

WATZ HYDRAULIK

High-performance hydraulics cleverly solved.



WATZ GROUP

WATZ HYDRAULIK / **WATZ** SERVICE
FAUDI FILTRATIONSTECHNOLOGIE
HYDROSERVICE ZYLINDERBAU

Content

- 03 About Watz Hydraulik
- 04 Watz engineering
- 05 Watz hydraulic test bench
- 06 Hydraulic power units
- 07 Control blocks
- 08 Modern hydraulic system solutions
- 09 Industry 4.0
- 10 WSPK briquetting presses
- 11 Special cylinders
- 12 Watz standard cylinders
- 13 Standard and exchange cylinders
- 14 Repairs and service



Watz Hydraulik and the Watz Group

A passion for tradition and innovation.

Watz Hydraulik is your competent contact partner when it comes to hydraulic drives and control technology, because we have been planing and manufacturing high-quality hydraulic products in Lollar (Mittelhessen region) for over 45 years.

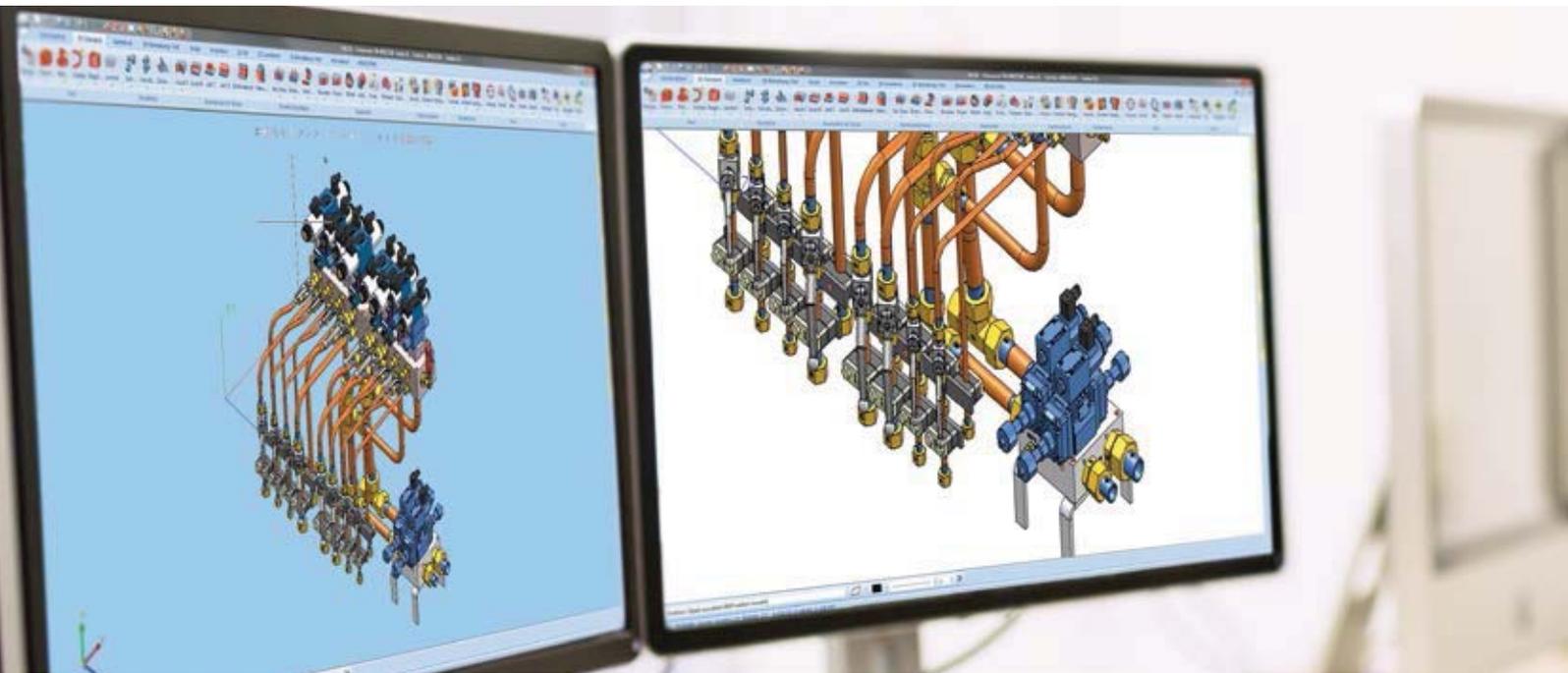
Qualified engineer Horst Watz recognised the technical potential and advantages of mechanical drive systems early on. In 1971 he founded a distribution company for hydraulics and pneumatics and began to plan and manufacture his own hydraulic systems a short time later. Today Watz Hydraulik produces both customised solutions and standardised power units and cylinders for customers worldwide. The service portfolio of Watz Hydraulik encompasses consultation, projecting, production, assembly and commissioning, as well as the maintenance, repair and modification of hydraulic components and systems. With this comprehensive range of services, we can ensure a consistently high level of machine and system availability to our customers.

