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* Some products are not standard stock items.
Please consult your nearest sales branch regarding their delivery times and prices.
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* Some products are not standard stock items.
  Please consult your nearest sales branch regarding their delivery times and prices.
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**FIGURE 1. SPECIFICATIONS**

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<td><strong>AMBIENT &amp; OPERATING TEMPERATURE</strong></td>
<td>-20 TO 50°C (NON FREEZING)</td>
<td>-20 TO 50°C (NON FREEZING)</td>
</tr>
<tr>
<td><strong>VOLTAGE TOLERANCE</strong></td>
<td>-10 TO +10%</td>
<td>-10 TO +10%</td>
</tr>
<tr>
<td><strong>ELECTRICAL ENTRY</strong></td>
<td>DIN CONNECTOR(Y)</td>
<td>DIN CONNECTOR(Y)</td>
</tr>
</tbody>
</table>

**FLOW SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>SY9120</th>
<th>SY9320</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PASSEGE</strong></td>
<td>1-4/2</td>
<td>1-4/2</td>
</tr>
<tr>
<td><strong>DIAMETER</strong> (A/B)</td>
<td>7.0</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>DIAMETR (C) (D) (E) (F)</strong></td>
<td>6.7</td>
<td>6.4</td>
</tr>
<tr>
<td><strong>CV</strong></td>
<td>0.27</td>
<td>0.34</td>
</tr>
</tbody>
</table>

**RATED VOLTAGE:** 24VDC (0.9W)

**SPECIAL REQUIREMENTS**

1. AMBIENT & OPERATING TEMPERATURE: -20°C TO 50°C (NON FREEZING)
2. LIFE CYCLE OF 5 MILLIONS
3. OPERATING PRESSURE RANGE: PLEASE REFER TO FIGURE 1
4. CE MARKING DECLARED

**NOTES**

1. THIS DRAWING SHOWS THE CASE OF "SY9120-5YOE-02F-X79-Q"
2. DIMENSIONS ARE IN MILLIMETERS

---

**5 Port Solenoid Valve SY9-20-5YOE-02-F-X79-Q**

-4°F (-20°C)
HOW TO ORDER
VFS1120-DB-01X-X200(-Q)

COIL RATED VOLTAGE:
- 150 VAC 50/60Hz
- 240 VAC 50/60Hz
- 110 to 120 VAC 50/60Hz
- 240 VAC 50/60Hz
- 24 V DC
- 12 V DC
- 24 VDC 50/60Hz
- 9 V DC
- 12 VAC 50/60Hz
- 6 VDC
- 48 V DC

EUROPEAN STANDARD COMPLIANCE PRODUCTS

- THREAD TYPE
  - NPT
  - NPTF
  - G

- PORT SIZE
  - 0.11/8

- DIN TERMINAL

- PILOT VALVE MANUAL OVERRIDE
  - 0 TIGHTENING TORQUE REQUIRED

- Fittings and Tubing
- Flow Control Equipment
- Pressure Control Equipment
- Pneumatic Instrumentation Equipment
- Valves
- Port Valves for Fluid Control
- Fittings and Tubing
- Flow Control Equipment
- Pressure Control Equipment
- F.R.L.
- AL
- AR
- AF
- AW
- Rotary Actuator
- Air Grippers
- Air Cylinders

SPECIAL SPECIFICATIONS
1. LOW TEMPERATURE SPECIFICATION
   (AMBIENT AND FLUID TEMPERATURE: -40°C to 50°C)

NOTE
1. EUROPEAN STANDARD COMPLIANCE PRODUCTS.
   (-FOR G ASSISTANT)
2. UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS, THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE FOR FURTHER DETAILS.

- 5 Port Solenoid Valve
- VFS1120-DB-01X-X200(-Q)
- -40°F (-40°C)

- UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS, THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE FOR FURTHER DETAILS.

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Valves
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.

Pressure Control Equipment
Flow Control Equipment
Fittings and Tubing
Port Valves for Fluid Control
Pneumatic Instrumentation Equipment

5 Port Solenoid Valve
VFS2120-DB-XX-X200 (-Q)

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air or Inert Gas</td>
</tr>
<tr>
<td>Max. Operating Pressure</td>
<td>1.0MPa</td>
</tr>
<tr>
<td>Min. Operating Pressure</td>
<td>0.2MPa</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>1.5MPa</td>
</tr>
<tr>
<td>Ambient and Fluid Temperature</td>
<td>-40 to +55°C (Note:1)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Non-Lube (Note:2)</td>
</tr>
<tr>
<td>Pilot Valve Manual Override Locking Type (Tool Required)</td>
<td></td>
</tr>
<tr>
<td>Shock/Vibration Resistance</td>
<td>50g/50 m/s² (Note:3)</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust Proof (Note:4)</td>
</tr>
<tr>
<td>Coil Rated Voltage</td>
<td>Referring How to Order</td>
</tr>
<tr>
<td>Allowable Voltage Fluctuation</td>
<td>±5% to ±10% of Rated Voltage</td>
</tr>
<tr>
<td>Coil Insulation Type</td>
<td>Class B or Equivalent (130°C) Notes</td>
</tr>
<tr>
<td>Apparent Power</td>
<td>5.6VA/55Hz, 3.0VA/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>AC: 0.9W, DC: 1.6W/50Hz, 2.0VA/12V, 1.5W/60Hz</td>
</tr>
<tr>
<td>Power Consumption DC</td>
<td>1.8W</td>
</tr>
<tr>
<td>Electrical Entry</td>
<td>DIN Terminal</td>
</tr>
</tbody>
</table>

Special Specifications

1) Low Temperature Specification
(Ambient and Fluid Temperature: -40°C to 55°C)

2) Unless otherwise noted along with a separate contract or agreement with the product specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC sales office for further details.
VALVES
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.

