SAB/SVB/NAB

(Cylinder valve)

Air operated 2 port valve

■ For water, air, gas, low vacuum, steam

Overview

In addition to water, air, gas, low vacuum and steam, high viscosity fluids and powder mixed fluids are also available.

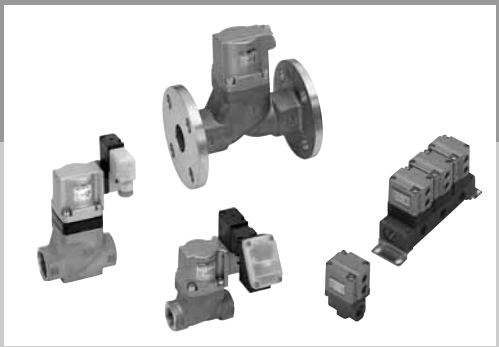
Using the external pilot air, this air operated cylinder valve is driven with the cylinder. Air operated type SAB, solenoid valve mounted type SVB, compact type NAB and manifold GNAB Series are available to meet needs of controlling various fluids.

Features

Wide variation
Rc1/4 to 80 flange are available in accordance with port size.

Available in flammable environment
3 actuations
3 types: NC (normally closed), NO (normally open) and double acting are available.

Cylinder driven with external pilot air ensures certain operations.



CONTENTS

⚠ Always read the precautions in the Introduction and page 440 before starting use.

Series variation

Air operated 2 port valve
(cylinder valve)

Category		Model	No. of port	Actuation						
				NC	NO	Double acting operation	Rc1/4	Rc3/8	Rc1/2	
Cylinder valve	Air operated type 	Water, liquid SAB*W	2 port	●	●	●	●	●	●	
		Air, gas SAB*A		●	●	●	●	●	●	
		Low vacuum SAB*V		●	●	●	●	●	●	
		Steam, water, air SAB*S		●	●	●	●	●	●	
	Solenoid valve mounted type 	Water, liquid SVB*W		●	●		●	●	●	
		Air, gas SVB*A		●	●		●	●	●	
		Low vacuum SVB*V		●	●		●	●	●	
		Steam, water, air SVB*S		●	●		●	●	●	
Compact cylinder valve	Air operated type 	General purpose NAB*		●	●	●	●	●		
		Low vacuum NAB*V		●	●	●	●	●		
	Air operated type manifold 	General purpose GNAB*		●	●	●	Port A ●	Port C ●		
		Low vacuum GNAB*V		●	●	●	Port A ●	Port C ●		

Port size										Page
	Rc3/4	Rc1	Rc1 1/4	32 flange	Rc1 1/2	40 flange	Rc2	50 flange	65 flange	80 flange	
	●	●	●	●	●	●	●	●	●	●	446
	●	●	●	●	●	●	●	●	●	●	450
	●	●	●	●	●	●	●	●			454
	●	●	●	●	●	●	●	●			458
	●	●	●	●	●	●	●	●	●	●	462
	●	●	●	●	●	●	●	●	●	●	470
	●	●	●	●	●	●	●	●			474
	●	●	●	●	●	●	●	●			478
											484
											486
											488
											492

Safety precautions
Always read this section before starting use.

Air operated 2 port valve (cylinder valve)

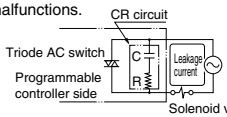
Design & Selection

1. Safety Designing

⚠ CAUTION

■ **Leakage current from other fluid control components**

When operating the solenoid valve with a programmable controller, etc., check that the output leakage current from the programmable controller is within the following specifications. Failure to observe this could lead to malfunctions.



100 VAC: 3 mA or less
200 VAC: 1.5 mA or less
24 VDC: 1 mA or less
must be maintained.

2. Working Fluid

⚠ WARNING

■ **Working fluid**

(1) Do not use this product for fluids other than applicable fluids in catalog specifications.

(2) Before starting use, check the compatibility between the product and working fluid with the working fluid check list (page 36 in Introduction).

(3) The durability of the rod packing seal (MY packing seal) drops if working fluid quality is poor and contains powder, sludge or foreign matter.
If rod packing sealing is poor, working fluid could leak into the cylinder and flow back into pilot air piping, damaging the devices in the air circuit.
Conduct regular maintenance or take appropriate measures.

■ **Special purpose grease**

For cylinder valve, grease is applied to the piston rod sealing sections. When using special fluids, specify the type of grease.
(Example) Oxygen: fluorine grease
Medium vacuum: silicone grease
Fluids for foods: vaseline
Dry air for painting: vaseline

■ **Fluid temperature**

Use within the fluid temperature range.

⚠ CAUTION

■ **External pilot air**

(1) Drainage measures - Compressed air contains high levels of drainage (water, oxidized oil, tar, foreign matter) that can significantly reduce the reliability of pneumatic components. As measures against drain, improve air quality by dehumidifying with an after cooler or dryer, removing foreign matter with a filter, and removing tar with a tar removal filter, etc.

(2) Pre-lubrication - This series is pre-lubricated, so no lubricator is required. However, once lubrication has been started, it must be continued so that the lubricant is not used up. For lubrication, use the turbine oil Class 1 ISO VG32 (#90) or equivalent.

(3) Filter - Install a filter with a 5 μm or less filter element.

3. Working Environment

⚠ WARNING

■ **SVB Series cannot be used in an explosive gas atmosphere. When using in an explosive gas atmosphere, change to the SAB Series, and provide a separate explosion proof solenoid valve on the pilot air circuit.**

■ **If there are high levels of dust in the area, install a downward-facing silencer or elbow joint on the exhaust port so that dust does not enter.**

■ **When using in a place where water splashes on the valve, take appropriate measures to protect it.**

Installation & Adjustment

1. Piping

⚠ CAUTION

■ **Do not mistake the supply port when piping to the product.**

■ **Do not pipe using the solenoid valve section. There is a risk of damage. (For solenoid valve mounted type)**

■ **Check the pilot operation side supply port when piping the GNAB Series.**

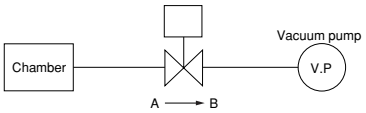
Model no.	Pilot operation side supply port
GNAB1/GNAB1V	X
GNAB2/GNAB2V	Y
GNAB3/GNAB3V	X and Y

■ **When piping the SAB or SVB Series, pay attention to the supply ports on the unit and pilot operation sides.**

Model no.	Unit side supply port	Pilot operation side supply port
NAB1-8/10	A or B	X
NAB2-8/10	A or B	Y
NAB3-8/10	A or B	X and Y
NAB1V-8/10	A	X
NAB2V-8/10	A	Y
NAB3V-8/10	A	X and Y
SAB1W	A	X
SAB2W	A	Y
SAB3W	A	X and Y
SAB1A	B	X
SAB2A	A	Y
SAB3A	A or B	X and Y
SAB1V	A	X
SAB2V	A	Y
SAB3V	A	X and Y
SAB1S	B	X
SAB2S	A	Y
SAB3S	A or B	X and Y
SVB1W	A	P
SVB2W	A	P
SVB1A	B	P
SVB2A	A	P
SVB1V	A	P
SVB2V	A	P
SVB1S	B	P
SVB2S	A	P

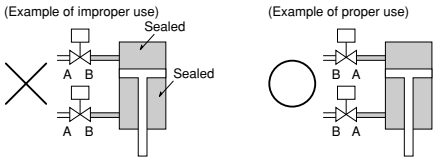
Note 1) With NAB$\frac{1}{3}$-8/10, when both ports A and B are pressurized, connect port A to the normally pressurized side.
If port B is connected to the normally pressurized side, the durability could drop further than when port A is connected.

Note 2) With the SAB$\frac{2}{3}$V or SVB$\frac{1}{2}$V side port, connect the chamber (vacuum holding side) to port A.

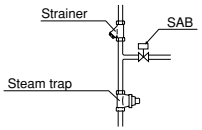


Note that when using for vacuum break, etc., set the pressurized port to port A.

■ **When operating a hydraulic cylinder with a cylinder valve for water, if the valve's port B is piped to the cylinder, pressure in the port and piping rises and excessive pressure is applied on the valve body, leading to damage. In this case, pipe the valve's port A to the cylinder side.**



■ **When using the valve for steam, external leaks could occur depending on fluid properties. Install a steam trap by inclining piping, etc., and remove drainage to prevent the inside of the pipe from rusting.**



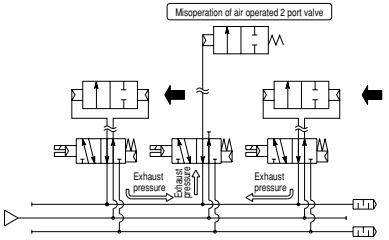
■ **Refer to the table below for tightening torque of the pilot air piping.**

Nominal pipe diameter	Recommended pipe tightening torque (N·m)
Rc1/8	7 to 9

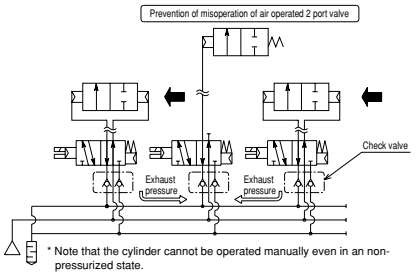
■ **If a manifold is used on the SAB Series operation valve, exhaust pressure could be led in from other valves, which causes malfunctions such as momentary opening of the SAB. When using a manifold, use a valve with a built-in "check valve". Similar problems could occur if exhaust is led in from the SVB Series exhaust (R) port, so when piping the exhaust (R) port, do not connect with other exhaust circuits.**

■ **A check valve is built into CKD pilot operated 3/5 port valve 4G Series.**

Example of pneumatic pressure that could misoperate



Pneumatics system using 4G Series



* Note that the cylinder cannot be operated manually even in an non-pressurized state.

