

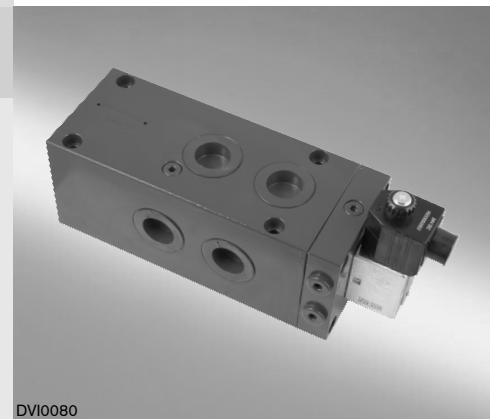
6/2 ways/positions piloted flow diverters - Size 16

RE 18302-11/12.12
Replaces: 07.12

1/8

L7556... (VS400)

Size 16
Series 00
Maximum operating pressure 310 bar [4500 psi]
Maximum flow 220 l/min [58.1 gpm]
Ports G 1



DVI0080

Summary

Description	Page
General specifications	1
Ordering details	2
Spool variants	2
Principles of operation, cross section	3
Technical data	3
Δp - Q_v characteristic curves	5
External dimensions and fittings	6
Electric connections	7

General specifications

Description	Page
- 6 way 2 position valve.	1
- Directional spool valve hydraulically piloted through solenoid control.	2
- Solenoid with easily removable coil fastened by a ring nut.	2
- Wet pin tube for DC coil, with push rod for mechanical override in case of voltage shortage.	3
- Unrestricted 360° orientation of DC coil.	5
- Control spool held in normal position by return spring.	6
- Connectors available: DIN 43650 – ISO 4400, AMP Junior, DT04-2P (Deutsch), Free leads.	7