Pressure Control
Flow Control
Equipment
Fittings and Tubing
Port Valves for Fluid Control

Pneumatic Instrumentation
Equipment

5 Port Solenoid Valve
VFS3220
VFS 3220
VFS 3220
VFS3220

Solenoid Valve

Specifications

Fluid: Air or inert gas
Max. Operating Pressure: 1.0 MPa
Min. Operating Pressure: 0.2 MPa
Proof Pressure: 1.5 MPa
Ambient and Fluid Temperature: -40 to +50°C (Note 1)
Lubrication: Non-lubricated (Note 2)
Pilot Valve Manual Override: Locking Type (Tool Required)
Shock-Vibration Resistan: 50/50 m/s² Note 3
Enclosure: Dust-Proof (Note 4)

Port Size
G 2
G 1/4
G 3/8

Electrical Entry: DIN terminal

Notes:
-50°C dry air at low temperatures.
- Temperature Class: D or A.
- Electrical connection: 500 VAC/50Hz, 0.5 A/60Hz.
- Power consumption: AC 5.6VA/50Hz, 0.5 A/60Hz.
- Power consumption: DC 1.5W.
- Vibration resistance: Class 0 to 2.

Special Specification
1. Low temperature
   (Ambient and fluid temperature: -40°C to 50°C)

Note
1. European standard compliance products.
   - For Q assistant
2. Unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalogs are applied. Please contact your local SMC sales office for further details.
VALVES
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.

Pressure Control Equipment
Flow Control Equipment
Pneumatic Instrumentation Equipment
Fittings and Tubing
Port Valves for Fluid Control

SPECIFICATION

MEDIA
AIR OR INERT GAS

WORKING PRESSURE RANGE
0.2-1.0MPa

AMBIENT & FLUID TEMP.
-40~150°C

RATED VOLTAGE
REFER TO "RATED VOLTAGE" ON HOW TO ORDER.

PORT SIZE
1/4

SPECIAL SPECIFICATION

1) LOW TEMPERATURE
(AMBIENT AND FLUID TEMPERATURE: -40~60°C)

NOTE
1) EUROPEAN STANDARD COMPLIANCE PRODUCTS.
(ONLY FOR Q ASSISTANT)
2) UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS, THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE FOR FURTHER DETAILS.

VFN3120N-□□-02*-A-X200(-Q)

5 Port Solenoid Valve

5 Port Solenoid Valve

-40°F (-40°C)
5 Port Solenoid Valve
VFN3220N-□D□-02□-A-X200 (-Q)

Solenoid Valve –40°F (–40°C)

EVS7-6-FG-S-□L□□□□CV(B)-X200 (-Q)

Port Valves for Fluid Control

Valves
Air Cylinders
Air Grippers
Rotary Actuator

Pneumatic Instrumentation Equipment

Flow Control Equipment

Fittings and Tubing

Manual Override
Locking Type (Tool Required)

Applicable Cabriole Cable 0.06–0.08

PILOT EXH.

P&G

22.2 22.2

3x1/4 Rc,G,NPT

111.5

15.7

4.4

28.4

110.6

12

2x6 M.T.G. Holes

111.5

61.2

54.9

111.5

229.3

15.7

28.4

110.6

12

2x6 M.T.G. Holes

HOW TO ORDER
VFN3220N-□D□-02□-A-X200 (-Q)

RATED VOLTAGE
1. 110VAC 50/60Hz
2. 200VAC 50/60Hz
3. 110VAC 50/60Hz
4. 220VAC 50/60Hz
5. 24VDC 10/15Hz
6. 12VDC 10/15Hz
7. 24VDC 10/15Hz
8. 48VDC 10/15Hz
9. 12VDC 10/15Hz

GUIDE

B. Locking Type (Tool Required)
C. Locking Type (Lever)

ELECTRICAL ENTRY
D. DIN TERMINAL

SPECIAL SPECIFICATION
1) Low Temperature
(Ambient and Fluid Temperature: –40°F to 150°F)

NOTE
1) European Standard Compliance Products.
   (FOR Q ASSISTANT)
2) Unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC sales office for further details.

SPECIFICATION
MEDIA
AIR OR INERT GAS

WORKING PRESSURE RANGE
0.2–1.0MPa

AMBIENT & FLUID TEMP.
-40°F to 150°F

RATED VOLTAGE
Refer to "RATED VOLTAGE" on HOW TO ORDER.

PORT SIZE
1/4
**Solenoid Valve**

**EVS7-6-FG-S-CV(B)-X200(-Q)**

**-40°F (-40°C)**

**Specifications**
- **Media:** Air or Inert Gas
- **Max. Operating Pressure:** 1.0 MPa
- **Min. Operating Pressure:** 0.2 MPa
- **Ambient and Fluid Temperature:** -40°F to 50°F
- **Manual Override:** Non-Locking Flush Type
- **Lubrication:** Not Required
- **Required:** ISO V32
- **Applicable Sub Plate:** V57-1
- **Rated Voltage:** 24VDC (50/60Hz) 12VDC
- **Inrush Current:** 0.25A/0.16A 0.027/0.012A 0.075/0.045A
- **Holding Current:** 0.024/0.038/0.014
- **Allowable Voltage Range:** -15% to +10% of Rated Voltage
- **Insulation:** Class B or Equivalent (130°C)

**How to Order**

**EVS7-6-FG-S-CV(B)-X200(-Q)**

- **Coil Voltage:**
  1. 100VAC (50/60Hz)
  2. 200VAC (50/60Hz)
  3. 24VDC
  4. 12VDC
  5. Others

**Special Specifications**

1. **Low Temperature**
   (Ambient and Fluid Temperature: -40°F to 50°F)

**Note**

1. European Standard Compliance Products
   (For G-Axisian)
2. Unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied.
   Please contact your local SMC sales office for further details.

