

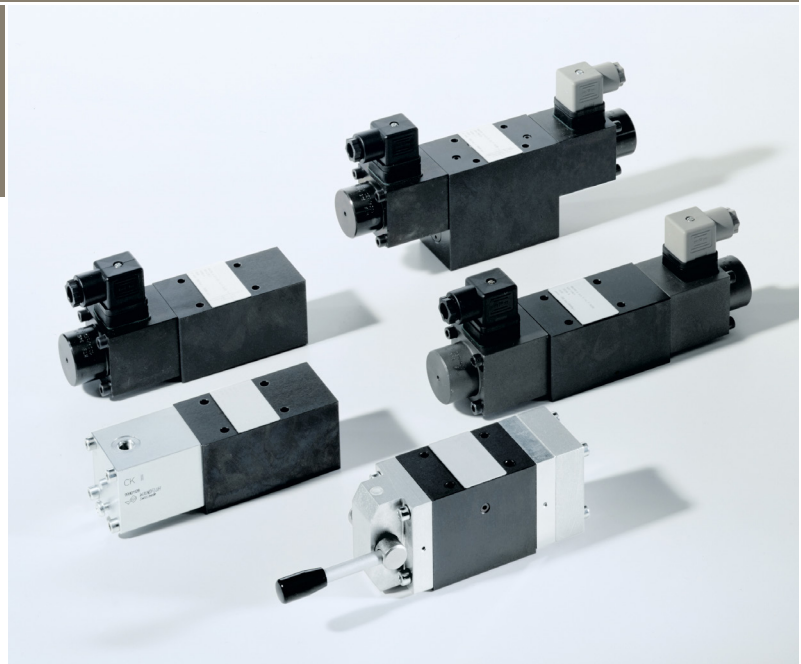
Seated valves

Type WV700

NG 6
up to 25 l/min

Features

- Direct operated
- Leakage free
- High duty cycle
- Long lifetime through hardened poppets and valve seats
- Positive overlap (exceptions see product information)
- Available as 2/2-, 3/2-, 4/2-, 3/3- or 4/3-valve solenoid or manual actuated



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
- Low switching capacity due to pressure balanced valve cones

Applications

- Controlling of cylinders and motors in higher pressure ranges as full replacement for spool valve technology (especially for leakage free holding, bending and clamping)
- In machine tools, hoisting technology, test stands and rescue devices
- Power units (e.g. as with limited space conditions or weight reduction)
- Bridge building

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 power	12 VDC (30 W), 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 DIN 40050 (on request IP 65)
Material/Surface finish	Body: Steel galvanized, black chromated Solenoid: Steel browned, aluminium

Type WV700
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Order code

Example	WV	700	-	6	-	4	/	2	-	C	-	24	-	V	-	A			00
Seated valve																			
Type	BV700																		
Nominal size	6																		
Ports	2, 3 or 4																		
Positions	2 or 3																		
Functions	see product information																		
Actuation types	12	solenoid 12 VDC																	
	24	solenoid 24 VDC																	
	107	solenoid 107 VDC																	
	196	solenoid 196 VDC																	
	HR	Manual lever / with detent																	
	HF	Manual lever/ spring return																	
	Further actuation types (pneumatic & hydraulic) on request!																		
Seal material	V	[FPM] Further seal materials on request!																	
Special design	01 ... 99 (00 for standard)																		
Part index	Please leave blank (small letters a-d; different letters do not effect interchangeability)																		
Desing revision	(Exception 4/3-U-valve = B) Capital letters A-Z; identical letters equal same connecting dimensions																		

Spare parts (included in delivery)

Part description	Part No.
4 pcs. O-Ring, 9,25 x 1,78 mm	4003217

Accessories (optional)

For operation of the solenoid valves with alternating voltage

(not included in delivery)

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 2Pol LED (Plug for solenoid with integrated reduction of performance)	3689354

*See hydraulic schematics: a = plug for solenoid grey / b = plug for solenoid black

