

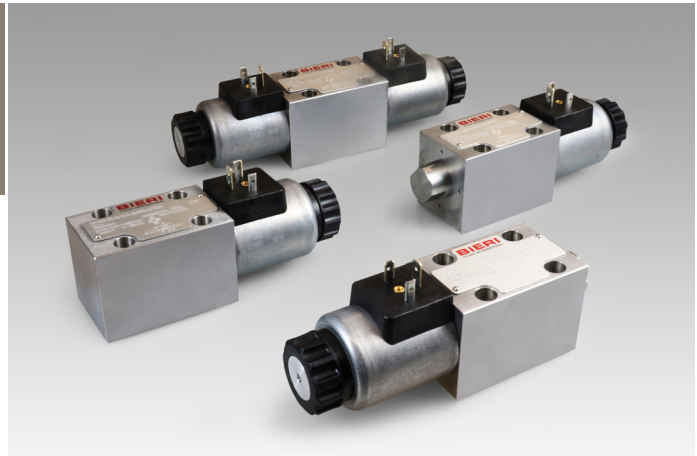
# Seated valves 500 bar

## Type WVM-6I

NG 6  
up to 25 l/min

### Features

- Solenoid actuated and direct operated
- Leakage free in every direction (double tight)
- High operational safety and reliable switching
- High duty cycles and long lifetime
- High corrosion resistance

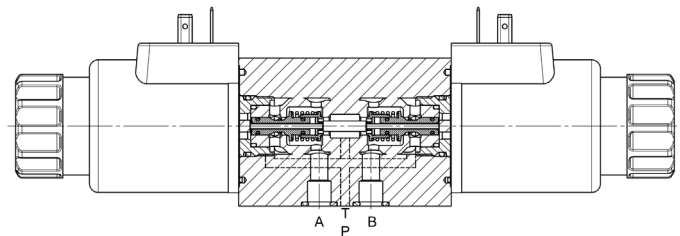


### Applications

- Control of cylinders and motors as superior and space-saving alternatives to spool valves which require additional leakage free shutoff valves
- Clamping technology & jig construction
- Machine tools - auxiliary functions
- Forming technology - clamping
- Presses, test benches and systems
- Lifting and transport systems
- Hydraulic tools
- Energy efficient circuits
- Accumulator charging circuits
- Construction, recycling
- Seat-tight pilot control of passive and/or active logic valves

### Design

- Patented functional principle
- Pressure compensated design of hardened and specially grinded valve cones
- Strong return springs
- Hidden manual override
- Check valves and orifices can be integrated
- Available as 2/2-, 3/2-, 3/3-, 3/4-, 4/2-, 4/3- or 4/4-valve
- Plate mounted valve with pattern according ISO4401-03
- 360° turnable and exchangeable plug-in coil
- Replacement of coils without opening of the pressure tight spaces (slip-in coils)



### Technical data

Hydraulic fluid	Mineral oil according to DIN 51524 (other fluids on request)
Fluid temperature range	- 20 to 80 °C
Ambient temperature range	- 30 to 50 °C
Viscosity range	5 to 400 mm <sup>2</sup> /s
Seal material	FKM
Porting	NG 6 according to DIN 24340 / ISO 4401 / CETOP RP 121 H
Max. operating pressure connection P, A, B	500 bar
Max. operating pressure connection T	70 bar
Max. flow rate	25 l/min
Filtration (recommendation)	according to NAS 1638, class 6 resp. ISO/DIN 4406 Klasse 17/15/12
Duty cycle ED	100 %
Solenoid voltage	24 VDC (30 W)
Tolerance	+/- 10 %
Switching time	40 - 110 ms
Degree of protection	IP 65 according to DIN 40050 (or according coil choice)
Weight	1.7 kg (1 coil), 2.2 kg (2 coils)
Material/Surface finish	Valve body: Corrosion resistant steel Solenoid coil: ZnNi-plated