**Valves**
### Solenoid Valve EVS7-6-FG-D-JCV(B)-X200 (-Q)

**-40°F (-40°C)**

**Valves**

**Air Cylinders**

**Air Grippers**

**Rotary Actuator**

**F.R.L.**

**AL AIR AF AW**

**Pressure Control Equipment**

**Flow Control Equipment**

**Fittings and Tubing**

**Port Valves for Fluid Control**

**Pneumatic Instrumentation Equipment**

---

#### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air or Inert Gas</td>
<td></td>
</tr>
<tr>
<td>Max. Operating Pressure</td>
<td>180 psi (12 bar)</td>
</tr>
<tr>
<td>Ambient and Fluid Temperature</td>
<td>-40°F to 150°F (-40°C to 65°C)</td>
</tr>
<tr>
<td>Non-locking Flush Type</td>
<td>Yes</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>24V AC</td>
</tr>
<tr>
<td>Applicable Sub Plate</td>
<td>Size 1 (1 5/8 inch)</td>
</tr>
<tr>
<td>Applicable Insulation Voltage</td>
<td>600V AC</td>
</tr>
<tr>
<td>Manual Over-ride</td>
<td>Not Required (15G Size 2)</td>
</tr>
<tr>
<td>Fittings and Tubing</td>
<td></td>
</tr>
</tbody>
</table>

#### How to Order

**EVS7-6-FG-D-JCV(B)-X200 (-Q)**

- For Q assistance, please contact your local SMC sales office.
- Specifications in the product catalog are applied for further details.

---

#### Diagram

![Diagram of EVS7-6-FG-D-JCV(B)-X200 (-Q)](image)

---

---
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

**Valves**
- Air
- Cylinders
- Air Grippers
- Rotary Actuator
- F.R.L.

**Pressure Control**
- Equipment

**Flow Control**
- Equipment

**Fittings and Tubing**
- Port Valves for Fluid Control

**Pneumatic Instrumentation**
- Equipment

---

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air, Inert gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>0.1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1.5 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-40°C to +60°C (No freezing)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required (Note)</td>
</tr>
<tr>
<td>Manual override</td>
<td>Non-locking</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Dust-proof</td>
</tr>
</tbody>
</table>

**Coil rated voltage:**
- 100V 200VAC (50/60Hz)

**Allowable voltage:**
- ±15 ±10% of rated voltage

**Coil insurance:**
- Class B

**Apparent power (VA):**
- (Power consumption (W))
  - 50 Hz: 51
  - 60 Hz: 45
  - 50 Hz: 17 (6.9)
  - 60 Hz: 11 (2.9)

**Electrical entry:**
- DIN terminal

**NOTE:** Use turbine oil class 1 (ISO VG 32), if lubricated.

**How to order**

VS 3115-**D**-**X59**

- Port size:
  - 01 Rc 1/8
  - 02 Rc 1/4
- Coil rated:
  - 1: 100VAC (50/60Hz)
  - 2: 200VAC (50/60Hz)
  - 3: 110VAC (50/60Hz)
  - 4: 220VAC (50/60Hz)
  - 7: 240VAC (50/60Hz)
  - B: 48VAC (50/60Hz)
  - A: 12VAC (50/60Hz)
  - B: 24VAC (50/60Hz)
  - F: 32VAC (50/60Hz)

**Thread type:**
- Nil: None
- N: NPT
- T: NPTF
- F: G

**With bracket:**
- Nil: None
- B: With bracket
- P: With manual override

**Special specifications**

1) Low temperature specifications
   - Ambient and fluid temperature: -40°C to +60°C
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
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Valves
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.

Pressure Control Equipment
Flow Control Equipment
Fittings and Tubing
Port Valves for Fluid Control

Pneumatic Instrumentation Equipment

3 Port Direct Operated Solenoid Valve
VS3135-04 WTBP-X76

How to order
VS3135-**WTBP-**X76

Port Size
04 1/2
06 3/4

Thread Type
NPT NPTF

8 Coil rated voltage
1 110VAC(50/60Hz)
2 220VAC(50/60Hz)
3 110VAC(50/60Hz)
4 220VAC(50/60Hz)
T 240VAC(50/60Hz)
B 48VAC(50/60Hz)
A 12VAC(50/60Hz)
B 24VAC(50/60Hz)
F 32VAC(50/60Hz)

Special specifications
1) Low temperature specifications:
   Ambient and fluid temperature: -40 ~ -460°F
2) Manual override packing is used piston packing.

Note
1) Unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied.
2) Please contact your local SMC sales office for further details.

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air, Inert gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>0-1.0MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1.5MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-40~60°C (No freezing)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required (1)</td>
</tr>
<tr>
<td>Manual override</td>
<td>Locking type</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Drip-proof</td>
</tr>
<tr>
<td>Coil rated voltage</td>
<td>100,200,110,220VAC(50/60Hz)</td>
</tr>
<tr>
<td>Allowable voltage</td>
<td>-15~+10% of rated voltage</td>
</tr>
<tr>
<td>Coil insulation</td>
<td>Class B</td>
</tr>
<tr>
<td>Electrical entry</td>
<td>Drip proof conduit terminal</td>
</tr>
</tbody>
</table>

Note: Use turbine oil class 1 ISO VG32, if lubricated.

3x1/2" (Thread type)
1(P), 2(A), 3(E)

7 dia, 3 mounting holes
**VALVES**

- Air Cylinders
- Air Grippers
- Rotary Actuator
- Flow Control Equipment
- Pressure Control Equipment
- F.R.L.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>AIR OR INERT GAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX. OPERATING PRESSURE</td>
<td>1.0MPa</td>
</tr>
<tr>
<td>PILOT PRESSURE RANGE</td>
<td>0.2-1.0MPa</td>
</tr>
<tr>
<td>PROOF PRESSURE</td>
<td>1.5MPa</td>
</tr>
<tr>
<td>AMBIENT AND FLUID TEMPERATURE</td>
<td>-40~+50°C</td>
</tr>
<tr>
<td>LUBRICATIONS</td>
<td>NOT REQUIRED</td>
</tr>
<tr>
<td>ENCLOSURE</td>
<td>DUST PROOF</td>
</tr>
</tbody>
</table>

**HOW TO ORDER**

VSA3135-###-X200

<table>
<thead>
<tr>
<th>PORT SIZE</th>
<th>THREAD TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 3/8</td>
<td>N/NPT</td>
</tr>
<tr>
<td>04 1/2</td>
<td>F/NPTF</td>
</tr>
<tr>
<td></td>
<td>T/G</td>
</tr>
</tbody>
</table>

