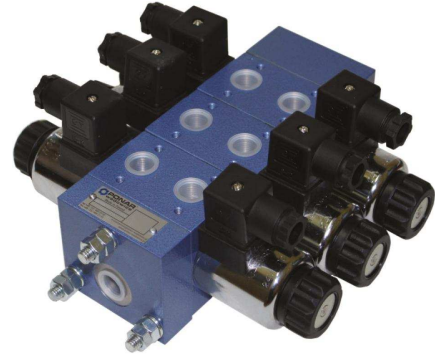


DATA SHEET - OPERATION MANUAL

APPLICATION

Electrically operated 4-way sectional directional control valve type 4/3UREM... is intended for changing hydraulic fluid flow in a hydraulic system, which enables change of direction of the receiver's movement, usually the cylinder piston rod or a hydraulic motor, and performance of modes: *start / stop*.

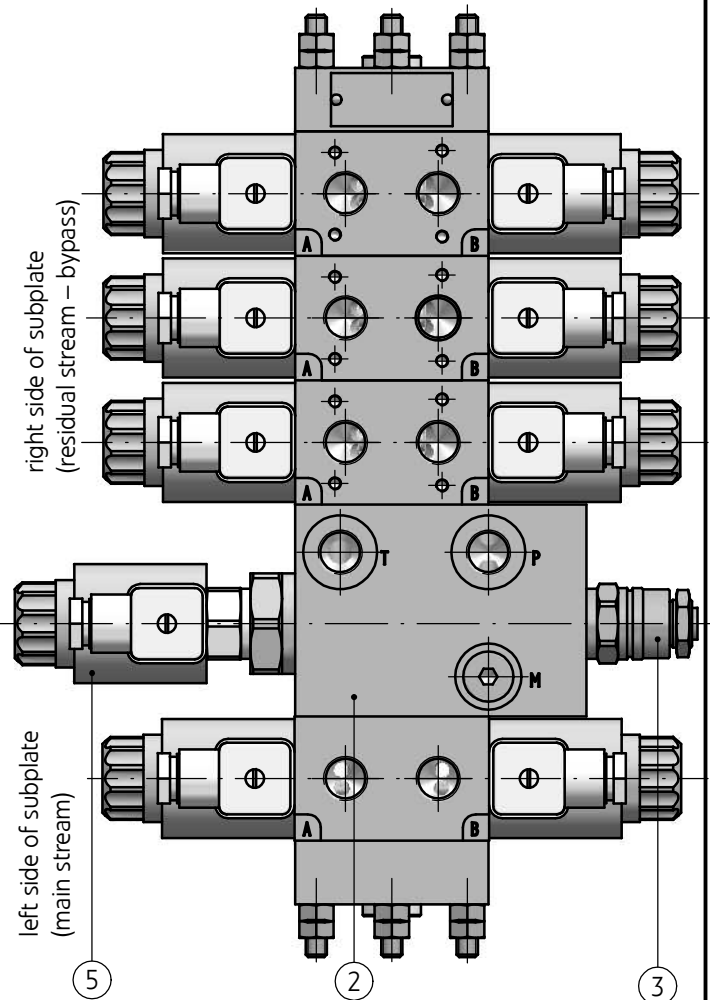
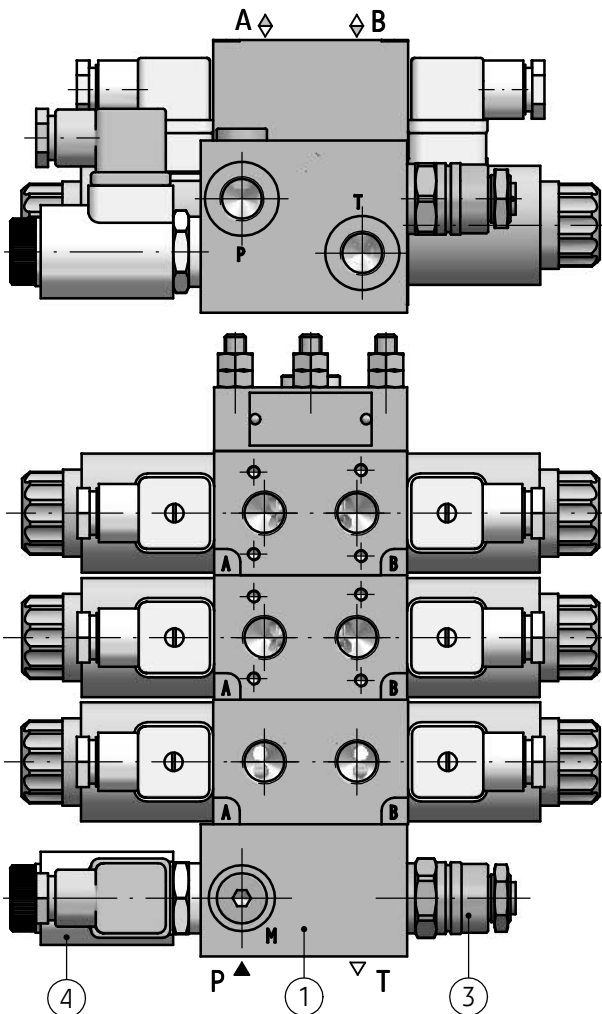
It is designated for layer mounting in a block, in any position in a hydraulic system, it is intended for mobile applications.



DESCRIPTION OF OPERATION

4/3UREM6 -12/PR315A1G24Z4 + ZRJG24NZ4 + REG24NZ4 + REG24NZ4 + TT1 + SRB3

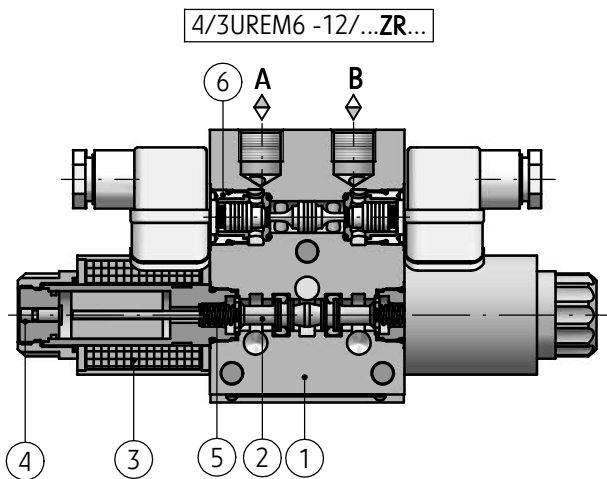
4/3UREM6 -12/ Z1 + ZRJG24NZ4 + PQE20 - 50A + REG24NZ4 + REG24NZ4 + REG24NZ4 + TT1 + SRB1 + SRB3



4-way sectional directional control valve type 4/3UREM6... is mounted in layer system in block assembled with max. 8 sections on one side of the inlet port. Port P and T can be located in the inlet cover (1), which can be equipped with a relief valve (3) or a relief

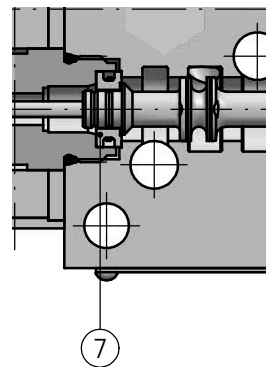
valve (3) and unloading directional valve (4). Ports P and T can be also located in the inlet, middle plate (2) equipped with a relief valve (3) and 3-way flow regulator (5) electrically, proportionally operated (or manually adjusted).

DESCRIPTION OF OPERATION

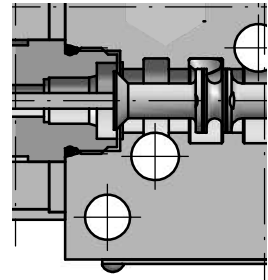


Each of the sections of the valve is available in a version allowing for transmission of voltage from the previous to the next section by a parallel connection of channels (versions **R...**; **ZR...**), or serial (version **S...**). Each of the sections has ports **A** and **B** for connection of receiver (for example: hydraulic cylinder). Single section of directional valve electromagnetically operated consists of body (1), spool (2), solenoid (3), with manual override button (4) and reverse spring (5). In case of lack of power supply, shift of spool can be made by manual override button (4). Additionally single section in **ZR...**

4/3UREM6 -12/...R...OF...



4/3UREM6 -12/...R...O...



version has mount controlled, reverse, twin valve i.e. hydraulic lock (6), which enables stream cutting at flow in one direction and free flow opening in opposite direction. Loss of pressure in port **A** or **B** causes stream cutting in both ports. In version **R...OF...** (without springs and with latch) spool position (2) is determined and supported by means of latch (7). Change of position is made by giving of current impulse on one of two solenoids. In version **R..O...** (without springs and without latch) spool position (2) determines and support currently supplied solenoid.

TECHNICAL DATA

Hydraulic fluid	mineral oil	
Required fluid cleanliness class	ISO 4406; class 20/18/15	
Nominal fluid viscosity	37 mm ² /s at temperature 55°C	
Viscosity range	2,8 up to 380 mm ² /s	
Fluid temperature range (in a tank)	recommended	40°C up to 55°C
	max	-20°C up to +70°C
Ambient temperature range	- 20°C up to +50°C	
Maximum working pressure	versions: 4/3UREM6.../...R...; .../...ZR...	35 MPa
	version 4/3UREM6.../...S...	21 MPa
Maximum setting number	15000 swtch./h	
Nominal voltage of solenoids	12V DC, 24V DC	
Supply voltage tolerance	±10%	
Power (DC)	30 W	
Degree of protection	IP 65	
Solenoid coil temperature	max 150 °C	

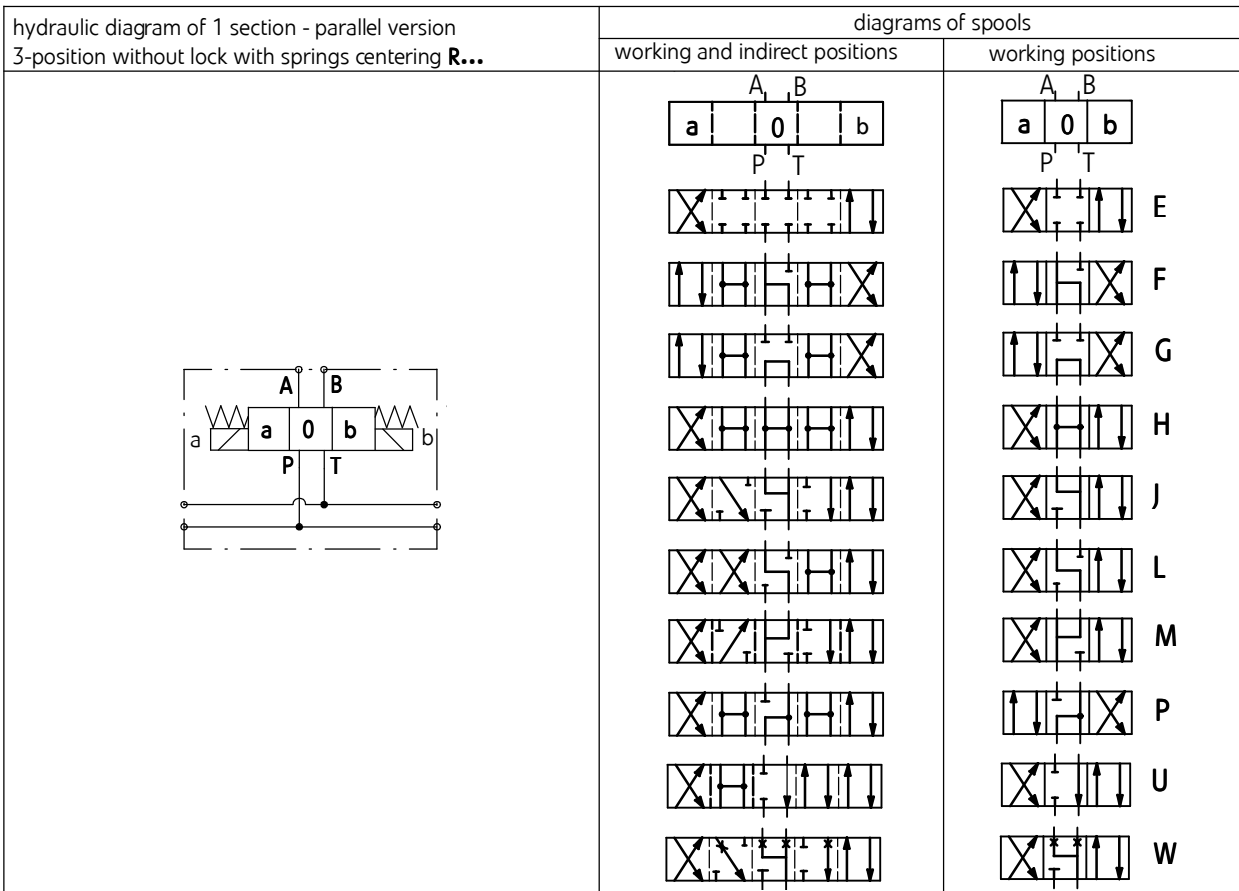
INSTALLATION AND OPERATION REQUIREMENTS

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. 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. 2. During the period of operation must be kept fluid viscosity acc. to requirements defined in this Data Sheet - Operation Manual 3. 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 4. Due to heating of electromagnet solenoid coils to high temp., the valve shall be placed in such way to | <p style="margin-left: 20px;">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 982</p> <ol style="list-style-type: none"> 5. 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. 6. In order to ensure tightness of the directional valve block, one should take care of dimension of sealing rings and valve operation parameters given in this Data Sheet - Operation Manual 7. A person that operates the valve must be thoroughly familiar with this Data Sheet - Operation Manual. |
|---|---|

