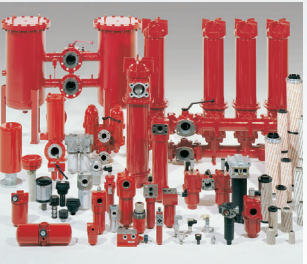




Accumulator Technology 30.000



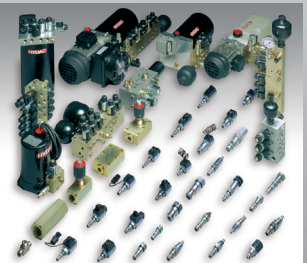
Filter Technology 70.000



Process Technology 77.000



Filter Systems 79.000



Compact Hydraulics 53.000



Accessories 61.000



Electronics 180.000



Cooling Systems 57.000

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Local Expertise.
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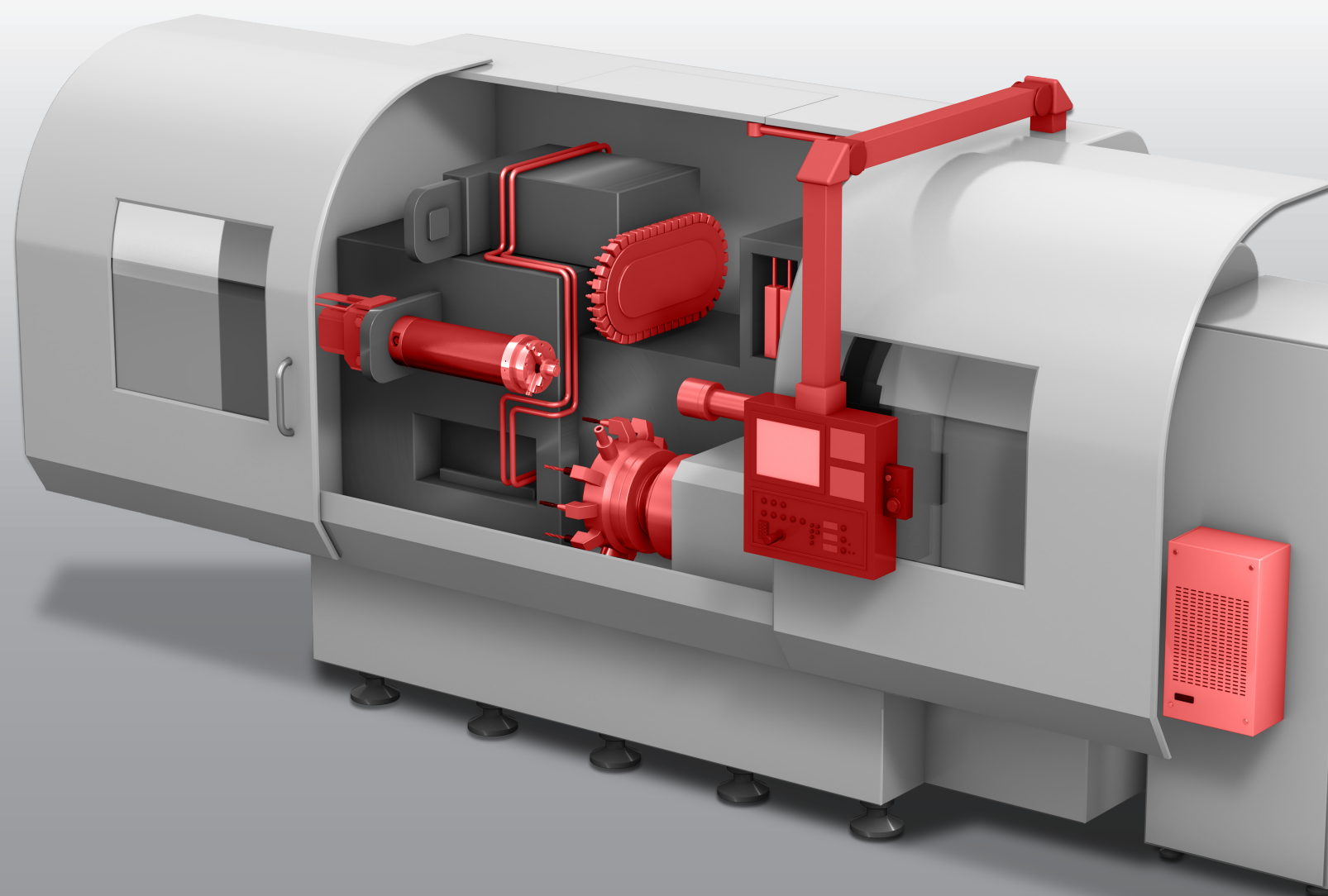


- HYDAC Head Office
- HYDAC Companies
- HYDAC Sales and Service Partners

HYDAC

INTERNATIONAL

**Components,
Systems and Service
for Lathes**



HYDAC

INTERNATIONAL

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HYDAC Your partner for expertise in lathe technology.

HYDAC has been one of the leading suppliers of fluid technology, hydraulics, electronics and cooling equipment for more than 50 years and has over 7,500 members of staff worldwide.

With our wide range of products, and with our acknowledged expertise in development, manufacturing, and service we provide solutions for the wide range of requirements in the machine tool industry.

In addition to standard products, HYDAC has a wealth of components specifically developed for use in lathes. These have evolved from the fields of hydraulics, cooling, electronics and cooling lubricant management. Intelligent integration of HYDAC products creates innovative and technologically advanced subsystems and complete systems for use in lathes.

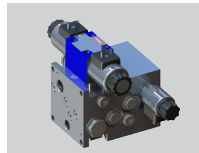
Customer benefits:

- Cost-optimization achieved by customized system solutions which use standard components
- Reduction in number of models through standardisation and modular construction
- **Global yet local:** more than 45 overseas companies and over 500 sales and service partners
- **Fluid engineering and service:** Support in technical design, in the case of complaints, commissioning, maintenance and training
- **Customized solutions** Designs can be tailored to individual customer requirements - made-to-order solutions for your lathe

Lathes: From the component to the system. Sensors, hydraulics, cooling and cooling lubricant.