Product information 2/2-valve

Functions WO, WS, VO and VS

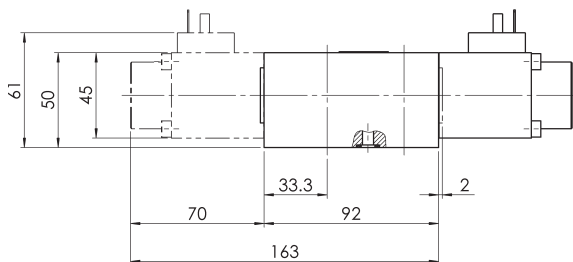
Actuation type	Part No. 2/2-WO	Part No. 2/2-WS	Part No. 2/2-VO	Part No. 2/2-VS	Weight- ca. [kg]
Solenoid 12 VDC	on request	on request	on request	on request	2,4
Solenoid 24 VDC	3678895	3679169	3678857	3674423	2,4
Solenoid 107 VDC	3678882	3679150	3678843	3678863	2,4
Solenoid 196 VDC	3678884	3679154	3678856	3678877	2,4
Manual lever / with detent	3679147	3679266	on request	on request	1,9
Manual lever / spring return	3679145	3679253	on request	on request	1,9

Hydraulic schematics

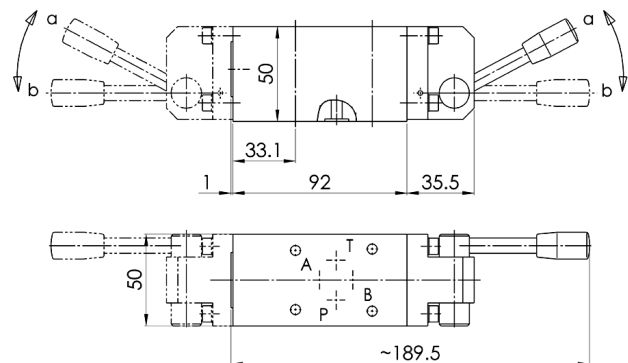
Actuation type	2/2-WO	2/2-WS	2/2-VO	2/2-VS
Solenoid				
Manual lever / with detent				
Manual lever / spring return				

Dimensional drawings

Solenoid actuation



Manual actuation



ISO-pattern of drilling see page 11

Type WV700

NG 6
up to 25 l/min

Produktinformation 3/2-Ventil

Functions L and N (negative overlap*)

Actuation type	Part No. 3/2-L	Part No. 3/2-N	Weight ca. [kg]
Solenoid 12 VDC	on request	on request	2,4
Solenoid 24 VDC	3679274	3679298	2,4
Solenoid 107 VDC	3679270	3679281	2,4
Solenoid 196 VDC	3679273	3679295	2,4
Manual lever / with detent	3679278	3679304	1,9
Manual lever / spring return	On request	3679302	1,9

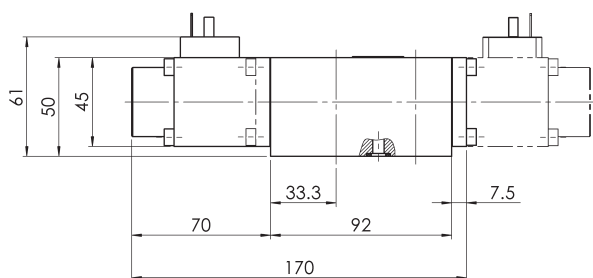
*Positive overlap on request!

Hydraulic schematics

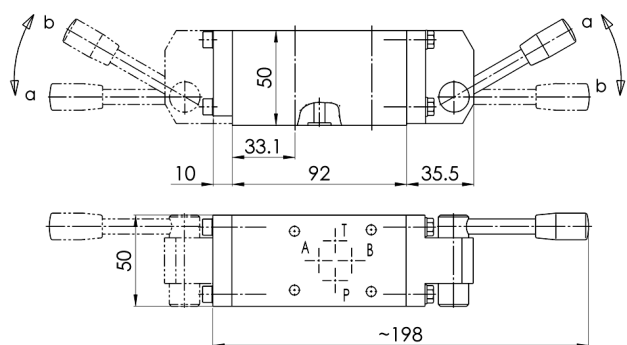
Actuation type	3/2-L	3/2-N
Solenoid		
Manual lever / with detent		
Manual lever / spring return		

Dimensional drawings

Solenoid actuation



Manual actuation



ISO-pattern of drilling see page 11

Product information 4/2-valve

Functions D and C (negative overlap*)

