; 3: M22x1.5 |
| 473 302 022 0 | - | 2.7:1 | 1, 2.1, 2.2, 4: M16x1.5; 2: 2x M16x1.5; 3: M22x1.5 |
| 473 303 000 0 | 0.3 bar | 2:1 | 1, 2: M16x1.5 JED-388; 3: silencer |

| Product number | Opening pressure (p1) | Regulating ratio | Port |
|----------------|-----------------------|------------------|------------------------------------|
| 473 303 002 0 | 0.3 bar | 1.5:1 | 1, 2: M16×1.5 JED-388; 3: silencer |
| 473 303 003 0 | 0.3 bar | 1.15:1 | 1, 2: M16×1.5 JED-388; 3: silencer |
| 473 303 005 0 | 0.3 bar | 1.35:1 | 1, 2: M16×1.5 JED-388; 3: silencer |
| 473 303 006 0 | 0.3 bar | 1.27:1 | 1, 2: M16×1.5 JED-388; 3: silencer |
| 473 303 007 0 | 0.3 bar | 1.21:1 | 1, 2: M16×1.5 JED-388; 3: silencer |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 473 301 001 0 | 473 301 009 2 | Valve | ■ 473 302 001 0 | 473 302 001 2 | Valve |
| ■ 473 301 002 0 | 473 301 009 2 | Valve | ■ 473 302 021 0 | 473 302 001 2 | Valve |
| ■ 473 301 003 0 | 473 301 009 2 | Valve | | | |

Adapting valve (975 00 . . . 0)

| | | |
|--------------------|----------------------------------|--|
| ■ Temperature | −40 ... +80 °C | |
| ■ Max. pressure | 10 bar | |
| ■ Regulating ratio | 1:1 (after break point) | |
| ■ Adjustment | 975 001 . . . 0: 0.3 ... 1.6 bar | |
| ■ Accessory | 432 407 018 0 | Silencer for venting guide 973 002 222 2 |



975 002 017 0

| Product number | Break point | Opening pressure (p1) | Port |
|----------------|------------------|-----------------------|---|
| 975 001 000 0 | 3.2 bar | 0.7 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 001 001 0 | 4.6 bar | 1.0 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 001 002 0 | 2.3 bar | 0.5 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 001 003 0 | 1.8 bar | 0.3 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 001 500 0 | 3.2 bar | 0.7 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× test connection); 3: exhaust |
| 975 002 001 0 | 3.5 bar, 5.7 bar | 0.5 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 002 003 0 | 2.5 bar, 4.5 bar | 0.4 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 002 005 0 | 2.0 bar, 3.5 bar | 0.5 bar | 1, 2.1, 2.2: M22×1.5; 2: 3× M22×1.5 (1× closed); 3: exhaust |
| 975 002 017 0 | 1.8 bar, 4.1 bar | – | 1, 2.1, 2.2, 4: M16×1.5; 2: 3× M16×1.5 (1× closed); 3: exhaust |
| 975 002 071 0 | 1.8 bar, 4.1 bar | – | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 2.1, 2.2.: M22×1.5; 3: venting guide 973 002 222 2 |
| 975 002 072 0 | 1.8 bar, 4.1 bar | – | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 2.1, 2.2.: M22×1.5; 3: silencer 432 407 050 0 |
| 975 002 073 0 | 1.6 bar, 4.1 bar | 0.3 bar | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 2.1, 2.2.: M22×1.5; 3: venting guide 973 002 222 2 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------|-----------------|---------------|-----------|
| ■ 975 001 000 0 | 975 001 000 2 | Diaphragm | ■ 975 001 003 0 | 975 001 000 2 | Diaphragm |
| ■ 975 001 001 0 | 975 001 000 2 | Diaphragm | ■ 975 001 500 0 | 975 001 000 2 | Diaphragm |
| ■ 975 001 002 0 | 975 001 000 2 | Diaphragm | ■ 975 002 017 0 | 975 002 001 2 | Valve |

CONVENTIONAL BRAKING COMPONENTS

Pressure switch

Pressure switch - normal pressure

- **Temperature** –40 ... +80 °C
441 042 000 0: –25 ... +70 °C

- **Adjusting screw** equipped: 441 009 ... 0, 441 042 000 0

- **Voltage** 12 / 24 V
441 009 ... 0: max. 30 V
441 042 000 0: 24 V



441 014 017 0



441 024 007 0

| Product number | Pressure | | Function | Medium | Wrench | Port |
|----------------|--------------|-------------------|----------|------------------|--------|------------------|
| | Max. working | Switch | | | | |
| 441 009 001 0 | 10.0 bar | 5.0 bar | open | Air | – | 2x M22x1.5 |
| 441 009 101 0 | 10.0 bar | 5.0 bar | closed | Air | – | 2x M22x1.5 |
| 441 014 001 0 | 12.0 bar | 2.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 002 0 | 12.0 bar | 1.0 bar | open | Air | 24 mm | M10x1 DIN 158 |
| 441 014 004 0 | 12.0 bar | 5.5 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 005 0 | 12.0 bar | 2.0 bar | open | Air | 24 mm | M10x1 DIN 158 |
| 441 014 006 0 | 12.0 bar | 2.0 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 007 0 | 12.0 bar | 3.0 bar | open | Air | 24 mm | M10x1 DIN 158 |
| 441 014 008 0 | 12.0 bar | 4.2 bar | closed | Air | 24 mm | M10x1 DIN 158 |
| 441 014 009 0 | 12.0 bar | 4.0 bar | open | Air | 24 mm | M10x1 DIN 158 |
| 441 014 010 0 | 12.0 bar | 0.3 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 012 0 | 12.0 bar | 3.5 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 013 0 | 12.0 bar | 4.1 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 014 0 | 12.0 bar | 4.5 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 015 0 | 12.0 bar | 5.0 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 017 0 | 12.0 bar | 4.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 018 0 | 12.0 bar | 1.2 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 019 0 | 12.0 bar | 0.15 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 020 0 | 12.0 bar | 2.0 bar | closed | Air | 24 mm | M10x1 DIN 158 |
| 441 014 021 0 | 12.0 bar | 0.5 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 022 0 | 12.0 bar | 6.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 023 0 | 12.0 bar | 2.5 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 024 0 | 12.0 bar | 1.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 025 0 | 12.0 bar | 6.0 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 026 0 | 12.0 bar | 4.5 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 029 0 | 12.0 bar | 5.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 032 0 | 12.0 bar | 5.2 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 040 0 | 12.0 bar | 3.0 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 061 0 | 12.0 bar | 5.7 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 072 0 | 12.0 bar | 6.6 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 073 0 | 12.0 bar | 5.5 bar | open | Air | 24 mm | M12x1.5 |
| 441 014 086 0 | 12.0 bar | 6.6 bar | closed | Air | 24 mm | M12x1.5 |
| 441 014 100 0 | 12.0 bar | 0.15 bar | open | Air | 24 mm | M12x1.5 DIN 2353 |
| 441 014 101 0 | 12.0 bar | 4.5 bar | closed | Air | 24 mm | M12x1.5 DIN 2353 |
| 441 014 102 0 | 12.0 bar | 5.5 bar | closed | Air | 24 mm | M12x1.5 DIN 2353 |
| 441 014 104 0 | 12.0 bar | 0.5 bar | open | Air | 24 mm | M12x1.5 DIN 2353 |
| 441 014 105 0 | 12.0 bar | 5.7 bar | closed | Air | 24 mm | M12x1.5 DIN 2353 |
| 441 014 140 0 | 10.0 bar | 0.3, 0.6, 1.0 bar | open | Air, Mineral oil | 24 mm | M12x1.5 |
| 441 014 141 0 | 15.0 bar | 0.3 bar | open | Air, Mineral oil | 24 mm | M10x1 |
| 441 014 142 0 | 15.0 bar | 0.6 bar | open | Air, Mineral oil | 24 mm | M10x1 |
| 441 014 144 0 | 15.0 bar | 1.0 bar | open | Air, Mineral oil | 24 mm | M10x1 |

| Product number | Pressure | | Function | Medium | Wrench | Port |
|----------------|--------------|---------------|---------------|-------------------------|--------|---------|
| | Max. working | Switch | | | | |
| 441 014 602 0 | 12.0 bar | 0.4 bar | open | Air | 27 mm | M16x1.5 |
| 441 024 006 0 | 10.0 bar | 5.8 bar | closed | Air, Water, Mineral oil | 27 mm | M12x1.5 |
| 441 024 007 0 | 10.0 bar | 0.6 bar | open | Air, Water, Mineral oil | 27 mm | M12x1.5 |
| 441 042 000 0 | 15.0 bar | 1.8 / 1.3 bar | closed / open | Air, Oil | 27 mm | G¼" |

Pressure switch - high pressure

- Temperature –30 ... +100 °C
- Voltage max. 42 V
- Wrench 24 mm



441 014 055 0

| Product number | Pressure | | Function | Medium | Port |
|----------------|--------------|-----------|----------|-------------------------|---------|
| | Max. working | Switch | | | |
| 441 014 043 0 | 200.0 bar | 21.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 044 0 | 200.0 bar | 17.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 049 0 | 200.0 bar | 100.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 051 0 | 200.0 bar | 37.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 055 0 | 200.0 bar | 1.0 bar | open | Air, Water, Mineral oil | M12x1.5 |
| 441 014 059 0 | 200.0 bar | 3.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 064 0 | 200.0 bar | 9.0 bar | closed | Air, Water, Mineral oil | M12x1.5 |
| 441 014 070 0 | 200.0 bar | 54 bar | open | Air, Water, Mineral oil | M12x1.5 |
| 441 014 082 0 | 200.0 bar | 26 bar | open | Air, Water, Mineral oil | M12x1.5 |

Directional control valve

2/2 Directional control valve (463 068 ... 0)

- Max. pressure 10.0 bar
- Port 1, 2 M16x1.5



463 068 013 0

| Product number | Pressure | | Nominal Ø | | Temperature | Mounting |
|----------------|------------------|---------|-----------|--------|----------------|--------------|
| | Opening | Closing | Port 1 | Port 2 | | |
| 463 068 008 0 | 0.5 ... 1.15 bar | 1.0 bar | 8.0 mm | 8.0 mm | –25 ... +80 °C | 2x Ø 9.0 mm |
| 463 068 013 0 | 1.0 ... 1.73 bar | 1.5 bar | 8.0 mm | 3.5 mm | –31 ... +80 °C | 2x Ø 10.5 mm |

CONVENTIONAL BRAKING COMPONENTS

3/2 Directional control valve (434 205 ... 0)

| | |
|--------------------|--|
| ■ Function | Safety valve for handbrake valve (manually controlled) |
| ■ Actuation | Force: 70 N (7 bar) Range: 5.0 mm |
| ■ Port | 2: exhausted if pressure < 4.0 bar 3: exhaust |
| ■ Mounting | M26x1.5; (434 205 032 0: -) |



434 205 026 0



434 205 027 0



434 205 028 0



434 205 030 0



434 205 031 0

| Product number | Max. pressure | Nominal Ø | Actuation | Temperature | Port |
|----------------|---------------|-----------|-------------|----------------|-------------------------------|
| 434 205 026 0 | 10 bar | Ø 5.0 mm | Push (M6) | -40 ... +80 °C | 1, 2: M12x1.5 |
| 434 205 027 0 | 10 bar | Ø 5.0 mm | Push (knob) | -40 ... +80 °C | 1, 2: M14x1.5 |
| 434 205 028 0 | 10 bar | - | Push (M6) | -40 ... +80 °C | 1, 2: M14x1.5 |
| 434 205 030 0 | 11 bar | Ø 5.0 mm | Push (knob) | -40 ... +80 °C | 1, 2: M12x1.5 |
| 434 205 031 0 | 10 bar | Ø 5.0 mm | Push (M6) | -45 ... +80 °C | 1, 2: M12x1.5 |
| 434 205 032 0 | 10 bar | - | Push (M6) | -40 ... +80 °C | 1: M12x1.5, M10x1; 2: M12x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------|
| ■ 434 205 026 0 | 434 205 001 2 | Sealing ring |
| ■ 434 205 027 0 | 434 205 001 2 | Sealing ring |
| ■ 434 205 028 0 | 434 205 001 2 | Sealing ring |
| ■ 434 205 030 0 | 434 205 001 2 | Sealing ring |
| ■ 434 205 031 0 | 434 205 001 2 | Sealing ring |

3/2 Directional control valve - manually controlled (push)

| | |
|-------------|---|
| ■ Type | 3/2 |
| ■ Actuation | push |
| ■ Knob | ✓ |
| ■ Nominal Ø | Ø 4.0 mm; 463 012 000 0: – |
| ■ Comment | ¹⁾ with hexagon nut SW 32 ²⁾ with washer |



463 012 000 0



463 013 122 0



463 013 200 0



463 022 021 0



563 020 000 0

| Product number | Temperature | Max. pressure | Force | | Port |
|-----------------------------|-----------------|---------------|------------------|--------------|-----------------------------------|
| | | | Actuating | Holding | |
| 463 012 000 0 | –40 ... +80 °C | 8.0 bar | – | – | 1, 2: M12x1.5; 3: exhaust |
| 463 013 012 0 | –40 ... +80 °C | 10.0 bar | 70 N (7 bar) | 52 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 014 0 | –40 ... +80 °C | 10.0 bar | 70 N (7 bar) | 52 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 025 0 | –40 ... +80 °C | 10.0 bar | 70 N (7 bar) | 52 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 110 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 111 0 | –40 ... +80 °C | 10.0 bar | 94 N (7 bar) | 50 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 112 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M12x1.5 JED 152 |
| 463 013 114 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M12x1.5 JED 152 |
| 463 013 116 0 ¹⁾ | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 117 0 ²⁾ | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 122 0 | –40 ... +80 °C | 8.5 bar | 160 N (7 bar) | – | 1, 2, 3: M12x1.5 |
| 463 013 124 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 65 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 126 0 | –40 ... +80 °C | 10.0 bar | 94 N (7 bar) | 50 N (7 bar) | 1, 2, 3: M12x1.5 JED 152 |
| 463 013 128 0 ¹⁾ | –40 ... +80 °C | 10.0 bar | 94 N (7 bar) | 50 N (7 bar) | 1, 2, 3: M12x1.5 |
| 463 013 130 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1, 2, 3: M16x1.5 JED 388 |
| 463 013 200 0 | –40 ... +80 °C | 10.0 bar | 91 N (7 bar) | 83 N (7 bar) | 1, 2: M16x1.5 JED 388; 3: M12x1.5 |
| 463 013 210 0 | –40 ... +80 °C | 10.0 bar | 90 N (7 bar) | 48 N (7 bar) | 1: M16x1.5; 21, 22, 3: M12x1.5 |
| 463 022 020 0 ¹⁾ | –40 ... +100 °C | 10.0 bar | 150 N (7 bar) | – | 1, 2: M10x1; 3: exhaust |
| 463 022 021 0 ¹⁾ | –40 ... +100 °C | 10.0 bar | 150 N (7 bar) | – | 1, 2: M10x1 JED 152; 3: exhaust |
| 463 036 024 0 | –25 ... +80 °C | 10.0 bar | 70 N (11 bar) | – | 1, 2: M16x1.5; 3: M10x1 |
| 563 020 000 0 | –25 ... +80 °C | 10.0 bar | 30/60 N (10 bar) | – | A, P1, R1: M10x1 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|--------------|
| ■ 463 013 012 0 | 463 013 001 2 | Valve | ■ 463 013 124 0 | 463 013 004 2 | Valve |
| ■ 463 013 014 0 | 463 013 001 2 | Valve | ■ 463 013 126 0 | 463 013 004 2 | Valve |
| ■ 463 013 110 0 | 463 013 004 2 | Valve | ■ 463 013 130 0 | 463 013 004 2 | Valve |
| ■ 463 013 111 0 | 463 013 004 2 | Valve | ■ 463 013 210 0 | 463 013 004 2 | Valve |
| ■ 463 013 112 0 | 463 013 004 2 | Valve | ■ 463 022 020 0 | 463 022 001 2 | Valve + boot |
| ■ 463 013 114 0 | 463 013 004 2 | Valve | ■ 463 022 021 0 | 463 022 001 2 | Valve + boot |
| ■ 463 013 116 0 | 463 013 004 2 | Valve | | | |
| ■ 463 013 117 0 | 463 013 004 2 | Valve | | | |

CONVENTIONAL BRAKING COMPONENTS

3/2 Directional control valve - manually controlled (turn)

| | |
|--------------------|-----------------------------------|
| ■ Type | 3/2 |
| ■ Actuation | turn |
| ■ Locking function | ✓ |
| ■ Nominal Ø | Ø 4.0 mm |
| ■ Accessory | 891 500 520 4 locking nut M28x1.5 |



463 036 000 0



463 036 008 0



463 036 010 0



463 036 016 0

| Product number | Temperature | Max. pressure | Knob | Port |
|----------------|----------------|---------------|------|-----------------------------------|
| 463 036 000 0 | -25 ... +80 °C | 10 bar | ✓ | 1, 2: M10x1; 3: exhaust |
| 463 036 001 0 | -25 ... +80 °C | 10 bar | ✓ | 1, 2: M10x1; 3: exhaust |
| 463 036 005 0 | -25 ... +80 °C | 10 bar | ✓ | 1, 2: M16x1.5 JED-388; 3: M10x1 |
| 463 036 008 0 | -40 ... +80 °C | 11 bar | ✓ | 1, 2: M12x1.5; 3: exhaust |
| 463 036 010 0 | -25 ... +80 °C | 10 bar | - | 1, 2: M16x1.5 JED-388; 3: M10x1 |
| 463 036 016 0* | -40 ... +80 °C | 10 bar | ✓ | 1, 2: M16x1.5; 3: tappet |
| 463 036 018 0 | -25 ... +80 °C | 10 bar | ✓ | 1, 2: M10x1; 3: exhaust |
| 463 036 025 0 | -25 ... +80 °C | 10 bar | ✓ | 1, 2: M10x1 JED-388-1; 3: exhaust |
| 463 036 026 0 | -40 ... +80 °C | 10 bar | - | 1, 2: M12x1.5; 3: exhaust |
| 463 036 027 0 | -25 ... +80 °C | 10 bar | - | 1, 2: M10x1; 3: exhaust |

* with hexagon nut SW 32

4/2, 4/3 Directional control valve (463 037 ... 0)

| | |
|--------------------|-----------------------------------|
| ■ Function | manually controlled |
| ■ Locking function | ✓ |
| ■ Actuation | Turn |
| ■ Accessory | 891 500 520 4 locking nut M28x1.5 |



463 037 001 0

| Product number | Type | Temperature | Max. pressure | Nominal Ø | Knob | Port |
|----------------|------|----------------|---------------|-----------|------|------------------------------|
| 463 037 000 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 4.0 mm | - | 1, 21, 22: M10x1; 3: exhaust |
| 463 037 001 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 2.5 mm | - | 1, 21, 22: M10x1; 3: exhaust |
| 463 037 003 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 2.5 mm | - | 1, 21, 22: M10x1; 3: Ø 9.8 |
| 463 037 004 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 4.0 mm | ✓ | 1, 21, 22: M10x1; 3: exhaust |
| 463 037 006 0 | 4/3 | -40 ... +80 °C | 12 bar | Ø 4.0 mm | ✓ | 1, 21, 22: M12x1.5; 3: M10x1 |
| 463 037 007 0 | 4/3 | -40 ... +80 °C | 12 bar | Ø 4.0 mm | ✓ | 1, 21, 22: M12x1.5; 3: M10x1 |
| 463 037 110 0 | 4/2 | -40 ... +80 °C | 10 bar | Ø 3.0 mm | ✓ | 1, 21, 22: M12x1.5; 3: M10x1 |
| 463 037 111 0 | 4/2 | -40 ... +80 °C | 12 bar | Ø 3.0 mm | - | 1, 21, 22: M12x1.5; 3: M10x1 |
| 463 037 200 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 4.0 mm | - | 1, 21, 22: M16x1.5; 3: M10x1 |
| 463 037 201 0 | 4/3 | -25 ... +80 °C | 10 bar | Ø 2.5 mm | - | 1, 21, 22: M16x1.5; 3: M10x1 |
| 463 037 202 0 | 4/3 | -40 ... +80 °C | 11 bar | Ø 4.0 mm | - | 1, 21, 22: M12x1.5; 3: M10x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------|
| ■ 463 037 000 0 | 463 037 000 2 | Sealing ring |
| ■ 463 037 001 0 | 463 037 000 2 | Sealing ring |
| ■ 463 037 003 0 | 463 037 000 2 | Sealing ring |
| ■ 463 037 004 0 | 463 037 000 2 | Sealing ring |
| ■ 463 037 006 0 | 463 037 001 2 | Sealing ring |
| ■ 463 037 007 0 | 463 037 001 2 | Sealing ring |
| ■ 463 037 110 0 | 463 037 001 2 | Sealing ring |
| ■ 463 037 200 0 | 463 037 001 2 | Sealing ring |
| ■ 463 037 201 0 | 463 037 001 2 | Sealing ring |

Directional control valve (463 079 ... 0 / 571 040 ... 0)

- **Function** pneumatically controlled
- **Max. pressure** 10 bar



463 079 002 0



571 040 000 0

| Product number | Type | Pressure | | Temperature | Port |
|----------------|-----------------------|----------|--------------|-----------------|--|
| | | Supply | Pilot | | |
| 463 079 002 0 | Slide valve (4/2) | 5 bar | 3 ... 10 bar | -20 ... +150 °C | 1, 41, 42: M10x1; 21, 22: Ø 7 mm; 3: exhaust |
| 463 079 003 0 | Slide valve (4/2) | 5 bar | 2 ... 5 bar | -20 ... +150 °C | 1, 4, 41: M10x1; 21, 22: Ø 7 mm; 3: exhaust |
| 463 079 012 0 | Spring returned (3/2) | - | 3 ... 10 bar | -15 ... +80 °C | A, P1, R1: M14x1.5; Z: M10x1 |
| 463 079 030 0 | Spring returned (5/2) | - | 3 ... 10 bar | -25 ... +80 °C | A, B, S, P, R: Ø 16 mm; Z: M10x1 |
| 463 079 031 0 | Slide valve (5/2) | - | 2 ... 10 bar | -25 ... +80 °C | A, B, S, P, R: Ø 16 mm; Y, Z: M10x1 |
| 571 040 000 0 | Spring returned (3/2) | - | 3 ... 10 bar | -25 ... +80 °C | 1, 2, 3: M14x1.5; Z: M10x1 |

CONVENTIONAL BRAKING COMPONENTS

Quick release valve

| | | |
|--------------------------|--|--------------------|
| ■ Temperature | -40 ... +80 °C | |
| ■ Max. pressure | Air: | air pressure inlet |
| | Service: | service pressure |
| | Supply: | supply pressure |
| ■ Mounting | 2x Ø 9.5 mm 973 500 030 0: 2x Ø 11.0 mm | |
| ■ Distance between holes | 38 mm 973 500 030 0: 85 mm | |



473 501 203 0



973 500 028 0



973 500 045 0



973 500 059 0

| Product number | Equipped with | Max. pressure | Port |
|----------------|---------------------------------|--------------------|--|
| 473 501 000 0 | bypass | 10.0 bar (Supply) | 1, 3: M22x1.5 JED-152; 2: 2x M22x1.5 JED-152 |
| 473 501 001 0 | double check valve | 10.0 bar (Service) | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 473 501 004 0 | double check valve | 10.0 bar (Air) | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 473 501 005 0 | bypass | 10.0 bar (Supply) | 1: M22x1.5 JED-152; 2: 2x M22x1.5 JED-152; 3: silencer 432 407 060 0 |
| 473 501 201 0 | double check valve | 10.0 bar (Service) | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 473 501 202 0 | fording ability | 10.0 bar (Service) | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 473 501 203 0 | | 10.0 bar (Service) | 1, 3: M22x1.5; 2: 2x M22x1.5 |
| 973 500 003 0 | | 10.0 bar (Service) | 1, 3: G ³ / ₈ " J (NFE03004); 2: 2x G ³ / ₈ " J (NFE03004) |
| 973 500 006 0 | | 10.0 bar (Service) | 1, 3: M16x1.5 JED-464; 2: 2x M16x1.5 JED-464 |
| 973 500 014 0 | | 10.0 bar (Service) | 1: 1/2" PTF; 2: 2x 3/8" NPTF; 3: 3/8" NPTF |
| 973 500 018 0 | | 10.0 bar (Service) | 1, 3: M22x1.5; 2: 2x M16x1.5 |
| 973 500 028 0 | | 12.0 bar (Air) | 1, 21, 22: M22x1.5; 3: exhaust |
| 973 500 030 0 | | 10.0 bar (Service) | 1, 2: M16x1.5; 3: open |
| 973 500 031 0 | | 12.0 bar (Air) | 1, 21, 22: M22x1.5; 3: exhaust |
| 973 500 034 0 | | 12.5 bar (Air) | 1, 21, 22: M22x1.5 JED-388; 3: exhaust |
| 973 500 039 0 | | 12.0 bar (Air) | 1, 3: M22x1.5 JED-464; 2: 2x M22x1.5 JED-464 |
| 973 500 042 0 | | 12.5 bar (Supply) | 1, 21, 22: M22x1.5 JED-388; 3: M22x1.5 JED-152 |
| 973 500 044 0 | | 12.0 bar (Supply) | 1, 3: M22x1.5 JED-464; 2: 2x M22x1.5 JED-464 |
| 973 500 045 0 | | 12.0 bar (Supply) | 1: M22x1.5 JED-464; 2: 2x M22x1.5 JED-464; 3: silencer 432 407 060 0 |
| 973 500 047 0 | | 10.0 bar (Supply) | 1: M22x1.5; 2: 2x M16x1.5; 3: M16x1.5 |
| 973 500 053 0 | integrated double cut-off valve | 12.0 bar (Supply) | 11, 12: M16x1.5; 2: 2x M16x1.5; 3: silencer 432 407 060 0 |
| 973 500 057 0 | integrated double cut-off valve | 12.0 bar (Supply) | 11, 12, 3: M16x1.5; 22: M16x1.5 |
| 973 500 059 0 | | 12.5 bar (Air) | 1, 21, 22: M22x1.5 JED-388; 3: silencer 432 407 070 0 |
| 973 500 104 0 | | 10.0 bar | 1: 1/2"-14 NPTF; 2: 2x special flange; 3: exhaust |
| 973 500 105 0 | | 10.0 bar | 1: 1/2"-14 NPTF; 2: 2x special flange; 3: exhaust |
| 973 500 106 0 | | 10.0 bar | 1: 1/2"-14 NPTF; 2: 2x special flange; 3: exhaust |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------|-----------------|---------------|-----------|
| ■ 473 501 005 0 | 473 501 920 2 | Diaphragm | ■ 973 500 053 0 | 973 500 004 2 | Diaphragm |
| ■ 473 501 202 0 | 973 500 000 2 | Diaphragm | ■ 973 500 059 0 | 973 500 004 2 | Diaphragm |
| ■ 973 500 028 0 | 973 500 001 2 | Diaphragm | ■ 973 500 105 0 | 973 500 001 2 | Diaphragm |
| ■ 973 500 031 0 | 973 500 001 2 | Diaphragm | ■ 973 500 106 0 | 973 500 001 2 | Diaphragm |
| ■ 973 500 034 0 | 973 500 001 2 | Diaphragm | | | |

Piston operating cylinder

Piston operating cylinder - single acting (421 410 ... 0)

| | |
|-----------------|--|
| ■ Diameter | Ø 35 mm 421 410 025 0: Ø 30 mm |
| ■ Max. pressure | 8.0 bar 421 410 039 0, 421 410 079 0: 10.0 bar |
| ■ Boot equipped | 421 410 054 0, 421 410 059 0 |
| ■ Comments | ¹⁾ External stop for push-rod ²⁾ Output force at max. stroke / Inlet pressure |



421 410 041 0

| Product number | Length | Stroke | Push-rod | Stop ¹⁾ | Temperature | Force ²⁾ | Wrench | Inlet port |
|----------------|--------|---------|----------|--------------------|---------------|---------------------|--------|--------------|
| 421 410 020 0 | 172 mm | 45.0 mm | M8 | – | –40... +80 °C | 120 N / 4.5 bar | 34 mm | for hose 5x3 |
| 421 410 023 0 | 153 mm | 25.0 mm | M6 | – | –40... +80 °C | 240 N / 4.5 bar | 19 mm | for hose 5x3 |
| 421 410 025 0 | 106 mm | 25.0 mm | Ø 6 H11 | – | –40... +80 °C | 229 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 034 0 | 107 mm | 25.0 mm | M8 | – | –20... +80 °C | 203 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 035 0 | 107 mm | 25.0 mm | M8 | – | –20... +80 °C | 244 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 039 0 | 106 mm | 25.0 mm | M8 | – | –40... +80 °C | 240 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 041 0 | 162 mm | 45.0 mm | M8 | ✓ | –40... +80 °C | 120 N / 4.5 bar | 34 mm | M10x1 |
| 421 410 052 0 | 120 mm | 25.0 mm | M6 | – | –40... +80 °C | 240 N / 4.5 bar | 19 mm | for hose 5x3 |
| 421 410 054 0 | 172 mm | 45.0 mm | M8 | ✓ | –40... +80 °C | 120 N / 4.5 bar | – | for hose 5x3 |
| 421 410 059 0 | 153 mm | 30.0 mm | M6 | – | –25...+120 °C | 170 N / 4.5 bar | – | M10x1 |
| 421 410 060 0 | 143 mm | 25.0 mm | M6 | – | –40... +80 °C | 240 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 066 0 | 172 mm | 45.0 mm | M8 | ✓ | –40... +80 °C | 120 N / 4.5 bar | 34 mm | M10x1 |
| 421 410 072 0 | 106 mm | 25.0 mm | M8 | – | –20... +80 °C | 94 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 075 0 | 122 mm | 32.0 mm | M8 | – | –25...+120 °C | 170 N / 4.5 bar | 19 mm | M10x1 |
| 421 410 078 0 | 150 mm | 55.0 mm | M8 | ✓ | –35... +80 °C | 100 N / 6.0 bar | 34 mm | M10x1 |
| 421 410 079 0 | 152 mm | 56.5 mm | M8 | ✓ | –40... +80 °C | 190 N / 4.5 bar | 9 mm | M12x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|--------------|-----------------|---------------|--------------|
| ■ 421 410 020 0 | 421 410 001 2 | Sealing ring | ■ 421 410 052 0 | 421 410 001 2 | Sealing ring |
| ■ 421 410 023 0 | 421 410 001 2 | Sealing ring | ■ 421 410 054 0 | 421 410 001 2 | Sealing ring |
| ■ 421 410 025 0 | 421 410 001 2 | Sealing ring | ■ 421 410 060 0 | 421 410 001 2 | Sealing ring |
| ■ 421 410 039 0 | 421 410 001 2 | Sealing ring | ■ 421 410 066 0 | 421 410 001 2 | Sealing ring |
| ■ 421 410 041 0 | 421 410 001 2 | Sealing ring | ■ 421 410 075 0 | 421 410 001 2 | Sealing ring |

CONVENTIONAL BRAKING COMPONENTS

Piston operating cylinder - single acting (421 41 . . . 0)

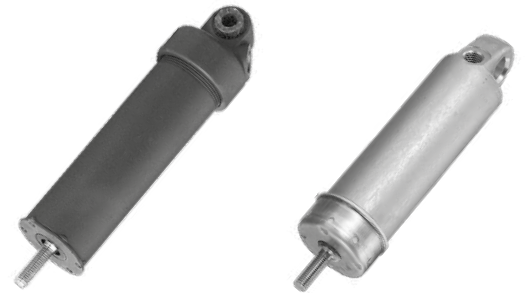
- **Max. pressure** 10.0 bar
421 411 500 0, 421 411 501 0: 12.0 bar

- **Boot equipped** 421 411 070 0, 421 412 000 0

- **External stop for push-rod** ✓

- **Inlet port** M12×1.5
421 411 305 0: ¼"-18 NPTF

- **Comments** ¹⁾ Output force at max. stroke / Inlet pressure



421 411 021 0

421 411 316 0

| Product number | Length | Ø | Stroke | Push-rod | Temperature | Force ¹⁾ | Wrench |
|----------------|----------|-------|--------|----------|---------------|---------------------|--------|
| 421 411 021 0 | 185.0 mm | 40 mm | 65 mm | M8 | -40... +80 °C | 223 N / 5.0 bar | 40 mm |
| 421 411 031 0 | 228.0 mm | 40 mm | 85 mm | M8 | -40... +80 °C | 110 N / 4.5 bar | 9 mm |
| 421 411 035 0 | 193.0 mm | 40 mm | 50 mm | M8 | -40... +80 °C | 360 N / 6.5 bar | 9 mm |
| 421 411 065 0 | 228.0 mm | 40 mm | 85 mm | M8 | -40... +80 °C | 145 N / 4.5 bar | 9 mm |
| 421 411 070 0 | 155.0 mm | 40 mm | 38 mm | Ø 8 H11 | -40... +80 °C | 270 N / 6.0 bar | 13 mm |
| 421 411 094 0 | 159.0 mm | 40 mm | 50 mm | M12 | -40... +80 °C | 240 N / 4.5 bar | 40 mm |
| 421 411 300 0 | 228.0 mm | 43 mm | 85 mm | M12 | -25...+120 °C | 145 N / 4.5 bar | 10 mm |
| 421 411 301 0 | 187.0 mm | 43 mm | 78 mm | M8 | -25...+140 °C | 120 N / 4.5 bar | 9 mm |
| 421 411 302 0 | 233.0 mm | 43 mm | 85 mm | M12×1.5 | -25...+120 °C | 145 N / 4.5 bar | 10 mm |
| 421 411 304 0 | 248.0 mm | 43 mm | 85 mm | Ø 8 H11 | -40... +80 °C | 145 N / 4.5 bar | 9 mm |
| 421 411 305 0 | 180.0 mm | 43 mm | 54 mm | M8 | -25...+120 °C | 130 N / 4.5 bar | 9 mm |
| 421 411 306 0 | 227.0 mm | 43 mm | 85 mm | M8 | -40... +80 °C | 145 N / 4.5 bar | 9 mm |
| 421 411 311 0 | 187.0 mm | 43 mm | 73 mm | M8 | -25...+140 °C | 20 N / 4.5 bar | 9 mm |
| 421 411 314 0 | 180.0 mm | 43 mm | 60 mm | M8 | -25...+120 °C | 230 N / 4.5 bar | - |
| 421 411 315 0 | 180.0 mm | 43 mm | 54 mm | M8 | -25...+120 °C | 130 N / 4.5 bar | 9 mm |
| 421 411 316 0 | 180.0 mm | 43 mm | 60 mm | M8 | -25...+120 °C | 230 N / 4.5 bar | - |
| 421 411 500 0 | 166.5 mm | 55 mm | 53 mm | M10 | -25...+190 °C | 1075 N / 6.5 bar | - |
| 421 411 501 0 | 166.5 mm | 55 mm | 20 mm | M10 | -25...+190 °C | 9.4 N / 0.5 bar | - |
| 421 412 000 0 | 221.0 mm | 55 mm | 65 mm | M12×1.5 | -40... +80 °C | 410 N / 4.5 bar | 10 mm |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 421 411 021 0 | 421 901 001 2 | Guide piece |
| ■ 421 411 031 0 | 421 901 001 2 | Guide piece |
| ■ 421 411 035 0 | 421 901 001 2 | Guide piece |
| ■ 421 411 065 0 | 421 901 001 2 | Guide piece |
| ■ 421 411 094 0 | 421 901 001 2 | Guide piece |
| ■ 421 412 000 0 | 421 412 000 2 | Boot |

Piston operating cylinder - single acting (421 42 . . . 0, 421 44 . . . 0)

- **External stop for push-rod** ✓
421 429 003 0, 421 444 020 0: –

- **Inlet port** M12x1.5
421 425 010 0: for hose 5x3
421 425 011 0: for pipe Ø6 mm DIN 3901
421 429 002 0, 421 429 006 0, 421 445 000 0: M10x1

- **Comments** ¹⁾ Output force at max. stroke / Inlet pressure



| Product number | Length | Ø | Stroke | Push-rod | Temperature | Max. pressure | Force ¹⁾ | Wrench |
|----------------|----------|---------|--------|----------|---------------|---------------|---------------------|--------|
| 421 425 010 0 | 150.0 mm | 31.0 mm | 48 mm | M8 | –25...+120 °C | 8.0 bar | 59 N / 6.0 bar | – |
| 421 425 011 0 | 150.0 mm | 31.0 mm | 48 mm | M8 | –25...+120 °C | 8.0 bar | 59 N / 6.0 bar | – |
| 421 427 002 0 | 90.0 mm | 25.0 mm | 28 mm | Ø 4 mm | –25... +80 °C | 7.0 bar | 133 N / 7.0 bar | – |
| 421 427 003 0 | 90.0 mm | 25.0 mm | 28 mm | Ø 4 mm | –25... +80 °C | 7.0 bar | 186 N / 7.0 bar | – |
| 421 429 002 0 | 179.0 mm | 41.0 mm | 70 mm | M8 | –30... +80° C | 10.0 bar | 140 N / 5.5 bar | – |
| 421 429 003 0 | 171.4 mm | 33.0 mm | 48 mm | M8 | –25...+140 °C | 8.5 bar | 70 N / 5.5 bar | – |
| 421 429 006 0 | 179.0 mm | 41.0 mm | 41 mm | M8 | –30... +80° C | 10.0 bar | 194 N / 5.5 bar | – |
| 421 442 000 0 | 163.0 mm | 40.0 mm | 40 mm | M8 | –35... +80 °C | 8.0 bar | 196 N / 6.0 bar | 9 mm |
| 421 442 008 0 | 193.0 mm | 40.0 mm | 40 mm | M8 | –30...+125 °C | 8.0 bar | 10 N / 6.0 bar | 9 mm |
| 421 442 013 0 | 168.0 mm | 40.0 mm | 40 mm | M8 | –35... +80 °C | 11.2 bar | 10 N / 6.0 bar | 9 mm |
| 421 442 017 0 | 168.0 mm | 40.0 mm | 40 mm | M8 | –30... +80° C | 11.2 bar | 10 N / 6.0 bar | 9 mm |
| 421 442 018 0 | 226.0 mm | 40.0 mm | 60 mm | M8 | –35... +80 °C | 8.0 bar | 10 N / 6.0 bar | 9 mm |
| 421 444 020 0 | 112.0 mm | 24.0 mm | –15 mm | M14x1.5 | –35...+100 °C | 10.0 bar | – | – |
| 421 445 000 0 | 156.5 mm | 36.5 mm | 52 mm | M8 | –40...+120 °C | 10.0 bar | 55 N / 4.5 bar | – |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 421 427 002 0 | 421 427 000 2 | Guide piece |
| ■ 421 427 003 0 | 421 427 000 2 | Guide piece |
| ■ 421 442 000 0 | 421 442 000 2 | Rod wiper |
| ■ 421 442 013 0 | 421 442 000 2 | Rod wiper |
| ■ 421 442 017 0 | 421 442 000 2 | Rod wiper |
| ■ 421 442 018 0 | 421 442 000 2 | Rod wiper |

CONVENTIONAL BRAKING COMPONENTS

Piston operating cylinder - double acting

| | |
|-----------------|----------------|
| ■ Temperature | -35 ... +80 °C |
| ■ Max. pressure | 8.0 bar |
| ■ Diameter | Ø 40 mm |
| ■ Wrench | 13 mm |
| ■ Push-rod | M8 |
| ■ Inlet port | M12x1.5 |



421 441 020 0

| Product number | Length | Stroke | Spring force at stroke | | | | Mounting |
|----------------|--------|--------------|------------------------|-------|-----------|------|------------------------------|
| | | | Compression | | Expansion | | |
| | | | Min. | 0 mm | 0 mm | Max. | |
| 421 441 003 0 | 172 mm | -32 / +50 mm | 324 N | 68 N | 6.8 N | 16 N | M8 female |
| 421 441 020 0 | 162 mm | -32 / 0 mm | 324 N | 68 N | - | - | Ball socket B10 DIN 71805 |
| 421 441 022 0 | 265 mm | -55 / 0 mm | 360 N | 100 N | - | - | M8 female |
| 421 441 060 0 | 187 mm | -40 / +40 mm | 324 N | 68 N | 8.0 N | 16 N | Ball socket B10 DIN 71805 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 421 441 003 0 | 421 441 000 2 | Rod wiper |
| ■ 421 441 020 0 | 421 441 000 2 | Rod wiper |
| ■ 421 441 060 0 | 421 441 000 2 | Rod wiper |

Silencer

Silencer (432 407 ... 0, 899 470 ... 0)

- Temperature -40 ... +80 °C



432 407 012 0

432 407 015 0

432 407 050 0

432 407 060 0

432 407 070 0

| Product number | Application | Max. pressure | Ø | Port | O-ring |
|----------------|--|---------------|-------|--------------------------|---------------|
| 432 407 012 0 | Air dryer | 18.5 bar | 87 mm | snap-on (clamp) | 897 086 470 4 |
| 432 407 015 0 | Air dryer | 18.5 bar | 87 mm | snap-on (sawtooth) | ✓ |
| 432 407 016 0 | Air dryer | 13.0 bar | 87 mm | snap-on (sawtooth) | ✓ |
| 432 407 018 0 | Air dryer | 13.0 bar | 87 mm | snap-on (retaining ring) | - |
| 432 407 050 0 | Braking devices | 11.0 bar | 69 mm | Bayonet | ✓ |
| 432 407 060 0 | ECAS devices, Braking devices, Air dryer | 13.0 bar | 69 mm | M22x1.5 | - |

| Product number | Application | Max. pressure | Ø | Port | O-ring |
|-----------------------------|-------------------|---------------|-------|--------------------------|--------|
| 432 407 070 0 | e.g. relay valves | 11.0 bar | 69 mm | snap-on (retaining ring) | – |
| 899 470 319 0 ¹⁾ | Air dryer | 13.0 bar | 87 mm | snap-on (retaining ring) | ✓ |
| 899 470 332 0 ²⁾ | Air dryer | 13.0 bar | 87 mm | snap-on (retaining ring) | ✓ |

¹⁾ Silencer 432 407 016 0 + PA tube (880 mm)

²⁾ Silencer 432 407 016 0 + PA tube (130 mm)

Silencer (532 40. . . . 0)

- **Temperature** –40 ... +80 °C
532 401 ... 0: –25 ... +80 °C
- **Max. pressure** 10 bar



532 400 117 0

| Product number | Application | Dimensions | | | | Mounting |
|----------------|------------------------|------------|---------|--------|--------|----------|
| | | Hole Ø | Outer | Inner | Wrench | |
| 532 400 111 0 | Pressure control valve | 6.0 mm | 18.0 mm | 6.0 mm | 13 mm | M10x1.0 |
| 532 400 112 0 | Air dryer | 8.5 mm | 25.0 mm | 8.0 mm | 17 mm | M14x1.5 |
| 532 400 117 0 | Solenoid valve | 8.5 mm | 25.0 mm | 8.0 mm | 17 mm | M12x1.5 |
| 532 401 110 0 | Pressure regulator | – | 16.5 mm | 5.5 mm | – | R 1/8" |
| 532 401 111 0 | Solenoid valve | – | 20.0 mm | 7.1 mm | – | R 1/4" |

Solenoid

- **Voltage** 24 V
- **Electrical connection** ¹⁾ Bayonet DIN 72585 A2-2.1-Sn/K1



442 019 115 1



442 019 135 1



442 019 165 1

| Product number | Function | Max. pressure | Electrical connection | Nominal Ø (port 1) | Temperature | Mounting | Distance between holes | Port 1 |
|----------------|----------|---------------|-----------------------|--------------------|---------------|-----------|------------------------|---------|
| 442 016 112 0 | closed | 13 bar | M24x1 | 0.7 mm | –40... +65 °C | 4x 7.0 mm | 38x42 mm | 12H9 |
| 442 016 118 0 | closed | 10 bar | M24x1 | 0.7 mm | –40... +65 °C | 4x 6.5 mm | 36x42 mm | 12H9 |
| 442 019 115 1 | closed | 13 bar | M24x1 | 0.7 mm | –40... +65 °C | 3x 6.5 mm | 38x42 mm | 12H9 |
| 442 019 135 1 | closed | 13 bar | | 0.7 mm | –40... +65 °C | 3x 6.5 mm | 38x42 mm | 12H9 |
| 442 019 165 1 | closed | 13 bar | Bayonet ¹⁾ | 0.7 mm | –40... +65 °C | 4x 6.5 mm | 36x42 mm | 12H9 |
| 442 022 106 0 | | 10 bar | M27x1 | 2.2 mm | –40...+100 °C | | | M26x1.5 |
| 442 022 108 0 | | 10 bar | M27x1 | 2.2 mm | –40...+100 °C | | | M26x1.5 |
| 442 025 108 0 | | 10 bar | M27x1 | 4.0 mm | –20... +70 °C | | | M26x1.5 |
| 442 026 102 1 | closed | 10 bar | | 1.2 mm | –20...+100 °C | | | M26x1.5 |
| 442 043 102 1 | closed | 13 bar | M27x1 | 1.0 mm | –40... +80 °C | | | 12H9 |

CONVENTIONAL BRAKING COMPONENTS

Solenoid valve

Solenoid valve - open

- **Function** normally open
- **Electrical connection**
 - ¹⁾ EN 175301-803-A/ISO 4400 (formerly DIN 43650/A)
 - ²⁾ Bayonet DIN 72 585 A1-2.1-Sn/K1
 - ³⁾ Bayonet DIN 72 585 A1-2.1-Sn/K2
 - ⁴⁾ Bayonet DIN 72 585 A1-3.2-Sn/K1
 - ⁵⁾ Tyco HDSCS Cod. B C-114-18739-1 (Index C)



472 125 707 0



472 171 726 0



472 173 226 0



472 173 700 0



472 176 316 0

| Product number | Max. pressure | Nominal Ø (supply) | Voltage | Electrical connection | Temperature | Port |
|----------------|---------------|--------------------|---------------|-----------------------|---------------|---------------------------|
| 472 102 040 0 | 8 bar | 2.6 mm | 10.8 / 28.8 V | EN ¹⁾ | -40... +70 °C | 1, 2: M12x1.5 |
| 472 106 108 0 | 10 bar | 2.0 mm | 24 V | M27x1 | -40...+100 °C | 1: 2x M12x1.5; 2: M12x1.5 |
| 472 125 707 0 | 8 bar | 4.0 mm | 12 V | M27x1 | -20... +70 °C | 1, 2: M12x1.5 |
| 472 171 000 0 | 13 bar | 2.2 mm | 24 V | M27x1 | -40...+100 °C | 1: M14x1.5; 2: M12x1.5 |
| 472 171 336 0 | 13 bar | 2.2 mm | 24 V | Bayonet ³⁾ | -40...+100 °C | 1, 2: M16x1.5 JED-388 |
| 472 171 428 0 | 16 bar | 2.2 mm | 24 V | Bayonet ⁴⁾ | -40...+100 °C | 1: M10x1; 2: M12x1.5 |
| 472 171 700 0 | 13 bar | 2.2 mm | 24 V | M27x1 | -40...+100 °C | 1, 2: M12x1.5 |
| 472 171 704 0 | 16 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2: M12x1.5 |
| 472 171 706 0 | 16 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2: M12x1.5 |
| 472 171 726 0 | 16 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2: M12x1.5 |
| 472 173 001 0 | 13 bar | 4.0 mm | 24 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 173 002 0 | 13 bar | 4.0 mm | 24 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 173 011 0 | 13 bar | 4.0 mm | 12 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 173 204 0 | 13 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: M12x1.5 |
| 472 173 206 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1: V12x1.5; 2: M12x1.5 |
| 472 173 226 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M12x1.5 |
| 472 173 286 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M12x1.5 JED-464 |
| 472 173 316 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16x1.5 JED-388 |
| 472 173 428 0 | 13 bar | 4.0 mm | 24 V | Bayonet ⁴⁾ | -40... +80 °C | 1: M10x1; 2: M12x1.5 |
| 472 173 700 0 | 13 bar | 4.0 mm | 24 V | M27x1 | -40... +80 °C | 1, 2: M12x1.5 |
| 472 173 701 0 | 13 bar | 4.0 mm | 12 V | M27x1 | -40... +80 °C | 1, 2: M12x1.5 |
| 472 173 703 0 | 13 bar | 4.0 mm | 12 V | M27x1 | -40... +80 °C | 1, 2: M12x1.5 |
| 472 173 704 0 | 13 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: M12x1.5 |
| 472 175 424 0 | 16 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1: M10x1; 2: M12x1.5 |
| 472 175 426 0 | 16 bar | 4.0 mm | 24 V | Bayonet ²⁾ | -40... +80 °C | 1: M10x1; 2: M12x1.5 |
| 472 176 316 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16x1.5 JED-388 |
| 472 176 916 0 | 13 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16x1.5 JED-388 |
| 472 178 424 0 | 16 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1: M10x1; 2: M12x1.5 |
| 472 178 426 0 | 16 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1: M10x1; 2: M12x1.5 |
| 572 740 022 0 | 10 bar | 7.0 mm | 24 V | EN ¹⁾ | -15... +50 °C | |
| 577 602 022 0 | 10 bar | 7.0 mm | 24 V | EN ¹⁾ | -25... +50 °C | 1, 2: M14x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 472 173 011 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 176 316 0 | 472 170 920 2 | Exhaust cap |

Solenoid valve - closed

| | |
|--------------------------------|---|
| ■ Function | normally closed |
| ■ Electrical connection | ¹⁾ EN 175301-803-A/ISO 4400 (formerly DIN 43650/A) ²⁾ Bayonet DIN 72 585 A1-2.1-Sn/K1 ³⁾ Bayonet DIN 72 585 A1-2.1-Sn/K2 ⁴⁾ Bayonet DIN 72 585 A1-3.2-Sn/K1 ⁵⁾ Tyco HDSCS Cod. A C-114-18739-1 (Index C) ⁶⁾ Tyco HDSCS Cod. C C-114-18739-1 (Index C) ⁷⁾ Tyco HDSCS Cod. A C-114-18743 (Index C) |



472 070 339 0



472 072 628 0



472 072 639 0



472 123 107 0



884 501 837 0

| Product number | Max. pressure | Nominal Ø (supply) | Voltage | Electrical connection | Temperature | Port |
|----------------|---------------|--------------------|-----------|-----------------------|---------------|---------------------------|
| 442 207 908 0 | 10.0 bar | 2.2 mm | 24 V | M27×1 | -40...+100 °C | 1: M14×1.5; 3: M26×1.5 |
| 472 070 339 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2, 3: M16×1.5 JED-388 |
| 472 070 600 0 | 13.0 bar | 4.0 mm | 24 V | M27×1 | -40... +80 °C | 1, 2: M12×1.5 |
| 472 070 628 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ⁴⁾ | -40...+100 °C | 1: 3× M12×1.5; 2: M12×1.5 |
| 472 070 639 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16×1.5 JED-388 |
| 472 072 022 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +80 °C | 1, 2: V16×1.5 JED-388 |
| 472 072 628 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ⁴⁾ | -40...+100 °C | 1: 3× M12×1.5; 2: M12×1.5 |
| 472 072 639 0 | 13.0 bar | 2.2 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16×1.5 JED-388 |
| 472 123 107 0 | 10.0 bar | 2.2 mm | 12 V | M27×1 | -40...+100 °C | 1, 2: M12×1.5 |
| 472 123 109 0 | 19.0 bar | 2.2 mm | 24 V | M27×1 | -40... +80 °C | 1, 2: M12×1.5; 3: M14×1.5 |
| 472 123 142 0 | 10.0 bar | 2.2 mm | 24 V | EN ¹⁾ | -40...+100 °C | 1, 2: M12×1.5 |
| 472 127 140 0 | 8.5 bar | 2.2 mm | 12 / 24 V | EN ¹⁾ | -40... +70 °C | 1, 2: M12×1.5 |
| 472 129 111 0 | 10.0 bar | 2.2 mm | 12 V | M24×1 | -40...+100 °C | 1, 2: M12×1.5 |
| 472 132 198 0 | 10.0 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2: M12×1.5 |
| 472 135 111 0 | 10.0 bar | 2.2 mm | 12 V | M24×1 | -40...+100 °C | 1, 2: ¼"-18 NPTF |
| 472 137 132 0 | 11.0 bar | 4.0 mm | 24 V | Volvo | -40... +80 °C | 1, 2: M12×1.5 |
| 472 170 001 0 | 13.0 bar | 4.0 mm | 24 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2: V16×1.5 JED-388 |
| 472 170 012 0 | 13.0 bar | 4.0 mm | 12 V | Tyco ⁶⁾ | -40... +80 °C | 1, 2, 3: V16×1.5 JED-388 |
| 472 170 080 0 | 13.0 bar | 4.0 mm | 24 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2, 3: V16×1.5 JED-388 |
| 472 170 226 0 | 11.0 bar | 4.0 mm | 24 V | Bayonet ²⁾ | -40... +80 °C | 1, 2, 3: M12×1.5 |
| 472 170 600 0 | 13.0 bar | 4.0 mm | 24 V | M27×1 | -40... +80 °C | 1, 2: M12×1.5 |
| 472 170 601 0 | 13.0 bar | 4.0 mm | 12 V | M27×1 | -40... +80 °C | 1, 2: M12×1.5 |
| 472 170 604 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: M12×1.5 |
| 472 170 606 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ²⁾ | -40... +80 °C | 1, 2: M12×1.5 |
| 472 170 616 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16×1.5 JED-388 |
| 472 170 636 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16×1.5 JED-388 |

CONVENTIONAL BRAKING COMPONENTS

| Product number | Max. pressure | Nominal Ø (supply) | Voltage | Electrical connection | Temperature | Port |
|----------------|---------------|--------------------|---------|--------------------------|---------------|--|
| 472 170 637 0 | 13.0 bar | 4.0 mm | 12 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M16x1.5 JED-388 |
| 472 170 667 0 | 13.0 bar | 4.0 mm | 12 V | Bayonet ²⁾ | -40... +80 °C | 1, 2: ¼"-18 NPT |
| 472 170 686 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet ³⁾ | -40... +80 °C | 1, 2: M12x1.5 JED-464 |
| 472 170 700 0 | 13.0 bar | 4.0 mm | 24 V | M27x1 | -40... +80 °C | 1, 2: M12x1.5 |
| 472 170 790 0 | 13.0 bar | 4.0 mm | 24 V | M27x1 | -40... +80 °C | 1: M12x1.5; 2: 14.5 mm |
| 472 170 867 0 | 13.0 bar | 4.0 mm | 12 V | Bayonet ²⁾ | -40... +80 °C | 1, 2: ¼"-18 NPT; 3: ⅛"-27 NPT |
| 472 170 990 0 | 13.0 bar | 4.0 mm | 24 V | M27x1 | -40... +80 °C | 1, 2: ¼"-18 NPT; 3: ⅛"-27 NPT |
| 472 170 991 0 | 13.0 bar | 4.0 mm | 12 V | M27x1 | -40... +80 °C | 1, 2: ¼"-18 NPT; 3: ⅛"-27 NPT |
| 472 170 996 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: ¼"-18 NPT; 3: ⅛"-27 NPT |
| 472 172 001 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 172 007 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 172 011 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +80 °C | 1, 2, 3: V16x1.5 JED-388 |
| 472 172 021 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +75 °C | 1, 2: V16x1.5 JED-388 |
| 472 172 600 0 | 12.5 bar | 2.2 mm | 24 V | M27x1 | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 604 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 606 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 620 0 | 12.5 bar | 2.2 mm | 24 V | M27x1 | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 626 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 686 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2: M12x1.5 |
| 472 172 704 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2, 3: M12x1.5 |
| 472 172 724 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2, 3: M12x1.5 |
| 472 172 726 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2, 3: M12x1.5 |
| 472 172 784 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet | -40...+100 °C | 1, 2, 3: M12x1.5 |
| 472 172 786 0 | 12.5 bar | 2.2 mm | 24 V | Bayonet ²⁾ | -40...+100 °C | 1, 2, 3: M12x1.5 |
| 472 172 901 0 | 13.0 bar | 2.2 mm | 24 V | Tyco ⁷⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 174 500 0 | 13.0 bar | 4.0 mm | 24 V | M27x1 | -40... +80 °C | 1, 2: M12x1.5 |
| 472 174 504 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: M12x1.5 |
| 472 174 524 0 | 13.0 bar | 4.0 mm | 24 V | Bayonet | -40... +80 °C | 1, 2: M12x1.5 |
| 472 174 597 0 | 17.0 bar | 3.7 mm | 12 V | Bayonet ²⁾ | -30... +65 °C | 1: Voss 8x1; 2: Voss 6x1 |
| 472 180 002 0 | 13.0 bar | 4.0 mm | 24 V | Tyco ⁵⁾ | -40... +80 °C | 1, 2: V16x1.5 JED-388 |
| 472 223 108 0 | 10.0 bar | 2.2 mm | 24 V | 2x M27x1 | -40...+100 °C | 1, 21, 22: M12x1.5 |
| 472 270 600 0 | 13.0 bar | 4.0 mm | 24 V | 2x M27x1 | -40... +80 °C | 1, 21, 22: M12x1.5 |
| 472 279 906 0 | 13.0 bar | 4.0 mm | 24 V | 2x Bayonet ²⁾ | -40... +70 °C | 1: Voss 12x1.5; 21, 22: Voss 8x1 |
| 472 899 005 0 | 8.1 bar | 1.2 mm | 12 V | EN ¹⁾ | -40... +80 °C | 1, 2: ⅜" NPT |
| 472 899 006 0 | 10.0 bar | 2.4 mm | 12 V | EN ¹⁾ | -40... +80 °C | 1, 2: ⅜" NPT |
| 472 899 008 0 | 8.1 bar | 1.2 mm | 24 V | EN ¹⁾ | -40... +80 °C | 1, 2: M12x1.5 |
| 472 899 009 0 | 8.1 bar | 1.2 mm | 12 V | EN ¹⁾ | -40... +80 °C | 1, 2: M12x1.5 |
| 474 200 001 0 | 20.0 bar | 2.0 mm | 24 V | Bayonet ²⁾ | -40... +80 °C | 1, 12, 2, 21: M22x1.5 Voss-232; 11: M16x1.5 Voss-232 |
| 577 202 022 0 | 10.0 bar | 7.0 mm | 24 V | EN ¹⁾ | -25... +50 °C | 1, 2, 3: M14x1.5 |
| 884 501 096 0 | 10.0 bar | 2.2 mm | 24 V | M24x1 | -40...+100 °C | 1, 2: M12x1.5 |
| 884 501 634 0 | 10.5 bar | 1.2 mm | 12 V | 2x EN ¹⁾ | -40... +80 °C | 1: M22x1.5; 2: M16x1.5 JED-388 |
| 884 501 837 0 | 10.5 bar | 1.2 mm | 24 V | EN ¹⁾ | -40... +80 °C | 1: M22x1.5; 2: M16x1.5 JED-388 |
| 884 501 940 0 | 10.5 bar | 1.2 mm | 24 V | 2x EN ¹⁾ | -40... +80 °C | 1: M22x1.5; 2: M16x1.5 JED-388 |

| Product number | Max. pressure | Nominal Ø (supply) | Voltage | Electrical connection | Temperature | Port |
|----------------|---------------|--------------------|---------|-----------------------|---------------|-----------------------------------|
| 884 501 997 0 | 10.5 bar | 1.2 mm | 12 V | EN ¹⁾ | -40... +80 °C | 1: M22×1.5; 2: M16×1.5 JED-388 |
| 884 502 864 0 | 10.0 bar | 3.0 mm | 24 V | M24×1 | -40... +80 °C | 11, 12, 2: M12×1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------|-----------------|---------------|-------------------|
| ■ 472 070 600 0 | 472 170 920 2 | Exhaust cap | ■ 472 170 606 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 070 628 0 | 472 170 920 2 | Exhaust cap | ■ 472 170 616 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 072 628 0 | 472 170 920 2 | Exhaust cap | ■ 472 170 636 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 123 107 0 | 472 123 000 2 | Solenoid armature | ■ 472 172 600 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 123 142 0 | 472 123 000 2 | Solenoid armature | ■ 472 172 604 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 132 198 0 | 472 123 000 2 | Solenoid armature | ■ 472 172 606 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 135 111 0 | 472 123 000 2 | Solenoid armature | ■ 472 172 620 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 170 001 0 | 472 170 920 2 | Exhaust cap | ■ 472 172 626 0 | 472 170 920 2 | Exhaust cap |
| ■ 472 170 600 0 | 472 170 920 2 | Exhaust cap | ■ 472 223 108 0 | 472 123 000 2 | Solenoid armature |
| ■ 472 170 604 0 | 472 170 920 2 | Exhaust cap | ■ 472 270 600 0 | 472 170 920 2 | Exhaust cap |



Air quality matters

Air dryer cartridges from WABCO offer the most reliable protection for air brake systems. Designed to the highest quality standards, they are engineered to keep air brake systems operating at optimum levels of performance, helping to ensure vehicles stay on the road and out of the maintenance bay.

Anti-lock braking system (ABS)

ABS electronic control unit (ECU)

- **Voltage** 24 V
12 V: 446 003 832 0, 446 004 610 0, 446 004 621 0,
446 004 653 0
- **Accessories** 826 000 066 3 ABS-Label
894 000 015 2 Cover
894 590 081 0 Cable with plug
- **Training** Classroom training: ABS



446 004 320 0

| Product number | ABS type | System | Diagnostic | | Mounting | Distance between holes | Temperature |
|----------------|--------------|---------|------------|----------|-------------|------------------------|----------------|
| | | | Protocol | Software | | | |
| 446 003 403 0 | D | 6S/6M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |
| 446 003 404 0 | D | 6S/6M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |
| 446 003 408 0 | D | 6S/6M | SAE J1587 | ABS SAE | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |
| 446 003 420 0 | D | 6S/6M | SAE J1587 | ABS SAE | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |
| 446 003 708 0 | E Universal | 6S/6M | SAE J7587 | ABS SAE | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 710 0 | E Universal | 6S/6M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 713 0 | E Universal | 6S/6M | KWP2000 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 735 0 | E Universal | 4S/4M | SAE J1587 | - | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 747 0 | E Universal | 6S/6M | SAE J1587 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 749 0 | E Universal | 4S/4M | KWP2000 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 761 0 | E Universal | 4S/4M | SAE J1939 | - | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 762 0 | E Universal | 6S/6M | SAE J1939 | - | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 765 0 | E | 4S/4M | KWP2000 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 768 0 | E Universal | 6S/6M | KWP2000 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 769 0 | E4.5 | 6S/6M | KWP2000 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 003 827 0 | E8 Universal | 4S/4M | ISO 14229 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 003 829 0 | E8 Universal | 6S/6M | ISO 14229 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 003 830 0 | E8 Universal | 6S/6M | ISO 14229 | - | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 003 832 0 | Universal | 4S/4M | ISO 14229 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 003 833 0 | E8 Universal | 4S/4M | ISO 14229 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 003 836 0 | E8 Universal | 6S/6M | ISO 14229 | ABS E+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +85 °C |
| 446 004 310 0 | D Basic | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 313 0 | D Basic | 4S/4M | SAE J1587 | ABS SAE | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 314 0 | D Basic | 4S/3M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 318 0 | D Basic | 4S/4M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 320 0 | E Basic | 4S/4M | SAE J1587 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 324 0 | E Basic | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 330 0 | E Basic | 4S/3M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 332 0 | D Basic | 4S/4M | KWP2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 333 0 | E Basic | 4S/3M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 334 0 | E Basic | 4S/4M-Q | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 335 0 | E Basic | 4S/4M-Q | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 402 0 | SKN | 4S/4M | CAN | - | Clamp | - | -40 ... +75 °C |
| 446 004 404 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 406 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 414 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 416 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 420 0 | D | 4S/4M | SAE J1587 | ABS SAE | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |

ANTI-LOCK BRAKING SYSTEM (ABS)

| Product number | ABS type | System | Diagnostic | | Mounting | Distance between holes | Temperature |
|----------------|------------|--------|------------------------|-------------------|-------------|------------------------|----------------|
| | | | Protocol | Software | | | |
| 446 004 426 0 | D | 4S/4M | SAE J1587 | ABS SAE | 4x Ø 7.5 mm | 163.0x162.0 mm | -40 ... +75 °C |
| 446 004 427 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 428 0 | D | 4S/4M | ISO 9141 | ABS D+ | 4x Ø 7.5 mm | 163.0x122.5 mm | -40 ... +75 °C |
| 446 004 601 0 | E Basic | 4S/4M | SAE J1587 | ABS SAE | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 602 0 | E Basic | 4S/4M | SAE J1587 | ABS SAE | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 606 0 | E Basic | 4S/4M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 607 0 | E | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 608 0 | E Basic | 4S/4M | SAE J1587 | ABS SAE | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 610 0 | E Basic | 4S/3M | SAE J1587 | - | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 612 0 | E Basic | 4S/4M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 616 0 | E Basic | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 617 0 | E Basic | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 621 0 | E2 Basic | 4S/4M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 630 0 | E2 Basic | 4S/4M | KWP 2000 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 631 0 | E Basic | 4S/4M | ISO 9141 | ABS D+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 634 0 | E Basic | 4S/4M | KWP 2000 | ABS D+/ ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 636 0 | E Basic | 4S/4M | KWP 2000 | ABS D+/ ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 637 0 | E Basic | 4S/4M | KWP 2000 | ABS D+/ ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 643 0 | E Basic | 4S/4M | KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 644 0 | E4 Basic | 4S/4M | KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 645 0 | E4 Basic | 4S/4M | KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 646 0 | E4.5 Basic | 4S/4M | KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 647 0 | E4.5 Basic | 4S/4M | ISO 14229/ KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |
| 446 004 653 0 | E4 Basic | 4S/4M | KWP 2000 | ABS E+ | 3x Ø 7.5 mm | 112.0x122.0 mm | -40 ... +75 °C |

ABS solenoid modulator valve

- Temperature -40 ... +80 °C
- Max. pressure 11 bar



472 195 016 0



472 195 078 0



472 195 079 0



472 195 108 0

| Product number | Voltage | Electrical connection | Port |
|----------------|---------|-----------------------|-----------------------|
| 472 195 005 0 | 12 V | M24x1 | 1, 2: ½"-14 NPTF |
| 472 195 006 0 | 24 V | M24x1 | 1, 2: ½"-14 NPTF |
| 472 195 009 0 | 24 V | Bayonet | 1, 2: M22x1.5 |
| 472 195 010 0 | 24 V | M24x1 | 1, 2: M22x1.5 |
| 472 195 011 0 | 24 V | Bayonet | 1, 2: M22x1.5 JED-388 |
| 472 195 015 0 | 24 V | M27x1 | 1, 2: M22x1.5 JED-464 |

| Product number | Voltage | Electrical connection | Port |
|----------------|---------|---------------------------------|--------------------------------------|
| 472 195 016 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 JED-388 |
| 472 195 018 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 046 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 048 0 | 24 V | Volvo-Plug | 1, 2: M22x1.5 |
| 472 195 052 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 054 0 | 12 V | M27x1 | 1, 2: M22x1.5 JED-464 |
| 472 195 055 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 JED-388 |
| 472 195 056 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: M22x1.5 JED-388; 2: M22x1.5 |
| 472 195 058 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 064 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: RC ⅜" |
| 472 195 066 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 071 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 072 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 JED-388 |
| 472 195 073 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 074 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 075 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 076 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21: ½"-14 NPTF |
| 472 195 077 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21: ½"-14 NPTF |
| 472 195 078 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 079 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 082 0 | 12 V | Bayonet | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 083 0 | 12 V | Bayonet | 1: Flange (Ø 24); 21, 22: ½"-14 NPTF |
| 472 195 086 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: RC ⅜" JIS B 0253 |
| 472 195 094 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 095 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 096 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 097 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 |
| 472 195 100 0 | 12 V | Bayonet ISO 15 170 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 101 0 | 12 V | Bayonet ISO 15 170 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 102 0 | 12 V | Bayonet ISO 15 170 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 472 195 105 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1: M22x1.5 JED-388; 2: M22x1.5 |
| 472 195 106 0 | 24 V | Bayonet ISO 15 170 A1-3.1-Sn/K1 | 1: M22x1.5 JED-388; 2: M22x1.5 |
| 472 195 108 0 | 24 V | Tyco HDSCS 3x 2.8 coding A | 1, 2: M22x1.5 JED-388-0 |
| 472 195 110 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 JED-388-4 |
| 472 195 121 0 | 12 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: M22x1.5 JED-388-0 |
| 472 196 020 0 | 24 V | Tyco HDSCS 4x 2.8 coding A | 1, 2: M22x1.5 JED-388-4 |
| 972 195 045 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: Rc ⅜" JIS B 0253 |
| 972 195 064 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |
| 972 195 065 0 | 24 V | Bayonet DIN 72585 A1-3.1-Sn/K1 | 1, 2: ½"-14 NPTF |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------------|
| ■ 472 195 058 0 | 472 195 922 2 | Solenoid modulator valve |

ANTI-LOCK BRAKING SYSTEM (ABS)

ASR proportional valve

- Temperature -40 ... +100 °C
- Voltage 24 V
- Mounting 2x Ø 9.0 mm
- Distance between holes 42 mm



472 250 000 0

472 250 007 0

| Product number | Electrical connection | Max. pressure (supply) | Port |
|----------------|--------------------------------|------------------------|---------|
| 472 250 000 0 | M27x1 | 10.0 bar | M12x1.5 |
| 472 250 003 0 | Bayonet | 11.2 bar | M12x1.5 |
| 472 250 007 0 | Bayonet DIN 72585 B1-2.1-Sn/K1 | 11.2 bar | M12x1.5 |
| 472 250 008 0 | Bayonet DIN 72585 B1-2.1-Sn/K1 | 11.0 bar | RC 1/4" |

ABS trailer control valve

- Temperature -40 ... +80 °C
- Accessory 432 407 012 0 Silencer (port: snap-on contour)



973 002 520 0



973 009 001 0



973 009 006 0



973 009 010 0

| Product number | Max. pressure | Predominance | Mounting | Port |
|----------------|---------------|--------------|----------|---|
| 973 002 000 0 | 8.0 bar | 0.6 bar | 2x M8 | 1, 2, 41, 42, 43: M22x1.5; 3: flap |
| 973 002 010 0 | 8.0 bar | 0.5 bar | 4x M8 | 1, 2, 41, 42, 43: M22x1.5; 3: flap |
| 973 002 013 0 | 8.0 bar | 0.6 bar | 4x M8 | 1, 2, 41, 42, 43: M22x1.5; 3: flap |
| 973 002 020 0 | 8.0 bar | 0.3 bar | 4x M8 | 1, 2, 41, 42, 43: M22x1.5; 3: flap |
| 973 002 022 0 | 8.0 bar | 0.2 bar | 4x M8 | 1, 2, 41, 42, 43: M22x1.5; 3: flap |
| 973 002 051 0 | 8.0 bar | 0.2 bar | 4x M8 | 1, 2, 41, 42: M22x1.5; 3: flap |
| 973 002 070 0 | 8.0 bar | 0.6 bar | 2x M8 | 1, 2, 41, 42: M22x1.5; 3: snap-on contour |
| 973 002 402 0 | 8.0 bar | - | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 403 0 | 8.0 bar | 0.2 bar | 2x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 404 0 | 8.0 bar | - | 4x M8 | 1, 2, 41, 42: M16x1.5; 3: flap |
| 973 002 405 0 | 8.0 bar | - | 4x M8 | 1, 12, 2, 41, 42: M16x1.5; 3: snap-on contour |
| 973 002 406 0 | 8.0 bar | 0.5 bar | 2x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 409 0 | 8.0 bar | 0.2 bar | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 418 0 | 8.0 bar | 1.0 bar | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 419 0 | 8.0 bar | 0.4 bar | 3x M8 | 1, 12, 2, 41, 42: M16x1.5; 3: flap |
| 973 002 422 0 | 8.0 bar | - | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 423 0 | 8.0 bar | 0.3 bar | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 425 0 | 8.0 bar | 0.2 bar | 4x M8 | 1, 12, 2, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 430 0 | 8.0 bar | - | 4x M8 | 1, 12, 2, 41, 42, 43: M16x1.5; 3: flap |

| Product number | Max. pressure | Predominance | Mounting | Port |
|----------------|---------------|--------------|---------------------------------|--|
| 973 002 450 0 | 8.0 bar | – | 4x M8 | 1, 2, 41, 42, 43: M16x1.5; 3: M22x1.5 |
| 973 002 500 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 501 0 | 8.0 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 505 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 520 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 521 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 522 0 | 8.0 bar | 0.5 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 523 0 | 8.0 bar | 0.5 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 527 0 | 8.0 bar | 0.3 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 002 528 0 | 8.0 bar | – | 4 x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 532 0 | 8.0 bar | 0.7 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 535 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 002 538 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 539 0 | 8.0 bar | 0.3 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 544 0 | 8.0 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 570 0 | 8.0 bar | 0.3 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: flap |
| 973 002 620 0 | 8.0 bar | 0.5 bar | 4x M8 | 12, 22, 41, 42: M16x1.5; 3: flap |
| 973 009 001 0 | 8.5 bar | 0.2 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 002 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 009 004 0 | 8.5 bar | – | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 005 0 | 8.5 bar | 0.5 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 006 0 | 8.5 bar | – | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 007 0 | 8.5 bar | – | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: silencer; 43: M16x1.5 JED-388 |
| 973 009 009 0 | 8.5 bar | 0.6 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: silencer; 43: M16x1.5 JED-388 |
| 973 009 010 0 | 8.5 bar | 0.4 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 011 0 | 8.5 bar | 0.2 bar | 2x M10x1.25 with mounting plate | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 013 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 009 014 0 | 8.5 bar | – | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 009 015 0 | 8.5 bar | 0.1 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 016 0 | 8.5 bar | 0.4 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: silencer; 43: M16x1.5 JED-388 |
| 973 009 018 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 022 0 | 8.5 bar | 0.1 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 023 0 | 8.5 bar | 0.9 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 024 0 | 8.5 bar | 0.2 bar | 2x M10 with mounting plate | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: silencer; 43: M16x1.5 JED-388 |
| 973 009 025 0 | 8.5 bar | 0.5 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 028 0 | 8.5 bar | 0.2 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: snap-on contour; 43: M16x1.5 JED-388 |
| 973 009 029 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: silencer |
| 973 009 100 0 | 8.5 bar | 0.2 bar | 4x M8 | 12, 22, 41, 42, 43: M16x1.5; 3: snap-on contour |
| 973 009 120 0 | 8.5 bar | – | 4x M8 | 12, 43: blind plugged; 22, 41, 42: M16x1.5; 3: silencer |
| 973 009 300 0 | 8.0 bar | 0.2 bar | 4x M8 | 11, 12, 22, 41, 42: M22x1.5 JED-388; 3: silencer; 43: M16x1.5 JED-388 |

ANTI-LOCK BRAKING SYSTEM (ABS)

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------------|-----------------|---------------|-------------------|
| ■ 973 002 000 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 523 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 010 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 527 0 | 973 002 008 2 | Valve + diaphragm |
| ■ 973 002 013 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 528 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 020 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 532 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 022 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 535 0 | 973 002 008 2 | Valve + diaphragm |
| ■ 973 002 051 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 538 0 | 973 002 006 2 | Valve |
| ■ 973 002 070 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 539 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 402 0 | 973 002 004 2 | Valve + diaphragm | ■ 973 002 544 0 | 973 002 008 2 | Valve + diaphragm |
| ■ 973 002 403 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 002 570 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 404 0 | 973 002 004 2 | Valve + diaphragm | ■ 973 002 620 0 | 973 002 005 2 | Valve + diaphragm |
| ■ 973 002 405 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 001 0 | 973 009 000 2 | Valve |
| ■ 973 002 406 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 002 0 | 973 009 000 2 | Valve |
| ■ 973 002 409 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 004 0 | 973 009 000 2 | Valve |
| ■ 973 002 418 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 005 0 | 973 009 000 2 | Valve |
| ■ 973 002 419 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 006 0 | 973 009 000 2 | Valve |
| ■ 973 002 422 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 007 0 | 973 009 000 2 | Valve |
| ■ 973 002 423 0 | 973 002 003 2 | Valve + diaphragm | ■ 973 009 009 0 | 973 009 000 2 | Valve |
| ■ 973 002 425 0 | 973 002 009 2 | Valve + diaphragm | ■ 973 009 010 0 | 973 009 000 2 | Valve |
| ■ 973 002 430 0 | 973 002 004 2 | Valve + diaphragm | ■ 973 009 013 0 | 973 009 000 2 | Valve |
| ■ 973 002 450 0 | 973 002 004 2 | Valve + diaphragm | ■ 973 009 014 0 | 973 009 000 2 | Valve |
| ■ 973 002 500 0 | 973 002 006 2 | Valve | ■ 973 009 015 0 | 973 009 000 2 | Valve |
| ■ 973 002 501 0 | 973 002 005 2 | Valve + diaphragm | ■ 973 009 018 0 | 973 009 000 2 | Valve |
| ■ 973 002 505 0 | 973 002 008 2 | Valve + diaphragm | ■ 973 009 029 0 | 973 009 000 2 | Valve |
| ■ 973 002 520 0 | 973 002 006 2 | Valve | ■ 973 009 100 0 | 973 009 000 2 | Valve |
| ■ 973 002 521 0 | 973 002 005 2 | Valve + diaphragm | ■ 973 009 120 0 | 973 009 000 2 | Valve |
| ■ 973 002 522 0 | 973 002 005 2 | Valve + diaphragm | ■ 973 009 300 0 | 973 009 001 2 | Valve |

Wheel speed sensor


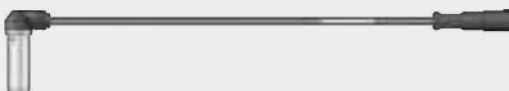




Sensor set - radial sensor

- **Description** WABCO sensor sets include all components required to affect a proper repair: clamp bushing, grease pad and the corresponding sensor.
- **Sensor head** Ø 16.0 mm



| Wheel speed sensor | Product number | Length | Replacement for / Cross references | | |
|--------------------|----------------|--------------------------|--|---|------------------|
| | | | WABCO | OEM number | OEM |
| | 441 032 010 2 | 250 mm | 441 032 171 0 | 1778553 1778554 | DAF |
| | 441 032 013 2 | 2056 mm | 441 032 191 0 | B587105K300 | Hyundai / Kia |
| | 441 032 017 2 | 2321 mm | 441 032 898 0 | 21361848 21361849 | Volvo |
| | 441 032 018 2 | 1596 mm | 441 032 893 0 | 21361845 | Volvo |
| | 441 032 019 2 | L1: 125 mm L2: 160 mm | 441 032 518 0 | A6555400717 | Daimler |
| | 441 032 021 2 | 1754.5 mm | 441 032 177 0 | 1890167 | Scania |
| | 441 032 022 2 | 2754.5 mm | 441 032 178 0 | 1890168 | Scania |
| | 441 032 023 2 | 1500 mm | 441 035 144 0 | 1869290 | DAF |
| | 441 032 024 2 | 1400 mm | 441 035 145 0 | 1869290 | DAF |
| | 441 032 029 2 | 1422 mm | Knorr: 0486000284 K50 0486000285 N00 | 81.27120-6216 81.27120-6217 | MAN |
| | 441 032 030 2 | 1572 mm | Knorr: 0486000250 K50 0486000276 N00 | 81.27120-6177 81.27120-6201 81.27120-6202 | MAN |
| | 441 032 031 2 | 1550 mm | Knorr: 0486000251 K50 0486000277 N00 | 81.27120-6176 81.27120-6202 | MAN |








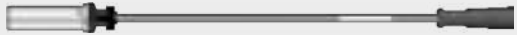
ANTI-LOCK BRAKING SYSTEM (ABS)

| Wheel speed sensor | Product number | Length | Replacement for / Cross references | | |
|---|----------------|-----------|------------------------------------|--------------------------------------|---------|
| | | | WABCO | OEM number | OEM |
|  | 441 035 922 2 | 895.2 mm | 441 032 107 0 | 5010457732 | Renault |
| | 441 035 923 2 | 1545.2 mm | 441 032 855 0 | 41200559 | Iveco |
| | | | 441 032 856 0 | 41200560 | Iveco |
| | 441 035 924 2 | 2345.2 mm | 441 032 858 0 | 1524828 | DAF |
| | | | | 41200561 | Iveco |
| | | | 441 032 859 0 | 123399 | Iveco |
| | | | 41200562 | Iveco | |
|  | 441 035 928 2 | 2056 mm | 441 032 874 0 | 5010457045 | Renault |
| | | | 441 032 875 0 | 5010422333 | Renault |
| | | | 441 032 728 0 | 1517455 | DAF |
| | | | | A0005429618 | Daimler |
| 441 035 102 0 | - | Hino | | | |
|  | 441 035 935 2 | 4000 mm | 441 032 144 0 | 5010457879 7580212W | Renault |
| | | | | 20723669 21364022 | Volvo |
| | | | 441 032 151 0 | 5010457891 7421363486 7580218W | Renault |
| | | | | 21363486 | Volvo |
| 441 035 133 0 | 21570623 | Volvo | | | |
|  | 441 035 936 2 | 2500 mm | 441 032 149 0 | 5010457883 7580216W | Renault |
| | | | | 21363479 | Volvo |
| | | | 441 032 187 0 | 7421150950 | Renault |
| | | | | 21150950 | Volvo |
| | | | 441 032 333 0 | 7420785816 7420787816 7580246W | Renault |
| | | | | 20787816 21363484 | Volvo |
|  | 441 035 937 2 | 3650 mm | 441 032 143 0 | 5010457878 7580211W | Renault |
| | | | | 20723666 21360516 | Volvo |
| | | | 441 032 146 0 | 5010457880 7580213W | Renault |
| | | | | 21363476 | Volvo |
| | | | 441 032 332 0 | 7580245W | Renault |
| | | | | 20787815 21363481 | Volvo |
| 441 035 131 0 | 21570619 | Renault | | | |
|  | 441 035 938 2 | 2200 mm | 441 032 148 0 | 5010457882 7580215W | Renault |
| | | | | 21363478 | Volvo |
| | | | 441 032 186 0 | 7421150949 | Renault |
| | | | | 21150949 | Volvo |





Sensor set - axial sensor





- Description** WABCO sensor sets include all components required to affect a proper repair: clamp bushing, grease pad and the corresponding sensor.
- Sensor head** Ø 16.0 mm



| Wheel speed sensor | Product number | Length | Replacement for / Cross references | | |
|--|----------------|------------|---|---|--|
| | | | WABCO | OEM number | OEM |
|  | 441 032 025 2 | 2035 mm | 441 032 980 0 | 41221280 | Iveco |
|  Code A, B, C, D | 441 032 026 2 | 1685 mm | 441 032 377 0 441 032 952 0 441 032 363 0 441 032 364 0 441 032 365 0 441 032 366 0 | 1890170 1892057 21363499 21363500 21363502 21363503 | Scania Renault |
|  Code A, B, C, D | 441 032 027 2 | 2710 mm | 441 032 378 0 441 032 995 0 441 032 996 0 441 035 321 0 441 035 322 0 441 035 324 0 441 035 325 0 441 035 326 0 441 035 332 0 | 1890171 41363474 21363475 21663166 21663162 21663167 21663170 21663172 21663163 | Scania Volvo |
|  Code A | 441 032 028 2 | 1659.75 mm | 441 035 301 0 441 035 302 0 | 21296829 21296849 | Volvo |
|  Code B | 441 035 920 2 | 1750 mm | 441 032 995 0 | 5010457874 20723702 21363474 | Renault Volvo |
|  Code B | 441 035 921 2 | 2000 mm | 441 032 321 0 441 035 321 0 441 035 327 0 | 1729798 21363496 7421296839 21296839 21663166 21296845 | Scania Volvo Renault Volvo Volvo |
|  | 441 035 925 2 | 2200 mm | 441 032 922 0 | 1518311 A0025422718 | DAF Daimler |
|  | 441 035 926 2 | 3000 mm | 441 032 920 0 441 032 923 0 441 032 487 0 441 032 921 0 441 032 942 0 | 1518009 A0025423818 A0025422618 A0005423318 A0015423318 36271206005 A0015428818 920100080 A0015428918 | DAF Daimler Daimler Daimler MAN Daimler Solaris Bus Daimler |

ANTI-LOCK BRAKING SYSTEM (ABS)

| Wheel speed sensor | Product number | Length | Replacement for / Cross references | | |
|---|----------------------|---------|------------------------------------|----------------------------------|---------|
| | | | WABCO | OEM number | OEM |
|  | 441 035 927 2 | 4000 mm | 441 032 941 0 | A0035423518 | Daimler |
| | | | 441 032 946 0 | A0035424618 | Daimler |
| | | | 441 032 727 0 | A0005429718 | Daimler |
| | | | | 36271206004 | MAN |
| | | | 441 032 947 0 | A0035424518 | Daimler |
| | | | 503147652 | Iveco | |
|  Code A | 441 035 929 2 | 3000 mm | 441 032 352 0 | 7420795150 7580252W | Renault |
| | | | | 20916177 21363497 | Volvo |
| | | | 441 032 386 0 | 738610135 | Renault |
| | | | | 21247147 | Volvo |
| | | | 441 032 954 0 | 21361885 | Renault |
| | | | | 20528657 21361885 | Volvo |
| | | | 441 032 961 0 | 7420528653 | Renault |
| | | | | 20528653 21361883 | Volvo |
| | | | 441 035 312 0 | 7421663556 | Renault |
| | | | | 21296831 21663556 | Volvo |
| | | | 441 035 313 0 | 21296832 21663558 | Volvo |
| | | | 441 035 317 0 | 21296836 21663557 | Volvo |
| | | | | 7421296840 | Renault |
| | | | 441 035 322 0 | 21296840 21663162 | Volvo |
| 441 035 323 0 | 21296841 21663164 | Volvo | | | |
| 441 035 332 0 | 21444285 21663163 | Volvo | | | |
|  Code A | 441 035 930 2 | 3950 mm | 441 032 347 0 | 7420915970 | Renault |
| | | | | 20915970 21363488 | Volvo |
| | | | 441 032 353 0 | 7420794630 7420916178 | Renault |
| | | | | 20916178 | Volvo |
| | | | 441 032 965 0 | 7424427344 | Renault |
| | | | | 20509864 21361900 24427344 | Volvo |
| 441 035 318 0 | 21296837 21663559 | Volvo | | | |
| 441 035 328 0 | 7421296846 | Renault | | | |
| | 21296846 21663165 | Volvo | | | |
|  Code A | 441 035 931 2 | 4300 mm | 441 032 388 0 | 738610142 | Renault |
| | | | | 21247161 | Volvo |
| | | | 441 032 968 0 | 738610139 | Renault |
| | | | | 20509869 21361881 | Volvo |
| | | | 441 032 974 0 | 20554958 | Volvo |

| Wheel speed sensor | Product number | Length | Replacement for / Cross references | | |
|---|----------------------|----------------------|------------------------------------|--------------------------------------|----------------------|
| | | | WABCO | OEM number | OEM |
|  Code B | 441 035 932 2 | 5550 mm | 441 032 349 0 | 5010457871 7420916171 7580249W | Renault |
| | | | | 20732821 20916171 21363493 | Volvo |
|  Code B | 441 035 933 2 | 2850 mm | 441 032 374 0 | 732520051 | Renault |
| | | | | 21097072 21361887 | Volvo |
| | | | 441 032 387 0 | 738610136 | Renault |
| | | | | 21247154 | Volvo |
| | | | 441 032 955 0 | 20528658 | Volvo |
| | | | 441 032 962 0 | 7420528654 | Renault |
| | | 20528654 21361884 | | Volvo | |
| | | 441 032 964 0 | 738610140 7420509865 | Renault | |
| | | | 20509865 21361893 | Volvo | |
| | | 441 032 996 0 | 5010457875 7580299W | Renault | |
| | | | 20723706 21363475 | Volvo | |
| | | 2850 mm | 441 035 314 0 | 7421663561 | Renault |
| 21296833 21663561 | Volvo | | | | |
| 441 035 324 0 | 7421296842 | Renault | | | |
| | 21296842 21663167 | Volvo | | | |
|  Code B | 441 035 934 2 | 3950 mm | 441 032 348 0 | 20732820 20915973 21363492 | Volvo |
| | | | | 441 035 319 0 | 21296838 21663563 |
| | | | 441 035 329 0 | 21296847 21663169 | Volvo |
| | | | 441 035 330 0 | 21444282 21663168 | Volvo |
| | | | 441 035 334 0 | 7421663562 | Renault |
| 21444281 21663562 | Volvo | | | | |
|  Code B | 441 035 939 2 | 5550 mm | 441 032 350 0 | 5010457876 7420916173 7580250W | Renault |
| | | | | 20732822 20916173 21363495 | Volvo |
| | | | 441 032 389 0 | 738610141 | Renault |
| | | | | 21247157 | Volvo |
| 441 032 975 0 | 20554959 | Volvo | | | |



WABCO Cable Catalogue

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Check our WABCO Cable Catalogue. This document gives
an overview of the different cables used by WABCO.