Compact Power Unit
CO3



Manifold Stacking System
HL

HYDRAULICS

Power units + controls for:

- Workpiece clamping
- Spindle brake
- Tailstock traverse
- Lubrication
- Tool change
- Axis clamping
- Tool turret clamping



Fluid/air cooling systems
FLKS

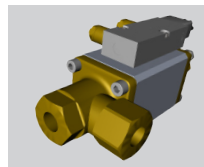


Refrigeration cooling
system RFCS

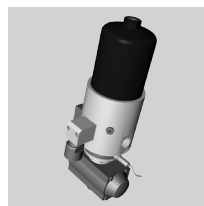
COOLING

Active and passive cooling systems for cooling of

- Spindles
- Motors
- Axes
- Cooling lubricant
- Hydraulic oil
- Control cabinets



Coaxial vent CX



Automatic back-flushing
filter AutoFilt® RF4

COOLING LUBRICANT

- Valves to supply:
 - Internal coolant to tools
 - Tool holder flushing
 - Machine bed flushing
 - External flushing of workpiece
- Fine filter to protect the high pressure pump
- Subsystems:
 - Process Booster Block (PBB): pressure boost, pressure control, pressure monitoring and safety filtration in one unit.



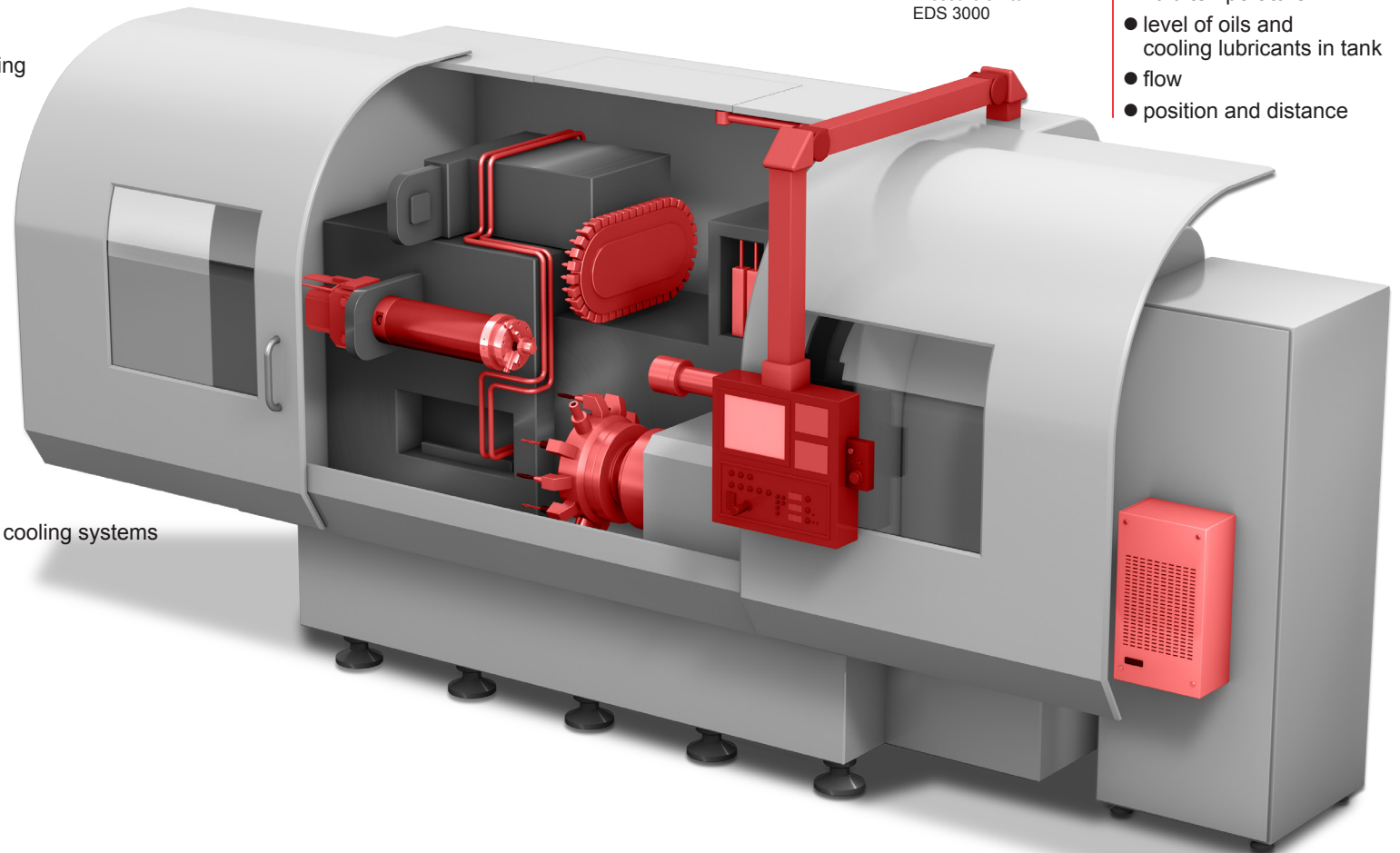
Pressure switch
EDS 3000

ELECTRONICS

Sensor systems and Condition Monitoring

Sensors for indication, checking and monitoring of

- clamping pressure
- fluid temperature
- level of oils and cooling lubricants in tank
- flow
- position and distance



Fluid panel

SYSTEM SOLUTIONS

- Cylinder with integrated distance measuring system
- Hydraulic counterbalance to relieve the mass of vertical machining spindles
- Fluid panels including hydraulics, pneumatics, cooling lubricant, electronics, cooling and lubrication in a plug & play solution for your lathe

Electronics

Sensor systems and condition monitoring components contribute to increased productivity, a high level of machine safety, effective mechanical efficiency in the lathe and to achieving high quality machining. The HYDAC portfolio includes sensors to display, check and monitor the pressure, the fluid temperatures, the level in the tank, the flow rate and the workpiece support.



Pressure transmitters HDA 8000 /
Pressure switches EDS 3000

Pressure transmitters/ pressure switches

Features

- Robust wear-free measurement technology
- Long term stability
- Simple and accurate adjustment:
 - manually e.g. based on a VDMA menu navigation
 - automated e.g. via an IO link interface
- Application and customer-specific models
- Model for applications with increased functional safety and/or diagnostic function

Function

Reliable pressure monitoring is of prime importance for the function of the machine and the quality of the turned part.

