

DATA SHEET - OPERATION MANUAL

APPLICATION

Mobile 6 way 2 position stackable directional valves type 6/2UREM6... and 6/2URMM6... are intended for hydraulic systems where movement of consumers (cylinders or hydraulic motors) is controlled by means of one basic directional valve. Shifting of a proper section of valve 6/2UREM6... results in connecting the consumer to the basic directional valve. The valves are used for in-line mounting in any position.



DESCRIPTION OF OPERATION

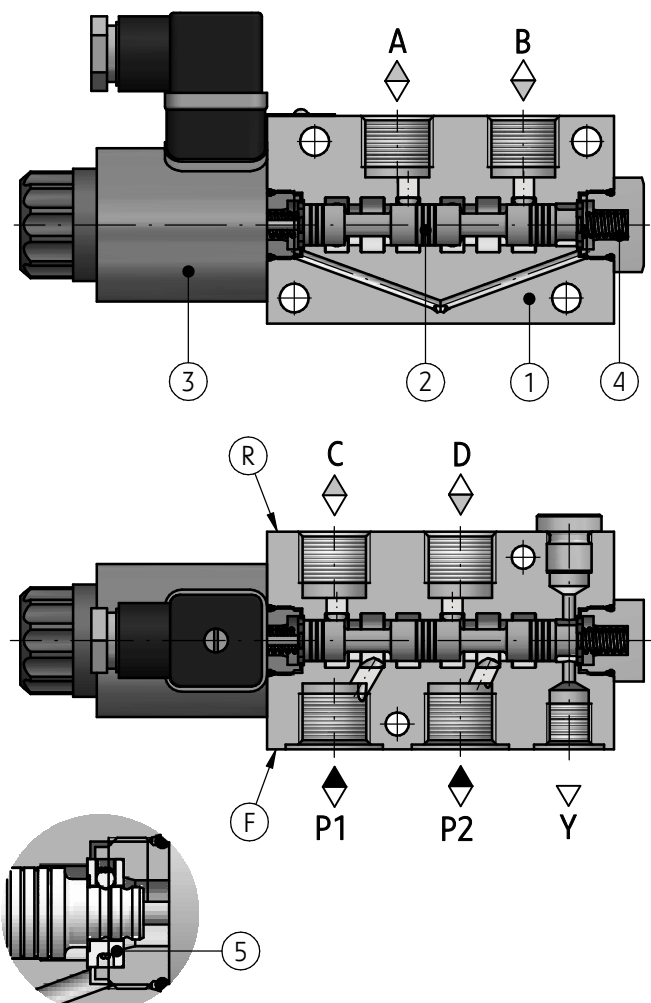
Mobile 6 way directional valves type 6/2UREM6... (solenoid controlled) and 6/2URMM6... (hand lever controlled) are used as one unit or blocks with maximum 5 sections. The sections with different control are stackable. Each section has ports **A** and **B** to connect the consumer (e.g. hydraulic cylinder). Ports **P1** and **P2** on the side wall (F) of the front (or one unit) section are used to connect the basic directional valve. Ports **C** and **D** on the wall (R) of the rear (or one unit) section are used to connect the consumer. Depending on the spool position lines **P1** and **P2** are connected correspondingly to lines **A** and **B** or **C** and **D**. Ports **P1**, **P2** and **C**, **D** are situated opposite each other what allows the transfer of supply from the previous to the next section of the stackable valve at initial position of spool (2). Solenoid controlled section consists of a housing (1), control spool (2), solenoid (3) and return spring (4). In the case of manually controlled section the function of the solenoid is performed by a hand lever unit.

In version 6/2UREM6.../...OF... (without springs, with detent) the spool (2) is positioned and hold by means of the detent (5). Its shift results from energizing of one of the solenoids.

In version 6/2UREM6.../O... (without spring, without detent) the spool (2) is positioned and hold by the energized solenoid.

At version 6/2UREM6...Y... port **Y** is to be connected to tank.

6/2UREM6-12/B 0 G2 Y G24 N Z4



TECHNICAL DATA

Hydraulic fluid	mineral oil	
Required fluid cleanliness class	ISO 4406 class 20/18/15	
Nominal fluid viscosity	37 mm ² /s in temperature 55 °C	
Viscosity range	2,8 do 328 mm ² /s	
Fluid temperature range (in tank)	recommended	40 °C to 55 °C
	max	-20 °C to +70 °C
Ambient temperature range - for version with electrically operated sections	- 20 °C to +50 °C	
Ambient temperature range - for version without electrically operated sections	- 20 °C to +70 °C	
Max operating pressure (in port P1, P2, A, B, C, D)	with drain port Y connected to tank	35 MPa
	without drain port (port Y plugged)	21 MPa
Max pressure in port Y	21 MPa	
Max switching frequency	15000 on/h	
Weight of one section	with 1 solenoid or hand lever operated	max 3 kg
	with 2 solenoids	max 3,5 kg
Supply voltage for solenoids	12 VDC	24 VDC
Supply voltage tolerance	±10%	
Power requirement	30 W	
Degree of protection	IP 65	
Solenoid coil temperature	max 150 °C	

