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

acting are available.

Cylinder driven with external pilot air ensures certain operations.



| CON | TENTS | |
|---------------------------------------|---------------------------|------------------|
| Series variation | | 438 |
| A Safety precautions | | 440 |
| Product introduction | | 444 |
| Air operated type (port size | Rc1/4 to Rc2, 32 to | 80 flange) |
| Water, liquid | SAB*W | 446 |
| • Air | SAB*A | 450 |
| Low vacuum | SAB*V | 454 |
| Steam, water, air | SAB*S | 458 |
| Solenoid valve mounted type (p | oort size Rc1/4 to Rc2, 3 | 32 to 80 flange) |
| Water, liquid | SVB*W | 462 |
| • Air | SVB*A | 470 |
| Low vacuum | SVB*V | 474 |
| Steam, water, air | SVB*S | 478 |
| Compact air operated type | (port size Rc1/4, Rc | 3/8) |
| Discrete | | |
| Air, gas, water | NAB* | 484 |
| Low vacuum, air, water | NAB*V | 486 |
| Manifold | | |
| Air, gas, water | GNAB* | 488 |
| Low vacuum, air, water | GNAB*V | 492 |
| Electronic Catalog file list | | 496 |

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

Series variation

Air operated 2 port valve

(cylinder valve)

| | | Model | | | Actuation | | | | | |
|------------------------|--------------------------------|----------------------------|--------|----|-----------|-------------------------------|--------|--------|-------|--|
| Ca | itegory | | | NC | NO | Double acting operation | Rc1/4 | Rc3/8 | Rc1/2 | |
| | Air operated type | Water, liquid SAB*W | | • | • | • | • | • | • | |
| | | Air, gas SAB*A | _ | • | • | • | • | • | • | |
| | | Low vacuum SAB*V | | • | • | • | • | • | • | |
| Cylinder valve | | Steam, water, air SAB*S | | • | • | • | • | • | • | |
| Cylinde | Solenoid valve mounted type | Water, liquid SVB*W | 2 port | • | • | | • | • | • | |
| | | Air, gas SVB*A | | • | • | | • | • | • | |
| | | Low vacuum SVB*V | | • | • | | • | • | • | |
| | | Steam, water, air SVB*S | _ | • | • | | • | • | • | |
| alve | Air operated type | General purpose NAB* | | • | • | • | • | • | | |
| ylinder va | | Low vacuum NAB*V | | • | • | • | • | • | | |
| Compact cylinder valve | Air operated type manifold | General purpose GNAB* | _ | • | • | • | Port A | Port C | | |
| ပိ | | Low vacuum GNAB*V | | • | • | • | Port A | Port C | | |

SAB/SVB/NAB Series

Series variation

| Normal Normal< | Porteizo | | | | | | | | | | | | |
|---|----------|-------|-----|---------|---|---------|---|-----|---|---|-------|------|----------------|
| Re3/4 Re1 1/4 Itange Re1 1/2 Itange Re2 Itange | | | | | | | | | | | HNB/G | | |
| • • <td></td> <td>Rc3/4</td> <td>Rc1</td> <td>Rc1 1/4</td> <td></td> <td>Rc1 1/2</td> <td></td> <td>Rc2</td> <td></td> <td></td> <td></td> <td>Page</td> <td></td> | | Rc3/4 | Rc1 | Rc1 1/4 | | Rc1 1/2 | | Rc2 | | | | Page | |
| Image: Color Colo | | | | | | | | | | | | | |
| • | | • | • | • | • | • | • | | • | • | • | 446 | FGB/G |
| Image: Solution of the solution | | | | | | | | | | | | 450 | FVB |
| • | | • | | | • | | | | | | | +30 | FWB/G |
| • | | • | • | • | • | • | • | • | • | | | 454 | FHB |
| • | | | | | | | | | | | | | FLB |
| • | | • | • | • | • | • | • | • | • | | | 458 | AB |
| • | | | | | | | | | | | | | |
| • | | • | • | • | • | | • | • | • | • | • | 462 | AD |
| Image: | | | | | | | | | | | | | ADK |
| $ \begin{array}{ $ | | • | • | • | • | | • | • | • | • | • | 470 | dry air |
| Image: | | | | | | | | | | | | 474 | proof |
| Image: | | • | • | • | | • | • | • | • | | | 474 | HVL |
| Image: Constraint of the state of the st | | • | • | • | • | • | • | • | | | | 478 | |
| Image: Constraint of the second se | | | | | | | | - | | | | - | NP/NAP/ NVP |
| Image: state | | | | | | | | | | | | 484 | |
| Image: second | | | | | | | | | | | | | |
| PJ CVE/ CVSE CVE/ CVSE CVE/ CVSE CP/ CPP A88 Medical analysis | | | | | | | | | | | | 486 | systems |
| 488 CVSE CPD CPD 492 Medical analysis | | | | | | | | | | | | | PJ |
| 492 CPD Medical analysis | | | | | | | | | | | | 488 | CVSE |
| analysis | | | | | | | | | | | | | CPD |
| Cuctom | | | | | | | | | | | | 492 | analysis |

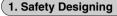
Custom order avlav

Cylinder valve Air operated 2 port valve

Safety precautions Always read this section before starting use.

Air operated 2 port valve (cylinder valve)

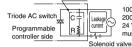
Design & Selection



A 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. CR circuit



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

- 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.

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

\Lambda 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

- 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 | Х |
| GNAB2/GNAB2V | Y |
| GNAB3/GNAB3V | X and Y |

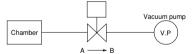
When piping the SAB or SVB Series, pay attention to the supply ports on the unit and pilot operation sides.

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

Note 1) With NAB¹₃-8/10, 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

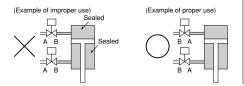
durability could drop further than when port A is connected.

Note 2) With the SAB¹/₂V or SVB¹/₂V 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.

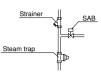
When operating a hydraulic cylinder with a cylinder valve for water, if the valve's port B is piped to the cylinder, pressure in the port and piping rises and excessive pressure is applied on the valve body, leading to damage. In this case, pipe the valve's port A to the cylinder side.



SAB/SVB/NAB Series

Individual precautions

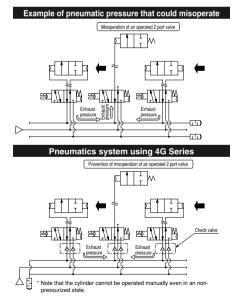
When using the valve for steam, external leaks could occur depending on fluid properties. Install a steam trap by inclining piping, etc., and remove drainage to prevent the inside of the pipe from rusting.



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 |

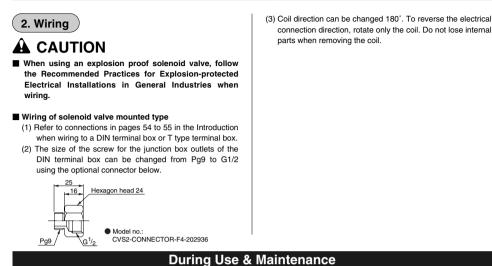
- If a manifold is used on the SAB Series operation valve, exhaust pressure could be led in from other valves, which causes malfunctions such as momentary opening of the SAB. When using a manifold, use a valve with a built-in "check valve". Similar problems could occur if exhaust is led in from the SVB 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.



HNR/G

SAB/SVB/NAB Series

Installation & Adjustment

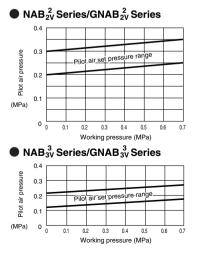


1. Maintenance & Inspection

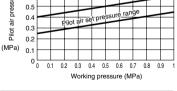
Pilot air pressure

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.



SAB^{2W}₃₀Series/SVB2^W₆Series 0.7 air pressure 0.6 Pilot air 0.5 et pressure range 0.4 0.3 io i 0.2 (MPa) 0 1 0 0 01 02 0.3 04 05 0.6 07 0.8 0.9 Working pressure (MPa) SAB ²/₃ S Series/SVB2S Series 0.7 pressure 0.6



2. Assembling & Disassembling

\Lambda 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.

