



Shock absorbing valve SKH Series

● Cylinder bore size: φ25 to φ125



4GA/B
M4GA/B
MN4GA/B
4GA/B
(mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E
MN4E

W4GA/B2

W4GB4

4TB

4L2-4/
LMF0

MN3S0
MN4S0

4SA/B0

4KA/B

4KA/B
(mastr)

4F

4F
(mastr)

Common specifications

Descriptions		2 SKH330 5	2 SKH430 5	2 SKH530 5	2 SKH338 5	2 SKH438 5	SKH318	SKH418		
Working fluid		Compressed air								
Valve and operation		Pilot operated soft spool valve								
Basic solenoid valve		4KB3	4KB4		4KB3	4KB4	4KB3	4KB4		
Working pressure MPa		0.3 (≈44 psi, 3 bar) to 0.7 (≈100 psi, 7 bar)								
Proof pressure MPa		1.0 (≈150 psi, 10 bar)								
Flow characteristics	C[dm ³ /(s·bar)]	4.3	8.9	16.3	4.1	7.9	4.4	8.5		
Ambient temperature (*1) °C	b	0.18	0.19	0.27	0.14	0.17	0.13	0.17		
Fluid temperature °C		-5 (23°F) to 50 (122°F) (no freezing)								
Lubrication		Not required								
Weight g	1950	3250	4230	660	1030	500	810			

*1: The ambient temperature indicates the temperature for storage and upon installation, which will differ from the fluid temperature during operation.

*2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

*3: The flow characteristics of SKH**0 are values for the direction of A/B ⇒ R when only the valve for high speed is operated.

*4: The flow characteristics of SKH**8 are values for the direction of P ⇒ A/B.

Electrical specifications

Descriptions		2 SKH330 5	2 SKH430 5	2 SKH530 5	2 SKH338 5	2 SKH438 5	SKH318	SKH418												
Rated voltage	AC	100,200(50/60 Hz)				24														
	V DC																			
Voltage fluctuation range		±10%																		
Starting current	AC	100 V	0.092/0.084	0.138/0.126	0.046/0.042															
		200 V	0.046/0.042	0.069/0.063																
Holding current	A	DC 24 V	-	-	-															
		AC 100 V	During high speed: 0.046/0.042 During low speed: 0.023/0.021	During high speed: 0.069/0.063 During low speed: 0.023/0.021	0.023/0.021															
P/M/B		AC 200 V	During high speed: 0.028/0.022 During low speed: 0.014/0.011	During high speed: 0.042/0.033 During low speed: 0.014/0.011	0.014/0.011															
		DC 24 V	During high speed: 0.15 During low speed: 0.075	During high speed: 0.225 During low speed: 0.075	0.075															
4F*0EX		AC 100 V	During high speed: 3.6/3.0 During low speed: 1.8/1.5	During high speed: 5.4/4.5 During low speed: 1.8/1.5	1.8/1.5															
		AC 200 V	During high speed: 3.6/3.0 During low speed: 1.8/1.5	During high speed: 5.4/4.5 During low speed: 1.8/1.5	1.8/1.5															
4F*0E		DC 24 V	During high speed: 4.0 During low speed: 2.0	During high speed: 6.0 During low speed: 2.0	2.0															
		Temperature rise °C	30 (86°F)																	
Thermal class		B (molded coil)																		
Surge suppressor		Varistor																		
Indicator		Lamp (option)																		

Copper and PTFE free specifications

● Copper- and PTFE-based materials are not used in the flow path.

** - Voltage - **P6**

How to order shock absorbing valves

● Variable speed unit

SKH - 3 20 — 10 - 1

● Deceleration unit

SKH - 3 28 — 10 - 1

● Single-side deceleration unit

SKH - 3 18 - A - 10 - 1**A Nominal size**
*1**B Solenoid position****C Connection port with relief valve**
*2**D Port size**
*1**E Voltage**

*1: Nominal size and port size depending on each model

Code	(A) Nominal size	(D) Port size	
Model		10	Rc3/8
Variable speed unit 32 SKH-430	3	10	Rc3/8
	4	15	Rc1/2
	5	15	Rc1/2
Deceleration unit SKH- ₄ ² ₅ ³ ₈	3	08	Rc1/4
		10	Rc3/8
	4	10	Rc3/8
		15	Rc1/2
One-sided deceleration unit SKH- ₄ ³ ₁₈	3	08	Rc1/4
		10	Rc3/8
	4	10	Rc3/8
		15	Rc1/2

Code Content

A Nominal size

3	4KB3 used
4	4KB4 used
5	4KB4 used

B Solenoid position

18	2-position single
20	2-position double
28	2-position double
30	3-position all ports closed
38	3-position all ports closed
50	3-position PAB
58	3-position PAB

C Connection port with relief valve

Blank	Connection with port B
A	Connection with port A

D Port size

08	Rc1/4
10	Rc3/8
15	Rc1/2

E Voltage

1	100 VAC
2	200 VAC
3	24 VDC

*2: For the air circuit, refer to "Example of piping connections and time chart diagram" (page 1738).

