

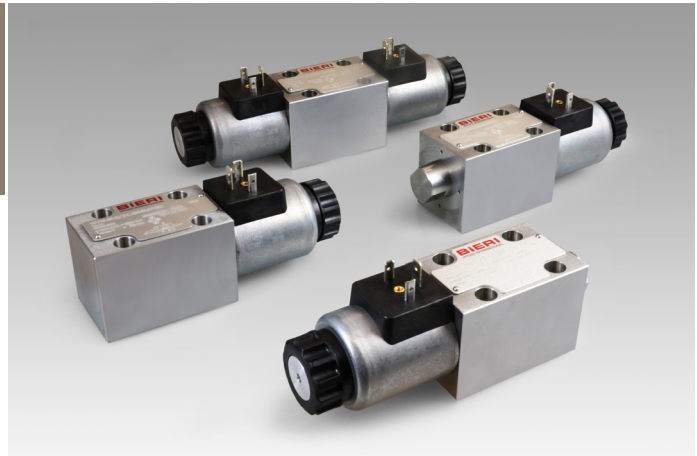
# Seated valves

## Type WVM-6I

NG 6 ISO  
up to 25 l/min, up to 500 bar

### Features

- Direct operated
- Leakage free (double tight)
- High operational safety and reliable switching
- High duty cycles and long lifetime
- High corrosion resistance

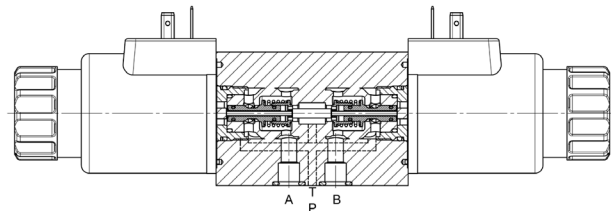


### Applications

- 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
- Available as 2/2-, 3/2-, 3/3-, 3/4-, 4/2-, 4/3- or 4/4-valve solenoid actuated
- 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
- Integrated check valve and orificies available



### Technical data

Hydraulic fluid	Mineral oil according to DIN 51524
Fluid temperature range	- 20 to 80 °C
Ambient temperature range	- 30 to 50 °C
Viscosity range	5 to 400 mm <sup>2</sup> /s
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 (WVM-6I-3/2-C = 500 bar)
Max. flow rate	25 l/min
Filtration (recommendation)	according to NAS 1638, class 6 resp. ISO/DIN 4406 class 17/15/12
Duty cycle ED	100 %
Solenoid voltage (nominal power)	24 VDC (30 W)
Tolerance	+/- 10 %
Switching time	40 – 110 ms
Degree of protection	IP 65 according to EN 60529 / 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 (1000 h salt spray test)

**Type code**

supplementary  
elements

Example	WV	M	- 6I -	4	/ 4	- E+H -	24	- V -	T	10	- RV -	C		00
<b>Seated valve</b>														
<b>Size</b>	500													
<b>Nominal size</b>	6 ...													
<b>Connection ISO</b>	... I													
<b>Number of ports</b>	2, 3 or 4													
<b>Number of positions</b>	2, 3 or 4													
<b>Switching functions</b>	see standard design													
<b>Actuation type</b>	0		without solenoid											
	24		solenoid 24 VDC											
<b>Seal material</b>	V		FKM / PU											
<b>Port for orifice</b>	P		P-port (pressure)											
	A		A-port											
	B		B-port											
	T		T-port (tank)											
<b>Orifice-Ø</b>	05		0.5 mm											
	07		0.7 mm											
	10		1.0 mm											
	14		1.4 mm											
	20		2.0 mm											
<b>Plug in check valve</b>	RV		plug in check valve in P-port											

**Special design**  
01 ... 99  
(00 for standard)

**Part index**  
Please leave blank  
For internal purposes

**Design revision**  
For internal purposes

With measure ports on request!

