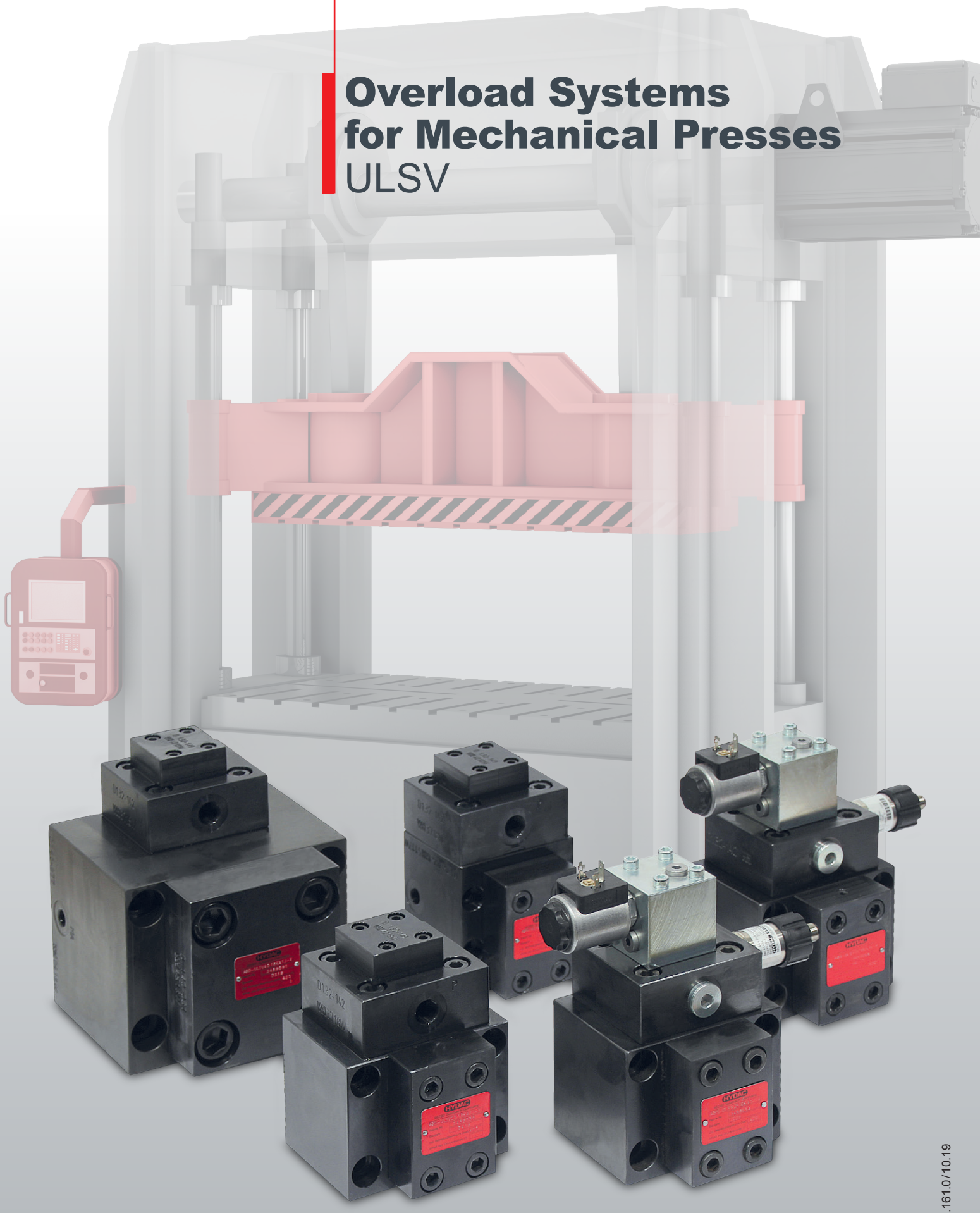
HYDAC INTERNATIONAL

Overload Systems for Mechanical Presses

ULSV



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HYDAC Overload Systems ULSV

The HYDAC overload system type ULSV comes in a cartridge design with an integrated logic element. The overload system is particularly suitable for high-performance mechanical forming presses due to its extremely fast switching characteristics.

