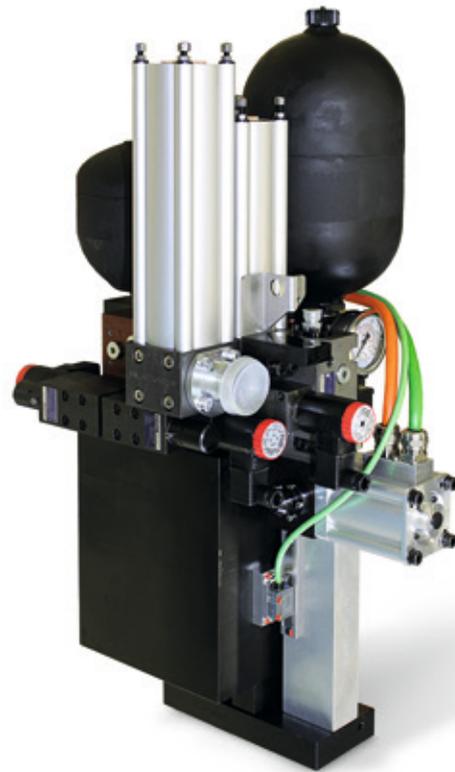


High performance punch system HDE Technical data sheet



Advantages

- + Highly dynamic punch drive
- + Directly operated, no hydraulic control circuit
- + Process safety by feedback monitoring
- + Improved diagnostics
- + Optimized power consumption
- + Simple oil filtration

Design concept and operating principle

HDE is an integrated punch system, specially optimized for applications in punching, nibbling and forming. HDE offers high-end performance for such machines.

HS4 is the electronic link between HDE and machine control PLC/CNC. The machine control will communicate all parameters, like stroke positions and speed, using the data interface. After cycle starting, all management and monitoring of hydraulic actuators and sensors is done by HS4. A robust position feedback with digital interface is used to monitor the closed loop ram operation.

Highly efficient use of power is achieved using the load-controlled “two-pressure-system”. Separate accumulator charging for low pressure and high pressure results in high speed cylinder operation in all conditions. In a compact design, all valves are placed on a manifold directly on the cylinder. The benefits of this are good hydraulic response together with simple installation and maintenance.

Scope of delivery

Punch Drive HDE

- optimized punch cylinder
- manifold with valves and accumulator charging
- various damping elements

Electronic Control HS4-SV2

- intelligent drive control and diagnostics
- data interface: RS-232, CAN Bus,
- Profibus, Ethernet, USB

Power Pack

- application optimised dimensioning
- integrated cooling and filtering circuit

Options

- additional sizes of max force
- cylinder with alternative fastening possibility
- cylinder with different stroke length (up to 100mm)
- customized power pack
- HL-BRIDGE for digital I/O based data interface

Product features

- highly dynamic punch drive with closed loop control
- new valve technology DECV: Direct Electronic Copy Valve
 - based on proven Voith H + L copy valve
 - rugged against mechanical stress
 - simple oil filtration is sufficient
 - directly operated, no hydraulic control circuit
 - very fast step response
 - very accurate proportional response
- predefined machine cycles with programmable stroke parameters
- process safety by feedback monitoring
- improved diagnostics by pressure sensors
- optimized power consumption with load-controlled active “two-pressure-system”