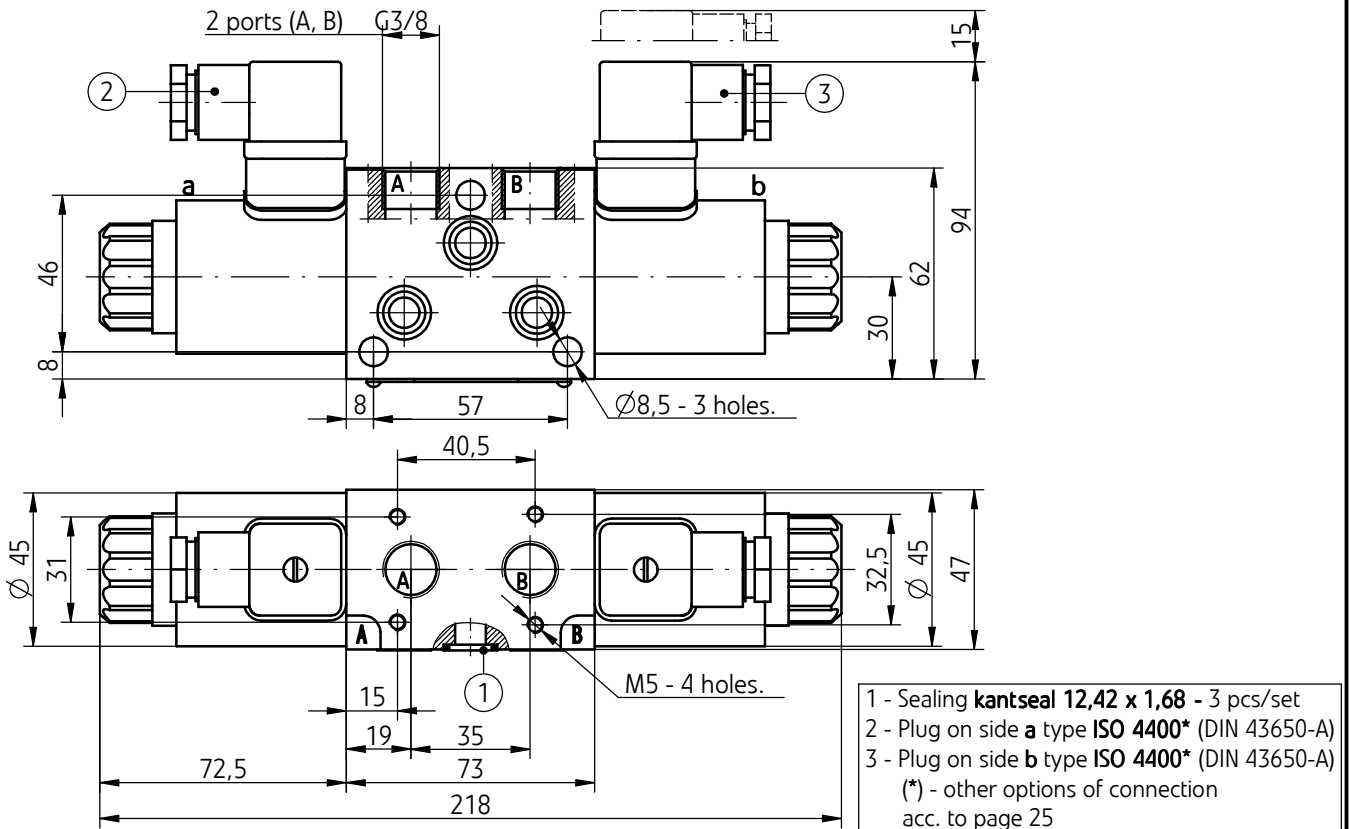
OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 3-position version without hydraulic lock with springs centering R...

hydraulic diagram of 1 section and diagrams of spools



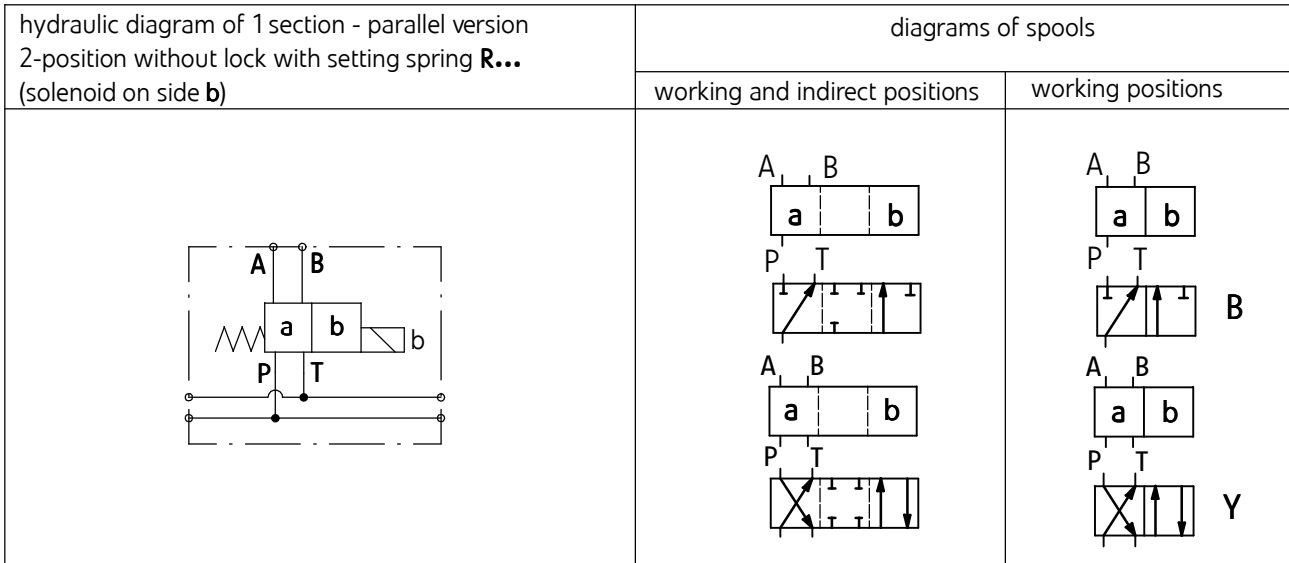
overall and connection dimensions of 1 section



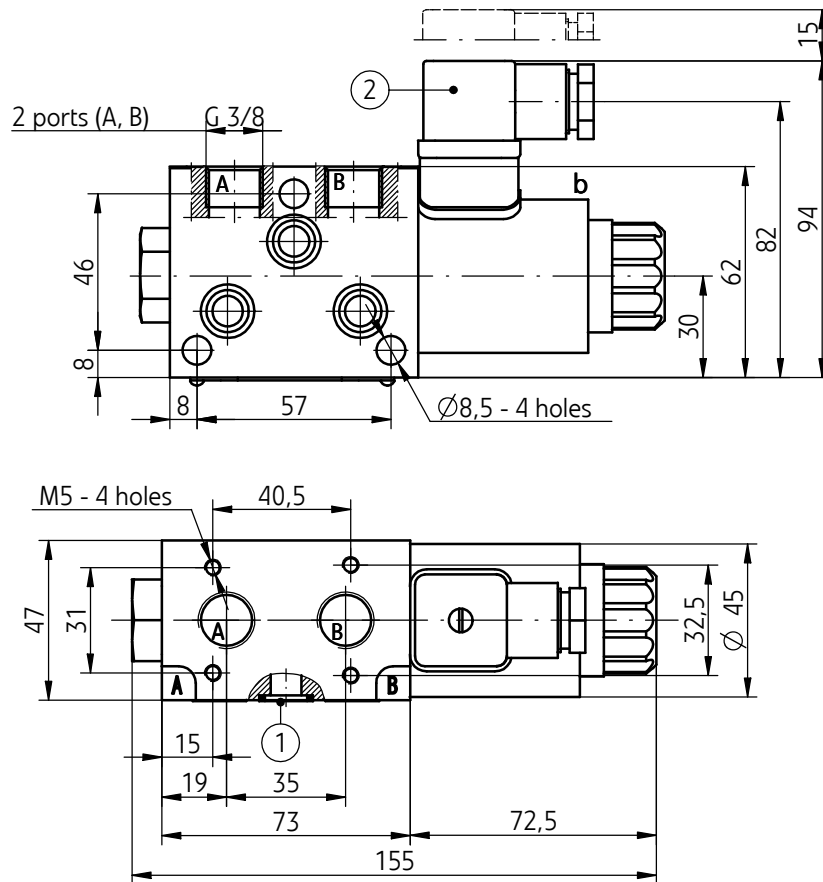
OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 2-position version without hydraulic lock with spring setting R...

hydraulic diagram of 1 section and diagrams of spools



overall and connection dimensions of 1 section

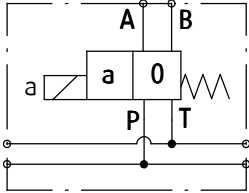
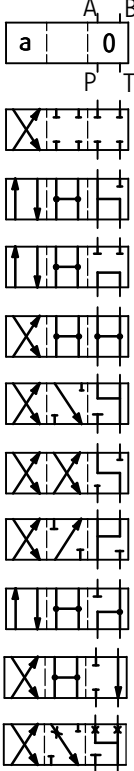
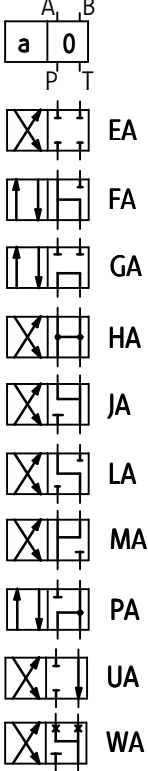
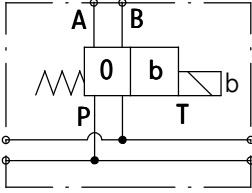
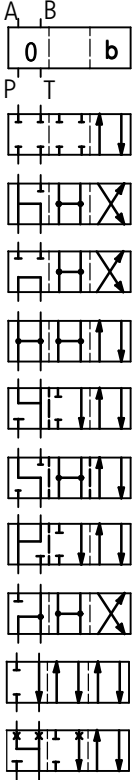
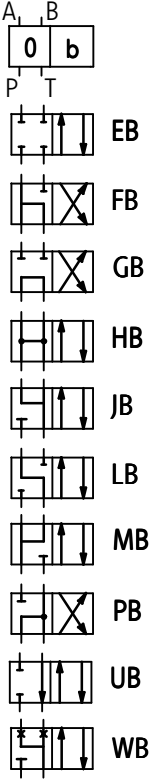


- 1 - Sealing kantseal 12,42 x 1,68 - 3 pcs/set
- 2 - Plug on side b - type ISO 4400* (DIN 43650 - A)
- (*) - other options of connection - acc. to page 25

OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 2-position version without hydraulic lock
with centered springs R...A...; R...B...

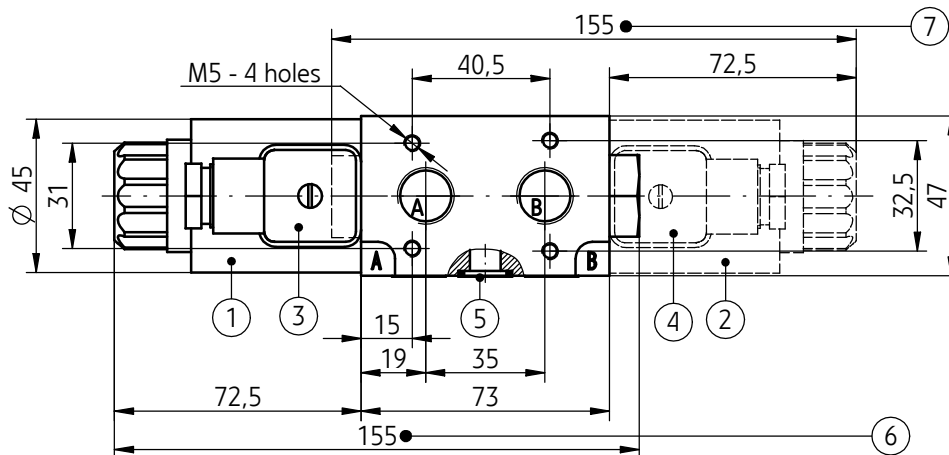
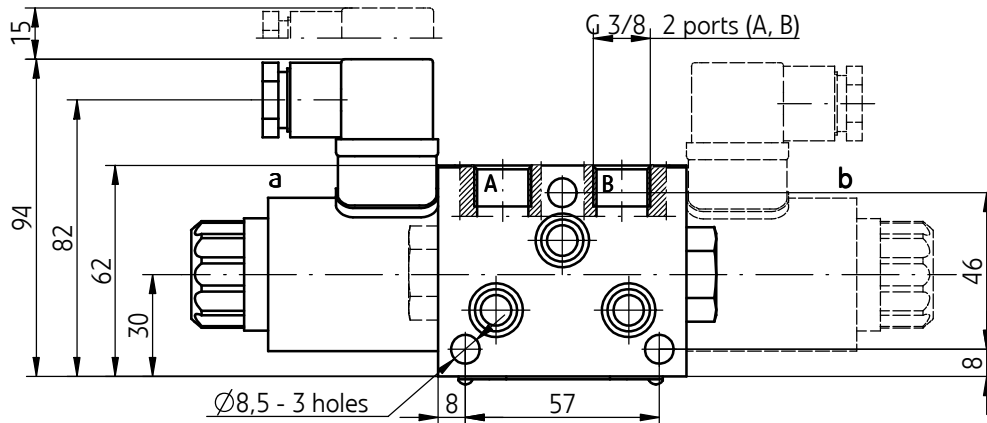
hydraulic diagram of 1 section and diagrams of spools

hydraulic diagram of one section - parallel version 2-position without lock with setting spring: R...A...; R...B...	diagrams of spools	
	working and indirect positions	working positions
<p>version R...A... (solenoid on side a)</p> 		
<p>version R...B... (solenoid on side b)</p> 		

OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 2-position version without hydraulic lock
with spring setting R...A...; R...B...

overall and connection dimensions of 1 section



- 1 - Solenoid on side a
- 2 - Solenoid on side b
- 3 - Plug on side a - type ISO 4400* (DIN 43650 - A)
- 4 - Plug on side b - type ISO 4400* (DIN 43650 - A)
- 5 - Sealing kantseal 12,42 x 1,68 - 3 pcs/set
- 6 - Overall dimension of 2-position section
version R...A... (with 1 solenoid - on side a;
spool diagrams: EA, FA, GA, HA, JA, LA, MA, PA,
UA, WA - acc. to page 7)
- 7 - Overall dimension of 2-position section
version R...B... (with 1 solenoid - on side b;
spool diagrams: EB, FB, GB, HB, JB, LB, MB, PB,
UB, WB - acc. to page 7)
- (*) - other options of connection - acc. to page 25

