Doc. No. AR*-OMG0039-B

Operation Manual

PRODUCT NAME

REGULATOR
MANIFOLD REGULATOR

MODEL / Series / Product Number

ARM10 Series
ARM10F Series
ARM11 Series

SMC Corporation

Contents

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

Danger	**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
Warning	**Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
Caution	**Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Safety Instructions

⚠ Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not covered.
Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.
The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer / Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

2. Common precautions

Design & Selection

⚠ Warning

1. Confirm the specifications.

Products represented in this manual are designed only for use in compressed air systems (including vacuum). Do not operate at pressures, temperatures, etc., beyond the range of specifications, as this can cause damage or malfunction.

Do not use the products outside their design parameters.

2. Confirm set pressure.

Attach a safety device if damage or malfunction of equipment and devices on the outlet side may result from the output pressure exceeding the set pressure.

3. Residual pressure after exhaust of inlet pressure

Note that outlet pressure can't be removed (it may have residual pressure) in some outlet pressure set to low pressure.

4. Use in the circuit where outlet is enclosed or in balance circuit.

Fluctuations in the set pressure may occur.

Mounting

⚠ Warning

1. Operation manual

Install the products and operate them only after reading the operation manual carefully and understanding its contents. Also, keep the manual where it can be referred to as necessary.

2. Ensure sufficient space for maintenance activities.

When installing the products, allow access for maintenance and inspection.

3. Tighten threads with the proper tightening torque.

When installing the products, follow the listed torque specifications.

Piping

⚠ Caution

Tube insertion and removal from one-touch fittings

1) Installation of tubing

1. Cut the tubing perpendicularly, being careful not to damage the outside surface. Use an SMC tube cutter TK-1, 2 or 3. Do not cut the tubing with pliers, nippers, scissors, etc., otherwise, the tubing will be deformed and trouble may result.
2. Grasp the tubing, slowly push it straight into the One-touch fitting until it comes to a stop.
3. Pull the tubing back gently to make sure it has a positive seal. Insufficient installation may cause air to leak or the tubing to release.

2) Removal of tubing

1. Push the release button flange evenly and sufficiently to release the tube.
2. Pull out the tubing while keeping the release button depressed. If the release button is not held down sufficiently, the tubing cannot be withdrawn.
3. To reuse the tubing, remove the previously lodged portion of the tubing. If the lodged portion is left on without being removed, it may result in air leakage and removal of the tubing difficult.

Connecting products with metal rods

When using a tubing other than from SMC, be careful of the tolerance of the tubing O.D. and tubing.

1) Nylon tubing Within ±0.1 mm
2) Soft nylon tubing Within ±0.1 mm
3) Polyurethane tubing Within +0.15 mm, Within −0.2 mm

When the tolerance of the tube's O.D. is out of range mentioned above, do not use tubing. Tubing can not be connected and it causes air leakage or tubing may come out.

Air Supply

⚠ Warning

1. Use clear air.

Do not use compressed air that contains chemicals, synthetic oils that include organic solvents, salt, corrosive gases, etc., as it can cause damage or malfunction.

⚠ Caution

1. Install air filter.

Install air filter with filtration of 5μm or less near inlet of the regulator.

2. Take measures to ensure air quality, such as by installing an aftercooler, air dryer, or water separator.

Compressed air that contains a large amount of drainage can cause the malfunction of pneumatic equipment, such as regulators, and pressure switch.

3. Place mist separator at inlet of regulator for the environment where carbon dust frequently occur.

If a lot of carbon dust comes from compressor, a part of the carbon dust may attach inside of the regulator and cause it to have malfunction.

For detail of quality of compressed air, refer to "Compressed air cleaning system".

Operating Environment

⚠ Warning

1. Do not use in an atmosphere containing corrosive gases, chemicals, sea water, water, water steam, or where there is direct contact with any of these.
2. Do not expose the product to direct sunlight for an extended period of time.
3. Do not use in a place subject to heavy vibration and/or shock.
4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

⚠ Warning

1. Maintenance procedure are outline in this manual.
If handled improperly, malfunction or damage of machinery and equipment may occur.

2. Maintenance
If handled improperly, compressed air can be dangerous. Assembly, handling, repair, and element replacement of pneumatic systems should be performed by a knowledgeable and experienced person.

3. Shut-down before maintenance
Before attempting any kind of maintenance, make sure the supply pressure is shut off and all residual air pressure is released from the system to be worked on.

4. Start-up after maintenance
Apply operating pressure and power to the equipment and check for proper operation and possible air leakage. If operation is abnormal, verify product set-up parameters.

5. Do not make any modifications, including additional machining.

Adjustment

⚠ Warning

Regulator

1. Set the regulator while confirming the displayed values of the inlet and outlet pressure gauges. Turning the knob excessively can cause damage to the internal parts.
2. Do not use a tool on the pressure regulator knob, as this can cause damage. It must be operated by hand.

⚠ Caution

Regulator

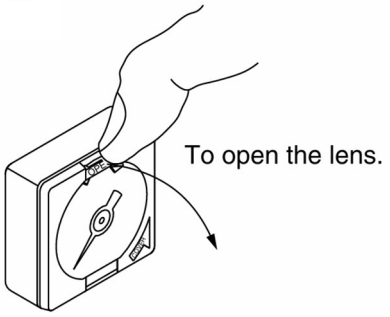
1. Check the inlet pressure before setting.
2. Set the outlet pressure range for the regulator at 85% or less of the inlet pressure.
3. When adjusting the pressure, unlock the knob first, and relock it after the pressure is set. Adjustment in improper order may damage the knob and cause fluctuation of outlet pressure.
4. Turn the knob clockwise for increase of outlet pressure and counterclockwise for decrease of outlet pressure. (Set pressure turning the knob in pressure incremental direction.)

⚠ Caution

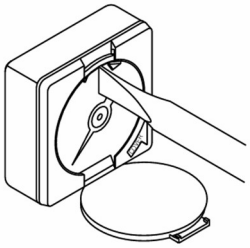
How to adjust indicator of the pressure gauge.

Make sure to follow the instruction when opening the lens cover to adjust the pressure gauge.

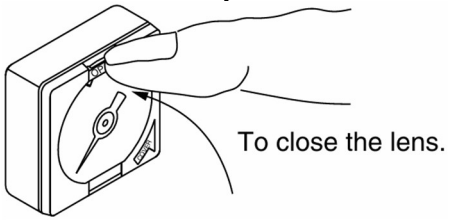
1. Open the lens cover to the arrow's direction with finger nail.



2. Adjust the gauge needle with for example, a flat head screw driver.



3. Close the lens cover to the arrow's direction until it snaps on.



3. Various blocks / Individual precautions

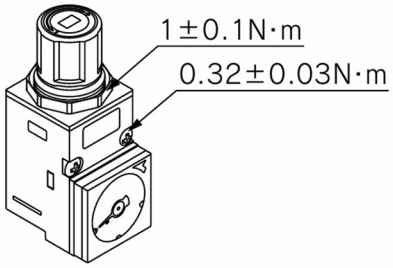
Handling

⚠ Warning

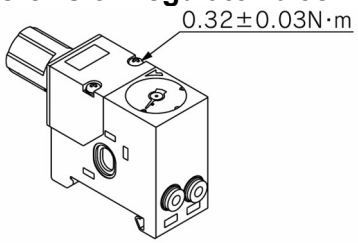
Observe the proper screw tightening torque in installation.

Tightening beyond the proper tightening torque may damage the mounting screws, blocks or switches.
If the force is below the tightening torque range, the threaded joint can come loose.

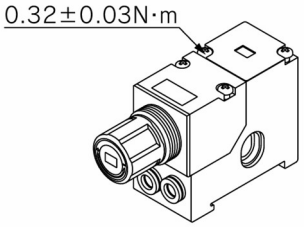
1. Tightening torque for fixing screws and panel nuts of a single unit regulator



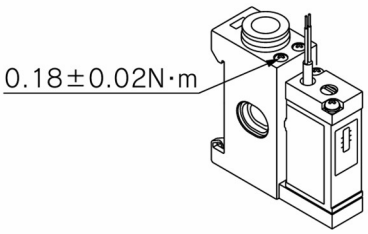
2. Tightening torque for regulator assembly fixing screws on regulator block



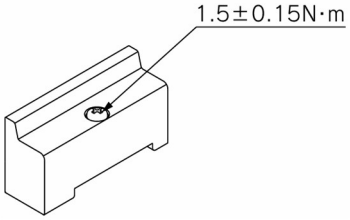
3. Tightening torque for blanking plates and pressure gauge fixing screws on regulator block



4. Tightening torque for pressure switch fixing screws on common supply block with pressure switch and pressure switch block



5. Tightening torque for DIN rail clamp screws on end block

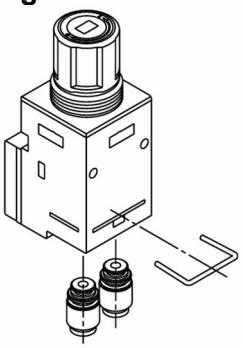


⚠ Caution

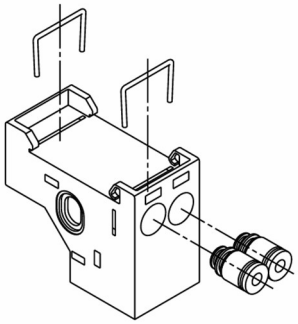
One-touch fitting replacement

For the ease of replacement, One-touch fittings are installed as the cassette type. One-touch fittings are retained with clips inserted from the directions illustrated below. Remove the clips with a flat head screw driver to replace the One-touch fittings. When installing, insert each One-touch fitting deeply to the end and reinsert the clip to the specified position.

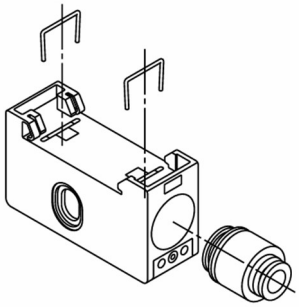
1. Single unit regulator



2. Regulator block



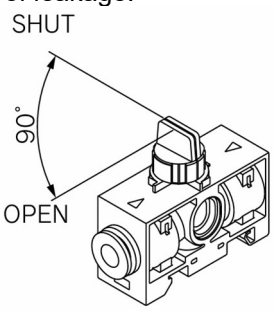
3. Various common supply blocks



⚠ Caution

Pressure supply of 3-way valve common supply block

Make sure that the knob is set at the OPEN or SHUT position in operation. The block cannot be used for the purpose of containing pressure because it allows a small amount of leakage.



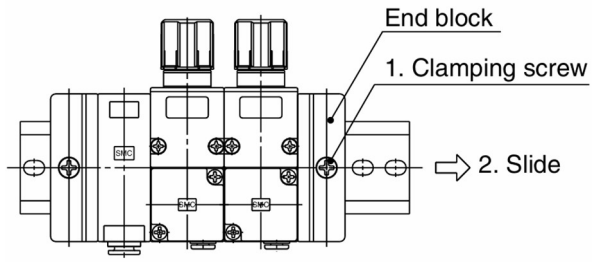
⚠ Warning

Mounting and Removal of Manifold with DIN Rail

Be sure to shut off the power and air supplies before disassembly. Furthermore, since air may remain inside the actuator, piping and manifold, confirm that the air is completely exhausted before performing any work. When disassembly and assembly are performed, air leakage may result if connections between blocks and tightening of the end block's holding screw are inadequate. Before supplying air, confirm that there are no gaps between blocks, and that manifold blocks are securely fastened to the DIN rail. Then supply air and confirm that there is no air leakage before operating.

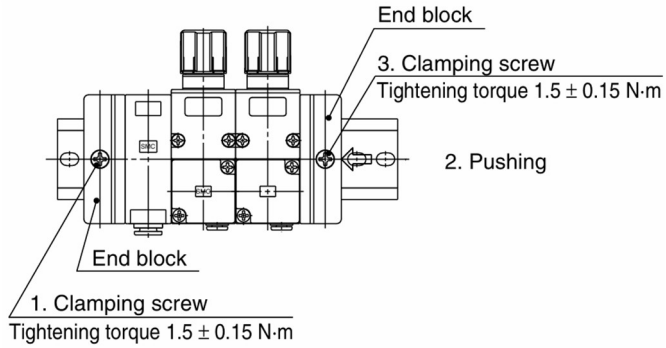
Removing blocks from DIN rail

1. Loosen the end plate clamping screws on the side until they turn freely. (The screws do not come out.)
2. Remove it by sliding it to the side (in the direction of the arrow).



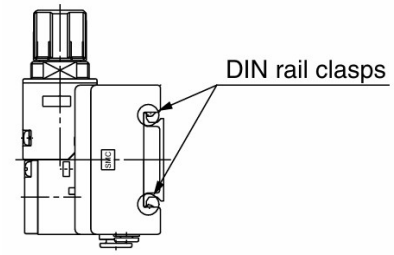
Mounting blocks on DIN rail

1. Confirm that the clamping screws of the end block on one side are securely tightened.
2. Install blocks sliding them from the side. Push the end plate on the opposite side so that there will be no gap between blocks.
3. Tighten the end plate clamping screws on the opposite side.



Confirming DIN rail clasp

Confirm that the DIN rail clasps are securely hooked into the DIN rail.



4. Pressure switch / Individual precautions

For information on how to use the digital pressure switch, please refer to the ISE35 Series Digital Pressure Switch User Manual.

Design & Selection

⚠ Warning

1. Operate the switch only within the specified voltage.

Use of the switch outside the range of the specified voltage can cause malfunction and damage to the switch, it may also increase the risks of electrical shocks or fire.

2. Never apply a load above the maximum load capacity.

It can damage the switch or shorten the service life.

3. Be sure to observe the set pressure range and maxi-mum operating pressure.

Use of the switch outside the set pressure range can cause failure and use beyond the maximum operating pressure can damage the switch.

Mounting

⚠ Warning

1. Do not use the switch unless the equipment operates normally.

After installation, repair or reform, connect air and electricity and conduct appropriate function and leakage tests to confirm proper installation.

2. Do not apply a tensile force to a cord.

Be sure to hold the body to knob the product. Applying a tensile force to a cord may cause damage to the product.

3. Do not drop or bump the product.

Dropping or bumping while handling may cause damage to the product.

Pressure Supply

⚠ Warning

1. Do not use the switch with corrosive gas or liquid.

Do not use the switch with corrosive gas or liquid. Such gas or fluid may cause damage to the switch.

2. Do not use the switch at a vacuum pressure.

If used in a vacuum pressure range, the switch will suction the outer air and become unable to operate.

Pressure Setting

⚠ Caution

1. The switching setting indication scale shows the set value for pressure decrease.

2. When the ON pressure signal is to be detected, the ON signal comes on at the pressure found by adding the hysteresis to the pressure set on the scale plate.

3. The pressure indication on the scale plate is provided as a guideline. Use a pressure gauge to measure the precise settings.

Wiring

⚠ Warning

1. Connect the load

Be sure to connect the load to the pressure switch before connecting the power supply.