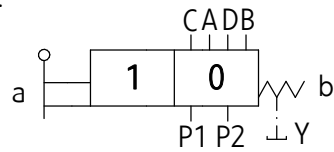
INSTALLATION AND OPERATION REQUIREMENTS

- | | |
|---|---|
| <ol style="list-style-type: none"> Only fully functional and operational valve, properly connected to electrical installation must be used. Connecting or disconnecting the valve to an electrical installation must only be carried out by qualified personnel. Solenoid plug shall precisely adhere to socket and shall be secured with thread bolt screwed in securely in a place. It is forbidden to operate the valve if the tightness and suitable clamp of cable in the plug gland are not ensured. During the period of operation must be kept fluid viscosity acc. to requirements defined in this Data Sheet - Operation Manual In order to ensure failure free and safe operation the following must be checked: | <ul style="list-style-type: none"> • condition of the electrical connection • proper working of the valve • cleanliness of the hydraulic fluid <ol style="list-style-type: none"> Due to heating of electromagnet solenoid coils to high temp., the valve shall be placed in such way to eliminate the risk of accidental contact with solenoid during operation or to apply suitable covers acc. to PN - EN ISO 13732 - 1 and PN - EN 4413. In order to ensure tightness of the directional valve block, one should take care of dimension of sealing rings, tightening torques and valve operation parameters given in this Data Sheet - Operation Manual A person that operates the valve must be thoroughly familiar with this Data Sheet - Operation Manual. |
|---|---|

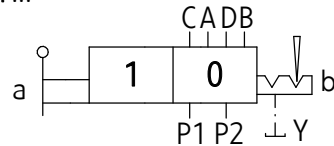
DIAGRAMS

Hydraulic diagrams of sections of directional valve type 6/2UREM6... mechanically operated

section 6/2URMM6.../...Y...



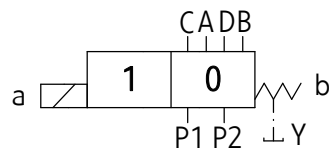
section 6/2URMM6.../...YOF...



Hydraulic diagrams of sections of directional valve type 6/2UREM6... solenoid operated

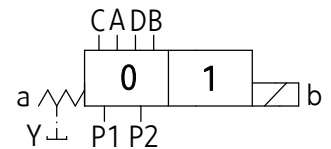
sections: 6/2UREM6.../A...Y...

6/2UREM6.../B...Y...

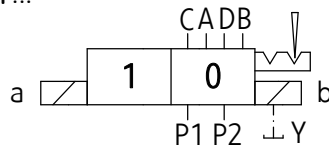


sections: 6/2UREM6.../C...Y...

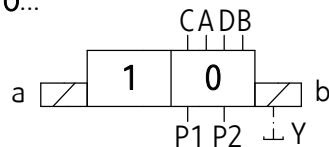
6/2UREM6.../D...Y...



section 6/2UREM6.../...Y OF...



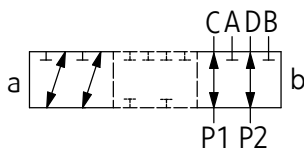
section 6/2UREM6-12/...Y O...



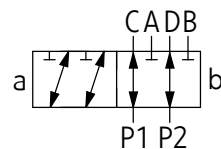
Hydraulic diagrams for spools

working and intermediate positions

diagram A

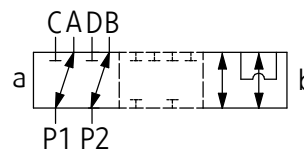


working positions



working and intermediate positions

diagram C



working positions

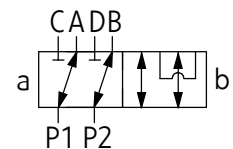


diagram B

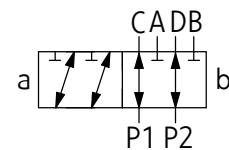
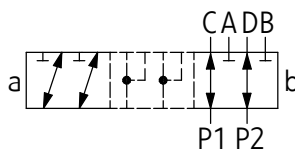
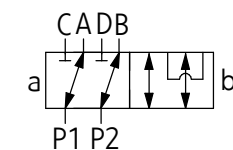
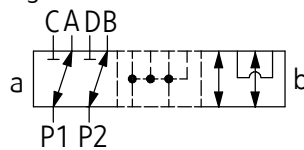


