



RUPPEL
Hydraulik

We move worlds!



AXXERON
TECHNOLOGIES

www.ruppel-hydraulik.de

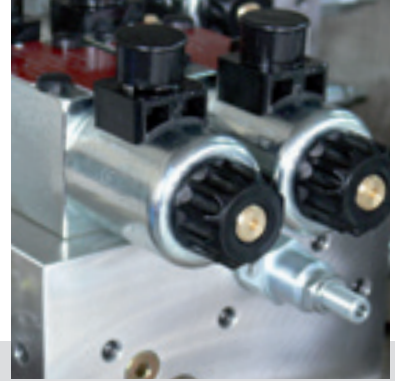
Ruppel, this name synonymous with movement and actuation – and has been for more than 45 years. Our knowledge and expertise is focused on hydraulic systems. From the system solution that exactly fits, to custom manufacture and the associated services – everything is available from one source.

■ We put your machines into action

Do your machines need system-oriented hydraulic or electro-hydraulic movement and control systems? We put your machines into action – with control equipment which has been adapted to your system. We can provide everything you need for your hydraulic system. We supply a wide selection of products with a high level of versatility.



We move worlds!



■ What drives us

Your particular requirements need special solutions which often have to be creative – with both design and production and this includes, of course, service. Do you have a problem? We have the solution, since we develop and manufacture anything which does not already exist ourselves.

■ On that, you can rely

Your high-quality machines require the optimum, high-quality hydraulic systems on which you can constantly rely. We therefore only use select quality products from leading manufacturers. The same principle applies to us as to you – only the best is good enough. You can also rely on us to provide you with qualified advice at a personal level. We offer you our skill and expertise from the design stage to installation and, of course, during maintenance and staff training.

■ World-wide service

We provide on-site service all over the world. This ensures that responses are fast to keep downtimes short and save you money. Almost all machines throughout the world use hydraulic systems. We are therefore justified in saying – We move worlds!