Pressure transmitters and switches are deployed to monitor:

- Clamping pressure
- Workpiece support
- Cooling lubricant system
- Hydrostatic bearing
- Accumulator charging pressure
- and in the pneumatics

Advantages

- Long life and therefore greater machine availability
- Accuracy stability over the entire useful life
- Consistently high machining quality
- Time saving
- Optimised stock control
- Minimal operating errors
- Simplification or optimisation of the machine architecture
- Increase in machine safety



Distance and position sensors HLT 2500 Profile design,
HLT 2500 Flat Housing design, HLT 1000

Linear position and distance sensors

Features

- Distance sensors operate on the principle of magnetostriction in rod design (which can be semi- or fully integrated into cylinders), or are available for external installation in a flat housing or profile housing with position slides.
 - Wear-free
 - High degree of accuracy
 - Model for applications with increased functional safety and/or diagnostic function
- Other distance and linear position sensors based on LVDT, Hall sensors, ultrasound and optical sensors.

Function

Increasing demands for precision, machine availability and improved safety require reliable distance measuring technology which is perfectly adapted to the application.

Linear position and distance sensors are used in:

- Tailstock monitoring
- Valve position monitoring
- Position detection e.g. on locks
- Palette changers
- General monitoring of traverse paths

Advantages

- Long life and therefore greater machine availability
- Consistently high machining quality
- Simplification or optimisation of the machine architecture
- Increase in machine safety



Level switch ENS 3000, Level switch HNT 1000

Level switch / Level transmitter

Features

- Wear-free measurement
- Indication of fluid level
- Simple and accurate adjustment:
 - manually e.g. based on a VDMA menu navigation
 - automated e.g. via an IO link interface
- Analogue resolution over the whole measurement range

Function

Level switches and transmitters are primarily used to measure the level of oils and coolants in the tank.

Advantages

- Long life and therefore greater machine availability
- Time saving
- Accuracy stability over the entire useful life
- Continuous level detection over the entire measurement range, smoothed
- Active suppression of short-term level fluctuations



Temperature switches ETS 3000,
temperature transmitters ETS 4500 and HTT 8000

Temperature transmitter / Temperature switch

Features

- Robust wear-free measurement technology
- Long term stability
- Simple and accurate adjustment:
 - manually e.g. based on a VDMA menu navigation
 - automated e.g. via an IO link interface
- Application and manufacturer-specific versions

Function

A consistently high product quality can only be achieved when the machining tools are at a constant temperature.

Temperature measurement transmitters and switches are used to monitor the temperature of cooling media and hydraulic fluids

Advantages

- Long life and therefore greater machine availability
- Accuracy stability over the entire useful life
- Consistently high machining quality
- Time saving
- Optimised stock control
- Minimal operating errors
- Simplification or optimisation of the machine architecture

Hydraulics

The frequency controlled compact power unit CO3 in combination with the decentralized manifold stacking system HL which acts as the control logic serves all the main and secondary hydraulic functions in a lathe. Here the central function is the operation of the chuck. Reliable supply of the clamping pressure, as well as exact setting and control, is of prime importance for the functioning of the lathe. In addition, all the secondary functions, such as tailstock, steady, turret, lubrication, parts gripper etc can be controlled simply and efficiently with the modular manifold system.



Fan with protective grille and optional dust protection filter

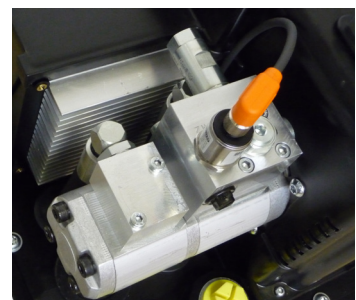


Oil/air cooler



Frequency inverter

Oil level gauge with optional electrical monitoring



Double pump



Compact Power Unit CO3

Features

- Accurate, needs-based control and low energy consumption due to frequency-controlled motor
- Reduced oil volume required in the whole circuit due to needs-based supply
- Lower cooling capacity required due to lower heat dissipation than on conventional power units
- Optimum motor and oil cooling due to efficient air flow in the power unit housing with fully integrated cooler
- Designed for continuous duty S1
- Constant oil cooling and conditioning due to double pump
- Complete enclosure in a housing made of fibre-reinforced composite material and low-frequency stand-by operation means the power unit is barely noticeable
- Quiet running pump optional
- Simple and time-saving commissioning due to pre-defined electrical and hydraulic connections
- International connections
- Components have been service-life tested, proving themselves over many years, and thus guarantee excellent availability
- Power unit is self-monitored via frequency transmitter for motor temperature, oil temperature and overload

Function

The frequency-controlled, continuous-rated double pump of the CO3 reacts to every demand spike and compensates immediately. Equally, as a result, it requires lower drive power than conventional power units and in addition takes care of the oil conditioning and cooling.

In addition, efficient air flow in the power unit housing guarantees optimal motor and oil cooling. All in all, this ensures excellent machine availability.

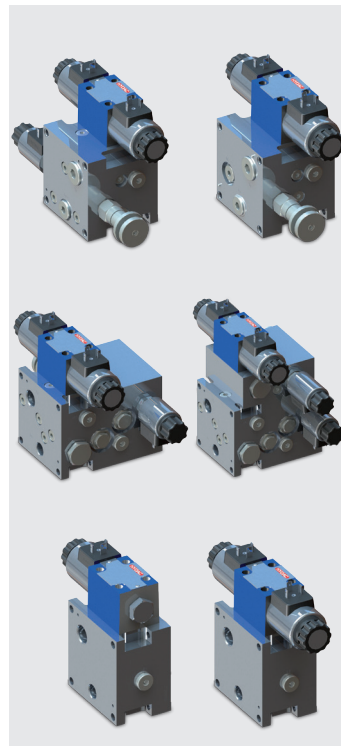
The Compact Power Units CO3 are constantly in use – literally, because they are designed for continuous operation S1.