**SPECIAL SPECIFICATION**

1) LOW TEMPERATURE

(Ambient and fluid temperature: -40°C~50°C)

**NOTE**

1) UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS, THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE FOR FURTHER DETAILS.
4/5 Port Air Operated Valve VSA3145-[ ]-[ ]-X200

-40°F (-40°C)

SPECIFICATIONS

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>PORT SIZE</th>
<th>THREAD TYPE</th>
<th>NPT/F</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR OR INERT GAS</td>
<td>04 1/2</td>
<td>N</td>
<td>L52408</td>
<td></td>
</tr>
<tr>
<td>PROOF PRESSURE</td>
<td>0.2 1.0 MPa</td>
<td>F</td>
<td>L52408-PA</td>
<td></td>
</tr>
<tr>
<td>OPERATING RANGE</td>
<td>0.2 1.0 MPa</td>
<td>F</td>
<td>L52408</td>
<td></td>
</tr>
<tr>
<td>TEMPERATURE</td>
<td>-40°F (-40°C)</td>
<td>F</td>
<td>L52408-X200</td>
<td></td>
</tr>
</tbody>
</table>

HOW TO ORDER

VSA3145- [ ]- [ ]-X200

SPECIAL SPECIFICATION

JUNCTION TEMPERATURE: -40°F (-40°C)
PLUGGED WITH A SEPARATE

NOTE:

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
PNEUMATIC INSTRUMENTATION EQUIPMENT

PORT VALVES FOR FLUID CONTROL

FITTINGS AND TUBING

PRESSURE CONTROL EQUIPMENT

FLOW CONTROL EQUIPMENT

VALVES

AIR CYLINDERS

AIR GRIPPERS

ROTOR ACTUATOR

F.R.L.

PNEUMATIC INSTRUMENTATION EQUIPMENT
4/5 Port Air Operated Valve
VSA4130-(-PA)-X200
40°F (-40°C)

SPECIAL SPECIFICATION
1) LOW TEMPERATURE
   (AMBIENT AND FLUID TEMPERATURE: -40°~50°C)

NOTE
1) UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE
   CONTRACT OR AGREEMENT WITHIN THE PRODUCT
   SPECIFICATIONS, THE SAFETY INSTRUCTIONS
   SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED.
   PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE
   FOR FURTHER DETAILS.
Specifications

- **Media:** Air or Inert
- **Max. Operating Pressure:** 1.0MPa
- **Pilot Pressure Range:** 0.2MPa
- **Proof Pressure:** 1.5MPa
- **Ambient and Fluid Temperature:** -40°C to +50°C
- **Lubrication:** Not Required

Special Specification

1. **Low Temperature**
   - (Ambient and Fluid Temperature: -40°C)

Note

1. The size indicates the case of VSA4140-01.
2. Unless otherwise noted along with a contract or agreement within the future specifications, the safety instructions specified in the product catalog are subject to change. Please contact your local SMC sales office for further details.
Valves

Air Cylinders
Air Grippers
Rotary Actuator

Pressure Control Equipment
Flow Control Equipment
Fittings and Tubing
Port Valves for Fluid Control
Pneumatic Instrumentation Equipment

4/5 Port Air Operated Valve
VSA4240-□-□-X200

-40°F (-40°C)

Specifications
- Media: Air or Inert Gas
- Max. Operating Pressure: 1.0MPa
- Pilot Pressure Range: 0.2MPa
- Proof Pressure: 1.5MPa
- Ambient and Fluid Temperature: -40~+60°C
- Lubrication: Not Required

Special Specification
1) Low Temperature
   (Ambient and Fluid Temperature: -40~+50°C)

Note:
1) The size indicates the case of VSA4240-□□-□-X200.
2) Unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC sales office for further details.
Air Operated Valve  EVSA7-6-FG-S-2 *-X200  

-40°F (-40°C)

**SPECIFICATIONS**

- **FLUID**: AIR/INERT GAS
- **MAX. OPERATING PRESSURE**: 1.0MPa
- **MIN. OPERATING PRESSURE**: 0.2MPa
- **AMBIENT AND FLUID TEMPERATURE**: 
  - MIN: -40°F (-40°C)
  - MAX: 100°F (38°C)
- **LUBRICATION**: NOT REQUIRED
- **PILOT AIR OPERATED PRESSURE**: 0.2 TO 1.0MPa

**FLOW CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Flow Rate (L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1/Q2/Q3</td>
<td>4.1</td>
</tr>
<tr>
<td>CV</td>
<td>0.10</td>
</tr>
<tr>
<td>CV</td>
<td>0.9</td>
</tr>
<tr>
<td>CV</td>
<td>5.2</td>
</tr>
<tr>
<td>CV</td>
<td>0.07</td>
</tr>
<tr>
<td>CV</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**NOTE**

1) LOW TEMPERATURE (AMBIENT AND FLUID TEMPERATURE: -40°F to 100°F)

**SPECIAL SPECIFICATION**

1) UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS, THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED.

**HOW TO ORDER**

EVSA7-6-FG-S-2 *-X200

- LOW TEMPERATURE SPECIFICATION
- PIPING:
  - N11X/0 SUB PLATE
  - A02 SIDE PORT 1/8G
  - A02 SIDE PORT 3/8G
  - B02 BOTTOM PORT 1/8G
  - B03 BOTTOM PORT 3/8G

**SYMBOL**

- [Diagram of valve with symbols]

---

**Pneumatic Instrumentation Equipment**
**Port Valves for Fluid Control**
**Fittings and Tubing**
**Flow Control Equipment**
**Pressure Control Equipment**
**F.R.L.**
**AL**
**AR**
**AF**
**AW**
**Rotary Actuator**
**Air Grippers**
**Air Cylinders**
**Valves**
Valves
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.

