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-0611/A-U*
HD-0711/*-I*
Modular directional valve size 06
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
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)

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 - Imax 1A).
E-SD = electronic connector which eliminates electric disturbances when solenoid valves are de-energized.

2 HYDRAULIC SYMBOL and applications examples

HD-0611/A-*
HD-0631/2-*
HD-0711/*-
Fast-slow speed
Pressure selection

Seals material
- = NBR
PE = FKM
Series number
Voltage code, see section 4
00 = valve without coils
X = without connector
The connector must be ordered separately (see note)
I = solenoid DI for AC and DC supply
U = solenoid OU for DC supply
**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 mm²/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<sub>25</sub> 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 [3]

### 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

<table>
<thead>
<tr>
<th>Valve</th>
<th>External supply nominal voltage ± 10%</th>
<th>Voltage code</th>
<th>Type of connector</th>
<th>Power consumption (W)</th>
<th>Code of spare coil</th>
<th>Colour of coil label</th>
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<tbody>
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<td>6 DC</td>
<td>6 DC</td>
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<td>33 W</td>
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**ISO 4401: 2005**
Mounting surface: 4401-03-02-0-05
Seals: 4 OR 108
Ports P,A,B,T: Ø = 7.5 mm (max.)

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**5 DIMENSIONS [mm]**

**Connector wiring**

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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**Pressure selection**

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**Fast-slow flow**