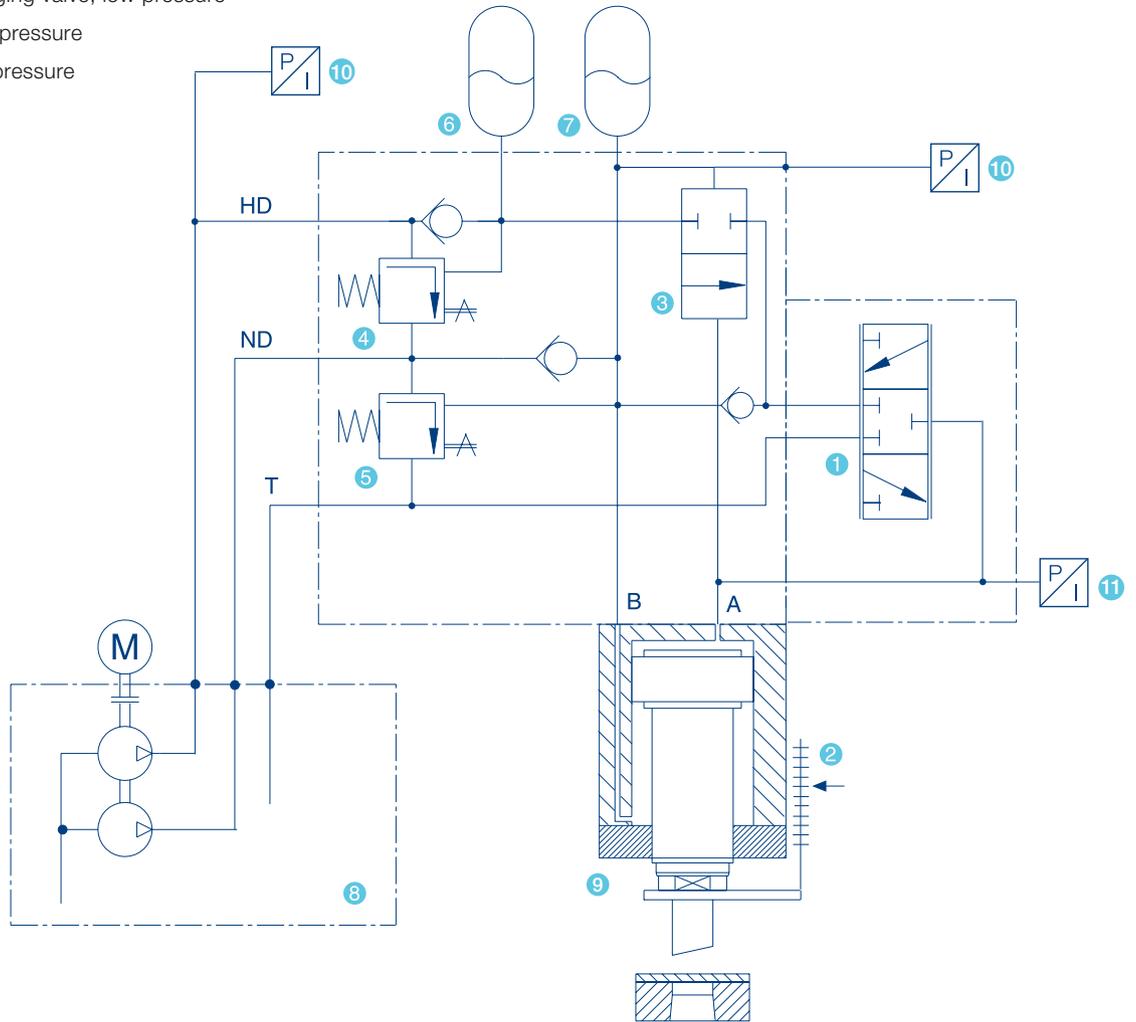
Key performance figures HDE

	HDE 20 to	HDE 30 to
operating pressure ND/HD	70/285 bar	70/285 bar
max. load force	220 kN	330 kN
max. return force	25 kN	45 kN
max. force in low pressure	35 kN	50 kN
cylinder stroke (standard)	40 mm	40 mm
motor rated power	11 kW	15 kW
cycle time punch stroke 4 mm	18 ms	19 ms
cycle time punch stroke 6 mm	25 ms	27 ms
cycle time punch stroke 8 mm	33 ms	36 ms
marking frequency	3200 strokes/min	3200 strokes/min

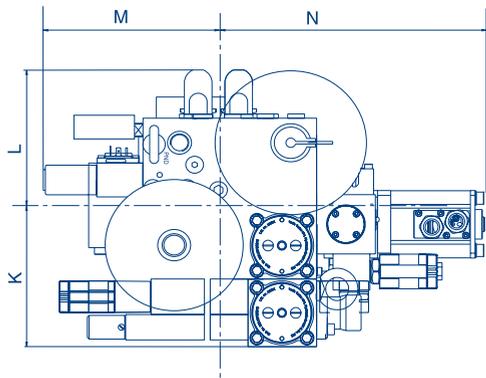
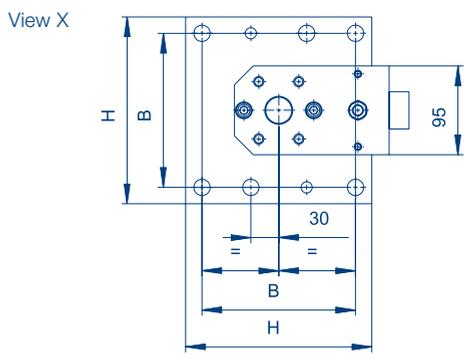
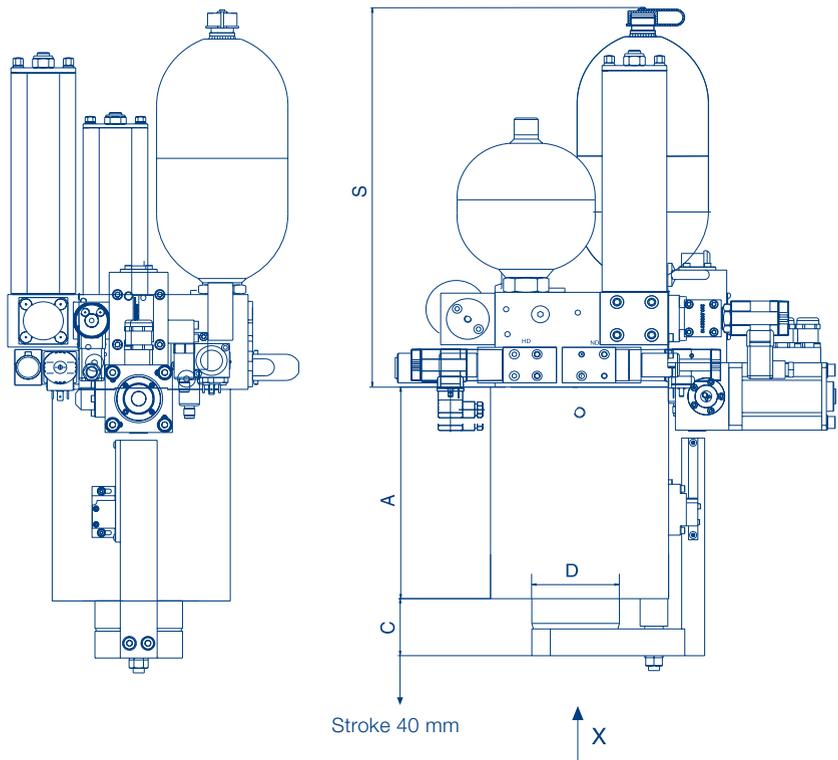
Additional data according to dimensioning protocol