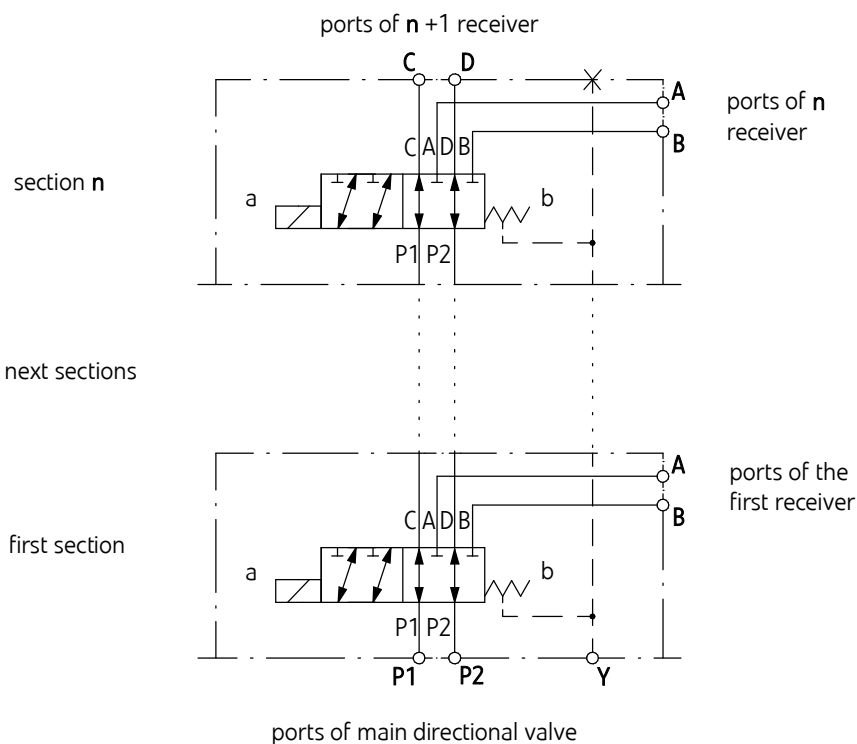
diagram D



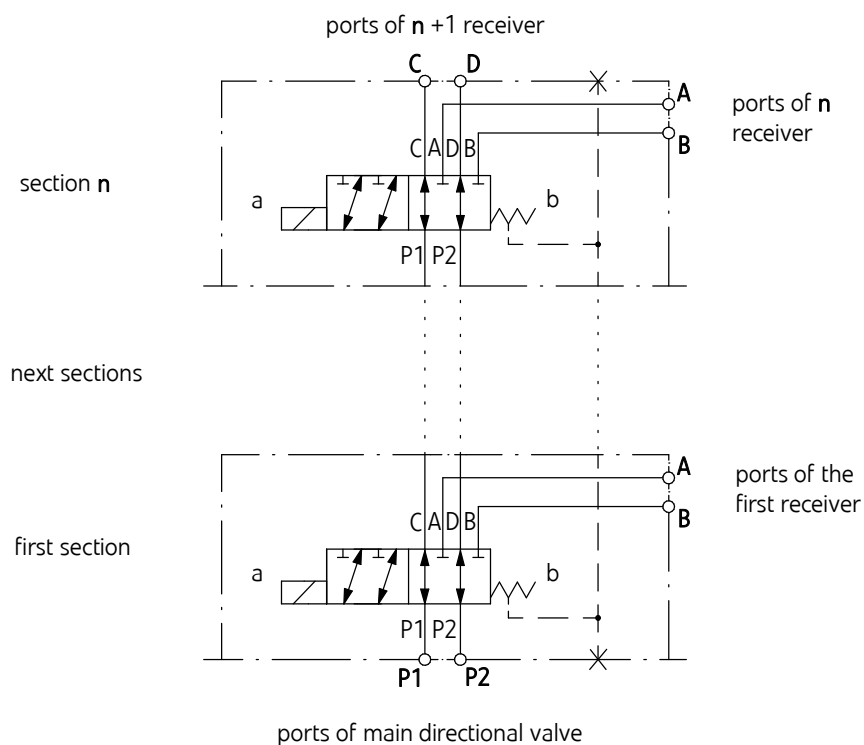
DIAGRAMS

Detailed hydraulic diagrams of directional valve type 6/2UREM6...

version 6/2UREM6.../...Y...

