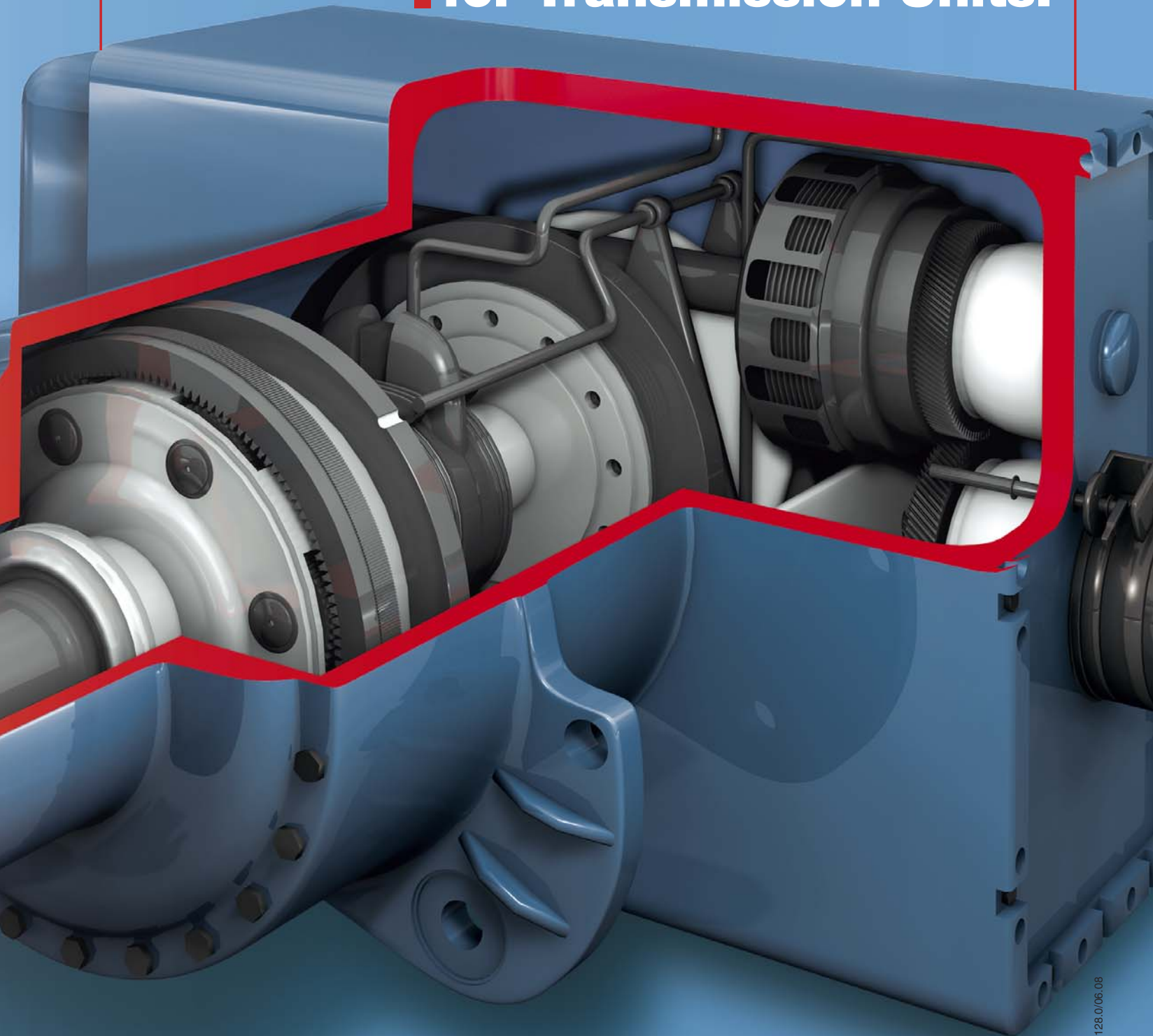


**HYDAC**

**INTERNATIONAL**

**Components,  
Systems and Service  
for Transmission Units.**





HYDAC Germany



HYDAC USA



HYDAC Korea



HYDAC France



HYDAC Netherlands



HYDAC Italy



HYDAC Switzerland



# Your Professional Partner for Transmission Units.

With over 5,200 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 mobile industry worldwide to overcome the most diverse problems. Our quality and environment certification to ISO 9001/2000 and ISO 14001 denotes 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.