Pressure Control
Flow Control
Equipment
Fittings and
Tubing
Port Valves for
Fluid Control
Pneumatic
Instrumentation
Equipment

Air Operated Valve
EVSA7-10-FG-  S2-X200

SPECIFICATIONS
FLUID \(\text{AIR/INERT GAS}\)
MAX. OPERATING PRESSURE \(1.0 \text{MPa}\)
MIN. OPERATING PRESSURE \(0.2 \text{MPa}\)
AMBIENT AND FLUID TEMPERATURE \(\text{NOTE 1):-40 TO 50}^\circ\text{C (NEGATIVE, DO NOT FREEZE.)}\)
LUBRICATION \(\text{NOT REQUIRED}\)
Pilot Air Operated Pressure \(0.15 \text{ TO 1.0MPA}\)

FLOW CHARACTERISTICS
\[
\begin{array}{c|c|c|c|c}
& d & 0.10 & U & 0.10 \\
3-4/2 & 13 & 0.10 & 18 & 4.0 \\
(2-3) & 2-4/1 & 18 & 0.10 & 4.0 \\
(2-1) & 0.10 & 18 & 0.10 & 4.0 \\
\end{array}
\]

NOTE 1) MIN. OPERATING PRESSURE
PILOT SUPPLY PRESSURE
NOTE 2) USE DRY AIR AT LOW TEMPERATURES.

HOW TO ORDER

EVSA7-10-FG- S2-X200

TYPE OF ACTUATION
S 2 POSITION SINGLE
D 2 POSITION DOUBLE

LOW TEMPERATURE SPECIFICATION

PIPING
\(\text{NI11W/G SUS PLATE}\)
A06 SIDE PORT 3/4 G
A10 SIDE PORT 1 G
B06 BOTTOM PORT 3/4 G

SPECIAL SPECIFICATION

1) LOW TEMPERATURE
(AMBIENT AND FLUID TEMPERATURE: -40 to 50°C)

NOTE
1) UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE
CONTRACT OR AGREEMENT WITHIN THE PRODUCT
SPECIFICATIONS, THE SAFETY INSTRUCTIONS
SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED.
PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE
FOR FURTHER DETAILS.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Note: Parts in the list are those differing from standard parts.
1. Parts in the list are those differing from standard parts.
2. Low temperature specification (VM30-02-00). VM30-02-00.
3. Sealing material was changed to or Cynor CR.
4. Grease is changed to the silicon grease.

Mechanical Valve VM230-02-00-X44

-22°F (−30°C)

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 MEDIUM</td>
<td>AIR</td>
</tr>
<tr>
<td>3 MAX. PRESSURE</td>
<td>1 MPa</td>
</tr>
<tr>
<td>4 MIN. PRESSURE</td>
<td>0 MPa</td>
</tr>
<tr>
<td>5 AMBIENT TEMP. AND OPERATING AIR TEMP. (NO FREEZING)</td>
<td>-30~60°C</td>
</tr>
<tr>
<td>6 EQUIVALENT SECTIONAL AREA</td>
<td>6 mm²</td>
</tr>
<tr>
<td>7 PRETRAVEL (P.T.)</td>
<td>20°</td>
</tr>
<tr>
<td>8 OVER TRAVEL (O.T.)</td>
<td>30°</td>
</tr>
<tr>
<td>9 TOTAL TRAVEL (T.T.)</td>
<td>50°</td>
</tr>
<tr>
<td>10 TOTAL TRAVEL FORCE(F.O.F.)</td>
<td>5.4 N</td>
</tr>
<tr>
<td>11 WEIGHT</td>
<td>276 g</td>
</tr>
</tbody>
</table>

*THE LEVER LENGTH IS 141.2 mm*

**NOTE**

1. ASTERISKED PARTS IN THE LIST ARE THOSE DIFFERING FROM STANDARD PARTS (EVM830-F01-14)
2. LOW TEMPERATURE SPECIFICATION.
3. "X9" IS STAMPED ON THE BODY.
Hand Valve
VSH4210C-03-X59

SPECIFICATIONS

<table>
<thead>
<tr>
<th>FLUID</th>
<th>AIR, INERT GASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING PRESSURE RANGE</td>
<td>0.15 – 1.0 MPa</td>
</tr>
<tr>
<td>PILOT PRESSURE</td>
<td>0.15 – 1.0 MPa</td>
</tr>
<tr>
<td>PROOF PRESSURE</td>
<td>1.5 MPa</td>
</tr>
<tr>
<td>AMBIENT AND FLUID TEMPERATURE</td>
<td>–40 ~ 60°C</td>
</tr>
<tr>
<td>LUBRICATION</td>
<td>NON LUBRICATION</td>
</tr>
<tr>
<td>ENCLOSURE ANGLE</td>
<td>40°</td>
</tr>
<tr>
<td>ENCLOSURE</td>
<td>OIST PROOF</td>
</tr>
</tbody>
</table>

NOTE 1: USE DRY AIR AT LOW TEMPERATURE.
NOTE 2: USE TURBINE OIL CLASS (ISO VG32), IF LUBRICATED.

FLOW RATE CHARACTERISTICS

<table>
<thead>
<tr>
<th>PORT SIZE</th>
<th>1 4/2(P-A/B)</th>
<th>4/2 5/3(A/B-ΕA/ΕB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C (lit/hr/psi)</td>
<td>B</td>
</tr>
<tr>
<td>RC3/8</td>
<td>4.1</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.98</td>
</tr>
</tbody>
</table>

SPECIAL SPECIFICATIONS

1) AMBIENT AND FLUID TEMPERATURE: –40°F ~ 60°F

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
SPECIAL SPECIFICATIONS
1) AMBIENT AND FLUID TEMPERATURE: -40°F~60°F

SPECIFICATIONS
FLUID: AIR, INERT GASES
OPERATING PRESSURE RANGE: 0~1.0 MPa
PROOF PRESSURE: 1.5 MPa
AMBIENT AND FLUID TEMPERATURE: -40°F~60°F
LUBRICATION: NON LUBRICATION
ENCLOSURE: DUST PROOF

NOTE 1) USE DRY AIR AT LOW TEMPERATURE.
NOTE 2) USE TURBINE OIL CLASS 110 (VG32), IF LUBRICATED.