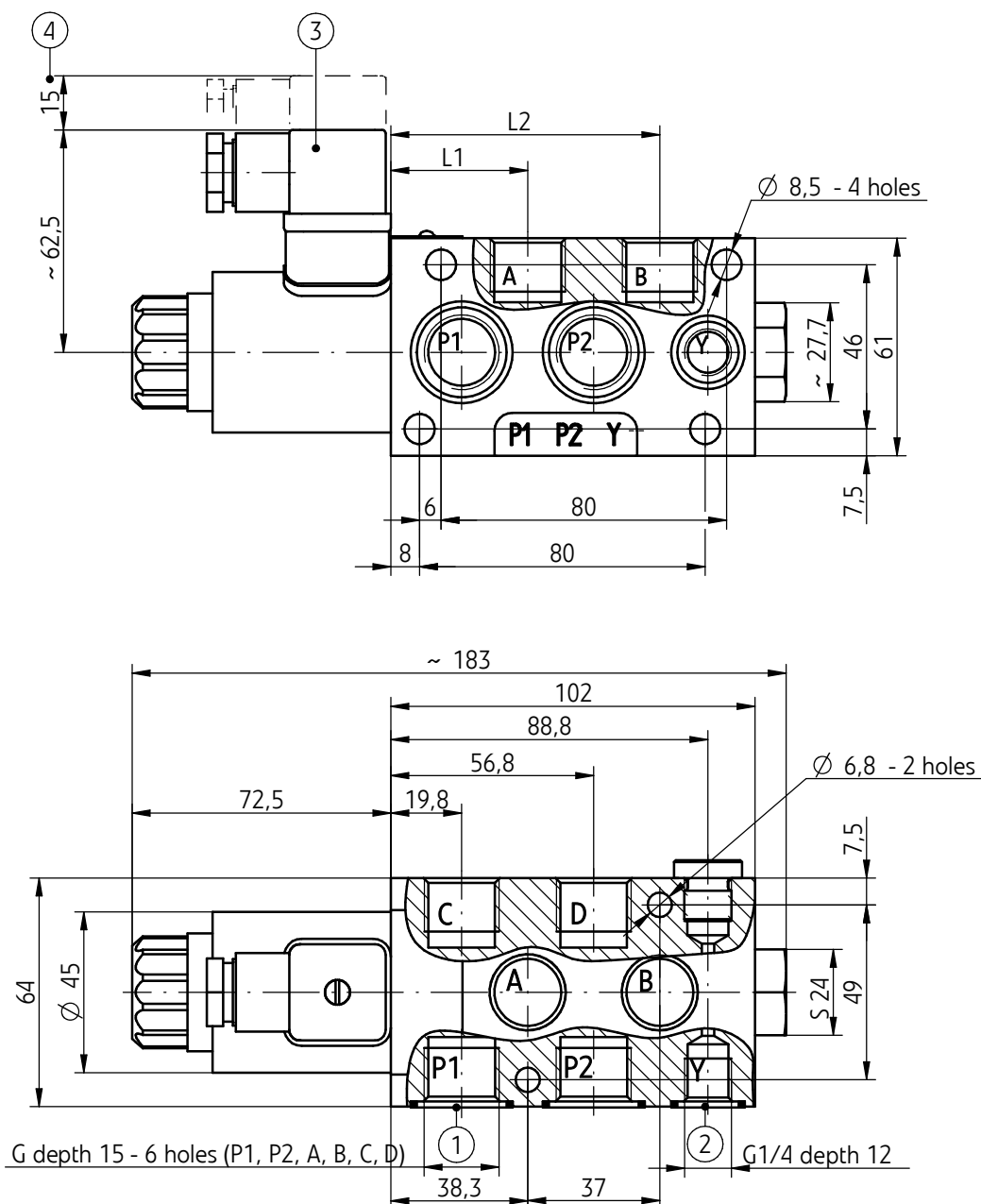


version 6/2UREM6.../...



OVERALL AND CONNECTION DIMENSIONS

type 6/2 UREM6... - versions: 6/2UREM6.../A...; ...B... - dimensions of 1 section



valve version	G	L1	L2
6/2UREM6.../...G1...	G3/8	40,3	77,3
6/2UREM6.../...G2...	G1/2	38,3	75,3

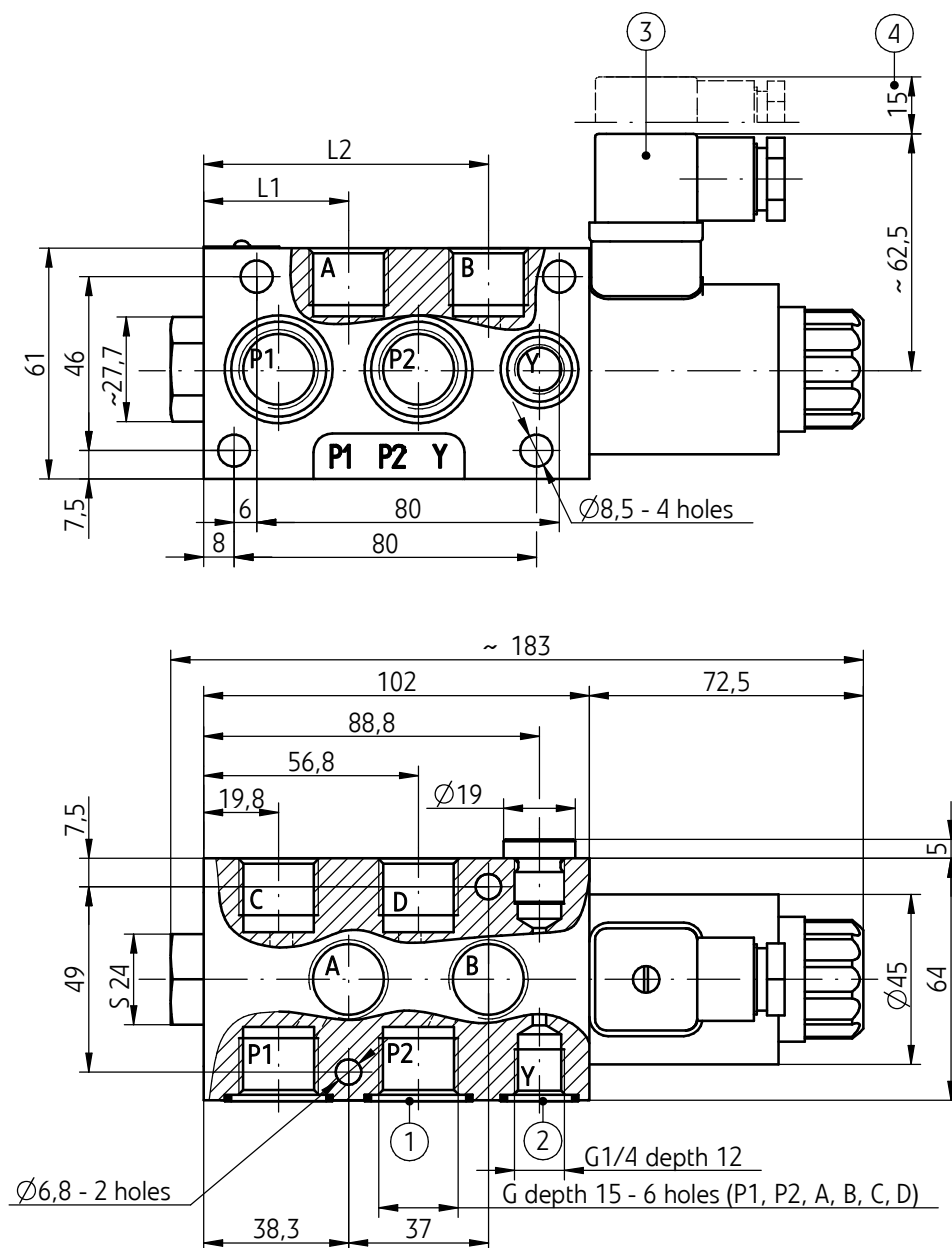
- 1 - Sealing ring **kantseal 25,12 x 1,68** - 2 pcs./set
- 2 - Sealing ring **kantseal 17,17 x 1,68** - 1 pc./set
- 3 - Plug-in-connector type **ISO 4400** (DIN 43650 - A)
- 4 - Space for plug dismounting

NOTE:

For placing an order of one section with (sealings (1) and (2)) as an element of sectional valve, in order code the option 0 is chosen.