## HYDAC in Transmission Units.

From the components to the system, whether hydraulic, electronic or mechanical – providing you with the best solution is our challenge:

- Higher level of comfort due to the smooth action of valves
- Improved operability due to specifically developed proportional valves / optimised hysteresis and switching speed
- Increased operational safety by reducing the number of interfaces
- Incorporating reliable electronic systems and sensors
- Cost optimisation by standardisation and modular construction
- Active co-operation in a close development partnership
- Worldwide commercial and technical support through our global presence

### Sensors, System Electronics and Condition Monitoring



Pressure Sensors



Electronic Control Units



Portable Data Recorders



Fluid Level Sensors ENS

Application-compatible sensors:

- IP 67 K
- Vibration-resistant through use of potted components
- All common connections available
- Pressure and temperature
- Fluid level and flow rate

Measuring instruments for acquiring operating data

Application-specific control and regulating electronics e.g. proportional amplifier or axle level control

For preventive fluid servicing and to enhance operational safety:

- Signals to customised software or external handheld measuring units
- Oil condition
- Particle contamination and moisture



Temperature Sensor ETS



Oil Condition Sensor HYDACLab®

### Filter Solutions from one Company

Ready-to-install complete systems, optimised for component protection, system cleanliness and venting.



**Low Pressure Filter Block**  
For pilot circuit in the hydrostatic drive.

- Filtration with clogging indicator
- Pressure relief with monitoring



Breathers



Customised Filter Elements

### Accumulator Technology

Accumulators of all major types for every application:

- Reducing switch cycles
- Energy storage
- Minimising pump pulsations
- Damping of pressure spikes



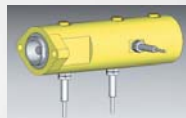
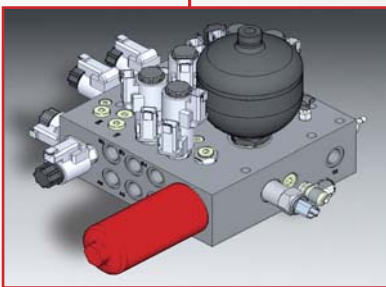
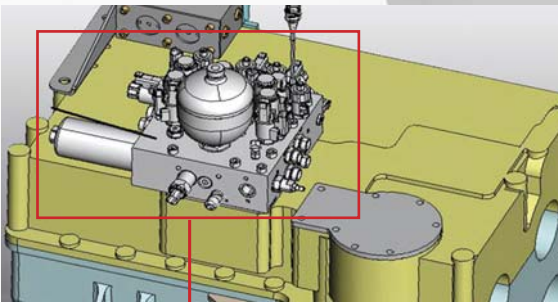
## Particle Measurement

- Flushing of CVT transmissions to reach the required oil cleanliness
- Documentation of component cleanliness

