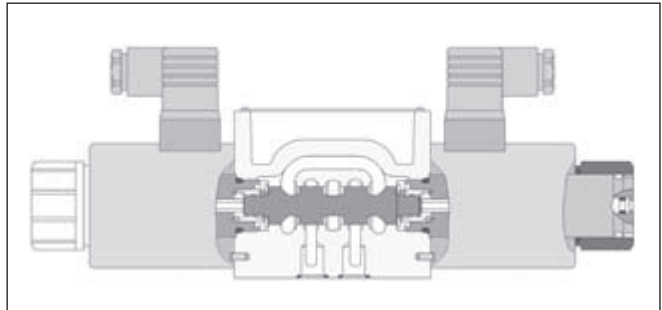
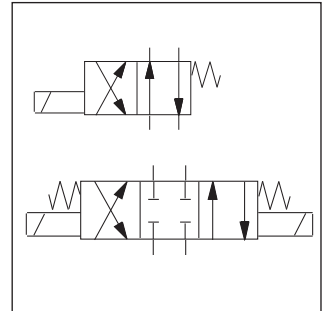


The D3W is a 3 chamber-, electrically controlled 4/3 or 4/2 way directional control valve. It is activated directly by solenoids with screwed in wet pin armature.



2

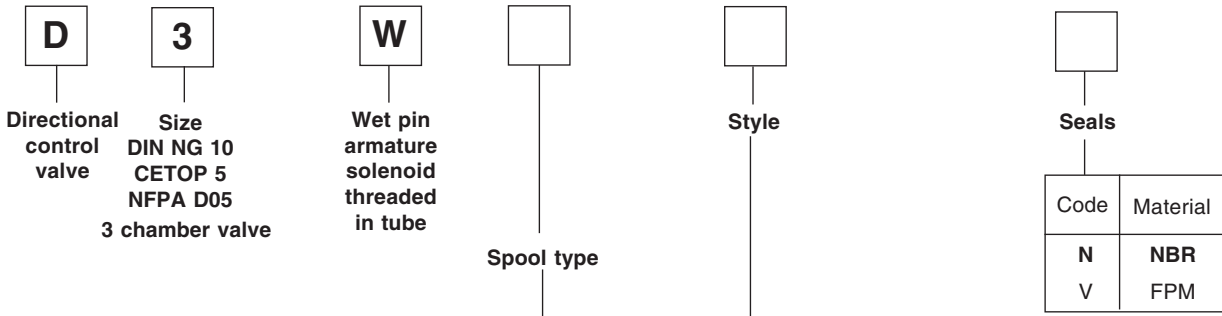
Characteristics

<p>General</p> <p>Design Size Interface Mounting position Environmental temperature Weight: Valve with 1 solenoid Valve with 2 solenoids Mounting bolts</p>	<p>Directional spool valve DIN NG10 / CETOP 05 / NFPA D05 DIN 24340 A10 / ISO 4401 / CETOP RP 121-H / NFPA D05 unrestricted, preferably horizontal -25°C...+50°C 4.8 kg 6.3 kg 4 DIN 912 M6x40-12.9; torque 13.6 Nm ± 10%; ordering code BK 385</p>																			
<p>Hydraulics</p> <p>Fluids Fluid temperature Viscosity range ν Working pressure: P, A and B T Leakage: $\Delta p = 50 \text{ bar}$; $\nu = 35 \text{ mm}^2/\text{s}$ Max. flow Max. contamination level</p>	<p>Hydraulic oil, in accordance with DIN 51524 / 51525 -25°C to + 70°C 2.8 to 400 mm²/s (2.8 to 400 cSt) 350 bar DC: 210 bar AC: Standard 105 bar; Code H: 210 bar up to 20 ml/min per flow path, depending on spool DC: 150 l/min AC: 115 l/min NAS 1638 class 7-9, to be achieved with $\beta_{10} > 75$</p>																			
<p>Electrical characteristics</p> <p>Duty cycle Protection class</p>	<p>100% ED; CAUTION: Coil temperature up to 150° C possible IP 65 in accordance with DIN 40050 (plugged and mounted)</p>																			
<p>Voltages (± 10%)</p> <table border="1" data-bbox="124 1585 619 1809"> <tr> <td>DC voltage</td> <td>Code</td> </tr> <tr> <td>12 V</td> <td>K</td> </tr> <tr> <td>24 V</td> <td>J</td> </tr> <tr> <td>98 V</td> <td>U</td> </tr> <tr> <td>198 V</td> <td>G</td> </tr> <tr> <td>AC voltage</td> <td></td> </tr> <tr> <td>110V 50Hz / 120 V 60 Hz</td> <td>Y</td> </tr> <tr> <td>220 V 50 Hz / 240 V 60 Hz</td> <td>T</td> </tr> </table>	DC voltage	Code	12 V	K	24 V	J	98 V	U	198 V	G	AC voltage		110V 50Hz / 120 V 60 Hz	Y	220 V 50 Hz / 240 V 60 Hz	T	<p>Holding</p>		<p>in Rush</p>	
DC voltage	Code																			
12 V	K																			
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198 V	G																			
AC voltage																				
110V 50Hz / 120 V 60 Hz	Y																			
220 V 50 Hz / 240 V 60 Hz	T																			
	<p>Power</p> <p>36 W 36 W 36 W 36 W</p>	<p>Current</p> <p>3 A 1.5 A 0.37 A 0.18 A</p>	<p>Power</p> <p>- - - -</p>	<p>Current</p> <p>- - 3.41 A / 3.31 A 1.75 A / 1.70 A</p>																

