

HYDAC INTERNATIONAL

**Components, Systems
and Service for Metal
Forming Machinery.**



HYDAC Headquarters in Germany



HYDAC USA



HYDAC China



HYDAC Korea



HYDAC Turkey



HYDAC Czech Republic



HYDAC Italy



Your Professional Partner for Metal Forming Machinery.

With over 6,000 employees worldwide, HYDAC is one of the leading suppliers of fluid technology, hydraulic and electronic equipment.

Our wide range of products, combined with our expertise in development, manufacturing, sales and service enables the metal forming industry worldwide to overcome the most diverse challenges.

Our quality and environment certification to ISO 9001/2000 and ISO 14001 denote first class quality and responsible management of our resources.

Global and yet local.

With over 45 overseas subsidiaries and over 500 distributors and service partners, HYDAC is your reliable partner worldwide.

System solutions. One supplier. One contact.

Wherever you need us, we are there to help you find the most effective solution – for every application, from components to a complete system.

Worldwide specifications and approvals.



Fluid Engineering and Service – Worldwide.

Service and Service Systems for Analysis and Diagnosis.

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.

HYDAC SERVICECENTER



Fluid Engineering for Optimization, Maintenance and Training.

As a systems and fluid service specialist, HYDAC can provide individual packages: from cleaning to complete maintenance packages and action plans for system optimization. Our concern is to improve the operational availability and productivity of machines.

The HYDAC Training Center provides comprehensive, experience-based training in all aspects of hydraulics, measuring technology and maintenance. We also conduct training sessions at customers' own premises.

HYDAC in Metal Forming Technology.

From the components to the system
whether in the hydraulics, cooling, lubrication or additional functions
for mechanical and hydraulic presses

- Overload protection systems for mechanical presses
- Hydraulic systems (power units and control units) for controlling hydraulically actuated clutch / brake combinations (CBC) or for braking alone (servo presses)
- Standardized modules for pressure supply to clutch/brake, lubrication and additional functions (ram adjustment, tool clamping, roller stand etc)
- Compact control units, modular design:
 - Base module with press safety valve and electronic pressure switch
 - Base module with flange-mounted accumulator to PED specification
 - Sandwich plate, damping module for "gradual engagement" (optional)
 - Sandwich plate, damping module for "gradual braking" (optional)
- Press cylinders and control blocks
- Compact power units, primarily for tool clamping and pressure supply, up to 500 bar
- Hydraulic systems for mechanical and hydraulic presses, and for all press-specific functions of metal forming machinery

Measurement Technology and Condition Monitoring for Presses

HYDAC Condition Monitoring provides specific online monitoring of your press.

Our sensors are used to measure pressure, over-heating, particle contamination, water content, filter differential pressure and fluid level in your press system, therefore providing diagnostic information for planned maintenance work.

Reducing the Life Cycle Costs and Total Costs of Ownership is the main objective for press operators:

- Increase in machine availability
- Reduction in maintenance work
- Optimized staff deployment
- Permanent monitoring (trending)
- Data recording and alarm management
- Full use of the machine availability



Water and contamination sensor as Monitoring Module



Water Sensor AS 1000



HYDACLab Oil condition sensor



Clogging indicator GW



Pressure switch EDS 3000



Fluid level sensor ENS 3000



Pressure transmitter HDA 4000

Components and Systems for Mechanical Presses

■ Overload safety block

Single-point and two-point version:

- $P_{\max} = 420 \text{ bar}$
- Available in sizes: DN 16, 25, 40 and 63
- Very short response time
- Integrated pilot control in the main cartridge
- Hermetically sealed system
- Few pressure peaks
- Force is adjustable



■ Overload protection power units

- Standard volume 12.5 l, but others on request
- Modifications e.g. addition of pre-fill pump
- Air driven hydraulic pump
- Electronic pressure switch
- Very steady pressure build-up required for the overload system
- Possible pump ratios: 1:60, 1:46, 1:28



■ Hydraulic power unit for controlling a clutch / brake combination (CBC)

- Reservoir volumes 25, 40 and 63 litres
- Modular design with many additional options
- Electronic accumulator charging circuit with EDS 3000
- Pressure circuit, filtered, $p_{\max} 70 \text{ bar}$
- Optional cooling circuit, oil / water, oil / air coolers
- Oil collecting tank
- Terminal box
- Optional Cetop DN 6 connection for additional control



Standard clutch/brake combination power unit with press safety valve



Compact control unit with press safety valve and damping module

■ HYDAC Systems in Service



Large power unit, $V = 7000 \text{ l}$



Power units for pressure supply to clutch / brake, cooling, lubrication and additional functions

Components and Systems for Hydraulic Presses



Measurement tests at the IFU Stuttgart



Piston accumulator station with back-up nitrogen bottles



Pressure supply stations for cooling and lubrication



1,000 tonne press with piston accumulator station



Nitrogen bottle stations built onto the side as a back-up for piston accumulators



Standard piston accumulator station for the automotive industry



Bladder accumulator station for IHU presses



800 tonne press under construction



Large accumulator system for wood presses

Other Metal Forming Machines



Servo press line for automotive industry



Hydraulic power unit in straightening press: 5,000 kN



Complete fluid panel for punching press



Modernisation of press brake:
New hydraulics incl. pipework, new electric control panel.
Cylinder synchronization: $\pm 0.01\text{ mm/1m}$, on-site commissioning



Deep drawing, metal forming, and base-forming presses for pressure equipment production:
Offline filter circuit 1,000 l/min, pressure 6 bar
Commissioning on site including assembly and installation



Accessories



Oil / water heat exchangers for cooling circuits in reverse flow



Oil / air heat exchangers



Pump-transfer cooler filtration unit
5 - 185 l/min



Change-Over Pressure
Filter FLND



Compressor cooler RFCS



Hydraulic accumulators
of all major types



Automatic Backflush Filter RF3
for forming fluid



Compact power units
for clamping, holding and
controlling actuating functions



Modular valve stacking-
systems ML



High-pressure ball valves
 $p_n = 800\text{ bar}$



Accumulators E 30.000



Filter Technology E 70.000



Process Technology E 77.000



Filter Systems E 79.000



Compact Hydraulics E 53.000



Accessories E 61.000



Electronics E 180.000



Cooling Systems DEF 5.700

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- HYDAC Headquarters
- HYDAC Companies
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HYDAC

INTERNATIONAL

**Head Office
HYDAC INTERNATIONAL
GMBH**

Industriegebiet
66280 Sulzbach/Saar
Germany

Phone:
+49 6897 509-01

Fax:
+49 6897 509-577

E-Mail: info@hydac.com
Internet: www.hydac.com