**Type WVM-6I**NG 6  
up to 25 l/min**Order code**

Example	WV	M	-	6I	-	4	/	4	-	EH	-	24	-	V	-	PXX	-	RV
<b>Seated valve</b>																		
<b>Size</b>	WVM																	
<b>Nominal size</b>	6																	
<b>Connection ISO</b>	.. I																	
<b>Ports</b>	2, 3 or 4																	
<b>Positions</b>	2, 3 or 4																	
<b>Functions</b>	see product information																	
<b>Actuation types</b>	0	without coil																
	24	coil 24 VDC																
		others on request																
<b>Seal material</b>	V	[FKM]	Further seal materials on request!															
	<p><b>Check valve</b> P-port opening pressure 0.6 bar (leave blank if no check valve is required)</p> <p><b>Orifice</b> P, A, B, T = port XX = diameter (e.g. 14 = 1,4 mm) Prefered range: 0.5; 0.7; 1.0; 1.4; 2.0 mm (leave blank if no orifice is required)</p>																	

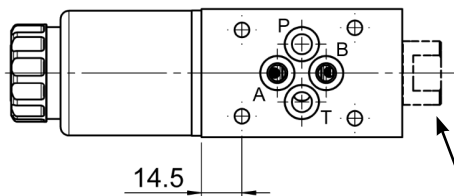
## Switching functions

	<b>WO</b>	<b>WS</b>	<b>VO</b>	<b>VS</b>
0 without coil	4112864	4112973	4113026	4113029
24 VDC	4066473	4066728	4066429	4066396
<b>2/2</b>				
	<b>L</b>		<b>N</b>	
0 without coil	4114047		4113037	
24 VDC	4068398		4066034	
<b>3/2</b>				
	<b>K</b>			
0 without coil	4114051			
24 VDC	4067299			
<b>3/3</b>				
	<b>KF</b>			
0 without coil	4113057			
24 VDC	4067552			
<b>3/4</b>				
	<b>C</b>	<b>D</b>		
0 without coil	4113069	4113103		
24 VDC	4070867	4070353		
<b>4/2</b>				
	<b>E</b>	<b>H</b>		
0 without coil	4113107	4113135		
24 VDC	4054700	4070064		
<b>4/3</b>				
	<b>EH</b>		<b>JM</b>	
0 without coil	4113193		4113196	
24 VDC	4057806		4072509	
<b>4/4</b>				

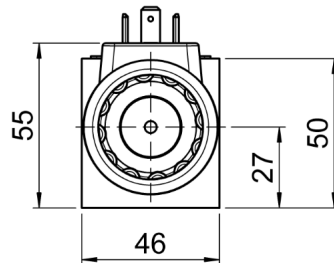
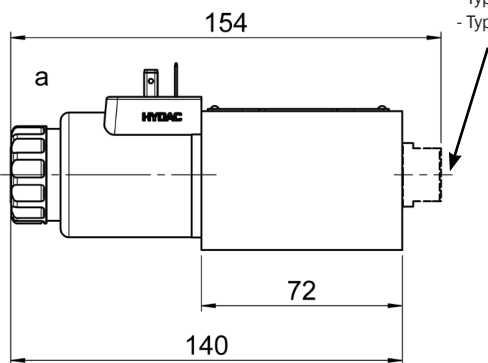
■ Temporary position during switching process

## Dimensions

Switching functions 2/2 (W0, WS, VO, VS), 3/2 (N, L), 4/2 (C, D)

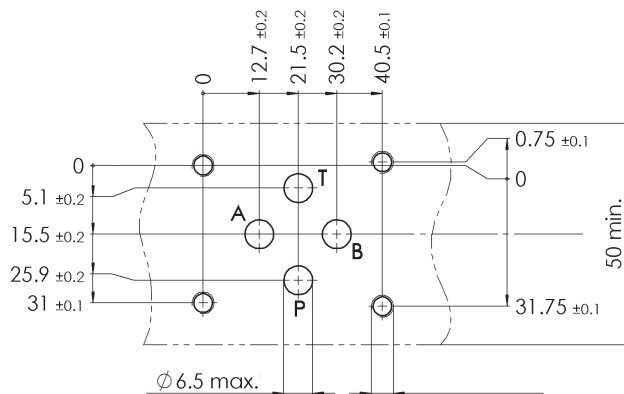


Only on 4/2 way valve  
- Type C, as shown  
- Type D, inversely (coil on right side)

