

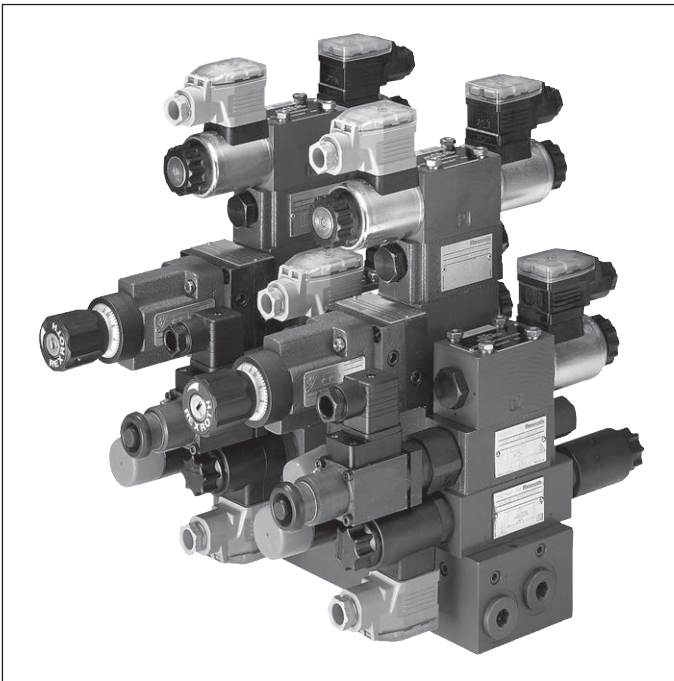
# Manifolds

## Type HSR 06

**RE 48107**

Edition: 2015-08

Replaces: 2015-03



- ▶ Size 6
- ▶ Component series 25 and 35
- ▶ Maximum operating pressure 315 bar
- ▶ 1 to 10 stations

### Features

- ▶ Base element for ready-for-connection controls in vertical stacking design
- ▶ Compact hydraulic controls
- ▶ Common pump line
- ▶ Common tank line
- ▶ Separate actuator ports of the stations
- ▶ Optional measuring ports in the actuator lines
- ▶ Mounting of size 6 sandwich plates and valves

### Contents

Features	1
Ordering code	2
Standard program	3, 4
Technical data, switching symbols	5
Dimensions	6 ... 13
Mounting screws	14
Project planning information	15
Selection of available subplate-mounted valves	16
Required ordering code of a completely mounted manifold	16
Manifold configurator	17

## Ordering code

	01	02	03	04	05	06	07	08
<b>Manifold</b>		<b>HSR</b>	<b>06</b>	<b>–</b>	<b>/</b>	<b>01</b>		

### Number of ready-for-connection controls in vertical stacking design

01	1 control	<b>1</b>
	2 controls	<b>2</b>
	3 controls	<b>3</b>
	4 controls	<b>4</b>
	5 controls	<b>5</b>
	6 controls	<b>6</b>
	7 controls	<b>7</b>
	8 controls	<b>8</b>
	9 controls	<b>9</b>
	10 controls	<b>10</b>

02	Manifold	<b>HSR</b>
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03	Size 6	<b>06</b>
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### Component series

04	Port size: A, B = G3/8; P, T = G1/2	<b>25</b>
	With enlarged connection thread: Port size: A, B = G1/2; P, T = G3/4	<b>35</b>

### Connection thread

05	Pipe thread according to ISO 228 Part 1	<b>01</b>
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### Position of actuator ports

06	Lateral	<b>C</b>
	Bottom	<b>D</b>

### Versions

07	Standard	<b>no code</b>
	With measuring ports in A and B	<b>SO8<sup>1)</sup></b>

### Coating

08	Phosphated DIN EN 12476	<b>PHOSPHATED<sup>2)</sup></b>
	Galvanic coating DIN 50979	<b>FE//ZN8//CN/T0</b>

<sup>1)</sup> Not possible with series 25 with lateral actuator ports

<sup>2)</sup> Standard version (manganese or zinc phosphating)

## Description

- ▶ Manifolds are the base element for ready-to-connect controls of vertical stacking design
- ▶ Manifolds of size 6 are available with 1 to 10 stations
- ▶ On each station, highly compact hydraulic controls can be built using vertically stackable sandwich plate valves in conjunction with shift valves or proportional servo valves of size 6
- ▶ All stations have a common pump port and a common tank port
- ▶ The pump line P and the tank line T are lead through the two front sides of the manifold
- ▶ Every station is equipped with separate actuator ports A and B
- ▶ Actuator ports are either located at the bottom or laterally
- ▶ Another option are measuring ports in the actuator channels A and B

**Standard program including preferred types: HSR 06**

Measuring port	Number of assembly bays	Port size A, B	Porting pattern A, B"	Port size P, T	Type key Manifold...	Material no.	Weight in kg	MKZ <sup>1)</sup>
without	1	G3/8	lateral	G1/2	1HSR06-25/01C PHOSPHATED	R900815077	1.9	A2
	2	G3/8	lateral	G1/2	2HSR06-25/01C PHOSPHATED	R900172220	4.3	A2
			bottom		2HSR06-25/01D PHOSPHATED	R900172199	3.8	A2
		G1/2	lateral	G3/4	2HSR06-35/01C PHOSPHATED	R900170948	7.7	A2
			bottom		2HSR06-35/01D PHOSPHATED	R900170955	7.0	A2
	3	G3/8	lateral	G1/2	3HSR06-25/01C PHOSPHATED	R900172221	6.2	A2
			bottom		3HSR06-25/01D PHOSPHATED	R900172200	5.6	A2
		G1/2	lateral	G3/4	3HSR06-35/01C PHOSPHATED	R900170949	9.5	A2
			bottom		3HSR06-35/01D PHOSPHATED	R900170956	10.2	A2
	4	G3/8	lateral	G1/2	4HSR06-25/01C PHOSPHATED	R900172222	6.5	A2
			bottom		4HSR06-25/01D PHOSPHATED	R900172201	8.6	A2
		G1/2	lateral	G3/4	4HSR06-35/01C PHOSPHATED	R900170950	12.5	A2
			bottom		4HSR06-35/01D PHOSPHATED	R900170957	13.3	A2
	5	G3/8	lateral	G1/2	5HSR06-25/01C PHOSPHATED	R900172223	10.0	A2
			bottom		5HSR06-25/01D PHOSPHATED	R900172202	9.0	A2
		G1/2	lateral	G3/4	5HSR06-35/01C PHOSPHATED	R900170951	18.2	A2
			bottom		5HSR06-35/01D PHOSPHATED	R900170958	16.5	A3
	6	G3/8	lateral	G1/2	6HSR06-25/01C PHOSPHATED	R900172224	11.9	A2
			bottom		6HSR06-25/01D PHOSPHATED	R900172203	10.7	A2
		G1/2	lateral	G3/4	6HSR06-35/01C PHOSPHATED	R900170952	18.5	A2
			bottom		6HSR06-35/01D PHOSPHATED	R900170959	19.7	A3
	7	G3/8	lateral	G1/2	7HSR06-25/01C PHOSPHATED	R900172225	11.7	A2
			bottom		7HSR06-25/01D PHOSPHATED	R900172204	12.6	A2
		G1/2	lateral	G3/4	7HSR06-35/01C PHOSPHATED	R900170953	25.2	A3
			bottom		7HSR06-35/01D PHOSPHATED	R900170960	19.7	A3
	8	G3/8	lateral	G1/2	8HSR06-25/01C PHOSPHATED	R900172226	13.3	A2
			bottom		8HSR06-25/01D PHOSPHATED	R900172205	14.2	A2
		G1/2	lateral	G3/4	8HSR06-35/01C PHOSPHATED	R900170954	28.7	A3
			bottom		8HSR06-35/01D PHOSPHATED	R900170961	22.6	A3
	9	G3/8	lateral	G1/2	9HSR06-25/01C PHOSPHATED	R900809778	15.0	A3
			bottom		9HSR06-25/01D PHOSPHATED	R900808525	16.0	A2
		G1/2	lateral	G3/4	9HSR06-35/01C PHOSPHATED	R901406286	27.3	A3
			bottom		9HSR06-35/01D PHOSPHATED	R901406292	23.4	A3
	10	G3/8	lateral	G1/2	10HSR06-25/01C PHOSPHATED	R900804259	19.6	A2
			bottom		10HSR06-25/01D PHOSPHATED	R900800927	17.9	A2
		G1/2	lateral	G3/4	10HSR06-35/01C PHOSPHATED	R901406287	35.8	A3
			bottom		10HSR06-35/01D PHOSPHATED	R901406293	28.2	A3