Actuation type	Part No. 4/2-C	Part No. 4/2-D	Weight ca. [kg]
Solenoid 12 VDC	on request	on request	2,6
Solenoid 24 VDC	4002929	4002938	2,6
Solenoid 107 VDC	4002931	4002940	2,6
Solenoid 196 VDC	4002933	3988273	2,6
Manual lever / with detent	3679434	3679473	2,1
Manual lever / spring return	3679432	3679470	2,1

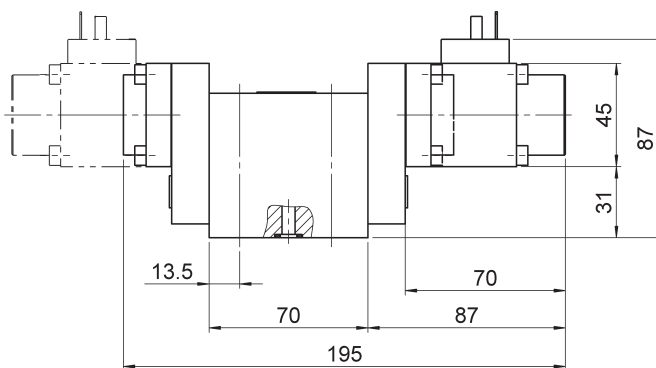
*Positive overlap on request!

Hydraulic schematics

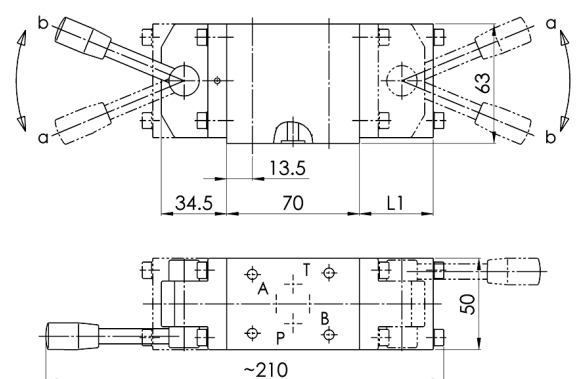
Actuation type	4/2-C	4/2-D
Solenoid		
Manual lever / with detent		
Manual lever / spring return		

Dimensional drawings

Solenoid actuation



Manual actuation



Dimensions [mm]

Actuation type	L1
with detent	13,0
spring return	39,0

ISO-pattern of drilling see page 11

Type WV700

NG 6
up to 25 l/min

Product information 3/3-valve

Functions F, K, G and GB

Actuation type	Part No. 3/3-F	Part No. 3/3-K	Weight ca. [kg]	Part No. 3/3-G	Part No. 3/3-GB	Weight ca. [kg]
Solenoid 12 VDC	on request	on request	3,1	on request	on request	3,4
Solenoid 24 VDC	3679310	3679393	3,1	3679352	on request	3,4
Solenoid 107 VDC	3679307	3679389	3,1	on request	on request	3,4
Solenoid 196 VDC	3679309	3679392	3,1	on request	on request	3,4
Manual lever / with detent	on request	3679395	1,9	3679387	3679382	1,9
Manual lever / spring return	on request	3679397	1,9	3679385	3679376	1,9

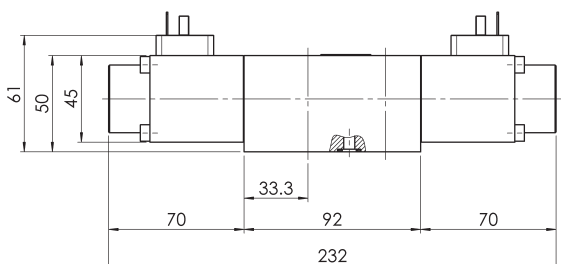
Hydraulic schematics

Actuation type	3/3-F	3/3-K	3/3-G	3/3-GB
Solenoid				
Manual lever / with detent				
Manual lever / spring return				

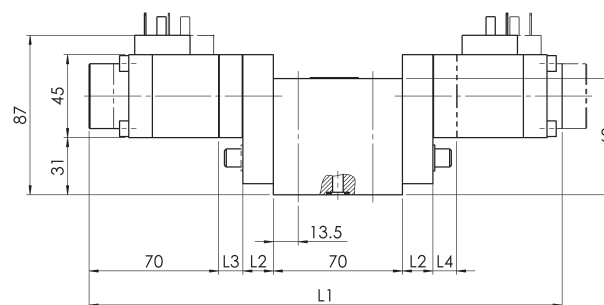
Dimensional drawings

Solenoid actuation (Manual actuation see following page)