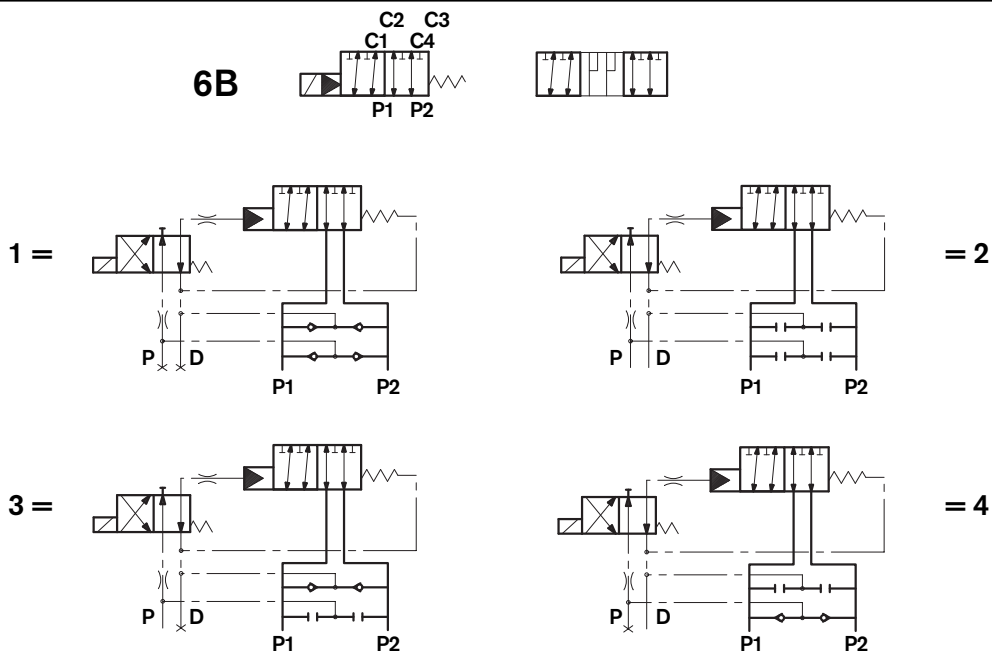
Ordering details

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<p>Family Compact directional valve</p> <p>Type Flow Diverters</p> <p>Ports G 1 DIN3852</p> <p>Control type Without pilot solenoid valve = 00 With pilot solenoid valve one coil, without mechanical detent = 10 With pilot solenoid valve two coils, with mechanical detent = 1D</p> <p>Configuration, pilot and drain type Internal pilot and drain = 1 External pilot and drain = 2 External pilot and internal drain = 3 External drain and internal pilot = 4</p>	<p style="text-align: right;">Electric connections</p> <p>00 = Without coils 01** = With coils, without mating connector DIN EN 175301-803 03 = With coils, with bi-directional diode, without mating connector vertical Amp-Junior 04 = With coils, with bi-directional diode, without mating connector horizontal Amp-Junior 07 = With coils, with bi-directional diode, without mating connector DT04-2P 31 = With coils and bipolar sheathed lead 350mm [13,8 in] long</p> <p style="text-align: right;">Voltage supply</p> <p>00 = Without coil OB = 12V DC AD = 13V DC OC = 24V DC AC = 27V DC OD = 48V DC OE = 110V DC</p> <table style="width: 100%; text-align: center;"> <tr> <td style="width: 10%;">00 =</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OB =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>AD =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>OC =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>AC =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>OD =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>OE =</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td></td> <td>31</td> <td>07</td> <td>04</td> <td>03</td> <td>01</td> <td>00</td> <td colspan="4"></td> </tr> <tr> <td></td> <td colspan="6" style="text-align: center;">Available connections</td> <td colspan="5"></td> </tr> </table>	00 =											OB =											AD =											OC =											AC =											OD =											OE =												31	07	04	03	01	00						Available connections										
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** For connectors ordering code see data sheet RE 18325-90.

Configuration



Principles of operation, cross section

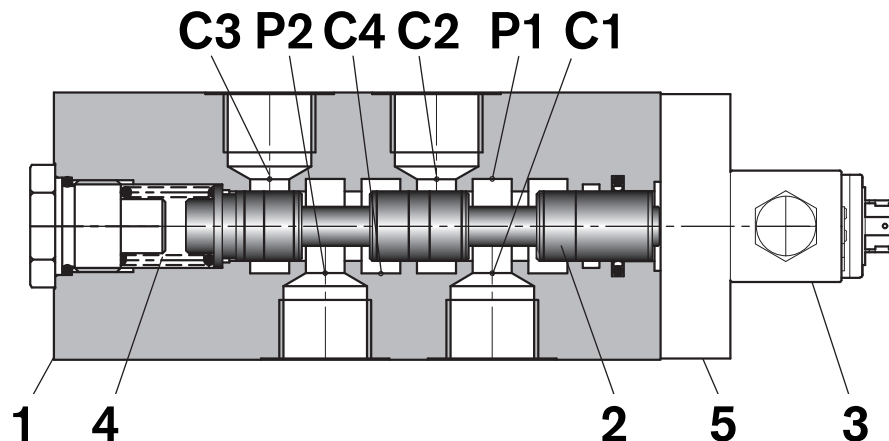
A valve basically consists of a housing (1), a control spool (2), a return spring (4), a 4/2 solenoid valve (3), a face mounted plate for optional drain and/or external hydraulic pilot.

The valve is designed to connect two inlet lines P1 – P2 (normally a set of hoses) and divert them to either the outlet ports (C1 – C4) with spool in position “0”, when the solenoid is de-energized, or to the outlet ports (C2 – C3) with spool in position “1”, when the solenoid is energized. In fact, energizing

the solenoid valve (3), the pilot pressure, after exceeding the 18 bar (261 psi) threshold, pushes the control spool (2) from position “0” into position “1”.

With the solenoid de-energized, the return spring (4) pushes back the spool (2) and holds it in position “0”.

The coil of the solenoid valve is fastened to the tube by a ring nut.



