

## Fluid Engineering and Service – worldwide.

### Analysis and diagnostics.

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

### Commissioning, optimisation, engineering.

As a systems and fluid service specialist, HYDAC provides a comprehensive fluid engineering concept. From cleaning, to complete maintenance packages, to system optimisation, HYDAC is your principal partner.

Our concern is to improve the operational availability of machines and hydraulic systems. Fluid engineering is the total package of technical and commercial services for the benefit of the customer.



Brochure: Accumulators DEF 9.000.../...



Brochure: Filtration Range DEF 7.000.../...



Brochure: Fluid Service DEF 7.200.../...



Brochure: Compact Hydraulics DEF 5.300.../...



Brochure: Accessories DEF 6.100.../...



Brochure: Electronics DEF 18.000.../...



Brochure: Cooling Systems DEF 5.700.../...



Brochure: Servocenter DEF 5.700.../...

**Global presence.  
Local expertise.  
www.hydac.com**



● HYDAC Headquarters  
● HYDAC Companies  
● HYDAC Distributors and Service Partners

## HYDAC INTERNATIONAL

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## HYDAC INTERNATIONAL

**Components,  
Systems and Service.  
Iron - Steel - Metal.**

## HYDAC Your professional Partner. Iron - Steel - Metal.

With more than 5,000 employees worldwide, HYDAC is one of the leading suppliers of fluid technology, hydraulic and electronic equipment. From the outset we work in partnership with our customers to develop the systems for Iron - Steel - Metal.

Our wide range of products, combined with our expertise in development, manufacturing, sales and service enables the Iron - Steel - Metal industry worldwide to overcome the most diverse problems.

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

### Global yet local.

With 40 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.



HYDAC Headquarters Germany



HYDAC China



HYDAC Poland



HYDAC USA



HYDAC India



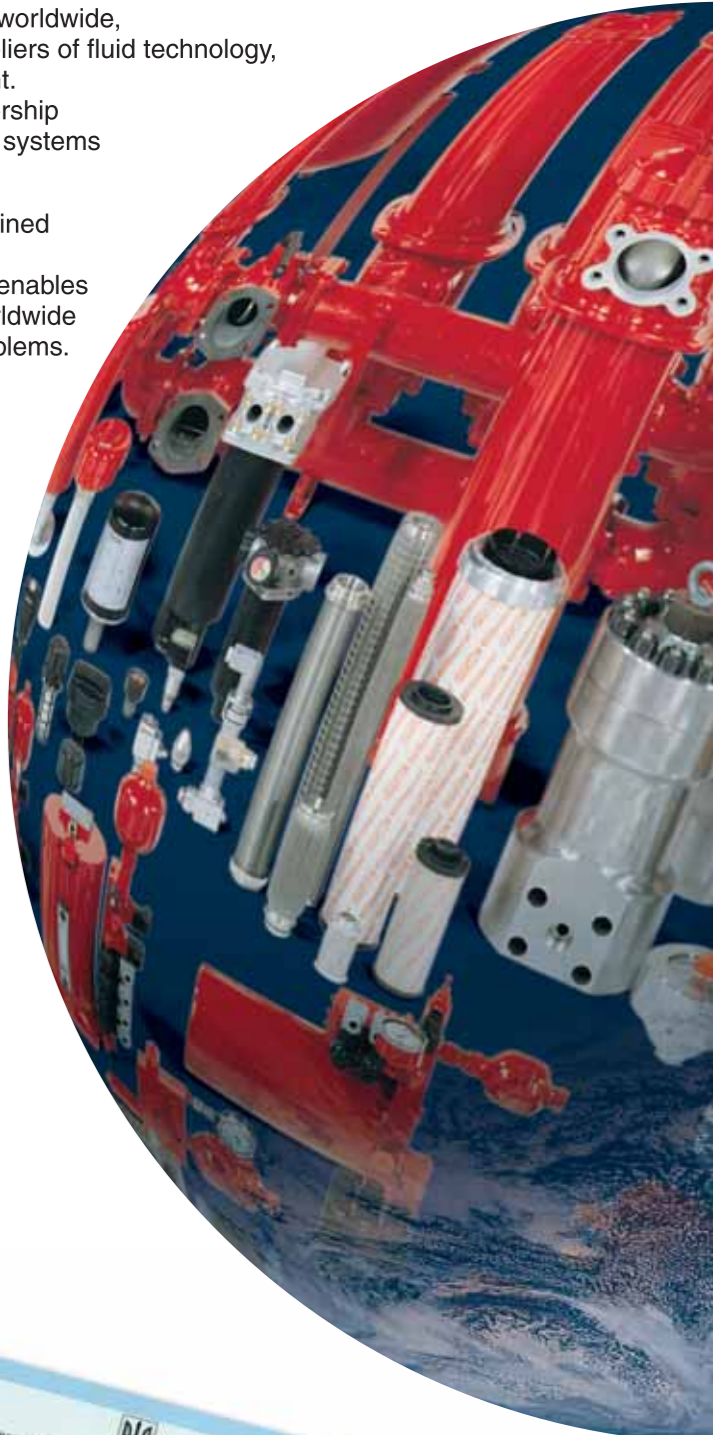
HYDAC Korea



HYDAC Netherlands



HYDAC Brazil



HYDAC SERVICENTER

## For every task the right solution.

Condition monitoring of oil cleanliness and oil ageing in hydraulic and lubrication oils

Measuring technology and electronics

Cooling and filter systems

Extending service life and ensuring operational safety through the use of high quality filtration

Dewatering and oil service units

Hydraulic systems and components

### Condition Monitoring and Sensor Technology

Sensors for condition monitoring in hydraulic and lubrication oils.