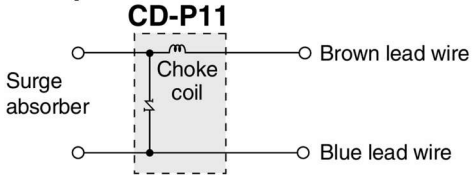
2. Use a contact protection box.

If the load driven by the pressure switch is an induction load or connected with a lead wire of 5 m or longer, use a contact protection box in the following table.

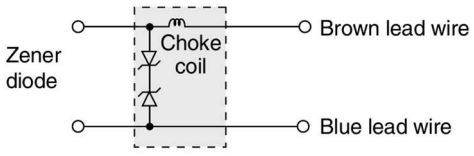
Contact protection box	Operating voltage	Lead wire length
CD-P11	AC100V	Switch connection side: 0.5 m
CD-P12	DC24V	Load connection side: 0.5 m

3. Contact protection box internal circuit

CD-P11



CD-P12



4. Contact protection box/Connection method

To connect the switch body and the contact protection box, connect the lead wire of the contact protection box on the side marked with “SWITCH” and the lead wire from the switch body. Connect the switch body and the contact protection box with a lead wire of 1 m or shorter and arrange them as close as possible.

5. Lead wire dimensions

Covering : ø3.4
Insulator : ø1.1
Conductor : ø0.64

Operating Environment

⚠ Warning

1. **Never use in the presence of explosive gases.**
   These switches are not rated as explosion proof. Never use in the presence of an explosive gas as this may cause a serious explosion.
2. **Do not use in an environment where a strong magnetic field is present.**
   The influence of the external magnetic filed may cause the switch to malfunction.
3. **Do not use in an environment where the switch is exposed to water or oil splashes.**
   Because the switch has an open type construction, ingress of water or oil can corrode the electric circuit, resulting in malfunction and damage.
4. **Do not apply vibration to the switch.**
   If vibration is applied, malfunction or setting errors may result.

5. Application

The product described in this manual aims at pressure controlling of air lines.

6. Specifications

1. Regulator Single Unit Type/ARM10 Series

Model		ARM10	ARM10F
Regulator construction		Direct acting	
Working principal		Diaphragm regulator	
Relief mechanism	Standard	Relief type	
	Optional	Non-relieving type	
Backflow function Note 1)		Within (Unbalance type)	
IN side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
OUT side tubing O.D.		4, ø6, ø5/32", ø1/4"	
Proof pressure		1.5 MPa	
Maximum operating pressure		1.0 MPa	
Set pressure range	Standard	0.05 to 0.7 Mpa	
	Optional	0.05 to 0.35 MPa (Low pressure type)	
Fluid		Air	
Ambient and operating fluid temperature Note 2)		5 to 60°C	
Weight		60g	72g

Note 1) 0.1 MPa or greater set pressure is required when used in the reverse flow.

Note 2) 5 to 50°C when the digital pressure switch will be used.

For information on how to use the digital pressure switch, please refer to the ISE35 Series Digital Pressure Switch Operation Manual.

2. Compact Manifold Regulator/ARM11A/Common Supply Type

Manifold (Regulator block, Common supply block, 3-way valve common supply block)

Regulator construction		Direct acting
Working principal		Diaphragm regulator
Relief mechanism	Standard	Relief type
	Optional	Non-relieving type
Backflow function Note 1)		Within (Unbalance type)
IN side tubing O.D.		ø6, ø8, ø10, ø1/4", ø5/16", ø3/8"
OUT side tubing O.D.		ø4, ø6, ø5/32", ø1/4"
Proof pressure		1.5 MPa
Maximum operating pressure		1.0 MPa
Set pressure range	Standard	0.05 to 0.7 Mpa
	Optional	0.05 to 0.35 MPa (Low pressure type)
Fluid		Air
Ambient and operating fluid temperature Note 2)		5 to 60°C

Note 1) 0.1 MPa or greater set pressure is required when used in the reverse flow.

Note 2) 5 to 50°C when the digital pressure switch will be used.
For information on how to use the digital pressure switch, please refer to the ISE35 Series Digital Pressure Switch User Manual.

Pressure switch (Common supply block with pressure switch, 3-way valve common supply block plus pressure switch block)

Contact type	Reed type		
Contact construction	Reed switch type		
Contact component	1a		
Reed switch action	Piston type (built-in magnet)		
Wiring specification	Grommet type		
Wiring length	0.5 m (standard model)		
Proof pressure	1.0 MPa		
Maximum operating pressure	0.7 MPa		
Set pressure range	0.1 to 0.6 Mpa		
Hysteresis	0.08 MPa or less		
Repeatability	±0.05 Mpa		
Maximum contact capacity	AC 2 VA, DC 2 W		
Operating voltage AC, DC	24 V or less	48 V	100 V
Max. operating current and range	50 mA	48 mA	20 mA
Impact resistance	30 G		
Environmental resistance Enclosure	IP40		

3. Manifold regulator/ARM11B/Individual supply spec.

Regulator construction		Direct acting
Working principal		Diaphragm regulator
Relief mechanism	Standard	Relief type
	Optional	Non-relieving type
Backflow function Note 1)		Within (Unbalance type)
IN side tubing O.D.		ø4, ø6, ø5/32", ø1/4"
OUT side tubing O.D.		ø4, ø6, ø5/32", ø1/4"
Proof pressure		1.5 MPa
Maximum operating pressure		1.0 MPa
Set pressure range	Standard	0.05 to 0.7 Mpa
	Optional	0.05 to 0.35 MPa (Low pressure type)
Fluid		Air
Ambient and operating fluid temperature Note 2)		5 to 60°C

Note 1) 0.1 MPa or greater set pressure is required when used in the reverse flow.

Note 2) 5 to 50°C when the digital pressure switch will be used.
For information on how to use the digital pressure switch, please refer to the ISE35 Series Digital Pressure Switch User Manual.

7. How to order

Regulator / Single Unit Type / ARM10 Series / Standard type

A R M 1 0 – [0 6] [B] – [1] [Z] – [N]

① ② ③ ④ ⑤

① IN/OUT Fitting Type

Metric size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø4	ø6	ø4	ø6	ø4	ø6	ø4	ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

Inch size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4
56	●				●			
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		

Note) Use caution to ensure the connector is not disturbed, depending on piping direction, when choosing to attach a digital pressure switch.

② Accessory

Symbol	None	Bracket Note1)	Pressure gauge Note2)	Panel nut
Nil	●			
B		●		(●)
G			●	
P				●
BG		●	●	(●)
GP			●	●

(Note 1) In case of a type with bracket, the panel nut is included.

(Note 2) Pressure display means a pressure gauge or digital pressure switch is attached.
When choosing to attach a digital pressure switch is chosen for attachment, be sure to enter the symbol, referring to table 5, "Digital Presure Switch Output Specifications".
Otherwise, a pressure gauge will come with the regulator.
Additionally, pressure gauges are not compatible with copper-free and fluorine-free specifications.

③ Semi-standard

Symbol	None	0.35 MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

(Note 1) A pressure gauge with a full span of 0.4 Mpa is attached.

(Note 2) The oil-free specification is grease-free in the fluid contact area.

④ Unit Representation

Symbol	Detail
Nil	Display unit for product name plate and pressure gauge: MPa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only. (The SI unit has to beused in Japan.) Additionally, the pressure switch offers dual unit presentation in MPa and psi.
Note 2) The digital pressure switch is equipped with unit switching and initially set to psi.
Note 3) This option is available with the digital pressure switch.

⑤ Digital pressure switch output specification Note)

Symbol	Detail
Nil	None
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

(Note) When a digital pressure switch is attached, the "pressure display" in table 2 "Accessories" will be equipped. The electrical entry is positioned on the side opposite the knob.

without pressure display

Pressure gauge with pressure display

Digital pressure switch with pressure display

Regulator / Single Unit type / ARM10F Series / Front knob type

A R M 1 0 F [1] – [0 6] [B] – [1] [Z] – [N]

① ② ③ ④ ⑤ ⑥

① IN/OUT piping position

Symbol	IN side		OUT side	
	Bottom	Top	Bottom	Top
1	●		●	
2		●		●
3	●			●
4		●	●	

② IN/OUT Fitting Type

Metric size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø4	ø6	ø4	ø6	ø4	ø6	ø4	ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

Inch size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4
56	●				●			
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		

Note) Use caution to ensure the connector is not disturbed, depending on piping direction, when choosing to attach a digital pressure switch.

⑥ Digital pressure switch output specification Note)

Symbol	Detail
Nil	None
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

Note) When a digital pressure switch is attached, the"pressure display" in table 3 "Accessories" willbe equipped.
The electrical entry is positioned on the sideopposite the knob.

③ Accessory

Symbol	None	Bracket Note1)	Pressure display Note2)	Panel nut	Decorative cover Note 3)
Nil	●				
B		●		(●)	
G			●		
BG		●	●	(●)	
GP			●	●	
GPC Note 4)			●	●	●

Note 1) In case of a type with bracket, the panel nut is included.
Note 2) Pressure display means a pressure gauge or digitalpressure switch
is attached.
When choosing to attach a digital pressure switch ischosen for attachment, be sure to enter the symbol,referring to table 6, "Digital Presure Switch Output Specifications". Otherwise, a pressure gauge willcome with the regulator.
Additionally, pressure gauges are not compatible with copper-free and fluorine-free specifications.
Note 3) Not attachable to a model with digital pressure switch.
Note 4) Please note that the dimensions will be bigger when GPC is

④ Semi-standard

Symbol	None	0.35 MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

Note 1) A pressure gauge with a full span of 0.4 MPa is attached.
Note 2) The oil-free specification is grease-free in the fluid contact area.

⑤ Unit Representation

Symbol	Detail
Nil	Display unit for product name plate and pressure gauge: Mpa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only. (The SI unit has to beused in Japan.)
Note 2) The digital pressure switch is equipped with unit switching and initially set topsi.
Note 3) This option is available with the digital pressure switch.

without pressure display

Pressure gauge with pressure display

Digital pressure switch with pressure display

Manifold regulator / Common supply Type / ARM11A Series

A R M 1 1 A [A] [1] – [1] [0 7] – [A] [1] [Z] – [N]

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Knob position

Symbol	Position
A	Top
B	Front
C	Bottom

② IN/OUT piping position

Symbol	IN side		OUT side	
	Bottom	Top	Bottom	Top
1	●		●	
2		●		●
3	●			●
4		●	●	

③ Regulator Block Stations

Symbol	stations
1	1 station
2	2 stations
3	3 stations
4	4 stations
5	5 stations
6	6 stations
7	7 stations
8	8 stations
9	9 stations
M	10 stations

④ IN/OUT Fitting Type

Metric size

Mounted side	IN side						OUT side			
Fitting type	Straight			Elbow Note)			Straight		Elbow Note)	
Symbol	ø6	ø8	ø10	ø6	ø8	ø10	ø4	ø6	ø4	ø6
07	●						●			
08	●							●		
09		●					●			
10		●						●		
11			●				●			
12			●					●		
19				●					●	
20				●						●
21					●				●	
22					●					●
23						●			●	
24						●				●
26	●								●	
27	●									●
28		●							●	
29		●								●
30			●						●	
31			●							●
33				●			●			
34				●				●		
35					●		●			
36					●			●		
37						●	●			
38						●		●		

⑥ Semi-standard

Symbol	None	0.35 MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

Note 1) A pressure gauge with a full span of 0.4 MPa is attached.
Note 2) The oil-free specification is grease-free in the fluid contact area.

⑦ Unit Representation

Symbol	Detail
Nil	Display unit for product name plate and pressure gauge: Mpa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only.(The SI unit has to be used in Japan.) Additionally, the pressure switch offers dual unit presentation in MPa and psi.
Note 2) The digital pressure switch is equipped with unit switching and initially set to psi.
Note 3) This option is available with the digital pressure

⑧ Digital pressure switch output specification Note)

Symbol	Detail
Nil	None
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

Note) When a digital pressure switch isattached, the "pressure display" in table 5"Accessories" will be equipped.
The electrical entry is positioned on the sideopposite the knob.

Inch size

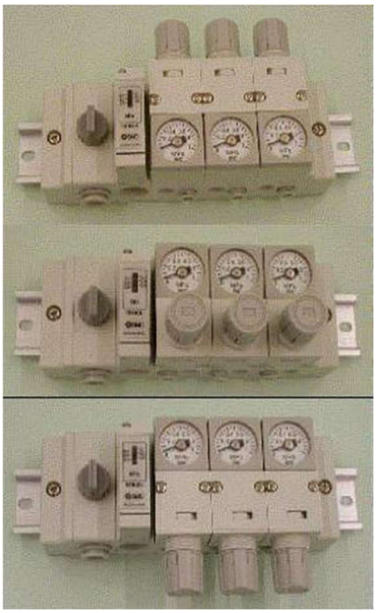
Mounted side	IN side						OUT side			
Fitting type	Straight			Elbow Note)			Straight		Elbow Note)	
Symbol	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8	ø5/32	ø1/4	ø5/32	ø1/4
07	●						●			
08	●							●		
09		●					●			
10		●						●		
11			●				●			
12			●					●		
19				●					●	
20				●						●
21					●				●	
22					●					●
23						●			●	
24						●				●
26	●								●	
27	●									●
28		●							●	
29		●								●
30			●						●	
31			●							●
33				●			●			
34				●				●		
35					●		●			
36					●			●		
37						●	●			
38						●		●		

(Note) When the knob and the OUT piping are located on the same side, the elbow fitting is directed to the rear side (DIN railside). Use caution to ensure the connector is not disturbed, depending on piping direction, when choosing to attach a digitalpressure switch.

⑤ Accessory

Symbol	Pressure display Note 1 and 2)		Supply block type Note3)				Supply block mounting position		
	Without pressure display	With pressure display	Common supply block	Common supply block with pressure switch	Common supply block with pressure switch	3-way valve common supply block + Pressure switch block	L-side (left side)	R-side (right side)	B-side (both side)
Nil	●		●				●		
A	●			●			●		
B	●				●		●		
C	●					●	●		
D	●		●					●	
E	●			●				●	
F	●				●			●	
G	●					●		●	
H	●		●						●
J		●	●				●		
K		●		●			●		
L		●			●		●		
M		●				●	●		
N		●	●					●	
O		●		●				●	
P		●			●			●	
Q		●				●		●	
R		●	●						●

Note 1) Pressure display means a pressure gauge or digital pressure switch is attached.
When choosing to attach a digital pressure switch is chosen for attachment, be sure to enter thesymbol, referring to table 8, "Digital Presure Switch Output Specifications".
Otherwise, a pressure gauge will come with the regulator.
Note 2) Pressure gauges are not compatible with copper-free and fluorine-free specifications.
Note 3) Pressure switches are not available with the oil-free specification.