OVERALL AND CONNECTION DIMENSIONS

type 6/2UREM6... - versions: 6/2UREM6.../C...; ...D... - dimensions of 1 section



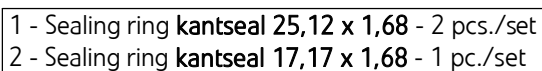
- 1 - Sealing ring **kantseal 25,12 x 1,68** - 2 pcs./set
- 2 - Sealing ring **kantseal 17,17 x 1,68** - 1 pc./set
- 3 - Plug-in-connector type **ISO 4400** (DIN 43650 - A)
- 4 - Space for plug dismounting

NOTE:

For placing an order of one section with (sealings (1) and (2)) as an element of sectional valve, in order code the option **0** is chosen.

valve version	G	L1	L2
6/2UREM6.../...G1...	G3/8	40,3	77,3
6/2UREM6.../...G2...	G1/2	38,3	75,3

type 6/2URMM6... - dimensions of 1 section

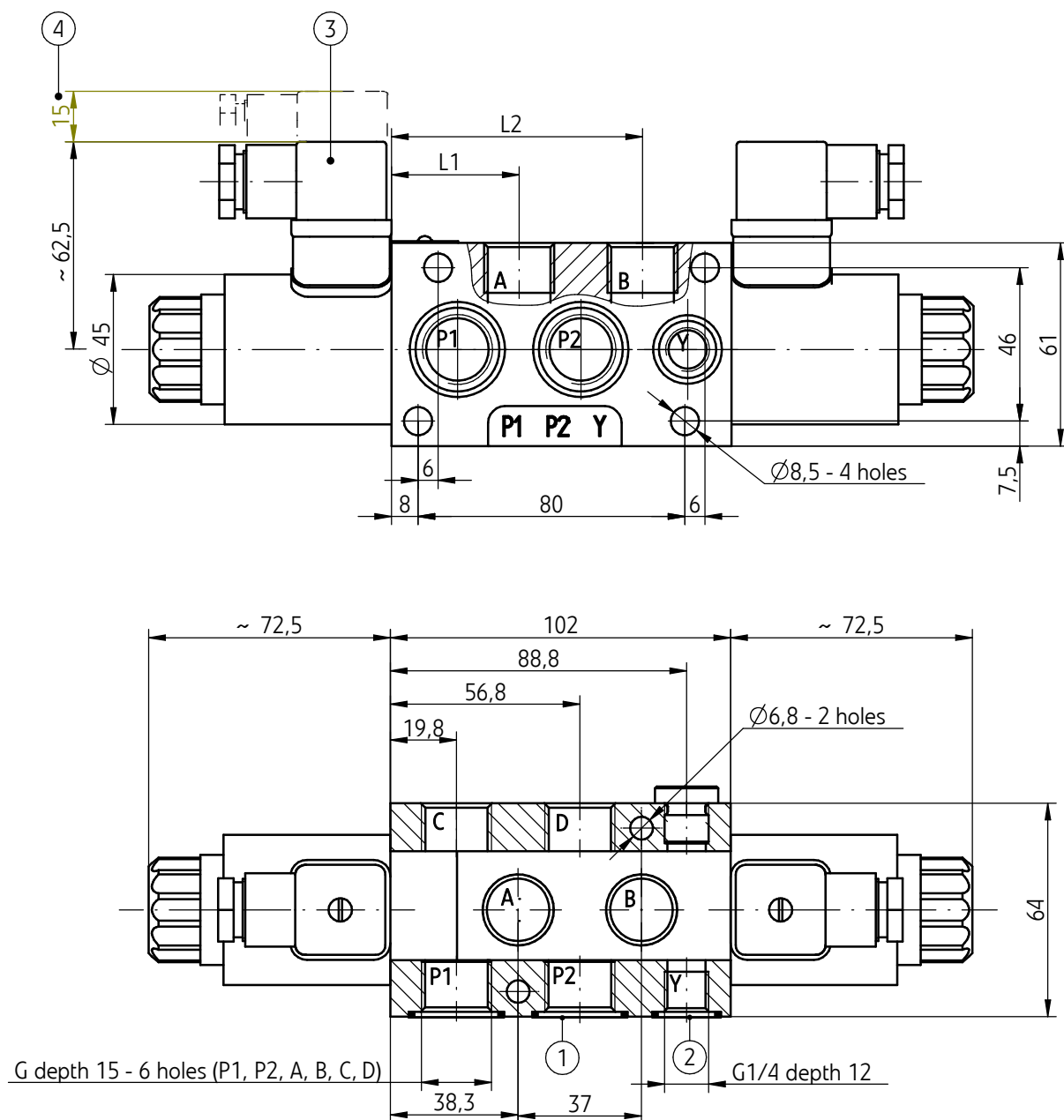


NOTE:

For placing an order of one section with (sealings (1) and (2)) as an element of sectional valve, in order code the option 0 is chosen.