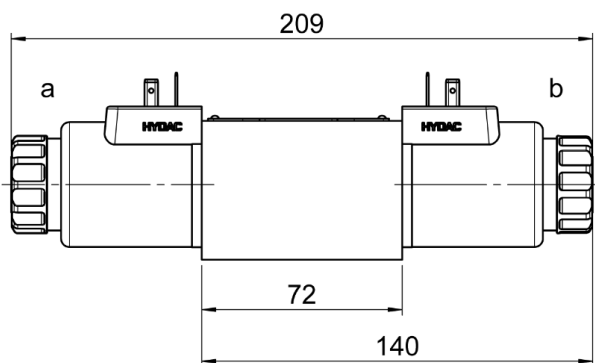
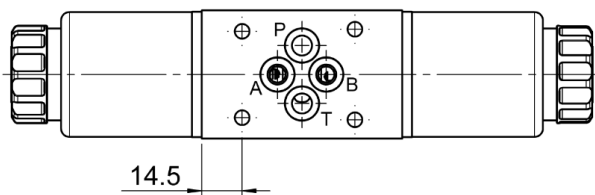


### Pattern

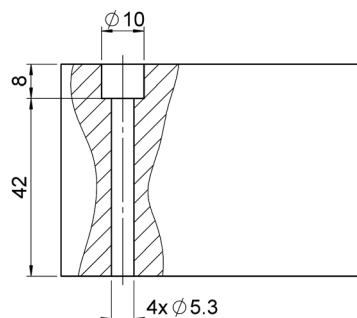
acc. DIN 24340-A6/ISO 4401-03 (CETOP 03)



Switching functions 3/3 (K), 3/4 (KF), 4/3 (E, H), 4/4 (EH, JM)



### Fixing screws / Clamping length



Torque: 7.5 + 1 Nm

## Electrical data (coil)

Voltage	DC voltage
Tolerance	+/- 10%
Nominal power	30 W
Nominal voltage	24 V
Nominal current	1.25 A (valid at R20)
Duty cycle	100%
Protection class (standard version)	IP65 acc. EN 60529, DIN 40050 at correct assembly on cable socket

## Electrical connection / coil variants

Basically, all coils of the type Coil-50-2345 can be used in 30 Watt execution and without guide pins.

Basic dimensions:

- Inner diameter 23 mm
- Outer diameter 45 mm
- Length 50.5 mm

Advantages:

Connection Protection <sup>1</sup>	DIN 436050 <sup>2</sup> radial IP65	Junior Timer axial IP67	Litz wire 300 mm long IP67	Deutsch DT04 axial IP67	Kostal M27 radial IP67
<b>12 V Part No.</b>	12DG 3274860	12DU 3274862	12DL 3362418	12DN 3605781	12DK 3804091
<b>24 V Part No.</b>	24DG 3274861	24DU 3274863	24DL 3838930	24DN 3927270	24DK 3796358
<b>110 VAC Part No.</b>	110AG <sup>3</sup> 3586364	on request	on request	on request	on request
<b>230 VAC Part No.</b>	230AG <sup>3</sup> 3586396	on request	on request	on request	on request

<sup>1</sup> Important note: The protection class applies to the coil. The prerequisite for this is the correct assembly of the mating connector and the same or better type of protection of the mating connector itself is a necessity.

<sup>2</sup> Unless otherwise specified, the valves are delivered as standard with DIN 436050 connections.

<sup>3</sup> Rectifier is integrated in the coil

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## Accessories (optional)

(not included in scope of supply)

Part description	Part No.
Plug for solenoid grey	6132484
Plug for solenoid black	3728850
LRS KPL Z4 TR 2PoI LED (Plug for solenoid with integrated reduction of performance)	3689354
Plug in check valve	4154816
Screw M5 x 50 12.9 (zinc flake coated) Torque 7.5 + 1 Nm	6206138

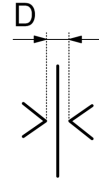
Part description	Part No.	
Orifice $\varnothing D = 0.5$ mm	BL700-6-D8-0.5-A*00	3687934
Orifice $\varnothing D = 0.7$ mm	BL700-6-D8-0.7-A*00	3687956
Orifice $\varnothing D = 1.0$ mm	BL700-6-D8-1.0-A*00	3687961
Orifice $\varnothing D = 1.4$ mm	BL700-6-D8-1.4-A*00	3656890
Orifice $\varnothing D = 2.0$ mm	BL700-6-D8-2.0-A*00	3687970

For slip-in orifices and check valve support ( $\varnothing 6,5$  max.) of assembly surface has to be considered

