

Directional poppet valves

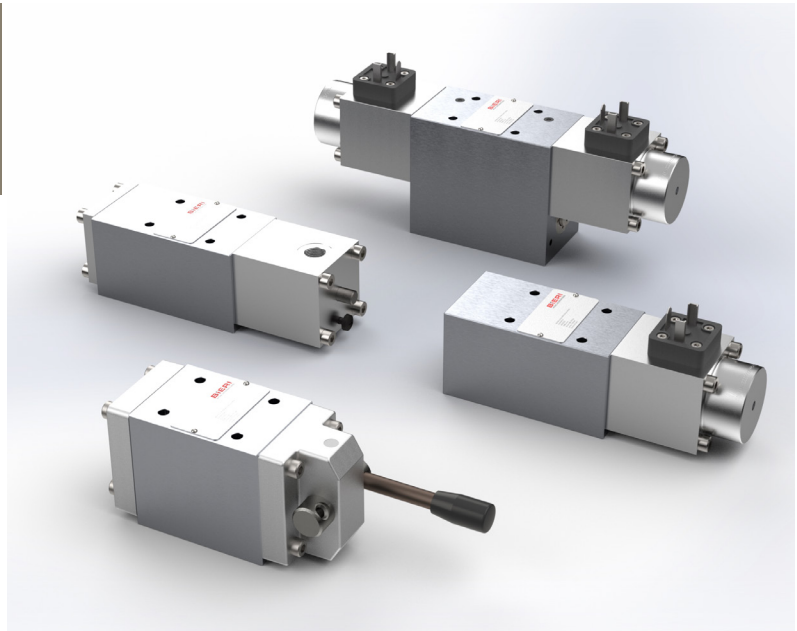
Type WV700

NG 6 ISO

up to 25 l/min, up to **700 bar**

Features

- Direct operated
- Poppet tight
- High operational safety and reliable switching
- High duty cycles and long lifetime



Applications

- Control of cylinders and motors as superior and space-saving alternatives to spool valves which require additional shutoff valves
- Machine tools
- Lifting and screwing technology
- Test rigs
- Power units
- Bridge building

Design

- 1 up to 4 valve cartridges depending on valve type
- Hidden manual override
- Available as 2/2-, 3/2-, 4/2-, 3/3- or 4/3-directional poppet valve with solenoid-, manual- or pneumatic actuation
- Pressure balanced valve cones
- Use of check valves and orifice plates with intermediate plate possible (see technical data sheets ZP700, RV700 and BL700)

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 ² /s	
Porting	NG 6 according to DIN 24340 / ISO 4401 / CETOP RP 121 H	
Max. operating pressure connection P, A, B	700 bar	
Max. operating pressure connection T	350 bar	
Max. flow rate	25 l/min	
Filtration (recommendation)	according to NAS 1638 class 6 or ISO/DIN 4406 17/15/12	
Duty cycle DC	100 %	
Solenoid voltage (nominal power)	24 VDC (29 W), 106 VDC (29 W), 205 VDC (30 W)	
Voltage tolerance	+/- 10 %	
Switching time	40 – 120 ms	
Degree of protection	IP 54 according to EN 60529 / DIN 40050 (on request IP 65)	
Material	valve body:	stainless steel, aluminium
	solenoid:	steel browned