Manifold regulator/ Individual Supply Type / ARM11B Series

A R M 1 1 B [A] [1] – [1] [0 6] – [A] [1] [Z] – [N]

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Knob position

Symbol	Position
A	Top
B	Front
C	Bottom

② IN/OUT piping position

Symbol	IN side		OUT side	
	Bottom	Top	Bottom	Top
1	●		●	
2		●		●
3	●			●
4		●	●	

③ Regulator Block Stations

Symbol	Stations
1	1 station
2	2 stations
3	3 stations
4	4 stations
5	5 stations
6	6 stations
7	7 stations
8	8 stations
9	9 stations
M	10 stations

④ IN/OUT Fitting Type

Metric size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø4	ø6	ø4	ø6	ø4	ø6	ø4	ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

Inch size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4
56	●		ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		

Note) When the knob and the OUT piping are located on the same side, the elbow fitting is directed to the rear side (DIN rail side). Use caution to ensure the connector is not disturbed, depending on piping direction, when choosing to attach a digital pressure switch.

⑤ Accessory (Pressure Display)

Symbol	Accessory
Nil	Without pressure display
A Note)	With pressure display

Note 1) Pressure display means a pressure gauge or digital pressure switch is attached. When choosing to attach a digital pressure switch is chosen for attachment, be sure to enter the symbol, referring to table 8, "Digital Presure Switch Output Specifications". Otherwise, a pressure gauge will come with the regulator.
Note 2) Pressure gauges are not compatible with copper-free and fluorine-free specifications.

⑥ Semi-standard

Symbol	None	0.35MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

Note 1) A pressure gauge with a full span of 0.4 MPa is attached.
Note 2) The oil-free specification is grease-free in the fluid contact area.

⑦ Unit indication

Symbol	Detail
Nil	Display unit for product name plate and pressure gauge: Mpa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only. (The SI unit has to be used in Japan.)
Note 2) The digital pressure switch is equipped with unit switching and initially set to psi.
Note 3) This option is available with the digital pressure switch.

⑧ Digital pressure switch output specification Note)

Symbol	Detail
Nil	None
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

Note) When a digital pressure switch is attached, the "pressure display" in table 5 "Accessory" will be equipped. The electrical entry is positioned on the side opposite the knob.

Manifold regulator specification options
Regulator block / Common Supply Type / ARM11A Series

A R M 1 1 A [A] [1] – R [0 4] – [A] [1] [Z] – [N]

① ② ③ ④ ⑤ ⑥ ⑦

① Knob position

Symbol	Position
A	Top
B	Front
C	Bottom

② OUT piping position

Symbol	Position
1	Bottom
2	Top

③ OUT Fitting Type

Metric size

Fitting type	Straight		Elbow	
Symbol	ø4	ø6	ø4	ø6
04	●			
05		●		
16			●	
17				●

Inch size

Fitting type	Straight		Elbow	
Symbol	ø5/32	ø1/4	ø5/32	ø1/4
54	●			
55		●		
66			●	
67				●

④ Accessory (Pressure Display)

Symbol	Accessory
Nil	Without pressure display
A Note1, 2)	With pressure display

Note 1) Pressure display means a pressure gauge or digital pressure switch is attached.
When choosing to attach a digital pressure switch is chosen for attachment, be sure to enter the symbol, referring to table 7, “Digital Presure Switch Output Specifications”.
Otherwise, a pressure gauge will come with the regulator.
Note 2) Pressure gauges are not compatible with copper-free and fluorine-free specifications.

⑤ Semi-standard

Symbol	None	0.35MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

Note 1) A pressure gauge with a full span of 0.4 MPa is attached.
Note 2) The oil-free specification is grease-free in the fluid contact area.

⑥ Unit Representation

Symbol	Description
Nil	Display unit for product name plate and pressure gauge: Mpa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only. (The SI unit has to be used in Japan.)
Note 2) The digital pressure switch is equipped with unit switching and initially set to psi.
Note 3) This option is available with the digital pressure switch.

⑦ Digital pressure switch output specification Note)

Symbol	Detail
Nil	None
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

(Note)When a digital pressure switch is attached, the “pressure display” in table 4 “Accessory” will be equipped.
The electrical entry is positioned on the side opposite the knob.

Regulator block / Individual Supply Type / ARM11B Series

A R M 1 1 B [A] [1] – R [0 6] – [A] [1] [Z] – [N]

① ② ③ ④ ⑤ ⑥ ⑦

① Knob position

Symbol	Position
A	Top
B	Front
C	Bottom

② IN/OUT piping position

Symbol	IN side		OUT side	
	Bottom	Top	Bottom	Top
1	●		●	
2		●		●
3	●			●
4		●	●	

③ IN/OUT Fitting Type

Metric size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø4	ø6	ø4	ø6	ø4	ø6	ø4	ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

Inch size

Mounted side	IN side				OUT side			
Fitting type	Straight		Elbow Note)		Straight		Elbow Note)	
Symbol	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4	ø5/32	ø1/4
56	●				●			
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		

④ Accessory (Pressure Display)

Symbol	Accessory
Nil	Without pressure display
A Note1, 2)	With pressure display

Note 1) Pressure display means a pressure gauge or digital pressure switch is attached.
When choosing to attach a digital pressure switch is chosen for attachment, be sure to enter the symbol, referring to table 7, “Digital Presure Switch Output Specifications”.
Otherwise, a pressure gauge will come with the regulator.
Note 2) Pressure gauges are not compatible with copper-free and fluorine-free specifications.

⑤ Semi-standard

Symbol	None	0.35MPa setting Note 1)	Non-relieving	Oil-free Note 2)
Nil	●			
1		●		
2			●	
3				●
4		●	●	
5		●		●
6			●	●
7		●	●	●

Note 1) A pressure gauge with a full span of 0.4 MPa is attached.
Note 2) The oil-free specification is grease-free in the fluid contact area.

⑥ Unit Representation

Symbol	Description
Nil	Display unit for product name plate and pressure gauge: Mpa
Z Note 1, 2)	Display unit for product name plate and pressure gauge: psi
ZA Note 1, 3)	Digital pressure switch: with unit switching (MPa is initially set.)

Note 1) This option is available for use outside Japan only. (The SI unit has to be used in Japan.)
Note 2) The digital pressure switch is equipped with unit switching and initially set to psi.
Note 3) This option is available with the digital pressure switch.

⑦ Digital pressure switch output specification Note)

Symbol	Detail
Nil	-
N	NPN open collector
P	PNP open collector
R	Analog voltage output
S	Analog current output
L	IO-Link or switch: 1 output

Note) When a digital pressure switch is attached, the “pressure display” in table 4 “Accessory” will be equipped. The electrical entry is positioned on the side opposite the knob.

Common Supply Block

ARM11A [1] – [S] [0 1] – [3] [A] [Z]
① ② ③ ④ ⑤ ⑥

1. IN Piping Position

Symbol	Position
1	Bottom
2	Top

3. IN Fitting Type

Metric size

Fitting type	Straight			Elbow		
Symbol	ø6	ø8	ø10	ø6	ø8	ø10
01	●					
02		●				
03			●			
13				●		
14					●	
15						●

Inch size

Fitting type	Straight			Elbow		
Symbol	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8
51	●					
52		●				
53			●			
63				●		
64					●	
65						●

4. Option

Symbol	Description
Nil	None
3	Oil-free

Note) The oil-free type has non-greased fluid contact areas.

5. Accessory

Symbol	Description
Nil	Pressure switch lead wire length: 0.5 m
A	Pressure switch lead wire length: 3.0 m

Note) Leave the field blank for types without pressure switch.

6. Unit Representation

Symbol	Description
Nil	Display unit for product name plate: MPa
Z Note)	Display unit for product name plate: psi

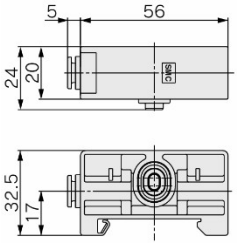
Note) This option is available for use outside Japan only. (The SI unit has to be used in Japan.) Additionally, the pressure switch offers dual unit presentation in MPa and psi.

2. Common Supply Block Type

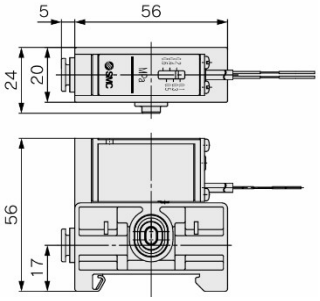
Symbol	Description
S	Common supply block
P	Common supply block with pressure switch
V	3-way valve common supply block
W	3-way valve common supply block + Pressure switch block

Note) The oil-free specification is not available for P and W types of common supply blocks (types with pressure switch).

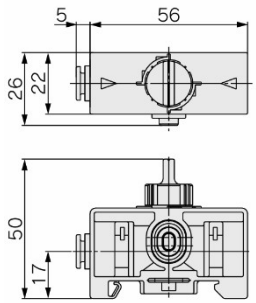
Common supply block (S)



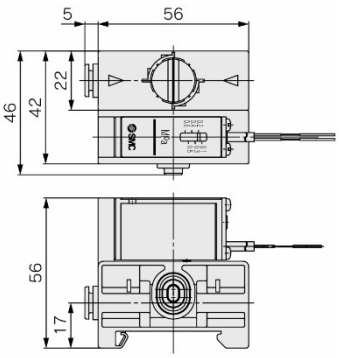
Common supply block with pressure switch (P)



3-way valve common supply block (V)



3-way valve common supply block + Pressure switch block (W)



Pressure Switch Block

ARM11AW – [A] [Z]
① ②

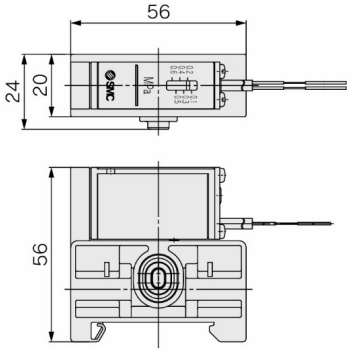
1. Accessory

Symbol	Description
Nil	Pressure switch lead wire length: 0.5 m
A	Pressure switch lead wire length: 3.0 m

2. Unit Representation

Symbol	Description
Nil	Display unit for product name plate: MPa
Z Note)	Display unit for product name plate: psi

Note) This option is available for use outside Japan only. (The SI unit has to be used in Japan.) Additionally, the pressure switch offers dual unit presentation in MPa and psi.

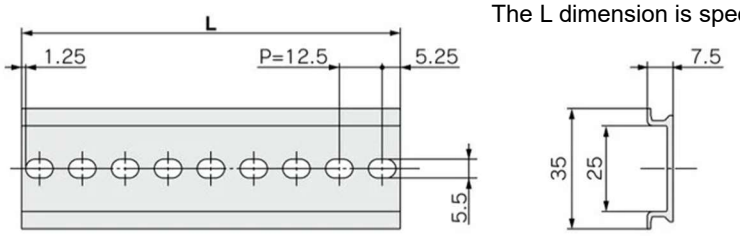


DIN Rail

• When only DIN rail is required:
DIN rail part no.

AXT100 – DR – n

Note) Please select the appropriate number (No.) according to the dimension table below.
The L dimension is specified in the outline dimension drawing.



L Dimension L=12.5×n+10.5

Symbol	1	2	3	4	5	6	7	8	9	10
L	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5

Symbol	11	12	13	14	15	16	17	18	19	20
L	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5

Symbol	21	22	23	24	25	26	27	28	29	30
L	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5

Symbol	31	32	33	34	35	36	37	38	39	40
L	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

One-touch Fittings for Regulator Block

VVQ1000 – 50A - □ C4 - □

One-touch fittings for regulator block

Fitting type

Symbol	Type
Nil	Straight
L1	Elbow

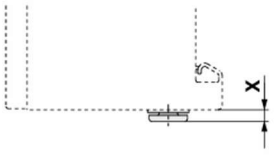
Fitting size

Symbol	Size
C4	ø4
C6	ø6
N3	ø5/32"
N7	ø1/4"

Semi-standard

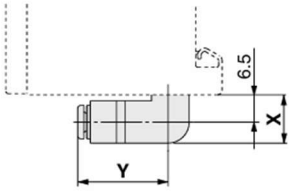
Symbol	Description
Nil	None
X17	Oil-free

Straight type



Fitting size	X
ø4, ø5/32"	3
ø6	3
ø1/4"	7

Elbow type



Fitting size	X	Y
ø4, ø5/32"	11.5	21.5
ø6	11.5	22
ø1/4"	11.5	24.5

One-touch Fittings for Common Supply Block

VVQ2000 – 51A - □ C6 - □

One-touch fittings for regulator

Fitting type

Symbol	Type
Nil	Straight
L1	Elbow

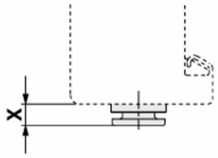
Fitting size

Symbol	Size
C6	ø6
C8	ø8
C10	ø10
N7	ø1/4"
N9	ø5/16"
N11	ø3/8"

Semi-standard

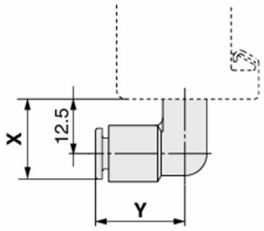
Symbol	Description
Nil	None
X17	Oil-free

Straight type



Fitting size	X
ø6	5
ø8, ø5/16"	5
ø10, ø3/8"	5.5
ø1/4"	5

Elbow type



Fitting size	X	Y
ø6	19	20
ø8, ø5/16"	20	23
ø10, ø3/8"	22	26
ø1/4"	19	20.5

End Block

ARM11E L -

End block

End block type

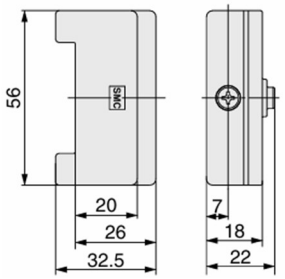
Symbol	Mounting position
L	Left side
R	Right side

Semi-standard

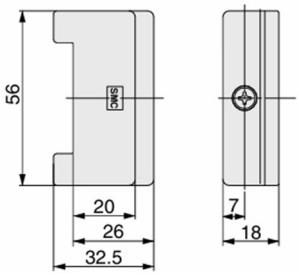
Symbol	Description
Nil	None
3	Oil-free

Note) Since the L side end block is oil-free, leave the field blank for it.

