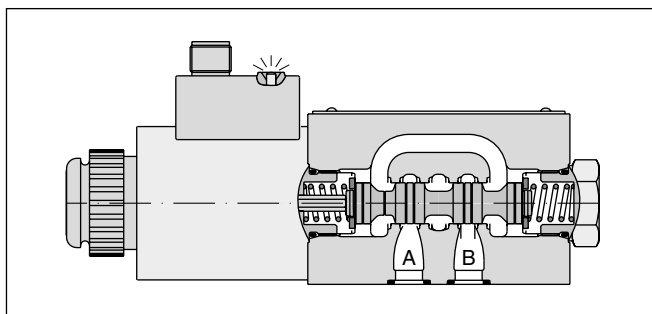
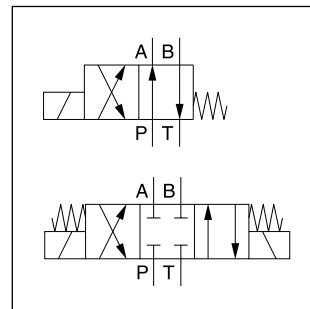


Characteristics

The D1VW 8 Watt series is based on the standard D1VW design. The low watt, low current (<0.5 A) solenoid allows direct connection to a PLC or a bus knot. The valves are offered with standard solenoid connection (as per EN175301-803) and M12 x 1 connection. The version with M12 x 1 connection and LEDs is conform to the DESINA standard (**D**istribut**E**d and **S**tandardised **I**Nst**A**llation technology) for machine tools and manufacturing systems.



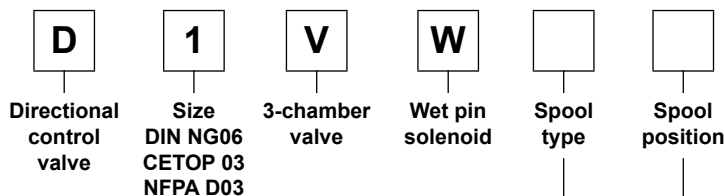
2

Technical data

General		
Design		Directional spool valve
Actuation		Solenoid
Size		DIN NG06 / CETOP 03 / NFPA D03
Mounting interface		DIN 24340 A6 / ISO 4401 / CETOP RP 121-H / NFPA D03
Mounting position		unrestricted, preferably horizontal
Ambient temperature	[°C]	-25...+60
MTTF _D value	[years]	150
Weight	[kg]	1.5 (1 solenoid), 2.1 (2 solenoids)
Vibration resistance	[g]	10 Sinus 5...2000 Hz acc. IEC 68-2-6 30 Random noise 20...2000 Hz acc. IEC 68-2-36 15 Shock acc. IEC 68-2-27
Hydraulic		
Max. operating pressure	[bar]	P, A B: 350, T: 210
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	-20 ... +70 (NBR: -25...+70)
Viscosity permitted	[cSt] / [mm ² /s]	2.8...400
Viscosity recommended	[cSt] / [mm ² /s]	30...80
Filtration		ISO 4406 (1999); 18/16/13
Flow max.	[l/min]	60 (see shift limits)
Leakage at 50 bar	[ml/min]	Up to 10 per flow path, depending on spool
Static / Dynamic		
Step response at 95 %	[ms]	Energized: 80...120; De-energized: 35...55
Electrical characteristics		
Duty ratio		100 % ED; CAUTION: coil temperature up to 70 °C possible
Max. switching frequency	[1/h]	10000
Protection class		IP65 in acc. with EN 60529, M12x1 IP67 (each with correctly mounted plug-in connector)
	Code	J
Supply voltage	[V]	24 V =
Tolerance supply voltage	[%]	±10
Current consumption	[A]	0.33
Power consumption	[W]	8
Solenoid connection		Connector as per EN 175301-803, solenoid identification as per ISO 9461 (code WL). Plug M12x1 on coil as per IEC 61076-2-101 (code DL/DLJ5).
Wiring min.	[mm ²]	3 x 1.5 recommended
Wiring length max.	[m]	50 recommended

With electrical connections the protective conductor (PE ⊥) must be connected according to the relevant regulations.

