

Shock absorbing valve

SKH Series

● Cylinder bore size: ø25 to ø125

RoHS CAD

Common specifications

Variable speed unit	Deceleration unit	Single-side deceleration unit
By integrating the solenoid valve for driving the air cylinder, the solenoid valve for deceleration, and the relief valve, it becomes possible to easily decelerate and stop smoothly at the end.	By additionally installing this unit in an existing air cylinder driving circuit, it becomes possible to realize smooth decelerating and stopping effects at the end in accordance with a high speed drive.	By forming a unit with the end control on only one side of an existing air cylinder driving circuit, the solenoid valve for deceleration, and the relief valve, it becomes possible to decelerate and stop smoothly.

Item	SKH3325	SKH4325	SKH5325	SKH3385	SKH4385	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)						
Ambient temperature (*1) °C	-5 (23°F) to 50 (122°F) (no freezing)						
Fluid temperature °C	5 (41°F) to 50 (122°F)						
Lubrication	Not required						

*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 x 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

Item			SKH3325	SKH4325	SKH5325	SKH3385	SKH4385	SKH318	SKH418
Rated voltage V	AC		100,200(50/60 Hz)						
	DC		24						
Voltage fluctuation range			±10%						
Starting current A	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	0.023/0.021			
	DC	24 V	-		-	-			
Holding current A	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			
		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			
Power consumption W	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			
		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			
	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)						

Performance/Characteristics

Item		SKH3325	SKH4325	SKH5325	SKH3385	SKH4385	SKH318	SKH418
Flow characteristics	C[dm³/(s·bar)]	4.3	8.9	16.3	4.1	7.9	4.4	8.5
	b	0.18	0.19	0.27	0.14	0.17	0.13	0.17

Weight

Item	SKH3325	SKH4325	SKH5325	SKH3385	SKH4385	SKH318	SKH418
Weight g	1950	3250	4230	660	1030	500	810

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

Ⓐ Nominal size (*1)
Ⓑ Solenoid position
Ⓒ Connection port with relief valve (*2)
Ⓓ Port size (*1)
Ⓔ Voltage

Code	Description	Model: Variable speed unit	Model: Deceleration unit	Model: One-sided deceleration unit
Ⓐ Nominal size				
3	4KB3 used	●	●	●
4	4KB4 used	●	●	●
5	4KB4 used	●		
Ⓑ 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		●	
Ⓒ Connection port with relief valve				
Blank	Connection with port B			●
A	Connection with port A			●
Ⓓ Port size				
08	Rc1/4		●	●
10	Rc3/8	●	●	●
15	Rc1/2	●	●	●
Ⓔ 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 1870).

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

Code / Model	Ⓐ Nominal size	Ⓓ Port size	
Variable speed unit SKH-430 (32, 55)	**3**	**10**	Rc3/8
	4	**15**	Rc1/2
	5	**15**	Rc1/2
Deceleration unit SKH-3(2,4,5)38	**3**	**08**	Rc1/4
		10	Rc3/8
	4	**10**	Rc3/8
		15	Rc1/2
One-sided deceleration unit SKH-(3,4)18	**3**	**08**	Rc1/4
		10	Rc3/8
	4	**10**	Rc3/8
		15	Rc1/2