With the acquisition of the company HydroService Zylinderbau in 2014, the Watz Group broadened their portfolio to include competence and experience in the production of customised and large cylinders.

Both hydraulics companies are complemented by Watz Service GmbH, who carry out assembly, maintenance, repairs, and service worldwide. FAUDI GmbH, a global company specialised in filtration technology, is also owned by the Watz Group.

Today the Watz Group, with over 250 employees, is your contact partner for individual and standardised hydraulic products and filtration technology units and systems.

The full-service offer from Watz Group includes consultation, project, production, assembly and commissioning, as well as maintenance, repair and modification. The many years of experience of the combined companies make the company group strong business partners.



Watz engineering

Expertise from planning to commissioning.

Project planning

Engineering is the core of our operation. Implementing individual customer requirements in the projecting of highly sophisticated and intelligently controlled hydraulic systems is the mission our engineers are fully dedicated to.

Consultancy phase

We are involved at the initial project phase as consultative partners and produce not only the optimal hydraulic solution but also the ideal implementation.

Project planning phase

During the subsequent planning and implementation phases, we stand next to our customers every step of the way. This ensures rapid implementation which leads to noticeable cost and time savings.

The result

Hydraulic systems are generally expected to operate for many years under extreme conditions. Safe and reliable operation is dependent on detailed precision and the optimal interplay of the components.

Our quality standards are high: from CAD planning of systems, producing the components and assembly production to the final on-site installation and commissioning.



Hydraulic test benches at Watz

We put quality on the test bench.

Product quality has developed into a strategic competitive factor. With the **hydraulic test benches** from Watz Hydraulik, you can be sure that your products meet the highest quality demands.

Watz Hydraulik is the designer and manufacturer of hydraulic test benches for different test bench technology sectors. Working in close coordination with our customers, we design the perfect solution for the projecting and final testing of your products and accompany the process all the way to commissioning. Our range of services stretches from standardised test benches for single or serial applications all the way to highly complex development test benches and end-of-line test benches on the production floor.

Our customers profit from excellent and sustainable quality which creates measurable added value. Our test benches enable the testing, improvement and assurance of the actual quality of your products, thereby decreasing production, delivery and claim times as well as production and process costs.

Hydraulic units

Tailor-made to suit your requirements.

Watz Hydraulik designs and produces hydraulic units for diverse areas of application. The range of our services stretches from compact mini drive units with a 2.5 l fuel capacity to modular drive units with a 1,500 l fuel capacity.



Compact mini power units

Features

- Oil reservoir from NG 2.5 to 7 litres
- Complete hydraulic control can be integrated in control block
- External mounting of valve linking
- Broad area of application



Modular drive units

Features

- Oil reservoir from NG 63 to 1,500 litres
- Basic power pack with pump motor group, oil reservoir accessories
- Return filter, float switch and thermostat
- Controller with modular design, storage and cooling system
- Unit upgrade possible with minimum effort

Custom units with a fuel capacity up to **32,000 l** are also included in our scope of delivery – in various designs and, of course, in adherence with international standards and policies.



Modular small power units

Features

- Aluminium oil reservoir from NG 7 to 130 litres
- Application of constant pumps and regulation pumps
- Compact execution and high precision
- Manageable, maintenance-friendly assembly



Custom power units / Customer requirements

Features

- Oil reservoir according to DIN 24339 made of steel or stainless steel from NG 63 to 1,500 litres
- Custom reservoir according to customer requirements up to 32,000 litres, including strength calculations, material proofs and test certificates according to national and international standards such as DIN, ASME and API
- With partition and low-noise wall
- Separate pumps and motor groups
- Complex, in-house constructed control blocks according to customer requirements
- Individually fabricated pumps, control, storage, filters, etc.



