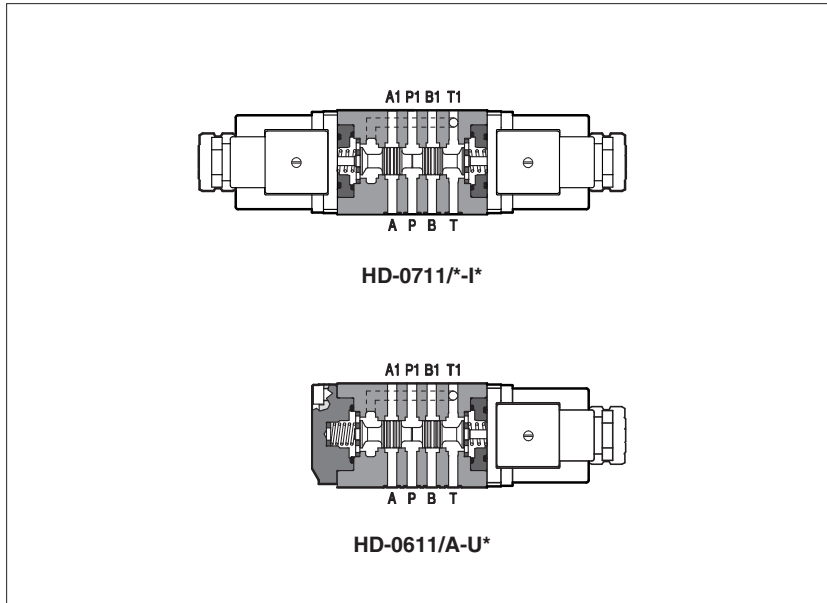


Modular solenoid directional valves type HD-0611*, HD-0711*

direct operated, ISO 4401 size 06, modular assembly

Available only on request



HD are spool type, direct operated solenoid valves in modular execution.

Technical characteristics

They are derived from standard DHI and DHU directional valves (see KT tab. E010), but with special body for modular assembly with all ISO4401 size 06 modular valves.

Applications

In combination with other valves they permit to realize compact hydraulic circuits for directional control, by-pass, different pressures selection, not compensated fast/slow speed controls.

Surface mounting **ISO 4401 size 06**

Max flow **60 l/min**

Max pressure: **350 bar**

1 MODEL CODE

HD-0	61	1	/A	I	X	24DC	**	/*
Modular directional valve size 06								Seals material - = NBR PE = FKM
Valve configuration, see section 2	61 = single solenoid, central plus external position, spring centered 63 = single solenoid, 2 external positions, spring offset 71 = double solenoid, 3 positions, spring centered							Series number
Spool type, see section 2								
Options: A = solenoid mounted at side of port B L1, L2, L3 = for switching time control, installed in the valve solenoid (see KT, table E010) WP = prolonged manual override (see KT, table E010)								
				I = solenoid OI for AC and DC supply U = solenoid OU for DC supply				
					X = without connector The connector must be ordered separately (see note)			
						Voltage code, see section 4 00 = valve without coils		

Note:

Type of electric/electronic connector **DIN 43650** to be ordered separately (for overall dimensions see table K500):

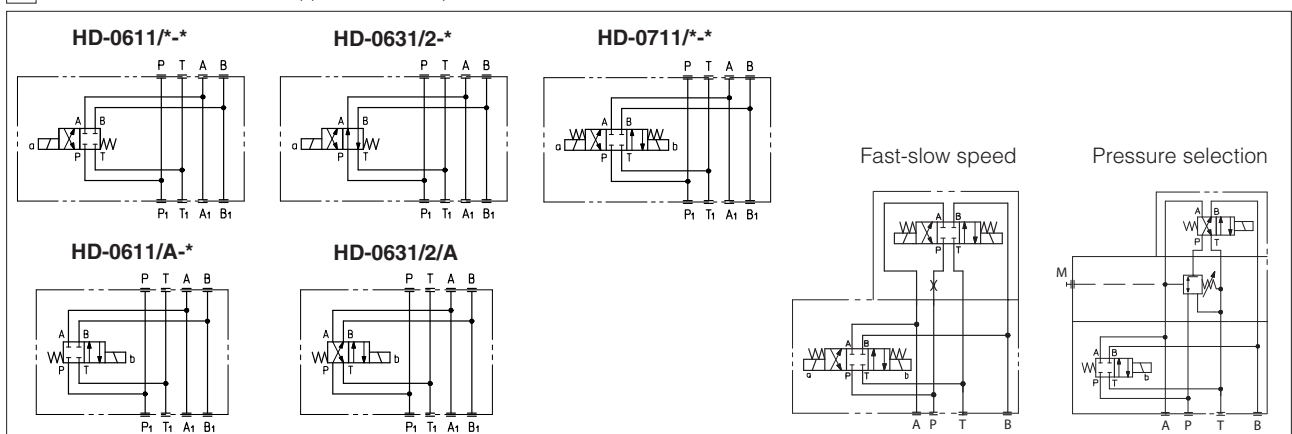
666 = standard connector IP-65, suitable for direct connection to electric supply source.