OVERALL AND CONNECTION DIMENSIONS

type 6/2UREM6 - versions: 6/2UREM6.../...O... - dimensions of 1 section
6/2UREM6.../...OF... - dimensions of 1 section



valve version	G	L1	L2
6/2UREM6.../...G1...O...	G3/8	40,3	77,3
6/2UREM6.../...G1...OF...			
6/2UREM6.../...G2...O...	G1/2	38,3	75,3
6/2UREM6.../...G2...OF...			

- 1 - Sealing ring **kantseal 25,12 x 1,68** - 2 pcs./set
- 2 - Sealing ring **kantseal 17,17 x 1,68** - 1 pc./set
- 3 - Plug-in-connector type **ISO 4400** (DIN 43650 - A)
- 4 - Space for plug dismounting

NOTE:

For placing an order of one section with (sealings (1) and (2)) as an element of sectional valve, in order code the option **0** is chosen.

version of 3-section directional valve type 6/2UREM6

6/2UREM6-12/B 3 G1 Y G24 N Z4

~62,5

29

P1 P2 Y

61

Technical drawing of the 3200 series valve assembly, showing a side view with dimensions and a top view with port labels.

Dimensions:

- Overall height: 113
- Distance from base to top of main body: 49
- Distance from base to top of main body (alternative): 102
- Distance from base to top of main body (alternative): 38,3
- Distance from base to top of main body (alternative): 37
- Overall width: L2
- Overall width: L3

Port Labels:

- A
- B
- P1
- P2
- Y

Other Labels:

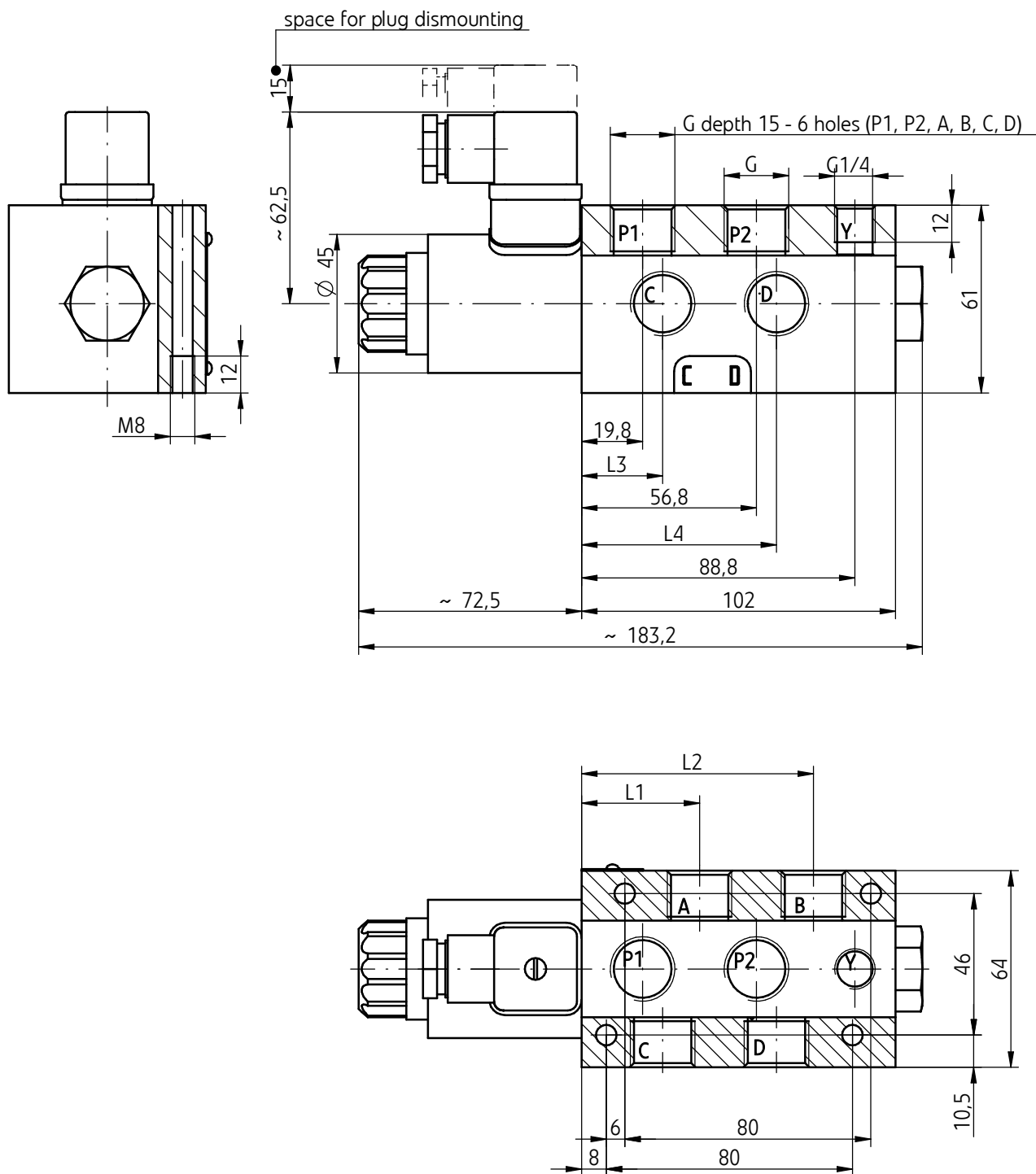
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valve version	R	L1	L2	L3
6/2UREM6 -...2...	113	M8x160-10.9	174,5	~183
6/2UREM6 -...3...	177	M8x225-10.9	174,5	~183
6/2UREM6 -...4...	241	M8x290-10.9	174,5	~183
6/2UREM6 -...5...	305	M8x350-10,9	174,5	~183
6/2URMM6 -...2...	113	M8x160-10.9	151	~169
6/2URMM6 -...3...	177	M8x225-10.9	151	~169
6/2URMM6 -...4...	241	M8x290-10.9	151	~169
6/2URMM6 -...5...	305	M8x350-10,9	151	~169

