

## PROPORTIONAL PRE COMPENSATED VALVES



Patented

Connector to be ordered separately, see page 105.

### ORDERING CODE

<b>CXDH</b>	Proportional compensated bankable valve															
<b>3</b>	Size															
<b>*</b>	Mounting (see table 1)															
<b>*</b>	Body type: <b>A</b> = Ports G3/8" parallel <b>G</b> = Interface for modular valves <b>B</b> = Ports SAE 9/16" - 18UNF <b>L</b> = Ports G3/8" parallel with valves LSA LSB <b>M</b> = Interface for modular valves with valves LSA LSB															
<b>**</b>	Type of spool (1) <b>03</b> =															
<b>N</b>	Symmetrical flow path control															
<b>*</b>	Flow rating <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>*</th> <th><math>\Delta p</math> 8bar</th> <th><math>\Delta p</math> 4bar</th> </tr> </thead> <tbody> <tr> <td><b>D</b></td> <td>8 l/min</td> <td>6 l/min</td> </tr> <tr> <td><b>2</b></td> <td>16 l/min</td> <td>12 l/min</td> </tr> <tr> <td><b>3</b></td> <td>22 l/min</td> <td>18 l/min</td> </tr> <tr> <td><b>4</b></td> <td>35 l/min</td> <td>28 l/min</td> </tr> </tbody> </table>	*	$\Delta p$ 8bar	$\Delta p$ 4bar	<b>D</b>	8 l/min	6 l/min	<b>2</b>	16 l/min	12 l/min	<b>3</b>	22 l/min	18 l/min	<b>4</b>	35 l/min	28 l/min
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<b>*</b>	Differential pressure $\Delta p$ <b>8</b> = $\Delta p$ 8 bar <b>4</b> = $\Delta p$ 4 bar															
<b>*</b>	Max. current at solenoid (2): <b>E</b> = 2.35 A (9 Vdc) - Special coil <b>F</b> = 1.76 A (12 Vdc) <b>G</b> = 0.88 A (24 Vdc)															
<b>**</b>	Variants (3): <b>S1</b> = No variant <b>LF/LV</b> = Emergency control lever (see page 72) For body type G and M order LR variant (emergency lever 180° rotated) <b>SV</b> = Viton <b>ES</b> = Emergency button (4) <b>P2</b> = Rotary emergency (4) <b>R5</b> = Rotary emergency 180° (4) <b>AJ</b> = AMP Junior coil (see page 111) <b>CZ</b> = Deutsch DT04-2P coil (see page 111)															
<b>1</b>	Serial No.															

Calibrated diaphragms on P line, see page 104.

- (1) Available spool 01 A and B ports are not sealed: fluid can escape from LS line (see hydraulic scheme).  
 (2) Coils technical data, see page 111  
 Voltage codes are not stamped on the plate, their are readable on the coils  
 (3) Connector to be ordered separately, see page 105; Other variants available on request.  
 (4) Emergency see page 72

Stackable proportional directional valves CXDH with LS signal locally compensated

- Used for controlling fluid direction and flow rate as a function of the supply current to the proportional control solenoid.
- Flow regulation load independent.
- Load compensation is achieved by a 2 way pressure compensator which holds, the pressure drop constants across the proportional spool.
- Emergency control.
- Threaded ports or interface for modular valves
- Regulated flow rate until 35 l/min.
- Standard connectors DIN 43650 ISO 4400, AMP Junior and Deutsch
- Cast iron zinc plated body.

### FEATURES

Max. operating pressure	300 bar
Max. operating pressure ports T (Pressure dynamic allowed for 2 millions of cycles)	250 bar
Regulated flow rate (A / B ports)	up to 35 l/min
Relative duty cycle	Continuous 100% ED
Type of protection (Hirschmann coil)	IP 65
Fluid viscosity	10 ÷ 500 mm <sup>2</sup> /s
Fluid temperature	-20°C ÷ 75°C
Ambient temperature	-20°C ÷ 60°C
Max. contamination level (filter $\beta_{10} \geq 75$ )	ISO 4406:1999: class 19/17/14 NAS 1638: class 8
Weight with single solenoid	2.38 kg
Weight with double solenoid	2.77 kg

