

Seated valves

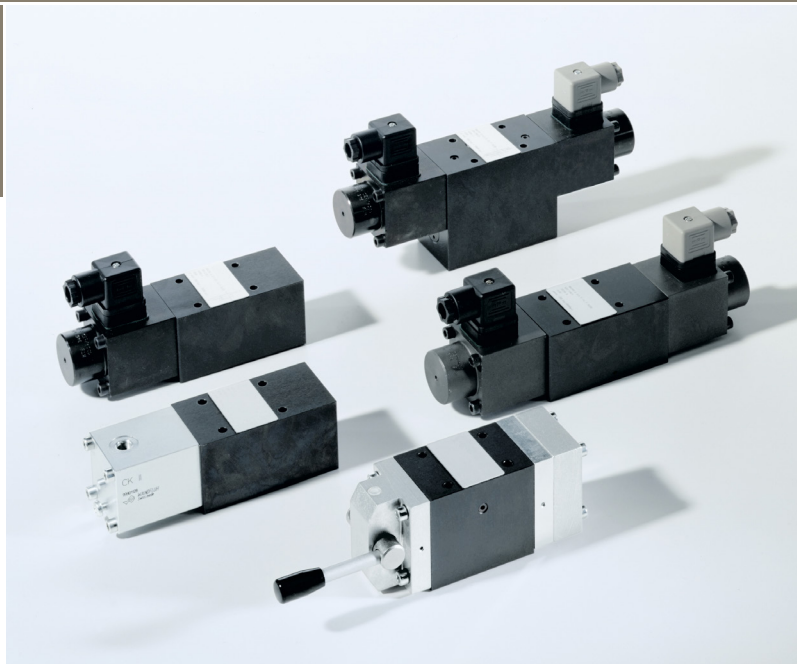
Type WV700

NG 6 ISO

up to 25 l/min, up to 700 bar

Features

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

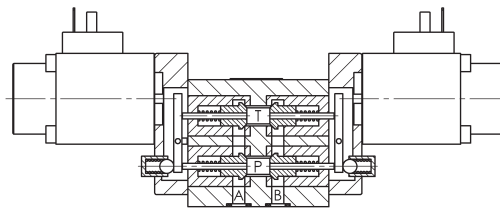


Applications

- Control of cylinders and motors as superior and space-saving alternatives to spool valves which require additional leakage free shutoff valves
- machine tools
- Lifting and screwing technology
- test rigs
- Aggregate construction
- bridge building

Design

- 1 up to 4 valve cartridges depending on valve type
- Valve cones of cartridges are either pushed on the seats by springs or lifted off the seats by actuation tappets
- Hidden manual override
- Available as 2/2-, 3/2-, 4/2-, 3/3- or 4/3-seated valves with solenoid or manual actuation
- Pressure balanced valve cones



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 resp. ISO/DIN 4406 Klasse 17/15/12
Duty cycle ED	100 %
Solenoid voltage (nominal power)	24 VDC (31 W), 107 VDC (37 W), 196 VDC (40 W)
Power tolerance	+/- 10 %
Switching time	40 – 120 ms
Degree of protection	IP 54 according to EN 60529 / DIN 40050 (on request IP 65)
Material/Surface finish	Body: Steel galvanized, black chromated Solenoid: Steel browned, aluminium

Type WV700

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Type code

Example	WV	700	-	6	-	4	/	2	-	C	-	24	-	V	-	C		00
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Seated valve																			Special design 01 ... 99 (00 for standard)
Size	700																		
Nominal size	6																		
Number of ports	2, 3 or 4																		
Number of positions	2 or 3																		
Switching functions	see standard design																		
Actuation type	24	solenoid 24 VDC																	
	107	solenoid 107 VDC																	
	196	solenoid 196 VDC																	
	HR	Manual lever / detent																	
	HF	Manual lever / spring return																	
	AIR	Air																	
	OIL	Oil																	
		other actuation types on request!																	
Seal material	V	FKM																	
		other seal materials on request!																	