Advantages

- Energy efficiency
- Endurance
- Quiet running
- Plug and play
- Reliability

Design and intelligent technology

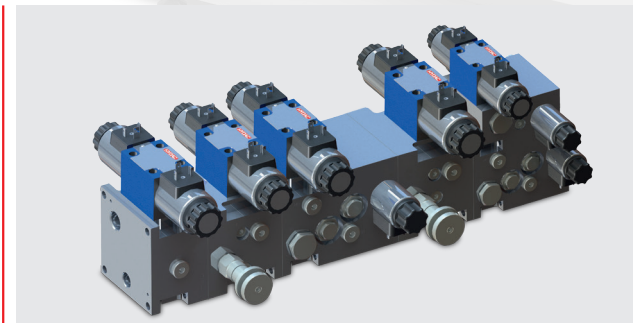
The compact power units CO3 have a wealth of carefully co-ordinated technical solutions which are the result of dedicated product development. The special **TM design** (Tuned Monolithic Design) combines modern materials designed to save space and weight with efficient cooling airflow and high-end components - a "seamless" solution for you.



Individual modules for different applications

Advantages

- Energy efficiency
- High level of integration
- Plug and Play
- Reliability



Stacking system

HL controls

Features

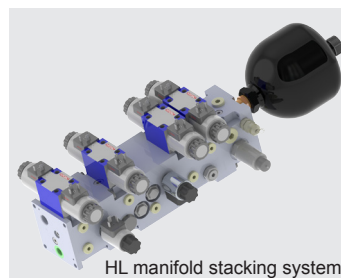
- Can be used as an individual module or in stacking configuration locally in the machine
- Installed close to the particular machine
- Can easily be extended to achieve the required range of functions
- Tried-and-tested cartridge valve technology in conjunction with Cetop valves in completely re-designed and Δp -optimized, modular housings
- High energy saving potential due to zero-leakage cartridge poppet valves in conjunction with an accumulator charging function
- A choice of standardised valve cavities combined intelligently in the particular module allows various circuits to be achieved completely within the module

Function

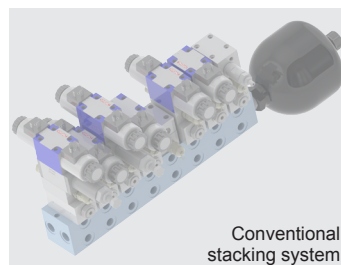
The manifold stacking system is a new type of control logic for the auxiliary functions in a lathe.

It consists of individually combined standard modules. Each function module can be used both independently and in stacking configurations. The sequence of modules depends on the control task, as does the use of pressure, flow control, shut-off and directional control valves on the module.

The system can easily be customized as extending and replacing is very simple.



HL manifold stacking system



Conventional stacking system

HL manifold stacking system vs. conventional stacking

The compact design of the HL manifold stacking system, which was specifically developed for the numerous hydraulic applications of lathes, has significant advantages over conventional stacking systems, amongst others in respect of installation space, weight, costs and flexibility.

- Cavity: - 35 %
- Weight: - 40 %
- Costs: - 10 %
- High flexibility due to modular design
- Almost all hydraulic functions are possible

Cooling lubricant

To supply the cooling lubricant, HYDAC offers piston control or coaxial valves. Where driven tooling with an internal coolant is used, then inline, duplex change-over and back-flushing filters are available to protect the high pressure pumps.



Coaxial valve in modular design



Duplex change-over filter FLND

Coaxial valves Direct & external pilot Available as individual valves and in modular design

Features

- High flow rates with low pressure loss
- Flow rates up to 47.2 m³/h = 787 l/min
- Safety assured by proven technology and experience
- Compact design
- Robust design and high level of protection against back pressure

Function

Coaxial valves open and close by axial movement. A tube is moved in a horizontal direction and thus opens the valve seat. The coaxial valve technology is a tried-and-tested means of controlling different types of media, e.g. vacuum, gaseous, fluid, abrasive, contaminated and aggressive and is therefore universally applicable. A broad range of sizes and connection types, together with seal materials and housing materials which are compatible with the medium, make it possible to develop tailor-made solutions for an almost unlimited range of applications.

Advantages

- Rapid opening and closing times
- Highly contamination resistant and durable
- High Kv values and viscosities are possible, therefore also suitable for colloidal, highly viscous, pasty and contaminated media.
- Very compact design
- The geometry of these valves allows them to be built as module blocks (space saving, maintenance friendly and minimizes the installation expense)
- No pressure differential required
- Resistant to back pressure and flow possible in both directions

Inline filters DF / FLND / FMND: Finest filtration to protect the components

Features

- Removal of solid particles from cooling lubricants
- Filtration ratings from 5 to 50 µm
- Flow rate up to 400 l/min
- Pressure up to 100 bar (others on request)
- Filters to DIN 24550 available
- Change-over filters possible

Function

As the fluid passes through the filter element, the particles are retained and become embedded in the deep structure of the element. The large internal surface provides high contamination capacity and long filter service life. The excellent filtration of even the smallest particles protects the downstream components, such as the rotary joint, internally cooled tools and high pressure valves from damage.

Advantages

- Desired cleanliness class is guaranteed.
- Protects downstream components
- Low pressure drops
- Compact and space-saving design
- 24 hour operation with duplex change-over filters
- Low leakage when changing element
- Available with/without bypass valve



Automatic back-flushing filter AutoFilt® RF4

Automatic back-flushing filter AutoFilt® RF4: Tried-and-tested function principle, compact design

Features

- Separation of solid particles from low viscosity fluids
- Filtration ratings from 25 to 100 µm
- Flow rates up to 200 l/min
- Compact design
- Efficiency thanks to automation
- Performance enhanced by isokinetics
- Safety assured by proven technology and experience

Function

The medium flows through the filter elements from the inside to the outside. Contamination particles then collect on the inside of the filter elements. As the level of contamination increases, the differential pressure between the contaminated and clean side of the filter increases. When the differential pressure reaches the pre-set trigger point, back-flushing starts automatically.