FLOW RATE CHARACTERISTICS

<table>
<thead>
<tr>
<th>PORT NUMBER</th>
<th>PORT SIZE</th>
<th>1-4/2 (P-A/B)</th>
<th>4/2-5/3 (A/B-EA/EB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC1/B</td>
<td>3.1</td>
<td>3.2</td>
<td>0.35</td>
</tr>
<tr>
<td>VSH431</td>
<td>3.8</td>
<td>3.6</td>
<td>0.33</td>
</tr>
<tr>
<td>RC3/B</td>
<td>4.2</td>
<td>3.8</td>
<td>0.32</td>
</tr>
<tr>
<td>RC1/B</td>
<td>3.1</td>
<td>3.0</td>
<td>0.28</td>
</tr>
<tr>
<td>VSH441</td>
<td>3.9</td>
<td>3.5</td>
<td>0.27</td>
</tr>
<tr>
<td>RC3/B</td>
<td>4.0</td>
<td>3.7</td>
<td>0.32</td>
</tr>
</tbody>
</table>

HOW TO ORDER
VSH4□□□□□□□□□-□X□

RETURN FUNCTION
A: HAND OPERATE, SPRING RETURN
B: HAND OPERATE, HAND RETURN

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Cold Resistant Cylinder
(–40 to 158°F [–40 to 70°C])

For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com) or the Best Pneumatics No. 2.

• Air cylinder which changed the seal material and grease, so that it could be used even at lower temperature down to –40°F (–40°C).

Applicable Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
<th>Model</th>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJP2</td>
<td>Pin cylinder</td>
<td>CJP2</td>
<td>Double acting, Single rod</td>
<td>Except clevis, trunnion style, with auto switch, ø4. Packing set [7]</td>
</tr>
<tr>
<td>CJ2</td>
<td>Air cylinder</td>
<td>CJ2</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CM2</td>
<td>Air cylinder</td>
<td>CM2</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CM2W</td>
<td>Double acting, Double rod</td>
<td>CM2W</td>
<td>Except with air cushion, auto switch</td>
<td></td>
</tr>
<tr>
<td>Direct mount type</td>
<td>CM2R</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch</td>
<td></td>
</tr>
<tr>
<td>CG1</td>
<td>Air cylinder</td>
<td>CG1</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch. Cylinders with a rubber bumper have no bumper.</td>
</tr>
<tr>
<td>CG1W</td>
<td>Double acting, Double rod</td>
<td>CG1W</td>
<td>Except with air cushion, auto switch. Cylinders with a rubber bumper have no bumper.</td>
<td></td>
</tr>
<tr>
<td>Direct mount type</td>
<td>CG1R</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch. Cylinders with a rubber bumper have no bumper.</td>
<td></td>
</tr>
<tr>
<td>CU</td>
<td>Free mount cylinder</td>
<td>CU</td>
<td>Double acting, Single rod</td>
<td>Except with auto switch</td>
</tr>
<tr>
<td>Non-rotating rod type</td>
<td>CUK</td>
<td>Double acting, Single rod</td>
<td>Except with auto switch</td>
<td></td>
</tr>
<tr>
<td>Long stroke</td>
<td>CU</td>
<td>Double acting, Single rod</td>
<td>Except with auto switch</td>
<td></td>
</tr>
<tr>
<td>Long stroke, Non-rotating rod</td>
<td>CUK</td>
<td>Double acting, Single rod</td>
<td>Except with auto switch</td>
<td></td>
</tr>
<tr>
<td>CQ2</td>
<td>Compact cylinder</td>
<td>CQ2</td>
<td>Double acting, Single rod</td>
<td>ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
</tr>
<tr>
<td>Axial piping type (Centralized piping type)</td>
<td>CQ2W</td>
<td>Double acting, Double rod</td>
<td>ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
<td></td>
</tr>
<tr>
<td>CQ2W</td>
<td>Double acting, Double rod</td>
<td>CQ2W</td>
<td>ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
<td></td>
</tr>
<tr>
<td>CQ5</td>
<td>Compact cylinder</td>
<td>CQ5</td>
<td>Double acting, Single rod</td>
<td>ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
</tr>
<tr>
<td>CQ5W</td>
<td>Double acting, Double rod</td>
<td>CQ5W</td>
<td>ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
<td></td>
</tr>
<tr>
<td>C75</td>
<td>ISO cylinder</td>
<td>C75</td>
<td>Double acting, Single rod</td>
<td>Except with air cushion, auto switch</td>
</tr>
<tr>
<td>C75W</td>
<td>Double acting, Single rod</td>
<td>C75W</td>
<td>Except with air cushion, auto switch</td>
<td></td>
</tr>
<tr>
<td>C96</td>
<td>ISO cylinder</td>
<td>C96</td>
<td>Double acting, Single rod</td>
<td>Except with auto switch. Mounting bracket is available with basic only. Minimum operating pressure 0.2 MPa</td>
</tr>
</tbody>
</table>

How to Order

<table>
<thead>
<tr>
<th>Standard model no.</th>
<th>–XB7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold resistant cylinder</td>
<td></td>
</tr>
</tbody>
</table>

 Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature range</td>
<td>–40 to 158°F (–40 to 70°C)</td>
</tr>
<tr>
<td>Seals material</td>
<td>Low nitrile rubber</td>
</tr>
<tr>
<td>Grease</td>
<td>Cold resistant grease</td>
</tr>
<tr>
<td>Auto switch</td>
<td>Not mountable</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Same as standard type</td>
</tr>
<tr>
<td>Additional specifications</td>
<td>Same as standard type</td>
</tr>
</tbody>
</table>

⚠️ Warning

Precautions

Be aware that smoking cigarettes etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

Note 1: Operate without lubrication from a pneumatic system lubricator.
Note 2: Use dry air which is suitable for heatless air dryer etc. not to cause the moisture to be frozen.
Note 3: Please contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.
Note 4: Mounting auto switch is impossible.
Note 5: Please contact SMC for the one with rubber bumper for CQ2, CQS.
Note 6: No cushion type is adopted. Piston speed is ranged from 50 to 500 mm/s.
Note 7: Refer to the construction of the standard type for the details of the packing set for CJP2 6,10 and 16.
**Applicable Series**

- **XB7**
  - Cold resistant cylinder

**How to Order**

- **Note 1)** Operate without lubrication from a pneumatic system lubricator.
- **Note 2)** Use dry air which is suitable for heatless air dryer etc. not to cause the moisture to be frozen.
- **Note 3)** Please contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.
- **Note 4)** Mounting auto switch is impossible.
- **Note 5)** Please contact SMC for the one with rubber bumper for CQ2, CQS.
- **Note 6)** No cushion type is adopted.
- **Note 7)** Piston speed is ranged from 50 to 500 mm/s.