Ask your sales representative to provide you with
a WABCO Cable Catalogue.

WABCO

Electronic braking system (EBS)

EBS truck electronic control unit (ECU)

| | |
|--------------------|---|
| ■ Voltage | 24 V |
| ■ Protection class | IP30 (IEC 529) |
| ■ Temperature | -40 ... +75 °C -40 ... +80 °C: 446 135 202 0, 446 135 203 0, 446 135 240 0, 446 135 250 0 |
| ■ Training | Classroom training: Truck EBS |



446 135 241 0

| Product number | Application | | Diagnostic software | Mounting | Distance between holes |
|----------------|----------------------------|-----------------|---------------------|-------------|------------------------|
| | Manufacturer | System | | | |
| 446 130 014 0 | Daimler | 4S/4M | EBS EPB MB Truck | Clamp | – |
| 446 130 015 0 | Daimler | 4S/4M S | EBS EPB MB Truck | Clamp | – |
| 446 130 018 0 | Daimler | 4S/4M | EBS EPB MB Truck | Clamp | – |
| 446 130 019 0 | Daimler | 4S/4M S | EBS EPB MB Truck | Clamp | – |
| 446 130 022 0 | EvoBus/Travego | 4S/4M | EBS EPB Bus | Clamp | – |
| 446 130 023 0 | EvoBus/Travego | 6S/6M | EBS EPB Bus | Clamp | – |
| 446 130 028 0 | EvoBus | 4S/4M | EBS EPB Bus | Clamp | – |
| 446 130 029 0 | EvoBus | 6S/6M | EBS EPB Bus | Clamp | – |
| 446 130 030 0 | EvoBus | 4S/4M | EBS EPB Bus | Clamp | – |
| 446 130 031 0 | EvoBus | 6S/6M | EBS EPB Bus | Clamp | – |
| 446 130 053 0 | Daimler | 4S/4M | EBS EPB MB Truck | Clamp | – |
| 446 130 062 0 | EvoBus | 4S/4M | EBS EPB Bus | Clamp | – |
| 446 130 067 0 | Daimler | 4S/4M | – | Clamp | – |
| 446 130 208 0 | Daimler | 4S/4M | EBS 3 | Clamp | – |
| 446 130 210 0 | Daimler | 4S/4M, 6S/6M | – | Clamp | – |
| 446 130 211 0 | EvoBus | 4S/4M, 6S/6M | – | Clamp | – |
| 446 130 212 0 | Daimler | 4S/4M | – | Clamp | – |
| 446 130 220 0 | Daimler | 4S/4M | – | Clamp | – |
| 446 135 003 0 | Nissan Diesel | 4S/4M | – | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 016 0 | Iveco | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 017 0 | DAF | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 018 0 | Iveco | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 030 0 | Neoplan | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 031 0 | Neoplan | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 039 0 | DAF | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 041 0 | Standard Bus | 4S/4M, 6S/6M | EBS Bus Standard | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 042 0 | DAF | 4S/4M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 051 0 | Hino Motors, Isuzu, Nissan | 4S/4M | EBS 1C Asia | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 052 0 | Nissan Diesel | 4S/4M | EBS 1C Asia | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 059 0 | Hyundai | 4S/4M, 6S/6M | EBS Euro | 4x Ø 7.5 mm | 163.0x182.5 mm |
| 446 135 202 0 | DAF | 4S/4M ... 6S/5M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 203 0 | DAF | 4S/4M ... 6S/5M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 240 0 | VDL/Bova | 4S/4M ... 6S/6M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 241 0 | VDL Bus & Coach | 4S/4M ... 6S/6M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 242 0 | VDL/Bova | 4S/4M ... 6S/6M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 245 0 | Hyundai | 4S/4M ... 6S/6M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |

ELECTRONIC BRAKING SYSTEM (EBS)

| Product number | Application | | Diagnostic software | Mounting | Distance between holes |
|----------------|--|-----------------|---------------------|-------------|------------------------|
| | Manufacturer | System | | | |
| 446 135 246 0 | FAW, Hino Motors, Isuzu, VDL Bus & Coach, VDL/Bova ... | 4S/4M ... 6S/6M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 248 0 | Kamaz | 4S/4M | – | Clamp | – |
| 446 135 250 0 | Hino Motors, Mitsubishi Fuso, Nissan Diesel, Hyundai | 4S/4M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |
| 446 135 253 0 | Hino Motors | 4S/4M | EBS 3 | 4x Ø 7.5 mm | 163.0x122.5 mm |

EBS truck Central Braking Unit (CBU)

- Temperature –40 ... +80 °C
- Voltage 24 V
- Mounting 4x M8



480 020 020 0



480 020 105 0

| Product number | Application | Max. pressure | Diagnostic software | Distance between holes | Port |
|----------------|-------------|---------------|---------------------|------------------------|---|
| 480 020 012 0 | Iveco | 12.7 bar | – | 61x61 mm | 11, 12, 21, 22: Ø 13 / Ø 17.9 mm; 23: Ø 8x1; 3: silencer |
| 480 020 020 0 | MAN | 12.7 bar | EBS CBU MAN | 84x32 mm | 11, 12, 21, 22: M22x1.5 JED-388-4; 23: M16x1.5 JED-388-4; 3: silencer |
| 480 020 028 0 | MAN | 12.7 bar | EBS CBU MAN | 84x32 mm | 11, 12, 21, 22: M22x1.5 JED-388-4; 23: M16x1.5 JED-388-4; 3: silencer |
| 480 020 105 0 | Daimler | 10.0 bar | – | 61x61 mm | 11, 12, 21, 22: M22x1.5 JED-388-4; 23: M16x1.5 JED-388-4; 3: silencer |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 480 020 012 0 | 480 020 920 2 | Cover |

EBS truck modulator

Truck EBS modulator - generation 1

| | |
|-------------------------|--|
| ■ Temperature | -40 ... +80 °C |
| ■ Max. pressure | 10 bar |
| ■ Voltage | 24 V |
| ■ Electrical connection | Bayonet DIN 72585 1A-4.1-Sn/K2 |
| ■ Protection class | IP66 / IP69K |
| ■ Port | 11, 12, 13, 21, 22: M22x1.5 JED-388 23: M16x1.5 JED-388 3: integrated silencer |



480 103 011 0

| Product number | Application | | Mounting | Distance | |
|--------------------------------|--------------|------------------------------------|-------------|----------|--------|
| | Manufacturer | System | | bolts | holes |
| 480 103 008 0 | EvoBus | additional axle, with backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 011 0 480 103 011 R | Daimler | 4x2 | 2x M12x1.50 | - | 100 mm |
| 480 103 012 0 480 103 012 R | Daimler | 6x2, 6x2/4, 6x4, 8x4 | 2x M12x1.50 | - | 100 mm |
| 480 103 013 0 | Daimler | 4x2 | 2x M12x1.50 | - | 100 mm |
| 480 103 014 0 | Daimler | 6x2, 6x4, 8x4 | 2x M12x1.50 | - | 100 mm |
| 480 103 015 0 480 103 015 R | Daimler | 4x2 | 2x M12x1.50 | - | 100 mm |
| 480 103 016 0 480 103 016 R | Daimler | all vehicles except 4x2 | 2x M12x1.50 | - | 100 mm |
| 480 103 022 0 | Iveco | drive axle 4x2, 6x2, 6x4 | 2x M12x1.75 | 100 mm | - |
| 480 103 024 0 | Iveco | Semitrailer tractor | 2x M12x1.75 | 100 mm | - |
| 480 103 025 0 | Iveco | Truck | 2x M12x1.75 | 100 mm | - |
| 480 103 033 0 | - | Front axle | 2x M12x1.25 | 100 mm | - |
| 480 103 035 0 | Hino Motors | Front axle & AOH | 2x M12x1.25 | 100 mm | - |
| 480 103 041 0 | DAF | 4x2 with backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 042 0 | DAF | 6x2 with backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 043 0 | DAF | 4x2 without backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 061 0 | Neoplan | additional axle, with backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 063 0 | Standard bus | drive axle 4x2 with backup valve | 2x M12x1.50 | - | 100 mm |
| 480 103 066 0 | EvoBus | drive axle 4x2 with backup valve | 2x M12x1.50 | - | 100 mm |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------|-----------------|---------------|----------|
| ■ 480 103 008 0 | 480 103 921 2 | Silencer | ■ 480 103 035 0 | 480 103 921 2 | Silencer |
| ■ 480 103 011 0 | 480 103 921 2 | Silencer | ■ 480 103 041 0 | 480 103 921 2 | Silencer |
| ■ 480 103 012 0 | 480 103 921 2 | Silencer | ■ 480 103 042 0 | 480 103 921 2 | Silencer |
| ■ 480 103 013 0 | 480 103 921 2 | Silencer | ■ 480 103 043 0 | 480 103 921 2 | Silencer |
| ■ 480 103 014 0 | 480 103 921 2 | Silencer | ■ 480 103 061 0 | 480 103 921 2 | Silencer |
| ■ 480 103 015 0 | 480 103 921 2 | Silencer | ■ 480 103 063 0 | 480 103 921 2 | Silencer |
| ■ 480 103 016 0 | 480 103 921 2 | Silencer | ■ 480 103 066 0 | 480 103 921 2 | Silencer |
| ■ 480 103 022 0 | 480 103 921 2 | Silencer | | | |
| ■ 480 103 024 0 | 480 103 921 2 | Silencer | | | |
| ■ 480 103 025 0 | 480 103 921 2 | Silencer | | | |
| ■ 480 103 033 0 | 480 103 921 2 | Silencer | | | |

ELECTRONIC BRAKING SYSTEM (EBS)

Truck EBS modulator - generation 2

| | |
|--------------------------|--|
| ■ Temperature | -40 ... +80 °C |
| ■ Voltage | 24 V |
| ■ Electrical connection | Bayonet DIN 72585 1A-4.1-Sn/K2 |
| ■ Protection class | IP6K6K / IP6K9K |
| ■ Port | 11, 12, 21, 22: M22×1.5 JED-388-4 3: integrated silencer 4: M16×1.5 JED-388-4 |
| ■ Mounting | 2× M12×1.5 |
| ■ Distance between holes | 100 mm |



480 104 003 0

| Product number | Application | | Max. pressure |
|----------------|------------------|--|---------------|
| | Manufacturer | System | |
| 480 104 001 0 | Hino Motors | drive axle 2S 2M | 12.5 bar |
| 480 104 002 0 | DAF, Hino Motors | drive axle 2S 2M | 12.5 bar |
| 480 104 003 0 | DAF | drive axle 2S 2M without backup valve | 12.5 bar |
| 480 104 005 0 | Iveco | drive axle 2S 2M 2W without backup valve | 12.5 bar |
| 480 104 006 0 | Iveco | drive axle 2S 2M 2W | 12.5 bar |
| 480 104 007 0 | Standard Bus | additional axle 2S 2M 2W | 12.5 bar |
| 480 104 008 0 | Hyundai | drive axle 2S 2M 2W | 12.5 bar |
| 480 104 009 0 | Standard Bus | drive axle 2S 2M 2W | 12.5 bar |
| 480 104 106 0 | MAN | drive axle 2S 2M 4W | 12.8 bar |
| 480 104 107 0 | MAN | additional axle 2S 2M 2W/4W | 12.8 bar |
| 980 104 005 0 | Hino Motors | drive axle 2S 2M | 12.5 bar |
| 980 104 006 0 | Hino Motors | drive axle 2S 2M | 12.5 bar |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|------------------------|-----------------|---------------|------------------------|
| ■ 480 104 001 0 | 480 104 920 2 | Valve piston | ■ 480 104 007 0 | 480 104 920 2 | Valve piston |
| | 480 104 921 2 | Solenoid | | 480 104 921 2 | Solenoid |
| | 480 104 922 2 | Pressure sensor module | | 480 104 922 2 | Pressure sensor module |
| | 480 106 920 2 | Valve Filter | | 480 106 920 2 | Valve Filter |
| ■ 480 104 002 0 | 480 104 920 2 | Valve piston | ■ 480 104 008 0 | 400 500 925 2 | Valve body |
| | 480 104 921 2 | Solenoid | | 480 104 920 2 | Valve piston |
| | 480 104 922 2 | Pressure sensor module | | 480 104 921 2 | Solenoid |
| | 480 106 920 2 | Valve Filter | | 480 104 922 2 | Pressure sensor module |
| ■ 480 104 003 0 | 480 104 920 2 | Valve piston | ■ 480 104 009 0 | 480 106 920 2 | Valve Filter |
| | 480 104 921 2 | Solenoid | | 480 104 920 2 | Valve piston |
| | 480 106 920 2 | Valve Filter | | | 480 104 921 2 |
| ■ 480 104 005 0 | 400 500 925 2 | Valve body | | | 480 104 922 2 |
| | 480 104 920 2 | Valve piston | 480 106 920 2 | Valve Filter | |
| | 480 104 921 2 | Solenoid | ■ 480 104 106 0 | 400 500 925 2 | Valve body |
| | 480 106 920 2 | Valve Filter | | 480 104 920 2 | Valve piston |
| ■ 480 104 006 0 | 400 500 925 2 | Valve body | | 480 104 921 2 | Solenoid |
| | 480 104 920 2 | Valve piston | | 480 106 920 2 | Valve Filter |
| | 480 104 921 2 | Solenoid | ■ 480 104 107 0 | 400 500 925 2 | Valve body |
| | | | | 480 104 920 2 | Valve piston |
| | | 480 104 921 2 | | Solenoid | |
| | | 480 106 920 2 | | Valve Filter | |

Truck EBS modulator - generation 3

| | |
|-------------------------|---|
| ■ Temperature | -40 ... +80 °C |
| ■ Max. pressure | 13 bar |
| ■ Voltage | 24 V |
| ■ Electrical connection | Bayonet DIN 72585 1A-4.1-Sn/K2 |
| ■ Protection class | IP6K6K / IP6K9K |
| ■ Port | 11, 21, 22: M22x1.5 JED-388-4 3: integrated silencer 4: M16x1.5 JED-388-4 |



480 105 006 0

| Product number | Application | | Mounting | Distance between holes |
|----------------|--------------|---------------|-------------|------------------------|
| | Manufacturer | System | | |
| 480 105 006 0 | EvoBus | 4x2 | 2x M12x1.50 | 100 mm |
| 480 105 007 0 | EvoBus | 6x2, 6x4, 8x4 | 2x M12x1.50 | 100 mm |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------|
| ■ 480 105 006 0 | 480 104 921 2 | Solenoid |
| | 480 106 920 2 | Valve Filter |
| | 480 106 921 2 | Valve piston |
| ■ 480 105 007 0 | 480 104 921 2 | Solenoid |
| | 480 106 920 2 | Valve Filter |
| | 480 106 921 2 | Valve piston |

Truck EBS modulator - generation 4

| | |
|-------------------------|--|
| ■ Temperature | -40 ... +80 °C |
| ■ Max. pressure | 13 bar |
| ■ Voltage | 24 V |
| ■ Electrical connection | HDSCS |
| ■ Protection class | IP6K6K / IP6K9K |
| ■ Port | 11, 21, 22: M22x1.5 JED-388-4 3: silencer 4: M16x1.5 JED-388-4 |



480 106 105 0

| Product number | Application | | Mounting | Distance between holes |
|----------------|---------------------|-----------|------------|------------------------|
| | Manufacturer | System | | |
| 480 106 053 0 | EvoBus | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 103 0 | Hyundai | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 104 0 | Hino Motors | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 105 0 | DAF | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 106 0 | DAF | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 201 0 | Standard Bus | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 202 0 | Standard Bus | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 203 0 | Solaris Bus & Coach | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 204 0 | Standard Bus | 2-channel | 2x M12x1.5 | 100 mm |
| 480 106 553 0 | EvoBus | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 603 0 | Hyundai Mobis | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 604 0 | Hino Motors | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 605 0 | DAF | 1-channel | 2x M12x1.5 | 50 mm |

ELECTRONIC BRAKING SYSTEM (EBS)

| Product number | Application | | Mounting | Distance between holes |
|----------------|---------------------|-----------|------------|------------------------|
| | Manufacturer | System | | |
| 480 106 606 0 | DAF | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 607 0 | DAF | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 608 0 | DAF | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 701 0 | Standard Bus | 1-channel | 2x M12x1.5 | 50 mm |
| 480 106 702 0 | Solaris Bus & Coach | 1-channel | 2x M12x1.5 | 50 mm |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|------------------------------|
| ■ 480 106 053 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 103 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 104 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 105 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 106 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 201 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 202 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 203 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 204 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 553 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 603 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 604 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 605 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 606 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 607 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 608 0 | 480 106 921 2 | Valve piston |
| ■ 480 106 701 0 | 480 106 920 2 480 106 921 2 | Valve filter Valve piston |
| ■ 480 106 702 0 | 480 106 921 2 | Valve piston |

EBS trailer control valve

| | |
|--------------------------|-----------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Protection class | IP6K6K / IP6K9K |
| ■ Mounting | 3x M8 |
| ■ Distance between holes | 80x80 mm |



480 204 002 0



480 204 003 0



480 204 030 0



480 204 032 0



480 204 041 0

| Product number | Voltage | Electrical connection | Output pressure (p22) / max. pressure | Port |
|----------------|---------|-----------------------|---------------------------------------|--|
| 480 204 002 0 | 24 V | Bayonet DIN 72585 | 8.5 bar | 11, 21, 22: M22x1.5 JED-388-0; 3: silencer; 42, 43: M16x1.5 JED-388-0 |
| 480 204 003 0 | 24 V | Bayonet DIN 72585 | 8.5 bar | 11, 21, 22: M22x1.5 JED-388-0; 3: snap on contour; 42, 43: M16x1.5 JED-388-0 |
| 480 204 030 0 | 24 V | HDSCS connector Code | 8.5 bar | 11, 21, 22: M22x1.5 JED-388-4; 3: silencer; 42, 43: M16x1.5 JED-388-4 |
| 480 204 031 0 | 24 V | HDSCS connector Code | 8.5 bar | 11, 21, 22: M22x1.5 JED-388-4; 3: silencer; 42, 43: M16x1.5 JED-388-4 |
| 480 204 032 0 | 24 V | HDSCS connector Code | 8.5 bar | 11, 21, 22: M22x1.5 JED-388-4; 3: silencer; 42, 43: M16x1.5 JED-388-4 |
| 480 204 041 0 | 12 V | HDSCS connector Code | 7.5 bar | 11, 21, 22: M22x1.5 JED-388-4; 3: silencer; 43: M16x1.5 JED-388-4 |
| 480 204 042 0 | 12 V | HDSCS connector Code | 7.5 bar | 11, 21, 22: M22x1.5 JED-388-4; 3: silencer; 42, 43: M16x1.5 JED-388-4 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------|
| ■ 480 204 002 0 | 480 204 920 2 | Valve piston |
| ■ 480 204 003 0 | 480 204 920 2 | Valve piston |

ELECTRONIC BRAKING SYSTEM (EBS)

EBS brake signal transmitter

| | |
|--------------------------|---|
| ■ Temperature | -40 ... +80 °C |
| ■ Electrical connection | * Bayonet DIN 72585 |
| ■ Mounting | 4x M8 (480 001 300 0: 3x M8x1.5) (480 001 500 0: 3x M8) |
| ■ Distance between bolts | 61x61 mm (480 001 300 0: holes 80x50 mm) (480 001 400 0, 480 001 401 0: holes 61x61 mm) |



| Product number | Application | Max. pressure | Electrical connection | Voltage | Port |
|----------------|---|---------------|---|------------|--|
| 480 001 000 0 | Mercedes-Benz | 10.0 bar | 2x Bayonet* 4 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: Union Ø 16.0; 4: M16x1.5 JED-388 |
| 480 001 005 0 | EvoBus | 10.0 bar | 2x Bayonet* 4 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: Union Ø 16.0 |
| 480 001 010 0 | Daimler | 10.0 bar | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 12, 21, 22: Voss 232 NG12; 3: silencer 480 001 520 2; 4: Voss 232 NG8 |
| 480 001 011 0 | Daimler | 10.0 bar | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 12, 21, 22: Voss 232 NG12; 3: silencer 480 001 520 2 |
| 480 001 300 0 | Iveco | 10.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 8 ... 32 V | 11, 12: M16x1.5; 21, 22: Ø 13 / Ø 17.9; 3: silencer |
| 480 001 400 0 | Hino Motors, Nissan Diesel/ UD Trucks | 10.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 9 ... 32 V | 11, 12, 21, 22: M16x1.5 JED-152; 3: Union Ø 16.0 |
| 480 001 401 0 | Isuzu, Hino Motors, Nissan Diesel / UD Trucks | 10.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 9 ... 32 V | 11, 12, 21, 22: M16x1.5 JED-152; 3: Union Ø 16.0 |
| 480 001 500 0 | Paccar, Solaris | 10.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: silencer 480 001 520 2 |
| 480 003 000 0 | Daimler | 13.0 bar | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388; 12, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 001 0 | Daimler | 13.0 bar | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388; 12, 22: M16x1.5 JED-388-4; 3: Union Ø 16.0 |
| 480 003 002 0 | Hino Motors | 13.0 bar | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 21: Voss 232 NG12; 12, 22: Voss 232 NG8; 3: silencer |
| 480 003 003 0 | Nissan Diesel/ UD Trucks | 13.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388; 12, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 004 0 | DAF | 13.0 bar | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 9 ... 32 V | 11, 21: Voss 232 NG12; 12, 22: Voss 232 NG8; 3: silencer |
| 480 003 030 0 | EvoBus | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 032 0 | Hino Motors | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: Voss 232 NG8; 3: silencer |
| 480 003 033 0 | Hunday | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |

| Product number | Application | Max. pressure | Electrical connection | Voltage | Port |
|----------------|---|---------------|-----------------------|---------|--|
| 480 003 038 0 | Mercedes-Benz | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 039 0 | CNHTC, Kinglong, Yutong | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 041 0 | Isuzu | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 042 0 | Nissan Diesel/ UD Trucks, Mitsubishi Fuso | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 044 0 | DAF | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: Voss 232 NG8; 3: silencer |
| 480 003 050 0 | Daimler | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 058 0 | Daimler | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 003 060 0 | Daimler | 12.5 bar | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |

EBS brake signal transmitter with pedal

- **Temperature** -40 ... +80 °C
- **Electrical connection** * Bayonet DIN 72585
- **Distance between holes** 118x182 mm
(480 002 202 0: 116x174 mm)
(480 002 203 0, 480 002 208 0: special)



480 002 000 0



480 002 003 0



480 002 021 0



480 002 103 0

| Product number | Application | Max. pressure | Pedal angle | Electrical connection | Voltage | Port |
|----------------|--------------------------------------|---------------|-------------|--------------------------------------|------------|--|
| 480 002 000 0 | EvoBus | 10.0 bar | 46° | 2x Bayonet* 4 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: Union Ø 16.0 |
| 480 002 003 0 | Bus | 10.0 bar | 45° | 2x Bayonet* 4 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: Union Ø 16.0 |
| 480 002 004 0 | EvoBus | 10.0 bar | 25° | 2x Bayonet* 4 pol | 8 ... 32 V | 11, 12, 21, 22: M22x1.5 JED-388; 3: Union Ø 16.0 |
| 480 002 020 0 | EvoBus | 13.0 bar | 25° | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388-4; 12, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 002 021 0 | VDL Bus & Coach, Foton Motor, Yutong | 10.0 bar | 25° | 1x Bayonet* 4 pol; 1x Bayonet* 7 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388-4; 12, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 002 022 0 | Bus | 10.0 bar | 46° | 2x Bayonet* 4 pol | 9 ... 32 V | 11, 21: M22x1.5 JED-388-4; 12, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 002 102 0 | Bus | 13.0 bar | 25° | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |
| 480 002 103 0 | Daimler, Yutong, Foton Motor, CNHTC | 13.0 bar | 46° | HDSCS | 24 V | 11, 12, 21, 22: M16x1.5 JED-388-4; 3: silencer |

ELECTRONIC BRAKING SYSTEM (EBS)

| Product number | Application | Max. pressure | Pedal angle | Electrical connection | Voltage | Port |
|----------------|-----------------|---------------|-------------|-----------------------|------------|--|
| 480 002 121 0 | EvoBus | 13.0 bar | 25° | HDSCS | 24 V | 11, 12, 21, 22: M16×1.5 JED-388-4; 3: silencer |
| 480 002 202 0 | Mitsubishi Fuso | 12.5 bar | 54° | HDSCS | 24 V | 11, 12, 21, 22: M16×1.5 JED-388-4; 3: silencer |
| 480 002 203 0 | Hino Motors | 12.5 bar | 56° | HDSCS | 24 V | 11, 12, 21, 22: M16×1.5 JED-388-4; 3: silencer |
| 480 002 208 0 | Hino Motors | 13.0 bar | 56° | HDSCS | 9 ... 32 V | 11, 12, 21, 22: M16×1.5 JED-388-4; 3: silencer |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-------------|-----------------|---------------|-------------|
| ■ 480 002 000 0 | 480 002 920 2 | Pedal cover | ■ 480 002 020 0 | 480 002 920 2 | Pedal cover |
| ■ 480 002 003 0 | 480 002 920 2 | Pedal cover | ■ 480 002 021 0 | 480 002 920 2 | Pedal cover |
| ■ 480 002 004 0 | 480 002 920 2 | Pedal cover | ■ 480 002 022 0 | 480 002 920 2 | Pedal cover |

EBS proportional relay valve

| | |
|--------------------------|-------------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Voltage (V) | 24 V |
| ■ Electrical connection | Bayonet DIN 72585 |
| ■ Protection class | IP6K6K / IP6K9K |
| ■ Mounting | 3× M8 |
| ■ Distance between holes | 100×64 mm |



480 202 004 0

| Product number | Max. pressure | Port |
|----------------|---------------|--|
| 480 202 004 0 | 10.0 bar | 1, 21, 22: M22×1.5 JED-388-4; 3: silencer; 4: M16×1.5 JED-388-4 |
| 480 202 005 0 | 10.0 bar | 1: 2× M22×1.5 JED-388-4; 21, 22: M22×1.5 JED-388-4; 3: silencer 432 407 050 0; 4: M16×1.5 JED-388-4 |
| 480 202 007 0 | 10.0 bar | 1, 21, 22, 3: M22×1.5 JED-388-4; 4: M16×1.5 JED-388-4 |
| 480 202 009 0 | 12.5 bar | 1, 21, 22: M22×1.5 JED-388-4; 3: silencer 432 407 050 0; 4: M16×1.5 JED-388-4 |
| 480 202 010 0 | 12.5 bar | 1, 21, 22: M22×1.5 JED-388-4; 3: silencer; 4: M16×1.5 JED-388-4 |
| 480 202 012 0 | 12.5 bar | 1: M22×1.5 JED-388-4 with filter; 21, 22: M22×1.5 JED-388-4; 3: silencer 432 407 050 0; 4: M16×1.5 JED-388-4 |
| 480 202 200 0 | 10.0 bar | 1, 21, 22: M22×1.5 JED-388-4; 3: silencer 432 407 050 0; 4: M16×1.5 JED-388-4 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|--------------|-----------------|---------------|--------------|
| ■ 480 202 004 0 | 480 202 921 2 | Valve piston | ■ 480 202 010 0 | 480 202 921 2 | Valve piston |
| ■ 480 202 005 0 | 480 202 921 2 | Valve piston | ■ 480 202 012 0 | 480 202 921 2 | Valve piston |
| ■ 480 202 009 0 | 480 202 921 2 | Valve piston | ■ 480 202 200 0 | 480 202 921 2 | Valve piston |

EBS solenoid relay valve

| | |
|--------------------------|--------------------------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Voltage (V) | 24 V |
| ■ Electrical connection | Bayonet DIN 72585 1A-2.1-Sn/K2 |
| ■ Mounting | 4× M8 |
| ■ Distance between holes | 75×75 mm |



480 205 001 0



480 205 102 0



480 205 104 0



480 205 106 0

| Product number | Max. pressure | Protection class | Port |
|----------------|---------------|------------------|---|
| 480 205 001 0 | 10.2 bar | IP66 / IP69K | 1: M22×1.5 JED-388; 2: M22×1.5 JED-388 + 1x closed; 3: exhaust; 41, 42, 43: M16×1.5 JED-388 |
| 480 205 010 0 | 10.2 bar | IP66 / IP69K | 1: M22×1.5 JED-388; 2: M22×1.5 JED-388 + 1x closed; 3: exhaust; 41, 42, 43: M16×1.5 JED-388 |
| 480 205 101 0 | 10.2 bar | IP66 / IP69 | 1: M22×1.5; 2: 2× M22×1.5; 3: exhaust; 42: M16×1.5 |
| 480 205 102 0 | 13.0 bar | IP6K / IP69 | 1: M22×1.5; 2: 2× M22×1.5; 3: exhaust; 42: M16×1.5 |
| 480 205 103 0 | 13.0 bar | IP6K7 | 1: M22×1.5 JED-388; 2: 2× M22×1.5 JED-388; 3: exhaust; 42: M16×1.5 JED-388 |
| 480 205 104 0 | 13.0 bar | IP6K6K / IP6K9K | 1: M22×1.5 JED-388; 2: M22×1.5 JED-388 + 1x closed; 3: exhaust; 42: M16×1.5 JED-388 |
| 480 205 106 0 | 13.0 bar | IP6K6K / IP6K9K | 1: M22×1.5 JED-388; 2: M22×1.5 JED-388 + 1x closed; 3: snap on contour JED-463-0; 42: M16×1.5 JED-388 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 480 205 104 0 | 480 205 921 2 | Valve |

ELECTRONIC BRAKING SYSTEM (EBS)

Parking brake

Hand brake valve

- Temperature
 - 40 ... +80 °C
 - 961 710 055 0: –40 ... +75 °C
 - 961 721 002 0: –20 ... +100 °C



461 700 000 0



961 723 036 0

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|-----------------|-------------|------------------------|--|
| 461 700 000 0 | 8.0 bar | 80° | black | 2x Ø 9 mm | 25x47 mm | 1, 21, 3: M22x1.5 |
| 461 700 006 0 | 8.0 bar | 90° | steel untreated | 2x Ø 9 mm | 47 mm | 1, 21, 3: M22x1.5 |
| 461 704 035 0 | 7.36 bar | 120° | chromated | 2x Ø 8.5 mm | 22 mm | 1, 21, 3: M12x1.5 |
| 461 704 046 0 | 10.0 bar | 7° / 45° | black | 2x Ø 8.5 mm | 22 mm | 1, 21, 3: M12x1.5 |
| 884 501 929 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 710 055 0 | 10.0 bar | 50° | – | 2x M6 | 80 mm | 1, 21: M12x1.5; 3: hose nozzle Ø 8 mm |
| 961 721 002 0 | 20.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 12 mm |
| 961 721 007 0 | 10.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 721 037 0 | 20.0 bar | 90° | black/yellow | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: M12x1 |
| 961 721 041 0 | 10.0 bar | 75° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 045 0 | 10.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: Rp ¼" (ISO 7/1); 3: flap |
| 961 721 050 0 | 10.0 bar | 90° | red | 2x M6 | 65 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 051 0 | 10.0 bar | 90° | black | 2x M6 | 65 mm | 1, 21: M14x1.5; 3: flap |
| 961 721 053 0 | 10.0 bar | 90° | green | 2x M6 | 39x25 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 054 0 | 10.0 bar | 90° | red/ black | 2x M6 | 65 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 722 170 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 171 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 182 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 183 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 187 0 | 10.0 bar | 73° | red | 2x M8 | 40 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 223 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 315 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 316 0 | 10.0 bar | 73° | red | 2x M8 | 40 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 723 033 0 | 10.0 bar | 42° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 034 0 | 11.0 bar | 73° | red/black | 2x M6 | 80 mm | 1, 21: M16x1.5; 3: flap |
| 961 723 036 0 | 10.0 bar | 53° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|--------|----------|------------------------|--|
| 961 723 134 0 | 10.0 bar | 53° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 300 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 304 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 424 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|--------------------------------|-----------------|--------------------------------|---------------------------------------|
| ■ 461 700 000 0 | 461 700 009 2 | Valve | ■ 961 721 041 0 | 961 721 920 2 | Valve piston |
| ■ 461 700 006 0 | 461 700 009 2 | Valve | ■ 961 721 053 0 | 961 721 004 2 961 721 920 2 | Valve + venting guide Valve piston |
| ■ 461 704 035 0 | 461 704 009 2 | Valve | ■ 961 723 300 0 | 961 723 001 2 961 723 930 2 | Filter Protection hood + handle |
| ■ 961 721 002 0 | 961 721 006 2 | Compression spring | ■ 961 723 304 0 | 961 723 001 2 | Filter |
| ■ 961 721 007 0 | 961 721 008 2 | Valve | | | |
| ■ 961 721 037 0 | 961 721 004 2 961 721 008 2 | Valve + venting guide Valve | | | |

Hand brake valve - parking

- **Temperature** -40 ... +80 °C
 961 701 105 0: -10 ... +120°C
 961 710 056 0: -40 ... +75°C
 961 721 501 0: -30 ... +80°C
- **Voltage** * 24 V
 723 539 000 8, 723 539 500 8: 24 ... 28 V



| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|-----------|-----------|------------------------|--|
| 723 539 000 8 | 10.0 bar | 34°/34° | black | 2x M6 | 110 mm | 1, 21: M16x1.5; 22: M14x1.5; 3: hose nozzle Ø 9 mm |
| 723 539 500 8 | 10.0 bar | 34°/34° | black | 2x M6 | 110 mm | 1, 21: M16x1.5; 22: M14x1.5; 3: hose nozzle Ø 9 mm |
| 884 058 381 0* | 10.0 bar | 73° | black/red | 2x M8 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 884 502 507 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21: M16x1.5; 22: M16x1.5; 3: hose nozzle Ø 11 mm |
| 961 701 100 0 | 8.0 bar | 84° | black | 2x Ø 7 mm | 75 mm | 1, 21, 3: M14x1.5 |
| 961 701 105 0 | 8.0 bar | 84° | black | 2x Ø 7 mm | 75 mm | 1, 21, 3: M14x1.5 |
| 961 701 110 0 | 8.0 bar | 84° | black | 2x Ø 7 mm | 75 mm | 1, 21, 3: M14x1.5 |

ELECTRONIC BRAKING SYSTEM (EBS)

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|------------|-------------|------------------------|--|
| 961 710 056 0 | 12.0 bar | 50° | black | 2x M6 | 32x39 mm | 1, 21: M12x1.5; 3: hose nozzle Ø 7.9 mm |
| 961 721 004 0 | 20.0 bar | 90° | black | 2x M6 | 65 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 011 0 | 20.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 019 0 | 10.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 044 0 | 20.0 bar | 90° | black | 2x M6 | 65 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 501 0 | 10.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 150 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 151 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 157 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 158 0 | 10.0 bar | 73° | black | 2x Ø 6.5 mm | 80 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 164 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6.0 mm |
| 961 722 179 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 8.5 mm |
| 961 722 210 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21: Ø 12.5 mm; 3: hose nozzle Ø 8.5 mm |
| 961 722 232 0 | 10.0 bar | | black | M8 | | |
| 961 722 251 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 262 0 | 10.0 bar | 73° | black | 2x Ø 6.5 mm | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 264 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 265 0 | 10.0 bar | 73° | black | 3x M6 | 30x30 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 275 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 284 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 292 0* | 10.0 bar | 73° | black | 2x M6 | 80 mm | 11, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 325 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 326 0 | 10.0 bar | 73° | black | 2x Ø 6.5 mm | 80 mm | 11, 12, 21, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 723 001 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 003 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 8.5 mm |
| 961 723 004 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: flap |
| 961 723 005 0 | 10.0 bar | 73° | green-grey | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 007 0* | 11.0 bar | 73° | red | 2x M6 | 80 mm | 1, 21: M16x1.5; 3: flap |
| 961 723 008 0 | 16.5 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 009 0* | 10.0 bar | 73° | green-grey | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 012 0 | 16.5 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16 JED-464; 3: hose nozzle Ø 8.5 mm |

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|-------------|-----------|------------------------|---|
| 961 723 015 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 016 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 8.5 mm |
| 961 723 019 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 021 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 022 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 023 0* | 11.0 bar | 73° | red | 2x M6 | 80 mm | 1, 21: M16x1.5; 3: flap |
| 961 723 025 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 026 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 027 0* | 13.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 028 0 | 11.0 bar | 85° | black | 2x M8 | 80 mm | 1, 21, 22, 3: M16x1.5 JED-388 |
| 961 723 030 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 031 0* | 10.0 bar | 73° | red | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 038 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 040 0 | 10.0 bar | 85° | grey | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 042 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 043 0 | 10.0 bar | 73° | red/black | 2x M8 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 050 0 | 10.0 bar | 85° | black | 2x Ø 7 mm | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 086 0 | 10.0 bar | 85° | black/white | 2x Ø 7 mm | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|---------------------------------------|-----------------|---------------|---------|
| ■ 961 721 011 0 | 961 721 004 2 961 721 920 2 | Valve + venting guide Valve piston | ■ 961 723 003 0 | 961 723 001 2 | Filter |
| ■ 961 721 019 0 | 961 721 004 2 961 721 920 2 | Valve + venting guide Valve piston | ■ 961 723 004 0 | 961 723 001 2 | Filter |
| ■ 961 721 044 0 | 961 721 004 2 961 721 920 2 | Valve + venting guide Valve piston | ■ 961 723 012 0 | 961 723 001 2 | Filter |
| ■ 961 723 001 0 | 961 723 001 2 961 723 930 2 | Filter Protection hood + handle | ■ 961 723 015 0 | 961 723 001 2 | Filter |
| | | | ■ 961 723 016 0 | 961 723 001 2 | Filter |
| | | | ■ 961 723 040 0 | 961 723 001 2 | Filter |

ELECTRONIC BRAKING SYSTEM (EBS)

Hand brake valve - parking with additional valve

■ **Temperature** -40 ... +80 °C
 961 702 004 0: -10 ... +120°C
 961 721 127 0: -30 ... +80°C

■ **Voltage** * 24 V



961 721 000 0



961 723 118 0



961 723 215 0



961 723 217 0

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|------------|--------------|------------------------|--|
| 961 702 001 0 | 8.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 702 004 0 | 8.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 702 005 0 | 8.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 702 011 0 | 8.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 702 030 0 | 10.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 702 031 0 | 10.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 703 002 0 | 8.0 bar | 90° | black | 2x Ø 7 mm | 75 mm | 1, 22, 3: M14x1.5 |
| 961 721 000 0 | 10.0 bar | 90° | black | 2x M6 | 39x32 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 040 0 | 10.0 bar | 75° | green grey | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.2 mm |
| 961 721 127 0 | 10.0 bar | 90° | black | 2x M6 | 32x39 mm | 1, 21: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 212 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: Ø 12.5 mm; 3: hose nozzle Ø 8.5 mm |
| 961 722 214 0 | 10.0 bar | 73° | black | 3x Ø 5.45 mm | 70x76 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 240 0 | 10.0 bar | 73° | black | 2x M8 | 80 mm | 11, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 8.5 mm |
| 961 722 252 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 258 0 | 10.0 bar | 69° | black | 2x M6 | 80 mm | 11, 12, 21, 22, 23: M14x1.5; 3: flap |
| 961 722 260 0 | 10.0 bar | 69° | black | 2x M8 | 80 mm | 11, 12, 21, 22, 23: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 266 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 267 0* | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M14x1.5; 3: flap |
| 961 722 269 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 278 0 | 10.0 bar | 73° | black | 2x M8 | 40 mm | 11, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 722 291 0* | 10.0 bar | 73° | black | 2x M6 | 80 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 302 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 305 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|--------------|---|------------------------|---|
| 961 722 314 0 | 10.0 bar | 73° | black | 3x Ø 5.45 mm | 70x58 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 722 324 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 11, 21, 22: M14x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 723 039 0 | 10.0 bar | 73° | grey | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 041 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 049 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 051 0* | 10.0 bar | 73° | black | 2x Ø 9.0 mm | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 100 0 | 10.0 bar | 73° | black | 2x Ø 6.5 mm | 80 mm | 1, 21, 22: M16x1.5; 3: hose nozzle Ø 8.5 mm |
| 961 723 102 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 104 0 | 10.0 bar | 73° | green-grey | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 107 0* | 10.0 bar | 73° | green-grey | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 108 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 109 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 111 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 112 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 116 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 8.5 mm |
| 961 723 117 0* | 11.0 bar | 73° | red | 2x M6 | 80 mm | 1, 21, 22: M16x1.5; 3: flap |
| 961 723 118 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 120 0* | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 122 0 | 10.0 bar | 73° | black/ white | 4x Ø 9.0 mm / 2x Ø 6.5 mm / 2x Ø 6.0 mm | 44x80 mm | 1, 21, 22: M16x1.5; 3: flap |
| 961 723 123 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 124 0 | 10.0 bar | 73° | black | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 125 0 | 11.0 bar | 73° | black | 2x M8 | 80 mm | 1, 21, 22, 3: M16x1.5 JED-388 |
| 961 723 126 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 127 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 130 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 139 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 140 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 143 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 200 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 203 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |

ELECTRONIC BRAKING SYSTEM (EBS)

| Product number | Max. pressure | Actuation | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------|--------------|---|------------------------|---|
| 961 723 204 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 208 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 212 0 | 10.0 bar | 85° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 214 0* | 11.0 bar | 85° | red | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 961 723 215 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 217 0 | 10.0 bar | 73° | black/ white | 4x Ø 9.0 mm / 2x Ø 6.5 mm / 2x Ø 6.0 mm | 44x80 mm | 1, 21, 22: M16x1.5; 3: flap |
| 961 723 962 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21, 22: M16x1.5; 3: hose nozzle Ø 6 mm |
| 961 724 224 0 | 8.5 bar | 59.5° | dark grey | 6x Ø 8.0 mm | special console | 1, 21, 22: quick connection; 3: hose nozzle Ø 6 mm |
| 961 724 225 0 | 8.5 bar | 59.5° | dark grey | 6x Ø 8.0 mm | special console | 1, 21, 22: quick connection; 3: hose nozzle Ø 6 mm |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|---------------------------------------|
| ■ 961 721 000 0 | 961 721 008 2 | Valve |
| ■ 961 721 040 0 | 961 721 920 2 | Valve piston |
| ■ 961 721 127 0 | 961 721 004 2 961 721 920 2 | Valve + venting guide Valve piston |
| ■ 961 723 039 0 | 961 723 001 2 | Filter |
| ■ 961 723 102 0 | 961 723 009 2 | Valve |
| ■ 961 723 108 0 | 961 723 009 2 961 723 930 2 | Valve Protection hood + handle |
| ■ 961 723 109 0 | 961 723 009 2 | Valve |
| ■ 961 723 117 0 | 961 723 009 2 | Valve |
| ■ 961 723 122 0 | 961 723 009 2 | Valve |
| ■ 961 723 139 0 | 961 723 001 2 | Filter |
| ■ 961 723 140 0 | 961 723 001 2 | Filter |
| ■ 961 723 143 0 | 961 723 009 2 | Valve |
| ■ 961 723 200 0 | 961 723 009 2 961 723 930 2 | Valve Protection hood + handle |
| ■ 961 723 203 0 | 961 723 930 2 | Protection hood + handle |
| ■ 961 723 204 0 | 961 723 009 2 | Valve |
| ■ 961 723 208 0 | 961 723 009 2 | Valve |
| ■ 961 723 212 0 | 961 723 009 2 | Valve |
| ■ 961 723 214 0 | 961 723 009 2 | Valve |
| ■ 961 723 215 0 | 961 723 009 2 | Valve |

Hand brake valve for trailer control

- Temperature −40 ... +80 °C
- Voltage * 24 V



961 723 403 0



961 723 421 0



961 723 423 0



961 723 428 0

| Product number | Max. pressure | Actuating range | Colour | Mounting | Distance between holes | Port |
|----------------|---------------|-----------------|-------------|-------------|------------------------|---|
| 884 501 922 0 | 10.0 bar | 7°/45° | black | 2x Ø 8.5 mm | 22 mm | 1, 21, 22: M16x1.5 JED-388 |
| 884 502 105 0 | 10.0 bar | 73° | red | 2x M6 | 80 mm | 1, 2: ¼"-18 NPT; 3: hose nozzle Ø 8.5 mm |
| 884 502 521 0 | 11.0 bar | 85° | black | 2x M8 | 90 mm | 1, 21, 22: M16x1.5 JED-388; 3: flap |
| 884 503 028 0 | 10.0 bar | 7°/45° | black | 2x Ø 8.5 mm | 22 mm | 1, 21, 3: M16x1.5 JED-388 |
| 884 503 166 0 | 10.0 bar | 70° | black | 4x M5x1 | 32x32 mm | 1, 2: M14x1.5; 3: hose nozzle Ø 6 mm |
| 961 723 401 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 403 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 405 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 411 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 414 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 418 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 420 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 421 0 | 10.0 bar | 73° | blue/black | 2x M8 | 80 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 423 0 | 10.0 bar | 73° | blue/black | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 425 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 426 0 | 10.0 bar | 73° | blue/black | 2x M8 | 90 mm | 1, 21: M16x1.5 JED-388; 3: flap |
| 961 723 428 0* | 10.0 bar | 73° | black/white | 2x Ø 9 mm | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 429 0 | 10.0 bar | 73° | black | 2x Ø 7 mm | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 430 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-388; 3: hose nozzle Ø 6 mm |
| 961 723 433 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 6 mm |
| 961 723 436 0 | 10.0 bar | 73° | black | 2x M6 | 80 mm | 1, 21: M16x1.5 JED-464; 3: hose nozzle Ø 8.5 mm |

ELECTRONIC BRAKING SYSTEM (EBS)

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|------------------------------------|
| ■ 961 723 401 0 | 961 723 001 2 | Filter |
| ■ 961 723 403 0 | 961 723 001 2 961 723 930 2 | Filter Protection hood + handle |
| ■ 961 723 405 0 | 961 723 001 2 | Filter |
| ■ 961 723 411 0 | 961 723 001 2 | Filter |
| ■ 961 723 414 0 | 961 723 001 2 | Filter |
| ■ 961 723 430 0 | 961 723 009 2 961 723 930 2 | Valve Protection hood + handle |

Hydraulic brake systems

Conventional hydraulic brake

Load sensing valve - hydraulic

- **Medium** Brake fluid
- **Temperature** -40 ... +80 °C
468 402 008 0: -40 ... +100 °C
- **Mounting** 2x M8



468 404 253 0

468 406 000 0

| Product number | Max. pressure | Operation | Stroke | | Distance | | Port |
|----------------|---------------|----------------|---------------|---------|----------|-------|----------------------|
| | | | total | control | holes | bolts | |
| 468 402 008 0 | 150 bar | 30 ... 150 bar | – | – | 55 mm | – | 1.1, 1.2, 2.1: M12x1 |
| 468 404 253 0 | 150 bar | 5 ... 120 bar | -40° ... +70° | +25° | 30 mm | – | 1, 2: M12x1 |
| 468 404 305 0 | 150 bar | 6 ... 120 bar | -40° ... +70° | +25° | 30 mm | – | 1, 2: M12x1 |
| 468 406 000 0 | 10/150 bar | 5 ... 130 bar | – | – | – | 72 mm | 1, 2, 4: M12x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------------|
| ■ 468 402 008 0 | 468 402 001 2 | Extention spring + valve |
| ■ 468 404 253 0 | 468 404 000 2 | Sealing |
| ■ 468 404 305 0 | 468 404 000 2 | Sealing |

Brake valve

- **Medium** Pneumatic: Air
Hydraulic: Brake fluid
- **Temperature** -40 ... +80 °C
- **Predominance** max. 0.25 bar (fixed setting)



470 012 000 0

| Product number | Nominal Ø | Max. pressure | | Port |
|----------------|-----------|---------------|-----------|--|
| | | Pneumatic | Reservoir | |
| 470 012 000 0 | 10 mm | 8 bar | 55 bar | 1, 2: M14x1; 11, 12, 21, 22: M16x1.5; 3: exhaust |

HYDRAULIC BRAKE SYSTEMS

Single circuit air - hydraulic servo unit

- **Medium** Brake fluid
921 399 024 0: Mineral oil

- **Temperature** -40 ... +80 °C

- **Pneumatic pressure** 8 bar

- **Accessory** 921 399 822 2 Level control switch



921 399 016 0



921 399 200 0

| Product number | Hydraulic pressure | Volume | | Port |
|----------------|--------------------|--------------------|---------------------|--|
| | | Swept | Reservoir | |
| 921 399 016 0 | 120 bar | 60 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1 |
| 921 399 019 0 | 120 bar | 60 cm ³ | – | 11-4: M14x1.5; 12: M14x1.5; 2: M12x1; 5: M16x1.5 |
| 921 399 022 0 | 120 bar | 60 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1 |
| 921 399 024 0 | 120 bar | 60 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1; 5: M16x1.5 |
| 921 399 025 0 | 120 bar | 60 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1 |
| 921 399 027 0 | 120 bar | 60 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1; 5: M16x1.5 |
| 921 399 200 0 | 120 bar | 30 cm ³ | 770 cm ³ | 11-4: M22x1.5; 12: Ø 44.8x3.62; 2: M12x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 921 399 025 0 | 921 399 927 2 | Reservoir |

Trailer control valve

Trailer control valve - 1-circuit (470 015 ... 0)

- **Temperature** -40 ... +80 °C

- **Lever** ✓

- **Port** 1, 2: M16x1.5; 3: flap; 4: DIN 74235 - EL M12x1

- **Mounting** 2x Ø 9.0 mm

- **Distance** Bolts: 48 mm
Holes: 50 mm



470 015 054 0

| Product number | Limiting pressure | Working pressure | Medium |
|----------------|-------------------|------------------|-------------|
| 470 015 010 0 | 70.0 bar | 7.0 / 80.0 bar | Brake fluid |
| 470 015 011 0 | 70.0 bar | 7.0 / 80.0 bar | Mineral oil |
| 470 015 051 0 | 15.0 bar | 7.0 / 50.0 bar | Mineral oil |
| 470 015 052 0 | 20.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 054 0 | 30.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 055 0 | 30.0 bar | 7.0 / 50.0 bar | Mineral oil |
| 470 015 090 0 | 45.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 096 0 | 15.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 098 0 | 25.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 099 0 | 20.0 bar | 7.0 / 50.0 bar | Brake fluid |
| 470 015 590 0* | 45.0 bar | 7.0 / 50.0 bar | Brake fluid |

* = 470 015 090 0 + 471 208 000 0

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 470 015 010 0 | 470 015 001 2 | Valve | ■ 470 015 096 0 | 470 015 002 2 | Valve |
| ■ 470 015 051 0 | 470 015 004 2 | Valve | ■ 470 015 098 0 | 470 015 003 2 | Valve |
| ■ 470 015 052 0 | 470 015 002 2 | Valve | ■ 470 015 099 0 | 470 015 002 2 | Valve |
| ■ 470 015 054 0 | 470 015 003 2 | Valve | ■ 470 015 590 0 | 470 015 001 2 | Valve |
| ■ 470 015 055 0 | 470 015 005 2 | Valve | | 471 208 000 2 | Valve |
| ■ 470 015 090 0 | 470 015 001 2 | Valve | | | |

Trailer control valve - 1-circuit (471 20. ... 0)

- Temperature -40 ... +80 °C
- Medium Air



471 200 008 0



471 200 110 0



471 205 040 0



471 208 000 0

| Product number | Lever | Working pressure | Mounting | Distance between bolts | Port |
|----------------|-------|------------------|-------------|------------------------|---------------------------|
| 471 200 008 0 | – | 8 bar | 4x M10 | 117x117 mm | 1, 2, 4: M22x1.5 |
| 471 200 102 0 | ✓ | 8 bar | 3x M10 | 165 mm | 1, 2, 4: M22x1.5 |
| 471 200 110 0 | – | 8 bar | 4x M10 | 117x117 mm | 1, 2, 4: M22x1.5 |
| 471 200 113 7 | ✓ | 8 bar | 4x M10 | 165 mm | 1, 2, 4: M22x1.5 |
| 471 200 114 0 | – | 8 bar | 4x M10 | 165 mm | 1, 2, 4: M22x1.5 |
| 471 200 117 0 | – | 8 bar | 4x M10 | 165 mm | 1, 2, 4: M22x1.5 |
| 471 205 040 0 | – | 8 bar | 3x M10 | 116x116 mm | 1, 2, 4: M22x1.5 |
| 471 208 000 0 | – | 10 bar | 2x Ø 8.0 mm | Holes: 58 mm | 1, 4: M16x1.5; 2: M22x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 471 200 008 0 | 471 200 007 2 | Valve | ■ 471 200 114 0 | 471 200 007 2 | Valve |
| ■ 471 200 102 0 | 471 200 005 2 | Valve | ■ 471 200 117 0 | 471 200 007 2 | Valve |
| ■ 471 200 110 0 | 471 200 007 2 | Valve | ■ 471 208 000 0 | 471 208 000 2 | Valve |

HYDRAULIC BRAKE SYSTEMS

Trailer control valve - 2-circuit hydraulic actuated

- Temperature -40 ... +80 °C
- Lever ✓
- Mounting 2x Ø 9.0 mm



470 015 203 0



470 015 215 0

| Product number | Pressure | | Medium | Port |
|----------------|----------|----------------|-------------|---|
| | limiting | working | | |
| 470 015 203 0 | 12.0 bar | 7.0 / 50.0 bar | Mineral oil | 1, 2: M16x1.5; 3: flap; 4: DIN 74235 - EL M12x1 |
| 470 015 214 0 | 72.5 bar | 8.5 / 90.0 bar | Brake fluid | 1, 2: M16x1.5; 3: flap; 4: DIN 74235 - EL M10x1 |
| 470 015 215 0 | 20.0 bar | 7.0 / 50.0 bar | Mineral oil | 1, 2: M16x1.5; 3: flap; 4: DIN 74235 - EL M10x1 |
| 470 015 217 0 | 14.0 bar | 8.5 / 50.0 bar | Mineral oil | 1, 2: M16x1.5; 3: flap; 4: DIN 74235 - EL M12x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 470 015 203 0 | 470 015 006 2 | Valve |
| ■ 470 015 215 0 | 470 015 900 2 | Valve |
| ■ 470 015 217 0 | 470 015 006 2 | Valve |

Trailer control valve - 2-circuit hydraulic & pneumatic actuated

- Temperature -40 ... +80 °C
- Lever ✓
- Port 1, 2: M16x1.5; 3: flap; 42: M12x1.5
- Mounting 2x Ø 9.0 mm



470 015 252 0



470 015 265 0



470 015 259 0



470 015 261 0

| Product number | Pressure | | Medium | Port 41 |
|----------------|----------|----------------|-------------|----------------------|
| | limiting | working | | |
| 470 015 252 0 | 20.0 bar | 7.0 / 50.0 bar | Brake fluid | DIN 74235 - EL M10x1 |
| 470 015 253 0 | 20.0 bar | 7.0 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 254 0 | 11.0 bar | 7.0 / 50.0 bar | Brake fluid | DIN 74235 - EL M10x1 |
| 470 015 255 0 | 11.0 bar | 7.0 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 256 0 | 19.0 bar | 7.0 / 50.0 bar | Brake fluid | DIN 74235 - EL M10x1 |
| 470 015 257 0 | 19.0 bar | 7.0 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 258 0 | 14.0 bar | 7.0 / 50.0 bar | Brake fluid | DIN 74235 - EL M10x1 |
| 470 015 259 0 | 8.0 bar | 7.0 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |

| Product number | Pressure | | Medium | Port 41 |
|----------------|----------|----------------|-------------|----------------------|
| | limiting | working | | |
| 470 015 261 0 | 14.0 bar | 7.0 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 263 0 | 4.2 bar | 7.4 / 10.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 265 0 | 11.0 bar | 7.4 / 50.0 bar | Mineral oil | DIN 74235 - EL M10x1 |
| 470 015 267 0 | 14.0 bar | 8.1 / 50.0 bar | Mineral oil | DIN 74235 - FL M10x1 |
| 470 015 269 0 | 14.0 bar | 8.5 / 50.0 bar | Mineral oil | DIN 74235 - FL M10x1 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 470 015 252 0 | 470 015 007 2 | Valve | ■ 470 015 257 0 | 470 015 008 2 | Valve |
| ■ 470 015 253 0 | 470 015 008 2 | Valve | ■ 470 015 259 0 | 470 015 901 2 | Valve |
| ■ 470 015 254 0 | 470 015 007 2 | Valve | ■ 470 015 263 0 | 470 015 902 2 | Valve |
| ■ 470 015 255 0 | 470 015 008 2 | Valve | ■ 470 015 267 0 | 470 015 903 2 | Valve |
| ■ 470 015 256 0 | 470 015 007 2 | Valve | ■ 470 015 269 0 | 470 015 903 2 | Valve |

Hydraulik brake chamber

- Temperature -40 ... +80 °C
- Max. pressure 10 bar
- Total length 147 mm
- Con-rod length 46 mm (at stroke 0)
- Comments
 - ¹⁾ mechanical wear indicator after stroke 37.5 mm
 - ²⁾ with switch; clamp band position 120°
 - ³⁾ with switch; clamp band position 180°



423 055 050 0



423 056 000 0



423 056 004 0



423 058 002 0

| Product number | Type | Stroke | Mounting | Con-rod radius | Inlet Port | | Exhaust |
|----------------|------|--------|------------------------|----------------|------------|--------------------|--------------------|
| | | | | | Position | Thread | |
| 423 054 000 0 | 16 | 75 mm | 3x M10 | 5.5 mm | 120° | M16x1.5 | ✓ |
| 423 054 001 0 | 16 | 75 mm | 3x M10 | 5.5 mm | 240° | M16x1.5 | ✓ |
| 423 055 000 0 | 20 | 75 mm | 3x M10 | 5.5 mm | 240° | M16x1.5 | ✓ |
| 423 055 001 0 | 20 | 75 mm | 3x M10 | 5.5 mm | 120° | M16x1.5 | ✓ |
| 423 055 006 0 | 20 | 62 mm | 3x M10 | 5.5 mm | 315° | M22x1.5 | ✓ |
| 423 055 008 0 | 20 | 75 mm | 3x M10 | 5.5 mm | 30° | M22x1.5 | ✓ |
| 423 055 050 0 | 20 | 50 mm | 2x M12x1.5 / 2x M10 | 8.0 mm | 0° | M14x1.5 | ✓ |
| 423 055 100 0 | 20 | 75 mm | 2x M12x1.5 / 3x M10 | 5.5 mm | 0° | M22x1.5 JED-388 | M16x1.5 JED-388 |
| 423 056 000 0 | 24 | 75 mm | 2x M12x1.5 / 3x M10 | 5.5 mm | 240° | M16x1.5 | ✓ |

HYDRAULIC BRAKE SYSTEMS

| Product number | Type | Stroke | Mounting | Con-rod radius | Inlet Port | | Exhaust |
|-----------------------------|------|--------|---------------------|----------------|------------|---------|---------|
| | | | | | Position | Thread | |
| 423 056 001 0 | 24 | 75 mm | 2x M12x1.5 / 3x M10 | 5.5 mm | 120° | M16x1.5 | ✓ |
| 423 056 004 0 | 24 | 75 mm | 2x M12x1.5 / 3x M10 | 8.0 mm | centre | M16x1.5 | ✓ |
| 423 056 050 0 | 24 | 50 mm | 2x M12x1.5 / 2x M10 | 8.0 mm | 0° | M14x1.5 | ✓ |
| 423 057 001 0 ¹⁾ | 30 | 75 mm | 2x M12x1.5 / 3x M10 | 7.5 mm | 255° | M16x1.5 | ✓ |
| 423 057 003 0 ²⁾ | 30 | 75 mm | 2x M12x1.5 / 3x M10 | 7.5 mm | centre | M16x1.5 | ✓ |
| 423 057 010 0 ³⁾ | 30 | 75 mm | 2x M12x1.5 / 3x M10 | 7.5 mm | centre | M16x1.5 | ✓ |
| 423 058 001 0 ¹⁾ | 36 | 75 mm | 2x M12x1.5 / 3x M10 | 7.5 mm | 255° | M16x1.5 | ✓ |
| 423 058 002 0 ¹⁾ | 36 | 75 mm | 2x M12x1.5 / 3x M10 | 7.5 mm | centre | M16x1.5 | ✓ |
| 423 060 000 0 | 14 | 75 mm | 3x M10 | 5.5 mm | 240° | M16x1.5 | ✓ |
| 423 060 004 0 | 14 | 62 mm | 3x M10 | 5.5 mm | 0° | M22x1.5 | ✓ |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 423 056 000 0 | 423 056 000 2 | Diaphragm |
| ■ 423 056 001 0 | 423 056 000 2 | Diaphragm |
| ■ 423 056 004 0 | 423 056 000 2 | Diaphragm |
| ■ 423 057 001 0 | 423 057 000 2 | Diaphragm |
| ■ 423 057 003 0 | 423 057 000 2 | Diaphragm |
| ■ 423 058 001 0 | 423 008 000 2 | Diaphragm |

Piston air / hydraulic actuator

| | | |
|------------------|--------------------------------|-----------------|
| ■ Temperature | -40 ... +80 °C | |
| ■ Con-rod length | 46 mm (at stroke 0) | |
| ■ Piston | Ø 150 mm | |
| ■ Console | ✓ 421 305 147 0: - | |
| ■ Flanged | with hydraulic master cylinder | |
| ■ Mounting | 3x M10 to hydraulic cylinder | |
| ■ Accessory | 441 014 002 0 | Pressure switch |



421 517 082 0

| Product number | Max. pressure | Length | Stroke | Con-rod radius | Push force at pressure | Port |
|----------------|---------------|--------|--------|----------------|---------------------------------------|--|
| 421 305 106 0 | 8 bar | 155 mm | 75 mm | 8.0 mm | 7.0 kn / 4.5 bar; 9.3 kn / 6.0 bar | 1: M22x1.5; switch: - |
| 421 305 147 0 | 8 bar | 155 mm | 75 mm | 8.0 mm | 7.0 kn / 4.5 bar; 9.3 kn / 6.0 bar | 1: M22x1.5; switch: M10x1 |
| 421 512 182 0 | 10 bar | 219 mm | 60 mm | 7.5 mm | 7.2 kn / 4.5 bar; 9.6 kn / 6.0 bar | 1, 2: M22x1.5; 3: Ø 10x1; switch: - |
| 421 512 183 0 | 10 bar | 219 mm | 60 mm | 7.5 mm | 7.2 kn / 4.5 bar; 9.6 kn / 6.0 bar | 1, 2: M22x1.5; 3: Ø 10x1; switch: - |
| 421 517 082 0 | 10 bar | 230 mm | 60 mm | 7.5 mm | 5.5 kn / 4.5 bar; 7.4 kn / 6.0 bar | 1, 2: M22x1.5; 3: Ø 10x1; switch: - |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|-----------------------------|
| ■ 421 305 106 0 | 421 305 000 2 422 802 003 2 | Sealing + filter Sealing |
| ■ 421 305 147 0 | 421 305 000 2 422 802 003 2 | Sealing + filter Sealing |
| ■ 421 512 182 0 | 421 512 001 2 | Sealing |
| ■ 421 512 183 0 | 421 512 001 2 | Sealing |

Electro hydraulic brake

Hydraulic ABS modulator

| | | | |
|--------------------|--|-----------------------------------|---------------------------------|
| ■ System | 4S/4M | | |
| ■ Temperature | -40 ... +85 °C | | |
| ■ Medium | Brake fluid FMVSS 116 | | |
| ■ Working pressure | 150 bar | | |
| ■ Port | MF: Modulator front MR: Modulator right | FL: front left FR: front right | RL: rear left RR: rear right |



478 407 067 0

| Product number | Application | Diagnostic | | Voltage | Port |
|----------------|---------------|---------------------|-------------|---------|--|
| | | Protocol | Software | | |
| 478 407 046 0 | Multicar | KWP 2000/SAE J1939 | HBS AddOn-E | 12 V | MF, MR, FL, RL: M12x1; FR, RR: M10x1 |
| 478 407 048 0 | Ashok Leyland | KWP 2000/SAE J1939 | HBS AddOn-E | 24 V | MF, MR, FL, RL: M12x1; FR, RR: M10x1 |
| 478 407 067 0 | GAZ | KWP 2000/SAE J1939 | HBS AddOn-E | 12 V | MF, MR, FL, RL: M12x1; FR, RR: M10x1 |
| 478 407 072 0 | Freightliner | SAE J1587/SAE J1939 | – | 12 V | MF, FL, RL: 7/16"-24 UNS-2B; MR, FR, RR: 1/2"-20 UNF-2B |
| 478 407 084 0 | Multicar | KWP 2000/SAE J1939 | HBS AddOn-E | 12 V | MF, MR, FL, RL: M12x1; FR, RR: M10x1 |
| 478 407 108 0 | Hansa | KWP 2000/SAE J1939 | – | 12 V | MF, MR, FL, RL: M12x1; FR, RR: M10x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|--------------------------|
| ■ 478 407 046 0 | 446 047 923 2 478 407 944 2 | ABS ECU ABS modulator |
| ■ 478 407 048 0 | 446 047 922 2 | ABS ECU |

HYDRAULIC BRAKE SYSTEMS

ABS hydraulic power brake (HPB)

- **Application** Hyundai
- **Medium** Brake fluid FMVSS 116
- **Port** MF: Modulator front
MR: Modulator right
FL: front left
FR: front right
RL: rear left
RR: rear right



468 411 007 0



478 407 127 0

| Product number | Max. pressure | Voltage | Temperature | Port |
|----------------|---------------|------------|----------------|-------------------------------|
| 468 411 007 0 | – | 8 ... 32 V | –20 ... +70 °C | 2x M10x1 |
| 478 407 127 0 | 160 bar | 24 V | –35 ... +85 °C | MF, MR, FL, FR, RL, RR: M10x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 468 411 007 0 | 451 900 926 2 | Yoke |
| ■ 478 407 127 0 | 478 407 930 2 | Relay valve |
| | 478 407 953 2 | DC-motor |
| | 478 408 923 2 | DC-motor |
| | 478 408 926 2 | Guide |

Hydraulic electronic control unit (ECU)

- **System** 4S/4M
- **Voltage** 12 V
- **Distance between holes** 112x122 mm
- **Mounting** 3x Ø 7.5 mm
- **Diagnostics** Diagnostic software ABS D Hydraulic (KWP 2000)
- **Function¹⁾** ETC: Electronic traction control
EBD: Electronic brakeforce distribution
4WD: Four-wheel drive



446 044 079 0

| Product number | Application | Protection class | Temperature | Comment |
|----------------|-------------|------------------|----------------|---|
| 446 044 077 0 | Renault | IP30 (IEC 529) | –40 ... +70 °C | |
| 446 044 079 0 | Multicar | IP30 (IEC 529) | –40 ... +70 °C | with special function ¹⁾ (ETC, EBD, 4WD) |

Brake actuators

Service brake chamber (UNISTOP™)

Service brake chamber (UNISTOP™) - disc

Type 14

| | |
|--------------------------|-----------------------|
| ■ Push-rod thread | Ball R8 |
| ■ Working pressure | 10.2 bar |
| ■ Clamp band | Ø 166 mm |
| ■ Bolt lengths / threads | 43 mm / M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Port | ¹⁾ JED-388 |
| ■ Temperature | -40 ... +80 °C |



423 514 001 0

| Product number | Stroke | Length | | Position | | Port | |
|----------------|--------|---------|----------|------------|------------|---------------------------------|---------|
| | | Chamber | Push rod | Clamp band | Side port | Side | Top |
| 423 114 710 0 | 57 mm | 121 mm | 15 mm | 20° | 0° | M16x1.5 | M16x1.5 |
| 423 514 001 0 | 57 mm | 104 mm | 15 mm | 0° | -30° | M22x1.5 ¹⁾ | - |
| 423 514 002 0 | 57 mm | 104 mm | 15 mm | 0° | -60° / 30° | M16x1.5 / M22x1.5 ¹⁾ | - |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|------------------|
| ■ 423 114 710 0 | 423 514 000 2 | Diaphragm + boot |
| ■ 423 514 001 0 | 423 514 000 2 | Diaphragm + boot |
| ■ 423 514 002 0 | 423 514 000 2 | Diaphragm + boot |

Type 16

| | |
|--------------------------|--|
| ■ Push-rod thread | Ball R8 |
| ■ Working pressure | 10.0 bar 10.2 bar: 423 104 710 0, 423 504 002 0 |
| ■ Clamp band | Ø 166 mm Ø 103 mm: 423 504 002 0 |
| ■ Bolt lengths / threads | 38 mm / M16x1.5 43 mm: 423 104 710 0, 423 504 002 0 |
| ■ Distance between bolts | 120.7 mm |
| ■ Temperature | -40 ... +80 °C |



423 104 710 0

| Product number | Stroke | Length | | Position | | Port | |
|----------------|--------|---------|----------|------------|-----------|---------|---------|
| | | Chamber | Push rod | Clamp band | Side port | Side | Top |
| 423 104 020 0 | 57 mm | 118 mm | 15 mm | 90° | - | - | M16x1.5 |
| 423 104 700 0 | 73 mm | 117 mm | 26 mm | 180° | -90° | M22x1.5 | - |
| 423 104 710 0 | 57 mm | 121 mm | 15 mm | 20° | 0° | M16x1.5 | M16x1.5 |
| 423 104 711 0 | 73 mm | 117 mm | 20 mm | 180° | -90° | M22x1.5 | - |
| 423 104 712 0 | 73 mm | 117 mm | 20 mm | 180° | 90° | M22x1.5 | - |
| 423 504 002 0 | 57 mm | 104 mm | 15 mm | -90° | 90° | M16x1.5 | - |

BRAKE ACTUATORS

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|------------------|
| ■ 423 104 020 0 | 423 104 002 2 | Diaphragm + boot |
| ■ 423 104 710 0 | 423 104 002 2 | Diaphragm + boot |
| ■ 423 104 711 0 | 423 104 003 2 | Diaphragm + boot |
| ■ 423 104 712 0 | 423 104 003 2 | Diaphragm + boot |

Type 20

| | |
|--------------------------|---|
| ■ Push-rod thread | Ball R8 |
| ■ Working pressure | 10.0 bar 10.2 bar: 423 505 000 0 |
| ■ Clamp band | Ø 175 mm Ø 174 mm: 423 105 700 0 |
| ■ Bolt lengths / threads | 38 mm / M16x1.5 43 mm: 423 505 000 0 |
| ■ Distance between bolts | 120.7 mm |
| ■ Temperature | -40 ... +80 °C |



423 505 000 0

| Product number | Stroke | Length | | Position | | Port | |
|----------------|--------|---------|----------|------------|-----------|---------|---------|
| | | Chamber | Push rod | Clamp band | Side port | Side | Top |
| 423 105 020 0 | 57 mm | 117 mm | 15 mm | 90° | - | - | M16x1.5 |
| 423 105 700 0 | 75 mm | 115 mm | 20 mm | 180° | -90° | M22x1.5 | - |
| 423 505 000 0 | 62 mm | 117 mm | 15 mm | 20° | 0° | M16x1.5 | M16x1.5 |

Type 22

| | |
|--------------------------|-----------------|
| ■ Push-rod thread | Ball R8 |
| ■ Working pressure | 10.2 bar |
| ■ Clamp band | Ø 186 mm |
| ■ Bolt lengths / threads | 43 mm / M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Temperature | -40 ... +80 °C |



423 110 710 0

| Product number | Stroke | Length | | Position | | Port | |
|----------------|--------|---------|----------|------------|-----------|---------|---------|
| | | Chamber | Push rod | Clamp band | Side port | Side | Top |
| 423 110 710 0 | 62 mm | 117 mm | 15 mm | 20° | 0° | M16x1.5 | M16x1.5 |

Type 24

| | |
|----------------------------|--|
| ■ Push-rod length / thread | 15 mm / Ball R8 |
| ■ Working pressure | 10.2 bar |
| ■ Bolt lengths / threads | 43 mm / M16x1.5 42 mm: 423 506 001 0, 423 506 073 0 |
| ■ Distance between bolts | 120.7 mm |
| ■ Port | ¹⁾ JED-464-0 |
| ■ Temperature | -40 ... +80 °C |



423 506 001 0



423 506 120 0

| Product number | Stroke | Length chamber | Clamp band | Position | | Port | |
|----------------|--------|----------------|------------|------------|-----------|-----------------------|-----------------------|
| | | | | Clamp band | Side port | Side | Top |
| 423 506 001 0 | 64 mm | 120.0 mm | Ø 185 mm | 20° | 0° | M16x1.5 | M16x1.5 |
| 423 506 072 0 | 65 mm | 121.0 mm | Ø 186 mm | 180° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 073 0 | 64 mm | 120.0 mm | Ø 185 mm | 0° | 20° | M22x1.5 | M16x1.5 |
| 423 506 093 0 | 64 mm | 115.4 mm | Ø 185 mm | 0° | 180° | M22x1.5 | – |
| 423 506 094 0 | 64 mm | 115.4 mm | Ø 185 mm | 0° | 180° | M22x1.5 | – |
| 423 506 100 0 | 65 mm | 121.0 mm | Ø 186 mm | 180° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 101 0 | 65 mm | 121.0 mm | Ø 186 mm | 180° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 103 0 | 65 mm | 121.0 mm | Ø 186 mm | -90° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 104 0 | 65 mm | 121.0 mm | Ø 186 mm | 90° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 120 0 | 65 mm | 121.0 mm | Ø 186 mm | -135° | 90° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 121 0 | 65 mm | 121.0 mm | Ø 186 mm | -135° | 0° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 130 0 | 65 mm | 121.0 mm | Ø 186 mm | 90° | -90° | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 506 143 0 | 65 mm | 107.0 mm | Ø 186 mm | -45° | -90° | M16x1.5 JED-152 | – |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|--|-----------------|--------------------------------|---|
| ■ 423 506 001 0 | 423 506 001 2 | Diaphragm + boot | ■ 423 506 104 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 423 506 072 0 | 423 506 001 2 925 461 013 2 | Diaphragm + hose stud Diaphragm + hose stud | ■ 423 506 121 0 | 423 506 001 2 925 481 000 2 | Diaphragm + hose stud Diaphragm + spring |
| ■ 423 506 100 0 | 423 506 001 2 | Diaphragm + hose stud | ■ 423 506 130 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 423 506 101 0 | 423 506 001 2 925 481 000 2 | Diaphragm + hose stud Diaphragm + spring | ■ 423 506 143 0 | 423 506 001 2 | Diaphragm + hose stud |
| ■ 423 506 103 0 | 925 481 000 2 | Diaphragm + spring | | | |

BRAKE ACTUATORS

Service brake chamber (UNISTOP™) - cam

Accessories

| Product number | Description |
|----------------|--|
| 895 801 140 4 | Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 48.5 mm |
| 895 801 142 4 | Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 37.0 mm |
| 895 801 210 4 | Yoke: inner thread M16x1.5, bolt diameter Ø 14 H8, length til mid of borehole 56.0 mm |
| 895 801 215 2 | Yoke |
| 895 802 090 4 | Yoke: inner thread M16x1.5, bolt diameter Ø 16 H10, length til mid of borehole 56.0 mm |
| 423 000 900 2 | Repair kit incl. yoke 895 801 140 4 (M14x1.5) |
| 423 000 901 2 | Repair kit incl. yoke 895 801 210 4 (M16x1.5) |
| 423 000 534 2 | Accessory package "hole" |
| 423 000 535 2 | Accessory package "long hole" |