The overload system can be used as tool protection with variable press force and to prevent the ram from tilting due to an asymmetric load. In addition, HYDAC's smart sensors can detect if the press is being used according to the specification. This is what makes the adjustable, effective tool protection possible.

Benefits / Features

- Extremely fast switch-off once the nominal press force is reached
- High reproducibility due to optimum dynamics
- Hermetically sealed system
- Adjustable press force
- Robust cartridge design
- Pilot ratio can be selected
- Hydraulic and / or electro-hydraulic switch-off is possible
- Press force setting is adjustable when the ULSV is combined with press force measuring systems

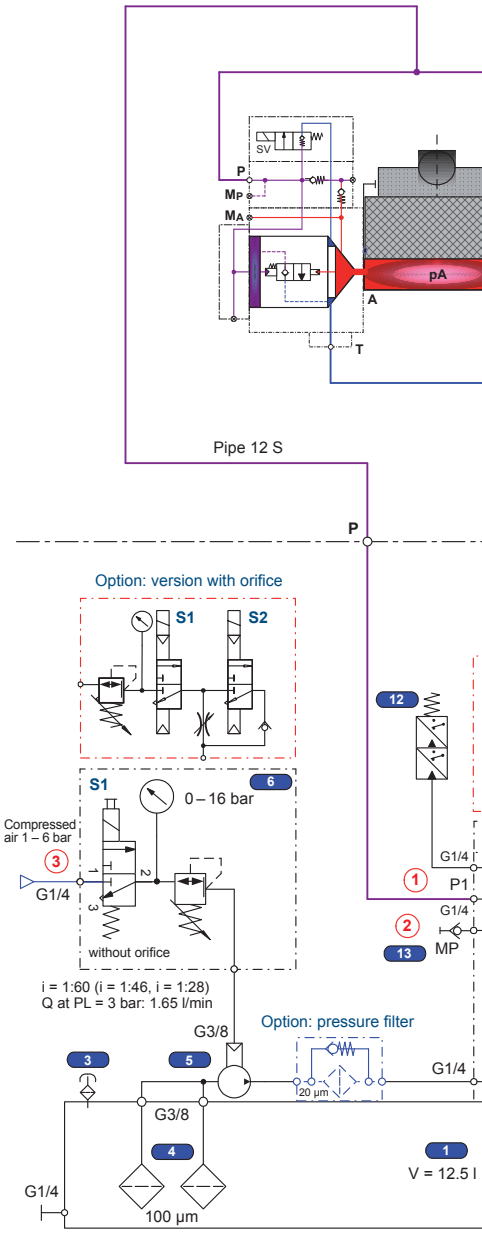
Technical Details

Nominal sizes	DN16, DN25, DN32, DN40, DN63
Pilot ratio	1:1.3; 1:1.6; 1:1.8 Additional ratios on request
Operating pressure	Port P; p_{max} = 315 bar Port A; p_{max} = 420 bar Port T; p_{max} = 50 bar
Temperature range of operating fluid	Min. -20 °C to max. +80 °C
Ambient temperature range	Min. -20 °C to max. +55 °C
Operating fluid	Hydraulic oil in accordance with DIN 51524 Parts 1 and 2
Viscosity range	10 mm²/s to 500 mm²/s is recommended