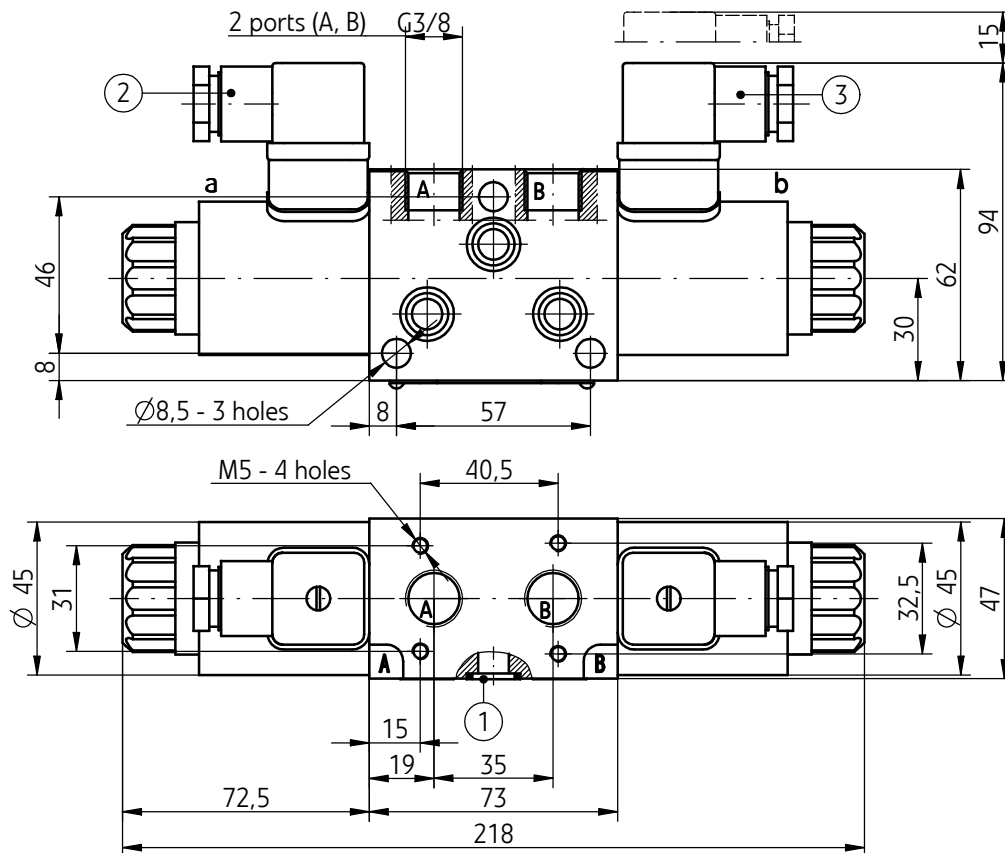
OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 2-position version without hydraulic lock
without springs R...O...; without springs with detent R...OF...

hydraulic diagram of 1 section and diagrams of spools

hydraulic diagram of 1 section - parallel versions 2-position without lock without springs: R...O...; R...OF...	diagrams of spools	
	working and indirect positions	working positions
version without springs R...O... 		
version without springs, with detent R...OF... 		

overall and connection dimensions of 1 section

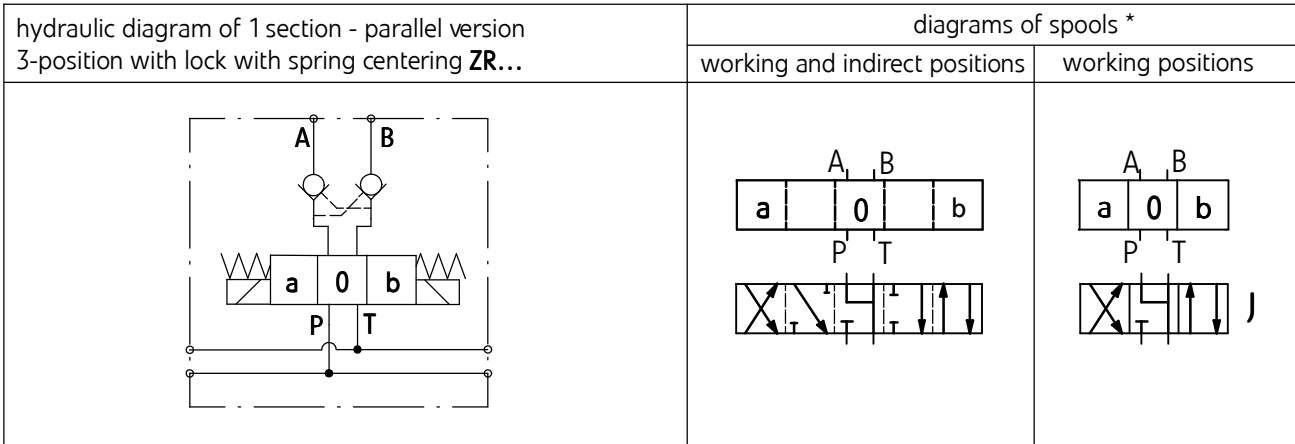


- 1 - Sealing kantseal 12,42 x 1,68 - 3 pcs/set
- 2 - Plug on side a - type ISO 4400* (DIN 43650-A)
- 3 - Plug on side b - type ISO 4400* (DIN 43650-A)
- (*) - other options of connection - acc. to page 25

OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - parallel, 3-position version with hydraulic lock with spring centering ZR...

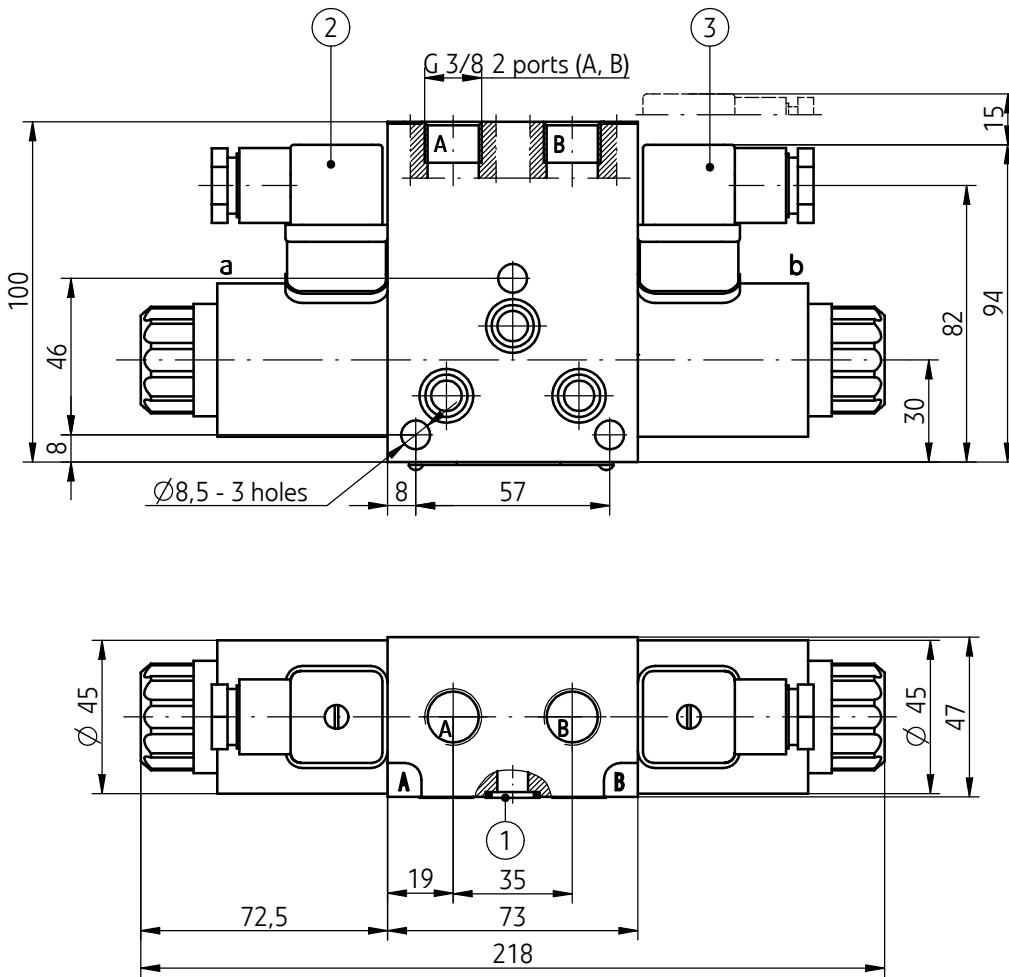
hydraulic diagram of 1 section and diagrams of spools *



NOTE:

(*) - spool application advised - diagram J; other diagrams of spools require individual analysis.

overall and connection dimensions of 1 section

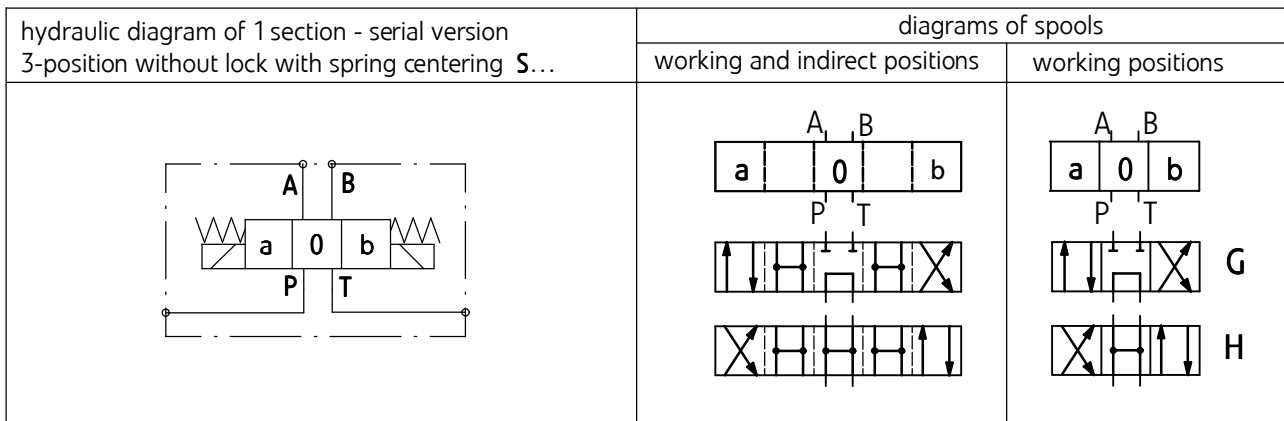


- 1 - Sealing kantseal 12,42 x 1,68 - 3pcs/set
- 2 - Plug on side a - type ISO 4400* (DIN 43650-A)
- 3 - Plug on side b - type ISO 4400* (DIN 43650-A)
- (*) - other options of connection - acc. to page 25

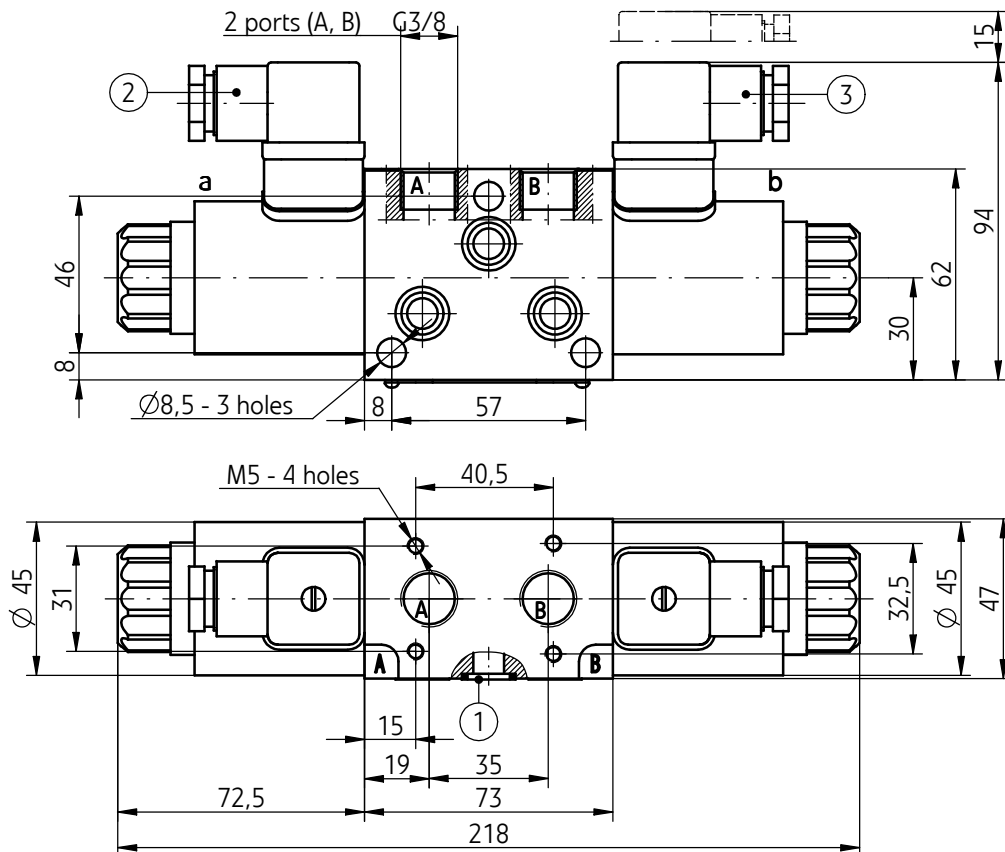
OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - serial, 3-position version without hydraulic lock with spring centering S...

hydraulic diagram of 1 section and diagrams of spools



overall and connection dimensions of 1 section



- 1 - Sealing kantseal 12,42 x 1,68 - 3pcs/set
- 2 - Plug on side a - type ISO 4400* (DIN 43650-A)
- 3 - Plug on side b - type ISO 4400* (DIN 43650-A)
- (*) - other options of connection - acc. to page 25