SAB/SVB/NAB Series

Individual precautions

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 $\ensuremath{\text{N-m}}$.

(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

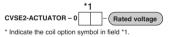
Set the parts in the sequence of the O ring, valving element guide assembly, valving element spring and cover. Tighten the flat headed cross cut screw with a torque of 0.7 to 1.1 N·m.

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

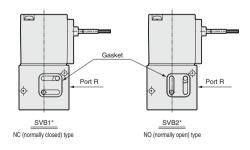


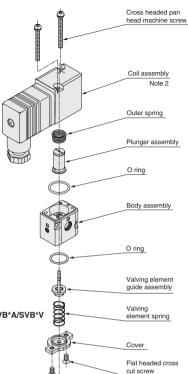
Model no. of pilot solenoid valve (actuator assembly kit) for SVB*S

| * | 1 |
|----------------------------|---------------------|
| SVB-ACTUATOR-C | - 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.





HNR/G LISB/G FAB/G FGB/G **EVB** FW/B/G FHB FLB AB AG AP/ AD APK/ ADK For dry air Explosion proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G MXB/G Other G.P systems PD/FAD/ P.J CVE/ CVSE CPE/

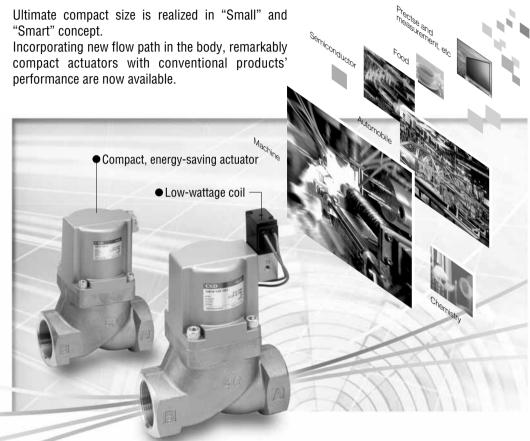
Medical analysis Custom order

CPD

Cylinder valve Air operated 2 port valve

Controlling various fluids for various applications

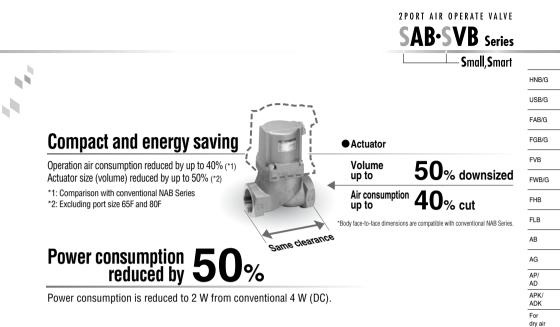
SAB/SVB Series for achieving higher energy saving performance and ultimate compact size



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.





Free mounting of actuator

Mounting direction interchangeable in 4 directions



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

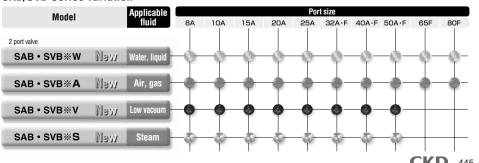
Due to perfect air operated structure, SAB can be used in flammable environment.

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

Explosion

proof HVB/ HVI

SAB/

SVB

NP/NAP/ NVP

CHB/G

MXB/G

Other G.P

systems PD/FAD/ PJ

CVE/

CVSE

CPD

Medical

analysis Custom order

> Cylinder valve Air operated 2 port valve

CKD 445



Air operated 2 port valve with solenoid valve (cylinder valve)

SVB*W Series

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

JIS symbol

NC (normally closed) type



• NO (normally open) type



Common specifications

| Item | SVB1W | SVB2W | | | |
|------------------------------------|---|-------------------------|--|--|--|
| Actuation | NC (normally closed) type | NO (normally open) type | | | |
| Working fluid | Water, non-corr | osive fluids (*1) | | | |
| Fluid viscosity mm ² /s | 500 o | r 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 (r | no freezing) | | | |
| Ambient temperature °C | -10 t | -10 to 60 | | | |
| Valve seat leakage cm3/min. | 0 (w | ater) | | | |
| Mounting attitude | Fr | ee | | | |
| Water hammer (reference) 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.

| Electric specifications | | | | | |
|-------------------------|----------|--|---|--|--|
| Rated voltage | | 100 VAC (50/60 Hz), 110 VAC (60 Hz), 200 | VAC (50/60 Hz), 220 VAC (60 Hz), 24 VDC | | |
| Apparent | Holding | 3.6 (50 Hz), | , 2.8 (60 Hz) | | |
| power (VA) | Starting | 11 (50 Hz) |), 9 (60 Hz) | | |
| Power | AC | 1.9 (50 Hz), | , 1.5 (60 Hz) | | |
| consumption (W) | DC | 2 | .0 | | |
| Heat proof class | S | В | | | |
| Protective struc | ture | Grommet lead wire | IPX2 | | |
| (IEC standards 529) | | DIN terminal box (Pg9) | IPX5 | | |
| | | T type terminal box (G1/2) | IPX5 | | |

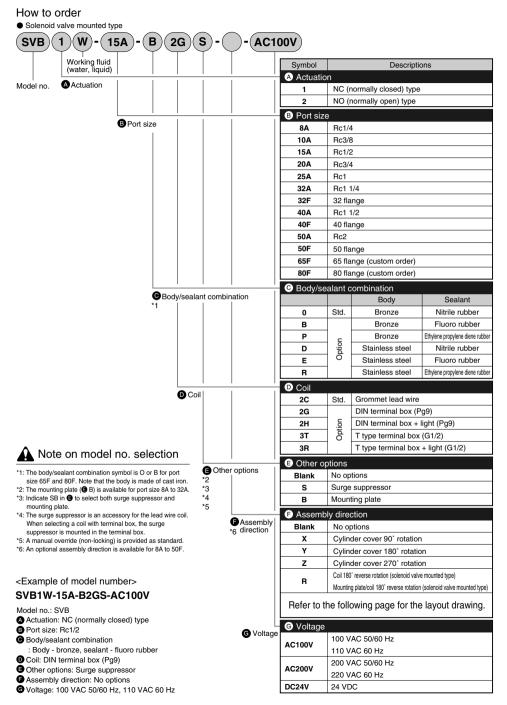
Note 1: Allowable voltage range must be within ±10% of the rated voltage.

Individual specifications

| Item | Port size | Orifice | Cv flow | Working press | sure range (MPa) | Pilot air pres | ssure (MPa) | Pilot | Weig | ht (kg) | |
|------------------------|-----------|---------|---------|---------------|------------------|----------------|-------------|-------|---------|---------|-------|
| Model no. | Port size | (mm) | factor | NC type | NO type | NC type | NO type | | NC type | NO type | |
| SVB*W-8A | Rc1/4 | 10 | 2.3 | | | | | | 0 | .5 | HNB/G |
| SVB*W-10A | Rc3/8 | 10 | 2.6 | 1 | | | | | 0 | .5 | USB/G |
| SVB*W-15A | Rc1/2 | 15 | 5.6 | 0 to 0.7 | 0 to 1 | 0.35 to 0.7 | (*1) | | 0 | .8 | |
| SVB*W-20A | Rc3/4 | 16 | 8 | 1 | | | | | f | 1 | FAB/G |
| SVB*W-25A | Rc1 | 20 | 12 | | | | | 1 | .3 | | |
| SVB*W-32A | Rc1 1/4 | 26 | 20 | | | | | Rc1/8 | 2.5 | 2.4 | FGB/G |
| SVB*W-32F | 32 flange | 26 | 20 | 1 | | | | | 5.5 | 5.4 | FVB |
| SVB*W-40A | Rc1 1/2 | 32 | 32 | 1 | | | | | 3.6 | 3.4 | |
| SVB*W-40F | 40 flange | 32 | 32 | | | | | | 6.7 | 6.5 | FWB/G |
| SVB*W-50A | Rc2 | 42 | 50 | 0 to 0.5 | 0 to 1 | 0.25 to 0.7 | (*1) | | 5.7 | 5.4 | |
| SVB*W-50F | 50 flange | 42 | 50 | 1 | | | | | 9.6 | 9.3 | FHB |
| SVB*W-65F (*2) | 65 flange | 65 | 70 | 1 | | | | | 20.5 | 19 | FLB |
| SVB*W-80F (*2) | 80 flange | 79 | 100 | 1 | | | | | 25 | 23 | |
| 1. Defecto enere 440.6 | | · | | | | | ÷ | | · | | AB |

