

**MANNESMANN
REXROTH****Multi-station manifold blocks
Type HSR 04, Series 1X****RE
48 102/12.95****Replaces: 09.92****Size 4****up to 210 bar**

Multi-station manifolds form the basis of complete control systems in a vertical stacking configuration.

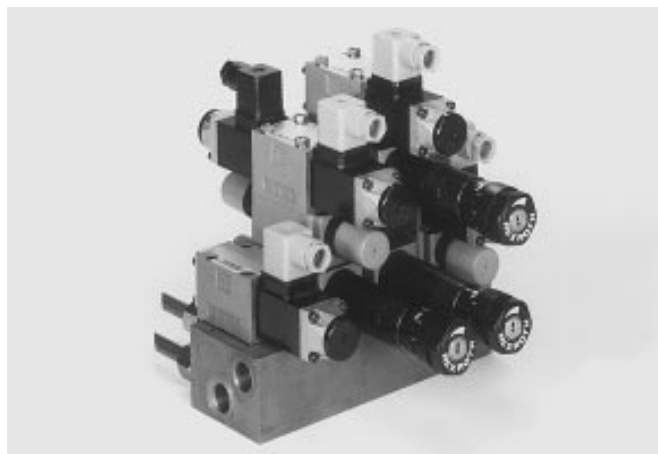
Very compact hydraulic circuits may be built-up on each axis, using vertically stacked sandwich plate valves in combination with a size 4 directional valve.

All circuits have a common pressure and tank port which are positioned on each end of the manifold.

Each control circuit has separate actuator ports A and B, which can be on the side (model C) or on the underside (model D) as required.

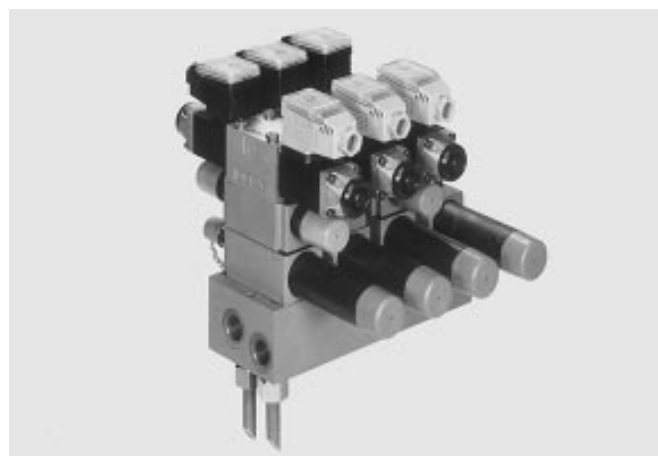
The following are available as vertical stacking elements:

- Pressure reducing valve ZDR to RE 26 545
- Pressure relief valve ZDB to RE 25 720
- Double check valve Z2S to RE 21 540
- Check valve Z1S to RE 21 523
- Double throttle/check valve Z2FS to RE 27 498
- Directional valve type WE 4 to RE 23 160



K 4949-1

Multi-station manifold block for 4 control circuits in a vertical stacking configuration
Actuator ports on side



K 4949-9

Multi-station manifold block for 4 control circuits in a vertical stacking configuration
Actuator ports on underside

Ordering details – manifold without built-on valves

Manifold		HSR	04	/	01	*
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No. of control circuit
stations in vertical a
stacking configuration

For 2 controls	= 2
For 3 controls	= 3
For 4 controls	= 4
For 5 controls	= 5
For 6 controls	= 6
For 7 controls	= 7
For 8 controls	= 8

Up to 210 bar

Series 10 to 19

= 1X

(10 to 19: unchanged installation and connection dimensions)

Further details in clear text

C = Actuator ports on side**D =** Actuator ports on underside**01 =** Pipe threads to ISO 228, part 1