Type WV700

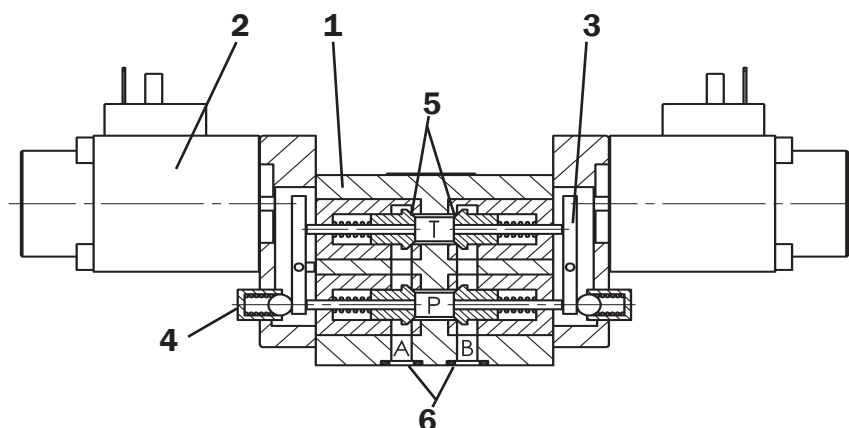
NG 6 ISO
up to 25 l/min, up to 700 bar

Type code

Example	WV	700	-	6	-	4	/	2	-	C	-	24	-	V	-			00
Directional poppet valves																		
Size	700																	
Nominal size	6																	
Number of ports	2, 3 or 4																	
Number of positions	2 or 3																	
Switching functions	see overview „product information“																	
Control method	24 solenoid 24 VDC 106 solenoid 106 VDC 205 solenoid 205 VDC HR Manual lever / detent HF Manual lever / spring return AIR Air other actuation types on request!																	
Seal material	V FKM other seal materials on request!																	
Design 00 ... 99 For internal purposes																		
Index Please leave blank For internal purposes																		
Design revision Please leave blank For internal purposes																		

Function and design

- 1 Valve body
- 2 Solenoid
- 3 Actuating lever
- 4 Resetting element
- 5 Poppet/Cone
- 6 Connections



Product information (solenoid actuation)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No. 24 VDC	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I
Part No. 106 VDC	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I
Part No. 205 VDC	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I	see data sheet WVH-6I
Symbol				
Weight	2,4 kg	2,4 kg	2,4 kg	2,4 kg
Valve type	3/2			
Switching function	X	C		
Part No. 24 VDC	see data sheet WVH-6I	see data sheet WVH-6I		
Part No. 106 VDC	see data sheet WVH-6I	see data sheet WVH-6I		
Part No. 205 VDC	see data sheet WVH-6I	see data sheet WVH-6I		
Symbol				
Weight	2,4 kg	2,4 kg		
Valve type	3/3			
Switching function	H	E	G	G3
Part No. 24 VDC	3679310	3679393	3679352	4041598
Part No. 106 VDC	on request	on request	on request	on request
Part No. 205 VDC	on request	on request	on request	on request
Symbol				
Weight	3,4 kg	3,4 kg	3,4 kg	3,4 kg
Valve type	4/2		4/3	
Switching function	X	C	P3	G-2ERV
Part No. 24 VDC	4002929	4002938	4041723	3679920
Part No. 106 VDC	on request	on request	on request	on request
Part No. 205 VDC	on request	on request	on request	on request
Symbol				
Weight	2,6 kg	2,6 kg	3,4 kg	3,9 kg
Valve type	4/3			
Switching function	H	E	P	J
Part No. 24 VDC	3679712	3679690	3679874	3679749
Part No. 106 VDC	on request	on request	on request	on request
Part No. 205 VDC	on request	on request	on request	on request
Symbol				
Weight	3,4 kg	3,4 kg	3,4 kg	3,4 kg

Usual flow direction

Product information (manual actuation, detent)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No.	on request	on request	on request	on request
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	3/2			
Switching function	X	C		
Part No.	on request	on request		
Symbol				
Weight	1,9 kg	1,9 kg		
Valve type	3/3			
Switching function	H	E	G	G3
Part No.	4041785	3679397	3679387	3679382
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	4/2		4/3	
Switching function	X	C	PP3	G-2ERV
Part No.	on request	on request	on request	3679924
Symbol				
Weight	2,1 kg	2,1 kg	2,9 kg	2,9 kg
Valve type	4/3			
Switching function	H	E	PP	J
Part No.	3679742	3679705	3679898	3679754
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg

Usual flow direction

Product information (manual actuation, spring return)

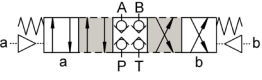
Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No.	on request	on request	on request	on request
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	3/2			
Switching function	X	C		
Part No.	on request	on request		
Symbol				
Weight	1,9 kg	1,9 kg		
Valve type	3/3			
Switching function	H	E	G	G3
Part No.	4041774	3679395	3679385	3679376
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	4/2		4/3	
Switching function	X	C	PP3	G-2ERV
Part No.	on request	on request	on request	3679923
Symbol				
Weight	2,1 kg	2,1 kg	2,9 kg	2,9 kg
Valve type	4/3			
Switching function	H	E	PP	J
Part No.	3679739	3679693	3679896	4041787
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg

Usual flow direction

Type WV700

NG 6 ISO
up to 25 l/min, up to 700 bar

Product information (pneumatic actuation)

Valve type	4/3
Switching function	E
Part No.	on request
Symbol	
Weight	3,4 kg

 Usual flow direction

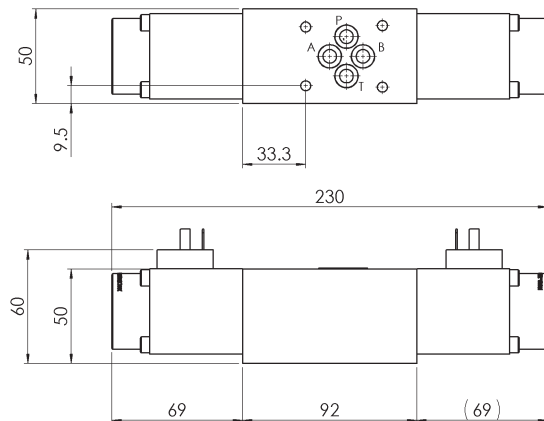
Actuating pressure: 3 - 8 bar

Dimensional drawings

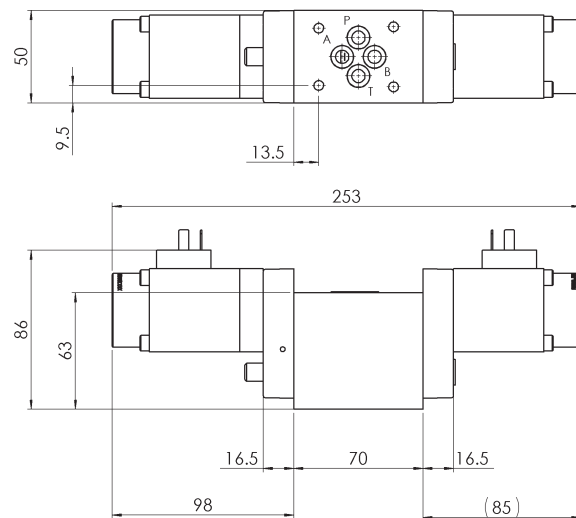
Solenoid actuation

3/3-directional poppet valves

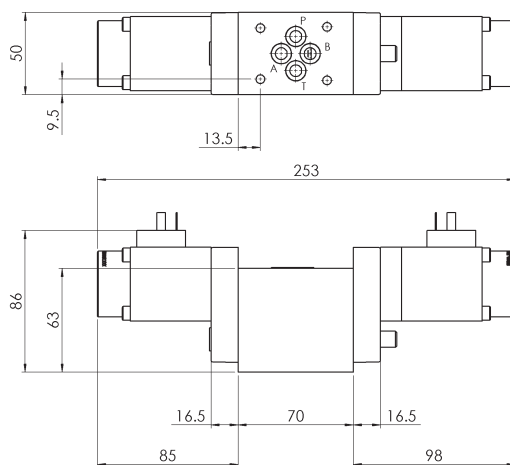
Switching functions H and E



Switching function G