 (at 80 l/min and 175 bar) | | | |----------------|---------------| | DC voltage | AC voltage | | 110 ms / 85 ms | 21 ms / 35 ms | 10.000 switchings/hour Connector as per EN 175301-803, solenoid identification according to ISO 9461. | | | |

D3W_gb.PM6.5MM

Ordering Code



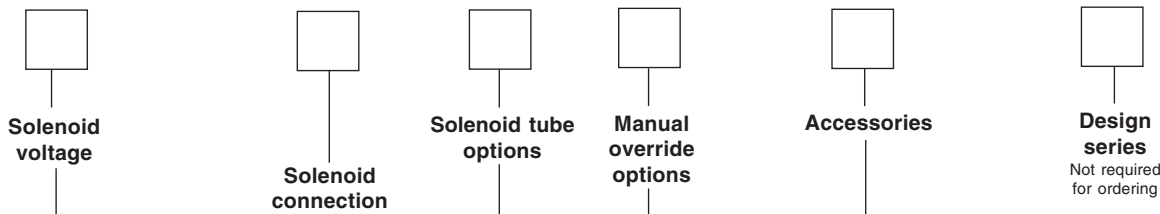
2

Code	Spool type	Code	Spool type
	3 position spools		2 position spools
1		20	
2		26 ¹⁾	
3		30	
4			
5			
6			
7			
8			
9			
10 ¹⁾			
11			
12			
14			
15			
16			
21 ¹⁾			
22 ¹⁾			
31 ¹⁾			
32 ¹⁾			
81 ¹⁾			
82 ¹⁾			

Code	Type	Description
Spools with 3 positions		
C		3 positions . Spring offset in position "0". Operated in position "a" or "b".
E ²⁾		2 positions. Spring offset in position "0". Operated in position "a".
F ²⁾		2 positions. Spring offset in position "b". Operated in position "0".
K ²⁾		2 positions. Spring offset in position "0". Operated in position "b".
M ²⁾		2 positions. Spring offset in position "a". Operated in position "0".
²⁾ Only spools 8 and 9		
E		2 positions. Spring offset in position "0". Operated in position "b".
F		2 positions. Spring offset in position "a". Operated in position "0".
K		2 positions. Spring offset in position "0". Operated in position "a".
M		2 positions. Spring offset in position "b". Operated in position "0".
Spools with 2 positions		
B		2 positions Spring offset in position "b". Operated in position "a".
D		2 positions, detent. Operated in position "a" or "b". No centre or offset position.
H		2 positions. Spring offset in position "a". Operated in position "b".

¹⁾ Only available for DC voltage.