### Plug in check valve on P-port

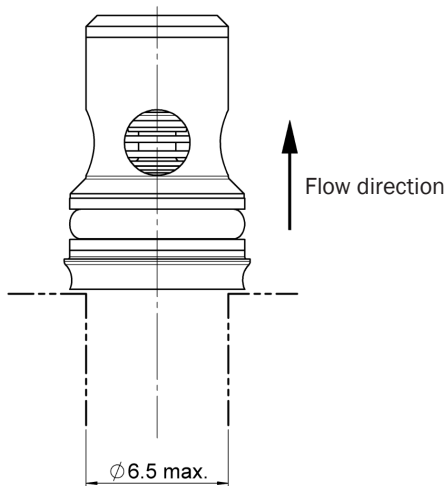


### Slip-in orifice for P,A,B,T

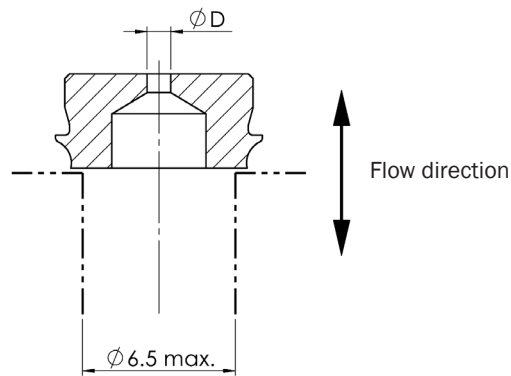


When installing in T-Line, max. pressure of 70 bar has to be considered

### Dimensions



### Dimensions



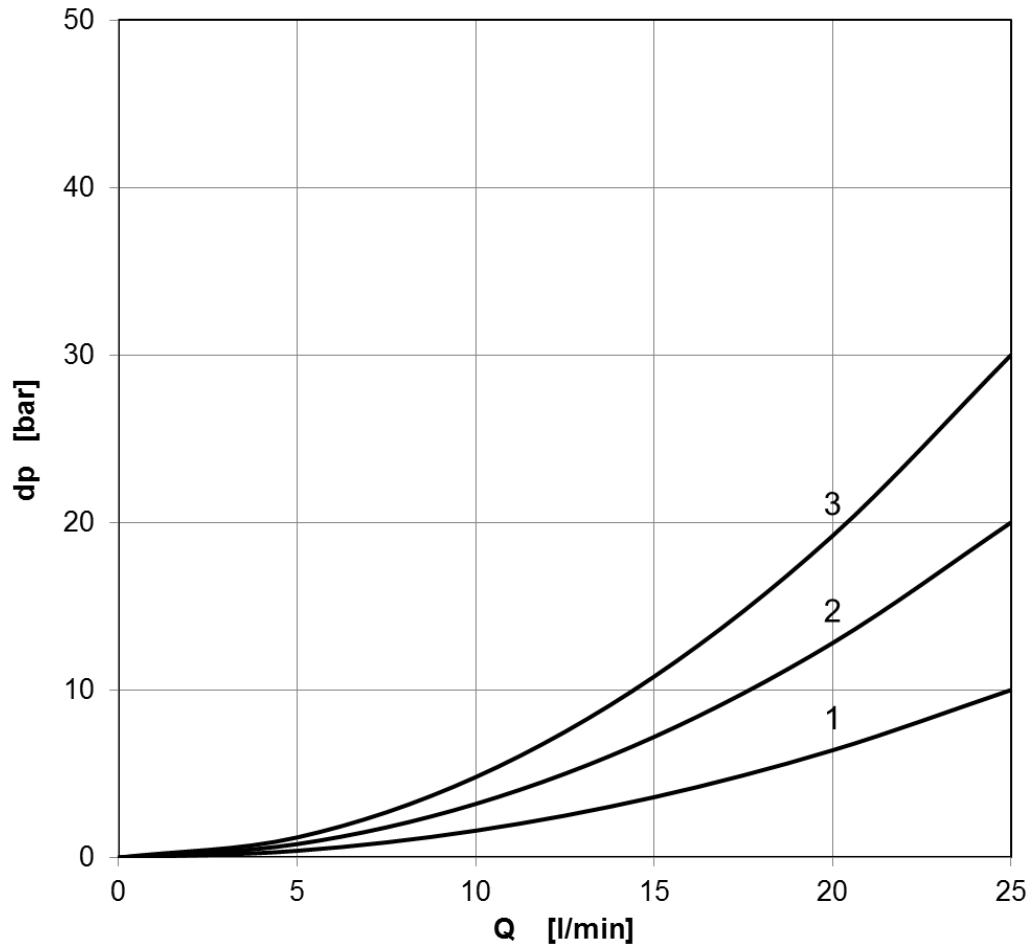
Preferred range:  
 $\varnothing D$ : 0.5; 0.7; 1.0; 1.4; 2.0 mm