Advantages

- Fully automatic operation
- Ready-to-operate unit
- Maximum utilization of the filter area
- Full filtration performance following back-flushing
- Complete cleaning of the conical filter elements
- Low maintenance costs
- Low operating costs
- Compact unit



Process Booster Block PBB

Process Booster Block PBB: Safe high pressure cooling and lubrication

Features

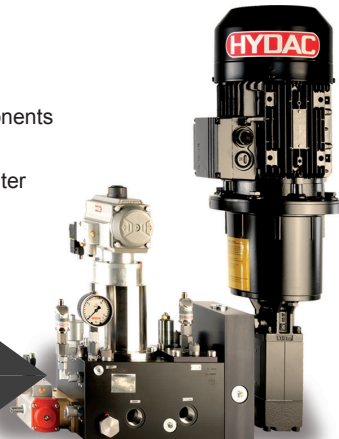
- Pressure boost, pressure control, pressure monitoring and safety filtration in one unit
- Compact design
- Flow rates up to 80 l/min
- Max. operating pressure of 70 bar on the high pressure side
- Protective filter – Automatic back-flushing filter AutoFilt® RF4
- Filtration ratings from 20 to 100 µm
- High pressure pump, pressure control valve, high pressure valves, pressure relief, pressure monitoring
- Adjusted and adapted to specific customer needs

Function

The design consists of a supply block with filtration and an adaptable pump block, and provides full functionality for the high-pressure supply of internally cooled tools. The block incorporates the actuators and sensors in a minimum of space. Furthermore the block can be expanded according to customer requirements. An adapter plate can be used to install all commonly available high pressure pumps on the machine tool.

Advantages

- Compact design
- Simple design
- Modular system
- Standard components
- Block design of components
- Minimizes pipework
- Automatic protective filter
- HYDAC AutoFilt®
- Ready-to-install unit
- Simple commissioning



ALL IN ONE
From the component

SOLUTION
to the system

Cooling

Active and passive cooling systems for cooling the spindles, motors, axes, control cabinets and fluids in lathes. High power motor spindles require a safe and fault-free fluid system with which other drives can also be cooled if necessary. The return cooling can be achieved by means of an air, water or refrigeration system.



Fluid/air coolers FLKS

Fluid/air cooling systems FLKS

Features

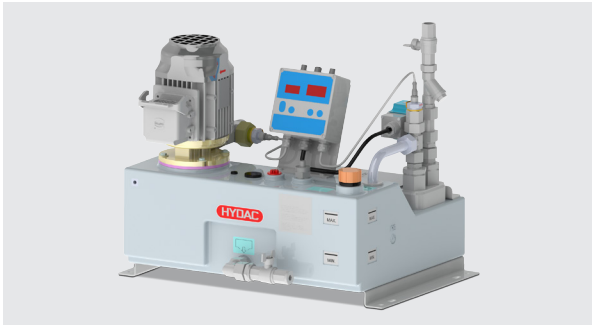
- Cooling of circuits which use mineral oil or water/glycol
- Compact design with plastic reservoir, circulation pump, cooler element and fan
- Various sizes with cooling capacities up to 1.05 kW/K and flow rates up to 150 l/min

Function

The pump supplies cooled operating medium from the tank through the drive being cooled and absorbs the heat there. The hot operating medium flows through the heat exchanger and is cooled by the air flow created by the installed fan.

Advantages

- Cost effective and efficient cooling system
- Sizes FLKS-1, FLKS-2 and FLKS-4 with plastic reservoir
- Energy efficient because small drives are used and heat is dissipated directly to the environment
- Systems with closed-loop speed control (optional):
- The temperature of the medium is controlled by the change in fan speed to a defined differential to the ambient temperature.



Fluid/water coolers FWKS

Fluid/water cooling systems FWKS

Features

- Cooling of circuits which use mineral oil or water/glycol
- Compact design with plastic reservoir, circulation pump, cooler element and plate heat exchanger
- Various sizes with cooling capacities up to 100 kW and flow rates up to 150 l/min
- Can be used as a temperature controlled intermediate circuit. In this way the contamination and corrosion in the coolant circuits which could arise as a result of poor cooling water quality with direct cooling is prevented.

Function

The pump supplies cooled operating medium from the tank through the component being cooled and absorbs the heat there. The hot operating medium flows through the plate heat exchanger where it is cooled again by the cooling water in the heat exchanger.

Advantages

- It is also possible to cool to temperatures below the ambient temperature (depending on the temperature of the available cooling water)
- Low heat dissipation to the environment and low noise emissions
- Thermostatically or electronically controlled proportional valve available as an option: the temperature of the operating medium can thus be maintained at a specific temperature value.



Refrigerated Fluid Cooler RFCS

Refrigerated Fluid Cooler RFCS

Features

- Fluid cooling system as separate auxiliary cooler or for integration into a machine
- Cooling capacities from 1 to 160 kW
- Can be used for all cooling tasks in lathes
- Stand-alone control of the system by means of innovative controller design
- Condenser available in water-cooled or air-cooled version
- Several cooling circuits possible
- Precise temperature control accuracies from ± 0.1 K

Function

The RFCS Refrigerated Fluid Cooler System cools various fluids such as water, water/glycol or oil. The cooling system, which consists of a chiller, pump, tank and control, operates independently to a specific setpoint. The energy efficient, patented mixer principle, combined with a seal-less submersible pump, makes this system the ideal component for lathes.

Advantages

- Leakage-free, seal-less submersible pump
- Compact dimensions
- User-friendly controller interface
- Cleanable air filter
- Plug & play solution
- Easy to service and user-friendly



Control Cabinet Cooler HCC

Control Cabinet Cooler HCC

Features

- Control cabinet cooler for roof installation or wall/door mounting
- Cooling capacities from 0.1 to 15 kW
- For all cooling applications in switchgear and control cabinets
- Stand-alone control of the system by means of innovative controller design
- Air/air or air/water coolers are also available

Function:

The HCC control cabinet cooler system is flexible in its installation and designed to cool control cabinets. Special heat exchanger designs ensure energy efficient operation and a high level of operating safety. Regardless of the version used, whether air/air, air/water or refrigeration, the HCC series ensures optimal conditions and improved service life for the electronic components.