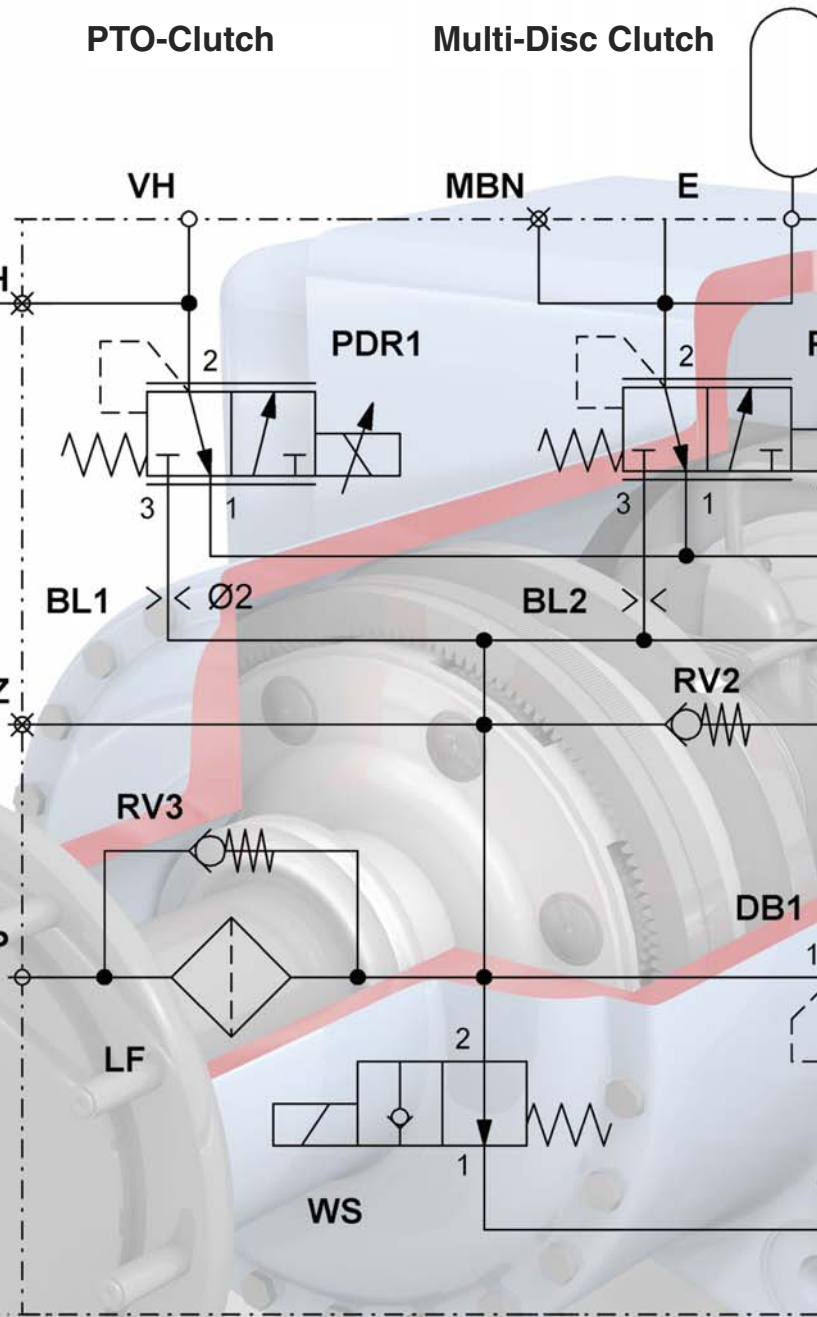


## Compact Hydraulics for Transmission Management

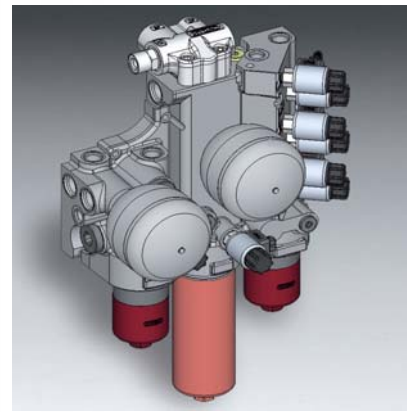
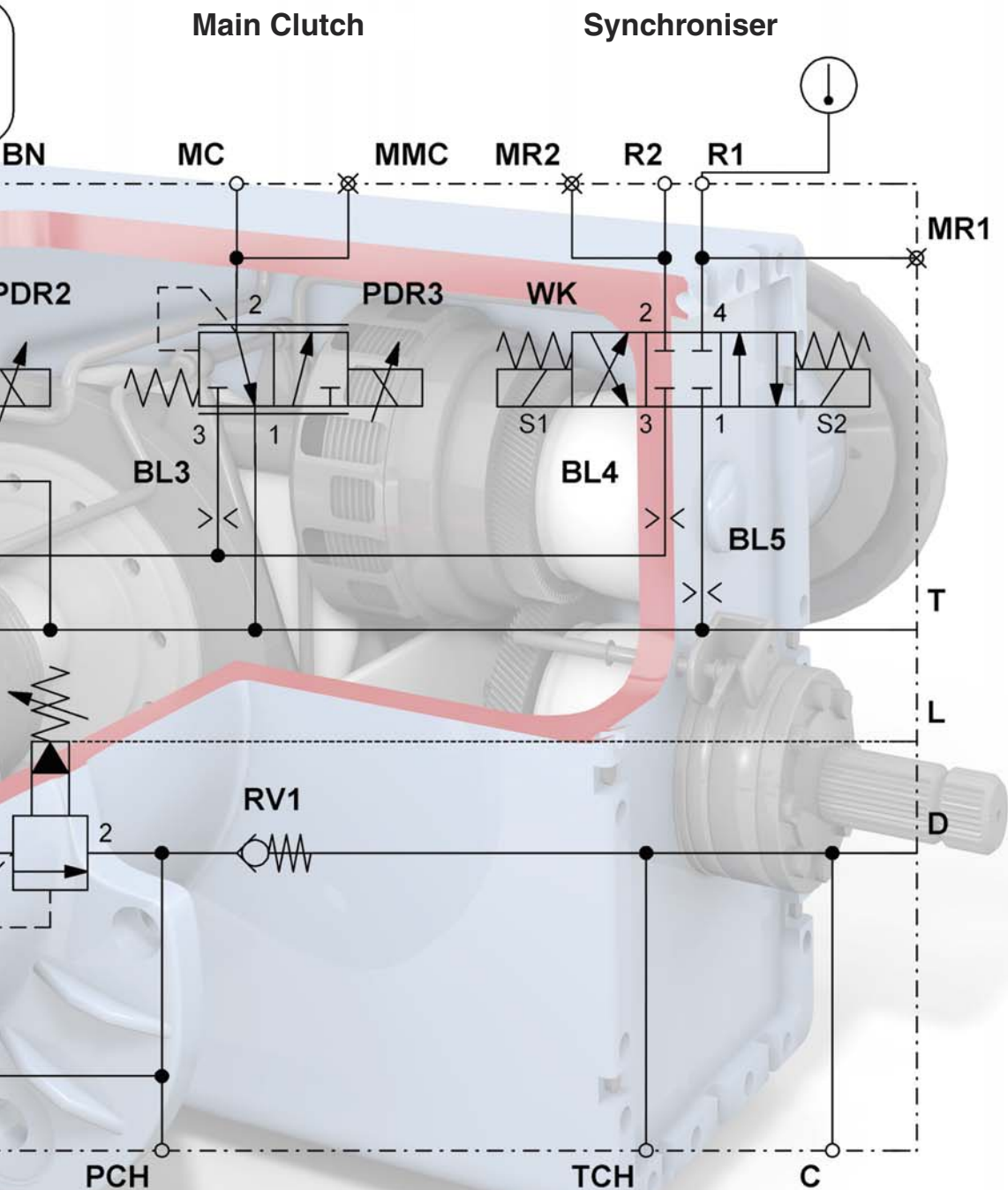
Whether it is standard power shift transmission or automatic transmission (CVT): HYDAC provides manifold block solutions for all transmissions. Clutch and gearshift are undertaken by proportional or switching valves, depending on the customer requirements. Electro-hydraulics with additional elements like pressure switches, sensors etc complete the package.



