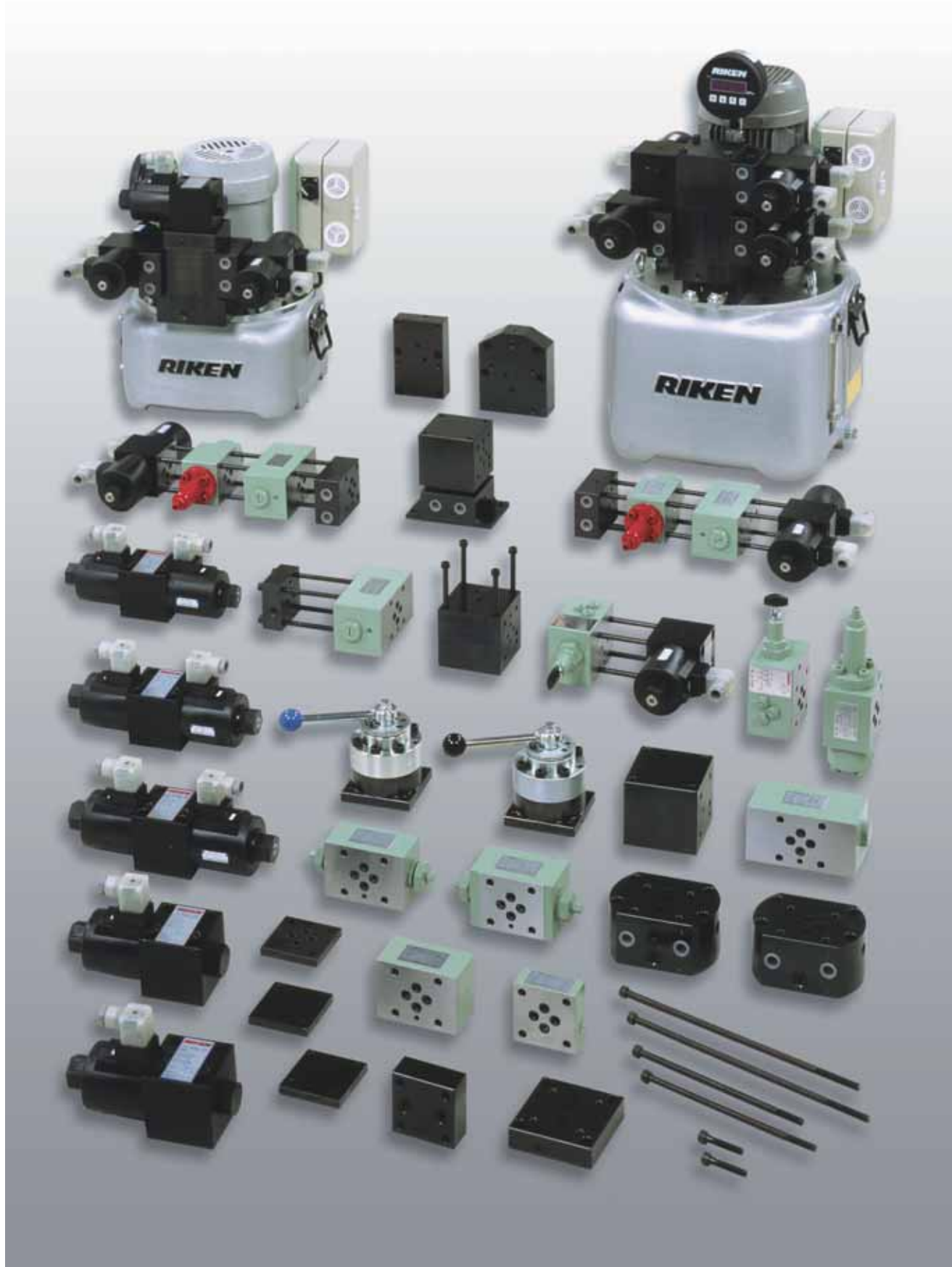


Esperblock (modular valve)

■ M Series (modular valve)

Maximum operating pressure	Maximum flow	Applied pumps
70MPa	0~ 8MPa : 15L/min	One-stage type: MP-15H or smaller
	8~70MPa : 3L/min	Two-stage type: MP-12 or smaller



Hydraulic Valves

Esperblock (modular valve)

