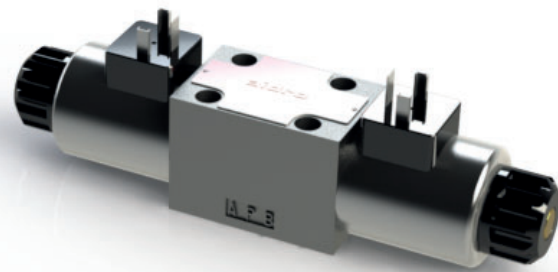


PROPORTIONAL 4-WAY CONTROL VALVES PILOTED OPERATED HD3-PS8 140 l/min 35 MPa (350 bar)

1 DESCRIPTION

Valves HD3-PS8 are piloted proportional directional control valves with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03). The design of the body is an high quality five chambers casting with piloted spool enabling high hydraulic power and fast, accurate control of the valve. In the standard version the valve housing is phosphated for 240h salt spray protection acc. to ISO 9227



2 ORDERING CODE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
HD3	-	PS8	-	-	-	/ 10

(1) 4-way directional valve CETOP 03 – Pressure 35 MPa (350 bar)

(2) PS8 : Proportional electric control pilot operated

(3) Functional spool type (see [4]):

-number is the main spool type

1: closed center (P, A, B, T blocked)

3: P blocked, A, B, T connected

-letter is the solenoid or spring arrangement:

C : 2 solenoids, spool is springs centred

MLb : 1 solenoid ("b") spool is centred + 1 end position

(4) Options and variants:

K : extended manual overrides (see [7])

ZC : zinc plated valves

(5) Type of coil and supply voltages

R2 : R= 2,3 Ω standard for V12DC; R3 : R= 4,5 Ω

R4 : R=13,4 Ω standard for V24DC; R5 : R=18,6 Ω

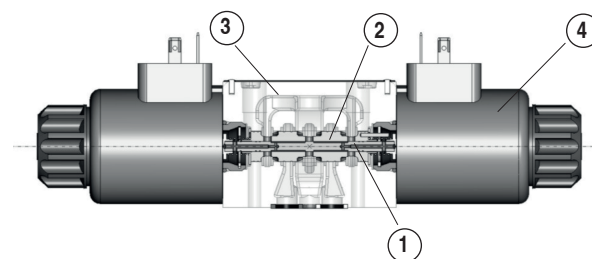
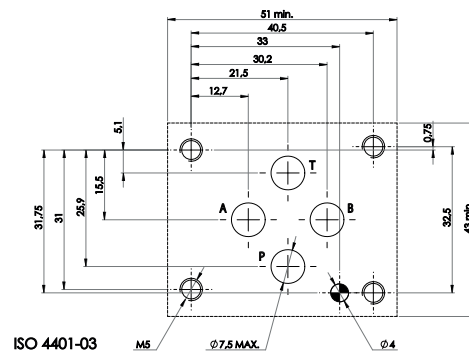
(6) Coil connection:

No designation: DIN 43650-A ISO 4400

AMPX: Amp Junior Timer axial

D: Deutsch DT04-2P

(7) Design number (progressive) of the valve.

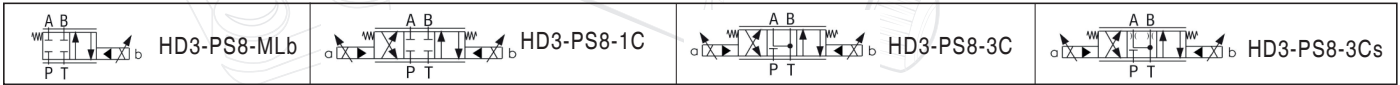


The control spool 1, subject to the action of the proportional actuators 4, shift in the main spool 2 enabling pilot control of the main spool itself. The main spool 2, depending from its shape, opens and/or closes passages between P,A,B,T ports. In case of electric cut offs the spool can be manually shifted by acting on the emergency pins located at the end of the actuator and accessible through the retaining nuts.

3 TECHNICAL DATA

Nominal flow rates	140 l/min	Electric Characteristics: Valves type HD3-PS8-* are operated by proportional solenoids that are rated for an average max power of 13,5 w. The values of nominal max. current are: for coils type R2 (2,3 Ω): I max = 2,4 A R3 (4,5 Ω): I max = 1,7 A R4 (13,4 Ω): I max = 1,0 A R5 (18,6 Ω): I max = 0,85 A
Maximum nominal pressure (P,A,B)	35 MPa (350 bar)	
Maximum pressure at T port	21 MPa (210 bar)	Currents to hydraulic proportional valves are normally supplied by an electronic driver based on PWM mode of operation, capable of full control of min and max values of current for drivers type UED-*
Maximum rec. Pressure drops	1 MPa (10 bar) see [5]	
Protection DIN 40050	IP 67	Differential pressure between "P" and "T" channel must always be kept in condition that "P" channel pressure exceed pressure in "T" channel (P>T)
Duty cycle	100%	
Service life	> 10 ⁷ cycles	
Installation and Dimensions	(see [6])	
Mass	Approx 1,6 / 2,4 kg	