Functional diagram

- 1 Main valve with DECV technology
- 2 Position feedback
- 3 High- / low pressure switching valve
- 4 Accumulator charging valve, high pressure
- 5 Accumulator charging valve, low pressure
- 6 Accumulator high pressure
- 7 Accumulator low pressure
- 8 Power pack
- 9 Block cylinder
- 10 Pressure control
- 11 Process diagnosis



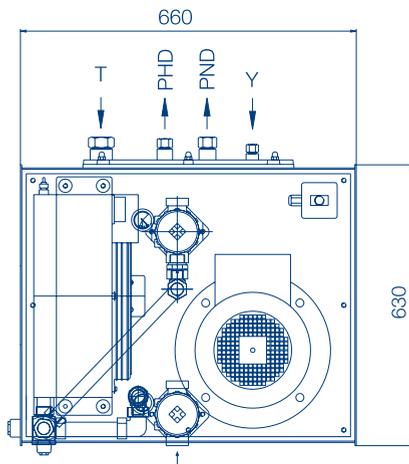
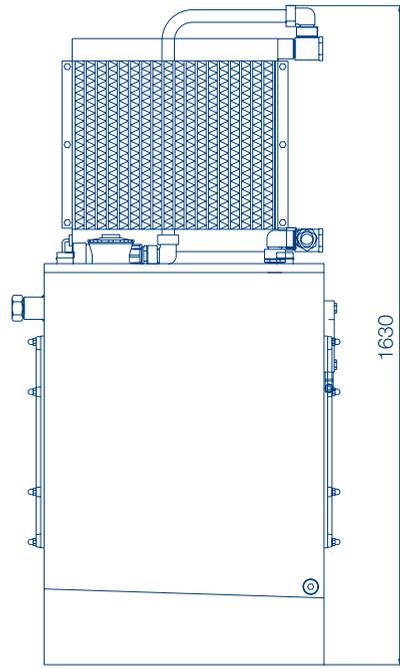
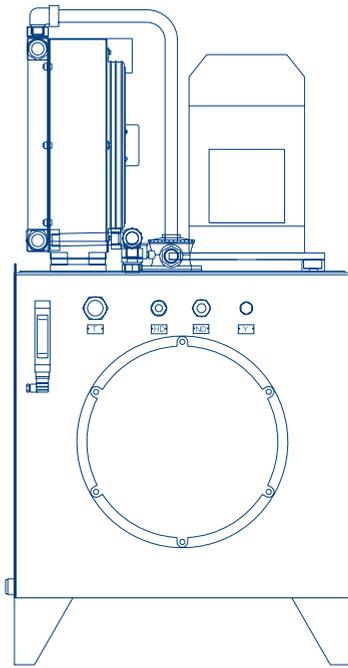
Basic dimensional drawing HDE 20t/30t



	A	B	C	D	H	S	K	L	M	N
HDE 20 to	240	145	62	80	180	390	162	164,5	135	272
HDE 30 to	250	165	62	95	200	450	152	174,5	125	282

Dimensions in mm

Basic dimensional drawing power pack HDE 20t/30t



Dimensions in mm.

This is a translated document.
Original language: German.
Legally binding language version
of document: German.

Voith Group
St. Poeltener Str. 43
89522 Heidenheim, Germany

Contact:
Phone +49 7152 992-3
sales-rut@voith.com
www.voith.de/hydraulik-systeme



VOITH

Inspiring Technology
for Generations