<sup>1)</sup> Material mark: A2 = preferred; A3 = standard

**Order example for a manifold with galvanic coating:**  
**Manifold 9HSR 06 -35/01C FE//ZN8//CN/T0**

## Standard program including preferred types: HSR 06 ...SO8

Measuring port	Number of assembly bays	Port size A, B	Porting pattern A, B	Port size P, T	Type key Manifold...	Material no.	Weight in kg	MKZ <sup>1)</sup>
with	1	G3/8	bottom	G1/2	1HSR06-25/01D SO8 PHOSPHATED	R900815078	2.5	A2
		G1/2	lateral	G3/4	1HSR06-35/01C SO8 PHOSPHATED	R900815079	3.7	A2
			bottom		1HSR06-35/01D SO8 PHOSPHATED	R901406296	3.3	A3
	2	G3/8	bottom	G1/2	2HSR06-25/01D SO8 PHOSPHATED	R900644674	3.7	A2
		G1/2	lateral	G3/4	2HSR06-35/01C SO8 PHOSPHATED	R900194952	6.3	A2
			bottom		2HSR06-35/01D SO8 PHOSPHATED	R900188031	7.0	A2
	3	G3/8	bottom	G1/2	3HSR06-25/01D SO8 PHOSPHATED	R900644675	5.3	A2
		G1/2	lateral	G3/4	3HSR06-35/01C SO8 PHOSPHATED	R900194953	11.2	A2
			bottom		3HSR06-35/01D SO8 PHOSPHATED	R900188032	10.2	A2
	4	G3/8	bottom	G1/2	4HSR06-25/01D SO8 PHOSPHATED	R900644676	7.1	A2
		G1/2	lateral	G3/4	4HSR06-35/01C SO8 PHOSPHATED	R900194954	12.4	A2
			bottom		4HSR06-35/01D SO8 PHOSPHATED	R900188033	11.2	A2
	5	G3/8	bottom	G1/2	5HSR06-25/01D SO8 PHOSPHATED	R900644677	8.8	A2
		G1/2	lateral	G3/4	5HSR06-35/01C SO8 PHOSPHATED	R900194955	18.2	A2
			bottom		5HSR06-35/01D SO8 PHOSPHATED	R900188034	16.5	A2
	6	G3/8	bottom	G1/2	6HSR06-25/01D SO8 PHOSPHATED	R900644678	12.7	A2
		G1/2	lateral	G3/4	6HSR06-35/01C SO8 PHOSPHATED	R900194956	21.7	A2
			bottom		6HSR06-35/01D SO8 PHOSPHATED	R900188035	16.7	A2
	7	G3/8	bottom	G1/2	7HSR06-25/01D SO8 PHOSPHATED	R900644679	12.2	A3
		G1/2	lateral	G3/4	7HSR06-35/01C SO8 PHOSPHATED	R900188615	21.3	A3
			bottom		7HSR06-35/01D SO8 PHOSPHATED	R900188036	22.9	A3
	8	G3/8	bottom	G1/2	8HSR06-25/01D SO8 PHOSPHATED	R900644680	13.8	A2
		G1/2	lateral	G3/4	8HSR06-35/01C SO8 PHOSPHATED	R901406288	24.3	A3
			bottom		8HSR06-35/01D SO8 PHOSPHATED	R900188037	21.6	A3
	9	G3/8	bottom	G1/2	9HSR06-25/01D SO8 PHOSPHATED	R901406279	15.7	A3
		G1/2	lateral	G3/4	9HSR06-35/01C SO8 PHOSPHATED	R901406290	27.1	A3
			bottom		9HSR06-35/01D SO8 PHOSPHATED	R901406297	37.0	A3
	10	G3/8	bottom	G1/2	10HSR06-25/01D SO8 PHOSPHATED	R900811950	17.2	A3
		G1/2	lateral	G3/4	10HSR06-35/01C SO8 PHOSPHATED	R901406291	30.5	A3
			bottom		10HSR06-35/01D SO8 PHOSPHATED	R901406298	32.5	A3

<sup>1)</sup> Material mark: A2 = preferred; A3 = standard

**Order example for a manifold with galvanic coating:**  
**Manifold 9HSR 06 -35/01CSO8FE//ZN8//CN/T0**

## Technical data

(For applications outside these parameters, please consult us!)

General	
Size	6
Material	GGG40
Surface coating	Standard coating: Phosphated <sup>1)</sup> according to DIN EN 12476 with finishing treatment (greases, oils, lubricants)
Maximum operating pressure <sup>2)</sup>	bar 315

<sup>1)</sup> Manganese or zinc phosphating

<sup>2)</sup> Manifold without valve fitting!

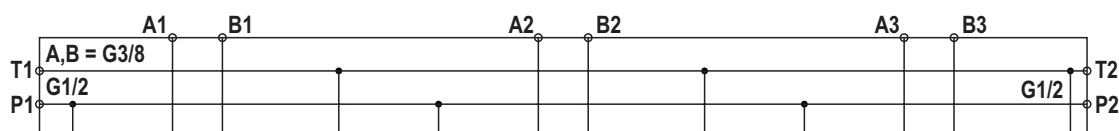


### Note:

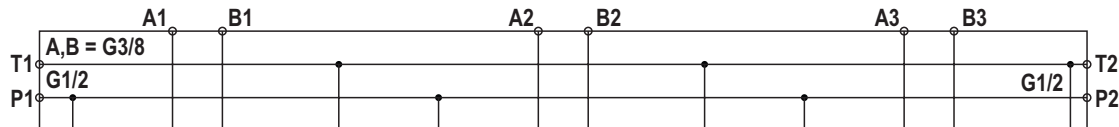
For assembly, commissioning and maintenance of oil hydraulic systems please observe the data sheet 07900

## Switching symbols for manifolds with 3 stations

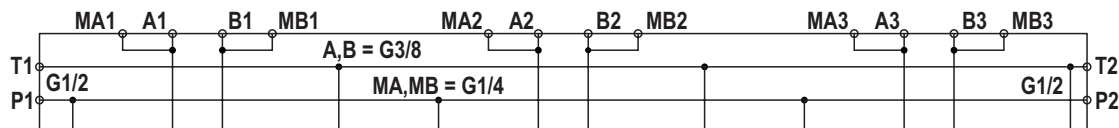
### Manifold HSR 06 -25/01C



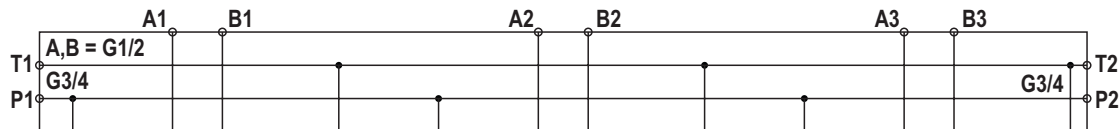
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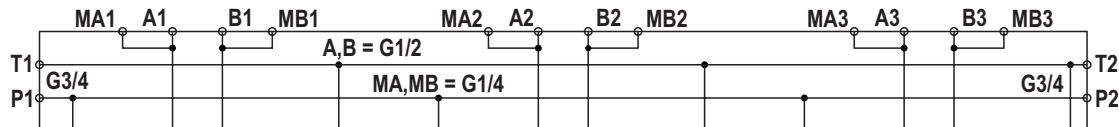
### Manifold HSR 06 -25/01D SO8