2



3 position spools	
Code	Spool type
	a 0 b
001	
002	
003	
004	
005	
006	
007	
008 ¹⁾	
009 ¹⁾	
010	
011	
014	
015	
016	
081	
082	
102	

2 position spools	
Code	Spool type
	a b
020	
026	
030	
101	

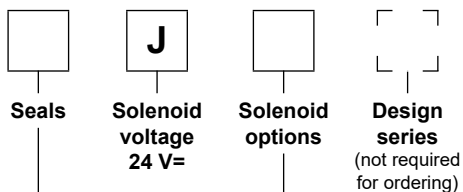
3 position spools		
Code	Spool position	
C		3 positions. Spring offset in position "0". Operated in position "a" or "b".
	Standard	Spool type 008, 009
E		2 positions. Spring offset in position "0".
	Operated in position "a".	Operated in position "b".
K		2 positions. Spring offset in position "0".
	Operated in position "b".	Operated in position "a".

2 position spools		
Code	Spool position	
B		2 positions. Spring offset in position "b". Operated in position "a".
D ²⁾		2 positions. Operated in position "a" or "b". No center or offset position.
H		2 positions. Spring offset in position "a". Operated in position "b".

Please order plug separately.
 Further spool types on request.

Bold letters =
 Short-term availability

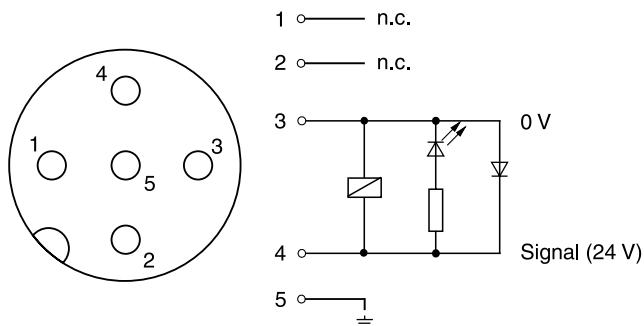
¹⁾ Consider specific spool position.
²⁾ Only for spool 020 available.



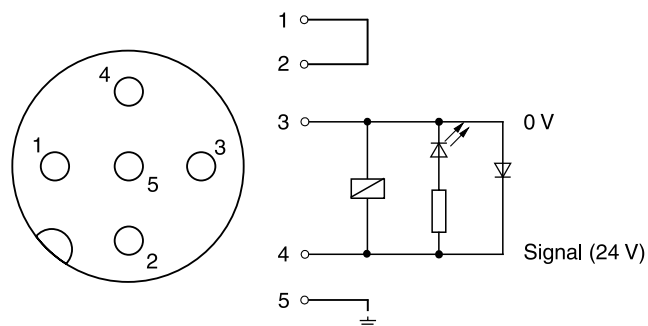
Code	Solenoid options
WL	Connector as per EN 175301-803, 8 Watt
DL	Connector M12x1 as per IEC 61076-2-101, 8 Watt, pin assignment see below
DLJ5	Connector M12x1 as per IEC 61076-2-101, 8 Watt, DESINA, pin assignment see below

Code	Seals
N	NBR
V	FPM

M12 pin assignment, code „DL“, surge diode with LED ¹⁾, pins 1 and 2 not connected



M12 pin assignment DESINA design, code „DLJ5“, surge diode with LED ¹⁾, pins 1 and 2 connected