L side end block



R side end block

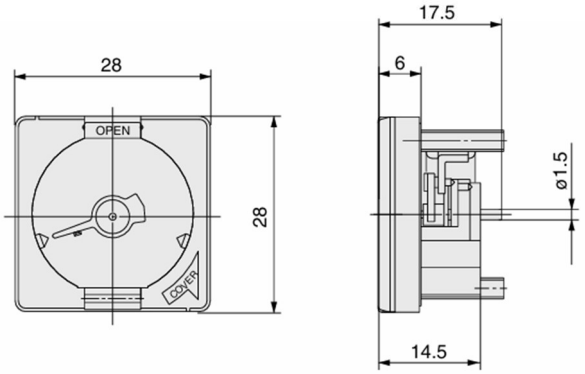


Pressure Gauge

Part no.	Pressure gauge indication range	Indication unit
GC3-4A-X2101	0 to 0.4 MPa	MPa
GC3-10A-X2101	0 to 1.0 MPa	
GC3-P4A-X2104	0 to 0.4 MPa (60 psi)	MPa/psi
GC3-P10A-X2104	0 to 1.0 MPa (150 psi)	

Specifications

Display accuracy	±3%F.S. (Full Span)
Calibration angle	230°
Limit indicator	With limit indicator



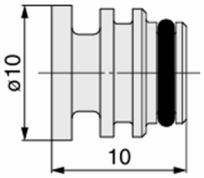
Port Plug

VVQ0000 −58A -

Single unit regulator / Port plug for regulator block

Semi-standard

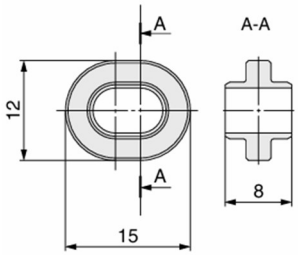
Symbol	Description
Nil	None
X17	Oil-free



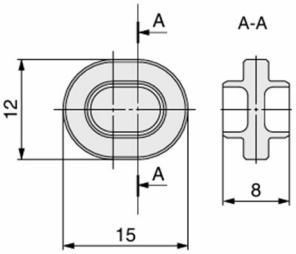
Bushing

Part no.	Description
136144-S	Common supply bushing
136144-K	Individual supply bushing

136144-S



136144-K

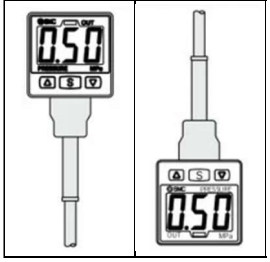


Digital Pressure Switch

ISE35 – N – 25 – M □ □ – X501

Electrical entry

N: Bottom wiring entry	R: Top wiring entry



Output specification

Symbol	Details
25	NPN open collector
65	PNP open collector
26	Analog voltage output
28	Analog current output
L	IO-Link or switch: 1 output

Unit specification

Symbol	Description
M	Fixed SI unit
Nil Note)	With unit switching(Initial value: MPa)
P Note)	With unit switching(Initial value: psi)

Note) This option is available for use outside Japan only. (The SI unit has to be used in Japan.) A unit plate is attached.

Made to Order

Symbol	Details
Nil	None
X501	Oil-free

Option 2

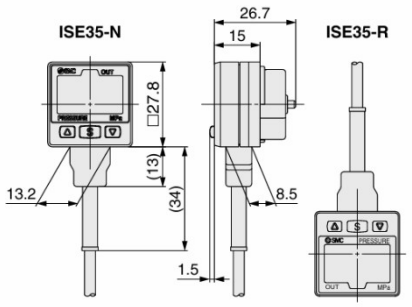
Symbol	Details
Nil	Switch body only
B Note)	With option for ARM mounting

Note) Adapter, O-ring, lock pin and tw o mounting screw s are attached.

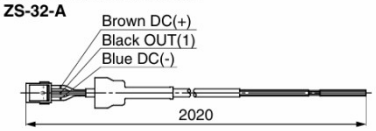
Option 1

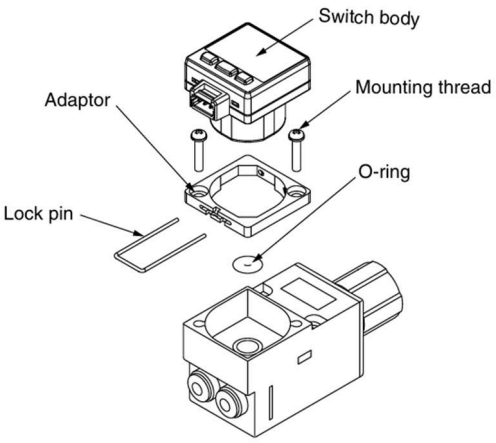
Symbol	Details
Nil	Without lead wire with connector
L	With lead wire (2 m) with connector

Dimensions



● **Lead wire with connector ZS-32-A**





Option/Part No

When optional parts are required separately, use the following part numbers t

Part no.	Options
ZS-32-A	Lead wire with connector (2m)
ZS-32-D	Accessories (adapter, O-ring (1 pc.), mounting screw (2 pcs.), lock pin)

Regulator / Single Unit Type Options

One-touch Fittings for Regulator

VVQ1000-50A – □ **C4** – □

One-touch fittings for regulator

Fitting type

Symbol	Type
Nil	Straight
L1	Elbow

Fitting size

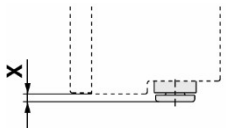
Symbol	Type
C4	Φ4
C6	Φ6
N3	Φ5/32"
N7	Φ1/4"

Semi-standard

Symbol	Type
Nil	None
X17	Oil-free

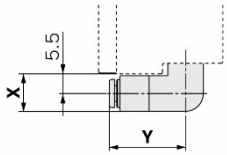
ARM10

Straight type



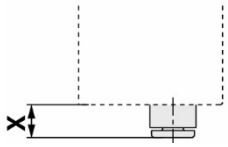
Fitting size	X
ø4, ø5/32"	2
ø6	2
ø1/4"	6

Elbow type



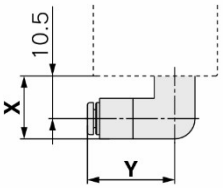
Fitting size	X	Y
ø4, ø5/32"	10.5	21.5
ø6	10.5	22
ø1/4"	10.5	24.5

Straight type



Fitting size	X
ø4, ø5/32"	7
ø6	7
ø1/4"	11

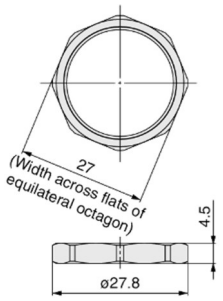
Elbow type



Fitting size	X	Y
ø4, ø5/32"	15.5	21.5
ø6	15.5	22
ø1/4"	15.5	24.5

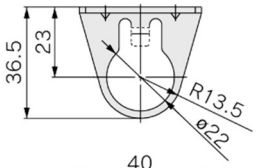
Panel Nut

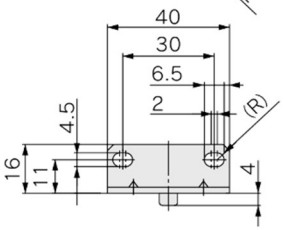
Part no.	136133
Material	POM
Weight	1g



Bracket

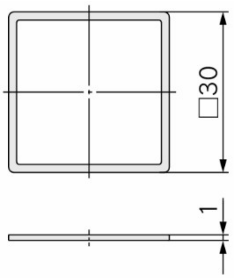
Part no.	136134#1
Material	Steel band (Zinc chromated)
Weight	17 g





Decorative Cover

Part no.	136155
Material	PBT
Weight	0.5 g



Pressure Gauge

Please refer to page 20.

Digital Pressure Switch

Please refer to page 21.

8. Troubleshooting

Refer to Fig.1(shown in next page)

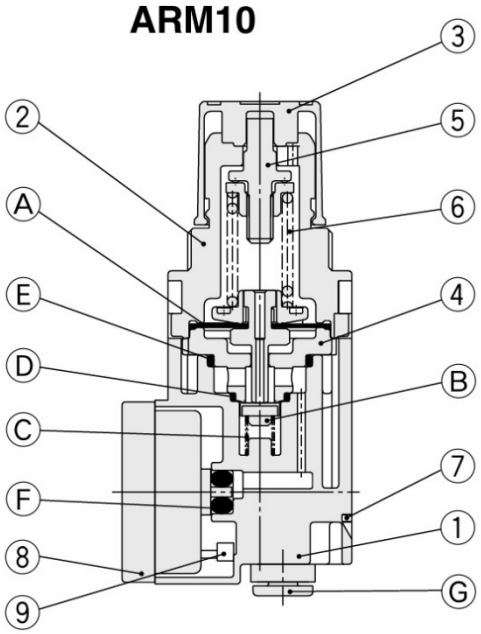
TROUBLE		POSSIBLE CAUSE	REMEDY	Applicable model
Demarcation	Phenomenon			
Pressure	Pressure is not regulated.	1. Opposite installation of IN and OUT tube.	1. Check installing direction of tube and if installed opposite, reinstall it.	ARM10,11
		2. Foreign materials caught in valve seat or its O-ring.	2. Remove bonnet, diaphragm assembly and valve seat assembly and wash valve seat and its O-ring.	
		3. Damaged rubber lining on valve or O-ring of valve seat.	3. Replace the valve seat or the O-ring.	
	Set pressure does not return to zero when pressure knob is loosened.	1. Foreign materials caught in valve seat or its O-ring	1. Remove bonnet, diaphragm assembly and valve seat assembly and wash valve seat and its O-ring.	
		2. Damaged rubber lining on valve or O-ring of valve seat.	2. Replace the valve seat or the O-ring.	
Air leakage	Air leaks the bonnet exhaust port (near the knob).	1. Damaged diaphragm.	1. Replace the diaphragm assembly.	
		2. Foreign materials caught in valve seat or its O-ring.	2. Remove bonnet, diaphragm assembly and valve seat assembly and wash valve seat and its O-ring.	
		3. Damaged rubber lining on valve or O-ring of valve seat.	3. Replace the valve seat or the O-ring.	
		4. Application of back pressure exceeding the set pressure to the outlet.	4. Revise the air circuit so that back pressure does not exceed the set pressure	
	Air leaks between bonnet and body.	1. Damaged diaphragm.	1. Replace the diaphragm assembly.	
		2. Foreign materials caught in valve seat or its O-ring.	2. Remove bonnet, diaphragm assembly and valve seat assembly and wash valve seat and its O-ring.	
	Air leaks between fitting and body.	1. Foreign materials caught in O-ring of fitting.	1. Remove the fitting assembly and wash its O-ring.	
		2. Damaged O-ring of fitting	2. Replace the O-ring.	
	Air leaks between fitting and tube.	1. Foreign materials caught in packing inside fitting.	1. Remove the fitting assembly and wash the packing inside it.	
		2. Damaged surface of tube.	2. Replace the tube.	
		3. Improper connection between fitting and tube.	3. Check mounting condition of tube and if mounted improperly, remount the tube to the fitting.	
	Air leaks between body (manifold) and blanking plate (pressure gauge).	1. Foreign materials caught in O-ring of body (manifold).	1. Remove blanking plate (pressure gauge) from the body (manifold) and wash its O- ring.	
		2. Damaged O-ring of fitting.	2. Replace O-ring of the body (manifold).	
	Air leaks between body and manifold block.	1. Foreign materials caught in gasket of manifold block.	1. Remove the body and replace its gasket.	ARM11
		2. Damaged gasket of manifold block.	2. Replace the gasket.	
	Air leaks between bocks.	1. Foreign materials caught in O-ring of bush of blocks.	1. Remove the bush and wash its O-ring.	
		2. Damaged O-ring of bush of blocks.	2. Replace O-ring of the bush.	

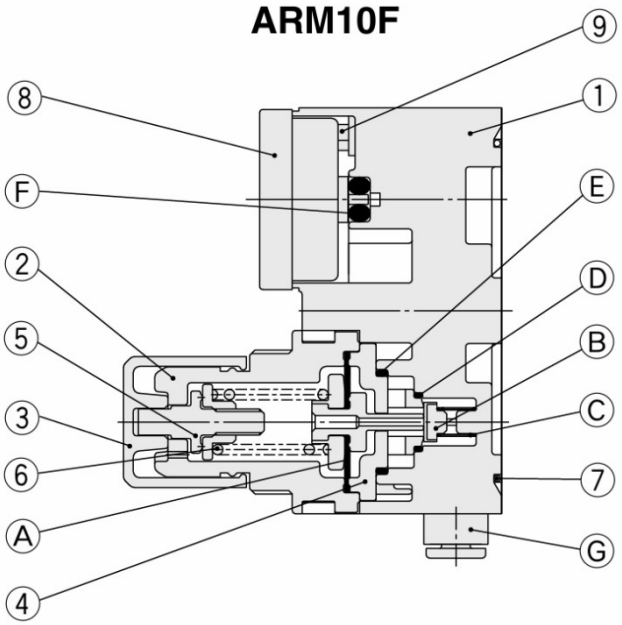
Note1) The grease needs to be applied on washed O-ring and gasket except for oil-free spec.
Recommended grease is multipurpose No.2.

Note 2) For the digital pressure switch, please refer to the Operation manual for the ISE35 Series digital pressure switch.

9. Construction / Part list

1. Regulator





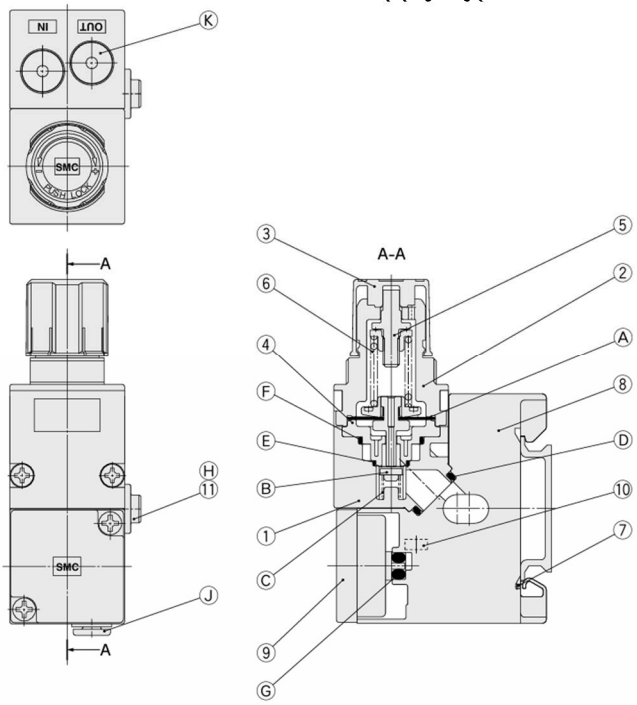
Component Parts

No.	Description	Material
1	Body	PBT
2	Bonnet	PBT
3	Knob	POM
4	Valve seat	POM
5	Adjusting screw assembly	Reinforced steel
6	Adjustment spring	Steel wire
7	Regulator clip	Stainless steel
8	Blanking plate assembly	—
9	Square nut	Steel