Installation & Adjustment

2. Wiring

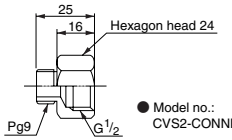
CAUTION

■ **When using an explosion proof solenoid valve, follow the Recommended Practices for Explosion-protected Electrical Installations in General Industries when wiring.**

■ **Wiring of solenoid valve mounted type**

(1) Refer to connections in pages 54 to 55 in the Introduction when wiring to a DIN terminal box or T type terminal box.

(2) The size of the screw for the junction box outlets of the DIN terminal box can be changed from Pg9 to G1/2 using the optional connector below.



● Model no.:
CVS2-CONNECTOR-F4-202936

(3) Coil direction can be changed 180˚. To reverse the electrical connection direction, rotate only the coil. Do not lose internal parts when removing the coil.

During Use & Maintenance

1. Maintenance & Inspection

CAUTION

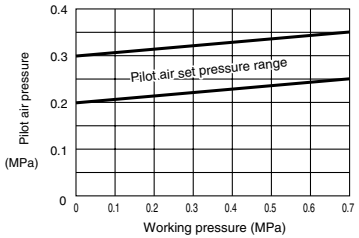
■ **Pilot air pressure**

Use pilot air pressure in accordance with the specifications.

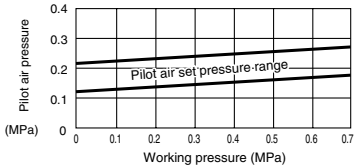
Set the pilot pressure for the SAB/SVB Series NO type and double acting type as shown in the graph below. A sealing fault could occur if pressure is set less than the range shown in the graph at right.

The NC type should be selected when the pilot air cannot be controlled.

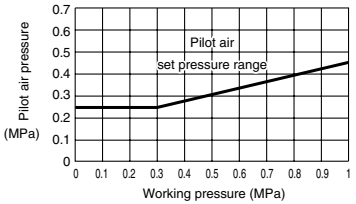
● **NAB$^{2}_{2V}$ Series/GNAB$^{2}_{2V}$ Series**



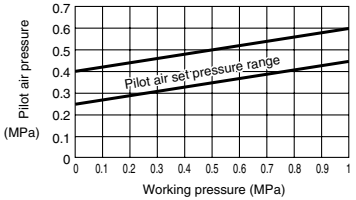
● **NAB$^{3}_{3V}$ Series/GNAB$^{3}_{3V}$ Series**



● **SAB$^{2W}_{3V}$ Series/SVB2$^{W}_{V}$ Series**



● **SAB$^{2}_{3}$S Series/SVB2S Series**



2. Assembling & Disassembling

WARNING

■ **A spring is used in the cylinder cover. When disassembling this type, the spring could pop out and cause injuries, so take care.**

The NC (normally closed) type has a snap ring to prevent the spring from popping out. Do not remove the snap ring.

■ **Assembling pilot solenoid valve (for solenoid valve mounted type)**
If the pilot solenoid valve has been disassembled, assemble it as follows.

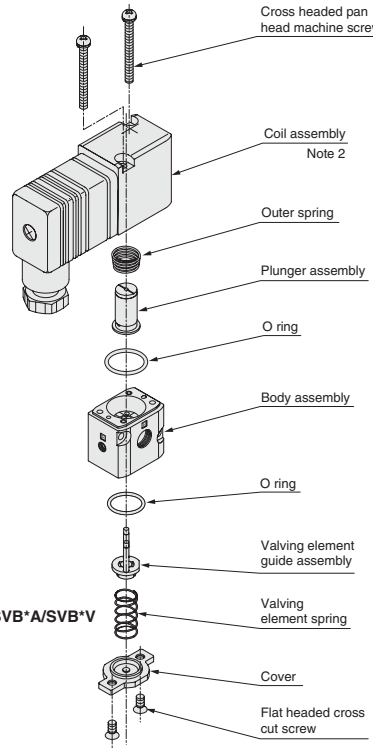
(1) Coil side
· Disassembling
Loosen the cross headed pan head machine screw, and lift up the coil assembly.
The outer spring, plunger assembly and O ring can be removed.
· Reassembling
Set the parts in the sequence of the O ring, plunger assembly, outer spring and coil assembly.
Tighten the cross headed pan head machine screw with a torque of 0.7 to 1.1 N·m.

(2) Cover side
· Disassembling
Loosen the flat headed cross cut screw, and remove the cover.
The valving element spring, valving element guide assembly and O ring can be removed.
· Reassembling
Set the parts in the sequence of the O ring, valving element guide assembly, valving element spring and cover. Tighten the flat headed cross cut screw with a torque of 0.7 to 1.1 N·m.

Note 1: Do not lose the components such as springs during disassembly.

Note 2: The coil assembly direction can be changed 180˚. Loosen the cross headed pan head machine screw to change the direction.

Note 3: Turbine oil is applied to the plunger as a lubricant.



■ **Model no. of pilot solenoid valve (actuator assembly kit) for SVB*W/SVB*A/SVB*V**

CVSE2-ACTUATOR – 0 [*1] – Rated voltage

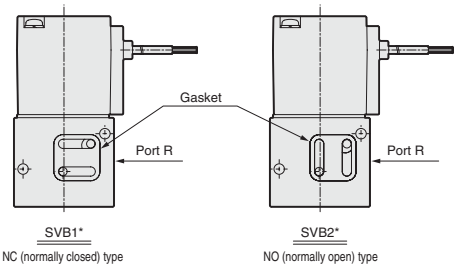
* Indicate the coil option symbol in field *1.

■ **Model no. of pilot solenoid valve (actuator assembly kit) for SVB*S**

SVB-ACTUATOR-C [*1] – Rated voltage

* Indicate the coil option symbol in field *1.

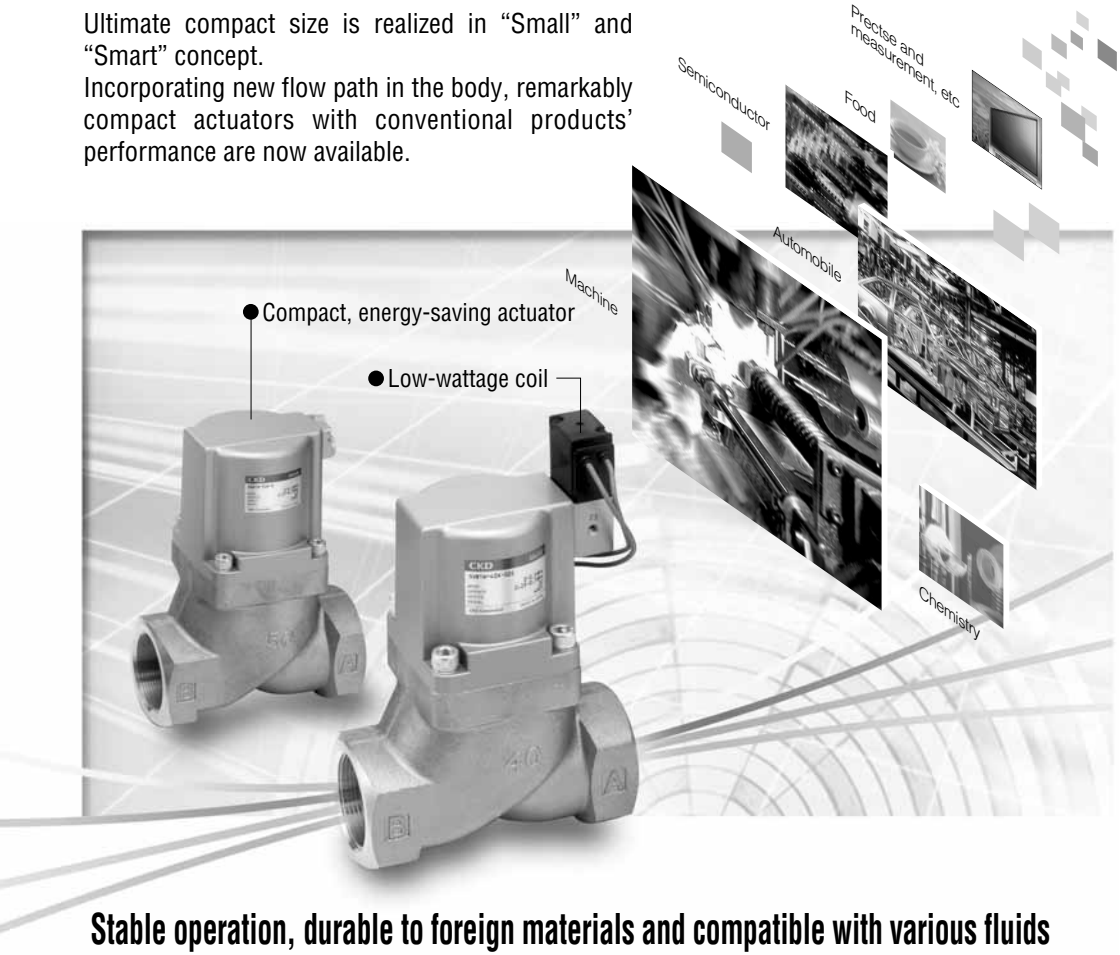
■ **Gasket direction (for solenoid valve mounted type)**
The gasket has an orientation. Check the orientation when reassembling.



Controlling various fluids for various applications

SAB/SVB Series for achieving higher energy saving performance and ultimate compact size

Ultimate compact size is realized in “Small” and “Smart” concept.
Incorporating new flow path in the body, remarkably compact actuators with conventional products’ performance are now available.