■ RTG hydraulics – used in the UAE

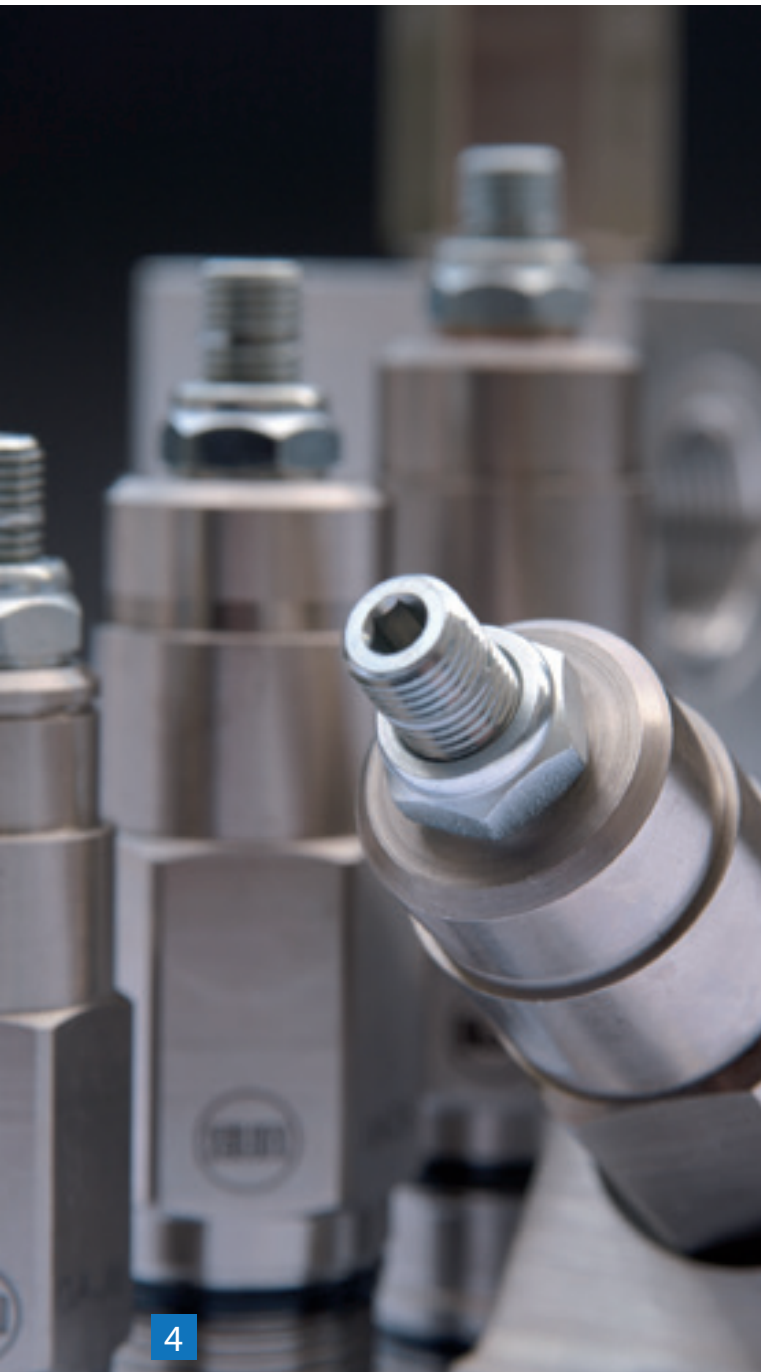
Our products

Motors, pumps or any kind of valve or cylinder – we have a wide range of products so we can provide the right solution for a range of requirements in different areas of machine building and one-off solutions. And, whatever the situation, we only work to the highest standard.

■ Motors and pumps

We have a range of products relating to motors and pumps:

- Compact units, electro-hydraulic units, hydraulic pumps, hydraulic motors
- DC motors
- Single and three-phase AC motors
- Electric motors rated at 0.25 kW to 180 kW or higher
- Single, double or multiple pumps
- Hydraulic pumps and motors with delivery rates from 1 cmm/r to 1000 cmm/r



■ Cartridge valves

Our range of product in this area includes:

- Pressure relief valves
- Pressure sequence valves
- 2-way and 3-way pressure reducing valves
- Check valves
- Flow-regulator valves
- 3-way priority-flow valves
- 2-way logic elements
- Directional valves
- Pilot valves and hybrid pressure-relief valves
- Special valves
- Counterbalance valve

The cartridge hydraulic valves which we use are also top quality. Because of the numerous versions of the individual types which are available, we not only fulfil all the functions required and also fine-tune them to the nth degree. Thus, extra leeway can be created for flow rates up to 1500 l/min or more, for example.

Benefits at a glance:

- Improved system reliability
- Simplified control
- Fewer leaks
- Savings in pipework costs
- Savings in space and weight
- Simplified services
- Reduced assembling time
- Decreased spare part storage

Solutions to problems due to a wide selection

■ Directional valves/ Cetop

Here also, we can supply you with all modes of operation and makes. And if a standard valve is not sufficient, we can supply the right solution with a special valve.



Our products

Special valves

If there is no standard valve available to meet your hydraulic valve specifications, then we will develop a suitable one for you. And this, by the way, can still be the most cost effective solution even with small batch numbers.

■ Counterbalance valves

Counterbalance valves from SUN with three connections are proportional regulator valves with free flow from directional control valve to the cylinder. In the opposite direction, the valves remain closed until an actuating pressure is applied which is inversely proportional to the load pressure (the higher the load pressure, the lower the actuating pressure required to open the valve). The valves operate like a non-return valve with free flow in one direction and like a pressure-relief valve in the other direction. The pressure setting for pressure relief decreases as the actuation pressure applied to the third connection increases. Most valves offer thermal protection. Loads can be lowered or braked in a controlled manner by using a directional valve with an open center position.



We guarantee top quality

■ Cylinders

In order to produce the required functions, we have a diverse range of cylinder sizes and designs at our disposal. Standard models are used during the design stage where possible. However, where this is not possible, we can develop custom-made products for you. The environmental conditions are, of course, taken into consideration during the planning phase.

■ Better control

Almost all actuators can control more effectively with load-control valves because, from the point of view of the directional valve, these loads can turn into positive loads, even when the load itself pulls on the motor (negative load). Due to the reverse progression ratio, small loads are lowered with large actuation pressures. Large loads, on the other hand, are lowered with smaller actuation pressures. Thus, loads are more easily controlled and the stability of the entire actuator is improved. With load-control valves, negative pulling loads appear positive from the point of view of the directional valve used. This considerably simplifies the control of movement.