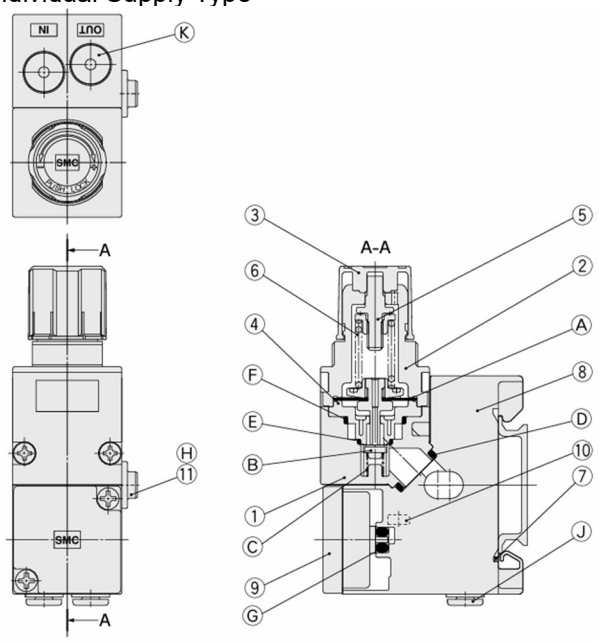
Replacement Parts

No.	Description	Material	Part no.	Note
A	Diaphragm assembly	Weatherproof NBR, POM	136126A	Relieving type
			136126-1A	Non-relieving type
B	Valve	HNBR, Aluminum alloy	136127-30#1	
C	Valve spring	Stainless steel	136131	
D	O-ring	NBR	136146	Standard model
		HNBR	136146-30	Oil-free specification
E	O-ring	NBR	136147	Standard model
		HNBR	136147-30	Oil-free specification
F	O-ring	NBR	136148	Standard model
		HNBR	136148-30	Oil-free specification
		NBR	KA01731	Standard model for digital pressure switch
		HNBR	KA01613	Oil-free spec. for digital pressure switch
G	Fitting assembly	—	Refer to page 22	

2. Compact Manifold Regulator / ARM11A / Common Supply Type



Compact Manifold Regulator Individual Supply Type



Component Parts

No.	Description	Material
1	Body for regulator block	PBT
2	Bonnet	PBT
3	Knob	POM
4	Valve seat	POM
5	Adjusting screw assembly	Reinforced steel
6	Adjustment spring	Steel wire
7	Regulator clip	Stainless steel
8	Manifold block	PBT
9	Blanking plate assembly	—
10	Square nut	Steel
11	Common exhaust bushing Individual supply bushing	POM

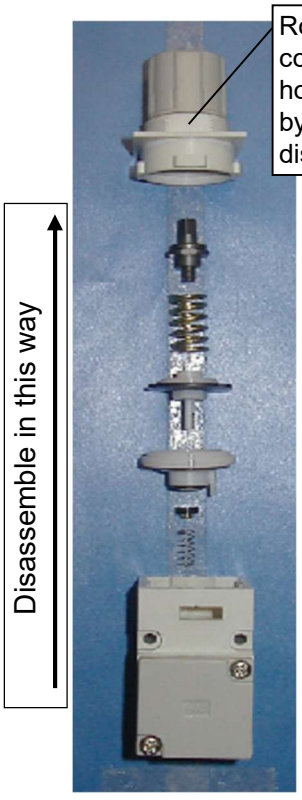
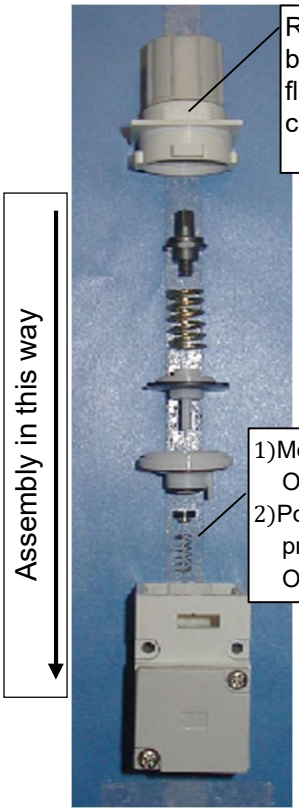
Replacement Parts

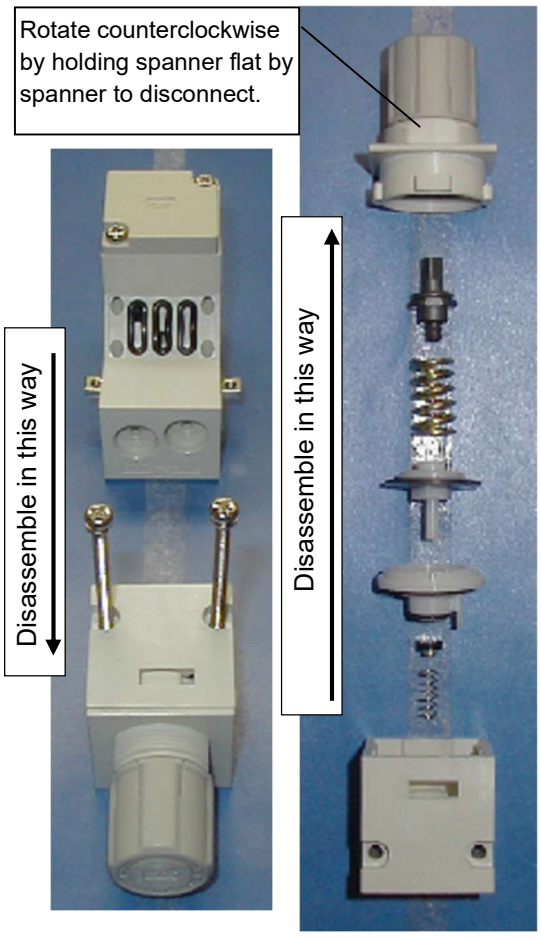
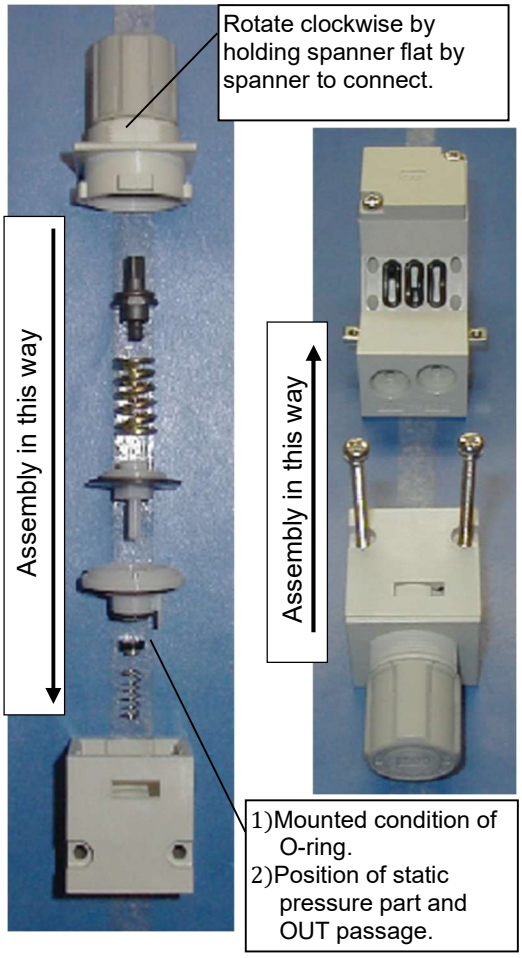
No.	Description	Material	Part no.	Note
A	Diaphragm assembly	Weatherproof NBR, POM	136126A	Relieving type
			136126-1A	Non-relieving type
B	Valve	HNBR, Aluminum alloy	136127-30#1	
C	Valve spring	Stainless steel	136131	
D	Gasket	HNBR	136137-30	
E	O-ring	NBR	136146	Standard model
		HNBR	136146-30	Oil-free specification
F	O-ring	NBR	136147	Standard model
		HNBR	136147-30	Oil-free specification
G	O-ring	NBR	136148	Standard model
		HNBR	136148-30	Oil-free specification
		NBR	KA01731	Standard model for digital pressure switch
		HNBR	KA01613	Oil-free spec. for digital pressure switch
H	O-ring	NBR	136149	Standard model
		HNBR	136149-30	Oil-free specification
J	Fitting assembly	—	Refer to page 19	
K	Port plug	PBT·HNBR	Refer to page 20	

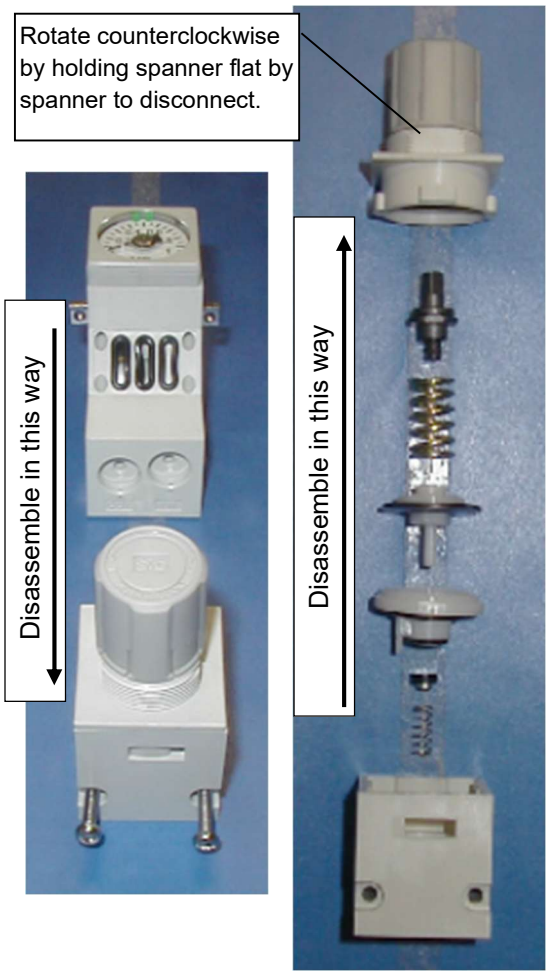
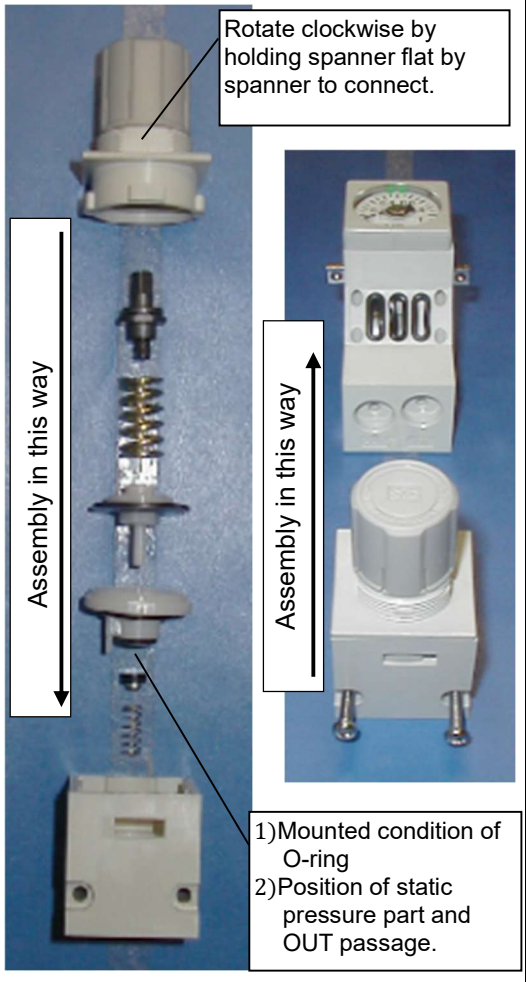
10. How to Replace the Components

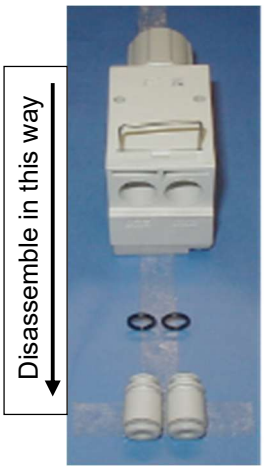
⚠ Warning

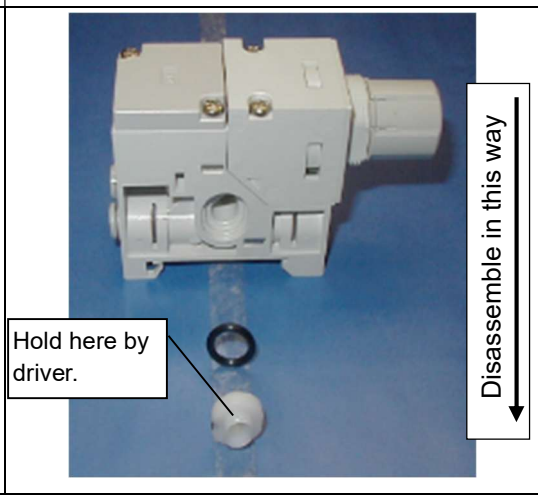
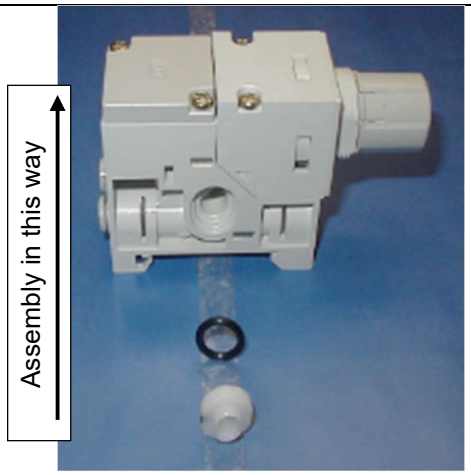
Before replacement, make sure that no pressure remains in the equipment.
Also, make sure to loosen the knob of the regulator so that the set pressure is zero.
After replacement, confirm that the product satisfies specific functions and no external leakage occurs before operating it.