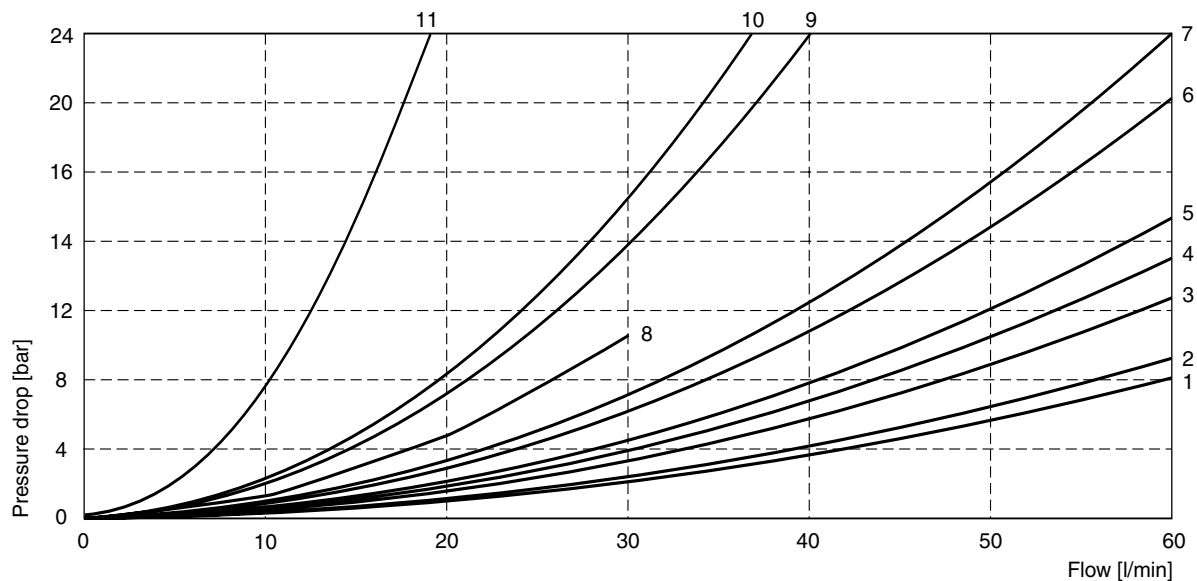
¹⁾ Max. voltage peak 50 V

The flow curve diagram shows the flow versus pressure for each spool type, operating position and flow direction in the table below. The relevant curve number is given in 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
001	3	3	3	3	–	–	–	–	–
002	3	4	3	4	1	1	3	3	1
003	4	4	4	5	–	–	4	–	–
004	3	4	3	4	–	–	4	4	–
005	3	3	3	3	8 (max. 30l)	–	–	–	–
006	3	4	3	4	4	4	–	–	–
007	4	3	3	3	–	2	–	1	4
010	4	–	4	–	–	–	–	–	–
011	3	3	3	3	–	–	11 (max. 25l)	11 (max. 25l)	–
014	4	3	3	3	2	–	1	–	4
015	4	5	4	4	–	–	–	4	–
016	3	3	3	3	–	8 (max. 30l)	–	–	–
020B	4	4	3	4	–	–	–	–	–
026B	4	–	4	–	–	–	–	–	–
030B	3	4	4	3	–	–	–	–	–
081	9	10	9	10	–	–	–	–	–
082	9	10	9	10	–	–	–	–	–
101B	4 (max. 40l)	7	7	6	–	–	–	–	–
102	3	4	3	4	3	3	5	5	3
	P->B	A->T	P->A	B->T	P->A	P->B	A->T	B->T	P->T
008	4	5	4	5	–	–	–	–	6
009	5	5	5	5	–	–	–	–	4

Flow curve diagram

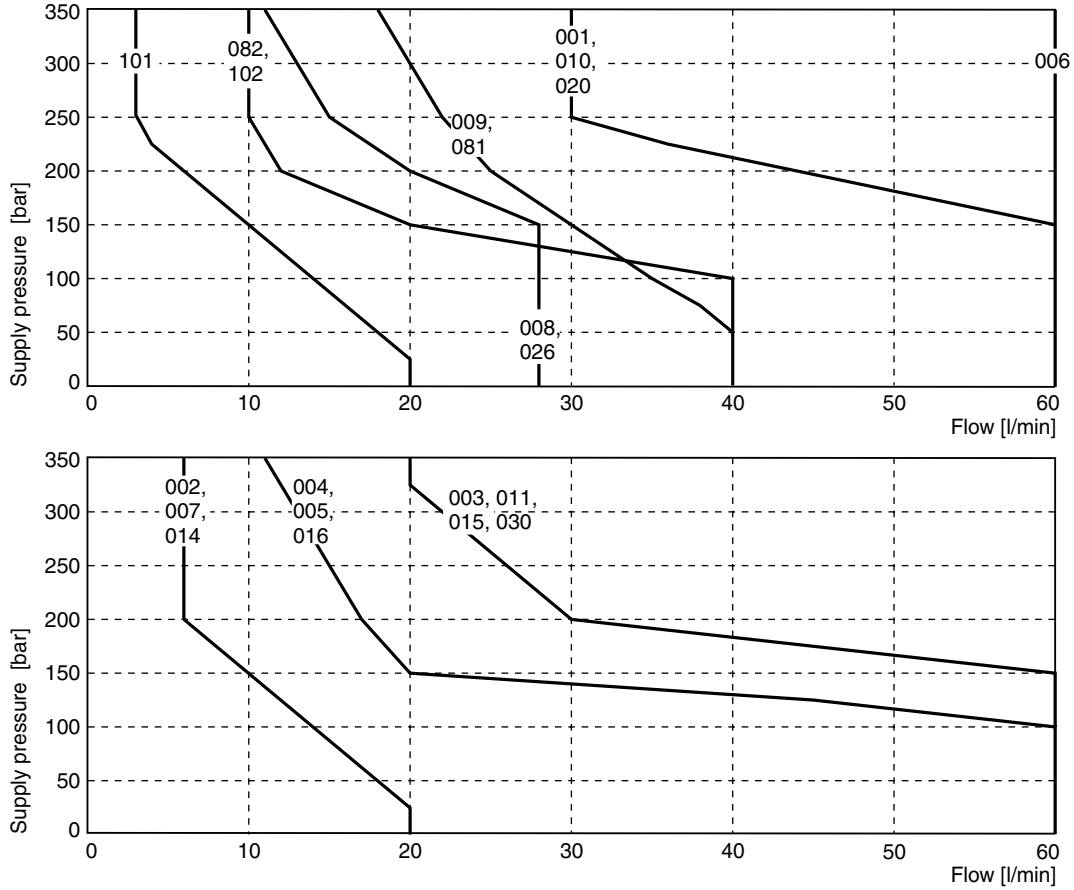


All characteristic curves measured with HLP46 at 50 °C.