■ Tanks

Our product range includes standard tanks as well as custom-made versions according to requirements and specifications. All tanks are powder-coated or painted.

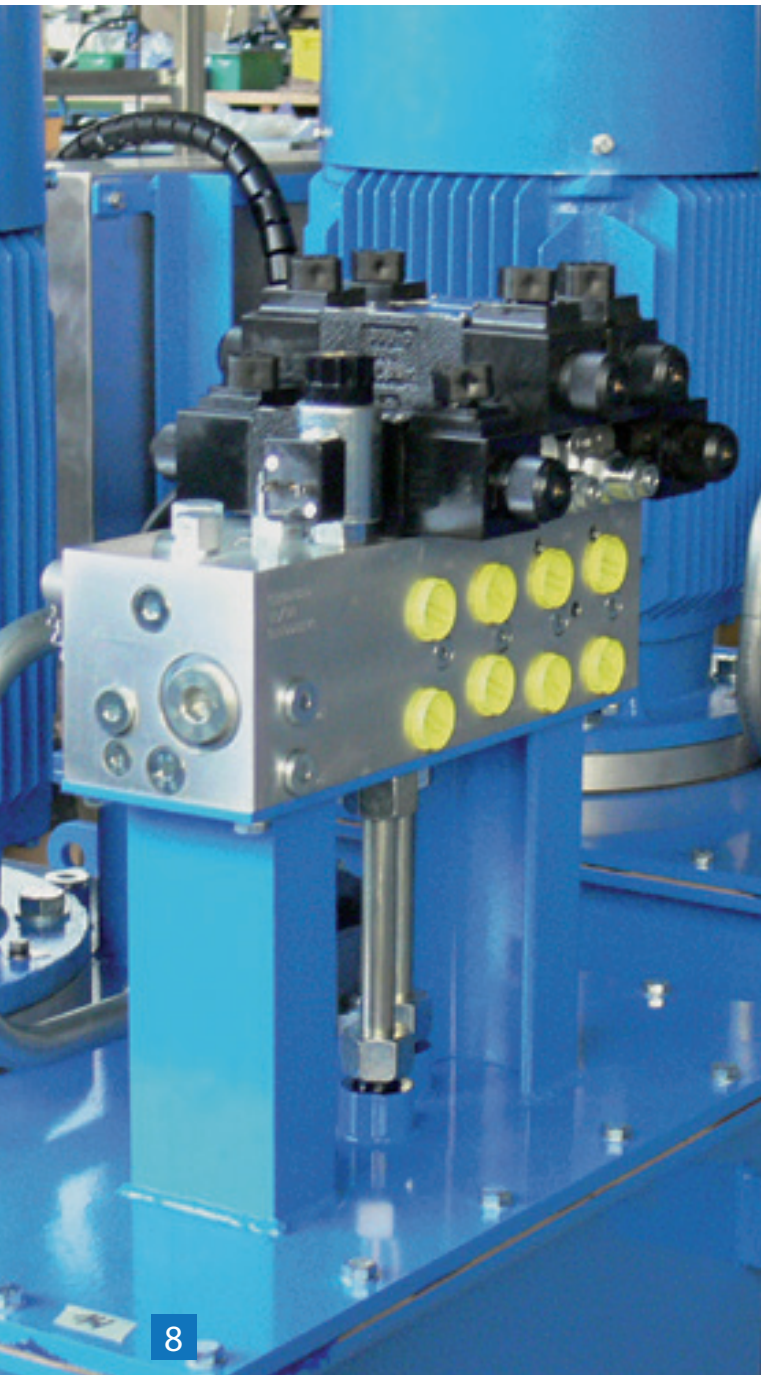


Designs & custom-made products

Complex problems demand complex design solutions. Our own trained specialists have access to the latest CAD technology for design and development. With CAD programs such as HYDROMAN for block designs and AUTOCAD, we can design and build quickly and cost effectively.

■ Your requirements are our motivation

In particular, when standard products are not the right solution for requirements, our skill and expertise is at your disposal for custom-made products in all product areas – cylinders or special valves and valve control units in particular for any kind of application. We can put together entire assemblies according to your requirements. By using partial solutions which are already available on our extensive data archive, we can guarantee to come up with the right solution within a short time – and, of course with the highest accuracy and precision. We are also able to produce highly complex systems tailor-made to your individual requirements. We create the conditions for maximum process reliability even during the planning phase.