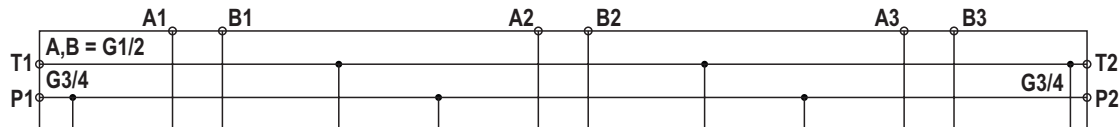
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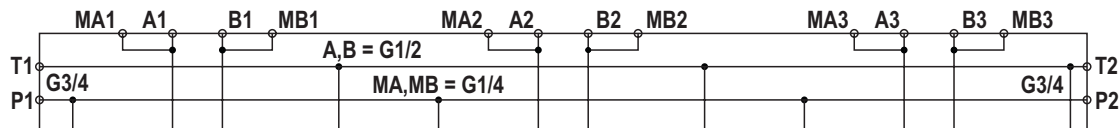
### Manifold HSR 06 -35/01C SO8



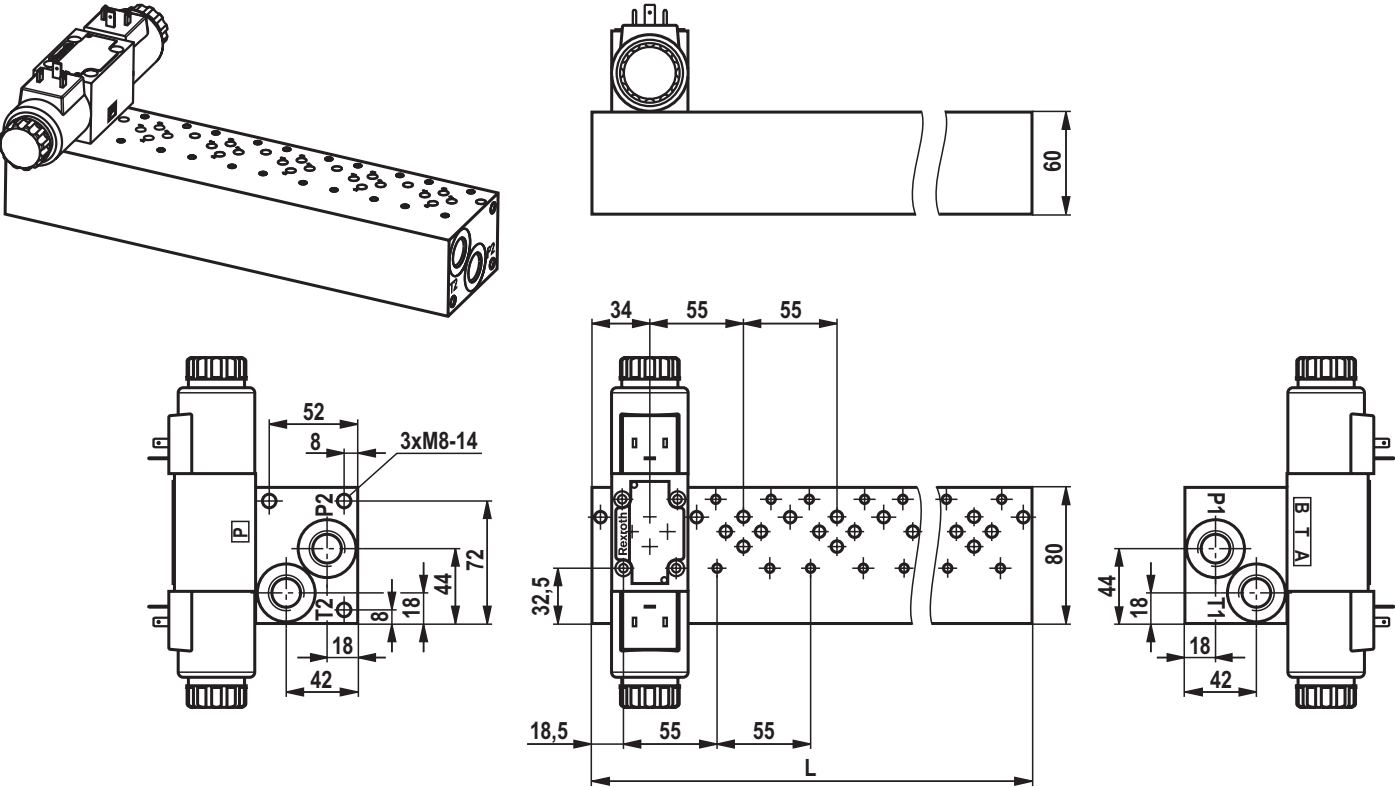
### Manifold HSR 06 -35/01D



### Manifold HSR 06 -35/01D SO8



**Dimensions:** Version “2...10..25/01C”  
(dimensions in mm)

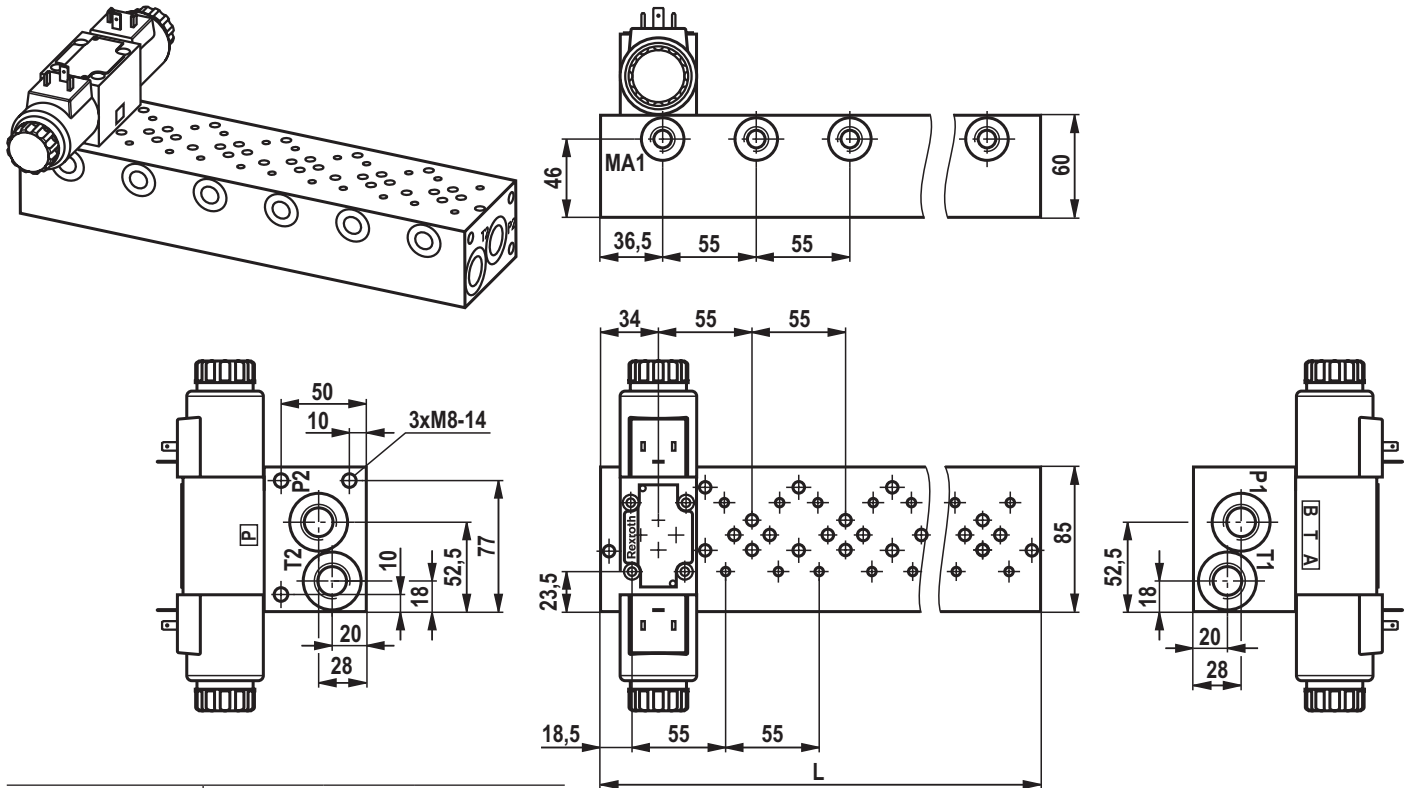


Thread type	Pipe thread according to ISO 228 Part 1	
Port	A1 ... A10 B1 ... B10	P1; P2 T1; T2
Thread diameter	G3/8	G1/2
Thread depth	13	15
Recess diameter	28	34
Counter bore depth	0.2	0.2