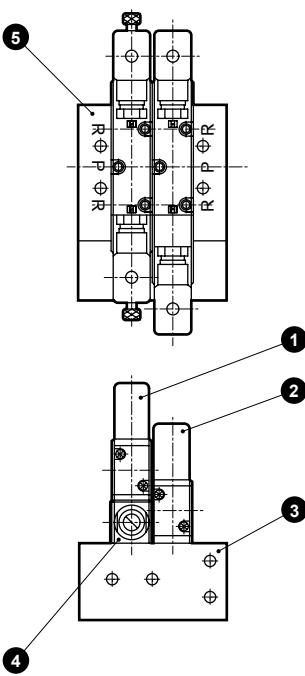
Model		Variable speed unit	Deceleration unit	One-sided deceleration unit
4GA/B				
M4GA/B				
MN4GA/B				
4GA/B (mastr)				
4GD/E				
M4GD/E				
MN4GD/E				
4GA4/B4				
MN3E				
MN4E				
W4GA/B2				
W4GB4				
4TB				
4L2-4/LMFO				
MN3S0				
MN4S0				
4SA/B0				
4KA/B				
4KA/B (mastr)				
4F				
4F (mastr)				
PV5G				
GMF				
PV5				
GMF				
PV5S-0				
3QR				
3QB				
MV3QR				
3MA/B0				
3PA/B				
P/M/B				
NP/NAP/NVP				
4F*0EX				
4F*0E				
HMV				
HSV				
2QV				
3QV				
SKH				
PCD				
Silencer				
TotAirSys (Total Air)				
TotAirSys (Gamma)				
Ending				

SKH Series

Internal structure and parts list

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
4TB
4L2-4/ LMF0
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR 3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

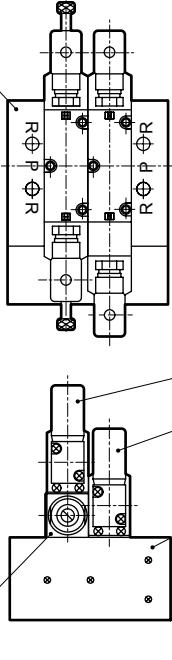
SKH-320



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB329-00	1	For deceleration
2	Solenoid valve	4KB339-00	1	For high speed
3	Side plate	-	1	Aluminum alloy
4	Spacer relief valve	SKH-3-SR	1	Relief valve assy
5	Sub-plate	-	1	Aluminum alloy

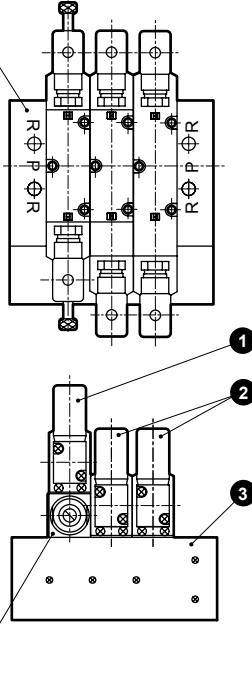
SKH-420



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB429-00	1	For deceleration
2	Solenoid valve	4KB439-00	1	For high speed
3	Side plate	-	1	Aluminum alloy
4	Spacer relief valve	SKH-4-SR	1	Relief valve assy
5	Sub-plate	-	1	Aluminum alloy

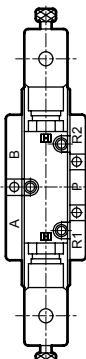
SKH-520



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB429-00	1	For deceleration
2	Solenoid valve	4KB439-00	2	For high speed
3	Side plate	-	1	Aluminum alloy
4	Spacer relief valve	SKH-4-SR	1	Relief valve assy
5	Sub-plate	-	1	Aluminum alloy

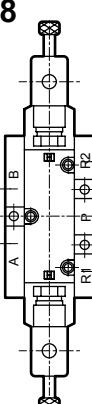
SKH-328



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB329-00	1	For deceleration
2	Spacer relief valve	SKH-3-SR	1	Relief valve assy
3	Sub-plate	-	1	Alum die-cast

SKH-428



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB429-00	1	For deceleration
2	Spacer relief valve	SKH-3-SR	1	Relief valve assy
3	Sub-plate	-	1	Alum die-cast

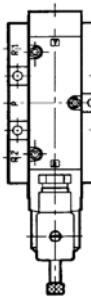
SKH-318



Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB319-00	1	For deceleration
2	Spacer relief valve	SKH-3-SR	1	Relief valve assembly
3	Sub-plate	-	1	Alum die-cast

SKH-418



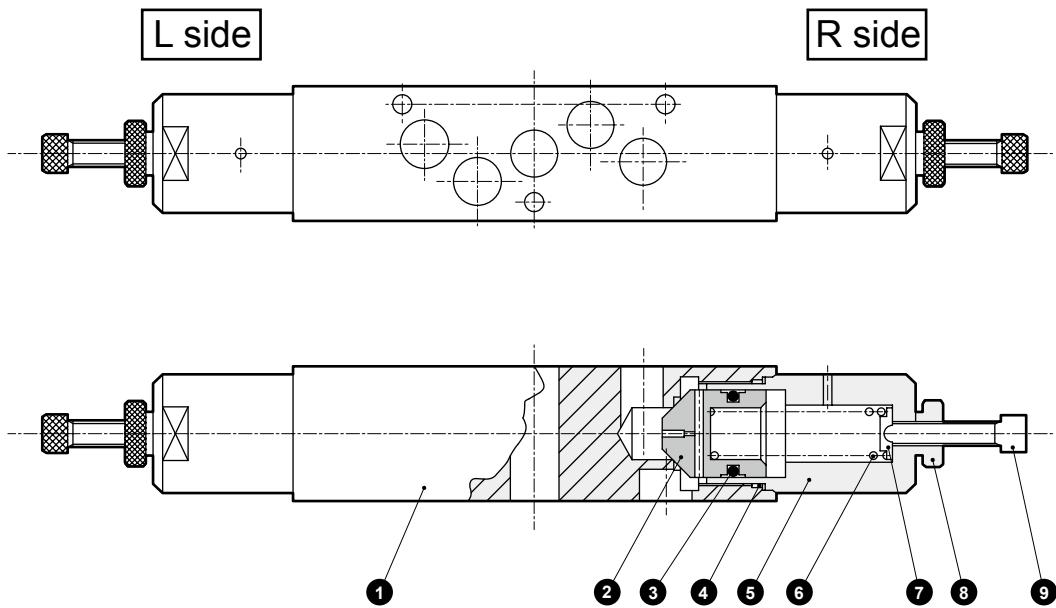
Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB419-00	1	For deceleration
2	Spacer relief valve	SKH-4-SR	1	Relief valve assembly
3	Sub-plate	-	1	Alum die-cast