Type 12

| | |
|--------------------------|----------------|
| ■ Working pressure | 8 bar |
| ■ Push-rod thread | M16x1.5 |
| ■ Distance between bolts | 76.2 mm |
| ■ Temperature | -40 ... +80 °C |



423 103 900 0

| Product number | Stroke | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|-----------------|--------------------|---------|------|---------|---------|
| | | | | | | Side | Top |
| 423 103 298 0 | 57 mm | 227 mm | 180° | screwed | ✓ | M16x1.5 | M16x1.5 |
| 423 103 900 0* | 57 mm | 186 mm | 180° | - | ✓ | M16x1.5 | M16x1.5 |

* Push rod length can be shortened according to customer needs

Type 14

| | |
|--------------------------|----------------|
| ■ Working pressure | 10 bar |
| ■ Push-rod thread | M14x1.5 |
| ■ Distance between bolts | 76.2 mm |
| ■ Temperature | -40 ... +80 °C |



423 114 010 0

| Product number | Stroke | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|-----------------|--------------------|---------|------|---------|-----|
| | | | | | | Side | Top |
| 423 114 010 0 | 75 mm | 82.5 mm | 0° | screwed | ✓ | M16x1.5 | - |

Type 16

- **Push-rod thread** M16x1.5; if yoke welded, push-rod not threaded
- **Distance between bolts** 120.7 mm
76.2 mm: 423 104 900 0
- **Port** ¹⁾ JED-152
- **Temperature** -40 ... +80 °C



423 104 900 0

| Product number | Stroke | Working pressure | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|------------------|-----------------|--------------------|--------|------|-----------------------|-----------------------|
| | | | | | | | Side | Top |
| 423 104 606 0 | 57 mm | 10.0 bar | 37 mm | – | welded | ✓ | – | M16x1.5 |
| 423 104 615 0 | 57 mm | 10.0 bar | 37 mm | 0° | welded | ✓ | M16x1.5 | M16x1.5 |
| 423 104 900 0* | 75 mm | 8.5 bar | 186 mm | 180° | – | – | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |

* Push rod length can be shortened according to customer needs

Repair solutions

- | Product number | Repair kit | Content |
|-----------------|---------------|------------------|
| ■ 423 104 615 0 | 423 104 001 2 | Diaphragm + boot |

Type 20

- **Push-rod thread** M16x1.5; if yoke welded, push-rod not threaded
- **Yoke** screwed
- **Distance between bolts** 120.7 mm
- **Port** ¹⁾ JED-152
- **Temperature** -40 ... +80 °C



423 105 900 0

| Product number | Stroke | Working pressure | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|------------------|-----------------|--------------------|--------|------|-----------------------|-----------------------|
| | | | | | | | Side | Top |
| 423 105 111 0 | 57 mm | 10.2 bar | 37 mm | – | welded | ✓ | – | M16x1.5 ¹⁾ |
| 423 105 408 0 | 57 mm | 10.2 bar | 37 mm | – | welded | ✓ | – | M16x1.5 ¹⁾ |
| 423 105 409 0 | 57 mm | 10.2 bar | 37 mm | – | welded | ✓ | – | M16x1.5 ¹⁾ |
| 423 105 414 0 | 57 mm | 8.0 bar | 37 mm | 0° | welded | ✓ | M16x1.5 | – |
| 423 105 704 0 | 57 mm | 10.2 bar | 37 mm | -45° | welded | ✓ | M16x1.5 ¹⁾ | – |
| 423 105 705 0 | 57 mm | 10.2 bar | 37 mm | -135° | welded | ✓ | M16x1.5 ¹⁾ | – |
| 423 105 900 0* | 75 mm | 8.5 bar | 186 mm | 180° | – | – | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |

* Push rod length can be shortened according to customer needs

Type 24

- **Push-rod thread** M16x1.5; if yoke welded, push-rod not threaded
- **Distance between bolts** 120.7 mm
- **Port** ¹⁾ JED-152; ²⁾ JED-464-0
- **Temperature** -40 ... +80 °C



423 106 900 0

| Product number | Stroke | Working pressure | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|------------------|-----------------|--------------------|---------|------|-----------------------|-----------------------|
| | | | | | | | Side | Top |
| 423 106 088 0 | 75 mm | 10.2 bar | 70 mm | – | screwed | – | M16x1.5 ¹⁾ | – |
| 423 106 106 0 | 57 mm | 8.5 bar | 37 mm | – | welded | ✓ | – | M16x1.5 |
| 423 106 115 0 | 57 mm | 10.2 bar | 37 mm | – | welded | ✓ | – | M16x1.5 ¹⁾ |
| 423 106 201 0 | 65 mm | 10.2 bar | 58 mm | 180° | – | – | M16x1.5 ²⁾ | M16x1.5 ²⁾ |
| 423 106 202 0 | 65 mm | 10.2 bar | 102 mm | 0° | – | – | M16x1.5 ²⁾ | M16x1.5 ²⁾ |
| 423 106 292 0 | 75 mm | 10.0 bar | 116 mm | – | welded | ✓ | – | M16x1.5 |
| 423 106 900 0* | 75 mm | 8.5 bar | 186 mm | 180° | – | – | M16x1.5 | M16x1.5 |
| 423 106 926 0 | 57 mm | 10.0 bar | 37 mm | 0° | screwed | ✓ | M16x1.5 ¹⁾ | M16x1.5 ¹⁾ |

* Push rod length can be shortened according to customer needs

Repair solutions

| Product number | Repair kit | Content |
|------------------|---------------|-----------|
| ■ 423 106 201 0 | 423 106 003 2 | Diaphragm |
| ■ 423 106 900 0* | 423 106 923 2 | Diaphragm |

Type 27

- **Working pressure** 10.2 bar
- **Distance between bolts** 120.7 mm
- **Port** ¹⁾ JED-152; ²⁾ JED-388; ³⁾ JED-464-0
- **Temperature** -40 ... +80 °C



423 109 120 0

| Product number | Stroke | Push-rod | | Position side port | Yoke | Boot | Port | |
|----------------|--------|----------|--------|--------------------|---------|------|-----------------------|-----------------------|
| | | Thread | Length | | | | Side | Top |
| 423 109 010 0 | 65 mm | M16x1.5 | 247 mm | 0° | – | – | M16x1.5 ³⁾ | M16x1.5 ³⁾ |
| 423 109 020 0 | 64 mm | – | 54 mm | 0° | welded | ✓ | M22x1.5 ²⁾ | M12x1.5 |
| 423 109 022 0 | 64 mm | – | 54 mm | 0° | welded | ✓ | M22x1.5 ²⁾ | M12x1.5 |
| 423 109 102 0 | 75 mm | – | 37 mm | – | welded | ✓ | – | M16x1.5 ¹⁾ |
| 423 109 120 0 | 75 mm | M14x1.5 | 40 mm | – | screwed | ✓ | – | M16x1.5 ¹⁾ |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 423 109 020 0 | 423 109 921 2 | Diaphragm |
| ■ 423 109 022 0 | 423 109 921 2 | Diaphragm |
| ■ 423 109 120 0 | 423 109 920 2 | Diaphragm |

Type 30

| | |
|--------------------------|--|
| ■ Push-rod thread | M16x1.5; if yoke welded, push-rod not threaded |
| ■ Distance between bolts | 120.7 mm |
| ■ Port | ¹⁾ JED-152; ²⁾ JED-388 |
| ■ Temperature | -40 ... +80 °C |



423 107 900 0

| Product number | Stroke | Working pressure | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|------------------|-----------------|--------------------|--------|------|-----------------------|-----------------------|
| | | | | | | | Side | Top |
| 423 107 406 0 | 64 mm | 10.2 bar | 54 mm | -30° | welded | ✓ | M22x1.5 ²⁾ | M12x1.5 ¹⁾ |
| 423 107 407 0 | 64 mm | 10.2 bar | 37 mm | 0° | welded | ✓ | M12x1.5 ¹⁾ | M16x1.5 ¹⁾ |
| 423 107 408 0 | 64 mm | 10.2 bar | 54 mm | 30° | welded | ✓ | M22x1.5 ²⁾ | M12x1.5 ¹⁾ |
| 423 107 410 0 | 64 mm | 10.2 bar | 54 mm | 0° | welded | ✓ | M12x1.5 ¹⁾ | M22x1.5 ²⁾ |
| 423 107 411 0 | 64 mm | 10.2 bar | 37 mm | 0° | welded | ✓ | M22x1.5 ²⁾ | M12x1.5 ¹⁾ |
| 423 107 900 0* | 75 mm | 8.5 bar | 186 mm | 180° | - | - | M16x1.5 | M16x1.5 |

* Push rod length can be shortened according to customer needs

Type 36

| | |
|--------------------------|----------------|
| ■ Push-rod thread | M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Temperature | -40 ... +80 °C |



423 008 919 0

| Product number | Stroke | Working pressure | Push rod length | Position side port | Yoke | Boot | Port | |
|----------------|--------|------------------|-----------------|--------------------|------|------|---------|---------|
| | | | | | | | Side | Top |
| 423 008 919 0* | 76 mm | 8.0 bar | 183 mm | 180° | - | ✓ | M22x1.5 | M22x1.5 |

* Push rod length can be shortened according to customer needs

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 423 008 919 0 | 423 008 000 2 | Diaphragm |

BRAKE ACTUATORS

Service brake chamber (UNISTOP™) - wedge

■ Temperature

−40 ... +80 °C



423 04... 0



423 07... 0



423 14... 0

| Product number | Type | Stroke | Working pressure | Chamber length | Clamp band | Mounting | Side port |
|----------------|------|---------|------------------|----------------|------------|---------------|-------------------|
| 423 142 001 0 | 9 | 44.5 mm | 8.0 bar | 138.0 mm | Ø 134 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 070 050 0 | 12 | 53.0 mm | 8.0 bar | 174.0 mm | Ø 145 mm | M48x1.5 | M16x1.5 |
| 423 070 067 0 | 12 | 53.0 mm | 10.2 bar | 213.0 mm | Ø 145 mm | M48x2 | M16x1.5 JED-152 |
| 423 070 068 0 | 12 | 53.0 mm | 10.2 bar | 213.0 mm | Ø 145 mm | M48x2 | M16x1.5 JED-152 |
| 423 143 001 0 | 12 | 44.5 mm | 8.0 bar | 138.0 mm | Ø 145 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 143 004 0 | 12 | 44.5 mm | 8.0 bar | 187.0 mm | Ø 145 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 143 012 0 | 12 | 44.5 mm | 8.0 bar | 145.0 mm | Ø 145 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 143 020 0 | 12 | 51.0 mm | 8.0 bar | 215.0 mm | Ø 145 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 143 902 0 | 12 | 44.5 mm | 8.0 bar | 187.0 mm | Ø 145 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 072 201 0 | 16 | 53.0 mm | 10.0 bar | 215.0 mm | Ø 166 mm | M48x2 | M16x1.5 |
| 423 044 103 0 | 18 | 53.0 mm | 8.0 bar | 183.5 mm | Ø 164 mm | 1¼"-12 UNS-2A | M16x1.5 |
| 423 073 040 0 | 18 | 55.0 mm | 10.2 bar | 216.0 mm | Ø 174 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 045 000 0 | 20 | 53.0 mm | 10.0 bar | 202.0 mm | Ø 173 mm | M45x1.5 | M16x1.5 |
| 423 045 001 0 | 20 | 53.0 mm | 10.0 bar | 255.0 mm | Ø 173 mm | M45x1.5 | M16x1.5 |
| 423 074 102 0 | 20 | 55.0 mm | 10.2 bar | 215.0 mm | Ø 175 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 077 050 0 | 22 | 55.0 mm | 10.2 bar | 220.0 mm | Ø 185 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 046 000 0 | 24 | 53.0 mm | 10.2 bar | 207.5 mm | Ø 186 mm | M45x1.5 | M16x1.5 |
| 423 046 001 0 | 24 | 53.0 mm | 10.2 bar | 276.5 mm | Ø 186 mm | M45x1.5 | M16x1.5 |
| 423 076 030 0 | 24 | 55.0 mm | 10.2 bar | 220.0 mm | Ø 185 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 076 040 0 | 24 | 55.0 mm | 10.2 bar | 250.0 mm | Ø 185 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 076 041 0 | 24 | 55.0 mm | 10.2 bar | 250.0 mm | Ø 185 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |
| 423 076 100 0 | 24 | 55.0 mm | 10.2 bar | 220.0 mm | Ø 186 mm | 4x Ø 10.5 mm | Rc 3/8" (ISO 7-1) |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|------------------|-----------------|---------------|-----------------------|
| ■ 423 045 000 0 | 425 333 001 2 | Diaphragm + hose | ■ 423 077 050 0 | 423 077 000 2 | Diaphragm |
| ■ 423 045 001 0 | 425 333 001 2 | Diaphragm + hose | ■ 423 143 001 0 | 423 043 000 2 | Diaphragm |
| ■ 423 046 000 0 | 425 331 000 2 | Diaphragm + hose | ■ 423 143 004 0 | 423 043 000 2 | Diaphragm |
| ■ 423 046 001 0 | 425 331 000 2 | Diaphragm + hose | ■ 423 143 012 0 | 423 043 000 2 | Diaphragm |
| ■ 423 073 040 0 | 423 073 000 2 | Diaphragm | ■ 423 143 020 0 | 423 043 000 2 | Diaphragm |
| ■ 423 076 030 0 | 423 076 000 2 | Diaphragm | ■ 423 143 902 0 | 425 327 001 2 | Diaphragm + hose stud |
| ■ 423 076 040 0 | 423 076 000 2 | Diaphragm | | 423 043 000 2 | Diaphragm |

Spring brake actuator (TRISTOP™)

Spring brake actuator (TRISTOP™) - disc

| | |
|--------------------------|--------------------------|
| ■ Push-rod thread | Ball R8 |
| ■ Bolt threads | M16×1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ IBV | Internal breathing valve |
| ■ Temperature | -40 ... +80 °C |



925 480 004 0



925 480 005 0



925 480 011 0



925 481 150 0



925 481 313 0

| Product number | Type | Stroke | Push-rod length | Working pressure | IBV | Port thread |
|----------------|-------|----------|-----------------|------------------|--------|-------------------------|
| 925 486 101 0 | 12/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 104 0 | 12/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 105 0 | 12/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 110 0 | 12/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 111 0 | 12/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 010 0 | 12/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 011 0 | 12/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 426 200 0 | 14/16 | 57/57 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 426 201 0 | 14/16 | 57/57 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 468 033 0 | 14/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 486 420 0 | 14/16 | 57/57 mm | 15 mm | 10.0/10.0 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 486 421 0 | 14/16 | 57/57 mm | 15 mm | 10.0/10.0 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 488 010 0 | 14/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 488 014 0 | 14/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 488 015 0 | 14/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 424 800 0 | 16/16 | 57/57 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 424 801 0 | 16/16 | 57/57 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 464 450 0 | 16/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 464 451 0 | 16/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 464 461 0 | 16/16 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 464 500 0 | 16/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 484 010 0 | 16/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 484 011 0 | 16/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 484 020 0 | 16/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 484 021 0 | 16/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 460 027 0 | 20/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | – | 11, 12: M16×1.5 |
| 925 460 090 0 | 20/24 | 64/64 mm | 15 mm | 10.2/10.0 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 460 091 0 | 20/24 | 64/64 mm | 15 mm | 10.2/10.0 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 460 101 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 460 102 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 460 130 0 | 20/24 | 75/75 mm | 20 mm | 10.0/8.0 bar | – | 11, 12: M22×1.5 JED-388 |

BRAKE ACTUATORS

| Product number | Type | Stroke | Push-rod length | Working pressure | IBV | Port thread |
|----------------|-------|----------|-----------------|------------------|--------|---------------------------|
| 925 460 240 0 | 20/24 | 75/75 mm | 20 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 |
| 925 480 120 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 480 121 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 460 100 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 480 004 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 480 005 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 480 010 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 480 011 0 | 20/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 487 000 0 | 22/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 487 001 0 | 22/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 461 290 0 | 24/16 | 65/45 mm | 15 mm | 10.5/8.5 bar | – | 11, 12: M16×1.5 JED-152 |
| 925 461 350 0 | 24/16 | 65/45 mm | 15 mm | 10.5/8.5 bar | – | 11, 12: M16×1.5 JED-152 |
| 925 481 230 0 | 24/16 | 65/45 mm | 15 mm | 10.5/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 231 0 | 24/16 | 65/45 mm | 15 mm | 10.5/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 461 022 0 | 24/24 | 75/75 mm | 20 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 |
| 925 461 023 0 | 24/24 | 75/75 mm | 20 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 |
| 925 461 052 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 |
| 925 461 101 0 | 24/24 | 65/65 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M16×1.5 |
| 925 461 131 0 | 24/24 | 65/65 mm | 15 mm | 10.0/8.5 bar | – | 11, 12: M16×1.5 |
| 925 461 210 0 | 24/24 | 75/75 mm | 26 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 |
| 925 461 211 0 | 24/24 | 75/75 mm | 26 mm | 10.0/8.5 bar | – | 11, 12: M22×1.5 |
| 925 461 292 0 | 24/24 | 65/65 mm | 15 mm | 10.2/8.5 bar | – | 11, 12: M16×1.5 JED-464-0 |
| 925 461 293 0 | 24/24 | 75/75 mm | 20 mm | 10.2/8.5 bar | – | 11, 12: M22×1.5 JED-388 |
| 925 481 001 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 156 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 170 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 360 0 | 24/24 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464 |
| 925 481 361 0 | 24/24 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464 |
| 925 481 000 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 012 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 013 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 020 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 481 032 0 | 24/24 | 65/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 050 0 | 24/24 | 65/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 051 0 | 24/24 | 65/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 150 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 151 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 201 0 | 24/24 | 64/64 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 260 0 | 24/24 | 75/75 mm | 20 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-152 |
| 925 481 270 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 271 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 272 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M22×1.5 JED-388 |
| 925 481 021 0 | 24/24 | 57/57 mm | 15 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22×1.5 JED-388 |
| 925 461 470 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | – | 11, 12: M16×1.5 JED-152 |
| 925 461 471 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | – | 11, 12: M16×1.5 JED-152 |
| 925 481 070 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 100 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 102 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 103 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 120 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 121 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |

| Product number | Type | Stroke | Push-rod length | Working pressure | IBV | Port thread |
|----------------|-------|----------|-----------------|------------------|-----|---------------------------|
| 925 481 060 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464-0 |
| 925 481 312 0 | 24/30 | 65/65 mm | 15 mm | 10.5/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 313 0 | 24/30 | 65/65 mm | 15 mm | 10.5/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 314 0 | 24/30 | 65/65 mm | 15 mm | 10.5/8.5 bar | ✓ | 11, 12: M16×1.5 JED-152 |
| 925 481 345 0 | 24/30 | 65/65 mm | 15 mm | 10.2/8.5 bar | ✓ | 11, 12: M16×1.5 JED-464 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------------------------|-----------------|--------------------------------|-----------------------------|
| ■ 925 424 800 0 | 925 426 000 2 | Diaphragm + boot | ■ 925 481 021 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 424 801 0 | 925 426 000 2 | Diaphragm + boot | ■ 925 481 032 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 426 200 0 | 925 426 000 2 | Diaphragm + boot | ■ 925 481 050 0 | 925 481 004 2 925 481 000 2 | Valve Diaphragm + spring |
| ■ 925 426 201 0 | 925 426 000 2 | Diaphragm + boot | ■ 925 481 051 0 | 925 481 000 2 925 481 004 2 | Diaphragm + spring Valve |
| ■ 925 460 027 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 481 060 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 090 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 481 070 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 091 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 481 100 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 100 0 | 925 492 921 2 | Screw insert | ■ 925 481 102 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 101 0 | 925 492 921 2 | Screw insert | ■ 925 481 103 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 102 0 | 925 492 921 2 | Screw insert | ■ 925 481 103 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 460 240 0 | 925 460 001 2 | Diaphragm + boot | ■ 925 481 150 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 022 0 | 925 461 004 2 | Diaphragm + boot | ■ 925 481 151 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 023 0 | 925 461 004 2 | Diaphragm + boot | ■ 925 481 156 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 052 0 | 925 492 921 2 | Screw insert | ■ 925 481 170 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 461 101 0 | 925 461 003 2 | Diaphragm + boot | ■ 925 481 230 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 210 0 | 925 461 000 2 | Diaphragm + boot | ■ 925 481 231 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 211 0 | 925 461 000 2 | Diaphragm + boot | ■ 925 481 260 0 | 925 481 002 2 | Diaphragm + boot |
| ■ 925 461 290 0 | 925 461 003 2 | Diaphragm + boot | ■ 925 481 271 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 461 292 0 | 925 461 013 2 | Diaphragm + hose stud | ■ 925 481 272 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 461 470 0 | 925 461 003 2 | Diaphragm + boot | ■ 925 481 312 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 461 471 0 | 925 461 003 2 | Diaphragm + boot | ■ 925 481 313 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 464 450 0 | 925 464 002 2 925 492 921 2 | Diaphragm + boot Screw insert | ■ 925 481 314 0 | 925 481 000 2 | Diaphragm + spring |
| ■ 925 464 451 0 | 925 492 921 2 | Screw insert | ■ 925 481 360 0 | 925 481 004 2 925 481 000 2 | Valve Diaphragm + spring |
| ■ 925 464 461 0 | 925 492 921 2 925 464 002 2 | Screw insert Diaphragm + boot | ■ 925 481 361 0 | 925 481 000 2 925 481 004 2 | Diaphragm + spring Valve |
| ■ 925 464 500 0 | 925 464 002 2 925 492 921 2 | Diaphragm + boot Screw insert | ■ 925 486 101 0 | 925 486 000 2 | Diaphragm + boot |
| ■ 925 468 033 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 486 104 0 | 925 486 000 2 | Diaphragm + boot |
| ■ 925 481 000 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 486 105 0 | 925 486 000 2 | Diaphragm + boot |
| ■ 925 481 001 0 | 925 481 001 2 | Diaphragm + boot | ■ 925 486 110 0 | 925 486 000 2 | Diaphragm + boot |
| ■ 925 481 012 0 | 925 481 000 2 | Diaphragm + spring | ■ 925 486 111 0 | 925 486 000 2 | Diaphragm + boot |
| ■ 925 481 013 0 | 925 481 000 2 | Diaphragm + spring | ■ 925 487 000 0 | 925 487 000 2 | Diaphragm + boot |
| ■ 925 481 020 0 | 925 481 000 2 | Diaphragm + spring | ■ 925 487 001 0 | 925 487 000 2 | Diaphragm + boot |

BRAKE ACTUATORS

Spring brake actuator (TRISTOP™) - cam

| | |
|---------------|---|
| ■ Yoke | s - screwed, w - welded |
| ■ IBV | Internal breathing valve |
| ■ Port 11, 12 | ¹⁾ JED-152; ²⁾ JED-388; ³⁾ JED-464-0 |
| ■ Accessories | 895 801 140 4 Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 48.5 mm 895 801 142 4 Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 37.0 mm 895 801 210 4 Yoke: inner thread M16x1.5, bolt diameter Ø 14 H8, length til mid of borehole 56.0 mm 895 801 215 2 Yoke 895 802 090 4 Yoke: inner thread M16x1.5, bolt diameter Ø 16 H10, length til mid of borehole 56.0 mm 423 000 900 2 Repair kit incl. yoke 895 801 140 4 (M14x1.5) 423 000 901 2 Repair kit incl. yoke 895 801 210 4 (M16x1.5) 423 000 534 2 Accessory package "hole" |



| Product number | Type | Stroke | Push-rod | | Working pressure | Yoke | IBV | Port 11, 12 |
|----------------|-------|----------|----------|---------|------------------|-----------------|-----|-----------------------|
| | | | Length | Thread | | | | |
| 925 426 330 0 | 10/16 | 57/57 mm | 155 mm | M14x1.5 | 10.2/8.5 bar | s | – | M22x1.5 ²⁾ |
| 925 455 001 0 | 12/12 | 45/45 mm | 214 mm | M14x1.5 | 12.5/12.5 bar | – | – | M16x1.5 |
| 925 324 812 0 | 12/16 | 57/57 mm | 15 mm | Ball R8 | 10.0/8.0 bar | s | – | M16x1.5 |
| 925 324 813 0 | 12/16 | 57/57 mm | 15 mm | Ball R8 | 10.0/8.0 bar | s | – | M16x1.5 |
| 925 324 000 0 | 16/24 | 57/67 mm | 187 mm | – | 8.0/8.0 bar | s 895 801 140 4 | – | M16x1.5 |
| 925 324 206 0 | 16/24 | 57/57 mm | 60 mm | – | 8.0/8.0 bar | w | – | M16x1.5 |
| 925 324 250 0 | 16/24 | 57/57 mm | 60 mm | – | 10.0/8.0 bar | w | – | M16x1.5 |
| 925 324 260 0 | 16/24 | 57/57 mm | 60 mm | – | 10.0/8.0 bar | w | – | M16x1.5 |
| 925 424 100 0 | 16/24 | 57/57 mm | 187 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 494 041 0* | 16/24 | 57/57 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 494 106 0 | 16/24 | 57/57 mm | 187 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 494 910 0 | 16/24 | 57/57 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 494 911 0 | 16/24 | 57/57 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 494 960 0 | 16/24 | 57/57 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 420 954 0 | 20/24 | 57/57 mm | 200 mm | M14x1.5 | 10.2/8.5 bar | s | – | M22x1.5 ²⁾ |
| 925 490 102 0 | 20/24 | 65/65 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 490 905 0 | 20/24 | 57/57 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 490 925 0 | 20/24 | 57/57 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 320 505 0 | 20/30 | 57/57 mm | 77 mm | – | 10.0/8.0 bar | w | – | M16x1.5 |
| 925 320 515 0 | 20/30 | 57/57 mm | 77 mm | – | 10.0/8.0 bar | w | – | M16x1.5 |
| 925 490 901 0 | 20/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 490 906 0 | 20/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 321 160 0 | 24/24 | 57/57 mm | 187 mm | – | 10.0/8.0 bar | w | – | M16x1.5 |
| 925 321 202 0 | 24/24 | 57/67 mm | 290 mm | M14x1.5 | 8.0/8.0 bar | s 895 801 140 4 | – | M22x1.5 |
| 925 321 203 0 | 24/24 | 57/67 mm | 25 mm | M14x1.5 | 8.0/8.0 bar | s 895 801 140 4 | – | M22x1.5 |
| 925 321 292 0 | 24/24 | 57/67 mm | 187 mm | M14x1.5 | 8.0/8.0 bar | s 895 801 140 4 | – | M16x1.5 |
| 925 421 020 0 | 24/24 | 57/57 mm | 310 mm | – | 10.0/8.5 bar | w | – | M16x1.5 |
| 925 421 100 0 | 24/24 | 57/57 mm | 187 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 421 141 0 | 24/24 | 57/57 mm | 50 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |

| Product number | Type | Stroke | Push-rod | | Working pressure | Yoke | IBV | Port 11, 12 |
|----------------|-------|----------|----------|---------------|------------------|-----------------|-----|-----------------------|
| | | | Length | Thread | | | | |
| 925 421 200 0 | 24/24 | 65/65 mm | 93.5 mm | – | 10.0/8.5 bar | s 895 801 215 2 | – | M16x1.5 |
| 925 421 201 0 | 24/24 | 65/65 mm | 93.5 mm | – | 10.0/8.5 bar | s 895 801 215 2 | – | M16x1.5 |
| 925 421 342 0 | 24/24 | 57/57 mm | 112 mm | M16x1.5 | 10.0/10.0 bar | w | – | M16x1.5 |
| 925 421 346 0 | 24/24 | 57/57 mm | 112 mm | M16x1.5 | 10.0/10.0 bar | w | – | M16x1.5 |
| 925 421 347 0 | 24/24 | 57/57 mm | 220 mm | M16x1.5 | 10.0/10.0 bar | w | – | M16x1.5 |
| 925 421 750 0 | 24/24 | 57/57 mm | 75 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 421 751 0 | 24/24 | 57/57 mm | 200 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 421 752 0 | 24/24 | 57/57 mm | 200 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 431 033 0 | 24/24 | 65/65 mm | 70 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 431 094 0 | 24/24 | 65/65 mm | 58 mm | M16x1.5 | 10.2/8.5 bar | – | – | M16x1.5 |
| 925 431 095 0* | 24/24 | 65/65 mm | 247 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 ³⁾ |
| 925 431 101 0 | 24/24 | 65/65 mm | 186 mm | M16x1.5 | 10.0/9.0 | – | – | M16x1.5 |
| 925 491 104 0 | 24/24 | 65/65 mm | 58 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 ³⁾ |
| 925 491 105 0 | 24/24 | 57/57 mm | 187 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 491 106 0 | 24/24 | 57/57 mm | 187 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 491 107 0 | 24/24 | 65/65 mm | 58 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 ³⁾ |
| 925 491 121 0 | 24/24 | 65/65 mm | 200 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 491 141 0* | 24/24 | 57/57 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 491 900 0 | 24/24 | 57/57 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 491 901 0 | 24/24 | 57/57 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 321 407 0 | 24/30 | 64/64 mm | 77 mm | – | 10.2/8.5 bar | w | – | M16x1.5 |
| 925 321 417 0 | 24/30 | 64/64 mm | 77 mm | – | 10.2/8.5 bar | w | – | M16x1.5 |
| 925 421 540 0 | 24/30 | 65/65 mm | 75 mm | – | 10.2/8.5 bar | w | – | M22x1.5 ²⁾ |
| 925 431 422 0 | 24/30 | 65/65 mm | 70 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 431 423 0 | 24/30 | 65/65 mm | 70 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 491 143 0* | 24/30 | 65/65 mm | 246 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 491 440 0 | 24/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 925 491 441 0 | 24/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22x1.5 ²⁾ |
| 884 502 393 0 | 24/30 | 64/64 mm | 38 mm | 5/8"-18 UNF | 8.0/8.0 bar | – | – | 3/8"-18 NPTF |
| 925 491 113 0 | 24/30 | 65/65 mm | 200 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 ¹⁾ |
| 925 439 110 0 | 27/24 | 65/65 mm | 220 mm | M16x1.5 | 10.0/8.5 bar | – | – | M16x1.5 |
| 925 499 003 0 | 27/24 | 65/65 mm | 220 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 ³⁾ |
| 925 329 021 0 | 27/30 | 64/64 mm | 50.8 mm | M14x1.5 | 10.0/8.0 bar | – | – | M16x1.5 |
| 925 329 031 0 | 27/30 | 64/64 mm | 50.8 mm | M14x1.5 | 10.0/8.0 bar | – | – | M16x1.5 |
| 925 429 020 0 | 27/30 | 65/65 mm | 85 mm | – | 10.5/8.5 bar | w | – | M16x1.5 |
| 925 499 001 0* | 27/30 | 65/65 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 432 022 0 | 30/24 | 65/65 mm | 70 mm | M16x1.5 | 10.2/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 492 001 0 | 30/24 | 65/65 mm | 58 mm | – | 10.2/8.5 bar | w | ✓ | M16x1.5 ¹⁾ |
| 925 492 100 0 | 30/24 | 65/65 mm | 250 mm | M16x1.5 | 10.2/8.5 bar | – | ✓ | M16x1.5 |
| 925 492 201 0 | 30/24 | 65/65 mm | 105 mm | 5/8"-18UNF-2A | 10.2/8.5 bar | – | ✓ | M16x1.5 ³⁾ |
| 925 322 205 0 | 30/30 | 64/64 mm | 37 mm | – | 8.0/8.0 bar | w | – | M16x1.5 |
| 925 322 215 0 | 30/30 | 64/64 mm | 37 mm | – | 8.0/8.0 bar | w | – | M16x1.5 |
| 925 322 241 0 | 30/30 | 64/64 mm | 77 mm | – | 8.0/8.0 bar | w | – | M16x1.5 |
| 925 322 251 0 | 30/30 | 64/64 mm | 77 mm | – | 8.0/8.0 bar | w | – | M16x1.5 |
| 925 422 070 0 | 30/30 | 65/65 mm | 38 mm | 5/8"-18 UNF | 8.5/8.5 bar | s – | – | M16x1.5 |
| 925 432 113 0 | 30/30 | 65/65 mm | 215 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 432 114 0 | 30/30 | 65/65 mm | 215 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 432 115 0 | 30/30 | 65/65 mm | 70 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 432 117 0 | 30/30 | 65/65 mm | 260 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 432 118 0 | 30/30 | 65/65 mm | 260 mm | M16x1.5 | 10.5/8.5 bar | s 895 802 090 4 | – | M16x1.5 ¹⁾ |
| 925 432 420 0 | 30/30 | 65/65 mm | 86 mm | M16x1.5 | 10.0/10.0 bar | s 895 801 210 4 | – | M16x1.5 ³⁾ |

BRAKE ACTUATORS

| Product number | Type | Stroke | Push-rod | | Working pressure | Yoke | IBV | Port 11, 12 |
|----------------|-------|----------|----------|---------|------------------|------|-----|-----------------------|
| | | | Length | Thread | | | | |
| 925 432 483 0 | 30/30 | 65/65 mm | 70 mm | – | 10.2/8.5 bar | w | – | M16×1.5 ³⁾ |
| 925 492 102 0* | 30/30 | 65/65 mm | 252 mm | M16×1.5 | 10.2/8.5 bar | – | ✓ | M16×1.5 |
| 925 492 200 0 | 30/30 | 65/65 mm | 54 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 203 0 | 30/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 208 0 | 30/30 | 65/65 mm | 200 mm | M16×1.5 | 10.2/8.5 bar | – | ✓ | M16×1.5 ¹⁾ |
| 925 492 209 0 | 30/30 | 65/65 mm | 187 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 213 0 | 30/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 221 0 | 30/30 | 65/65 mm | 187 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 300 0 | 30/30 | 65/65 mm | 200 mm | M16×1.5 | 10.2/8.5 bar | – | ✓ | M16×1.5 |
| 925 492 902 0 | 30/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 492 903 0 | 30/30 | 65/65 mm | 37 mm | – | 10.2/8.5 bar | w | ✓ | M22×1.5 ²⁾ |
| 925 323 130 0* | 36/30 | 76/76 mm | 217 mm | M16×1.5 | 8.0/8.0 bar | – | – | M16×1.5 |

* Push rod length can be shortened according to customer needs

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|--|-----------------|---------------|-----------------------|
| ■ 925 320 505 0 | 925 320 000 2 | Diaphragm + boot | ■ 925 421 201 0 | 925 431 902 2 | Diaphragm + hose stud |
| ■ 925 320 515 0 | 925 320 000 2 | Diaphragm + boot | ■ 925 421 342 0 | 925 321 000 2 | Diaphragm + boot |
| ■ 925 321 160 0 | 925 321 007 2 | Diaphragm + boot | ■ 925 421 346 0 | 925 321 000 2 | Diaphragm + boot |
| ■ 925 321 202 0 | 925 321 001 2 | Diaphragm + boot | ■ 925 421 347 0 | 925 321 000 2 | Diaphragm + boot |
| ■ 925 321 292 0 | 925 321 001 2 | Diaphragm + boot | ■ 925 421 540 0 | 925 421 009 2 | Diaphragm + boot |
| ■ 925 321 407 0 | 925 321 000 2 | Diaphragm + boot | ■ 925 421 750 0 | 925 421 920 2 | Diaphragm + boot |
| ■ 925 321 417 0 | 925 321 000 2 | Diaphragm + boot | ■ 925 421 751 0 | 925 421 920 2 | Diaphragm + boot |
| ■ 925 322 205 0 | 925 322 006 2 | Diaphragm + boot | ■ 925 421 752 0 | 925 421 920 2 | Diaphragm + boot |
| ■ 925 322 215 0 | 925 322 006 2 | Diaphragm + boot | ■ 925 424 100 0 | 925 424 002 2 | Diaphragm + boot |
| ■ 925 322 241 0 | 925 322 000 2 | Diaphragm + boot | ■ 925 426 330 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 322 251 0 | 925 322 000 2 | Diaphragm + boot | ■ 925 431 033 0 | 925 431 008 2 | Diaphragm + hose stud |
| ■ 925 324 000 0 | 925 324 000 2 | Diaphragm + boot | ■ 925 431 094 0 | 925 431 902 2 | Diaphragm + hose stud |
| ■ 925 324 206 0 | 925 324 003 2 | Diaphragm + boot | ■ 925 431 422 0 | 925 431 008 2 | Diaphragm + hose stud |
| ■ 925 324 250 0 | 925 324 003 2 | Diaphragm + boot | ■ 925 431 423 0 | 925 431 008 2 | Diaphragm + hose stud |
| ■ 925 324 260 0 | 925 324 003 2 | Diaphragm + boot | ■ 925 491 104 0 | 423 106 003 2 | Diaphragm |
| ■ 925 324 812 0 | 925 466 000 2 | Diaphragm + boot | ■ 925 491 107 0 | 423 106 003 2 | Diaphragm |
| ■ 925 324 813 0 | 925 466 000 2 | Diaphragm + boot | ■ 925 491 113 0 | 423 106 003 2 | Diaphragm |
| ■ 925 329 021 0 | 925 329 000 2 925 431 901 2 | Diaphragm + hose stud Diaphragm + hose stud | ■ 925 491 121 0 | 925 492 921 2 | Screw insert |
| ■ 925 329 031 0 | 925 329 000 2 925 431 901 2 | Diaphragm + hose stud Diaphragm + hose stud | ■ 925 492 001 0 | 925 492 001 2 | Diaphragm |
| ■ 925 420 954 0 | 925 320 003 2 | Diaphragm + boot | ■ 925 492 208 0 | 925 492 920 2 | Hose |
| ■ 925 421 100 0 | 925 421 009 2 | Diaphragm + boot | ■ 925 492 300 0 | 925 492 921 2 | Screw insert |
| ■ 925 421 141 0 | 925 421 008 2 | Diaphragm + hose stud | ■ 925 494 041 0 | 925 492 921 2 | Screw insert |
| ■ 925 421 200 0 | 925 431 902 2 925 421 001 2 | Diaphragm + hose stud Diaphragm + boot | ■ 925 494 960 0 | 925 492 921 2 | Screw insert |

Spring brake actuator (TRISTOP™) - wedge

- IBV Internal breathing valve
- Port 11, 12 ¹⁾ JED-388; ²⁾ JIS B 0253; ³⁾ ISO-7-1
- Temperature -40 ... +80 °C



425 333 212 0



425 454 070 0



425 454 071 0



425 457 100 0

| Product number | Type | Stroke (mm) | Pressure (bar) | | Dimensions (mm) | | IBV | Mounting | Port 11, 12 |
|----------------|-------|-------------|----------------|---------|-----------------|-------|-----|-----------------|-----------------------|
| | | | Working | Release | Length | Ø | | | |
| 425 327 052 0 | 12/12 | 44.5/44.5 | 8.0/8.0 | 5.2 | 374 | 176 | – | 1.75"-12UNS-2A | M16x1.5 |
| 425 327 064 0 | 12/12 | 51/51 | 8.0/8.0 | 5.2 | 351* | 164 | – | 1.75"-12 UNS-2A | M16x1.5 |
| 425 426 201 0 | 12/16 | 53/53 | 10.0/8.5 | 5.2 | 284 | 176 | – | M48x1.5 | M22x1.5 ¹⁾ |
| 425 454 070 0 | 12/16 | 53/53 | 10.2/8.5 | 5.1 | 366 | 168.5 | – | M48x2 | M22x1.5 ¹⁾ |
| 425 454 071 0 | 12/16 | 53/53 | 10.2/8.5 | 5.1 | 366 | 168.5 | – | M48x2 | M22x1.5 ¹⁾ |
| 425 428 900 0 | 16/16 | 53/53 | 10.2/8.5 | 5.2 | 316 | 186 | – | M48x2 | M16x1.5 |
| 425 429 901 0 | 18/16 | 53/53 | 10.2/8.5 | 5.2 | 316 | 186 | – | M48x2 | M16x1.5 |
| 425 457 100 0 | 18/24 | 53/53 | 10.0/10.0 | 5.2 | 323 | 186 | – | M48x 1.5 | M22x1.5 ¹⁾ |
| 425 333 002 0 | 20/16 | 53/45 | 8.0/8.0 | 5.2 | 370 | 182 | – | M45x1.5 | M16x1.5 |
| 425 333 100 0 | 20/20 | 53/53 | 10.2/8.5 | 5.1 | 394 | 192 | – | M45x1.5 | M16x1.5 |
| 425 333 101 0 | 20/20 | 53/53 | 10.2/8.5 | 5.1 | 334 | 192 | – | M45x1.5 | M16x1.5 |
| 425 333 102 0 | 20/20 | 53/53 | 10.2/8.5 | 5.1 | 420 | 192 | – | M45x1.5 | M16x1.5 |
| 425 333 200 0 | 20/24 | 53/53 | 10.2/8.0 | 5.1 | 358 | 210 | – | M45x1.5 | M16x1.5 |
| 425 333 201 0 | 20/24 | 53/53 | 10.2/8.0 | 5.1 | 325 | 210 | – | M45x1.5 | M16x1.5 |
| 425 333 202 0 | 20/24 | 53/53 | 8.0/8.0 | 5.1 | 370 | 210 | – | M45x1.5 | M16x1.5 |
| 425 333 212 0 | 20/24 | 53/53 | 10.2/8.0 | 5.1 | 389 | 210 | – | M45x1.5 | M16x1.5 |
| 425 450 080 0 | 20/24 | 55/55 | 10.2/8.5 | 4.2 | 351 | 191 | – | 4x Ø 10.65 mm | Rc 3/8 ²⁾ |
| 425 450 081 0 | 20/24 | 55/55 | 10.2/8.5 | 4.2 | 351 | 191 | – | 4x Ø 10.65 mm | Rc 3/8 ²⁾ |
| 425 467 010 0 | 22/24 | 55/55 | 10.2/8.5 | 4.2 | 356 | 186 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ³⁾ |
| 425 331 902 0 | 24/16 | 53/53 | 8.0/8.0 | 4.6 | 359 | 198 | – | M45x1.5 | M16x1.5 |
| 425 331 904 0 | 24/16 | 53/53 | 8.0/8.0 | 4.6 | 385 | 198 | – | M45x1.5 | M16x1.5 |
| 425 331 003 0 | 24/24 | 53/53 | 8.0/8.0 | 5.1 | 410 | 210 | – | M45x1.5 | M16x1.5 JED-152 |
| 425 451 080 0 | 24/24 | 24/24 | 10.2/8.5 | 4.2 | 356 | 186 | – | 4x Ø 10.65 mm | Rc 3/8 ³⁾ |
| 425 451 081 0 | 24/24 | 24/24 | 10.2/8.5 | 4.2 | 356 | 186 | – | 4x Ø 10.65 mm | Rc 3/8 ³⁾ |
| 425 461 000 0 | 24/24 | 57/57 | 10.2/8.5 | 4.2 | 386 | 185 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ²⁾ |
| 425 461 001 0 | 24/24 | 57/57 | 10.2/8.5 | 4.2 | 386 | 185 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ²⁾ |
| 425 461 002 0 | 24/24 | 57/57 | 10.2/8.5 | 4.2 | 356 | 186 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ²⁾ |
| 425 461 003 0 | 24/24 | 57/57 | 10.2/8.5 | 4.2 | 356 | 186 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ²⁾ |
| 425 461 020 0 | 24/24 | 55/55 | 10.2/8.5 | 4.2 | 356 | 186 | ✓ | 4x Ø 10.5 mm | Rc 3/8 ³⁾ |
| 425 451 010 0 | 24/24 | 55/55 | 10.2/8.5 | 4.2 | 356 | 186 | – | 4x Ø 10.65 mm | Rc 3/8 ³⁾ |
| 425 451 011 0 | 24/24 | 55/55 | 10.2/8.5 | 4.2 | 356 | 186 | – | 4x Ø 10.65 mm | Rc 3/8 ³⁾ |
| 425 326 051 7 | 9/20 | 44.5/44.5 | 8.0/8.0 | 5.2 | 262 | 176 | – | 1.75"-12UNS-2A | M16x1.5 |

* (with nut)

BRAKE ACTUATORS

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|-----------------|---------------|-----------------------|
| ■ 425 327 052 0 | 425 327 001 2 | Diaphragm + hose stud | ■ 425 426 201 0 | 425 426 001 2 | Diaphragm |
| ■ 425 331 003 0 | 425 331 000 2 | Diaphragm + hose | ■ 425 428 900 0 | 425 428 000 2 | Diaphragm |
| ■ 425 331 902 0 | 425 331 001 2 | Diaphragm + hose stud | ■ 425 429 901 0 | 425 428 000 2 | Diaphragm |
| ■ 425 331 904 0 | 425 331 001 2 | Diaphragm + hose stud | ■ 425 450 080 0 | 425 450 002 2 | Diaphragm + hose stud |
| ■ 425 333 002 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 450 081 0 | 425 450 002 2 | Diaphragm + hose stud |
| ■ 425 333 100 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 451 080 0 | 425 451 002 2 | Diaphragm + hose stud |
| ■ 425 333 101 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 451 081 0 | 425 451 002 2 | Diaphragm + hose stud |
| ■ 425 333 102 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 461 000 0 | 425 461 000 2 | Diaphragm |
| ■ 425 333 200 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 461 001 0 | 425 461 000 2 | Diaphragm |
| ■ 425 333 201 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 461 002 0 | 425 461 000 2 | Diaphragm |
| ■ 425 333 202 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 461 003 0 | 425 461 000 2 | Diaphragm |
| ■ 425 333 212 0 | 425 333 001 2 | Diaphragm + hose | ■ 425 467 010 0 | 423 077 000 2 | Diaphragm |

Air disc brakes

Tool sets for disc brakes

Tool set for MAXX™, MAXXUS™ & PAN™ calipers

- Description** Modular tool set for repairing WABCO calipers and adjusting the return units
- Product number** 400 608 375 0 WABCO caliper tool set

| Product number | Content |
|----------------|-------------------------|
| 300 100 010 2 | Tool set 'Basic' |
| 300 100 011 2 | Adjuster change |
| 300 100 012 2 | Ratchet for return unit |
| 300 100 013 2 | Tool set 'Extension' |



Tool set 'Basic'

| Product number | Product |
|----------------|------------------|
| 300 100 010 2 | Tool set 'Basic' |



Tool set 'Extension'

| Product number | Product |
|----------------|----------------------|
| 300 100 013 2 | Tool set 'Extension' |



Adjuster change

| Product number | Product |
|----------------|-----------------|
| 300 100 011 2 | Adjuster change |



Ratchet for return unit

| Product number | Product |
|----------------|-------------------------|
| 300 100 012 2 | Ratchet for return unit |



AIR DISC BRAKES

Application of tool sets

| Brake type | 300 100 010 2 Tool set 'Basic' | 300 100 011 2 Adjuster change | 300 100 012 2 Ratchet for return unit | 300 100 013 2 Tool set 'Extension' |
|-------------|-----------------------------------|----------------------------------|--|---------------------------------------|
| PAN™17 | ✓ | – | ✓ | ✓ |
| PAN™17 CWS* | ✓ | ✓ | ✓ | ✓ |
| PAN™19 | ✓ | – | ✓ | ✓ |
| PAN™22 | ✓ | – | ✓ | ✓ |
| PAN™25 | ✓ | – | ✓ | ✓ |
| MAXX™17 | ✓ | – | ✓ | ✓ |
| MAXX™19 | ✓ | – | ✓ | ✓ |
| MAXX™22 | ✓ | ✓ | ✓ | – |
| MAXX™22T | ✓ | ✓ | ✓ | – |
| MAXXUS™ | ✓ | ✓ | ✓ | – |

* CWS - continuous wear sensor

PAN™ range

PAN™ 17 - light duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)
- **REMAN brake** Remanufactured brake (without brake pads)



| WABCO product number | | | Mounting side | OE reference | |
|----------------------|---------------|---------------|---------------|------------------------|--------------------------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 40 175 051 | 40 175 049 | 640 175 049 R | left | MAN | 81.50804.6089 |
| 40 175 052 | 40 175 050 | 640 175 050 R | right | | 81.50804.6090 |
| 40 175 056 | 40 175 072 | 640 175 072 R | left | Iveco Anadolu Isuzu | 500 371 650 377 777 399 051 |
| 40 175 057 | 40 175 073 | 640 175 073 R | right | Iveco Anadolu Isuzu | 500 371 649 377 777 420 051 |
| 40 175 058 | 40 175 072 | 640 175 072 R | left | Iveco | 500 328 232 |
| 40 175 059 | 40 175 073 | 640 175 073 R | right | | 500 328 234 |
| 40 175 062 | 40 175 064 | 640 175 072 R | left | Renault | 501 042 226 0 |
| 40 175 063 | 40 175 065 | 640 175 073 R | right | | 501 042 226 1 |
| 40 175 070 | 40 175 072 | – | left | DAF, Hendrickson | 140 363 2 |
| 40 175 071 | 40 175 073 | – | right | | 140 363 3 |
| 40 175 074 | 640 175 116 0 | – | left | Mercedes-Benz | A688 420 740 1 |
| 40 175 075 | 640 175 117 0 | – | right | | A688 420 750 1 |
| 40 175 076 | 640 175 118 0 | – | left | Mercedes-Benz | A688 420 760 1 |
| 40 175 077 | 640 175 119 0 | – | right | | A688 420 770 1 |
| 40 175 080 | 40 175 049 | 640 175 049 R | left | MAN | 81.50804.6355 |
| 40 175 081 | 40 175 050 | 640 175 050 R | right | | 81.50804.6354 |
| 640 175 122 0 | 40 175 072 | – | left | DAF | 40 130 006 |
| 640 175 123 0 | 40 175 073 | – | right | | 40 130 007 |
| 640 175 126 0 | 40 175 072 | 640 175 072 R | left | Iveco | 580 154 364 1 |
| 640 175 127 0 | 40 175 073 | 640 175 073 R | right | | 580 154 363 9 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------------------------------|
| ■ 40 175 051 | 12 480 021 | Wear indicator PAN™ 17 |
| 40 175 052 | 12 999 782 | Brake pad kit |
| 40 175 080 | 12 999 802 | Brake pad kit |
| 40 175 081 | 12 999 580VT | Seals |
| | 12 999 699VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 175 940 2 | Pressure plate PAN™ 17 |
| | 640 175 946 2 | Clamping unit |
| ■ 40 175 056 | 12 480 021 | Wear indicator PAN™ 17 |
| 40 175 057 | 12 999 698VT | Brake pad kit with wear indicator |
| 40 175 058 | 12 999 699VT | Sealing and guide bolts |
| 40 175 059 | 12 999 743VT | Wear indicator PAN™ 17 |
| 640 175 126 0 | 640 175 920 2 | Seals for clamping unit |
| 640 175 127 0 | 640 175 932 2 | Wear indicator PAN™ 17 |
| | 640 175 940 2 | Pressure plate PAN™ 17 |
| | 640 175 946 2 | Clamping unit |
| | 640 317 922 2 | Seals |
| ■ 40 175 062 | 12 999 699VT | Sealing and guide bolts |
| 40 175 063 | 12 999 703VT | Brake pad kit with wear indicator |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 175 940 2 | Pressure plate PAN™ 17 |
| | 640 175 946 2 | Clamping unit |
| ■ 40 175 070 | 12 480 021 | Wear indicator |
| 40 175 071 | 12 999 811 | Brake disc 7 t front axle |
| | 12 999 812 | Brake disc 12 t front axle |
| | 12 999 813 | Brake disc rear axle |
| | 12 999 699VT | Sealing and guide bolts |
| | 12 999 743VT | Brake pad kit with wear indicator |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 175 940 2 | Pressure plate PAN™ 17 |
| | 640 175 946 2 | Clamping unit |
| | 640 317 922 2 | Seals |
| ■ 40 175 074 | 640 175 920 2 | Seals for clamping unit |
| 40 175 075 | 640 175 942 2 | Clamping unit |
| 40 175 076 | | |
| 40 175 077 | | |
| ■ 640 175 122 0 | 12 999 699VT | Sealing and guide bolts |
| 640 175 123 0 | 12 999 743VT | Brake pad kit with wear indicator |
| | 640 175 940 2 | Pressure plate PAN™ 17 |
| | 640 175 946 2 | Clamping unit |

PAN™ 19 - medium duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket

- **IAM brake** Exchange brake (without brake pads)

- **REMAN brake** Remanufactured brake (without brake pads)

| WABCO product number | | | Mounting side | OE reference | |
|----------------------|---------------|---------------|---------------|----------------------|---------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 40 195 009 | 40 195 021 | – | left | Renault | 501 052 501 2 |
| 40 195 010 | 40 195 022 | – | right | | 501 052 501 3 |
| 40 195 019 | 40 195 039 | 640 195 039 R | left | – | – |
| 40 195 020 | 40 195 040 | 640 195 040 R | right | | |
| 40 195 043 | 40 195 045 | – | left | DAF | 140 763 4 |
| 40 195 044 | 40 195 046 | – | right | Albion | NJJ 4883 |
| | | | | DAF | 140 763 5 |
| | | | | Albion | NJJ 4882 |
| 40 195 047 | 40 195 039 | 640 195 039 R | left | Nissan Motor Iberica | 41010–9X603 |
| 40 195 048 | 40 195 040 | 640 195 040 R | right | | |
| 40 195 049 | 40 195 059 | – | left | – | – |
| 40 195 050 | 40 195 060 | – | right | | |
| 40 195 057 | 640 195 092 0 | – | left | Volvo | 214 549 54 |
| 40 195 058 | 640 195 093 0 | – | right | | 214 549 55 |
| 640 195 062 0 | – | – | left | Renault | 742 144 416 8 |
| 640 195 063 0 | – | – | right | | 742 144 417 4 |
| 640 195 065 0 | 640 195 092 0 | – | left | Renault | 214 441 90 |
| 640 195 066 0 | 640 195 093 0 | – | right | | 214 441 91 |
| 640 195 083 0 | 40 195 059 | – | left | KAMAZ | – |
| 640 195 084 0 | 40 195 060 | – | right | | |
| 640 195 092 0 | 640 195 092 0 | – | left | Renault | 742 144 898 7 |
| 640 195 093 0 | 640 195 093 0 | – | right | | 742 144 898 8 |
| 640 195 105 0 | 40 195 045 | – | left | Albion | 401 300 09 |
| 640 195 106 0 | 40 195 046 | – | right | | 401 300 10 |
| 640 195 111 0 | – | – | left | – | – |
| 640 195 112 0 | – | – | right | | |
| 640 195 119 0 | 640 195 092 0 | – | left | Volvo | 225 375 51 |
| 640 195 120 0 | 640 195 093 0 | – | right | | 225 375 52 |
| 640 195 121 0 | 40 195 041 | – | left | Volvo | 742 253 754 9 |
| 640 195 122 0 | 40 195 042 | – | right | | 742 253 755 0 |
| 640 195 135 0 | – | – | left | – | – |
| 640 195 136 0 | – | – | right | | |

Repair solutions

| Product number | Repair kit | Content |
|---------------------|---------------|--------------------------------------|
| ■ 40 195 009 | 12 999 770 | Brake pad kit with wear indicator |
| 40 195 010 | 12 999 746VT | Sealing and guide bolts |
| 40 195 019 | 12 999 747VT | Brake pad kit |
| 40 195 020 | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 195 946 2 | Brake pad kit without wear indicator |

| Product number | Repair kit | Content |
|--|---------------|--------------------------------------|
| ■ 40 195 043 40 195 044 | 12 999 791 | Brake pad kit with wear indicator |
| | 12 999 776 | Sealing and guide bolts |
| | 12 999 759VT | Repair kit of brake disc rear axle |
| | 12 999 760VT | Repair kit of brake disc front axle |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 931 2 | Cover |
| ■ 40 195 047 40 195 048 | 12 999 795 | Brake pad kit with wear indicator |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 195 946 2 | Brake pad kit without wear indicator |
| ■ 40 195 049 40 195 050 | 12 999 770 | Brake pad kit with wear indicator |
| | 12 999 776 | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 195 946 2 | Brake pad kit without wear indicator |
| | 640 225 931 2 | Cover |
| ■ 40 195 057 40 195 058 | 12 999 776 | Sealing and guide bolts |
| | 12 999 795 | Brake pad kit with wear indicator |
| | 12 999 738VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 195 946 2 | Brake pad kit without wear indicator |
| | 640 225 921 2 | Sealing and guide bolts |
| | 640 225 931 2 | Cover |
| ■ 640 195 062 0 640 195 063 0 | 12 999 777 | Brake pad kit with wear indicator |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| ■ 640 195 121 0 640 195 122 0 | 12 999 777 | Brake pad kit with wear indicator |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Seals for clamping unit |
| ■ 640 195 065 0 640 195 066 0 640 195 119 0 640 195 120 0 640 195 092 0 640 195 093 0 | 12 999 776 | Sealing and guide bolts |
| | 12 999 777 | Brake pad kit with wear indicator |
| | 12 999 738VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 921 2 | Sealing and guide bolts |
| | 640 225 931 2 | Cover |
| ■ 640 195 083 0 640 195 084 0 | 12 999 776 | Sealing and guide bolts |
| | 12 999 737VT | Brake pad kit |
| | 12 999 738VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 921 2 | Sealing and guide bolts |
| | 640 225 931 2 | Cover |

AIR DISC BRAKES

PAN™ 22 - heavy duty air disc brake

■ OE brake

* OE production numbers; brakes are not available for Independent Aftermarket



| Product number OE brake* | Mounting side | OE manufacturer |
|--------------------------------|---------------|--|
| 640 225 034 0 640 225 035 0 | left right | Fuwa Axle |
| 640 225 066 0 640 225 067 0 | left right | Batou BeiBen |
| 640 225 068 0 640 225 069 0 | left right | — |
| 640 225 072 0 640 225 073 0 | left right | Batou BeiBen |
| 640 225 080 0 640 225 081 0 | left right | — |
| 640 225 082 0 640 225 083 0 | left right | — |
| 640 225 084 0 640 225 085 0 | left right | Fangsheng Axle |
| 640 225 088 0 640 225 089 0 | left right | Shanghai Komman Vehicle Component Systems Stock Co., Ltd |
| 640 225 090 0 640 225 091 0 | left right | Nanjing CV-HS autoparts Co., Ltd |
| 640 225 092 0 640 225 093 0 | left right | Zhengzhou Yutong Group Co., Ltd |
| 640 225 096 0 640 225 097 0 | left right | Fangsheng Axle, Dongfeng Dana Axle Co., Ltd |
| 640 225 098 0 640 225 099 0 | left right | Nanjing CV-HS Autoparts Co.,Ltd, Dongfeng Auto. Group Co. Ltd |
| 640 225 100 0 640 225 101 0 | left right | Dongfeng Dana Axle Co., Ltd |
| 640 225 106 0 640 225 107 0 | left right | Qingdao Qingte Zhongli Axle Co., Ltd |
| 640 225 110 0 640 225 111 0 | left right | Shaanxi HanDe Axle Co., Ltd |
| 640 225 112 0 640 225 113 0 | left right | Zhengzhou Yutong Group Co., Ltd |
| 640 225 114 0 640 225 115 0 | left right | Shanghai Komman Vehicle Component Systems Stock Co., Ltd |
| 640 225 132 0 640 225 133 0 | left right | Hyundai |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|----------------------------------|---------------|-------------------------|--|---------------|-------------------------|
| ■ 640 225 034 0 640 225 035 0 | 12 999 738VT | Sealing and guide bolts | ■ 640 225 068 0 640 225 069 0 | 12 999 738VT | Sealing and guide bolts |
| | 640 195 940 2 | Clamping unit | | 640 225 929 2 | Wear indicator |
| | 640 225 929 2 | Wear indicator | | 640 225 931 2 | Cover |
| | 640 225 931 2 | Cover | | 640 195 940 2 | Clamping unit |
| | 640 225 932 2 | Brake pad kit | | | |
| ■ 640 225 066 0 640 225 067 0 | 12 999 738VT | Sealing and guide bolts | ■ 640 225 072 0 640 225 073 0 640 225 092 0 640 225 093 0 | 12 999 738VT | Sealing and guide bolts |
| | 640 195 940 2 | Clamping unit | | 640 195 940 2 | Clamping unit |
| | 640 225 929 2 | Wear indicator | | 640 225 929 2 | Wear indicator |
| | 640 225 931 2 | Cover | | 640 225 931 2 | Cover |
| | 640 225 932 2 | Brake pad kit | | 640 225 932 2 | Brake pad kit |

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|--|--|--|--|---|--|
| ■ 640 225 082 0 640 225 083 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 100 0 640 225 101 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover |
| ■ 640 225 084 0 640 225 085 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 106 0 640 225 107 0 | 12 999 738VT 640 195 940 2 640 225 929 2 640 225 931 2 640 225 932 2 | Sealing and guide bolts Clamping unit Wear indicator Cover Brake pad kit |
| ■ 640 225 088 0 640 225 089 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 110 0 640 225 111 0 | 12 999 738VT 640 195 940 2 640 225 929 2 640 225 931 2 640 225 932 2 | Sealing and guide bolts Clamping unit Wear indicator Cover Brake pad kit |
| ■ 640 225 090 0 640 225 091 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 112 0 640 225 113 0 | 12 999 738VT 640 195 940 2 640 225 929 2 640 225 931 2 640 225 932 2 | Sealing and guide bolts Clamping unit Wear indicator Cover Brake pad kit |
| ■ 640 225 092 0 640 225 093 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 114 0 640 225 115 0 | 12 999 776 12 999 738VT 640 195 940 2 640 225 921 2 640 225 929 2 640 225 931 2 640 225 932 2 | Sealing and guide bolts Sealing and guide bolts Clamping unit Sealing and guide bolts Wear indicator Cover Brake pad kit |
| ■ 640 225 096 0 640 225 097 0 | 12 999 738VT 640 195 940 2 640 225 006 2 640 225 929 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Wear indicator Cover | ■ 640 225 132 0 640 225 133 0 640 225 080 0 640 225 081 0 | 12 999 738VT 640 195 940 2 640 225 922 2 640 225 931 2 | Sealing and guide bolts Clamping unit Brake pad kit Cover |
| ■ 640 225 098 0 640 225 099 0 | 12 999 738VT 640 195 940 2 640 225 929 2 640 225 931 2 640 225 932 2 | Sealing and guide bolts Clamping unit Wear indicator Cover Brake pad kit | | | |

PAN™ 25 - heavy duty air disc brake

| Product number OE brake | Mounting side | OE Manufacturer | OE number |
|----------------------------|---------------|-----------------|---------------------|
| 640 250 004 0 | left | e.g. Liebherr | 640250004 (Kessler) |
| 640 250 005 0 | right | e.g. Liebherr | 640250005 (Kessler) |



Repair solutions

| Product number | Repair kit | Content |
|--|--|--|
| ■ 640 250 004 0 640 250 005 0 | 12 999 797 12 999 738VT 640 175 920 2 640 225 926 2 640 225 931 2 640 250 921 2 | Wear indicator Sealing and guide bolts Seals for clamping unit Pressure plate Cover Brake pad kit with wear indicator |

MAXX™ range

MAXX™ 17 - light duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)

| WABCO product number | | Mounting side | OE reference | |
|----------------------|---------------|---------------|--------------|-------------------|
| OE brake* | IAM brake | | Manufacturer | OE number |
| 640 317 001 0 | 640 317 019 0 | left | Daimler | A405 420 130 1 |
| 640 317 002 0 | 640 317 020 0 | right | | A405 420 140 1 |
| 640 317 005 0 | 640 317 041 0 | left | Renault | 231 203 00 |
| 640 317 006 0 | 640 317 042 0 | right | | 231 203 01 |
| 640 317 010 0 | 640 317 042 0 | right | | 231 203 04 |
| 640 317 007 0 | 640 317 041 0 | left | Volvo | 231 203 02 |
| 640 317 008 0 | 640 317 042 0 | right | | 231 203 03 |
| 640 317 012 0 | 640 317 042 0 | right | | 231 203 05 |
| 640 317 013 0 | 640 317 043 0 | left | Renault | 216 976 02 |
| 640 317 014 0 | 640 317 044 0 | right | | 216 976 03 |
| 640 317 015 0 | 640 317 043 0 | left | RT / Mack | 216 976 14 |
| 640 317 016 0 | 640 317 044 0 | right | | 216 976 15 |
| 640 317 031 0 | 640 317 049 0 | left | GAZ | C41 R11.350 113 7 |
| 640 317 032 0 | 640 317 050 0 | right | | C41 R11.350 113 6 |
| 640 317 033 0 | 640 317 037 0 | left | RT / Mack | 223 445 27 |
| 640 317 034 0 | 640 317 038 0 | right | | 223 445 28 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|--|---------------|-----------------------|--|---------------|-----------------------|
| ■ 640 317 001 0 640 317 002 0 | 640 175 920 2 | Seals | ■ 640 317 013 0 640 317 014 0 | 640 175 940 2 | Pressure plate |
| | 640 175 940 2 | Pressure plate | | 640 317 922 2 | Seals and guide bolts |
| | 640 317 928 2 | Seals and guide bolts | | 640 317 926 2 | Reset unit |
| ■ 640 317 005 0 640 317 006 0 | 640 175 940 2 | Pressure plate | 640 317 932 2 | Brake pad | |
| | 640 317 921 2 | Wear sensor | ■ 640 317 015 0 640 317 016 0 | 640 175 940 2 | Pressure plate |
| | 640 317 922 2 | Seals and guide bolts | | 640 317 922 2 | Seals and guide bolts |
| | 640 317 926 2 | Reset unit | | 640 317 926 2 | Reset unit |
| 640 317 932 2 | Brake pad | 640 317 932 2 | | Brake pad | |
| ■ 640 317 007 0 640 317 008 0 | 640 175 940 2 | Pressure plate | ■ 640 317 031 0 640 317 032 0 | 640 175 920 2 | Seals |
| | 640 317 921 2 | Wear sensor | | 640 175 940 2 | Pressure plate |
| | 640 317 922 2 | Seals and guide bolts | | 640 317 928 2 | Seals and guide bolts |
| | 640 317 926 2 | Reset unit | | 640 317 929 2 | Brake pad |
| ■ 640 317 010 0 640 317 012 0 | 640 175 940 2 | Pressure plate | ■ 640 317 033 0 640 317 034 0 | 640 175 940 2 | Pressure plate |
| | 640 317 920 2 | Wear sensor | | 640 317 922 2 | Seals and guide bolts |
| | 640 317 922 2 | Seals and guide bolts | | 640 317 926 2 | Reset unit |
| | 640 317 926 2 | Reset unit | | 640 317 932 2 | Brake pad |
| 640 317 932 2 | Brake pad | | | | |

MAXX™ 19 - medium duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)
- **CWS** Continuous wear sensor

| WABCO product number | | Wear sensing | Mounting side | OE reference | |
|----------------------|---------------|-----------------|---------------|------------------------------|-------------|
| OE brake* | IAM brake | | | Manufacturer | OE number |
| 640 319 001 0 | 640 319 027 0 | CWS (variant A) | left | Renault | 231 203 06 |
| 640 319 002 0 | 640 319 028 0 | CWS (variant A) | right | | 231 203 07 |
| 640 319 006 0 | 640 319 028 0 | CWS (variant B) | right | | 231 203 10 |
| 640 319 003 0 | 640 319 027 0 | CWS (variant A) | left | Volvo | 231 203 08 |
| 640 319 004 0 | 640 319 028 0 | CWS (variant A) | right | | 231 203 09 |
| 640 319 008 0 | 640 319 028 0 | CWS (variant B) | right | | 231 203 12 |
| 640 319 009 0 | 640 319 029 0 | Wear indicator | left | Renault | 216 976 07 |
| 640 319 010 0 | 640 319 030 0 | | right | | 216 976 09 |
| 640 319 011 0 | 640 319 029 0 | Wear indicator | left | Volvo | 216 976 19 |
| 640 319 012 0 | 640 319 030 0 | | right | | 216 976 20 |
| 640 319 025 0 | 640 319 032 0 | CWS (variant A) | left | Nissan Diesel / UD Trucks | 231 203 13 |
| 640 319 026 0 | 640 319 033 0 | CWS (variant A) | right | | 231 203 14 |
| 640 319 031 0 | 640 319 033 0 | CWS (variant B) | right | | 231 203 15 |
| 640 319 034 0 | 640 319 032 0 | CWS (variant A) | left | Nissan Diesel / UD Trucks | 231 203 16 |
| 640 319 035 0 | 640 319 033 0 | CWS (variant B) | right | | 231 203 17 |
| 640 319 038 0 | 640 319 032 0 | - | left | Hyundai / Kia | 58100-6D000 |
| 640 319 039 0 | 640 319 033 0 | | right | | 58200-6D000 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|--|----------------|-----------------------|---|---------------|-----------------------|
| ■ 640 319 001 0 640 319 002 0 640 319 003 0 640 319 004 0 | 640 317 926 2 | Return unit | ■ 640 319 011 0 640 319 012 0 | 640 317 926 2 | Return unit |
| | 640 319 921 2 | Wear sensor | | 640 319 922 2 | Seals and guide bolts |
| | 640 319 922 2 | Seals and guide bolts | | 640 319 929 2 | Pressure plate |
| | 640 319 929 2 | Pressure plate | | 640 319 930 2 | Brake pad |
| ■ 640 319 006 0 640 319 008 0 | 640 319 930 2 | Brake pad | ■ 640 319 025 0 640 319 026 0 | 640 319 928 2 | Brake pad |
| | 640 319 932 2 | Wear indicator | | 640 317 926 2 | Return unit |
| | 640 317 926 2 | Return unit | | 640 319 921 2 | Wear sensor |
| | 640 319 920 2 | Wear sensor | | 640 319 922 2 | Seals and guide bolts |
| | 640 319 922 2 | Seals and guide bolts | | 640 319 929 2 | Pressure plate |
| ■ 640 319 009 0 640 319 010 0 | 640 319 929 2 | Pressure plate | ■ 640 319 031 0 640 319 034 0 640 319 035 0 | 640 319 932 2 | Wear indicator |
| | 640 319 930 2 | Brake pad | | 640 317 926 2 | Return unit |
| | 640 319 932 2 | Wear indicator | | 640 319 920 2 | Wear sensor |
| | 640 317 926 2 | Return unit | | 640 319 921 2 | Wear sensor for 034 |
| | 640 319 922 2 | Seals and guide bolts | | 640 319 922 2 | Seals and guide bolts |
| | 640 319 929 2 | Pressure plate | | 640 319 928 2 | Brake pad |
| 640 319 930 2 | Brake pad | 640 319 929 2 | Pressure plate | | |
| 640 319 932 2 | Wear indicator | 640 319 932 2 | Wear indicator | | |
| | | | ■ 640 319 038 0 640 319 039 0 | 640 317 926 2 | Return unit |
| | | | | 640 319 922 2 | Seals and guide bolts |
| | | | | 640 319 929 2 | Pressure plate |

AIR DISC BRAKES

MAXX™ 22 - heavy duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)
- **REMAN brake** Remanufactured brake (without brake pads)

| WABCO product number | | | Mounting side | OE reference | |
|----------------------|---------------|---------------|------------------|---|------------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 640 322 004 0 | 640 322 031 0 | 640 322 031 R | front axle left | MAN | 81.50804-6577 |
| 640 322 005 0 | 640 322 032 0 | 640 322 032 R | front axle right | | 81.50804-6576 |
| 640 322 007 0 | 640 322 034 0 | 640 322 034 R | rear axle left | MAN | 81.50804-6581 |
| 640 322 008 0 | 640 322 035 0 | 640 322 035 R | rear axle right | | 81.50804-6580 |
| 640 322 060 0 | 640 322 031 0 | 640 322 031 R | front axle left | MAN | 81.50804-6631 |
| 640 322 061 0 | 640 322 032 0 | 640 322 032 R | front axle right | | 81.50804-6632 |
| 640 322 062 0 | 640 322 034 0 | 640 322 034 R | rear axle left | MAN | 81.50804-6633 |
| 640 322 063 0 | 640 322 035 0 | 640 322 035 R | rear axle right | | 81.50804-6634 |
| 640 322 069 0 | 640 322 031 0 | 640 322 031 R | front axle left | MAN | 81.50804-6635 |
| 640 322 070 0 | 640 322 032 0 | 640 322 032 R | front axle right | | 81.50804-6636 |
| 640 322 071 0 | 640 322 034 0 | 640 322 034 R | rear axle left | MAN | 81.50804-6637 |
| 640 322 072 0 | 640 322 035 0 | 640 322 035 R | rear axle right | | 81.50804-6638 |
| 640 322 073 0 | 640 322 096 0 | — | left | Daimler | A960 420 120 1 |
| 640 322 074 0 | 640 322 097 0 | — | right | | A960 420 130 1 |
| 640 322 077 0 | — | — | left | Daewoo | P345 421 601 0 |
| 640 322 078 0 | — | — | right | | P345 421 602 0 |
| 640 322 096 0 | — | — | left | Daimler | A960 420 150 1 |
| 640 322 097 0 | — | — | right | | A960 420 160 1 |
| 640 322 102 0 | — | — | left | Shaanxi HanDe Axle Co., Ltd, Fangsheng Axle | 244-0229-001 |
| 640 322 103 0 | — | — | right | | 244-0229-002 |
| 640 322 112 0 | — | — | left | Shaanxi HanDe Axle Co., Ltd | DZ910 044 004 0 |
| 640 322 113 0 | — | — | right | | DZ910 044 005 0 |
| 640 322 114 0 | — | — | left | Shaanxi HanDe Axle Co., Ltd | HD901 293 403 69 |
| 640 322 115 0 | — | — | right | | HD901 293 403 70 |
| 640 322 116 0 | — | — | left | Shaanxi HanDe Axle Co., Ltd | HD901 293 403 71 |
| 640 322 117 0 | — | — | right | | HD901 293 403 72 |
| 640 322 128 0 | — | — | left | Fangsheng Axle | JY3501NP9-010-G |
| 640 322 129 0 | — | — | right | | JY3501NP9-015-G |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|-----------------|---------------|------------------------|
| ■ 640 322 004 0 | 640 322 926 2 | Seals and guide bolts | ■ 640 322 073 0 | 640 322 941 2 | Reset unit |
| 640 322 005 0 | 640 322 927 2 | Reset unit | 640 322 074 0 | 640 322 942 2 | Boot |
| 640 322 060 0 | 640 322 928 2 | Wear sensor | 640 322 096 0 | 640 322 943 2 | Wear sensor |
| 640 322 061 0 | 640 322 931 2 | Pressure plate | 640 322 097 0 | 640 322 945 2 | Pressure plate (left) |
| 640 322 069 0 | 640 322 932 2 | Boot | | 640 322 946 2 | Pressure plate (right) |
| 640 322 070 0 | 640 322 933 2 | Brake pad | | 640 322 951 2 | Seals and guide bolts |
| | | | | 640 322 958 2 | Brake pad |
| ■ 640 322 007 0 | 640 322 926 2 | Seals and guide bolts | ■ 640 322 077 0 | 640 319 922 2 | Seals and guide bolts |
| 640 322 008 0 | 640 322 927 2 | Reset unit | 640 322 078 0 | 640 322 927 2 | Reset unit |
| 640 322 062 0 | 640 322 928 2 | Wear sensor | | 640 322 928 2 | Wear sensor |
| 640 322 063 0 | 640 322 931 2 | Pressure plate | | 640 322 931 2 | Pressure plate |
| 640 322 071 0 | 640 322 933 2 | Brake pad | | 640 322 932 2 | Boot |
| 640 322 072 0 | | | | 640 322 933 2 | Brake pad |

| Product number | Repair kit | Content |
|------------------------|---------------|-----------------------|
| ■ 640 322 112 0 | 640 319 922 2 | Seals and guide bolts |
| 640 322 113 0 | 640 322 134 2 | Brake pad |
| | 640 322 931 2 | Pressure plate |
| | 640 322 932 2 | Boot |
| | 640 322 941 2 | Reset unit |
| ■ 640 322 114 0 | 640 319 922 2 | Seals and guide bolts |
| 640 322 115 0 | 640 322 134 2 | Brake pad |
| 640 322 116 0 | 640 322 931 2 | Pressure plate |
| 640 322 117 0 | 640 322 932 2 | Boot |
| | 640 322 941 2 | Reset unit |

| Product number | Repair kit | Content |
|------------------------|---------------|-----------------------|
| ■ 640 322 102 0 | 640 319 922 2 | Seals and guide bolts |
| 640 322 103 0 | 640 322 931 2 | Pressure plate |
| 640 322 128 0 | 640 322 932 2 | Boot |
| 640 322 129 0 | 640 322 937 2 | Brake pad kit |
| | 640 322 941 2 | Reset unit |

MAXX™ 22L - heavy duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **CWS** Continuous wear sensor



| Product number OE brake* | Wear sensing | Mounting side | OE reference | |
|--------------------------------|----------------|---------------|-----------------------------|--------------------------------------|
| | | | Manufacturer | OE number |
| 640 322 075 0 640 322 076 0 | CWS | left right | Daimler | A960 420 130 2 A960 420 140 2 |
| 640 322 098 0 640 322 099 0 | CWS | left right | Daimler | A960 420 160 2 A960 420 170 2 |
| 640 322 118 0 640 322 119 0 | Wear indicator | left right | Shaanxi HanDe Axle Co., Ltd | HD901 293 403 61 HD901 293 403 62 |
| 640 322 120 0 640 322 121 0 | Wear indicator | left right | Shaanxi HanDe Axle Co., Ltd | HD901 293 403 63 HD901 293 403 64 |

Repair solutions

| Product number | Repair kit | Content |
|------------------------|---------------|-----------------------|
| ■ 640 322 075 0 | 640 322 958 2 | Brake pad |
| 640 322 076 0 | 640 322 928 2 | Wear indicator |
| | 640 322 941 2 | Reset unit |
| | 640 322 942 2 | Boot for reset unit |
| | 640 322 945 2 | Pressure plate |
| | 640 322 951 2 | Seals and guide bolts |
| ■ 640 322 098 0 | 640 322 941 2 | Reset unit |
| 640 322 099 0 | 640 322 942 2 | Boot for reset unit |
| | 640 322 943 2 | Wear indicator |
| | 640 322 945 2 | Pressure plate |
| | 640 322 951 2 | Seals and guide bolts |

| Product number | Repair kit | Content |
|------------------------|---------------|-----------------------|
| ■ 640 322 118 0 | 640 322 134 2 | Brake pad |
| 640 322 119 0 | 640 319 922 2 | Seals and guide bolts |
| | 640 322 931 2 | Pressure plate |
| | 640 322 932 2 | Boot for reset unit |
| | 640 322 941 2 | Reset unit |
| ■ 640 322 120 0 | 640 322 134 2 | Brake pad |
| 640 322 121 0 | 640 319 922 2 | Seals and guide bolts |
| | 640 322 931 2 | Pressure plate |
| | 640 322 932 2 | Boot for reset unit |
| | 640 322 941 2 | Reset unit |

AIR DISC BRAKES

MAXXUS™ - heavy duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)

| Product number | | Mounting side | OE Manufacturer |
|----------------|---------------|---------------|----------------------------|
| OE brake* | IAM brake | | |
| 640 322 050 0 | 640 322 065 0 | left | Freightliner, Western Star |
| 640 322 051 0 | 640 322 066 0 | right | Freightliner, Western Star |
| 640 322 079 0 | – | left | Kessler |
| 640 322 080 0 | – | right | Kessler |



Repair solutions

| Product number | Repair kit | Content |
|--|---------------|-----------------------|
| ■ 640 322 050 0 640 322 051 0 | 640 322 927 2 | Reset unit |
| | 640 322 932 2 | Boot & sealing plug |
| | 640 322 934 2 | Brake pad |
| | 640 322 935 2 | Pressure plate |
| | 640 322 938 2 | Seals and guide bolts |
| ■ 640 322 079 0 640 322 080 0 | 640 322 921 2 | Wear indicator |
| | 640 322 927 2 | Reset unit |
| | 640 322 931 2 | Pressure plate |
| | 640 322 932 2 | Boot & sealing plug |
| | 640 322 938 2 | Cover |
| | 640 322 939 2 | Brake pad |

Rotor

| Product number | Axle | Application / Brake PAN™ 19-1 plus |
|----------------|-------|---|
| 13 162 046 | front | Dennis Enviro 300 / 40 195 019 / 020 / 039 / 040 |
| 13 162 047 | rear | Dennis Enviro 300 / 40 195 019 / 020 / 039 / 040 |



Hydraulic disc brakes

Product number explanation

| | | |
|-------------------------------|---|------------------------------|
| ■ Product number | 40 244 009 | Size Hydraulic disc brake |
| ■ Hydraulic disc brake | 244 V-Ö | Actuation Type Size |
| ■ Size | Number of pistons and piston diameter 023 2300 Nm braking torque (can vary depending on the used brake disc) 244 2 pistons, 44 mm piston diameter 485 4 pistons, 85 mm piston diameter | |
| ■ Type | F fixed caliper brake V floating caliper brake | |
| ■ Actuation | I indirect Ö hydraulic (oil pressure) m mechanical parking brake | |

Floating caliper disc brakes

Hydraulic floating caliper disc brake 230 V-IÖ

- **Application** Engineered Sealing Products

| Product number | Brake |
|----------------|---------------------|
| 40 023 004 | Disc brake 230 V-IÖ |



Repair solutions

| Repair kit | Content |
|--------------|--|
| 12 182 091 | Brake pad |
| 12 999 387VT | Boot, O-rings |
| 13 230 075 | Cover |
| 12 303 003 | Set of dished plate springs |
| 13 477 053 | Piston |
| 13 701 115 | Ring |
| 16 200 083 | Bleeding valve |
| 18 425 475 | Hex socket set screw DIN 913 M16x40 |
| 18 429 151 | Hexagon head screw ISO 4017 M6x8 |
| 18 429 469 | Hexagon head screw DIN 960 M16x1.5x120 |
| 18 441 009 | Hexagon nut DIN 934 M16 |
| 18 444 000 | Hexagon castle nut DIN 937 M16x1.5 |

