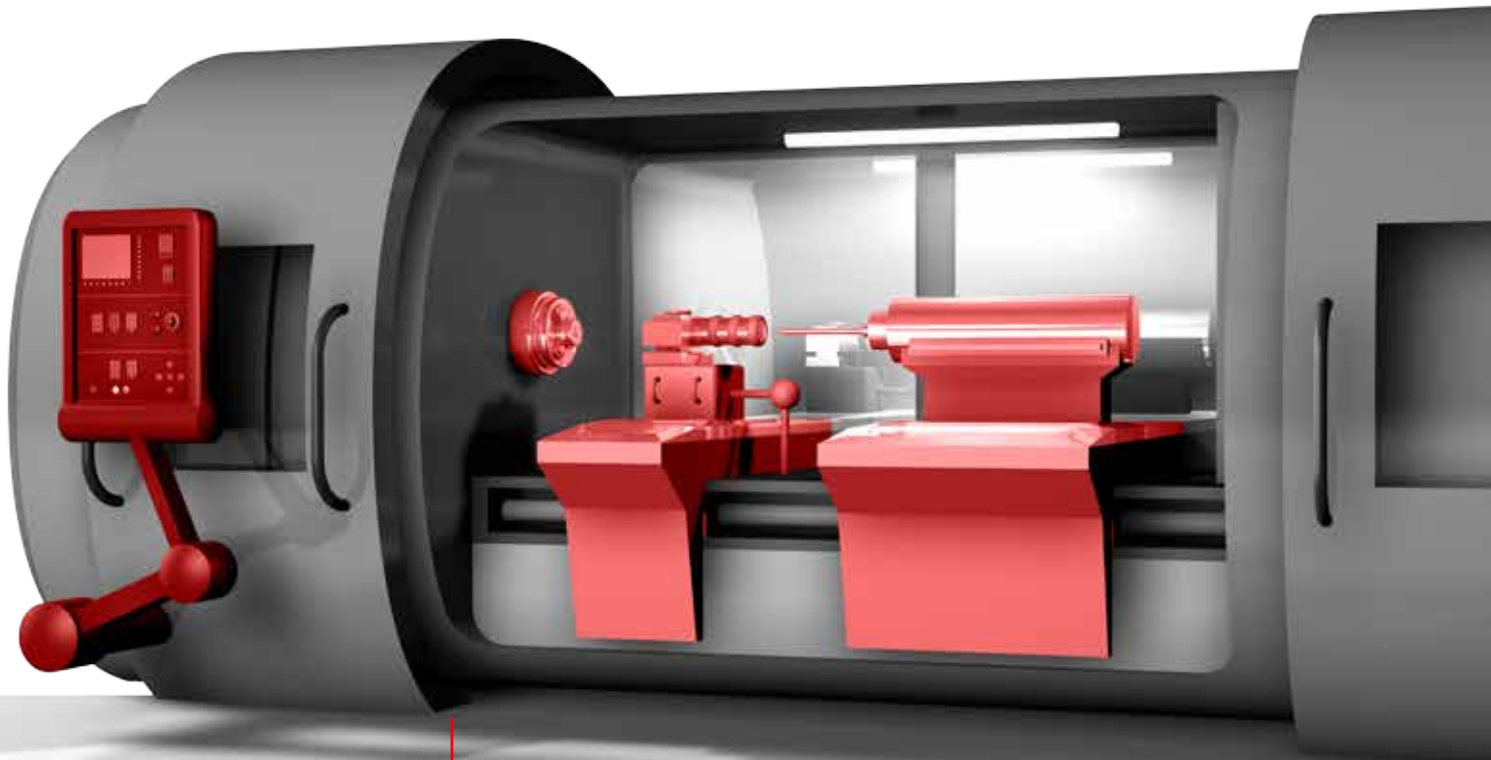


**HYDAC** INTERNATIONAL

**Components, Systems  
and Service  
for Machine Tools**





HYDAC Head Office Neuweiler



HYDAC China



HYDAC India



HYDAC USA



HYDAC Japan



HYDAC Czech Republic



HYDAC Korea



HYDAC Poland



# Your Partner for Expertise in Machine Tools

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, sales and service we provide solutions for the wide range of requirements in the machine tool industry.

## Your advantages with HYDAC

**Global yet local**  
More than 45 overseas subsidiaries and over 500 sales and service partners, all from one company

**Your partner in the automotive industry**  
Worldwide certification with MROs and OEMs

**System solutions**  
Providing intelligent systems by combining cutting-edge components

**Leader in innovation**  
Foremost in innovation and product development

**Energy efficiency**  
HYDAC Energy Saving  
Blue Competence Alliance member

**Customized solutions**  
Adaption of standard products to individual customer requirements and made-to-order solutions for your machine tool



## Fluid Engineering and Service - Worldwide.

HYDAC has a comprehensive and proven range of condition monitoring products as well as components and systems for fluid conditioning and fluid monitoring. A worldwide service network of local specialists works with you in close partnership and provides support in commissioning, maintenance and training.