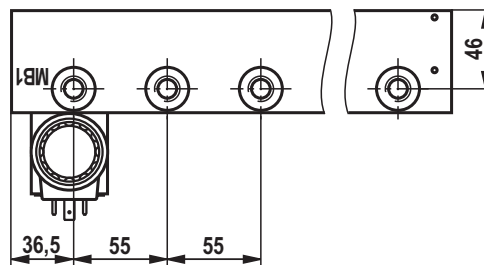
Number of stations	Overall length L	Fixing holes				
		L1	L2	L3	L4	L5
2	123	5	61.5	118		
3	178	5	61.5	116.5	173	
4	233	5	61.5	116.5	171.5	228
5	288	5	61.5	116.5	171.5	226.5
6	343	5	61.5	116.5	171.5	226.5
7	398	5	61.5	116.5	171.5	226.5
8	453	5	61.5	116.5	171.5	226.5
9	508	5	61.5	116.5	171.5	226.5
10	563	5	61.5	116.5	171.5	226.5

Number of stations	Fixing holes					
	L6	L7	L8	L9	L10	L11
5	283					
6	281.5	338				
7	281.5	336.5	393			
8	281.5	336.5	391.5	448		
9	281.5	336.5	391.5	446.5	503	
10	281.5	336.5	391.5	446.5	501.5	558

# **Dimensions: Version “2...10..25/01D (SO8)”** (dimensions in mm)

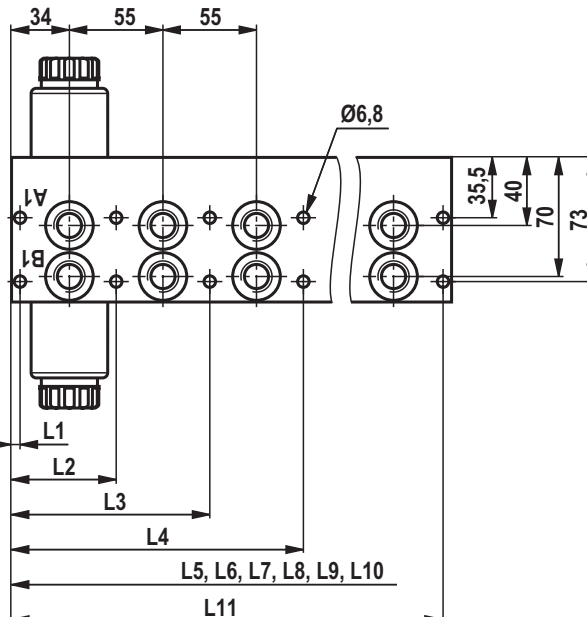


Thread type	Pipe thread according to ISO 228 Part 1		
Port	A1 ... A10 B1 ... B10	P1; P2 T1; T2	MA1 ... MA10 MB1 ... MB10
Thread diameter	G3/8	G1/2	G1/4
Thread depth	13	15	13
Recess diameter	28	34	25
Counter bore depth	0.2	0.2	0.2

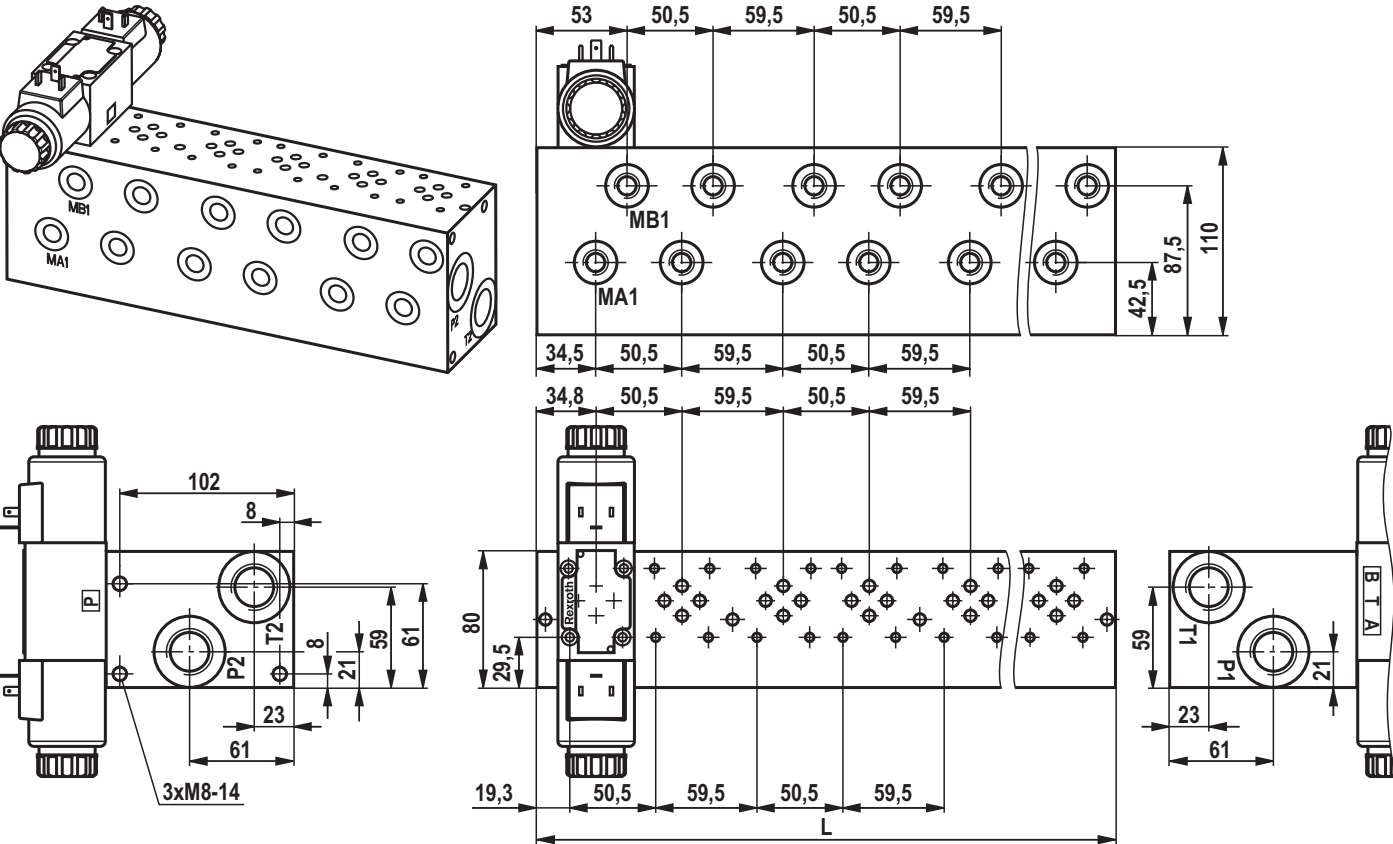


Number of stations	Overall length L	Fixing holes					
		L1	L2	L3	L4	L5	
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6	343	5	61.5	116.5	171.5	226.5	
7	398	5	61.5	116.5	171.5	226.5	
8	453	5	61.5	116.5	171.5	226.5	
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Number of stations	Fixing holes					
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9	281.5	336.5	391.5	446.5	503	
10	281.5	336.5	391.5	446.5	501.5	558