1 - Sealing ring **kantseal 25,12 x 1,68** - szt. 2 x (n - 2)
2 - Sealing ring **kantseal 17,17 x 1,68** - szt. (n - 1)
n - Number of sections

OVERALL AND CONNECTION DIMENSIONS

type 6/2 UREM6... - version 6/2UREM6.../...W... - dimensions of single directional valve

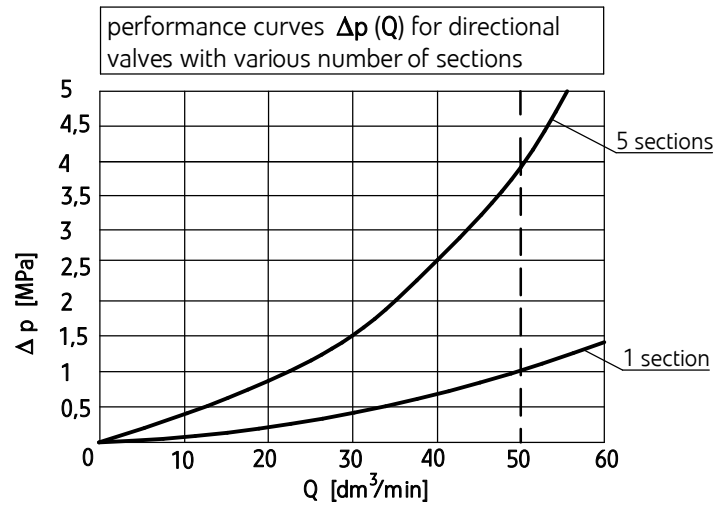


valve version	G	L1	L2	L3	L4
6/2UREM6.../...WG1...	G3/8	40,3	77,3	24,3	61,3
6/2UREM6.../...WG2...	G1/2	38,3	75,3	26,3	63,3

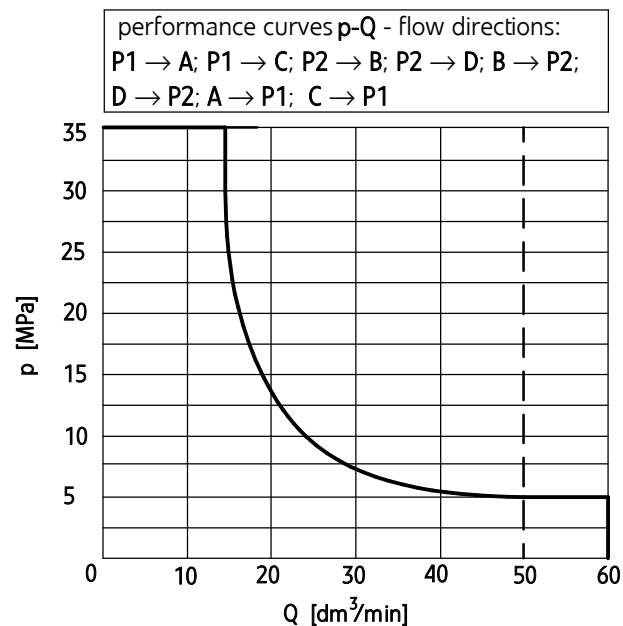
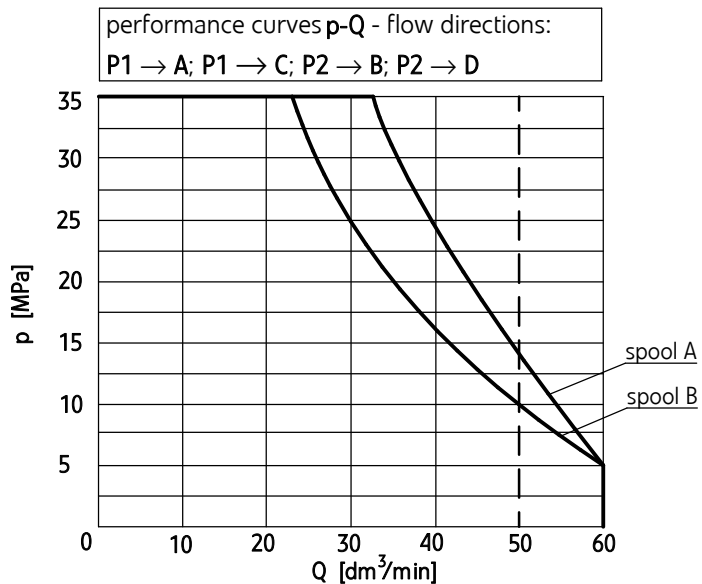
PERFORMANCE CURVES

measured at $v = 41 \text{ mm}^2/\text{s}$ and temperature $t = 50^\circ\text{C}$

Flow resistance curves for directional valves
type 6/2UREM6... and 6/2URMM6...