Desing revision For internal purposes

Standard design (solenoid actuation)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No. 24 VDC	3678895	3679169	3678857	3674423
Part No. 107 VDC	3678882	3679150	3678843	3678863
Part No. 196 VDC	3678884	3679154	3678856	3678877
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	3679274	3679298		
Part No. 107 VDC	3679270	3679281		
Part No. 196 VDC	3679273	3679295		
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. 107 VDC	3679307	3679389	3990661	auf Anfrage
Part No. 196 VDC	3679309	3679392	3967691	auf Anfrage
Symbol				
Weight	3,4 kg	3,4 kg	3,4 kg	3,4 kg
Valve type	4/2			
Switching function	X	C		
Part No. 24 VDC	4002929	4002938		
Part No. 107 VDC	4002931	4002940		
Part No. 196 VDC	4002933	3988273		
Symbol				
Weight	2,6 kg	2,6 kg		
Valve type	4/3			
Switching function	H	E	P	J
Part No. 24 VDC	3679712	3679690	3679874	3679749
Part No. 107 VDC	3679708	3679687	3679868	3679745
Part No. 196 VDC	3679711	3679689	3679872	3679748
Symbol				
Weight	3,4 kg	3,4 kg	3,4 kg	3,4 kg
Valve type	4/3			
Switching function	M	P3	G-2ERV	
Part No. 24 VDC	3679762	4041723	3679920	
Part No. 107 VDC	3679756	auf Anfrage	4041765	
Part No. 196 VDC	3679758	4041724	4001627	
Symbol				
Weight	3,9 kg	3,9 kg	3,9 kg	



Type WV700

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

Standard design (manual actuation, detent)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No.	3679147	3679266	4041768	4041772
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	3/2			
Switching function	X	C		
Part No.	3679278	3679304		
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			
Switching function	X	C		
Part No.	3679434	3679473		
Symbol				
Weight	2,1 kg	2,1 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
Valve type	4/3			
Switching function	PP3	G-2ERV		
Part No.	3679916	3679924		
Symbol				
Weight	2,9 kg	2,9 kg		

Usual flow direction

Standard design (manual actuation, spring return)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No.	3679145	3679253	4041767	4041770
Symbol				
Weight	1,9 kg	1,9 kg	1,9 kg	1,9 kg
Valve type	3/2			
Switching function	X	C		
Part No.	4041773	3679302		
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			
Switching function	X	C		
Part No.	3679432	3679470		
Symbol				
Weight	2,1 kg	2,1 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
Valve type	4/3			
Switching function	PP3	G-2ERV		
Part No.	3679904	3679923		
Symbol				
Weight	2,9 kg	2,9 kg		

Usual flow direction

Standard design (air and oil actuation)

Valve type	2/2			
Switching function	E4	BE4	E2	BE2
Part No. AIR	4041662	4041663	4041660	4041661
Part No. OIL	4041484	4292311	4003050	4041480
Symbol				
Weight	2,4 kg	2,4 kg	2,4 kg	2,4 kg
Valve type	3/2			
Switching function	X	C		
Part No. AIR	4041685	4041687		
Part No. OIL	4041528	4041530		
Symbol				
Weight	2,4 kg	2,4 kg		
Valve type	3/3			
Switching function	H	E	G3	
Part No. AIR	4041688	4041690	4041689	
Part No. OIL	4041531	4041556	4041601	
Symbol				
Weight	3,1 kg	3,1 kg	3,1 kg	
Valve type	4/2			
Switching function	X	C		
Part No. AIR	4002935	4002943		
Part No. OIL	4002937	4002945		
Symbol				
Weight	2,2 kg	2,2 kg		
Valve type	4/3			
Switching function	H	E	P	J
Part No. AIR	4041693	4041692	4041716	4041715
Part No. OIL	4291525	4041602	auf Anfrage!	4041603
Symbol				
Weight	3,4 kg	3,4 kg	3,4 kg	3,4 kg
Valve type	4/3			
Switching function	G-2ERV			
Part No. AIR	4041717			
Part No. OIL	4041655			
Symbol				
Weight	3,9 kg			