- **Application** Agricultural and construction vehicles

| Product number | Brake |
|----------------|---------------------|
| 40 023 005 | Disc brake 230 V-IÖ |

HYDRAULIC DISC BRAKES

Repair solutions

| Repair kit | Content |
|--------------|---------------------------------------|
| 12 182 091 | Brake pad |
| 12 303 003 | Set of dished plate springs |
| 12 999 473VT | Boot, O-rings |
| 13 229 167 | Thrust piece |
| 13 230 075 | Cover |
| 13 477 053 | Piston |
| 13 701 115 | Ring |
| 16 200 083 | Bleeding valve |
| 17 665 107 | Tolerance ring |
| 18 425 475 | Hex socket set screw DIN913 M16x40 |
| 18 429 151 | Hexagon head screw ISO4017 M6x8 |
| 18 429 469 | Hexagon head screw DIN960 M16x1.5x120 |
| 18 441 009 | Hexagon nut DIN934 M16 |
| 18 444 000 | Hexagon castle nut DIN937 M16x1.5 |

Hydraulic floating caliper disc brake 340 V-IÖ

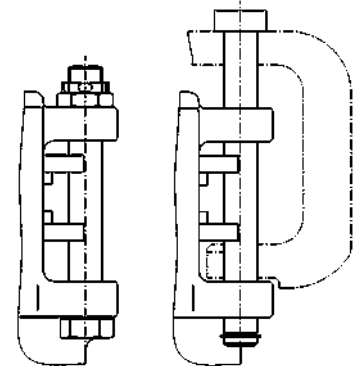
- Application Agricultural vehicles

| Product number | Brake |
|----------------|--------|
| 40 034 004 | Form B |
| 40 034 005 | Form C |



Form B

Form C



Repair solutions

| Repair kit | Content |
|--------------|-----------------------------|
| 12 182 121 | Brake pad |
| 12 303 004 | Set of dished plate springs |
| 12 999 521VT | Boots, O-rings |
| 13 227 116 | Boot |
| 13 229 167 | Thrust piece |
| 13 477 058 | Piston |
| 16 200 083 | Bleeding valve |
| 17 665 107 | Tolerance ring |
| 17 861 001 | Magnet |
| 18 425 476 | Screw |

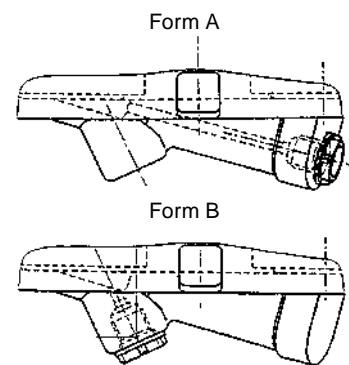
Hydraulic floating caliper disc brake 244 V-Ö

- Application Mercedes Sprinter (4.6 t) Dual tyres;
Model: 408 D 1995–04/2002, 410 D 1995–04/2002, 412 D 1995–04/2002, 414 1995–04/2002, 512 D (Vario) 1995–04/2002
VW LT 46
- Mounting side Vario 512 D: the brakes on the front axle are installed side-inverted

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|-------------------------|--|
| 40 244 009 | left, form A | Mercedes VW Claas | A 904 420 08 01 2D0 615.105 B 02608180 |



| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|-------------------------|---|
| 40 244 010 | right, form A | Mercedes VW Claas | A904 420 09 01 2D0 615.106 B 02608190 |
| 40 244 017 | left, form B | Mercedes | A9044201801 |
| 40 244 018 | right, form B | Mercedes | A9044201901 |



Repair solutions

| Repair kit | Content |
|---------------|---|
| 12 174 141 | Brake spider |
| 12 999 541VT | Brake pads, spiral springs, screws |
| 12 999 719VT | Caliper, screws (only for 40 244 009) |
| 12 999 720VT | Caliper, screws (only for 40 244 010) |
| 12 999 765 | Caliper, screws (only for 40 244 009) |
| 12 999 766 | Caliper, screws (only for 40 244 010) |
| 12 999 543VT | Bolts, screws |
| 13 480 023 | Wear indicator |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |
| 640 244 921 2 | Pistons, boots, sealing rings, plug, screws |

Hydraulic floating caliper disc brake 268 V-Ö

- Application Iveco vehicle

| Product number | Wear indicator | Vehicle brand | OE number |
|----------------|----------------|---------------|-----------|
| 40 268 001 | – | Iveco | 42115918 |
| 40 268 002 | ✓ | Iveco | 42115919 |



Repair solutions

| Repair kit | Content |
|--------------|--|
| 12 999 625VT | Boots, sealing rings, covers, screws |
| 12 999 626VT | Brake pads, leaf springs, pins |
| 12 999 627VT | Brake pad, brake pad with wear indicator, leaf springs, pins (only for 40 268 002) |
| 12 999 628VT | Boots, bolts, screws, bushings |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

- Application Iveco vehicle

| Product number | Wear indicator | Vehicle brand | OE number |
|----------------|----------------|---------------|-----------|
| 40 268 003 | – | Iveco | 42115921 |
| 40 268 004 | ✓ | Iveco | 42115922 |

Repair solutions

| Repair kit | Content |
|--------------|--------------------------------------|
| 12 999 625VT | Boots, sealing rings, covers, screws |
| 12 999 626VT | Brake pads, leaf springs, pins |

HYDRAULIC DISC BRAKES

| Repair kit | Content |
|--------------|--|
| 12 999 627VT | Brake pad, brake pad with wear indicator, leaf springs, pins (only for 40 268 002) |
| 12 999 628VT | Boots, bolts, screws, bushings |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

Fixed caliper disc brakes

Hydraulic 4-piston fixed caliper disc brake 444 F-Ö

- Application** Mercedes Van (T1 series);
 Model: 207 D -8/82, 208 -8/82, 208 D -8/82, 209 D 9/82-94, 210 9/82-94, 210 D 9/82-94, 307 D -8/82, 307 D 9/82-95, 308 -8/82, 308 D -8/82, 308 D 9/82-95, 309 D 9/82-95, 310 9/82-94, 310 D 9/82-95



| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-------------|
| 40 444 183 | left | Mercedes | A0064211998 |
| 40 444 184 | right | Mercedes | A0064212098 |

Repair solutions

| Repair kit | Content |
|--------------|-------------------------|
| 12 728 001 | Pin |
| 12 999 097VT | Piston |
| 12 999 165VT | Brake pads |
| 12 999 179VT | Piston |
| 12 999 197VT | Boots, sealing rings |
| 13 304 042 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |
| 17 520 108 | Clips detecting element |

| Product number | Mounting side |
|----------------|---------------|
| 40 444 231 | left |
| 40 444 232 | right |

Repair solutions

| Repair kit | Content |
|---------------|-------------|
| 12 728 010 | Pin |
| 12 999 165 VT | Brake pads |
| 12 999 179 VT | Piston |
| 13 304 039 | Leaf spring |

- Application** Mercedes off-road vehicle;
 Model: 230 GE, 280 GE, 240 GD, 250 GD, 290 GD, 300 GD, G 230, G 300, G 300 D, 500 GE AMG

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-------------|
| 40 444 239 | left | Mercedes | A4614200902 |
| 40 444 240 | right | Mercedes | A4614201002 |

Repair solutions

| Repair kit | Content |
|---------------|----------------------|
| 12 728 001 | Pin |
| 12 999 197VT | Boots, sealing rings |
| 12 999 800 | Brake pads |
| 13 304 042 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |
| 640 444 920 2 | Piston repair kit |

Hydraulic 4-piston fixed caliper disc brake 450 F-Ö

- **Application** Iveco Transporter Daily Type 59-12 Turbo Intercooler

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 40 450 013 | left | Iveco | 99465473 |
| 40 450 014 | right | Iveco | 99465472 |



Repair solutions

| Repair kit | Content |
|--------------|----------------------|
| 12 728 003 | Pin |
| 12 999 199VT | Boots, sealing rings |
| 12 999 324VT | Piston |
| 12 999 563VT | Brake pads |
| 13 304 041 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

Hydraulic 4-piston fixed caliper disc brake 456 F-Ö

- **Application** Iveco vehicle

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 40 456 027 | left | Iveco | 4846118 |
| 40 456 028 | right | Iveco | 4846119 |



Repair solutions

| Repair kit | Content |
|--------------|----------------------|
| 12 728 008 | Pin |
| 12 999 116VT | Boots, sealing rings |
| 12 999 195VT | Pipe lines |
| 12 999 206VT | Piston |
| 12 999 250VT | Brake pads |
| 13 304 036 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

HYDRAULIC DISC BRAKES

- Application** Leyland/DAF Typ 45 Series Roadrunner Range 6–8 t;
 Model: FA 600, 800 CN (DAF) 1987–2001; FA 45.120, C6 1991–2001;
 FA 45.130, C6, C8 1991–2001; FA 45.150, C8 1991–2001; FA 45.160,
 C8 1991–2001; 6.10, 6.12 1987–1991; 6.13, 6.15 1990–1991; 8.10, 8.12,
 8.15 1987–1991; 8.13 1990–1991

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|------------------------------|-------------------|
| 40 456 033 | left | Albion Avia Ashok Leyland | 1203033 291799 |
| 40 456 034 | right | Albion Avia Ashok Leyland | 1203032 291801 |

Repair solutions

| Repair kit | Content |
|--------------|----------------------------|
| 12 728 008 | Pin |
| 12 999 116VT | Boots, sealing rings |
| 12 999 117VT | Piston |
| 12 999 146VT | Piston, boot, sealing ring |
| 12 999 195VT | Pipe lines |
| 12 999 325VT | Brake pads |
| 13 304 038 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

- Application** Dana vehicle

| Product number | Brake | Vehicle brand | OE number |
|----------------|--------------------|---------------|---------------|
| 40 456 048 | Disc brake 456 F-Ö | Dana | 211.07.601.02 |

Repair solutions

| Repair kit | Content |
|--------------|----------------|
| 12 728 008 | Pin |
| 12 999 195VT | Pipe lines |
| 12 999 325VT | Brake pads |
| 16 200 083 | Bleeding valve |
| 13 304 038 | Leaf spring |

- Application** Defense vehicles

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------------|--------------|
| 40 456 049 | left | Steyr/Mercedes-Benz | 533331048030 |
| 40 456 050 | right | Steyr/Mercedes-Benz | 533331048040 |

Repair solutions

| Repair kit | Content |
|--------------|----------------------|
| 12 728 006 | Pin |
| 12 999 116VT | Boots, sealing rings |
| 13 304 036 | Leaf spring |
| 16 200 041 | Dust cap |
| 16 200 083 | Bleeding valve |

Drum brakes

Product number explanation

| | |
|-------------------------|---|
| ■ Product number | 610 270 134 0 / 10 410 849 └─ Drum brake ─┘ |
| ■ Drum brake | 270x80 SM-Öm └─ Actuation └─ Type └─ Size |
| ■ Size | Brake diameter x lining width |
| ■ Type | Z simplex brake D duplex brake S duo servo brake SM duo servo brake with centering |
| ■ Actuation | Ö hydraulic (oil pressure) G mechanical (linkage) E expander unit m mechanical actuation |

Servo / duo servo drum brakes

Hydraulic servo drum brake 270x80 SM-Öm

- **Application** Iveco Transporter Daily (35-10 T, 35-12 T, 40-10 TW, 49-10 T, 49-12 T Turbo / Basic and Classic)

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 270 258 | left | Iveco | 99436612 |
| 10 270 259 | right | Iveco | 99436613 |



Repair solutions

| Repair kit | Content |
|--------------|-----------------------|
| 12 999 288VT | Pull springs, screws |
| 12 999 529VT | Brake shoe repair kit |
| 13 229 074 | Thrust piece |
| 16 001 042 | Adjuster |
| 16 120 001 | Wheel cylinder |

- **Application** Iveco vehicle

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|------------------|
| 610 270 134 0 | left | Iveco | 358498, 42558529 |
| 610 270 135 0 | right | Iveco | 358497, 42558530 |

Repair solutions

| Repair kit | Content |
|---------------|-----------------------|
| 12 999 288VT | Pull springs, screws |
| 16 001 042 | Adjuster |
| 16 120 001 | Wheel cylinder |
| 610 270 920 2 | Brake shoe repair kit |

DRUM BRAKES

Hydraulic servo drum brake 310×100 SM-Öm

- Application Iveco Transporter Daily (59-12 Turbo Intercooler)

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 310 009 | left | Iveco | 98452377 |
| 10 310 010 | right | Iveco | 98452378 |



Repair solutions

| Repair kit | Content |
|--------------|---|
| 12 999 321VT | Pull springs, screws |
| 12 999 359VT | Spring repair kit: pull springs, pressure springs, spring plate, hook, locking plates |
| 12 999 412VT | Brake pad repair kit: brake linings, wear indicators, rings, washers, rivets |
| 16 001 014 | Adjuster |
| 16 923 004 | Wheel cylinder |

Hydraulic servo drum brake 315×80 SM-Öm

- Application Fork lifter

| Product number | Mounting side |
|----------------|--------------------------------------|
| 10 315 059 | rear axle / left, front axle / right |
| 10 315 060 | rear axle / right, front axle / left |



Repair solutions

| Repair kit | Content |
|--------------|-----------------------|
| 12 258 186VT | Brake shoe repair kit |
| 13 229 103 | Thrust piece |
| 16 134 032 | Wheel cylinder |

Hydraulic servo drum brake 325×100 SM-Öm

- Application Iveco vehicle

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 325 481 | left | Iveco | 4846043 |
| 10 325 482 | right | Iveco | 4846044 |



Repair solutions

| Repair kit | Content |
|------------|----------|
| 16 001 014 | Adjuster |

Simplex / duplex drum brakes

Simplex expanding wedge drum brake 360×170 Z-E

- Application Alexander Dennis Dart Bus

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|------------------|------------------|-----------|
| 10 360 077 | front axle left | Alexander Dennis | 654975 |
| 10 360 078 | front axle right | Alexander Dennis | 654974 |
| 10 360 079 | rear axle left | Alexander Dennis | 654973 |
| 10 360 080 | rear axle right | Alexander Dennis | 654972 |



Repair solutions

| Repair kit | Content |
|--------------|--|
| 12 155 493 | Brake shoe |
| 12 739 075VT | Expander repair kit |
| 12 999 402VT | Wedge, pistons |
| 12 999 403VT | Pressure springs, rings, nuts, bolts, screws |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 418VT | Adjusters, Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 623VT | Pull springs, leaf springs, washers, screws |
| 13 201 148 | Dust shield |
| 13 304 064 | Leaf spring |
| 13 601 001 | Rivet |

- Application Iveco EuroCargo Truck (115.14, 115.17, 135.14, 135.17, 145.17)

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 360 097 | left | Iveco | 1908484 |
| 10 360 098 | right | Iveco | 1908485 |

Repair solutions

| Repair kit | Content |
|--------------|--|
| 12 739 077VT | Expander repair kit |
| 12 999 134VT | Wedge, pistons |
| 12 999 403VT | Pressure springs, rings, nuts, bolts, screws |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 418VT | Adjusters, Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 469VT | Brake shoe repair kit |
| 12 999 623VT | Pull springs, leaf springs, washers, screws |
| 13 201 148 | Dust shield |
| 13 601 001 | Rivet |

- Application Iveco EuroCargo Truck; Types 120 E to 320 E from 09/1991 (120 E, 120 E18, 120 E23, 130 E15, 130 E18, 130 E23, 150 E15, 150 E18, 150 E23, 150 E27, 210 E23, 250 E23, 320 E23)

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 360 105 | left | Iveco | 500381595 |
| 10 360 106 | right | Iveco | 500381596 |

DRUM BRAKES

Repair solutions

| Repair kit | Content |
|--------------|--|
| 12 739 075VT | Expander repair kit |
| 12 999 402VT | Wedge, pistons |
| 12 999 403VT | Pressure springs, rings, nuts, bolts, screws |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 418VT | Adjusters, Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 469VT | Brake shoe repair kit |
| 12 999 623VT | Pull springs, leaf springs, washers, screws |
| 12 155 493 | Brake shoe |
| 13 201 148 | Dust shield |
| 13 601 001 | Rivet |
| 13 701 083 | Ring |

Simplex expanding wedge drum brake 410×180 Z-E

- Application Tatra

| Product number | Vehicle brand |
|----------------|---------------|
| 10 410 827* | Tatra |

* not available for Independent Aftermarket



Repair solutions

| Repair kit | Content |
|--------------|---------------------|
| 12 155 492 | Brake shoe |
| 12 739 075VT | Expander repair kit |
| 12 999 453VT | Boot |
| 13 601 001 | Rivet |
| 13 303 021 | Spiral spring |
| 13 729 135 | Washer |
| 13 229 185 | Thrust piece |
| 13 229 186 | Thrust piece |
| 13 301 257 | Pull spring |
| 13 304 029 | Leaf spring |
| 13 354 036 | Sliding piece |

- Application Iveco EuroTech Truck (240 E38/42/52, 260 E 52, MP 240 E38/42, MP 260 E38/42, MP 400 E38/42, MP 440 E34/38/42/52, MP 190 Off Road, MP 260 Off Road, MP 380 Off Road, MP 400 Off Road, MP 440 Off Road, MP 720 Off Road)

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 410 837 | left | Iveco | 41025287 |
| 10 410 838 | right | Iveco | 41025288 |

Repair solutions

| Repair kit | Content |
|--------------|----------------------------------|
| 12 739 076VT | Expander repair kit |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 410VT | Wedge repair kit: Wedge, pistons |

| Repair kit | Content |
|--------------|---|
| 12 999 411VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 418VT | Adjusters, Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 573VT | Springs repair kit: Pull springs, leaf springs, washers, screws |
| 12 999 709VT | Brake shoe repair kit |
| 12 999 710VT | Brake linings |
| 13 201 124 | Dust shield |
| 13 229 185 | Thrust piece |
| 13 229 186 | Thrust piece |
| 13 354 036 | Sliding piece |
| 13 480 042 | Wear indicator |
| 13 601 001 | Rivet |
| 13 701 083 | Ring |

■ **Application** Cranes

| Product number | Vehicle brand | OE number |
|----------------|---------------------|-----------|
| 10 410 849* | Liebherr | 571831608 |
| | Krupp | – |
| | Mannesmann-Dematic | – |
| | Tadano-Faun / Demag | 40105512 |

* not available for Independent Aftermarket



Repair solutions

| Repair kit | Content |
|--------------|---|
| 12 174 109 | Brake spider |
| 12 739 085VT | Expander repair kit |
| 12 999 292VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 453VT | Boot |
| 12 999 518VT | Wedge, pistons |
| 13 057 851 | Brake lining |
| 13 201 057 | Dust shield |
| 13 229 139 | Thrust piece |
| 13 301 255 | Pull spring |
| 13 303 021 | Spiral spring |
| 13 304 019 | Leaf spring |
| 13 601 002 | Rivet |
| 13 626 005 | Hook |
| 13 729 135 | Washer |
| 13 730 138 | Screw |
| 13 826 000 | Plug |
| 13 826 010 | Plug |
| 17 429 106 | Hexagon screw self locking M14x1/5x30 |
| 18 421 106 | Thread cutting screw DIN7513-AM8x16 |
| 18 523 007 | Grooved pin DIN1474-12h11x24 |

DRUM BRAKES

Duplex expanding wedge drum brake 410×180 D-E

- Application Cranes

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------------------------|-----------------------|
| 10 410 850 | left | Liebherr Tadano-Faun / Demag | 571848108 40105612 |
| 10 410 851 | right | Liebherr Tadano-Faun / Demag | 571848208 40105712 |



Repair solutions

| Repair kit | Content |
|--------------|---|
| 12 258 660VT | Brake shoes & brake linings (only riveted with 16 rivets) |
| 12 739 086VT | Expander repair kit |
| 12 999 292VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 295VT | Adjuster repair kit: bolts, pressure springs, ring, screws, nut |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 518VT | Wedge, pistons |
| 12 999 519VT | Wedge, pistons |
| 13 057 851 | Brake lining |
| 13 229 139 | Thrust piece |
| 13 229 149 | Thrust piece |
| 13 301 255 | Pull spring |
| 13 302 008 | Pressure spring |
| 13 304 019 | Leaf spring |
| 13 730 138 | Screw |

Simplex expanding wedge drum brake 410×200 Z-E

- Application Iveco EuroStar Truck; LD 240 E to LD 520 E after 1993 (LD 240 E42/52, LD 380 E, LD 400 E52, LD 420 E, LD 440 E42/52, LD 470 E, LD 520 E)
Iveco EuroTrakker Truck MP 190 E to MP 440 E

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------|-----------|
| 10 410 839 | left | Iveco | 41025289 |
| 10 410 840 | right | Iveco | 41025290 |



Repair solutions

| Repair kit | Content |
|--------------|---|
| 12 739 076VT | Expander repair kit |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 410VT | Wedge repair kit: Wedge, pistons |
| 12 999 411VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 418VT | Adjusters, Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 573VT | Springs repair kit: Pull springs, leaf springs, washers, screws |
| 12 999 711VT | Brake shoe repair kit |
| 12 999 712VT | Brake linings |
| 13 354 036 | Sliding piece |
| 13 480 042 | Wear indicator |
| 13 601 001 | Rivet |
| 13 701 083 | Ring |

Simplex expanding wedge drum brake 500×160 Z-E

■ Application Cranes

| Product number | Vehicle brand | OE number |
|----------------|---------------------------------|-----------------------|
| 10 500 783 | Liebherr Tadano-Faun / Demag | 571738708 40105312 |



Repair solutions

| Repair kit | Content |
|--------------|---|
| 12 258 652VT | Brake shoes & brake lining |
| 12 739 085VT | Expander repair kit |
| 12 999 292VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 518VT | Wedge, pistons |
| 13 057 847 | Brake lining |
| 13 229 139 | Thrust piece |
| 13 301 258 | Pull spring |
| 13 304 019 | Leaf spring |
| 13 730 138 | Screw |

Duplex expanding wedge drum brake 500×180 D-E

■ Application Cranes

| Product number | Mounting side | Vehicle brand | OE number |
|----------------|---------------|---------------------------------|-----------------------|
| 10 500 784 | left | Liebherr Tadano-Faun / Demag | 571738208 40075912 |
| 10 500 785 | right | Liebherr Tadano-Faun / Demag | 571738308 40076012 |



Repair solutions

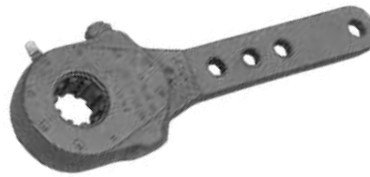
| Repair kit | Content |
|--------------|---|
| 12 258 651VT | Brake shoes and brake linings (only riveted with 28 rivets) |
| 12 739 086VT | Expander repair kit |
| 12 999 292VT | Adjuster repair kit: bolts, pressure springs, rings, screws, nuts |
| 12 999 295VT | Adjuster repair kit: bolts, pressure springs, ring, screws, nut |
| 12 999 404VT | Spiral springs, washers, boots |
| 12 999 453VT | Boot |
| 12 999 518VT | Wedge, pistons |
| 12 999 519VT | Wedge, pistons |
| 13 301 161 | Pull spring |
| 13 302 008 | Pressure spring |

DRUM BRAKES

Slack adjuster

Manual slack adjuster

- Clevis pins Ø 14 C12 mm
- Wrench SW 19 mm
- Mounting N 42x1.5x26x9 H DIN 5480



433 506 515 0



433 536 001 0

| Product number | Lever length | Vehicle brand | OE number |
|----------------|--------------|---------------|-------------|
| 433 506 103 0 | 145 mm | Daimler | A0004200438 |
| 433 506 514 0 | 145 mm | Daimler | A3464201738 |
| 433 506 515 0 | 145 mm | Daimler | A3464201838 |
| 433 506 536 0 | 145 mm | Daimler | A3854201438 |
| 433 506 728 0 | 145 mm | Daimler | A3854201938 |
| 433 506 729 0 | 145 mm | Daimler | A3854202038 |
| 433 536 001 0 | 145 mm | Daimler | A9584200238 |
| 433 536 105 0 | 145 mm | Daimler | A3454207538 |
| 433 536 526 0 | 145 mm | Daimler | A3454209138 |
| 433 536 527 0 | 145 mm | Daimler | A3454209238 |
| 433 536 529 0 | 145 mm | Daimler | A3454209338 |

Automatic slack adjuster - WABCO EasyFit™

- Wrench SW 32 mm
433 225 ... 0: Hex 12
- Internal Spline Spline standard: ANSI B92.1, tolerance class 6x37
Teeth x45°x24/48



| Product number | Application | Lever length | Mounting | Connectors | Clevis pins |
|----------------|-------------------------------|--------------------------------------|---------------------------------|------------|---------------------------|
| 433 225 174 0 | FUWA axle | 120 / 135 / 150 / 165 / 180 / 250 mm | Internal Spline | 6 | Ø 14.2 mm + 5x Ø 14.15 mm |
| 433 225 180 0 | FUWA axle | 152.4 / 177.8 mm | Internal Spline | 2 | Ø 12.8 mm + Ø 15.0 mm |
| 433 225 184 0 | FUWA axle | 152.4 / 177.8 mm | Internal Spline | 3 | Ø 12.8 mm + 2x Ø 13.0 mm |
| 433 543 001 0 | Truck | 175 mm | A40x36 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 543 027 0 | Truck / Off-Highway | 145 mm | A38x34/H10 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 543 516 0 | Truck / Off-Highway / Trailer | 175 mm | A38x34/H10 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 543 517 0 | Truck / Off-Highway | 175 mm | A38x34/H10 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 543 523 0 | Truck | 175 mm | A38x34/H10 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 543 525 0 | Truck | 175 mm | A38x34/H10 DIN 5482 | 1 | Ø 14 C12 mm |
| 433 573 512 0 | Truck | 145 mm | A38x34/H10-DIN 5482 | 1 | Ø 14 C12 mm |
| 433 576 502 0 | Off-Highway | 145 mm | N42x1.5x26x9 H DIN 5480 | 1 | Ø 14 C12 mm |
| 433 576 503 0 | Off-Highway | 145 mm | N42x1.5x26x9 H DIN 5480 | 1 | Ø 14 C12 mm |
| 433 576 711 0 | | 145 mm | N42x1.5x26x9 H DIN 5480 | 1 | Ø 14 C12 mm |
| 433 576 724 0 | Trailer / Off-Highway | 145 mm | N42x1.5x26x9 H DIN 5480 | 1 | Ø 14 C12 mm |
| 433 578 510 0 | Truck | 135 / 170 mm | D: 42, M: 1.5, Z: 27 PRE 22-151 | 1 | Ø 14 C12 + Ø 8.0 mm |

Suspension controls

Conventional air suspension control

Chassis levelling valve

| | | |
|-----------------|----------------|--|
| ■ Temperature | -40 ... +85 °C | |
| ■ Working range | 90° | |
| ■ Accessories | 464 002 350 4 | Sliding piece (except 464 002 600 0, 464 002 601 0) |
| | 464 002 730 2 | Rod (305 mm) for 464 002 330 0, 464 002 440 0 |
| | 464 006 730 2 | Rod (305 mm) for 464 006 003 0 |
| | 464 006 731 2 | Rod (110 mm) for 464 006 012 0 |
| | 464 006 350 4 | Clamp for 464 002 600 0, 464 002 601 0, 464 006 003 0, 464 006 005 0, 464 006 011 0, 464 006 012 0 |
| | 464 006 691 2 | Shaft for 464 006 003 0, 464 006 005 0, 464 006 011 0, 464 006 012 0 |



464 002 330 0



464 002 530 0



464 002 600 0



464 006 000 0

| Product number | Circuits | Operating position | Max. pressure | Lever | Mounting | Distance between holes | Port |
|----------------|----------|--------------------|---------------|-------|-------------|------------------------|--|
| 464 002 330 0 | 2 | 4-sided | 22 bar | ✓ | 2x Ø 9.0 mm | 40 mm | 1, 21, 22: M12x1.5; 3: exhaust |
| 464 002 333 0 | 2 | 4-sided | 22 bar | ✓ | 2x Ø 9.0 mm | 40 mm | 1, 21, 22: M12x1.5; 3: exhaust |
| 464 002 334 0 | 2 | 4-sided | 22 bar | ✓ | 2x Ø 9.0 mm | 40 mm | 1, 21, 22: M12x1.5; 3: exhaust |
| 464 002 440 0 | 2 | 4-sided | 22 bar | ✓ | 2x Ø 8.8 mm | 40 mm | 1, 21, 22: M12x1.5; 3: exhaust |
| 464 002 530 0 | 1 | 4-sided | 22 bar | – | 2x Ø 8.8 mm | 40 mm | 1, 21, 22: M12x1.5; 3: exhaust |
| 464 002 600 0 | 2 | 8-sided | 12 bar | ✓ | 2x Ø 8.3 mm | 40 mm | 1: Ø 8; 21: Ø 9; 22: Ø 10; 3: exhaust |
| 464 002 601 0 | 2 | 8-sided | 12 bar | ✓ | 2x Ø 8.3 mm | 40 mm | 1: Ø 8; 21: Ø 9; 22: Ø 10; 3: exhaust |
| 464 006 000 0 | 2 | 4-sided | 13 bar | – | 4x Ø 8.8 mm | 50/40 mm | 1, 21, 22, 3: M12x1.5 |
| 464 006 003 0 | 2 | 4-sided | 13 bar | ✓ | 4x Ø 8.8 mm | 50/40 mm | 1, 21, 22: ¼"-18 NPTF; 3: silencer |
| 464 006 005 0 | 2 | 4-sided | 13 bar | – | 4x Ø 8.8 mm | 50/40 mm | 1, 21, 22: ¼"-18 NPTF; 3: silencer |
| 464 006 011 0 | 2 | 4-sided | 13 bar | – | 4x Ø 8.8 mm | 50/40 mm | 1, 21, 22: M12x1.5; 3: silencer |
| 464 006 012 0 | 2 | 4-sided | 13 bar | ✓ | 4x Ø 8.8 mm | 50/40 mm | 1, 21, 22: M12x1.5; 3: silencer |

SUSPENSION CONTROLS

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------------|
| ■ 464 002 330 0 | 464 002 008 2 | Valve + sealing |
| ■ 464 002 440 0 | 464 002 008 2 | Valve + sealing |
| ■ 464 006 000 0 | 464 006 000 2 | Tappet |
| ■ 464 006 003 0 | 464 006 000 2 | Tappet |
| ■ 464 006 005 0 | 464 006 000 2 | Tappet |
| ■ 464 006 011 0 | 464 006 000 2 | Tappet |



951 814 705 0

951 814 727 0

Air spring

| Product number | Max. Ø | Length | Port 1 |
|----------------|--------|--------|-------------------------------------|
| 951 811 002 0 | 260 mm | 322 mm | male M24x1.5 / female M16x1.5 |
| 951 811 004 0 | 325 mm | 270 mm | male M24x1.5 / female M16x1.5 |
| 951 811 005 0 | 295 mm | 322 mm | male M24x1.5 / female M16x1.5 |
| 951 811 006 0 | 255 mm | 268 mm | male M24x1.5 / female M16x1.5 |
| 951 811 007 0 | 325 mm | 341 mm | female M16x1.5 |
| 951 811 008 0 | 282 mm | 321 mm | female M16x1.5 |
| 951 811 010 0 | 300 mm | 282 mm | male M24x1.5 / female M16x1.5 |
| 951 811 011 0 | 300 mm | 255 mm | female M14x1.5 |
| 951 811 012 0 | 290 mm | 290 mm | female M14x1.5 |
| 951 811 013 0 | 290 mm | 290 mm | female M14x1.5 |
| 951 811 014 0 | 260 mm | 210 mm | female 1/4"-18 NPTF |
| 951 811 111 0 | 295 mm | 565 mm | female M22x1.5 |
| 951 812 711 0 | 305 mm | 268 mm | male M16x1.5 |
| 951 812 712 0 | 305 mm | 268 mm | female M16x1.5 |
| 951 812 762 0 | 300 mm | 331 mm | female M16x1.5 |
| 951 813 150 0 | 348 mm | 381 mm | male M20x2.5 / female M14x1.5 |
| 951 813 711 0 | 325 mm | 412 mm | 2x male M24x1.5 / 2x female M16x1.5 |
| 951 813 714 0 | 325 mm | 347 mm | male M24x1.5 / 2x female M16x1.5 |
| 951 814 705 0 | 360 mm | 404 mm | female M22x1.5 |
| 951 814 727 0 | 320 mm | 404 mm | female M14x1.5 |
| 951 814 753 0 | 350 mm | 350 mm | female M16x1.5 |
| 951 895 050 0 | 285 mm | 282 mm | male M24x1.5 / female M16x1.5 |
| 951 895 060 0 | 285 mm | 282 mm | male M24x1.5 / female M16x1.5 |



896 130 106 4

Air bellow

| Product number | Max. Ø | Length | Mounting |
|----------------|--------|--------|-------------------------|
| 896 130 105 4 | 210 mm | 395 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 106 4 | 240 mm | 460 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 110 4 | 230 mm | 420 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 111 4 | 240 mm | 445 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 117 4 | 243 mm | 392 mm | Ø 150.3 mm / Ø 150.3 mm |
| 896 130 118 4 | 225 mm | 410 mm | Ø 150.3 mm / Ø 130.8 mm |
| 896 130 119 4 | 240 mm | 460 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 120 4 | 225 mm | 345 mm | Ø 150.3 mm / Ø 130.8 mm |
| 896 130 121 4 | 210 mm | 395 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 122 4 | 300 mm | 390 mm | Ø 198.1 mm / Ø 198.1 mm |
| 896 130 123 4 | 230 mm | 495 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 124 4 | 210 mm | 417 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 125 4 | 300 mm | 452 mm | Ø 198.1 mm / Ø 198.1 mm |
| 896 130 146 4 | 240 mm | 370 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 153 4 | 210 mm | 465 mm | Ø 130.8 mm / Ø 102.5 mm |
| 896 130 186 4 | 190 mm | 380 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 187 4 | 230 mm | 495 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 194 4 | 215 mm | 870 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 195 4 | 265 mm | 340 mm | Ø 178.5 mm / Ø 178.5 mm |
| 896 130 200 4 | 240 mm | 340 mm | Ø 150.3 mm / Ø 150.3 mm |
| 896 130 201 4 | 210 mm | 370 mm | Ø 130.8 mm / Ø 130.8 mm |
| 896 130 202 4 | 260 mm | 385 mm | Ø 130.8 mm / Ø 130.8 mm |



438 601 067 0



438 601 070 0

Shock absorber

| Product number | Application | Max. rebound length | Ø | Stroke | Mounting |
|----------------|-------------|---------------------|---------|--------|-------------------|
| 438 600 320 0 | DAF | 673 mm | 76.0 mm | 248 mm | Ø 20 mm / Ø 30 mm |
| 438 600 321 0 | Scania | 946 mm | 80.0 mm | 390 mm | 2x Ø 20 mm |
| 438 600 322 0 | MAN | 658 mm | 80.0 mm | 239 mm | Ø 20 mm / Ø 30 mm |
| 438 600 323 0 | Scania | 690 mm | 63.4 mm | 279 mm | M14x1.5 / Ø 22.5 |
| 438 600 324 0 | Volvo | 817 mm | 76.0 mm | 333 mm | M16x1.5 / Ø 16 mm |
| 438 600 325 0 | MAN | 647 mm | 63.4 mm | 260 mm | M14x1.5 / Ø 16 mm |
| 438 600 326 0 | DAF | 697 mm | 76.0 mm | 258 mm | Ø 20 mm / Ø 30 mm |
| 438 600 327 0 | MAN | 693 mm | 63.4 mm | 295 mm | 2x M14x1.5 |
| 438 600 328 0 | Iveco | 752 mm | 63.4 mm | 317 mm | M14x1.5 / Ø 16 mm |
| 438 600 329 0 | Volvo | 720 mm | 60.5 mm | 270 mm | 2x Ø 16 mm |
| 438 600 333 0 | Scania | 864 mm | 63.4 mm | 369 mm | M14x1.5 / Ø 20 mm |

SUSPENSION CONTROLS

| Product number | Application | Max. rebound length | Ø | Stroke | Mounting |
|----------------|--|---------------------|---------|-------------|-----------------------|
| 438 600 334 0 | DAF | 625 mm | 76.0 mm | 240 mm | M16x1.5 / Ø 20 mm |
| 438 600 335 0 | Scania | 820 mm | 80.0 mm | 336 mm | M16x1.5 / Ø 20 mm |
| 438 600 338 0 | MAN | 751 mm | 76.0 mm | 288 mm | 2x Ø 20 mm |
| 438 600 340 0 | Volvo | 719 mm | 70.0 mm | 287 mm | M16x1.5 / Ø 16 mm |
| 438 600 342 0 | Renault | 625 mm | 63.4 mm | 260 mm | 2x M14x1.5 |
| 438 600 343 0 | DAF | 618 mm | 80.0 mm | 234 mm | M16x1.5 / Ø 20 mm |
| 438 600 344 0 | Scania | 689 mm | 80.0 mm | 267 mm | M16x1.5 / Ø 22.5 mm |
| 438 600 516 0 | Iveco | 655 mm | 80.0 mm | 244 mm | 2x Ø 31 mm |
| 438 600 525 0 | MAN, Steyr | 618 mm | 50.0 mm | 262 mm | 2x M12x1.5 |
| 438 600 572 0 | MAN, Steyr | 659 mm | 70.0 mm | 253 mm | Ø 12.1 mm / Ø 14.1 mm |
| 438 600 580 0 | Scania | 693 mm | 70.0 mm | 280 mm | M14x1.5 / Ø 21 mm |
| 438 600 585 0 | Renault | 602 mm | 70.0 mm | 247 mm | 2x M14x1.5 |
| 438 600 590 0 | Mercedes-Benz | 725 mm | 80.0 mm | 280 mm | 2x Ø 20.1 mm |
| 438 600 595 0 | MAN, Steyr | 651 mm | 80.0 mm | 235 mm | Ø 20.1 mm / Ø 30.1 mm |
| 438 600 598 0 | Mercedes-Benz | 785 mm | 80.0 mm | 310 mm | 2x Ø 20.1 mm |
| 438 600 604 0 | Mercedes-Benz | 883 mm | 70.0 mm | 365 mm | 2x Ø 20.1 mm |
| 438 601 067 0 | DAF, Volvo, Meritor, Hendrickson | 425 mm | 80.0 mm | 125 mm | 2x Ø 24 mm |
| 438 601 068 0 | Volvo | 478 mm | 80.0 mm | 154 mm | 2x Ø 20 mm |
| 438 601 070 0 | BPW, SAF, Volvo | 539 mm | 80.0 mm | 185 mm | 2x Ø 24 mm |
| 438 601 072 0 | BPW, Volvo, Bartoletti, Calabrese, Mistral | 694 mm | 80.0 mm | 261 mm | 2x Ø 24 mm |
| 438 601 073 0 | BPW, Volvo, SAF | 765 mm | 76.0 mm | 297 mm | 2x Ø 24 mm |
| 438 601 074 0 | Volvo, ROLFO, SAF | 429 mm | 80.0 mm | 130 mm | 2x Ø 24 mm |
| 438 601 075 0 | Renault, SAF, Sauer | 479 mm | 80.0 mm | 151 mm | 2x Ø 24 mm |
| 438 601 079 0 | Mercedes-Benz, Hendrickson | 445 mm | 80.0 mm | 167 mm | 2x Ø 20 mm |
| 438 601 211 0 | SAF, Volvo | 413 mm | 75.0 mm | 135 mm | 2x Ø 20 mm |
| 438 601 212 0 | SAF, Volvo | 489 mm | 75.0 mm | 171 mm | 2x Ø 20 mm |
| 438 601 224 0 | BPW, Volvo | 795 mm | 80.0 mm | 316 mm | 2x Ø 24 mm |
| 438 601 230 0 | BPW, Volvo, Gigant | 497 mm | 80.0 mm | 168 mm | 2x Ø 24 mm |
| 438 601 238 0 | SAF, Volvo | 492 mm | 80.0 mm | 165 mm | 2x Ø 24 mm |
| 438 604 101 0 | MAN | 315 mm | 80.5 mm | 60 mm | M10x1.25 / Ø 14 mm |
| 438 604 102 0 | MAN | 292 mm | 80.5 mm | 40 mm | 2x Ø 14 mm |
| 438 604 109 0 | MAN | 265 mm | 80.5 mm | 37 mm | 2x Ø 14 mm |
| 438 604 110 0 | Mercedes-Benz | 344 mm | 88.5 mm | 334...15 mm | Ø 25.2 mm / Ø 14 mm |
| 438 604 111 0 | Mercedes-Benz | 320 mm | 46.0 mm | 35 mm | 2x Ø 14 mm |
| 438 604 123 0 | MAN | 290 mm | 46.0 mm | 50 mm | 2x Ø 14 mm |
| 438 604 128 0 | Renault | 310 mm | 38.2 mm | 50 mm | 2x Ø 12 mm |
| 438 604 134 0 | Volvo | 259 mm | 50.8 mm | 24 mm | 2x Ø 20 mm |
| 438 604 136 0 | Volvo | 429 mm | 50.8 mm | 127 mm | Ø 14 mm / Ø 20 mm |
| 438 604 137 0 | Volvo | 400 mm | 50.8 mm | 50 mm | 2x Ø 14 mm |
| 438 604 138 0 | DAF | 280 mm | 51.0 mm | 42 mm | M14x1.5 / Ø 14 mm |
| 438 604 148 0 | DAF | 330 mm | 51.0 mm | 52 mm | M14x1.5 / Ø 25 mm |
| 438 604 149 0 | Volvo | 336 mm | 53.0 mm | 106 mm | M12x1.75 / Ø 20 mm |
| 438 604 150 0 | Renault | 267 mm | 53.0 mm | 54 mm | 2x Ø 14 mm |
| 438 604 160 0 | Mercedes-Benz | 252 mm | 47.0 mm | 58 mm | 2x Ø 18 mm |
| 438 604 161 0 | Scania | 308 mm | 43.6 mm | 100 mm | 2x M12x1.75 |
| 438 604 164 0 | Volvo | 410 mm | 46.0 mm | 50 mm | 2x Ø 14 mm |
| 438 604 172 0 | DAF | 332 mm | 51.0 mm | 54 mm | M14x1.5 / Ø 25 mm |



964 006 019 0

Cabin air levelling module (CALM)

| Product number | Vehicle application | Lever control | Temperature |
|----------------|---|---------------|----------------|
| 964 005 007 0 | | – | –40 ... +80 °C |
| 964 005 008 0 | | – | –40 ... +80 °C |
| 964 006 019 0 | Semitrailer: MAN TGA / TGX (front) | 335 mm | –35 ... +80 °C |
| 964 006 020 0 | Platform: MAN TGA / TGX (front) | 335 mm | –35 ... +80 °C |
| 964 006 021 0 | Semitrailer: MAN TGA / TGS / TGX (rear) | 300 mm | –35 ... +80 °C |
| 964 006 022 0 | Platform: MAN TGA / TGS / TGX (rear) | 300 mm | –35 ... +80 °C |
| 964 006 023 0 | Semitrailer: MAN TGA / TGS / TGX (rear) | 300 mm | –35 ... +80 °C |
| 964 006 024 0 | Platform: MAN TGA / TGS / TGX (rear) | 300 mm | –35 ... +80 °C |

Cabin levelling valve

- **Port 1, 2** QDC: Quick connection fitting
- **Distance between holes** 46.4 mm
464 008 005 0, 464 008 011 0: 40 mm
- **Mounting** 2x Ø 8.5 mm



464 007 001 0

464 007 009 0

464 008 005 0

464 008 011 0

| Product number | One way valve | Lever | | | Max. pressure | Port 1, 2, (4) |
|----------------|---------------|----------------|---------------|------------|---------------|----------------|
| | | Type | Actuating | Length | | |
| 464 007 001 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 002 0 | ✓ | Sphere Ø 8 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | M10x1 |
| 464 007 003 0 | ✓ | Sphere Ø 8 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | M10x1 |
| 464 007 004 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | QDC ¼" |
| 464 007 006 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 274.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 007 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 171.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 008 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 274.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 009 0 | – | – | –8° ... +8° | – | 11.0 bar | QDC Ø 6 mm |
| 464 007 010 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 160.0 mm | 10.0 bar | M10x1 |
| 464 007 011 0 | ✓ | Sphere Ø 10 mm | –19° ... +19° | R 195.0 mm | 12.5 bar | M10x1 |
| 464 007 012 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 274.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 013 0 | – | Hole Ø 6.5 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 015 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 239.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 016 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 239.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 018 0 | – | – | –8° ... +8° | – | 11.0 bar | QDC Ø 6 mm |
| 464 007 019 0 | ✓ | Sphere Ø 8 mm | –19° ... +19° | R 225.0 mm | 10.0 bar | M10x1 |
| 464 007 020 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 274.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 023 0 | ✓ | Hole Ø 6.5 mm | –19° ... +19° | R 201.0 mm | 11.0 bar | QDC Ø 6 mm |

SUSPENSION CONTROLS

| Product number | One way valve | Lever | | | Max. pressure | Port 1, 2, (4) |
|----------------|---------------|------------------|---------------|------------|---------------|----------------------------|
| | | Type | Actuating | Length | | |
| 464 007 027 0 | ✓ | Sphere Ø 14.8 mm | -19° ... +19° | R 195.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 028 0 | ✓ | Sphere Ø 14.8 mm | -19° ... +19° | R 195.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 030 0 | ✓ | Hole Ø 6.5 mm | -19° ... +19° | R 201.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 031 0 | - | Hole Ø 6.5 mm | -19° ... +19° | R 171.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 032 0 | ✓ | Hole Ø 6.5 mm | -19° ... +19° | R 160.5 mm | 11.0 bar | Raufoss ABC small Ø 6 mm |
| 464 007 036 0 | ✓ | Sphere Ø 10 mm | -19° ... +19° | R 200.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 039 0 | ✓ | Hole Ø 6.5 mm | -19° ... +19° | R 201.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 040 0 | ✓ | Hole Ø 6.5 mm | -19° ... +19° | R 171.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 042 0 | - | Hole Ø 6.5 mm | -19° ... +19° | R 160.5 mm | 11.0 bar | QDC Ø 6 mm |
| 464 007 043 0 | - | Hole Ø 6.5 mm | -19° ... +19° | R 201.0 mm | 11.0 bar | Raufoss ABC small Ø 6 mm |
| 464 007 044 0 | ✓ | Sphere Ø 10 mm | -19° ... +19° | R 200.0 mm | 11.0 bar | QDC Ø 6 mm |
| 464 008 005 0 | - | Hole Ø 10x6.5 mm | -50° ... +50° | R 200.0 mm | 10.0 bar | ¼" NPTF |
| 464 008 011 0 | - | Hole Ø 10x6.5 mm | -50° ... +50° | R 200.0 mm | 10.0 bar | ¼" NPTF Port 4: ¼" NPTF |

ECAS™ - electronically controlled air suspension

ECAS™ electronic control unit (ECU)

- **Protection class** IP 30 (IEC 529)
IP 40 (IEC 529): 446 170 216 0, 446 171 201 0
- **Temperature** 446 055 ... 0: -40 ... +70 °C
446 17... 0: -40 ... +75 °C
- **Training** E-learning: ECAS 200 300 102 0
Classroom training: ECAS



446 055 307 0



446 055 312 0



446 055 405 0



446 170 230 0

| Product number | Application | System | Diagnostic software | Voltage | Pins |
|----------------|--------------------|--------------------|---------------------------------------|---------|-----------------------|
| 446 055 301 0 | MAN | 4x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 25 |
| 446 055 302 0 | MAN | 4x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 25 |
| 446 055 307 0 | Iveco | 4x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 25 |
| 446 055 311 0 | DAF | 4x2 KWP 2000 | ECAS Truck KWP K | 24 V | 25 |
| 446 055 312 0 | Leyland / DAF | 4x2 KWP 2000 | ECAS Truck KWP K | 24 V | 25 |
| 446 055 402 0 | Iveco | 6x2 - DV | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 403 0 | Renault | 6x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 405 0 | DAF | 6x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 406 0 | Scania | 6x2 - DV | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 407 0 | Nissan Diesel | 6x2 - DV | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 408 0 | Mitsubishi | 6x2 - DV | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 409 0 | MAN | 6x2 Ratio | ECAS Truck JED/ ECAS Truck and Bus | 24 V | 35 |
| 446 055 501 0 | EvoBus | ECAS Bus | ECAS Bus A | 24 V | 35 |
| 446 055 502 0 | | Bus ECAS-ESAC 6x2 | ECAS Bus A | 12 V | 35 |
| 446 055 503 0 | GAZ, Iveco, VDL | ECAS Bus | ECAS Bus A | 24 V | 35 |
| 446 055 504 0 | DAF Bus | ECAS Bus | ECAS Bus A | 24 V | 35 |
| 446 055 506 0 | Nissan Diesel | ECAS Bus | ECAS Bus A | 24 V | 35 |
| 446 055 508 0 | Iveco, Otokar | ECAS Bus | ECAS Bus A | 24 V | 35 |
| 446 170 003 0 | MAN | ECAS 4x2 VL CAN | ECAS Truck KWP K | 24 V | X1: 15, X2: 15 |
| 446 170 025 0 | Mercedes-Benz Axor | ECAS 4x2 VL CAN | ECAS ENR MB Truck | 24 V | X1: 18, X2: 15 |
| 446 170 053 0 | MAN | ECAS 6x2 CAN | ECAS Truck JED/ ECAS Truck KWP K | 24 V | X1: 15, X2: 15 |
| 446 170 055 0 | Mercedes-Benz Axor | ECAS 6x2 CAN | ECAS ENR MB Truck | 24 V | X1: 18, X2: 15 |
| 446 170 084 0 | EvoBus | ECAS Bus CAN | ECAS Bus Citaro | 24 V | X1: 18, X2: 15 |
| 446 170 085 0 | EvoBus | ECAS Bus CAN | ECAS Bus Citaro | 24 V | X1: 18, X2: 15 |
| 446 170 216 0 | Scania | ECAS 6x2 Bus CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |

SUSPENSION CONTROLS

| Product number | Application | System | Diagnostic software | Voltage | Pins |
|----------------|---------------------------|---------------------|---------------------|---------|--------------------------------------|
| 446 170 217 0 | | ECAS 6x2 Bus CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 218 0 | DAF | ECAS 4x2/2P CAN2 | ECAS CAN2 | 24 V | X1: 18, X2: 15 |
| 446 170 219 0 | DAF | ECAS 6x2 Bus CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 225 0 | Hyundai | ECAS 6x2 CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 227 0 | Solaris Bus & Coach | ECAS 6x2 Bus CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 229 0 | Iveco | ECAS 4x2 CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15 |
| 446 170 230 0 | Iveco | ECAS 6x2 CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 231 0 | Iveco | ECAS 4x2 CAN 2 | – | 24 V | X1: 18, X2: 15 |
| 446 170 232 0 | Iveco | ECAS 6x2 CAN 2 | – | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 170 233 0 | Kamaz | ECAS 6x2 CAN 2 | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9 |
| 446 171 201 0 | MAN / Solaris Bus & Coach | ECAS-ESAC 6x2 / Bus | ECAS CAN2 | 24 V | X1: 18, X2: 15, X3: 9, X4: 12, X5: 6 |

ECAS™ solenoid valve

- **Temperature** –40 ... +80 °C
- **Electrical connection** ¹⁾ Bayonet DIN 72585
- **Port 3** ²⁾ 432 407 060 0 Silencer
³⁾ integrated silencer



| Product number | Voltage | Working pressure | Electrical connection | Port | Mounting |
|----------------|---------|------------------|--|--|-----------|
| 442 040 602 0 | 24 V | 13 bar | M27x1 | – | – |
| 472 880 000 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 001 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 004 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 020 0 | 24 V | 20 bar | ¹⁾ A1-3.6-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: closed | 2x Ø 9 mm |
| 472 880 021 0 | 24 V | 20 bar | ¹⁾ A1-2.1-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: closed | 2x Ø 9 mm |
| 472 880 023 0 | 24 V | 20 bar | ¹⁾ A1-3.6-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: closed | 2x Ø 9 mm |
| 472 880 024 0 | 24 V | 20 bar | ¹⁾ A1-3.6-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 030 0 | 24 V | 20 bar | ¹⁾ A1-4.2-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 032 0 | 24 V | 20 bar | ¹⁾ A1-3.2-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 050 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 3x M8 |
| 472 880 055 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |

| Product number | Voltage | Working pressure | Electrical connection | Port | Mounting |
|----------------|---------|------------------|--|---|-----------|
| 472 880 060 0 | 24 V | 20 bar | ¹⁾ A2-4.1-Sn/K2, A1-4.2-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 3x M8 |
| 472 880 061 0 | 24 V | 20 bar | ¹⁾ A1-4.2-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 064 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23: M22x1.5 JED-388; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 065 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2, A1-3.6-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 880 072 0 | 12 V | 20 bar | ¹⁾ A1-4.2-Sn/K2 | 11, 21, 22, 23: M16x1.5; 3: ²⁾ | 2x Ø 9 mm |
| 472 880 100 0 | 24 V | 20 bar | ¹⁾ A2-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 880 103 0 | 24 V | 20 bar | ¹⁾ A2-4.1-Sn/K2, A1-4.1-Sn/K2 | 11, 21, 22, 23, 25, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 880 105 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 880 106 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.1-Sn/K2 | 11, 21, 22, 23, 25, 26, 27: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 890 002 0 | 24 V | 22 bar | HDSCS 4x2.8 coding A | 11, 22, 23: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 022 0 | 24 V | 22 bar | HDSCS 4x2.8 coding A | 11, 22, 23: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 031 0 | 24 V | 22 bar | HDSCS 4x2.8 coding B | 11, 22, 23: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 041 0 | 24 V | 22 bar | HDSCS 4x2.8 coding B | 11, 22, 23: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 061 0 | 24 V | 22 bar | HDSCS 4x2.8 coding A | 11, 22, 23: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 070 0 | 12 V | 22 bar | HDSCS 4x2.8 coding A | 11, 22, 23: M16x1.5 ISO-4039-2; 3: ³⁾ | 3x Ø 8 mm |
| 472 890 112 0 | 24 V | 22 bar | HDSCS 4x2.8 coding A / B | 11, 22, 23, 25, 26, 27: M22x1.5 JED-388-4; 3: ³⁾ | 3x Ø 8 mm |
| 472 900 058 0 | 24 V | 20 bar | ¹⁾ A1-2.1-Sn/K2 | 12, 14, 21, 22, 23: M22x1.5 JED-388; 25: M16x1.5 JED-388; 3: closed | 2x Ø 9 mm |
| 472 900 061 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K1 | 11, 22, 23: M22x1.5 JED-388; 21: closed; 3: M22x1.5 | 2x Ø 9 mm |
| 472 905 111 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 24, 25, 26: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 905 114 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 24, 25: M22x1.5 JED-388; 26: closed; 3: 2x ²⁾ | 2x M8 |
| 472 905 116 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 24, 25, 26: M22x1.5 JED-388; 3: ²⁾ | 2x M8 |
| 472 905 118 0 | 24 V | 20 bar | ¹⁾ A1-4.1-Sn/K2, A1-4.2-Sn/K2 | 11, 21, 22, 23, 24, 25: M22x1.5 JED-388; 26: closed; 3: 2x ²⁾ | 2x M8 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|---|
| ■ 472 880 000 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 001 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 004 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 030 0 | 472 900 928 2 | 2x 3/2 Valve solenoid |
| ■ 472 880 050 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 055 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 060 0 | 472 900 928 2 472 900 929 2 | 2x 3/2 Valve solenoid 2/2 Valve solenoid |
| ■ 472 880 061 0 | 472 900 928 2 472 900 929 2 | 2x 3/2 Valve solenoid 2/2 Valve solenoid |

SUSPENSION CONTROLS

| Product number | Repair kit | Content |
|-----------------|---|--|
| ■ 472 880 064 0 | 472 900 927 2 472 900 929 2 | 3x 3/2 Valve solenoid 2/2 Valve solenoid |
| ■ 472 880 065 0 | 472 900 927 2 472 900 928 2 472 900 929 2 | 3x 3/2 Valve solenoid 2x 3/2 Valve solenoid 2/2 Valve solenoid |
| ■ 472 880 100 0 | 472 900 928 2 | 2x 3/2 Valve solenoid |
| ■ 472 880 103 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 880 105 0 | 472 900 927 2 472 900 928 2 | 3x 3/2 Valve solenoid 2x 3/2 Valve solenoid |
| ■ 472 880 106 0 | 472 900 927 2 | 3x 3/2 Valve solenoid |
| ■ 472 900 058 0 | 472 900 900 2 | Valve |
| ■ 472 900 061 0 | 472 900 009 2 472 900 925 2 | Valve 2x 3/2 Valve solenoid |
| ■ 472 905 114 0 | 472 900 928 2 | 2x 3/2 Valve solenoid |

ECAS1 valve replacement

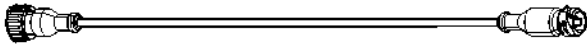
- A smooth changeover from an ECAS1 to an ECAS3 valve requires specific accessory kits. Up to three repair kits are needed to ensure a proper repair.

| ECAS1 valve | ECAS1 valve replacement | | | |
|---------------|-------------------------|---------------|---------------|---------------|
| | ECAS3 valve | Accessory kit | Accessory kit | Accessory kit |
| 472 900 001 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 002 0 | 472 880 001 0 | 472 880 928 2 | 472 900 931 2 | – |
| 472 900 008 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 012 0 | 472 880 001 0 | 472 880 928 2 | 472 900 931 2 | – |
| 472 900 014 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 021 0 | 472 880 020 0 | 472 880 933 2 | 894 601 134 2 | – |
| 472 900 022 0 | 472 880 020 0 | 472 880 932 2 | 472 900 931 2 | 894 601 134 2 |
| 472 900 030 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 032 0 | 472 880 030 0 | 472 880 929 2 | 472 900 931 2 | – |
| 472 900 033 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 034 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 050 0 | 472 880 065 0 | 472 880 930 2 | 472 900 931 2 | 472 900 931 2 |
| 472 900 054 0 | 472 880 020 0 | 472 880 933 2 | – | – |
| 472 900 056 0 | 472 880 065 0 | 894 601 161 2 | 894 601 161 2 | – |
| 472 900 057 0 | 472 880 055 0 | 894 601 161 2 | – | – |
| 472 900 059 0 | 472 880 065 0 | 472 880 930 2 | – | – |
| 472 900 061 0 | 472 880 030 0 | 472 880 931 2 | – | – |
| 472 900 064 0 | 472 880 020 0 | 472 880 932 2 | 472 900 931 2 | – |
| 472 900 074 0 | 472 880 020 0 | 472 880 933 2 | 894 601 161 2 | – |
| 472 900 101 0 | 472 880 106 0 | 472 880 928 2 | 472 880 928 2 | – |
| 472 900 104 0 | 472 880 106 0 | 472 880 928 2 | 472 880 928 2 | – |
| 472 900 105 0 | 472 880 105 0 | 472 880 928 2 | 472 880 929 2 | – |
| 472 900 110 0 | 472 880 105 0 | 894 601 161 2 | – | – |
| 472 900 112 0 | 472 880 105 0 | 472 880 931 2 | – | – |
| 472 900 113 0 | 472 880 105 0 | 472 880 931 2 | – | – |
| 472 900 114 0 | 472 880 106 0 | 894 601 161 2 | – | – |

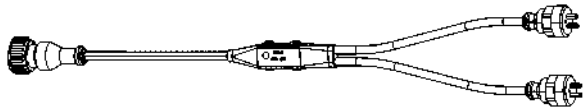
Solenoid valve connection

- Accessory kits are used to enable the transition from a M27 single solenoid type (ECAS1) to DIN bayonet solenoids (ECAS3).

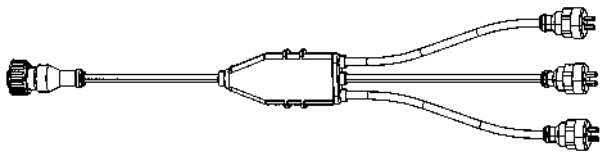
| Product number | Accessory kit |
|----------------|-----------------------|
| 894 601 134 2 | Adapter cable (1-way) |



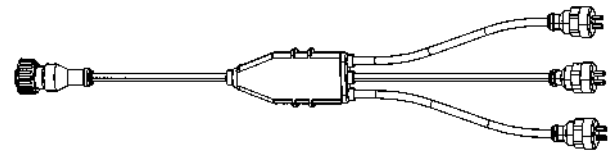
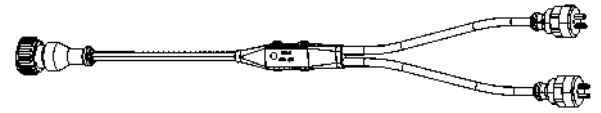
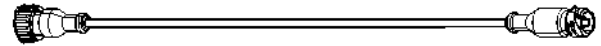
| | |
|---------------|-----------------------|
| 472 880 929 2 | Adapter cable (2-way) |
|---------------|-----------------------|



| | |
|---------------|-----------------------|
| 472 880 928 2 | Adapter cable (3-way) |
|---------------|-----------------------|



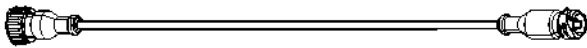
| Product number | Accessory kit |
|----------------|-------------------------------------|
| 472 880 930 2 | Adapter cable (1-way, 2-way, 3-way) |



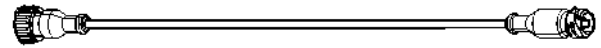
Electrical connection

- Accessory kits assure the proper electrical port connection.
- The accessory kit 894 601 161 2 works as an extension and sets the pin assignments in the appropriate way.
- The accessory kit 472 880 931 2 - without extension - also converts the pin assignment in a socket.

| Product number | Accessory kit |
|----------------|---------------------------|
| 894 601 161 2 | Adapter (extension cable) |



| Product number | Accessory kit |
|----------------|--|
| 472 880 931 2 | Adapter (extension and pin assignment cable) |



Voss connection

- Specific ECAS1 variants have a M16x1.5 Voss pneumatic supply port while the ECAS3 are equipped with an M22x1.5 Voss port. The accessory kits enable a reduction from M22x1.5 to M16x1.5 and assure tightness. The existing pneumatic connection of the vehicle can be used.

| Product number | Accessory kit |
|----------------|--|
| 472 880 932 2 | Voss adapter, 2x O-rings (M22x1.5 / M16x1.5), washer |



| Product number | Accessory kit |
|----------------|--------------------------------|
| 472 880 933 2 | Voss adapter, O-ring (M22x1.5) |



Pneumatic connection

- Specific ECAS1 valves have standard metric threads on all air ports while all ECAS3 valves have Voss metric connector threads. For these valves, the accessory kit 472 900 931 2 must be used to make the air connection tight.

| Product number | Accessory kit |
|----------------|---------------|
| 472 900 931 2 | 4x O-rings |



SUSPENSION CONTROLS

ECAS™ height sensor

| | | | | | |
|-------------------------|---------------------------------|-----------------------------------|---------------|--------------------|--|
| ■ Temperature | -40 ... +80 °C | | | | |
| ■ Electrical connection | ¹⁾ Bayonet DIN 72585 | | | | |
| ■ Accessories | 433 401 003 0 | Linkage | 441 050 711 2 | Lever 209 / 229 mm | |
| | 433 300 384 4 | Joint | 441 050 712 2 | Lever 289 / 309 mm | |
| | 441 050 641 2 | Extension for height sensor lever | 441 050 713 2 | Lever 299 / 319 mm | |
| | 810 304 017 4 | Hexagon nut DIN 934-M8 | 441 050 714 2 | Lever 323 / 343 mm | |
| | 893 510 470 2 | Hose clamp | 441 901 712 2 | Lever 235 / 255 mm | |
| | | | 441 905 711 2 | Lever 248 / 268 mm | |



441 050 012 0



441 050 100 0



441 050 121 0

| Product number | Type | Lever | Protection class | Electrical connection | Mounting | Distance between holes |
|----------------|-------------|----------|------------------|----------------------------|--------------|------------------------|
| 441 050 006 0 | inductive | – | IP6K9K | Bayonet (Schlemmer) | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 008 0 | inductive | – | IP6K9K | M24x1 | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 010 0 | inductive | – | IP6K9K | M27x1 | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 011 0 | inductive | – | IP6K9K | ¹⁾ A1-2.1-Sn/K2 | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 012 0 | inductive | – | IP6K9K | ¹⁾ A1-2.1-Sn/K2 | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 013 0 | inductive | – | IP6K9K | ¹⁾ A3-2.1-Sn/K2 | 4x Ø 9 mm | 40 / 50 mm |
| 441 050 100 0 | inductive | straight | IP6K9K | ¹⁾ A1-2.1-Sn/K2 | 2x Ø 10.9 mm | 40 mm |
| 441 050 120 0 | inductive | cross | IP6K9K | ¹⁾ A1-2.1-Sn/K2 | 2x Ø 10.9 mm | 40 mm |
| 441 050 121 0 | inductive | cross | IP6K9K | ¹⁾ A3-2.1-Sn/K2 | 2x Ø 10.9 mm | 40 mm |
| 441 050 123 0 | inductive | cross | IP6K9K | ¹⁾ A3-2.1-Sn/K2 | 2x Ø 10.9 mm | 40 mm |
| 441 050 202 0 | hall effect | straight | IP6K9K / IP6K8 | HDSCS code A | 2x Ø 9.05 mm | 40 mm |
| 441 050 203 0 | hall effect | straight | IP6K9K / IP6K8 | HDSCS code A | 2x Ø 9.05 mm | 40 mm |

ECAS™ pressure sensor

- **Temperature** –40 ... +80 °C
 ¹⁾ –40 ... +100 °C

- **Electrical connection** ²⁾ Bayonet DIN 72585 A1-3.1-Sn/K2

- **Port** M16×1.5; 441 044 106 0: ¼" NPTF

- **Sealing** ³⁾ not included, use sealing ring 811 401 057 4

- **Accessories** 811 401 057 4 Sealing ring DIN 7603-A16×20
 897 770 250 4 O-ring ISO 3601-15×2



441 044 102 0



441 044 107 0



441 044 101 0



441 044 203 0

| Product number | Sensitivity | Admissible overpressure | Electrical connection | Protection class | Sealing |
|-----------------------------|-------------|-------------------------|-----------------------|---------------------------------|-----------------|
| 441 040 004 0 | 0.500 V/bar | 16 bar | M27×1 | IP54 | – ³⁾ |
| 441 044 101 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | – ³⁾ |
| 441 044 102 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | 897 770 250 4 |
| 441 044 104 0 | 0.333 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | 897 770 250 4 |
| 441 044 106 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | – |
| 441 044 107 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | – ³⁾ |
| 441 044 109 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | 897 772 832 4* |
| 441 044 110 0 ¹⁾ | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | – ³⁾ |
| 441 044 111 0 | 0.400 V/bar | 16 bar | Bayonet ²⁾ | IP6K7 / IP6K9K | 897 772 832 4* |
| 441 044 203 0 ¹⁾ | 0.320 V/bar | 20 bar | HDSCS | IP6K7 / IP6K6K / IP6K8 / IP6K9K | 897 770 250 4 |
| 441 044 204 0 ¹⁾ | 0.250 V/bar | 23 bar | HDSCS | IP6K7 / IP6K6K / IP6K8 / IP6K9K | – ³⁾ |

* not sold separately

SUSPENSION CONTROLS

ECAS™ remote control unit

| | | |
|--------------------|---------------------------|-----------------------|
| ■ Temperature | -40 ... +70 °C | |
| ■ Voltage | 24 V; 446 056 401 0: 12 V | |
| ■ Protection class | IP64 | |
| ■ Function | lifting, lowering, stop | |
| ■ *Axle types | FA | front axle |
| | RA | rear axle |
| | BA | both axles |
| | LA | lift axle |
| | PTO | power take off |
| ■ Accessories | 446 056 010 4 | Holder for ECAS |
| | 446 056 052 4 | Support |
| | 446 056 053 4 | Mounting support |
| | 446 056 410 4 | Bracket for ECAS iRCU |



446 056 119 0

446 056 120 0

446 056 139 0

446 056 146 0

446 056 250 0

446 056 333 0

| Product number | Application | Function | | Electrical connection |
|----------------|--------------------------|---------------|---|-----------------------|
| | | Axle* | Memory level | |
| 446 056 113 0 | | FA / RA / BA | M1, M2, normal | Special 6-pole |
| 446 056 115 0 | | FA / RA / PTO | lifting lift axle, lowering lift axle, normal | Bayonet 9-pole |
| 446 056 116 0 | | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 119 0 | Iveco | RA | M1, M2, normal | Bayonet 4-pole |
| 446 056 120 0 | | FA / RA | M1, M2, normal | Bayonet 4-pole |
| 446 056 124 0 | Renault | FA / RA / LA | M1, M2, normal | Bayonet 9-pole |
| 446 056 127 0 | MAN | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 128 0 | MAN | FA / RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 129 0 | DAF | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 130 0 | DAF | FA / RA / PTO | M1, M2, normal | Bayonet 9-pole |
| 446 056 132 0 | Renault | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 135 0 | Isuzu | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 136 0 | | RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 137 0 | | FA / RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 138 0 | MAN | RA | M1, M2, normal | Special 4-pole |
| 446 056 139 0 | MAN | FA / RA | M1, M2, normal | Special 4-pole |
| 446 056 141 0 | DAF | FA / RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 143 0 | Isuzu | FA / RA | M1, M2, normal | Bayonet 9-pole |
| 446 056 146 0 | Scania | FA / RA | M1, M2, normal | Special 5-pole |
| 446 056 250 0 | Truck / trailer | FA / RA / LA | M1, M2, normal | Bayonet 9-pole |
| 446 056 251 0 | Truck / trailer | FA / RA / LA | M1, M2, normal | Special 5-pole |
| 446 056 254 0 | Truck / trailer | FA / RA / LA | M1, M2, normal | Bayonet 4-pole |
| 446 056 333 0 | Mercedes-Benz | RA | M1, M2, normal | Special 6-pole |
| 446 056 334 0 | Mercedes-Benz | FA / RA | M1, M2, normal | Special 6-pole |
| 446 056 401 0 | Scania - truck / trailer | FA / RA | M1, M2, M3, M4, normal | TE 1563772-1 |
| 446 059 100 0 | Electronic container | FA / RA | - | Special 6-pole |

Driveline controls

Pneumatic automated manual transmission (AMT)

AMT solutions increase fuel savings through optimised gear-shifting, and help vehicle operators significantly reduce mechanical wear – thereby increasing vehicle uptime.

WABCO offers an extensive portfolio of repair solutions for a failsafe repair of many components and, in the majority of cases, this repair will replace the requirement to substitute the entire gearbox control unit:

- easy diagnostics
- tailored repair solutions
- simple teach-in procedure

Aftermarket solutions for Daimler AMT 1st / 2nd generation

2-position cylinder

| Product number | Replacement unit |
|----------------|-----------------------------------|
| 421 351 001 0 | 2-position cylinder complete unit |
| 421 351 051 0 | 2-position cylinder complete unit |

| Repair kit | Content | Basic device* |
|---------------|-----------------------------|---------------|
| 421 351 001 2 | Sealings, O-rings | 421 351 000 0 |
| 421 351 004 2 | Armature, sealings, O-rings | 421 351 051 0 |

* Basic devices are not available for Independent Aftermarket



421 322 005 0



421 350 001 0

3-position cylinder

| Product number | Replacement unit |
|----------------|-----------------------------------|
| 421 322 005 0 | 3-position cylinder complete unit |
| 421 350 001 0 | 3-position cylinder complete unit |
| 421 350 061 0 | 3-position cylinder complete unit |
| 421 350 072 0 | 3-position cylinder complete unit |

| Repair kit | Content | Basic device |
|---------------|--|----------------|
| 421 350 006 2 | Solenoid valves, sealings, O-rings | 421 350 070 0* |
| 421 350 920 2 | Solenoid valve | 421 350 001 0 |
| 421 350 920 2 | Solenoid valve | 421 350 061 0 |
| 421 350 922 2 | Solenoid valve | 421 350 061 0 |
| 421 350 923 2 | Double solenoid valve, sealings, O-rings | 421 350 070 0* |
| 421 350 924 2 | Double solenoid valve, sealings, O-rings | 421 350 070 0* |
| 421 351 000 2 | Sealings, O-rings | 421 351 101 0* |

* Basic devices are not available for Independent Aftermarket



421 350 061 0



421 350 072 0

DRIVELINE CONTROLS

Aftermarket solutions for Daimler AMT 3rd generation

- **Training** Free online tutorials on YouTube:
Daimler Trucks | AMT 3rd Gen | All how-to videos
- **Diagnostics** WABCO: diagnostic software AMT for Daimler (MB)
WABCO WÜRTH: diagnostic software W.EASY®



421 351 174 0*

2-position cylinder (select)

| Repair kit | Content |
|---------------|--------------|
| 421 351 007 2 | Solenoid kit |
| 421 351 008 2 | Sealing kit |

Repair solutions for basic devices

| Basic device* | Applicable repair kit | |
|---------------|-------------------------------|------------------------------|
| | 421 351 007 2 Solenoid kit | 421 351 008 2 Sealing kit |
| 421 351 135 0 | ✓ | ✓ |
| 421 351 136 0 | ✓ | ✓ |
| 421 351 137 0 | ✓ | ✓ |
| 421 351 138 0 | ✓ | ✓ |
| 421 351 140 0 | ✓ | ✓ |
| 421 351 144 0 | – | ✓ |
| 421 351 151 0 | ✓ | ✓ |
| 421 351 152 0 | ✓ | ✓ |
| 421 351 153 0 | ✓ | ✓ |
| 421 351 154 0 | ✓ | ✓ |
| 421 351 155 0 | ✓ | ✓ |
| 421 351 156 0 | ✓ | ✓ |
| 421 351 165 0 | ✓ | ✓ |
| 421 351 167 0 | ✓ | ✓ |
| 421 351 171 0 | ✓ | ✓ |

| Basic device* | Applicable repair kit | |
|---------------|-------------------------------|------------------------------|
| | 421 351 007 2 Solenoid kit | 421 351 008 2 Sealing kit |
| 421 351 172 0 | ✓ | ✓ |
| 421 351 173 0 | ✓ | ✓ |
| 421 351 174 0 | ✓ | ✓ |
| 421 351 175 0 | ✓ | ✓ |
| 421 351 176 0 | ✓ | ✓ |
| 421 351 177 0 | ✓ | ✓ |
| 421 351 178 0 | ✓ | ✓ |
| 421 351 179 0 | ✓ | ✓ |
| 421 351 184 0 | ✓ | ✓ |
| 421 351 186 0 | ✓ | ✓ |
| 421 351 187 0 | ✓ | ✓ |
| 421 351 188 0 | ✓ | ✓ |
| 472 405 001 0 | ✓ | ✓ |
| 472 405 003 0 | ✓ | ✓ |
| 472 405 004 0 | – | ✓ |

* Basic devices are not available for Independent Aftermarket

3-position cylinder (gear shift)

| Product number | Replacement unit | Cross reference WABCO OE |
|----------------|----------------------------------|--|
| 421 350 087 0 | 3-position cylinder (gear shift) | 421 350 083 0 421 350 085 0 |
| 421 350 088 0 | 3-position cylinder (gear shift) | 421 350 081 0 421 350 082 0 421 350 084 0 421 350 086 0 |



421 350 087 0

| Repair kit | Content |
|---------------|---|
| 421 350 927 2 | Solenoid valve, disc-shaped |
| 421 350 928 2 | Solenoid valve, nose-shaped |
| 421 350 930 2 | Gasket set |
| 421 350 931 2 | Cylinder shaft seals |
| 421 350 932 2 | Valve heads: 2x disc-shaped, 2x nose-shaped |
| 421 350 934 2 | Exhaust cap |
| 421 350 935 2 | Distance sensor, circuit board, gasket set |

Repair solutions for basic devices

| Basic device* | Applicable repair kit (Product number 421 350 ...) | | | | | | |
|---------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | ... 927 2 | ... 928 2 | ... 930 2 | ... 931 2 | ... 932 2 | ... 934 2 | ... 935 2 |
| 421 350 080 0 | ✓ | – | ✓ | ✓ | – | ✓ | ✓ |
| 421 350 081 0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 350 082 0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 350 083 0 | ✓ | – | ✓ | ✓ | – | ✓ | ✓ |
| 421 350 084 0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 350 085 0 | ✓ | – | ✓ | ✓ | – | ✓ | ✓ |
| 421 350 086 0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 350 087 0 | ✓ | – | ✓ | ✓ | – | ✓ | ✓ |
| 421 350 088 0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 350 992 0 | ✓ | ✓ | ✓ | – | ✓ | – | – |
| 421 350 993 0 | ✓ | – | ✓ | – | – | – | – |

* Basic devices are not available for Independent Aftermarket

GP-cylinder (range)

| Product number | Replacement unit | Cross reference WABCO OE |
|----------------|---------------------|--------------------------|
| 421 352 082 0 | GP-cylinder (range) | 421 352 080 0 |

| Repair kit | Content |
|---------------|--|
| 421 352 920 2 | Circuit board, exhaust cap, gasket set |



421 352 082 0

Repair solutions for basic devices

| Basic device* | Applicable repair kit (Product number 421 352 920 2) |
|---------------|--|
| 421 352 080 0 | ✓ |
| 421 352 082 0 | ✓ |

* Basic devices are not available for Independent Aftermarket

Aftermarket solutions for gearbox control units for ZF transmissions

- **Diagnostics** WABCOWÜRTH: diagnostic software W.EASY®

| Repair kit | Content | Vehicle application |
|---------------|---|---------------------|
| 421 355 928 2 | Gasket set between ECU and lower actuator | truck, bus |
| 421 355 929 2 | Connector bridge and sealing for gate-cylinder | truck, bus |
| 421 355 930 2 | Solenoid block + screws, gaskets | truck, bus |
| 421 355 931 2 | Pressure limiting valve | truck, bus |
| 421 355 932 2 | Distance sensor + O-ring and screws | truck, bus |
| 421 355 933 2 | Repair kit for range-, gear- and split-cylinder | truck, bus |
| 421 355 934 2 | Complete sleeve cylinder + gasket | truck, bus |
| 421 355 936 2 | End cover for gear-cylinder + screws | truck, bus |
| 421 355 943 2 | Repair kit electrical connector | truck |
| 421 355 944 2 | Cable | bus |
| 421 355 945 2 | External cable (vehicle) | bus |
| 421 355 946 2 | Pressure sensor | truck, bus |



421 355 012 0*

DRIVELINE CONTROLS

| Repair kit | Content | Vehicle application |
|---------------|--|---------------------|
| 421 355 947 2 | Sealings for seat | truck, bus |
| 421 355 948 2 | Sealing kit for range-, gear- and split-cylinder | truck, bus |
| 421 355 949 2 | Pistons and sealings for gear-cylinder | truck, bus |
| 421 355 950 2 | Gearbox unit lower part | truck, bus |
| 421 355 951 2 | Single valve | truck, bus |
| 421 355 954 2 | Connector bridge and sealing for gate-cylinder | truck |

Repair solutions for basic devices

| Repair kit | Basic device truck* | | | | Basic device bus* | |
|---------------|---------------------|---------------|---------------|------------------|-------------------|---------------|
| | GS 3.0 truck | GS 3.3 truck | | GS 3.6 DAF truck | GS 3.0 bus | GS 3.3 bus |
| | 421 355 011 0 | 421 355 012 0 | 421 355 014 0 | 421 355 015 0 | 421 355 022 0 | 421 355 023 0 |
| 421 355 928 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 355 929 2 | ✓ | ✓ | ✓ | – | ✓ | ✓ |
| 421 355 930 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 355 931 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 355 932 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 355 933 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 934 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 936 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 943 2 | ✓ | ✓ | – | ✓ | – | – |
| 421 355 944 2 | – | – | – | – | ✓ | ✓ |
| 421 355 945 2 | – | – | – | – | ✓ | ✓ |
| 421 355 946 2 | ✓ | ✓ | – | – | ✓ | ✓ |
| 421 355 947 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 355 948 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 949 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 950 2 | ✓ | ✓ | – | – | ✓ | ✓ |
| 421 355 951 2 | ✓ | ✓ | – | ✓ | ✓ | ✓ |
| 421 355 954 2 | – | – | – | ✓ | – | – |

* Basic devices are not available for Independent Aftermarket

REMAN SOLUTIONS mechanical repair kit

| Product number | Mechanical repair kit | Cross reference WABCO OE |
|----------------|---|--------------------------|
| 421 355 950 R | GS 3.0/3.3 repair unit (lower part) without ECU | 421 355 950 2 |



421 355 950 R

REMAN SOLUTIONS complete devices for AMT specialists

- The remanufactured GS devices are sold without software (empty ECU).
- To purchase these products directly, a special contract is required. The alternative option is to purchase them via one of our dedicated distributors. For more information, please contact your local WABCO sales representative.

| Product number | Complete device | Cross reference WABCO OE |
|----------------|--|--------------------------|
| 421 355 011 R | Gearbox actuator GS 3.0 Standard, without software | 421 355 011 0 |
| 421 355 012 R | Gearbox actuator GS 3.3 Standard, without software | 421 355 012 0 |
| 421 355 015 R | Gearbox actuator GS 3.6 Standard, without software | 421 355 015 0 |
| 421 355 022 R | Gearbox actuator GS 3.0 Bus, without software | 421 355 022 0 |
| 421 355 023 R | Gearbox actuator GS 3.3 Bus, without software | 421 355 023 0 |

Aftermarket solutions for gearbox control units for Volvo applications

- **Training** Classroom training: Volvo gearbox actuator
- **Diagnostics** WABCO WÜRTH: diagnostic software W.EASY®

Repair solutions

| Repair kit | Content |
|---------------|--|
| 421 365 920 2 | Static sealing |
| 421 365 921 2 | Connector bridge |
| 421 365 922 2 | Kit with detents |
| 421 365 923 2 | Lip seal & piston kit |
| 421 365 924 2 | Cylinder cover (split cylinder) |
| 421 365 925 2 | Cylinder cover (1/R cylinder) |
| 421 365 926 2 | Cylinder cover (2/3 cylinder) |
| 421 365 927 2 | Range cylinder cover with sealing |
| 421 365 928 2 | Armature, conical spring for shift fork 2/3 |
| 421 365 929 2 | Distance sensor |
| 421 365 932 2 | Piston rod for split cylinder |
| 421 365 933 2 | Piston rod for 1/R cylinder |
| 421 365 934 2 | Piston rod for 2/3 cylinder |
| 421 365 935 2 | Range piston |
| 421 365 939 2 | Stop sheet metal for the split group |
| 421 365 946 2 | Connection bridge |
| 421 365 947 2 | Pressure sensor kit |
| 421 367 900 2 | Pressure sensor module |
| 421 367 921 2 | Static sealing |
| 421 367 922 2 | connecting bridge |
| 421 367 924 2 | Valve unit with sealing |
| 421 367 927 2 | Cylinder cover for 1/R cylinder |
| 421 367 928 2 | Cylinder cover for split cylinder |
| 421 367 929 2 | Cylinder cover 2/3 cylinder |
| 421 367 930 2 | Sheet for split cylinder |
| 421 367 931 2 | Connection support with sealing |
| 421 369 921 2 | Connecting bridge |
| 421 369 923 2 | Dynamic sealing kit |
| 421 369 924 2 | Cover and piston kit for 1/R cylinder |
| 421 369 925 2 | Connection support with sealing |
| 421 369 926 2 | Cylinder cover for 2/3 cylinder, lip seals and O-ring for cylinder |



421 365 000 0*



421 365 011 0*



421 366 001 0*



421 369 001 0*

DRIVELINE CONTROLS

| Repair kit | Content |
|---------------|---|
| 421 369 927 2 | Rod kit for 3 cylinder, lip seals and O-ring for cylinder |
| 421 369 928 2 | Rod kit for 2 cylinder, lip seals and O-ring for cylinder |

Repair solutions for basic devices

| Generation: | Basic device* (Product number 421 0) | | | | | | | | |
|--------------------------|---|--|--------------------------|--|--|------------|--------------------------|------------|------------|
| | B | C | D 12 V | D 24 V | D / 24 V Retarder | E | F | | PS |
| Applicable repair kit | ...365 000 | ...364 001 ...365 002 ...365 004 | ...364 002 ...364 003 | ...365 005 ...365 007 ...365 008 ...365 010 ...365 011 ...365 013 | ...365 006 ...365 009 ...365 012 | ...367 001 | ...366 001 ...366 002 | ...367 002 | ...369 001 |
| 421 365 920 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 921 2 | ✓ | - | - | - | - | - | - | - | - |
| 421 365 922 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 923 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| 421 365 924 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 925 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 926 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 927 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 928 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 929 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 932 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| 421 365 933 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 934 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| 421 365 935 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 421 365 939 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 946 2 | - | - | ✓ | ✓ | ✓ | - | - | - | - |
| 421 365 947 2 | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - |
| 421 367 900 2 | - | - | - | - | - | ✓ | ✓ | ✓ | ✓ |
| 421 367 921 2 | - | - | - | - | - | ✓ | ✓ | ✓ | ✓ |
| 421 367 922 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 367 924 2 | - | - | - | - | - | ✓ | - | ✓ | ✓ |
| 421 367 927 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 367 928 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 367 929 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 367 930 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 367 931 2 | - | - | - | - | - | ✓ | ✓ | ✓ | - |
| 421 369 921 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 923 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 924 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 925 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 926 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 927 2 | - | - | - | - | - | - | - | - | ✓ |
| 421 369 928 2 | - | - | - | - | - | - | - | - | ✓ |

* Basic devices are not available for Independent Aftermarket

Hydraulic automated manual transmission (AMT)

The hydraulic system consists of two main parts: central unit & gearbox actuator / XY-actuator.