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

AG





Assembly direction

| SVB (s | olenoid valve mount | d type) *7 | | | | |
|-------------|---------------------|-----------------------------|------------------------------|------------------------------|-----------------------|-------|
| Symbol | Blank (standard) | X *6 | Y *6 | Z *6 | R *6 | HNB |
| Direction | Without rotation | Cylinder cover 90° rotation | Cylinder cover 180° rotation | Cylinder cover 270° rotation | Coil reverse rotation | |
| | в А | ВА | ВА | ВА | в А | USB/0 |
| | | | | | | FAB/G |
| Arrangement | | | | | | FGB/0 |
| | | | | | | FVB |
| | | | | | | FWB/ |
| | | | | | | FHB |

| SVB (| solenoid valve mounted | type) *2/7 | | | |
|------------|------------------------|--------------------------------|---|---|--|
| Symbol | B (mounting plate) | B-X *6 | B-Y *6/8 | B-Z *6/8 | B-R *6/9 |
| Direction | Without rotation | Cylinder cover 90° rotation | Cylinder cover 180° rotation Mounting plate reverse rotation | Cylinder cover 270° rotation Mounting plate reverse rotation | Coil reverse rotation Mounting plate reverse rotation |
| Arrangemen | B A | | B A | | B A |

*7: Clockwise rotation angles are shown as viewed from above with port A facing right.

*8: The mounting plate is assembled on the 180° opposite side.

*9: The mounting plate for port size 10A is installed at the bottom, so only the coil position is reversed.

+ indicates pilot port IN.

| HVL |
|---------|
| SAB/ |
| SVB |
| NP/NAP/ |
| NVP |
| CHB/G |

HVB/

FLB AB AG AP/ AD APK/ ADK For dry air Explosion proof

MXB/G Other G.P.

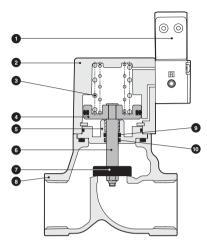
PD/FAD/ PJ CVE/ CVSE CPE/ CPD

systems

Medical analysis Custom order

Internal structure and parts list

• SVB1W

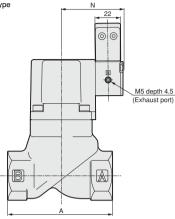


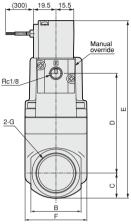
| No. | Parts name | Material | |
|-----|----------------------|-----------------|---|
| 1 | Pilot solenoid valve | - | - |
| 2 | Cylinder cover | ADC12 | Aluminum die casting |
| 3 | Spring | SWP | Piano wire |
| 4 | Piston | A2017 | Aluminum |
| 5 | Adaptor | C3604 (SUS304) | Brass (stainless steel) |
| 6 | Piston rod | SUS304 | Stainless steel |
| 7 | Main valving | NBR (FKM, EPDM) | Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) |
| / | element | SUS304 | Stainless steel |
| 8 | Body | CAC407 (SCS13) | Bronze casting (stainless steel casting) |
| 9 | O ring | NBR (FKM, EPDM) | Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) |
| 10 | 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.



 SVB*W-8A to 50A-*2C (Rc screw-in type) Grommet lead wire type

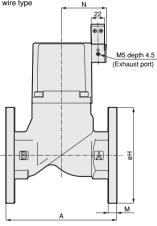


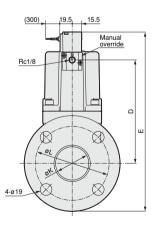


* Shown without optional assembly direction.

| Model no. | А | В | С | D | E | F | G | N |
|-----------|-----|----|------|-------|-------|----|---------|------|
| SVB*W-8A | 50 | 24 | 12 | 45.5 | 102.5 | 32 | Rc1/4 | 48.5 |
| SVB*W-10A | 50 | 24 | 12 | 45.5 | 102.5 | 32 | Rc3/8 | 48.5 |
| SVB*W-15A | 71 | 28 | 14.5 | 65.5 | 125 | 43 | Rc1/2 | 49.5 |
| SVB*W-20A | 80 | 35 | 17.5 | 75 | 137.5 | 43 | Rc3/4 | 49.5 |
| SVB*W-25A | 90 | 43 | 21 | 85.5 | 151.5 | 53 | Rc1 | 53 |
| SVB*W-32A | 125 | 55 | 27.5 | 113.5 | 186 | 63 | Rc1 1/4 | 57.5 |
| SVB*W-40A | 140 | 61 | 30.5 | 134.5 | 210 | 77 | Rc1 1/2 | 64.5 |
| SVB*W-50A | 160 | 76 | 38 | 168 | 251 | 95 | Rc2 | 72.5 |

 SVB*W-32F to 80F-*2C (flange type) Grommet lead wire type





• 80F



| ř | Shown | without | optional | assembly | direction. | |
|---|-------|---------|----------|----------|------------|--|
| | | | | | | |

| Model no. | A | D | E | н | к | L | М | N | |
|-----------|-----|-------|-------|-----|----|-----|----|------|--|
| SVB*W-32F | 170 | 113.5 | 226 | 135 | 36 | 100 | 12 | 57.5 | |
| SVB*W-40F | 180 | 134.5 | 249.5 | 140 | 42 | 105 | 12 | 64.5 | |
| SVB*W-50F | 180 | 168 | 291 | 155 | 54 | 120 | 14 | 72.5 | |
| SVB*W-65F | 210 | 203 | 347.5 | 175 | 68 | 140 | 16 | 113 | |
| SVB*W-80F | 240 | 218 | 367.5 | 185 | 82 | 150 | 16 | 123 | |

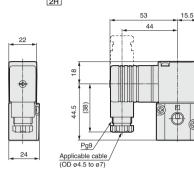
HNB/G

USB/G

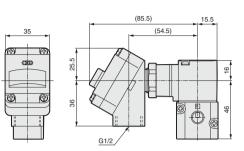
FAB/G

Optional dimensions (Page 496)

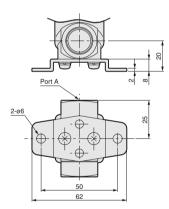
 DIN terminal box (Pg9), DIN terminal box + light (Pg9) SVB*W-*-* 2G 2H



• T type terminal box (G1/2), T type terminal box + light (G1/2) SVB*W-*-* 3T 3R



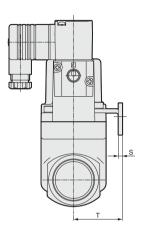
 Mounting plate SVB*W-8A/10A-**

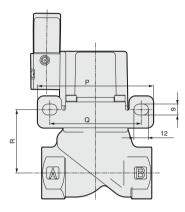


* Use the body set screws if fixing without a mounting plate. (Thread size: M4 depth 8 pitch 19)

Optional dimensions (Page 496)

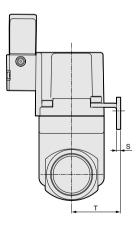
Mounting plate SVB*W-15A to 32A-** B/ B-R / B-Y

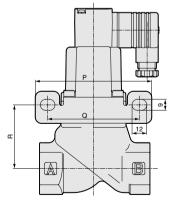




* Figure shows B.