The diagram below specifies the shift limits. The specifications apply to a viscosity of 40 mm²/s and balanced flow conditions. The shift limits can be considerably

lower at unbalanced flow conditions. To avoid flow rates beyond the shift limits, a plug-in orifice can be inserted in the P-port.

Shift limits



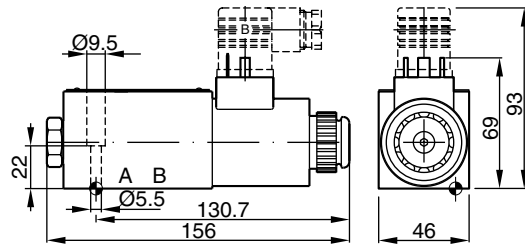
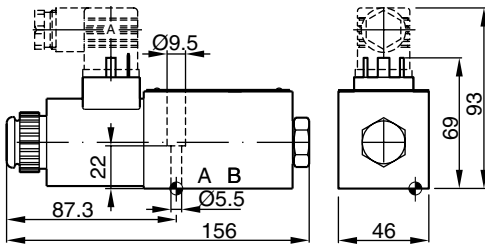
Measured with HLP46 at 50 °C, 90 % U_{nom} and warm solenoids.

Dimensions

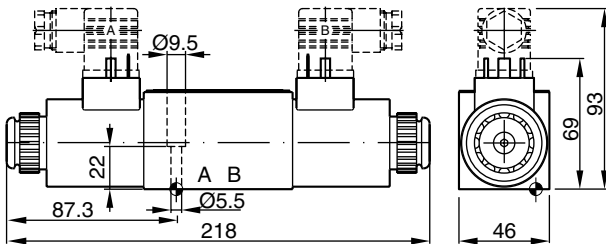
Interface EN 175301-803, DC solenoid, WL
Style B, E

Style H, K

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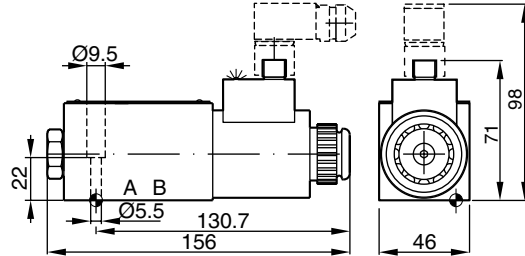
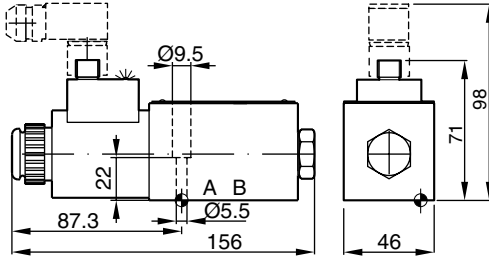


Style C, D

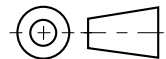
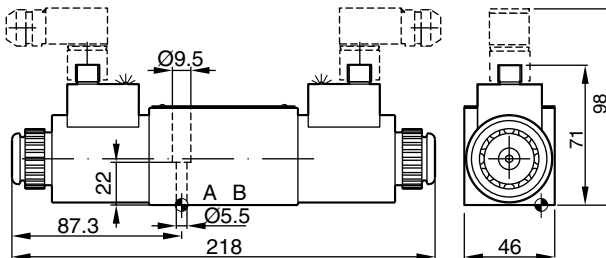


M12x1 connector, DC solenoid, DLJ5 (DESINA) or DL
Style B, E

Style H, K



Style C, D



Surface finish	Kit	Kit	Kit	Kit
$\sqrt{R_{max} 6.3}$ $\square_{0.01/100}$	BK375	4x M5x30 ISO 4762-12.9	7.6 Nm ±15 %	NBR: SK-D1VW-N-91 FPM: SK-D1VW-V-91

The space necessary to remove the plug per EN 175301-803, design type AF is at least 15 mm.
The torque for the screw M3 of the plug has to be 0.5 to 0.6 Nm.