■ Valve control units

We develop most of our control units in block design. These compact, rugged, pipeless designs are easy to install and save space. To manufacture the valve control blocks, we use materials which tailor-made for the main factors such as the pressure, fluid and the environmental conditions on site. Each component and the product as a whole are, of course, subjected to a comprehensive range of tests for functionality. We can therefore guarantee that only the highest quality systems leave our factory.

■ Assemblies

The same applies to assemblies – you present us with the problem and we give you the solution. In other words, we build the right hydraulic assembly for you – on request, including the electric controller and PLC. And of course, we also install it for you and commission it on site.

■ PLC controller

In order to provide you with the optimum control solution for your plant, the keyword here is automation. This simplifies the electrical layout of the hydraulic and other systems, i.e. from control relays to the entire PLC. Of course, all the control solutions are easy to install and thoroughly versatile.

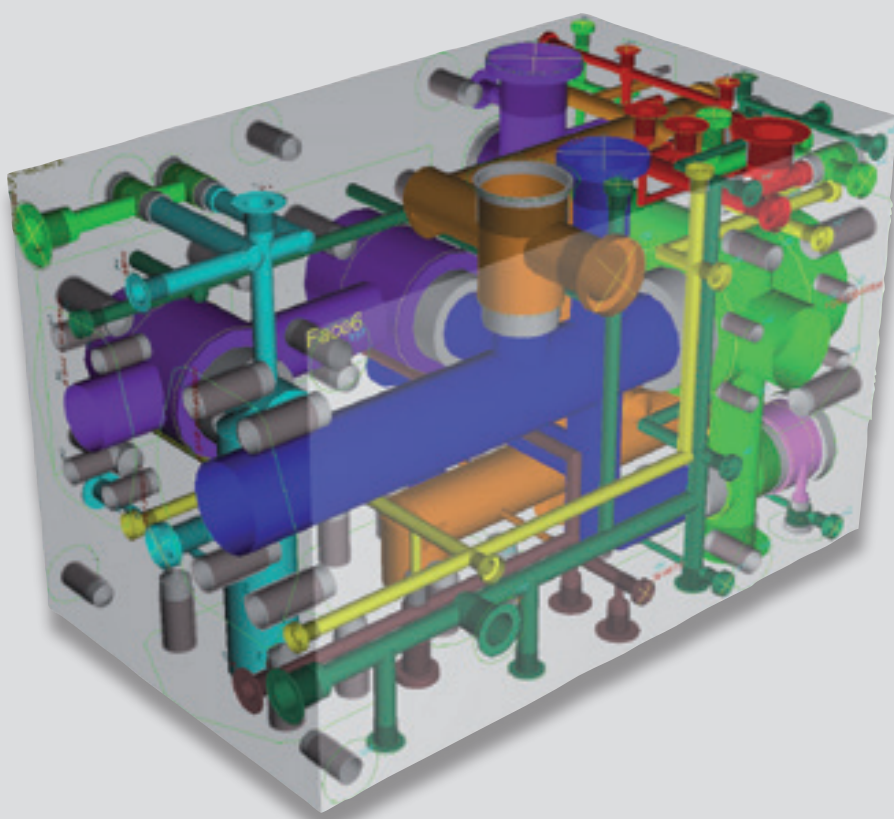
CAD technology for fast and economical solutions

■ One of our strengths is that we offer advice on an individual basis

Individual solutions require advice on an individual basis. Thus, qualified advice at a personal level right from the start is our highest priority. We know that detailed discussions at an early stage are essential for planning in order to fully meet the requirements and for the project to be executed without any problems. These discussions serve to identify problem areas and special customer requirements early on and enable us to find solutions before design engineering and production begins.