Technical Data (for applications with different specifications consult us)

General

Valve weight	kg [lbs]	15.2 [33.5]
Mounting position		unrestricted
Ambient Temperature	°C [°F]	-20....+50 [-4....+122] (NBR seals)

Hydraulic

Maximum operating pressure with external drain	bar [psi]	310 [4500]
Maximum operating pressure with internal drain	bar [psi]	210 [3046]
Maximum inlet flow	l/min [gpm]	220 [58.1]
Minimum pilot pressure	bar [psi]	18 [261]
Internal pilot switching pressure between P1 and P2	bar [psi]	18 [261]
Hydraulic fluid		Mineral oil based hydraulic fluids HL (DIN 51524 part 1). Mineral oil based hydraulic fluids HLP (DIN 51524 part 2). For use of environmentally acceptable fluids (vegetable or polyglycol base) please consult us.
Fluid Temperature	°C [°F]	-20....+80 [-4....+176] (NBR seals)
Permissible degree of fluid contamination		ISO 4572: $\beta_x \geq 75$ X=12...15 ISO 4406: class 20/18/15 NAS 1638: class 9
Viscosity range	mm ² /s	5....420
Internal leakage with 100 bar [1450 psi] secondary pressure at C	cc/min [in ³ /min]	min.20 [1.2] max. 60 [3.6]

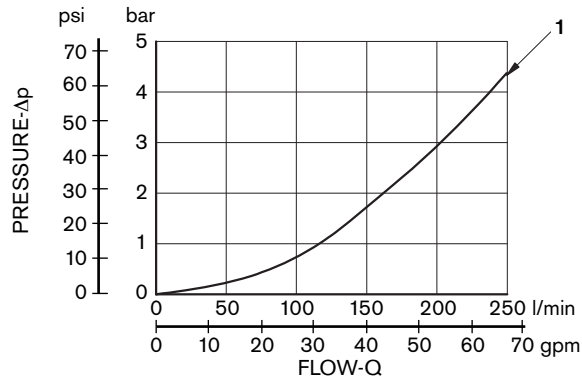
Electrical

Voltage type	DC										
Voltage tolerance (nominal voltage)	%	-10 ... +10									
Duty	Continuous 100%, with ambient temperature $\leq 50^{\circ}\text{C}$ [122°F]										
Coil wire temperature not to be exceeded	$^{\circ}\text{C}$ [°F]	150 [302]									
Insulation class	H										
Compliance with	Low Voltage Directive LVD 73/23/EC (2006/95/EC), 2004/108/EC										
Coil weight with connection EN 175301-803	kg [lbs]	0.215 [0.44]									
Voltage	V	12	13	24	27	48	110				
Voltage type		DC	DC	DC	DC	DC	DC				
Power consumption	W	26	26	26	26	26	26				
Current (nominal at 20°C [68°F])	A	2.15	2.00	1.10	1.00	0.54	0.27				
Resistance (nominal at 20°C [68°F])	Ω	5.5	6.5	22	28	89	413				

	Voltage (V)	Connector type	Coil description	Marking	Coil Mat no.
=OB 01	12 DC	EN 175301-803 (Ex. DIN 43650)	C3601 12DC	12 DC	R933000044
=OB 03	12 DC	AMP JUNIOR	C3603 12DC	12 DC	R933000047
=OB 04	12 DC	AMP JUNIOR Horizontal	C3604 12DC	12 DC	R933002913
=OB 07	12 DC	DEUTSCH DT 04-2P	C3607 12DC	12 DC	R933000048
=OB 31	12 DC	Cable 350 mm long	C3631 12DC	12 DC	R933000045
=AD 01	13 DC	EN 175301-803 (Ex. DIN 43650)	C3601 13DC	13 DC	R933000051
=AD 07	13 DC	DEUTSCH DT 04-2P	C3607 13DC	13 DC	R933000049
=OC 01	24 DC	EN 175301-803 (Ex. DIN 43650)	C3601 24DC	24 DC	R933000053
=OC 03	24 DC	AMP JUNIOR	C3603 24DC	24 DC	R933000057
=OC 04	24 DC	AMP JUNIOR Horizontal	C3604 24DC	24 DC	R933002914
=OC 07	24 DC	DEUTSCH DT 04-2P	C3607 24DC	24 DC	R933000058
=OC 31	24 DC	Cable 350 mm long	C3637 24DC	24 DC	R933000055
=AC 01	27 DC	EN 175301-803 (Ex. DIN 43650)	C3601 27DC	27 DC	R933000056
=AC 07	27 DC	DEUTSCH DT 04-2P	C3607 27DC	27 DC	R933000050
=OD 01	48 DC	EN 175301-803 (Ex. DIN 43650)	C3601 48DC	48 DC	R933000059
=OD 04	48 DC	AMP JUNIOR Horizontal	C3604 48DC	48 DC	R933002915
=OE 01	110 DC	EN 175301-803 (Ex. DIN 43650)	C3601 110DC	110 DC	R933000061