Solenoid	@ 9Vdc	@ 12Vdc	@ 24Vdc
Current supply	PWM (pulse width modulation)		
Max. current solenoid	2.35 A	1.76 A	0.88 A
Solenoid coil resistance at 25°C (77°F)	2.25 Ohm	4.0 Ohm	16.0 Ohm
PWM or superimposed dither frequency	100 ÷ 150 Hz		
Response time			
0 ÷ 100%	32 ms	40 ms	85 ms
100% ÷ 0	33 ms	33 ms	33 ms
Frequency response -3db (input signal 50% ±25% Vmax)	22 Hz	22 Hz	12 Hz

Operating specifications are valid for fluid with 46 mm<sup>2</sup>/s viscosity at 40°C, using the specified Dana electronic control units. (input voltage = 24V).

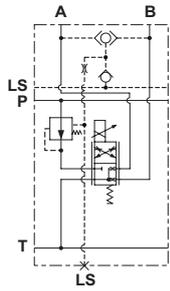
### Accessories

REM.S.RA.*.*. REM.D.RA.*.*.	Card type control for single and double solenoid
CEP.S...	Electronic amplifier plug version for single solenoid
MAV	Electronic module for integrate control of proportional valves and ON/OFF
JMPEI0M700101	Joystick with standard handle
JMPIU0M700138	Joystick Person present handle
Modular valves	CM3P (page 95) and CM3M (page 97)

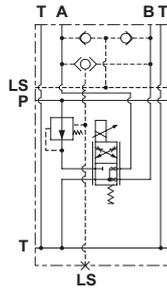
Tab.1 - Mounting

Code	Symbol
<b>C</b>	
<b>A</b>	
<b>B</b>	

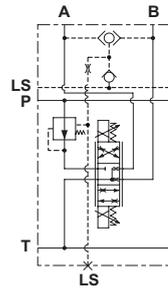
## HYDRAULIC SYMBOLS



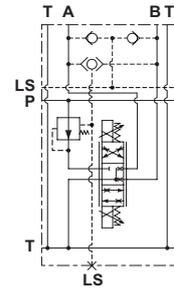
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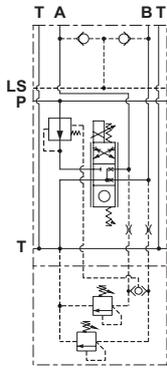
CXDH3AG03 ..



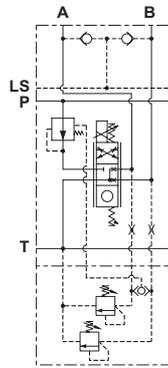
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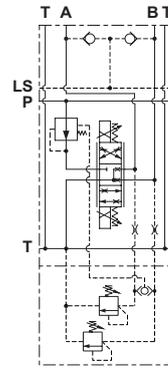
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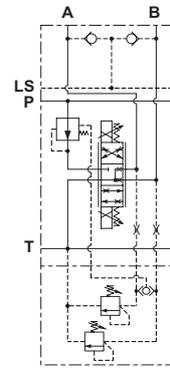
CXDH3AM03 ..



CXDH3AL03 ..



CXDH3CM03 ..



CXDH3CL03 ..

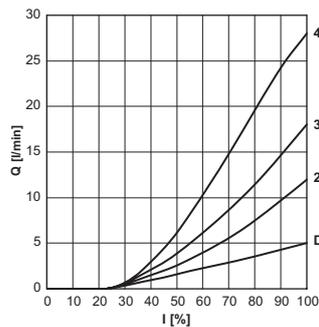
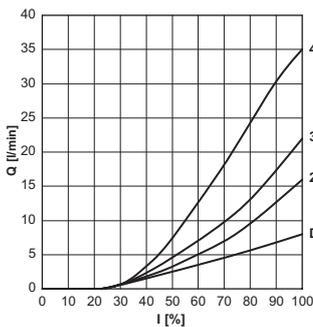
\* Thanks to the design of the modular body (type G), an anti-shock modular valve can work same with CXDH3 valve energized or de-energized (see hydraulic symbol)