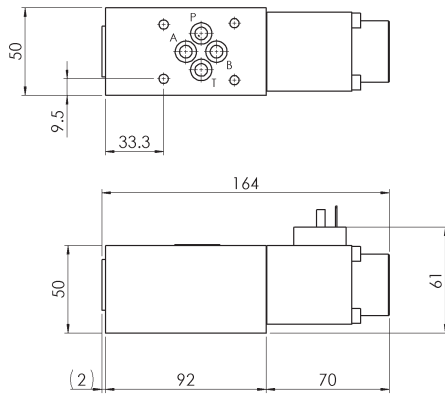
Usual flow direction

Dimensional drawings

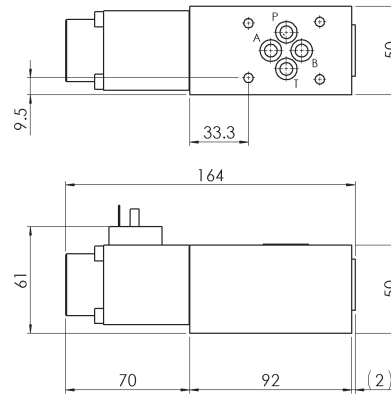
Solenoid actuation

2/2 seated valves

Switching functions E4, BE4 and BE2

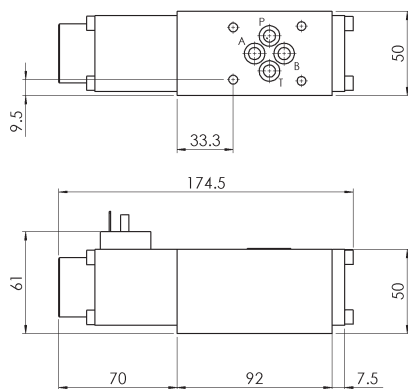


Switching function E2

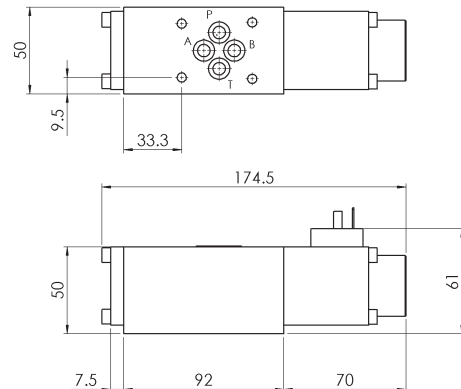


3/2 seated valves

Switching function X

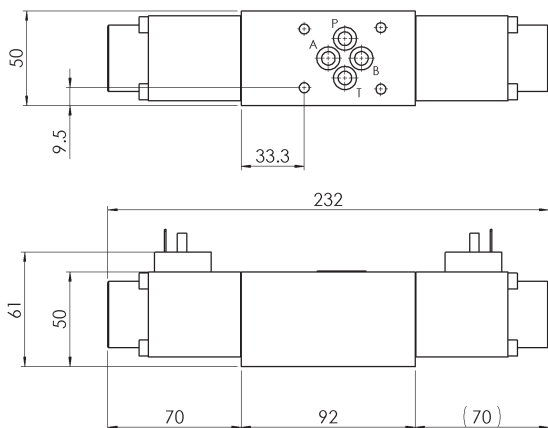


Switching function C

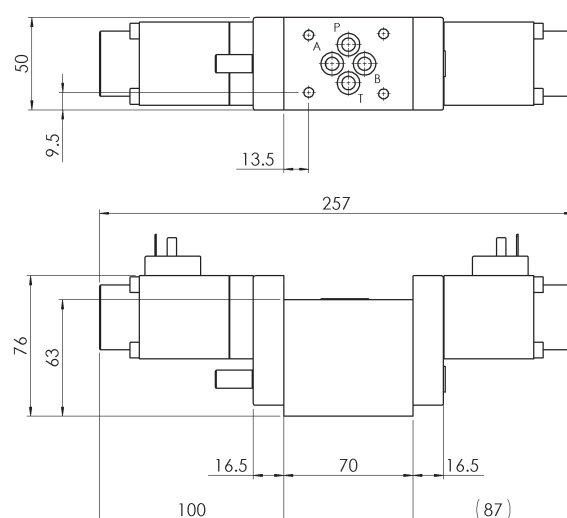


3/3 seated valves

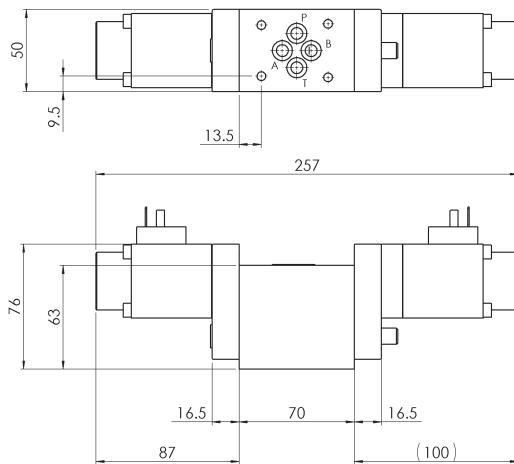
Switching functions H and E