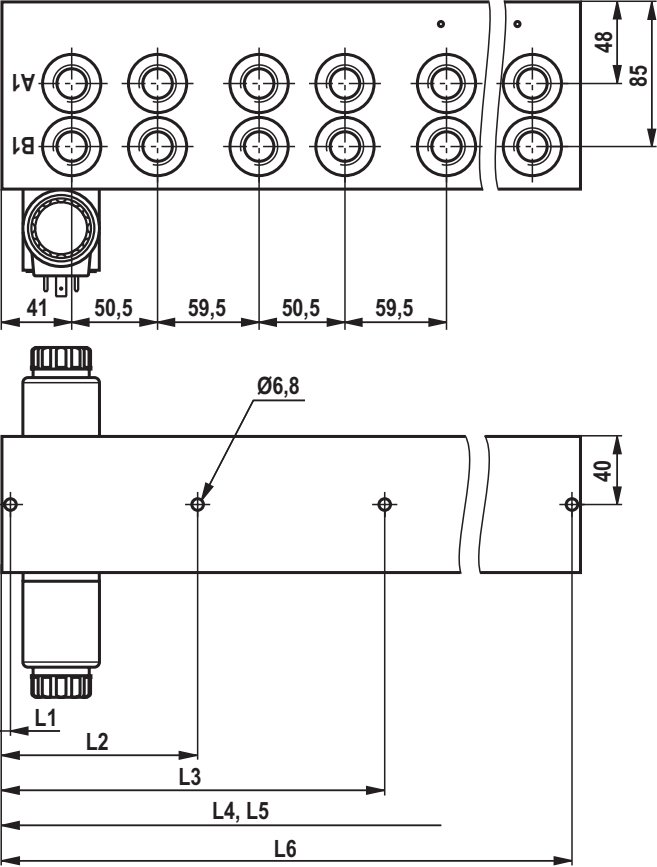


**Dimensions:** Version “2...10..35/01C (SO8)”  
(dimensions in mm)



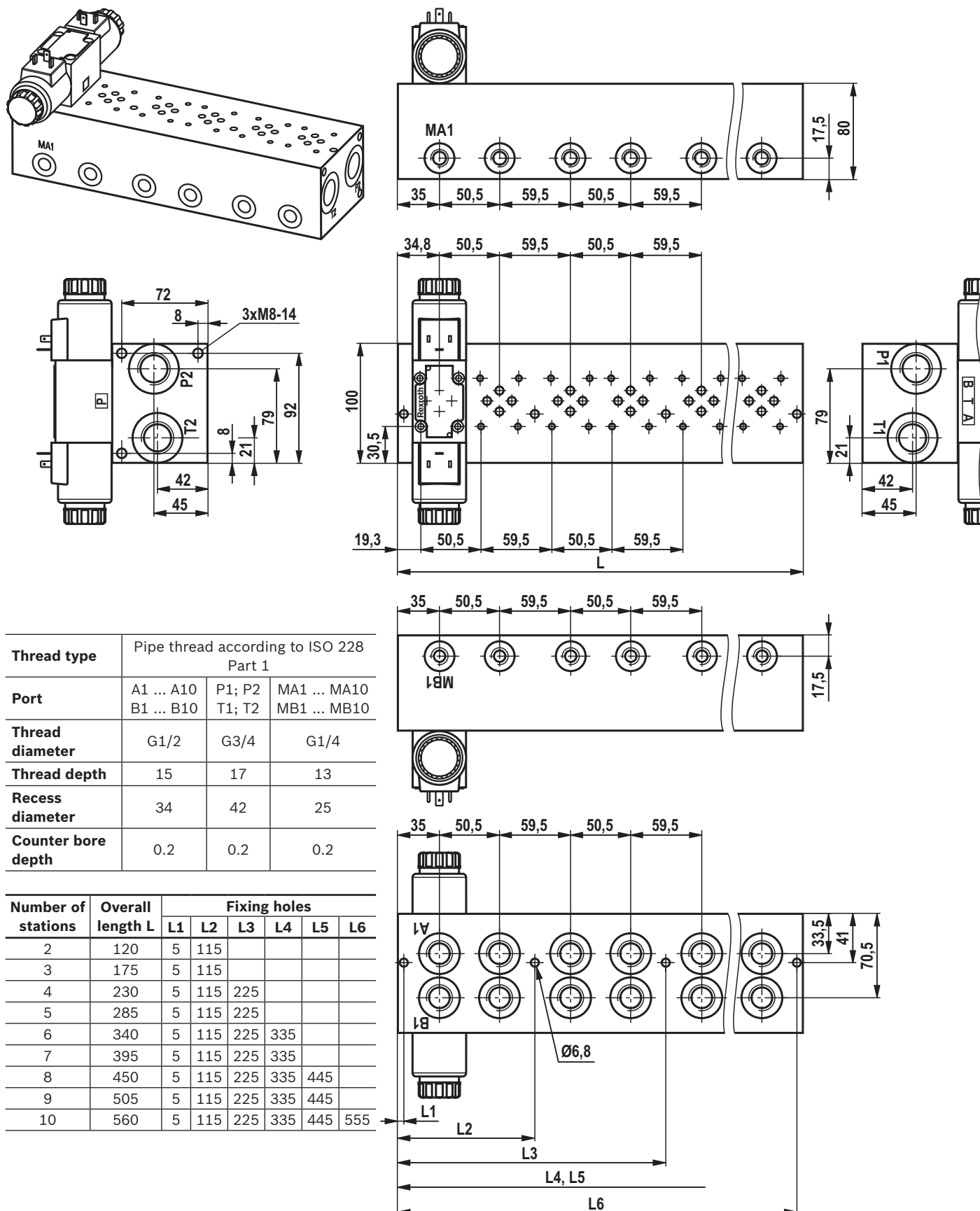
Thread type	Pipe thread according to ISO 228 Part 1		
Port	A1 ... A10 B1 ... B10	P1; P2 T1; T2	MA1 ... MA10 MB1 ... MB10
Thread diameter	G1/2	G3/4	G1/4
Thread depth	15	17	12
Recess diameter	34	42	25
Counter bore depth	0.2	0.2	0.2

Number of stations	Overall length L	Fixing holes					
		L1	L2	L3	L4	L5	L6
2	120	5	115				
3	175	5	115				
4	230	5	115	225			
5	285	5	115	225			
6	340	5	115	225	335		
7	395	5	115	225	335		
8	450	5	115	225	335	445	
9	505	5	115	225	335	445	
10	560	5	115	225	335	445	555