### Spare parts

Part description	Part No.
O-Ring, 9.25 x 1.78 mm	4003217
Plastic nut	914555
O-Ring for Plastic nut	616334

## Characteristics

Pressure drop ( $v = 32 \text{ mm}^2/\text{s}$ )

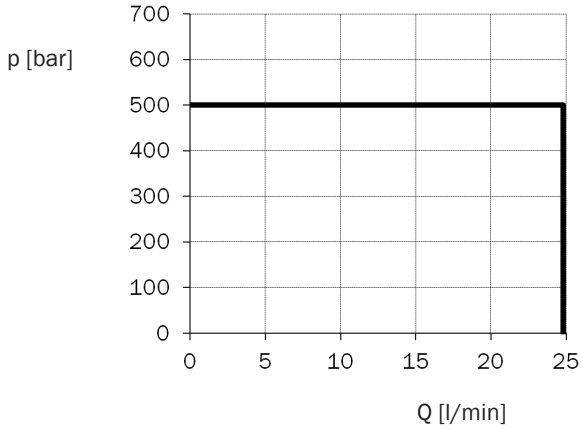


Path	Position	Bieri	a				b			0 (+)				
			P-A	A-T	B-T	P-T	P-B	A-T	P-A	B-T	P-B	A-T	P-T	
2	2	WO				2								
2	2	WS												2
2	2	VO	2											
2	2	VS								2				
3	2	L	2										2	
3	2	N		2						2				
3	3	K	2					1						
3	4	KF	2						1	(2)			(1)	(3)
4	2	C	2		1						2		1	
4	2	D					2	1	2	1				
4	3	E	2		1		2	1						
4	3	H	2		1		2	1	3	3	3	3	2	
4	4	EH	2		1		2	1	(2)	(1)	(2)	(1)	(1)	
4	4	JM	2		2		2	2	(2)	2	(2)	2		

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**Hydraulic switching capacity**



Hydraulic switching capacity at nominal operating voltage and ambient temperature range  
 $T_a = 50^\circ \text{C}$   
 $v = 32 \text{ mm}^2/\text{s}$

Applies to all valves!

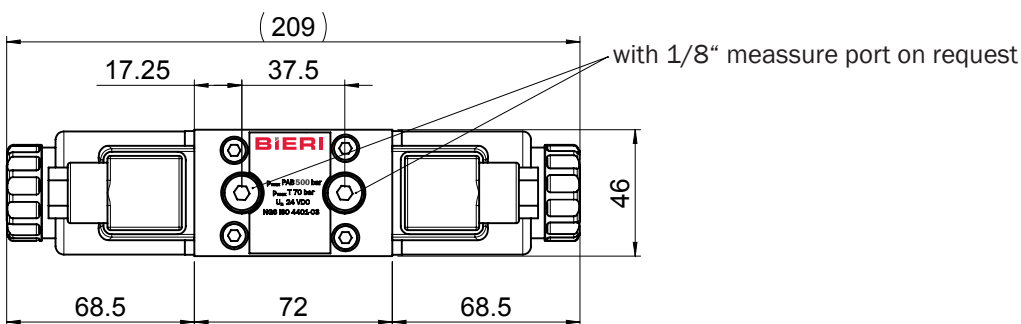
Switch on current  $I_{ON}$   
 $I_{ON} \geq 0.7 \times I_N$

Switch off current  $I_{OFF}$   
 $I_{OFF} \leq 0.07 \times I_N$

**Switching times (typical)**

Valve type (hydraulic schematics)	Switching on [ms]		Switching off [ms]
	at operating temperature ( $0.7 \times I_N$ )	cold ( $1 \times I_N$ )	
JM, K, KF, L, WO, WS	60	40	25
E, E+H	90	45	25
C, D, N, VO, VS	110	45	25

**Special design**



**Bieri Hydraulik AG**  
 Könizstrasse 274  
 CH-3097 Liebefeld  
 Tel. +41 31 970 09 09 | Fax +41 31 970 09 10  
 info@bierihydraulics.com | www.bierihydraulics.com

The information in this brochure relates to the operating conditions and applications described.  
 For applications and operating conditions not described, please contact the relevant technical department.  
 Subject to technical modifications.