667 = as 666, but with built-in signal led.

669 = with built-in rectifier bridge for supplying DC coils by alternate current (AC 110V and 230V - I_{max} 1A).

E-SD = electronic connector which eliminates electric disturbances when solenoid valves are de-energized.

2 HYDRAULIC SYMBOL and applications examples



3 MAIN CHARACTERISTICS OF HD-* DIRECTIONAL VALVES

Assembly position / location	Any position for all valves	
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)	
Ambient temperature	from -20°C to +70°C	
Fluid	Hydraulic oil as per DIN 51524 ... 535; for other fluids see section 1	
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)	
Fluid contamination class	ISO 4401 class 21/19/16 NAS 1638 class 10 (filters at 25 µm value with β ₂₅ 75 recommended)	
Fluid temperature	-20°C +60°C (standard seals) -20°C +80°C (/PE seals)	
Flow direction	As shown in the symbols of section 5	
Operating pressure	HD-*-I	Ports P,A,B: 350 bar; Port T: 120 bar
	HD-*-U	Ports P,A,B: 350 bar; Port T 210 bar
Maximum flow	60 l/min	

3.1 Coils characteristics

Insulation class	H (180°C) Due to the occurring surface temperatures of the solenoid coils, the European standards EN563 and EN982 must be taken into account
Connector protection degree DIN 43650	IP 65
Relative duty factor	100%
Supply voltage tolerance	± 10%
Certification	C UR US

4 ELECTRIC FEATURES

Valve	External supply nominal voltage ± 10%	Voltage code	Type of connector	Power consumption (2)	Code of spare coil		Colour of coil label
					HD-*-I	HD-*-U	
HD	6 DC	6 DC	666 or 667	33 W	COU-6DC / 80	COU-6DC / 80	brown
	9 DC	9 DC			COU-9DC / 80	COU-9DC / 80	light blue
	12 DC	12 DC			COU-12DC / 80	COUR-12DC / 10	green
	14 DC	14 DC			COU-14DC / 80	COUR-14DC / 10	brown
	18 DC	18 DC			COU-18DC / 80	COU-18DC / 80	blue
	24 DC	24 DC			COU-24DC / 80	COUR-24DC / 10	red
	28 DC	28 DC			COU-28DC / 80	COUR-28DC / 10	silver
	48 DC	48 DC			COU-48DC / 80	COU-48DC / 80	silver
	110 DC	110 DC			COU-110DC / 80	COUR-110DC / 10	black
	125 DC	125 DC			COU-125DC / 80	COU-125DC / 80	silver
	220 DC	220 DC			COU-220DC / 80	COUR-220DC / 10	black
	24/50 AC	24/50/60 AC			669	40 VA 35 VA	COI-24/50/60AC / 80 (1)
	48/50 AC	48/50/60 AC	COI-48/50/60AC / 80 (1)	-			white
	110/50 AC	110/50/60 AC	COI-110/50/60AC / 80 (1)	-			yellow white
	120/60 AC	120/60 AC	COI-120/60AC / 80	-			white
	230/50 AC	230/50/60 AC	COI-230/50/60AC / 80 (1)	-			light blue
	230/60 AC	230/60 AC	COI-230/60AC / 80	-	silver		
	110/50 AC	110RC	669	40 VA 35 VA	COU-110RC / 80	COUR-110RC / 10	gold
120/60 AC	120RC	COU-230RC / 80			COUR-230RC / 10	blue	
230/50 AC	230RC		40 VA 35 VA				

- Coil can be supplied also with 60 Hz of voltage frequency: in this case the performances are reduced by 10 ÷ 15% and the power consumption is 55 VA.
- Average values based on tests performed at nominal hydraulic condition and ambient/coil temperature of 20°C.
- In a cycle, where solenoid is energized/deenergized in 1 second (1 Hz), the average power consumption is 7 W; for longer cycles, the power consumption is lower. When solenoid is energized the inrush current is 6 A at 12 Vdc and 3 A at 24 Vdc corresponding to power consumption peak of 72 W. These current peaks persist for a period shorter than 100 msec and they must be considered when electric circuit is designed.
- When solenoid is energized, the inrush current is approx 3 times the holding current. Inrush current values correspond to a power consumption of about 150 VA.

5 DIMENSIONS [mm]

HD-06**
Dotted line for version **HD-07****

ISO 4401: 2005
Mounting surface: 4401-03-02-0-05
Seals: 4 OR 108
Ports P,A,B,T: Ø = 7.5 mm (max).

Connector wiring (666)

1-2 = Supply
3 = Coil ground

Fast-slow flow

Pressure selection