■ M Series

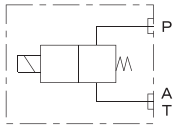
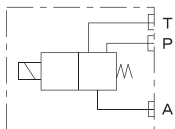
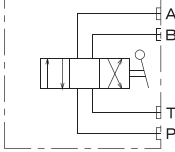
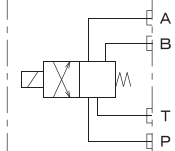
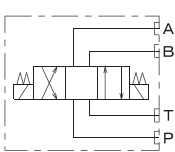
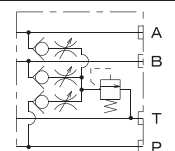
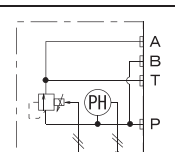
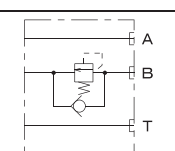
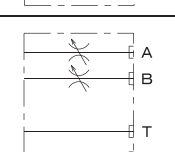
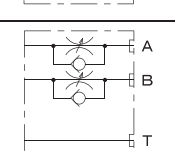
Features of Esperblock

- Easy to configure and change the circuit.
- Developed both vertically and horizontally, for significant space savings.
- Can be converted. Since the pitches of ports and mounting bolts are the same, the circuit can be changed easily by rotating or reversing Esperblock.

⚠ Instructions on using Esperblock

- When used very frequently, the pressure must be kept at 50 MPa or less.
- The screw-in length of the mounting bolts must be kept between 12 and 15 mm.
- The bolt tightening torque must be controlled between 20 and 25 Nm.
- Stacking to the pump unit could cause it to incline depending on the number of block levels. A block must be fixed at a base, support, etc.
- An inline filter must be used to protect hydraulic equipment.
- The allowable back pressure is 1 MPa.

■ List of the models

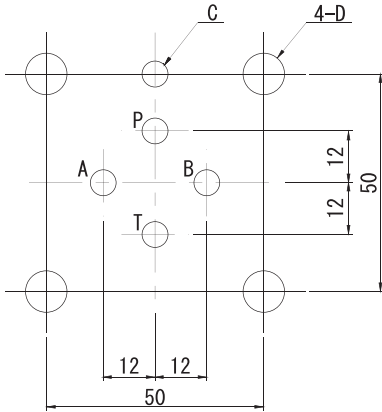
Classification	Name	Type	Circuit designation	Bolt insert length	Indicated page
Direction-control valve	2-way 2 position solenoid valve (KD series)	KD-2※-※		Including four M6 x 20	119
	3-way 2 position solenoid valve (KD series)	KD-3※-※		Including four M6 x 20	119
	4-way 3 position manual valve (M series)	MHV-4※		10	135
	4-way 2 position solenoid valve (M series)	MSL-4※-※		23	106 or 135
	4-way 3 position solenoid valve (M series)	MSW-4※-※		23	
Pressure control valve	Relief valve	MRV-PAB		60	136
	Electromagnetic proportional relief valve	PRV-1※B		100	112 or 136
	Counter balance valve	MCB-AB-※		60	139
Flow control valve	Needle valve	MNV-1		50	139
Check valve	Check valve with bypass	MCH-1		60	137

Esperblock (modular valve)

■ M Series

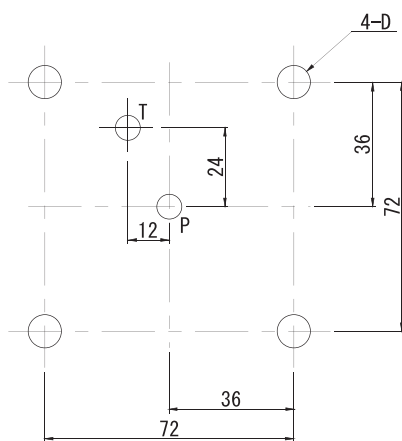
Pitches for ports and bolt holes of Esperblock

● Both sides of each valve, plate, and block



A/B/P/T port: $\phi 7$ counterbore diameter $\phi 12$ depth 1.4
 C: P port indicating hole $\phi 7$
 (Some valves and plates that can be converted don't have the indicating holes.)
 D: Bolt hole $\phi 8.5 - \phi 9$

● Top / bottom surfaces of the block / Top surface of the base plate



P/T port: $\phi 6$ counterbore diameter $\phi 12$ depth 1.4
 D: Bolt hole $\phi 8.6$