Control blocks

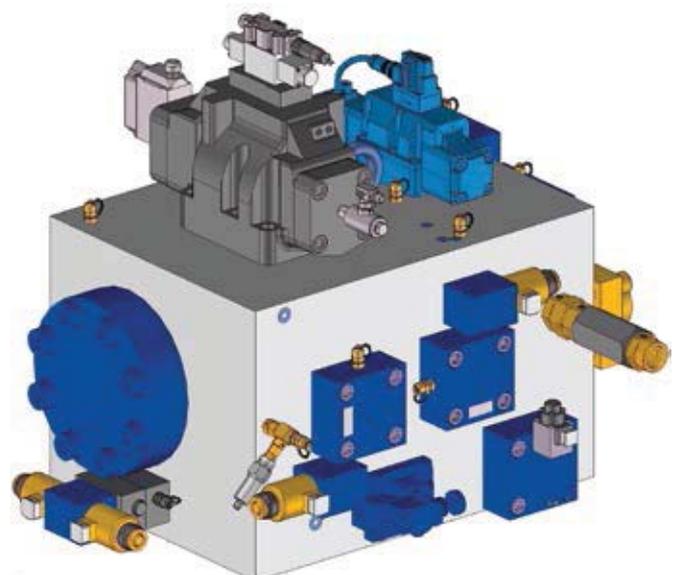
Made to measure.

Our experienced construction team designs, with the help of modern 3D software (or CAD programs), individual control blocks tailored for particular applications.

The process starts with the design of the circuit diagrams and extends to the manufacturer-independent selection of valve components and construction suitable for the assembly space. The control blocks are produced in modern CNC-controlled machining centres.

allowing us to deliver the optimal solution for switch and control processes. The integrated design saves transmission lines, reduces potential leaks and makes your application even more efficient. The combination of different valve systems allows for virtually any volumetric flow. Specially selected materials guarantee strength and weight optimisation in application scenarios.

We can install individual and needs-oriented switch and control gear processes in tight spaces. This saves transmission lines, reduces potential leaks and makes your application even more efficient.





Modern hydraulic system solutions

Predictive maintenance by remote control.

The requirements placed on modern hydraulic system solutions are complex. They must be simultaneously productive and resource-efficient, ideally lowering maintenance costs and guaranteeing high system availability. Therefore, at Watz the focus is on productivity, durability, operability, functionality, investment costs and energy efficiency.

With the increased application of speed-regulated drives and the intelligent combination of hydraulics and electronics, we ensure energy efficiency and dynamics. Additional advantages are reduced noise emissions and a more compact design thanks to smaller tanks and needs-based pump regulation, eliminating the need for cooling.

Further digitisation with industry 4.0 offers, above all, the possibility of predictive servicing and maintenance by means of decentralised drive systems with integrated intelligence and communication capabilities. Determining factors for data analysis and predictive maintenance depend on the selection of the appropriate system and the generation and processing of the correct data as well as the data analysis itself.

This means that our solutions integrate seamlessly into industry 4.0 and provide you with all of the advantages of control levels and end devices connected through interfaces. In addition, using solutions

from Watz Hydraulik allows you to profit from electrically controlled and regulated hydraulic functions that will guarantee system reliability and production safety. Machine downtimes are reduced to virtually zero, since the networked hydraulics enable distance maintenance and changes in the process chain to be implemented from almost anywhere in the world.

With the Simatic Panel, the testing processes of the test bench are controlled and visualised. The test specification parameters can be entered, analysed and saved. Both manual and automatic modes are available. All notifications and operations can be done via the panel.





Industry 4.0

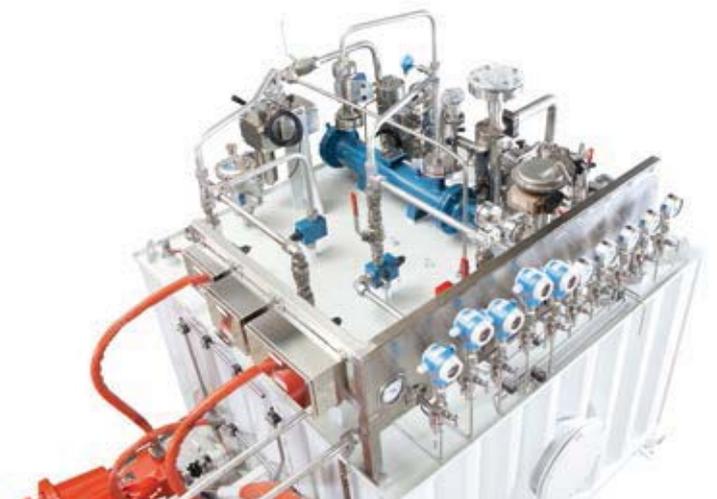
Intelligently networked in the future.