Bolt letters =
Short-term availability



Solenoid voltage

Code	Voltage
K	12V=
J	24V=
U ³⁾	98V=
G ³⁾	198V=
Y	110V 50Hz 120V 60Hz
T	220V 50Hz 240V 60Hz

³⁾For AC voltage use plug with rectifier, and order with solenoid connection code W. Please order rectifier plug separately.

Solenoid connection

Code	Description
C	Flying leads in cavity, outlet on the longitudinal side
K	Conduit adapter with flying leads, outlet on the front side
W ⁴⁾	Connector as per EN 175301-803, without plug

⁴⁾ Please order plug separately. See page 2-90 accessories.

Solenoid tube options

Code	Description
omit	Standard solenoid tube (105 bar AC 210 bar DC)
H	High pressure solenoid tube tank press. 210bar (only for AC)

Manual override options

Code	Description
omit	with manual override
T	without manual override

Accessories

Code	Description
omit	Standard valve
5 ⁵⁾	Signal light
6 ⁶⁾	Brad Harrison plug 5 pin: 2 solenoids 3 pin: 1 solenoid
1A ⁶⁾	Brad Harrison plug 5 pin: 1 solenoid
56 ⁵⁾	Signal light with Brad Harrison plug 5 pin: 2 solenoids 3-pin: 1 solenoid
1C ⁵⁾	Signal light Brad Harrison plug 5 pin: 1 solenoid

⁵⁾Only together with conduit adapter (ode "K")
⁶⁾Only together with conduit adapter (code "K") or flying leads in cavity (code "C")

Further spool types, styles, and voltages on request.

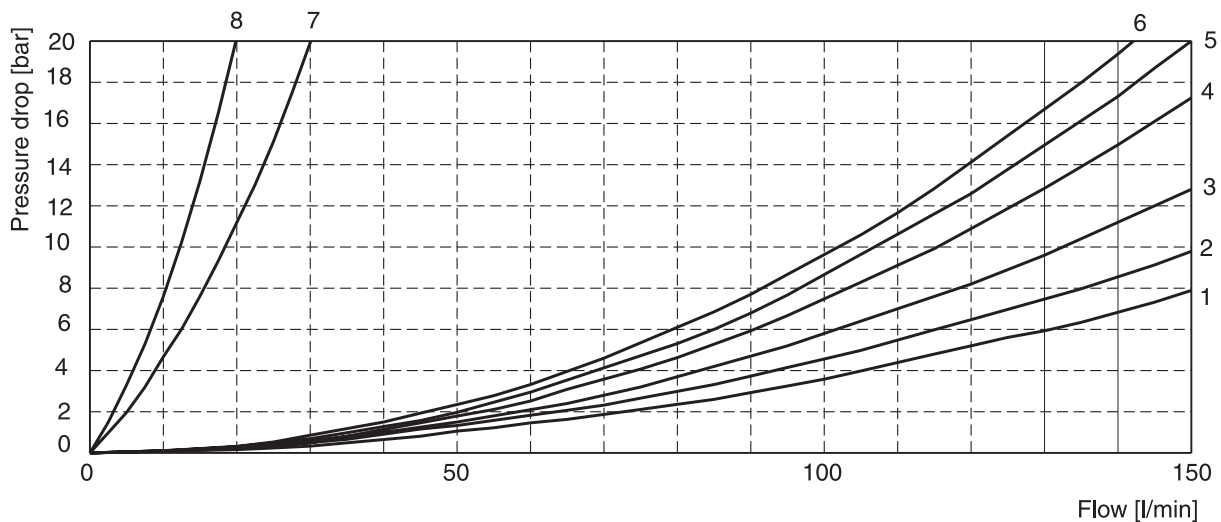
The flow curve diagram shows the flow versus pressure drop curves for all spools shown. To read the values in the diagram, the curve number for the selected spool and

desired operating position must first be determined from the table below.