■ Product quality guaranteed – even for custom-made products

Reliance is on quality. We therefore only use high-quality products for custom-made products also – tailor-made to each situation. The valve control blocks are mainly assembled from valve cartridges from SUN Hydraulics, for example. So, for soft-start valves we use the makes of reputable manufacturers such as Bosch-Rexroth, Parker, Atos, Hoerbiger, Vickers and others. When building cylinders, we use the tried-and-tested products from LJM. Perfect operation is essential for each product component before assembly – this is the only way to guarantee satisfaction for you, our customer



■ Design drawing of a valve block during the planning phase

Project engineering – Success is guaranteed by accuracy and experience

- The requirements during the detailed planning of valve control blocks and hydraulic systems are high. We handle these tasks with a high level of experience and accuracy. Accurate project engineering and pre-planning are especially necessary during the development in control engineering. This also applies to fine-tuning when the individual components are installed. In detail, we do the project engineering, i.e. we design and build valve control blocks, hydraulic systems, valve blocks, valves and cylinders, and we fine-tune and pre-plan the system. Also, when developing the electrical or electronic controller, we are happy to give you access to our know-how.



- Our extensive range of services covers everything you may need and includes engineering, maintenance, repairs, spare part service, training courses and seminars.
 - Guarantee
Comprehensive warranties and guarantees and extensive fair dealing go without saying. We offer a 12-month guarantee on all our products.
 - Engineering
Engineering for us means that we make sure your systems are constantly kept up to the latest technical standard. The updating intervals can be co-ordinated with us according to need. This relieves your company from the necessary but time-consuming scheduling needs.
 - Maintenance
We carry out a comprehensive maintenance service on your hydraulic systems. Whether it is according to need or at regular intervals depends on you and the requirements of your company. The options are monthly, quarterly, annually or on an individual basis.
 - Repairs
Our repair and emergency service provides your company with the necessary security.

Service is high on our list of priorities

■ Other example applications

We have supplied hydraulic equipment to reputable original equipment manufacturers from a variety of areas for years, for example:

- Public utilities vehicles
- Industrial plants
- General mechanical engineering
- Dockyards
- Machine tools
- Rescue vehicles etc.

■ On-site service

On-site service is our currency. We carry out repairs on your premises where the equipment is used quickly and flexibly. The same applies to maintenance work. Everything can take place just in time so that downtimes and production losses are kept to a minimum. Due to our extensive warehousing system and service specialists in particular, we can replace defective parts on site without having to wait for long periods – it is therefore cost effective. Rapid intervention and cost savings due to short downtimes are therefore guaranteed.

Your plant is assembled exactly when and where you want it, i.e. according to requirement. The fact that we provide you with the necessary support with qualified specialists goes without saying. This also applies outside Germany – after all, our engineers and mechanics have many years experience from all over the world. Thus, we can also support you when optimising your working processes and, of course, during staff training on site.

■ Example applications

We have manufactured special machine components at the highest standard for every application – with complex structural designs using the latest CAD programs and methods.

- Plant construction
- Construction machinery
- Elevating tables
- Public utilities vehicles
- Offshore
- Recycling technology
- Ship building, marine engineering
- Sewer cleaning
- Welding engineering
- Industrial hydraulics
- Motor industry
- Harbour cranes
- Crane and lift technology
- General mechanical engineering
- Presses
- Snowploughs
- Attachments for forklift trucks
- Road sweeping vehicles
- Machine for chipboard manufacture
- Automation engineering



Our Assets

- Ruppel Hydraulik - that's 45 years of experience and competence in hydraulics. Ruppel produces and distributes high quality industry components such as control blocks, aggregates, valves and cylinders, and provides installation, training, on-site support and repair services.

Ruppel Hydraulik stands for reliability, flexibility and great professional competence. Our outstanding market insight, close collaboration with leading producers and our uncompromising quality make us the partner of choice for national and international machine manufacturers.

We provide our customers with individually tailored solutions from our own product range - considering the most current standards. Our extensive warehouse stock guarantees a high service factor and fastest delivery. Our partnerships and supply agreements enable us to provide extremely attractive conditions for products of numerous leading manufacturers.

- **Performance and reliability around the globe**

With Gerhard W. Ruppel as the managing director, the company which has its head office in Bad Münders employs well-trained engineers, technical staff and specialists. The company's highly-qualified installation engineers are deployed all over the world. Branch sites in the Middle East and China will be providing even stronger support for these markets in the future.

The Ruppel Hydraulik (a company under the umbrella of the rapidly expanding Ruppel Group) is now the partner of many reputable national and international companies in all matters (including problem-solving) which relate to hydraulic systems. And we can say with some justification - **we move worlds**.

Please do not hesitate to enquire if you have any further questions.



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