### Service and service systems for analysis and diagnostics:

70 - 80 % of all breakdowns in hydraulic and lubrication systems are due to excess contamination of the fluids and components used. In practice, this is often not sufficiently recognized. HYDAC offers a comprehensive range of easy-to-use measurement and analysis equipment to monitor fluid condition and technical cleanliness. Fluid laboratory vehicles are at your service worldwide.



### Oil conditioning: Stat-Free® filter elements

The use of modern, environmentally-friendly hydraulic and lubrication oils has increased the risk of electrostatic charging and discharging. Uncontrollable voltage flashovers destroy filter elements, damage valves and sensors and accelerate oil ageing. HYDAC Stat-Free® filter element technology prevents these undesirable impacts and increases the safety of the machine tool for the operator.



### Oil conditioning: Dewatering unit FAM

Hydraulic systems in machine tools face unacceptably high levels of cooling lubricants in the oil circuit. The cooling lubricants usually enter via the pallet and tool changing system. This results in a rapid acceleration in fluid ageing and limited lubricity. Using FAM dewatering and filtration units continuously throughout operation guarantees comprehensive conditioning of the lubrication media.



### Oil conditioning: VarnishMitigation Unit VMU

The service-friendly VMUs are designed to condition mineral oils. They are particularly effective at removing oil ageing products (varnish) from mineral oils. Varnish is removed by absorption onto an active surface.



### Technical cleanliness: ContaminationTest Unit CTU

HYDAC has many years of experience in the area of technical cleanliness, including its contribution to VDA Volume 19, TECSA Standard and ISO 16232. Within this field HYDAC offers component analysis using our CTU extraction units.



## Products for Machine Tools

HYDAC solves a variety of problems in machine tools. The different components, systems and subsystems from our product divisions generate a unique range of products for you.

### KineSys Drive Systems

KineSys stands for kinematic systems and is characterized by hydraulic and electromechanical engineering working in perfect harmony. Against a background of steadily rising costs for energy and for raw materials, the efficient design of the drive system is an important factor when considering overall life cycle costs. Depending on the application, differing strategies are chosen for the drive task, ranging from simple control through to a highly dynamic control system.

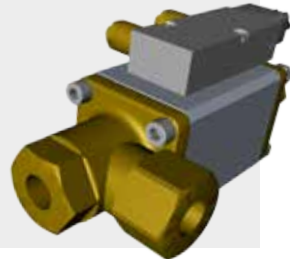
- Increased productivity
- Reduced complexity
- Increased energy efficiency
- Integrated safety functions
- Reduced noise emissions



### Accessories

Wherever it is required to shut-off, switch and control fluid power, wherever lines and components are to be installed, connected and coupled, HYDAC Accessories has the right component. In addition to the **CX valves** used in cooling lubricant circuits, a comprehensive range of accessories, including ball valves, clamps and fluid level gauges complete the portfolio for machine tools.

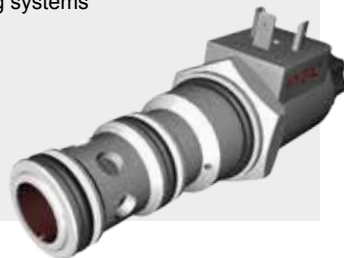
- Tailor-made solutions – highly compact automation
- Trouble-free production thanks to fast-acting, contamination-resistant **CX valves** on internally cooled tools
- Development of compact valve solutions and stacking valves in modular design
- Highest quality to safeguard system availability



### Hydraulics

The Fluid Technology division quickly made its mark as a manufacturer of cartridge valves under the FLUTEC name and today it offers a full range of industrial valves, control blocks and power units in the compact hydraulics sector. In the machine tool, these basic components are put together with control technology to produce complex hydraulic systems.