Mounting plate SVB*W-15A to 32A-** B-X / B-Z





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

| HNB/G USB/G FAB/G FGB/G FVB FWB/G FHB FLB AB AG AP/ AD AD AD AD AD AD AD AD AD AD AD AD AD | |
|---|---|
| FAB/G FGB/G FVB FWB/G FHB FLB AB AD APK/ ADD APK/ ADK Fording WWB/G FLB AB AP/ AD APK/ ADK Fording WWB/G WWB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPD/ Medical analysis Custom order order | HNB/G |
| FGB/G FVB FVB/G FLB AB AG AP/ AD APK/ ADK For dry air Explosion prof HVL SAB/ NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVSE CPE/ CVSE CPD Medical analysis Custom order | USB/G |
| FVB FVB/G FHB FLB AB AG AP/ AD APK/ ADK For dry air Explosion proof HVB/ HVL SAB/ SVP NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVSE CPE/ CPD Medical analysis Custom order analysis | FAB/G |
| FWB/G FHB FLB AB AG AP/ AD AP/ind Explosion proof HVL SAB/ NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ Order analysis Custorm order | FGB/G |
| FHB FLB AB AG APK/ AD APK/ ADK For dry air Explosion proof PV/NAP/ NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ Other Gal analysis Custom order | FVB |
| FLB AB AG AP/ AD APK/ ADK For dryair Explosion prof HVL SAB/ NP/NAP/ NPK MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ Order order | FWB/G |
| AB AG AP/ AD APK/ ADK For dry air Explosion PV/ HVB/ HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CVSE CVE/ CVSE CVSE CUSTO Other GAP Systems CUSTO CVE/ CVSE | FHB |
| AG AP/ AD APK/ ADK For dry air Explosion proof HVD/ HVD/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CVSE CPE/ CVSE CPE/ CVSE CPE/ CVSE CPE/ CVSE CPE/ CVSE | FLB |
| AP/ AD APK/ ADK For dry air Explosion proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVSE CVSE CVSE CVSE CUStom order Analysis | AB |
| AD APK/ ADK For dry air Explosion Profo HVB/ HVL SAE/ SVB NP/NAP/ NVP CHB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CVE/ CVSE CVE/ CVSE CDE/ CPD Medical analysis Custom order AND ADD ADD ADD ADD ADD ADD ADD | AG |
| ADK For dry air Explosion proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CVE/ CPD Medical analysis Custom order order | |
| For dry air Explosion proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order order | |
| Explosion proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CVSE CVSE CUSTO Medical analysis Custom order Allon Allon | For |
| proof HVB/ HVL SAB/ SVB NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order | |
| HVL SAB/ SVP NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVVE CVSE CVSE CVSE CVSE CVSE CVSE Custom order Anton piouelos ti Medical analysis | |
| SVB NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order anylos | HVI |
| NP/NAP/ NVP CHB/G MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CVSE CPE/ CPD Medical analysis Custom order Allon bound 2 paptaledo J | |
| MXB/G Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order Other Spectro CPD | NP/NAP/ |
| Other G.P. systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order Anter pioned 2 beta for the content of the cont | CHB/G |
| systems PD/FAD/ PJ CVE/ CVSE CPE/ CPD Medical analysis Custom order Anton piouelos this order Anton piouelos de la contractione order Anton piouelos de la contractione Anton picture Anton piouelos de la contractione Anton picture Anton | MXB/G |
| PD/FAD/ PJ CVE/ CVSE CPE/ Custom order Antex piouelos this event order Antex piouelos de la contraction order | |
| CVE/ CVSE CPE/ CPD Medical aualysis Custom order avlav pionelos thiw avlav rabinity CropD Medical aualysis | PD/FAD/ |
| CVSE CPE/ CPD Medical analysis Custom order avtex pionelos thiw avtex rabidity order | |
| CPD Medical analysis Custom order avlav bolot valve over avaited 2 port valve over avaited 2 port valve | CVSE |
| aualysis Crastom order ir coperated 2 port valve port valve | CPE/ CPD |
| Cristom order operated 2 port valve | |
| ylinder valve with solenoid valv ir operated 2 port valve | Custom order |
| ylinder valve with solenoid r operated 2 port valve | ev |
| | ylinder valve with solenoid ir operated 2 port valve |



Air operated 2 port valve with solenoid valve (cylinder valve)

SVB*A Series

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

JIS symbol

NC (normally closed) type



NO (normally open) type

Common specifications

| Item | SVB1A | SVB2A | | | | | |
|---|-----------------------------------|-------------------------|--|--|--|--|--|
| Actuation | NC (normally closed) type | NO (normally open) type | | | | | |
| Working fluid | Air, inert | 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 (r | no freezing) | | | | | |
| Ambient temperature °C | -10 to 60 | | | | | | |
| Valve seat leakage cm3/min. | 0.12 or less (pneumatic pressure) | | | | | | |
| Mounting attitude | Free | | | | | | |
| *1: Refer to the working fluid check list in page 36 of the Introduction. | | | | | | | |

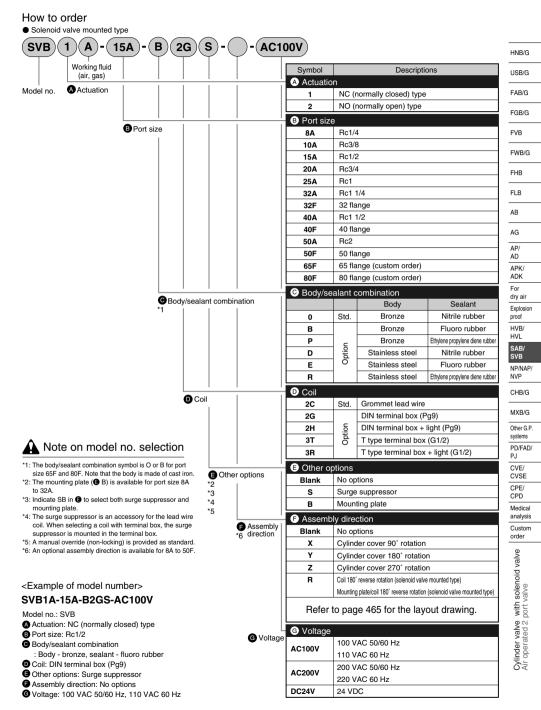
| Electric specific | ations | | | | |
|-------------------|----------|--|---|--|--|
| Rated voltage | | 100 VAC (50/60 Hz), 110 VAC (60 Hz), 200 | VAC (50/60 Hz), 220 VAC (60 Hz), 24 VDC | | |
| Apparent | Holding | 3.6 (50 Hz), | , 2.8 (60 Hz) | | |
| power (VA) | Starting | 11 (50 Hz) |), 9 (60 Hz) | | |
| Power | AC | 1.9 (50 Hz), 1.5 (60 Hz) | | | |
| consumption (W) | DC | 2 | .0 | | |
| Heat proof class | S | В | | | |
| Protective struc | ture | Grommet lead wire | IPX2 | | |
| (IEC standards | 529) | DIN terminal box (Pg9) | IPX5 | | |
| | | T type terminal box (G1/2) | IPX5 | | |

Note 1: Allowable voltage range must be within $\pm 10\%$ of the rated voltage.