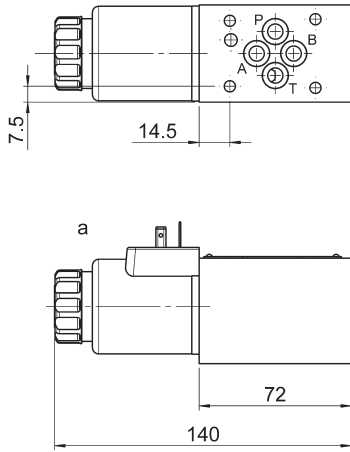
**Standard design**

<b>Valve type</b>	<b>2/2</b>			
<b>Switching function</b>	<b>E4</b>	<b>BE4</b>	<b>E2</b>	<b>BE2</b>
Part No. without coil	4112864	4112973	4113026	4113029
Part No. 24 VDC	4066473	4066728	4066429	4066396
Symbol				
<b>Valve type</b>	<b>3/2</b>			
<b>Switching function</b>	<b>X</b>	<b>C</b>		
Part No. without coil	4114047	4113037		
Part No. 24 VDC	4068398	4066034		
Symbol				
<b>Valve type</b>	<b>3/3</b>		<b>3/4</b>	
<b>Switching function</b>	<b>E</b>		<b>E+H</b>	
Part No. without coil	4114051		4113057	
Part No. 24 VDC	4067299		4067552	
Symbol				
<b>Valve type</b>	<b>4/2</b>		<b>4/3</b>	
<b>Switching function</b>	<b>X</b>	<b>C</b>	<b>E</b>	
Part No. without coil	4113069	4113103	4113107	
Part No. 24 VDC	4070867	4070353	4054700	
Symbol				
<b>Valve type</b>	<b>4/3</b>		<b>4/4</b>	
<b>Switching function</b>	<b>H</b>		<b>E+H</b>	
Part No. without coil	4113135		4113193	
Part No. 24 VDC	4070064		4057806	
Symbol				
<b>Valve type</b>	<b>4/4</b>			
<b>Switching function</b>	<b>J+M</b>			
Part No. without coil	4113196			
Part No. 24 VDC	4072509			
Symbol				

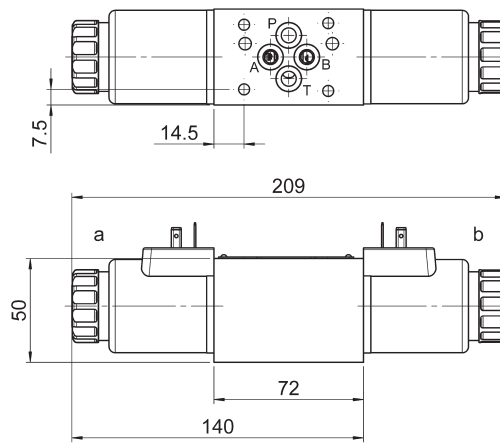
Usual flow direction

## Dimensional drawings

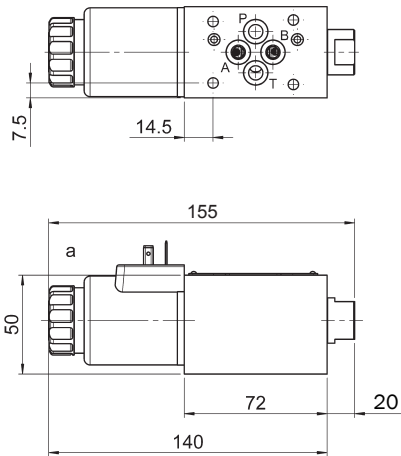
### 2/2 und 3/2 directional valves



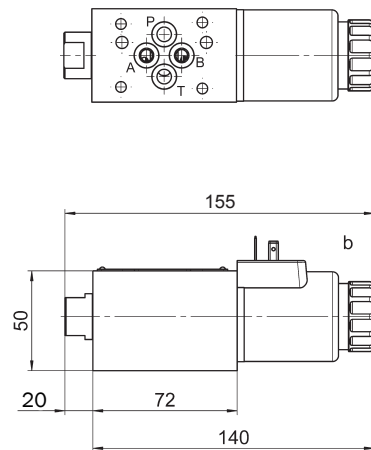
### 3/3, 3/4, 4/3 und 4/4 directional valves