Pilot Valve / Electronics

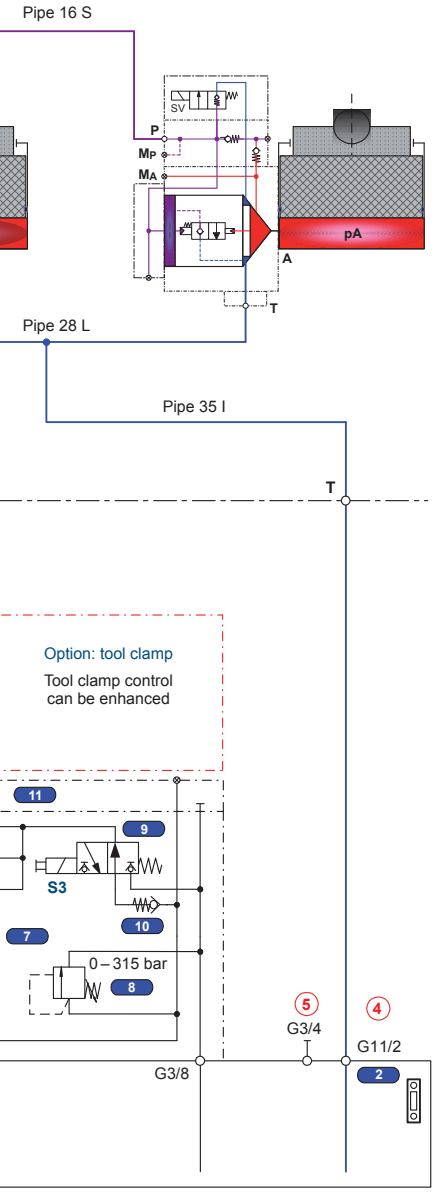
Electrically operated, leak-free 2/2 directional poppet valve DN5	
Electrical connection	to DIN 43650
Switching time	< 6 ms (only possible with electronics)
Operating pressure	Port P; p_{max} = 400 bar

Hydraulic Circuit Diagram

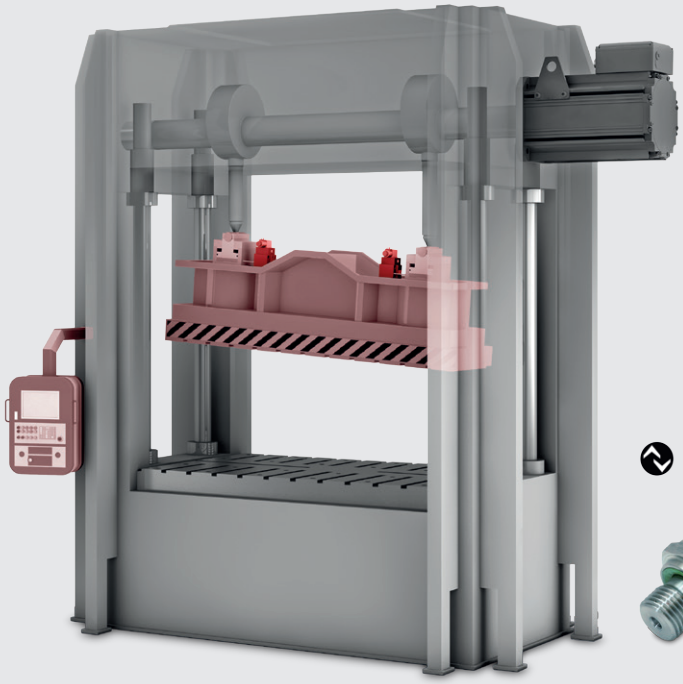


Overload Power Unit

For pressure supply to the overload system	
Overload power unit	V = 12.5 l; V = 25 l Double-acting, air driven hydraulic pump with optional electric motor
Translation ratio	i = 1:28; 1:46 p_{max} = 350 bar Air pressure = 1 – 6 bar, filtered to 50 µm, dry, unlubricated
Pressure relief valve	Adjustable
Temperature range of operating fluid	Min. -20 °C to max. +80 °C
Electronic pressure switch	0 – 400 bar
Solenoid voltage	24 V DC
Ports	Oil side P1 = G ¼ Return line T = G 1½ Air side P = G ¼
Option	Controls can be enhanced with the modular valve stacking system (ML)