Stable operation, durable to foreign materials and compatible with various fluids

Usable from water, air, gas, low vacuum, steam to high viscosity fluids or powder mixed fluids, etc., and compatible with wide applications.

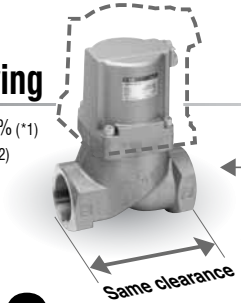
SAB·SVB Series

Air operated 2 port valve

Compact and energy saving

Operation air consumption reduced by up to 40% (*1)
Actuator size (volume) reduced by up to 50% (*2)

*1: Comparison with conventional NAB Series
*2: Excluding port size 65F and 80F



●Actuator

Volume up to **50% downsized**

Air consumption up to **40% cut**

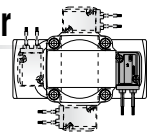
*Body face-to-face dimensions are compatible with conventional NAB Series.

Power consumption reduced by 50%

Power consumption is reduced to 2 W from conventional 4 W (DC).

Free mounting of actuator

Mounting direction interchangeable in 4 directions



Safe and reliable operation

Cylinders driven by external pilot air.
Equipped with high reliability which ensures solid operation, resistance against foreign materials and worry-free use.

Usable in flammable environment

Due to perfect air operated structure, SAB can be used in flammable environment.

Wide variation

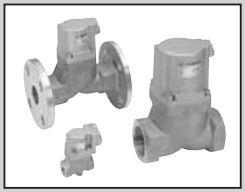
Two body materials (bronze and stainless steel) and four sealant materials (nitrile rubber, fluoro rubber, ethylene propylene diene rubber and tetrafluoroethylene resin) are available according to the working fluid. In addition, 13 port sizes and three actuation methods are available, and a type with solenoid valve for cylinder drive has been added to the series. Select the perfect valve from our diverse selection.

Steam valve with solenoid valve added to lineup

Air operated type and solenoid valve mounted type are newly added to the series. This CKD original solenoid valve mounted type is realized with advanced technologies including new heat resistant materials and insulation materials.

SAB/SVB Series variation

Model		Applicable fluid	Port size 8A	10A	15A	20A	25A	32A·F	40A·F	50A·F	65F	80F
2 port valve												
SAB • SVB※W	New	Water, liquid	●	●	●	●	●	●	●	●	●	●
SAB • SVB※A	New	Air, gas	●	●	●	●	●	●	●	●	●	●
SAB • SVB※V	New	Low vacuum	●	●	●	●	●	●	●	●		
SAB • SVB※S	New	Steam	●	●	●	●	●	●	●	●	●	●



Air operated 2 port valve
(cylinder valve)

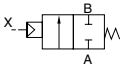
SAB*W Series

- NC (normally closed) type, NO (normally open) type, double acting type
- Port size: Rc1/4 to Rc2, 32 to 80 flange
- Working fluid: water, non-corrosive fluids

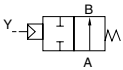
CAD

JIS symbol

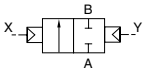
● NC (normally closed) type



● NO (normally open) type



● Double acting type



Common specifications

Item	SAB1W	SAB2W	SAB3W
Actuation	NC (normally closed) type	NO (normally open) type	Double acting type
Working fluid	Water, non-corrosive fluids (*1)		
Fluid viscosity mm²/s	500 or less		
Working pressure range MPa	0 to 0.7 (*2)	0 to 1	
Withstanding pressure (water) MPa	2.0		
Fluid temperature °C	-10 to 60 (no freezing) (*3)		
Ambient temperature °C	-10 to 60		
Valve seat leakage cm³/min.	0 (water)		
Mounting attitude	Free		
Water hammer MPa	1 or less (according to the Water Supply Law)		

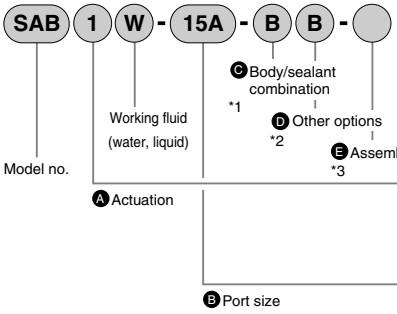
*1: Refer to the working fluid check list in page 36 of the Introduction.
*2: Note that this differs with the type, so refer to the working pressure range in the individual specifications.
*3: -10 to 90˚C for fluoro rubber (FKM) seal.

Individual specifications

Item / Model no.	Port size	Orifice (mm)	Cv flow factor	Working pressure range (MPa)			Pilot air pressure (MPa)			Pilot port size	Weight (kg)		
				NC type	NO type	Double acting	NC type	NO type	Double acting		NC type	NO type	Double acting
SAB*W-8A	Rc1/4	10	2.3	0 to 0.7	0 to 1		0.35 to 0.7	(*1)		Rc1/8	0.3		
SAB*W-10A	Rc3/8	10	2.6								0.3		
SAB*W-15A	Rc1/2	15	5.6								0.6		
SAB*W-20A	Rc3/4	16	8								0.8		
SAB*W-25A	Rc1	20	12								1.1		
SAB*W-32A	Rc1 1/4	26	20	0 to 0.5	0 to 1		0.25 to 0.7	(*1)			2.3	2.2	2.2
SAB*W-32F	32 flange	26	20								5.3	5.2	5.2
SAB*W-40A	Rc1 1/2	32	32								3.4	3.2	3.2
SAB*W-40F	40 flange	32	32								6.5	6.3	6.3
SAB*W-50A	Rc2	42	50								5.5	5.2	5
SAB*W-50F	50 flange	42	50								9.4	9.1	8.9
SAB*W-65F (*2)	65 flange	65	70								20.5	19	18
SAB*W-80F (*2)	80 flange	79	100								25	23	22

*1: Refer to page 442 for the pilot air pressure for the NO and double acting types.
*2: Port size 65 and 80 flanges are custom order.

How to order



Symbol	Descriptions
A Actuation	
1	NC (normally closed) type
2	NO (normally open) type
3	Double acting type
B Port size	
8A	Rc1/4
10A	Rc3/8
15A	Rc1/2
20A	Rc3/4
25A	Rc1
32A	Rc1 1/4
32F	32 flange
40A	Rc1 1/2
40F	40 flange
50A	Rc2
50F	50 flange
65F	65 flange (custom order)
80F	80 flange (custom order)

C Body/sealant combination

		Body	Sealant
0	Std.	Bronze	Nitrile rubber
B	Option	Bronze	Fluoro rubber
P	Option	Bronze	Ethylene propylene diene rubber
D	Option	Stainless steel	Nitrile rubber
E	Option	Stainless steel	Fluoro rubber
R	Option	Stainless steel	Ethylene propylene diene rubber

D Other options	
Blank	No options
B	Mounting plate

E Assembly direction	
Blank	No options
R	Mounting plate assembly position reverse rotation

Refer to the following diagram for the layout drawing.

Note on model no. selection

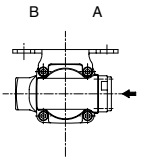
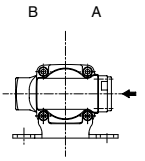
*1: The body/sealant combination symbol is O or B for port size 65F and 80F.
Note that the body is made of cast iron.
*2: The mounting plate (D B) is available for port size 8A to 32A.
*3: Mounting plate assembly position reverse rotation (E B-R) is for port size 15A to 32A.
*4: Clockwise viewed from above with port A facing right.

<Example of model number>

SAB1W-15A-BB

Model no.: SAB
A Actuation : NC (normally closed) type
B Port size : Rc1/2
C Body/sealant combination
: Body - bronze, sealant - fluoro rubber
D Other options : Mounting plate
E Assembly direction : No options

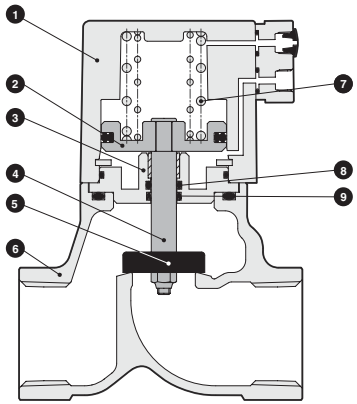
E Assembly direction

SAB (air operated type) *2/4		
Symbol	B (mounting plate)	B-R *3
Direction	Without rotation	Mounting plate reverse rotation
Arrangement		

⬅ indicates pilot port IN.

Internal structure and parts list

● SAB1W

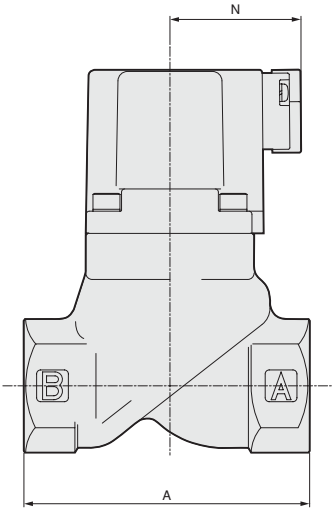


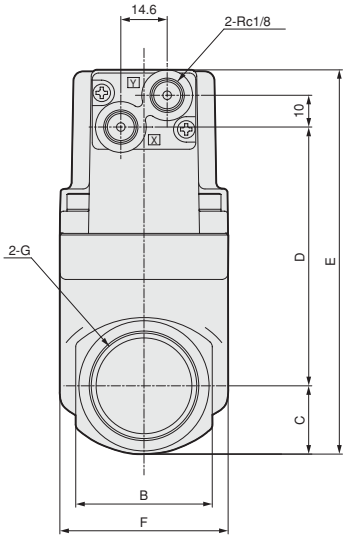
No.	Parts name	Material	
1	Cylinder cover	ADC12	Aluminum die casting
2	Piston	A2017	Aluminum
3	Adaptor	C3604 (SUS304)	Brass (stainless steel)
4	Piston rod	SUS304	Stainless steel
5	Main valving element	NBR (FKM, EPDM) SUS304	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) Stainless steel
6	Body	CAC407 (SCS13)	Bronze casting (stainless steel casting)
7	Spring	SWP	Piano wire
8	O ring	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)
9	MY packing seal	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)

*1: ( ) shows options.
*2: For 65F and 80F, the body is made of FC250 (cast iron), and the main valving element is made of FKM.