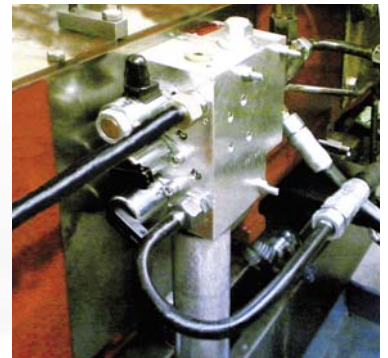
The combination of a standard power shift transmission and a modern electro-hydraulic control results in a complex unit with multiple functions. Examples of these are shifting the gears 1 to 4 under load using proportional pressure reducing valves, setting the driving direction (forward/reverse) and pre-selection of gear group 1, gear group 2 or neutral position when stationary using solenoid spool valves. Electronic pressure sensors monitor the supply pressure on the transmission brake.



The main task of this aluminium manifold is to position the multi-disc clutch in forward and reverse with the aid of proportional pressure reducing valves, resulting in a continuously variable transmission. This produces a smooth gearshift in automatic transmissions. Solenoid spool valves control the engagement of the PTO shaft, the differential lock and 4-wheel drive.



Integrated in this weight-optimised cast-iron manifold are different circuits for lubrication, steering, transmission function and the supply to the operational hydraulics. Specially designed filters for the mobile industry with an extremely low  $\Delta p$  ensure the cleanliness of the oil for the proportional valves. Furthermore an integral accumulator ensures emergency functions in case of electrical failure.



Primarily this manifold provides clutch control for forward and reverse drive, as well as the PTO shaft. The built-in safety function prevents transmission damage when changing direction of drive. Cooling, lubrication and filtration are also included.



This steel manifold controls on the one hand the standard on/off functions of the 4WD, differential lock and changing between forward and reverse movement. On the other hand, the forward gears are controlled by proportional valves to ensure a smooth gearshift and hence a comfortable drive.



All standard functions of the power shift transmission are built into this manifold: The PTO shaft is switched on and off by switching valves; activation/deactivation of the differential lock and of the 4WD. An integral filter ensures the required cleanliness of the oil.





Brochure.: Accumulators DEF 3.000



Broch.: Filtration Range DEF 7.000



Br.: Filters for Indust. Processing DEF 7.700



Br.: Systematic Fluid Service DEF 7.929



Broch.: Compact Hydraulics DEF 5.300



Brochure.: Accessories DEF 6.100



Brochure.: Electronics DEF 18.000



Broch.: Cooling Systems DEF 5.700

# Global presence. Local expertise. [www.hydac.com](http://www.hydac.com)



- HYDAC Headquarters
- HYDAC Companies
- HYDAC Distributors and Service Partners

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