*1) The appearance shown is that of the SKH-318 and SKH-418 types (types where the relief valve connects with port B).

*2) Of the spacer relief valves, those on the upper row are for SKH-318, SKH-418 (types where the relief valve connects with port B) while those on the lower row are for SKH-318-A, SKH-418-A (types where the relief valve connects with port A).

Internal structure and parts list



* The above part shows both-sided deceleration (SKH-³₄-SR).

* Of single-sided deceleration types, SKH-³₄S-SR will only have relief valves (② to ⑨) on the left side as shown in the above diagram, while SKH-³₄S-SR-A will only have relief valves (② to ⑨) on the right side.

Main parts list

No.	Part name	Material	Qty.
1	Spacer	Aluminum alloy	1
2	Valve retainer	Polyacetal resin	2
3	O-ring	Nitrile rubber	2
4	O-ring	Nitrile rubber	2
5	Cover	Aluminum alloy	2
6	Cylindrical spring	Piano wire	2
7	Spring disc	Steel	2
8	Stop nut	Stainless steel	2
9	Adjusting screw	Copper alloy	2
Accessory	Gasket	Nitrile rubber	1
	Hexagon socket head cap screw	Alloy steel	3

* The accessories are to be used when fixing the 4KB₄³ valve and spacer onto the sub-plate.

Repair parts list

Repair parts	Solenoid valve		Relief valve		
	Solenoid valve for high speed	Solenoid valve for deceleration	Spacer relief valve ^②	Maintenance kit ^①	
SKH-3	4KB39-00-LS- └ AC200V └ AC100V └ DC24V	4KB3*9-00-LS- └ AC200V └ AC100V └ DC24V	For single-sided deceleration ^③	SKH-3S-SR	SKH-3S-SRK
				SKH-3S-SR-A	
			For both-sided deceleration	SKH-3-SR	SKH-3-SRK
SKH-4	4KB439-00-LS- └ AC200V └ AC100V └ DC24V	4KB4*9-00-LS- └ AC200V └ AC100V └ DC24V	For single-sided deceleration ^③	SKH-4S-SR	SKH-4S-SRK
				SKH-4S-SR-A	
SKH-5			For both-sided deceleration	SKH-4-SR	SKH-4-SRK

^①) The maintenance kit is ② + ③ + ④ + ⑤ + ⑥ + ⑦.

^②) The spacer relief valve is an accessory of + ① + ② + ③ + ④ + ⑤ + ⑥ + ⑦ + ⑧ + ⑨.

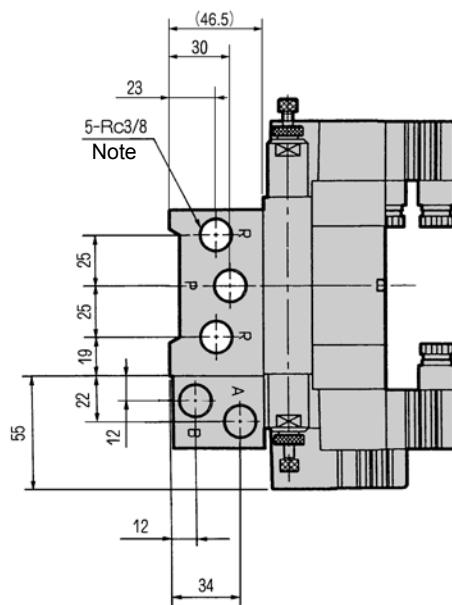
^③) Of the spacer relief valves for single-sided deceleration, those on the upper row are for SKH-³₄ 18 (type that connects with port B) while those on the lower row are for SKH-³₄ 18-A (type that connects with port A).

SKH Series

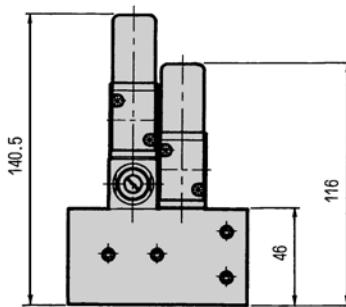
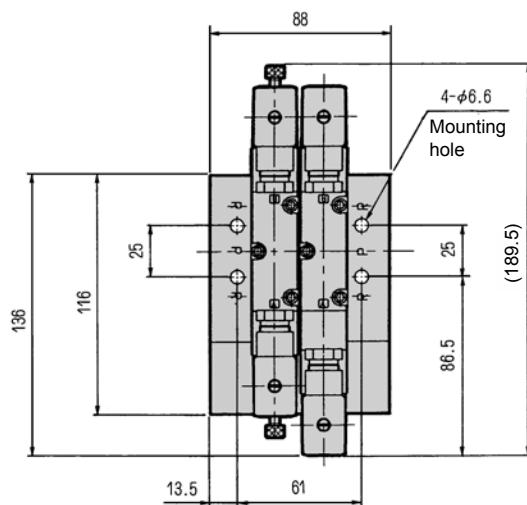
Dimensions