Intelligent and digitally networked systems are the future of the industry. This not only applies to a single product part as in the case of hydraulics, but ideally to the entire value-added chain. This means that our products integrate seamlessly into industry 4.0 and provide you with all of the advantages of **control levels and end devices** connected through interfaces.

With our solutions, you will profit above all from the perfect combination of hydraulics and electrical controls. In addition to low energy costs, this results in decreased operating costs and a simultaneous increase in system efficiency.

Additionally, by connecting the hydraulics with a data network, you have access to all remote maintenance services. Our service engineers immediately get a clear overview of the system and then, after consultation with you, can directly access your plant which, in turn, saves service costs and guarantees quicker and higher system availability.

Assembly of large hydraulic units made entirely of stainless steel with redundant supply pumps for use in LPDE systems. This unit is designed according to ATEX regulations.





WSPK briquetting presses

Compact, intelligent, reliable.

Metal filings are a valuable asset for the metalworking industry. The recycling of these materials closes cycles and ensures sustainable resource efficiency and environmental management.

With Watz briquetting presses for **metal filings** and **grinding sludge** as well as the FAUDI filtration systems for processing cooling lubricants, we are positively contributing to important waste management and treatment processes by converting valuable production residues into reusable secondary raw materials.

A product in cooperation with:
FAUDI GmbH | Stadtallendorf
www.faudi.de



Briquetting presses

Features

- Suited for fully automatic 24-hour operation
- Speed-regulated pump drive
- Low-noise emission and low maintenance
- Up to 2,000 kg/h throughput performance
- Briquette format from 60 to 125 mm Ø
- For metallic and inorganic waste



Watz custom cylinders

We are your specialist for hydraulic cylinders.

Watz Hydraulik and HydroService Zylinderbau are your partners for standard and custom cylinders. Customised production according to customer's wishes and requirements are our centre of focus. We are happy to fabricate your custom and/or specialised cylinders, even as a single unit or in small quantities.

- Diameters of up to 1,200 mm (wider upon request)
- Lengths of up to 12 m
- Operating pressure of up to 600 bar
- With or without an integrated absolute measuring system
- Proximity switch
- Custom seals and custom coatings
- Varying hydraulic mediums (HLP/HFC, water emulsion, Quintolubric, PK liquid, etc.)
- Cylinder design in adherence with national and international standards and regulations
- (DIN, ASME, ATEX, hydraulic steelwork DIN 19704, etc.)

All hydraulic cylinders, including power units and systems, are tested by our quality assurance department as exceeding the required working pressure in accordance with DIN, AD policy, ASME, ANSI, ATEX and DIN ISO 9001.



Custom hydraulic cylinders made of stainless steel with proximity switch and clamping unit. Seals and oils are food grade. These cylinders are used in pasteurisation and conservation procedures in the food industry.

Watz standard cylinders

Diverse applications.

Watz offers a series of robust standard cylinders for your applications. The cylinders feature a compact design and are suitable for diverse applications.