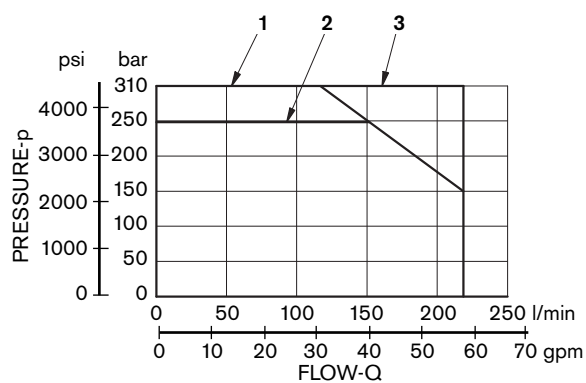
Characteristic curves

Measured with hydraulic fluid ISO-VG32 at $45^{\circ} \pm 5^{\circ} \text{ C}$ [$113^{\circ} \pm 9^{\circ} \text{ F}$]; ambient temperature 20° C [68° F].



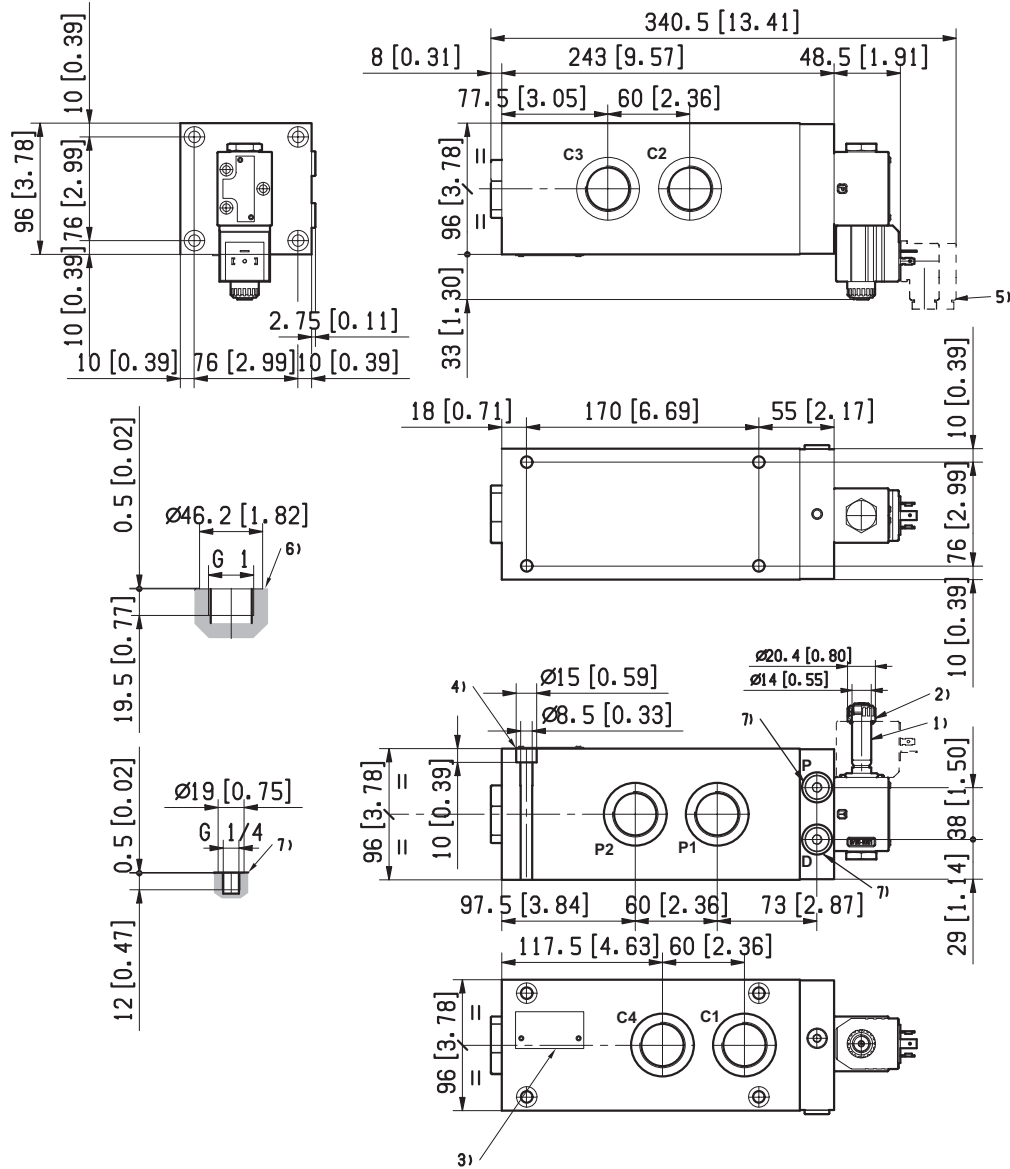
Flow path	Curve No.
P1>C1	1
P1>C2	1
P2>C3	1
P2>C4	1