Advantages

- Compact design
- Innovative heat exchanger designs
- Optimal condensate separation
- User-friendly controller interface
- Plug & play solution

Modular design: 4-in-1

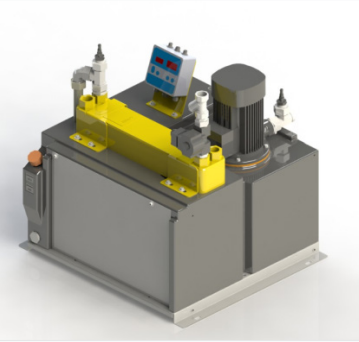
Features:

With the combination of standardized coolant reservoirs and pumps, 4 different systems are created:

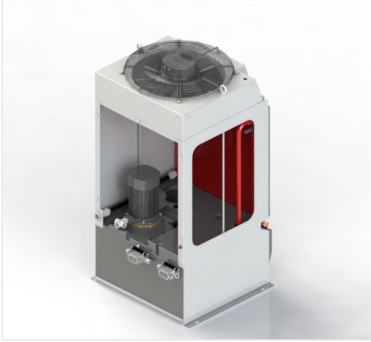
- ① FWKS
- ② FLKS
- ③ RFCS with air-cooled condenser
- ④ RFCS with water-cooled condenser

Advantages:

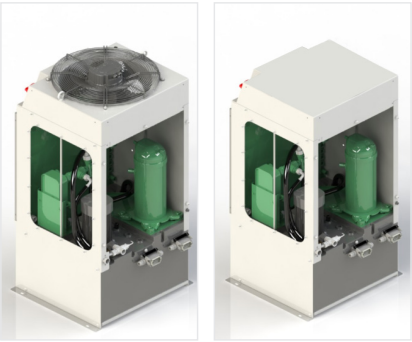
- The most appropriate system can be used according to the circumstances: Is cooling water available? Are the ambient temperatures too high? Must a high degree of accuracy be maintained?
- Switching between the systems is simple because the customer-side interfaces are in the same place on all systems
- Standardized system foot-print
- Energy efficient thanks to
 - electronic control of the FWKS
 - closed-loop speed control of the FLKS
 - mixing control of the RFCS



① Fluid/water cooling systems FWKS



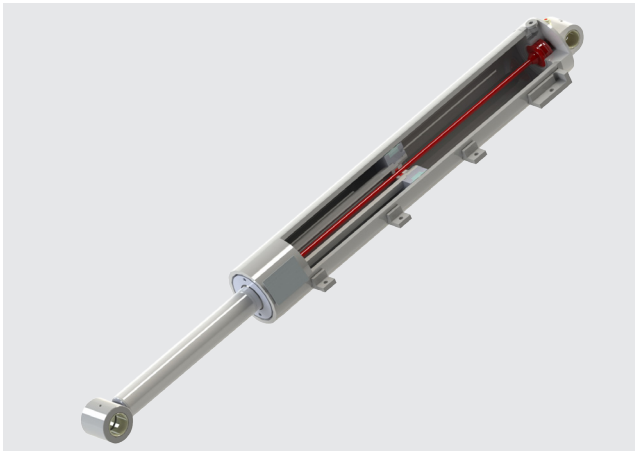
② Fluid/air cooling systems FLKS



③ ④ Refrigeration cooling system with air / water cooled condenser

System Solutions

From the component to the system! Intelligent integration of HYDAC products creates innovative and technologically advanced subsystems and complete systems. The cylinders with integrated distance measuring system, the hydraulic counterbalance and the HYDAC fluid panel minimize the number of interfaces, reduce the installation cost and increase machine availability.



Cylinder with integrated distance measuring system

Features

The cylinder with integrated distance measurement system is suited to precise control of motion sequences in machine tools. Examples are tailstock traverse, steady traverse or palette change.

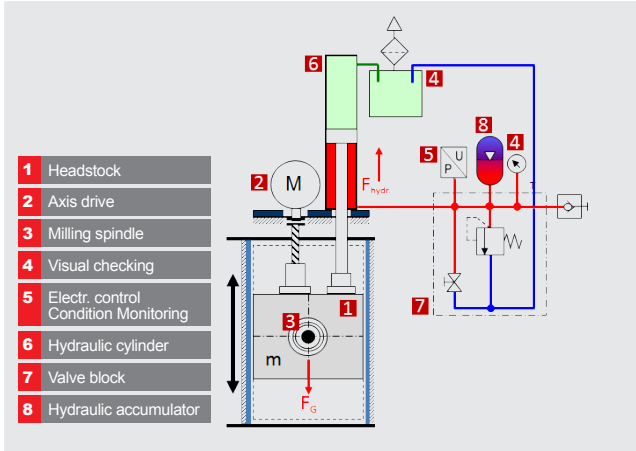
- Cylinder size: 40 – 80 mm piston diameter
- Cylinder length: 50 – 2500 mm
- Function principle of distance measuring system: magnetostriction, absolute, contact-free
- Measured variable: Distance, position, speed
- Signal output: 0 – 10 V, 4 – 20 mA
- High degree of accuracy: ± 0.1 mm
- Protection type: IP 67

Function

The hydraulic cylinder with integrated distance measuring system combines tried-and-tested electronics with the enormous power density of the hydraulic drive. The distance measuring transmitter (HLT 1000), which operates on the principle of magnetostriction, is combined with the hydraulic cylinder. Based on the non-contact and wear-free measuring system, the sensor has a pressure-resistant housing for full integration into the cylinder. The external diameter of the cylinder remains unchanged and when equipped with the integrated distance measuring system, the total length of the cylinder is only marginally longer. Electrical connection is either via flying leads or a panel mount connector M12x1 on the foot of the cylinder. The result is a compact subsystem for continuous position monitoring of a hydraulic cylinder and is already in use for tailstock and steady rest adjustment in lathes.