- The central unit is the hydraulic power supply for the XY-actuator and controls the cylinders of the XY-actuator.
- The gearbox actuator / XY-actuator contains hydraulic actuators with stroke sensors and the shift interface to the gearbox.

Application

- The WABCO central unit and XY-actuator are used in commercial vehicles equipped with hydraulic gearshift systems and with a maximum of six gears.
- WABCO hydraulic AMT solutions are used on trucks and buses from Daimler, Volvo, Renault and MAN.

REMAN SOLUTIONS complete devices for ZF applications

- The remanufactured devices are sold without software (empty ECU).
- To purchase these products directly, a special contract is required. The alternative option is to purchase them via one of our dedicated distributors. For more information, please contact your local WABCO sales representative.

| Product number | Complete device | Basic device* |
|----------------|-------------------------------------|---|
| 477 001 030 R | Central unit 2006, without software | 477 001 030 0 |
| 477 001 031 R | Central unit 2008, without software | 477 001 031 0 477 001 036 0 477 001 037 0 |

* Basic devices are not available for Independent Aftermarket



477 001 031 R

Aftermarket solutions for ZF applications

Repair solutions

| Repair kit | Content |
|---------------|--|
| 477 001 920 2 | Pressure sensor kit (pressure sensor 441 043 108 0 = old generation: manufacturing year <2014) |
| 477 001 921 2 | Pressure sensor kit (pressure sensor 441 043 110 0 = new generation: manufacturing year >2014) |
| 477 001 923 2 | First solenoids for 3/2 way valves |
| 477 001 924 2 | First solenoids for 2/2 way valves |
| 477 001 925 2 | Check valve |
| 477 010 933 2 | Pressure accumulator |
| 477 010 934 2 | Reservoir |
| 477 010 935 2 | Power unit |
| 477 010 936 2 | Distance sensor |
| 477 010 937 2 | Sealing kit |
| 477 010 945 2 | Pressure valve |
| 477 010 946 2 | Front end cover |

Basic devices - vehicle application / cross reference

| Basic device* | ZF transmission device | Application | ZF cross reference |
|---------------|------------------------|-----------------|--|
| 477 001 030 0 | Central unit | ZF applications | 6070201011 6070301053 0501331742 0501333581 0501333747 |
| 477 001 031 0 | Central unit | ZF applications | 0501325721 0501331743 0501333617 0501333572 0501336191 |



477 001 031 0*

DRIVELINE CONTROLS

| Basic device* | ZF transmission device | Application | ZF cross reference |
|---------------|------------------------|-----------------|--|
| 477 001 036 0 | Central unit | Volvo | 0501325722 0501331744 0501333582 0501333748 0501336192 |
| 477 001 037 0 | Central unit | Renault | 0501325723 0501331745 0501333583 0501333749 0501336193 |
| 477 010 002 0 | XY-actuator | ZF applications | 6070302028 |
| 477 010 005 0 | XY-actuator | ZF applications | 6070302029 |
| 477 010 006 0 | XY-actuator | Volvo | 0501325726 |
| 477 010 007 0 | XY-Actuator | Renault | 0501325727 |



477 010 002 0*

* Basic devices are not available for Independent Aftermarket

Repair solutions for ZF central unit

| Basic device number* | | Repair kit number 477 001 ... 2 | | | | | Repair kit number 477 010 ... 2 | | | | |
|----------------------|------------|---------------------------------|--------|--------|--------|--------|---------------------------------|--------|--------|--------|--------|
| WABCO | ZF | ...920 | ...921 | ...923 | ...924 | ...925 | ...933 | ...934 | ...935 | ...937 | ...945 |
| 477 001 030 0 | 6070201011 | ✓ | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 6070301053 | ✓ | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501331742 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333581 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333747 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 477 001 031 0 | 0501325721 | ✓ | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501331743 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333617 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333572 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501336191 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 477 001 036 0 | 0501325722 | ✓ | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501331744 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333582 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333748 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501336192 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 477 001 037 0 | 0501325723 | ✓ | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501331745 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333583 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501333749 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 0501336193 | – | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

* Basic devices are not available for Independent Aftermarket

Repair solutions for ZF XY-actuator

| Basic device* | Repair kit number | | |
|---------------|-------------------|---------------|---------------|
| | 477 010 936 2 | 477 010 937 2 | 477 010 946 2 |
| 477 010 002 0 | ✓ | ✓ | ✓ |
| 477 010 005 0 | ✓ | ✓ | ✓ |
| 477 010 006 0 | ✓ | ✓ | ✓ |
| 477 010 007 0 | ✓ | ✓ | ✓ |

* Basic devices are not available for Independent Aftermarket

Aftermarket solutions for Daimler applications

Repair solutions

| Repair kit | Content |
|---------------|---|
| 477 001 920 2 | Pressure sensor kit (pressure sensor 441 043 108 0 = old generation: manufacturing year < 2014) |
| 477 001 921 2 | Pressure sensor kit (pressure sensor 441 043 110 0 = new generation: manufacturing year > 2014) |
| 477 010 936 2 | Distance sensor |



477 001 008 0*



477 010 001 0*

Repair solutions for basic devices

| Basic device* | | Repair kit number | | |
|-----------------------------|---------------|-------------------|---------------|---------------|
| Daimler transmission device | WABCO number | 477 001 920 2 | 477 001 921 2 | 477 010 936 2 |
| Central unit | 477 001 006 0 | ✓ | – | – |
| | 477 001 008 0 | ✓ | – | – |
| | 477 001 009 0 | – | ✓ | – |
| | 477 001 021 0 | ✓ | – | – |
| | 477 001 027 0 | – | ✓ | – |
| XY-actuator | 477 010 001 0 | – | – | ✓ |
| | 477 010 003 0 | – | – | ✓ |

* Basic devices are not available for Independent Aftermarket

Transmission accessories

Transmission solenoid valve

- Protection class IP69K / IP67
- Electrical connection Bayonet DIN 72585 A1-3.1-Sn/K2

| Product number | Working pressure | Voltage | Temperature |
|----------------|------------------|---------|-----------------|
| 472 400 070 0 | 10.0 bar | 24 V | -25 ... +120 °C |



Shift lever

- Temperature -40 ... +75 °C
433 130 000 0: -40 ... +85 °C
- Voltage 24 V
433 130 000 0: 12 / 24 V
- Version EAS: Electronic drive control
EPS: Electropneumatic gear shift
LHD: Left hand drive
RHD: Right hand drive



433 130 000 0

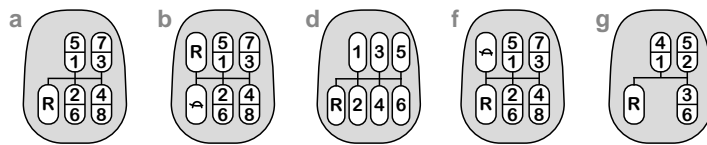
| Product number | Application | Version | Electrical connection | Mounting | Distance between bolts |
|----------------|---------------|---------|------------------------|-------------|------------------------|
| 433 130 000 0 | Volvo | LHD | JAE IL-AG5 -16S-D3C1-A | 2x Ø 6.6 mm | Holes: 123.0 mm |
| 433 140 000 0 | Iveco | LHD | AMP 11-Pole | 4x M8 | 83x79 mm |
| 433 140 003 0 | Iveco | LHD | AMP 16-Pole | 4x M8 | 83x79 mm |
| 433 140 004 0 | Iveco | RHD | AMP 16-Pole | 4x M8 | 83x79 mm |
| 433 140 005 0 | Iveco | LHD | AMP 16-Pole | 4x M8 | 83x79 mm |
| 433 140 006 0 | Iveco | RHD | AMP 16-Pole | 4x M8 | 83x79 mm |
| 433 150 014 0 | Mercedes-Benz | EPS LHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 020 0 | Mercedes-Benz | EPS LHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 021 0 | Mercedes-Benz | EAS LHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 022 0 | Mercedes-Benz | EPS RHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 023 0 | Mercedes-Benz | EAS RHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 030 0 | Mercedes-Benz | EPS LHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 070 0 | Mercedes-Benz | EPS LHD | AMP 18-Pole | 2x M8 | 70 mm |
| 433 150 072 0 | Mercedes-Benz | EPS RHD | AMP 18-Pole | 2x M8 | 70 mm |

Gear shift control valve

Gear shift control valve

| | |
|--|---------------------------------|
| ■ Electrical connection / Voltage | 441 036 000 0: 3-pin / 24 V |
| | 441 036 001 0: multi-pin / 24 V |
| ■ Accessories | 463 085 651 4 Cover |
| | 463 085 652 4 Cover |
| | 463 085 654 4 Cover |

■ **Type of gear shift lever knob for DAF**



| Product number | Application | Working pressure | Mounting | Temperature |
|----------------|------------------------------------|------------------|----------------|----------------|
| 441 036 000 0 | Reversing switch (Mercedes-Benz) | – | 1x Ø 12 mm | –25 ... +80 °C |
| 441 036 001 0 | Reversing switch (Mercedes-Benz) | – | 1x Ø 12 mm | –25 ... +80 °C |
| 463 031 102 0 | – | 10.0 bar | 1x Ø 12 mm | –25 ... +80 °C |
| 463 053 105 0 | – | 5.7 bar | ½"-13 UNC-3B | –25 ... +80 °C |
| 463 055 052 0 | – | 10.0 bar | Ø 10.9 mm | –30 ... +80 °C |
| 463 069 003 0 | – | 10.0 bar | 1x Ø 12 mm | –40 ... +80 °C |
| 463 086 000 0 | Gear shift-lever knob (DAF) type a | 10.0 bar | M42x1.5, left | –40 ... +80 °C |
| 463 086 001 0 | Gear shift-lever knob (DAF) type g | 10.0 bar | M42x1.5, left | –40 ... +80 °C |
| 463 086 020 0 | Gear shift-lever knob (DAF) type a | 10.0 bar | M42x1.5, right | –40 ... +80 °C |
| 463 086 023 0 | Gear shift-lever knob (DAF) type b | 10.0 bar | M42x1.5, right | –40 ... +80 °C |
| 463 086 040 0 | Gear shift-lever knob (DAF) type a | 10.0 bar | M42x1.5 | –40 ... +80 °C |
| 463 086 041 0 | Gear shift-lever knob (DAF) type b | 10.0 bar | M42x1.5 | –40 ... +80 °C |
| 463 086 043 0 | Gear shift-lever knob (DAF) type f | 10.0 bar | M42x1.5 | –40 ... +80 °C |
| 463 086 061 0 | Gear shift-lever knob (DAF) type d | 10.0 bar | M42x1.5 | –40 ... +80 °C |



Control valve

| Product number | Type | Working pressure | Mounting | Voltage | Electrical connection | Temperature |
|----------------|------|------------------|-----------|---------|-----------------------|-----------------|
| 463 038 003 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | M27x1 | –15 ... +80 °C |
| 463 038 009 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | – | –15 ... +80 °C |
| 463 038 011 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | M27x1 | –15 ... +80 °C |
| 463 038 012 0 | 3/2 | 10 bar | 2x Ø 9 mm | 24 V | DIN 72585 A1-2.1-Ag | –20 ... +100 °C |
| 463 038 013 0 | 3/2 | 10 bar | 2x Ø 9 mm | 24 V | DIN 72585 A1-2.1-Ag | –15 ... +80 °C |
| 463 038 014 0 | 3/2 | 10 bar | 2x Ø 9 mm | 24 V | DIN 72585 A1-2.1-Ag | –15 ... +80 °C |
| 463 039 002 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | – | –15 ... +80 °C |
| 463 039 005 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | – | –15 ... +80 °C |
| 463 039 006 0 | 3/2 | 10 bar | 2x Ø 9 mm | – | – | –15 ... +80 °C |
| 463 063 002 0 | 5/2 | 10 bar | 4x Ø 9 mm | – | – | –20 ... +140 °C |
| 463 063 003 0 | 5/2 | 10 bar | 4x Ø 9 mm | – | – | –20 ... +140 °C |

DRIVELINE CONTROLS

| Product number | Type | Working pressure | Mounting | Voltage | Electrical connection | Temperature |
|----------------|------|------------------|-----------|---------|-----------------------|-----------------|
| 463 063 004 0 | 5/2 | 10 bar | 4x Ø 9 mm | – | – | –20 ... +140 °C |
| 463 063 005 0 | 5/2 | 10 bar | 4x Ø 9 mm | – | – | –20 ... +140 °C |
| 476 406 005 0 | – | 16 bar | 6x Ø 8 mm | – | – | –25 ... +100 °C |
| 476 406 007 0 | – | 16 bar | 6x Ø 8 mm | – | – | –25 ... +100 °C |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------|
| ■ 463 038 009 0 | 463 038 000 2 | Sealing ring |
| ■ 463 063 002 0 | 463 063 000 2 | Sealing ring |
| ■ 463 063 003 0 | 463 063 000 2 | Sealing ring |
| ■ 463 063 005 0 | 463 063 000 2 | Sealing ring |

Distance sensor

| | |
|-------------------------|--|
| ■ Temperature | –40 ... +130 °C |
| ■ Voltage | 12 V |
| ■ Electrical connection | M24x1 1) Bayonet DIN 72585 A1-2.1-Ag/K2 |



441 100 065 0

441 100 072 0

| Product number | Version | Mounting | Measuring | Protection class |
|--------------------------------|---------|----------|-----------|------------------|
| 441 100 000 0 | 0° | Flange | | IP66A |
| 441 100 050 0 | 0° | M18x1.5 | 9.8 mm | IP66A |
| 441 100 063 0 | 90° | M20x1.5 | 9.6 mm | IP66A |
| 441 100 064 0 ¹⁾ | 0° | M20x1.5 | 9.6 mm | IP66A |
| 441 100 065 0 ¹⁾ | 90° | M20x1.5 | 9.6 mm | IP66A |
| 441 100 070 0 | 0° | M20x1.5 | 13.5 mm | IP66A |
| 441 100 071 0 | 0° | M20x1.5 | 13.5 mm | IP66A |
| 441 100 072 0 ¹⁾ | 0° | M20x1.5 | 13.5 mm | IP6K9K |
| 441 101 000 0 | 0° | M18x1.5 | 18.0 mm | IP66A |
| 441 101 010 0 | 90° | M18x1.5 | 8.0 mm | IP6K6K |
| 441 101 537 1 ^{1) 2)} | – | Ø 40 | 28.0 mm | IP6K6K |

²⁾ Cable length 250 mm

Clutch control



965 001 001 0

Pedal unit

| Product number | Application | Pedal type | Max. pressure | Clutch servo fluid | Stroke brake / clutch | Temperature |
|----------------|------------------|----------------|---------------|--------------------|-----------------------|-----------------|
| 965 001 001 0 | Renault | Brake / clutch | 12.5 bar | DOT 4 - SAE J1703 | 85.10 / 129 mm | -40 ... +80 °C |
| 965 001 002 0 | Renault | Brake / clutch | 10.0 bar | DOT 4 - SAE J1703 | 85.10 / 129 mm | -40 ... +80 °C |
| 965 001 020 0 | Otokar, Tamsa | Brake / clutch | 12.5 bar | DOT 4 - SAE J1703 | 85.10 / 129 mm | -40 ... +80 °C |
| 965 001 025 0 | Renault, Leyland | Brake / clutch | 12.5 bar | DOT 4 - SAE J1703 | 85.10 / 129 mm | -40 ... +80 °C |
| 965 001 026 0 | Renault, Leyland | Brake | 12.5 bar | - | 85.10 / - mm | -40 ... +80 °C |
| 965 001 041 0 | Renault | Brake / clutch | 15.0 bar | DOT 4 - SAE J1703 | 80.65 / 129 mm | -40 ... +80 °C |
| 965 001 042 0 | Renault | Brake | 15.0 bar | - | 80.65 / - mm | -40 ... +80 °C |
| 965 001 055 0 | DAF | Brake | 15.0 bar | - | 85.00 / - mm | -35 ... +70 °C |
| 965 001 103 0 | | Clutch | - | DOT 4 - SAE J1703 | - / 194 mm | -40 ... +100 °C |
| 965 001 106 0 | | Clutch | - | DOT 4 - SAE J1703 | - / 215 mm | -40 ... +100 °C |
| 965 001 208 0 | Freightliner | Clutch | - | DOT 4 - SAE J1703 | - / 215 mm | -40 ... +100 °C |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------------------------|
| ■ 965 001 001 0 | 965 001 050 2 | Sensor cable |
| | 965 001 902 2 | Clutch master cylinder + pedal joint |
| | 965 001 903 2 | Brake pedal push rod |
| | 965 001 904 2 | Sensor cable |
| | 965 001 921 2 | Clutch pedal |
| | 965 001 923 2 | Bearing bolt |
| | 965 001 924 2 | Clutch master cylinder + pedal |
| | 965 001 926 2 | Clutch master cylinder |
| ■ 965 001 002 0 | 461 494 923 2 | Silencer |
| | 965 001 921 2 | Clutch pedal |
| | 965 001 923 2 | Bearing bolt |
| | 965 001 924 2 | Clutch master cylinder + pedal |
| | 965 001 926 2 | Clutch master cylinder |
| ■ 965 001 020 0 | 965 001 924 2 | Clutch master cylinder + pedal |
| | 965 001 926 2 | Clutch master cylinder |
| ■ 965 001 025 0 | 965 001 010 2 | Foot brake valve |
| | 965 001 921 2 | Clutch pedal |
| | 965 001 924 2 | Clutch master cylinder + pedal |
| | 965 001 926 2 | Clutch master cylinder |
| ■ 965 001 026 0 | 965 001 010 2 | Foot brake valve |

CLUTCH CONTROL

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------------------|
| ■ 965 001 041 0 | 965 001 921 2 | Clutch pedal |
| | 965 001 922 2 | Brake pedal |
| | 965 001 924 2 | Clutch master cylinder + pedal |
| | 965 001 925 2 | Brake signal transmitter |
| | 965 001 926 2 | Clutch master cylinder |
| | 965 001 929 2 | Sensor cable |
| ■ 965 001 042 0 | 965 001 922 2 | Brake pedal |
| | 965 001 925 2 | Brake signal transmitter |
| | 965 001 926 2 | Clutch master cylinder |
| ■ 965 001 055 0 | 965 001 927 2 | Brake pedal |
| | 965 001 928 2 | Clutch pedal |
| ■ 965 001 103 0 | 965 001 009 2 | Wiring harness |
| | 965 001 900 2 | Brake fluid container |
| | 965 001 901 2 | Tank plug |
| ■ 965 001 106 0 | 965 001 009 2 | Wiring harness |
| | 965 001 900 2 | Brake fluid container |
| | 965 001 901 2 | Tank plug |
| ■ 965 001 208 0 | 965 001 009 2 | Wiring harness |
| | 965 001 900 2 | Brake fluid container |
| | 965 001 901 2 | Tank plug |

Pneumatic clutch actuator

| | |
|-------------------------|--|
| ■ Temperature | -30 ... +90 °C |
| ■ Working pressure | 8.5 bar |
| ■ Electrical connection | Bayonet DIN 72585 A1-7.1 Bayonet DIN 72585 A1-2.1 |



970 150 001 0



970 150 005 0

| Product number | Application | Stroke | Port 1 |
|----------------|-------------------------|---------|----------------------|
| 970 150 001 0 | Unimog, Mitsubishi Fuso | 69.5 mm | M16x1.5 |
| 970 150 005 0 | Ashok Leyland | 70.4 mm | M16x1.5 Voss 230 NG8 |
| 970 150 008 0* | Daimler | 69.5 mm | M16x1.5 |

*same as 970 150 001 0 but with stronger internal spring force

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------|
| ■ 970 150 001 0 | 970 150 923 2 | Solenoid valve |
| | 970 150 924 2 | Armature + sealing |
| ■ 970 150 005 0 | 970 150 921 2 | Boot + adapter |
| | 970 150 923 2 | Solenoid valve |
| ■ 970 150 008 0 | 970 150 924 2 | Armature + sealing |

Manual transmission

Clutch servo

■ **Max. pressure** ¹⁾ Maximum supply pressure (air)

■ **Electrical connection** ²⁾ Bayonet DIN 72585



470 051 114 0



970 051 131 0



970 051 157 0



970 051 159 0



970 051 176 0



970 051 860 0

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|-----------------------------|---------|-----------------------|--|
| 470 051 114 0 | 8.0 bar | -40 ... +80 °C | Brake fluid, compressed air | 59.5 mm | - | 11: M16x1.5; 12, oil inlet: M14x1.5; 31: exhaust |
| 884 503 606 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M12x1.5 |
| 884 503 728 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 017 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 81.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 018 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 81.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 025 0 | 10.0 bar | -20 ... +120 °C | Brake fluid SAE J 1703 | 82.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 035 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 85.0 mm | ²⁾ A1 | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 100 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 81.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 101 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 82.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 102 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 67.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 107 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 111 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 114 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 67.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 119 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 81.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 120 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 82.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 124 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 56.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 125 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 126 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 67.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 127 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 128 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 131 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 72.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 135 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |

CLUTCH CONTROL

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|------------------------|---------|-----------------------|--|
| 970 051 137 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 150 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 151 0 | 10.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 65.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 154 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 157 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 158 0 | 8.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 159 0 | 8.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 161 0 | 10.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 162 0 | 10.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 65.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 163 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 164 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 170 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 171 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 70.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 172 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 174 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 176 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 179 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 181 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 182 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 183 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 184 0 | 10.0 bar | -20 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 186 0 | 10.0 bar | -20 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 187 0 | 10.0 bar | -20 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 188 0 | 10.0 bar | -20 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 190 0 | 10.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 60.0 mm | - | 11, 12: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 191 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M18x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 192 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 193 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M14x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M12x1.5 |

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|---------------------------|---------|-----------------------------------|--|
| 970 051 194 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 58.5 mm | - | 11: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: 7/16 - 20 UNC |
| 970 051 199 0 | 10.0 bar | -20 ... +140 °C | Brake fluid SAE J 1703 | 60.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 204 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 24.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 205 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 206 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 209 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 214 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 217 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 218 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 220 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 224 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 226 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 26.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 228 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 81.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 229 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 82.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 231 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 82.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 232 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 80.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 406 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 412 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 85.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 414 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 417 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M16x1.5; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 419 0 | 10.0 bar | -40 ... +110 °C | Brake fluid SAE J 1703 | 31.0 mm | - | 11: M22x1.5 JED-388; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |

CLUTCH CONTROL

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|---------------------------|---------|--------------------------------|--|
| 970 051 421 0 | 10.0 bar | -40 ... +110 °C | Brake fluid SAE J 1703 | 31.0 mm | - | 11: M22x1.5 JED-388; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 422 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 423 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 424 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 425 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | ²⁾ A1 | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 429 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 430 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 431 0 | 10.0 bar | -20 ... +80 °C | Brake fluid SAE J 1703 | 85.0 mm | ²⁾ A1 | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 432 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 85.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 433 0 | 10.0 bar | -20 ... +80 °C | Brake fluid SAE J 1703 | 69.0 mm | ²⁾ A1 | 11: M16x1.5 JED-464; 31: Union Ø 8.0 mm; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 434 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464-0; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 435 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 436 0 | 10.0 bar | -20 ... +80 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 437 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 438 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M22x1.5 JED-388; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 439 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 25.0 mm | - | 11: M16x1.5; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 440 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 441 0 | 10.0 bar | -20 ... +80 °C | Mineral oil | 85.0 mm | ²⁾ A1 | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 443 0 | 10.0 bar | -20 ... +80 °C | Mineral oil | 69.0 mm | ²⁾ A1 | 11: M16x1.5; 31: Union Ø 8.0mm; 32: M8x1; oil inlet: M16x1.5 |
| 970 051 445 0 | 10.0 bar | -20 ... +80 °C | Brake fluid SAE J 1703 | 86.5 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 446 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 451 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 453 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 454 0 | 10.0 bar | -20 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | ²⁾ A1 | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 455 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M16x1.5; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 457 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 86.0 mm | - | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|------------------------|---------|--------------------------------|--|
| 970 051 458 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 85.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 459 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M16x1.5; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 460 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 465 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 65.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 466 0 | 10.0 bar | -40 ... +100 °C | Mineral oil | 85.0 mm | ²⁾ A1 - 2.1 - SN K2 | 11: M22x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 473 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 474 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 31.0 mm | - | 11: M16x1.5 JED-388; 12, 22: M10x1.0 JED-388-1; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 478 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 479 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 84.8 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 482 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 31.0 mm | - | 11: M16x1.5 JED-388; 12, 22: M10x1.0 JED-388-1; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 484 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M16x1.5; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 496 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464-0; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 503 0 | 100 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 53.3 mm | - | |
| 970 051 505 0 | 50 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.0 mm | - | |
| 970 051 506 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 510 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 511 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.0 mm | - | 11: M16x1.5; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 601 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 86.5 mm | - | 11, 31: '2000-1/2'; 12, 22: '2000-3/8'; 32: Ø 8.0 mm; 33: Ø 11.0 mm |
| 970 051 602 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 83.5 mm | - | 11, 31: '2000-1/2'; 32: Ø 8.0 mm |
| 970 051 604 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 83.5 mm | - | 11, 31: '2000-1/2'; 12, 22: '2000-3/8'; 32: Ø 8.0 mm; 33: Ø 11.0 mm |
| 970 051 606 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-388; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 611 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M22x1.5 JED-388; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 621 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 629 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 25.2 mm | - | 11: M22x1.5 JED-388; 12, 22: M12x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 809 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 810 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 75.0 mm | - | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |

CLUTCH CONTROL

| Product number | Max. pressure ¹⁾ | Temperature | Medium | Stroke | Electrical connection | Port |
|----------------|-----------------------------|-----------------|------------------------|---------|-----------------------|--|
| 970 051 811 0 | 10.0 bar | -30 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 822 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464-0; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 823 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464-0; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 824 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 825 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 051 826 0 | 10.0 bar | -40 ... +100 °C | Brake fluid SAE J 1703 | 85.0 mm | – | 11: M16x1.5 JED-464; 31: exhaust; 32: Ø 8.0 mm; oil inlet: M14x1.5 |
| 970 052 002 0 | 10.0 bar | -40 ... +130 °C | MB-SERVO 345.0 | 85.0 mm | ²⁾ A1 | 11: M16x1.5; 31: exhaust; 32: M8x1; oil inlet: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|-------------------------|-----------------|--------------------------------|----------------------------------|
| ■ 470 051 114 0 | 470 051 006 2 | Valve | ■ 970 051 183 0 | 970 051 910 2 | Valve + piston |
| ■ 970 051 101 0 | 970 051 997 2 | Valve + piston | ■ 970 051 190 0 | 970 051 917 2 | Valve + piston |
| ■ 970 051 102 0 | 970 051 904 2 | Valve + piston | ■ 970 051 191 0 | 970 051 906 2 | Valve + piston |
| ■ 970 051 107 0 | 970 051 006 2 970 051 906 2 | Valve Valve + piston | ■ 970 051 192 0 | 970 051 906 2 | Valve + piston |
| ■ 970 051 111 0 | 970 051 006 2 970 051 905 2 | Valve Valve + piston | ■ 970 051 193 0 | 970 051 906 2 | Valve + piston |
| ■ 970 051 114 0 | 970 051 904 2 | Valve + piston | ■ 970 051 194 0 | 970 051 906 2 | Valve + piston |
| ■ 970 051 120 0 | 970 051 999 2 | Valve + piston | ■ 970 051 204 0 | 970 051 904 2 | Valve + piston |
| ■ 970 051 124 0 | 970 051 006 2 970 051 906 2 | Valve Valve + piston | ■ 970 051 205 0 | 970 051 907 2 970 051 937 2 | Valve + piston Valve |
| ■ 970 051 126 0 | 970 051 904 2 | Valve + piston | ■ 970 051 206 0 | 970 051 904 2 | Valve + piston |
| ■ 970 051 127 0 | 970 051 006 2 970 051 906 2 | Valve Valve + piston | ■ 970 051 209 0 | 970 051 909 2 970 051 942 2 | Valve + piston 3/2 way valve |
| ■ 970 051 128 0 | 970 051 906 2 | Valve + piston | ■ 970 051 214 0 | 970 051 909 2 | Valve + piston |
| ■ 970 051 131 0 | 970 051 903 2 | Valve + boot | ■ 970 051 217 0 | 970 051 911 2 970 051 967 2 | Valve + piston Valve + piston |
| ■ 970 051 135 0 | 970 051 910 2 | Valve + piston | ■ 970 051 218 0 | 970 051 937 2 970 051 948 2 | Valve Valve + piston |
| ■ 970 051 150 0 | 970 051 910 2 | Valve + piston | ■ 970 051 220 0 | 970 051 910 2 970 051 937 2 | Valve + piston Valve |
| ■ 970 051 151 0 | 970 051 917 2 | Valve + piston | ■ 970 051 224 0 | 970 051 967 2 | Valve + piston |
| ■ 970 051 154 0 | 970 051 911 2 | Valve + piston | ■ 970 051 226 0 | 970 051 999 2 | Valve + piston |
| ■ 970 051 157 0 | 970 051 006 2 970 051 911 2 | Valve Valve + piston | ■ 970 051 228 0 | 970 051 999 2 | Valve + piston |
| ■ 970 051 158 0 | 970 051 916 2 | Valve | ■ 970 051 231 0 | 970 051 995 2 | Valve + piston |
| ■ 970 051 159 0 | 970 051 916 2 | Valve | ■ 970 051 232 0 | 970 051 995 2 | Valve + piston |
| ■ 970 051 162 0 | 970 051 917 2 | Valve + piston | ■ 970 051 406 0 | 970 051 952 2 | Valve |
| ■ 970 051 170 0 | 970 051 919 2 | Valve + piston | ■ 970 051 412 0 | 970 051 971 2 970 051 986 2 | Valve Distance sensor |
| ■ 970 051 171 0 | 970 051 944 2 | Valve + piston | ■ 970 051 414 0 | 970 051 961 2 | Valve |
| ■ 970 051 176 0 | 970 051 950 2 | Valve + piston | ■ 970 051 422 0 | 970 051 961 2 970 051 973 2 | Valve Valve + port filter |
| ■ 970 051 182 0 | 970 051 906 2 | Valve + piston | | | |

| Product number | Repair kit | Content |
|-----------------|---|-----------------------------------|
| ■ 970 051 423 0 | 970 051 961 2 | Valve |
| ■ 970 051 424 0 | 970 051 961 2 | Valve |
| ■ 970 051 425 0 | 970 051 986 2 | Distance sensor |
| ■ 970 051 429 0 | 970 051 970 2 | Valve |
| ■ 970 051 430 0 | 970 051 970 2 | Valve |
| ■ 970 051 431 0 | 970 051 974 2 970 051 986 2 | Valve + piston Distance sensor |
| ■ 970 051 432 0 | 970 051 977 2 970 051 986 2 | Valve Distance sensor |
| ■ 970 051 433 0 | 970 051 986 2 | Distance sensor |
| ■ 970 051 435 0 | 970 051 970 2 | Valve |
| ■ 970 051 436 0 | 970 051 975 2 | Valve |
| ■ 970 051 437 0 | 970 051 961 2 970 051 984 2 | Valve Valve |
| ■ 970 051 438 0 | 970 051 960 2 970 051 961 2 970 051 984 2 | Control valve Valve Valve |
| ■ 970 051 439 0 | 970 051 960 2 970 051 984 2 | Control valve Valve |
| ■ 970 051 441 0 | 970 051 986 2 970 051 987 2 | Distance sensor Valve |
| ■ 970 051 443 0 | 970 051 986 2 970 051 987 2 | Distance sensor Valve |

| Product number | Repair kit | Content |
|-----------------|--------------------------------|---|
| ■ 970 051 445 0 | 970 051 974 2 | Valve + piston |
| ■ 970 051 446 0 | 970 051 986 2 | Distance sensor |
| ■ 970 051 454 0 | 970 051 986 2 970 051 994 2 | Distance sensor Valve |
| ■ 970 051 457 0 | 970 051 961 2 | Valve |
| ■ 970 051 458 0 | 970 051 977 2 970 051 986 2 | Valve Distance sensor |
| ■ 970 051 460 0 | 970 051 973 2 | Valve |
| ■ 970 051 465 0 | 970 051 971 2 970 051 986 2 | Valve Distance sensor |
| ■ 970 051 466 0 | 970 051 971 2 970 051 986 2 | Valve Distance sensor |
| ■ 970 051 473 0 | 970 051 996 2 | Valve |
| ■ 970 051 474 0 | 970 051 961 2 970 051 984 2 | Valve Valve |
| ■ 970 051 478 0 | 970 051 961 2 | Valve |
| ■ 970 051 479 0 | 970 051 961 2 | Valve |
| ■ 970 051 482 0 | 970 051 961 2 | Valve |
| ■ 970 051 601 0 | 970 051 989 2 970 051 990 2 | Port coupling piece Load sensing valve |
| ■ 970 051 602 0 | 970 051 989 2 | Port coupling piece |
| ■ 970 051 604 0 | 970 051 989 2 970 051 990 2 | Port coupling piece Load sensing valve |



462 012 100 0

974 010 001 0

974 010 008 0

Servo master

| Product number | Max. pressure | Medium | Fluid | Stroke | Push rod | Temperature |
|----------------|---------------|-------------------|---|---------|----------|----------------|
| 462 012 100 0 | 8.0 bar | Air | – | 21,5 mm | – | -40 ... +80 °C |
| 974 010 001 0 | 60.0 bar | Air / brake fluid | DOT 3 (except silicon), DOT 4, DOT 5 | 30.0 mm | – | -30 ... +80 °C |
| 974 010 008 0 | 50.0 bar | Air / mineral oil | M3289 | 30.0 mm | ✓ | -40 ... +80 °C |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 462 012 100 0 | 462 012 001 2 | Boot |

Clutch master cylinder

- **Temperature** –40 ... +80 °C
- **Medium** DOT 3, DOT 4, SAE J 1703



470 053 006 0

| Product number | Max. pressure | Cylinder | Stroke | Push rod | Oil inlet | Port 2 |
|----------------|---------------|-------------|--------|----------|-----------|---------|
| 470 053 005 0 | 100 bar | Ø 26.125 mm | 37 mm | – | Ø 12 | M14x1.5 |
| 470 053 006 0 | 120 bar | Ø 26.125 mm | 36 mm | – | Tank | M14x1.5 |
| 470 053 009 0 | 120 bar | Ø 26.125 mm | 36 mm | ✓ | Tank | M14x1.0 |
| 470 053 024 0 | 120 bar | Ø 26.125 mm | 36 mm | – | Tank | M14x1.5 |
| 470 053 030 0 | 120 bar | Ø 24.125 mm | 38 mm | ✓ | Ø 12 | M10x1.0 |
| 470 053 035 0 | 120 bar | Ø 26.125 mm | 36 mm | ✓ | Tank | M14x1.5 |
| 470 053 096 0 | 120 bar | Ø 26.125 mm | 36 mm | ✓ | Tank | M14x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------------|
| ■ 470 053 030 0 | 470 053 920 2 | Piston + boot |

Retarder control

Retarder solenoid valve

- **Voltage** 15 ... 32 V
- **Electrical connection** Bayonet DIN 72585 B1-2.1-1-Sn/K1
- **Protection class** IP67 / IP6K9K
- **Nominal diameter** Ø 8 mm
- **Mounting** 4x Ø 8.5
- **Distance between holes** 54x84.5 mm



472 260 005 0

472 260 011 0

| Product number | Max. pressure | | Temperature | Port |
|----------------|---------------|--------|-----------------|---|
| | working | output | | |
| 472 260 005 0 | 12 bar | 4 bar | –15 ... +110 °C | 1: M22x1.5 JED-152; 2, 3: Ø 15 mm |
| 472 260 006 0 | 12 bar | 4 bar | –20 ... +110 °C | 1: M22x1.5 JED-152; 2, 3: Ø 15 mm |
| 472 260 011 0 | 12 bar | 4 bar | –20 ... +100 °C | 1: Voss 232 NG12; 2, 32: Ø 15 mm; 31: exhaust |

Vacuum exhaust brake

- Temperature −40 ... +120 °C
- Max. pressure 10 bar



421 429 017 0

| Product number | Ø | Mounting | Distance between holes | Port 1 |
|----------------|---------|--------------|------------------------|------------|
| 421 429 017 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | M10×1 |
| 884 501 803 0 | 73.0 mm | 8× Ø 9.5 mm | Ø 101.6 mm | M10×1 |
| 884 502 035 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | ¼"-18 NPT |
| 884 502 217 0 | 98.6 mm | 8× Ø 11.0 mm | Ø 130.0 mm | ¼"-18 NPTF |
| 884 502 376 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | ¼"-18 NPT |
| 884 502 674 0 | 73.0 mm | 8× Ø 9.5 mm | Ø 101.6 mm | ¼"-18 NPT |
| 884 502 675 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | ¼"-18 NPT |
| 884 502 865 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | M10×1 |
| 884 503 281 0 | 73.0 mm | 8× Ø 11.0 mm | Ø 101.6 mm | ¼"-18 NPT |
| 884 503 283 0 | 73.0 mm | 8× Ø 9.5 mm | Ø 101.6 mm | ¼"-18 NPT |
| 884 503 361 0 | 85.8 mm | 8× Ø 11.0 mm | Ø 117.5 mm | ¼"-18 NPT |
| 884 503 753 0 | 98.6 mm | 8× Ø 11.0 mm | Ø 130.0 mm | ¼"-18 NPTF |

Hydraulic engine brake cylinder

- Medium Mineral oil
- Temperature −30 ... +140 °C
- Working pressure 4 bar
- Force at piston 76 N
- Mounting 2× Ø 8.5 mm



428 750 007 0

| Product number | Stroke | Working volume | Port |
|----------------|--------|---------------------|--|
| 428 750 006 0 | 21 mm | 7.3 cm ³ | 1: M14×1.5; 5: exhaust |
| 428 750 007 0 | 25 mm | 8.7 cm ³ | 1: M14×1.5; 5: exhaust |
| 428 750 008 0 | 25 mm | 8.7 cm ³ | 1: M14×1.5; 2: M16×1.5 / M18×1.5; 5: exhaust |

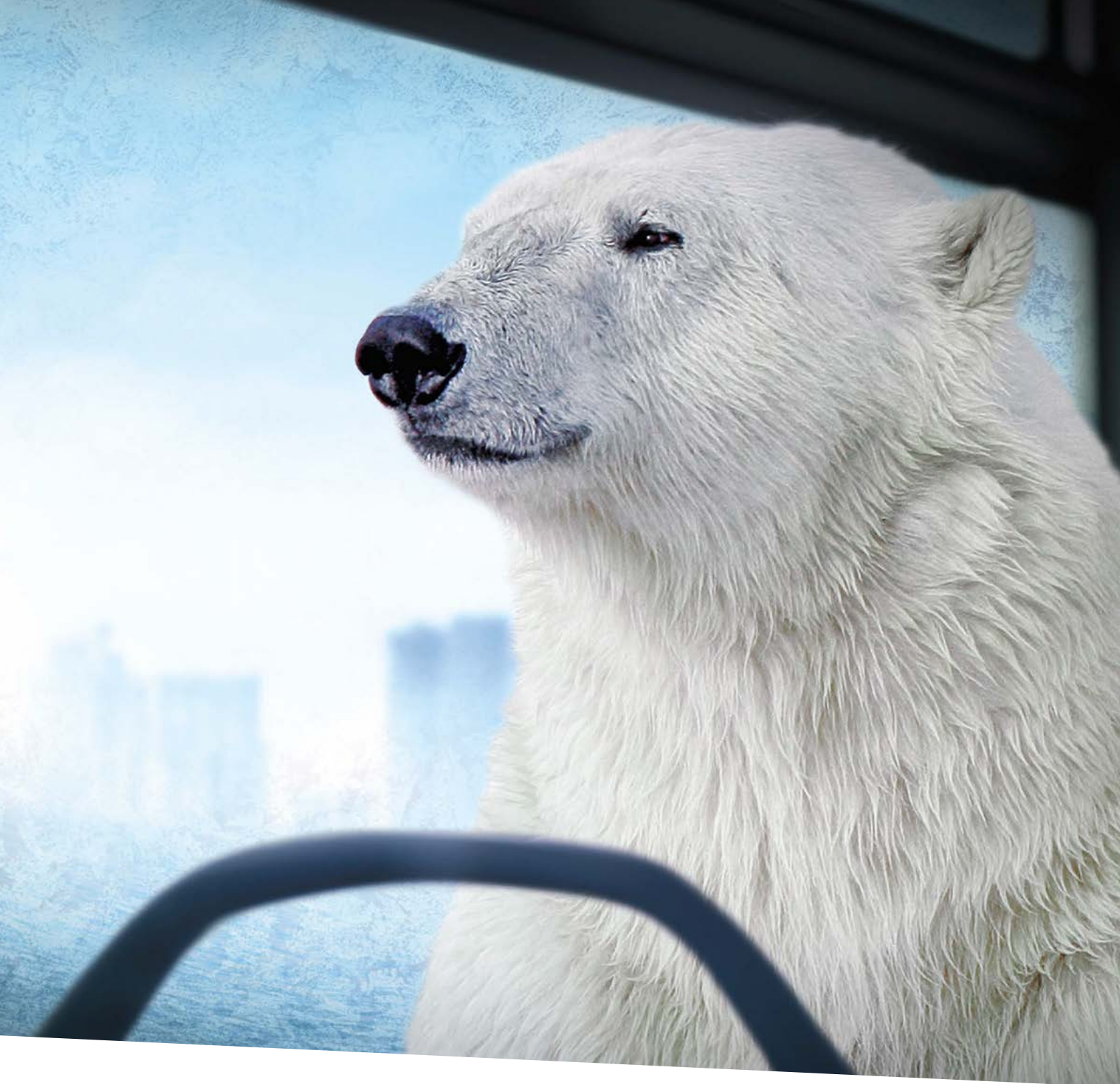
Exhaust brake control unit switch

- Temperature −40 ... +80 °C
- Mounting M26×1.5



446 081 004 0

| Product number | Max. operating force | Electrical connection | Voltage |
|----------------|----------------------|--|------------|
| 446 081 004 0 | 1000 N | 3 pole for flat contact DIN 46244-A6.3-0.8 | 8 ... 30 V |



Keep cool

with WABCO water valves

WABCO's specialist aftermarket engineers have created components with robust and reliable designs, resistant against corrosion, vibration, overpressure and pressure pulses. They will help fleet operators reduce vehicle downtime and maintenance costs, keeping passengers cool, whatever the weather.

WABCO

Bus systems

Modular door control

Door electronic

- **Temperature** −40 ... +70 °C

- **Voltage** 24 V

- **Training** E-learning: Electronic systems in buses
200 300 108 0
Classroom training: Bus



| Product number | System | Diagnostic software | Electrical connection |
|----------------|-------------|---------------------|---|
| 446 190 001 0 | MTX-PX | MTS | X1: 9-pole; X2: 18-pole; X3: 15-pole; X4: 12-pole; X5: 6-pole |
| 446 190 005 0 | DCM-P | – | X1: 18-pole; X2: 15-pole; X3: 9-pole |
| 446 190 006 0 | MTS2-P | MTS2 | X1: 18-pole; X2: 15-pole; X3: 9-pole |
| 446 190 011 0 | MTS-EX | MTS | X1: 18-pole; X2: 15-pole; X3: 9-pole; X4: 12-pole; X5: 6-pole |
| 446 190 012 0 | MTS-EX | – | X1: 18-pole; X2: 15-pole; X3: 9-pole; X4: 12-pole; X5: 6-pole |
| 446 190 013 0 | MTS-EX/SST | – | X1: 18-pole; X2: 15-pole; X3: 9-pole; X4: 12-pole; X5: 6-pole |
| 446 190 014 0 | MTS-EX CADS | – | X1: 18-pole; X2: 15-pole; X3: 9-pole; X4: 12-pole; X5: 6-pole |
| 446 190 015 0 | DCM-E | – | X1: 9-pole; X2: 18-pole; X3: 15-pole; X4: 12-pole; X5: 6-pole |
| 446 190 021 0 | MTS-EX IWN | – | X1: 18-pole; X2: 15-pole; X3: 9-pole; X4: 12-pole; X5: 6-pole |

Door valve

- **Temperature** −25 ... +80 °C

- **Working pressure** 10 bar

- **Voltage** 24 V

- **Nominal Ø** 4 mm

- **Accessory** 894 100 470 2 Plug



| Product number | System | Type | Electrical connection | Nominal current | Port |
|----------------|--------|------------|--------------------------------|-----------------|---|
| 372 060 022 0 | ETS | 4/3-way | 3x 3-pole to fit 6.3 DIN 46247 | 0.115 A | 11, 12, 21, 22, 23, 24: M12x1.5; 3: silencer 532 400 117 0; 4: Ø 8x1 |
| 372 060 062 0 | ETS | 4/3-way | 3x 3-pole to fit 6.3 DIN 46247 | 0.115 A | 11, 12, 21, 22, 23, 24: M12x1.5; 3: silencer 532 400 117 0; 4: M5 |
| 472 600 001 0 | MTS | 4/3-way | 2x 3-pole to fit 6.3 DIN 46247 | 0.115 A | 11, 12, 21, 22, 23, 24: M12x1.5; 3: silencer 532 400 117 0; 41, 42: Ø 8x1 |
| 472 600 022 0 | MTS | 4/3-way | 3x 3-pole to fit 6.3 DIN 46247 | 0.115 A | 11, 12, 21, 22, 23, 24: M12x1.5; 3: Ø 8x1; 4: M5 |
| 472 601 001 0 | MTS2 | 3x 3/2-way | 1x HDSCS 4x 2.8 code A | 0.32 A | 11, 3: Ø 8x1; 21, 24, 43: M12; 22, 23, 41, 42: Ø 6x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|----------------|
| ■ 372 060 022 0 | 372 060 000 2 | Stem + sealing |
| ■ 372 060 062 0 | 372 060 000 2 | Stem + sealing |
| ■ 472 600 022 0 | 372 060 000 2 | Stem + sealing |

Door operating cylinder

| | | |
|---------------|---------------|----------------|
| ■ Accessories | 422 903 650 2 | Cylinder cover |
| | 422 917 736 4 | Push rod |
| | 897 551 210 4 | Gasket |
| | 897 650 050 2 | Sleeve |



422 812 000 0



422 812 002 0



422 814 003 0

| Product number | Temperature | Working pressure | Length | Piston Ø | Stroke | Push rod | Port |
|----------------|---------------|------------------|--------|----------|--------|--------------|---------------|
| 422 802 301 0 | -40 ... 80 °C | 8 bar | 360 mm | 60 mm | 160 mm | M16 | 1, 2: M12×1.5 |
| 422 802 309 0 | -40 ... 80 °C | 8 bar | 340 mm | 60 mm | 140 mm | M16 | 1, 2: M12×1.5 |
| 422 802 310 0 | -40 ... 80 °C | 8 bar | 340 mm | 60 mm | 140 mm | M16 | 1, 2: M12×1.5 |
| 422 802 320 0 | -40 ... 80 °C | 8 bar | 320 mm | 60 mm | 120 mm | M12 | 1, 2: M12×1.5 |
| 422 802 325 0 | -40 ... 80 °C | 8 bar | 460 mm | 60 mm | 260 mm | M16 | 1, 2: M12×1.5 |
| 422 802 326 0 | -40 ... 80 °C | 8 bar | 340 mm | 60 mm | 140 mm | M16 | 1, 2: M12×1.5 |
| 422 802 421 0 | -40 ... 80 °C | 8 bar | 360 mm | 60 mm | 160 mm | M12 | 1, 2: M12×1.5 |
| 422 803 327 0 | -40 ... 80 °C | 8 bar | 280 mm | 60 mm | 60 mm | M12 | 1, 2: M12×1.5 |
| 422 803 328 0 | -40 ... 80 °C | 8 bar | 280 mm | 60 mm | 95 mm | M12 | 1, 2: M12×1.5 |
| 422 808 106 0 | -40 ... 80 °C | 8 bar | 340 mm | 60 mm | 140 mm | M16 | 1, 2: M12×1.5 |
| 422 812 000 0 | -25 ... 80 °C | 10 bar | 288 mm | 50 mm | 140 mm | M14×1.5 | 1, 2: M12×1.5 |
| 422 812 002 0 | -25 ... 80 °C | 10 bar | 308 mm | 50 mm | 160 mm | M14×1.5 | 1, 2: M12×1.5 |
| 422 814 003 0 | -25 ... 80 °C | 10 bar | 310 mm | 50 mm | 140 mm | Ball socket* | 1, 2: Ø 6 mm |

* Ball socket B-19 with snap ring (DIN 71805)

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------------|-----------------|---------------|----------------|
| ■ 422 802 301 0 | 422 802 000 2 | Hose + sealing | ■ 422 802 421 0 | 422 802 000 2 | Hose + sealing |
| ■ 422 802 309 0 | 422 802 000 2 | Hose + sealing | ■ 422 803 327 0 | 422 802 000 2 | Hose + sealing |
| ■ 422 802 310 0 | 422 802 000 2 | Hose + sealing | ■ 422 803 328 0 | 422 802 000 2 | Hose + sealing |
| ■ 422 802 320 0 | 422 802 000 2 | Hose + sealing | ■ 422 808 106 0 | 422 802 000 2 | Hose + sealing |
| ■ 422 802 325 0 | 422 802 000 2 | Hose + sealing | ■ 422 812 000 0 | 422 812 000 2 | Hose + sealing |
| ■ 422 802 326 0 | 422 802 000 2 | Hose + sealing | ■ 422 812 002 0 | 422 812 000 2 | Hose + sealing |

Door sensor

| | |
|-------------------------|---------------------|
| ■ System | MTS |
| ■ Temperature | -40 ... +80 °C |
| ■ Voltage | 15 V |
| ■ Resistance | R1: 1 kΩ; R2: 2 k7Ω |
| ■ Linearity | 2.5 % FS |
| ■ Electrical connection | 3-pole AMP 180941-0 |



446 190 150 0



446 190 152 0

| Product number | Cable length | Operating angle | Pressure switch port |
|----------------|--------------|--------------------------------------|----------------------|
| 446 190 150 0 | 300 mm | Electrical: 125° / Mechanical: >360° | ✓ |
| 446 190 151 0 | 300 mm | Electrical: 180° / Mechanical: >360° | - |
| 446 190 152 0 | 300 mm | Electrical: 125° / Mechanical: >360° | - |
| 446 190 153 0 | 600 mm | Electrical: 180° / Mechanical: >360° | - |

Door solenoid valve

| | |
|-------------------------|--------------------------|
| ■ Temperature | -40 ... +100 °C |
| ■ Working pressure | 8 bar |
| ■ Nominal Ø | 3 mm |
| ■ Protection class | IP 66 |
| ■ Electrical connection | Receptacle 6.3 DIN 46247 |



472 017 480 0

| Product number | Voltage | Rated current | Port |
|----------------|---------|---------------|---|
| 472 017 480 0 | 24 V | 2.1 A | 11, 12, 21, 22, 23, 24, 5: M12x1.5; 3: diffuser 899 470 310 0 |
| 472 017 481 0 | 12 V | 4.3 A | 11, 12, 21, 22, 23, 24, 5: M12x1.5; 3: diffuser 899 470 310 0 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|----------------|
| ■ 472 017 480 0 | 472 017 000 2 | Valve + seesaw |
| ■ 472 017 481 0 | 472 017 000 2 | Valve + seesaw |

Emergency cock

| | |
|--------------------------|-------------------------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 10 bar |
| ■ Nominal Ø | 3 mm |
| ■ Distance between holes | 36.0×36.0 mm |
| ■ Accessory | 899 851 693 4 Hand grip (red) |



952 003 023 0



952 003 032 0



952 004 002 0

| Product number | Type | Switch | | Port | | | |
|-----------------------------|------|--------|----------|----------------------|---------|----------------------|---------|
| | | micro | closed | 1 | 2 (2.2) | 3 | 4 (2.1) |
| 952 003 023 0 ¹⁾ | 4/2 | – | – | M12×1.5 | M12×1.5 | M12×1.5 | M12×1.5 |
| 952 003 029 0 | 4/2 | – | – | M12×1.5 | M12×1.5 | M12×1.5 | M12×1.5 |
| 952 003 032 0 | 4/2 | – | normally | M12×1.5 | M12×1.5 | M12×1.5 | M12×1.5 |
| 952 004 001 0 | 2/2 | ✓ | normally | 6.0 mm ²⁾ | – | 6.0 mm ²⁾ | – |
| 952 004 002 0 | 2/2 | – | – | 6.0 mm ²⁾ | – | 6.0 mm ²⁾ | – |

¹⁾ with hand grip; ²⁾ quick connection

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 952 003 023 0 | 952 003 000 2 | Disc spring |
| ■ 952 003 029 0 | 952 003 000 2 | Disc spring |

Climate control

Climate control electronic control unit (ECU)

| | | |
|----------------------|--|---|
| ■ Name | ATC HVAC | Automatic Temperature Control Heating, Ventilation, Air Conditioning Control |
| ■ Training | E-learning: Electronic systems in buses 200 300 108 0 Classroom training: Bus | |
| ■ Accessories | 446 024 000 0 446 024 012 0 446 024 020 0 | Air blower output stage Blower module Start up module |



446 195 007 0



446 197 004 0



446 295 000 0

| Product number | Application | Name | Diagnostic software | Temperature | Voltage |
|----------------|---------------------|------|---------------------------------------|----------------|---------|
| 446 195 007 0 | EvoBus | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 195 010 0 | Solaris Bus & Coach | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 195 021 0 | EvoBus | ATC | - | -20 ... +65 °C | 24 V |
| 446 195 022 0 | EvoBus | ATC | - | -20 ... +65 °C | 24 V |
| 446 195 023 0 | Solaris Bus & Coach | ATC | - | -20 ... +65 °C | 24 V |
| 446 195 024 0 | MAN | ATC | - | -20 ... +65 °C | 24 V |
| 446 196 002 0 | EvoBus | ATC | - | -40 ... +80 °C | 24 V |
| 446 197 001 0 | EvoBus | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 002 0 | EvoBus | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 003 0 | EvoBus | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 004 0 | EvoBus | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 005 0 | | ATC | ATC KWP Citaro Travego / ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 040 0 | Bova | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 041 0 | Temsa | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 197 043 0 | | ATC | ATC Coach | -20 ... +65 °C | 24 V |
| 446 295 000 0 | EvoBus | HVAC | - | -20 ... +70 °C | 24 V |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 446 195 007 0 | 446 195 920 2 | Cover + torision button |
| ■ 446 197 040 0 | 446 197 921 2 | Cover + torision button |
| ■ 446 197 041 0 | 446 197 921 2 | Cover + torision button |

BUS SYSTEMS

Water quantity control valve

- Accessories 446 091 014 2 Adapter
- 446 091 015 2 Adapter



| Product number | Voltage | Electrical connection | Working pressure | Maximum flow rate | Application |
|----------------|---------|-------------------------|------------------|-----------------------------------|-----------------|
| 446 091 001 0 | 24 V | Bush contacts | 2.0 bar | 1400 L/h at $\Delta p = 0.02$ bar | -40 ... +80 °C |
| 446 091 002 0 | 24 V | AMP-No. 929 505 - 1 | 2.0 bar | 1400 L/h at $\Delta p = 0.02$ bar | -40 ... +80 °C |
| 446 091 004 0 | 24 V | Bosch No. 1 928 403 095 | 2.0 bar | 1800 L/h at $\Delta p = 0.02$ bar | -40 ... +100 °C |
| 446 091 030 0 | 24 V | Scania No. 1505950 | 2.0 bar | 1000 L/h | -40 ... +70 °C |
| 446 091 031 0 | - | - | 2.0 bar | 1000 L/h | -40 ... +80 °C |
| 446 091 032 0 | - | - | 2.0 bar | 1000 L/h | -40 ... +80 °C |
| 446 091 200 0 | 24 V | Bosch No. 1 928 403 095 | 2.0 bar | 1800 L/h at $\Delta p = 0.02$ bar | -40 ... +100 °C |
| 446 091 301 0 | 24 V | A 230 000 32 99, 2-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 302 0 | 24 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 303 0 | 12 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 304 0* | 24 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 306 0 | 24 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 307 0 | 12 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 308 0 | 24 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 310 0* | 12 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 311 0 | 24 V | 2-pole connector | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 314 0* | 12 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |
| 446 091 315 0 | 24 V | Tyco HDSCS, 3-pole | 2.5 bar | 350 L/h at $\Delta p = 0.075$ bar | -40 ... +105 °C |

* with bypass water connection

Temperature sensor



| Product number | Electrical connection | Cable length | Application | Resistance | Measuring |
|----------------|-----------------------|--------------|---------------|------------------------|-----------------|
| 446 092 002 0 | Tyco AMP 108-20020 | 500 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +125 °C |
| 446 092 003 0 | Tyco AMP 108-18013-0 | 200 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +125 °C |
| 446 093 001 0 | 2-pole AMP 6.3x0.8 mm | - | -40 ...+80 °C | 10 k Ω at 25 °C | -40 ... +80 °C |
| 446 097 000 0 | Tyco AMP 108-18013-0 | 1500 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +125 °C |
| 446 097 001 0 | Tyco AMP 114-18050 | 1013 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +125 °C |
| 446 097 002 0 | Tyco AMP 1-967239-1 | 338 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +125 °C |
| 446 097 005 0 | Tyco AMP 108-94177-1 | 900 mm | -40 ...+85 °C | 10 k Ω at 25 °C | -40 ... +85 °C |

Retrofit solutions

OptiTire™ - tire pressure monitoring system

OptiTire is a tire pressure monitoring system. It helps to:

- prevent downtime related to tire defects
- reduce the frequency and costs of tire replacement
- prevent increased fuel consumption due to underinflation

OptiTire™ electronic control unit (ECU)

| | | |
|---------------------------------|--|---|
| ■ Description | receives the sensor signals and recognises all changes from programmed nominal tire pressure values. | |
| ■ Temperature | -40 ... +85 °C | |
| ■ Mounting | 2x Ø 11.0 mm | |
| ■ Distance between holes | 182 mm | |
| ■ Accessory | 446 220 000 4 | Fixing bracket (supports mounting of the ECU) |
| ■ Diagnostics | Diagnostic software OptiTire | |
| ■ Training | E-learning: OptiTire 200 300 110 0 | |



| Product number | Application | Electrical connection | Voltage |
|----------------|------------------------|-----------------------|-----------|
| 446 220 100 0 | Towing vehicle and bus | HDSCS Code A | 12 / 24 V |

OptiTire™ cable

| Product number | Length | Application | Cable end |
|----------------|---------------------------------|---------------------------------|--|
| 894 600 001 2 | L: 0.15 m | Adapter cable | Socket HDSCS, 8-pin; bayonet plug, 7-pin |
| 894 607 295 0* | L1: 9.0 m, L2: 2.5 m, L3: 2.0 m | Bus cable set, 5-pin | Bayonet socket, 7-pin; plug display + diagnosis socket with blue cap, 7-pin + open, 4-strand, 4x 0.5 mm ² |
| 894 607 390 0* | L1: 9.0 m, L2: 2.5 m, L3: 2.0 m | Cable set towing vehicle, 7-pin | Bayonet socket, 7-pin; plug display + diagnosis socket with blue cap, 7-pin + open, 4-strand, 4x 0.5 mm ² |

* In addition, adapter cable 894 600 001 2 needed.

OptiTire™ external sensor - wheel module 2 (WM2)

| | |
|--------------------------------|---|
| ■ Pressure | 2 ... 14 bar correspond to the nominal values of pressures from 3 ... 10 bar |
| ■ Temperature | -40 ... +90 °C, 24 h up to 120 °C |
| ■ Protection class | IP 6K6K / 6K7 / 6K9K |
| ■ Transmission interval | With constant pressure: 9 min In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases |
| ■ Counterweight | Required. Twin tires: two external sensors and no counterweight |
| ■ Installation | Fastening by means of standard wheel nuts on the outside of the rim Connected via a PA tube to the valve |
| ■ Start-up | With magnet or WABCO TPMS Manager 300 200 001 0 |
| ■ Retrofit | Tires do not need to be removed from the rim |
| ■ Port | 1: VG 8 2: Voss 203 Ø 6x1.5 |



WM2 without bracket



WM2 with B-shape bracket



WM2 with T-shape bracket

| Product number | Application | Bracket shape | Radius | Ø Hole | Angle | | |
|----------------|--|---------------|-----------|------------|-------|---------------|---------|
| | | | | | Port | between holes | Bracket |
| 960 731 001 0 | Single pressure sensor without bracket (for own bracket application) | - | - | 2x M4 | 90° | - | - |
| 960 731 003 0 | Single pressure sensor without bracket (for own bracket application) | - | - | 2x M4 | 170° | - | - |
| 960 731 019 0 | | B | 425.00 mm | 2x Ø 23 mm | 90° | 30° | 0° |
| 960 731 031 0 | Twin tires, super-single | T | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 041 0 | Twin tires, super-single | T | 335.00 mm | 2x Ø 32 mm | 170° | 36° | 70° |
| 960 731 051 0 | Towing vehicle: front axle, load axle | L | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 60° |
| 960 731 053 0 | Towing vehicle: front axle, load axle | L | 335.00 mm | 2x Ø 32 mm | 170° | 36° | 0° |
| 960 731 055 0 | Towing vehicle: front axle, load axle | L | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 60° |
| 960 731 057 0 | | L | 335.00 mm | 2x Ø 23 mm | 170° | 36° | 0° |
| 960 731 061 0 | Towing vehicle: front axle, load axle | L | 335.00 mm | 2x Ø 32 mm | 170° | 36° | 33° |
| 960 731 063 0 | | L | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 33° |
| 960 731 073 0 | Twin tires, super-single | T | 285.75 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 075 0 | Towing vehicle: front axle, load axle | L | 285.75 mm | 2x Ø 26 mm | 170° | 36° | 33° |
| 960 731 081 0 | Twin tires, super-single | T | 225.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 100 0 | | - | - | 2x M4 | 90° | - | - |
| 960 731 110 0 | Single tire (e.g. tag axle) | B | 335.00 mm | 2x Ø 26 mm | 90° | 36° | 0° |
| 960 731 130 0 | | T | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 140 0 | Twin tires, aluminium rims | T | 335.00 mm | 2x Ø 32 mm | 170° | 36° | 70° |

Counterweight

- Description** To prevent the external sensor causing an imbalance on the wheel. Not needed for axles with twin tires.



960 730 822 2



960 905 821 4



960 905 823 4






| Product number | Application | Hole, wheel, bolt | Ø Bolt hole | Angle |
|----------------|----------------------------------|-------------------|-------------|-------|
| 960 730 820 4 | Counterweight independent wheels | 2× 26 mm | 335 mm | 0° |
| 960 730 822 2 | Counterweight for L-shape sensor | 2× 26 mm | 335 mm | 0° |
| 960 730 828 2 | Counterweight for L-shape sensor | 2× 32 mm | 335 mm | 0° |
| 960 905 820 4 | Counterweight independent wheels | 2× 26 mm | 335 mm | 0° |
| 960 905 821 4 | Counterweight independent wheels | 2× 32 mm | 335 mm | 0° |
| 960 905 822 4 | Counterweight for L-shape sensor | 3× 26 mm | 335 mm | 0° |
| 960 905 823 4 | Counterweight for L-shape sensor | 3× 32 mm | 335 mm | 0° |

Connecting tube

- Description** Connects the external sensors to the tires

| Product number | Product |
|----------------|---------|
| 960 731 800 0 | |
| 960 731 801 0 | |
| 960 731 802 0 | |
| 960 731 803 0 | |
| 960 731 804 0 | |
| 960 731 808 0 | |
| 960 731 810 0 | |
| 960 731 816 0 | |
| 960 731 821 0 | |

RETROFIT SOLUTIONS

| Product number | Product |
|----------------|--|
| 960 731 822 0 |  |
| 960 731 823 0 |  |
| 960 731 825 0 |  |
| 960 731 826 0 |  |
| 960 731 827 0 |  |

OptiTire™ valve-mounted internal sensor (WIS)

- **Pressure** 0 ... 13 bar correspond to the nominal values of pressures from 3 ... 10 bar
- **Temperature** -40 ... +120 °C
- **Transmission interval** With constant pressure: every minute
In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases
- **Installation** Installation on the rim by means of valve neck
- **Start-up** With WABCO TPMS Manager 300 200 001 0
- **Retrofit** Tires need to be removed from the rim



| Product number | Diameter | Mounting | Protection class |
|----------------|----------|--------------|------------------|
| 960 732 000 0 | Ø 540 mm | 1x 6.2x10 mm | IP 5K4 |

Valve set

- **Content** Valve, nut and locking screw (without internal sensor WIS)



| Product number | Application | Surface | Outer contour |
|----------------|--|---------|---------------|
| 960 732 100 0 | Standard steel rims 17 ... 22.5" | Brass | ETRTO V0.07.3 |
| 960 732 101 0 | Standard steel rims 17 ... 22.5", tighter rim crank | Nickel | ETRTO V3.22.1 |
| 960 732 102 0 | Standard steel rims 17 ... 22.5", additional 5° inclined section | Nickel | ETRTO V3.22.1 |

OptiTire™ strap-mounted internal sensor (SMS)

| | |
|--------------------------------|--|
| ■ Pressure | 0 ... 13 bar correspond to the nominal values of pressures from 3 ... 10 bar |
| ■ Transmission interval | With constant pressure: every minute In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases |
| ■ Installation | Installation on the rim by means of fastening strap |
| ■ Start-up | With WABCO TPMS Manager 300 200 001 0 |
| ■ Retrofit | Tires need to be removed from the rim |
| ■ Product number | 960 733 000 0 Strap-mounted sensor |



Fastening straps

| Product number | Ø Rim | Colour of seam | Adjustable circumference |
|----------------|-------|----------------|--------------------------|
| 960 733 117 0 | 17.5" | red | 1200 ... 1350 mm |
| 960 733 119 0 | 19.5" | blue | 1300 ... 1450 mm |
| 960 733 122 0 | 22.5" | yellow | 1535 ... 1685 mm |
| 960 733 124 0 | 24.5" | green | 1725 ... 1875 mm |



OptiTire™ display

| | |
|----------------------|---|
| ■ Description | The display is used to show all pressure and leakage information and to relay any necessary information on the OptiTire system. It operates in combination with the OptiTire ECU. |
| ■ Display | Up to 16 tires (towing vehicle and up to five trailers) |
| ■ Voltage | 12 / 24 V |

| Product number | Type |
|----------------|--------------------------------------|
| 446 221 000 0 | Standard version |
| 446 221 100 0 | Special variant for straddle carrier |



OptiTire™ TPMS manager

| | |
|-------------------------|---|
| ■ Description | To stimulate and read all types of WABCO tire pressure sensors (WM2, WIS and SMS). Read-out data (temperature, pressure, lifetime of internal batteries, IDs, etc.) |
| ■ Product number | 300 200 001 0 |



RETROFIT SOLUTIONS

TailGUARD™

WABCO TailGUARD™ is a rear blind spot detection system for commercial vehicles. TailGUARD™ helps avoid accidents and damage to trailers. Ultrasonic sensors detect if the area behind the trailer is clear, and TailGUARD™ brakes the vehicle automatically at a pre-set distance between 50...200 cm from objects located in the rear blind spot.

TailGUARD™ electronic

| | |
|--------------------------|---|
| ■ Temperature | −40 ... +65 °C |
| ■ Protection class | IP 6K9K |
| ■ Mounting | 4x Ø 8.8 mm |
| ■ Distance between holes | 160.6x172.1 mm |
| ■ Diagnostics | Diagnostic software TEBS-E |
| ■ Accessories | 895 310 005 2 Enclosure cover for electronic extension module |



| Product number | Type | Version | Voltage |
|----------------|--|---------|-----------|
| 446 122 070 0 | Electronic extension module with cover 895 310 005 2 | 9x GIO | 12 / 24 V |
| 446 122 071 0 | Electronic control unit (ECU) without cover | 4x GIO | 12 / 24 V |

Functions

| Function | TailGUARD™ electronic | |
|---|-----------------------|---------------|
| | 446 122 070 0 | 446 122 071 0 |
| Compatible with TEBS E Premium (from version E2) and TEBS E Standard from version E5 | ✓ | ✓ |
| TailGUARD function incl. buzzer and deactivation button | ✓ | ✓ |
| Supports applications with 2 ... 6 sensors | ✓ | ✓ |
| Connection of side lane keeping lamps and reversing lamp (for activating TailGUARD) ISO 12098 | ✓ | ✓ |
| TailGUARD for truck & bus | ✓ | – |
| GIO extension | ✓ | – |
| Battery charge and battery operation with wake-up button | ✓ | – |
| Trailer Remote Control | ✓ | – |
| ECAS™ 2-point control | ✓ | – |

TailGUARD™ cable

| | | |
|---------------|---------------|--|
| ■ Accessories | 898 020 462 2 | Protective cap GIO |
| | 898 020 463 2 | Protective cap subsystem |
| | 480 102 931 2 | Locking set |
| | 446 122 633 0 | Cable box; use as required; 4x M20x1.5 mm 10 flat connector 3.6x0.8 mm |

| Product number | Length | Type | Application | Cable end |
|----------------|--------|--------------|-----------------------|---|
| 449 303 020 0 | 2.0 m | Supply cable | Supply | Code E, 8-pin; code C, 8-pin |
| 449 303 025 0 | 2.5 m | | | |
| 449 303 050 0 | 5.0 m | | | |
| 449 303 100 0 | 10.0 m | | | |
| 449 806 060 0 | 6.0 m | GIO | LIN ultrasonic sensor | Sensor socket, 3-pin; code B, 4-pin |
| 894 600 024 0 | 0.5 m | GIO | LIN splitter cable | 2x sensor socket, 3-pin; sensor plug, 3-pin |
| 449 747 060 0 | 6.0 m | GIO | LIN extension cable | 2x sensor socket, 3-pin; sensor plug, 3-pin |

| Product number | Length | Type | Application | Cable end |
|--|---|------|----------------------|---|
| 449 908 060 0 449 908 100 0 | 6.0 m 10.0 m | GIO | Universal cable | Open, 8-strand, 3x 1.0 mm ² , 3x 0.5 mm ² , 2x 0.35 mm ² ; code C, 8-pin |
| 449 535 010 0 449 535 060 0 449 535 100 0 449 535 150 0 | 1.0 m 6.0 m 10.0 m 15.0 m | GIO | Universal cable | Open, 4-strand, 4x 1.5 mm ² ; code B, 4-pin |
| 449 443 008 0 449 443 010 0 449 443 020 0 449 443 040 0 449 443 060 0 449 443 100 0 | 0.8 m 1.0 m 2.0 m 4.0 m 6.0 m 10.0 m | GIO | Buzzer 894 450 000 0 | Bayonet socket, ISO 15170-B1-2.1-Sn/K1, 4-pin; code B, 4-pin |

TailGUARD™ sensor

- Temperature -40 ... +80 °C
- System LIN
- Electrical connection 3-Pole Plug



446 122 401 0

446 122 450 0

| Product number | Cable length | Inclination | Operational range | Rated current | Side of mounting | Mounting | Distance between bolts | Protection class |
|----------------|--------------|-------------|-------------------|---------------|------------------|----------|------------------------|------------------|
| 446 122 401 0* | 3.0 m | 0° | 0.25 ... 4.5 m | 0.040 A | | 2x M6 | 63 mm | IP 6K4 |
| 446 122 402 0* | 3.0 m | 15° | 0.25 ... 4.5 m | 0.040 A | Right (Default) | 2x M6 | 63 mm | IP 6K4 |
| 446 122 403 0* | 0.3 m | 15° | 0.25 ... 4.5 m | 0.040 A | | 2x M6 | 63 mm | IP 6K4 |
| 446 122 404 0* | 3.0 m | 15° | 0.25 ... 4.5 m | 0.040 A | Left (Default) | 2x M6 | 63 mm | IP 6K4 |
| 446 122 450 0 | 2.5 m | 10° | 0.30 ... 4.5 m | 0.015 A | | 2x M5 | 62 mm | IP 6K9K |

* for repairs only (for new retrofits use 446 122 450 0)



446 122 080 0



894 450 000 0

TailGUARD™ accessories

| Product number | Product | Description |
|----------------|------------------------------|---|
| 446 122 080 0 | Trailer Remote Control (TRC) | Holder and connecting cable included; each bar represents a distance of 50 cm. In close proximity (red LEDs) the following also applies: each LED has two states, constant and flashing. This indicates the distance with a precision of 25 cm. |
| 894 450 000 0 | Buzzer | Can output acoustic warning signals in addition to Trailer Remote Control |

RETROFIT SOLUTIONS

OnGuardACTIVE™

Advanced Emergency Braking System (AEBS) helps avoid or mitigate rear-end collisions

This active safety system assists truck drivers in recognizing and responding to dangerous driving scenarios that could lead to a rear-end collision with a moving or stationary vehicle ahead.

- Helps to prevent one of the most common causes of truck accidents
- Supports accident prevention, vehicle uptime and on-time delivery
- Releases drivers from frequent distance adaptations

- **Training** E-learning: OnGUARD
- **Diagnostics** Diagnostic software OnGuardPlus

OnGuardACTIVE™ radar sensor

- **Description** The radar sensor is used to detect vehicles and obstacles. It is mounted in the front of the vehicle near the centre of the bumper and recessed in the bumper in most applications.
- **Function**
 - ACC Adaptive Cruise Control
 - FCW Forward Collision Warning
 - EBA Extended Brake Assist
 - AEBS Advanced Emergency Braking System



| Product number | Baud rate | Function | | | | Vehicle application |
|----------------|-----------|----------|-----|-----|-----------------|---------------------|
| | | ACC | FCW | EBA | AEBS | |
| 446 067 000 0 | 250 kBd | ✓ | ✓ | ✓ | ✓ ¹⁾ | |
| 446 067 002 0 | 250 kBd | – | ✓ | ✓ | ✓ ¹⁾ | |
| 446 067 003 0 | 500 kBd | ✓ | ✓ | ✓ | ✓ ¹⁾ | |
| 446 067 005 0 | 500 kBd | – | ✓ | ✓ | ✓ | |
| 446 067 006 0 | 250 kBd | ✓ | ✓ | ✓ | ✓ | |
| 446 067 007 0 | 500 kBd | ✓ | ✓ | ✓ | ✓ ¹⁾ | |
| 446 067 010 0 | 250 kBd | ✓ | ✓ | – | – | Iveco |
| 446 067 019 0 | 500 kBd | ✓ | ✓ | ✓ | ✓ ²⁾ | |
| 446 067 035 0 | 500 kBd | ✓ | ✓ | – | ✓ ³⁾ | DAF |

¹⁾ AEBS variant A1; ²⁾ AEBS variant A5; ³⁾ AEBS variant A2

To retrofit an OnGUARD system please contact your WABCO sales representative

OnLaneALERT™

OnLaneALERT™ is a camera-based lane departure warning system (LDWS) that helps avoid lane drifting. The system utilizes a forward-looking windshield-mounted camera to monitor the vehicle's position within the lane. When OnLaneALERT detects the vehicle crossing lane markings without a turn signal, the system provides a warning sound from the speaker on the side of the vehicle where it crosses the lane markings.