**Precautions**

- **Warning**
  - Be aware that smoking cigarettes etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

**Series Description**

<table>
<thead>
<tr>
<th>Model</th>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJP2</td>
<td>Pin cylinder</td>
<td>Double acting, Single rod Except clevis, trunnion style, with auto switch, ø4. Packing set (7)</td>
</tr>
<tr>
<td>CJ2</td>
<td>Air cylinder</td>
<td>Double acting, Single rod Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CJ2W</td>
<td>Air cylinder</td>
<td>Double acting, Double rod Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CM2</td>
<td>Air cylinder</td>
<td>Double acting, Single rod Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CM2W</td>
<td>Air cylinder</td>
<td>Double acting, Double rod Except with air cushion, auto switch</td>
</tr>
<tr>
<td>CM2R</td>
<td>Air cylinder</td>
<td>Direct mount type</td>
</tr>
<tr>
<td>CG1</td>
<td>Air cylinder</td>
<td>Double acting, Single rod Except with air cushion, auto switch. Cylinders with a rubber bumper have no bumper.</td>
</tr>
<tr>
<td>CG1W</td>
<td>Air cylinder</td>
<td>Double acting, Double rod Except with air cushion, auto switch. Cylinders with a rubber bumper have no bumper.</td>
</tr>
<tr>
<td>CG1R</td>
<td>Air cylinder</td>
<td>Direct mount type</td>
</tr>
<tr>
<td>CU</td>
<td>Free mount cylinder</td>
<td>Double acting, Single rod Except with auto switch</td>
</tr>
<tr>
<td>CUK</td>
<td>Free mount cylinder</td>
<td>Non-rotating rod type</td>
</tr>
<tr>
<td>CU2</td>
<td>Free mount cylinder</td>
<td>Long stroke</td>
</tr>
<tr>
<td>CQ2</td>
<td>Compact cylinder</td>
<td>Double acting, Single rod ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
</tr>
<tr>
<td>CQ2W</td>
<td>Compact cylinder</td>
<td>Double acting, Double rod ø12 to ø40. Except with auto switch, with rubber bumper, with bracket</td>
</tr>
<tr>
<td>CQP2</td>
<td>Compact cylinder</td>
<td>Axial piping type (Centralized piping type)</td>
</tr>
<tr>
<td>C75</td>
<td>ISO cylinder</td>
<td>Double acting, Single rod</td>
</tr>
<tr>
<td>C76</td>
<td>ISO cylinder</td>
<td>Double acting, Single rod</td>
</tr>
<tr>
<td>C85</td>
<td>ISO cylinder</td>
<td>Double acting, Single rod ø20 to ø25. Except with auto switch, air cushion</td>
</tr>
<tr>
<td>C85W</td>
<td>ISO cylinder</td>
<td>Double acting, Double rod ø20 to ø25. Except with auto switch, air cushion</td>
</tr>
<tr>
<td>C96</td>
<td>ISO cylinder</td>
<td>Double acting, Single rod</td>
</tr>
</tbody>
</table>

**Specifications**

- **Ambient temperature range**
  - –40 to 158°F (–40 to 70°C)
- **Seals material**
  - Low nitrile rubber
- **Grease**
  - Cold resistant grease
- **Auto switch**
  - Not mountable
- **Dimensions**
  - Same as standard type
- **Additional specifications**
  - Same as standard type

For details about the series, refer to the WEB catalog or the Best Pneumatics No.

http://www.smcworld.com

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
NOTE
1) PLEASE INSTALL THE EXTERNAL STOPPER AT THE STROKE END.
2) STAINLESS STEEL PISTON ROD.
3) SEALS AND GREASE ARE USED FOR THE LOW TEMPERATURE CYLINDER.
4) SEAL KIT PART NO. C95SB200-DCL1172L-PS

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CYLINDER BORE DIA.</td>
<td>200 mm</td>
</tr>
<tr>
<td>CYLINDER STROKE</td>
<td>25.0 mm</td>
</tr>
<tr>
<td>STROKE TOLERANCE</td>
<td>±0.3 mm</td>
</tr>
<tr>
<td>CUSHION</td>
<td>NOTHING</td>
</tr>
<tr>
<td>MOUNTING</td>
<td>BASIC</td>
</tr>
<tr>
<td>MAX. OPERATING PRESS.</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>PROOF PRESSURE</td>
<td>1.5 MPa</td>
</tr>
<tr>
<td>AMBIENT AND FLUID TEMPERATURE</td>
<td>-20-70°F</td>
</tr>
<tr>
<td>CYLINDER ACCESSORY</td>
<td>NOTHING</td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
NOTE
1) PLEASE INSTALL THE EXTERNAL STOPPER AT THE STROKE END.
2) SEALS AND GREASE ARE USED FOR THE LOW TEMPERATURE CYLINDER.
3) CYLINDER TUBE MADE OF STEEL.
4) PISTON ROD, TIE ROD, TIE ROD NUT AND CUSHION RING B
   MADE OF STEELLESS STEEL.
5) SEAL KIT PART NO. C95SB200-DCN2072N-PS.