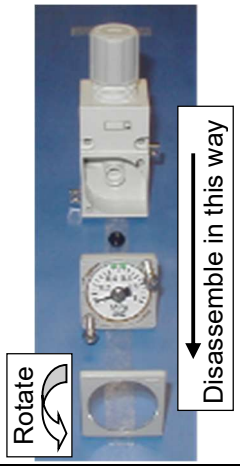
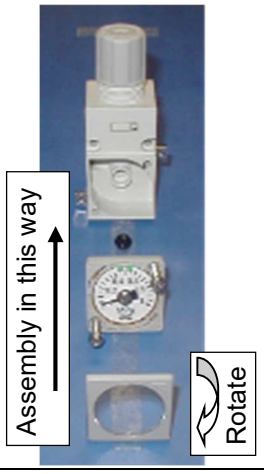
Model	ARM10	
Description	Regulator	
Content	Wash and replacement of diaphragm, O-rings, valve and valve spring	
Process	Disassembly	Assembly
Procedure	1)Rotate bonnet counterclockwise by holding its spanner flat by spanner to disconnect. (Remain pressure adjusting screw and spring mounted on the bonnet.) 2)Remove diaphragm assembly. 3)Remove valve seat assembly by holding by snap ring pliers. 4)Remove valve and valve spring.	1)Mount valve spring and valve by tweezers. 2)Mount valve seat assembly (with two O-rings mounted） by snap ring pliers so that static pressure part of valve seat and OUT passage could be in proper position. 3)Hold the valve seat assembly accessing from side opening to prevent it from coming off. 4)Mount the diaphragm assembly. 5)Mount bonnet which has pressure adjusting screw and spring installed to body and rotate it by holding spanner flat by spanner clockwise to connect with the body.
Tools	Spanner (18mm in width), Snap ring pliers, tweezers	
Check item	—	1)Presence of O-ring. 2)Position of static pressure part of valve seat and OUT passage.
Referential photo		

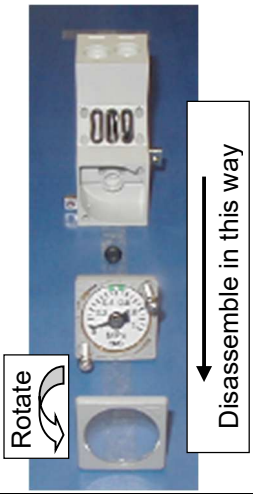
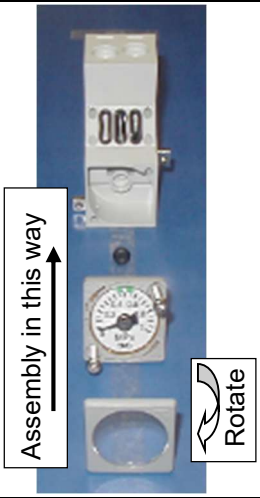
Model	ARM11□A, ARM11□C	
Description	Regulator block (knob position: Top or bottom)	
Content	Wash and replacement of gasket, diaphragm, O-rings, valve and valve spring	
Process	Disassembly	Assembly
Procedure	1)Loosen and remove round screws of regulator assembly by Phillips driver to become the regulator assembly able to be disconnected manually. 2)Rotate bonnet counterclockwise by holding its spanner flat by spanner to disconnect. (Remain pressure adjusting screw and spring mounted on the bonnet.) 3)Remove diaphragm assembly manually. 4)Remove valve assembly with held by snap ring pliers. 5)Remove valve and valve spring.	1)Mount valve spring and valve by tweezers. 2)Mount valve seat assembly (with two O-rings mounted） by snap ring pliers so that static pressure part of valve seat and character "A" on body. 3)Hold the valve seat assembly accessing from side opening to prevent it from coming off. 4)Mount diaphragm assembly. 5)Mount bonnet which has pressure adjusting screw and spring installed to body and rotate it by holding spanner flat by spanner clockwise to connect with the body. 6)Mount regulator assembly on manifold block and hold it by tightening two round screws by Phillips driver.
Tools	Phillips driver, Spanner (18mm in width), Snap ring pliers, tweezers	
Check item	—	1)Presence of O-ring. 2)Position of static pressure part of valve seat and character "A" on body. 3)Tightening torque of round screw : 0.32±0.03N・m
Referential photo		

Model	ARM11□B	
Description	Regulator block (knob position: Front type)	
Content	Wash and replacement of gasket, diaphragm, O-rings, valve and valve spring	
Process	Disassembly	Assembly
Procedure	1)Loosen and remove round screws of regulator assembly by Phillips driver to become the regulator assembly able to be disconnected manually. 2)Rotate bonnet counterclockwise by holding its spanner flat by spanner to disconnect. (Remain pressure adjusting screw and spring mounted on the bonnet.) 3)Remove diaphragm assembly manually. 4)Remove valve assembly with held by snap ring pliers. 5)Remove valve and valve spring.	1)Mount valve spring and valve by tweezers. 2)Mount valve seat assembly (with two O-rings mounted） by snap ring pliers so that static pressure part of valve seat and character "B" on body. 3)Hold the valve seat assembly accessing from side opening to prevent it from coming off. 4)Mount diaphragm assembly. 5)Mount bonnet which has pressure adjusting screw and spring installed to body and rotate it by holding spanner flat by spanner clockwise to connect with the body. 6)Mount regulator assembly on manifold block and hold it by tightening two round screws by Phillips driver.
Tools	Phillips driver, Spanner (18mm in width), Snap ring pliers, tweezers	
Check item	—	1)Presence of O-ring. 2)Position of static pressure part of valve seat and character "B" on body. 3)Tightening torque of round screw：0.32±0.03N・m
Referential photo		

Model	ARM10, ARM10F, ARM11	
Description	Regulator, Manifold block	
Content	Wash, air blowing and replacement of joint O-ring	
Process	Disassembly	Assembly
Procedure	1)Remove clip with held by flat small driver. 2)Pull fitting assembly out manually.	1)Push fitting assembly until it comes to a stop to mount. 2)Push clip until it comes to a stop to mount.
Tools	Precision screwdriver (-)	
Check item	–	1)Confirmation that the fitting assembly reaches mounting end for it. 2)Confirmation that the clip reaches mounting end for it.
Referential photo		

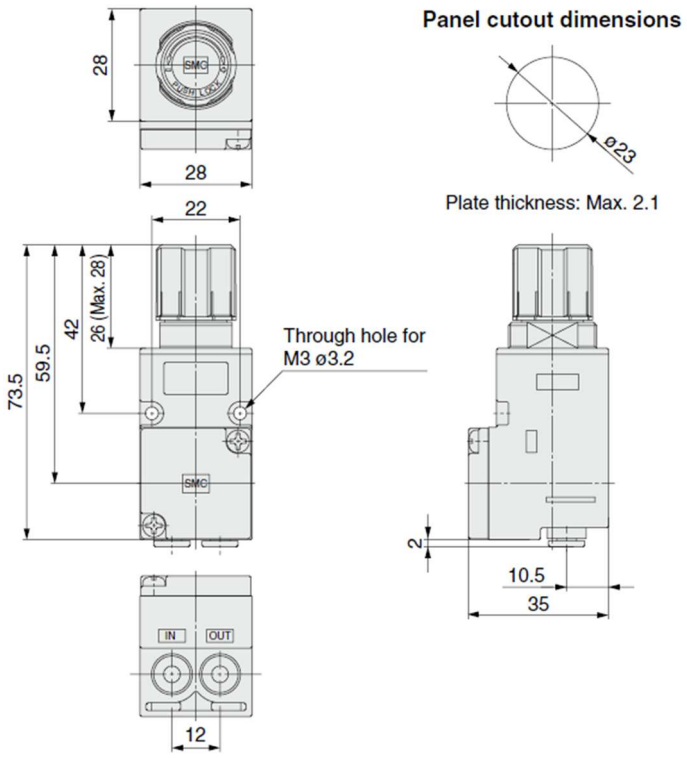
Model	ARM11	
Description	Regulator block	
Content	Wash and replacement of bush O-ring	
Process	Disassembly	Assembly
Procedure	1)Remove bush with held by flat small driver. 2)Remove O-ring from the bush.	1)Mount O-ring to bush. 2)Push the bush until it comes to a stop to mount.
Tools	Precision screwdriver (-)	
Check item	–	1)Confirmation that the bush reaches mounting end for it.
Referential photo		

Model	ARM10, ARM10F	
Description	Regulator	
Content	Wash and replacement of O-ring of pressure gauge	
Process	Disassembly	Assembly
Procedure	1)Remove cover assembly by rotating counterclockwise manually. 2)Loosen and remove two round screw by Phillips driver. 3)Remove pressure gauge assembly. 4)Remove O-ring.	1)Mount O-ring. 2)Mount pressure gauge assembly. 3)Hold the pressure gauge assembly by tightening two round screws by Phillips driver. 4)Mount cover assembly by rotating clockwise manually. (Mind direction of cover and position of locating mark and detent.)
Tools	Phillips driver	
Check item	–	1)Presence of O-ring 2)Tightening torque of round screw：0.32±0.03N·m
Reference photo		

Model	ARM11	
Description	Regulator block	
Content	Wash and replacement of O-ring of pressure gauge	
Process	Disassembly	Assembly
Procedure	1)Loosen and remove round screws from regulator assembly by Phillips driver to becomes the regulator assembly able to be disconnected. 2)Remove cover assembly by rotating counterclockwise manually. 3)Remove two round screws from pressure assembly by Phillips driver. 4)Remove pressure gauge assembly. 5)Remove O-ring.	1)Mount O-ring to bush. 2)Mount pressure gauge assembly. 3)Hold the pressure gauge assembly by tightening two round screws by Phillips driver. 4)Mount cover assembly by rotating clockwise manually. (Mind direction of cover and position of locating mark and detent.) 5)Mount regulator assembly to manifold block and hold it by tightening two round screws by Phillips driver.
Tools	Precision screwdriver (-)	
Check item	–	1)Presence of O-ring 2)Tightening torque of round screw：0.32±0.03N·m
Reference photo		

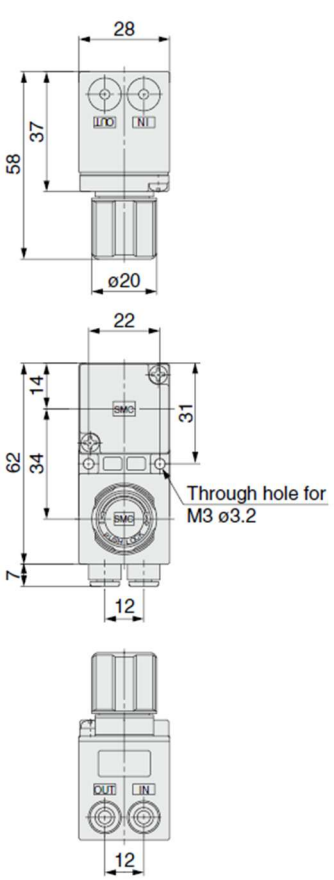
11. Dimensions

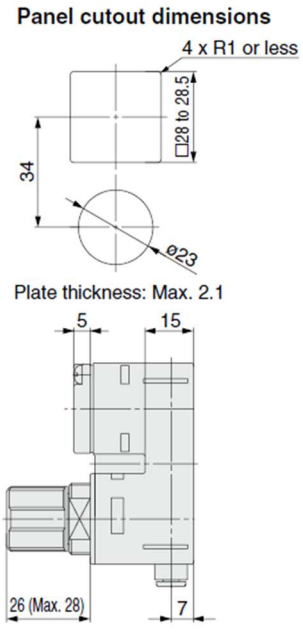
1. Regulator / A R M 1 0 – 0 6, 0 8



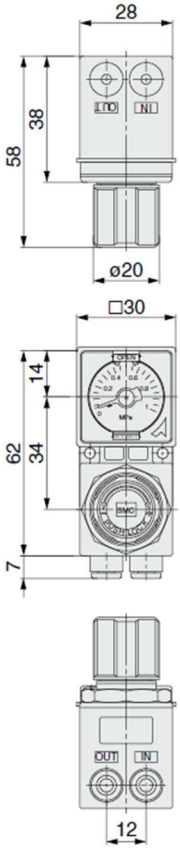
Regulator / A R M 1 0 F

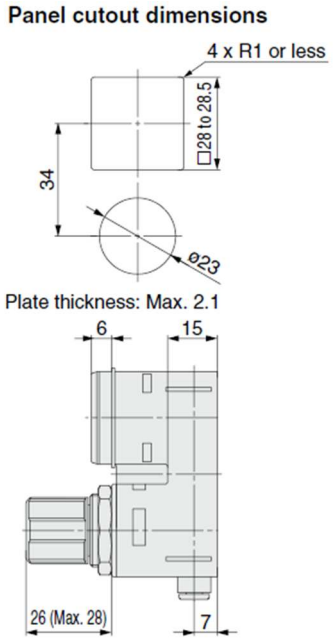
A R M 1 0 F 1 – 0 6, 0 8





A R M 1 0 F 1 – 0 6 G P C, 0 8 G P C



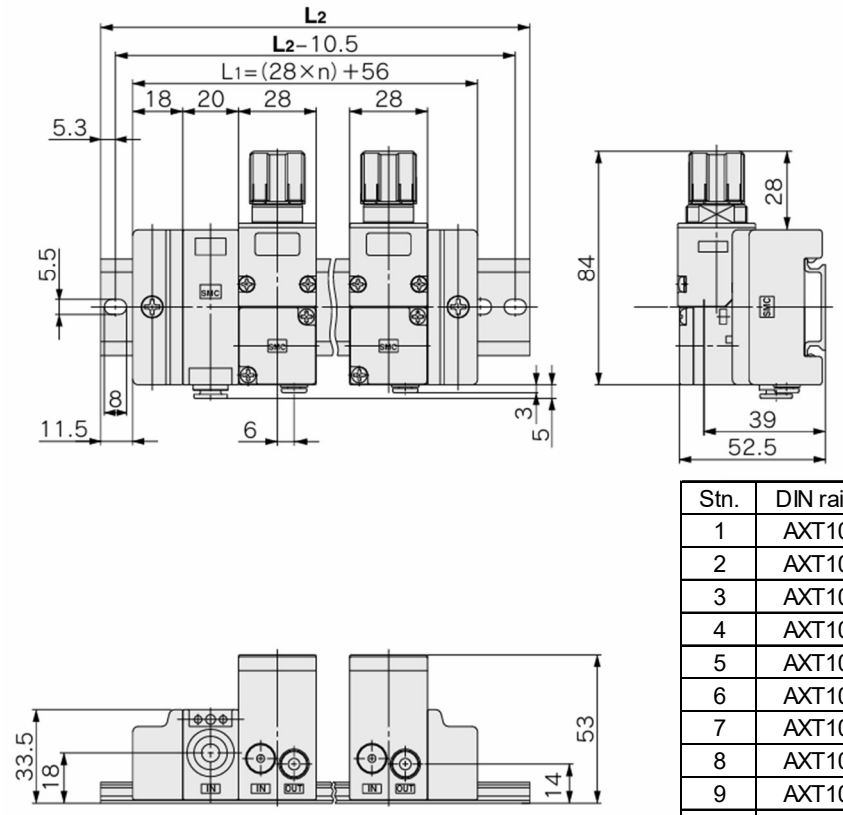


2. Manifold regulator / common air supply spec

For different One-touch fittings part dimensions, refer to “options”.