Series

ZD 160 bar

ZM 250 bar

ZE 300 bar

ZB 500 bar

Applicable standards

Design	Round cylinder	Round cylinder	Round cylinder	Block cylinder
Features	<ul style="list-style-type: none"> Robust screw construction Compact design Good price-performance ratio Broad area of application Seven mounting types Three seal variations 	<ul style="list-style-type: none"> Robust screw construction Compact design Good price-performance ratio Broad area of application Twelve mounting types Three seal variations 	<ul style="list-style-type: none"> Single-acting hydraulic cylinders Robust screw construction Compact design Good price-performance ratio Broad area of application Eight mounting types 	<ul style="list-style-type: none"> Compact Block design Double- or single-acting block cylinder, with or without spring return Three mounting types
Optional upgrade	<ul style="list-style-type: none"> Synchronisation functions Position sensor 	<ul style="list-style-type: none"> Synchronisation functions Position sensor 		<ul style="list-style-type: none"> Position sensor Position monitoring
Nominal pressure	160 bar	250 bar	300 bar	500 bar
Piston Ø	From 20 to 125 mm	From 32 to 180 mm		From 16 to 200 mm
Piston rod Ø	From 14 to 90 mm	From 18 to 125 mm	Plunger from 30 to 100 mm	From 10 to 125 mm
Max. stroke length	Up to 3,000 mm	Up to 3,000 mm	Up to 3,000 mm	Up to 250 mm
Max. compressive force	196.4 kN	636.3 kN	235.6 kN	1,570 kN
Max. pulling force	134.7 kN	398.5 kN		957 kN
Pressure fluid	Mineral oils, DIN 51524 HL, HLP	Mineral oils, DIN 51524 HL, HLP	Mineral oils, DIN 51524 HL, HLP	Mineral oils, DIN 51524 HL, HLP
Pressure fluid temperature range	-20 to +80°C	-20 to +80°C	-20 to +80°C	-20 to +80°C
Installation position	Arbitrary	Arbitrary		Arbitrary
Lifting speed	Standard 0.5 m/s*	Standard 0.5 m/s*	Standard 0.5 m/s*	Standard 0.5 m/s*

Standard and exchange cylinders

Reliable and flexible.

Simple interchangeability of all wearing parts and disassembly in combination with standard solutions: with our standard and exchange cylinders, you stay flexible.



ZI 160 bar

ZN-RX 250 bar

ZL-RX 250 bar

ZH-RX 350 bar

ISO 6020/2

ISO 6022

Tie rod cylinder	Round cylinder	Round cylinder	Round cylinder
<ul style="list-style-type: none"> Tie rod construction Simple interchangeability of cylinders based on standardised DIN standard sizes Thirteen mounting types Two seal variations 	<ul style="list-style-type: none"> Flexible, robust flange construction Simple disassembly and interchangeability of all wearing parts Simple interchangeability of cylinders based existing worldwide factory stock sizes Six mounting types Three seal variations Synchronisation functions Position sensor 	<ul style="list-style-type: none"> Flexible, robust flange construction Simple disassembly and interchangeability of all wearing parts Simple interchangeability of cylinders based existing worldwide factory stock sizes Six mounting types Three seal variations Synchronisation functions Position sensor 	<ul style="list-style-type: none"> Flexible, robust flange construction Simple disassembly and interchangeability of all wearing parts Simple interchangeability of cylinders based existing worldwide factory stock sizes Five mounting types Three seal variations Synchronisation functions Position sensor
160 bar	250 bar	250 bar	350 bar
From 25 to 200 mm	From 50 to 200 mm	From 40 to 320 mm	From 40 to 200 mm
From 12 to 140 mm	From 32 to 140 mm	From 22 to 220 mm	From 28 to 140 mm
Up to 3,000 mm	Up to 3,000 mm	Up to 3,000 mm	Up to 3,000 mm
502.65 kN	785.2 kN	2,010.6 kN	1,099.6 kN
400.86 kN	478.45 kN	1,225.2 kN	560.7 kN
Mineral oils, DIN 51524 HL, HLP	Mineral oils according to DIN 51524, HL, HLP, water glycol HFC	Mineral oils according to DIN 51524, HL, HLP, water glycol HFC	Mineral oils according to DIN 51524 HL, HLP, water glycol HFC
-20 to +80°C	-20 to +120°C	-20 to +120°C	-20 to +120°C
Arbitrary	Arbitrary	Arbitrary	Arbitrary
Standard 0.5 m/s*	Standard 0.5 m/s*	Standard 0.5 m/s*	Standard 0.5 m/s*

Cylinders with operating data differing from the above-mentioned sizes are deliverable upon request. * Dependant on power connection

ZL and ZH are structurally identical to CDH1 and CDH2.



Repairs and service under one roof

Reliability meets expertise.

Commissioning

The competent launching of our own and third-party products on-site is included in our service. This guarantees professional commissioning, lengthens the product life span and lowers long-term costs.

Repair and maintenance

Support from Watz Hydraulik does not end after commissioning: our professional maintenance guarantees optimal high-capacity system utilisation and long service life. Our experienced service team is able to offer reliable, fast and professional maintenance and repairs directly on-site.

Process optimisation and retrofitting

We support our customers where it is necessary to optimise or retrofit. Using technical modernisation and reconstruction, systems can be updated with state-of-the-art technology quickly and without a large additional investment. Improved system performance increases productivity while saving energy and resource consumption.