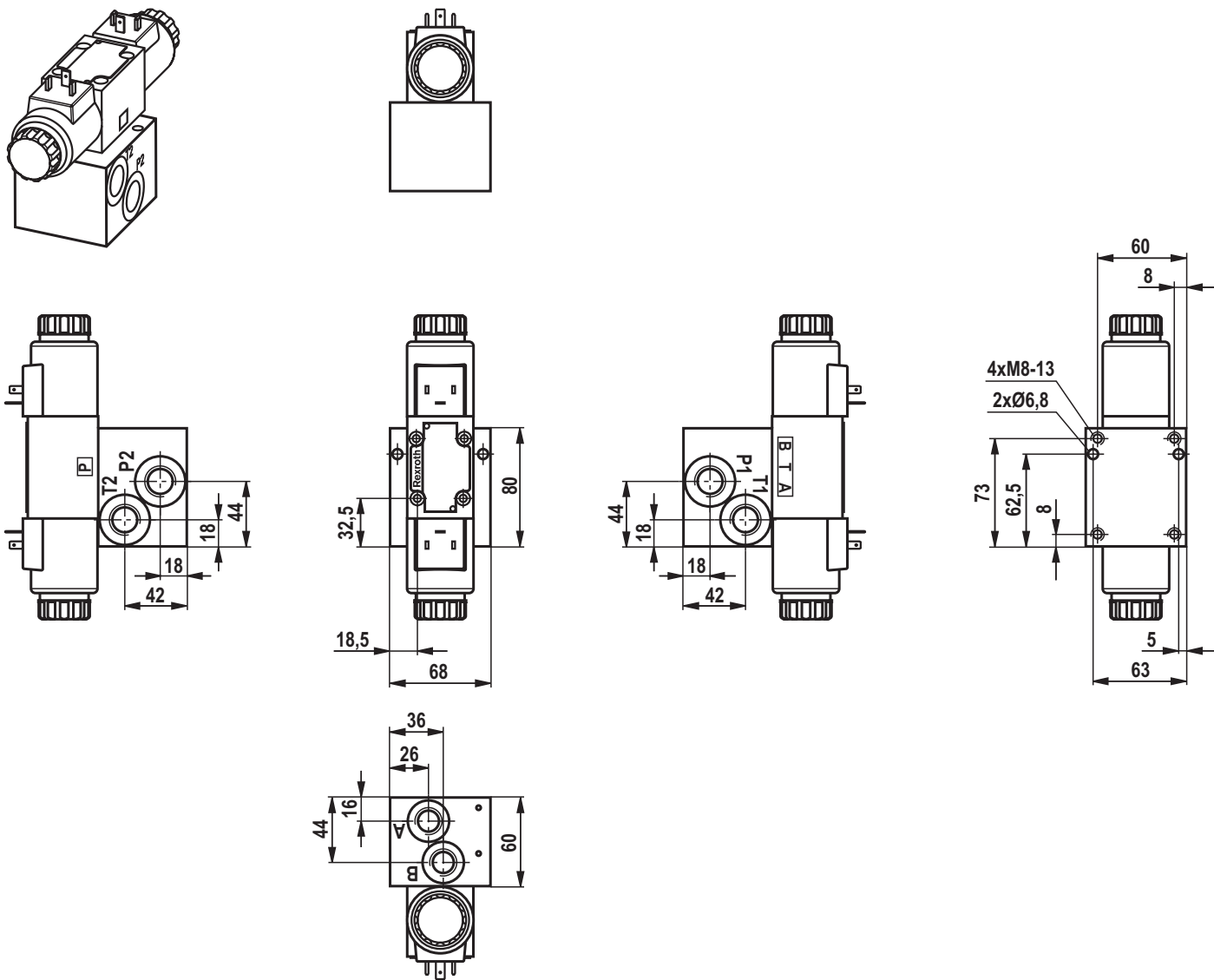




**Dimensions:** Version “2...10..35/01D (SO8)”  
(dimensions in mm)

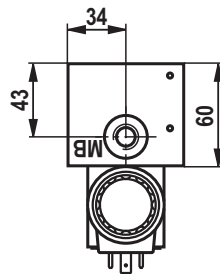
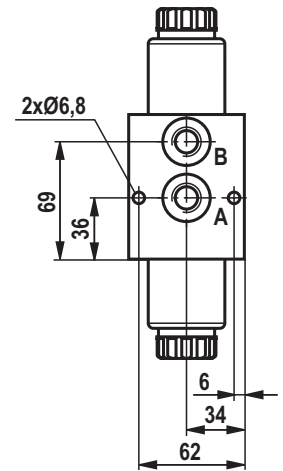
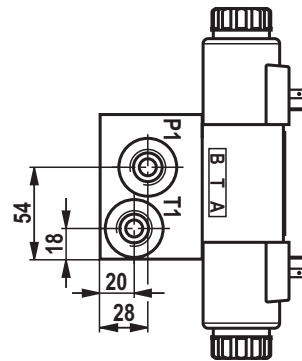
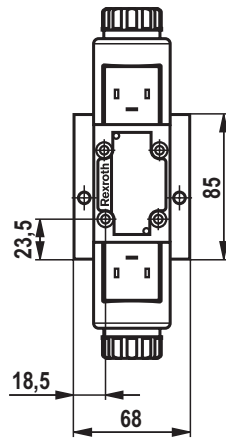
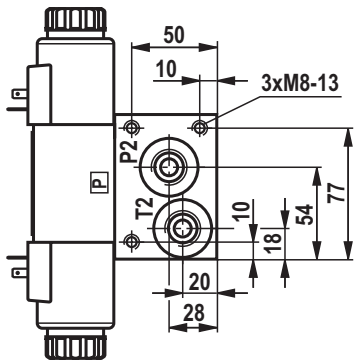
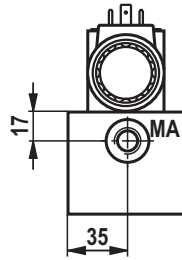
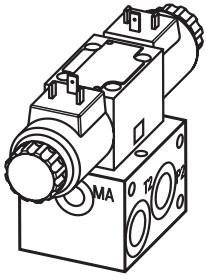


**Dimensions: Version “1HSR..25/01C”**  
(dimensions in mm)



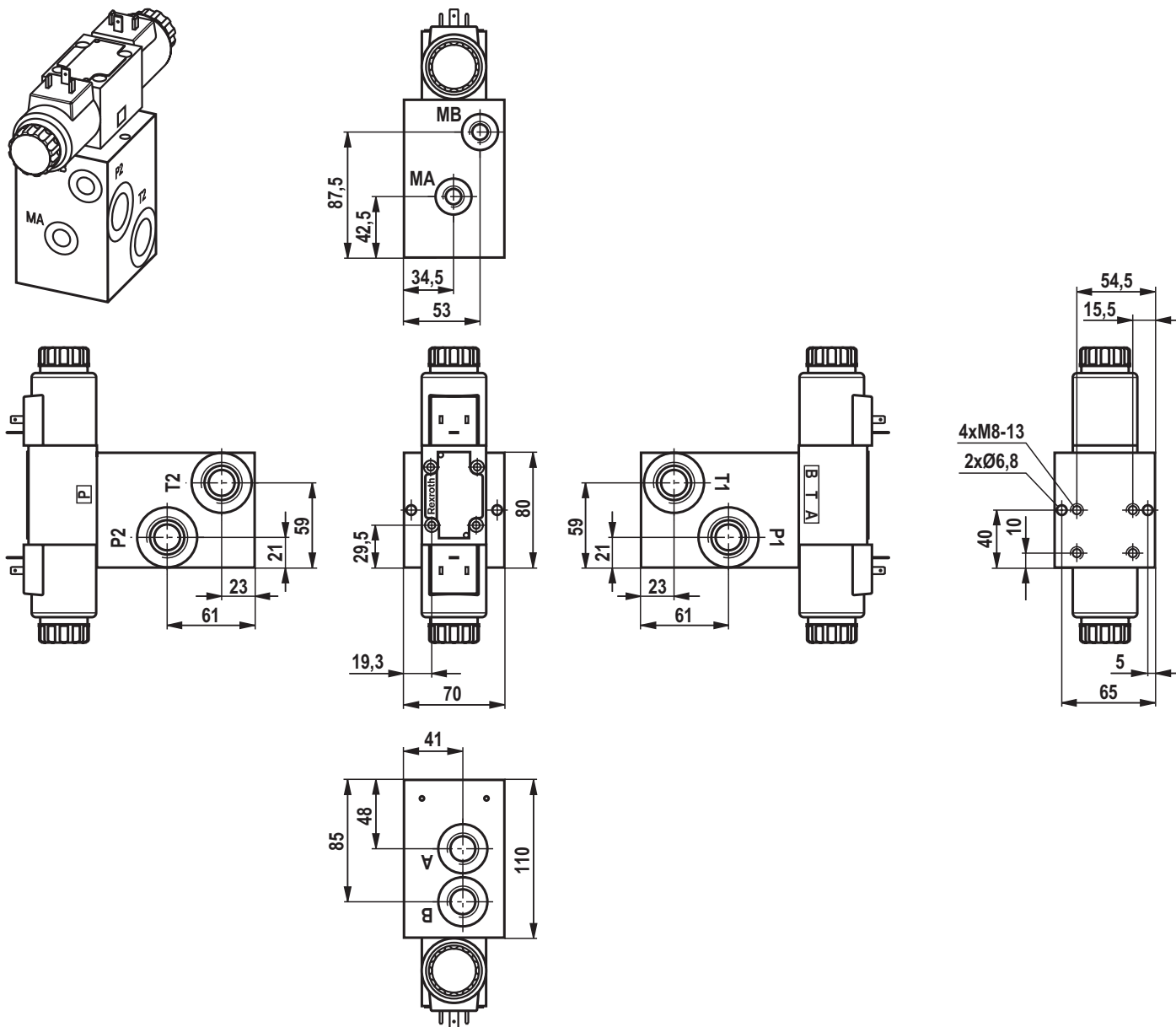
Thread type	Pipe thread according to ISO 228 Part 1	
Port	A1 ... A10	P1; P2
	B1 ... B10	T1; T2
Thread diameter	G3/8	G1/2
Thread depth	13	15
Recess diameter	28	34
Counter bore depth	0.2	0.2