A R M 1 1 A A 1 - * 1 2

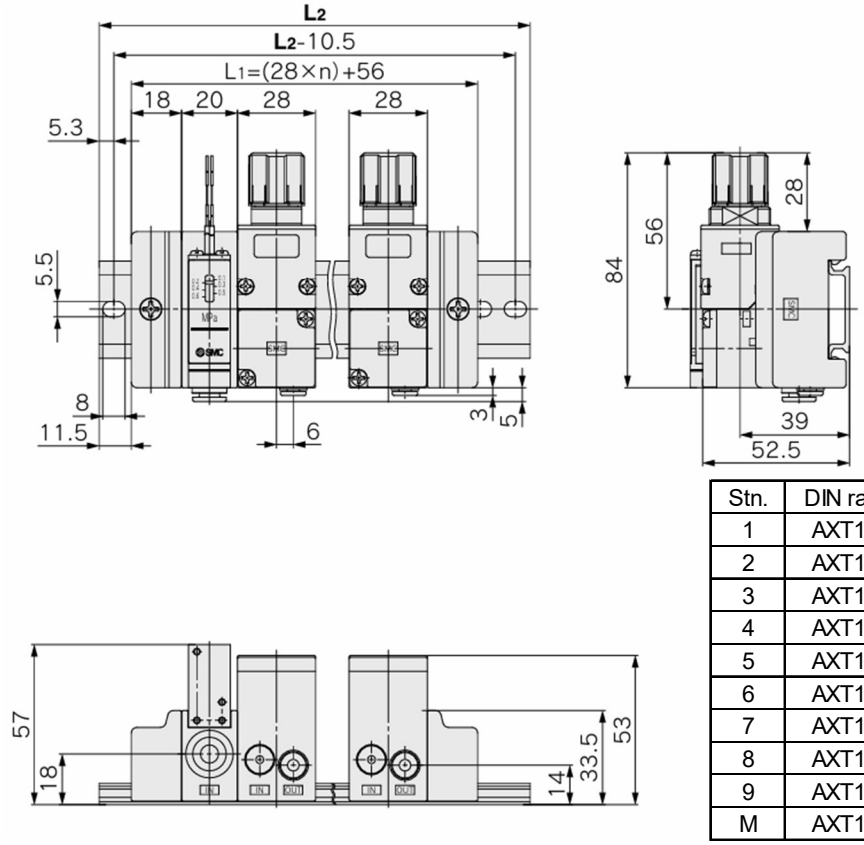
Knob position: Front / Common supply block



Stn.	DIN rail No. (for L and R sides)	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A A 1 - * 1 2 - A

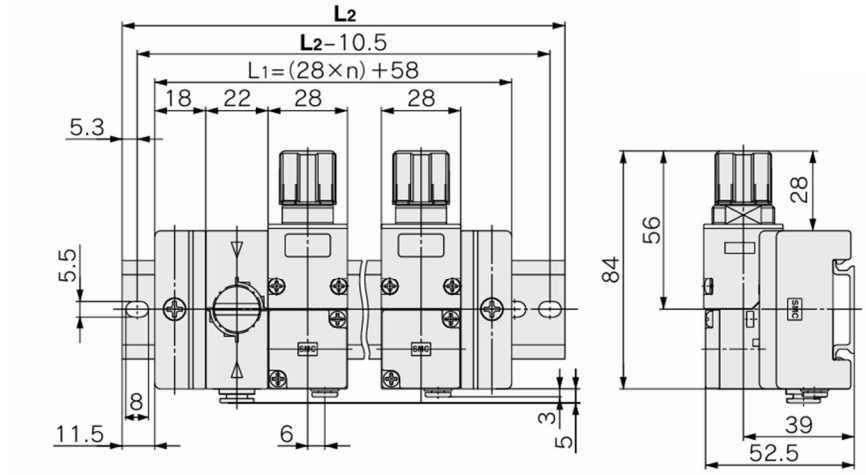
Knob position: Top / Common supply block with pressure switch

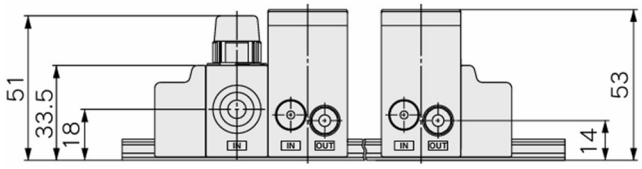


Stn.	DIN rail No.(for L and R sides)	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A A 1 - * 1 2 - B

Knob position: Top / 3-way valve type common supply block

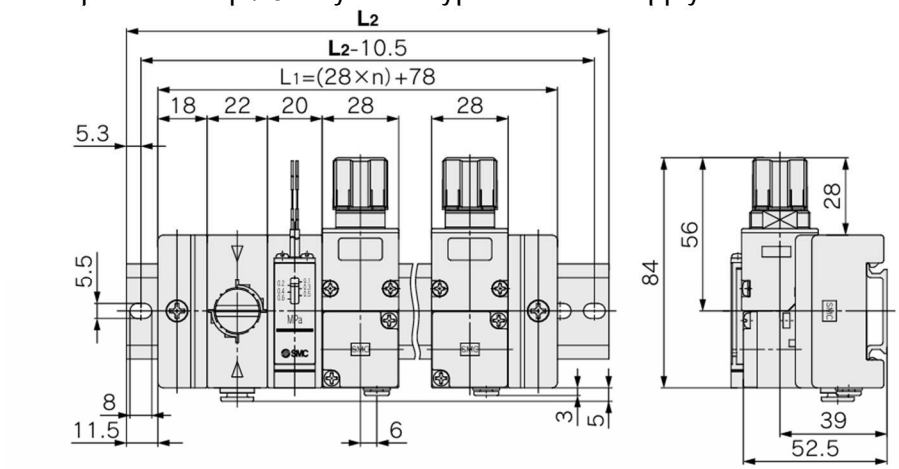


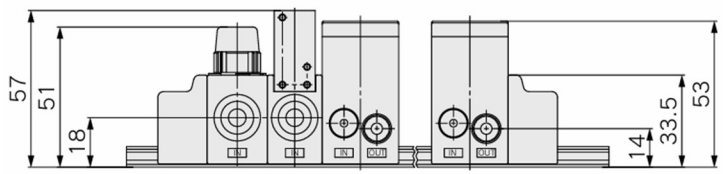


Stn.	DIN rail No. (for L and R sides)	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A A 1 - * 1 2 – C

Knob position: Top / 3-way valve type common supply block + Pressure switch block

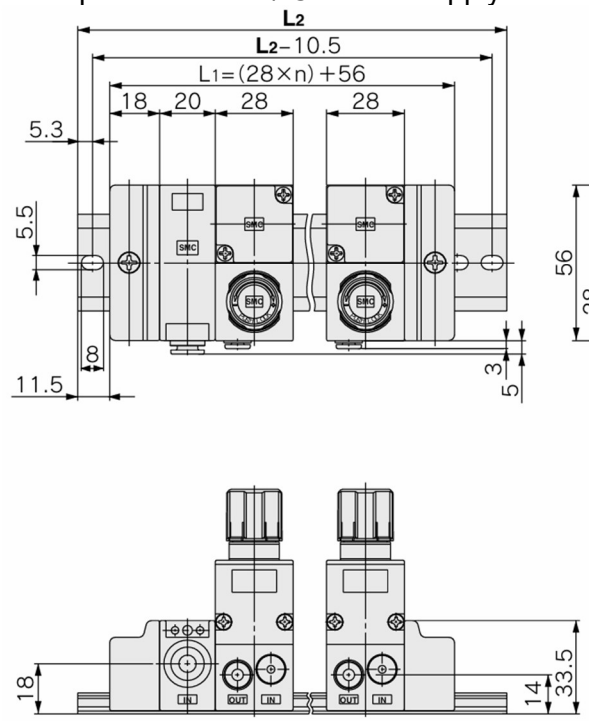




Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-11	148
2	AXT100-DR-13	173
3	AXT100-DR-15	198
4	AXT100-DR-17	223
5	AXT100-DR-19	248
6	AXT100-DR-22	285.5
7	AXT100-DR-24	310.5
8	AXT100-DR-26	335.5
9	AXT100-DR-28	360.5
M	AXT100-DR-31	398

A R M 1 1 A B 1 - * 1 2

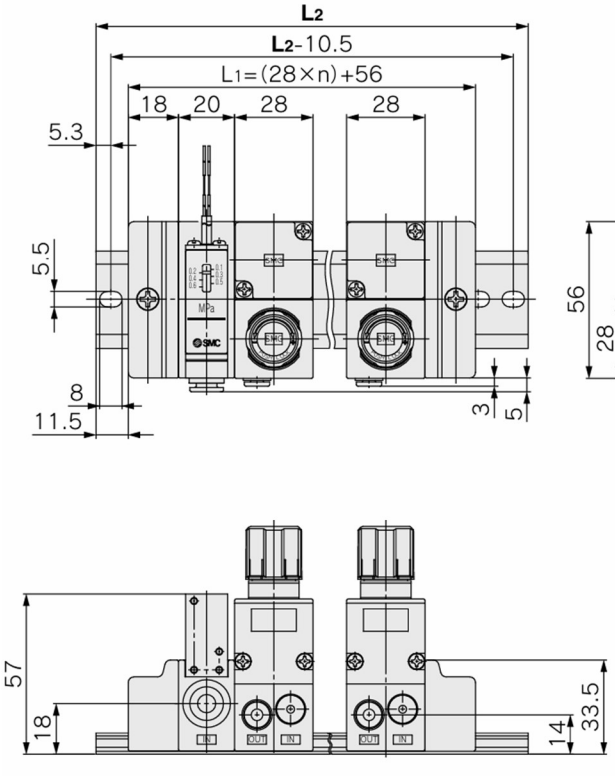
Knob position: Front / Common supply block



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A B 1 - * 1 2 - A

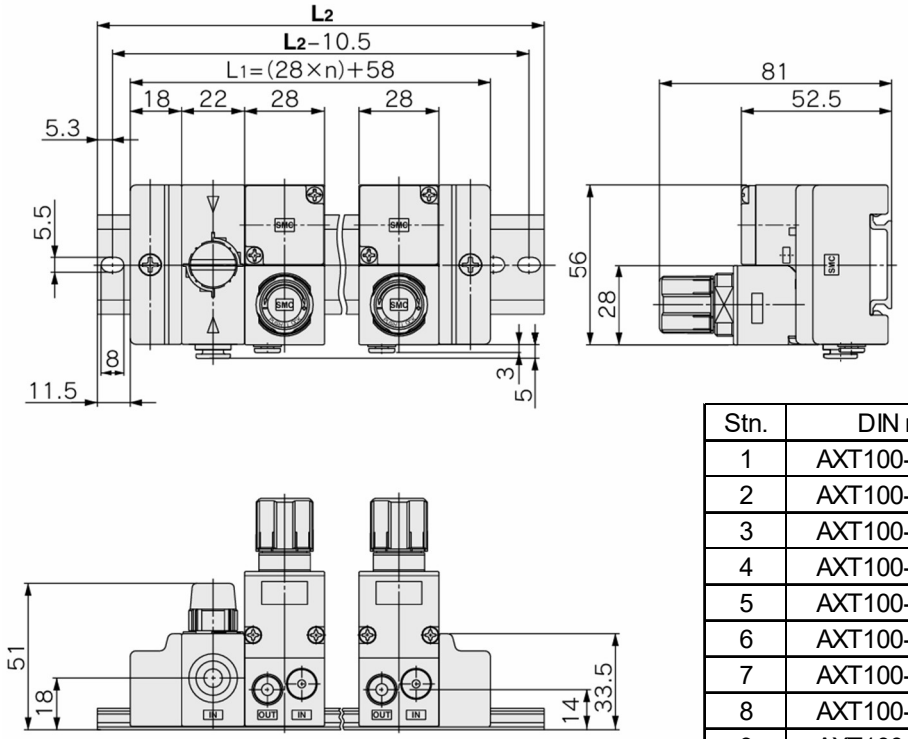
Knob position: Front / Common supply block with pressure switch



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A B 1 - * 1 2 - B

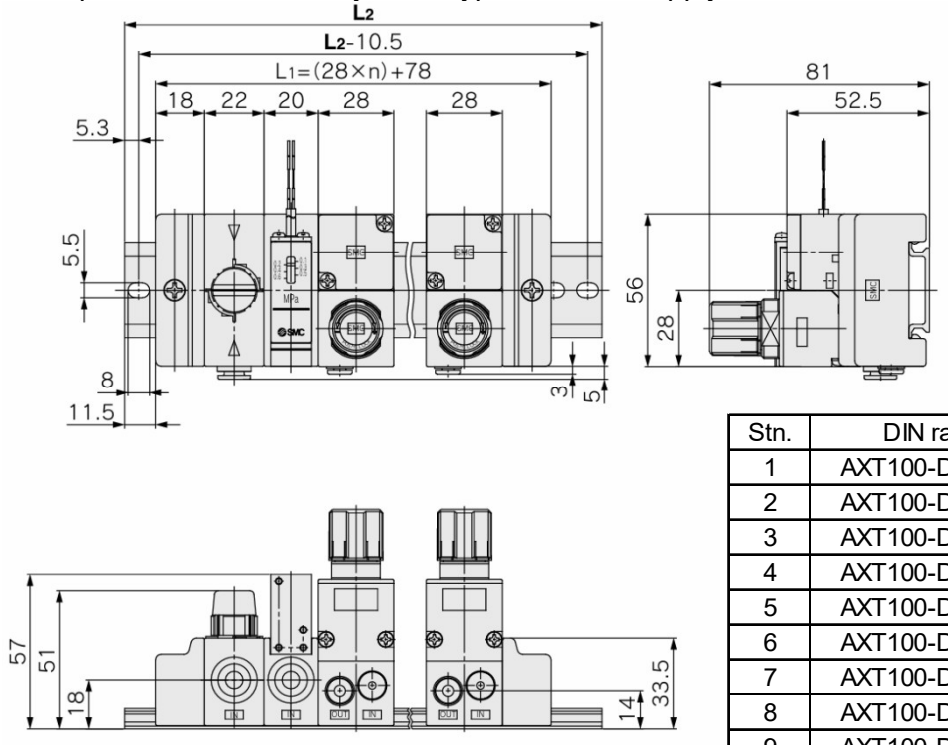
Knob position: Front / 3-way valve type common supply block



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A B 1 - * 1 2 - C

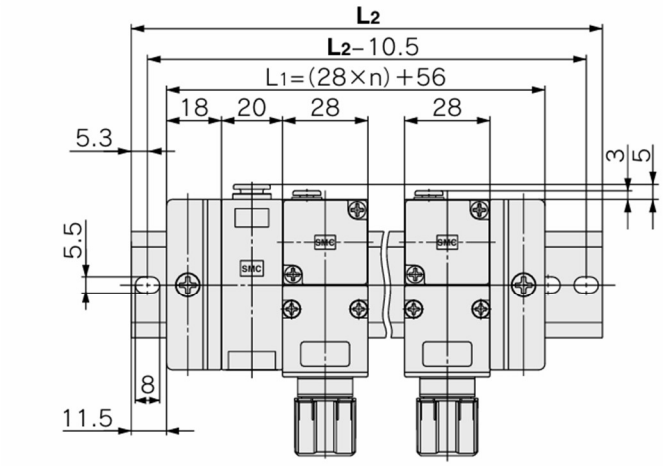
Knob position: Front / 3-way valve type common supply block + Pressure switch block