Switching function G

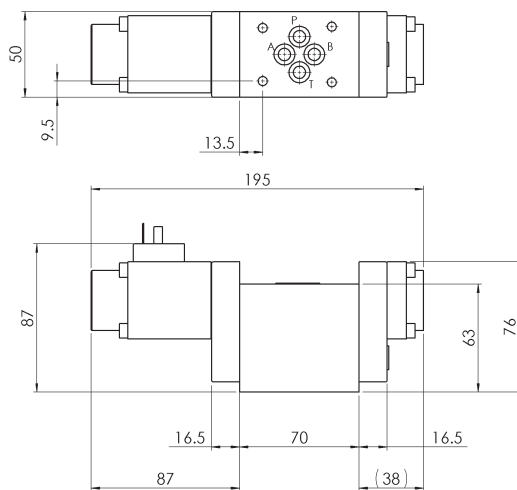


Switching function G3

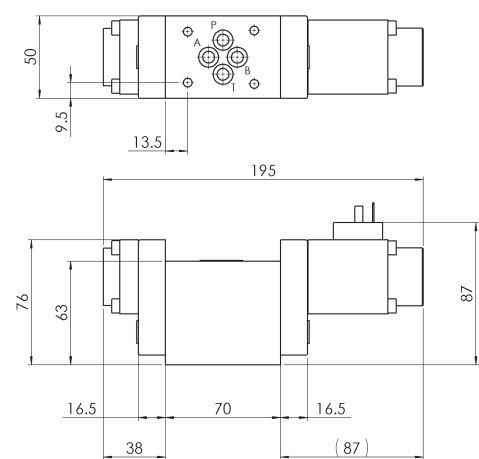


4/2 seated valves

Switching function X

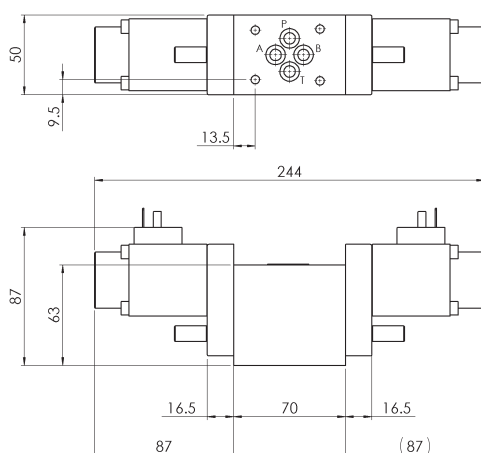


Switching function C

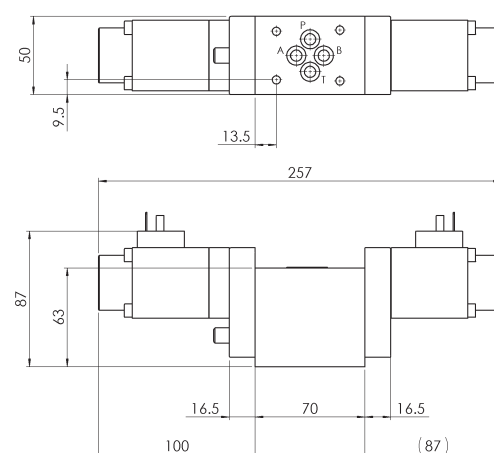


4/3 seated valves

Switching functions H, E, J and M



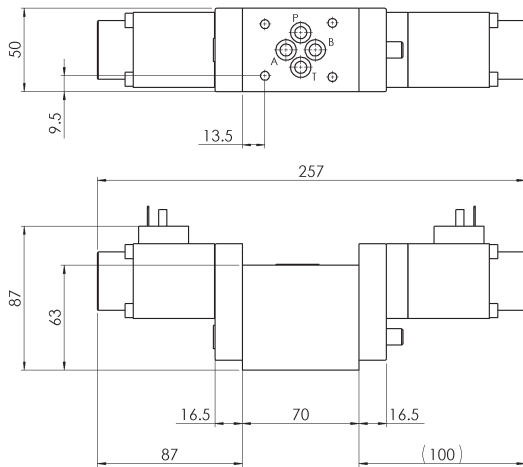
Switching function P



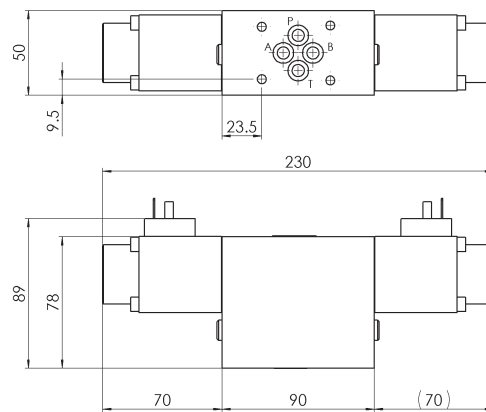
Type WV700

NG 6 ISO
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Switching function P3