**Dimensions:** Version “1HSR..25/01D SO8”  
(dimensions in mm)



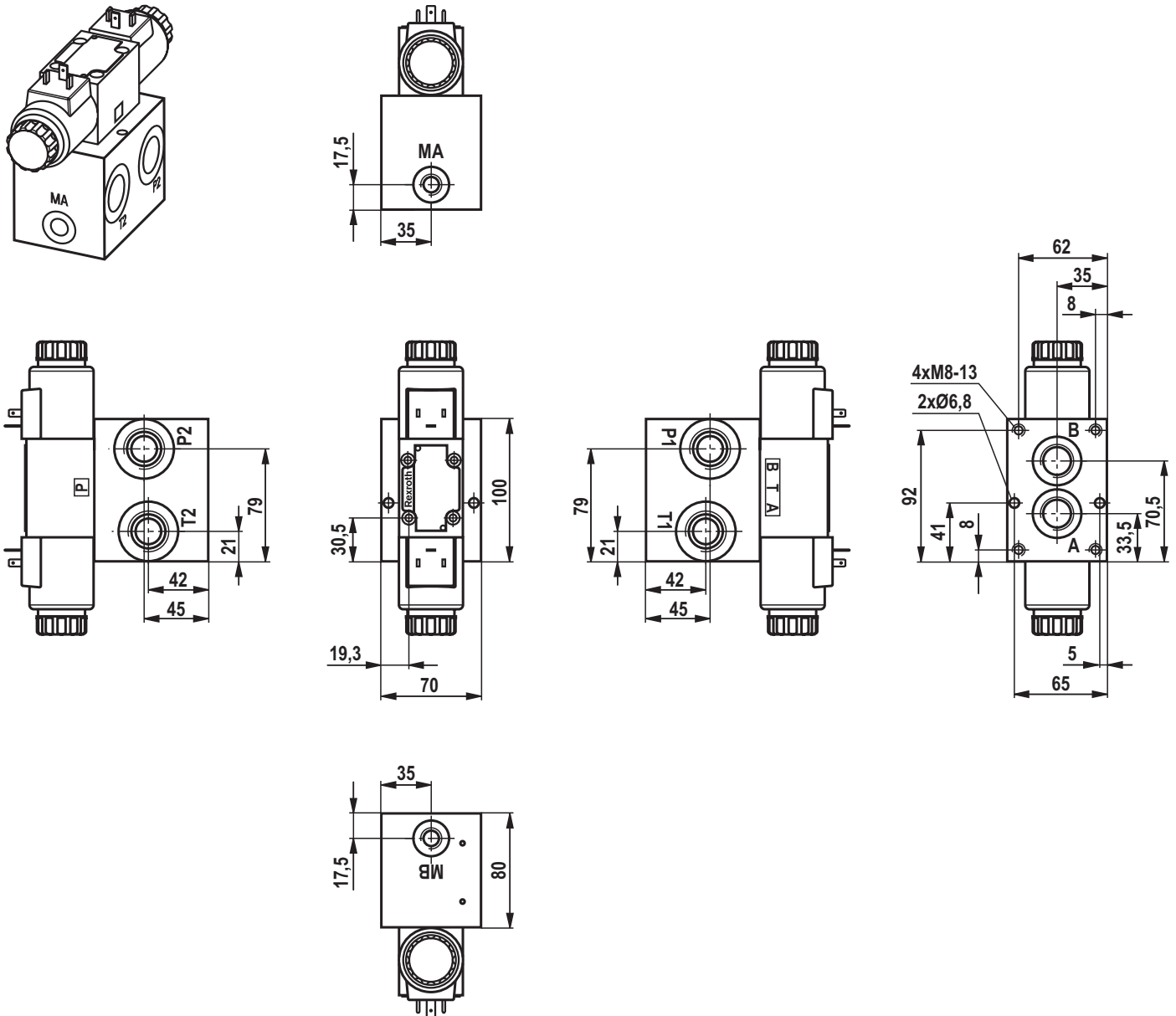
Thread type	Pipe thread according to ISO 228 Part 1		
Port	A1 ... A10 B1 ... B10	P1; P2 T1; T2	MA1 ... MA10 MB1 ... MB10
Thread diameter	G3/8	G1/2	G1/4
Thread depth	13	15	13
Recess diameter	28	34	25
Counter bore depth	0.2	0.2	0.2

**Dimensions: Version “1HSR..35/01C SO8”**  
(dimensions in mm)



Thread type	Pipe thread according to ISO 228 Part 1		
<b>Port</b>	A1 ... A10 B1 ... B10	P1; P2 T1; T2	MA1 ... MA10 MB1 ... MB10
<b>Thread diameter</b>	G1/2	G3/4	G1/4
<b>Thread depth</b>	15	17	13
<b>Recess diameter</b>	34	42	25
<b>Counter bore depth</b>	0.2	0.2	0.2

### Dimensions: Version “1HSR..35/01D SO8” (dimensions in mm)



Thread type	Pipe thread according to ISO 228 Part 1		
Port	A1 ... A10 B1 ... B10	P1; P2 T1; T2	MA1 ... MA10
Thread diameter	G1/2	G3/4	G1/4
Thread depth	15	17	13
Recess diameter	34	42	25
Counter bore depth	0.2	0.2	0.2

## Mounting screws depending on valve fitting

### Screw selection table: Vertical stacking in combination with size 6 directional valves

Number of sandwich plates	Clamping lengths of sandwich plates	Hexagon socket head cap screws according to ISO 4762; stud screws according to DIN 939		Stability	Material no.
1	1 x 40 mm	M5 x 90	ISO 4762	10.9	R913000222
2	2 x 40 mm	M5 x 130	DIN 939	10.9	R900001119
3	3 x 40 mm	M5 x 170	DIN 939	10.9	R900230414
4	4 x 40 mm	M5 x 210	DIN 939	10.9	R913000561
5	5 x 40 mm	M5 x 250	DIN 939	10.9	R900012020

For the tightening torques of the screws, please refer to the corresponding data sheets of the valves

**Note:**

The clamping lengths of the mounted sandwich plates and valves must be checked for each individual case.

**Example for mountable sandwich plates with a clamping length of 40 mm:**

Pressure reducing valve type ZDR 6 D...-4X/..., pressure relief valve type ZDB 6 V...-4X/..., check valve type Z2S 6...-6X/..., check valve type Z1S 6...-4X/..., throttle check valve type Z2FS 6...-4X/..., pressure switch with sandwich plate type HED 8 O.2X/...

Directional valve	Hexagon socket head cap screws according to ISO 4762		Stability	Material no.
direct operated directional valve type WE 6 -6X	M5 x 50	ISO 4762	10.9	R913000064
Proportional valve type WR. 6	M5 x 40	ISO 4762	10.9	R913000139

For the tightening torques of the screws, please refer to the corresponding data sheets of the valves

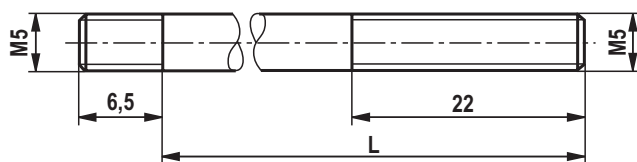
**Note:**

The screw selection table does not apply to directional valves in their seawater-protected version due to differences in the clamping lengths on the directional valve (dimensions see data sheets – seawater-protected directional valves).

**Note:**

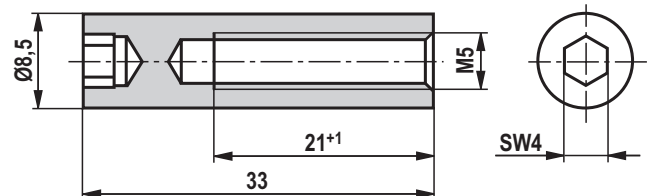
Directional valves with central ports “D”, “DL”, “DZ” and “DZL” can only be used with hexagon socket head cap screws or stud screws and round nut according to ZN 10035, material no. **R913020308**.