Dimensions CAD (Page 496)

● SAB*W-8A to 50A (Rc screw-in type)

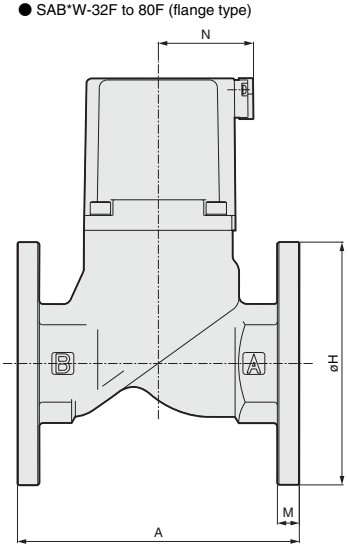


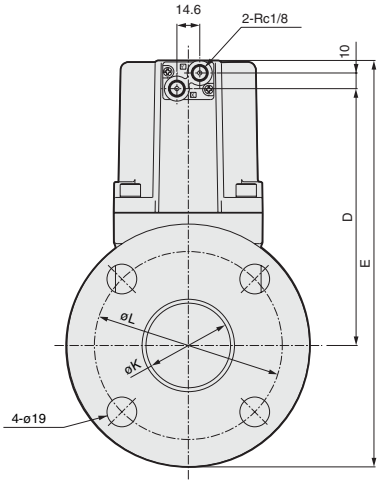


Model no.	A	B	C	D	E	F	G	N
SAB*W-8A	50	24	12	41.5	71.5	32	Rc1/4	37
SAB*W-10A							Rc3/8	
SAB*W-15A	71	28	14.5	61.5	94	43	Rc1/2	38
SAB*W-20A	80	35	17.5	71	106.5	43	Rc3/4	38
SAB*W-25A	90	43	21	81.5	120.5	53	Rc1	41.5
SAB*W-32A	125	55	27.5	109.5	155	63	Rc1 1/4	46
SAB*W-40A	140	61	30.5	130.5	179	77	Rc1 1/2	53
SAB*W-50A	160	76	38	164	220	95	Rc2	61

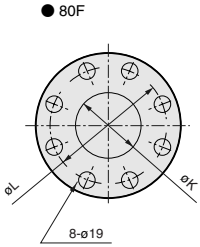
Dimensions CAD (Page 496)

● SAB*W-32F to 80F (flange type)





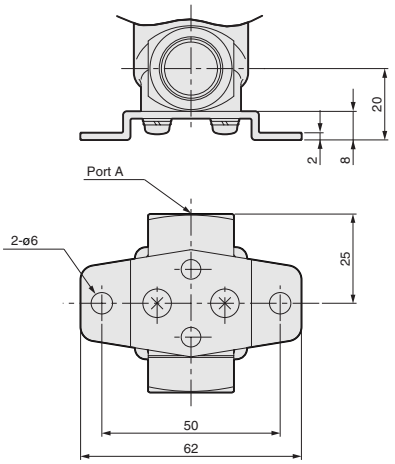
● 80F



Model no.	A	D	E	H	K	L	M	N
SAB*W-32F	170	109.5	195	135	36	100	12	46
SAB*W-40F	180	130.5	218.5	140	42	105	12	53
SAB*W-50F	180	164	259.5	155	54	120	14	61
SAB*W-65F	210	199	347.5	175	68	140	16	101
SAB*W-80F	240	214	367.5	185	82	150	16	111

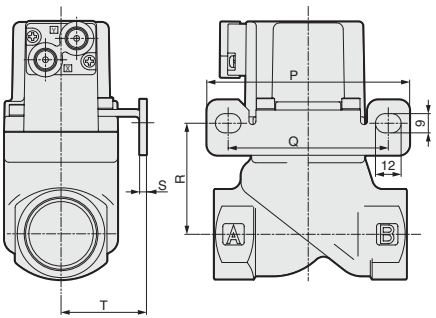
Optional dimensions CAD (Page 496)

● Mounting plate
SAB*W-8A/10A-* B



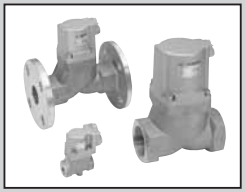
* Use the body set screws if fixing without a mounting plate.
(Thread size: M4 depth 8 pitch 19)

● Mounting plate
SAB*W-15A to 32A-* B / B-R



* Figure shows B.

Model no.	P	Q	R	S	T
SAB*W-15A	90	70	39	2.3	30
SAB*W-20A	90	70	48.5	2.3	30
SAB*W-25A	95	75	52	3.2	40
SAB*W-32A	105	85	66.5	3.2	45



Air operated 2 port valve
(cylinder valve)

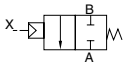
SAB*A Series

- NC (normally closed) type, NO (normally open) type, double acting type
- Port size: Rc1/4 to Rc2, 32 to 80 flange
- Working fluid: air, gas

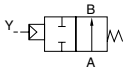
CAD

JIS symbol

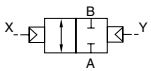
● NC (normally closed) type



● NO (normally open) type



● Double acting type



Common specifications

Item	SAB1A	SAB2A	SAB3A
Actuation	NC (normally closed) type	NO (normally open) type	Double acting type
Working fluid	Air, gas (*1)		
Working pressure range MPa	0 to 0.9	0 to 1	
Withstanding pressure (water) MPa	2.0		
Pilot air pressure MPa	0.35 to 0.7	Refer to page 442.	
Fluid temperature ˚C	-10 to 60 (no freezing) (*2)		
Ambient temperature ˚C	-10 to 60		
Valve seat leakage cm^3/min.	0.12 or less (pneumatic pressure)		
Mounting attitude	Free		

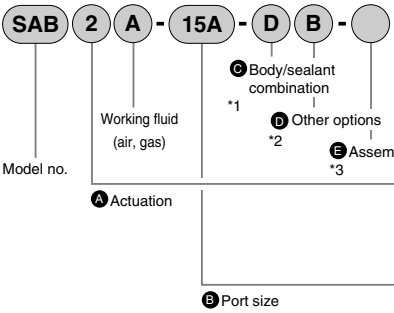
*1: Refer to the working fluid check list in page 36 of the Introduction.
*3: -10 to 90˚C for fluoro rubber (FKM) seal.

Individual specifications

Item / Model no.	Port size	Orifice (mm)	C [dm^3/(s·bar)]	b	S (mm^2)	Allowable back pressure (MPa)	Pilot port size	Weight (kg)
NC (normally closed) type								
SAB1A-8A	Rc1/4	10	8.3	0.4	–	0.5	Rc1/8	0.3
SAB1A-10A	Rc3/8	10	11	0.4	–			0.3
SAB1A-15A	Rc1/2	15	–	–	120	0.1		0.6
SAB1A-20A	Rc3/4	16	–	–	150			0.8
SAB1A-25A	Rc1	20	–	–	240			1.1
SAB1A-32A	Rc1 1/4	26	–	–	390			2.2
SAB1A-32F	32 flange	26	–	–	390			5.2
SAB1A-40A	Rc1 1/2	32	–	–	610			3.2
SAB1A-40F	40 flange	32	–	–	610			6.3
SAB1A-50A	Rc2	42	–	–	920			5.2
SAB1A-50F	50 flange	42	–	–	920			9.1
SAB1A-65F (*2)	65 flange	65	–	–	1290			19.5
SAB1A-80F (*2)	80 flange	79	–	–	1840			23.5
NO (normally open) type								
SAB2A-8A	Rc1/4	10	8.9	0.4	–	0.1	Rc1/8	0.3
SAB2A-10A	Rc3/8	10	12	0.3	–			0.3
SAB2A-15A	Rc1/2	15	–	–	140			0.6
SAB2A-20A	Rc3/4	16	–	–	180			0.8
SAB2A-25A	Rc1	20	–	–	280			1.1
SAB2A-32A	Rc1 1/4	26	–	–	450	0.05		2.2
SAB2A-32F	32 flange	26	–	–	450			5.2
SAB2A-40A	Rc1 1/2	32	–	–	680			3.2
SAB2A-40F	40 flange	32	–	–	680			6.3
SAB2A-50A	Rc2	42	–	–	1020			5.2
SAB2A-50F	50 flange	42	–	–	1020			9.1
SAB2A-65F (*2)	65 flange	65	–	–	1290			19
SAB2A-80F (*2)	80 flange	79	–	–	1840			23
Double acting type (*1)								
SAB3A-8A	Rc1/4	10	8.3 (8.9)	0.4	–	1	Rc1/8	0.3
SAB3A-10A	Rc3/8	10	11 (12)	0.4 (0.3)	–			0.3
SAB3A-15A	Rc1/2	15	–	–	120 (140)			0.6
SAB3A-20A	Rc3/4	16	–	–	150 (180)			0.8
SAB3A-25A	Rc1	20	–	–	240 (280)			1.1
SAB3A-32A	Rc1 1/4	26	–	–	390 (450)			2.2
SAB3A-32F	32 flange	26	–	–	390 (450)			5.2
SAB3A-40A	Rc1 1/2	32	–	–	610 (680)			3.2
SAB3A-40F	40 flange	32	–	–	610 (680)			6.3
SAB3A-50A	Rc2	42	–	–	920 (1020)			5.0
SAB3A-50F	50 flange	42	–	–	920 (1020)			8.9
SAB3A-65F (*2)	65 flange	65	–	–	1290			18
SAB3A-80F (*2)	80 flange	79	–	–	1840			22