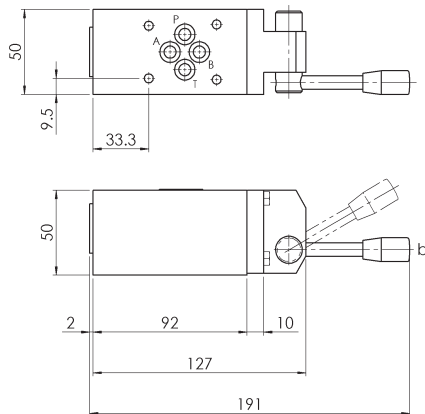
Switching function G-2ERV



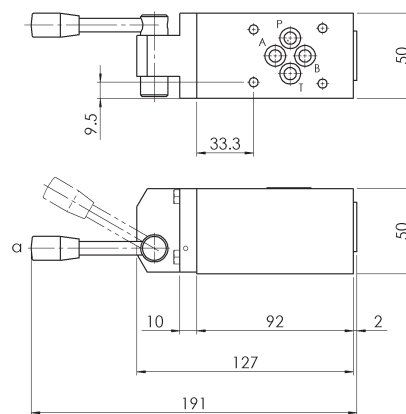
Manual actuation

2/2 seated valves

Switching functions E4, BE4 and BE2

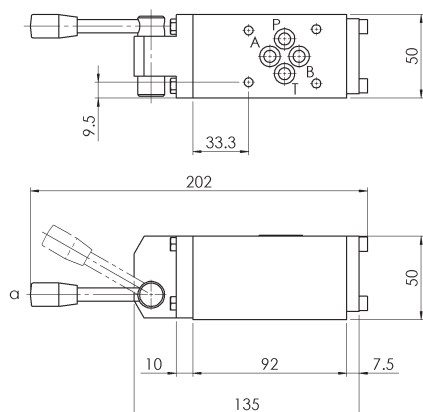


Switching function E2

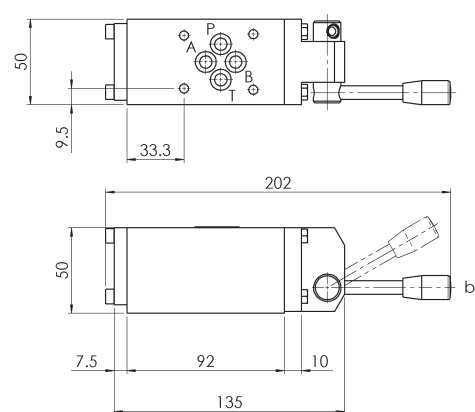


3/2 seated valves

Switching function X

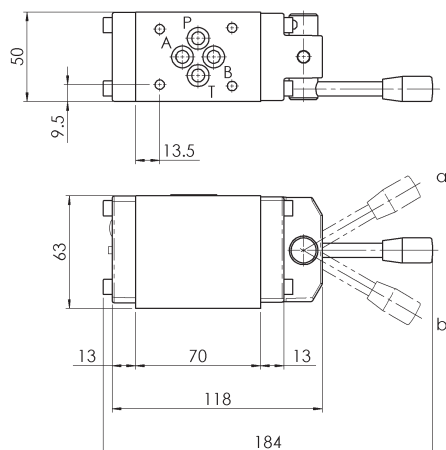


Switching function C



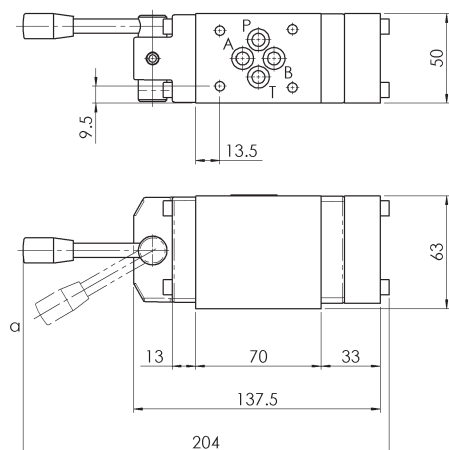
3/3 seated valves