- Warns the driver to lane drifting
- Prevents potential collisions or road run-offs
- Promotes turn signal usage for lane change
- Camera-based detection of road markings and vehicle position relative to road markings

■ **Training** E-Learning: OnLane Installation 200 300 302 0

■ **Diagnostics** Diagnostic software OnLane LDW
Diagnostic software OnLane2

OnLaneALERT™ set

| Product number | Description |
|----------------|----------------------------|
| 446 069 010 0 | LDW-camera set & equipment |
| 446 069 020 0 | LDW-camera set & equipment |

OnLaneALERT™ camera

- Attaches to bracket using a snap-in method

| Product number | Mounting | Baud rate |
|----------------|--------------------------|--------------|
| 446 070 025 0 | 4.5° bottom mount camera | 250 kbps |
| 446 070 026 0 | 2.0° top mount camera | 250 kbps |
| 446 070 105 0 | top mount camera | |
| 446 070 115 0 | top mount camera | 250 kbps CAN |
| 446 070 525 0 | 4.5° bottom mount camera | 500 kbps |



OnLaneALERT™ mounting bracket

- Attaches to windshield using pressure-sensitive adhesive

| Product number | Mounting |
|----------------|---------------------------|
| 446 070 900 0 | Bottom mount 14° bracket |
| 446 070 901 0 | Bottom mount 2.5° bracket |
| 446 070 920 0 | Bottom mount 14° bracket |





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VEHICLE CONNECTION



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Connecting devices

Pneumatical connection

Coupling head - towing vehicle

- **Filter** without filter
- **Temperature** -40 ... +80 °C

| Product number | Colour | Working pressure | Port 1 |
|----------------|--------|------------------|------------|
| 452 200 211 0 | red | 10.0 bar | M22×1.5 |
| 452 200 212 0 | yellow | 10.0 bar | M22×1.5 |
| 452 300 031 0 | black | 8.5 bar | M22×1.5 |
| 452 303 031 0* | red | 10.0 bar | M22×1.5 |
| 452 303 032 0* | yellow | 10.0 bar | M22×1.5 |
| 952 200 007 0 | red | 10.0 bar | M16×1.5 |
| 952 200 210 0 | red | 10.0 bar | 2x M16×1.5 |
| 952 200 221 0 | red | 10.0 bar | M16×1.5 |
| 952 200 222 0 | yellow | 10.0 bar | M16×1.5 |
| 952 200 225 0 | red | 10.0 bar | M16×1.5 |
| 952 200 226 0 | yellow | 10.0 bar | M16×1.5 |
| 952 200 901 0 | red | 10.0 bar | 2x M16×1.5 |
| 952 200 902 0 | red | 10.0 bar | M16×1.5 |
| 952 200 905 0 | yellow | 10.0 bar | M16×1.5 |

* for Swiss type brake system



952 200 221 0



952 200 222 0

Coupling head - trailer

Coupling head without filter - trailer

- **Temperature** -40 ... +80 °C

| Product number | Colour | Working pressure | Test connection | Port 1 |
|----------------|---------------|------------------|-----------------|---------|
| 452 200 000 0 | without cover | 8.5 bar | – | M22×1.5 |
| 452 200 004 0 | black | 8.5 bar | – | M22×1.5 |
| 452 200 011 0 | red | 8.5 bar | – | M22×1.5 |
| 452 200 012 0 | yellow | 8.5 bar | – | M22×1.5 |
| 452 203 031 0* | red | 10.0 bar | – | M22×1.5 |
| 452 203 032 0* | yellow | 10.0 bar | – | M22×1.5 |
| 952 200 021 0 | red | 8.5 bar | – | M16×1.5 |
| 952 200 022 0 | yellow | 10.0 bar | – | M16×1.5 |
| 952 200 033 0 | yellow | 10.0 bar | – | M16×1.5 |
| 952 200 034 0 | yellow | 10.0 bar | – | M22×1.5 |
| 952 200 035 0 | yellow | 8.5 bar | – | M16×1.5 |
| 952 200 037 0 | red | 8.5 bar | – | M22×1.5 |
| 952 200 038 0 | red | 8.5 bar | – | M16×1.5 |
| 952 200 040 0 | yellow | 10.0 bar | ✓ | M16×1.5 |
| 452 201 010 0 | black | 8.5 bar | – | M22×1.5 |

* for Swiss type brake system



952 200 021 0



952 200 022 0

Coupling head with filter - trailer

- Temperature -40 ... +80 °C
- Working pressure 8.5 bar

| Product number | Colour | Test connection | Port 1 |
|----------------|--------|-----------------|------------|
| 952 201 001 0* | yellow | – | M16×1.5 |
| 952 201 002 0* | red | – | M16×1.5 |
| 952 201 003 0 | yellow | – | M16×1.5 |
| 952 201 004 0 | red | – | M16×1.5 |
| 952 201 007 0* | yellow | ✓ | M16×1.5 |
| 952 201 008 0 | yellow | ✓ | M16×1.5 |
| 952 201 011 0 | yellow | – | M16×1.5 |
| 952 201 012 0 | red | – | M16×1.5 |
| 952 201 013 0 | yellow | ✓ | M16×1.5 |
| 952 201 014 0 | yellow | ✓ | M24×1.5 |
| 952 201 015 0 | red | ✓ | M24×1.5 |
| 952 201 016 0 | yellow | – | M16×1.5 |
| 952 201 017 0 | red | – | M16×1.5 |
| 952 201 018 0 | red | – | ½"-14 NPTF |
| 952 201 019 0 | blue | – | ½"-14 NPTF |

* with lock nut M24×1.5

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|--------------------------|
| ■ 952 201 001 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 002 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 003 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 004 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 007 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 008 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 011 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 012 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 013 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 014 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 015 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 016 0 | 952 201 920 2 | Covers, sealings, screws |
| ■ 952 201 017 0 | 952 201 920 2 | Covers, sealings, screws |



952 201 001 0



952 201 002 0



952 201 014 0



952 201 015 0

Coupling head - dummy coupling

| Product number | Application |
|----------------|--|
| 452 402 000 0 | for 452 200 ... 0 / 952 200 ... 0; for trailer dual line |
| 452 402 002 0 | for 452 201 ... 0; for trailer single line |



452 402 000 0

Line filter

- Working pressure 20 bar
- Wrench size 30 mm

| Product number | Temperature | Flow direction | Port |
|----------------|-----------------|----------------|------------|
| 432 500 005 0 | -40 ... +80 °C | 1 ↔ 2 | ½"-14 NPTF |
| 432 500 020 0 | -40 ... +80 °C | 1 ↔ 2 | M22×1.5 |
| 432 500 021 0 | -40 ... +80 °C | 1 ↔ 2 | M16×1.5 |
| 432 500 025 0 | -40 ... +125 °C | 1 → 2 | M22×1.5 |



432 500 020 0

DuoMatic

- Working pressure 10.0 bar
- Temperature -40 ... +80 °C
- Homologation ABE - Allgemeine Betriebserlaubnis
General operating permit
- Accessory 452 204 910 0 Adapter DuoMatic



452 802 009 0

452 804 012 0

| Product number | Application | Type | ABE | Lever | Port |
|----------------|-------------------------------|-------------|-----|-------|----------------------------|
| 452 802 000 0 | Motor vehicle | Drawbar | - | ✓ | 1: ¼" - 18NPSF; 4: M22×1.5 |
| 452 802 007 0 | Trailer | Semitrailer | - | ✓ | 1: M16×1.5; 4: M22×1.5 |
| 452 802 009 0 | Motor vehicle | Drawbar | ✓ | ✓ | 1: M16×1.5; 4: M22×1.5 |
| 452 804 012 0 | Trailer | Drawbar | ✓ | - | 1, 4: M16×1.5 |
| 452 802 011 0 | Motor vehicle | Drawbar | - | - | 1: M16×1.5; 4: M22×1.5 |
| 452 803 004 0 | Motor vehicle | Semitrailer | - | ✓ | 1: M22×1.5; 4: M16×1.5 |
| 452 803 005 0 | Trailer | Semitrailer | ✓ | ✓ | 1: M22×1.5; 4: M16×1.5 |
| 452 804 001 0 | Trailer | Drawbar | - | - | 1, 4: G ⅜" |
| 452 805 004 0 | Motor vehicle | Semitrailer | ✓ | - | 1, 4: M16×1.5 |
| 452 810 001 0 | Special vehicle (agriculture) | - | - | - | 1, 4: Ø 15 mm |
| 452 811 008 0 | Special vehicle (agriculture) | - | - | ✓ | 1, 4: M22×1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|---------|
| ■ 452 802 000 0 | 452 802 003 2 | Valve | ■ 452 802 011 0 | 452 802 003 2 | Valve |
| ■ 452 802 007 0 | 452 802 003 2 | Valve | ■ 452 805 004 0 | 452 802 003 2 | Valve |
| ■ 452 802 009 0 | 452 802 003 2 | Valve | | | |

TrioMatic

- Working pressure 10.0 bar
- Temperature -40 ... +80 °C
- Type Drawbar



| Product number | Application | Lever | Port |
|----------------|---------------|-------|--------------------------|
| 452 806 000 0 | Motor vehicle | ✓ | 1, 4, Auxil: ¼" - 18NPTF |
| 452 808 002 0 | Trailer | - | 1, 4, Auxil: ¼" - 18NPTF |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 452 806 000 0 | 452 802 003 2 | Valve |

Coiled tube

- Version with fittings
- Temperature -40 ... +70 °C
- Working pressure 10 bar
- Material TPU: Thermoplastic polyurethane
TPC - ET: Thermoplastic polyester elastomers
- Max. working length ~4 m (890 034 293 0 ~6 m)
- Ø coiled tube Ø 12.0x1.5 (452 713 ... 0 / 890 034 293 0: Ø 12.0x2.0)
Inner Ø 9 mm (452 713 ... 0 / 890 034 293 0: 8 mm)
- Accessory 893 900 033 2 Handle set (1x yellow / 1x red)



| Product number | Colour | | Material | Length | Port |
|----------------|-------------|-----------------|----------|--------|------------------------------------|
| | Tube | Kink protection | | | |
| 452 711 056 0 | black | red | TPC - ET | 550 mm | 1, 2: male M16x1.5 |
| 452 711 057 0 | black | yellow | TPC - ET | 550 mm | 1, 2: male M16x1.5 |
| 452 711 058 0 | black | red | TPC - ET | 550 mm | 1, 2: male M22x1.5 |
| 452 711 059 0 | black | yellow | TPC - ET | 550 mm | 1, 2: male M22x1.5 |
| 452 711 060 0 | black | red | TPC - ET | 556 mm | 1: male M16x1.5; 2: female M18x1.5 |
| 452 711 061 0 | black | yellow | TPC - ET | 556 mm | 1: male M16x1.5; 2: female M18x1.5 |
| 452 711 062 0 | black | red | TPC - ET | 562 mm | 1, 2: female M18x1.5 |
| 452 711 063 0 | black | yellow | TPC - ET | 562 mm | 1, 2: female M18x1.5 |
| 452 711 064 0 | black | black | TPC - ET | 562 mm | 1, 2: female M18x1.5 |
| 452 711 065 0 | black | black | TPC - ET | 556 mm | 1: male M16x1.5; 2: female M18x1.5 |
| 452 711 066 0 | black | red | TPC - ET | 550 mm | 1: male M16x1.5; 2: male M18x1.5 |
| 452 711 067 0 | black | yellow | TPC - ET | 550 mm | 1: male M16x1.5; 2: male M18x1.5 |
| 452 711 068 0 | black | black | TPC - ET | 550 mm | 1: male M16x1.5; 2: male M18x1.5 |
| 452 711 069 0 | black/black | yellow/red | TPC - ET | 730 mm | 1, 2: female M18x1.5 |

| Product number | Colour | | Material | Length | Port |
|----------------|-------------|-----------------|----------|--------|------------------------------------|
| | Tube | Kink protection | | | |
| 452 711 903 0 | blue/red | black/black | TPC - ET | 730 mm | 1, 2: female M18x1.5 / male ½" BSP |
| 452 711 904 0 | black/black | yellow/red | TPC - ET | 980 mm | 1, 2: male ½" BSP external |
| 452 713 001 0 | red | red | TPU | 700 mm | 1, 2: male M16x1.5 |
| 452 713 002 0 | yellow | yellow | TPU | 700 mm | 1, 2: male M16x1.5 |
| 452 713 003 0 | black | red | TPU | 700 mm | 1, 2: male M16x1.5 |
| 452 713 004 0 | black | yellow | TPU | 700 mm | 1, 2: male M16x1.5 |
| 452 713 005 0 | yellow/red | yellow/red | TPU | 700 mm | 1, 2: male M16x1.5 |
| 452 713 006 0 | black/black | yellow/red | TPU | 700 mm | 1, 2: male M16x1.5 |
| 890 034 293 0 | black/black | yellow/red | TPU | 800 mm | 1, 2: male M16x1.5 |

Straight tube DIN 74324

- **Application** Air braking systems / secondary devices
- **Standard** DIN 74324

| Product number | Type | Colour | Length |
|----------------|----------------|----------------|--------|
| 828 251 978 6 | Ø 4.0x1.0 mm | black | 100 m |
| 828 251 106 6 | Ø 6.0x1.0 mm | black | 25 m |
| 828 251 970 6 | Ø 6.0x1.0 mm | black | 50 m |
| 828 251 967 6 | Ø 6.0x1.0 mm | black | 100 m |
| 828 251 108 6 | Ø 8.0x1.0 mm | black | 25 m |
| 828 251 971 6 | Ø 8.0x1.0 mm | black | 50 m |
| 828 251 008 6 | Ø 8.0x1.0 mm | black | 100 m |
| 828 251 124 6 | Ø 8.0x1.0 mm | black / red | 100 m |
| 828 251 123 6 | Ø 8.0x1.0 mm | black / yellow | 100 m |
| 828 252 113 6 | Ø 8.0x1.0 mm | black | 500 m |
| 828 251 110 6 | Ø 10.0x1.0 mm | black | 25 m |
| 828 251 915 6 | Ø 10.0x1.0 mm | black | 50 m |
| 828 251 010 6 | Ø 10.0x1.0 mm | black | 100 m |
| 828 251 934 6 | Ø 10.0x1.25 mm | black | 100 m |
| 828 251 122 6 | Ø 10.0x1.25 mm | black / red | 100 m |
| 828 251 121 6 | Ø 10.0x1.25 mm | black / yellow | 100 m |
| 828 252 110 6 | Ø 10.0x1.5 mm | black | 25 m |
| 828 251 011 6 | Ø 10.0x1.5 mm | black | 50 m |
| 828 251 112 6 | Ø 12.0x1.5 mm | black | 25 m |
| 828 251 914 6 | Ø 12.0x1.5 mm | black | 50 m |
| 828 251 012 6 | Ø 12.0x1.5 mm | black | 100 m |
| 828 251 126 6 | Ø 12.0x1.5 mm | black/red | 100 m |
| 828 251 125 6 | Ø 12.0x1.5 mm | black / yellow | 100 m |
| 828 251 013 6 | Ø 12.0x1.5 mm | black | 200 m |
| 828 252 115 6 | Ø 12.0x1.5 mm | black | 500 m |
| 828 252 112 6 | Ø 12.0x1.75 mm | black | 25 m |
| 828 251 114 6 | Ø 14.0x2.0 mm | black | 25 m |
| 828 251 115 6 | Ø 15.0x1.5 mm | black | 25 m |
| 828 251 972 6 | Ø 15.0x1.5 mm | black | 50 m |
| 828 251 968 6 | Ø 15.0x1.5 mm | black | 100 m |
| 828 251 128 6 | Ø 15.0x1.5 mm | black / red | 100 m |
| 828 251 127 6 | Ø 15.0x1.5 mm | black / yellow | 100 m |
| 828 251 942 6 | Ø 15.0x2.0 mm | black | 50 m |
| 828 251 977 6 | Ø 15.0x2.0 mm | black | 100 m |



828 251 112 6

CONNECTING DEVICES

| Product number | Type | Colour | Length |
|----------------|----------------|--------|--------|
| 828 252 116 6 | Ø 16.0x2.0 mm | black | 25 m |
| 828 251 116 6 | Ø 16.0x2.25 mm | black | 25 m |
| 828 251 118 6 | Ø 18.0x2.0 mm | black | 25 m |
| 828 251 969 6 | Ø 18.0x2.0 mm | black | 100 m |

Straight tube DIN 73378

- **Application** only for auxiliary circuits
- **Standard** DIN 73378

| Product number | Type | Colour | Length |
|----------------|---------------|--------|--------|
| 828 876 953 6 | Ø 4.0x1.0 mm | black | 25 m |
| 828 251 924 6 | Ø 4.0x1.0 mm | blue | 25 m |
| 828 876 952 6 | Ø 4.0x1.0 mm | red | 25 m |
| 828 251 951 6 | Ø 8.0x1.0 mm | blue | 100 m |
| 828 251 015 6 | Ø 8.0x1.0 mm | blue | 500 m |
| 828 251 953 6 | Ø 8.0x1.0 mm | green | 100 m |
| 828 251 017 6 | Ø 8.0x1.0 mm | green | 500 m |
| 828 251 952 6 | Ø 8.0x1.0 mm | red | 100 m |
| 828 251 016 6 | Ø 8.0x1.0 mm | red | 500 m |
| 828 251 950 6 | Ø 8.0x1.0 mm | yellow | 100 m |
| 828 251 014 6 | Ø 8.0x1.0 mm | yellow | 500 m |
| 828 251 018 6 | Ø 15.0x1.5 mm | red | 500 m |



Straight tube DIN 7628

- **Application** Thermoplastics tubing for air braking systems
- **Standard** DIN 7628

| Product number | Type | Colour | Length |
|----------------|---------------|--------|--------|
| 828 251 020 6 | Ø 4.0x1.0 mm | black | 100 m |
| 828 251 021 6 | Ø 6.0x1.0 mm | black | 25 m |
| 828 251 022 6 | Ø 6.0x1.0 mm | black | 50 m |
| 828 251 023 6 | Ø 6.0x1.0 mm | black | 100 m |
| 828 251 032 6 | Ø 8.0x1.0 mm | black | 25 m |
| 828 251 033 6 | Ø 8.0x1.0 mm | black | 50 m |
| 828 251 028 6 | Ø 8.0x1.0 mm | yellow | 100 m |
| 828 251 029 6 | Ø 8.0x1.0 mm | blue | 100 m |
| 828 251 030 6 | Ø 8.0x1.0 mm | red | 100 m |
| 828 251 031 6 | Ø 8.0x1.0 mm | green | 100 m |
| 828 251 034 6 | Ø 8.0x1.0 mm | black | 100 m |
| 828 251 035 6 | Ø 8.0x1.0 mm | black | 200 m |
| 828 251 024 6 | Ø 8.0x1.0 mm | yellow | 500 m |
| 828 251 025 6 | Ø 8.0x1.0 mm | blue | 500 m |
| 828 251 026 6 | Ø 8.0x1.0 mm | red | 500 m |
| 828 251 027 6 | Ø 8.0x1.0 mm | green | 500 m |
| 828 251 036 6 | Ø 8.0x1.0 mm | black | 500 m |
| 828 251 037 6 | Ø 10.0x1.0 mm | black | 25 m |
| 828 251 038 6 | Ø 10.0x1.0 mm | black | 50 m |
| 828 251 039 6 | Ø 10.0x1.0 mm | black | 100 m |



| Product number | Type | Colour | Length |
|----------------|----------------|--------|--------|
| 828 251 041 6 | Ø 10.0x1.25 mm | black | 100 m |
| 828 251 042 6 | Ø 10.0x1.25 mm | black | 500 m |
| 828 251 043 6 | Ø 10.0x1.5 mm | black | 25 m |
| 828 251 044 6 | Ø 10.0x1.5 mm | black | 50 m |
| 828 251 045 6 | Ø 10.0x1.5 mm | black | 100 m |
| 828 251 046 6 | Ø 12.0x1.5 mm | black | 25 m |
| 828 251 047 6 | Ø 12.0x1.5 mm | black | 50 m |
| 828 251 048 6 | Ø 12.0x1.5 mm | black | 100 m |
| 828 251 049 6 | Ø 12.0x1.5 mm | black | 200 m |
| 828 251 050 6 | Ø 12.0x1.5 mm | black | 500 m |
| 828 251 051 6 | Ø 12.0x1.5 mm | blue | 500 m |
| 828 251 052 6 | Ø 15.0x1.5 mm | black | 25 m |
| 828 251 053 6 | Ø 15.0x1.5 mm | black | 50 m |
| 828 251 054 6 | Ø 15.0x1.5 mm | black | 100 m |
| 828 251 057 6 | Ø 15.0x2.0 mm | black | 100 m |
| 828 251 058 6 | Ø 16.0x2.0 mm | black | 25 m |
| 828 251 059 6 | Ø 16.0x2.0 mm | black | 100 m |
| 828 251 061 6 | Ø 18.0x2.0 mm | black | 25 m |
| 828 251 062 6 | Ø 18.0x2.0 mm | black | 100 m |

Brake hose

- Temperature -40 ... +70 °C
- Material Rubber
- Colour black

| Product number | Length | Inner Ø | Comments |
|----------------|--------|---------|----------|
| 828 876 011 6 | 20 m | 11.0 mm | smooth |
| 828 876 013 6 | 20 m | 13.0 mm | smooth |
| 828 876 411 6 | 40 m | 11.0 mm | smooth |
| 828 876 413 6 | 40 m | 13.0 mm | smooth |
| 828 877 000 6 | 20 m | 13.0 mm | wrapped |
| 828 877 001 6 | 20 m | 11.0 mm | wrapped |
| 828 877 004 6 | 50 m | 9.5 mm | smooth |
| 886 902 610 6 | 20 m | 11.0 mm | wrapped |

Tire inflating hose

- Working pressure 15 bar
- Version with fittings
- Port 2 M16x1.5

| Product number | Length | Ø | |
|----------------|--------|--------|--------|
| | | Outer | Inner |
| 452 601 000 0 | 60 m | 9.0 mm | 4.5 mm |
| 452 601 002 0 | 80 m | 9.0 mm | 4.5 mm |
| 452 601 005 0 | 100 m | 9.0 mm | 4.5 mm |
| 452 601 008 0 | 40 m | 9.0 mm | 4.5 mm |



Metal corrugated hose

- Working pressure 20 bar
- Temperature ≤220 °C
- Port M18×1.5

| Product number | Length | Hex. | Material |
|----------------|--------|-------|-----------------|
| 452 700 001 0 | 335 mm | SW 30 | Stainless steel |



Fitting case

- A clearly structured list of contents with illustrations is attached on the inside of the case to facilitate re-ordering the used parts.
- Removable partitions permit adding additional items as required. This can be useful if you regularly require more units of a particular coupling type than the corresponding compartment can accommodate.

Fitting case - composite fittings

- Product number 893 000 035 0

| Product number | Content | Quantity |
|----------------|--|----------|
| 893 800 091 2 | Quick Coupling, regular, 8×1.0, L: 8 | 4 |
| 893 920 324 2 | Quick Coupling, regular, 8×1.0, L1: 33, L2: 21 | 4 |
| 893 800 092 2 | Quick Coupling, regular, 10×1.0, L: 11 | 4 |
| 893 920 325 2 | Quick Coupling, regular, 10×1.0, L1: 35, L2: 24 | 4 |
| 893 800 093 2 | Quick Coupling, regular, 12×1.5, L: 18 | 4 |
| 893 920 314 2 | Quick Coupling, regular, M12×1.5, wrench size: 18 | 4 |
| 893 920 326 2 | Quick Coupling, regular, 12×1.5, L1: 37, L2: 24 | 4 |
| 893 920 317 2 | Quick Coupling, regular, M16×1.5, wrench size: 22 | 4 |
| 893 920 318 2 | Quick Coupling, regular, M22×1.5, wrench size: 28 | 3 |
| 893 920 320 2 | Quick Coupling, heavy duty, M22×1.5, wrench size: 28 | 4 |
| 893 920 328 2 | Quick Coupling, heavy duty, 16×2.0, L1: 46, L2: 24 | 2 |
| 893 800 099 2 | Quick Coupling, heavy duty, 16×2.0, L: 21 | 2 |
| 893 920 327 2 | Quick Coupling, heavy duty, 15×1.5, L1: 46, L2: 24 | 2 |
| 893 800 098 2 | Quick Coupling, heavy duty, 15×1.5, L: 21 | 2 |
| 893 920 319 2 | Quick Coupling, heavy duty, M16×1.5, wrench size: 22 | 4 |
| 893 022 001 4 | Plug, 8×1.0 | 8 |
| 893 022 016 4 | Plug, 12×1.5 | 4 |
| 893 997 791 4 | Adapter, regular & regular, wrench size: 18 | 4 |
| 893 997 795 4 | Adapter, regular, T: 31, L1: 26, L2: 27 | 2 |
| 893 997 788 4 | Adapter, regular, L: 45 | 4 |
| 893 880 011 0 | Push in test point | 4 |
| 893 400 862 4 | Elbow, regular, L: 25 | 2 |
| 893 400 864 4 | Elbow, regular, L: 29 | 4 |
| 893 400 867 4 | Elbow, regular, L: 55 | 2 |
| 893 503 072 4 | Tee Piece, regular | 3 |
| 899 700 114 4 | Tool, regular, wrench size: 18 | 4 |
| 899 700 115 4 | Tool, regular, wrench size: 20 | 4 |
| 899 700 116 4 | Tool, regular, wrench size: 22 | 4 |



Fitting case - fittings with New Line Technology

■ Product number 893 000 200 0

| Product number | Content | Quantity |
|----------------|---|----------|
| 893 129 191 2 | Screwed Socket with Plug-In P5 / M12x1.5 | 4 |
| 893 129 192 2 | Screwed Socket with Plug-In P5 / M16x1.5 | 6 |
| 893 129 193 2 | Screwed Socket with Plug-In P5 / M22x1.5 | 4 |
| 893 401 797 4 | 90° Elbow with Plug-In P5 / M16x1.5 | 4 |
| 893 401 015 2 | 90° Elbow with Plug-In P5 / M16x1.5 | 4 |
| 893 501 194 4 | L-Union with Plug-In P5 / M16x1.5 | 4 |
| 893 501 196 4 | Plug-In Female Tee / Inverted Tee P5 / M16x1.5 | 4 |
| 893 401 818 4 | F-Union with Plug-In P5 / M16x1.5 | 2 |
| 893 800 082 2 | Male Push-In Connector New Line Ø 6x1.0 / M16x1.5 | 4 |
| 893 800 007 2 | Male Push-In Connector New Line Ø 8x1.0 / M12x1.5 | 8 |
| 893 800 001 2 | Male Push-In Connector New Line Ø 8x1.0 / M16x1.5 | 6 |
| 893 800 009 2 | Male Push-In Connector New Line Ø 10x1.0 / M16x1.5 | 6 |
| 893 800 808 2 | Male Push-In Connector New Line Ø 10x1.0 / M22x1.5 | 6 |
| 893 800 002 2 | Male Push-In Connector New Line Ø 12x1.5 / M16x1.5 | 6 |
| 893 800 008 2 | Male Push-In Connector New Line Ø 12x1.5 / M22x1.5 | 6 |
| 893 803 013 0 | Male Push-In Connector Ø 18x2.0 / M22x1.5 | 4 |
| 893 800 004 2 | Male Push-In Connector New Line Ø 15x1.5 / M22x1.5 | 4 |
| 893 800 003 2 | Male Push-In Connector New Line Ø 16x2.0 / M22x1.5 | 4 |
| 893 104 064 4 | Female / Female Stud M16x1.5 | 8 |
| 893 022 000 2 | Screw Plug with O-ring M12x1.5 | 4 |
| 893 022 014 4 | Screw Plug with O-ring M16x1.5 | 4 |
| 893 022 015 4 | Screw Plug with O-ring M22x1.5 | 4 |
| 463 703 120 0 | Pressure Test Connection M16x1.5 | 4 |
| 463 703 115 0 | Pressure Test Connection M22x1.5 | 4 |
| 893 104 297 2 | Bulkhead with preassembled Lock nut M22x1.5 / M16x1.5 / M16x1.5 | 3 |
| 893 104 296 2 | Bulkhead with preassembled Lock nut M22x1.5 / M16x1.5 / M22x1.5 | 3 |



Electrical connection

Electrical cable



| Product number | Type | Design |
|----------------|--|--|
| 446 008 234 0 | ABS plug with coiled cable to ISO 7638 | 24 V connector; ABS 5-pin "Economy"; max. working length: 2.5 m |
| 446 008 238 0 | ABS plug with coiled cable to ISO 7638 | 12 V connector; ABS 5-pin "Economy"; max. working length: 2.5 m |
| 446 008 240 0 | ABS plug with coiled cable to ISO 7638 | 24 V connector; ABS 5-pin "Classic"; max. working length: 3 m |
| 446 008 243 0 | ABS plug with coiled cable to ISO 7638 | 24 V connector; ABS / EBS 7-pin "Classic"; max. working length: 3 m |
| 446 008 244 0 | ABS plug with coiled cable to ISO 7638 | 24 V connector; ABS / EBS 7-pin "Economy"; max. working length: 3 m |
| 446 008 700 0 | ABS plug with coiled cable to ISO 7638 | 24 V connector; ABS / EBS 7-pin "Standard"; max. working length: 3 m |
| 446 008 710 0 | ISO 12098 | 24 V connector; Lighting 15-pin; max. working length: 3 m |

CONNECTING DEVICES

Socket

- **Accessories** 446 008 310 4 Contact pin 1.5 mm² for ISO 7638
- 894 070 780 4 Contact pin 4.0 mm² for ISO 7638
- 446 008 311 4 Contact pin 6.0 mm² for ISO 7638

| Product number | Type | Design |
|----------------|----------------------------------|---|
| 446 008 361 2 | for semitrailers with ABS or EBS | 24 V socket; for cable Ø 10 ... 14 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 380 2 | for semitrailers with ABS or EBS | 24 V socket; for cable Ø 7 ... 12 (2x 4 mm ² / 3x 1.5 mm ²) |
| 446 008 381 2 | for semitrailers with ABS or EBS | 24 V socket; for cable Ø 10 ... 14 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 385 2 | for semitrailers with ABS or EBS | 12 V socket; for cable Ø 7 ... 12 (2x 4 mm ² / 3x 1.5 mm ²) |
| 446 008 386 2 | for semitrailers with ABS or EBS | 12 V socket; for cable Ø 10 ... 14 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 404 2 | for semitrailers with ABS or EBS | 24 V socket; for cable Ø 10 ... 14 (2x 4 mm ² / 5x 1.5 mm ²) |
| 446 008 420 2 | for semitrailers 15-pin | 24 V socket; for cable Ø 16 (2x 2.5 mm ² / 12x 1.5mm ²) |
| 446 008 433 2 | for semitrailer with ABS or EBS | 24 V socket; for cable Ø 10 ... 14 (2x 4 mm ² / 5x 1.5 mm ²); Screwed contacts |



446 008 361 2



446 008 433 2

Connector

- **Accessories** 446 008 315 4 Contact bushing 1.5 mm² for ISO 7638
- 894 070 781 4 Contact bushing 4.0 mm² for ISO 7638
- 446 008 316 4 Contact bushing 6.0 mm² for ISO 7638

| Product number | Type | Design |
|----------------|--|--|
| 446 008 360 2 | for drawbar trailers with ABS or EBS 7-pin | 24 V connector; for cable Ø 14.5 ... 15.5 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 371 2 | for drawbar trailers with ABS or EBS 7-pin | 24 V connector; for cable Ø 10 ... 14 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 390 2 | for drawbar trailers with ABS or EBS 7-pin | 24 V connector; for cable Ø 7 ... 12 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 391 2 | for drawbar trailers with ABS or EBS 7-pin | 24 V connector; for cable Ø 10 ... 14 (2x 4 mm ² / 3x 1.5 mm ²) |
| 446 008 395 2 | for drawbar trailers with ABS or EBS 7-pin | 12 V connector; for cable Ø 7 ... 12 (2x 4 mm ² / 3x 1.5 mm ²) |
| 446 008 396 2 | for drawbar trailers with ABS or EBS 7-pin | 12 V connector; for cable Ø 10 ... 14 (2x 6 mm ² / 3x 1.5 mm ²) |
| 446 008 414 2 | for drawbar trailers with ABS or EBS 7-pin | 24 V connector; for cable Ø 10 ... 14 (2x 4 mm ² / 5x 1.5 mm ²) |
| 446 008 421 2 | for drawbar trailers Lighting 15-pin | 24 V socket; 2x 2.5 mm ² / 12x 1.5mm ² |
| 446 008 600 2 | ABS parking receptacle | 24 V ISO 7638 |
| 446 008 605 2 | ABS parking receptacle | 12 V ISO 7638 |



WABCO

TRAILER



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Air storage

Air reservoir

- **Material** Steel
*) Aluminum
- **Colour** black
grey: 950 020 011 0, 950 020 013 0
non-painted: 950 080 903 0, 950 530 903 0,
950 740 904 0, 950 960 002 0



| Product number | Capacity | Ø | Length | Working pressure | Temperature | Port | |
|----------------|----------|--------|----------|------------------|---------------|---------|--------|
| | | | | | | Thread | Number |
| 950 000 900 0* | 100.0 l | 396 mm | 919.0 mm | 11.0 bar | -50...+65 °C | M22x1.5 | |
| 950 020 000 0 | 10.0 l | 206 mm | 371.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 001 0 | 4.0 l | 144 mm | 321.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 002 0 | 25.0 l | 246 mm | 606.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 003 0 | 30.0 l | 276 mm | 584.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 004 0 | 25.0 l | 276 mm | 494.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 005 0 | 35.0 l | 276 mm | 662.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 006 0 | 20.0 l | 246 mm | 496.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 007 0 | 25.0 l | 246 mm | 604.5 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 008 0 | 4.0 l | 154 mm | 273.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 009 0 | 30.0 l | 310 mm | 462.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 010 0 | 40.0 l | 310 mm | 604.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 011 0 | 30.0 l | 276 mm | 568.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 012 0 | 36.0 l | 300 mm | 609.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 020 013 0 | 30.0 l | 250 mm | 705.0 mm | 13.0 bar | -50...+100 °C | M22x1.5 | |
| 950 060 000 0 | 60.0 l | 396 mm | 575.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 060 003 0 | 60.0 l | 310 mm | 893.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 060 004 0 | 60.0 l | 396 mm | 580.0 mm | 10.0 bar | -50...+100 °C | M22x1.5 | |
| 950 060 009 0 | 60.0 l | 300 mm | 942.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 060 900 0* | 60.0 l | 396 mm | 609.0 mm | 11.0 bar | -50...+65 °C | M22x1.5 | |
| 950 060 904 0* | 60.0 l | 396 mm | 609.0 mm | 11.0 bar | -50...+65 °C | M22x1.5 | |
| 950 080 000 0 | 80.0 l | 396 mm | 751.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 080 900 0* | 80.0 l | 396 mm | 749.0 mm | 11.0 bar | -50...+65 °C | M22x1.5 | |

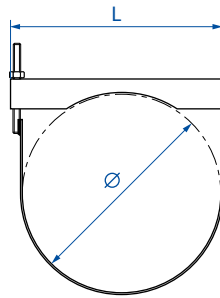
AIR STORAGE

| Product number | Capacity | Ø | Length | Working pressure | Temperature | Port | |
|----------------|----------|--------|-----------|------------------|---------------|------------|--------|
| | | | | | | Thread | Number |
| 950 080 002 0 | 80.0 l | 396 mm | 750.0 mm | 10.0 bar | -50...+100 °C | M22x1.5 | |
| 950 080 903 0* | 80.0 l | 396 mm | 745.0 mm | 11.0 bar | -50...+100 °C | M22x1.5 | |
| 950 100 002 0 | 100.0 l | 396 mm | 915.0 mm | 10.0 bar | -50...+100 °C | M22x1.5 | |
| 950 105 001 0 | 5.0 l | 154 mm | 341.0 mm | 20.0 bar | -50...+100 °C | M22x1.5 | |
| 950 108 002 0 | 7.7 l | 154 mm | 486.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 110 002 0 | 10.0 l | 154 mm | 615.0 mm | 20.0 bar | -50...+100 °C | M22x1.5 | |
| 950 310 001 0 | 10.0 l | 206 mm | 386.0 mm | 15.5 bar | -50...+100 °C | ½"-14 NPSI | |
| 950 405 001 0 | 4.5 l | 206 mm | 185.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 406 001 0 | 6.0 l | 206 mm | 241.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 410 004 0 | 10.0 l | 206 mm | 368.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 410 902 0 | 10.0 l | 206 mm | 355.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 415 005 0 | 15.0 l | 206 mm | 527.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 420 003 0 | 20.0 l | 206 mm | 691.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 430 001 0 | 30.0 l | 206 mm | 992.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 430 002 0 | 30.0 l | 206 mm | 989.0 mm | 12.0 bar | -50...+100 °C | ½"-14 NPSI | |
| 950 515 000 0 | 15.0 l | 246 mm | 396.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 515 003 0 | 15.0 l | 246 mm | 380.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 516 004 0 | 16.0 l | 246 mm | 411.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 520 003 0 | 20.0 l | 246 mm | 495.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 520 900 0* | 20.0 l | 246 mm | 504.0 mm | 12.5 bar | -50...+65 °C | M22x1.5 | |
| 950 525 001 0 | 25.0 l | 246 mm | 601.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 527 005 0 | 27.0 l | 246 mm | 645.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 530 002 0 | 30.0 l | 246 mm | 709.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 530 900 0* | 30.0 l | 246 mm | 724.0 mm | 12.5 bar | -50...+65 °C | M22x1.5 | |
| 950 530 903 0* | 30.0 l | 246 mm | 729.5 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 537 001 0 | 37.0 l | 246 mm | 862.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 540 001 0 | 40.0 l | 246 mm | 927.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 560 002 0 | 60.0 l | 246 mm | 1365.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 620 005 0 | 20.0 l | 246 mm | 503.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 620 006 0 | 20.0 l | 246 mm | 487.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 620 007 0 | 20.0 l | 246 mm | 504.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |

| Product number | Capacity | Ø | Length | Working pressure | Temperature | Port | |
|----------------|----------|--------|-----------|------------------|---------------|------------|--------|
| | | | | | | Thread | Number |
| 950 628 001 0 | 28.0 l | 246 mm | 665.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 630 001 0 | 30.0 l | 246 mm | 708.0 mm | 12.5 bar | -50...+100 °C | ½"-14 NPSI | |
| 950 630 002 0 | 30.0 l | 246 mm | 708.0 mm | 12.5 bar | -50...+100 °C | ½"-14 NPSI | |
| 950 630 005 0 | 30.0 l | 246 mm | 718.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 630 006 0 | 30.0 l | 246 mm | 718.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 720 005 0 | 20.0 l | 276 mm | 414.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 722 002 0 | 22.0 l | 276 mm | 452.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 730 006 0 | 30.0 l | 276 mm | 590.5 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 730 007 0 | 30.0 l | 276 mm | 583.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 740 000 0 | 40.0 l | 276 mm | 767.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 740 002 0 | 40.0 l | 276 mm | 758.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 740 900 0* | 40.0 l | 276 mm | 768.0 mm | 12.5 bar | -50...+65 °C | M22x1.5 | |
| 950 740 904 0* | 40.0 l | 276 mm | 766.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 950 740 906 0 | 40.0 l | 310 mm | 618.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 760 002 0 | 60.0 l | 276 mm | 1108.0 mm | 14.5 bar | -50...+100 °C | M22x1.5 | |
| 950 820 001 0 | 20.0 l | 300 mm | 381.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 830 004 0 | 30.0 l | 300 mm | 528.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 836 001 0 | 36.0 l | 300 mm | 603.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 845 001 0 | 45.0 l | 300 mm | 743.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 845 002 0 | 45.0 l | 300 mm | 743.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 860 004 0 | 60.0 l | 300 mm | 942.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 960 001 0 | 60.0 l | 310 mm | 898.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 950 960 002 0* | 60.0 l | 310 mm | 902.0 mm | 11.0 bar | -50...+100 °C | M22x1.5 | |
| 950 960 900 0* | 60.0 l | 310 mm | 895.0 mm | 11.0 bar | -50...+65 °C | M22x1.5 | |
| 951 002 133 0 | 4.0 l | 206 mm | 192.0 mm | 12.5 bar | -50...+100 °C | M22x1.5 | |
| 951 002 157 0 | 4.25 l | 206 mm | 192.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 951 002 158 0 | 4.0 l | 154 mm | 278.0 mm | 15.5 bar | -50...+100 °C | M22x1.5 | |
| 951 005 010 0 | 1.0 l | 102 mm | 170.0 mm | 15.5 bar | -50...+200 °C | M22x1.5 | |

Clamp band

- **Colour** black
- **Wrench size** 19 mm
- **Mounting** 2x Ø 11.0 mm



Version 1-part



Version 2-parts

| Product number | Version | Distance between holes | Length | Nominal Ø |
|----------------|---------|------------------------|--------|-----------|
| 451 999 206 2 | 1-part | 124 mm | 225 mm | 206 mm |
| 451 999 246 2 | 1-part | 164 mm | 265 mm | 246 mm |
| 451 999 276 2 | 1-part | 194 mm | 295 mm | 276 mm |
| 451 999 310 2 | 1-part | 229 mm | 330 mm | 310 mm |
| 451 999 396 2 | 1-part | 309 mm | 410 mm | 396 mm |
| 950 001 351 2 | 2-parts | 262 mm | 410 mm | 396 mm |
| 950 405 351 2 | 2-parts | 77 mm | 225 mm | 206 mm |
| 950 515 351 2 | 2-parts | 117 mm | 265 mm | 246 mm |
| 950 720 351 2 | 2-parts | 147 mm | 295 mm | 276 mm |
| 950 949 351 2 | 2-parts | 182 mm | 330 mm | 310 mm |

Drain valve

Drain valve - manually operated

- Working pressure 20.0 bar (434 300 009 0: 12.5 bar)
- Temperature -40 ... +80 °C (934 300 041 / 042 0: -40 ... +100 °C)



| Product number | Ring | Port | Sealing | Wrench size |
|----------------|------|-----------------------------|---------|-------------|
| 434 300 009 0 | ✓ | Male M22x1.5 | ✓ | 27 mm |
| 934 300 001 0 | – | Male M22x1.5 | – | 27 mm |
| 934 300 002 0 | – | Male G½" | ✓ | 28 mm |
| 934 300 003 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 005 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 006 0 | ✓ | Male ½"-14 PTF-SAE short | – | 22 mm |
| 934 300 007 0 | ✓ | Male ½"-14 PTF-SAE short | – | 22 mm |
| 934 300 009 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 016 0 | – | Male M22x1.5 | – | 27 mm |
| 934 300 023 0 | ✓ | Male 2x ½"-14 PTF-SAE short | – | 27 mm |
| 934 300 024 0 | ✓ | Male ½"-14 PTF-SAE short | – | 27 mm |
| 934 300 025 0 | ✓ | Male M22x1.5 | – | 27 mm |
| 934 300 038 0 | ✓ | Male M22x1.5 | ✓ | 28 mm |
| 934 300 041 0 | ✓ | Male 2x M22x1.5 | – | 27 mm |
| 934 300 042 0 | ✓ | Male 2x M22x1.5 | – | 27 mm |

Drain valve - automatic with control port

- Working pressure 10.0 bar
- Temperature -40 ... +80 °C

| Product number | Port | Sealing |
|----------------|-------------------|---------|
| 434 300 000 0 | Female 2x M12x1.5 | – |
| 434 300 003 0 | Female 2x M12x1.5 | – |



Drain valve - automatic

- Temperature -30 ... +80 °C
- Port Male M22x1.5
- Wrench size 27 mm

| Product number | Working pressure | Drain function |
|----------------|------------------|----------------------------|
| 934 301 000 0 | 20.0 bar | $\Delta p < 0.4$ bar |
| 934 301 003 0 | 20.0 bar | $0.3 < \Delta p < 0.7$ bar |
| 934 301 005 0 | 10.0 bar | $\Delta p > 0.6$ bar |





WABCO

Off-Highway Catalogue

Should you like to have an overview of WABCO's range of hydraulic, pneumatic, electro-hydraulic and electro-pneumatic products and systems with the focus on applications in agricultural vehicles, construction machines, mining vehicles and all types of special vehicles?

Ask your sales representative to provide you with a WABCO Off-Highway Catalogue.

WABCO

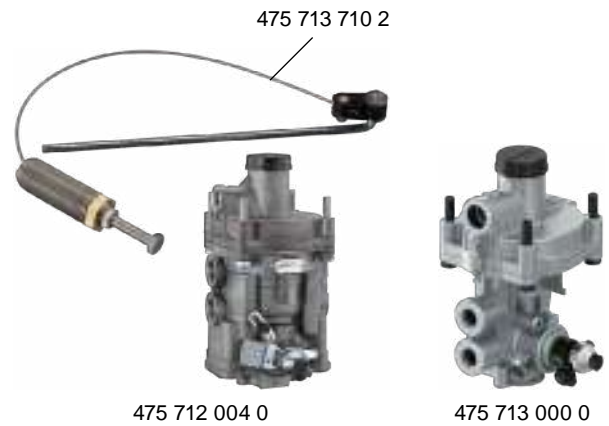
Air brake systems

Conventional braking components

Load sensing valve

Load sensing valve - mechanical

| | | |
|--------------------------|----------------|---|
| ■ Temperature | -40 ... +80 °C | |
| ■ Working pressure | 10 bar | |
| ■ Mounting | 4x M8 | |
| ■ Distance between bolts | 84x84 mm | |
| ■ Accessories | 899 144 630 4 | Label |
| | 475 712 710 2 | Lever (475 712 000 0) |
| | 475 713 710 2 | Lever (475 712 004 0, 475 713 500 0, 475 713 501 0) |



| Product number | Equipped with | Actuation | Operation |
|----------------|---|-----------------|-----------|
| 475 712 000 0 | Lever; relay emergency valve included | -50° ... 20° | |
| 475 712 004 0 | Lever and tension spring (adjustment: 10 ... 20 mm); relay emergency valve included | -45° ... 30° | |
| 475 713 000 0 | — | -40° ... 34°30' | dynamic |
| 475 713 002 0 | Lever | -50° ... 20° | dynamic |
| 475 713 500 0 | Lever and tension spring (adjustment: 10 ... 20 mm) | -50° ... 20° | static |
| 475 713 501 0 | Lever and tension spring (adjustment: 10 ... 20 mm) | -40° ... 33° | static |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 475 712 000 0 | 475 712 000 2 | Lever joint + diaphragm |
| ■ 475 712 004 0 | 475 712 000 2 | Lever joint + diaphragm |
| ■ 475 713 000 0 | 475 713 000 2 | Diaphragm + valve |
| ■ 475 713 500 0 | 475 713 000 2 | Diaphragm + valve |
| ■ 475 713 501 0 | 475 713 000 2 | Diaphragm + valve |

AIR BRAKE SYSTEMS

Load sensing valve - pneumatic

| | |
|--------------------------|--|
| ■ Operation | Static |
| ■ Temperature | -40 ... +80 °C |
| ■ Regulating ratio | 1:8 |
| ■ Mounting | 4x M8 |
| ■ Distance between bolts | 84x84 mm |
| ■ Port | 475 714 ... 0: 1: M22x1.5; 2: 2x M16x1.5; 41, 42: M12x1.5; 43: test connection 475 715 ... 0: 1: M16x1.5; 1-2: M22x1.5; 2: 4x M16x1.5, 2x M22x1.5; 41, 42: M12x1.5; 43: test connection |
| ■ Accessories | 899 144 631 4 Label |



475 714 500 0

475 715 500 0

| Product number | Break point | Max. pressure | | Actuation |
|-----------------------------|-------------|---------------|---------|-------------------|
| | | Inlet | Control | |
| 475 714 500 0 ¹⁾ | 0.5 bar | 10 bar | 12 bar | 0.70 ... 3.80 bar |
| 475 714 501 0 | 0.5 bar | 10 bar | 12 bar | 0.20 ... 2.80 bar |
| 475 714 503 0 | 0.4 bar | 10 bar | 12 bar | 0.90 ... 2.50 bar |
| 475 714 504 0 | 0.4 bar | 10 bar | 12 bar | 1.65 ... 3.25 bar |
| 475 714 505 0 | 0.5 bar | 10 bar | 12 bar | 0.35 ... 5.60 bar |
| 475 714 509 0 ²⁾ | 0.5 bar | 10 bar | 12 bar | 0.70 ... 4.70 bar |
| 475 714 510 0 | 0.5 bar | 10 bar | 12 bar | 0.40 ... 3.60 bar |
| 475 714 511 0 | 0.5 bar | 10 bar | 12 bar | 0.70 ... 6.10 bar |
| 475 714 514 0 | 0.5 bar | 10 bar | 12 bar | 0.40 ... 4.70 bar |
| 475 715 500 0 ²⁾ | 0.5 bar | 10 bar | 12 bar | 0.70 ... 3.80 bar |
| 475 715 501 0 | 0.5 bar | 10 bar | 12 bar | 0.40 ... 5.10 bar |
| 475 715 505 0 | 0.5 bar | 10 bar | 12 bar | 0.50 ... 4.40 bar |
| 475 715 507 0 | 0.5 bar | 10 bar | 12 bar | 0.20 ... 5.70 bar |
| 475 715 511 0 | 0.5 bar | 10 bar | 12 bar | 0.25 ... 3.60 bar |
| 475 715 513 0 | 0.5 bar | 10 bar | 12 bar | 0.70 ... 4.70 bar |
| 475 715 514 0 | 0.5 bar | 10 bar | 12 bar | 0.40 ... 4.70 bar |

¹⁾ Universal variant; 475 714 530 2 Rebuilding set (minigrip bag, pipe, spring)

²⁾ Universal variant

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------|
| ■ 475 714 500 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 714 501 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 714 503 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 714 504 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 714 509 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 714 510 0 | 475 714 000 2 | Diaphragm + valve |
| ■ 475 715 500 0 | 475 715 000 2 | Diaphragm + valve |
| ■ 475 715 501 0 | 475 715 000 2 | Diaphragm + valve |
| ■ 475 715 505 0 | 475 715 000 2 | Diaphragm + valve |
| ■ 475 715 507 0 | 475 715 000 2 | Diaphragm + valve |
| ■ 475 715 511 0 | 475 715 000 2 | Diaphragm + valve |
| ■ 475 715 514 0 | 475 715 000 2 | Diaphragm + valve |

Load sensing valve - hydraulic

| | |
|--------------------------|--|
| ■ Type of operation | Static |
| ■ Medium | Mineral oil |
| ■ Temperature | -40 ... +80 °C |
| ■ Regulating ratio | 1:8 |
| ■ Mounting | 4x M8 |
| ■ Distance between bolts | 84x84 mm |
| ■ Port | 1: M22x1.5; 2: 2x M16x1.5; 41, 42: M12x1.5 |
| ■ Accessories | 899 144 631 4 Label |



| Product number | Break point | Max. pressure | | Actuation |
|----------------|-------------|---------------|---------|----------------|
| | | Inlet | Control | |
| 475 714 600 0 | 0.4 bar | 10 bar | 160 bar | 20 ... 140 bar |
| 475 714 603 0 | 0.4 bar | 10 bar | 160 bar | 20 ... 55 bar |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------------|
| ■ 475 714 600 0 | 475 714 001 2 | Valve + sealing |
| ■ 475 714 603 0 | 475 714 001 2 | Valve + sealing |

Relay emergency valve

Relay emergency valve - single line air braking system

- Port 1, 2, 1-2: M22x1.5



| Product number | Working pressure | Temperature | Equipped with | | |
|----------------|------------------|----------------|-----------------------|---------------|--------------------------------|
| | | | Relay emergency valve | Release valve | Manual load apportioning valve |
| 471 003 020 0 | 5.3 bar | -40 ... +80 °C | - | - | - |
| 471 003 530 0 | 5.3 bar | -40 ... +80 °C | 471 003 020 0 | - | 475 604 010 0 |
| 471 003 700 0 | 5.3 bar | -40 ... +80 °C | 471 003 020 0 | 963 001 013 0 | - |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|----------------------|
| ■ 471 003 020 0 | 471 003 009 2 | Valve |
| ■ 471 003 530 0 | 471 003 009 2 | Valve |
| | 475 604 002 2 | Valve |
| ■ 471 003 700 0 | 471 003 009 2 | Valve |
| | 963 001 000 2 | Sealing ring |
| | 963 006 000 2 | Piston + push button |

Relay emergency valve

- Temperature –40 ... +80 °C
- Port 3 Exhaust
- Mounting 2x Ø 11.0 mm
- Distance between holes 71 mm



971 002 150 0

971 002 300 0

971 002 620 0

| Product number | Adjustment | Working pressure | Port | | |
|----------------|-------------|------------------|----------------------------|-------------------------|---------|
| | | | 1, 4 | 2 | 1-2 |
| 971 002 150 0 | 0 ... 1 bar | 10.0 bar | 1, 4: M22x1.5 | 2x M22x1.5 | M22x1.5 |
| 971 002 151 0 | 0 ... 1 bar | 10.0 bar | 1, 4: M16x1.5 | 2x M22x1.5 / 4x M16x1.5 | M22x1.5 |
| 971 002 152 0 | 0 ... 1 bar | 10.0 bar | 1, 4: M16x1.5 | 2x M22x1.5 / 4x M16x1.5 | M22x1.5 |
| 971 002 157 0 | – | 10.0 bar | 1, 4: M16x1.5 | M22x1.5 / 4x M16x1.5 | M22x1.5 |
| 971 002 300 0 | 0 ... 1 bar | 8.5 bar | 1: M22x1.5 4: M16x1.5 | 3x M22x1.5 | M22x1.5 |
| 971 002 301 0 | – | 8.5 bar | 1: M22x1.5 4: M16x1.5 | 3x M22x1.5 | M22x1.5 |
| 971 002 303 0 | – | 8.5 bar | 1, 4: M22x1.5 | 3x M22x1.5 | M22x1.5 |
| 971 002 304 0 | 0 ... 1 bar | 8.5 bar | 1, 4: M22x1.5 | 3x M22x1.5 | M22x1.5 |
| 971 002 305 0 | 0 ... 1 bar | 8.5 bar | 1: M22x1.5 4: M16x1.5 | 3x M22x1.5 | M22x1.5 |
| 971 002 307 0 | – | 8.5 bar | 1, 4: M22x1.5 | 2x M22x1.5 | M22x1.5 |
| 971 002 308 0 | 0 ... 1 bar | 8.5 bar | 1: M22x1.5 4: M22x1.5 | 2x M22x1.5 | M22x1.5 |
| 971 002 620 0* | 0 ... 1 bar | 10.0 bar | 1-1: M16x1.5 4: M22x1.5 | M22x1.5 | M22x1.5 |

* with brake valve, apportioning valve and release valve

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|---------|-----------------|---------------|-----------------------|
| ■ 971 002 150 0 | 971 002 003 2 | Valve | ■ 971 002 304 0 | 971 002 008 2 | Valve |
| ■ 971 002 151 0 | 971 002 004 2 | Valve | ■ 971 002 305 0 | 971 002 008 2 | Valve |
| ■ 971 002 152 0 | 971 002 004 2 | Valve | ■ 971 002 620 0 | 475 604 002 2 | Valve |
| ■ 971 002 300 0 | 971 002 008 2 | Valve | | 963 001 000 2 | Sealing ring |
| ■ 971 002 301 0 | 971 002 008 2 | Valve | | 971 002 003 2 | Valve + Exhaust Valve |

Relay emergency valve with release valve

- Temperature –40 ... +80 °C
- Port 3 Exhaust
- Adjustment 0 ... 1 bar (971 002 703 0: –)
- Mounting 2x Ø 11.0 mm
- Distance between holes 71 mm



| Product number | Equipped with | | Working pressure | Port |
|----------------|-----------------------|---------------|------------------|--|
| | Relay emergency valve | Release valve | | |
| 971 002 531 0 | 971 002 150 0 | 963 001 012 0 | 10.0 bar | 1-1: M16x1.5; 1-2, 4: M22x1.5; 2: 2x M22x1.5 |
| 971 002 532 0 | 971 002 155 0 | 963 001 013 0 | 8.5 bar | 1-1, 1-2, 4: M22x1.5; 2: 2x M22x1.5 |

| Product number | Equipped with | | Working pressure | Port |
|----------------|-----------------------|---------------|------------------|--|
| | Relay emergency valve | Release valve | | |
| 971 002 533 0 | 971 002 150 0 | 963 001 013 0 | 10.0 bar | 1-1, 1-2, 4: M22x1.5; 2: 2x M22x1.5 |
| 971 002 700 0 | 971 002 300 0 | 963 001 013 0 | 8.5 bar | 1-1, 1-2: M22x1.5; 2: 3x M22x1.5; 4: M16x1.5 |
| 971 002 701 0 | 971 002 300 0 | 963 001 012 0 | 8.5 bar | 1-1, 4: M16x1.5; 1-2: M22x1.5; 2: 3x M22x1.5 |
| 971 002 703 0 | 971 002 301 0 | 963 001 012 0 | 8.5 bar | 1-1, 4: M16x1.5; 1-2: M22x1.5; 2: 3x M22x1.5 |
| 971 002 704 0 | 971 002 305 0 | 963 001 012 0 | 8.5 bar | 1-1, 4: M16x1.5; 1-2: M22x1.5; 2: 3x M22x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|-------------------------------|
| ■ 971 002 531 0 | 963 006 000 2 971 002 003 2 | Piston + push button Valve |
| ■ 971 002 532 0 | 963 006 000 2 971 002 003 2 | Piston + push button Valve |
| ■ 971 002 533 0 | 963 006 000 2 971 002 003 2 | Piston + push button Valve |

Relay emergency valve with load apportioning valve

| | |
|--------------------------|----------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 10.0 bar |
| ■ Adjustment | 0 ... 1 bar |
| ■ Mounting | 2x Ø 11.0 mm |
| ■ Distance between holes | 71 mm |



| Product number | Equipped with | | Port |
|----------------|-----------------------|-------------------------|-----------------------------------|
| | Relay emergency valve | Load apportioning valve | |
| 971 002 570 0 | 971 002 150 0 | 475 604 011 0 | 1, 2, 4, 1-2: M22x1.5; 3: Exhaust |
| 971 002 580 0 | 971 002 150 0 | 475 604 041 0 | 1, 2, 4, 1-2: M22x1.5; 3: Exhaust |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|--------------------------------|
| ■ 971 002 570 0 | 475 604 002 2 971 002 003 2 | Valve Valve + Exhaust Valve |
| ■ 971 002 580 0 | 475 604 002 2 971 002 003 2 | Valve Valve + Exhaust Valve |

Relay emergency valve with relay valve

- Temperature –40 ... +80 °C
- Port 3 Exhaust



| Product number | Working pressure | Port | | |
|----------------|------------------|--------------------|-------------------------------------|-------------------------------|
| | | Emergency, Service | Delivery | Reservoir |
| 971 005 000 0 | 9.4 bar | 1/4"-18 NPTF | 2x 1/4"-18 NPTF, 2x 3/8"-18 NPTF | 3/8"-18 NPTF, 3/4"-14 NPTF |
| 971 005 002 0 | 9.4 bar | 1/4"-18 NPTF | 4x 3/8"-18 NPTF | 3/8"-18 NPTF, 3/4"-14 NPTF |

Trailer release valve

Trailer release valve - single

- Temperature –40 ... +80 °C
- Port 3 Exhaust



463 034 005 0



963 001 000 0



963 001 013 0



963 006 003 0

| Product number | Knob colour | Working pressure | Mounting | Port |
|----------------|-------------|------------------|-------------|---|
| 463 034 000 0 | silver | 8.0 bar | – | 1, 2: M22x1.5 |
| 463 034 002 0 | black | 8.0 bar | – | 1, 2: M22x1.5; 3-4: M16x1.5 |
| 463 034 005 0 | black | 8.0 bar | Flange | 1, 2: M22x1.5; 3-4: M16x1.5 |
| 963 001 000 0 | black | 8.0 bar | Flange | 1-1: M22x1.5; 1-2: Ø 7.0 mm; 2: Ø 21.5 mm |
| 963 001 012 0 | black | 8.5 bar | Flange | 1-1: M16x1.5; 1-2: Ø 7.0 mm; 2: Ø 21.5 mm |
| 963 001 013 0 | black | 8.5 bar | Flange | 1-1: M22x1.5; 1-2: Ø 7.0 mm; 2: Ø 21.5 mm |
| 963 001 016 0 | red | 8.5 bar | Flange | 1-2: Ø 7.0 mm; 2: Ø 21.5 mm |
| 963 006 001 0 | black | 8.5 bar | 2x Ø 8.5 mm | 1-1, 1-2, 2: M16x1.5 |
| 963 006 003 0 | red | 8.5 bar | 2x Ø 8.5 mm | 1-2, 2: M16x1.5 |
| 963 006 005 0 | green | 8.5 bar | 2x Ø 8.5 mm | 1-2, 2: M16x1.5 |
| 963 006 006 0 | yellow | 8.5 bar | 2x Ø 8.5 mm | 1-2, 2: M16x1.5 |
| 963 006 007 0 | blue | 8.5 bar | 2x Ø 8.5 mm | 1-2, 2: M16x1.5 |
| 963 006 008 0 | white | 8.5 bar | 2x Ø 8.5 mm | 1-2, 2: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|----------------------|
| ■ 963 001 000 0 | 963 001 000 2 | Sealing ring |
| ■ 963 001 012 0 | 963 006 000 2 | Piston + push button |
| ■ 963 001 013 0 | 963 006 000 2 | Piston + push button |
| ■ 963 006 001 0 | 963 006 000 2 | Piston + push button |

Trailer release valve - double

| | |
|--------------------------|---|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 8.5 bar |
| ■ Knob colour | black / red |
| ■ Mounting | 2x M8 |
| ■ Distance between holes | 86 mm |
| ■ Port | 1-1, 1-2, 2-1, 2-2: M16x1.5; 3: Exhaust |
| ■ Accessory | 899 200 695 4 Plate |



| Product number | Comments | Equipped with | |
|----------------|-----------------------|---------------|-------------------------------|
| | | Plate | Trailer release valve |
| 963 001 050 0 | - | - | 963 001 012 0 + 963 001 016 0 |
| 963 001 051 0 | with non-return valve | 899 200 695 4 | 963 001 012 0 + 963 001 016 0 |
| 963 001 052 0 | - | 899 200 695 4 | 963 001 012 0 + 963 001 016 0 |
| 963 001 053 0 | with non-return valve | - | 963 001 012 0 + 963 001 016 0 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------------------|
| ■ 963 001 050 0 | 963 001 001 2 | Push button + valve |
| ■ 963 001 051 0 | 963 001 001 2 | Push button + valve |
| ■ 963 001 052 0 | 963 001 001 2 | Push button + valve |
| ■ 963 001 053 0 | 963 001 001 2 | Push button + valve |

Quick release valve

| | |
|--------------------------|----------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 12 bar |
| ■ Mounting | 2x Ø 9.5 mm |
| ■ Distance between holes | 38 mm |



| Product number | Equipped with | Port |
|----------------|---------------------------------|-----------------------------------|
| 973 500 000 0 | double check valve | 1, 2, 3: M22x1.5 |
| 973 500 038 0 | - | 1, 21, 22, 23, 24, 3: M22x1.5 |
| 973 500 051 0 | integrated double cut-off valve | 2: 4x M16x1.5; 11, 12, 3: M22x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 973 500 000 0 | 973 500 003 2 | Diaphragm |
| ■ 973 500 051 0 | 973 500 004 2 | Diaphragm |

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Shut-off cock

| | |
|--------------------------|---|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 10 bar (952 002 000 0: 11 bar) |
| ■ Port | 1, 2: M22x1.5 |
| ■ Mounting | 2x Ø 10 mm (952 002 000 0: 2x Ø 9.5 mm) |
| ■ Distance between holes | 60x84 mm |



| Product number | Valve type | Lever position | | | Actuation direction | Exhaust |
|----------------|------------|----------------|-------------|-------------|---------------------|---------|
| | | 90° left | 0° | 90° right | | |
| 452 002 131 0 | 2/2 | – | pressurized | closed | One 90° | – |
| 452 002 132 0 | 2/3 | vented | pressurized | vented | Both 90° | ✓ |
| 452 002 133 0 | 2/3 | closed | vented | pressurized | Both 90° | ✓ |
| 952 002 000 0 | 2/2 | – | pressurized | closed | One 90° | ✓ |

Anti-lock braking system (ABS)

Exchange of Vario C

| | | |
|------------------|---|-----------------------------------|
| ■ Description | Exchange sets for repair of older trailer vehicles with ABS systems of the Vario C type to be replaced by the installation of a VCS II electronic control unit. | |
| ■ Product number | 446 105 926 2 | Exchange of the Vario C equipment |
| | 446 105 927 2 | Exchange of Vario C system |



Vario C ECU

| Product number | Content | Length | Exchange set | |
|----------------|---|----------------------|----------------------------|-------------------------|
| | | | Equipment 446 105 926 2 | System 446 105 927 2 |
| 400 500 081 0 | VCS II (Premium, 2S/2M...4S/3M) | – | 1x | – |
| 446 108 085 0 | VCS II (separate ECU, 2S/2M...4S/3M) | – | – | 1x |
| 449 320 150 0 | VCS II cable with open end | L: 15.0 m | 1x | – |
| 449 386 143 0 | VCS II Y-supply cable with separating point | L1: 1.0 m, L2: 3.0 m | – | 1x |
| 449 544 248 0 | VCS II cable for A-, B- and C-modulators | L1: 3.0 m, L2: 6.0 m | – | 1x |
| 449 616 235 0 | VCS II Y-cable for diagnosis and socket for A-modulator | L1: 8.0 m, L2: 5.0 m | 1x | – |
| 449 712 060 0 | Sensor extension cable | L: 6.0 m | 2x | 2x |
| 449 712 080 0 | Sensor extension cable | L: 8.0 m | 2x | 2x |
| 893 401 826 2 | Elbow | – | 1x | – |
| 894 601 133 2 | Solenoid valve adapter cable | L: 0.15 m | 1x | 3x |
| 898 020 456 4 | Protection cap | – | 1x | 1x |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-------------|
| ■ 400 500 081 0 | 400 500 925 2 | Sealing kit |

Exchange of VCS I

- **Description** Exchange sets for repair of older trailer vehicles with ABS systems of the VCS I type to be replaced by the installation of a VCS II electronic control unit.
- **Product number** 446 108 920 2 Exchange VCS I Electronic Unit for VCS II ECU
446 108 921 2 Exchange of the complete VCS I compact unit

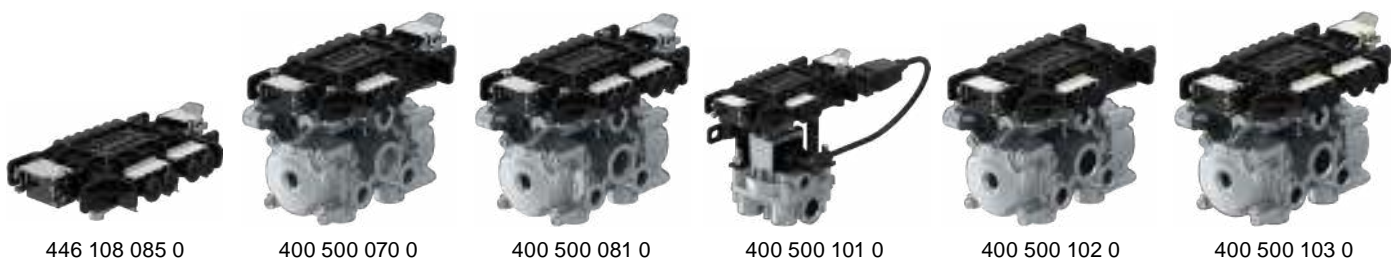


VCS I ECU

| Product number | Content | Length | Exchange set | |
|----------------|---|-----------------------|----------------------|-------------------------|
| | | | ECU 446 108 920 2 | System 446 108 921 2 |
| 400 500 081 0 | VCS II (Premium, 2S/2M...4S/3M) | – | – | 1x |
| 446 108 085 0 | VCS II (separate ECU, 2S/2M...4S/3M) | – | 1x | – |
| 449 384 323 0 | VCS II Y-supply cable with separating point | L1: 1.0 m, L2: 12.0 m | – | 1x |
| 449 386 143 0 | VCS II Y-supply cable with separating point | L1: 1.0 m, L2: 3.0 m | 1x | – |
| 449 544 190 0 | VCS II cable for A-, B- and C-modulators | L1: 4.0 m, L2: 4.0 m | 1x | – |
| 449 616 235 0 | VCS II Y-cable for diagnosis and socket for A-modulator | L1: 8.0 m, L2: 5.0 m | – | 1x |
| 893 401 826 2 | Elbow | – | – | 1x |
| 894 601 133 2 | Solenoid valve adapter cable | L: 0.15 m | 3x | 1x |
| 894 607 411 0 | VCS / VCS II power supply cable | L: 0.30 m | 1x | 1x |
| 898 020 456 4 | Protection Cap | – | 1x | 1x |

Vario Compact ABS (VCS II)

- **Temperature** –40 ... +65 °C
- **Working pressure** 13 bar
- **Port 3** Exhaust
- **Diagnostics** Diagnostic software VCS II
- **Training** E-learning: VCS II 200 300 101 0
Classroom training: Trailer ABS



446 108 085 0

400 500 070 0

400 500 081 0

400 500 101 0

400 500 102 0

400 500 103 0

| Product number | Voltage | System | ABS relay valve | Type | Port |
|----------------|---------|---------------|-----------------|------------------|---|
| 446 108 085 0 | 24 V | 2S/2M...4S/3M | – | Separate ECU | – |
| 400 500 070 0 | 24 V | 2S/2M | 2x | Standard | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 081 0 | 24 V | 2S/2M...4S/3M | 2x | Premium | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 082 0 | 24 V | 2S/2M...4S/3M | 2x | Premium; painted | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 083 0 | 12 V | 2S/2M...4S/3M | 2x | Premium | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 086 0 | 24 V | 2S/1M | 1x | Basic | 1: 2x M26x1.5; 2: 4x M16x1.5; 4: M16x1.5 |

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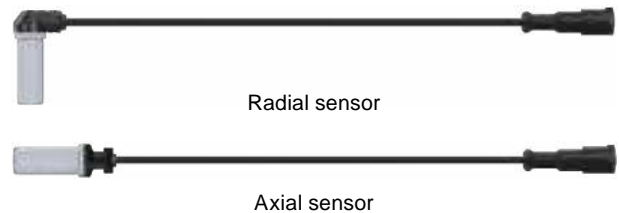
| Product number | Voltage | System | ABS relay valve | Type | Port |
|----------------|---------|---------------|-----------------|-------------|--|
| 400 500 087 0 | 24 V | 2S/2M...4S/3M | 2x | Premium | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 088 0 | 24 V | 2S/2M...4S/3M | 2x | COM-Variant | 1: 2x M26x1.5; 21, 22: 3x M16x1.5; 4: M16x1.5 |
| 400 500 101 0 | 12 V | 2S/1M | – | Basic | 1: 2x 3/4"-14 NPTF; 2: 4x 3/8"-18 NPTF; 4: 3/8"-18 NPTF |
| 400 500 102 0 | 12 V | 2S/2M | – | Standard | 1: 2x 3/4"-14 NPTF; 21, 22: 3x 3/8"-18 NPTF; 4: 1/4"-18 NPTF |
| 400 500 103 0 | 12 V | 4S/3M | – | Premium | 1: 2x 3/4"-14 NPTF; 21, 22: 3x 3/8"-18 NPTF; 4: 1/4"-18 NPTF |
| 400 500 105 0 | 12 V | 4S/3M Plus | – | Premium | 1: 2x 3/4"-14 NPTF; 21, 22: 3x 3/8"-18 NPTF; 4: 1/4"-18 NPTF |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|------------------------|-----------------|---------------|-------------|
| ■ 400 500 070 0 | 400 500 925 2 | Sealing kit | ■ 400 500 088 0 | 400 500 925 2 | Sealing kit |
| ■ 400 500 087 0 | 400 500 925 2 400 500 926 2 | Sealing kit ECU kit | ■ 400 500 105 0 | 400 500 925 2 | Sealing kit |

Wheel speed sensor

| | |
|-------------------------|----------------|
| ■ Temperature | –40 ... +80 °C |
| ■ Cable | Ø 4.4 mm |
| ■ Electrical Connection | Socket |



| Product number | Version | Length | Sensor head | Comment |
|----------------|---------|---------|-------------|----------------|
| 441 032 154 0 | Radial | 400 mm | Ø 16.0 mm | |
| 441 032 806 0 | Radial | 400 mm | Ø 16.0 mm | Protection cap |
| 441 032 807 0 | Radial | 400 mm | Ø 16.0 mm | |
| 441 032 808 0 | Radial | 400 mm | Ø 16.0 mm | |
| 441 032 879 0 | Radial | 1000 mm | Ø 16.0 mm | Grommet |
| 441 032 905 0 | Axial | 350 mm | Ø 16.0 mm | |
| 441 035 001 0 | Axial | 400 mm | Ø 11.0 mm | Mini-Sensor |

Sensor set

| | |
|---------------|--|
| ■ Description | WABCO sensor sets include all components required to affect a proper repair: clamp bushing, grease pad and the corresponding sensor. |
| ■ Cable | Ø 4.4 mm |
| ■ Sensor head | Ø 16.0 mm |



| Product number | Wheel speed sensor | Version | Length |
|----------------|--------------------|---------|---------|
| 441 032 921 2 | 441 032 808 0 | radial | 400 mm |
| 441 032 960 2 | 441 032 806 0 | radial | 400 mm |
| 441 032 963 2 | 441 032 905 0 | axial | 350 mm |
| 441 032 997 2 | 441 032 879 0 | radial | 1000 mm |

Trailer ABS relay valve

| | |
|-------------------------|--|
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 10.0 bar |
| ■ Port 3 | Exhaust |
| ■ Voltage | 24 V (* 12 V) |
| ■ Electrical connection | Bayonet DIN 72585 A1-3.1-Sn/K1 (472 195 025 0: M24x1.0) |
| ■ Protection class | IP 66 / IP 69K (472 195 025 0: IP 68) |
| ■ Accessory | 894 601 132 2 Adapter cable |



| Product number | Rated current | Mounting | Distance between bolts | Port |
|-----------------|---------------|--------------------|------------------------|--|
| 472 195 025 0 | 1.65 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Exhaust; 4: M16x1.5 |
| 472 195 031 0 | 1.65 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Snap-on contour; 4: M16x1.5 |
| 472 195 033 0* | 2.22 A | 4x 5/16"-18 UNC-2A | 75x75 mm | 1: 2x 3/4"-18 NPTF; 2: 4x 3/8"-18 NPTF; 3: 3/4"-18 NPTF; 4: 3/8"-18 NPTF |
| 472 195 034 0* | 2.22 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Snap-on contour; 4: M16x1.5 |
| 472 195 035 0 | 1.65 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Snap-on contour; 4: M16x1.5 |
| 472 195 037 0 | 1.65 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Snap-on contour; 4: M16x1.5 |
| 472 195 038 0 | 1.24 A | 4x M8 | 75x75 mm | 1: M22x1.5; 2: 2x M22x1.5; 3: Snap-on contour; 4: M16x1.5 |
| 472 195 041 0 | 1.65 A | 3x M8 | 70x35 mm | 1: M22x1.5; 21: M22x1.5 closed; 22, 23: 3x M22x1.5; 3: Exhaust; 4: M16x1.5 |
| 472 195 043 0** | 1.65 A | 3x M8 | 70x35 mm | 1: M22x1.5; 21: M22x1.5 closed; 22, 23: 3x M22x1.5; 3: Exhaust; 4: M16x1.5 |
| 472 195 044 0* | 2.22 A | 3x M8 | 70x35 mm | 1: M22x1.5; 21: M22x1.5 closed; 22, 23: 3x M22x1.5; 3: Exhaust; 4: M16x1.5 |
| 472 196 003 0* | 2.22 A | 3x 5/16"-18 UNC-2A | 75x75 mm | 1: 3/4"-14 NPTF; 2: 2x 3/8"-18 NPTF; 3: Exhaust; 4: 3/8"-18 NPTF |

* Voltage: 12 V

** Black paint coat

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|----------------|-----------------|---------------|----------------|
| ■ 472 195 025 0 | 472 195 926 2 | Valve + filter | ■ 472 195 038 0 | 472 195 926 2 | Valve + filter |
| ■ 472 195 031 0 | 472 195 926 2 | Valve + filter | ■ 472 195 041 0 | 472 195 926 2 | Valve + filter |
| ■ 472 195 033 0 | 472 195 926 2 | Valve + filter | ■ 472 195 043 0 | 472 195 926 2 | Valve + filter |
| ■ 472 195 034 0 | 472 195 926 2 | Valve + filter | ■ 472 195 044 0 | 472 195 926 2 | Valve + filter |

AIR BRAKE SYSTEMS

Electronic braking system (EBS)

Trailer EBS D modulator

| | | |
|---------------------------|---|--|
| ■ Temperature | -40 ... +65 °C | |
| ■ Working pressure | 8.5 bar | |
| ■ Mounting | 2x M10 | |
| ■ Accessories | 441 032 043 4 | Protection cap sensor connection X7...X10 (2pin) |
| | 441 032 044 4 | Protection cap sensor connection X5...X6 (3pin) |
| | 894 110 139 2 | Protection cap connector X1...X4 (with sealing) |
| ■ Repair kit | 480 102 934 2 | Sealing kit for 480 102 010 0 / 480 102 014 0 |
| ■ Diagnostics | Diagnostic software TEBS D Diagnostic software ODR-Tracker Diagnostic software CAN-Viewer | |
| ■ Training | Classroom training: Trailer EBS | |



| Product number | Type | System | Voltage | Port | |
|----------------|-------------------------------------|--------|---------|---------------|-------------|
| | | | | 1 / 2.1 / 2.2 | 2.1 / 4 / 5 |
| 480 102 010 0 | Standard; replaced by 480 102 014 0 | 4S/2M | 24 V | M22x1.5 | M16x1.5 |
| 480 102 014 0 | Premium | 4S/3M | 24 V | M22x1.5 | M16x1.5 |
| 480 102 014 R | Premium (remanufactured variant) | | | | |
| 480 102 015 0 | with Trailer Central Electronic | 4S/3M | 24 V | M22x1.5 | M16x1.5 |
| 480 102 020 0 | Standard | 4S/2M | 12 V | M22x1.5* | M16x1.5* |

* 3 ports closed: 2x 2.1, 1x 2.2

Trailer EBS E modulator

| | | |
|---------------------------|--|--|
| ■ Generic In / Out | Type Standard: 1...4; Type Premium, Multi-Voltage: 1...7 | |
| ■ Temperature | -40 ... +65 °C | |
| ■ Working pressure | 8.5 bar | |
| ■ Mounting | 2x M12 | |
| ■ Accessories | 898 020 462 2 | Protection cap 4pin connector |
| | 898 020 463 2 | Protection cap 8pin connector |
| ■ Repair kits | 461 513 920 2 | Sealing kit PEM for variants with PEM |
| | 480 102 931 2 | Locking clip |
| | 480 102 933 2 | Fitting kit for variants with fittings |
| | 480 102 935 2 | Sealing kit |
| ■ Diagnostics | Diagnostic software TEBS E Diagnostic software ODR-Tracker Diagnostic software CAN-Viewer | |
| ■ Training | Classroom training: Trailer EBS E-Learning: 200 300 104 0 Trailer EBS E 200 300 114 0 Trailer EBS E1-E2 200 300 124 0 Trailer EBS E2.5-E4 200 300 134 0 Trailer EBS E5 | |



| Product number | Type | System | Voltage | Port | | | Comment |
|----------------|----------|--------|---------|----------|-----------|---------|-------------------|
| | | | | 1 | 2.1 / 2.2 | 4 / 5 | |
| 480 102 030 0 | Standard | 2S/2M | 24 V | M22x1.5 | M16x1.5 | M16x1.5 | |
| 480 102 031 0 | Standard | 2S/2M | 24 V | Ø 16x2 | Ø 12x1.5 | Ø 8x1 | PEM 461 513 021 0 |
| 480 102 032 0 | Standard | 2S/2M | 24 V | Ø 15x1.5 | Ø 12x1.5* | Ø 8x1 | |
| 480 102 033 0 | Standard | 2S/2M | 24 V | Ø 15x1.5 | Ø 12x1.5 | Ø 8x1 | PEM 461 513 000 0 |
| 480 102 034 0 | Standard | 2S/2M | 24 V | M22x1.5 | M16x1.5 | M16x1.5 | PEM 461 513 002 0 |
| 480 102 035 0 | Standard | 2S/2M | 24 V | Ø 15x1.5 | Ø 12x1.5 | Ø 8x1 | PEM 461 513 003 0 |
| 480 102 036 0 | Standard | 2S/2M | 24 V | Ø 15x1.5 | Ø 12x1.5 | Ø 8x1 | PEM 461 513 020 0 |

| Product number | Type | System | Voltage | Port | | | Comment |
|----------------|---------------|--------|---------|----------|-----------|---------|-------------------|
| | | | | 1 | 2.1 / 2.2 | 4 / 5 | |
| 480 102 040 R | Standard | 2S/2M | 24 V | M22x1.5 | M16x1.5 | M16x1.5 | Software TEBS E0 |
| 480 102 060 0 | Premium | 4S/3M | 24 V | M22x1.5 | M16x1.5 | M16x1.5 | PEM 461 513 021 0 |
| 480 102 061 0 | Premium | 4S/3M | 24 V | ∅ 16x2 | ∅ 12x1.5 | ∅ 8x1 | |
| 480 102 062 0 | Premium | 4S/3M | 24 V | ∅ 15x1.5 | ∅ 12x1.5* | ∅ 8x1 | PEM 461 513 000 0 |
| 480 102 063 0 | Premium | 4S/3M | 24 V | ∅ 15x1.5 | ∅ 12x1.5 | ∅ 8x1 | |
| 480 102 064 0 | Premium | 4S/3M | 24 V | M22x1.5 | M16x1.5 | M16x1.5 | PEM 461 513 002 0 |
| 480 102 065 0 | Premium | 4S/3M | 24 V | ∅ 15x1.5 | ∅ 12x1.5 | ∅ 8x1 | PEM 461 513 003 0 |
| 480 102 066 0 | Premium | 4S/3M | 24 V | ∅ 15x1.5 | ∅ 12x1.5 | ∅ 8x1 | PEM 461 513 020 0 |
| 480 102 080 0 | Multi-Voltage | 4S/3M | 12/24 V | M22x1.5 | M16x1.5 | M16x1.5 | PEM 461 513 002 0 |
| 480 102 084 0 | Multi-Voltage | 4S/3M | 12/24 V | M22x1.5 | M16x1.5 | M16x1.5 | |

* 480 102 062 0: Port 2.1/2.2 - 1x ∅ 8x1

Pneumatic Extension Module (PEM)

- **Temperature** -40 ... +65 °C
- **Working pressure** 9.5 bar
- **Charging pressure** 6.2 bar
- **Material** Aluminium; (461 513 02 . 0: Plastic)
- **Fittings** yes; (461 513 002 0, 461 513 010 0: no)
- **PEM exchange** For PEM exchange repair kit 461 513 920 2 is always required.



| Product number | Application | Air suspension | Air suspension | Air reservoir | Test connector | Spring brake cylinder | PREV | PREV |
|----------------|---|----------------|----------------|---------------|----------------|-----------------------|---------|----------|
| | | 1-1 | 1-1 | 1 | 2-4 | 2-3 | 1 | 4-2 |
| 461 513 000 0 | 480 102 033 0 / R, 480 102 063 0 / R | 2x ∅ 8x1 | 2x ∅ 12x1.5 | ∅ 15x1.5 | ∅ 8x1 | 4x ∅ 8x1 | ∅ 8x1 | ∅ 8x1 |
| 461 513 001 0 | – | 2x ∅ 8x1 | 2x ∅ 8x1.5 | ∅ 16x2 | ∅ 8x1 | 4x ∅ 8x1 | ∅ 8x1 | ∅ 8x1 |
| 461 513 002 0 | 480 102 034 0, 480 102 064 0, 480 102 084 0 | 2x M16x1.5 | 2x M22x1.5 | M22x1.5 | M16x1.5 | 4x M16x1.5 | M16x1.5 | M22x1.5 |
| 461 513 003 0 | 480 102 035 0, 480 102 065 0 | 2x ∅ 8x1 | 2x ∅ 8x1.5 | ∅ 15x1.5 | closed | 4x ∅ 8x1 | ∅ 10x1 | ∅ 12x1.5 |
| 461 513 010 0 | with mounting plate | 2x M16x1.5 | 2x M22x1.5 | M22x1.5 | M16x1.5 | 4x M16x1.5 | M16x1.5 | M22x1.5 |
| 461 513 020 0 | 480 102 036 0, 480 102 066 0 | 2x ∅ 8x1 | 2x ∅ 12x1.5 | ∅ 15x1.5 | ∅ 8x1 | 4x ∅ 8x1 | ∅ 8x1 | ∅ 8x1 |
| 461 513 021 0 | 480 102 031 0, 480 102 061 0 | 2x ∅ 8x1 | 2x ∅ 8x1.5 | ∅ 16x2 | ∅ 8x1 | 4x ∅ 8x1 | ∅ 8x1 | ∅ 8x1 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------------|-----------------|---------------|----------------------------|
| ■ 461 513 000 0 | 461 513 920 2 | Sealing kit PEM | ■ 461 513 002 0 | 461 513 920 2 | Sealing kit PEM |
| | 461 513 921 2 | 4-2 fitting | ■ 461 513 020 0 | 461 513 922 2 | 4-2 fitting with tube bush |
| | 480 102 933 2 | Fitting kit | ■ 461 513 021 0 | 461 513 922 2 | 4-2 fitting with tube bush |
| ■ 461 513 001 0 | 461 513 920 2 | Sealing kit PEM | | | |