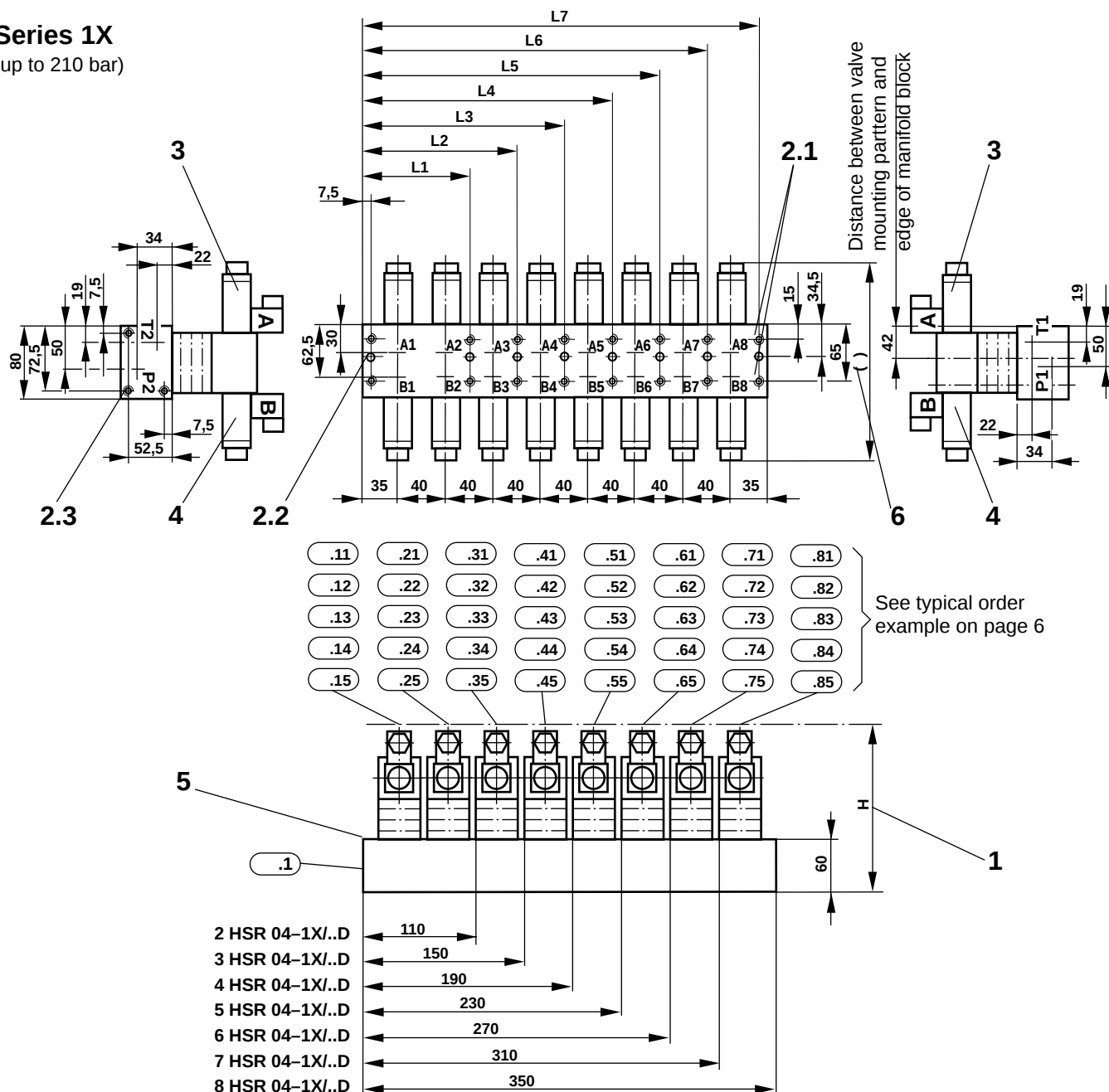
To order a multi-station manifold block with built-on valves, see page 6

Unit dimensions: actuator ports on underside "D"

(Dimensions in mm)

Series 1X

(up to 210 bar)