*1: Values shown in ( ) for the C, b and S values of the double acting type are the flow rate when port A is pressurized.
*2: Port size 65 and 80 flanges are custom order.
*3: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$

How to order



Symbol	Descriptions
A Actuation	
1	NC (normally closed) type
2	NO (normally open) type
3	Double acting type
B Port size	
8A	Rc1/4
10A	Rc3/8
15A	Rc1/2
20A	Rc3/4
25A	Rc1
32A	Rc1 1/4
32F	32 flange
40A	Rc1 1/2
40F	40 flange
50A	Rc2
50F	50 flange
65F	65 flange (custom order)
80F	80 flange (custom order)

C Body/sealant combination			
		Body	Sealant
0	Std.	Bronze	Nitrile rubber
B	Option	Bronze	Fluoro rubber
P		Bronze	Ethylene propylene diene rubber
D		Stainless steel	Nitrile rubber
E		Stainless steel	Fluoro rubber
R		Stainless steel	Ethylene propylene diene rubber

D Other options	
Blank	No options
B	Mounting plate

E Assembly direction	
Blank	No options
R	Mounting plate assembly position reverse rotation

Refer to the following diagram for the layout drawing.

Note on model no. selection

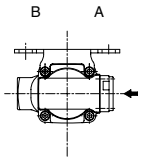
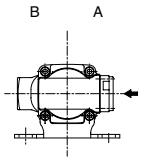
*1: The body/sealant combination symbol is O or B for port size 65F and 80F. Note that the body is made of cast iron.
*2: The mounting plate (D B) is available for port size 8A to 32A.
*3: Mounting plate assembly position reverse rotation (D B-R) is for port size 15A to 32A.
*4: Clockwise viewed from above with port A facing right.

<Example of model number>

SAB2A-15A-DB

Model no.: SAB
A Actuation : NO (normally open) type
B Port size : Rc1/2
C Body/sealant combination
: Body - stainless steel, sealant - nitrile rubber
D Other options : Mounting plate
E Assembly direction : No options

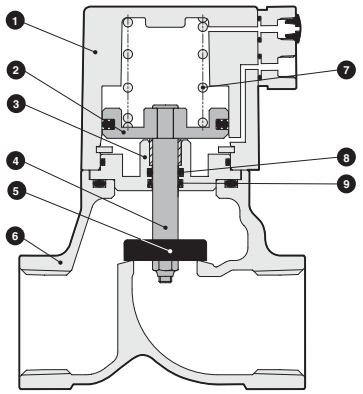
E Assembly direction

SAB (air operated type) *2/4		
Symbol	B (mounting plate)	B-R *3
Direction	Without rotation	Mounting plate reverse rotation
Arrangement		

← indicates pilot port IN.

Internal structure and parts list

● SAB1A

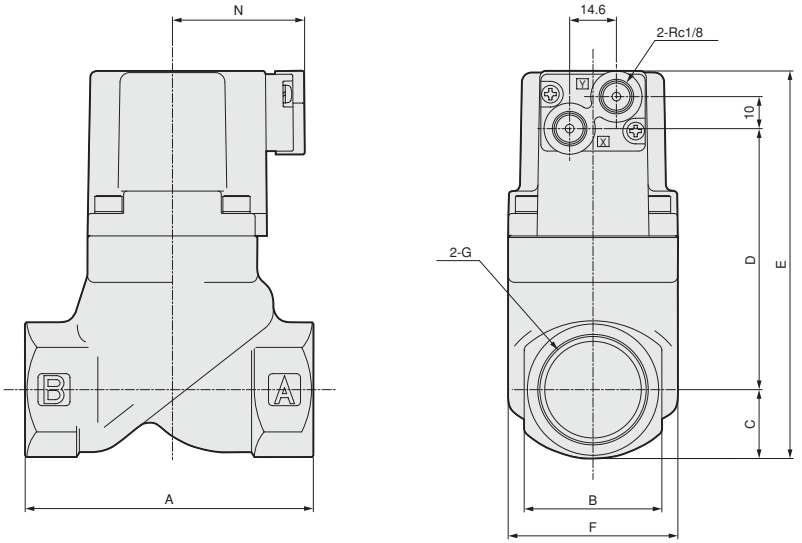


No.	Parts name	Material	
1	Cylinder cover	ADC12	Aluminum die casting
2	Piston	A2017	Aluminum
3	Adaptor	C3604 (SUS304)	Brass (stainless steel)
4	Piston rod	SUS304	Stainless steel
5	Main valving element	NBR (FKM, EPDM) SUS304	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) Stainless steel
6	Body	CAC407 (SCS13)	Bronze casting (stainless steel casting)
7	Spring	SWP	Piano wire
8	O ring	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)
9	MY packing seal	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)

*1: ( ) shows options.
*2: For 65F and 80F, the body is made of FC250 (cast iron), and the main valving element is made of FKM.

Dimensions CAD (Page 496)

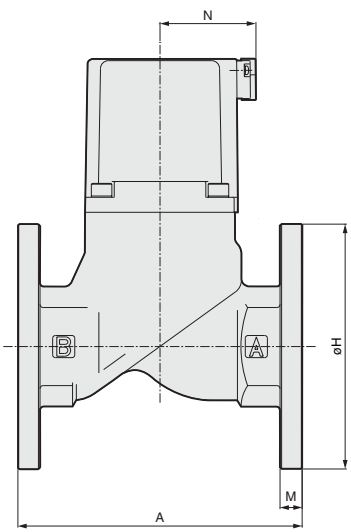
● SAB*A-8A to 50A (Rc screw-in type)

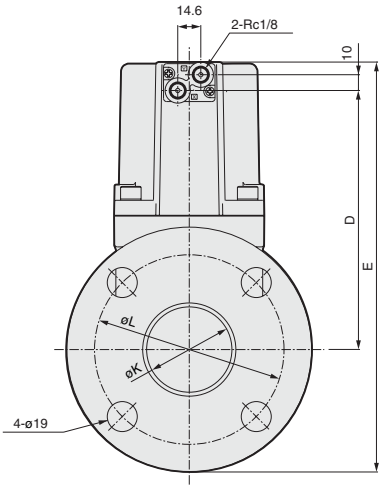


Model no.	A	B	C	D	E	F	G	N
SAB*A-8A	50	24	12	41.5	71.5	32	Rc1/4	37
SAB*A-10A							Rc3/8	
SAB*A-15A	71	28	14.5	61.5	94	43	Rc1/2	38
SAB*A-20A	80	35	17.5	71	106.5	43	Rc3/4	38
SAB*A-25A	90	43	21	81.5	120.5	53	Rc1	41.5
SAB*A-32A	125	55	27.5	109.5	155	63	Rc1 1/4	46
SAB*A-40A	140	61	30.5	130.5	179	77	Rc1 1/2	53
SAB*A-50A	160	76	38	164	220	95	Rc2	61

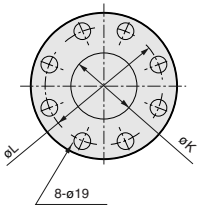
Dimensions CAD (Page 496)

● SAB*A-32F to 80F (flange type)





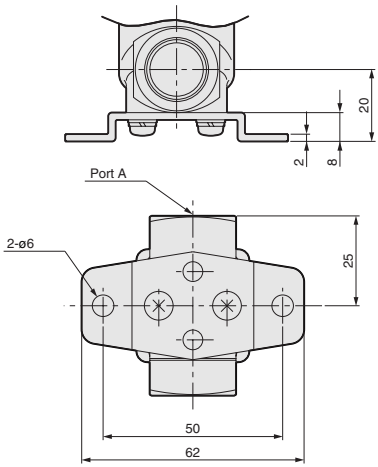
● 80F



Model no.	A	D	E	H	K	L	M	N
SAB*A-32F	170	109.5	195	135	36	100	12	46
SAB*A-40F	180	130.5	218.5	140	42	105	12	53
SAB*A-50F	180	164	259.5	155	54	120	14	61
SAB*A-65F	210	199	347.5	175	68	140	16	101
SAB*A-80F	240	214	367.5	185	82	150	16	111

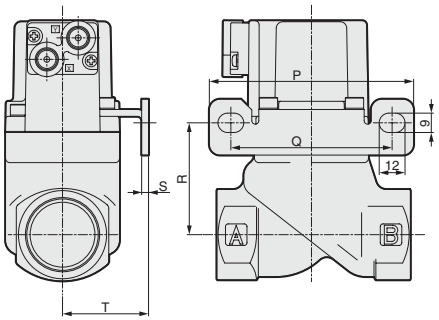
Optional dimensions CAD (Page 496)

● Mounting plate
SAB*A-8A/10A-* B



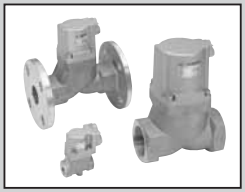
* Use the body set screws if fixing without a mounting plate.
(Thread size: M4 depth 8 pitch 19)

● Mounting plate
SAB*A-15A to 32A-* B /B-R



* Figure shows B.