AIR BRAKE SYSTEMS

Trailer EBS relay valve

| | |
|--------------------------|---|
| ■ Working pressure | 10 bar |
| ■ Electrical connection | 3x bayonet DIN 72585 |
| ■ Port | 1, 2: M22x1.5; 3: Exhaust with integrated silencer; 4: M12x1.5 |
| ■ Mounting | 3x M8 |
| ■ Distance between bolts | 75x75 mm |



| Product number | Voltage | Temperature | Protection class |
|----------------|---------|----------------|------------------|
| 480 207 001 0 | 24 V | -40 ... +80 °C | IP69K |
| 480 207 202 0 | 12 V | -40 ... +65 °C | IP6K9K |

Repair solution

| Product number | Repair kit | Content |
|-----------------|--------------------------------|---|
| ■ 480 207 001 0 | 480 207 920 2 480 207 921 2 | Bush, screw, o-ring, sealing EBS relay valve |



971 002 301 0

971 002 805 0

Relay emergency valve for Trailer EBS

| | |
|-----------------|----------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Max. pressure | 8.5 bar |

| Product number | Mounting | Distance between holes | Port |
|----------------|--------------|------------------------|---|
| 971 002 301 0* | 2x Ø 11.0 mm | 71 mm | 1, 1-2: M22x1.5 JED-152; 2: 3x M22x1.5; 3: exhaust; 4: M16x1.5 JED-152 |
| 971 002 805 0 | 2x M8 | 79 mm | 1, 1-2: M22x1.5; 2: M16x1.5; 3: exhaust; 4: M16x1.5 |

* without predominance

Accessories

| Product number | Accessory | Content |
|-----------------|---|---|
| ■ 971 002 805 0 | 971 002 103 4 971 002 921 2 971 002 922 2 | Port cover Wiring harness with sensor and pressure switch, TEBS C with software status C1, C2 Wiring harness with sensor, TEBS C/D with software status C3, D |

Park release emergency valve

| | |
|--------------------|---------------------|
| ■ Temperature | -40 ... +65 °C |
| ■ Working pressure | 8.5 bar |
| ■ Knob colour | black / red |
| ■ Accessory | 971 002 103 4 Plate |



| Product number | Plate | Test connection | Port |
|----------------|---------------|-----------------|--|
| 971 002 900 0 | 971 002 103 4 | - | 1-1, 1-2, 21, 22, 4: M16x1.5 |
| 971 002 902 0 | - | - | 1-1, 1-2, 21, 22, 4: M16x1.5 |
| 971 002 910 0 | - | - | 1-1, 1-2, 21, 22, 4: Ø 8x1 |
| 971 002 911 0 | - | - | 1-1, 1-2: Ø 10x1; 21, 22, 4: Ø 8x1 |
| 971 002 912 0 | 971 002 103 4 | ✓ | 1-1, 21, 22, 4: Ø 8x1; 1-2: Ø 8x1 with test connection |
| 971 002 913 0 | - | - | 1-1, 1-2, 22: Ø 10x1; 21, 4: Ø 8x1 |

Brake actuators

Service brake chamber (UNISTOP™)

Service brake chamber (UNISTOP™) - disc

| | |
|----------------------------|--|
| ■ Operation | Disc |
| ■ Push-rod length / thread | 15 mm / Ball R8 |
| ■ Working pressure | 10.2 bar |
| ■ Bolt threads | M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Port | Side / top: M16x1.5 (423 504 002 0: side M16x1.5 / top –) |
| ■ Temperature | –40 ... +80 °C |



423 104 710 0



423 110 710 0



423 506 001 0

| Product number | Type | Stroke | Length | | Clamp band | Position | |
|----------------|------|--------|---------|-------|------------|------------|-----------|
| | | | Chamber | Bolt | | Clamp band | Side port |
| 423 114 710 0 | 14 | 57 mm | 121 mm | 43 mm | Ø 166 mm | 20° | 0° |
| 423 104 710 0 | 16 | 57 mm | 121 mm | 43 mm | Ø 166 mm | 20° | 0° |
| 423 104 716 0 | 16 | 57 mm | 119 mm | 43 mm | Ø 206 mm | –90° | 90° |
| 423 504 002 0 | 16 | 57 mm | 104 mm | 43 mm | Ø 206 mm | –90° | 90° |
| 423 504 003 0 | 16 | 57 mm | 117 mm | 43 mm | Ø 166 mm | 90° | 90° |
| 423 112 710 0 | 18 | 62 mm | 117 mm | 43 mm | Ø 175 mm | 20° | 0° |
| 423 505 000 0 | 20 | 62 mm | 117 mm | 43 mm | Ø 175 mm | 20° | 0° |
| 423 505 004 0 | 20 | 62 mm | 117 mm | 43 mm | Ø 175 mm | –90° | 90° |
| 423 110 710 0 | 22 | 62 mm | 117 mm | 43 mm | Ø 186 mm | 20° | 0° |
| 423 506 001 0 | 24 | 64 mm | 120 mm | 42 mm | Ø 185 mm | 20° | 0° |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|
| ■ 423 104 710 0 | 423 104 002 2 | Diaphragm + boot |
| ■ 423 114 710 0 | 423 514 000 2 | Diaphragm + boot |
| ■ 423 506 001 0 | 423 506 001 2 | Diaphragm + hose stud |

BRAKE ACTUATORS

Service brake chamber (UNISTOP™) - cam

| | |
|---------------------------------|--|
| ■ Bolt threads | M16x1.5 M6: 423 020 000 0 M12: 423 103 298 0 M12x1.5: 423 102 900 0, 423 103 900 0, 423 104 900 0 |
| ■ Distance between bolts | 120.7 mm 44.5 mm: 423 020 000 0 76.2 mm: 423 102 900 0, 423 103 298 0, 423 103 900 0, 423 104 900 0 |
| ■ Position clamp band | -45° 0°: 423 106 106 0 - : 423 020 000 0 |
| ■ Position side port | 180° -90°: 423 007 019 0 - : 423 020 000 0, 423 106 106 0 |
| ■ Temperature | -40 ... +80 °C |
| ■ Accessories | 895 801 140 4 Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 48.5 mm 895 801 142 4 Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 37.0 mm 895 801 210 4 Yoke: inner thread M16x1.5, bolt diameter Ø 14 H8, length til mid of borehole 56.0 mm 895 801 215 2 Yoke 895 802 090 4 Yoke: inner thread M16x1.5, bolt diameter Ø 16 H10, length til mid of borehole 56.0 mm 423 000 900 2 Repair kit incl. yoke 895 801 140 4 (M14x1.5) 423 000 901 2 Repair kit incl. yoke 895 801 210 4 (M16x1.5) 423 000 534 2 Accessory package "hole" 423 000 535 2 Accessory package "long hole" |



423 104 900 0

423 105 900 0

423 106 900 0

423 107 900 0

| Product number | Type | Stroke | Chamber length | Working pressure | Push-rod length | Clamp band | Port | |
|----------------|------|--------|----------------|------------------|-----------------|------------|--------------------|--------------------|
| | | | | | | | Side | Top |
| 423 020 000 0 | 3 | 42 mm | 93 mm | 8.0 bar | 51 mm | Ø 100 mm | - | ¼"-18 NPSF |
| 423 102 900 0* | 9 | 57 mm | 108 mm | 8.0 bar | 186 mm | Ø 135 mm | M16x1.5 | - |
| 423 103 298 0 | 12 | 57 mm | 136 mm | 8.0 bar | 227 mm | Ø 144 mm | M16x1.5 | M16x1.5 |
| 423 103 900 0* | 12 | 57 mm | 128 mm | 8.0 bar | 186 mm | Ø 144 mm | M16x1.5 | M16x1.5 |
| 423 104 900 0* | 16 | 75 mm | 128 mm | 8.5 bar | 186 mm | Ø 166 mm | M16x1.5 JED-152 | M16x1.5 JED-152 |
| 423 105 900 0* | 20 | 75 mm | 134 mm | 8.5 bar | 186 mm | Ø 174 mm | M16x1.5 JED-152 | M16x1.5 JED-152 |
| 423 106 106 0 | 24 | 57 mm | 115 mm | 8.5 bar | 37 mm | Ø 185 mm | - | M16x1.5 |
| 423 106 900 0* | 24 | 75 mm | 127 mm | 8.5 bar | 186 mm | Ø 185 mm | M16x1.5 | M16x1.5 |
| 423 007 019 0 | 30 | 65 mm | 123 mm | 10.2 bar | 137 mm | Ø 209 mm | M22x1.5 JED-152 | - |
| 423 107 900 0* | 30 | 75 mm | 135 mm | 8.5 bar | 186 mm | Ø 209 mm | M16x1.5 | M16x1.5 |
| 423 008 919 0* | 36 | 76 mm | 172 mm | 8.0 bar | 183 mm | Ø 234 mm | M22x1.5 | M22x1.5 |

* Push rod length can be shortened according to customer needs

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------|
| ■ 423 008 919 0 | 423 008 000 2 | Diaphragm |
| ■ 423 106 900 0 | 423 106 923 2 | Diaphragm |

Double diaphragm spring brake actuator (TRISTOP™ D)

Double diaphragm spring brake actuator (TRISTOP™ D) - disc

| | |
|----------------------------|---|
| ■ Operation | Disc |
| ■ Version | With internal breathing valve (IBV) Without boot |
| ■ Push-rod length / thread | 15.0 mm / Ball R8 |
| ■ Working pressure | 10.5 / 8.5 bar 8.0 / 8.0 bar: 925 384 026 0 |
| ■ Release pressure | 5.1 bar |
| ■ Cylinder diameter | Ø 184 mm |
| ■ Bolt lengths / threads | 43 mm / M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Temperature | -40 ... +80 °C |



| Product number | Type | Stroke | Cylinder length | Clamp band | Position | | Port |
|----------------|-------|----------|-----------------|------------|------------|-----------|--------------------------------|
| | | | | | Clamp band | Side port | |
| 925 384 010 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | -135° | 90° | 11, 12: M16x1.5 |
| 925 384 011 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | 90° | -45° | 11, 12: M16x1.5 |
| 925 384 013 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | -90° | 0° | 11, 12: M16x1.5 |
| 925 384 016 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | -135° | 90° | 11, 12: M16x1.5 pipe extension |
| 925 384 017 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | -135° | 90° | 11, 12: M16x1.5 |
| 925 384 024 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | 160° | 90° | 11, 12: M16x1.5 |
| 925 384 026 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | 180° | 0° | 11, 12: 3/8"-18 NPTF |
| 925 384 029 0 | 16/24 | 57/57 mm | 229.0 mm | Ø 167 mm | 160° | 90° | 11, 12: M16x1.5 |
| 925 380 101 0 | 20/24 | 64/64 mm | 240.5 mm | Ø 178 mm | -135° | 90° | 11, 12: M16x1.5 |
| 925 380 103 0 | 20/24 | 64/64 mm | 240.5 mm | Ø 178 mm | 160° | 90° | 11, 12: M16x1.5 |
| 925 380 104 0 | 20/24 | 64/64 mm | 240.5 mm | Ø 178 mm | -135° | 90° | 11, 12: M16x1.5 pipe extension |
| 925 380 106 0 | 20/24 | 64/64 mm | 240.5 mm | Ø 178 mm | 160° | 90° | 11, 12: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|--------------------------|
| ■ 925 380 101 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 380 104 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 384 010 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 384 011 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |

BRAKE ACTUATORS

| Product number | Repair kit | Content |
|-----------------|--------------------------------|--------------------------|
| ■ 925 384 013 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 384 016 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 384 017 0 | 925 384 019 2 925 384 018 2 | Dust plug Reset screw |
| ■ 925 384 026 0 | 925 384 019 2 | Dust plug |

Double diaphragm spring brake actuator (TRISTOP™ D) - cam

| | |
|--------------------------|--|
| ■ Operation | Cam |
| ■ Version | With internal breathing valve (IBV) Without boot (with boot: 925 392 019 0) |
| ■ Push-rod thread | M16×1.5 |
| ■ Working pressure | 10.2 / 8.5 bar 8.0 / 8.0 bar: 925 392 019 0 |
| ■ Release pressure | 4.8 bar 4.6 bar: 925 392 019 0 4.9 bar: 925 376 201 0, 925 377 201 0 |
| ■ Cylinder diameter | Ø 206.5 mm |
| ■ Cylinder length | 262.0 mm 239.0 mm: 925 376 201 0, 925 377 201 0 |
| ■ Bolt lengths / threads | 42.5 mm / M16×1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ Port | 11, 12: M16×1.5 |
| ■ Temperature | -40 ... +80 °C |



925 376 112 0



925 376 121 0



925 376 124 0



925 377 121 0

| Product number | Type | Stroke | Yoke | Push-rod length | Clevis pins | Clamp band | Position | |
|----------------|-------|----------|------|-----------------|-------------|------------|------------|-----------|
| | | | | | | | Clamp band | Side port |
| 925 375 110 0 | 20/30 | 75/75 mm | – | 213.0 mm | – | Ø 175 mm | 45° | -90° |
| 925 376 112 0 | 24/30 | 75/75 mm | ✓ | 279.0 mm | Ø 13.94 mm | Ø 186 mm | 45° | -90° |
| 925 376 113 0 | 24/30 | 75/75 mm | ✓ | 227.0 mm | Ø 13.94 mm | Ø 186 mm | 45° | -90° |
| 925 376 121 0 | 24/30 | 75/75 mm | – | 213.0 mm | – | Ø 186 mm | 45° | -90° |
| 925 376 122 0 | 24/30 | 75/75 mm | – | 213.0 mm | – | Ø 186 mm | -135° | 0° |
| 925 376 123 0 | 24/30 | 75/75 mm | ✓ | 190.0 mm | Ø 13.94 mm | Ø 186 mm | 45° | -90° |
| 925 376 124 0 | 24/30 | 75/75 mm | ✓ | 264.0 mm | Ø 13.94 mm | Ø 186 mm | 45° | -90° |
| 925 376 125 0 | 24/30 | 75/75 mm | ✓ | 120.0 mm | Ø 13.94 mm | Ø 186 mm | -135° | 0° |
| 925 376 126 0 | 24/30 | 75/75 mm | ✓ | 227.0 mm | Ø 13.94 mm | Ø 186 mm | 45° | -90° |
| 925 376 201 0 | 24/30 | 64/64 mm | – | 224.0 mm | – | Ø 186 mm | 45° | -90° |
| 925 377 110 0 | 30/30 | 75/75 mm | ✓ | 288.0 mm | Ø 13.94 mm | Ø 209 mm | 45° | -90° |
| 925 377 121 0 | 30/30 | 75/75 mm | – | 212.0 mm | – | Ø 209 mm | 45° | -90° |
| 925 377 122 0 | 30/30 | 75/75 mm | ✓ | 268.0 mm | Ø 13.94 mm | Ø 209 mm | 45° | -90° |
| 925 377 123 0 | 30/30 | 75/75 mm | ✓ | 268.0 mm | Ø 13.94 mm | Ø 209 mm | -135° | 0° |
| 925 377 124 0 | 30/30 | 75/75 mm | ✓ | 227.0 mm | Ø 13.94 mm | Ø 209 mm | 45° | -90° |

| Product number | Type | Stroke | Yoke | Push-rod length | Clevis pins | Clamp band | Position | |
|----------------|-------|----------|------|-----------------|-------------|------------|------------|-----------|
| | | | | | | | Clamp band | Side port |
| 925 377 125 0 | 30/30 | 75/75 mm | – | 212.0 mm | – | Ø 209 mm | 45° | –35° |
| 925 377 201 0 | 30/30 | 64/64 mm | – | 225.0 mm | – | Ø 209 mm | 45° | –90° |
| 925 392 019 0 | 30/30 | 75/75 mm | – | 212.0 mm | – | Ø 209 mm | 45° | –90° |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|---------------------------------|
| ■ 925 375 110 0 | 925 384 019 2 | Dust plug |
| ■ 925 376 112 0 | 925 384 019 2 | Dust plug |
| ■ 925 376 113 0 | 925 384 019 2 | Dust plug |
| ■ 925 376 121 0 | 925 376 920 2 925 384 019 2 | Diaphragm + spring Dust plug |
| ■ 925 376 122 0 | 925 384 019 2 925 376 920 2 | Dust plug Diaphragm + spring |
| ■ 925 376 123 0 | 925 376 920 2 925 384 019 2 | Diaphragm + spring Dust plug |
| ■ 925 376 124 0 | 925 384 019 2 925 376 920 2 | Dust plug Diaphragm + spring |
| ■ 925 376 125 0 | 925 384 019 2 925 376 920 2 | Dust plug Diaphragm + spring |
| ■ 925 376 126 0 | 925 384 019 2 925 376 920 2 | Dust plug Diaphragm + spring |
| ■ 925 376 201 0 | 925 384 019 2 423 106 009 2 | Dust plug Diaphragm |
| ■ 925 377 110 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 121 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 122 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 123 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 124 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 125 0 | 925 384 019 2 | Dust plug |
| ■ 925 377 201 0 | 925 384 019 2 | Dust plug |
| ■ 925 392 019 0 | 925 384 019 2 | Dust plug |

BRAKE ACTUATORS

Spring brake actuator (TRISTOP™)

Spring brake actuator (TRISTOP™) - disc

| | |
|----------------------------|--|
| ■ Operation | Disc |
| ■ Push-rod length / thread | 15.0 mm / Ball R8 |
| ■ Release pressure | 5.1 bar 6.1 bar: 925 480 004 0, 925 480 005 0 |
| ■ Bolt lengths | 43.0 mm 38.0 mm: 925 426 200 0, 925 426 201 0 |
| ■ Bolt threads | M16x1.5 |
| ■ Distance between bolts | 120.7 mm |
| ■ IBV | Internal breathing valve |
| ■ Temperature | -40 ... +80 °C |



925 460 100 0



925 460 101 0



925 480 004 0



925 480 005 0

| Product number | Type | Stroke | Working pressure | IBV | Port |
|----------------|-------|----------|------------------|--------|-------------------------|
| 925 426 200 0 | 14/16 | 57/57 mm | 10.0/8.5 bar | – | 11, 12: M22x1.5 JED-388 |
| 925 426 201 0 | 14/16 | 57/57 mm | 10.0/8.5 bar | – | 11, 12: M22x1.5 JED-388 |
| 925 464 450 0 | 16/16 | 57/57 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 464 451 0 | 16/16 | 57/57 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 464 461 0 | 16/16 | 57/57 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 464 500 0 | 16/24 | 57/57 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 463 502 0 | 18/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 460 032 0 | 20/24 | 57/57 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 460 090 0 | 20/24 | 64/64 mm | 10.2/10.0 bar | – | 11, 12: M22x1.5 JED-388 |
| 925 460 091 0 | 20/24 | 64/64 mm | 10.2/10.0 bar | – | 11, 12: M22x1.5 JED-388 |
| 925 460 100 0 | 20/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 460 101 0 | 20/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 460 102 0 | 20/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 480 004 0 | 20/24 | 64/64 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22x1.5 JED-388 |
| 925 480 005 0 | 20/24 | 64/64 mm | 10.2/8.5 bar | ✓ HFL3 | 11, 12: M22x1.5 JED-388 |
| 925 461 050 0 | 24/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 461 051 0 | 24/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 461 052 0 | 24/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 |
| 925 481 201 0 | 24/24 | 64/64 mm | 10.2/8.5 bar | ✓ | 11, 12: M16x1.5 JED-152 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|--------------------------------|----------------------------------|
| ■ 925 426 200 0 | 925 426 000 2 | Diaphragm + boot |
| ■ 925 426 201 0 | 925 426 000 2 | Diaphragm + boot |
| ■ 925 460 090 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 460 091 0 | 925 481 001 2 | Diaphragm + boot |
| ■ 925 460 100 0 | 925 492 921 2 | Screw Insert |
| ■ 925 461 050 0 | 925 492 921 2 | Screw Insert |
| ■ 925 461 051 0 | 925 492 921 2 | Screw Insert |
| ■ 925 461 052 0 | 925 492 921 2 | Screw Insert |
| ■ 925 463 502 0 | 925 492 921 2 | Screw Insert |
| ■ 925 464 450 0 | 925 464 002 2 925 492 921 2 | Diaphragm + boot Screw Insert |
| ■ 925 464 451 0 | 925 464 002 2 925 492 921 2 | Diaphragm + boot Screw Insert |
| ■ 925 464 461 0 | 925 492 921 2 925 464 002 2 | Screw Insert Diaphragm + boot |
| ■ 925 464 500 0 | 925 464 002 2 925 492 921 2 | Diaphragm + boot Screw Insert |

BRAKE ACTUATORS

Spring brake actuator (TRISTOP™) - cam

| | | |
|---------------------------------|---|--|
| ■ Operation | Cam | |
| ■ Version | Without internal breathing valve (IBV) With boot Without boot: 925 321 202 0, 925 431 101 0 | |
| ■ Release pressure | 5.1 bar 4.9 bar: 925 431 101 0 | |
| ■ Bolt threads | M16x1.5 | |
| ■ Distance between bolts | 120.7 mm | |
| ■ Temperature | -40 ... +80 °C | |
| ■ Accessories | 895 801 140 4 | Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 48.5 mm |
| | 895 801 142 4 | Yoke: inner thread M14x1.5, bolt diameter Ø 14 H8, length til mid of borehole 37.0 mm |
| | 895 801 210 4 | Yoke: inner thread M16x1.5, bolt diameter Ø 14 H8, length til mid of borehole 56.0 mm |
| | 895 801 215 2 | Yoke |
| | 895 802 090 4 | Yoke: inner thread M16x1.5, bolt diameter Ø 16 H10, length til mid of borehole 56.0 mm |
| | 423 000 900 2 | Repair kit incl. yoke 895 801 140 4 (M14x1.5) |
| | 423 000 901 2 | Repair kit incl. yoke 895 801 210 4 (M16x1.5) |
| | 423 000 534 2 | Accessory package "hole" |



925 321 202 0



925 323 130 0



925 324 000 0

| Product number | Type | Stroke | Working pressure | Push-rod | | Yoke (screwed) | Port |
|----------------|-------|----------|------------------|----------|---------|----------------|----------------------------|
| | | | | Length | Thread | | |
| 925 324 000 0 | 16/24 | 57/67 mm | 8.0/8.0 bar | 187 mm | – | 895 801 140 4 | 11, 12: M16x1.5 |
| 925 321 202 0 | 24/24 | 57/67 mm | 8.0/8.0 bar | 290 mm | M14x1.5 | 895 801 140 4 | 11, 12: M22x1.5 |
| 925 431 101 0 | 24/24 | 65/65 mm | 10.0/9.0 bar | 186 mm | M16x1.5 | – | 11, 12: M16x1.5 |
| 925 422 910 0 | 30/24 | 65/65 mm | 10.2/8.5 bar | 85 mm | – | 810 612 020 4 | 11, 12: M16x1.5 JED-152 |
| 925 323 130 0* | 36/30 | 76/76 mm | 8.0/8.0 bar | 217 mm | M16x1.5 | – | 11, 12: M16x1.5 |

* Push rod length can be shortened according to customer needs

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|------------------|
| ■ 925 321 202 0 | 925 321 001 2 | Diaphragm + boot |
| ■ 925 324 000 0 | 925 324 000 2 | Diaphragm + boot |

Air disc brakes

Tool sets for disc brakes

Tool set for MAXX™, MAXXUS™ & PAN™ calipers

- Description** Modular tool set for repairing WABCO calipers and adjusting the return units
- Product number** 400 608 375 0 WABCO caliper tool set

| Product number | Content |
|----------------|-------------------------|
| 300 100 010 2 | Tool set 'Basic' |
| 300 100 011 2 | Adjuster change |
| 300 100 012 2 | Ratchet for return unit |
| 300 100 013 2 | Tool set 'Extension' |



Tool set 'Basic'

| Product number | Product |
|----------------|------------------|
| 300 100 010 2 | Tool set 'Basic' |



Tool set 'Extension'

| Product number | Product |
|----------------|----------------------|
| 300 100 013 2 | Tool set 'Extension' |



Adjuster change

| Product number | Product |
|----------------|-----------------|
| 300 100 011 2 | Adjuster change |



Ratchet for return unit

| Product number | Product |
|----------------|-------------------------|
| 300 100 012 2 | Ratchet for return unit |



AIR DISC BRAKES

Application of tool sets

| Brake type | 300 100 010 2 Tool set 'Basic' | 300 100 011 2 Adjuster change | 300 100 012 2 Ratchet for return unit | 300 100 013 2 Tool set 'Extension' |
|------------|-----------------------------------|----------------------------------|--|---------------------------------------|
| PAN™ 17 | ✓ | – | ✓ | ✓ |
| PAN™ 19 | ✓ | – | ✓ | ✓ |
| PAN™ 22 | ✓ | – | ✓ | ✓ |
| MAXX™ 22T | ✓ | ✓ | ✓ | – |

PAN™ range

PAN™ 17 - light duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)



| WABCO product number | | Mounting side | OE reference | |
|----------------------|------------|---------------|------------------------------|--------------------------------------|
| OE brake* | IAM brake | | Manufacturer | OE number |
| 40 175 090 | 40 175 072 | left | Gigant Hendrickson IMT | 709285196 D-34766-L 40 175 090 |
| 40 175 091 | 40 175 073 | right | Gigant Hendrickson IMT | 709285195 D-34766-R 40 175 091 |

Repair solutions

| Product number | Repair kit | Content |
|----------------|---------------|-------------------------|
| ■ 40 175 090 | 12 999 806 | Brake pad |
| ■ 40 175 091 | 12 999 699VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 175 940 2 | Pressure plate PAN™ 17 |

PAN™ 19 - medium duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)
- **REMAN brake** Remanufactured brake (without brake pads)



| WABCO product number | | | Mounting side | OE reference | |
|----------------------|------------|---------------|---------------|--------------|---------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 40 195 001 | 40 195 037 | 640 195 037 R | left | SAF-Holland | 3.080.0019.01 |
| 40 195 002 | 40 195 038 | 640 195 038 R | right | | 3.080.0018.01 |
| 40 195 017 | 40 195 037 | 640 195 037 R | left | SAF-Holland | 3.080.0033.20 |
| 40 195 018 | 40 195 038 | 640 195 038 R | right | | 3.080.0032.20 |

| WABCO product number | | | Mounting side | OE reference | |
|--------------------------------|--------------------------------|--------------------------------|---------------|----------------------------|--------------------------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 40 195 027 40 195 028 | 40 195 037 40 195 038 | – | left right | Fuwa Axle Gigant IMT | – |
| 40 195 055 40 195 056 | 40 195 045 40 195 046 | – | left right | Samro / Fontenax | 210 024 2 210 024 3 |
| 640 195 068 0 640 195 069 0 | 640 195 071 0 640 195 072 0 | 640 195 037 R 640 195 038 R | left right | SAF-Holland | 3.080.0071.21 3.080.0072.21 |
| 640 195 085 0 640 195 086 0 | 640 195 095 0 640 195 096 0 | 640 195 037 R 640 195 038 R | left right | Schmitz Cargobull | 109 380 7 109 380 8 |
| 640 195 087 0 640 195 088 0 | 40 195 037 40 195 038 | – | left right | Fuwa Axle | 503 000 03 503 020 03 |
| 640 195 109 0 640 195 110 0 | – | – | left right | Fuwa Axle | – |
| 640 195 131 0 640 195 132 0 | 40 195 037 40 195 038 | – | left right | Fuwa Axle | – |

Repair solutions

| Product number | Repair kit | Content |
|----------------------------------|---|--|
| ■ 40 195 001 40 195 002 | 12 999 737VT 12 999 738VT 12 999 755VT 640 175 920 2 640 195 936 2 640 195 940 2 640 225 931 2 | Brake pad kit Sealing and guide bolts Wear indicator Seals for clamping unit Pressure plate PAN™ 19 Clamping unit Cover |
| ■ 40 195 017 40 195 018 | 12 999 737VT 12 999 738VT 12 999 755VT 640 175 920 2 640 195 936 2 640 195 940 2 640 225 931 2 | Brake pad kit Sealing and guide bolts Wear indicator Seals for clamping unit Pressure plate PAN™ 19 Clamping unit Cover |
| ■ 40 195 027 40 195 028 | 12 999 737VT 12 999 738VT 640 175 920 2 640 195 936 2 640 195 940 2 640 225 921 2 640 225 931 2 | Brake pad kit Sealing and guide bolts Seals for clamping unit Pressure plate PAN™ 19 Clamping unit Sealing and guide bolts Cover |
| ■ 40 195 055 40 195 056 | 12 999 776 12 999 777 12 999 737VT 640 175 920 2 640 195 936 2 640 195 940 2 640 225 931 2 | Sealing and guide bolts Brake pad with wear indicator Brake pad kit Seals for clamping unit Pressure plate PAN™ 19 Clamping unit Cover |
| ■ 640 195 068 0 640 195 069 0 | 12 999 737VT 12 999 738VT 12 999 755VT 640 175 920 2 640 195 936 2 640 195 940 2 640 225 931 2 | Brake pad kit Sealing and guide bolts Wear indicator Seals for clamping unit Pressure plate PAN™ 19 Clamping unit Cover |

AIR DISC BRAKES

| Product number | Repair kit | Content |
|-----------------|---------------|-------------------------|
| ■ 640 195 085 0 | 12 999 776 | Sealing and guide bolts |
| 640 195 086 0 | 640 175 920 2 | Seals for clamping unit |
| | 640 195 933 2 | Brake pad kit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 931 2 | Cover |
| ■ 640 195 087 0 | 12 999 776 | Sealing and guide bolts |
| 640 195 088 0 | 640 175 920 2 | Seals for clamping unit |
| | 640 195 933 2 | Brake pad kit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 931 2 | Cover |
| ■ 640 195 109 0 | 12 999 737VT | Brake pad kit |
| 640 195 110 0 | 12 999 738VT | Sealing and guide bolts |
| | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 931 2 | Cover |
| ■ 640 195 131 0 | 12 999 737VT | Brake pad kit |
| 640 195 132 0 | 640 175 920 2 | Seals for clamping unit |
| | 640 195 936 2 | Pressure plate PAN™ 19 |
| | 640 195 940 2 | Clamping unit |
| | 640 225 930 2 | Cover |

PAN™ 22 - heavy duty air disc brake

- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)
- **REMAN brake** Remanufactured brake (without brake pads)



| WABCO product number | | | Mounting side | OE reference | |
|----------------------|---------------|---------------|---------------|--------------------------------------|---------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 40 225 007 | 40 225 015 | 640 225 015 R | left | SAF-Holland | 308 000 512 0 |
| 40 225 008 | 40 225 016 | 640 225 016 R | right | | 308 000 502 0 |
| 40 225 011 | 40 225 015 | - | left | IMT Gigant Reyco Granning | - |
| 40 225 012 | 40 225 016 | | right | | |
| 640 225 022 0 | 640 225 025 0 | 640 225 015 R | left | SAF-Holland | 308 000 670 0 |
| 640 225 023 0 | 640 225 026 0 | 640 225 016 R | right | | 308 000 680 0 |
| 640 225 030 0 | 640 225 040 0 | 640 225 015 R | left | Schmitz Cargobull | 106 303 6 |
| 640 225 031 0 | 640 225 041 0 | 640 225 016 R | right | | 106 303 7 |
| 640 225 032 0 | - | - | left | FAW Fuwa Axle | - |
| 640 225 033 0 | | | right | | |
| 640 225 036 0 | 640 225 080 0 | - | left | Hendrickson | - |
| 640 225 037 0 | 640 225 081 0 | | right | | |
| 640 225 050 0 | - | - | left | Hendrickson | - |
| 640 225 051 0 | | | right | | |
| 640 225 056 0** | - | - | left | Fuwa Axle Tonar Sespel VALX | - |
| 640 225 057 0** | | | right | | |

| WABCO product number | | | Mounting side | OE reference | |
|----------------------|---------------|---------------|---------------|--------------|---------------|
| OE brake* | IAM brake | REMAN brake | | Manufacturer | OE number |
| 640 225 060 0 | 640 225 062 0 | 640 225 015 R | left | Fuwa Axle | 503 000 000 2 |
| 640 225 061 0 | 640 225 063 0 | 640 225 016 R | right | | 503 020 000 2 |
| 640 225 120 0 | – | – | left | Fuwa Axle | – |
| 640 225 121 0 | | | right | | |

** available for Independant Aftermarket (IAM)

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|----------------------------------|----------------|-------------------------|----------------------------------|----------------------------------|-------------------------|
| ■ 40 225 007 40 225 008 | 12 999 796 | Brake pad kit | ■ 640 225 032 0 640 225 033 0 | 640 175 920 2 | Seals for clamping unit |
| | 12 999 797 | Wear indicator | | 640 225 921 2 | Sealing and guide bolts |
| | 12 999 738VT | Sealing and guide bolts | | 640 225 922 2 | Brake pad kit |
| | 640 175 920 2 | Seals for clamping unit | | 640 225 926 2 | Pressure plate |
| | 640 195 940 2 | Clamping unit | | 640 225 931 2 | Cover |
| | 640 225 926 2 | Pressure plate | | ■ 640 225 050 0 640 225 051 0 | 12 999 776 |
| 640 225 931 2 | Cover | 640 175 920 2 | Seals for clamping unit | | |
| ■ 40 225 011 40 225 012 | 12 999 796 | Brake pad kit | 640 195 940 2 | | Clamping unit |
| | 12 999 797 | Wear indicator | 640 225 922 2 | | Brake pad kit |
| | 12 999 738VT | Sealing and guide bolts | 640 225 926 2 | | Pressure plate |
| | 640 175 920 2 | Seals for clamping unit | 640 225 931 2 | | Cover |
| | 640 195 940 2 | Clamping unit | ■ 640 225 056 0 640 225 057 0 | 12 999 738VT | Sealing and guide bolts |
| | 640 225 921 2 | Sealing and guide bolts | | 640 225 922 2 | Brake pad kit |
| 640 225 926 2 | Pressure plate | 640 175 920 2 | | Seals for clamping unit | |
| 640 225 931 2 | Cover | 640 195 940 2 | | Clamping unit | |
| ■ 640 225 022 0 640 225 023 0 | 12 999 796 | Brake pad kit | | 640 225 931 2 | Cover |
| | 12 999 797 | Wear indicator | | ■ 640 225 060 0 640 225 061 0 | 12 999 776 |
| | 12 999 738VT | Sealing and guide bolts | 640 175 920 2 | | Seals for clamping unit |
| | 640 175 920 2 | Seals for clamping unit | 640 195 940 2 | | Clamping unit |
| | 640 195 940 2 | Clamping unit | 640 225 922 2 | | Brake pad kit |
| | 640 225 926 2 | Pressure plate | 640 225 926 2 | | Pressure plate |
| 640 225 931 2 | Cover | 640 225 931 2 | Cover | | |
| ■ 640 225 030 0 640 225 031 0 | 12 999 776 | Sealing and guide bolts | ■ 640 225 120 0 640 225 121 0 | 12 999 796 | Brake pad kit |
| | 12 999 797 | Wear indicator | | 640 175 920 2 | Seals for clamping unit |
| | 640 175 920 2 | Seals for clamping unit | | 640 195 940 2 | Clamping unit |
| | 640 195 940 2 | Clamping unit | | 640 225 930 2 | Cover |
| | 640 225 922 2 | Brake pad kit | | | |
| | 640 225 926 2 | Pressure plate | | | |
| 640 225 931 2 | Cover | | | | |

MAXX™ range

MAXX™ 17 - light duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)

| WABCO product number | | Mounting side | OE reference | |
|----------------------|---------------|---------------|--------------|-------------|
| OE brake* | IAM brake | | Manufacturer | OE number |
| 640 317 045 0 | 640 317 035 0 | left | Hendrickson | 41 ALC 0017 |
| 640 317 046 0 | 640 317 036 0 | right | | 41 ARC 0017 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|
| ■ 640 317 045 0 | 640 175 940 2 | Pressure plate |
| 640 317 046 0 | 640 317 922 2 | Seals and guide bolts |

MAXX™ 22T - heavy duty air disc brake



- **OE brake** * OE production numbers; brakes are not available for Independent Aftermarket
- **IAM brake** Exchange brake (without brake pads)

| WABCO product number | | Mounting side | OE reference | |
|----------------------|---------------|---------------|-------------------|---------------|
| OE brake* | IAM brake | | Manufacturer | OE number |
| 640 222 001 0 | 640 222 003 0 | left | Schmitz Cargobull | 115 680 0 |
| 640 222 002 0 | 640 222 004 0 | right | | 115 680 2 |
| 640 222 005 0 | 640 222 007 0 | left | Hendrickson | D-34470-1L |
| 640 222 006 0 | 640 222 008 0 | right | | D-34470-1R |
| 640 322 136 0 | — | left | Fuwa Axle | 0.B02058.0025 |
| 640 322 137 0 | — | right | | 0.B02058.0026 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------------------|-----------------|---------------|-----------------------|
| ■ 640 222 001 0 | 640 175 920 2 | Seals | ■ 640 322 136 0 | 640 222 928 2 | Seals and guide bolts |
| 640 222 002 0 | 640 222 923 2 | Brake pad | | 640 322 134 2 | Brake pad |
| | 640 222 925 2 | Wear indicator | | 640 322 931 2 | Pressure plate |
| | 640 222 928 2 | Seals and guide bolts | | 640 322 941 2 | Reset unit |
| | 640 225 926 2 | Pressure plate | | 640 322 951 2 | Seals and guide bolts |
| ■ 640 222 005 0 | 640 175 920 2 | Seals | 640 322 942 2 | Boot | |
| 640 222 006 0 | 640 222 923 2 | Brake pad | | | |
| | 640 222 928 2 | Seals and guide bolts | | | |
| | 640 225 926 2 | Pressure plate | | | |

Suspension controls

Conventional air suspension control

Chassis levelling valve

| | |
|--------------------------|--|
| ■ Version | with lever |
| ■ Temperature | -40 ... +80 °C |
| ■ Working pressure | 13 bar |
| ■ Nominal diameter | Ø 3 mm |
| ■ Working range | 90° |
| ■ Mounting | 4x Ø 8.8 mm |
| ■ Distance between holes | 40x50 mm |
| ■ Accessories | 433 401 003 0 Linkage (in addition needed for composite variants) 464 006 731 2 Rod |



| Product number | Type | Material | Height limitation | Port |
|----------------|---|-----------|-------------------|---|
| 464 006 002 0 | 2-circuit | aluminium | - | 1, 21, 22: M12x1.5; 3: silencer |
| 464 006 014 0 | 2-circuit | aluminium | - | 1, 21, 22: M12x1.5; 3: silencer |
| 464 006 100 0 | 2-circuit | aluminium | ✓ | 1, 21, 22: M12x1.5; 12, 23: M16x1.5; 3: exhaust |
| 464 006 101 0 | 2-circuit; same as 464 006 100 0, but black | aluminium | ✓ | 1, 21, 22: M12x1.5; 12, 23: M16x1.5; 3: exhaust |
| 464 006 102 0 | 2-circuit; with fittings | aluminium | - | 1, 21, 22: Ø 8x1; 3: silencer |
| 464 006 201 0 | 2-circuit; with fittings | aluminium | ✓ | 1, 12, 21, 22, 23: Ø 8x1; 3: exhaust |
| 464 006 500 0 | 2-circuit | composite | - | 1, 21, 22: Ø 8x1; 3: silencer |
| 464 006 520 0 | 2-circuit | composite | ✓ | 1, 12, 21, 22, 23: Ø 8x1; 3: exhaust |
| 464 006 540 0 | 1-circuit | composite | - | 1, 22: Ø 8x1; 3: silencer |
| 464 006 580 0 | 2-circuit; rod-mounted from right hand | composite | - | 1, 21, 22: Ø 8x1; 3: silencer |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|----------------|
| ■ 464 006 002 0 | 464 006 000 2 | Tappet |
| ■ 464 006 100 0 | 464 006 001 2 | Joint + tappet |

Rotary slide valve

| | |
|--------------------------|----------------|
| ■ Temperature | -40 ... +80 °C |
| ■ Mounting | 4x Ø 8.8 mm |
| ■ Distance between holes | 55 mm |



| Product number | Comments | Handle length | Working pressure | Dead man's switch | Port |
|----------------|----------|---------------|------------------|-------------------|-------------------------------------|
| 463 032 020 0 | - | 122 mm | 10.0 bar | - | 1: M16x1.5; 21, 22, 23, 24: M12x1.5 |
| 463 032 022 0 | - | 122 mm | 10.0 bar | - | 1, 21, 22, 23, 24: M12x1.5 |

SUSPENSION CONTROLS

| Product number | Comments | Handle length | Working pressure | Dead man's switch | Port |
|----------------|------------------|---------------|------------------|-------------------|-------------------------------------|
| 463 032 023 0 | single circuit | 122 mm | 10.0 bar | – | 1, 21, 22: M12x1.5 |
| 463 032 120 0 | – | 122 mm | 8.5 bar | ✓ | 1: M16x1.5; 21, 22, 23, 24: M12x1.5 |
| 463 032 130 0 | handle with grip | 171 mm | 8.5 bar | ✓ | 1: M16x1.5; 21, 22, 23, 24: M12x1.5 |
| 463 032 220 0 | with fittings | 122 mm | 10.0 bar | – | 1, 21, 22, 23, 24: Ø 8x1 |

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 463 032 020 0 | 463 032 001 2 | Valve |
| ■ 463 032 023 0 | 463 032 001 2 | Valve |
| ■ 463 032 120 0 | 463 032 001 2 | Valve |
| ■ 463 032 130 0 | 463 032 001 2 | Valve |

TASC™

| | |
|--------------------------|--------------------------------|
| ■ Temperature | –40 ... +65 °C |
| ■ Working pressure | 10 bar |
| ■ Voltage | 24 V |
| ■ Electrical connection | Bayonet ISO 15170-B1-2.1-Sn/K1 |
| ■ Nominal current | 0.22 A |
| ■ Protection class | IP6K9K |
| ■ Mounting | 4x M8 |
| ■ Distance between holes | 56.6x56.6 mm |
| ■ Handle length | 122 mm |



| Product number | Type | Deadman control | Test connection | Port |
|----------------|-----------|-----------------|-----------------|-------------------------------------|
| 463 090 012 0 | 1-circuit | – | ✓ | 1, 21: M12x1.5; 24: M16x1.5 |
| 463 090 020 0 | 2-circuit | – | ✓ | 1, 21, 23: Ø 8x1; 22, 24: Ø 12x1.5 |
| 463 090 021 0 | 2-circuit | – | – | 1, 21, 23: Ø 8x1; 22, 24: Ø 12x1.5 |
| 463 090 023 0 | 2-circuit | – | – | 1, 21, 23: M12x1.5; 22, 24: M16x1.5 |
| 463 090 025 0 | 2-circuit | – | – | 1, 21, 22, 23, 24: Ø 8x1 |
| 463 090 123 0 | 2-circuit | ✓ | – | 1, 21, 23: M12x1.5; 22, 24: M16x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|--------------------------------|-------------------|-----------------|--------------------------------|-------------------|
| ■ 463 090 012 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil | ■ 463 090 023 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil |
| ■ 463 090 020 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil | ■ 463 090 025 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil |
| ■ 463 090 021 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil | ■ 463 090 123 0 | 463 090 920 2 463 090 921 2 | Hand grip Coil |

TASC™ - 24 V (new generation)

| | |
|--------------------------|------------------------|
| ■ Temperature | -40 ... +65 °C |
| ■ Working pressure | 10 bar |
| ■ Voltage | 24 V |
| ■ Electrical connection | DIN 72585-A1-3.6-Sn/K2 |
| ■ Nominal current | 0.34 A |
| ■ Protection class | IP 6K9K |
| ■ Mounting | 4x M8 |
| ■ Distance between holes | 56.6x56.6 mm |
| ■ Handle length (mm) | 122 mm |



463 090 330 0

| Product number | Type | System | Deadman control | Locking in lowering | Test connection | Port |
|----------------|-----------|-------------------|-----------------|---------------------|-----------------|---|
| 463 090 310 0 | 2-circuit | Standard | - | ✓ | ✓ | 1, 21: Ø 8x1; 24: Ø 12x1.5 |
| 463 090 311 0 | 2-circuit | Height limitation | - | ✓ | - | 1, 1-1, 21, 24: Ø 8x1 |
| 463 090 312 0 | 2-circuit | Height limitation | - | ✓ | ✓ | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 313 0 | 2-circuit | Standard | - | ✓ | ✓ | 1, 21: M12x1.5; 24: M16x1.5 |
| 463 090 314 0 | 2-circuit | Height limitation | ✓ | - | - | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 315 0 | 2-circuit | Standard | - | ✓ | ✓ | 1, 21, 24: Ø 8x1 |
| 463 090 316 0 | 2-circuit | Height limitation | - | ✓ | ✓ | 1, 1-1, 21: Ø 8x1; 24: Ø 12x1.5 |
| 463 090 330 0 | 1-circuit | Height limitation | - | ✓ | - | 1, 1-1, 21: Ø 8x1; 24: Ø 12x1.5 |
| 463 090 331 0 | 1-circuit | Height limitation | - | ✓ | ✓ | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 332 0 | 1-circuit | Standard | - | ✓ | ✓ | 1, 21: M12x1.5; 24: M16x1.5 |

TASC™ - 12 V (new generation)

| | |
|--------------------------|------------------------|
| ■ Temperature | -40 ... +65 °C |
| ■ Working pressure | 10 bar |
| ■ Voltage | 12 V |
| ■ Electrical connection | DIN 72585-A1-3.6-Sn/K2 |
| ■ Nominal current | 0.34 A |
| ■ Protection class | IP 6K9K |
| ■ Mounting | 4x M8 |
| ■ Distance between holes | 56.6x56.6 mm |
| ■ Handle length | 122 mm |



463 090 304 0

| Product number | Type | System | Deadman control | Locking in lowering | Test connection | Port |
|----------------|-----------|-------------------|-----------------|---------------------|-----------------|---|
| 463 090 300 0 | 2-circuit | Standard | - | ✓ | ✓ | 1, 21: Ø 8x1; 24: Ø 12x1.5 |
| 463 090 301 0 | 2-circuit | Standard | - | ✓ | - | 1, 21, 24: Ø 8x1 |
| 463 090 302 0 | 2-circuit | Height limitation | - | ✓ | - | 1, 1-1, 21, 24: Ø 8x1 |
| 463 090 303 0 | 2-circuit | Height limitation | - | ✓ | ✓ | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 304 0 | 2-circuit | Standard | - | ✓ | ✓ | 1, 21: M12x1.5; 24: M16x1.5 |
| 463 090 305 0 | 2-circuit | Height limitation | ✓ | - | - | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 306 0 | 2-circuit | Standard | ✓ | - | - | 1, 21: M12x1.5; 24: M16x1.5 |
| 463 090 320 0 | 1-circuit | Height limitation | - | ✓ | - | 1, 1-1, 21: Ø 8x1; 24: Ø 12x1.5 |
| 463 090 321 0 | 1-circuit | Standard | - | ✓ | - | 1, 21: Ø 8x1; 24: Ø 12x1.5 |

SUSPENSION CONTROLS

| Product number | Type | System | Deadman control | Locking in lowering | Test connection | Port |
|----------------|-----------|-------------------|-----------------|---------------------|-----------------|---|
| 463 090 322 0 | 1-circuit | Height limitation | – | ✓ | ✓ | 1, 21: M12x1.5; 1-1: Ø 8x1; 24: M16x1.5 |
| 463 090 323 0 | 1-circuit | Standard | – | ✓ | ✓ | 1, 21: M12x1.5; 24: M16x1.5 |

Lift axle control valve

Lift axle control valve - 1-circuit

| | |
|-------------------------|------------------------|
| ■ Actuation | electric |
| ■ Electrical connection | DIN 72585-A1-3.6-SN/K1 |
| ■ Protection class | IP6K9K |
| ■ Working pressure | 13 bar |



| Product number | Voltage | Rated current | Temperature | Port |
|----------------|---------|---------------|----------------|--|
| 463 084 031 0 | 24 V | 0.22 A | –40 ... +80 °C | 11: M16x1.5; 21, 22: 2x M16x1.5; 31: exhaust |
| 463 084 041 0 | 24 V | 0.22 A | –40 ... +65 °C | 11, 12: Ø 8x1; 21, 22: 2x Ø 8x1; 31: M22x1.5 |
| 463 084 042 0 | 24 V | 0.22 A | –40 ... +65 °C | 11: Ø 12x1.5; 12: Ø 8x1; 21, 22: 2x Ø 8x1; 31: exhaust |
| 463 084 050 0 | 12 V | 0.62 A | –40 ... +65 °C | 11: 3/8-18 NPTF; 21, 22: 2x 3/8-18 NPTF; 31: M22x1.5 |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|--------------------|-----------------|-----------------|--------------------|
| ■ 463 084 000 0 | 463 084 000 2 | Valve sealing | ■ 463 084 003 0 | 463 084 920 2 | Push button + stem |
| | 463 084 920 2 | Push button + stem | | ■ 463 084 010 0 | 463 084 001 2 |
| ■ 463 084 001 0 | 463 084 000 2 | Valve sealing | ■ 463 084 011 0 | | 463 084 001 2 |
| | 463 084 920 2 | Push button + stem | | ■ 463 084 020 0 | 463 084 002 2 |
| ■ 463 084 002 0 | 463 084 000 2 | Valve sealing | | | |
| | 463 084 920 2 | Push button + stem | | | |

Lift axle control valve - 2-circuit

- **Temperature** −40 ... +80 °C

- **Working pressure** 13 bar

- **Port** 1, 21, 22, 23, 24, 41: M16×1.5
2: M22×1.5
3: Exhaust
42: Test connection



463 084 000 0



463 084 010 0



463 084 021 0

| Product number | Actuation | Switch pressure | Bolt length | Rated current | Electrical connection | Adjustment | Voltage |
|----------------|-----------|---------------------------------------|-------------|---------------|-----------------------|-----------------|---------|
| 463 084 000 0 | manual | 4.0 bar | 12 mm | – | – | 2.0 ... 7.0 bar | – |
| 463 084 001 0 | manual | 4.0 bar | 18 mm | – | – | 2.0 ... 7.0 bar | – |
| 463 084 002 0 | manual | 2.4 bar | 12 mm | – | – | 2.0 ... 7.0 bar | – |
| 463 084 003 0 | manual | 3.7 bar | 12 mm | – | – | 2.0 ... 7.0 bar | – |
| 463 084 010 0 | electric | – | 12 mm | 0.22 A | M27×1 | – | 24 V |
| 463 084 011 0 | electric | – | 18 mm | 0.22 A | M27×1 | – | 24 V |
| 463 084 020 0 | automatic | lowering: 4.5 bar lifting: 2.5 bar | 12 mm | – | – | 2.5 ... 7.0 bar | – |
| 463 084 021 0 | automatic | lowering: 4.5 bar lifting: 2.5 bar | 18 mm | – | – | 2.5 ... 7.0 bar | – |

Lift axle control valve - 2-circuit (pulse-controlled)

- **Actuation** electric

- **Version** dual-circuit

- **Electrical connection** DIN 72585-A1-4.2-SN/K2

- **Protection class** IP6K6K

- **Working pressure** 13 bar



| Product number | Voltage | Rated current | Temperature | Port |
|----------------|---------|---------------|----------------|--|
| 463 084 100 0 | 24 V | 0.34 A | −40 ... +65 °C | 1, 21, 22, 23, 24, 25, 31: M22×1.5 32: silencer 432 407 060 0 |

SUSPENSION CONTROLS



951 811 106 0

951 812 702 0

Air spring

| Product number | Max. Ø | Length | Port 1 |
|----------------|--------|--------|---------------------------------|
| 951 811 003 0 | 355 mm | 385 mm | male M20x1.5 / female M12x1.5 |
| 951 811 106 0 | 295 mm | 381 mm | male M22x1.5 / female M12x1.5 |
| 951 811 111 0 | 295 mm | 565 mm | female M22x1.5 |
| 951 811 702 0 | 320 mm | 385 mm | female M22x1.5 |
| 951 811 703 0 | 305 mm | 340 mm | female M22x1.5 |
| 951 811 705 0 | 295 mm | 360 mm | female M22x1.5 |
| 951 811 750 0 | 320 mm | 360 mm | female M22x1.5 |
| 951 811 752 0 | 325 mm | 340 mm | female M22x1.5 |
| 951 811 763 0 | 325 mm | 340 mm | female M22x1.5 |
| 951 811 764 0 | 300 mm | 400 mm | female M22x1.5 |
| 951 811 772 0 | 320 mm | 400 mm | male M20x1.5 / female M12x1.5 |
| 951 811 773 0 | 315 mm | 660 mm | male M20x1.5 / female M12x1.5 |
| 951 811 781 0 | 325 mm | 350 mm | female M22x1.5 |
| 951 811 799 0 | 315 mm | 340 mm | male M18x1.5 |
| 951 811 801 0 | 340 mm | 340 mm | male M20x1.5 / female M12x1.5 |
| 951 812 425 0 | 325 mm | 216 mm | female 1/4"-18 NPTF |
| 951 812 701 0 | 332 mm | 385 mm | male M20x1.5 / female M12x1.5 |
| 951 812 702 0 | 332 mm | 385 mm | male M20x1.5 / female M12x1.5 |
| 951 812 703 0 | 332 mm | 385 mm | female M22x1.5 |
| 951 812 706 0 | 328 mm | 345 mm | male M20x1.5 / female M12x1.5 |
| 951 812 721 0 | 332 mm | 385 mm | male M20x1.5 / female M12x1.5 |
| 951 812 739 0 | 320 mm | 395 mm | female M22x1.5 |
| 951 812 740 0 | 320 mm | 445 mm | male M22x1.5 |
| 951 812 749 0 | 300 mm | 400 mm | female M22x1.5 |
| 951 812 771 0 | 355 mm | 385 mm | male M20x1.5 / female M12x1.5 |
| 951 813 150 0 | 348 mm | 381 mm | male M20x2.5 / female M14x1.5 |
| 951 813 726 0 | 315 mm | 360 mm | male M20 x 2.5 / female M12x1.5 |
| 951 813 732 0 | 350 mm | 450 mm | male M20x1.5 / female M12x1.5 |
| 951 814 700 0 | 310 mm | 610 mm | female M22x1.5 |
| 951 814 701 0 | 310 mm | 430 mm | female M22x1.5 |
| 951 814 706 0 | 341 mm | 400 mm | female M22x1.5 |
| 951 814 708 0 | 310 mm | 415 mm | female M22x1.5 |
| 951 814 712 0 | 310 mm | 415 mm | female M22x1.5 |
| 951 814 716 0 | 360 mm | 349 mm | female M22x1.5 |
| 951 814 721 0 | 360 mm | 400 mm | male M22x1.5 |
| 951 814 724 0 | 395 mm | 340 mm | female M22x1.5 |
| 951 814 728 0 | 350 mm | 795 mm | female M22x1.5 |
| 951 814 729 0 | 360 mm | 404 mm | female M22x1.5 |
| 951 814 730 0 | 360 mm | 349 mm | female M22x1.5 |
| 951 814 747 0 | 390 mm | 415 mm | female M22x1.5 |
| 951 814 748 0 | 350 mm | 415 mm | female M22x1.5 |
| 951 814 756 0 | 390 mm | 415 mm | female M22x1.5 |

| Product number | Max. Ø | Length | Port 1 |
|----------------|--------|--------|----------------|
| 951 814 757 0 | 390 mm | 340 mm | female M22x1.5 |
| 951 814 781 0 | 390 mm | 451 mm | female M22x1.5 |
| 951 814 782 0 | 375 mm | 400 mm | female M22x1.5 |
| 951 814 784 0 | 375 mm | 400 mm | female M22x1.5 |
| 951 899 001 0 | 340 mm | 400 mm | female M16x1.5 |



Air bellow

| Product number | Max. Ø | Length | Mounting |
|----------------|--------|--------|-------------------------|
| 896 130 125 4 | 300 mm | 452 mm | Ø 198.1 mm / Ø 198.1 mm |
| 896 130 126 4 | 295 mm | 360 mm | Ø 198.1 mm / Ø 198.1 mm |



438 601 066 0



438 601 070 0

Shock absorber

| Product number | Application | Max. rebound length | Ø | Stroke | Mounting |
|----------------|--|---------------------|---------|--------|--------------|
| 438 601 066 0 | Battaglino, BPW, Schwarmüller, Miele, Kögel, Cardi, Gigant, Lecitrailer, Lecinena, Rolfo | 498 mm | Ø 80 mm | 198 mm | 2x Ø 24 mm |
| 438 601 068 0 | Fruehauf, Trailor, Acerbi | 478 mm | Ø 80 mm | 154 mm | 2x Ø 20 mm |
| 438 601 069 0 | SAF, Trailor, Meritor, Schmitz, Sauer, Kaiser | 478 mm | Ø 80 mm | 154 mm | 2x Ø 20 mm |
| 438 601 070 0 | BPW, Schmitz, SAF | 539 mm | Ø 80 mm | 185 mm | 2x Ø 24 mm |
| 438 601 071 0 | Fruehauf, Acerbi | 445 mm | Ø 80 mm | 132 mm | 2x Ø 20 mm |
| 438 601 072 0 | BPW, Bartoletti, Cardi, Lecitrailer, Calabrese, Viberti | 694 mm | Ø 80 mm | 261 mm | 2x Ø 24 mm |
| 438 601 073 0 | BPW, SAF, Viberti | 765 mm | Ø 76 mm | 297 mm | 2x Ø 24 mm |
| 438 601 074 0 | BPW, SAF, Rolfo | 429 mm | Ø 80 mm | 130 mm | 2x Ø 24 mm |
| 438 601 075 0 | SAF, Sauer, Langendorf | 479 mm | Ø 80 mm | 151 mm | 2x Ø 24 mm |
| 438 601 077 0 | Miele, Zorzi | 425 mm | Ø 80 mm | 129 mm | 2x Ø 20 mm |
| 438 601 078 0 | Lohr | 489 mm | Ø 80 mm | 160 mm | 2x Ø 20 mm |
| 438 601 081 0 | Fruehauf | 363 mm | Ø 80 mm | 100 mm | 2x Ø 20 mm |
| 438 601 201 0 | Meritor, Battaglino, Tecma, Cardi | 637 mm | Ø 80 mm | 241 mm | 2x Ø 20 mm |
| 438 601 202 0 | Meritor, Battaglino, Fadi, Cardi | 553 mm | Ø 80 mm | 198 mm | 2x Ø 20 mm |
| 438 601 205 0 | Viberti, Bartoletti, Cardi | 688 mm | Ø 80 mm | 257 mm | 2x Ø 24 mm |
| 438 601 211 0 | SAF | 413 mm | Ø 75 mm | 135 mm | 2x Ø 20 mm |
| 438 601 212 0 | SAF | 489 mm | Ø 75 mm | 171 mm | 2x Ø 20 mm |
| 438 601 224 0 | BPW | 795 mm | Ø 80 mm | 316 mm | 2x Ø 24 mm |
| 438 601 227 0 | Fruehauf, Meritor | 475 mm | Ø 80 mm | 153 mm | 2x Ø 24 mm |
| 438 601 230 0 | BPW, Gigant | 497 mm | Ø 80 mm | 168 mm | 2x Ø 24 mm |
| 438 601 232 0 | Montenegro | 536 mm | Ø 70 mm | 181 mm | 2x Ø 22.8 mm |
| 438 601 236 0 | Fruehauf, Trailor | 423 mm | Ø 80 mm | 115 mm | 2x Ø 20 mm |
| 438 601 238 0 | SAF, Piacenza | 492 mm | Ø 80 mm | 165 mm | 2x Ø 24 mm |

SUSPENSION CONTROLS

ECAS™ - electronically controlled air suspension

ECAS™ electronic control unit (ECU)

| | | |
|---------------------------|--|--|
| ■ Protection class | IP54A | |
| ■ Accessory | 446 055 522 2 | ECAS equipment pack |
| | 446 105 013 4 | Body |
| | 894 130 312 2 | Cable fitting: PG 11 for cable Ø 5 ... 10 mm |
| ■ Diagnostics | Diagnostic software TECAS | |
| ■ Training | E-learning: ECAS 200 300 102 0 Classroom training: ECAS | |



| Product number | Version | Voltage | Temperature |
|----------------|--------------------|---------|----------------|
| 446 055 065 0 | ECAS-VCS | 24 V | -40 ... +65 °C |
| 446 055 066 0 | ECAS-TEBS / VCS II | 24 V | -40 ... +65 °C |

ECAS™ supply cable

| Product number | Length | Application | Cable end |
|----------------|----------|---------------------------------|---|
| 449 336 030 0 | L: 3.0 m | VCS II (ECAS ECU 446 055 066 0) | open, 6-strand with push-on contacts 4x 1.5 mm ² , 2x 0.5 mm ² ; X6 auxiliary plug, 8-pin |
| 449 382 060 0 | L: 6.0 m | TEBS D (ECAS ECU 446 055 066 0) | open, 7-strand with push-on contacts, PG screw connection 3x 1.5 mm ² , 4x 0.5 mm ² ; X2 diagnosis, 8-pin |
| 449 438 050 0 | L: 5.0 m | TEBS E (ECAS ECU 446 055 066 0) | open, 3-strand with push-on contacts, PG screw connection 3x 1.00 mm ² ; code B, 4-pin |
| 449 438 080 0 | L: 8.0 m | | |

ECAS™ set

| Product number | Content | Length | ECAS set (Product number 446 120 ...) | | | | | | |
|----------------|-----------------------|----------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | ... 020 0 | ... 021 0 | ... 022 0 | ... 023 0 | ... 024 0 | ... 031 0 | ... 032 0 |
| 446 055 066 0 | ECU | – | 1x | 1x | 1x | 1x | 1x | 1x | 1x |
| 446 055 522 2 | ECAS equipment pack | – | 1x | 1x | 1x | 1x | 1x | 1x | 1x |
| 446 105 013 4 | Body | – | 1x | 1x | 1x | 1x | 1x | 1x | 1x |
| – | Cable solenoid valve | L: 2.0 m | 1x | – | 2x | – | 2x | – | – |
| 449 422 050 0 | Cable solenoid valve | L: 5.0 m | – | 1x | – | 2x | – | 1x | 2x |
| 449 732 060 0 | Cable pressure sensor | L: 6.0 m | – | – | – | – | – | – | 1x |
| 449 742 030 0 | Cable height sensor | L: 3.0 m | 1x | – | 1x | – | 1x | – | – |
| 449 742 050 0 | Cable height sensor | L: 5.0 m | – | 1x | – | 1x | 1x | 1x | 1x |
| – | Cable diagnosis | L: 4.0 m | – | 1x | – | 1x | – | – | – |
| 449 621 060 0 | Cable diagnosis | L: 6.0 m | – | – | – | – | 1x | 1x | 1x |
| 449 621 080 0 | Cable diagnosis | L: 8.0 m | 1x | – | 1x | – | – | – | – |
| – | Supply cable TEBS D | L: 1.5 m | 1x | – | 1x | – | – | – | – |
| 449 382 060 0 | Supply cable TEBS D | L: 6.0 m | – | 1x | – | 1x | – | – | – |
| 449 438 050 0 | Supply cable TEBS E | L: 5.0 m | – | – | – | – | 1x | – | – |
| – | Fastener | – | 2x | 2x | 2x | 2x | 2x | 2x | 2x |

ECAS™ solenoid valve

- **Temperature** –40 ... +80 °C
- **Working pressure** 13 bar
- **Voltage** 24 V (472 880 072 0: 12 V)
- **Accessory** 432 407 060 0 Silencer



472 880 030 0

472 905 114 0

| Product number | Application | Electrical connection | Mounting | Port |
|----------------|--|--|-----------|--|
| 472 880 001 0 | Semitrailer / central axle trailer*; Drawbar trailers; ECAS valve for 2-point, R/L at front or rear axle | Bayonet DIN 72585-A1-4.1-Sn/K2 | 2x Ø 9 mm | 11, 21, 22, 23: M22x1.5; 3: silencer |
| 472 880 020 0 | Drawbar trailer*; 1-point, front axle | Bayonet DIN 72585-A1-3.6-Sn/K2 | 2x Ø 9 mm | 11, 21, 22, 23: M22x1.5; 3: exhaust |
| 472 880 021 0 | 1-point, R/L at front axle | Bayonet DIN 72585-A1-2.1-Sn/K2 | 2x Ø 9 mm | 11, 21, 22, 23: M22x1.5; 3: exhaust |
| 472 880 030 0 | Semitrailer / central axle trailer*; Drawbar trailer*; rear axle | Bayonet DIN 72585-A1-4.2-Sn/K2 | 2x Ø 9 mm | 11, 21, 22, 23: M22x1.5; 3: silencer |
| 472 880 050 0 | Semitrailer / drawbar trailer*; rear axle / front axle | Bayonet DIN 72585-A1-4.1-Sn/K2 | 3x M8 | 11, 22, 23, 26, 27: M22x1.5; 21: closed; 3: silencer |
| 472 880 072 0 | Semitrailer / central axle trailer*; Multi-Voltage | Bayonet DIN 72585-A1-4.2-Sn/K2 | 2x Ø 9 mm | 11, 21, 22, 23: M16x1.5; 3: silencer |
| 472 905 111 0 | Semitrailer / drawbar trailer with lifting axle; 2-point; pulse-controlled | Bayonet DIN 72585-A1-4.1-Sn/K2; Bayonet DIN 72585-A1-4.2-Sn/K2 | 2x M8 | 1, 21, 22, 23, 24, 25, 26, 32: M22x1.5; 31: silencer |
| 472 905 114 0 | Semitrailer / drawbar trailer with lifting axle; 1-point; pulse-controlled | Bayonet DIN 72585-A1-4.1-Sn/K2; Bayonet DIN 72585-A1-4.2-Sn/K2 | 2x M8 | 1, 21, 22, 23, 24, 25: M22x1.5; 26: closed; 31, 32: silencer |

* without lifting axle

ECAS™ solenoid valve cable

| Product number | Length | Application | Cable end |
|---|---|--|---|
| 449 422 030 0 449 422 050 0 449 422 100 0 449 422 150 0 449 422 200 0 | L: 3.0 m L: 5.0 m L: 10.0 m L: 15.0 m L: 20.0 m | ECAS | Bayonet socket, ISO 72585-B1-4.1-Sn/K1, 4-pin; open, 4-strand with push-on contacts and PG screw connection, 4x 1.0 mm ² |
| 449 439 030 0 | L: 3.0 m | TEBS E (GIO); for ECAS valves 472 880 001 0, 472 905 111 0 (2-point control) | Bayonet socket, ISO 15170-B1-4.1-Sn/K1, 4-pin; code B, 4-pin |
| 449 445 010 0 449 445 030 0 449 445 050 0 449 445 060 0 | L: 1.0 m L: 3.0 m L: 5.0 m L: 6.0 m | TEBS E (GIO); for ECAS valves 472 880 020 / 030 / 072 0, 472 905 111 / 114 0 | Bayonet socket, ISO 15170-B1-3.1-Sn/K1, 4-pin; code B, 4-pin |

SUSPENSION CONTROLS

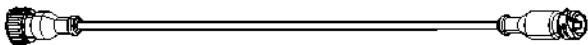
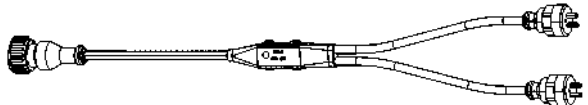
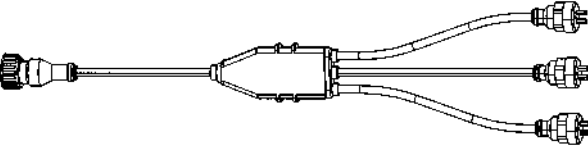
ECAS1 valve replacement

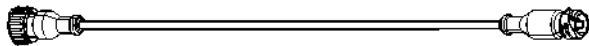
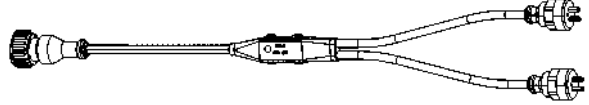
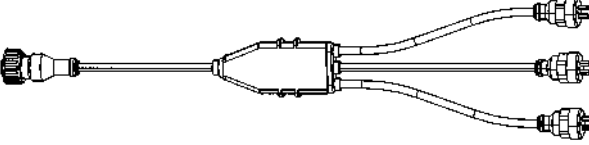
- A smooth changeover from an ECAS1 to an ECAS3 valve requires specific accessory kits. Up to three accessory kits are needed to ensure a proper repair.

| ECAS1 valve | ECAS1 valve replacement | | | |
|---------------|-------------------------|---------------|---------------|---------------|
| | ECAS3 valve | Accessory kit | Accessory kit | Accessory kit |
| 472 900 001 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 002 0 | 472 880 001 0 | 472 880 928 2 | 472 900 931 2 | – |
| 472 900 008 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 012 0 | 472 880 001 0 | 472 880 928 2 | 472 900 931 2 | – |
| 472 900 014 0 | 472 880 001 0 | 472 880 928 2 | – | – |
| 472 900 021 0 | 472 880 020 0 | 472 880 933 2 | 894 601 134 2 | – |
| 472 900 022 0 | 472 880 020 0 | 472 880 932 2 | 472 900 931 2 | 894 601 134 2 |
| 472 900 030 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 032 0 | 472 880 030 0 | 472 880 929 2 | 472 900 931 2 | – |
| 472 900 033 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 034 0 | 472 880 030 0 | 472 880 929 2 | – | – |
| 472 900 054 0 | 472 880 020 0 | 472 880 933 2 | – | – |
| 472 900 061 0 | 472 880 030 0 | 472 880 931 2 | – | – |
| 472 900 064 0 | 472 880 020 0 | 472 880 932 2 | 472 900 931 2 | – |
| 472 900 074 0 | 472 880 020 0 | 472 880 933 2 | 894 601 161 2 | – |

Solenoid valve connection

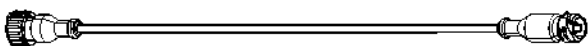
- Accessory kits are used to enable the transition from a M27 single solenoid type (ECAS1) to DIN bayonet solenoids (ECAS3).

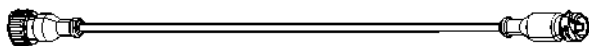
| Product number | Accessory kit |
|---|-----------------------|
| 894 601 134 2 | Adapter cable (1-way) |
|  | |
| 472 880 929 2 | Adapter cable (2-way) |
|  | |
| 472 880 928 2 | Adapter cable (3-way) |
|  | |

| Product number | Accessory kit |
|--|-------------------------------------|
| 472 880 930 2 | Adapter cable (1-way, 2-way, 3-way) |
|  | |
|  | |
|  | |

Electrical connection

- Accessory kits assure the proper electrical port connection.
- The accessory kit 894 601 161 2 works as an extension and sets the pin assignments in the appropriate way.
- The accessory kit 472 880 931 2 - without extension - also converts the pin assignment in a socket.

| Product number | Accessory kit |
|---|---------------------------|
| 894 601 161 2 | Adapter (extension cable) |
|  | |

| Product number | Accessory kit |
|--|--|
| 472 880 931 2 | Adapter (extension and pin assignment cable) |
|  | |

Voss connection

- Specific ECAS1 variants have a M16x1.5 Voss pneumatic supply port while the ECAS3 are equipped with an M22x1.5 Voss port. The accessory kits enable a reduction from M22x1.5 to M16x1.5 and assure tightness. The existing pneumatic connection of the vehicle can be used.

| Product number | Accessory kit |
|----------------|--|
| 472 880 932 2 | Voss adapter, 2x O-rings (M22x1.5 / M16x1.5), washer |



| Product number | Accessory kit |
|----------------|--------------------------------|
| 472 880 933 2 | Voss adapter, O-ring (M22x1.5) |



Pneumatic connection

- Specific ECAS1 valves have standard metric threads on all air ports while all ECAS3 valves have Voss metric connector threads. For these valves, the accessory kit 472 900 931 2 must be used to make the air connection tight.

| Product number | Accessory kit |
|----------------|---------------|
| 472 900 931 2 | 4x O-rings |



ECAS™ height sensor

- Type** inductive
- Temperature** -40 ... +80 °C
- Protection class** IP6K9K
- Accessories**
 - Lever:

| | |
|---------------|--------|
| 441 050 711 2 | 209 mm |
| 441 050 712 2 | 289 mm |
| 441 050 713 2 | 299 mm |
| 441 050 714 2 | 323 mm |
| 441 901 712 2 | 235 mm |
| 441 905 711 2 | 248 mm |
 - Extension for height sensor lever:

| | |
|---------------|--------------------------|
| 441 050 641 2 | 215 / 245 / 275 / 305 mm |
| 441 050 718 2 | 225 / 250 / 275 mm |



441 050 012 0



441 050 100 0

| Product number | Application | Lever | Electrical connection | Mounting | Distance between holes |
|----------------|----------------------------|-------|-----------------------|--------------|------------------------|
| 441 050 010 0 | ECAS Trailer | – | M27x1 | 4x Ø 9.0 mm | 40 / 50 mm |
| 441 050 011 0 | ECAS Trailer | – | Bayonet | 4x Ø 9.0 mm | 40 / 50 mm |
| 441 050 012 0 | Trailer central electronic | – | Bayonet | 4x Ø 9.0 mm | 40 / 50 mm |
| 441 050 100 0 | TEBS E | ✓ | Bayonet | 2x Ø 10.9 mm | 40 mm |

SUSPENSION CONTROLS

ECAS™ height sensor - cable

| Product number | Length | Application | Cable end |
|----------------|----------------------|---|---|
| 449 626 188 0 | L1: 3.0 m; L2: 4.0 m | TEBS E (GIO) | open, 3-strand, 3x 1.0 mm ² + bayonet socket, ISO 15170-B1-2.1-Sn/K1, 4-pin; code B, 4-pin |
| 449 742 010 0 | L: 1.0 m | ECAS | DIN bayonet, ISO 72585-B1-2.1-Sn/K1, 4-pin; open, 2-strand with push-on contacts, PG screw connection 2x 0.75 mm ² |
| 449 742 030 0 | L: 3.0 m | | |
| 449 742 050 0 | L: 5.0 m | | |
| 449 742 060 0 | L: 6.0 m | | |
| 449 742 100 0 | L: 10.0 m | | |
| 449 742 150 0 | L: 15.0 m | | |
| 449 752 010 0 | L: 1.0 m | TEBS E (GIO) | Bayonet socket, ISO 72585-B1-3.1-Sn/K1, 4-pin; sensor socket, 3-pin |
| 449 752 020 0 | L: 2.0 m | | |
| 449 752 030 0 | L: 3.0 m | | |
| 449 752 080 0 | L: 8.0 m | | |
| 449 752 100 0 | L: 10.0 m | | |
| 449 804 228 0 | L1: 3.0 m; L2: 5.0 m | Trailer central electronic (2x height sensor, 1x battery box) | 3x bayonet socket, DIN 72585-B1-2.1-Sn/K1, 4-pin; X42 height sensor + battery, 6-pin |
| 449 814 228 0 | L1: 3.0 m; L2: 5.0 m | Trailer central electronic (height sensor, battery box) | 2x bayonet socket, DIN 72585-B1-2.1-Sn/K1, 4-pin; X42 height sensor + battery, 6-pin |
| 449 814 292 0 | L1: 5.0 m; L2: 8.0 m | | |
| 449 811 010 0 | L: 1.0 m | TEBS E (GIO) | Bayonet socket, ISO 15170-B1-2.1-Sn/K1, 4-pin; code B, 4-pin |
| 449 811 030 0 | L: 3.0 m | | |
| 449 811 050 0 | L: 5.0 m | | |
| 449 811 080 0 | L: 8.0 m | | |
| 449 811 120 0 | L: 12.0 m | | |

ECAS™ pressure sensor

| | |
|---------------------------|--|
| ■ Protection class | IP6K7 / IP6K9K |
| ■ Electrical connection | Bayonet DIN 72585 A1-3.1-Sn/K2 |
| ■ Admissible overpressure | 16 bar |
| ■ Supply voltage | 8 ... 32 V (441 044 110 0: 5 V) |
| ■ Sensitivity | 0.4 V/bar (441 044 104 0: 0.333 V/bar) |
| ■ Offset | 0.5 V |
| ■ Accessory | 811 401 057 4 Sealing |



| Product number | Temperature | Sealing | Measuring | Port |
|-----------------|-----------------|---------------|--------------------|---------|
| 441 044 101 0 | -40 ... +80 °C | - | 0.00 ... 10.00 bar | M16x1.5 |
| 441 044 102 0 | -40 ... +80 °C | 897 770 250 4 | 0.00 ... 10.00 bar | M16x1.5 |
| 441 044 104 0 | -40 ... +80 °C | 897 770 250 4 | 0.00 ... 12.00 bar | M16x1.5 |
| 441 044 106 0 | -40 ... +80 °C | - | 0.00 ... 10.00 bar | ¼" NPTF |
| 441 044 107 0 | -40 ... +80 °C | - | 0.00 ... 10.00 bar | M16x1.5 |
| 441 044 108 0* | -40 ... +80 °C | - | 0.85 ... 10.85 bar | M16x1.5 |
| 441 044 110 0** | -40 ... +100 °C | - | 0.00 ... 10.00 bar | M16x1.5 |

* only for 3rd modulator / EBS relay valve 480 207 ... 0

** for coupling status at WABCO TrailerGUARD

ECAS™ pressure sensor - cable

| Product number | Length | Application | Cable end |
|---|--|--------------|---|
| 449 732 060 0 449 732 100 0 | L: 6.0 m L: 10.0 m | ECAS | Bayonet socket, ISO 72585-B1-3.1-Sn/K1, 4-pin; open with push-on contacts and PG screw connection, 3-strand, 3x 0.5 mm ² |
| 449 812 004 0 449 812 030 0 449 812 040 0 449 812 100 0 449 812 120 0 449 812 180 0 449 812 260 0 449 812 320 0 449 812 440 0 | L: 0.4 m L: 3.0 m L: 4.0 m L: 10.0 m L: 12.0 m L: 18.0 m L: 26.0 m L: 32.0 m L: 44.0 m | TEBS E (GIO) | Bayonet socket, ISO 15170-B1-3.1-Sn/K1, 4-pin; Code B, 4-pin |

ECAS™ remote control

ECAS™ control box

- Voltage 18 ... 32 V
- Temperature -40 ... +70 °C
- Protection class IP6K6K / IP6K9K



| Product number | Application | Button: Function |
|----------------|---|--|
| 446 156 020 0 | Semitrailer with lifting axle (only for trailer central electronic) | 1: Stop, 2: Normal level, 3: Lowering, 4: Lifting, 5: Lift axle |
| 446 156 021 0 | Semitrailer without lifting axle | 1: Stop, 2: Normal level, 3: Lowering, 4: Lifting |
| 446 156 022 0 | Semitrailer with lifting axle | 1: Stop, 2: Normal level, 3: Lowering, 4: Lifting, 5: Lift axle lowering, 6: Lift axle lifting |
| 446 156 023 0 | Drawbar trailer | 1: Stop, 2: Normal level, 3: Lowering, 4: Lifting, 5: Lowering front axle, 6: Lowering rear axle |

ECAS™ control box - cable

| Product number | Length | Application | Cable end |
|--------------------------------|--|---|--|
| 449 603 060 0 | L: 6.0 m | Electronic Extension Module (subsystem) | Code C, 8-pin; bayonet socket, 7-pin |
| 449 627 040 0 449 627 060 0 | L: 4.0 m L: 6.0 m | TEBS E (subsystem) | Bayonet socket, 7-pin; code C, 8-pin |
| 449 944 217 0 | L1: 12.0 m, L2: 4.5 m, L3: 6.0 m, L4: 0.5 m | TEBS E (subsystem) | 2x socket HDSCS 8-pin + bayonet socket, 7-pin; code C, 8-pin |
| 449 637 050 0 | L: 5.0 m | ECAS | Bayonet socket, 7-pin; open with push-on contacts and PG screw connection, 7-strand, 3x 1.5 mm ² , 4x 0.5 mm ² |

SUSPENSION CONTROLS

ECAS™ remote control unit

- **Temperature** -40 ... +70 °C

- **Protection class** IP64

- **Accessories** 446 056 010 4 Holder for ECAS RCU -Q
 446 056 052 4 Support
 446 056 053 4 Mounting support



446 056 117 0

| Product number | Voltage | Application |
|----------------|---------|---|
| 446 056 117 0 | 24 V | semitrailer / drawbar trailer with lift axle |
| 446 056 125 0 | 12 V | semitrailer without lift axle |
| 446 056 202 0 | 24 V | semitrailer / drawbar trailer with lift axle (for trailer central electronic) |
| 446 056 250 0 | 24 V | truck / trailer |
| 446 056 251 0 | 24 V | truck / trailer |
| 446 056 254 0 | 24 V | truck / trailer |
| 446 056 401 0 | 12 V | truck / trailer |



446 056 250 0

ECAS™ remote control unit - cable

| Product number | Length | Application | Cable end |
|----------------|---------------------------------|--|---|
| 449 602 060 0 | L: 6.0 m | Electronic suspension module (subsystem) | Code C, 8-pin; Socket, remote control unit |
| 449 628 050 0 | L: 5.0 m | TEBS E (subsystem) | Socket remote control unit; code C, 8-pin |
| 449 632 015 0 | L: 1.5 m | ECAS | open with push-on contacts and PG screw connection, 4-strand, 4x 0.5 mm ² ; socket remote control unit |
| 449 632 050 0 | L: 5.0 m | | |
| 449 632 080 0 | L: 8.0 m | | |
| 449 632 100 0 | L: 10.0 m | | |
| 449 912 234 0 | L1: 7.0 m, L2: 5.0 m | | |
| 449 926 234 0 | L1: 5.0 m, L2: 7.0 m, L3: 1.0 m | Electronic suspension module (subsystem) | Bayonet socket, 7-pin + remote control unit socket; code C, 8-pin |

SmartBoard

- A convenient option for ECAS control is the use of an existing trailer-mounted SmartBoard.
- Designed to control and monitor a wide range of trailer functionality, the SmartBoard can access all ECAS functions. You can find more information in chapter "Retrofit solutions".