1 This dimension for each individual vertical stacking assembly is dependent upon the valves installed

2 Fixing holes for manifold block (all included in standard manifold)

2.1 4 x M6;10 from underside

2.2 2 x Ø6.8 through holes

2.3 3 x M6;10

3 Solenoid a

4 Solenoid b

5 For notes on sandwich plate valves, see page 6

6 This dimension () is dependent on the length of directional valve installed (See relevant data sheet)

Thread type	Pipe threads to ISO 228, part 1	
Port	A1..A8; B1..B8	P1, P2, T1, T2
Thread - Ø	G 1/4	G 3/8
Thread depth	12	12
Spot face - Ø	25	28
Spot face depth	1	1

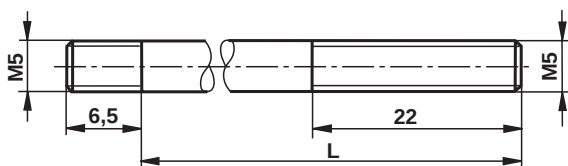
Manifold block	L1	L2	L3	L4	L5	L6	L7
2station	1025						
3station		1425					
4station			1825				
5station				2225			
6station					2625		
7station						3025	
8station							3425

Fixing screws and permissible operating pressure related to the values fitted

Screw selection table for vertical stacking assembly in conjunction with directional valve size 4:

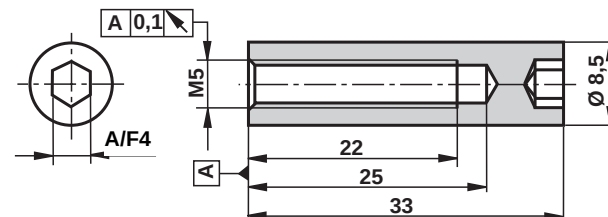
Pressure reducing valve (clamp length 30 mm)	Pressure relief valve (clamp length 30 mm)	Double check valve (clamp length 30 mm)	Check valve (clamp length 30 mm)	Double throttle/ check valve (clamp length 30 mm)	S.H.C.S. DIN 912 $M_A = 8,9 \text{ Nm}$	Studs DIN 939 $M_A = 8,9 \text{ Nm}$	Tensile strength	Order No.	Operating pressure $p_{\max}$ in bar
ZDR 4 D..-1X/...					M5 x 65		10.9	017010	210
	Z.DB 4 V...-1X/...				M5 x 65		10.9	017010	210
		Z2S 4 ..-1X/...			M5 x 65		10.9	017010	210
			Z1S 4 ..-1X/...		M5 x 65		10.9	017010	210
				Z2FS 4 -1X/...	M5 x 65		10.9	017010	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...				M5 x 95		10.9	005260	210
ZDR 4 D..-1X/...		Z2S 4 ..-1X/...			M5 x 95		10.9	005260	210
ZDR 4 D..-1X/...			Z1S 4 ..-1X/...		M5 x 95		10.9	005260	210
ZDR 4 D..-1X/...				Z2FS 4 -1X/...	M5 x 95		10.9	005260	210
	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...			M5 x 95		10.9	005260	210
	Z.DB 4 V ...-1X/...		Z1S 4 ..-1X/...		M5 x 95		10.9	005260	210
	Z.DB 4 V ...-1X/...			Z2FS 4 -1X/...	M5 x 95		10.9	005260	210
		Z2S 4 ..-1X/...	Z1S 4 ..-1X/...		M5 x 95		10.9	005260	210
		Z2S 4 ..-1X/...		Z2FS 4 -1X/...	M5 x 95		10.9	005260	210
			Z1S 4 ..-1X/...	Z2FS 4 -1X/...	M5 x 95		10.9	005260	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...			M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...		Z1S 4 ..-1X/...		M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...			Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...		Z2S 4 ..-1X/...	Z1S 4 ..-1X/...		M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...		Z2S 4 ..-1X/...		Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...			Z1S 4 ..-1X/...	Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...	Z1S 4 ..-1X/...		M5 x 130		10.9	014920	210
	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...		Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
	Z.DB 4 V ...-1X/...		Z1S 4 ..-1X/...	Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
		Z2S 4 ..-1X/...	Z1S 4 ..-1X/...	Z2FS 4 -1X/...	M5 x 130		10.9	014920	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...	Z1S 4 ..-1X/...			MFO x 160	10.9	001120	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...		Z2FS 4 -1X/...		MFO x 160	10.9	001120	210
	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...	Z1S 4 ..-1X/...	Z2FS 4 -1X/...		MFO x 160	10.9	001120	210
ZDR 4 D..-1X/...	Z.DB 4 V ...-1X/...	Z2S 4 ..-1X/...	Z1S 4 ..-1X/...	Z2FS 4 -1X/...		MFO x 190	10.9	015578	210
Directional valve 4 WE 4..-1X + manifold block HSR 04					M5 x 35		10.9	003189	210