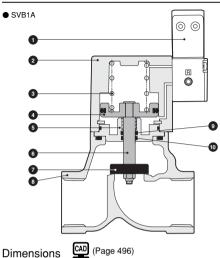
Individual specifications

| Item Model no. | Port size | Orifice (mm) | C [dm³/(s·bar)] | b | S (mm²) | Allowable back pressure (MPa) | Pilot port size | Weight (kg) |
|---------------------|-----------|-----------------|--------------------|-----|------------|-------------------------------------|--------------------|----------------|
| NC (normally closed |) type | | | | | | | |
| SVB1A-8A | Rc1/4 | 10 | 8.3 | 0.4 | - | 0.5 | | 0.5 |
| SVB1A-10A | Rc3/8 | 10 | 11 | 0.4 | - | 0.5 | | 0.5 |
| SVB1A-15A | Rc1/2 | 15 | - | - | 120 | | 1 | 0.8 |
| SVB1A-20A | Rc3/4 | 16 | - | - | 150 | 1 | | 1 |
| SVB1A-25A | Rc1 | 20 | - | - | 240 | 1 | | 1.3 |
| SVB1A-32A | Rc1 1/4 | 26 | - | - | 390 | 1 | | 2.4 |
| SVB1A-32F | 32 flange | 26 | - | - | 390 | 1 | Rc1/8 | 5.4 |
| SVB1A-40A | Rc1 1/2 | 32 | - | - | 610 | 0.1 | | 3.4 |
| SVB1A-40F | 40 flange | 32 | - | - | 610 | 1 | | 6.5 |
| SVB1A-50A | Rc2 | 42 | - | - | 920 | 1 | | 5.4 |
| SVB1A-50F | 50 flange | 42 | - | - | 920 | 1 | | 9.3 |
| SVB1A-65F (*2) | 65 flange | 65 | - | - | 1290 | 1 | | 19.5 |
| SVB1A-80F (*2) | 80 flange | 79 | - | - | 1840 | | | 23.5 |
| NO (normally open) | type | | | | | | | |
| SVB2A-8A | Rc1/4 | 10 | 8.9 | 0.4 | - | | | 0.5 |
| SVB2A-10A | Rc3/8 | 10 | 12 | 0.3 | - | | | 0.5 |
| SVB2A-15A | Rc1/2 | 15 | - | - | 140 | 0.1 | | 0.8 |
| SVB2A-20A | Rc3/4 | 16 | - | - | 180 | | | 1 |
| SVB2A-25A | Rc1 | 20 | - | - | 280 | | | 1.3 |
| SVB2A-32A | Rc1 1/4 | 26 | - | - | 450 | | | 2.4 |
| SVB2A-32F | 32 flange | 26 | - | - | 450 | | Rc1/8 | 5.4 |
| SVB2A-40A | Rc1 1/2 | 32 | - | - | 680 | | | 3.4 |
| SVB2A-40F | 40 flange | 32 | - | - | 680 | 0.05 | | 6.5 |
| SVB2A-50A | Rc2 | 42 | - | - | 1020 | 0.05 | | 5.4 |
| SVB2A-50F | 50 flange | 42 | - | - | 1020 |] | | 9.3 |
| SVB2A-65F (*2) | 65 flange | 65 | - | - | 1290 |] | | 19 |
| SVB2A-80F (*2) | 80 flange | 79 | - | - | 1840 | | | 23 |

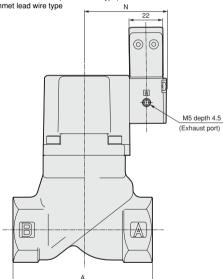
 $^{+1}$: Refer to page 442 for the pilot air pressure for the NO type. $^{+2}$: Port size 65 and 80 flanges are custom order. $^{+3}$: Effective sectional area S and sonic conductance C are converted as S $\approx 5.0 \times C$.



Internal structure and parts list

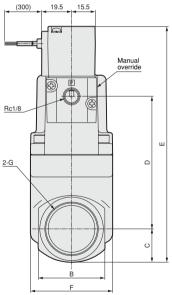


 SVB*A-8A to 50A-*2C (Rc screw-in type) Grommet lead wire type

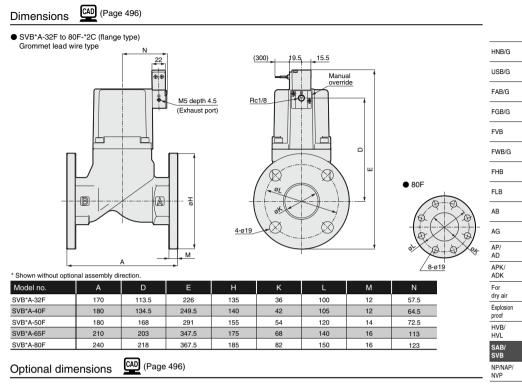


| No. | Parts name | Material | |
|-----|----------------------|-----------------|---|
| 1 | Pilot solenoid valve | - | - |
| 2 | Cylinder cover | ADC12 | Aluminum die casting |
| 3 | Spring | SWP | Piano wire |
| 4 | Piston | A2017 | Aluminum |
| 5 | Adaptor | C3604 (SUS304) | Brass (stainless steel) |
| 6 | Piston rod | SUS304 | Stainless steel |
| 7 | Main valving | NBR (FKM, EPDM) | Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) |
| / | element | SUS304 | Stainless steel |
| 8 | Body | CAC407 (SCS13) | Bronze casting (stainless steel casting) |
| 9 | O ring | NBR (FKM, EPDM) | Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) |
| 10 | 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.



| * Shown without optio | nal assembly direc | tion. | | | - | F | | |
|-----------------------|--------------------|------------------|-------|-------|-------|------|---------|------|
| Model no. | А | В | С | D | E | F | G | N |
| SVB*A-8A | 50 | 24 | 12 | 45.5 | 102.5 | 32 | Rc1/4 | 40 E |
| SVB*A-10A | 50 | 24 12 45.5 102.5 | 102.5 | 32 | Rc3/8 | 48.5 | | |
| SVB*A-15A | 71 | 28 | 14.5 | 65.5 | 125 | 43 | Rc1/2 | 49.5 |
| SVB*A-20A | 80 | 35 | 17.5 | 75 | 137.5 | 43 | Rc3/4 | 49.5 |
| SVB*A-25A | 90 | 43 | 21 | 85.5 | 151.5 | 53 | Rc1 | 53 |
| SVB*A-32A | 125 | 55 | 27.5 | 113.5 | 186 | 63 | Rc1 1/4 | 57.5 |
| SVB*A-40A | 140 | 61 | 30.5 | 134.5 | 210 | 77 | Rc1 1/2 | 64.5 |
| SVB*A-50A | 160 | 76 | 38 | 168 | 251 | 95 | Rc2 | 72.5 |



DIN terminal box, T type terminal box and mounting plate are the same as those for SVB*W $\frac{CHB/G}{MXB/G}$

Other G.P systems PD/FAD/ PJ



Air operated 2 port valve with solenoid valve (cylinder valve)

SVB*V Series

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

Common specifications

CE Refer to page 17 in the Ending for details.

CAD

JIS symbol

NC (normally closed) type



NO (normally open) type



| eenninen epeenne | | | | | |
|------------------------------------|--|-------------------------|--|--|--|
| Item | SVB1V | SVB2V | | | |
| Actuation | NC (normally closed) type | NO (normally open) type | | | |
| Working fluid | Low vacuum (| air, water) (*1) | | | |
| Fluid viscosity mm ² /s | 500 o | r less | | | |
| Working pressure range Pa (abs) | 1.3 x 10 ² to 7 x 10 ⁵ (refer to working pressure range in individual specifications.) | | | | |
| Withstanding pressure (water) MPa | 2.0 | | | | |
| Fluid temperature °C | -10 to 60 (r | o freezing) | | | |
| Ambient temperature °C | -10 to 60 | | | | |
| Valve seat leakage Pa·m3/s He | 1.33 x 10-3 or less | | | | |
| Mounting attitude | Free | | | | |

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

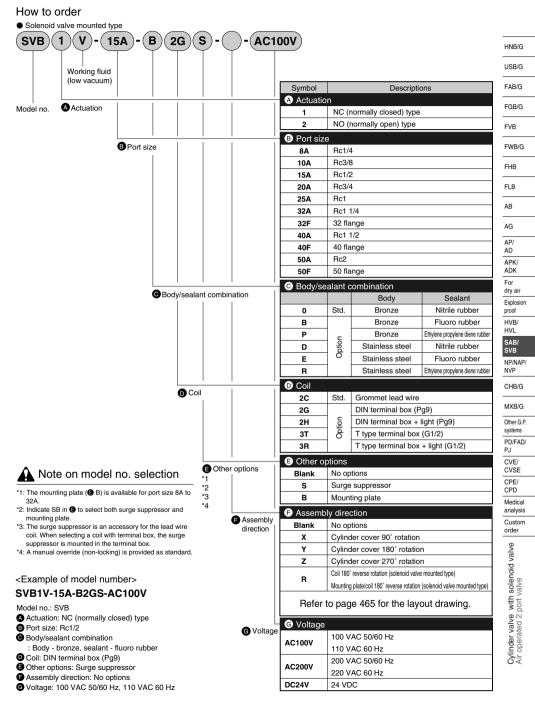
| Electric speci | ifications | | | | | |
|-----------------|------------|--|-------------|--|--|--|
| Rated voltage | | 100 VAC (50/60 Hz), 110 VAC (60 Hz), 200 VAC (50/60 Hz), 220 VAC (60 Hz), 24 VDC | | | | |
| Apparent | Holding | 3.6 (50 Hz), 2.8 (60 Hz) | | | | |
| power (VA) | Starting | 11 (50 Hz) | , 9 (60 Hz) | | | |
| Power | AC | 1.9 (50 Hz), 1.5 (60 Hz) | | | | |
| consumption (W |) DC | 2.0 | | | | |
| Heat proof clas | SS | В | | | | |
| Protective stru | cture | Grommet lead wire | IPX2 | | | |
| (IEC standards | s 529) | DIN terminal box (Pg9) | IPX5 | | | |
| | | T type terminal box (G1/2) | IPX5 | | | |

Note 1: Allowable voltage range must be within ±10% of the rated voltage.