2

Spool	Position "b"		Position "a"		Position "0"					
	P->A	B->T	P->B	A->T	P->A	P->B	A->T	B->T	P->T	A->B
1	4	3	4	3	-	-	-	-	-	-
2	4	1	4	1	3	3	1	1	5	1
3	4	3	5	2	-	-	4	-	-	-
4	4	2	4	2	-	-	3	3	-	5
5	4	3	5	3	5	-	-	-	-	-
6	4	3	4	3	6	6	-	-	-	6
7	5	1	4	3	-	4	-	2	6	-
10	4	-	4	-	-	-	-	-	-	-
11	4	3	4	3	-	-	8	8	-	-
12	4	3	4	3	7	7	7	7	8	8
14	4	3	5	1	4	-	2	-	6	-
15	5	2	4	3	-	-	-	4	-	-
16	5	3	4	3	-	-	5	-	-	-
20	4	3	4	3	-	-	-	-	-	-
26	4	-	4	-	-	-	-	-	-	-
30	4	2	4	2	-	-	-	-	-	-
	P->B	A->T	P->A	B->T	P->A	P->B	A->T	B->T	P->T	A->B
8	4	3	4	3	-	-	-	-	6	-
9	4	4	4	4	-	-	-	-	6	-
	Position "b"		Position "a"							
	P->A	P->B	A->B	P->B	A->T					
21	5	4	6	3	3					
	P->A	B->T			P->A	P->B	A->B			
22	3	3			4	5	6			