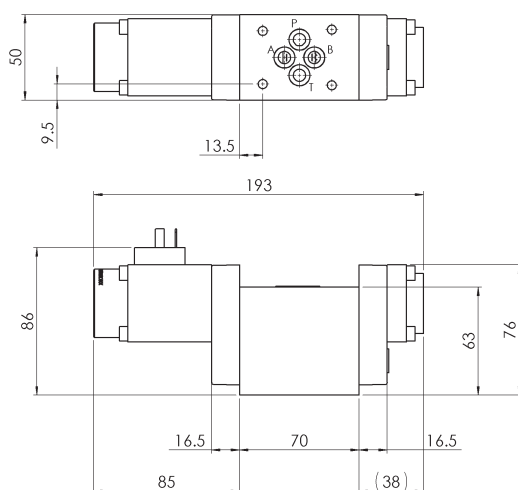


Switching function G3

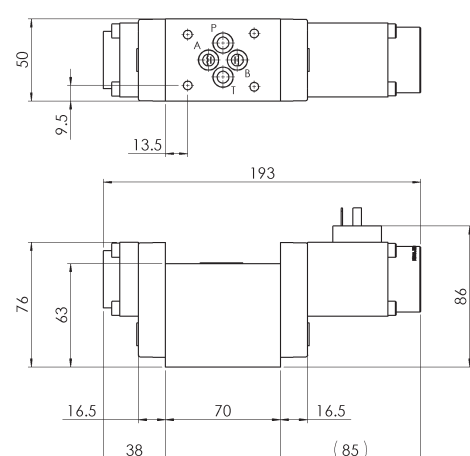


4/2-directional poppet valves

Switching function X

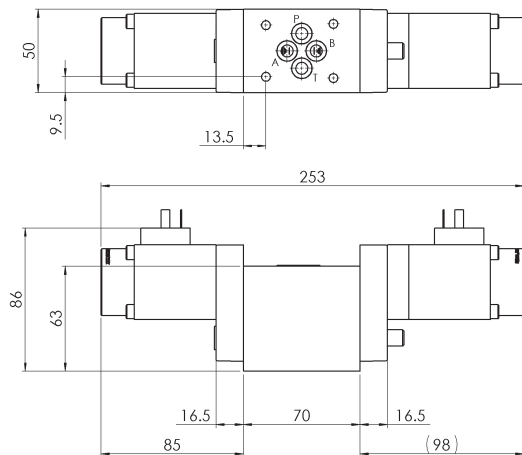


Switching function C

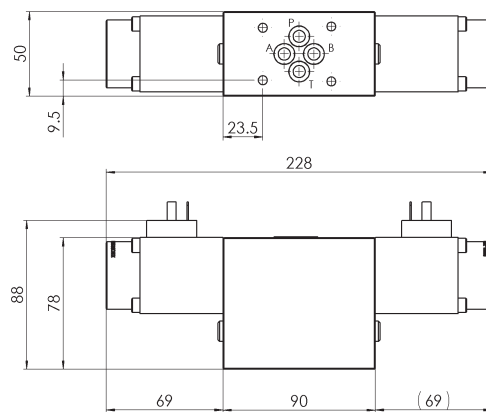


4/3-directional poppet valves

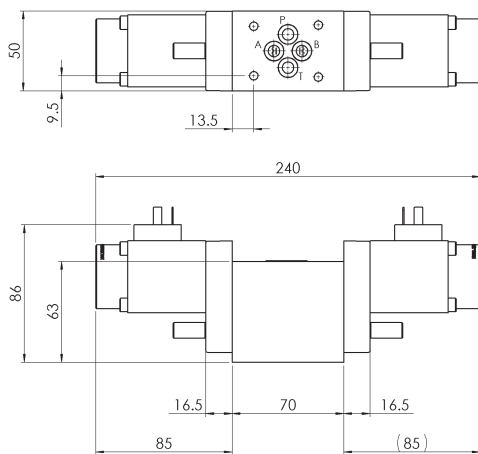
Switching function P3



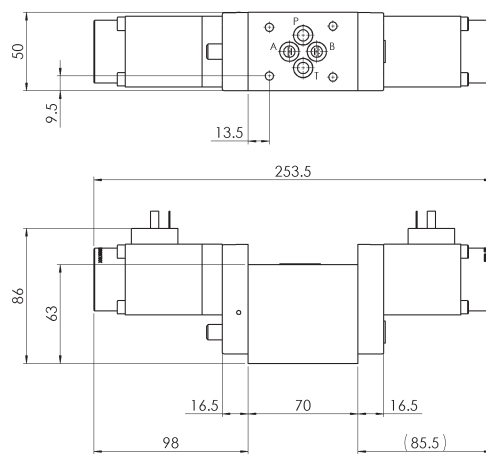
Switching function G-2ERV

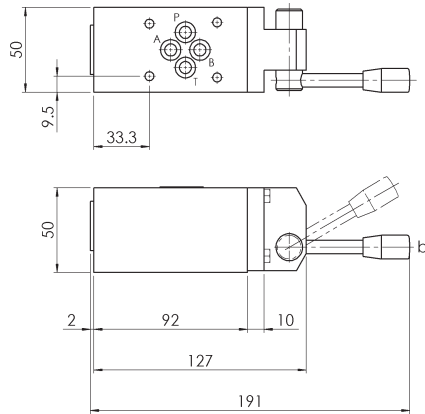
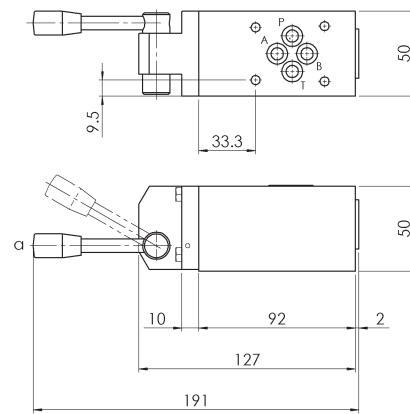
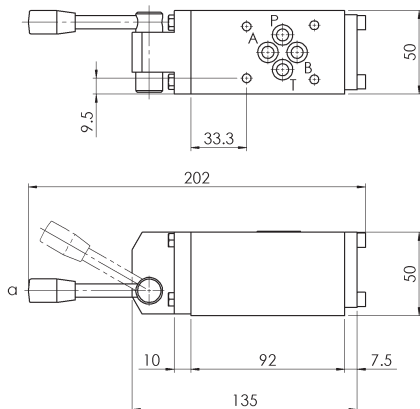
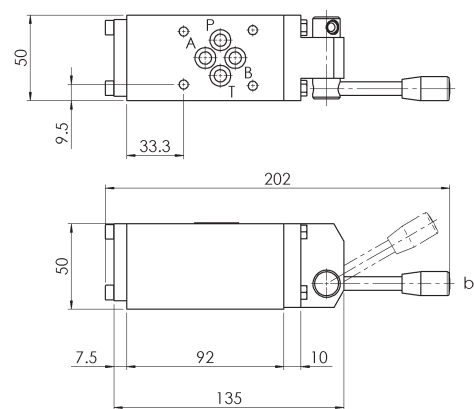
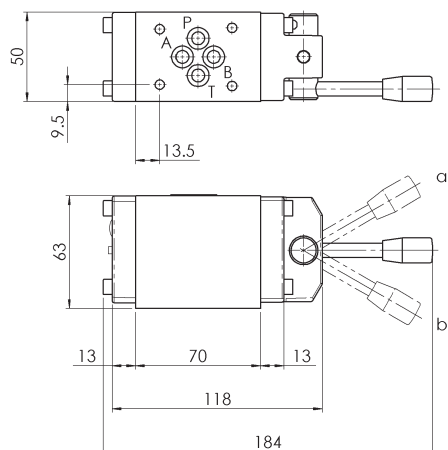