All switching functions

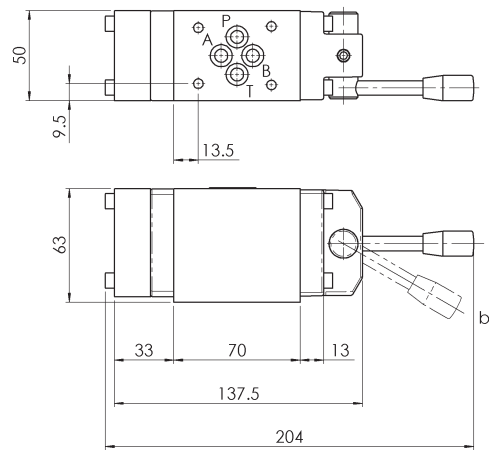


4/2 seated valves

Switching function X

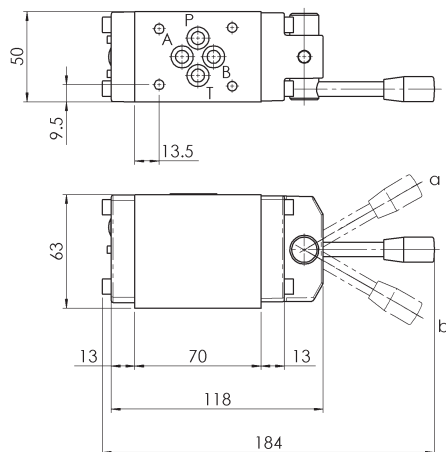


Switching function C

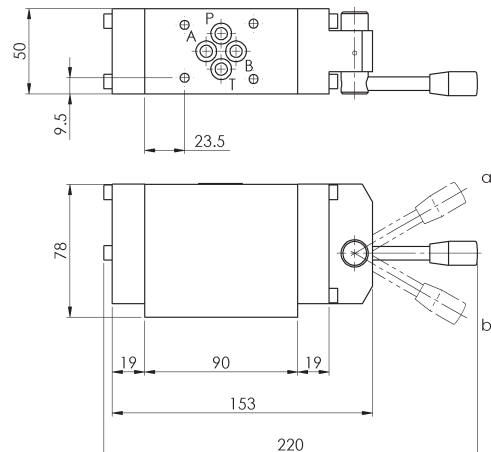


4/3 seated valves

Switching functions H, E, PP, J and PP3



Switching function G-2ERV

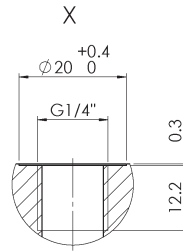


Type WV700

NG 6 ISO
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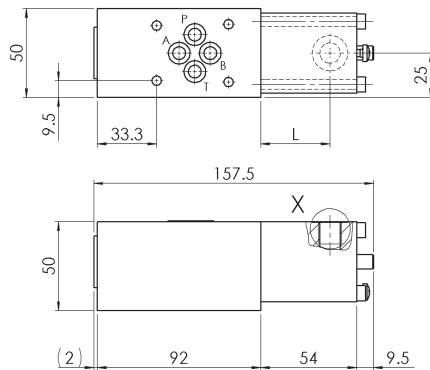
Air and oil actuation