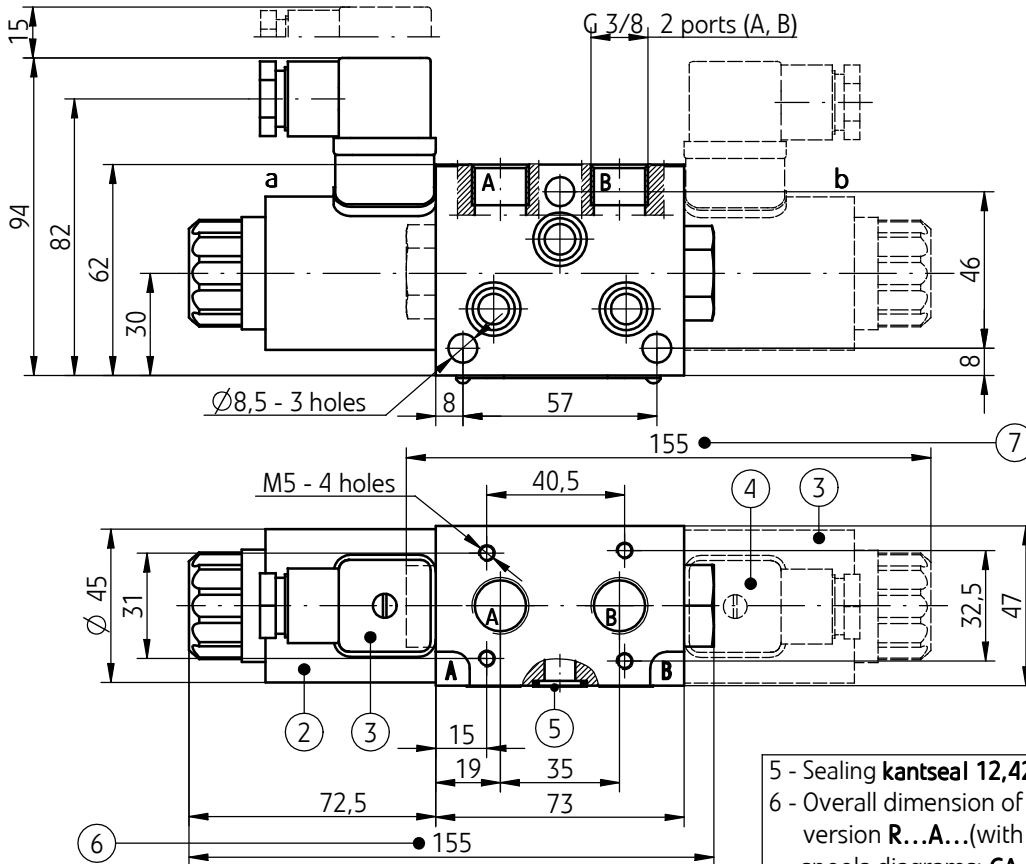
OVERALL AND CONNECTION DIMENSIONS, WORKING SECTIONS DIAGRAMS

single working section - serial versions 2-position without hydraulic lock
with spring setting R...A...; R...B...

hydraulic diagram of 1 section

hydraulic diagram of 1 section - serial versions 2-position without lock with spring setting: R...A...; R...B...	diagrams of spools	
	working and indirect positions	working positions
version R...A... (solenoid on side a) 		
version R...B... (solenoid on side b) 		

overall and connection dimensions of 1 section



- 1 - Solenoid on side a
- 2 - Solenoid on side b
- 3 - Plug on side a - type ISO 4400* (DIN 43650 - A)
- 4 - Plug on side b - type ISO 4400* (DIN 43650 - A)

- 5 - Sealing kantseal 12,42 x 1,68 -3 pcs/set
- 6 - Overall dimension of 2-position section
version R...A... (with 1 solenoid - on side a;
spools diagrams: GA, HA - acc. to page 7)
- 7 - Overall dimension of 2-position section
version R...B... (with 1 solenoid - on side b;
spools diagrams: GB, HB - acc. to page 7)
- (*) - other options of connection - acc. to page 25

CODING OF SINGLE WORKING SECTIONS

(coding element for order of a complete directional valve
acc. to page 32, 33 or a set of subassemblies for mounting acc. to 34, 35)

						N	
--	--	--	--	--	--	----------	--

Type of working section without lock, parallel connection = R with lock, parallel connection (only with spool J) = ZR without lock, serial connection (only with spools: G or H; option not available with selected of directional valve version with inlet middle plate - options POE...; PQR... - acc. to page 26) = S							
Spool system spools diagrams - acc. to version of working section - acc. to page 4 to 12							
Setting of spool position by means of reverse springs = no designation without reverse springs = 0 without reverse springs with a latch = OF							
Type of connections of the receiver (A, B acc. to page 4 to 12) threaded ports G 3/8 = no designation							
Solenoids voltage 12V DC = G12 24V DC = G24							
Manual override solenoids with a manual override button = N							
Electrical connection plug-in-connector type ISO 4400 (DIN 4400 - A) without LED = Z4 plug-in-connector type ISO 4400 (DIN 43650 - A) with LED = Z4L without plug, connection type AMP Junior Timer = J without plug, connection type Deutsch (only for version G24) = D							

NOTES:

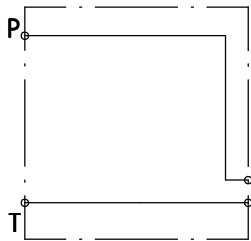
The symbols in bold indicate versions available in short delivery time.

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF INLET COVERS

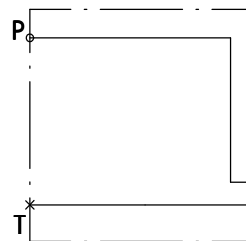
inlet covers - left side

inlet cover without pressure setting - version T...

hydraulic diagram

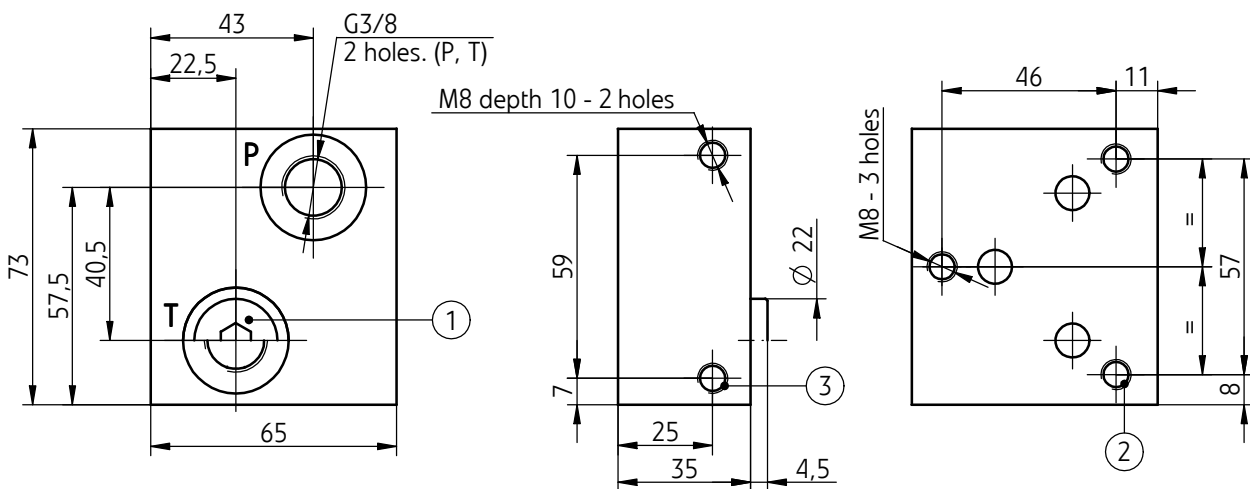


option T



option T1

overall and connection dimensions



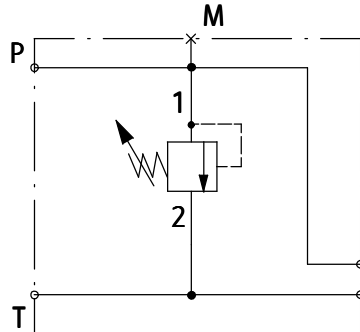
- 1 - Options of channel T in inlet cover:
- plugged (option of cover T) - **plug G 3/8 (S 6)** - (applied in directional valves with **parallel connection of working sections**)
 - open (option of cover T1) - **threaded port G 3/8** (applied in directional valves with **a serial connection of working sections**)
- 2 - Holes for mounting of two-sided screws for fixing working sections
- 3 - Holes for directional valve mounting

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF INLET COVERS

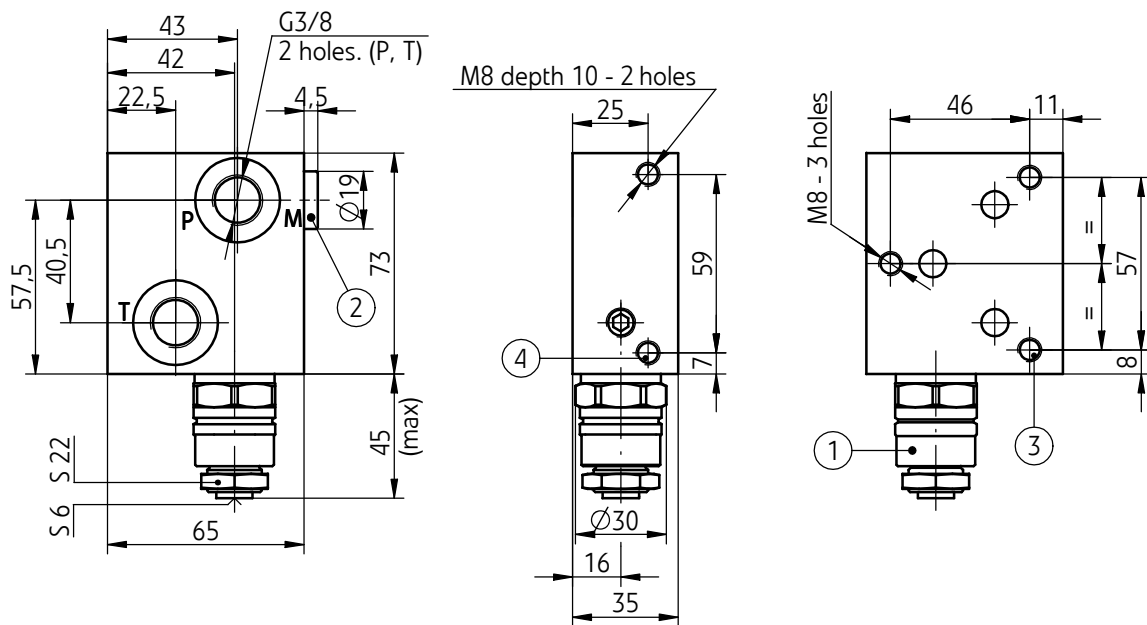
inlet covers - left side

inlet cover without pressure setting - version P...

hydraulic diagram



overall and connection dimensions



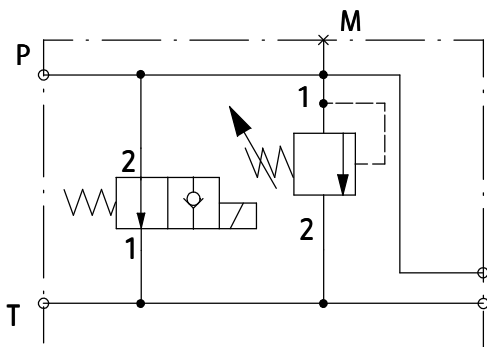
- 1 - Relief valve
- 2 - Manometer connection - **plug G 3/8 (S 6)**
- 3 - Holes for mounting of two-sided screws for fixing working sections
- 4 - Holes for mounting a directional valve

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF INLET COVERS

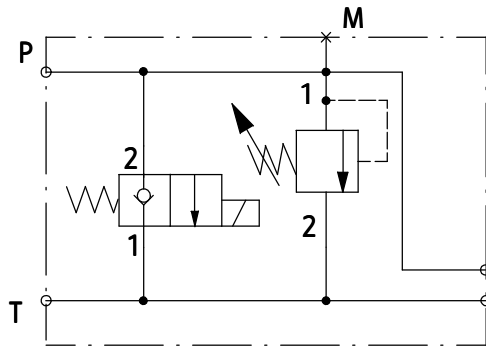
inlet covers - left side

inlet cover without a pressure setting
and pump relief - version PR...

hydraulic diagram

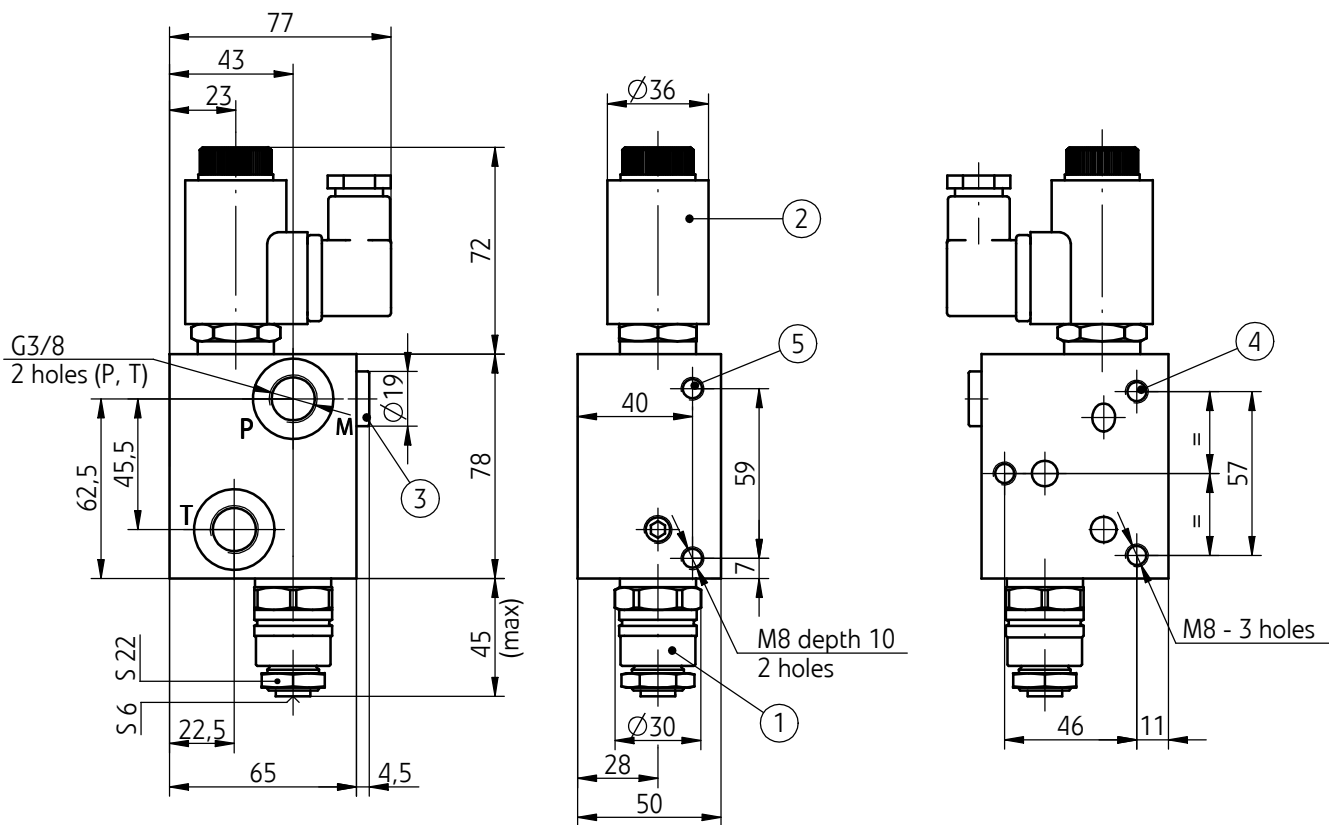


option PR...A1...