CAD

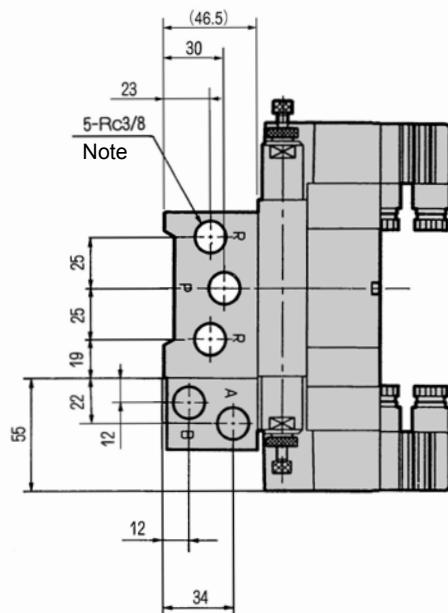
SKH-320



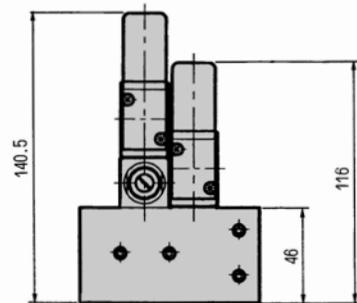
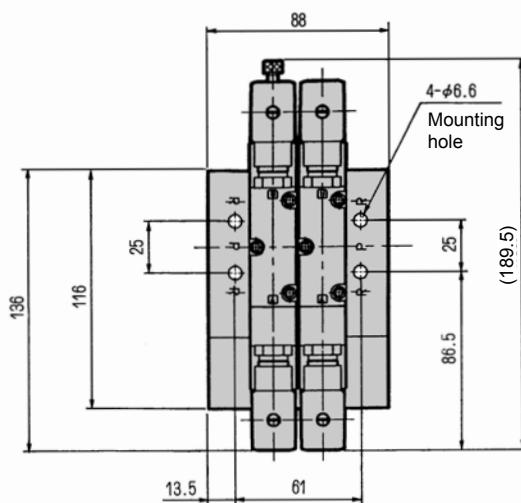
Note) P and R ports have port holes on the opposite side as well, whereas A and B ports only have port holes on this side.



SKH-3₅³⁰



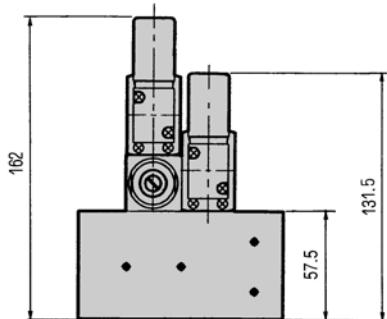
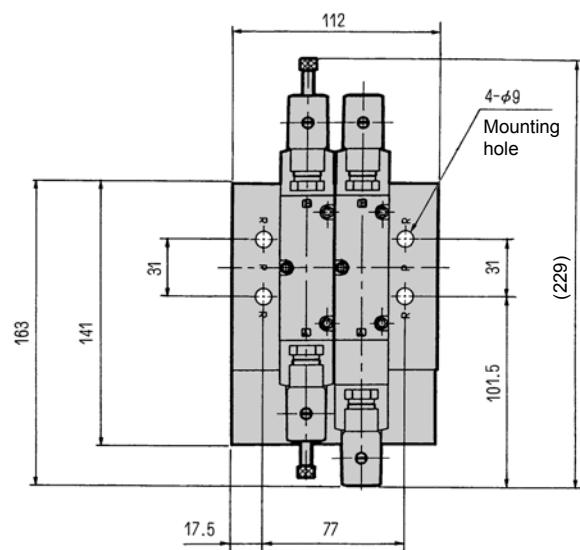
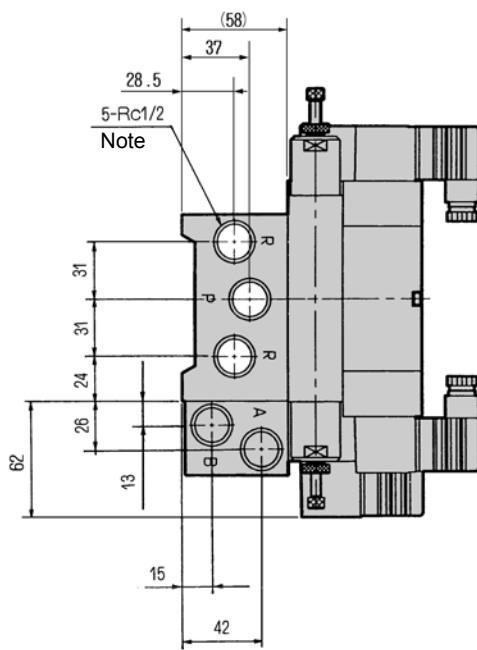
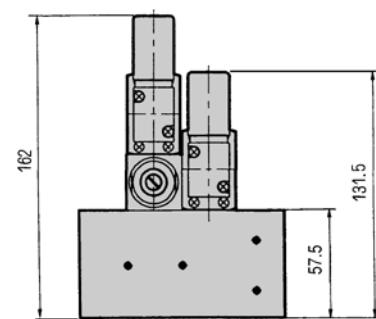
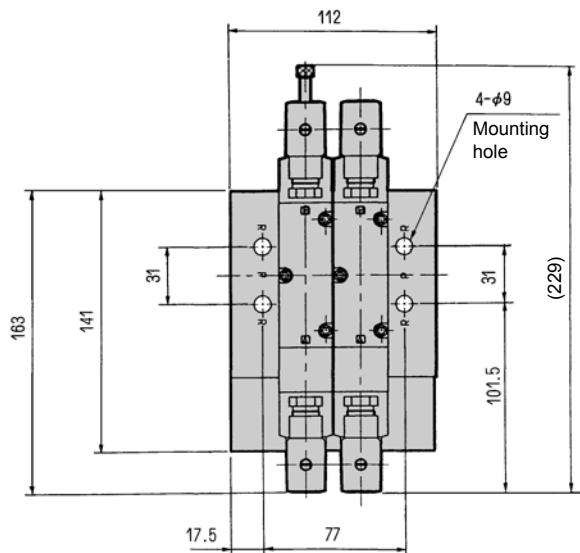
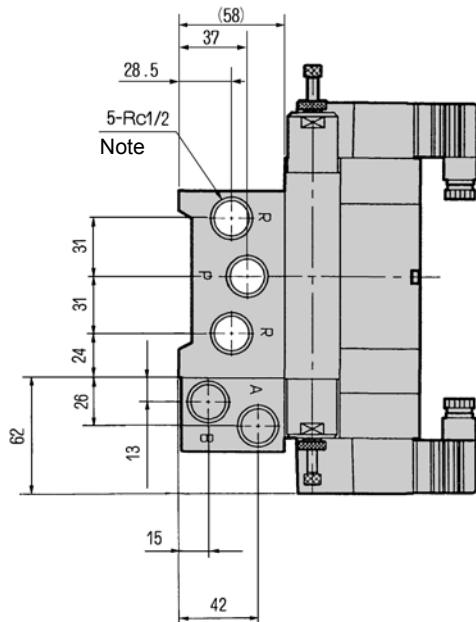
Note) P and R ports have port holes on the opposite side as well, whereas A and B ports only have port holes on this side.