Model no.	P	Q	R	S	T
SAB*A-15A	90	70	39	2.3	30
SAB*A-20A	90	70	48.5	2.3	30
SAB*A-25A	95	75	52	3.2	40
SAB*A-32A	105	85	66.5	3.2	45



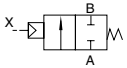
Air operated 2 port valve
(cylinder valve)

SAB*V Series

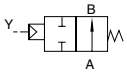
- NC (normally closed) type, NO (normally open) type, double acting type
- Port size: Rc1/4 to Rc2, 32 to 50 flange
- Working fluid: low vacuum

JIS symbol

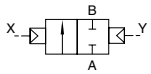
● NC (normally closed) type



● NO (normally open) type



● Double acting type



Common specifications

Item	SAB1V	SAB2V	SAB3V
Actuation	NC (normally closed) type	NO (normally open) type	Double acting type
Working fluid	Low vacuum (air, water) (*1)		
Fluid viscosity mm²/s	500 or less		
Working pressure range Pa (abs)	1.3×10^2 to 7×10^5 (refer to working pressure range in individual specifications.)		
Withstanding pressure (water) MPa	2.0		
Fluid temperature ˚C	-10 to 60 (no freezing) (*2)		
Ambient temperature ˚C	-10 to 60		
Valve seat leakage Pa·m³/s He	1.33×10^{-3} or less		
Mounting attitude	Free		

*1: Refer to the Control Fluid Checklist in page 36 of the Introduction.
*2: -10 to 90˚C for fluoro rubber (FKM) seal.

Individual specifications

Item / Model no.	Port size	Orifice (mm)	C [dm³/(s·bar)]	b	S (mm²)	Working pressure range Pa (abs)			Pilot air pressure (MPa)			Pilot port size	Weight (kg)		
						NC type	NO type	Double acting	NC type	NO type	Double acting		NO type	NO type	Double acting
SAB*V-8A	Rc1/4	10	8.9	0.4	-	1.3×10^2 to 7×10^5	1.3×10^2 to 1×10^6		0.35 to 0.7			Rc1/8	0.3		
SAB*V-10A	Rc3/8	10	12	0.3	-								0.3		
SAB*V-15A	Rc1/2	15	-	-	140								0.6		
SAB*V-20A	Rc3/4	16	-	-	180								0.8		
SAB*V-25A	Rc1	20	-	-	280								1.1		
SAB*V-32A	Rc1 1/4	26	-	-	450	1.3×10^2 to 5×10^5	1.3×10^2 to 1×10^6		0.25 to 0.7	(*1)			2.3	2.2	2.2
SAB*V-32F	32 flange	26	-	-	450								5.3	5.2	5.2
SAB*V-40A	Rc1 1/2	32	-	-	680								3.4	3.2	3.2
SAB*V-40F	40 flange	32	-	-	680								6.5	6.3	6.3
SAB*V-50A	Rc2	42	-	-	1020								5.5	5.2	5
SAB*V-50F	50 flange	42	-	-	1020								9.4	9.1	8.9

*1: Refer to page 442 for the pilot air pressure for the NO and double acting types.
*2: Effective sectional area S and sonic conductance C are converted as S = 5.0 × C.

How to order

SAB 3 V - 15A - E B -

- SAB: Model no.
- 3: Ⓐ Actuation
- V: Working fluid (low vacuum)
- 15A: Ⓑ Port size
- E: Ⓒ Body/sealant combination
- B: Ⓓ Other options *1
- Ⓔ Assembly direction *2

Symbol	Descriptions
Ⓐ Actuation	
1	NC (normally closed) type
2	NO (normally open) type
3	Double acting type
Ⓑ Port size	
8A	Rc1/4
10A	Rc3/8
15A	Rc1/2
20A	Rc3/4
25A	Rc1
32A	Rc1 1/4
32F	32 flange
40A	Rc1 1/2
40F	40 flange
50A	Rc2
50F	50 flange

Ⓒ Body/sealant combination

		Body	Sealant
0	Std.	Bronze	Nitrile rubber
B	Option	Bronze	Fluoro rubber
P	Option	Bronze	Ethylene propylene diene rubber
D	Option	Stainless steel	Nitrile rubber
E	Option	Stainless steel	Fluoro rubber
R	Option	Stainless steel	Ethylene propylene diene rubber

Ⓓ Other options	
Blank	No options
B	Mounting plate
Ⓔ Assembly direction	
Blank	No options
R	Mounting plate assembly position reverse rotation

Refer to the following diagram for the layout drawing.

Note on model no. selection

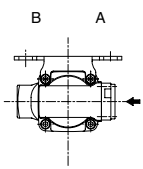
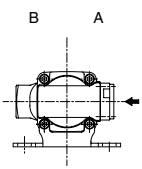
*1: The mounting plate (Ⓓ B) is available for port size 8A to 32A.
*2: Mounting plate assembly position reverse rotation (Ⓓ B-R) is for port size 15A to 32A.
*3: Clockwise viewed from above with port A facing right.

<Example of model number>

SAB3V-15A-EB

Model no.: SAB
Ⓐ Actuation : Double acting type
Ⓑ Port size : Rc1/2
Ⓒ Body/sealant combination : Body - stainless steel, sealant - fluoro rubber
Ⓓ Other options : Mounting plate
Ⓔ Assembly direction : No options

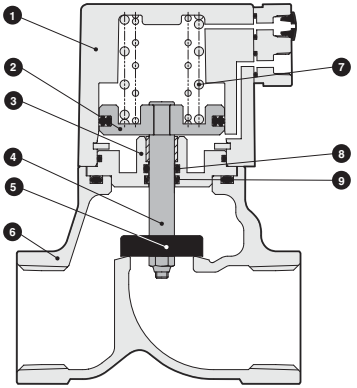
Ⓔ Assembly direction

SAB (air operated type) *1/3		
Symbol	B (mounting plate)	B-R *2
Direction	Without rotation	Mounting plate reverse rotation
Arrangement		

← indicates pilot port IN.

Internal structure and parts list

● SAB1V

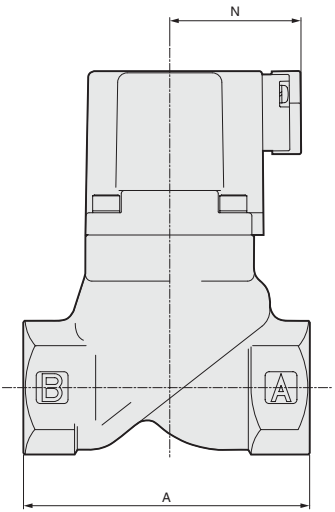


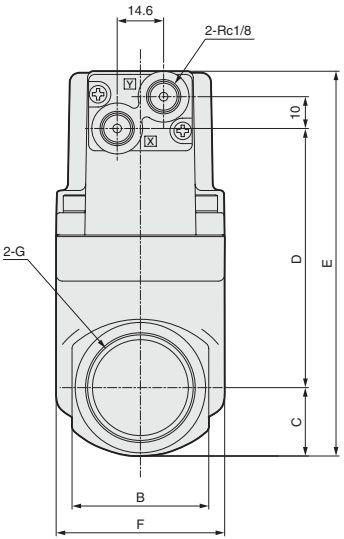
No.	Parts name	Material	
1	Cylinder cover	ADC12	Aluminum die casting
2	Piston	A2017	Aluminum
3	Adaptor	C3604 (SUS304)	Brass (stainless steel)
4	Piston rod	SUS304	Stainless steel
5	Main valving element	NBR (FKM, EPDM) SUS304	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) Stainless steel
6	Body	CAC407 (SCS13)	Bronze casting (stainless steel casting)
7	Spring	SWP	Piano wire
8	O ring	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)
9	MY packing seal	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene diene rubber)

( ) shows options.

Dimensions CAD (Page 496)

● SAB*V-8A to 50A (Rc screw-in type)

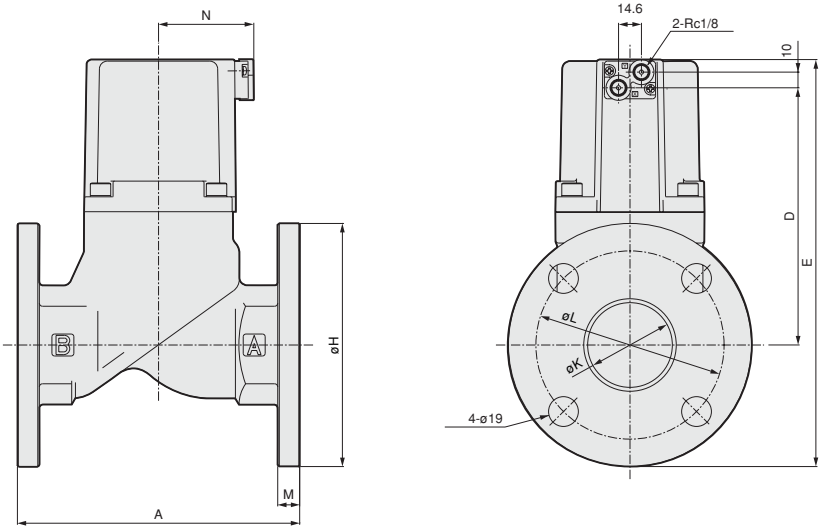




Model no.	A	B	C	D	E	F	G	N
SAB*V-8A	50	24	12	41.5	71.5	32	Rc1/4	37
SAB*V-10A							Rc3/8	
SAB*V-15A	71	28	14.5	61.5	94	43	Rc1/2	38
SAB*V-20A	80	35	17.5	71	106.5	43	Rc3/4	38
SAB*V-25A	90	43	21	81.5	120.5	53	Rc1	41.5
SAB*V-32A	125	55	27.5	109.5	155	63	Rc1 1/4	46
SAB*V-40A	140	61	30.5	130.5	179	77	Rc1 1/2	53
SAB*V-50A	160	76	38	164	220	95	Rc2	61

Dimensions CAD (Page 496)