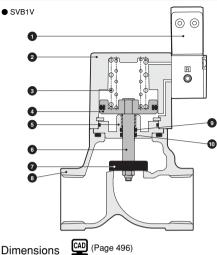
Individual specifications

| Item | Deut eine | Orifice | С | 6 | S | Working pressur | e range Pa (abs) | Pilot air pre | ssure (MPa) | Pilot | Weigh | nt (kg) |
|-----------|-----------|---------|---------------|-----|--------------------|---|------------------------|---------------|-------------|-----------|---------|---------|
| Model no. | Port size | (mm) | [dm³/(s·bar)] | b | (mm ²) | NC type | NO type | NC type | NO type | port size | NC type | NO type |
| SVB*V-8A | Rc1/4 | 10 | 8.3 | 0.4 | - | | | | | | 0. | .5 |
| SVB*V-10A | Rc3/8 | 10 | 12 | 0.3 | - | 1.3 x 10 ² 1.3 x 10 ² | | | | 0. | .5 | |
| SVB*V-15A | Rc1/2 | 15 | - | - | 140 | | | 0.35 to 0.7 | (*1) | | 0. | .8 |
| SVB*V-20A | Rc3/4 | 16 | - | - | 180 | to 7 x 10 ⁵ | to 1 x 106 | | | | 1 | I |
| SVB*V-25A | Rc1 | 20 | - | - | 280 | | | | | | 1. | .3 |
| SVB*V-32A | Rc1 1/4 | 26 | - | - | 450 | | | | | Rc1/8 | 2.5 | 2.4 |
| SVB*V-32F | 32 flange | 26 | - | - | 450 | | | | | | 5.5 | 5.4 |
| SVB*V-40A | Rc1 1/2 | 32 | - | - | 680 | 1.3 x 10 ² | 1.3 x 10 ² | 0.25 to 0.7 | (*1) | | 3.6 | 3.4 |
| SVB*V-40F | 40 flange | 32 | - | - | 680 | to 5 x 10 ⁵ | to 1 x 10 ⁶ | 0.25 10 0.7 | (*1) | | 6.7 | 6.5 |
| SVB*V-50A | Rc2 | 42 | - | - | 1020 | | | | | | 5.7 | 5.4 |
| SVB*V-50F | 50 flange | 42 | - | - | 1020 | | | | | | 9.6 | 9.3 |

*1: Refer to page 442 for the pilot air pressure for the NO type.



Internal structure and parts list



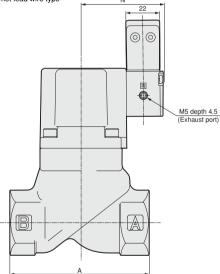
No. Parts name Material 1 Pilot solenoid valve 2 Cylinder cover ADC12 Aluminum die casting 3 Spring SWP Piano wire A2017 4 Piston Aluminum 5 Adaptor C3604 (SUS304) Brass (stainless steel) 6 Piston rod SUS304 Stainless steel Main valving NBR (FKM, EPDM) Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) 7 element SUS304 Stainless steel 8 CAC407 (SCS13) Body Bronze casting (stainless steel casting) 9 O ring NBR (FKM, EPDM) Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) 10 MY packing seal NBR (FKM, EPDM) Nitrile rubber (fluoro rubber, ethylene propylene diene rubber) () shows options.

> 19.5 15.5

(300)

Dimensions

 SVB*V-8A to 50A-*2C (Rc screw-in type) Grommet lead wire type Ν



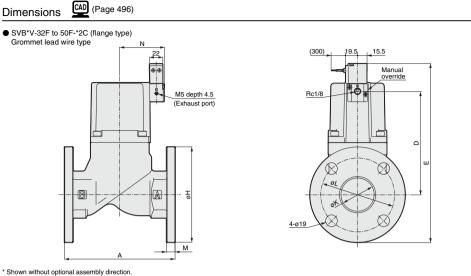
Manual override Þ ¢ Rc1/8 2-G B F

ш

C

* Shown without optional assembly direction.

| Model no. | А | В | С | D | E | F | G | N |
|-----------|-----|----|------|-------|-------|----|---------|------|
| SVB*V-8A | 50 | 24 | 10 | 45.5 | 100.5 | 32 | Rc1/4 | 48.5 |
| SVB*V-10A | 50 | 24 | 12 | 45.5 | 102.5 | 32 | Rc3/8 | 48.5 |
| SVB*V-15A | 71 | 28 | 14.5 | 65.5 | 125 | 43 | Rc1/2 | 49.5 |
| SVB*V-20A | 80 | 35 | 17.5 | 75 | 137.5 | 43 | Rc3/4 | 49.5 |
| SVB*V-25A | 90 | 43 | 21 | 85.5 | 151.5 | 53 | Rc1 | 53 |
| SVB*V-32A | 125 | 55 | 27.5 | 113.5 | 186 | 63 | Rc1 1/4 | 57.5 |
| SVB*V-40A | 140 | 61 | 30.5 | 134.5 | 210 | 77 | Rc1 1/2 | 64.5 |
| SVB*V-50A | 160 | 76 | 38 | 168 | 251 | 95 | Rc2 | 72.5 |



| Model no. | А | D | E | н | К | L | М | N |
|-----------|-----|-------|-------|-----|----|-----|----|------|
| SVB*V-32F | 170 | 113.5 | 226 | 135 | 36 | 100 | 12 | 57.5 |
| SVB*V-40F | 180 | 134.5 | 249.5 | 140 | 42 | 105 | 12 | 64.5 |
| SVB*V-50F | 180 | 168 | 291 | 155 | 54 | 120 | 14 | 72.5 |

Optional dimensions (Page 496)

DIN terminal box, T type terminal box and mounting plate are the same as those for SVB*W Series. Refer to pages 468 to 469.

HNB/G

USB/G

FAB/G

FGB/G



Air operated 2 port valve with solenoid valve (cylinder valve)

SVB*S Series

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

Common specifications

CE Refer to page 17 in the Ending for details.