## CHARACTERISTIC CURVES

### I-Q curves - (Curves acquired with REM card, opening stroke)

Differential Pressure  $\Delta p = 8$  bar

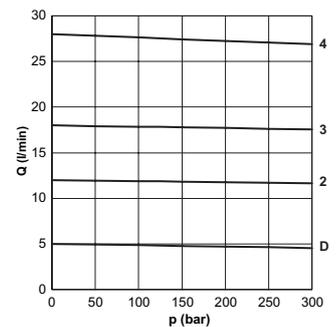
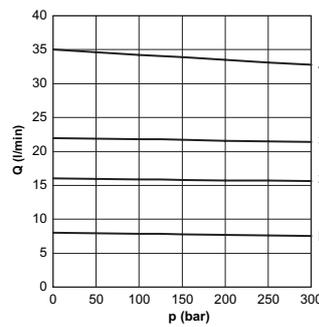
Differential Pressure  $\Delta p = 4$  bar



### Compensation curves (curves acquired with FEH30.PQ inlet module)

Differential Pressure  $\Delta p = 8$  bar

Differential Pressure  $\Delta p = 4$  bar

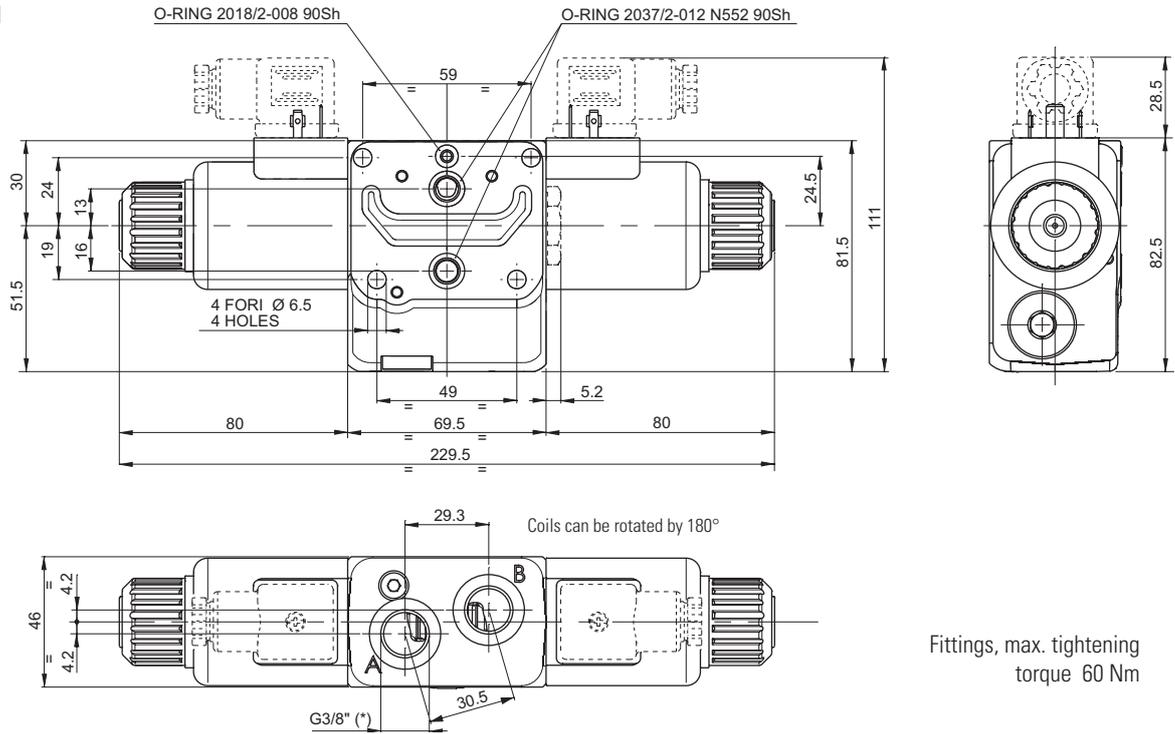


The fluid used is a mineral based oil with a viscosity of 46 mm<sup>2</sup>/s at 40°C. The tests have been carried out with a fluid of a 40°C.

## OVERALL DIMENSIONS

### Body type A

Ports G3/8" Parallel



Fittings, max. tightening torque 60 Nm

1

### Body type G

Interface for modular valves