Functions F and K

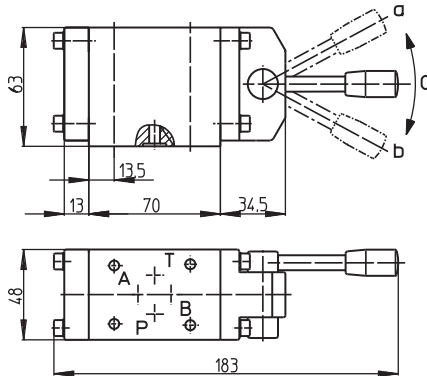


Functions G and GB



Dimensions [mm]

Functions	L1	L2	L3	L4
G	256,0	16,5	13,0	-
GB	256,0	16,5	-	13,0

Manual actuation**Product information 4/3-valve****Functions H, E, P and J**

Actuation type	Part No. 4/3-H	Part No. 4/3-E	Part No. 4/3-P	Part No. 4/3-J	Weight ca. [kg]
Solenoid 12 VDC	on request	on request	on request	on request	3,4
Solenoid 24 VDC	3679712	3679690	3679874	3679749	3,4
Solenoid 107 VDC	3679708	3679687	3679868	3679745	3,4
Solenoid 196 VDC	3679711	3679689	3679872	3679748	3,4
Manual lever / with detent	3679742	3679705	3679898	3679754	1,9
Manual lever / spring return	3679739	3679693	3679896	4041787	1,9

Functions M, R and U

Actuation type	Part No. 4/3-M	Part No. 4/3-R	Weight ca. [kg]	Part No. 4/3-U	Weight ca. [kg]
Solenoid 12 VDC	on request	on request	3,4	on request	3,9
Solenoid 24 VDC	3679762	on request	3,4	3679920	3,9
Solenoid 107 VDC	3679756	on request	3,4	4041765	3,9
Solenoid 196 VDC	3679758	auf Anfrage	3,4	3855666	3,9
Manual lever / with detent	auf Anfrage	3679916	1,9	3679924	2,9
Manual lever / spring return	3855665	3679904	1,9	3679923	2,9

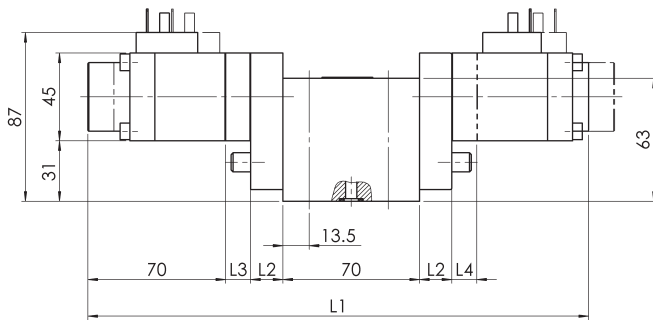
Hydraulic schematics

Function/ Actuation typ	Solenoid	Manual lever / with detent	Manual lever / spring return
4/3-H			
4/3-E			
4/3-P			
4/3-J			
4/3-M			
4/3-R			
4/3-U			

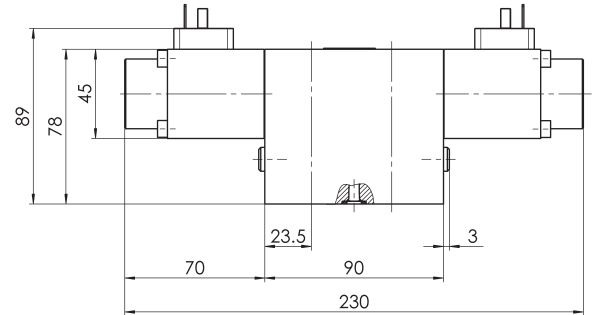
Dimensional drawings

Solenoid actuation (Manual actuation see following page)