Switching functions H, E and J



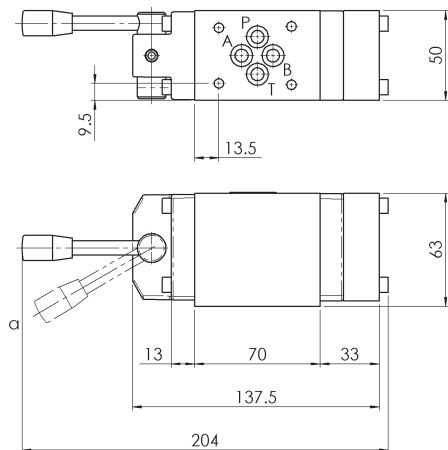
Switching function P



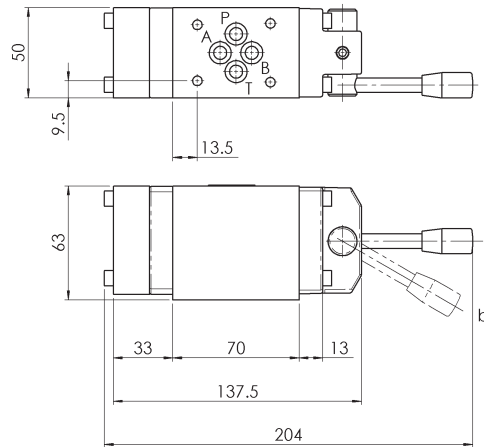
Manual actuation**2/2-directional poppet valves****Switching functions E4, BE4 and BE2****Switching function E2****3/2-directional poppet valves****Switching function X****Switching function C****3/3-directional poppet valves****All switching functions**