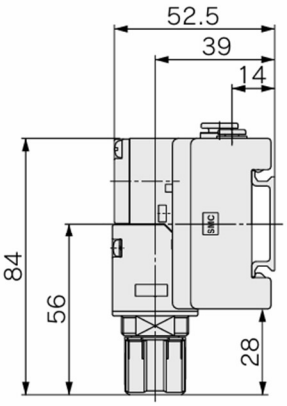


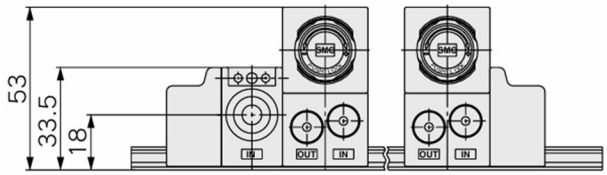
Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-11	148
2	AXT100-DR-13	173
3	AXT100-DR-15	198
4	AXT100-DR-17	223
5	AXT100-DR-19	248
6	AXT100-DR-22	285.5
7	AXT100-DR-24	310.5
8	AXT100-DR-26	335.5
9	AXT100-DR-28	360.5
M	AXT100-DR-31	398

A R M 1 1 A C 2 - * 1 2

Knob position: Bottom / Common supply block



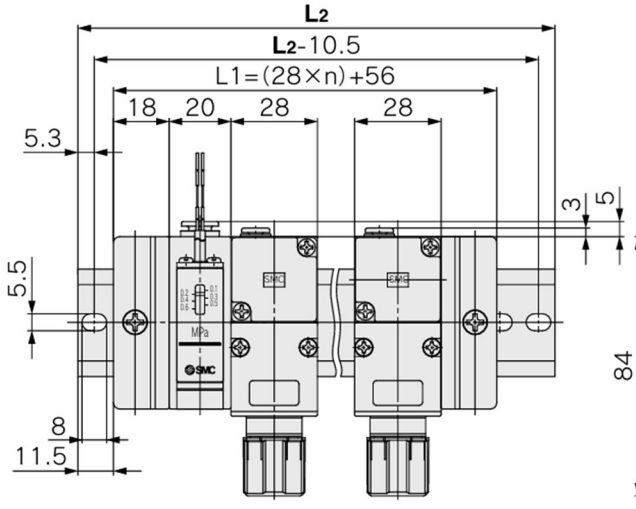


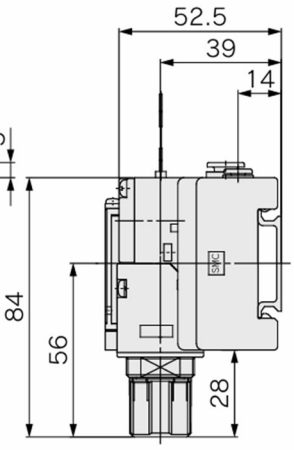


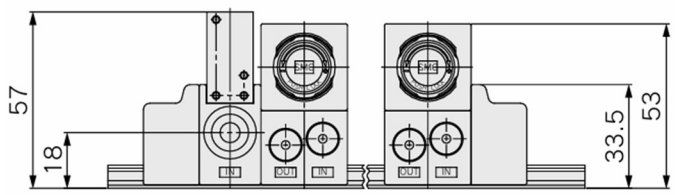
Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A C 2 - * 1 2 – A

Knob position: Bottom / Common supply block with pressure switch



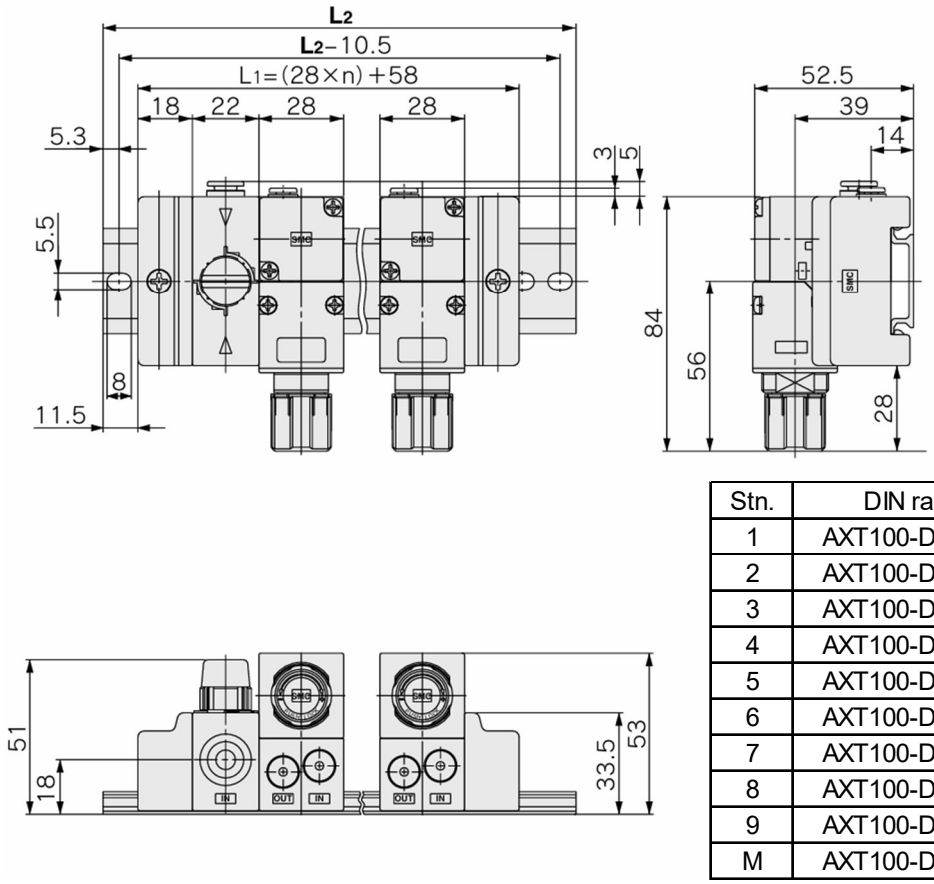




Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A C 2 - * 1 2 - B

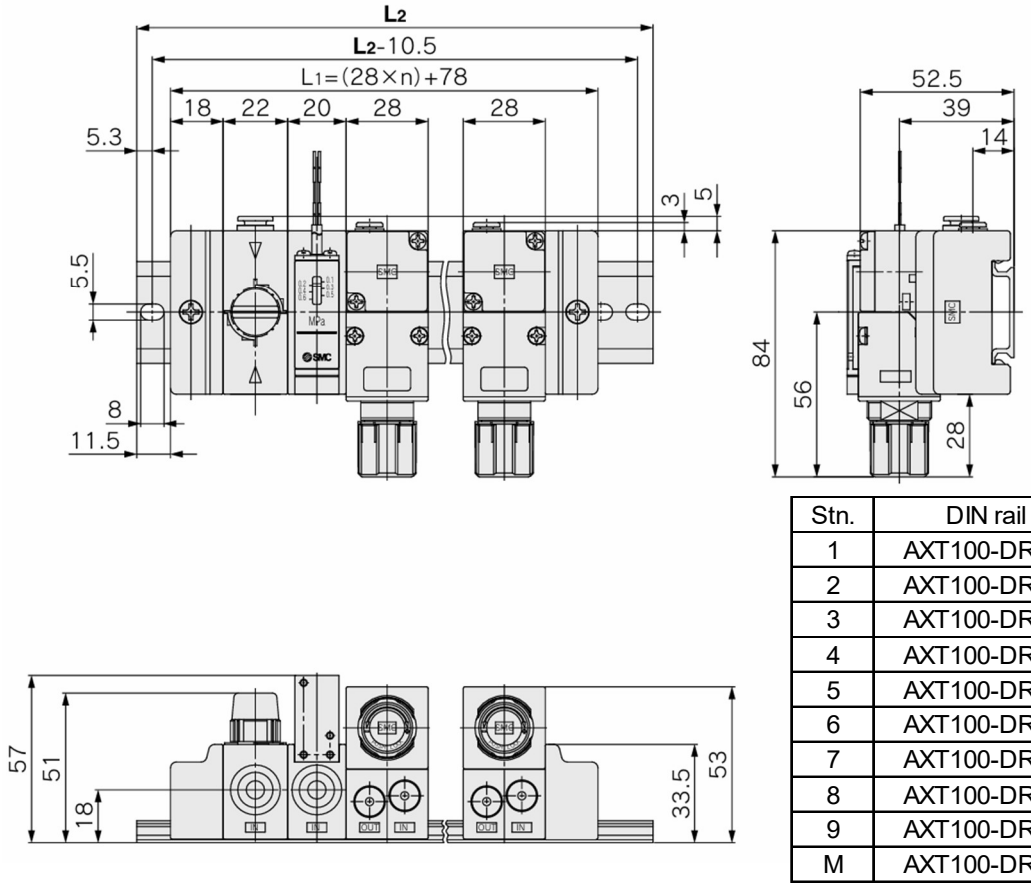
Knob position: Bottom / 3-way valve type common supply block



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-9	123
2	AXT100-DR-11	148
3	AXT100-DR-13	173
4	AXT100-DR-16	210.5
5	AXT100-DR-18	235.5
6	AXT100-DR-20	260.5
7	AXT100-DR-22	285.5
8	AXT100-DR-25	323
9	AXT100-DR-27	348
M	AXT100-DR-29	373

A R M 1 1 A C 2 - * 1 2 - C

Knob position: Bottom / 3-way valve type common supply block + Pressure switch block

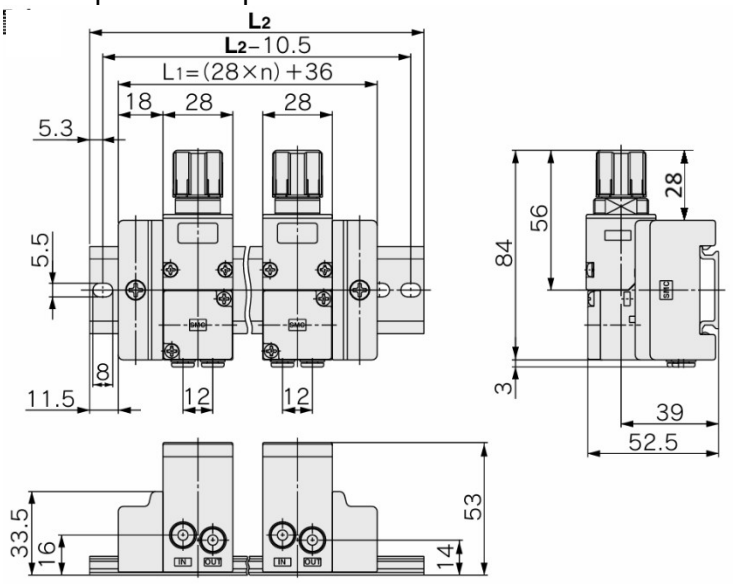


Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-11	148
2	AXT100-DR-13	173
3	AXT100-DR-15	198
4	AXT100-DR-17	223
5	AXT100-DR-19	248
6	AXT100-DR-22	285.5
7	AXT100-DR-24	310.5
8	AXT100-DR-26	335.5
9	AXT100-DR-28	360.5
M	AXT100-DR-31	398

3.Manifold regulator / Individual air supply

A R M 1 1 B A 1 - * 0 8

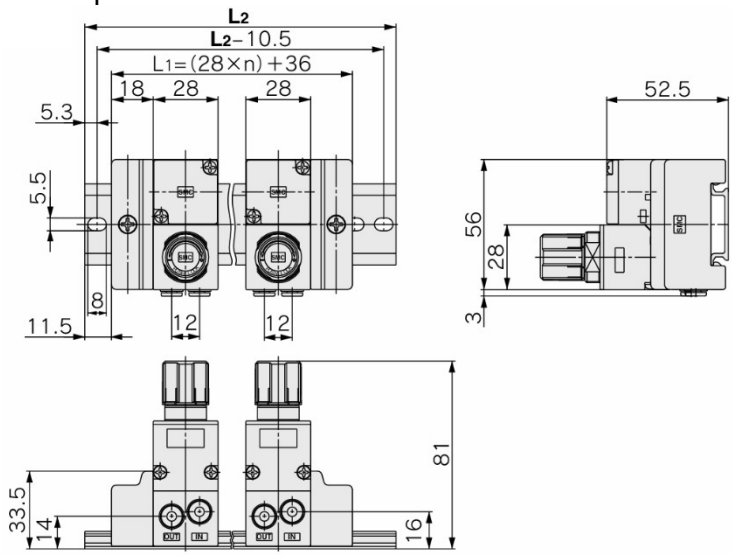
Knob position: Top



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-8	110.5
2	AXT100-DR-10	135.5
3	AXT100-DR-12	160.5
4	AXT100-DR-14	185.5
5	AXT100-DR-16	210.5
6	AXT100-DR-19	248
7	AXT100-DR-21	273
8	AXT100-DR-23	298
9	AXT100-DR-25	323
M	AXT100-DR-28	360.5

A R M 1 1 B B 1 - * 0 8

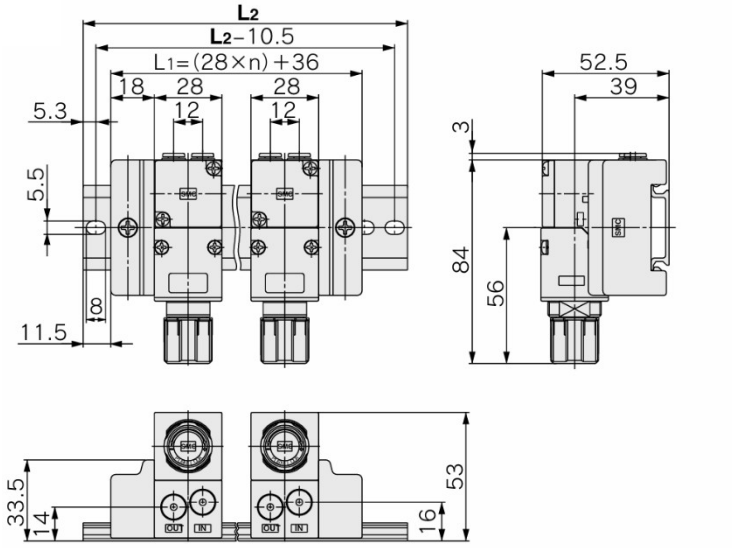
Knob position: Front



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-8	110.5
2	AXT100-DR-10	135.5
3	AXT100-DR-12	160.5
4	AXT100-DR-14	185.5
5	AXT100-DR-16	210.5
6	AXT100-DR-19	248
7	AXT100-DR-21	273
8	AXT100-DR-23	298
9	AXT100-DR-25	323
M	AXT100-DR-28	360.5

A R M 1 1 B C 2 - * 0 8

Knob position: Bottom



Stn.	DIN rail No.	L_2 Dimension
1	AXT100-DR-8	110.5
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7	AXT100-DR-21	273
8	AXT100-DR-23	298
9	AXT100-DR-25	323
M	AXT100-DR-28	360.5

Revision history	
A	Change: panel nut size Aug. 2013
B	Change: Safety Instructions Add: Digital Pressure Switch Part Number June. 2026.

SMC Corporation

Tel: + 81 3 5207 8249 Fax: +81 3 5298 5362
URL https://www.smcworld.com