Dimensions



SKH-420

SKH-4³₅0

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
4TB
4L2-4/LMFO
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
PV5G
GMF
PV5
GMF
PV5S-0
3QR
3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

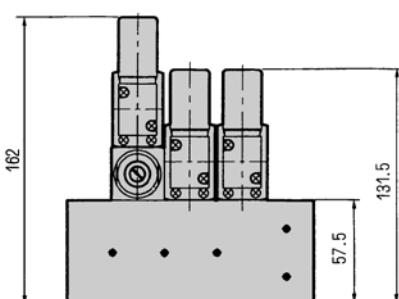
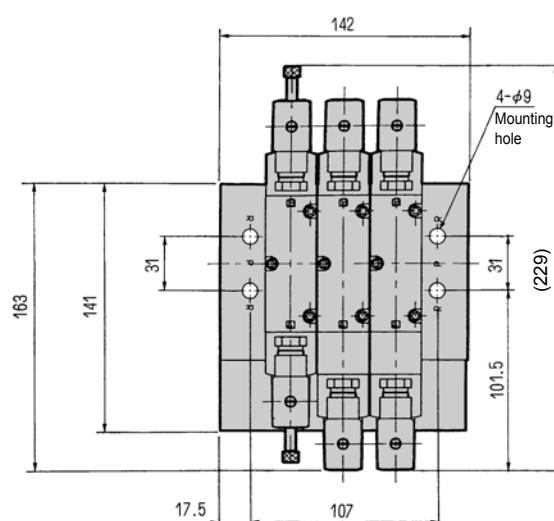
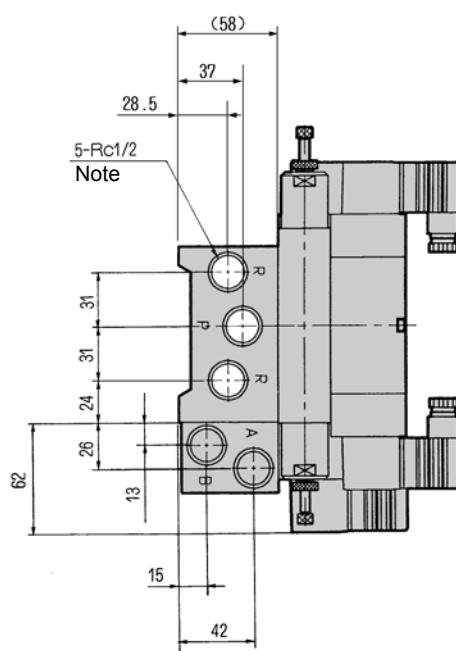
SKH Series

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
4TB
4L2-4/ LMFO
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR 3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