### 4/2-X directional valve

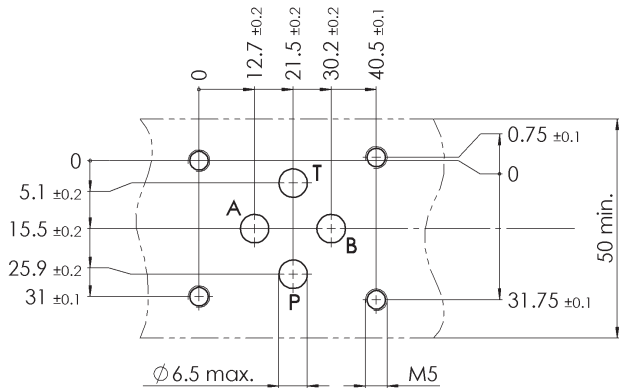


### 4/2-C directional valve

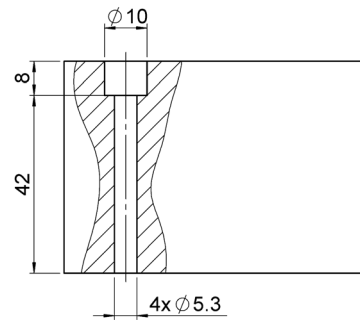


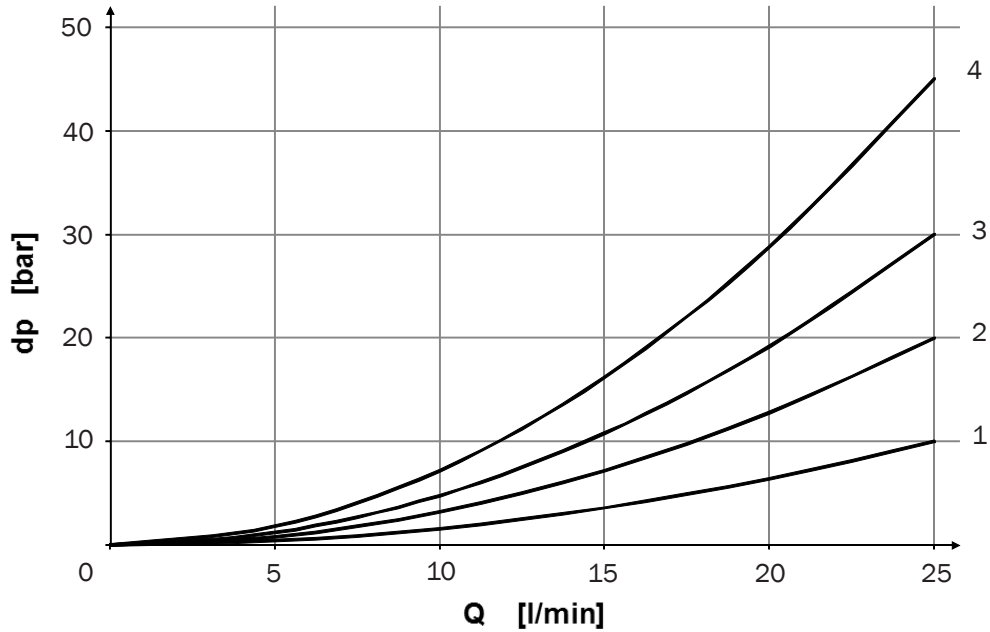
## Drilling pattern

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



## Mounting screws / clamping length

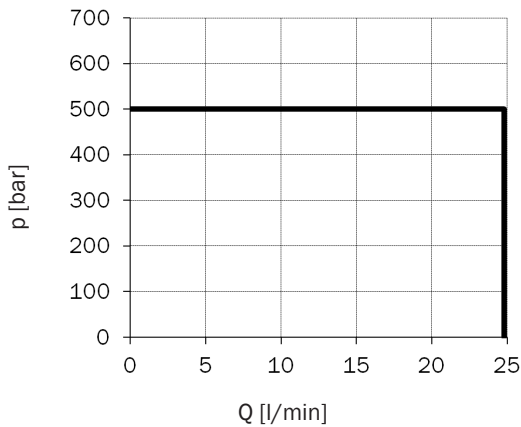


**Pressure drop** $(v = 32 \text{ mm}^2/\text{s})$ 

Valve type	Switching function	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	E2	2											
2/2	BE2							1					
2/2	E4				2								
2/2	BE4												1
3/2	X	2										1	
3/2	C		2					1					
3/3	E	2					1						
3/4	E+H	2					1	(2)				(1)	(3)
4/2	X	2		1						2		1	
4/2	C					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	E+H	2		1		2	1	(2)	(1)	(2)	(1)	(1)	
4/4	J+M	2		1		2	1	(2)	2	(2)	2		
4/4	J+M-2RV	4		1		4	1	(4)	1	(4)	1		
4/4	M+J-2RV	4		1	4			4	(1)	4	(1)		
4/4	Z+X-2RV		2	1	3	4		3	1	(4)	(2)		

**Type WVM-6I**

NG 6 ISO  
up to 25 l/min, up to 500 bar

**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  $I_{\text{ON}}$

$I_{\text{ON}} \geq 0.7 \times I_N$