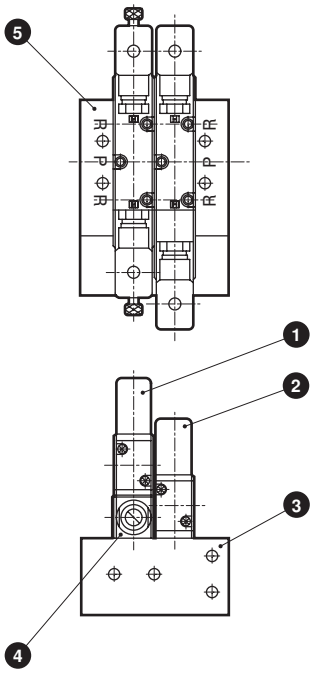
Copper and PTFE free specifications

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

** - Voltage - **P6**

Internal structure and parts list

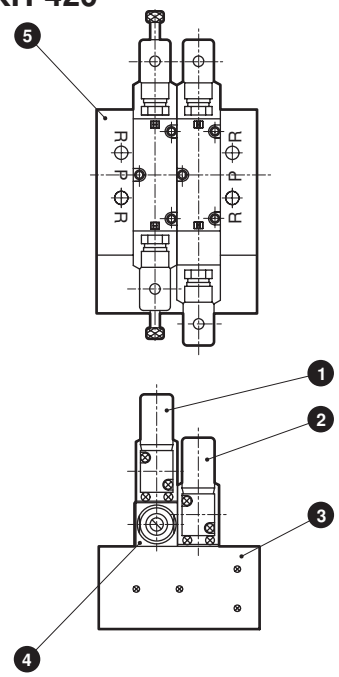
SKH-320



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

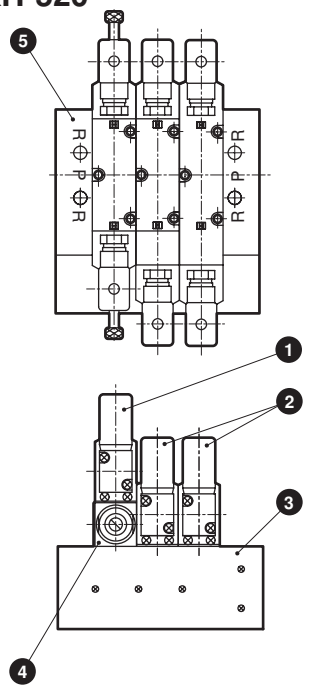
SKH-420



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

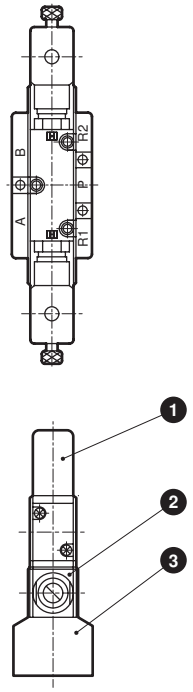
SKH-520



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

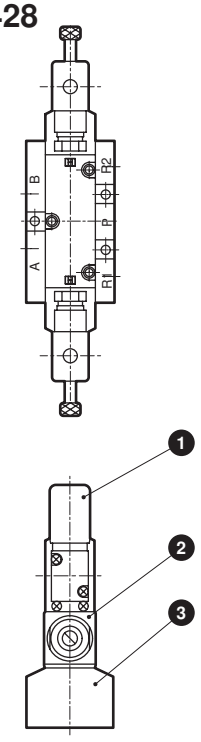
SKH-328



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

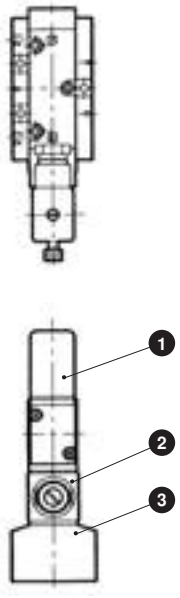
SKH-428



Main parts list

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

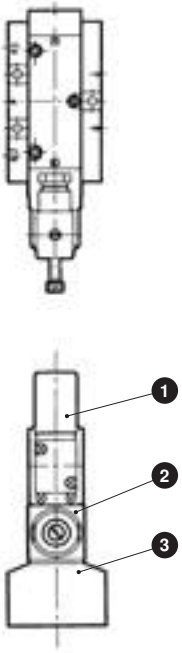
SKH-318



Main parts list

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

SKH-418

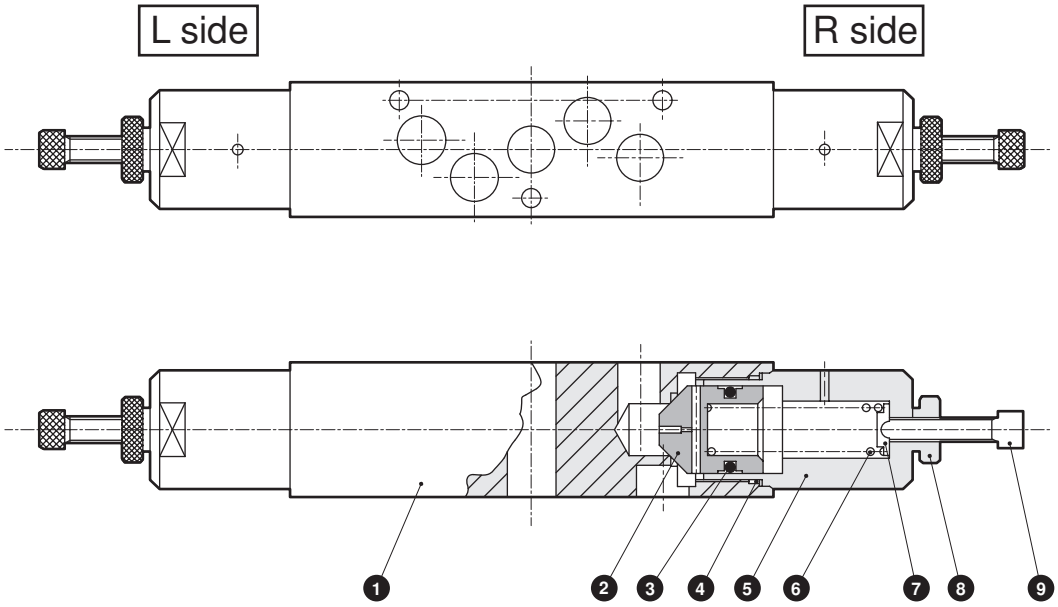


Main parts list

No.	Part name	Model No.	Qty.	Remarks
1	Solenoid valve	4KB419-00	1	For deceleration
2	Spacer relief valve *2	SKH-4S-SR SKH-4S-SR-A	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-$\frac{3}{4}$-SR**).
* Of single-sided deceleration types, **SKH-$\frac{3}{4}$S-SR** will only have relief valves (❷ to ❾) on the left side as shown in the above diagram, while **SKH-$\frac{3}{4}$S-SR-A** will only have relief valves (❷ to ❾) 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 4KB$\frac{3}{4}$ valve and spacer onto the sub-plate.

Repair parts list

Repair parts / Series model No.	Solenoid valve: Solenoid valve for high speed	Solenoid valve: Solenoid valve for deceleration		Relief valve: Spacer relief valve *2	Relief valve: Maintenance kit *1
SKH-3	4KB339-00-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 / SKH-5	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	
			For both-sided deceleration	SKH-4-SR	SKH-4-SRK

*1) The maintenance kit is ❷ + ❸ + ❹ + ❺ + ❻ + ❼.
*2) The spacer relief valve is an accessory of + ❶ + ❷ + ❸ + ❹ + ❺ + ❻ + ❼ + ❽ + ❾.
*3) Of the spacer relief valves for single-sided deceleration, those on the upper row are for SKH-$\frac{3}{4}$18 (type that connects with port B) while those on the lower row are for SKH-$\frac{3}{4}$18-A (type that connects with port A).