Performances limits



- 1) External drain; pilot pressure 18 bar [261 psi]
- 2) Internal drain; pilot pressure 18 bar [261 psi]
- 3) External drain; pilot pressure 30 bar [435 psi]

External Dimensions and Fittings



1 Solenoid tube $\varnothing 14$ mm [0.55 inch].

2 Ring nut for coil locking $\varnothing 20.5$ mm [0.80 inch].
Torque 3-4 Nm [2.2-3.0 ft-lb].

3 Identification label.

4 Four through installation holes recommended screws M8

with strength class DIN 8.8.

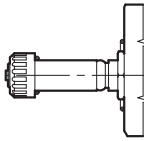
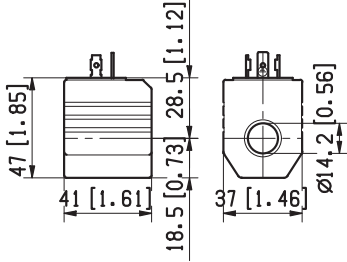
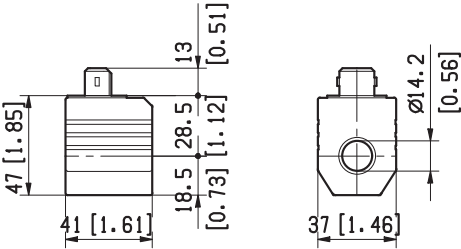
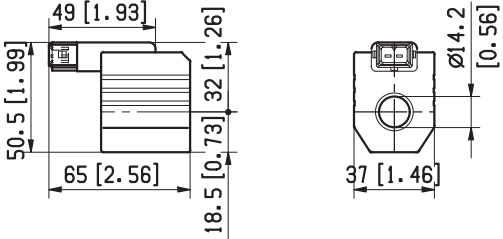
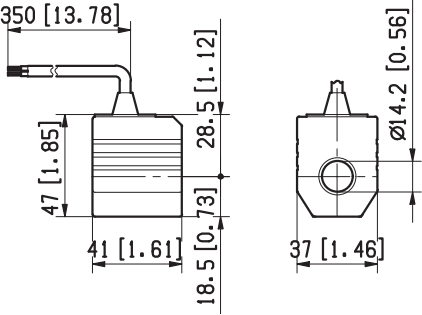
Torque 20 – 22 Nm [14.6 – 16.2 ft-lb].

5 Minimum clearance needed for connector removal.

6 Ports P1, P2, C1, C2, C3, C4.

7 Pilot and drain ports P, D

Electric connections

<p>≡00</p>		<p>≡01</p>	
<p>≡03</p>	<p>Protection class: IP 65 with female connector properly fitted (see drawing).</p> 	<p>≡04</p>	<p>Protection class: IP 65 with female connector properly fitted (see drawing).</p> 
<p>≡31</p>		<p>≡07</p>	<p>Protection class: IP 69 K with female connector properly fitted (see drawing).</p> 