4/2-directional poppet valves

Switching function X

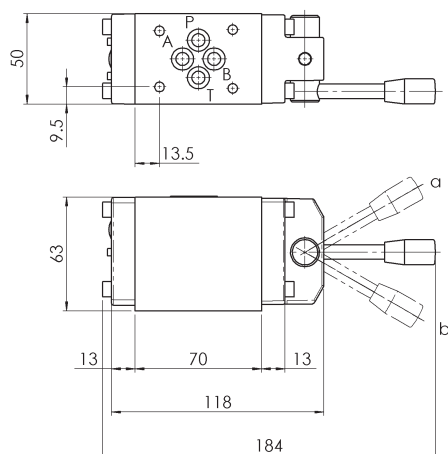


Switching function C

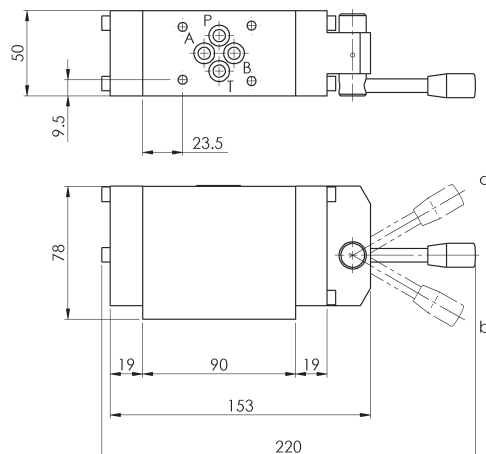


4/3-directional poppet valves

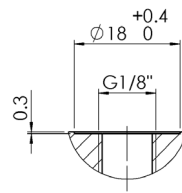
Switching functions H, E, PP, J and PP3



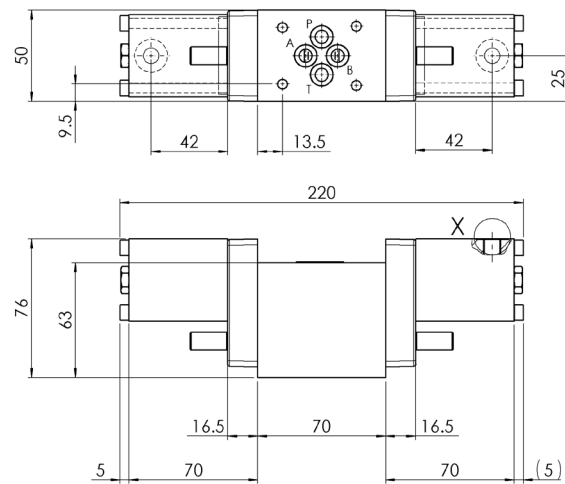
Switching function G-2ERV



X

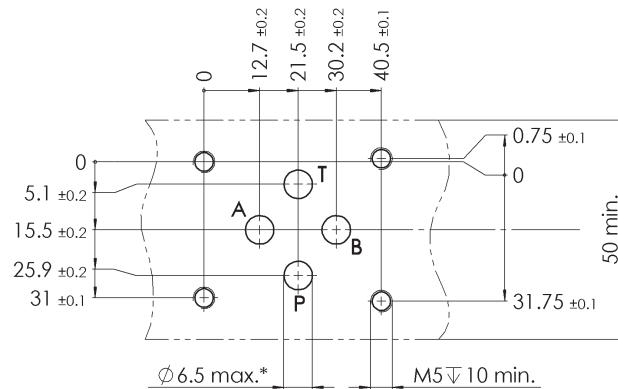
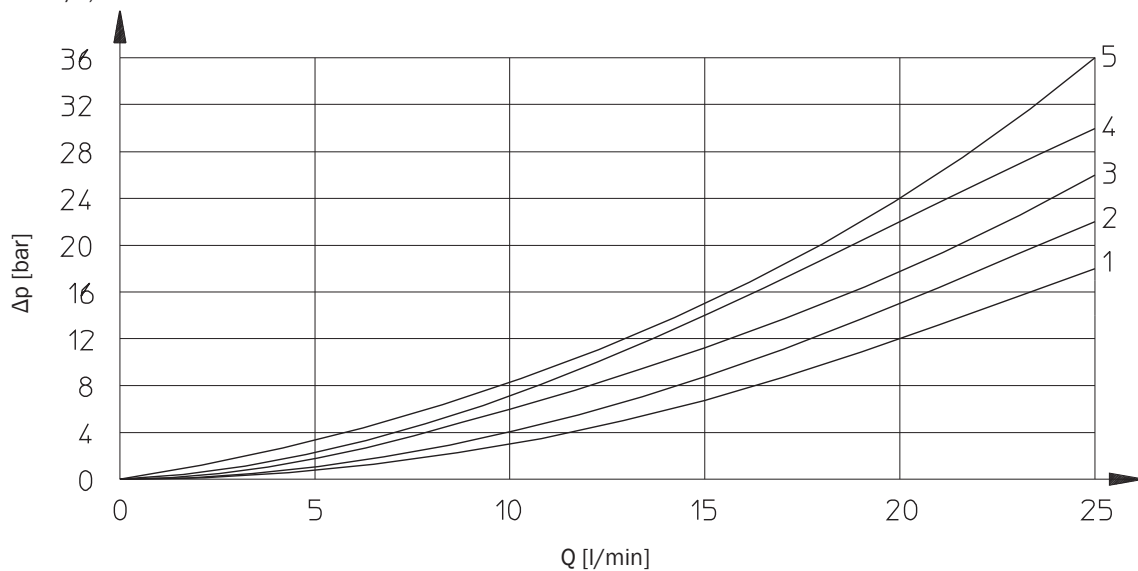