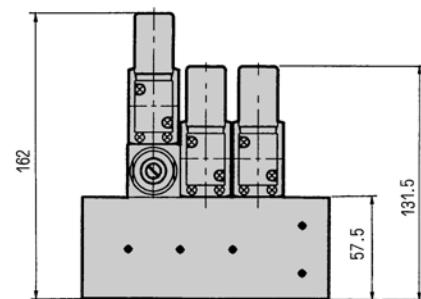
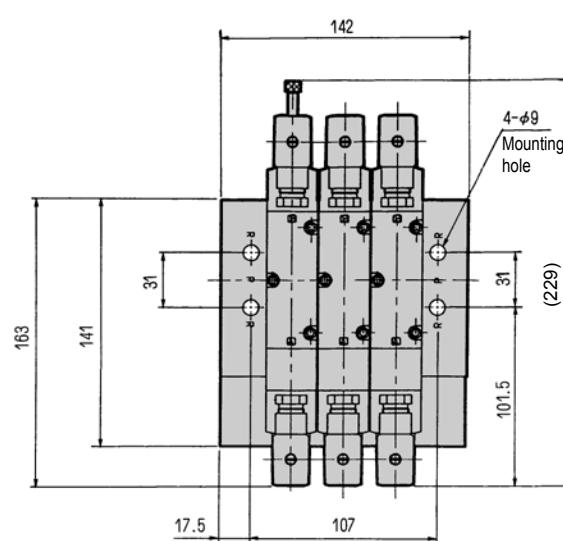
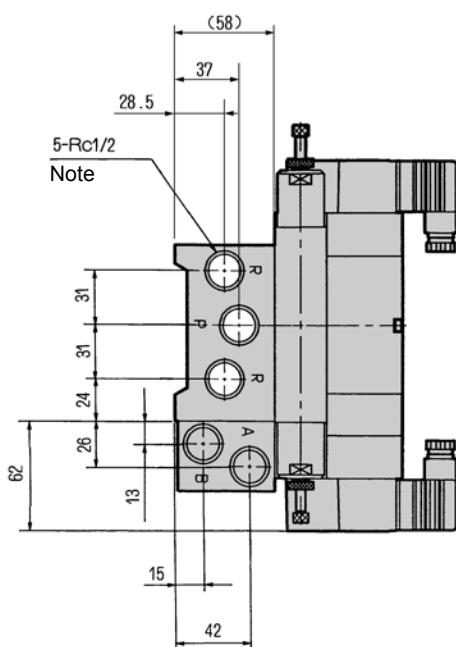
Dimensions

CAD

SKH-520



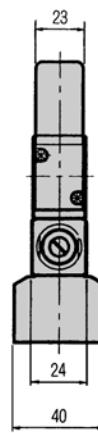
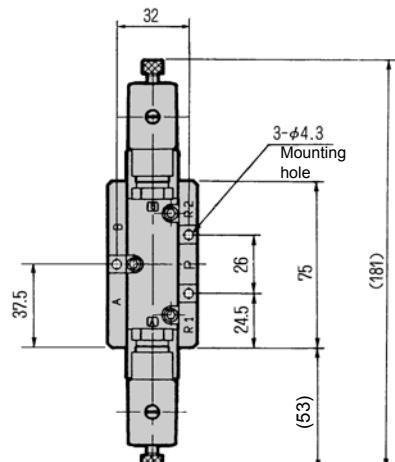
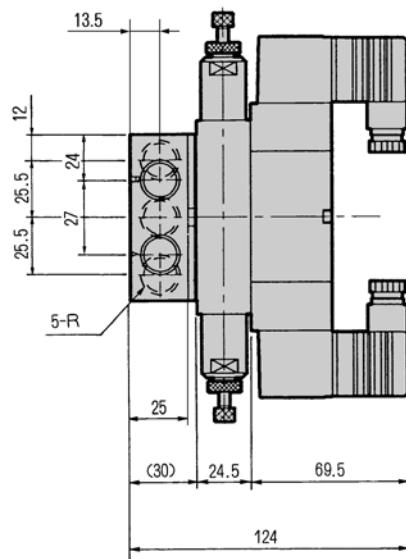
SKH-5³0



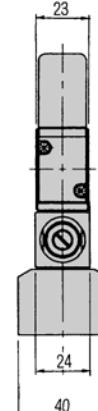
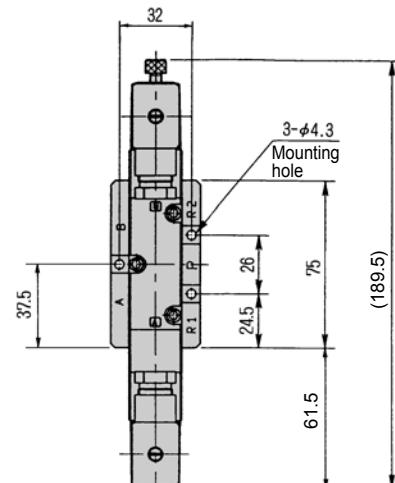
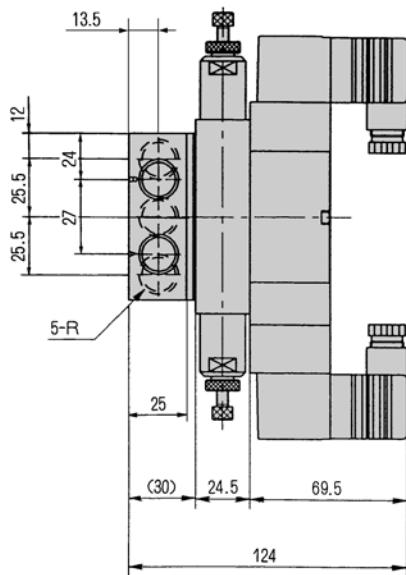
Dimensions