- **Energy efficiency** through the use of leak-free poppet valves, speed controllers, and power units with Start/Stop operation
- **Modular design** through the use of flexible, flow-optimized stacking systems for use in the machine tool

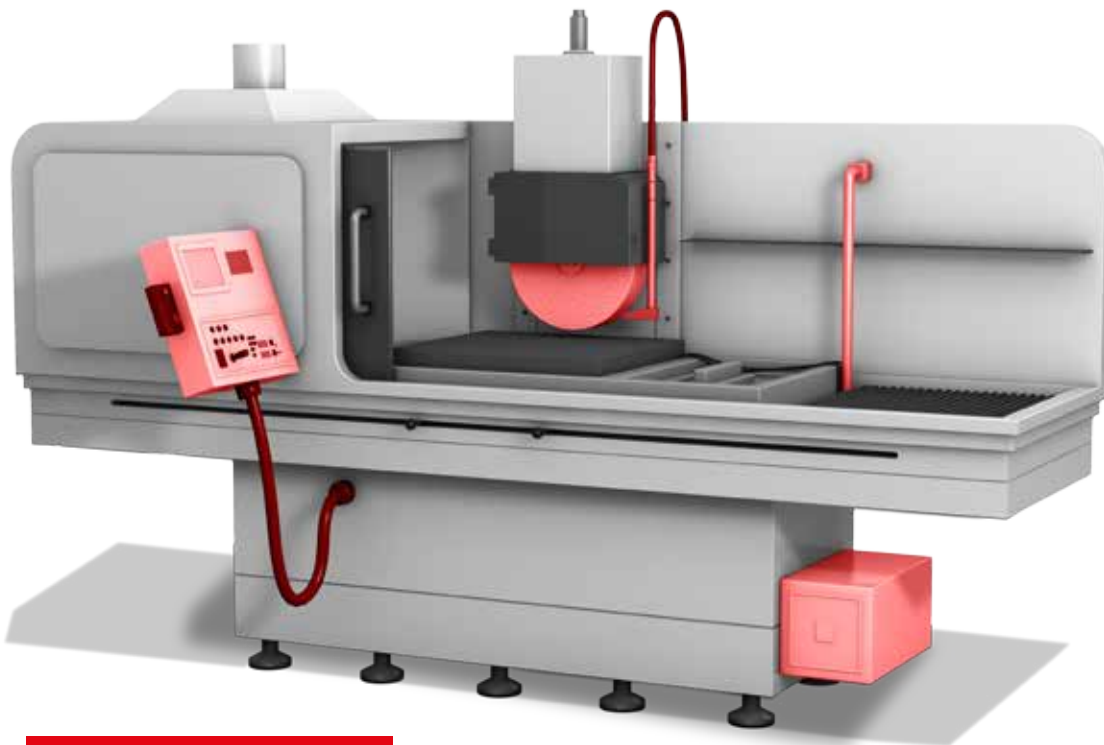
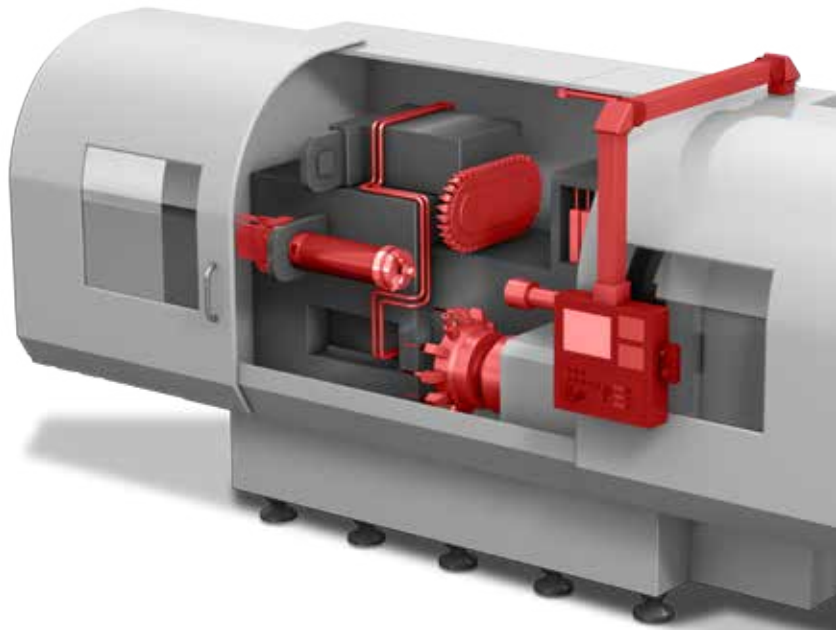


### Fluid Filters

HYDAC Filtrertechnik is your expert partner in all aspects of fluid cleanliness and operational safety. The comprehensive portfolio for machine tools comprises offline filters, main filters and breather filters, including filters and elements according to DIN 24550. HYDAC filters also enjoy worldwide approval in the automotive industry.