option PR...A2...

overall and connection dimensions



- 1 - Relief valve
- 2 - Unloading directional valve (options ...A1...; ...A2...)
- 3 - Manometer connection - plug G 3/8 (S 6)
- 4 - Holes for mounting two-sided screws for fixing working sections
- 5 - Holes for directional valve mounting

CODING OF INLET COVERS

(coding element for order of a complete directional valve
acc. to page 32, 33 or subassemblies for mounting acc. to 34, 35)

inlet cover - left side without pressure regulation

T	
----------	--

Type of inlet cover inlet cover without pressure regulation	= T
---	------------

Port T in cover open	= no designation
plugged - only for directional valves with serial system of connections of working sections (version S...)	= 1

inlet cover - left side with a pressure regulation

P	
----------	--

Type of inlet cover inlet cover with a pressure regulation	= P
--	------------

Pressure range up to 10 MPa	= 100
up to 20 MPa	= 200
up to 31,5 MPa *	= 315
(*) - option not available for directional valves with a serial system of connections of working sections - version S...	

inlet cover - left side with a pressure regulation and a pump relief

PR				
-----------	--	--	--	--

Type of inlet cover inlet cover with a pressure regulation and a pump relief	= PR
---	-------------

Pressure range up to 10 MPa	= 100
up to 20 MPa	= 200
up to 31,5 MPa	= 315

Type of relief directional valve normally opened	= A1
normally closed	= A2

Supply voltage for solenoids of the unloading valve 12V DC	= G12
24V DC	= G24

Type of electric connection of the unloading valve plug-in-connector type ISO 4400 (DIN 43650-A) without LED	= Z4
plug-in-connector type ISO 4400 (DIN 43650-A) with LED	= Z4L

NOTES:

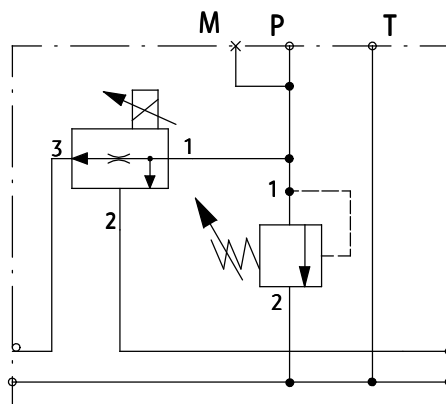
The symbols in bold indicate versions available in short delivery time.

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF INLET PLATES

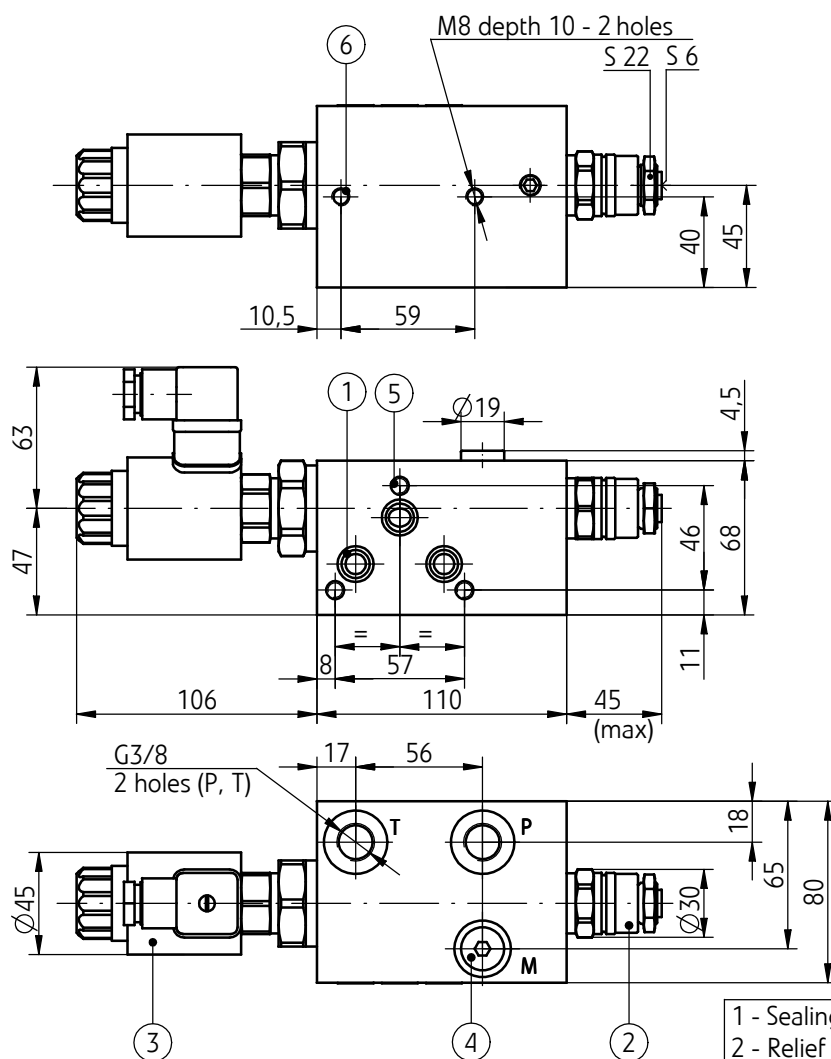
inlet middle plates with a stream division

inlet middle plate with a stream division and with a pressure setting and a flow regulation with an electric proportional setting - version PQE...

hydraulic diagram



overall and connection dimensions



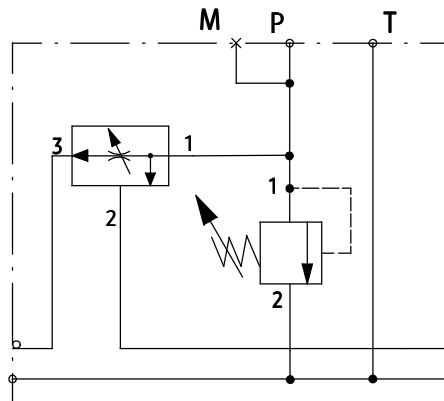
- 1 - Sealing kantseal 12,42 x 1,68 - 3 pcs/set
- 2 - Relief valve
- 3 - Unloading directional valve
- 4 - Manometer connection - plug G 3/8 (S 6)
- 5 - Holes for mounting two-sided screws for fixing working sections
- 6 - Holes for directional valve mounting

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF INLET PLATES

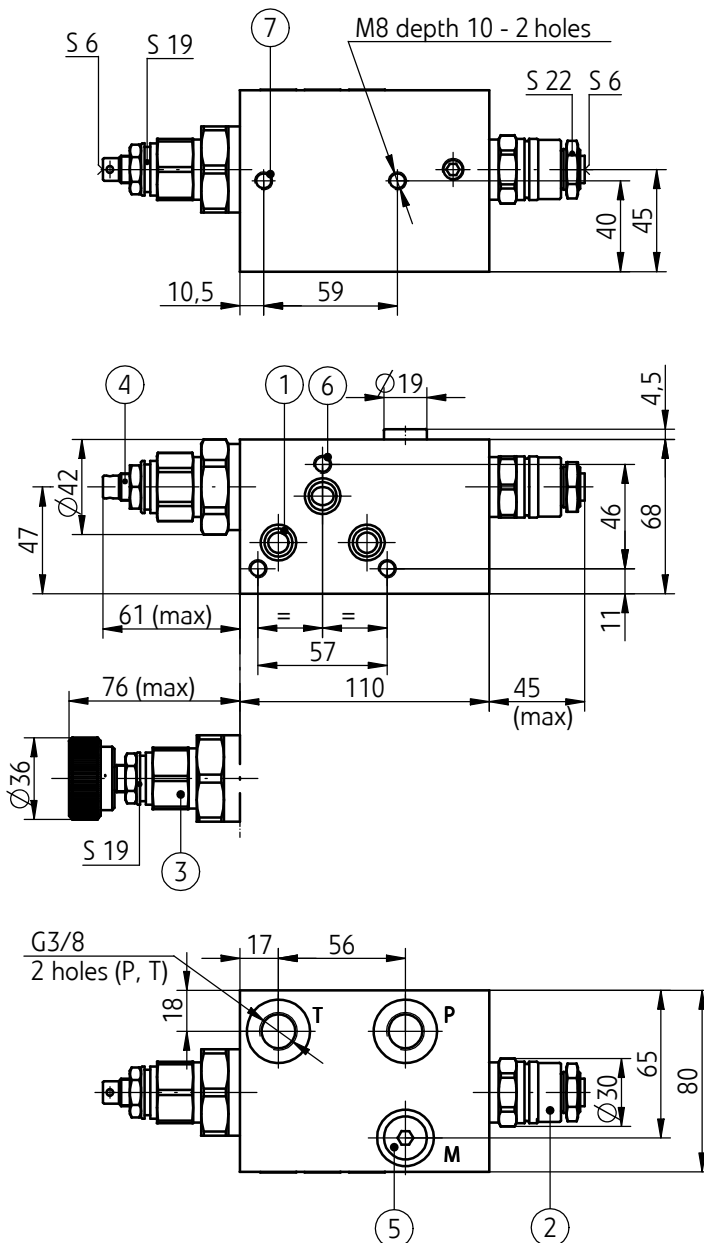
inlet middle plates with a stream division

inlet middle plate with a stream division and with a pressure setting and a flow regulation with manual setting - version PQR...

hydraulic diagram



overall and connection dimensions



- 1 - Sealing kantseal 12,42 x 1,68 - 3pcs/set
- 2 - Relief valve
- 3 - Adjustment 1 (handknob)
- 4 - Adjustment 2 (set screw with hexagon socket S 6)
- 5 - Manometer connection - plug G 3/8 (S 6)
- 6 - Holes for mounting two-sided screws for fixing working sections
- 7 - Holes for directional valve mounting

CODING OF INLET COVERS

(coding elements for order of a complete directional valve
acc. to page 32, 33 or subassemblies for mounting acc. to page 34, 35)

inlet middle plate with a stream division and with a pressure setting and flow regulation with electric proportional setting - version PQE...

		PQE	+		A
Type of inlet middle plate inlet middle plate with a stream division and with a pressure setting and a flow regulation with electric proportional setting = PQE					
Pressure range up to 10 MPa = 100 up to 20 MPa = 200					
Flow range up to 25 dm ³ /min = 25 up to 50 dm ³ /min = 50					
Way of flow regulation electrically up to 1,5 A (5,4 Ω at temperature 20 °C) = A					

inlet middle plate with a stream division and with a pressure setting and a flow regulation with a manual setting - version PQR...

		PQR	+	+	
Type of inlet middle plate inlet middle plate with a stream division and with a pressure setting and a flow regulation with a manual setting = PQE					
Pressure range up to 10 MPa = 100 up to 20 MPa = 200 up to 31,5 MPa = 315					
Flow range up to 25 dm ³ /min = 25 up to 50 dm ³ /min = 50					
Type of adjustment handknob = 1 set screw with hexagon socket = 2					

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF CLOSING COVERS

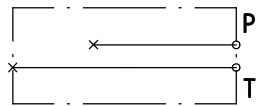
closing covers - left side/priority

closing cover - left side/priority stream

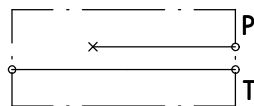
version Z...

(applied only for directional valves with stream division with inlet middle plate - options PQE...; PQR...)

hydraulic diagram

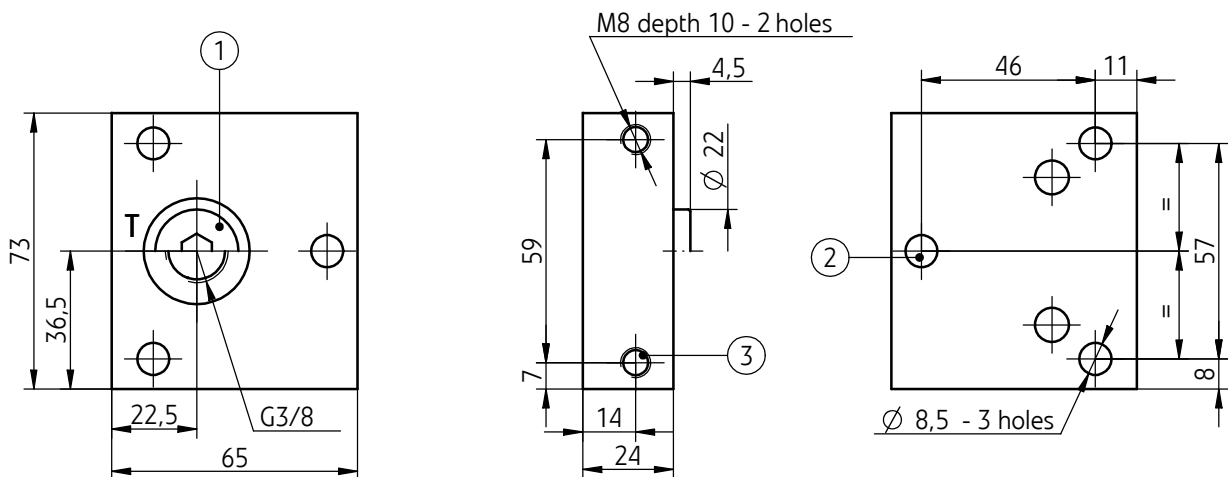


option Z1



option Z

overall and connection dimensions



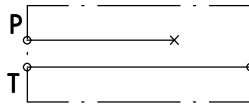
- 1 - Options of port T in the closing cover:
- plugged (option of cover Z1) - plug G 3/8 (S 6)
 - open (option of cover Z) - port G 3/8
- 2 - Holes for mounting of two-sided screws for fixing working sections
- 3 - Holes for directional valve mounting

OVERALL AND CONNECTION DIMENSIONS, DIAGRAMS OF CLOSING COVERS

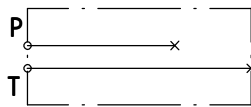
closing covers - right side/residual stream (bypass)

closing cover - right side/residual stream (bypass)
version TT...