SKH-328



Model No.	R
SKH-328-08	Rc1/4
SKH-328-10	Rc3/8

SKH-3³₅8

Model No.	R
SKH-3 ³ ₅ 8-08	Rc1/4
SKH-3 ³ ₅ 8-10	Rc3/8

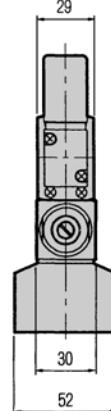
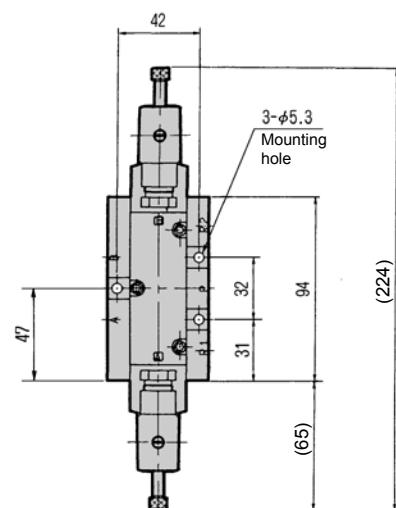
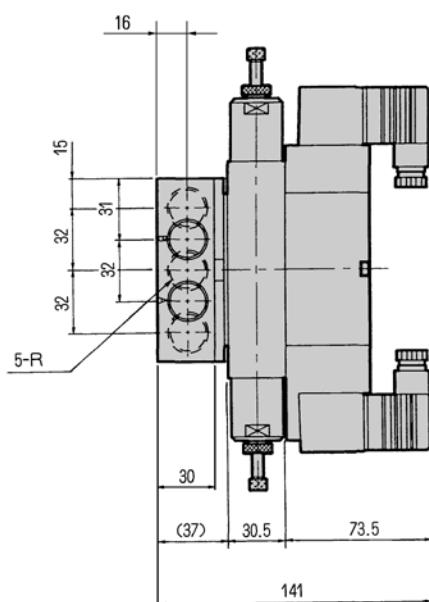
- 4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
4TB
4L2-4/
LMFO
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G
GMF
PV5
GMF
PV5S-0
3QR
3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/
NVP
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD
Silencer
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Ending

SKH Series

Dimensions

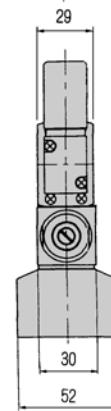
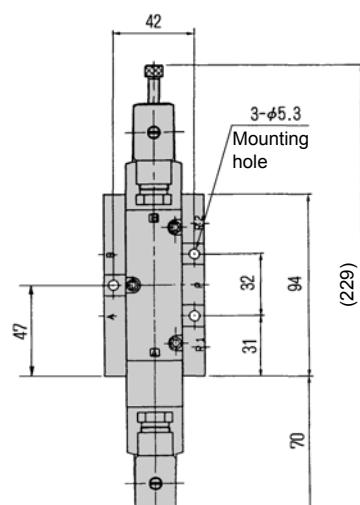
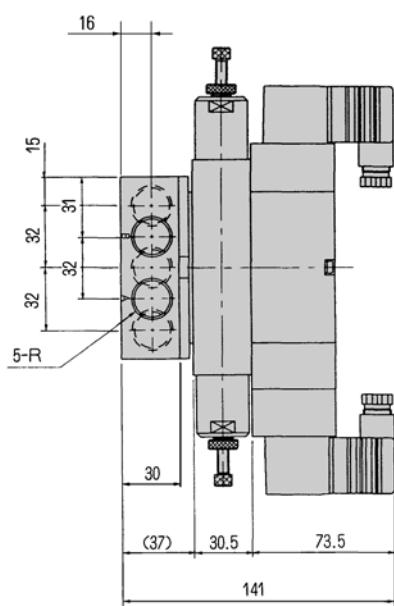


SKH-428



Model No.	R
SKH-428-10	Rc3/8
SKH-428-15	Rc1/2

SKH-4³₅8



Model No.	R
SKH-4 ³ ₅ 8-10	Rc3/8
SKH-4 ³ ₅ 8-15	Rc1/2

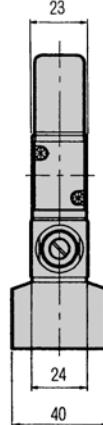
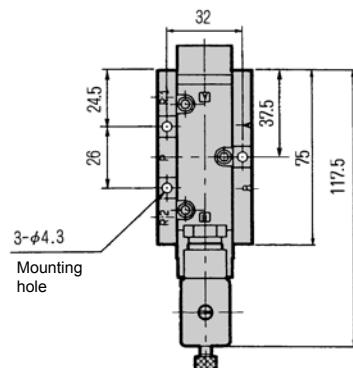
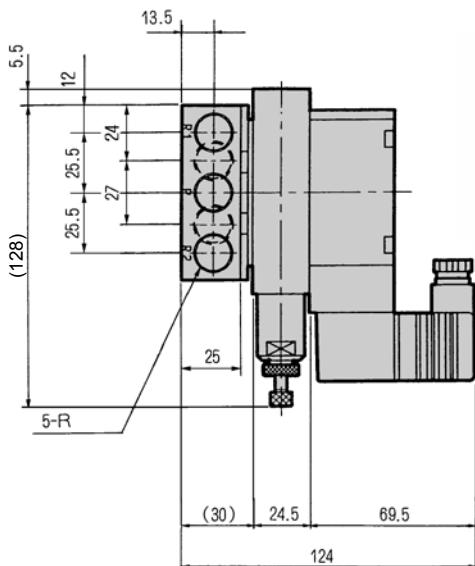
4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
4TB
4L2-4/ LMF0
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR 3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