Switch off current  $I_{\text{OFF}}$

$I_{\text{OFF}} \leq 0.07 \times I_N$

**Switching times**

Valve type	Switching function	Switching on [ms]*		Switching off [ms]*
		at operating temperature ( $0.7 \times I_N$ )	cold ( $1 \times I_N$ )	
2/2	E4, BE4	60	40	25
2/2	E2, BE2	110	45	25
3/2	X	60	40	25
3/2	C	110	45	25
3/3	E	60	40	25
3/4	E+H	60	40	25
4/2	X, C	110	45	25
4/3	E	90	45	25
4/3	H	60	40	25
4/4	J+M, J+M-2RV	60	40	25
4/4	E+H	90	45	25
4/4	M+J-2RV	110	45	25
4/4	Z+X-2RV	a = 110 / b = 60	a = 45 / b = 40	25

\* indicative values

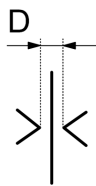
**Electrical data (solenoid)**

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

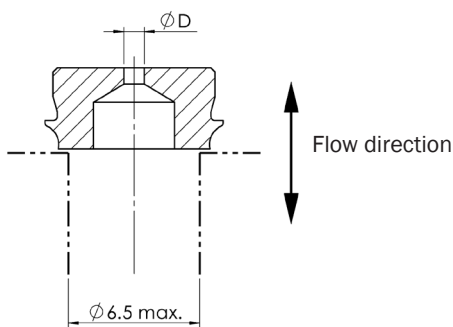
## Accessories

### Orifice for P-, A-, B-, T-port

Part description	Type code	Part No.
Orifice $\varnothing$ 0.5	BL700-6-D8-0,5-A*00	3687934
Orifice $\varnothing$ 0.7	BL700-6-D8-0,7-A*00	3687956
Orifice $\varnothing$ 1.0	BL700-6-D8-1,0-A*00	3687961
Orifice $\varnothing$ 1.4	BL700-6-D8-1,4-A*00	3656890
Orifice $\varnothing$ 2.0	BL700-6-D8-2,0-A*00	3687970