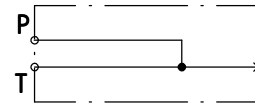
hydraulic diagram



option TT

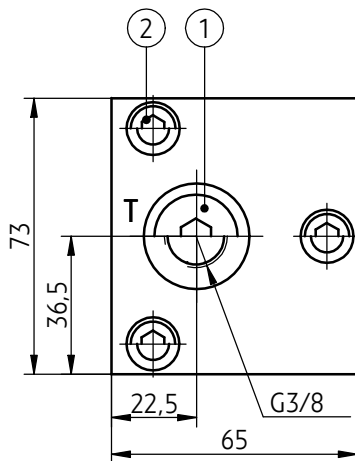


option TT1

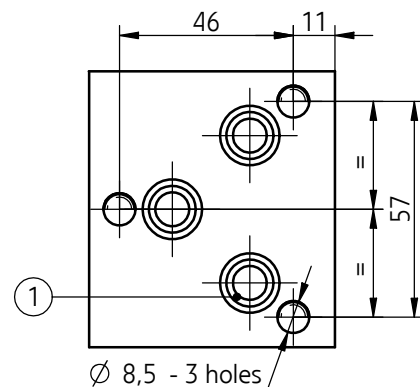
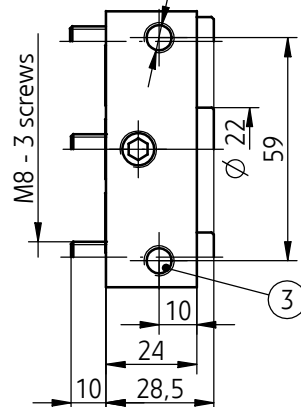


option TT2

overall and connection dimensions



M8 depth 10 - 2 holes



1 - Options of channel T in closing cover:

- open (option of cover - TT) - port G 3/8 - only for directional valves with serial system of connections of working sections - version S...
- plugged - plug G 3/8 (S 6) - for directional valves with a parallel system of connections of working sections versions: R...; ZR... (cover option - TT1)
- connected with channel P (cover option - TT2) - only for versions with inlet middle plate - options: PQE...; PQR... without bypass section

2 - Screw M8 x 30 - 3 pcs. - only for option TT2

3 - Holes for mounting of directional valve.

CODING OF CLOSING COVERS

left side/priority stream; right side/residual stream (bypass)

(coding elements for order of a complete directional valve
acc. to page 32, 33 or setting of subassemblies for mounting acc. to page 34, 35)

closing cover - left side/priority stream

(only for versions of directional valves with stream division
with inlet, middle plate - options PQE...; PQR...)



Type of cover	
closing cover - left side/priority stream	= Z

Channel T in the cover	
open	= no designation
plugged	= 1

closing cover - right side/residual stream (bypass)

- right side - for version of directional valves with a parallel system of connections and inlet covers - options T; P...; PR...
- side of residual stream (bypass) - for versions of directional valves with a parallel system of connections with division of stream with inlet middle plate - options PQE...; PQR...



Type of cover	
closing cover - right side/residual stream (bypass)	= TT

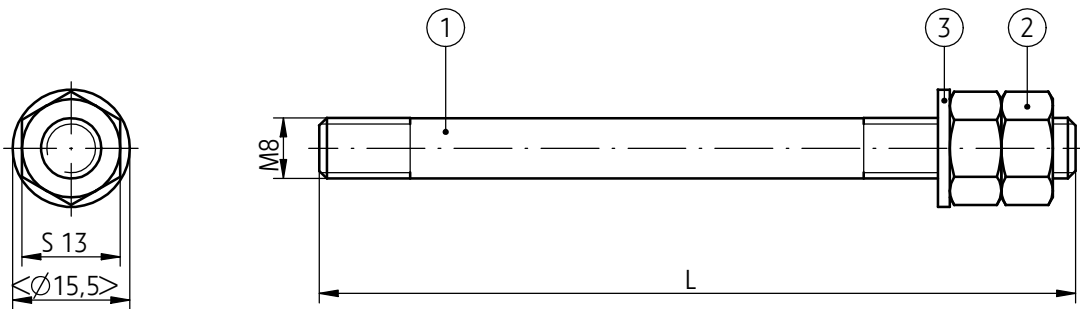
Channel T in cover	
open (only for directional valve with serial connection system of working sections - version S...)	= no designation
plugged (for directional valves with parallel connection system of working sections - options: R...; ZR... - with inlet cover - options: T; P...; PR... - with inlet middle cover - options PQE...; PQR... with stream division on both sides <u>for section on side of residual (bypass) stream</u>)	= 1
connected with channel P (only for directional valves with a parallel connection system of working sections - options: R...; ZR...; with inlet middle plate - options: PQE...; PQR... with stream division <u>without section on side of residual stream (bypass)</u>)	= 2

DIMENSIONS OF MOUNTING SCREWS

mounting screws from side of closing covers: **TT; TT1 - right side** (3 pcs/set)

mounting screws from side of closing cover **Z1 - left side** (3 pcs/set)

(only for version with inlet middle plate - options **PQE...; PQR...**)



Quantity of section for mounting n	thread x screw length L
1 working section	M8 x 100
2 working sections	M8 x 145
3 working sections	M8 x 195
4 working sections	M8 x 240
5 working sections	M8 x 285
6 working sections	M8 x 335
7 working sections	M8 x 380
8 working sections	M8 x 430

- 1 - Two-sided screw (pin) **M8 - 10,9**
- 2 - Nut **M8** acc. to **PN/M - 82144**;
tightening torque **Md = 28 ± 4 Nm**
- 3 - Washer **Zm 8,4** acc. to **PN/M - 82144**

CODING OF MOUNTING SCREWS

(coding element for order of a complete directional valve

acc. to page 32, 33 or set of subassemblies for mounting acc. to page 34, 35)

SRB

Type of mounting screw

two-sided, set screw

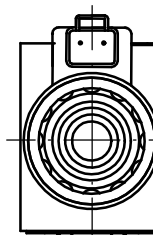
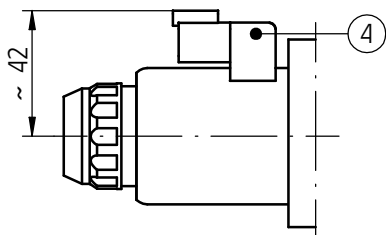
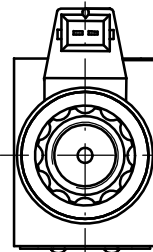
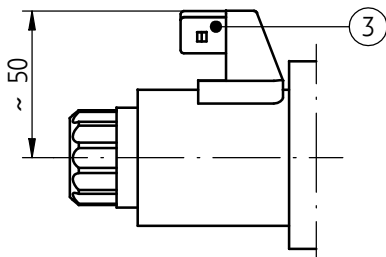
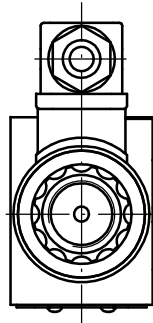
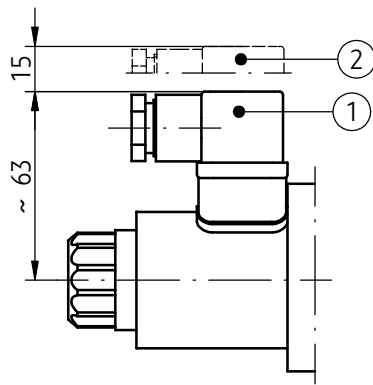
= SRB

Mounting screw (3 pcs/set)

Thread length L	number of sections for mounting	designation of n screw
M8 x 100	1 section	= 1
M8 x 145	2 sections	= 2
M8 x 195	3 sections	= 3
M8 x 240	4 sections	= 4
M8 x 285	5 sections	= 5
M8 x 335	6 sections	= 6
M8 x 380	7 sections	= 7
M8 x 430	8 sections	= 8

OVERALL DIMENSIONS OF ELECTRICAL CONNECTIONS

available options of electrical connection of solenoids
of directional valve sections



- 1 - Plug type **ISO 4400** (DIN 43650 - A)
- 2 - Distance for dismantling of plug from solenoid connector
- 3 - Port type **AMP Junior Timer male 2-pole**
(plugs not shown on the drawing, must be ordered separately acc. to Data Sheet **WK 499 963**)
- 4 - Port type **DEUTSCH DT04 - 2P**
(option only for solenoid version ...**G24**...;
plugs type **Deutsch DT06 - 2S** not shown on the drawing, must be ordered separately acc. Data Sheet **WK 499 963**)

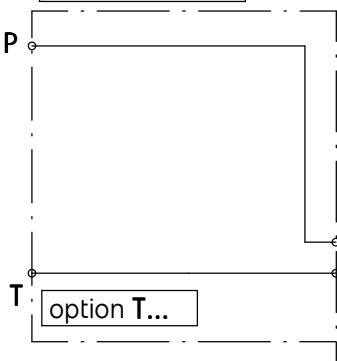
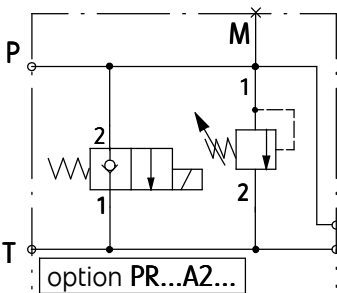
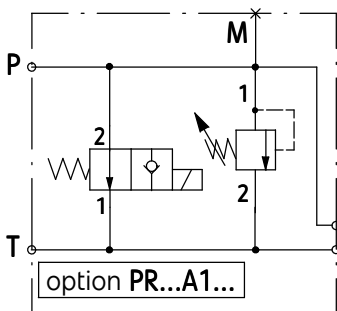
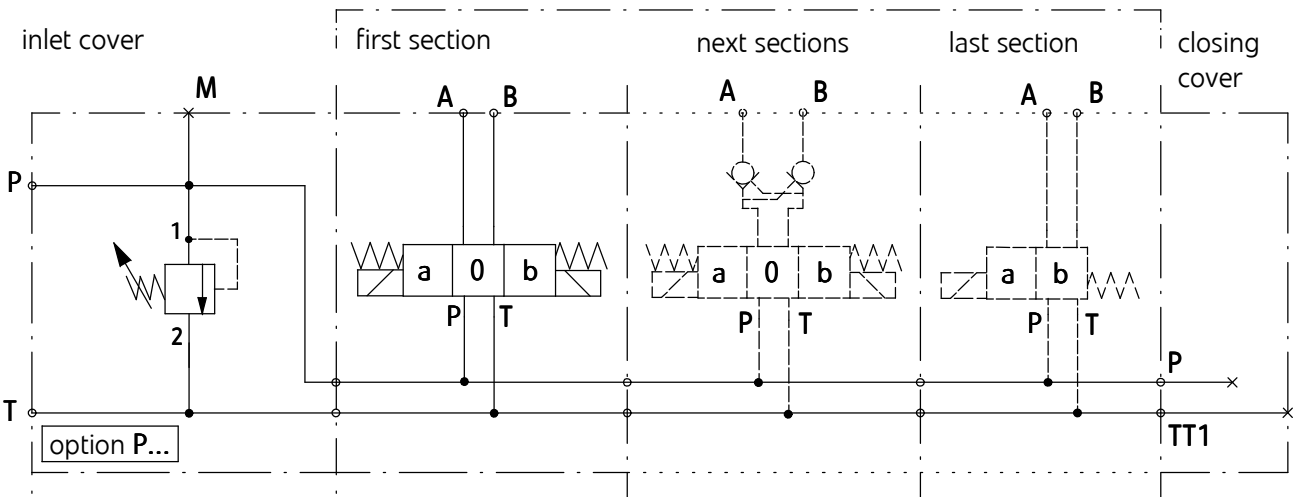
DIAGRAMS OF COMPLETE DIRECTIONAL VALVES

sectional directional valve type 4/3 UREM6... - version with a parallel connection of working sections and inlet cover - options: P...; PR...A1; PR...A2; T...

hydraulic diagrams of directional valve type 4/3 UREM6... with parallel connection of working section

- possibility of mounting in assembly of parallel sections 2 and 3-positions in versions: R...; R O...; R OF...; A R...; B R...; ZR...
- inlet cover - options: P...; PR...A1...; PR...A2...; T...
(inlet middle plate - options **PQE...**; **PQR...** - not available in this configuration of the directional valve)
- closing cover - option **TT1**

total number of sections - max 8



DIAGRAMS OF COMPLETE DIRECTIONAL VALVES

sectional directional valve 4/3 UREM6... - version with parallel connection of working sections and inlet plate - options: PQE...; PQR... with stream division on both sides of inlet plate (priority, bypass)

hydraulic diagrams of directional valve type 4/3 UREM6 ...with parallel connection of sections and stream division on both sides of inlet plate