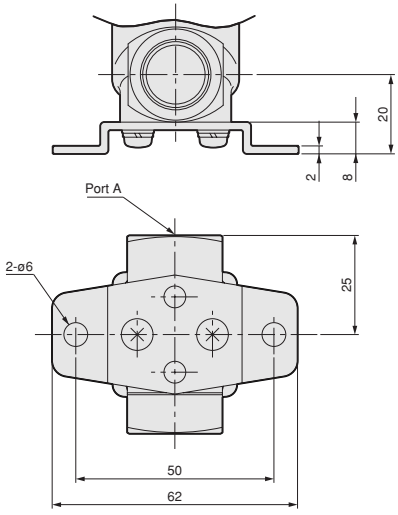
● SAB*V-32F to 50F (flange type)



Model no.	A	D	E	H	K	L	M	N
SAB*V-32F	170	109.5	195	135	36	100	12	46
SAB*V-40F	180	130.5	218.5	140	42	105	12	53
SAB*V-50F	180	164	259.5	155	54	120	14	61

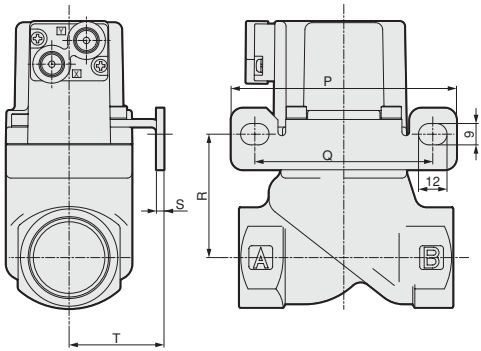
Optional dimensions CAD (Page 496)

● Mounting plate
SAB*V-8A/10A-* B



* Use the body set screws if fixing without a mounting plate.
(Thread size: M4 depth 8 pitch 19)

● Mounting plate
SAB*V-15A to 32A-* B / B-R



* Figure shows B.

Model no.	P	Q	R	S	T
SAB*V-15A	90	70	39	2.3	30
SAB*V-20A	90	70	48.5	2.3	30
SAB*V-25A	95	75	52	3.2	40
SAB*V-32A	105	85	66.5	3.2	45

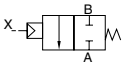
Air operated 2 port valve
(cylinder valve)

SAB*S Series

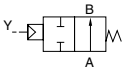
- NC (normally closed) type, NO (normally open) type, double acting type
- Port size: Rc1/4 to Rc2, 32 to 50 flange
- Working fluid: steam, water, air

JIS symbol

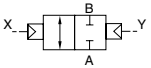
● NC (normally closed) type



● NO (normally open) type



● Double acting type



Common specifications

Item	SAB1S	SAB2S	SAB3S
Actuation	NC (normally closed) type	NO (normally open) type	Double acting type
Working fluid	Steam, water, air, non-corrosive fluids (*1)		
Liquid viscosity mm²/s	500 or less		
Working pressure range MPa	0 to 1		
Withstanding pressure (water) MPa	2.0		
Pilot air pressure MPa	0.35 to 0.7	Refer to page 442.	
Fluid temperature ˚C	-10 to 184 (no freezing)		
Ambient temperature ˚C	-10 to 90		
Valve seat leakage cm³/min.	300 or less (at pneumatic pressure 0.02 to 1 MPa)		
Mounting attitude	Free		

*1: Refer to the working fluid check list in page 36 of the Introduction.

Individual specifications

Item / Model no.	Port size	Orifice (mm)	C [dm³/(s·bar)]	b	S (mm²)	Cv flow factor	Pilot port size	Weight (kg)
NC type: normally closed								
SAB1S-8A	Rc1/4	10	8.3	0.4	-	2.1	Rc1/8	0.3
SAB1S-10A	Rc3/8	10	11	0.4	-	2.5		0.3
SAB1S-15A	Rc1/2	15	-	-	120	5.5		0.6
SAB1S-20A	Rc3/4	16	-	-	150	7		0.8
SAB1S-25A	Rc1	20	-	-	240	11		1.1
SAB1S-32A	Rc1 1/4	26	-	-	390	18.5		2.2
SAB1S-32F	32 flange	26	-	-	390	18.5		5.2
SAB1S-40A	Rc1 1/2	32	-	-	610	29		3.2
SAB1S-40F	40 flange	32	-	-	610	29		6.3
SAB1S-50A	Rc2	42	-	-	920	43		5.2
SAB1S-50F	50 flange	42	-	-	920	43		9.1
NO type: normally open								
SAB2S-8A	Rc1/4	10	8.9	0.4	-	2.3	Rc1/8	0.3
SAB2S-10A	Rc3/8	10	12	0.3	-	2.6		0.3
SAB2S-15A	Rc1/2	15	-	-	140	5.6		0.6
SAB2S-20A	Rc3/4	16	-	-	180	8		0.8
SAB2S-25A	Rc1	20	-	-	280	12		1.1
SAB2S-32A	Rc1 1/4	26	-	-	450	20		2.2
SAB2S-32F	32 flange	26	-	-	450	20		5.2
SAB2S-40A	Rc1 1/2	32	-	-	680	32		3.2
SAB2S-40F	40 flange	32	-	-	680	32		6.3
SAB2S-50A	Rc2	42	-	-	1020	50		5.2
SAB2S-50F	50 flange	42	-	-	1020	50		9.1
Double acting type (*1)								
SAB3S-8A	Rc1/4	10	8.3 (8.9)	0.4	-	2.1 (2.3)	Rc1/8	0.3
SAB3S-10A	Rc3/8	10	11 (12)	0.4 (0.3)	-	2.5 (2.6)		0.3
SAB3S-15A	Rc1/2	15	-	-	120 (140)	5.5 (5.6)		0.6
SAB3S-20A	Rc3/4	16	-	-	150 (180)	7 (8)		0.8
SAB3S-25A	Rc1	20	-	-	240 (280)	11 (12)		1.1
SAB3S-32A	Rc1 1/4	26	-	-	390 (450)	18.5 (20)		2.2
SAB3S-32F	32 flange	26	-	-	390 (450)	18.5 (20)		5.2
SAB3S-40A	Rc1 1/2	32	-	-	610 (680)	29 (32)		3.2
SAB3S-40F	40 flange	32	-	-	610 (680)	29 (32)		6.3
SAB3S-50A	Rc2	42	-	-	920 (1020)	43 (50)		5.2
SAB3S-50F	50 flange	42	-	-	920 (1020)	43 (50)		9.1

*1: Values shown in ( ) for the C, b and S values of the double acting type are the flow rate when port A is pressurized.
*2: Effective sectional area S and sonic conductance C are converted as S = 5.0 × C.

How to order

SAB 1 S - 15A - C L -

- SAB: Model no.
- 1: Ⓐ Actuation
- S: Working fluid (steam, water, air)
- 15A: Ⓑ Port size
- C: Ⓒ Body/sealant combination *1
- L: Ⓓ Other options *2 *3 *4
- (blank): Ⓔ Assembly direction *5

Symbol	Descriptions
Ⓐ Actuation	
1	NC (normally closed) type
2	NO (normally open) type
3	Double acting type
Ⓑ Port size	
8A	Rc1/4
10A	Rc3/8
15A	Rc1/2
20A	Rc3/4
25A	Rc1
32A	Rc1 1/4
32F	32 flange
40A	Rc1 1/2
40F	40 flange
50A	Rc2
50F	50 flange

Ⓒ Body/sealant combination

	Body	Sealant	O ring	Remarks
C	Bronze	Tetrafluoroethylene resin	Fluoro rubber	Steam, air, water
E	Stainless steel	Tetrafluoroethylene resin	Fluoro rubber	
F	Stainless steel	Tetrafluoroethylene resin	Tetrafluoroethylene resin	Solvents

Ⓓ Other options	
Blank	No options
B	Mounting plate
L	Indicator

Ⓔ Assembly direction	
Blank	No options
R	Mounting plate assembly position reverse rotation

Refer to the following diagram for the layout drawing.

Note on model no. selection

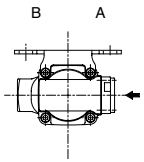
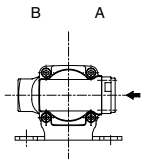
*1: Select C or E for steam.
*2: The mounting plate (Ⓓ B) is available for port size 8A to 32A.
*3: The indicator (Ⓓ L) is available only for Actuation 1: NC type.
*4: Indicate BL in Ⓓ to select both mounting plate and indicator.
*5: Mounting plate assembly position reverse rotation (Ⓓ B-R) is for port size 15A to 32A.
*6: Clockwise viewed from above with port A facing right.

<Example of model number>

SAB1S-15A-CL

Model no.: SAB
Ⓐ Actuation: NC (normally closed) type
Ⓑ Port size: Rc1/2
Ⓒ Body/sealant combination
: Body - bronze, sealant - tetrafluoroethylene resin
Ⓓ Other options: Indicator
Ⓔ Assembly direction: No options

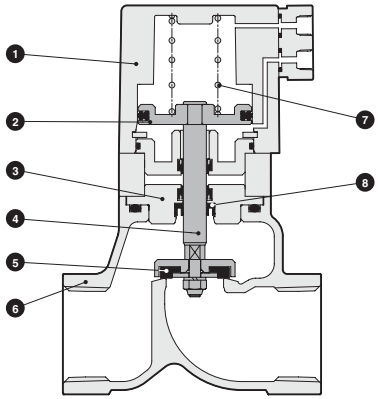
Ⓔ Assembly direction

SAB (air operated type) *2/6		
Symbol	B (mounting plate)	B-R *5
Direction	Without rotation	Mounting plate reverse rotation
Arrangement		

← indicates pilot port IN.