Dimensional drawing

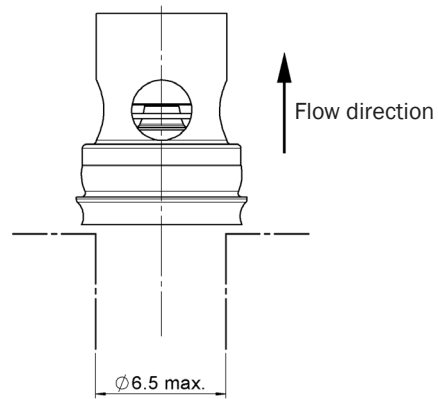


### Plug in check valve for P-port

Type code	Part No.
RV500-6-D8-V-A*00	4269275

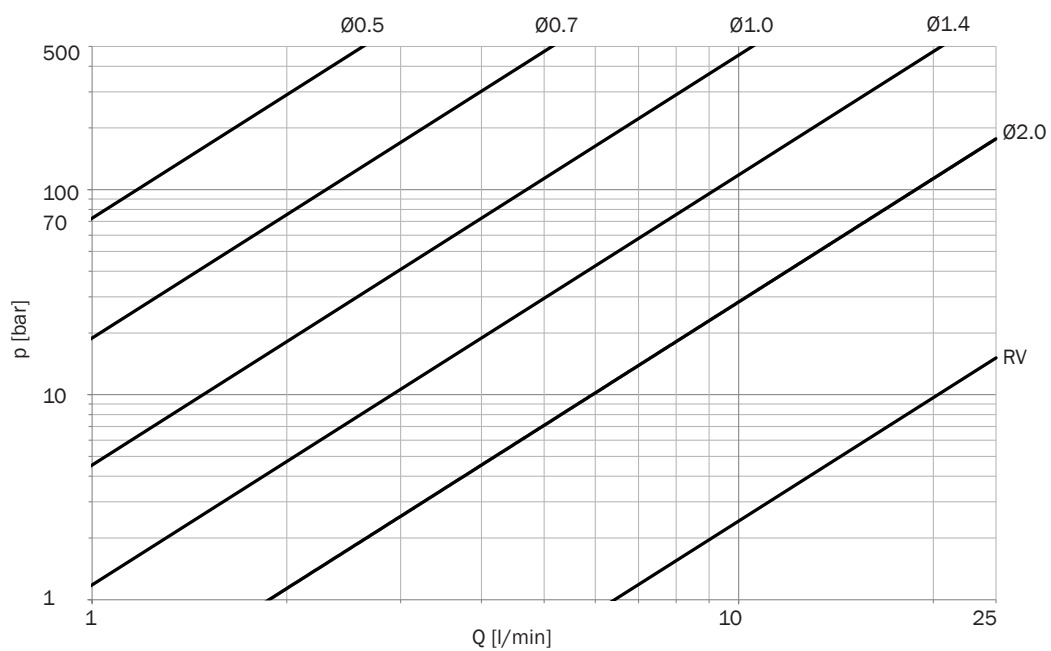


Dimensional drawing



B10d: 3 Mio

### Drop pressure



**Type WVM-6I**

NG 6 ISO  
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**Electrical connection / solenoid variants**

All WVM-6I valves are supplied with solenoid coil 3274861 as standard. Optionally, other solenoid coils of the Coil-50-2345 series according to the table can also be used.

To do this, order the valve „without solenoid coil“ (operating type „0“ in the type code) and the solenoid coil separately. Coil nut and O-ring are supplied with the valve.

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

<sup>1</sup> Important note: The protection class applies to the solenoid 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> Rectifier is integrated in the solenoid coil

**Plug for solenoid**

Part description	Part No.
Plug for solenoid grey	6132484
Plug for solenoid black	3728850
LRS KPL Z4 TR 2PoI LED (Power reduction plug)	3689354

**Screw**

Part description	Part No.
Screw M5 x 50 12.9 (zinc lamellar coating)	6206138

**Spare parts**

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

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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.