Actuation	Dimensions L
Oil	39 mm
Air	40 mm

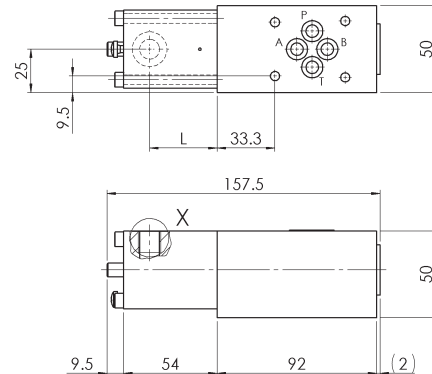


2/2 seated valves

Switching functions E4, BE4 and BE2

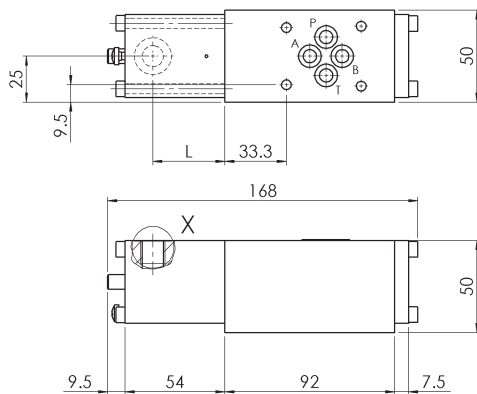


Switching function E2

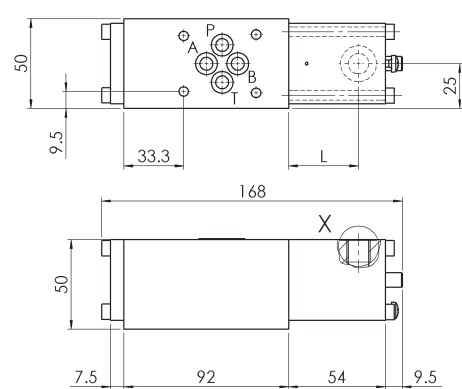


3/2 seated valves

Switching function X

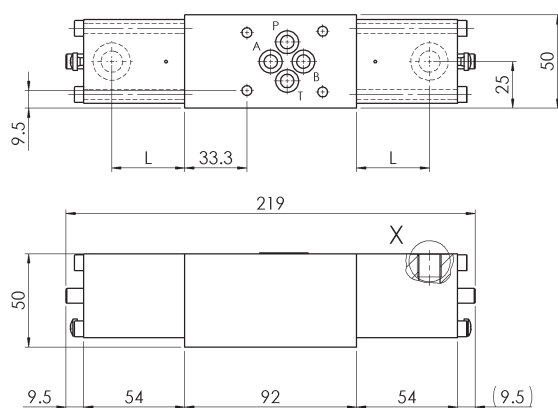


Switching function C

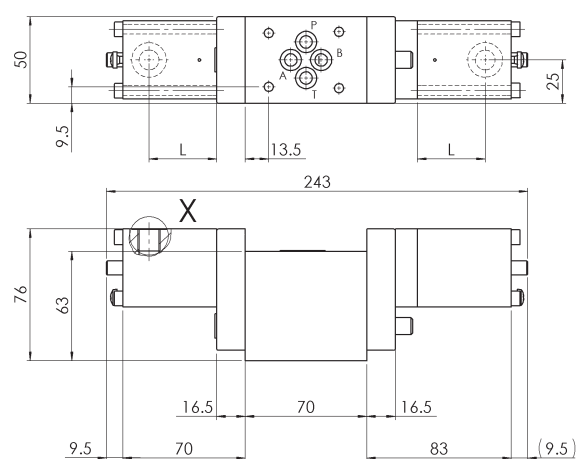


3/3 seated valves

Switching functions H and E



Switching function G3



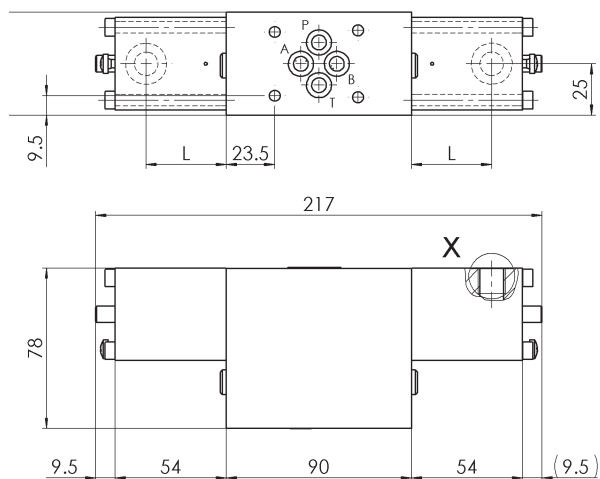
Switching function X



Switching functions H, E and J

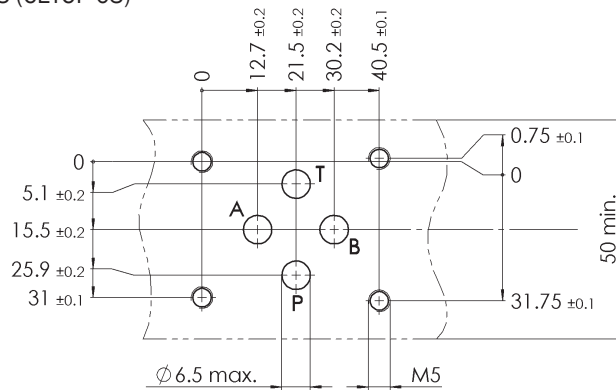
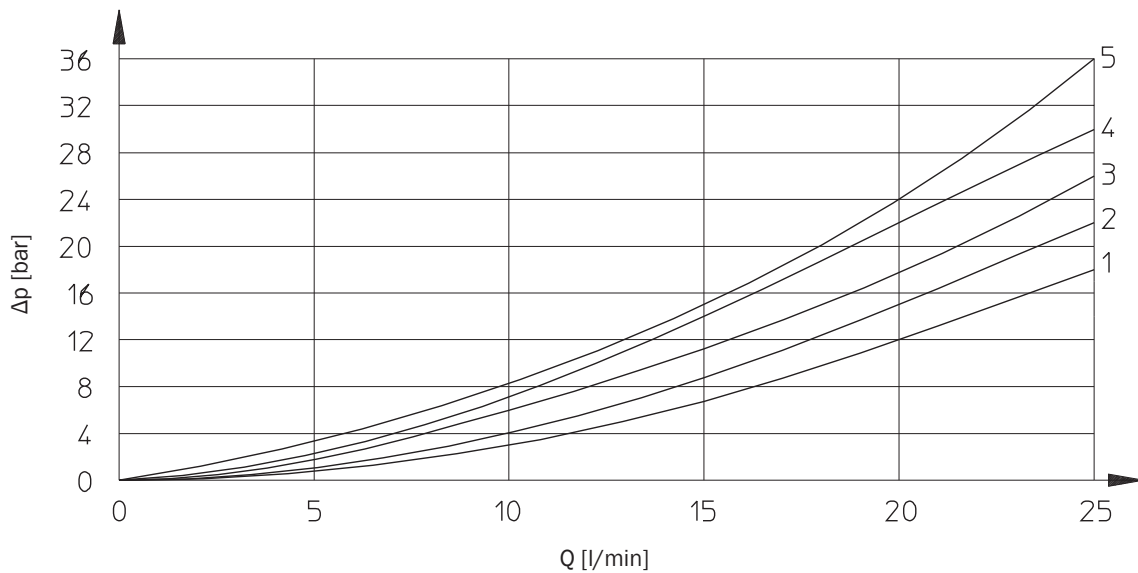


Switching function P



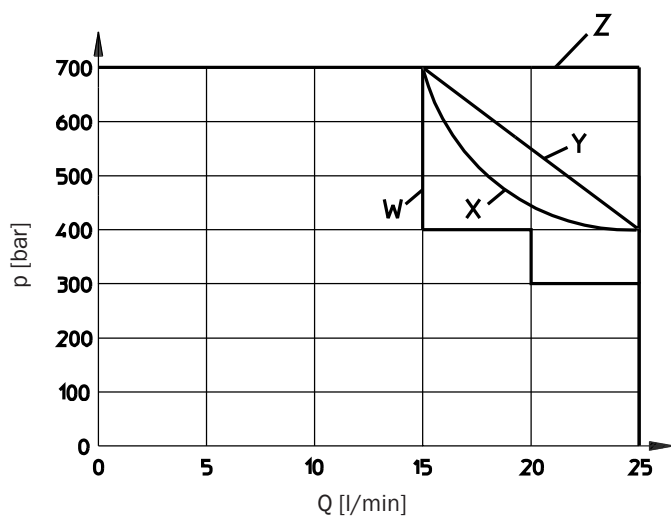
Drilling pattern

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

**Pressure drop**(v = 32 mm²/s)

Valve type	Switching function	Solenoid actuated, oil 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					2					2
2/2	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, M	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
2/2	E4, BE2	Y
2/2	E2, BE4	Z
3/2	X, C	Y
4/2	X, C	Y
3/3	H, G, G3	X
3/3	E	Y
4/3	E	Z
4/3	J, H, M, 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
LRS KPL Z4 TR 2PoI LED (power reduction plug)	3689354

Screws

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

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

Spare parts

Part description	Part No.
1 x O-Ring 9,25 x 1,78 (FKM)	4003217

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.