Dimensions



SKH-318

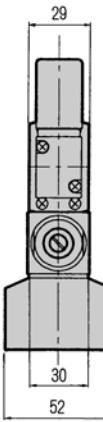
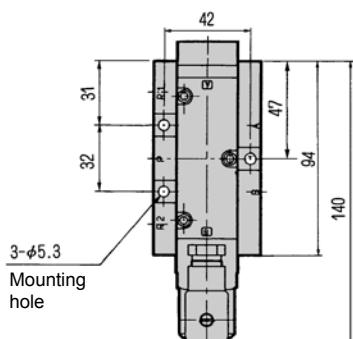
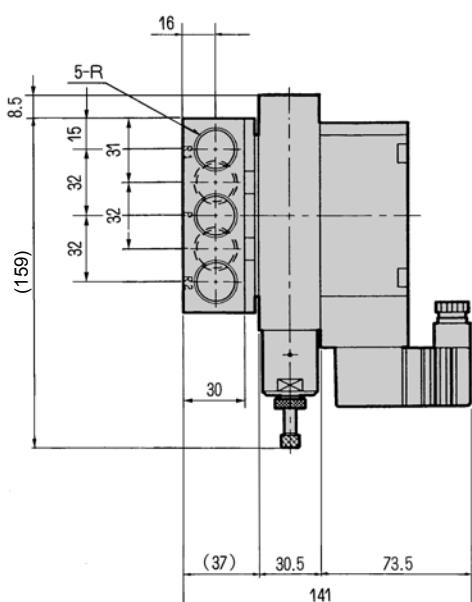
(Type where the relief valve connects with port B)



Model No.	R
SKH-318-08	Rc1/4
SKH-318-10	Rc3/8

SKH-418

(Type where the relief valve connects with port B)



Model No.	R
SKH-418-10	Rc3/8
SKH-418-15	Rc1/2

4GA/B
M4GA/B
MN4GA/B
4GA/B (mastr)
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
4TB
4L2-4/LMFO
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (mastr)
4F
4F (mastr)
PV5G GMF
PV5 GMF
PV5S-0
3QR
3QB
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
PCD
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

SKH Series

4GA/B

M4GA/B

MN4GA/B

4GA/B
(mastr)

4GD/E

M4GD/E

MN4GD/E

4GA4/B4

MN3E
MN4E

W4GA/B2

W4GB4

4TB

4L2-4/
LMF0

MN3S0
MN4S0

4SA/B0

4KA/B

4KA/B
(mastr)

4F

4F
(mastr)

PV5G
GMF

PV5
GMF

PV5S-0

3QR
3QB

MV3QR

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0EX

4F*0E

HMV
HSV

2QV
3QV

SKH

PCD

Silencer

TotAirSys
(Total Air)

TotAirSys
(Gamma)

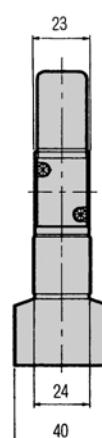
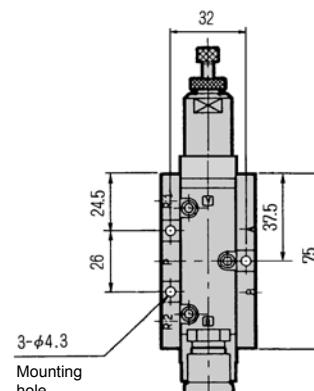
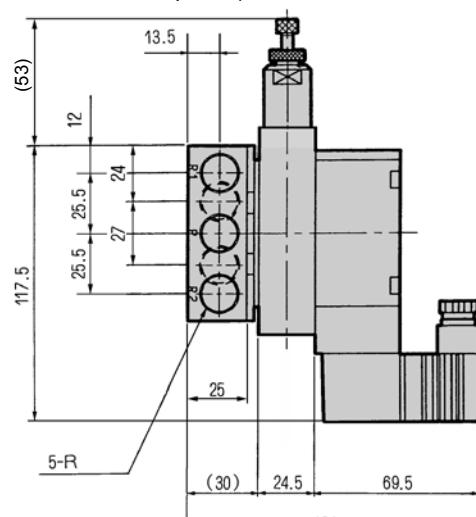
Ending

Dimensions



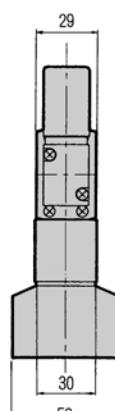
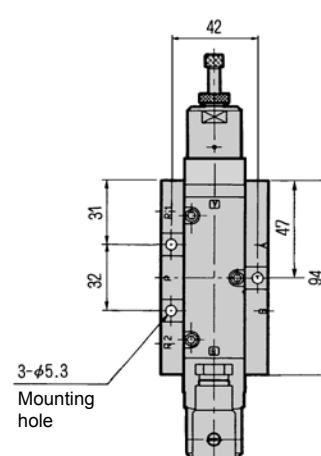
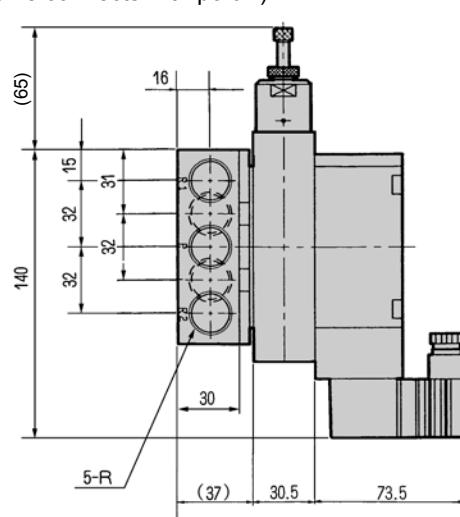
SKH-318-A

(Type where the relief valve connects with port A)



SKH-418-A

(Type where the relief valve connects with port A)



Model No.	R
SKH-418-10	Rc3/8
SKH-418-15	Rc1/2