■ List of the models

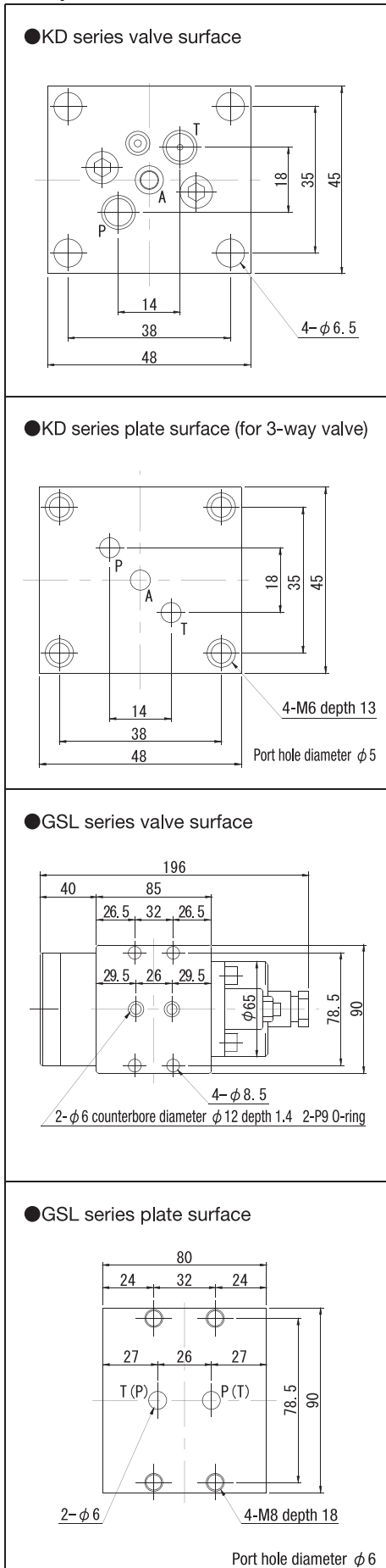
Classification	Name	Type	Circuit designation	Bolt insert length	Indicated page
Check valve	Inline check valve	MCH-2-1		50	137
		MCH-2-2		30	138
		MCH-2-3		30	
	Pilot controlled check valve	MCH-4		70	
Filter	Inline filter	MIF-31		70	140
		MIF-32		70	
Plate	Sub-plate	MPS-31		Including four M8 x 50	
		MPS-32		Including four M8 x 50	
	Base plate	MBP-31		-	
	Block sub-plate	MBSP-31		38	141
MBSP-32			23		

Hydraulic Valves

Esperblock (modular valve)

■ M Series

Mounting surface for 2-way / 3-way valves



■ List of the models

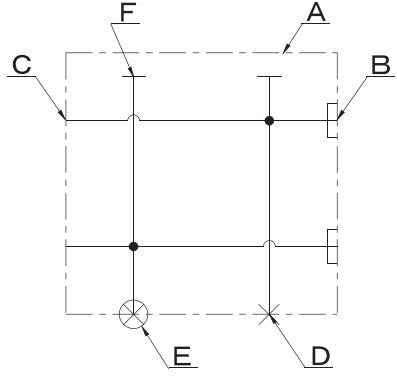
Classification	Name	Type	Circuit designation	Bolt insert length	Indicated page
Block	Block	MB-1		85	142
		MB-2		85	
		MB-3		85	
Plate	Block top plate	MBTP-1		11	143
	Change plate	MCP-R-M4		20	
		MCP-M-R4		20	
		MCP-M-K		30	
		MCP-M-K2		30	
		MCP-M-K3		30	
		MCP-M-KD (For depression)		50	
		MCP-M-G2		35	

Esperblock (modular valve)

■ M Series

■ List of the models

● Description of the circuit designation of Esperblock



A: Configuration range
 B: Mounting surface (with counterbore for O-ring)
 ※O-rings are attached to all the mounting surfaces.
 ※Packing used: P-9 (Hs90)
 C: Mounting surface (flat face)
 D: Rc3/8 (Female thread)
 E: Rc3/8 (Including plug)
 F: Oil passage blocked

● Bolts for Esperblock

Description of the type

MBH-35

Series code: **M** Bolt, **B** Hexagon socket head cap screw, **H** Stud, **35** Overall length

H: Length under head
 S: Overall length

● The tightening torque must be controlled between 20 and 25 Nm.
 ● The screw-in length must be kept between 12 and 15 mm.

MBH-** (M8 × 1.25)
35 · 45 · 50 · 55 · 65 · 75 · 80 · 85 · 95 100 · 105 · 110 · 115 · 125 · 135 · 145 150 · 155 · 165 · 170 · 175 · 185 · 195 200 · 205 · 215 · 220 · 225 · 235 · 245 255 · 265 · 275 · 285
MBS-*** (M8 × 1.25)
285 (For three block levels) 340 (Six KD series are used.) 375 (For four block levels) (Nuts for M8 or larger aren't included.)

Classification	Name	Type	Circuit designation	Bolt insert length	Indicated page
Plate	Pickup plate	MPP-31		40	144
		MPP-32		40	
		MPP-33		40	
		MPP-34		40	
		MPP-35		40	
		MPP-37		28	
Plate	Spacer plate	MSP-1		10	145
		MSP-2		10	
		MSP-3		10	
		MSP-4		20	
Plate	Return plate	MRP-1		30	145
		MRP-2		30	
Bolt	Hexagon socket head cap screw	MBH-※	-	-	Described on the left
	Stud	MBS-※	-	-	

Hydraulic Valves