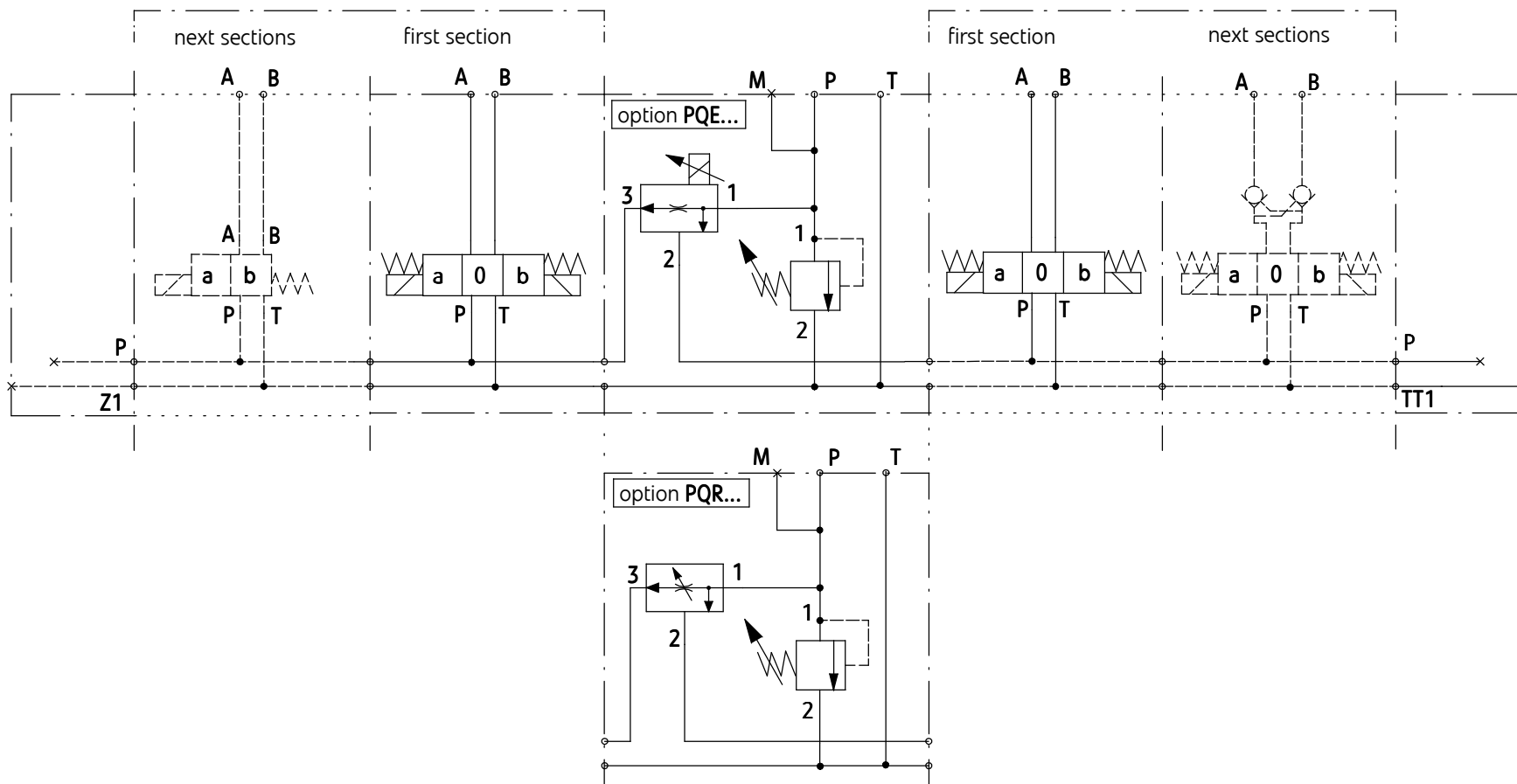
- possibility of mounting in assembly of working parallel sections 2 and 3- position in versions: R...; R O...; R OF...; A R...; B R...; ZR...
- inlet middle plate - options: PQE...; PQR (inlet cover - options: P...; PR...A1...; PR...A2...; T... - not available in this configuration of directional valve)
- closing cover: priority side - option Z1; bypass side - option TT1

closing cover side of priority stream
 working section - side of priority stream
 total number of sections - max 8

inlet plate

working section - side of residual stream
 total number of section - max 8

closing cover side of residual stream (bypass)

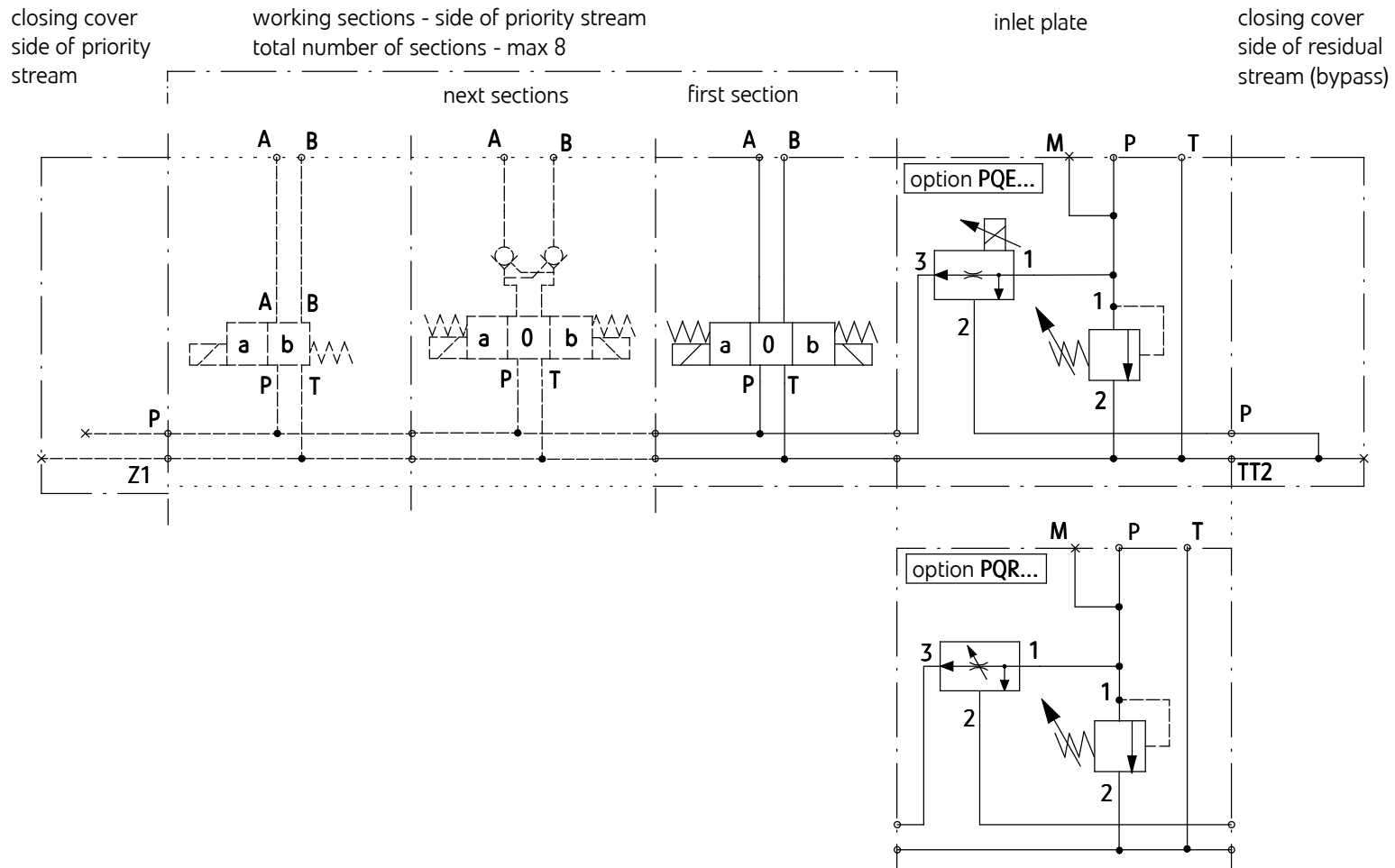


DIAGRAMS OF COMPLETE DIRECTIONAL VALVES

sectional directional valve 4/3 UREM6... - version with parallel connection of working sections and inlet plate - options: PQE...; PQR... with stream on one side of inlet plate (side of priority stream)

hydraulic diagrams of directional valve type 4/3 UREM6...with a parallel connection of working sections and stream on one side of inlet plate

- possibility of mounting in assembly of working parallel sections 2 and 3- position in versions: R...; R O...; R OF...; A R...; B R...; ZR...
- inlet plate - options: PQE...; PQR (inlet cover - options: P...; PR...A1...; PR...A2...; T... - not available in this configuration of directional valve)
- closing cover: side of priority stream - option Z1; side of residual stream (bypass) - option TT2



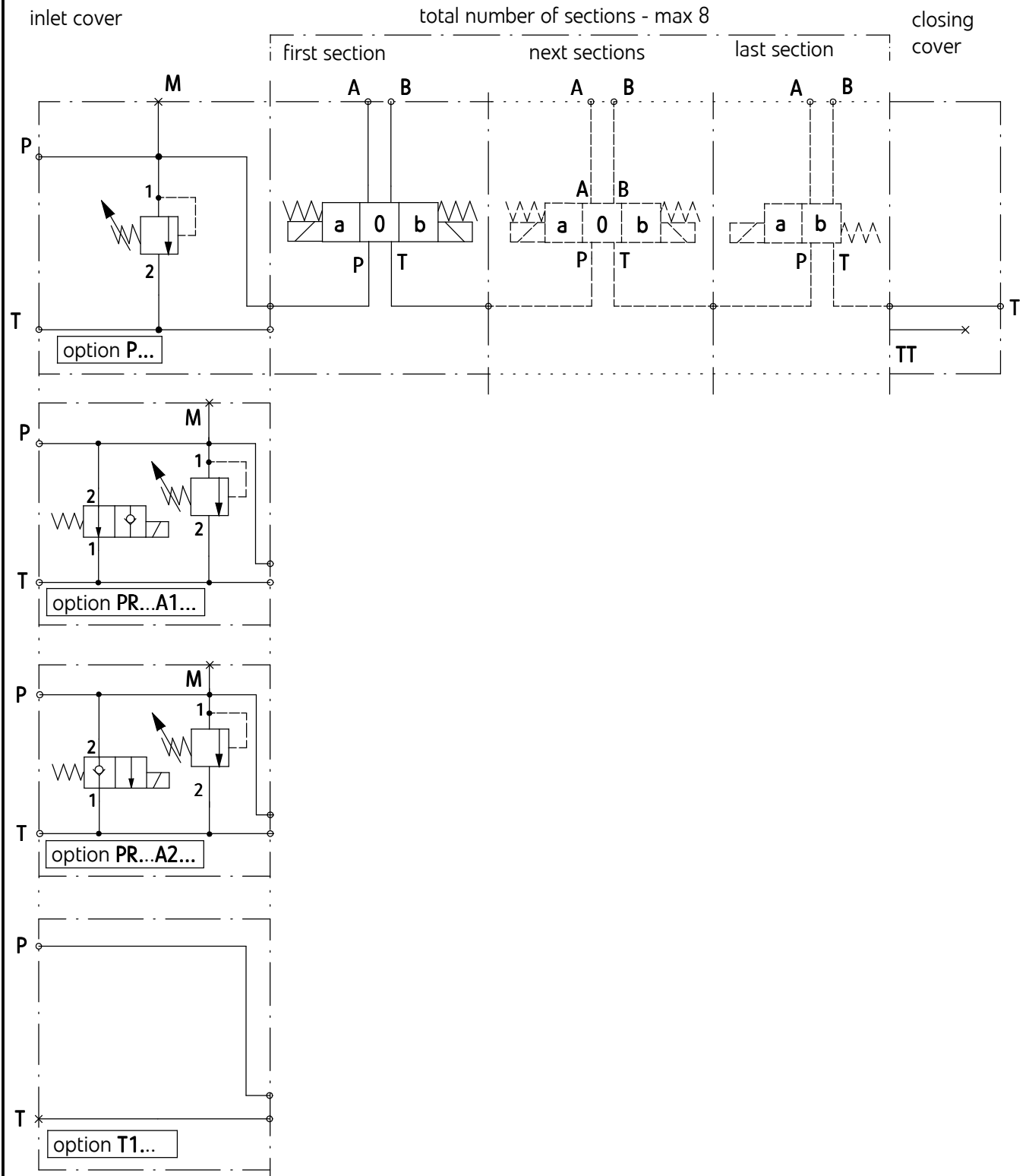
DIAGRAMS OF COMPLETE DIRECTIONAL VALVES

sectional directional valve 4/3 UREM6...- version with a serial connection of working sections

inlet cover - options: P...; PR...A1...; PR...A2...; T1...

hydraulic diagrams of directional valve type 4/3 UREM6...with a serial connection of working sections

- possibility of mounting in assembly of working serial sections 2 and 3-position in version S...
- inlet cover - options: P...; PR...A1...; PR...A2...; T1
(inlet plate - options: PQE...; PQR... - **not available** in this configuration of directional valve)
- closing cover - option TT...

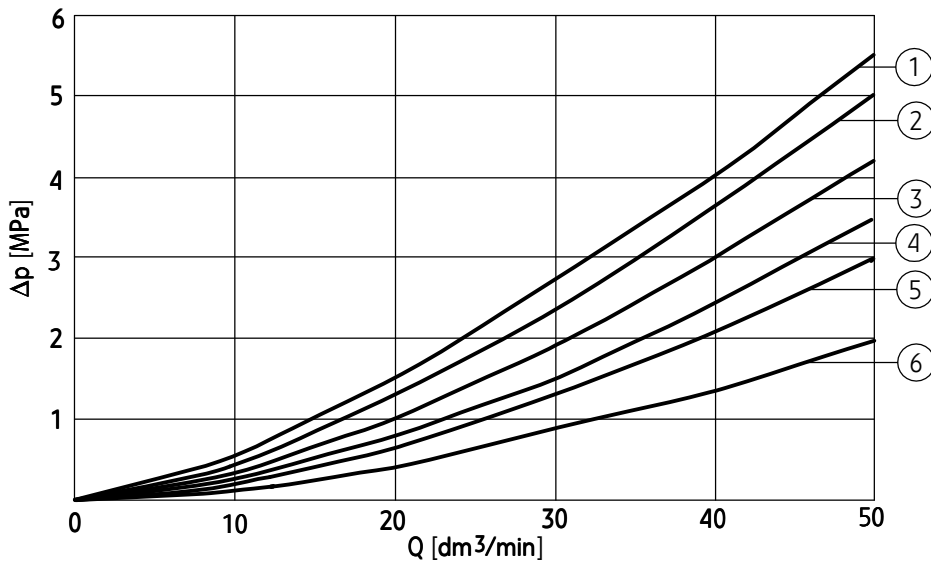


PERFORMANCE CURVES

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

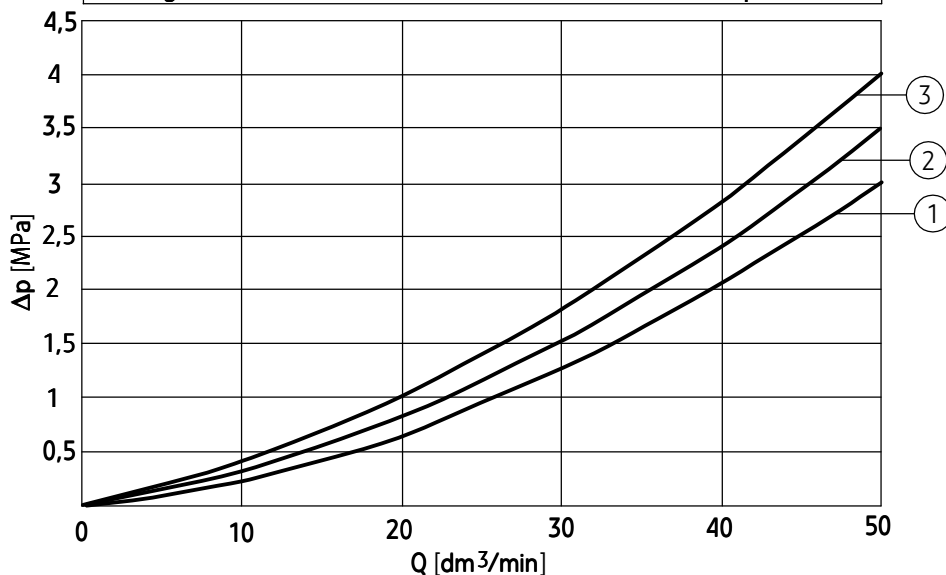
Flow resistance curves

characteristics curves of flow resistance $\Delta p(Q)$ at flow through 1 working section in parallel version - R...; ZR... for different spools



type of spool	number/ version of section flow direction	characteristic curve no.
G	1 section R... $P \rightarrow A \rightarrow B \rightarrow T$	1
J	1 section ZR... $P \rightarrow A \rightarrow B \rightarrow T$	2
D, Y, F, P	1 section R... $P \rightarrow A \rightarrow B \rightarrow T$	3
J, L, M, W	1 section R... $P \rightarrow A \rightarrow B \rightarrow T$	4
E, H, M	1 section R... $P \rightarrow A \rightarrow B \rightarrow T$	5
A, B	1 section R... $P \rightarrow A \rightarrow P \rightarrow B$	6

characteristics curves $\Delta p(Q)$ at flow through different number of working sections serial connected - version S... for different spools