Trailer remote control

- Holder and connecting cable included
- **Operation:** Traction help, Forced lowering, Manoeuvring assistance (OptiTurn™), Load reduction (OptiLoad™), Driving level I / II, ECAS lifting /lowering, Unloading level

| Product number | Voltage | Temperature | Protection class |
|----------------|-------------|----------------|------------------|
| 446 122 080 0 | 10 ... 30 V | -40 ... +85 °C | IP42 |



eTASC

- **Temperature** -40 ... +65 °C
- **Working pressure** 10 bar
- **Protection class** IP6K/9K
- **Port 3** Exhaust



| Product number | Locking in | | Port | | | |
|----------------|------------|----------|----------|------------|----------|-----------------|
| | lifting | lowering | 1 | 22 | 24 | 26 |
| 463 090 500 0 | – | ✓ | Ø 12x1.5 | Ø 12x1.5 | Ø 12x1.5 | test connection |
| 463 090 501 0 | – | ✓ | Ø 8x1 | Ø 8x1 | Ø 8x1 | test connection |
| 463 090 502 0 | – | ✓ | M16x1.5 | M16x1.5 | M16x1.5 | – |
| 463 090 503 0 | ✓ | ✓ | M16x1.5 | M16x1.5 | M16x1.5 | test connection |
| 463 090 504 0 | – | ✓ | Ø 8x1 | Ø 12x1.5 | Ø 12x1.5 | test connection |
| 463 090 505 0 | – | ✓ | M16x1.5 | blind plug | M16x1.5 | test connection |
| 463 090 510 0 | – | – | M16x1.5 | M16x1.5 | M16x1.5 | – |

Repair solutions

| Product number | Repair kit | Content | Product number | Repair kit | Content |
|-----------------|---------------|-----------|-----------------|---------------|-----------|
| ■ 463 090 500 0 | 463 090 922 2 | Hand grip | ■ 463 090 504 0 | 463 090 922 2 | Hand grip |
| ■ 463 090 501 0 | 463 090 922 2 | Hand grip | ■ 463 090 505 0 | 463 090 922 2 | Hand grip |
| ■ 463 090 502 0 | 463 090 922 2 | Hand grip | ■ 463 090 510 0 | 463 090 922 2 | Hand grip |
| ■ 463 090 503 0 | 463 090 922 2 | Hand grip | | | |










eTASC - cable

| Product number | Length | Application | Cable end |
|----------------|----------|--------------|--|
| 449 445 010 0 | L: 1.0 m | TEBS E (GIO) | Bayonet socket, ISO 15170-B1-3.1-Sn/K1, 4-pin; code B, 4-pin |
| 449 445 030 0 | L: 3.0 m | | |
| 449 445 050 0 | L: 5.0 m | | |
| 449 445 060 0 | L: 6.0 m | | |

















Intelligent Trailer Program

It's What's Inside That Counts

ADVANCED SAFETY






-  Anti-Lock Braking Function
-  Rollover Stability Support
-  TiltAlert
-  Emergency Brake Alert
-  Router & Repeater
-  SafeStart
-  Electronic Park Brake
-  Bounce Control
-  TailGUARD™

OPERATIONAL EFFICIENCY







-  OptiLevel™
-  Return-to-Load Level
-  Memory Level
-  OptiLink™
-  TX-TRAILERGUARD™
-  TX-TRAILERPULSE™
-  Optilock™
-  Immobilizer
-  Operating Data Recorder
-  Notebook Memory
-  OptiTurn™
-  Trailer Extension Control
-  Battery Control
-  8 - 32 V Advanced Multivoltage
-  Service Mind
-  Brake Pad Wear Indicator










LOAD OPTIMIZATION

-  Overload Indicator
-  OptiLoad™
-  OptiLevel™ 2-Point
-  Air Bellows Protector
-  Forklift Control

FUEL & CO₂ REDUCTION

-  Fuel Saving Suspension
-  OptiTire™
-  Lift Axle Control
-  OptiFlow™ SideWings
-  OptiFlow™ Tail
-  OptiFlow™ AutoTail

DRIVER COMFORT AND EFFECTIVENESS

-  Trailer Remote Control
-  New SmartBoard
-  Return-to-Ride
-  Steering Axle Lock
-  Finisher Brake
-  Traction Help
-  Trailer Length

Retrofit solutions

OptiTire™ - tire pressure monitoring system

OptiTire is a tire pressure monitoring system. It helps to:

- prevent downtime related to tire defects
- reduce the frequency and costs of tire replacement
- prevent increased fuel consumption due to underinflation

OptiTire™ electronic control unit (ECU)

| | | |
|---------------------------------|--|---|
| ■ Description | receives the sensor signals and recognises all changes from programmed nominal tire pressure values. | |
| ■ Temperature | -40 ... +85 °C | |
| ■ Mounting | 2x Ø 11.0 mm | |
| ■ Distance between holes | 182 mm | |
| ■ Accessory | 446 220 000 4 | Fixing bracket (supports mounting of the ECU) |
| ■ Diagnostics | Diagnostic software OptiTire | |
| ■ Training | E-learning: OptiTire 200 300 011 0 | |



| Product number | Application | Electrical connection | Voltage |
|----------------|------------------------|-----------------------|-----------|
| 446 220 110 0 | Trailer, trailer train | HDSCS Code A | 12 / 24 V |

OptiTire™ cable

| Product number | Length (m) | Application | Cable end |
|----------------|--|--|--|
| 449 376 070 0* | L: 7.0 | open end | open, 7-strand with push-on contacts and PG screw connection, 7x 0.5 mm ² ; bayonet socket, 7-pin |
| 449 376 250 0* | L: 25.0 | | |
| 449 674 273 0* | L1: 6.0; L2: 7.0 | Trailer vehicle cable set | Diagnosis socket with blue cap, 7-pin, bayonet socket, 7-pin; open, 3-strand, 3x 0.5 mm ² |
| 449 674 306 0* | L1: 2.0; L2: 10.0 | | |
| 449 377 030 0* | L: 3.0 | TEBS D | Bayonet socket, 7-pin; X3 IN/OUT 2, 8-pin |
| 449 377 080 0* | L: 8.0 | | |
| 449 913 050 0* | L: 5.0 | TEBS E (subsystem) | Bayonet socket, 7-pin; code C, 8-pin |
| 449 916 182 0* | L1: 0.4; L2: 4.0 | TEBS E (subsystem) and SmartBoard | 2x bayonet socket, 7-pin; code C, 8-pin |
| 449 916 243 0* | L1: 1.0; L2: 6.0 | | |
| 449 916 253 0* | L1: 6.0; L2: 6.0 | | |
| 449 934 330 0 | L1: 12.0; L2: 1.0; L3: 4.0; L4: 0.5; L5: 6.0 | TEBS E (subsystem), OptiLink and SmartBoard | 2x HDSCS, 8-pin; code C, 8-pin + bayonet socket, 7-pin |
| 449 944 217 0 | L1: 12.0; L2: 4.5; L3: 6.0; L4: 0.5 | TEBS E (subsystem), OptiLink and control box | 2x HDSCS, 8-pin + bayonet socket, 7-pin; code C, 8-pin |
| 449 927 050 0 | L: 5.0 | TEBS E (GIO 5) | Socket HDSCS, 8-pin; code B, 4-pin |
| 449 927 120 0 | L: 12.0 | | |
| 449 925 253 0* | L1: 6.0; L2: 6.0; L3: 0.4 | Electronic extension module and SmartBoard | 2x bayonet socket, 7-pin; code C, 8-pin |
| 894 600 001 2 | L: 0.15 | Adapter cable | Socket HDSCS, 8-pin; bayonet plug, 7-pin |

* In addition, adapter cable 894 600 001 2 needed

OptiTire™ external sensor - wheel module 2 (WM2)

| | |
|--------------------------------|---|
| ■ Pressure | 2 ... 14 bar correspond to the nominal values of pressures from 3 ... 10 bar |
| ■ Temperature | −40 ... +90 °C, 24 h up to 120 °C |
| ■ Protection class | IP 6K6K / 6K7 / 6K9K |
| ■ Transmission interval | With constant pressure: 9 min In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases |
| ■ Counterweight | Required. Twin tires: two external sensors and no counterweight |
| ■ Installation | Fastening by means of standard wheel nuts on the outside of the rim Connected via a PA tube to the valve |
| ■ Start-up | With magnet or WABCO TPMS Manager 300 200 001 0 |
| ■ Retrofit | Tires do not need to be removed from the rim |
| ■ Port | 1: VG 8 2: Voss 203 Ø 6x1.5 |



WM2 without bracket



WM2 with B shape bracket



WM2 with T shape bracket

| Product number | Application | Bracket shape | Ø Bolt hole | Ø Hole | Angle | | |
|----------------|---|---------------|-------------|------------|-------|---------------|---------|
| | | | | | Port | between holes | Bracket |
| 960 731 001 0 | Single pressure sensor without bracket (for own bracket application) | – | – | 2x M4 | 90° | – | – |
| 960 731 003 0 | Single pressure sensor without bracket (for own bracket application) | – | – | 2x M4 | 170° | – | – |
| 960 731 011 0 | Trailer: independent wheel (no Super-Single) | B | 335.00 mm | 2x Ø 26 mm | 90° | 36° | 0° |
| 960 731 013 0 | Trailer: independent wheel (no Super-Single), 20° for special purposes (e.g. Iveco) | B | 335.00 mm | 2x Ø 23 mm | 170° | 36° | 0° |
| 960 731 017 0 | Trailer: independent wheel (no Super-Single), 23 mm pitch circle diameter | B | 335.00 mm | 2x Ø 23 mm | 90° | 36° | 0° |
| 960 731 019 0 | | B | 425.00 mm | 2x Ø 23 mm | 90° | 30° | 0° |
| 960 731 021 0 | Trailer: independent wheel (no Super-Single) | B | 335.00 mm | 2x Ø 32 mm | 90° | 36° | 0° |
| 960 731 031 0 | Twin tires, Super-Single | T | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 041 0 | Twin tires, Super-Single | T | 335.00 mm | 2x Ø 32 mm | 170° | 36° | 70° |
| 960 731 071 0 | American rims, single tire trailer | B | 285.75 mm | 2x Ø 26 mm | 170° | 36° | 0° |
| 960 731 073 0 | Twin tires, Super-Single | T | 285.75 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 081 0 | Twin tires, Super-Single | T | 225.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |
| 960 731 100 0 | | – | – | 2x M4 | 90° | – | – |
| 960 731 130 0 | | T | 335.00 mm | 2x Ø 26 mm | 170° | 36° | 70° |

Counterweight




- **Description** To prevent the external sensor causing an imbalance on the wheel. Not needed for axles with twin tires.



| Product number | Application | Hole, wheel, bolt | Ø Bolt hole | Angle |
|----------------|----------------------------------|-------------------|-------------|-------|
| 960 905 820 4 | Counterweight independent wheels | 2x 26 mm | 335 mm | 0° |
| 960 905 821 4 | Counterweight independent wheels | 2x 32 mm | 335 mm | 0° |
| 960 730 820 4 | Counterweight independent wheels | 2x 26 mm | 335 mm | 0° |

Connecting tube

- **Description** Connects the external sensors to the tires

| Product number | Product |
|----------------|--|
| 960 731 800 0 |  |
| 960 731 801 0 |  |
| 960 731 802 0 |  |

OptiTire™ valve-mounted internal sensor (WIS)

- **Pressure** 0 ... 13 bar correspond to the nominal values of pressures from 3 ... 10 bar
- **Temperature** -40 ... +120 °C
- **Transmission interval** With constant pressure: every minute
In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases
- **Installation** Installation on the rim by means of valve neck
- **Start-up** With WABCO TPMS Manager 300 200 001 0
- **Retrofit** Tires need to be removed from the rim



| Product number | Diameter | Mounting | Protection class |
|----------------|----------|--------------|------------------|
| 960 732 000 0 | Ø 540 mm | 1x 6.2x10 mm | IP 5K4 |

Valve set

- **Content** Valve, nut and locking screw (without internal sensor WIS)



| Product number | Application | Surface | Outer contour |
|----------------|--|---------|---------------|
| 960 732 100 0 | Standard steel rims 17 ... 22.5" | Brass | ETRTO V0.07.3 |
| 960 732 101 0 | Standard steel rims 17 ... 22.5", tighter rim crank | Nickel | ETRTO V3.22.1 |
| 960 732 102 0 | Standard steel rims 17 ... 22.5", additional 5° inclined section | Nickel | ETRTO V3.22.1 |

RETROFIT SOLUTIONS

OptiTire™ strap-mounted internal sensor (SMS)

| | |
|--------------------------------|--|
| ■ Pressure | 0 ... 13 bar correspond to the nominal values of pressures from 3 ... 10 bar |
| ■ Transmission interval | With constant pressure: every minute In dependency to measured values (e.g. pressure loss or speed detection) the transmission interval decreases |
| ■ Installation | Installation on the rim by means of fastening strap |
| ■ Start-up | With WABCO TPMS Manager 300 200 001 0 |
| ■ Retrofit | Tires need to be removed from the rim |
| ■ Product number | 960 733 000 0 Strap-mounted sensor |



Fastening straps

| Product number | Ø Rim | Colour of seam | Adjustable circumference |
|----------------|-------|----------------|--------------------------|
| 960 733 117 0 | 17.5" | red | 1200 ... 1350 mm |
| 960 733 119 0 | 19.5" | blue | 1300 ... 1450 mm |
| 960 733 122 0 | 22.5" | yellow | 1535 ... 1685 mm |
| 960 733 124 0 | 24.5" | green | 1725 ... 1875 mm |



300 200 001 0



446 223 000 0

OptiTire™ accessories

| Product number | Product | Description |
|----------------|-----------------------------|---|
| 300 200 001 0 | TPMS manager | Sensor activation and readout tool to read and activate the external and internal sensors of tire pressure monitoring systems |
| 446 223 000 0 | ECU tire pressure indicator | Works as a warning display installed directly on the trailer. It complements the display in the tractor. The WABCO Trailer EBS supplies the required voltage. |

OptiLock™ security solutions

Mechanical locking system

Locking variants

- **Keyed different (kd)** 3 keys per lock. The keys can only open one lock.
- **Master keyed different (mkd)** 3 keys per lock + 1 master key per master system. The keys can only open one lock. The master key can open all the locks in the master system.
- **Keyed alike (ka)** 1 key per lock + 1 spare key per ka system. All locks with the same ka closure can be opened with one key.
- **Master keyed alike (mka)** 1 key per lock + 1 spare key per ka system + 1 master key per master system. All locks with the same ka closure can be opened with one key. The master key can open all the locks in the master system.

Door lock variable - One Way

- **Description** single-use keyless locking and sealing system
- **Security level** high
- **Application** for door bar distances from 265 ... 470 mm; container storage, container transport - on road, container transport - shipped overseas



| Product number | Product | Locking variant |
|----------------|---------|-----------------|
| 183 210 160 0 | One Way | keyless |

Door lock variable - Basis

- **Description** Padlock operated system
- **Security level** high
- **Application** for door bar distances from 200 ... 450 mm; containers with door bars on the outside, swap bodies with door bars on the outside, trailers with door bars on the outside
- **Spare parts** 183 210 061 2 Basis without padlock
183 100 001 4 13 mm Mul-T-Lock® padlock kd

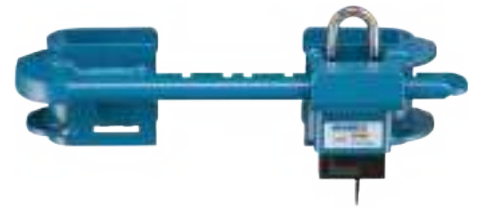


| Product number | Product | Locking variant |
|----------------|---------|------------------------|
| 400 608 050 0 | Basis | keyed different |
| 400 608 051 0 | Basis | keyed alike |
| 400 608 053 0 | Basis | master keyed different |
| 400 608 054 0 | Basis | master keyed alike |

RETROFIT SOLUTIONS

Door lock variable - Omega

- **Description** Padlock operated system
- **Security level** very high
- **Application** containers with door bars on the outside, swap bodies with door bars on the outside, trailers with door bars on the outside
- **Certified** VdS M114341 (Germany); only valid with 13 mm Mul-T-Lock® padlock
- **Spare parts** 183 210 080 2 Omega without padlock
183 100 001 4 13 mm Mul-T-Lock® padlock kd



| Product number | Product | Locking variant |
|----------------|---------|------------------------|
| 400 608 150 0 | Omega | keyed different |
| 400 608 151 0 | Omega | keyed alike |
| 400 608 153 0 | Omega | master keyed different |
| 400 608 154 0 | Omega | master keyed alike |

Door lock fixed - TTB & TTB stainless steel

- **Description** Padlock operated system
- **Security level** high
- **Application** locking the right door
swap bodies, trailers with swing doors
- **Optional & spare parts** 183 210 040 2 TTB without padlock
183 210 041 2 TTB stainless steel without padlock
183 100 001 4 13 mm Mul-T-Lock® padlock kd
183 510 060 4 Locking element (for left door)



TTB



TTB stainless steel

| Product number | Product | Locking variant |
|----------------|---------------------|------------------------|
| 400 608 100 0 | TTB | keyed different |
| 400 608 101 0 | TTB | keyed alike |
| 400 608 104 0 | TTB | master keyed different |
| 400 608 106 0 | TTB | master keyed alike |
| 400 608 102 0 | TTB stainless steel | keyed different |
| 400 608 103 0 | TTB stainless steel | keyed alike |
| 400 608 105 0 | TTB stainless steel | master keyed different |
| 400 608 107 0 | TTB stainless steel | master keyed alike |

Door lock fixed - TLB

- **Description** Padlock operated system
- **Security level** very high
- **Application** locking the right & left door
containers, swap bodies, trailers with swing doors
- **Certified** VdS M118313 (Germany); only valid with 13 mm Mul-T-Lock® padlock
- **Optional & spare parts** 183 410 406 0 TLB without padlock
183 100 001 4 13 mm Mul-T-Lock® padlock kd



| Product number | Product | Locking variant |
|----------------|---------|------------------------|
| 400 608 200 0 | TLB | keyed different |
| 400 608 202 0 | TLB | keyed alike |
| 400 608 201 0 | TLB | master keyed different |
| 400 608 203 0 | TLB | master keyed alike |

Door lock fixed - TSR-2fiXX

| | | |
|-------------------------------------|--|---|
| ■ Description | integrated, patented ABLOY® cylinder with ABLOY® PROTEC keys | |
| ■ Security level | very high | |
| ■ Application | locking the right & left door containers, swap bodies, trailers with swing doors | |
| ■ Mounting type | screwed | |
| ■ Certified | VdS M 106339 (Germany) only valid with ASSA ABLOY® cylinder CL684N; SBSC No. 10-377 (Sweden) only valid with ASSA ABLOY® cylinder CL684N | |
| ■ Optional & spare parts | 183 210 006 2 | Pin (TSR-2fiXX) |
| | 183 410 007 2 | Pin (TSR-2fiXX, 50x20x20 mm) |
| | 183 350 000 4 | Stencil (TSR-2fiXX) |
| | 183 210 009 4 | Locking element (TSR-2fiXX) |
| | 183 210 000 4 | TSR-2fiXX Housing head without cylinder |
| | 183 120 001 4 | ABLOY® cylinder CL684 kd |



| Product number | Product | Locking variant |
|----------------|-----------|------------------------|
| 183 410 006 2 | TSR-2fiXX | keyed different |
| 183 410 001 0 | TSR-2fiXX | keyed alike |
| 183 410 006 0 | TSR-2fiXX | master keyed different |

Door lock fixed - TSR-2fiXX weld

| | | |
|-------------------------------------|---|---|
| ■ Description | integrated, patented ABLOY® cylinder with ABLOY® PROTEC keys | |
| ■ Security level | very high | |
| ■ Application | locking the right & left door containers, swap bodies, trailers with swing doors | |
| ■ Mounting type | welded | |
| ■ Certified | TSR-2fiXX: VdS M 106339 (Germany) only valid with ASSA ABLOY® cylinder CL684N; SBSC No. 10-377 (Sweden) only valid with ASSA ABLOY® cylinder CL684N | |
| ■ Optional & spare parts | 183 210 000 4 | TSR-2fiXX Housing head without cylinder |
| | 183 120 001 4 | ABLOY® cylinder CL684 kd |



| Product number | Product | Locking variant |
|----------------|----------------|------------------------|
| 183 410 007 2 | TSR-2fiXX weld | keyed different |
| 183 410 003 0 | TSR-2fiXX weld | keyed alike |
| 183 410 007 0 | TSR-2fiXX weld | master keyed different |

Vehicle securing device - King Pin C

| | | |
|-------------------------|--|---|
| ■ Description | integrated, patented ABLOY® cylinder with ABLOY® PROTEC keys | |
| ■ Security level | very high | |
| ■ Application | only for 2" (Ø 75 mm) king pins | |
| ■ Spare parts | 183 120 001 4 | ABLOY® cylinder CL684 (keyed different) |



| Product number | Product | Locking variant |
|----------------|------------|------------------------|
| 183 440 100 0 | King Pin C | keyed different |
| 183 440 101 0 | King Pin C | keyed alike |
| 183 440 103 0 | King Pin C | master keyed different |

Vehicle securing device - W45

- **Description** integrated, patented ABLOY® cylinder with ABLOY® PROTEC keys
- **Security level** very high
- **Spare parts**

| | |
|---------------|---|
| 183 240 020 2 | W45 without cylinder |
| 183 120 001 4 | ABLOY® cylinder CL684 (keyed different) |



| Product number | Product | Locking variant |
|----------------|---------|------------------------|
| 183 440 203 0 | W45 | keyed different |
| 183 440 204 0 | W45 | keyed alike |
| 183 440 205 0 | W45 | master keyed different |

Vehicle securing device - Drawbar C

- **Description** integrated, patented ABLOY® cylinder with ABLOY® PROTEC keys
- **Security level** very high
- **Spare parts** 183 120 020 4 ABLOY® cylinder CL290N (keyed different)



| Product number | Product | Locking variant |
|----------------|-----------|-----------------|
| 183 440 000 0 | Drawbar C | keyed different |
| 183 440 001 0 | Drawbar C | keyed alike |

Electronic door lock system ELB-Lock®

The ELB-Lock is an electronic door lock system that supports a flexible multi-stage security concept. Wireless operation offers an extra measure of protection.

ELB-Lock® sets

| Product number | Product | ELB-Lock set (Product number 400 608 ...) | | | | | | |
|----------------|--------------------------------------|--|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------|
| | | ... 714 0 | ... 715 0 90 | ... 716 0 Built in | ... 717 0 Built up | ... 718 0 Built in | ... 719 0 Built up | Variant 5 |
| 183 510 202 0 | Door lock (ELB-Lock) | 1x | – | 1x | 1x | 1x | 1x | 1x |
| 183 510 241 0 | Door lock (ELB-Lock 90) | – | 1x | – | – | – | – | – |
| 183 510 053 4 | Baseplate (ELB-Lock) | 1x | – | – | – | – | – | – |
| 183 510 060 4 | Locking element (for left door) | 1x | – | 1x | 1x | – | – | – |
| 183 540 000 0 | Spiral cable wrap | 1x | – | 1x | 1x | 1x | 1x | 1x |
| 183 550 078 4 | Protection cover | 2x | – | – | – | – | – | 2x |
| 183 550 076 0 | Emergency tool | 1x | 1x | 1x | 1x | 1x | 1x | 1x |
| 183 530 000 0 | Control unit (ICM) | 1x | 1x | 1x | 1x | 1x | 1x | 1x |
| 183 530 021 4 | Keypad frame without USB cable (ICM) | 1x | – | 1x | 1x | 1x | 1x | 1x |
| 183 521 000 4 | USB cable (0.5 m) for keypad | 1x | – | 1x | 1x | 1x | 1x | 1x |
| 183 550 080 2 | Waterproof box for keypad (ICM) | – | 1x | – | – | – | – | – |
| 183 542 000 4 | Door lock panel (AA-frame) | – | – | – | – | – | – | 1x |
| 183 542 050 4 | Door lock panel (right, built-up) | – | – | – | 1x | – | 1x | – |
| 183 542 051 4 | Door lock panel (right, built-in) | – | – | 1x | – | 1x | – | – |

| Product number | Product | ELB-Lock set (Product number 400 608 ...) | | | | | | Variant 5 |
|----------------|----------------------------------|--|--------------|--------------------|--------------------|--------------------|--------------------|-----------|
| | | ... 714 0 | ... 715 0 90 | ... 716 0 Built in | ... 717 0 Built up | ... 718 0 Built in | ... 719 0 Built up | |
| 183 542 052 4 | Door lock panel (left, built-up) | – | – | – | – | – | 1x | – |
| 183 542 053 4 | Door lock panel (left, built-in) | – | – | – | – | – | – | – |
| 183 540 053 4 | Distributor box (cube frame) | – | – | 1x | 1x | 1x | 1x | 1x |
| 183 545 001 4 | Adhesive Sikafast 5221 NT | – | – | – | 1x | – | 1x | 2x |
| 183 545 003 4 | Mixer | – | – | – | 1x | – | 1x | 2x |
| 183 545 002 4 | Cleaner | – | – | – | 1x | – | 1x | 1x |
| 183 542 103 4 | Protection plate | – | – | – | – | 6x | 6x | – |
| 183 540 070 4 | Bushing | – | – | – | – | – | – | 2x |
| 183 540 071 4 | Bushing (el.) | – | – | – | – | – | – | 2x |

ELB-Lock® motor

- **Accessories**
 - 183 510 053 4 Baseplate (ELB-Lock)
 - 183 550 076 0 Emergency tool
 - 183 521 100 2 Accessory emergency tool
- **Replacement parts**
 - 183 510 403 4 Frame (ELB-Lock 90)
 - 183 510 404 2 Guide tube with scraper Ø 40 mm (ELB-Lock 90)
 - 183 520 149 4 Scraper Ø 40 mm (ELB-Lock 90)
 - 183 550 071 4 Locking element (ELB-Lock 90)
 - 183 550 073 4 Bolt extension (ELB-Lock 90)



| Product number | Product |
|----------------|------------------------------------|
| 183 510 202 0 | Door lock (ELB-Lock) |
| 183 510 241 0 | Door lock (ELB-Lock 90) |
| 183 510 270 0 | Door lock (Mini ELB-Lock) |
| 183 510 271 0 | Door lock with key (Mini ELB-Lock) |

ELB-Lock® control unit

- **Accessories and repair kits**
 - 183 521 000 4 USB cable (0.5 m) for keypad
 - 183 530 021 4 Keypad frame without USB cable (ICM)
 - 183 530 022 4 Frame (for mounting of ICM in isolated doors)
 - 183 550 080 2 Waterproof box for keypad (ICM)
 - 183 530 000 2 Repair kit control unit (ICM)
 - 183 545 005 4 Contact paste 30 ml



| Product number | Product |
|----------------|--------------------|
| 183 530 000 0 | Control unit (ICM) |

RETROFIT SOLUTIONS

Door lock panel (cube frames & AA-frame)

| | | |
|---|---------------|------------------------------|
| ■ Adhesive (cube frame & AA-frame) | 183 545 001 4 | Adhesive Sikafast 5221 NT |
| | 183 545 002 4 | Cleaner |
| | 183 545 003 4 | Mixer |
| ■ Distributor box (cube frame & AA-frame) | 183 540 053 4 | Distributor box (cube frame) |
| | 183 540 070 4 | Bushing |
| | 183 540 071 4 | Bushing (el.) |
| ■ Accessories | 183 542 103 4 | Protection plate |
| | 183 555 003 4 | Battery (AA-frame, 6 V) |

| Product number | Product |
|----------------|-----------------------------------|
| – | Door lock panel (AA-frame) |
| 183 542 050 4 | Door lock panel (right, built-up) |
| 183 542 051 4 | Door lock panel (right, built-in) |
| 183 542 052 4 | Door lock panel (left, built-up) |
| 183 542 053 4 | Door lock panel (left, built-in) |

ELB-Lock® sensor



183 523 008 2



183 523 010 4



183 523 051 4



183 523 052 4

| Product number | Product |
|----------------|--|
| 183 523 000 4 | Sensor 90×20×20 mm for left door & emergency hatch |
| 183 523 008 2 | Magnetic sensor |
| 183 523 010 4 | Sensor (130×50×20 mm) for right door, middle plate, keypad (ICM) |
| 183 523 051 4 | Magnet (13×13×6 mm) for right door, keypad, middle plate, emergency hatch, door handle |
| 183 523 052 4 | Magnet (8×8×5 mm) for sensor left door |

ELB-Lock® cable



183 521 001 4



183 521 021 4



183 521 023 4

| Product number | Product |
|----------------|-------------------------------|
| 183 521 000 4 | Cable USB (0.5 m) |
| 183 521 001 4 | Cable USB (5.0 m) |
| 183 521 021 4 | Cable (4 pol. ext. IMM 5.0 m) |
| 183 521 023 4 | Cable (7 pol. ext. IMM 5.0 m) |

ELB-Lock® accessories



183 510 070 4



183 510 060 4



183 520 000 4



183 520 020 4

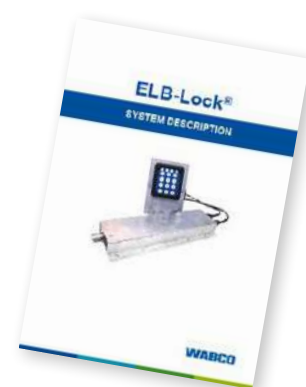


183 540 100 4

| Product number | Product |
|----------------|-----------------------------------|
| 183 510 070 4 | Bolt for sidewall without capsule |
| 183 510 087 4 | Capsule |
| 183 510 060 4 | Locking element (for left door) |
| 183 520 000 4 | Siren |
| 183 520 020 4 | Flashlight 12/24 V |
| 183 520 040 4 | Push-button |
| 183 540 000 0 | Spiral cable wrap |
| 183 540 100 4 | Cover 205x67x30 mm |
| 183 540 101 4 | Cover 205x80x30 mm |
| 183 550 078 4 | Protection cover |
| 183 551 003 4 | Sticker |
| 183 555 004 0 | Battery (power pack) |

ELB-Lock® documentation & software

| Product number | Product |
|----------------|---|
| 200 300 625 0 | ELB-Lock documentation & software (1 st order) |
| 200 300 627 0 | ELB-Lock documentation & software (reorder) |



ELB-Lock® training

| Product number | Product |
|-----------------|--------------------------------|
| 200 1 . . 625 0 | OptiLock system training |
| 200 1 . . 626 0 | OptiLock installation training |

SmartBoard

| | |
|---------------------------------|---|
| ■ Description | Multifunctional system that serves as a universal information and control system for implementing efficient trailer operation |
| ■ Voltage | 12 ... 24 V DC |
| ■ Mounting | 4x Ø 9.5 mm |
| ■ Distance between holes | 153x55 mm |
| ■ Accessory | 446 192 650 4 Cover |
| ■ Diagnostics | Diagnostic software SmartBoard |

| Product number | Product | Comment |
|----------------|----------------|--|
| 446 192 110 0 | SmartBoard | |
| 446 192 111 0 | SmartBoard ADR | without battery, for ADR (GGVS) vehicles |
| 446 192 210 0 | SmartBoard | successor of 446 192 110 0; with HDSCS; adapter 894 600 074 2 needed |
| 446 192 211 0 | SmartBoard ADR | successor of 446 192 111 0; with HDSCS; adapter 894 600 074 2 needed; without battery, for ADR (GGVS) vehicles |



446 192 110 0



446 192 210 0

Repair solutions

| Product number | Repair kit | Content |
|-----------------|---------------|---------|
| ■ 446 192 110 0 | 446 192 920 2 | Battery |

SmartBoard cable

| Product number | Length (m) | Application | Cable end |
|----------------|--|---|--|
| 449 911 040 0 | L: 4.0 | TEBS E (subsystem) | Code C, 8-pin; bayonet socket, 7-pin |
| 449 911 060 0 | L: 6.0 | | |
| 449 911 120 0 | L: 12.0 | | |
| 449 916 182 0 | L1: 0.4; L2: 4.0 | TEBS E (subsystem) and OptiTire | 2x bayonet socket, 7-pin; code C, 8-pin |
| 449 916 243 0 | L1: 1.0; L2: 6.0 | | |
| 449 916 253 0 | L1: 6.0; L2: 6.0 | | |
| 449 934 330 0 | L1: 12.0; L2: 1.0; L3: 4.0; L4: 0.5; L5: 6.0 | TEBS E (subsystem), OptiLink and OptiTire | 2x HDSCS, 8-pin; code C, 8-pin + bayonet socket, 7-pin |
| 894 600 074 2 | L: 0.15 | Adapter cable | Socket HDSCS, 8-pin; bayonet plug, 7-pin |

OptiLink™

OptiLink is a mobile app that allows truck drivers and fleet operators to monitor and control 18 trailer functions wirelessly from an Android or iOS smartphone. It improves safe operation by allowing the driver to control trailer functions from the protection of the cab or from a safe position outside.

OptiLink™ Electronic Control Unit (ECU)

| | |
|--------------------------|--------------------------------|
| ■ Temperature | −40 ... +85 °C |
| ■ Mounting | 2× Ø 11.0 mm |
| ■ Distance between holes | 182 mm |
| ■ Accessory | 446 220 000 4 Mounting bracket |



| Product number | Product | Electrical connection | Voltage |
|----------------|--------------|------------------------|-----------|
| 446 290 700 0 | OptiLink ECU | HDSCS connector 8-pin. | 12 / 24 V |

OptiLink™ cable

| Product number | Length (m) | Application | Cable end |
|----------------|--|--|--|
| 449 913 050 0* | L: 5.0 | TEBS E (subsystem) | Bayonet socket, 7-pin; code C, 8-pin |
| 449 927 050 0 | L: 5.0 | TEBS E (GIO 5) | Socket HDSCS, 8-pin; code B, 4-pin |
| 449 927 120 0 | L: 12.0 | | |
| 449 916 182 0* | L1: 0.4; L2: 4.0 | TEBS E (subsystem) and SmartBoard | 2× bayonet socket, 7-pin; code C, 8-pin |
| 449 916 243 0* | L1: 1.0; L2: 6.0 | | |
| 449 916 253 0* | L1: 6.0; L2: 6.0 | | |
| 449 925 253 0* | L1: 6.0; L2: 6.0; L3: 0.4 | Electronic extension module and SmartBoard | 2× bayonet socket, 7-pin; code C, 8-pin |
| 449 934 330 0 | L1: 12.0; L2: 1.0; L3: 4.0; L4: 0.5; L5: 6.0 | TEBS E (subsystem), OptiLink and SmartBoard | 2× HDSCS, 8-pin; code C, 8-pin + bayonet socket, 7-pin |
| 449 944 217 0 | L1: 12.0; L2: 4.5; L3: 6.0; L4: 0.5 | TEBS E (subsystem), OptiLink and control box | 2× HDSCS, 8-pin + bayonet socket, 7-pin; code C, 8-pin |
| 894 600 001 2 | L: 0.15 | Adapter cable | Socket HDSCS, 8-pin; bayonet plug, 7-pin |

* Adapter cable 894 600 001 2 additional needed for usage with OptiLink ECU.

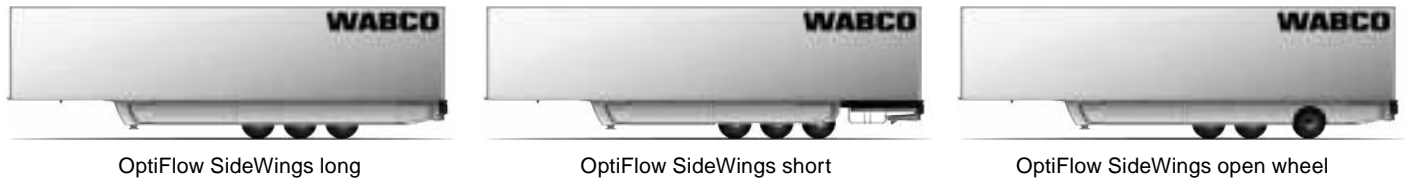
OptiLink™ set

| Product number | Product | OptiLink set | | | |
|----------------|---------------------------|---------------|---------------|---------------|---------------|
| | | 400 607 921 0 | 400 607 922 0 | 400 607 923 0 | 400 607 924 0 |
| 446 290 700 0 | OptiLink ECU | 1x | 1x | 1x | 1x |
| 446 220 000 4 | Mounting bracket | 1x | 1x | 1x | 1x |
| 449 916 253 0 | Y cable, L1: 6 m, L2: 6 m | – | – | – | 1x |
| 449 925 253 0 | Y cable, L1: 6 m, L2: 6 m | – | – | 1x | – |
| 449 927 050 0 | Gio 5 cable, L: 5 m | – | 1x | – | – |
| 449 927 120 0 | Gio 5 cable, L: 12 m | 1x | – | – | – |
| 894 600 001 2 | Adapter cable, L: 0.15 m | – | – | 1x | 1x |

OptiFlow™ SideWings

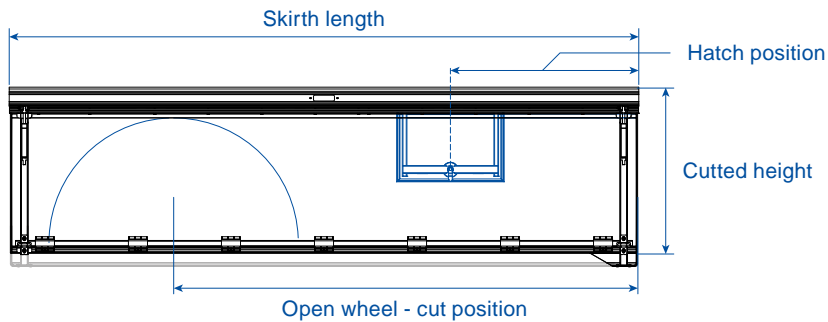
- Contoured to minimize drag by better guiding airflow around the truck
- Will give any trailer a more fuel-efficient aerodynamic shape

Variants



- **Cut** Cut at the bottom; higher clearance at the axles >50 mm
- **Jump** First panel transition for panels with cut
- **Open wheel** Open wheel MidSkirt for steering axles
- **Latch base** Latch base at the top front; it is used after a flow conductor rotation
- **Prime** Primed base layer, uncoloured skirts
- **Hatch** For easy access to control devices

MidSkirt dimensions



OptiFlow™ SideWings - MidSkirt

| Product number | Skirt length (mm) | Side of mounting | Comment |
|----------------|-------------------|------------------|-------------|
| 181 110 001 0 | 2700 | left | |
| 181 110 001 1 | 2700 | left | prime |
| 181 110 002 0 | 2700 | right | |
| 181 110 002 1 | 2700 | right | prime |
| 181 110 003 0 | 2700 | left | cut |
| 181 110 004 0 | 2700 | right | cut |
| 181 110 005 0 | 2700 | left | jump |
| 181 110 005 1 | 2700 | left | prime; jump |
| 181 110 006 0 | 2700 | right | jump |
| 181 110 006 1 | 2700 | right | prime; jump |
| 181 110 007 0 | 2600 | left | |
| 181 110 008 0 | 2600 | right | |
| 181 110 011 0 | 2500 | left | |
| 181 110 012 0 | 2500 | right | |
| 181 110 015 0 | 2400 | left | |
| 181 110 016 0 | 2400 | right | |
| 181 110 019 0 | 2400 | left | jump |
| 181 110 020 0 | 2400 | right | jump |

| Product number | Skirt length (mm) | Side of mounting | Comment |
|----------------|-------------------|------------------|-------------------|
| 181 110 021 0 | 2300 | left | |
| 181 110 021 1 | 2300 | left | prime |
| 181 110 022 0 | 2300 | right | |
| 181 110 022 1 | 2300 | right | prime |
| 181 110 023 0 | 2300 | left | cut |
| 181 110 024 0 | 2300 | right | cut |
| 181 110 025 0 | 2200 | left | |
| 181 110 026 0 | 2200 | right | |
| 181 110 027 0 | 2200 | left | cut |
| 181 110 028 0 | 2200 | right | cut |
| 181 110 029 0 | 2100 | left | |
| 181 110 029 1 | 2100 | left | prime |
| 181 110 030 0 | 2100 | right | |
| 181 110 030 1 | 2100 | right | prime |
| 181 110 031 0 | 2100 | left | cut |
| 181 110 031 1 | 2100 | left | cut; prime |
| 181 110 032 0 | 2100 | right | cut |
| 181 110 032 1 | 2100 | right | cut; prime |
| 181 110 033 0 | 2000 | left | cut |
| 181 110 034 0 | 2000 | right | cut |
| 181 110 035 0 | 1900 | left | cut |
| 181 110 036 0 | 1900 | right | cut |
| 181 110 037 0 | 1800 | left | cut |
| 181 110 038 0 | 1800 | right | cut |
| 181 110 039 0 | 1700 | left | cut |
| 181 110 040 0 | 1700 | right | cut |
| 181 110 043 0 | 2000 | left | |
| 181 110 044 0 | 2000 | right | |
| 181 110 045 0 | 1900 | left | |
| 181 110 045 1 | 1900 | left | prime |
| 181 110 046 0 | 1900 | right | |
| 181 110 046 1 | 1900 | right | prime |
| 181 110 049 0 | 1700 | left | |
| 181 110 050 0 | 1700 | right | |
| 181 110 063 0 | 1400 | left | cut |
| 181 110 064 0 | 1400 | right | cut |
| 181 110 065 0 | 1400 | left | |
| 181 110 066 0 | 1400 | right | |
| 181 110 089 0 | 2100 | left | jump |
| 181 110 090 0 | 2100 | right | jump |
| 181 112 001 0 | 2700 | left | latch base |
| 181 112 002 0 | 2700 | right | latch base |
| 181 112 002 1 | 2700 | right | latch base; prime |
| 181 112 004 0 | 2600 | right | latch base |
| 181 112 006 0 | 2500 | right | latch base |
| 181 112 008 0 | 2400 | right | latch base |
| 181 112 012 0 | 2200 | right | latch base |
| 181 112 014 0 | 2100 | right | latch base |
| 181 112 020 0 | 1400 | right | latch base |
| 181 112 028 0 | 2000 | right | latch base |
| 181 113 001 0 | 1900 | left | hatch; cut |
| 181 113 003 0 | 2100 | left | hatch; cut |
| 181 114 001 0 | 1450 | left | open wheel |

RETROFIT SOLUTIONS

| Product number | Skirt length (mm) | Side of mounting | Comment |
|----------------|-------------------|------------------|-------------------|
| 181 114 002 0 | 1450 | right | open wheel |
| 181 114 011 0 | 1900 | left | open wheel |
| 181 114 014 0 | 1900 | right | open wheel |
| 181 114 015 0 | 2300 | left | open wheel |
| 181 114 017 0 | 2700 | left | open wheel |
| 181 114 026 0 | 2100 | right | open wheel; cut |
| 181 114 027 0 | 2200 | left | open wheel |
| 181 114 030 1 | 1700 | right | open wheel; prime |
| 181 114 031 1 | 1700 | left | open wheel; prime |



OptiFlow™ SideWings - EndSkirt

| Product number | Position of backdoor retainer | Side of mounting | Comment |
|----------------|-------------------------------|------------------|-------------------|
| 181 120 001 0 | basic | left | – |
| 181 120 002 0 | basic | right | – |
| 181 120 003 0 | basic | left | cut |
| 181 120 004 0 | basic | right | cut |
| 181 120 005 0 | basic | left | hatch |
| 181 120 006 0 | basic | right | hatch |
| 181 120 007 0 | basic | left | cut; hatch |
| 181 120 009 0 | closer to the front | left | – |
| 181 120 010 0 | closer to the front | right | – |
| 181 120 011 0 | closer to the front | left | cut |
| 181 120 012 0 | closer to the front | right | cut |
| 181 120 013 0 | closer to the front | left | hatch |
| 181 120 014 0 | closer to the front | right | hatch |
| 181 120 015 0 | closer to the front | left | cut; hatch |
| 181 120 017 0 | closer to the end | left | – |
| 181 120 018 0 | closer to the end | right | – |
| 181 120 019 0 | closer to the end | left | cut |
| 181 120 019 1 | closer to the end | left | cut; prime |
| 181 120 020 0 | closer to the end | right | cut |
| 181 120 020 1 | closer to the end | right | cut; prime |
| 181 120 021 0 | closer to the end | left | hatch |
| 181 120 023 0 | closer to the end | left | cut; hatch |
| 181 120 023 1 | closer to the end | left | cut; prime; hatch |
| 181 120 025 0 | longer aluminium profile | left | cut |
| 181 120 025 1 | longer aluminium profile | left | cut; prime |
| 181 120 026 0 | longer aluminium profile | right | cut |
| 181 120 026 1 | longer aluminium profile | right | cut; prime |



OptiFlow™ SideWings - flow conductor

| Product number | Side of mounting | Comment |
|----------------|------------------|----------|
| 181 100 001 0 | left | rotating |

| Product number | Side of mounting | Comment |
|----------------|------------------|-------------------------|
| 181 100 002 0 | right | rotating |
| 181 100 002 1 | right | rotating; primed colour |
| 181 100 003 0 | left | hinged |
| 181 100 003 1 | left | hinged; primed colour |
| 181 100 004 0 | right | hinged |
| 181 100 004 1 | right | hinged; primed colour |

OptiFlow™ SideWings - pillar

| Product number | Positioning | Comment |
|----------------|--------------|----------------------|
| 181 130 001 0 | left | – |
| 181 130 002 0 | right | – |
| 181 130 003 0 | right / left | flow conductor front |
| 181 130 004 0 | right | end |
| 181 130 005 0 | left | end |
| 181 130 006 0 | right / left | – |
| 181 130 007 0 | right / left | flow conductor |
| 181 130 008 0 | right / left | hinged |
| 181 130 009 0 | left | end |
| 181 130 010 0 | right | end |
| 181 130 011 0 | right / left | – |
| 181 130 012 0 | right / left | flow conductor |
| 181 130 036 0 | right / left | hinged |
| 181 130 040 0 | right | – |
| 181 130 043 0 | left | – |
| 181 130 044 0 | right | – |

OptiFlow™ SideWings - further components

| Product number | Product |
|----------------|-----------------------------|
| 181 010 001 5 | Profile EPDM top |
| 181 010 002 5 | Profile EPDM hinge |
| 181 020 001 4 | Gas spring 400N |
| 181 020 003 0 | Gas spring Asm 400N |
| 181 020 004 0 | Gas spring Asm 700N |
| 181 020 006 4 | Side marker light |
| 181 020 010 2 | Lock actuation |
| 181 020 013 4 | Knob |
| 181 020 014 4 | Shackle base |
| 181 020 015 4 | Shackle with knob |
| 181 020 016 2 | Door retainer |
| 181 020 033 2 | Rotation pin flow conductor |
| 181 030 006 2 | Lock, pull L |
| 181 030 007 2 | Lock, pull R |
| 181 032 001 4 | Bracket |
| 181 033 001 4 | Carrier |
| 181 033 003 4 | Carrier |
| 181 033 004 4 | Carrier |
| 181 040 051 2 | Frame |
| 181 001 001 4 | Cover end |
| 181 001 002 4 | Lock |

RETROFIT SOLUTIONS

Brake pad wear indicator

Retrofitted to a trailer EBS, the system will alert the driver when brake pad wear reaches a critical point. Warnings are delivered via a dashboard light, the WABCO SmartBoard or, if using OptiLink™, via mobile phone.

Wear indicator

- **Accessories** 813 000 024 3 EBS sticker truck
 813 000 025 3 EBS sticker trailer
- **TDB number** TDB / Test protocol number



| Product number | Application | | | TDB number |
|----------------|------------------|------------------------------------|-------------------|---|
| | per brake / axle | Brake | Axle manufacturer | |
| 12 999 755 VT | per axle | WABCO PAN 19-1 PAN 19-1 plus | SAF | SAF 0678, 0749 |
| 12 999 792 | per axle | Knorr SB6 / SN6 SB7 / SK7 / SN7 | BPW SAF | BPW 0562, 0568, 0632, 0787 SAF 0590, 0591, 0605, 0606, 0764, 361-101-03, 361-102-03, 361-103-03 |
| 12 999 797 | per axle | WABCO PAN 22-1 | SAF | SAF 361-094-02, 361-106-02, 361-107-02 |
| 640 222 925 2 | per brake | WABCO MAXX 22-T | | |

Brake pad wear indicator cable

- **Accessory** 441 902 312 2 Blind plug for vehicles with less than three axles

| Product number | Length | Application | Cable end |
|----------------|----------|-----------------|---|
| 449 816 013 0 | L: 1.3 m | TEBS E | Code B, 4-pin; 6x sensor plug 3-pin |
| 449 816 030 0 | L: 3.0 m | | |
| 449 834 013 0 | L: 1.3 m | TEBS D / VCS II | Sensor socket, 3-pin; 6x sensor plug 3-pin |
| 449 720 010 0 | L: 1.0 m | Extension cable | Coupling connector, 3-pin; coupling socket, 3-pin |
| 449 720 020 0 | L: 2.0 m | | |
| 449 720 050 0 | L: 5.0 m | | |
| 894 590 082 0 | L: 0.1 m | Y distributor | Coupling socket, 3-pin; coupling connector, 3-pin |

Brake pad wear indicator set

Application TEBS D / VCS II

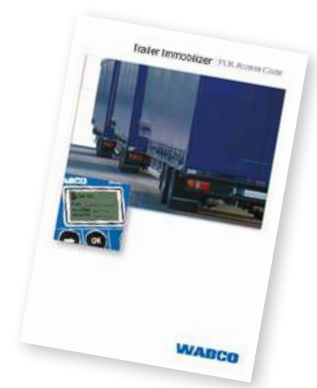
| Product number | Trailer | Axle manufacturer | Brake |
|----------------|-----------------------------|-------------------|----------------------------------|
| 480 102 921 2 | Drawbar trailer, 2-axle | SAF | WABCO PAN 19-1, PAN 19-1 plus |
| 480 102 922 2 | Semitrailer, 1-, 2-, 3-axle | BPW, SAF | Knorr SB6 / SN6, SB7 / SK7 / SN7 |
| 480 102 923 2 | Drawbar trailer, 2-axle | BPW, SAF | Knorr SB6 / SN6, SB7 / SK7 / SN7 |
| 480 102 924 2 | Semitrailer, 1-, 2-, 3-axle | SAF | WABCO PAN 22-1 |
| 480 102 925 2 | Drawbar trailer, 2-axle | SAF | WABCO PAN 22-1 |

Content

| Product number | Product | Set (Product number 480 102 ...) | | | | |
|----------------|---------------------|-----------------------------------|-----------|-----------|-----------|-----------|
| | | ... 921 2 | ... 922 2 | ... 923 2 | ... 924 2 | ... 925 2 |
| 12 999 755 VT | Wear indicator | 2x | – | – | – | – |
| 12 999 792 | Wear indicator | – | 3x | 2x | – | – |
| 12 999 797 | Wear indicator | – | – | – | 3x | 2x |
| 441 902 312 2 | Cable bridge | 2x | 4x | 2x | 4x | 2x |
| 449 720 050 0 | Extension cable | 2x | – | 2x | – | 2x |
| 449 834 013 0 | Cable with socket | 1x | 1x | 1x | 1x | 1x |
| 813 000 024 3 | EBS sticker truck | 1x | 1x | 1x | 1x | 1x |
| 813 000 025 3 | EBS sticker trailer | 1x | 1x | 1x | 1x | 1x |

Trailer Immobilizer

- Description** Locks the trailer's spring brake actuators so the trailer can't be moved. Can be activated via SmartBoard or OptiLink with a 4-digit PIN code. Integrated into the WABCO Trailer Electronic Braking System TEBS-E
- Product number** 813 000 049 3 Trailer Immobilizer - PUK access code
- Accessory** 894 450 000 0 Buzzer (can output acoustic warning signals)



Trailer Immobilizer set

| Product number | Description | Trailer Immobilizer set | |
|----------------|-------------------------------------|-------------------------|---------------|
| | | 400 604 397 0 | 400 608 873 0 |
| 446 192 110 0 | SmartBoard | – | 1x |
| 449 445 030 0 | Cable for lift axle control valve | 1x | – |
| 449 445 050 0 | Cable for lift axle control valve | – | 1x |
| 449 911 060 0 | Cable for SmartBoard | – | 1x |
| 463 084 100 0 | Lift axle control valve | 1x | 1x |
| 813 000 048 3 | Adhesive label | 1x | – |
| 813 000 049 3 | Trailer Immobilizer PUK access code | 1x | 1x |

RETROFIT SOLUTIONS

TailGUARD™

WABCO TailGUARD is a rear blind spot detection system for commercial vehicles. TailGUARD helps avoid accidents and damage to trailers. Ultrasonic sensors detect if the area behind the trailer is clear, and TailGUARD brakes the vehicle automatically at a pre-set distance between 50...200 cm from objects located in the rear blind spot.

TailGUARD™ electronic

| | |
|--------------------------|---|
| ■ Temperature | −40 ... +65 °C |
| ■ Protection class | IP 6K9K |
| ■ Mounting | 4x Ø 8.8 mm |
| ■ Distance between holes | 160.6x172.1 mm |
| ■ Accessories | 895 310 005 2 Enclosure cover for electronic extension module |



| Product number | Comments | Version | Voltage |
|----------------|--|---------|-----------|
| 446 122 070 0 | Electronic extension module with cover 895 310 005 2 | 9x GIO | 12 / 24 V |
| 446 122 071 0 | Electronic control unit (ECU) without cover | 4x GIO | 12 / 24 V |

Functions

| Function | TailGUARD electronic | |
|---|----------------------|---------------|
| | 446 122 070 0 | 446 122 071 0 |
| Compatible with TEBS E Premium (from version E2) and TEBS E Standard from version E5 | ✓ | ✓ |
| TailGUARD function incl. buzzer and deactivation button | ✓ | ✓ |
| Supports applications with 2 ... 6 sensors | ✓ | ✓ |
| Connection of side lane keeping lamps and reversing lamp (for activating TailGUARD) ISO 12098 | ✓ | ✓ |
| TailGUARD for truck & bus | ✓ | – |
| GIO extension | ✓ | – |
| Battery charge and battery operation with wake-up button | ✓ | – |
| Trailer Remote Control | ✓ | – |
| ECAS™ 2-point control | ✓ | – |

TailGUARD™ cable

| | | |
|---------------|---------------|--|
| ■ Accessories | 898 020 462 2 | Protective cap GIO |
| | 898 020 463 2 | Protective cap subsystem |
| | 480 102 931 2 | Locking set |
| | 446 122 633 0 | Cable box; use as required; 4x M20x1.5 mm 10 flat connector 3.6x0.8 mm |

| Product number | Length | Type | Application | Cable end |
|----------------|--------|--------------|-----------------------|---|
| 449 303 020 0 | 2.0 m | Supply cable | Supply | Code E, 8-pin; code C, 8-pin |
| 449 303 025 0 | 2.5 m | | | |
| 449 303 050 0 | 5.0 m | | | |
| 449 303 100 0 | 10.0 m | | | |
| 449 806 060 0 | 6.0 m | GIO | LIN ultrasonic sensor | Sensor socket, 3-pin; code B, 4-pin |
| 894 600 024 0 | 0.5 m | GIO | LIN splitter cable | 2x sensor socket, 3-pin; sensor plug, 3-pin |
| 449 747 060 0 | 6.0 m | GIO | LIN extension cable | 2x sensor socket, 3-pin; sensor plug, 3-pin |
| 449 908 060 0 | 6.0 m | GIO | Universal cable | Open, 8-strand, 3x 1.0 mm ² , 3x 0.5 mm ² , 2x 0.35 mm ² ; code C, 8-pin |
| 449 908 100 0 | 10.0 m | | | |

| Product number | Length | Type | Application | Cable end |
|--|---|------|----------------------|--|
| 449 535 010 0 449 535 060 0 449 535 100 0 449 535 150 0 | 1.0 m 6.0 m 10.0 m 15.0 m | GIO | Universal cable | Open, 4-strand, 4x 1.5 mm ² ; code B, 4-pin |
| 449 443 008 0 449 443 010 0 449 443 020 0 449 443 040 0 449 443 060 0 449 443 100 0 | 0.8 m 1.0 m 2.0 m 4.0 m 6.0 m 10.0 m | GIO | Buzzer 894 450 000 0 | Bayonet socket, ISO 15170-B1-2.1-Sn/K1, 4-pin; code B, 4-pin |

TailGUARD™ sensor

- Temperature -40 ... +80 °C
- Electrical connection 3-Pole Plug
- System LIN



446 122 40 . 0

446 122 450 0

| Product number | Cable length | Inclination | Operational range | Rated current | Side of mounting | Mounting | Distance between bolts | Protection class |
|----------------|--------------|-------------|-------------------|---------------|------------------|----------|------------------------|------------------|
| 446 122 401 0* | 3.0 m | 0° | 0.25 ... 4.5 m | 0.040 A | | 2x M6 | 63 mm | IP 6K4 |
| 446 122 402 0* | 3.0 m | 15° | 0.25 ... 4.5 m | 0.040 A | Right (Default) | 2x M6 | 63 mm | IP 6K4 |
| 446 122 403 0* | 0.3 m | 15° | 0.25 ... 4.5 m | 0.040 A | | 2x M6 | 63 mm | IP 6K4 |
| 446 122 404 0* | 3.0 m | 15° | 0.25 ... 4.5 m | 0.040 A | Left (Default) | 2x M6 | 63 mm | IP 6K4 |
| 446 122 450 0 | 2.5 m | 10° | 0.30 ... 4.5 m | 0.015 A | | 2x M5 | 62 mm | IP 6K9K |

* for repairs only (for new retrofits use 446 122 450 0)



446 122 080 0



894 450 000 0

TailGUARD™ accessories

| Product number | Product | Description |
|----------------|------------------------------|---|
| 446 122 080 0 | Trailer Remote Control (TRC) | Holder and connecting cable included; each bar represents a distance of 50 cm. In close proximity (red LEDs) the following also applies: each LED has 2 states, constant and flashing. This indicates the distance with a precision of 25 cm. |
| 894 450 000 0 | Buzzer | Can output acoustic warning signals in addition to Trailer Remote Control |

OptiTire™



OptiTire™ Benefits

- + Up to 2 % fuel saving
- + Reduced CO2 emissions
- + Lower fleet running costs
- + Helps to maximize tire life
- + Improved fleet safety
- + Less risk of blowouts
- + Reduced breakdowns and downtime
- + Improved maintenance predictability
- + Trusted and approved by leading OEMs

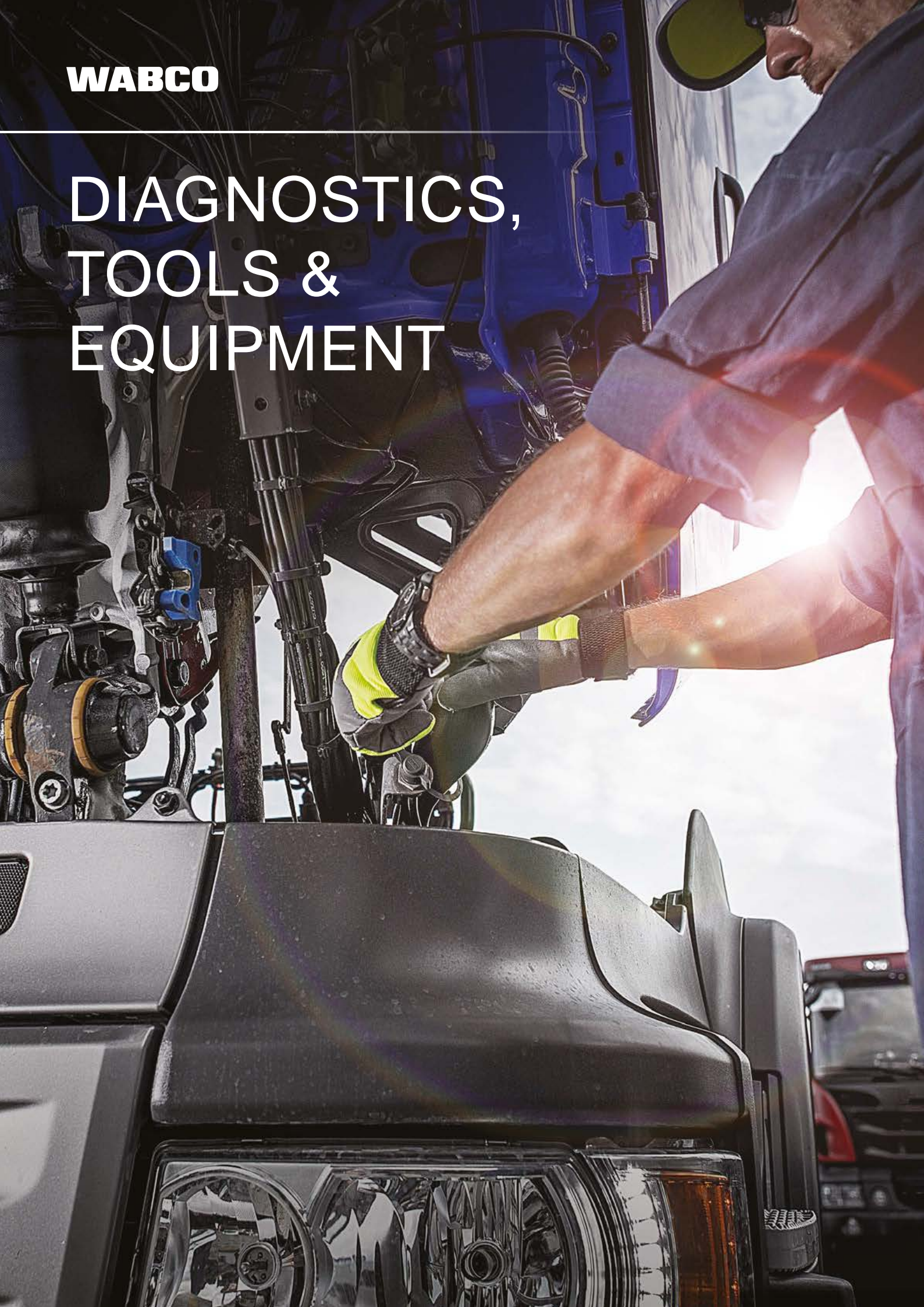
OptiTire™ Features

- + Full Truck-Trailer solution
- + Early pressure and temperature deviation warnings
- + Long-life batteries (up to 10 years)
- + ECU backwards compatible with IVTM™
- + Compatibility with WABCO SmartBoard, OptiLink™ and WABCO Trailer Electronic Braking System
- + Compatibility with major Truck OEM dashboards
- + Integrates with TX-TRAILERGUARD™ and TX-TRAILERPULSE™ telematics

WABCO

WABCO

**DIAGNOSTICS,
TOOLS &
EQUIPMENT**



Content

Diagnostics, tools & equipment

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Diagnostics

Hardware

Laptop

- **Description** Suitable for the workshop: shock-resistant and dirt-resistant; on request, it can be supplied with the diagnostic software pre-installed

| Product number | Product |
|----------------|--|
| 446 301 999 0 | WABCO laptop "Toughbook" (Model Panasonic CF-54) |



Diagnostic Interface

Diagnostic Interface 2

- **Description** WABCO Diagnostic Interface set is required to start a diagnosis of the electronic control unit

| Product number | Content |
|----------------|---|
| 446 301 030 0 | Diagnostic Interface 2 USB connecting cable to PC/notebook |



Diagnostic Interface 3

- **Description** WABCO Diagnostic Interface Set, equipped with Bluetooth and Wi-Fi®, is required to start a diagnostic of the electronic control unit

| Product number | Content |
|----------------|---|
| 300 400 103 0 | Diagnostic Interface 3 USB connecting cable to PC/notebook |



ABS/EBS Code Reader

- **Description** Easy to use device, for the diagnosis of WABCO braking systems in trailers, towing vehicles and buses

| Product number | Product |
|----------------|---------------------|
| 300 200 002 0 | ABS/EBS Code Reader |



DIAGNOSTICS

Test plug ABS

- Description** For testing the function of the ISO 7638 port on the towing vehicle (24 V); only vehicles with hitching mechanism

| Product number | Product |
|----------------|---------------|
| 446 007 316 0 | Test plug ABS |



Flashing code connector

- Description** For VARIO Compact ABS with external diagnostic socket (flashing code read-out without diagnostic controller)

| Product number | Product |
|----------------|-------------------------|
| 446 300 334 0 | Flashing code connector |



Diagnostic cable case - truck

- Description** For diagnostics of WABCO components in trucks; does not contain Diagnostic Interface
- Product number** 446 301 025 0 Diagnostic cable case truck (with content)
446 301 019 0 Diagnostic cable case truck (without content)

| Product number | Content |
|----------------|---|
| 446 300 003 0 | ODB multi-switch cable |
| 446 300 327 0 | Connection adapter EPS 35-pin |
| 446 300 340 0 | Diagnostic cable Mercedes |
| 446 300 344 0 | Diagnostic cable EBS Euro (for Neoplan) |
| 446 300 345 0 | Diagnostic cable (for MAN) |
| 446 300 349 0 | Diagnostic cable EBS (for IVECO) |
| 446 300 404 0 | Diagnostic cable ABS-D |
| 446 300 453 0 | Diagnostic cable EBS (for DAF) |
| 446 300 456 0 | Connecting cable ECAS |
| 894 604 303 2 | Diagnostic cable ABS D/E (ISO 9141) |



Diagnostic cable case - bus

- Description** For diagnostics of WABCO components in buses
- Product number** 446 301 026 0 Diagnostic cable case bus (with content)
446 301 019 0 Diagnostic cable case bus (without content)

| Product number | Content |
|----------------|--|
| 446 300 003 0 | ODB multi-switch cable |
| 446 300 340 0 | Diagnostic cable for Mercedes, EvoBus |
| 446 300 344 0 | Diagnostic cable EBS Euro (for Neoplan) |
| 446 300 345 0 | Diagnostic cable MAN |
| 446 300 363 0 | Diagnostic cable ATC + MTS CAN X204 |
| 446 300 368 0 | Diagnostic cable MTS Y |
| 446 300 369 0 | Diagnostic cable MTS (for MAN) |
| 446 300 460 0 | Diagnostic cable OBD-15-pin (for DAF, Scania, MAN) |
| 446 301 030 0 | Diagnostic Interface Set 2 (USB) |



Diagnostic cable case - trailer

- **Description** For all common trailer system diagnostics
- **Product number** 446 301 023 0 Diagnostic cable case trailer (with content)
446 301 024 0 Diagnostic cable case trailer (without content)

| Product number | Content |
|----------------|---|
| 446 300 329 2 | Diagnostic cable blue diagnostic socket K-line |
| 446 300 348 0 | Diagnostic cable yellow diagnostic socket CAN 5 V |
| 446 300 360 0 | Diagnostic cable ISO 7638 (CAN 24 V) |
| 446 300 361 0 | Connecting cable CAN adapter ISO 7638 |
| 446 301 030 0 | Diagnostic Interface Set 2 (USB) |
| 449 612 010 0 | Diagnostic cable VCS I with connection socket OE |
| 449 615 010 0 | Diagnostic cable VCS II with connection socket OE |
| 449 672 030 0 | Diagnostic cable TEBS with connection socket OE |



Diagnostic software

- An annual subscription for WABCO-PC diagnostic software can be configured to include tools for every supported WABCO system, or be configured specifically for truck, bus or trailer systems.
- During the subscription period, you have full access to the latest software, the most recent updates and any newly-translated language versions.
- If you have completed the necessary training, you can request your PIN in the WABCO Customer Centre.

Diagnostic software - full package

- **Product number** 246 301 900 0

Content

| | | | |
|------------------------|--------------------|-----------------------|-----------------------------------|
| ABS C | EBS 1C Asia | Gateway | OptiTire (IVTM) |
| ABS D Hydraulic | EBS 3 | HBS AddOn-E | SmartBoard |
| ABS D+ | EBS BUS Standard | HVAC | TCE |
| ABS E+ | EBS CBU MAN | Modular AMT | TEBS-D |
| ABS HPB | EBS EPB Bus | MTS | TEBS-E |
| ABS SAE | EBS EPB MB Truck | MTS2 | TECAS |
| AMT for Daimler (MB) | EBS Euro | ODR-Tracker | Trailer CAN Router-Repeater (TRR) |
| APS-EAPU | ECAS 4x2 S2000 | OnGuardPlus | TrailerGUARD Telematics |
| ATC CAN Standard | ECAS Bus A | OnLane LDW | VCS |
| ATC Coach | ECAS Bus Citaro | OnLane2 | VCS II |
| ATC KWP Citaro Travego | ECAS CAN2 | OptiDrive (Fast Gear) | ZBR2 |
| CAN-Viewer | ECAS ENR MB Truck | | |
| CDC | ECAS Truck and Bus | | |
| | ECAS Truck JED | | |
| | ECAS Truck KWP K | | |

DIAGNOSTICS

Diagnostic software - bus package

■ Product number 246 301 902 0

Content

| | | | |
|----------------------|------------------------|--------------------|-----------------|
| ABS C | ATC CAN Standard | EBS EPB Bus | HVAC |
| ABS D Hydraulic | ATC Coach | EBS Euro | MTS |
| ABS D+ | ATC KWP Citaro Travego | ECAS 4x2 S2000 | MTS2 |
| ABS E+ | CAN-Viewer | ECAS Bus A | OnGuardPlus |
| ABS HPB | CDC | ECAS Bus Citaro | OnLane LDW |
| ABS SAE | EBS 3 | ECAS CAN2 | OnLane2 |
| AMT for Daimler (MB) | EBS BUS Standard | ECAS Truck and Bus | OptiTire (IVTM) |
| APS-EAPU | EBS CBU MAN | ECAS Truck JED | ZBR2 |
| | | ECAS Truck KWP K | |
| | | Gateway | |

Diagnostic software - truck package

■ Product number 246 301 904 0

Content

| | | | |
|----------------------|------------------|--------------------|-----------------|
| ABS C | CAN-Viewer | ECAS 4x2 S2000 | OnGuardPlus |
| ABS D Hydraulic | CDC | ECAS CAN2 | OnLane LDW |
| ABS D+ | EBS 1C Asia | ECAS ENR MB Truck | OnLane2 |
| ABS E+ | EBS 3 | ECAS Truck and Bus | OptiTire (IVTM) |
| ABS HPB | EBS CBU MAN | ECAS Truck JED | ZBR2 |
| ABS SAE | EBS EPB MB Truck | ECAS Truck KWP K | |
| AMT for Daimler (MB) | EBS Euro | Gateway | |
| APS-EAPU | | HBS AddOn-E | |

Diagnostic software - trailer package

■ Product number 246 301 901 0

Content

| | | | |
|-----------------|------------|-----------------------------------|--------|
| CAN-Viewer | SmartBoard | TECAS | VCS |
| ODR-Tracker | TCE | Trailer CAN Router-Repeater (TRR) | VCS II |
| OptiTire (IVTM) | TEBS-D | TrailerGUARD Telematics | |
| | TEBS-E | | |

Diagnostic software - multi-brand diagnostics

■ **W.EASY®** The multi-brand diagnostic solution W.EASY® supplied by WABCOWÜRTH can be ordered via the WABCOWÜRTH distribution network.

■ **Content** Each W.EASY diagnostic solution consists of a basic package, to which individual software/hardware can be added.

For details, please visit www.wabcowuerth.com



Tools and equipment

Air pressure testing

Test case for air braking systems

- **Description** Fast and precise testing of air braking systems in compliance with guidelines and directives
- **Product number** 435 002 007 0 Test case for air braking systems

| Product number | Content | Quantity |
|----------------|---|----------|
| 435 002 020 2 | Test case | 1 |
| – | Minigrip mounting kit | 1 |
| – | Three-way cock | 1 |
| – | Hose coupling | 1 |
| 452 204 910 0 | Quick coupling | 1 |
| 452 600 003 0 | Blue test hose, length: 6.5 m | 1 |
| 452 600 004 0 | White test hose, length: 6.5 m | 1 |
| 452 600 005 0 | Red test hose, length: 6.5 m | 3 |
| 452 600 006 0 | Green test hose, length: 6.5 m | 2 |
| 452 600 007 0 | Yellow test hose, length: 6.5 m | 1 |
| 452 600 008 0 | Purple test hose, length: 6.5 m | 1 |
| 453 004 007 0 | Pressure gauge, Ø 100 mm, max. 16 bar, protection cap | 5 |
| 453 004 009 0 | Pressure gauge, Ø 100 mm, max. 25 bar, protection cap | 1 |
| 463 703 521 2 | Test fitting | 2 |
| 815 000 040 3 | Work instruction | 1 |
| 893 100 204 4 | Double connector M16×1.5 / M16×1.5 | 1 |
| – | Double connector M16×1.5 / M22×1.5 | 1 |
| 899 709 092 2 | Trailer tester | 1 |



Test case - 'Agriculture' compressed air

- **Description** Testing of compressed-air procurement systems for tractors and air braking systems in agricultural and forestry trailers
- **Product number** 435 002 011 0 'Agriculture' compressed air test kit

| Product number | Content | Quantity |
|----------------|---|----------|
| – | Test case | 1 |
| 452 201 010 0 | '1 line' coupling head M22×1.5 | 1 |
| 452 600 003 0 | Blue test hose | 1 |
| 452 600 004 0 | White test hose | 1 |
| 453 004 007 0 | Pressure Gauge, Ø 100 mm, max. 16 bar, protection cap | 2 |
| 463 703 115 0 | Test connection M22×1.5 | 2 |
| 952 200 021 0 | Red coupling head M16×1.5 | 1 |
| 952 200 022 0 | Yellow coupling head M16×1.5 | 1 |
| 463 703 120 0 | Test connection M16×1.5 | 2 |
| 815 010 083 3 | Publication Air Braking Systems | 1 |



Test case - brake and suspension

- **Description** WABCO mobile test bench for easy repair and testing of individual brake components and easy vehicle tests
- **Product number** 453 197 003 0 Brake and suspension test case

| Content | Quantity |
|--------------------------------|----------|
| Brake and suspension test case | 1 |
| Coloured hoses | 6 |



Pressure gauge

- **Calibrated** yes

| Product Number | Type | Pressure | Diameter |
|----------------|------------------------------------|----------------|----------|
| 453 002 000 0 | single, for dashboard, illuminated | max. 10 bar | Ø 60 mm |
| 453 004 005 0 | single, protection cap | max. 10 bar | Ø 100 mm |
| 453 004 007 0 | single, protection cap | max. 16 bar | Ø 100 mm |
| 453 004 009 0 | single, protection cap | max. 25 bar | Ø 100 mm |
| 453 004 012 0 | single | max. 16 bar | Ø 100 mm |
| 453 197 000 0 | double, for dashboard, illuminated | max. 10 bar | Ø 60 mm |
| 453 197 004 0 | double | 2x max. 16 bar | Ø 100 mm |



- **Calibrated** yes
with additional calibration certificate

| Product Number | Type | Pressure | Diameter |
|----------------|------------------------|----------------|----------|
| 453 004 020 0 | single, protection cap | max. 10 bar | Ø 100 mm |
| 453 004 021 0 | single, protection cap | max. 16 bar | Ø 100 mm |
| 453 004 022 0 | single, protection cap | max. 25 bar | Ø 100 mm |
| 453 004 023 0 | single | max. 16 bar | Ø 100 mm |
| 453 197 006 0 | double | 2x max. 16 bar | Ø 100 mm |

Fabric hose

- **Material** Multilayer (PVC / PA / PVC)
- **Length** 25 m
- **Ø** inner: 4.0 mm, outer: 10.0 mm

| Product number | Colour | Max. pressure at temperature | | | |
|----------------|--------|------------------------------|--------|--------|-------|
| | | -40 °C | 20 °C | 60 °C | 70 °C |
| 828 876 915 6 | blue | 47 bar | 25 bar | 10 bar | 7 bar |



Tool sets for disc brakes

Tool set for MAXX™, MAXXUS™ & PAN™ calipers

- **Description** Modular tool set for repairing WABCO calipers and adjusting the return units
- **Product number** 400 608 375 0 WABCO caliper tool set

| Product number | Content |
|----------------|-------------------------|
| 300 100 010 2 | Tool set 'Basic' |
| 300 100 011 2 | Adjuster change |
| 300 100 012 2 | Ratchet for return unit |
| 300 100 013 2 | Tool set 'Extension' |



Tool set 'Basic'

| Product number | Product |
|----------------|------------------|
| 300 100 010 2 | Tool set 'Basic' |



Tool set 'Extension'

| Product number | Product |
|----------------|----------------------|
| 300 100 013 2 | Tool set 'Extension' |



Adjuster change

| Product number | Product |
|----------------|-----------------|
| 300 100 011 2 | Adjuster change |



Ratchet for return unit

| Product number | Product |
|----------------|-------------------------|
| 300 100 012 2 | Ratchet for return unit |



Tools

Leakage Finder 2.0

- **Description** Detects air leakages and indicates the presence and size of a leak using both audible and visual signals
- **Product number** 300 400 001 0 Basic case
300 400 002 0 Advanced case

| Product number | Content |
|----------------|--|
| 300 400 001 2 | Carrying aid for WABCO Leakage Finder 2.0 |
| – | Headphones* |
| – | External loudspeaker |
| 300 400 005 0 | WABCO Leakage Finder 2.0 incl. 2 batteries |
| 300 400 006 0 | Ultrasonic sensor incl. 3 batteries** |
| 300 400 007 0 | Structure-borne sound probe** |
| 300 400 008 0 | Airborne sound probes** |
| 300 400 010 0 | Protection sleeve for ultrasonic sensor** |
| 300 400 011 4 | Connecting cable for headphones |
| 300 400 014 0 | Headphones incl. 2 batteries** |
| 300 400 015 0 | Flexible airborne sound probe |
| 815 980 255 3 | Operating instructions |

* in Basic case 300 400 001 0 only

** in Advanced case 300 400 002 0 only



Test case - power supply

- **Description** Mobile, intelligent test kit for lighting and signalling checks for trucks and trailers
- **Product number** 300 100 001 0 WABCO Power supply test case

| Features |
|---|
| Examination of the light control signals of the truck (24 V) and lighting test of 24 V trailers |
| Lighting test (also for 12 V trailers) |
| Light test for LED lighting |
| PIN control with 24 V or 0 V possible, e.g. to activate the lift axle |
| LCD display showing all essential information |
| Built-in measurement instruments: volt / ampere |



TPMS manager

- **Description** Sensor activation and readout tool to read and activate the external and internal sensors of tire pressure monitoring systems
- **Product number** 300 200 001 0 TPMS manager

| Content |
|------------------------------|
| TPMS manager |
| Charger |
| International power adapters |
| USB 2.0 cable |
| QuickStart guide |



Cleaning

Bio-cleaning system set

- **Description** Fast-cleaning of used vehicle parts and workshop tools
- **Product number** 300 100 007 0 WABCO Bio-cleaning system set

| Product number | Content | Quantity |
|----------------|--|----------|
| – | Compact bio-bleaning machine | 1 |
| 300 100 009 4 | Bio-cleaning liquid (20 l canister) | 5 |
| 300 100 010 4 | Bio-cleaning intensive CB100 (500 ml spray bottle) | 2 |



Chemical liquid parts

WABCOTHYL™

- **Description** Most reliable anti-freeze and de-icing liquid

| Product number | Packaging | Content |
|----------------|-----------|---------|
| 830 702 087 4 | Bottle | 1 l |
| 830 702 088 4 | Canister | 10 l |
| 830 702 089 4 | Canister | 30 l |
| 830 702 090 4 | Barrel | 200 l |



WABCONTROL™

- **Description** Easy-to-use leakage indicating spray

| Product number | Packaging | Content |
|----------------|--------------|---------|
| 830 702 126 4 | Spray bottle | 0.5 l |
| 830 702 127 4 | Canister | 5.0 l |



WABCOSEAL™

- **Description** Most durable liquid jointing agent for any vehicle couplings and connectors

| Product number | Packaging | Content |
|----------------|-----------|---------|
| 830 407 084 4 | Bottle | 50 ml |



WABCO EaseTec™

- **Description** Best lubricants to ensure the proper function and extend the lifetime of moving components



| Product number | Packaging | Content | Type | Components | Colour | Temperature |
|----------------|-------------|---------|------|---|-------------|-----------------|
| 830 502 101 4 | Grease pack | 5 g | L2 | Synthetic hydrocarbon oil, special lithium soap | beige | -60 ... +130 °C |
| 830 503 020 4 | Grease pack | 10 g | M4 | Mineral oil, lithium complex soap, special additive combination | green | -30 ... +150 °C |
| 830 503 062 4 | Grease pack | 5 g | M6 | Mineral oil, special calcium soap | grey | -10 ... +140 °C |
| 163 480 000 8 | Tube | 230 g | M7 | Lithium hydroxystearate, mineral oil | light brown | -10 ... +130 °C |
| 163 480 990 8 | Can | 900 g | M7 | Lithium hydroxystearate, mineral oil | light brown | -10 ... +130 °C |
| 830 502 076 4 | Grease pack | 5 g | P1 | Lithium soap polyalphaolefins, special additives | light brown | -50 ... +140 °C |
| 830 503 065 4 | Can | 1000 g | P1 | Lithium soap polyalphaolefins, special additives | light brown | -50 ... +140 °C |
| 830 502 087 4 | Grease pack | 5 g | S6 | Silicone oil, special lithium soap | white | -50 ... +180 °C |

Index by product number

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