Stud M5 FO
DIN 939,
tensile strength 10.9



L see table

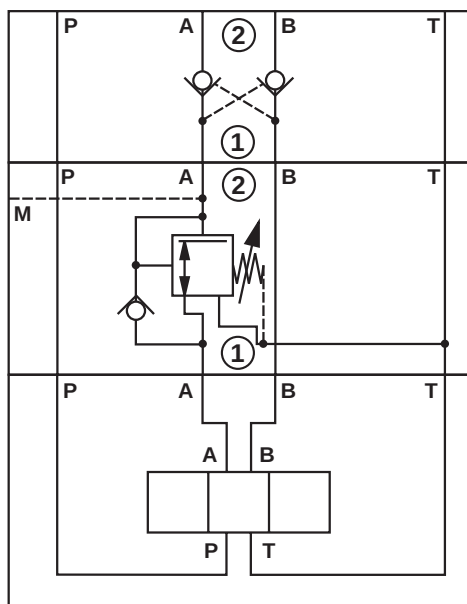
Nut M5 A3C
RN 115.43-C45V,
Order No. 176106



Project design notes

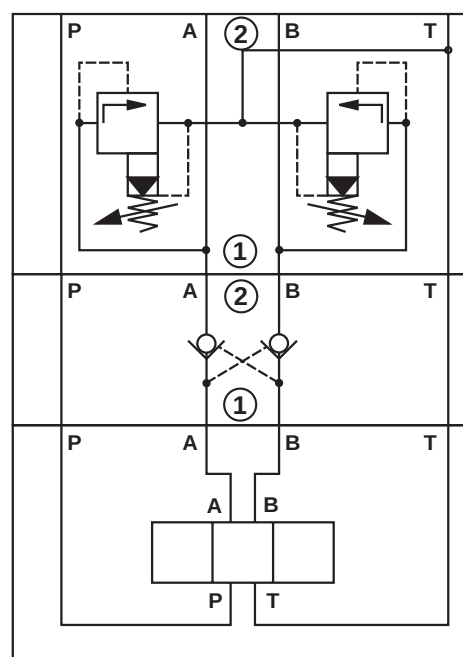
Pressure reducing valve combined with double check valve

The pressure reducing valve ZDR..DA (with pressure reduction in port A) **must** always be fitted between the directional valve and double check valve Z2S... Leak-free closure of the system cannot otherwise be ensured.



Pressure relief valve combined with double check valve

Leak-free closure of the actuator is **not** possible, if a pressure relief valve, type ZDB../Z2DB.. effective in port A and/or B is used with a double check valve.