Internal structure and parts list

● SAB1S

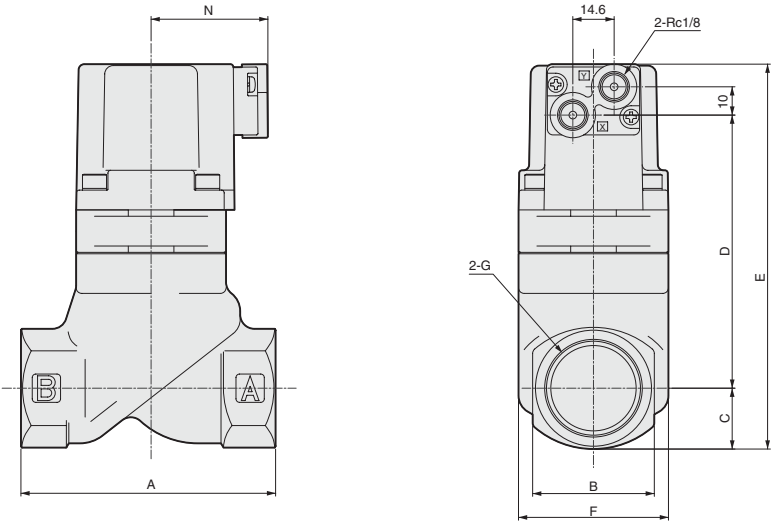


No.	Parts name	Material	
1	Cylinder cover	ADC12	Aluminum die casting
2	Piston	A2017	Aluminum
3	Adaptor	C3604 (SUS304)	Brass (stainless steel)
4	Piston rod	SUS304	Stainless steel
5	Main valving element	PTFE	Tetrafluoroethylene resin
6	Body	CAC407 (SCS13)	Bronze casting (stainless steel casting)
7	Spring	SWP	Piano wire
8	Rod packing seal	PTFE	Tetrafluoroethylene resin

( ) shows options.

Dimensions CAD (Page 496)

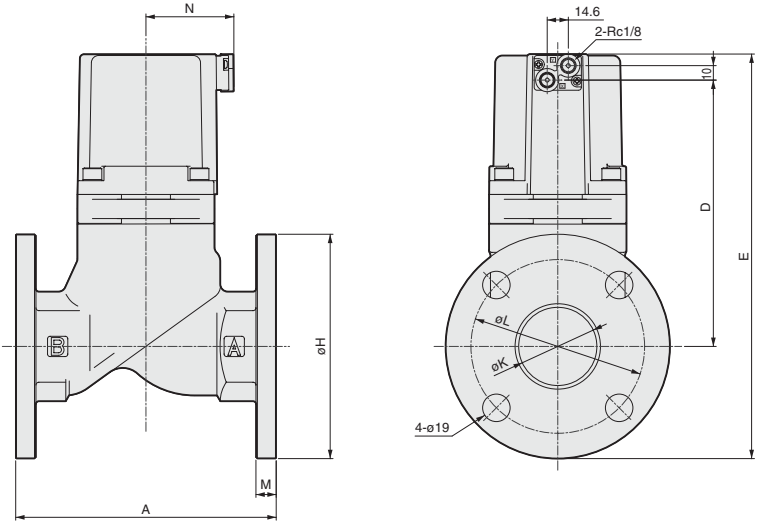
● SAB*S-8A to 50A (Rc screw-in type)



Model no.	A	B	C	D	E	F	G	N
SAB*S-8A	50	24	12	52.5	82.5	32	Rc1/4	37
SAB*S-10A							Rc3/8	
SAB*S-15A	71	28	14.5	77.5	110	43	Rc1/2	38
SAB*S-20A	80	35	17.5	87	122.5	43	Rc3/4	38
SAB*S-25A	90	43	21	98	137	53	Rc1	41.5
SAB*S-32A	125	55	27.5	124.5	170	63	Rc1 1/4	46
SAB*S-40A	140	61	30.5	150.5	199	77	Rc1 1/2	53
SAB*S-50A	160	76	38	184	240	95	Rc2	61

Dimensions CAD (Page 496)

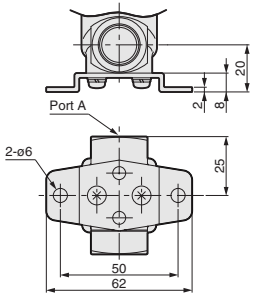
● SAB*S-32F to 50F (flange type)



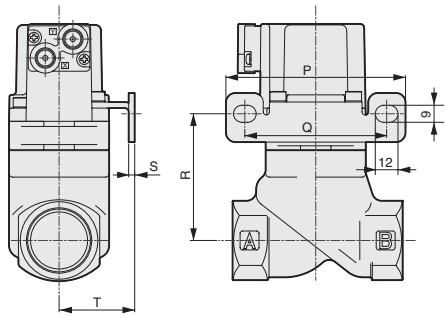
Model no.	A	D	E	H	K	L	M	N
SAB*S-32F	170	124.5	210	135	36	100	12	46
SAB*S-40F	180	150.5	238.5	140	42	105	12	53
SAB*S-50F	180	184	279.5	155	54	120	14	61

Optional dimensions CAD (Page 496)

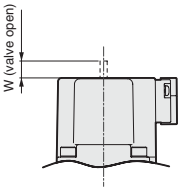
● Mounting plate
SAB*S-8A/10A-*B



● Mounting plate
SAB*S-15A to 32A-*B / B-R



● Indicator
SAB1S-8A to 50$^{A}_{F}$-*L



Model no.	W
SAB1S-8A	4
SAB1S-10A	4
SAB1S-15A	6.5
SAB1S-20A	6.5
SAB1S-25A	7
SAB1S-32A/F	8
SAB1S-40A/F	10.5
SAB1S-50A/F	13

* Figure shows B.

Model no.	P	Q	R	S	T
SAB*S-15A	90	70	55	2.3	30
SAB*S-20A	90	70	64.5	2.3	30
SAB*S-25A	95	75	68.5	3.2	40
SAB*S-32A	105	85	81.5	3.2	45

Electronic Catalog file list

Air operated 2 port valve (cylinder valve)

Air operated type SAB (pages 448 to 463)

Electronic Catalog file list is applied to "CAD DATA 2006".

Model no.	DXF		MICRO CADAM
	Folder name	Filename	Filename (GROUP: CAD, USER: STDLIB)
SAB**-8(10)A-*	SAB	sab___8(10)a__	CKD-SAB**-8(10)A-*
SAB**-15A-*		sab___15a__	CKD-SAB**-15A-*
SAB**-20A-*		sab___20a__	CKD-SAB**-20A-*
SAB**-25A-*		sab___25a__	CKD-SAB**-25A-*
SAB**-32A-*		sab___32a__	CKD-SAB**-32A-*
SAB**-32F-*		sab___32f__	CKD-SAB**-32F-*
SAB**-40A-*		sab___40a__	CKD-SAB**-40A-*
SAB**-40F-*		sab___40f__	CKD-SAB**-40F-*
SAB**-50A-*		sab___50a__	CKD-SAB**-50A-*
SAB**-50F-*		sab___50f__	CKD-SAB**-50F-*
SAB**-65F-0(B)		sab___65f_0(b)	CKD-SAB**-65F-0(B)
SAB**-80F-0(B)		sab___80f_0(b)	CKD-SAB**-80F-0(B)
Accessory (mounting plate)		sab_f	CKD-SAB-F

Solenoid valve mounted type SVB (pages 466 to 482)

Model no.	DXF		MICRO CADAM
	Folder name	Filename	Filename (GROUP: CAD, USER: STDLIB)
SVB**-8(10)A-*	SVB	svb___8(10)a__	CKD-SVB**-8(10)A-*
SVB**-15A-*		svb___15a__	CKD-SVB**-15A-*
SVB**-20A-*		svb___20a__	CKD-SVB**-20A-*
SVB**-25A-*		svb___25a__	CKD-SVB**-25A-*
SVB**-32A-*		svb___32a__	CKD-SVB**-32A-*
SVB**-32F-*		svb___32f__	CKD-SVB**-32F-*
SVB**-40A-*		svb___40a__	CKD-SVB**-40A-*
SVB**-40F-*		svb___40f__	CKD-SVB**-40F-*
SVB**-50A-*		svb___50a__	CKD-SVB**-50A-*
SVB**-50F-*		svb___50f__	CKD-SVB**-50F-*
SVB**-65F-0(B)		svb___65f_0(b)	CKD-SVB**-65F-0(B)
SVB**-80F-0(B)		svb___80f_0(b)	CKD-SVB**-80F-0(B)
Accessory (DIN terminal box, DIN terminal box + light, T type terminal box, T type terminal box + light, mounting plate)		svb_f	CKD-SVB-F

Compact type (pages 485 to 495)

Model no.	DXF		MICRO CADAM
	Folder name	Filename	Filename (GROUP: CAD, USER: STDLIB)
NAB*-8(10)-*	NAB	nab__8_10___	CKD-NAB*-8(10)-*
GNAB*-*(-B)	GNAB	gnab_____b_	CKD-GNAB*-*(-B)
GNAB*-*-1(2)		gnab____1_2_	CKD-GNAB*-*-1(2)
GNAB*-*-D(E)		gnab____d_e_	CKD-GNAB*-*-D(E)
GNAB*-1-0(-B)		gnab__1_0__b_	CKD-GNAB*-1-0(-B)
GNAB*-1-0-D(E)		gnab__1_0_d_e_	CKD-GNAB*-1-0-D(E)
GNAB*-5-0(-B)		gnab__5_0__b_	CKD-GNAB*-5-0(-B)
GNAB*-5-0-D(E)		gnab__5_0_d_e_	CKD-GNAB*-5-0-D(E)