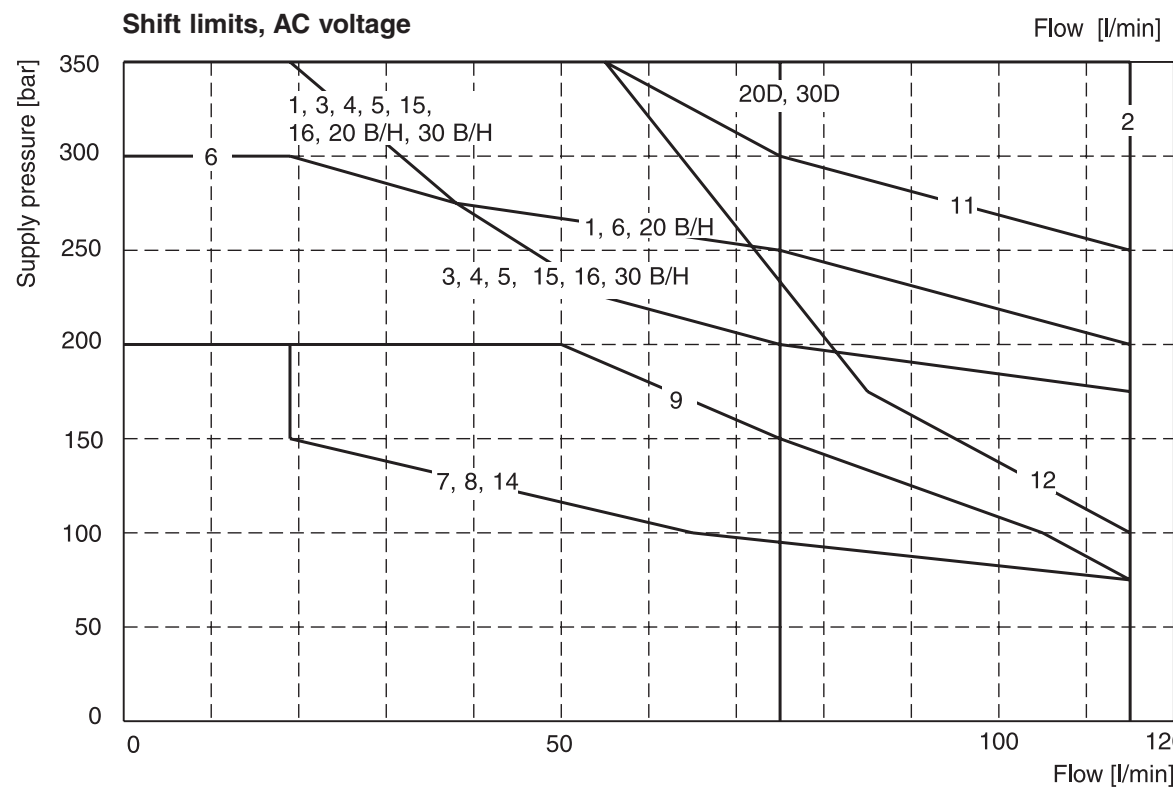
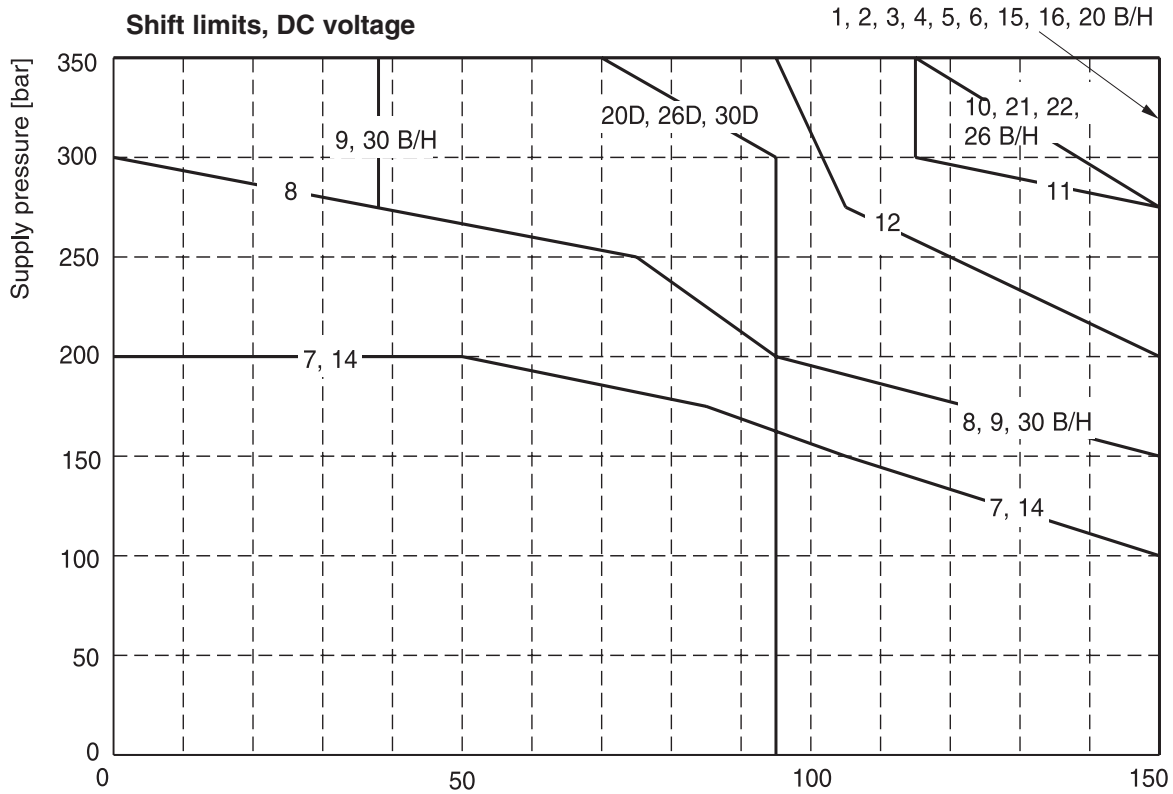
Flow curve



D3W_gb.PM6.5MM

The diagram below specifies the shift limits for valves with DC solenoids. Valves of style "F" and "M" may only be loaded at 70% of the value. The specifications apply to a viscosity of 35 mm²/s and equal flow at A and B port.

These values can be considerably lower than the represented ones by unequal flow at A and B port. To avoid flow rates above the shift limits of the valve, a plug-in orifice can be inserted in the P port.



Measured at 90% U_{nom} and warmed-up solenoids.