Advantages

- **Reliable:** Not sensitive to ingress of external contamination
High degree of shock and vibration resistance
Wear-free thanks to non-contact measuring principle
- **Compact:** No disruptive structures,
no external measuring system required (all-in-one)
- **Clever:** ready-to-operate unit, minimal installation costs
(plug & play)



Hydraulic counterbalance

Features

- Counterbalance consists of cylinder, accumulator, control block + transparent reservoir
- Control block with valves for pressure relief, electrical monitoring and for filling
- Transparent reservoir + pressure gauge for visual check
- A breather filter prevents contamination at the piston end-cap side of the cylinder

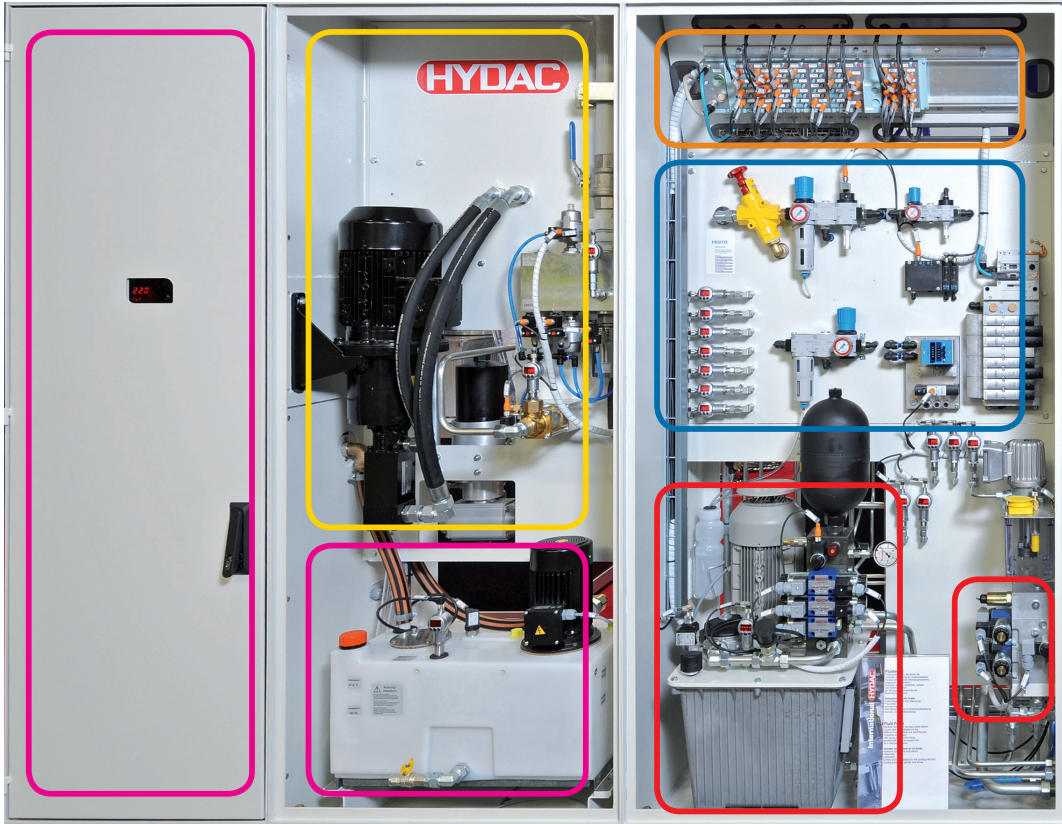
Function

The function of the counterbalance is to relieve the mass force on the drive when a frame component moves vertically (spindle carrier, cross-beam). In the standard design, it consists of a differential cylinder, where the annular side is connected to an accumulator. When the headstock is moved by the spindle drive, oil is discharged from the cylinder into the accumulator, or vice versa. The gas volume of the accumulator is compressed or expands as a result of the movement.

In the standard accumulator model, the cylinder size, gas volume and gas pressure are selected so that in the middle of the stroke the weight is 100 % counterbalanced. In the upper end position the accumulator pressure counterbalances up to 90 %, in the lower end position up to 110 %. Different adjustments (over compensation, under-compensation, smaller or larger variations) can be made simply, according to customer requirement,

Advantages

- Reduction in drive power for lifting and lowering the headstock
- Reduction in spindle wear
- Bi-directional control behaviour
- The result is higher energy efficiency of the machine tool



	Cooling	Air, water and/or refrigeration cooling system
	Electronics	Sensors, electrical control
	Cooling lubricant	CX valves, piston control valves, high pressure pump, automatic back-flushing filter
	Hydraulics	Hydraulic power unit, valve stacking systems and hydraulic accumulator units
	Pneumatics	Supply unit, valves, modules, etc.

Fluid panel

Function

A fluid panel is a self-supporting unit which combines all the fluid control components of a machine tool. It includes the cooling, electronics, cooling lubricant, hydraulics and pneumatics. By using defined interfaces accurately coordinated with the machine tool manufacturer, it is possible to design a subsystem to concentrate all the fluid control for a machine tool in one area. From the technical calculation, through installation including piping and wiring, right up to function testing the unit, HYDAC is your system partner with all the expertise.

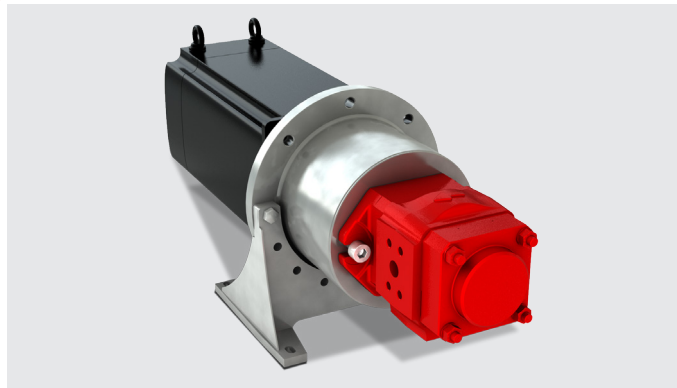
Advantages

- Quick and simple installation through the use of defined hydraulic, pneumatic and electronic interfaces (quick release couplings, connectors, etc.)
- Concentration of all the fluid control within the machine → Clearer overview, improved maintenance, simpler error diagnostics
- Machine tool manufacturer has one contact for the different fields: cooling, electronics, cooling lubricant, hydraulics and pneumatics
- All from a single source - reduces the number of interfaces and minimizes the suppliers

Trends & Innovations

Steadily increasing customer requirements, increasing energy and raw material costs and the natural quest for perfection are both our driving force and our motivation to innovate and develop new solutions. Ongoing collaboration with universities and institutes in dissertation work and research projects provide the ideal cross-over between theoretical and practical specialist knowledge. In accordance with this principle, HYDAC has been developing products for over 5 decades and has opened up new areas of operation and business sectors.

Business sectors



HYDAC KineSys - Drive Systems

HYDAC KineSys stands for kinematic systems and are notable for their perfect symbiosis of hydraulic and electro-mechanical engineering. Customers increasingly require modern machines and systems which offer higher productivity while at the same time using resources more efficiently. The efficient design of the drive system is therefore an important factor when considering overall life cycle costs.