Education and training programmes

In-house education and training programmes enable our customers to permanently broaden their know-how. Our training offer ranges from courses on commissioning to training for technical buyers and engineers.

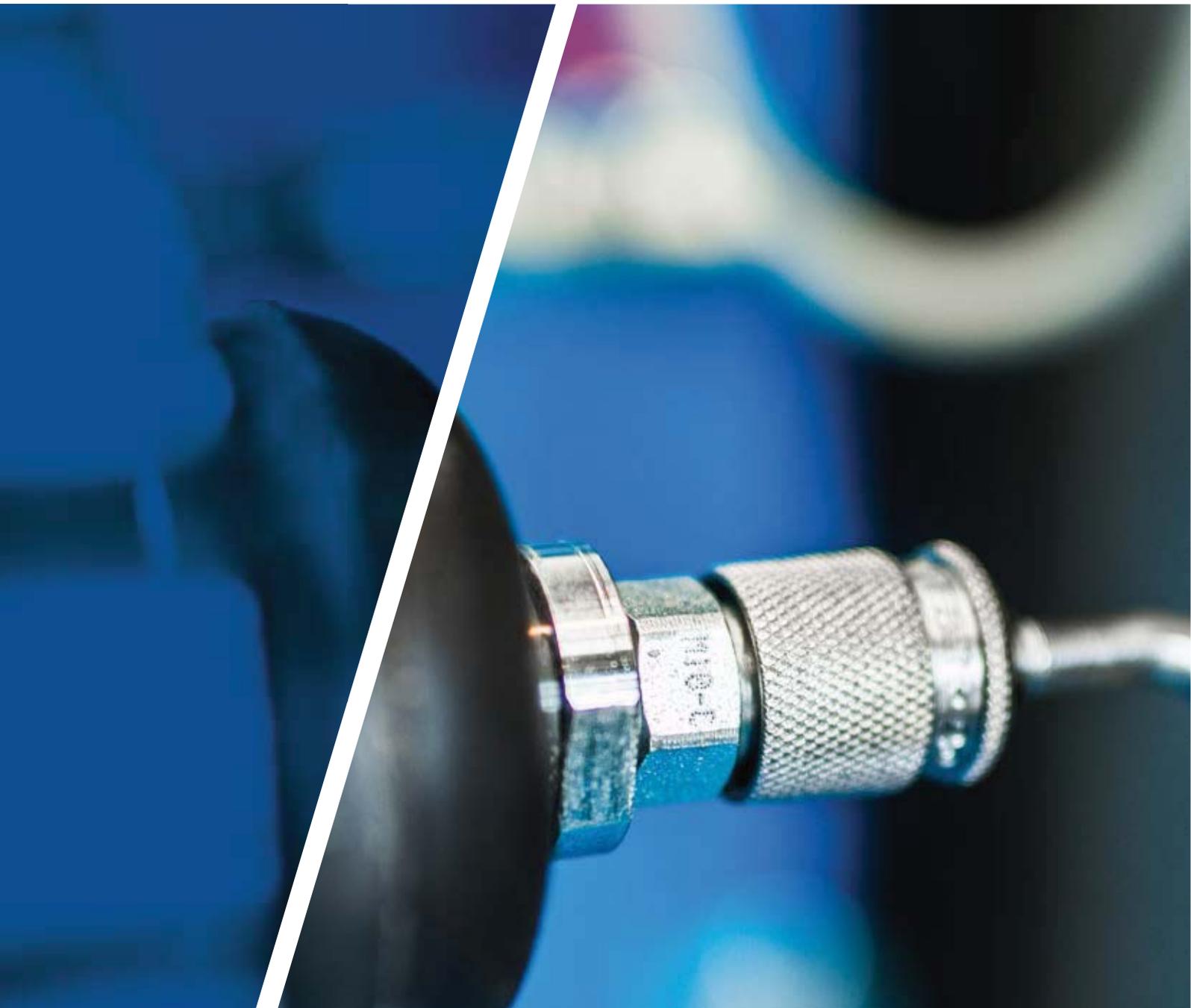
Hydraulic components for every area of application

Our in-house technical dealership offers an excellent selection of hydraulic components and relies on the high quality of reputable manufacturers. Many items are immediately available and can be directly collected or sent to you by express delivery.



FROM COMMISSIONING TO MAINTENANCE TO RETROFITTING: WE OFFER YOU COMPREHENSIVE SERVICE AT EVERY STAGE OF YOUR PROJECT.





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