#### Stud screw M5 DIN 939, property class 10.9

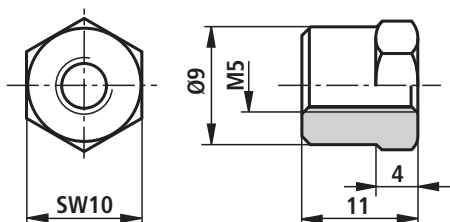


L = Spring length according to DIN 939

#### Round nut ZN10035-M5-ST, material no. R913020308



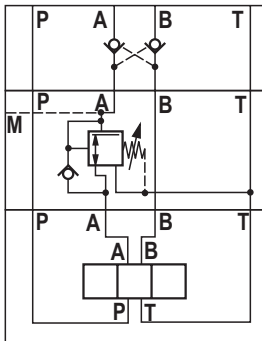
#### Hexagon nut ZN10034-M5-ST-CM-FE-ZN-8-CN-T0-L-B Material no. R913017599



## Project planning information

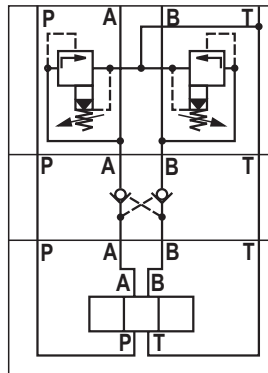
### Pressure reducing valve in conjunction with check valve

The pressure reducing valve type ZDR..DA (pressure reduction in channel A) **must** always be installed between the directional valve and the check valve type Z2S... This ensures that the check valve can block in a leak-free manner.



### Pressure relief valve in connection with check valve

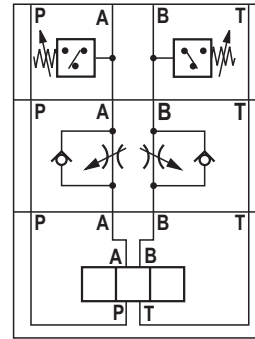
Leak-free blocking of the actuator is **not** possible if a pressure relief valve type ZDB../Z2DB.. is effective in channel A and/or B and a double check valve is installed.



### Pressure switches in connection with throttle check valve

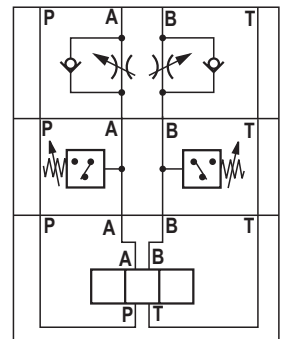
#### Supply control

The pressure switch type HED 8 OH, effective in channel A and/or B, is installed between the sub-plate and the throttle check valve type Z2FS.



#### Discharge control

The pressure switch type HED 8 OH, effective in channel A and/or B, is installed between the directional valve and the throttle check valve type Z2FS.



#### Note:

The illustrated sections of circuit diagrams are examples. The project planning information must also be observed for valves with a similar function.

#### Note:

The installation of sandwich plates with two pressure switches on manifolds with lateral ports "C" is in individual cases possible. Please contact us.

Selection of available subplate-mounted valves

Sandwich plates NG6	Data sheet
Sandwich plates type HSZ	48050
Pressure reducing valve type ZDR	26570
Pressure relief valve type ZDB	25751
Check valve type Z2S	21548
Check valve type Z1S	21534
Throttle check valve type Z2FS	27506
Pressure switch type HED8	50061

Cover plate NG6	Data sheet
Type HSA	48042

Directional valves NG6	Data sheet
Type WE (electrically operated)	23178
Type WP and WH (fluidically actuated)	22282
Type WM (mechanically or manually actuated)	22280

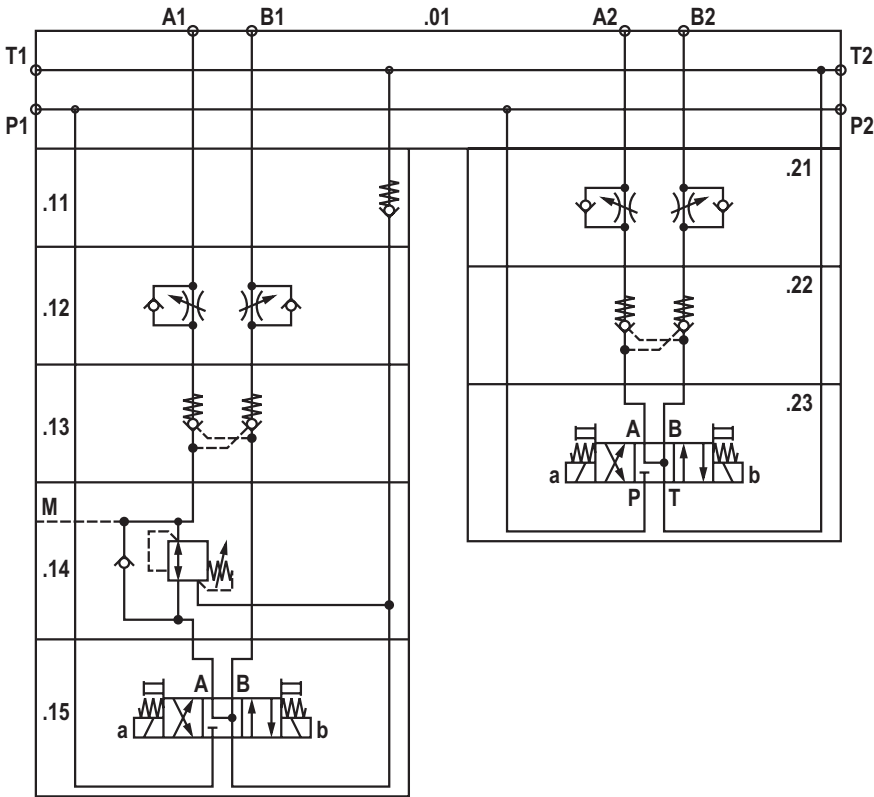
  

Proportional valves NG6	Data sheet
Type WRA (direct-operated, without el. feed-back)	29055
Type WRE (direct-operated, with el. feedback)	29061

NG = size

Required ordering code of a completely mounted manifold

Example:  
 2-fold manifold



Item	Quantity	Device designation	Type designation	Material no.
.0	1		2HSR 06 C2X... <sup>1)</sup>	<sup>1)</sup>
.01	1	Manifold	2HSR06-35/01C PHOSPHATED	R900170948
.11	1	Check valve	Z1S 6 T05-4X/V	R901086058
.12	1	Twin throttle check valve	Z2FS 6-2-4X/2QV	R900481624
.13	1	pilot operated check valve	Z2S 6-2-6X/	R900347496
.14	1	Pressure reducing valve	ZDR 6 DA2-4X/150Y	R900410849
.15	1	Directional valve	4WE 6 J6X/EG24N9K4	R900561288
	4	Stud screw	DIN939-M5X210-10.9-flZn-240h-L	R913000561
	4	Round nut	ZN10035-M5-ST	R913020308
.21	1	Twin throttle check valve	Z2FS 6-2-4X/2QV	R900481624
.22	1	Pilot operated check valve	Z2S 6-2-6X/	R900347496
.23	1	Directional valve	4WE 6 J6X/EG24N9K4	R900561288
	4	Stud screw	DIN939-M5X130-10.9-FLZN-240H-L	R900001119
	4	Round nut	ZN10035-M5-ST	R913020308

<sup>1)</sup> The material number and type designation are determined by the plant or the manifold configurator!



## The manifold configurator on [www.boschrexroth.com/ics/hsr](http://www.boschrexroth.com/ics/hsr)

The configurator for type HSR manifolds helps you configure your individual manifold or type HSH vertical stacking in a simple and convenient way. You can do this online by selecting relevant features of the base element (e.g. size, number of stations and port size) and the mounted product components (e.g. size, pressure, type of actuation).



### Note:

You cannot use it for unfitted plates.

Thanks to the intuitive menu navigation, you are guided safely through the required configuration steps. Related features are clearly arranged on one page.

By connecting components from various product areas, you can choose from a range of approx. 1000 different functions.

The individual components are selected either by type key or by material number using a configuration based on the circuit diagram or a "step by step" selection of the individual functional properties of the valve or the sandwich plate.

When the configuration is complete, a collision check offers various possibilities of fixing existing collisions. When the configuration is finished, you can have the complete configuration documentation sent to you via email including material list, circuit diagram, 2D drawing and 3D model (STEP). This is done by way of an automatic request to your local distributor who will promptly contact you and send you an offer.

**Notes**

## Notes

## Notes

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It must be remembered that our products are subject to a natural process of wear and aging.