Switching function H



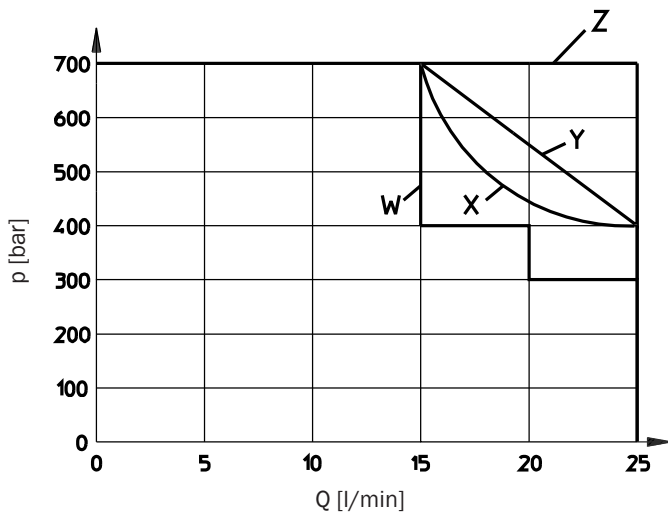
Drilling pattern

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

**Pressure drop**(v = 32 mm²/s)

Valve type	Switching function	Solenoid and air actuated					Manual actuated				
		P - A	P - B	A - T	B - T	P - T	P - A	P - B	A - T	B - T	P - T
2/2	E4, BE4					2					2
2/2	E2, BE2	2					2				
3/2	X, C	2		3			2		3		
4/2	X	3	3	2	2		2	3	2	1	
4/2	C	3	1	1	2		1	2	1	1	
3/3	H	3		3		2	3		3		2
3/3	E	2		3			2		2		
3/3	G	2		2		3	1		1		2
3/3	G3		3		3	4		2		2	3
4/3	H	1	1	1	1	2	1	1	1	1	1
4/3	E	3	2	2	3		1	1	2	1	
4/3	J	3	2	2	3		3	2	2	3	
4/3	P, PP	3	2	3	2	3	2	3	3	3	3
4/3	P3, PP3	2	3	2	3	3	2	3	2	3	3
4/3	G-2ERV	5	5	4	4	3	5	5	4	4	3

Hydraulic switching capacity (solenoid actuated)



Hydraulic switching capacity at nominal operating voltage and ambient temperature range $T_a = 40^\circ \text{C}$
 $v = 32 \text{ mm}^2/\text{s}$

Valve type	Switching function	Line
4/2	X, C	Y
3/3	H, G, G3	X
3/3	E	Y
4/3	E	Z
4/3	J, H, P, P3, PP, PP3	X
4/3	G-2ERV	W

Accessories

Plug for solenoid

Part description	Part No.
Plug for solenoid grey	6132484
Plug for solenoid black	3728850
Plug for solenoid with rectifier / grey	3681390
Plug for solenoid with rectifier / black	3671158
Power reduction plug LRS2 KPL Z4 TR 2POL LED	4747017

Screws

Part description	Part No.
1 x Screw M5 x 60 12.9	618287
1 x Screw M5 x 70 12.9	6008834
1 x Screw M5 x 90 12.9	602855
1 x Screw M5 x 60 12.9 (zinc lamellar coating)	6090888
1 x Screw M5 x 70 12.9 (zinc lamellar coating)	6277554
1 x Screw M5 x 90 12.9 (zinc lamellar coating)	6277555

Other mounting screws, tie bolts and subplates see technical data sheet AP700/RP700/EP700.

Spare parts

Part description	Part No.
Seal kit 4 x O-Ring 9,25 x 1,78 (FKM) 2 x O-Ring 21,95 x 1,78 (FKM)	4496158

Bieri Hydraulik AG

Könizstrasse 274
 CH-3097 Liebefeld
 Tel. +41 31 970 09 09 | Fax +41 31 970 09 10
 info@bieri hydraulics.com | www.bieri hydraulics.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.