AD

JIS symbol

NC (normally closed) type



NO (normally open) type

| Item | SVB1S | SVB2S | | | | |
|-------------------------------------|---------------------------|-------------------------|--|--|--|--|
| Actuation | NC (normally closed) type | NO (normally open) type | | | | |
| Working fluid | Steam, water, air, no | n-corrosive fluids (*1) | | | | |
| Liquid viscosity mm ² /s | 500 o | or less | | | | |
| Working pressure range MPa | O te | o 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 t | to 60 | | | | |
| Valve seat leakage cm3/min. | 300 or less (at pneumatic | pressure 0.02 to 1 MPa) | | | | |
| Mounting attitude | Fr | ee | | | | |

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

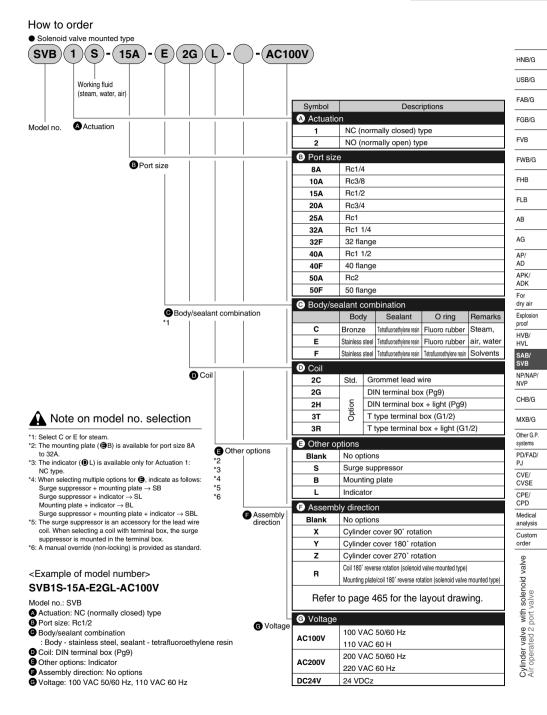
| Electric specif | ications | | | | | |
|------------------|----------|--|--------------|--|--|--|
| Rated voltage | | 100 VAC (50/60 Hz), 110 VAC (60 Hz), 200 VAC (50/60 Hz), 220 VAC (60 Hz), 24 VDC | | | | |
| Apparent | Holding | 3.6 (50 Hz), 2.8 (60 Hz) | | | | |
| power (VA) | Starting | 11 (50 Hz) |), 9 (60 Hz) | | | |
| Power | AC | 1.9 (50 Hz), 1.5 (60 Hz) | | | | |
| consumption (W) | DC | 2.0 | | | | |
| Heat proof class | S | В | | | | |
| Protective struc | ture | Grommet lead wire | IPX2 | | | |
| (IEC standards | 529) | DIN terminal box (Pg9) | IPX5 | | | |
| | | T type terminal box (G1/2) | IPX5 | | | |

Note 1: Allowable voltage range must be within ±10% of the rated voltage.

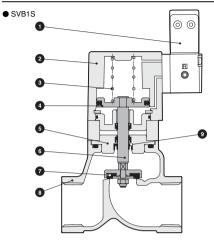
Individual specifications

| 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 clo | osed | | | | | | | |
| SVB1S-8A | Rc1/4 | 10 | 8.3 | 0.4 | - | 2.1 | | 0.5 |
| SVB1S-10A | Rc3/8 | 10 | 11 | 0.4 | - | 2.5 | | 0.5 |
| SVB1S-15A | Rc1/2 | 15 | - | - | 120 | 5.5 | | 0.8 |
| SVB1S-20A | Rc3/4 | 16 | - | - | 150 | 7 | | 1 |
| SVB1S-25A | Rc1 | 20 | - | - | 240 | 11 | | 1.4 |
| SVB1S-32A | Rc1 1/4 | 26 | - | - | 390 | 18.5 | Rc1/8 | 2.6 |
| SVB1S-32F | 32 flange | 26 | - | - | 390 | 18.5 | | 5.6 |
| SVB1S-40A | Rc1 1/2 | 32 | - | - | 610 | 29 | | 3.7 |
| SVB1S-40F | 40 flange | 32 | - | - | 610 | 29 | | 6.8 |
| SVB1S-50A | Rc2 | 42 | - | - | 920 | 43 | | 5.6 |
| SVB1S-50F | 50 flange | 42 | - | - | 920 | 43 | | 9.5 |
| NO type: normally op | ben | | | | | | | |
| SVB2S-8A | Rc1/4 | 10 | 8.9 | 0.4 | - | 2.3 | | 0.5 |
| SVB2S-10A | Rc3/8 | 10 | 12 | 0.3 | - | 2.6 | | 0.5 |
| SVB2S-15A | Rc1/2 | 15 | - | - | 140 | 5.6 | | 0.8 |
| SVB2S-20A | Rc3/4 | 16 | - | - | 180 | 8 | | 1 |
| SVB2S-25A | Rc1 | 20 | - | - | 280 | 12 | | 1.4 |
| SVB2S-32A | Rc1 1/4 | 26 | - | - | 450 | 20 | Rc1/8 | 2.6 |
| SVB2S-32F | 32 flange | 26 | - | - | 450 | 20 | | 5.6 |
| SVB2S-40A | Rc1 1/2 | 32 | - | - | 680 | 32 | | 3.7 |
| SVB2S-40F | 40 flange | 32 | - | - | 680 | 32 | | 6.8 |
| SVB2S-50A | Rc2 | 42 | - | - | 1020 | 50 | | 5.6 |
| SVB2S-50F | 50 flange | 42 | - | - | 1020 | 50 | | 9.5 |

*1: Refer to page 442 for the pilot air pressure for the NO type.



Internal structure and parts list

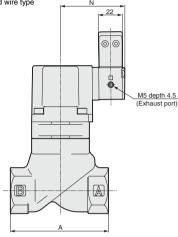


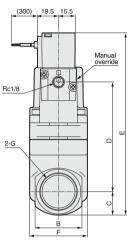
| No. | Parts name | Material | | | |
|-----|----------------------|----------------|--|--|--|
| 1 | Pilot solenoid valve | - | - | | |
| 2 | Cylinder cover | ADC12 | Aluminum die casting | | |
| 3 | Spring | SWP | Piano wire | | |
| 4 | Piston | A2017 | Aluminum | | |
| 5 | Adaptor | C3604 (SUS304) | Brass (stainless steel) | | |
| 6 | Piston rod | SUS304 | Stainless steel | | |
| 7 | Main valving element | PTFE | Tetrafluoroethylene resin | | |
| 8 | Body | CAC407 (SUS13) | Bronze casting (stainless steel casting) | | |
| 9 | Rod packing seal | PTFE | Tetrafluoroethylene resin | | |

() shows options.



 SVB*S-8A to 50A-*2C (Rc screw-in type) Grommet lead wire type N





HNB/G USB/G

FAB/G FGB/G

FVB

FWB/G

FHB FLB

AB AG

AP/ AD

APK/ ADK For

> nlosion of

/B/ /L

B/ /NAP/

IB/G

MXB/G Other G.P. systems PD/FAD/

PJ CVE/ CVSE CPE/ CPD

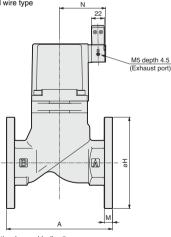
Medical analysis Custom

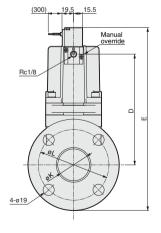
order Cylinder valve with solenoid valve Air operated 2 port valve



| А | В | С | D | E | F | G | N | dry air |
|-----|------------------------------------|---|---|--|--|--|---|--|
| | | | | | | Rc1/4 | | Explosion |
| 50 | 24 | 12 | 56.5 | 113.5 | 32 | Rc3/8 | 54.5 | proof |
| 71 | 28 | 14.5 | 81.5 | 141 | 43 | Rc1/2 | 55.5 | HVB/ HVL |
| 80 | 35 | 17.5 | 91 | 153.5 | 43 | Rc3/4 | 55.5 | SAB/ |
| 90 | 43 | 21 | 102 | 168 | 53 | Rc1 | 59 | SVB |
| 125 | 55 | 27.5 | 128.5 | 201 | 63 | Rc1 1/4 | 63.5 | NP/NAP |
| 140 | 61 | 30.5 | 154.5 | 230 | 77 | Rc1 1/2 | 70.5 | NVP |
| 160 | 76 | 38 | 188 | 271 | 95 | Rc2 | 78.5 | - CHB/G |
| | 50 71 80 90 125 140 | 50 24 71 28 80 35 90 43 125 55 140 61 | 50 24 12 71 28 14.5 80 35 17.5 90 43 21 125 55 27.5 140 61 30.5 | 50 24 12 56.5 71 28 14.5 81.5 80 35 17.5 91 90 43 21 102 125 55 27.5 128.5 140 61 30.5 154.5 | 50 24 12 56.5 113.5 71 28 14.5 81.5 141 80 35 17.5 91 153.5 90 43 21 102 168 125 55 27.5 128.5 201 140 61 30.5 154.5 230 | 50 24 12 56.5 113.5 32 71 28 14.5 81.5 141 43 80 35 17.5 91 153.5 43 90 43 21 102 168 53 125 55 27.5 128.5 201 63 140 61 30.5 154.5 230 77 | 50 24 12 56.5 113.5 32 Rc1/4 Rc3/8 71 28 14.5 81.5 141 43 Rc1/2 80 35 17.5 91 153.5 43 Rc3/4 90 43 21 102 168 53 Rc1 125 55 27.5 128.5 201 63 Rc1 1/4 140 61 30.5 154.5 230 77 Rc1 1/2 | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ |