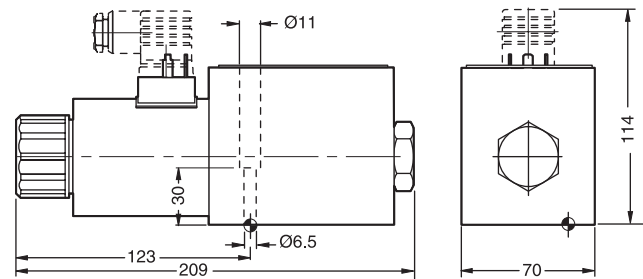
D3W_gb.PM6.5MM

Dimensions

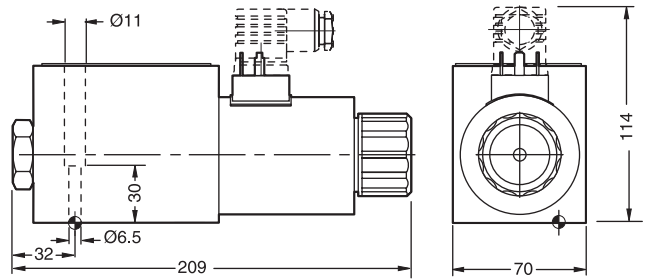
Dimensions

Interface EN 175301-8030: DC - Solenoid

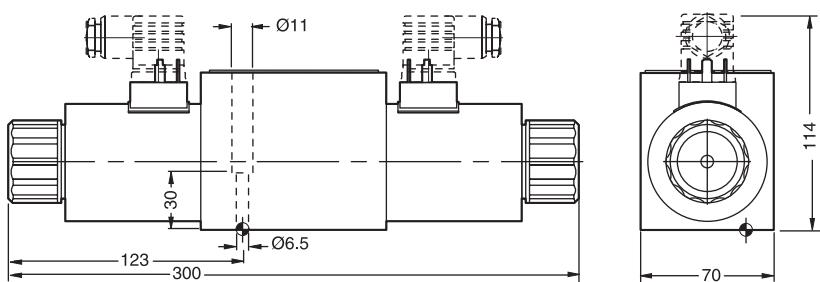
B - style



H - style

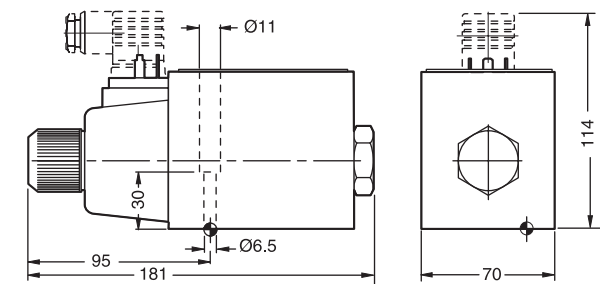


C - style

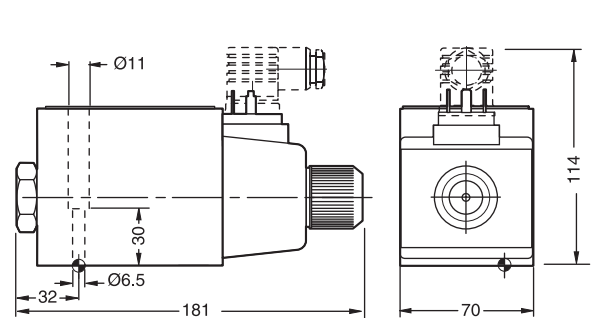


Interface EN 175301-803: AC - Solenoid

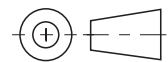
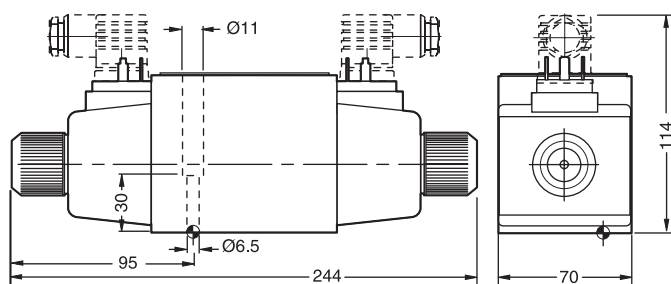
B - style



H - style



C - style



The mounting surface for the valve must meet the following requirements:

Flatness: max. admissible 0.01 mm per 100 mm

Roughness: max. admissible R_{max} 6.3 μ m

The space necessary to remove the plug per EN 175301-803, design type AF is at least 15 mm.

Subplates and manifolds see chapter 8.