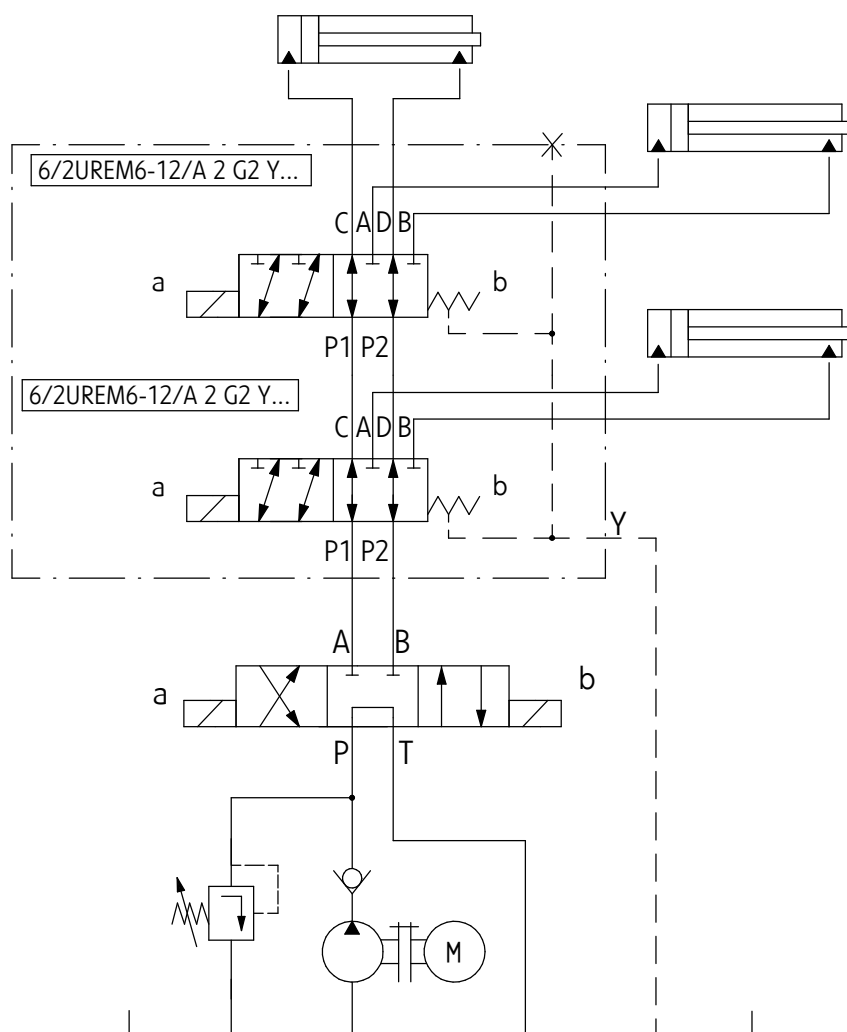
Operating limits curves for directional valves
type 6/2UREM6...



NOTE:

Above operating limits are related to symmetrical flow through supply and return channel.

EXAMPLE OF APPLICATION IN A HYDRAULIC SYSTEM



HOW TO ORDER

6/2		6	+	/	+					
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Number of ways and spool positions
6-way / 2-position = 6/2

Type of control
solenoid operated = UREM
 hand-lever operated = URMM

Nominal size (NS)
NS6 = 6

Series number
 (10-19) - connection and installation dimensions unchanged = 1X
series 12 = 12

Spool diagrams
 diagram A = A
diagram B = B
 diagram C = C
 diagram D = D

Total number of sections
 (1, 2, 3, ..., n,...max 5) directional valve n-sectional - see pages 5 to 9 = n
one section of sectional directional valve (exists for Y version only)
 see pages 5 to 8 = 0
 single directional valve (exists for UREM type only) - see page 10 = W

Type of connection
 BSP threads G 3/8 acc. to DIN 3852 (P1, P2, A, B, C, D) = G1
BSP threads G 1/2 acc. to DIN 3852 (P1, P2, A, B, C, D) = G2

Type of outlet (drain)
 without drain port (does not exist for version ...0...) = no designation
with drain port = Y

Spool positioning
with return spring = no designation
 without return spring = 0
 without return spring and with detent = OF

Supply voltage of solenoids (does not concern URMM)
 12V DC = G12
24V DC = G24

Manual override (does not concern URMM)
 solenoid without manual override = no designation
solenoid with manual override = N

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Further requirements in clear text (to be agreed with manufacturer)

Type of sealing

NBR

= no designation

FKM

= V

Type of electric connector (does not concern type URMM)

plug-in-connector type ISO 4400 (DIN 43650-A) **without LED**

= **Z4**

plug-in-connector type ISO 4400 (DIN 43650-A) type with LED

= Z4L

NOTES:

Directional valve should be ordered according to the above coding.

The symbols in bold are preferred versions in short delivery time.

Coding example: 6/2UREM6-12/B 0 G2 Y G24 N Z4

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