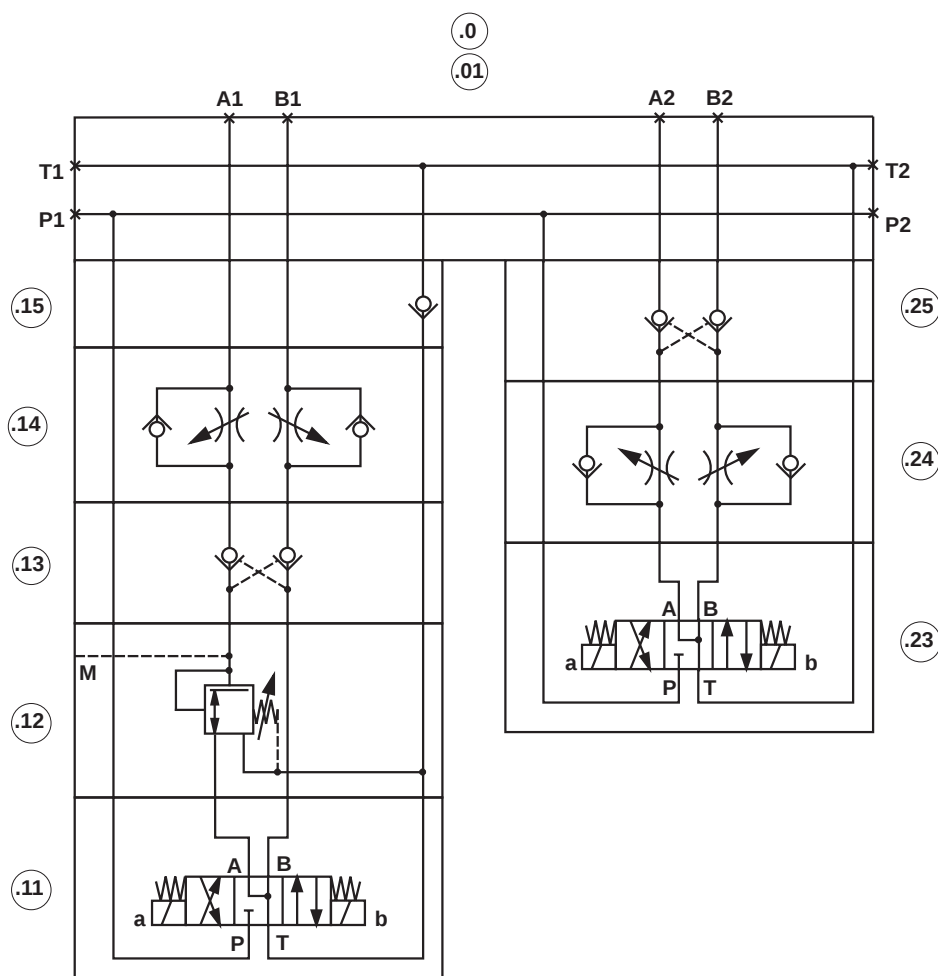


Note:

The circuits shown are only examples.
These project design notes also apply to valves of similar design and function.

Example of the ordering code necessary for a manifold block assembly

Example: 2 station manifold block to hydraulic circuit HS-115-B234



Item	Qty.	Unit description	Designation	Order No.
.0	1	Manifold block assembly	2HSR 04 C1X/115B234...	1)
.01	1	Manifold block	MANIFOLD 2HSR 04 -15/01 C	810793
.11	1	Directional valve	4WE 4 J1X/AG24N9K4	522016
.12	1	Pressure reducing valve	ZDR 4 DA2-1X/150YM	563069
.13	1	Double check valve	Z2S 4 -2-1X/V	526877
.14	1	Double throttle/check valve	Z2FS 4 -2-1X/2QV	526879
.15	1	Check valve	Z1S 4 T1-1X/V	526883
	4	Stud	M5 FO x 160-10.9 DIN 939	001120
	4	Hex. nut	M5 -A3C RN 145.15-C45	009433
.23	1	Directional valve	4WE 4 J1X/AG24N9K4	522016
.24	1	Double throttle/check valve	Z2FS 4 -2-1X/2QV	526879
.25	1	Double check valve	Z2S 4 -2-1X/V	526877
	4	S.H.C.S.	M5 x 95-10.9 DIN 912	005260

1) Order No. is defined by the factory !



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