Industry 4.0 Solutions by HYDAC



IO-Link

Eccentric load on ram

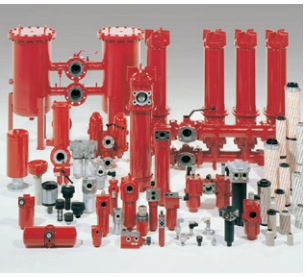
Press operating behaviour

Tool protection

Flexibility

Lightning-fast switch-off

Accumulator Technology 30.000



Filter Technology 70.000

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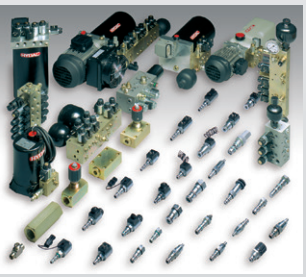
Filter Systems 79.000



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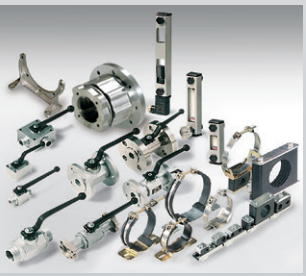

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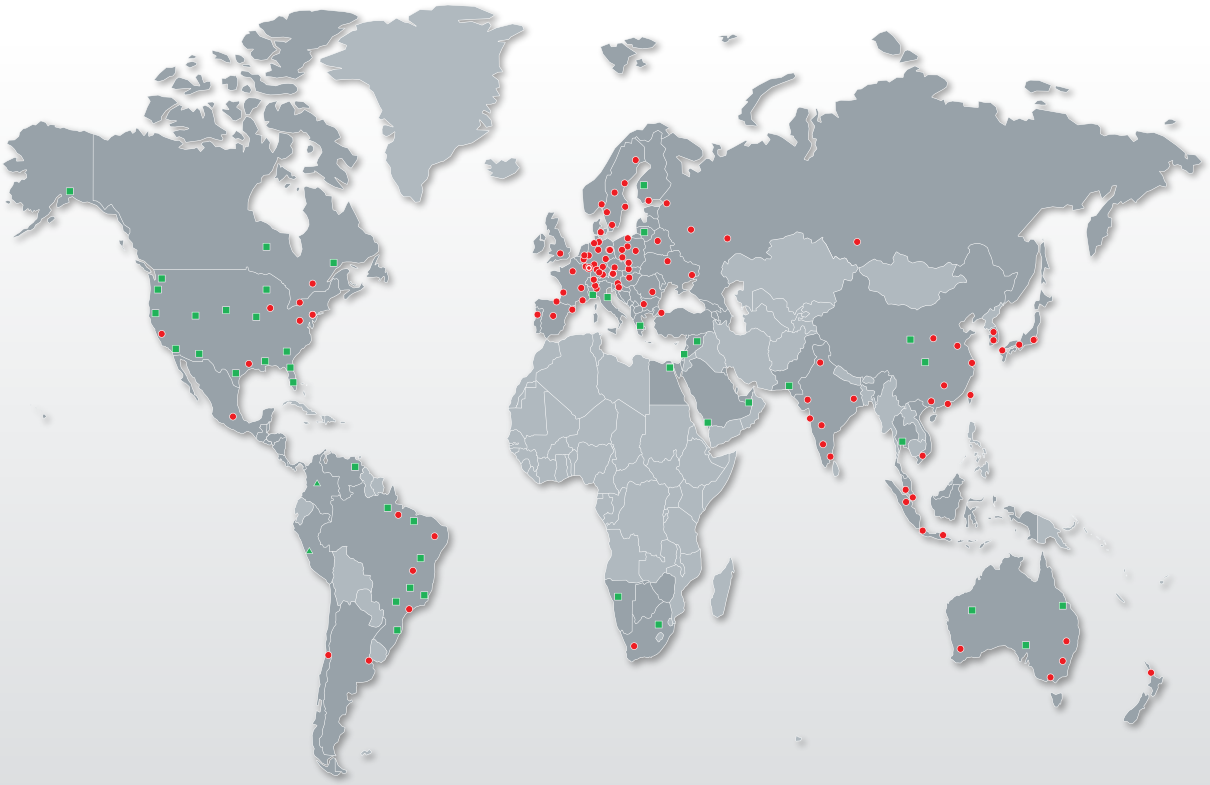

- HYDAC Headquarters
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Note

The information in this brochure relates to the operating conditions and applications described.
For applications and / or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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