Using the experience gained from many international projects, our industry and product specialists will analyse your application. Depending on the application, different strategies are selected for the drive tasks, from a simple control right up to highly dynamic controls.

With access to the entire range of Hydac products we can provide you with the best solution for your requirements. This streamlines the design and ensures maximum efficiency for the operation of your machine and system.

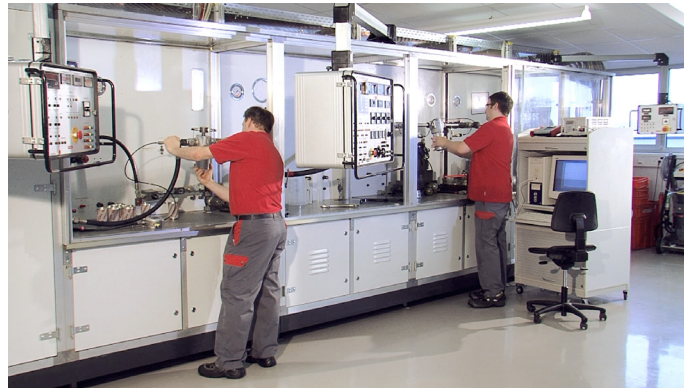


Hydraulic side	Electro-mechanical side
- High power density - Robustness - Simple overload limiting procedure - Simple linear movement implementation	- Simple controllability - Quiet - Simple integration into higher-level control - Energy efficiency



Advantages of KineSys products and solutions:

- Increases productivity
- Reduces noise emissions
- Longer service life of the components
- Streamlines the design
- Integrates safety functions



HYDAC FluidCareCenter

Only the best specialists in their fields of fluid filtration, filter systems, and process filtration are chosen for the HYDAC FluidCareCenter (FCC).

Our aim is always to find the best solution possible for our customers. This is why, at the FCC, we combine our forces to develop solutions tailored to our customers' specific needs. Although our main focus is on developments in the field of filtration, we also welcome projects that stretch beyond filtration concepts. At HYDAC you have access not only to the products, but also to specialists in all aspects of hydraulics "all under one roof".

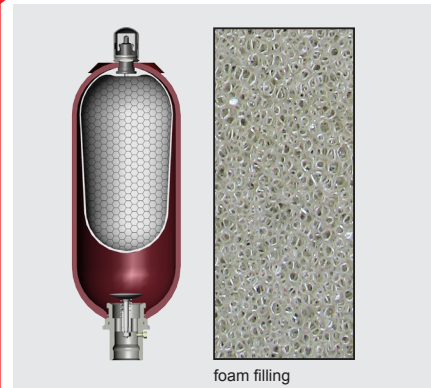
The FluidCareCenter, the only facility of its kind in the world, is a research and development centre covering an area of over 2400 m². It is equipped with cutting-edge laboratory and testing equipment, making it possible to perform every conceivable filter performance test and fluid analysis. Practically any application situation can be simulated.

Advantages

- By understanding the relevant cleanliness data of your components, you will be a step ahead of your competitors.
- A laboratory approved and recommended by well-known automotive suppliers
- Many years' experience in the area of technical cleanliness owing to active collaboration on VDA Volume 19 and ISO 16232
- Analysis with the help of extraction units developed at HYDAC
- Sophisticated analysis equipment
- Ongoing continual development of equipment and processes to meet the increasing requirements and needs of customers



Product innovations



HYDAC bladder accumulators with foam-filled bladder

Features

Bladder accumulators are hydropneumatic accumulators with a flexible elastomer bladder acting as the separating element between the compressible gas cushion and the operating fluid.

From the outside, the bladder accumulator with a foam-filled elastomer bladder looks no different to the normal accumulator. The core of the accumulator, the accumulator bladder, makes use not only of the compressibility of the gas to store energy, but is further aided by the foam filling. Depending on the nominal size of the accumulator and the application, this can increase the energy capable of being stored by approx. 30 % (in extreme cases up to 70 %).

This means that for the same energy requirement, a smaller nominal volume can be used.

Advantages

- High heat capacity on the gas side
 - Low rise in temperature during highly dynamic charging and discharging processes
- Good insulation effect of the foam to the oil
 - Reduction of the heat exchange with the environment which means improved efficiency
- High degree of elastic recovery of the foam in the bladder
 - Residual volume reduced by half



HYDAC Stat-Free® elements against electrostatic charging in the system

Features

Over the past few years, the trend towards ash-free hydraulic fluids, more compact systems and finer filtration has led to increasing problems with the electrostatic charge in hydraulic and lubrication oil systems.

With the innovative Stat-Free® filter elements, HYDAC has for the first time succeeded in combining excellent electrostatic characteristics with filtration performance.

In the new application-specific Optimicron® Power and Optimicron® Pulse series, the Stat-Free® technology is included as standard.

All the other series, such as Optimicron®, ECOmicron®, etc. can be provided with Stat-Free® as an option.

Advantages

- Unprecedentedly low charging of the filter element and the fluid
- Prevents damage, such as:
 - Explosions in the tank
 - Accelerated oil ageing
 - Damage to the filter element
 - Destruction of electronic components
- Longer oil change intervals can be achieved because the filtration of the oil is non-damaging.
- Enormous cost savings due to less frequent oil change, filter element change and system failure
- Optimized mesh pack design



HYDAC sensors with IO link interface

Features

Due to increasing demand for IO link products HYDAC Electronic has again expanded the IO link range. HYDAC's 3000 family with integrated digital display now includes products for pressure, temperature, fluid level and oil humidity.

The products with IO link communication interfaces according to V1.1.2 specification are particularly suitable for integration in automation systems.

Compared with the standard version, the IO link interface enables bidirectional communication between the device and the control. Parameterisation and cyclical transmission of process and service data is therefore possible.

Typical fields of application are machine tools, handling and assembly automation, intralogistics or the packaging industry.

Advantages

- IO link interface or PNP transistor switch output
- 1 additional signal output configurable as PNP transistor switching output or analogue output
- Parameterisation and a cyclical transmission of process and service data
- Simplifies installation and commissioning
- Reduced maintenance time and effort