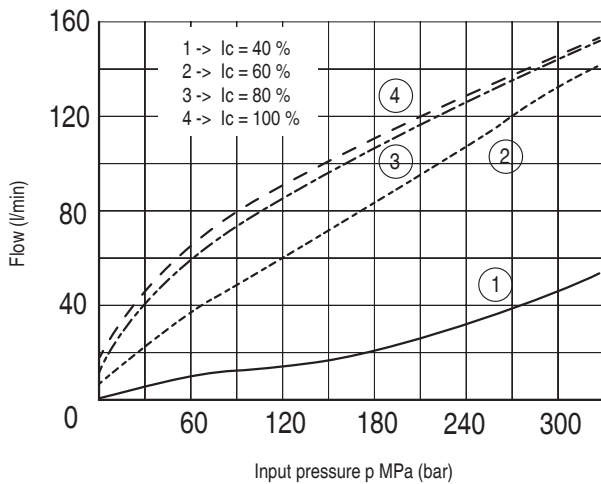
4 SPOOL IDENTIFICATION AND NOMINAL FLOW RATE



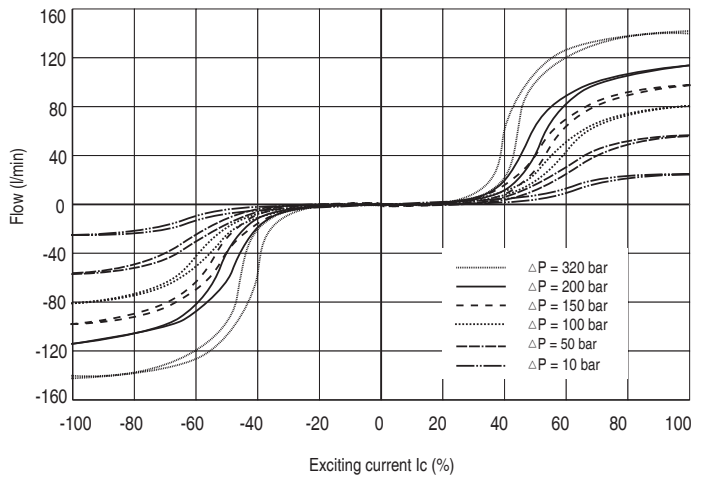
5 TYPICAL DIAGRAMS

Typical flow curves of valves HD3-PS8-*, in standard configuration measured with mineral oil at 32 cSt and at 50°C.

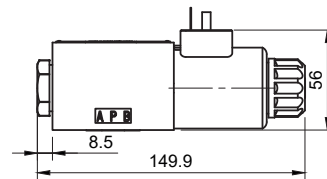
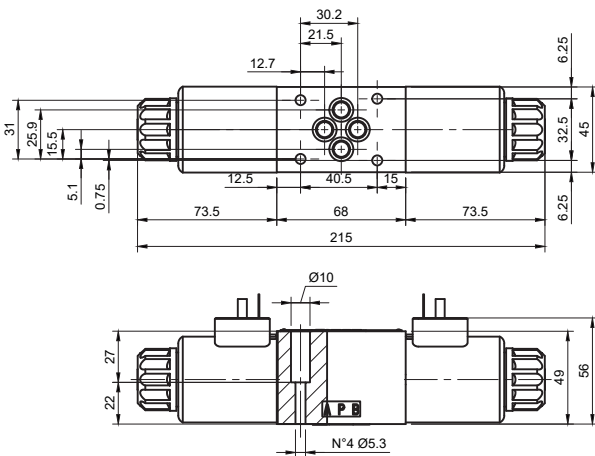
Operating limits
P->A/B->T or P->B/A->T



Regulated Flow
 $\Delta p = 01 \text{ MPa (10bar)}$



6 INSTALLATION DIMENSIONS (mm)



All valves HDS-PS8-* conform with ISO and CETOP specifications for mounting surface dimensions (see also front page) and for valves height. When assembled to its mounting plate valve HDS-PS8-* must be fastened with 4 bolts M5 X 30 mm (or M5 x ** according to the number of modules) tightened at 8 Nm torque. Leakage between valve and mounting surface is prevented by the positive compression on their seats of 4 seals of QUAD/O Ring type 9,25x1,68x1,68.

7 VERSION "K": EXTENDED EMERGENCY PIN

Solenoid valves according to "K" version have extended emergency actuator pins protruding from the solenoid shape, that permit a quick and easy "Hand operation" of the valves, without the need of any tool. The actuator pin and the end of the solenoid are protected by a flexible rubber cap that makes easy operation and protects from moisture and water splashes.