Functions H, E, P, J, M and R



Function U

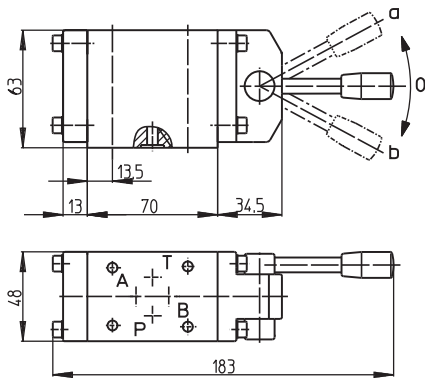


Dimensions [mm]

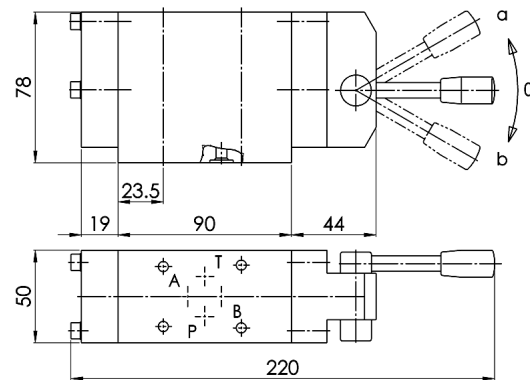
Functions	L1	L2	L3	L4
H, E, J, M	243,0	16,5	-	-
P	256,0	16,5	13,0	-
R	256,0	16,5	-	13,0

Manual actuation

Functions H, E, P, J, M and R



Function U

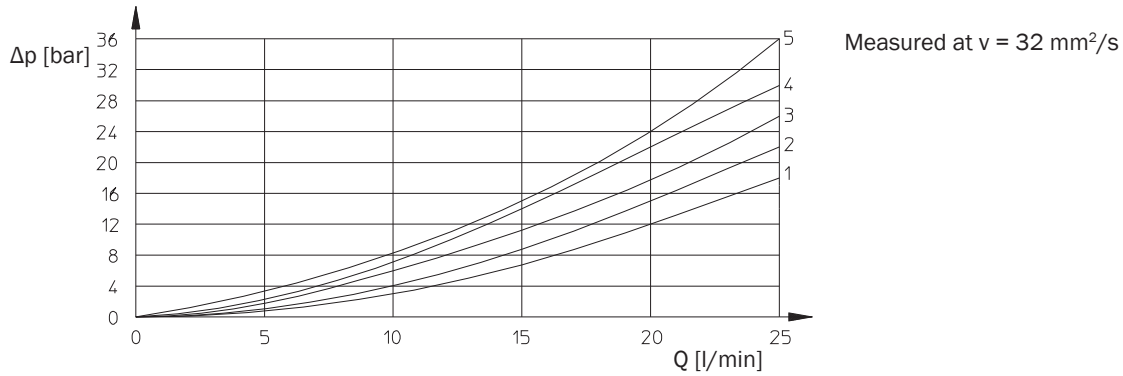


Type WV700

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Characteristics

Pressure drop



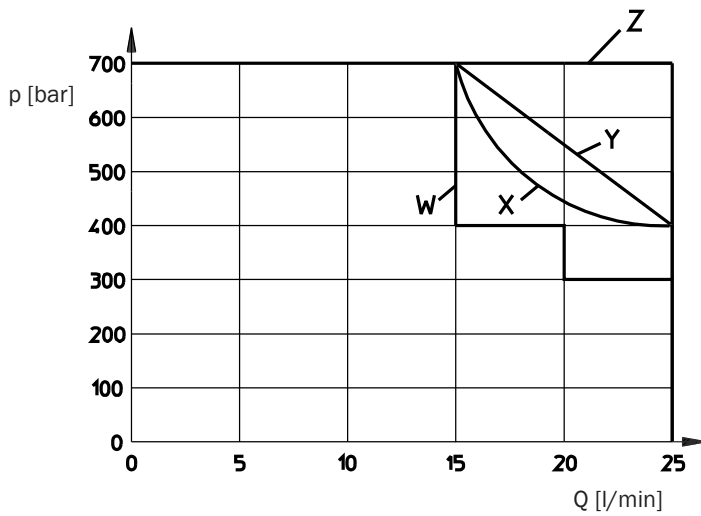
For solenoid actuation

Valve type	P - A	P - B	A - T	B - T	P - T
2/2-WO,WS					2
2/2-VO, VS	2				
3/2-L,N	2		3		
4/2-C	3	3	2	2	
4/2-D	3	1	1	2	
3/3-F	3		3		2
3/3-K	2		3		
3/3-G	2		2		3
3/3-GB		3		3	4
4/3-H	1	1	1	1	2
4/3-E,J,M	3	2	2	3	
4/3-P	3	2	3	2	3
4/3-R	2	3	2	3	3
4/3-U	5	5	4	4	3