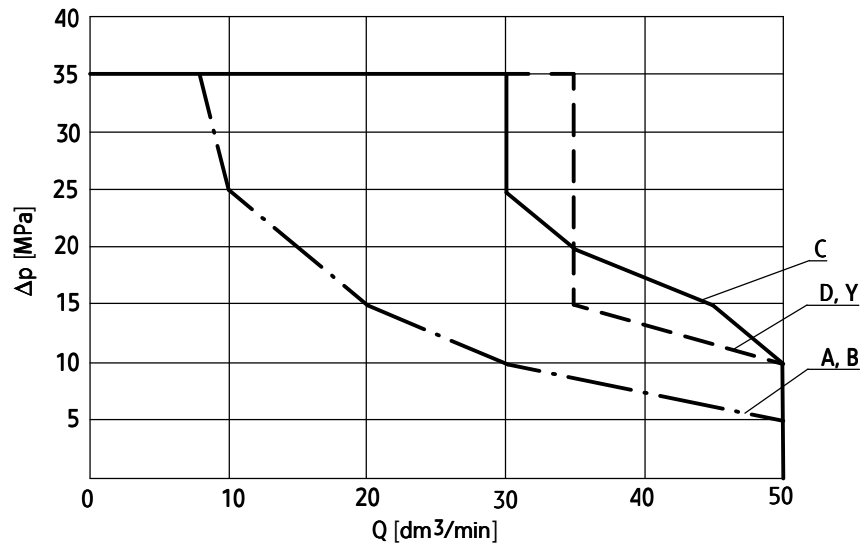
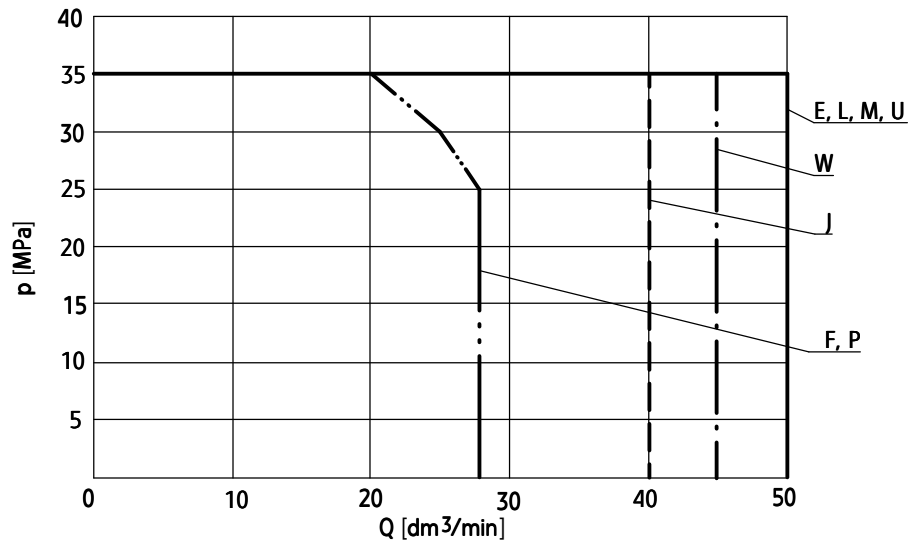
type of spool	number/ version of section flow direction	characteristic curve no.
G, H	1 section S... $P \rightarrow T$	1
G, H	2 sections S... $P \rightarrow T$	2
G, H	5 sections S... $P \rightarrow T$	3

PERFORMANCE CURVES

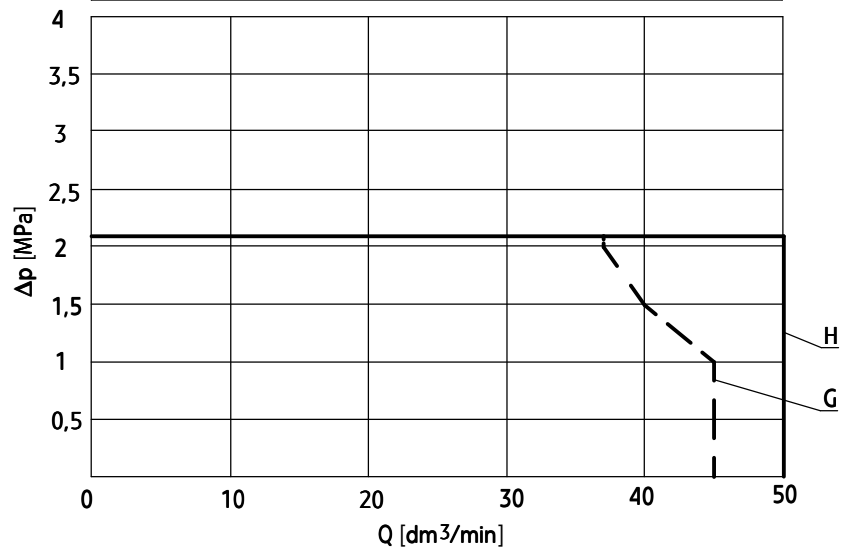
measured at viscosity $\nu = 41 \text{ mm}^2/\text{s}$ and temperature $t = 50^\circ\text{C}$

Operating limits

characteristic curves of operating limits $p(Q)$ at flow through 1 section in a parallel version R...; ZR... for different spools

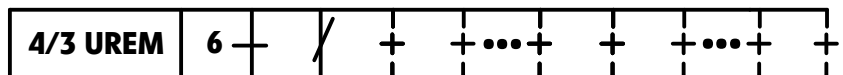


characteristic curves of operating limits $p(Q)$ at flow through 1 working section in serial version S... for different spools



HOW TO ORDER

How to order a complete directional valve



Nominal size (NS)

NS6 = 6

Series number

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

Inlet/closing cover* - left side

inlet cover without pressure setting = T... - acc. to page 17
inlet cover with pressure setting = P... - acc. to page 17
inlet cover with pressure setting and unloading = PR... - acc. to page 17
closing cover (*) – available only when selected
the directional valve version with inlet middle plate
(options PQE...; PQR...) = Z1 - acc. to page 23

Designation of a single section from left side/of priority stream

(possible mounting in a section assembly only in the same version - parallel and serial - for version with inlet cover – options: T...; P... PR...
mounted from cover on left side for version with inlet middle plate - options: PQE...; PQR... mounted on priority stream side of inlet middle side)
enter code of single section - acc. to page 13

Coding of next sections

Re-enter coding from the box above: *Designation of single section... ***
total number of sections from left side - max 8

Inlet middle plate with a stream division

(possible mounting of working sections - only in parallel version from one or both sides of plate - available only when selected
one option of inlet cover: T...; P...; PR...)
adjustment manually electrically proportionally operated = PQE... - acc. to page 20
manual override = PQR... - acc. to page 20

Designation of a single section from right side/residual stream (bypass)

Only in case of selection of version with a stream division with inlet middle plate - options: PQE...; PQR... - possible mounting in section assembly only in parallel version - this option does not occur in versions of directional valves with inlet cover – options: T... P... PR...)
enter code of single section - acc. to page 13

Coding of next sections

Re-enter coding from heading: *Designation of single section... ***
total number of sections from right side - max 8

Closing cover - right side/of residual stream (bypass)

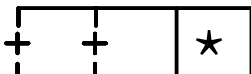
channel T open (only for directional valves with serial system of connections of working sections version S...) = TT - acc. to page 23
channel T plugged = TT1 - acc. to page 23
channel T connected with P (only for directional valves in version with stream division with inlet middle plate - options: PQE...; PQR... without section on side of residual stream (bypass), mounting screws do not code) = TT2 - acc. to page 23

NOTE:

(**) - in the case of successive sections with the same code, it is recommended to quote their number (multiplicity) ahead of the section code (e.g. on p. 33).

HOW TO ORDER

How to order complete a directional valve



Further requirements in dear text

(to be agreed with the manufacturer)

Mounting screws from side of closing covers TT, TT1 - right side*

(3 pcs /set - for directional valves with inlet covers - options: T...; P...; PR...

for mounting of working sections (1, 2, 3, ..., n, ..., max 8) = SRB n - acc. to page 24

NOTE:

(*) - screws fixing the closing cover - option **TT2** are included in the cover set

Mounting screws from side of closing cover Z1 - left side

(3 pcs/set - only for directional valve with stream division with inlet middle plate

options: PQE...; PQR... with working sections on side of residual stream (bypass)

for mounting of working sections numbers (1, 2, 3, ..., n, ..., max 8) = SRB n - acc. to page 24

NOTES:

The valve should be ordered according to the above coding.

Examples of complete coding of sectional valves setting for order:

- **3-section** directional valve with inlet cover **P** with pressure regulation range **up to 20 MPa**; working sections **parallelly connected** in version **R...** and **ZR...** with different spools, controlled with solenoid of **voltage 24V** with **plugs** type **ISO 4400 without LED** and **buttons of manual override**, closing cover **TT1**, mounting screws **SRB3**;

assembly sequence from left side - inlet cover **P...** + section **3-position with a lock ZR...** with a spool **J** + **2 sections 3-position without a lock R...** with spool **E**: 4/3UREM6 - 12/P - 200 + ZR J G24 N Z4 + R E G24 N Z4 + TT1 + SRB3

- **4 section** directional valve with inlet middle plate with stream division equipped with electrically, proportionally operated **PQE** with pressure setting range **up to 20 MPa** and flow setting range up to **50 dm³/min**; working sections **parallelly connected** in versions **R...** and **ZR...** with different spools, operated with solenoids of **voltage 24V** with **plugs type ISO 4400 without LED** and **with buttons of manual override**, closing covers - on left side **Z1**, on right side **TT1**, mounting screws - on left **SRB1**;

assembly sequence - closing cover **Z1** + **1 section 3 - position with a lock ZR...** with a spool **J** (on left side of middle plate **PQE...**) + inlet middle plate **PQE...** + **3 sections 3-position without a lock R...** with a spool **E** + closing cover **TT1** (on the right side of middle plate **PQE...**):

4/3UREM6 - 12/Z1 + ZR J G24 N Z4 + PQE 200 - 50 A + R E G24 N Z4 + R E G24 N Z4 + R E G24 N Z4 + TT1 + SRB1 + SRB3

or (recommended):

4/3UREM6 - 12/Z1 + ZR J G24 N Z4 + PQE 200 - 50 A + **3 R E G24 N Z4** + TT1 + SRB1 + SRB3

HOW TO ORDER

How to order a set of subassemblies for valve mounting by customer

Subassemblies for mounting directional valve type 4/3 UREM6... with parallel connection of working sections

inlet cover options available: • T • P... (due to limited working pressure option P315 not available) • PR...A1 • PR...A2 enter code of selected option in the column below - acc. to page 17	working sections total number of sections max 8 available options: • R... • ZR... enter codes of selected options in the column below - acc. to page 13	closing cover • TT1 enter code in the column below - acc. to page 23	mounting screws • SRB ... (3 pcs/set) enter code in the column below - acc. to page 24
.....
		
		
		
		
		
		
		

Subassemblies for mounting directional valve type 4/3 UREM6... with serial connection of working sections

inlet cover options available: • T1 • P... enter code of selected option in the column below - acc. to page 17	working sections total number of sections max 8 • S... enter codes of selected options in the column below - acc. to page 13	closing cover • TT enter code in the column below - acc. to page 23	mounting screws • SRB ... (3 pcs/set) enter code in the column below - acc. to page 24
.....
		
		
		
		
		
		
		

HOW TO ORDER

How to order set of subassemblies for valve mounting by order

Subassemblies for directional valve mounting type 4/3 UREM6... with parallel connections of working sections with stream division					
closing cover side of priority stream <ul style="list-style-type: none"> • Z1 	working sections - side of priority stream total number of sections - max 8 available options: <ul style="list-style-type: none"> • R... • ZR... 	inlet middle plate available options: <ul style="list-style-type: none"> • PQE... • PQR... 	working sections - side of residual stream (bypass) total number of sections - max 8 available options: <ul style="list-style-type: none"> • R... • ZR... 	closing cover of residual stream (bypass) <ul style="list-style-type: none"> • TT1 ... • TT2 ... - only for version of valves <u>without section on side of residual stream (bypass)</u> 	mounting screws (3 pcs./set) <ul style="list-style-type: none"> • SRB ... on cover side Z1... (3 pcs/set) • SRB ... on cover side TT1... (3 pcs/set) - <u>only for version of valves with sections on residual (bypass) stream side</u>
enter code in the column below - acc. to page 23	enter codes of selected options in the columns below - acc. to page 13	enter code of selected option in the column below - acc. to page 20	enter codes of selected options in the columns below - acc. to page 13	enter code of selected option in the column below - acc. to page 23	enter code of selected option in the column below - acc. to page 24
.....
		
		
		
		
		
		
		
		
		

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