- High level of operating safety thanks to top class filtration
- Protection of system components
- Easy installation of filter housings and replacement of filter elements
- Low operating costs thanks to low pressure drops across the filter and filter elements
- Ultra-modern laboratory and test rig technology





Grinding machine



Machining centre

## System Solutions

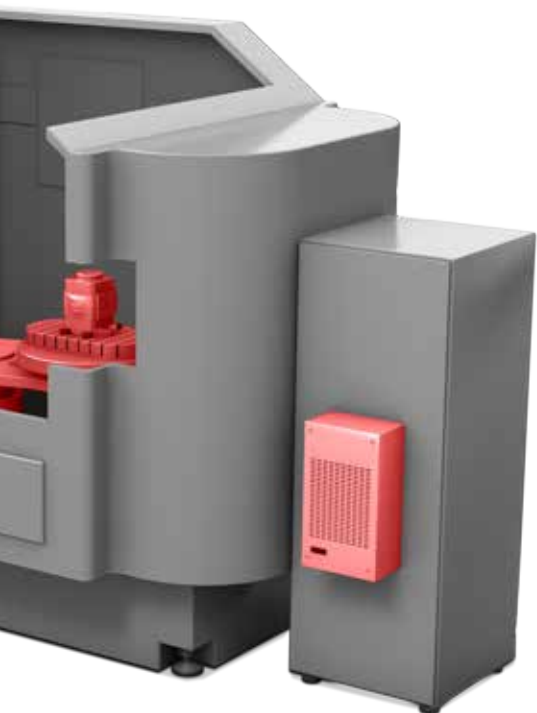
**From the component to the system!** Intelligent integration of HYDAC products creates innovative and technologically advanced subsystems and complete systems. Expertise in fluid engineering in respect of machine tools meshes efficiently with the specialist knowledge from the individual product divisions. This results in customized complete systems which are installed and distributed worldwide in HYDAC's profit centres.



**Turning machine**



**Sawing machine**



- HYDAC fluid panel including hydraulics, pneumatics, electronics, cooling lubricants, cooling and lubrication – Plug & Play solutions minimize the number of interfaces and reduce the cost of installation in the machine tool
- Hydraulic cylinder with integrated position measurement system – space-saving and contamination-resistant
- Hydraulic counterweight balancing system including cylinder, accumulator and SAF block (safety and shut-off block) to reduce the weight on vertical axes in machine tools



Find us on the internet at:  
[www.hydac.com](http://www.hydac.com)

## Cooling Systems

HYDAC Cooling is your expert in cooling technology. Air, water and refrigeration-based cooling systems provide an optimal solution for almost all cooling requirements.

The heat input from electrical drives in a machine tool is detrimental to machining accuracy and workpiece quality and requires a cooling system appropriate for the application.

- Air, water and refrigeration-based cooling systems – All from the same company!
- Energy and noise reduction via variable cooling capacity (demand-based cooling)
- Measurements on the machine enable optimal selection and sizing of the cooling system



## Process Filters

The Process Technology division is your point of contact for the filtration of cooling lubricants. You can benefit from our many years' experience in the development of filtration and system solutions.

Our product range of inline and automatic back-flushing filters provides the right solution for all applications. The Process Booster Unit, a compact supply unit for the high pressure supply of cooling lubricants, completes the product range.

- Extended service life through improved quality of cooling lubricant
- The protection of the tools ensures a constant quality of the manufactured parts
- Reduced costs of machine failure and maintenance due to continuous conditioning
- Protection of the environment and reduction of the costs of disposal and re-purchase



## Accumulator Technology

HYDAC Accumulator Technology division has more than 50 years' experience in the field. We are the only company to manufacture all types of accumulators: **bladder, piston, diaphragm and metal bellows accumulators**. HYDAC can also provide the associated accumulator safety and accessory products, fulfilling all aspects of accumulator supply from a single source. Applications within the machine tool industry include hydraulic counterweight balancing for spindle heads, damping, pressure holding, and energy storage functions.

- Hydraulic Counterweight – reducing energy required to traverse spindle heads etc.
- Sizing tool **ASPlight** – accumulator sizing made simple
- Energy storage and energy recovery
- Optimal solution of emergency and safety tasks in the machine tool



## Electronics

HYDAC Electronic develops sensors, measuring units and control components for mobile and stationary applications. Our range includes sensors for pressure, temperature, fluid level, distance and position. These contribute to increased productivity, high machining quality, a high level of machine safety and an increased machine availability.

- Intelligent communication with the machine control via **IO-Link** and Profibus-DP interface
- Versions with **increased functional safety** (fail-safe)
- Robustness appropriate to the application, e.g. EMC, vibration, shock, humidity





Accumulators E 30.000



Fluid Filters E 70.000



Process Technology E 77.000



Filter Systems E 79.000



Compact Hydraulics 53.000



Accessories E 61.000






Electronics E 180.000



Cooling Systems DEF 5.700

# Globale Presence. Local Expertise. [www.hydac.com](http://www.hydac.com)



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

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