For manual actuation

Valve type	P - A	P - B	A - T	B - T	P - T
2/2-WO					2
2/2-WS	5	5	4	4	3
2/2-VO, VS	2				
3/2-L,N	2		3		
4/2-C	2	3	2	1	
4/2-D	1	2	1	1	
3/3-F	3		3		2
3/3-K	2		2		
3/3-G	1		1		2
3/3-GB		2		2	3
4/3-H	1	1	1	1	1
4/3-E	1	1	2	1	
4/3-P	2	3	3	3	3
4/3-J,M	3	2	2	3	
4/3-R	2	3	2	3	3
4/3-U	5	5	4	4	3

Hydraulic switching capacity

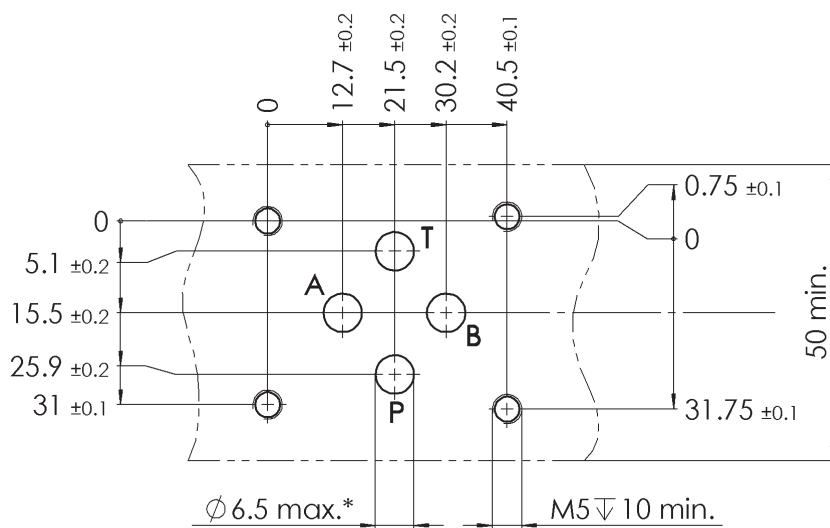


Hydraulic switching capacity at nominal operating voltage and ambient temperature range
 $T_a = 40^\circ \text{C}$
 $\nu = 32 \text{ mm}^2/\text{s}$

Function	Line
F, G, GB, H, J, M, P, R	X
C, D, K, L, N, VS, WO	Y
E, VO, WS	Z
U	W

Various drawings

Bore dimensions

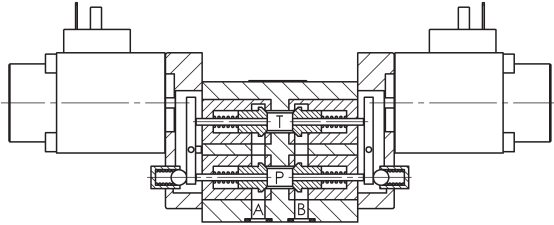


Type WV700

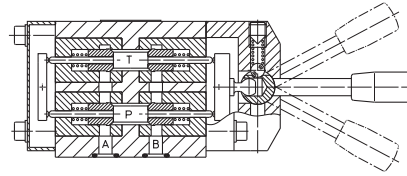
NG 6
up to 25 l/min

Sectional drawing

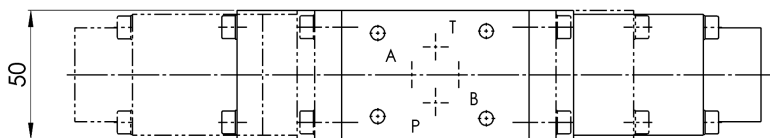
Solenoid actuation



Manual actuation



Valve width



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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.