Changes in initial state (oil cleanliness, water content, viscosity...) can be observed and used to plan maintenance work.

Critical system conditions, such as tank overflows and unplanned system stoppages can be avoided.

#### Water in oil



AquaSensor AS 2000, % S/T.



AquaSensor AS 1000, % S/T.



ASFW Sensor (free water), 0.5 ... 50, % V/T.

#### Solid particles in oil



ContaminationSensor CS 1000, Cleanliness to ISO 4406 and SAE 4059.



ContaminationSensor CS 2000, Cleanliness to ISO 4406 and SAE 4059.



ContaminationSensor FCU 2000 for mobile data acquisition.

#### Water/solid particles



FluidMonitoring Module FMM (combination of AS 1000 and CS 1000).

#### Oil ageing



HYDACLab® Ageing Sensor, % S/T / Viscosity / dielectric constant.

#### Oil Level



Electronic Fluid Level Sensor ENS 3000.

### Measuring Technology and Electronics

HYDAC offers a comprehensive range of sensors for measuring

pressure, temperature, flow rate, filter contamination, fluid level.



Pressure Switch EDS 1700 for wall mounting.



Portable Data Recorder HMG 3000 (10 input channels).



Pressure Transmitter HDA 3800.

### Media Temperature in Systems



Oil / Air Heat Exchanger.



Plate Heat Exchanger.



Plate Heat Exchanger, gasketed.

### Hydraulic Components and Systems

System advice and sizing

Design

Manufacture

Commissioning

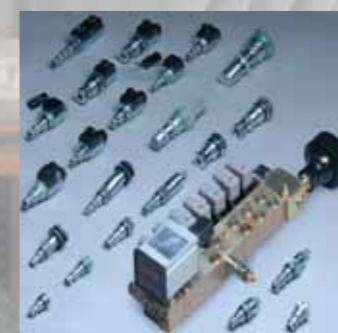
After sales service



Nitrogen Charging Units for charging or topping up accumulator systems.



Hydraulic Accumulators for safety functions and for managing energy peaks.



Valves and Blocks for fluid systems.



Blast Furnace Gas Expansion Turbine, oil tank volume 9,500 l, power 500 kW, flow rate 760 l/min.

### Special Cylinders



For example: Bending Tool for continuous casting systems, operating pressure 300 bar, piston diameter 400 mm, piston rod diameter 200 mm, stroke 400 mm.

### Accessories



Clamps and Ball Valves.

### Pump Station



For example: Pump Station for Strip-Winding Plant, oil tank volume 6,000 l, driving power 575 kW, flow rate 1,900 l/min.

### Valve Station



Valve Station for continuous slab casting plant.

### Filtration

Many years' experience in the filtration of transmission oil and hydraulic oil.

We develop optimised systems for:

Main filters

Off-line filters

Breather filters



Change-Over Filter RFLD, Pmax = 16 / 25 / 40 / 64 bar.



Pressure Filter DF, Pmax = 420 bar.



Betamicon® filter elements.



MegaRheo elements.



Dewatering Unit FAM and off-line filtration in hydraulic system using Quintolubric®.



OLF Off-line Filtration with ContaminationSensor CS 2000.



Bypass Heating Filter Cooling Circuit with integral condition monitoring.

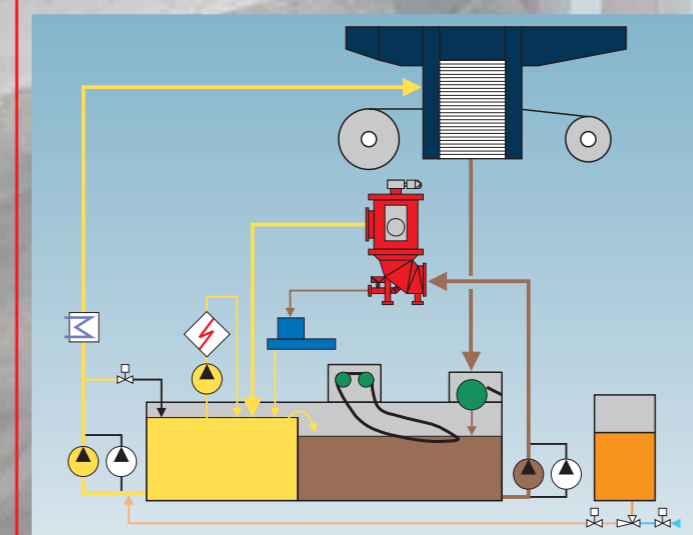
### Rolling Emulsion

Key technical data:

System supply flow rate: 1,000 - 2,000 l/min (with frequency control)  
Supply pressure: approx. 6 bar on the rolling stand

Emulsion processing:

- Back-Flushing Filter RF 3-2.5 in the bypass with > 2,200 l/min, 4.5 bar and
- 50 µm slotted strainer candles
- back-flushing at max. 0.15 bar



### Process Filtration

Automatic Back-Flushing Filter AutoFit® RF3

- For descaling – sheet metals and slabs,
- in cooling lubricant systems,
- as a protective filter before pumps,
- for feed water filtration,
- in belt systems...



Automatic Back-Flushing Filter AutoFit® RF3, flow rate 100 .. 5,000 l/min.

### Accumulator Station



Piston Accumulator Station with back-up N<sub>2</sub> bottles, e.g.: electric oven safety function.

### Circulation Circuit



Bypass Heating Filter Cooling Circuit for continuous casting plant.