• SVB*S-32F to 50F-*2C (flange type) Grommet lead wire type

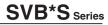




* Shown without optional assembly direction.

| Model no. | А | D | E | Н | К | L | М | N |
|-----------|-----|-------|-------|-----|----|-----|----|------|
| SVB*S-32F | 170 | 128.5 | 241 | 135 | 36 | 100 | 12 | 63.5 |
| SVB*S-40F | 180 | 154.5 | 269.5 | 140 | 42 | 105 | 12 | 70.5 |
| SVB*S-50F | 180 | 188 | 311 | 155 | 54 | 120 | 14 | 78.5 |

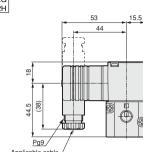
CKD 481



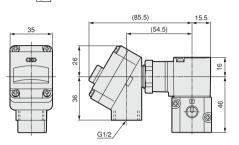
Optional dimensions (Page 496)

 DIN terminal box (Pg9), DIN terminal box + light (Pg9) SVB*S-*-*
 2G 2H

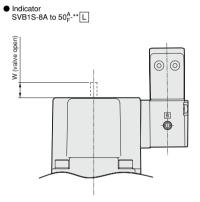




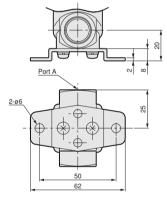
Applicable cable (OD ø4.5 to ø7) ● T type terminal box (G1/2), T type terminal box + light (G1/2) SVB*S-**^{*} 3T 3R



 Mounting plate SVB*S-8A/10A-**

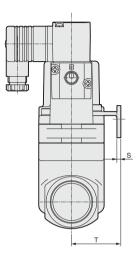


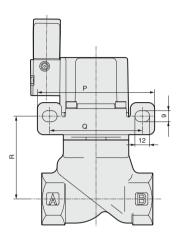
| Model no. | w |
|-------------|------|
| SVB1S-8A | 4 |
| SVB1S-10A | 4 |
| SVB1S-15A | 6.5 |
| SVB1S-20A | 6.5 |
| SVB1S-25A | 7 |
| SVB1S-32A/F | 8 |
| SVB1S-40A/F | 10.5 |
| SVB1S-50A/F | 13 |



(Page 496) Optional dimensions

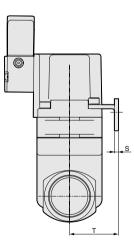
● Mounting plate SVB*S-15A to 32A-** B/B-R / B-Y





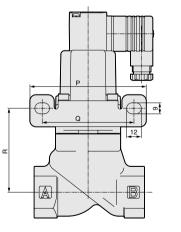
* Figure shows B.





* Figure shows B-X

| rigare cherre D X | | | | | |
|-------------------|-----|----|------|-----|----|
| Model no. | Р | Q | R | S | т |
| SVB*S-15A | 90 | 70 | 55 | 2.3 | 30 |
| SVB*S-20A | 90 | 70 | 64.5 | 2.3 | 30 |
| SVB*S-25A | 95 | 75 | 68.5 | 3.2 | 40 |
| SVB*S-32A | 105 | 85 | 81.5 | 3.2 | 45 |



| USB/G |
|---|
| FAB/G |
| FGB/G |
| FVB |
| FWB/G |
| FHB |
| FLB |
| AB |
| AG |
| AP/ AD |
| APK/ ADK |
| For dry air |
| Explosion proof |
| HVB/ HVL |
| SAB/ SVB |
| NP/NAP/ NVP |
| CHB/G |
| MXB/G |
| Other G.P. systems |
| PD/FAD/ PJ |
| CVE/ CVSE |
| CPE/ CPD |
| Medical analysis |
| Custom order |
| Cylinder valve with solenoid valve Air operated 2 port valve |

HNB/G

SAB/SVB/NAB Series

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".

| Madalas | DXF | | MICRO CADAM |
|----------------------------|-------------|-------------|-------------------------------------|
| Model no. | Folder name | Filename | Filename (GROUP: CAD, USER: STDLIB) |
| SAB**-8(10)A-* | SAB | sab8(10)a | CKD-SAB**-8(10)A-* |
| SAB**-15A-* |] | sab15a | CKD-SAB**-15A-* |
| SAB**-20A-* |] | sab20a | CKD-SAB**-20A-* |
| SAB**-25A-* | 1 | sab25a | CKD-SAB**-25A-* |
| SAB**-32A-* |] | sab32a | CKD-SAB**-32A-* |
| SAB**-32F-* |] | sab32f | CKD-SAB**-32F-* |
| SAB**-40A-* | 1 | sab40a | CKD-SAB**-40A-* |
| SAB**-40F-* |] | sab40f | CKD-SAB**-40F-* |
| SAB**-50A-* |] | sab50a | CKD-SAB**-50A-* |
| SAB**-50F-* | 1 | sab50f | CKD-SAB**-50F-* |
| SAB**-65F-0(B) |] | sab65f_0(b) | CKD-SAB**-65F-0(B) |
| SAB**-80F-0(B) |] | sab80f_0(b) | CKD-SAB**-80F-0(B) |
| Accessory (mounting plate) | | sab_f | CKD-SAB-F |

Solenoid valve mounted type SVB (pages 466 to 482)

| Madalas | DXF | | MICRO CADAM |
|---|-------------|-------------|-------------------------------------|
| Model no. | Folder name | Filename | Filename (GROUP: CAD, USER: STDLIB) |
| SVB**-8(10)A-* | SVB | svb8(10)a | CKD-SVB**-8(10)A-* |
| SVB**-15A-* | | svb15a | CKD-SVB**-15A-* |
| SVB**-20A-* | | svb20a | CKD-SVB**-20A-* |
| SVB**-25A-* | | svb25a | CKD-SVB**-25A-* |
| SVB**-32A-* | | svb32a | CKD-SVB**-32A-* |
| SVB**-32F-* | | svb32f | CKD-SVB**-32F-* |
| SVB**-40A-* | | svb40a | CKD-SVB**-40A-* |
| SVB**-40F-* | | svb40f | CKD-SVB**-40F-* |
| SVB**-50A-* | | svb50a | CKD-SVB**-50A-* |
| SVB**-50F-* | | svb50f | CKD-SVB**-50F-* |
| SVB**-65F-0(B) | | svb65f_0(b) | CKD-SVB**-65F-0(B) |
| SVB**-80F-0(B) | | svb80f_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 |
|----------------|-------------|--------------|-------------------------------------|
| wodel no. | Folder name | Filename | Filename (GROUP: CAD, USER: STDLIB) |
| NAB*-8(10)-* | NAB | nab8_10 | CKD-NAB*-8(10)-* |
| GNAB*-*(-B) | GNAB | gnabb_ | CKD-GNAB*-*(-B) |
| GNAB*-*-1(2) | | gnab1_2_ | CKD-GNAB*-*-1(2) |
| GNAB*-*-D(E) | | gnabd_e_ | CKD-GNAB*-*-D(E) |
| GNAB*-1-0(-B) | | gnab1_0b_ | CKD-GNAB*-1-0(-B) |
| GNAB*-1-0-D(E) | | gnab1_0_d_e_ | CKD-GNAB*-1-0-D(E) |
| GNAB*-5-0(-B) | | gnab5_0b_ | CKD-GNAB*-5-0(-B) |
| GNAB*-5-0-D(E) | | gnab5_0_d_e_ | CKD-GNAB*-5-0-D(E) |