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYLINDER BORE DIA.</td>
</tr>
<tr>
<td>CYLINDER STROKE</td>
</tr>
<tr>
<td>STROKE TOLERANCE</td>
</tr>
<tr>
<td>CUSHION MOUNTING</td>
</tr>
<tr>
<td>MAX. OPERATING PRESSURE</td>
</tr>
<tr>
<td>PROOF PRESSURE</td>
</tr>
<tr>
<td>AMBIENT AND FLUID TEMPERATURE</td>
</tr>
<tr>
<td>CYLINDER ACCESSORY</td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

**NOTE:**

1. For assembly and inspection, they should follow "Precautions and procedure for assembling and inspecting specials (MX1-RM10206)."
2. Difference from MXP10-10CN:
   - Grease for low temperature should be used for all grease infiltration parts.
   - Material of the piston seal was changed to the material for low temperature.
   - The rubber lining is not in the scraper.

---

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Air Slide Table **MXP12-25CN-X1354**

-40°F (–40°C)

**NOTE:**

1. For assembly and inspection, they should follow the precautions and procedure for assembling and inspecting products (2 1/8 in. valve, valve connecting).
2. Grease or other lubricants should be used for all parts.
3. When sealing the piston seal, the rubber seal should be cut to the diameter of the valve.
4. The rubber lining on the valve is not used for the valve.

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

---

Valves
Air Cylinders
Air Grippers
Rotary Actuator
F.R.L.
AL AR AF AW
Pressure Control Equipment
Flow Control Equipment
Port Valves for Fluid Control
Pneumatic Instrumentation Equipment
Fittings and Tubing

---

42
NOTE

1. DIFFERENCE FROM MHZ2-10:
   (1) THIS PRODUCT IS COLD RESISTANT TYPE.
   (2) MATERIAL OF PISTON PACKING, ROD PACKING AND
       GUIDE ARE CHANGED TO LOW NITRILE RUBBER.
   (3) MATERIAL OF GUIDE BOLT AND REAIIING RING C
       ARE CHANGED TO STAINLESS STEEL.
   (4) USE GREASE FOR LOW TEMPERATURE.
   2. PLEASE USE THE AIR WHICH IS DRY ENOUGH BECAUSE
       DROPS CONDENSES EASILY ON THE INSIDE.
   3. AUTO-SWITCH AMBIENT TEMPERATURE IS -10 TO 60°C.

SPECIFICATIONS

1. MEDIUM
2. OPERATING PRESSURE 0.2 TO 0.7 MPa
3. AMBIENT TEMP. OPERATING AIR TEMP. -22°F (-30°C) (NO FREEZING)
4. GRIPPING FORCE EXTERNAL WORK HOLDING 31N
   (AT 0.5 MPa) INTERNAL WORK HOLDING 77N
5. FINGER STROKE (BOTH SIDES) 4 mm
6. MAX. OPERATING FREQUENCY 180 C, D, M
7. LUBRICATION NOT REQUIRED
8. MASS 55 g

HOW TO ORDER

MHZ2-10DN-X4275

4 x 3 x 0.5 THRUHOLE MOUNTING

M3 x 0.5 AIR SUPPLY PORT

2 x M3 x 0.5 THREAD DEPTH 6
(MOUNTING THREAD)

2 x M3 x 0.5 THREAD DEPTH 6
(MOUNTING THREAD)

4 x M3 x 0.5 THREAD DEPTH 5.5
(MOUNTING THREAD)

2 x M3 x 0.5 THREAD DEPTH 6
(MOUNTING THREAD)

2 x 3 x 0.5 THROUGH Holes FOR MOUNTING

3 x 5.7

11

19

5.7

27
**NOTE**

1. **DIFFERENCES FROM MHZ2-16D:**
   
   (1) This product is cold resistant type.
   
   (2) Material of packing and gasket are changed to low nitrile rubber.
   
   (3) Material of retaining ring C and hexagon socket head cap screw are changed to stainless steel.
   
   (4) Use grease for low temperature.
   
2. Please use the air which is dry enough because dew condenses easily on the inside.

3. Auto-switch ambient temperature is -10 to 60°C.

---

**SPECIFICATIONS**

- **Medium:** Air
- **Operating Pressure:** 0.1 to 0.7 MPa
- **Min Temperature:** -22°F (-30°C)
- **Max Temperature:** 180°F (82°C)
- **Max Operating Frequency:** 180 c.p.m.
- **Lubrication:** Not required
- **Mass:** 115g

---

**HOW TO ORDER**

MHZ2-16D-**M**W**L**

- **Symbol for Auto-Switch:**
  - RL: 6 pcs
  - AL: 2 pcs
- **Lead Wire Length:**
  - S: 2 m
  - P: 5 m
- **Auto Switch Model:**
  - D: 28 mm
  - F: 32 mm
  - M: 38 mm

**- THROUGH-HOLE MOUNTING IS NOT POSSIBLE WHEN THE AUTO-SWITCH IS MOUNTED ON A SQUARE SLOT ON THE SIDE.**

---

**Pneumatic Instrumentation Equipment**

- Port Valves for Fluid Control
- Fittings and Tubing
- Flow Control Equipment
- Pressure Control Equipment
- F.R.L.
- AL
- AR
- AF
- AW
- Rotary Actuator
- Air Grippers
- Air Cylinders
- Valves
Low Profile Air Gripper
MHF2-16D-X4324

Specifications

1. MEDIUM: AIR
2. OPERATING PRESSURE: 0.1 TO 0.7MPa
3. AMBIENT TEMPERATURE: -20 TO 60°C
4. GRIPPING FORCE: AT 0.5MPa 80N
5. FINGER STROKE (Both Sides): 16mm
6. MAX. OPERATING FREQUENCY: 1200Hz
7. LUBRICATION: NOT REQUIRED
8. MASS: 350g

Note

1. DIFFERENCE FROM MHF2-16D:
   1) THIS PRODUCT IS COLD RESISTANT TYPE.
   2) MATERIAL OF PISTON PACKING AND GASKET ARE CHANGED TO LOW NITRILE RUBBER.
   3) MATERIAL OF SEALING RING C AND SCREWS ARE CHANGED TO STAINLESS STEEL.
   4) USE GREASE FOR LOW TEMPERATURE.
2. PLEASE USE THE AIR WHICH IS DRY ENOUGH BECAUSE DRY CONDENSES EASILY ON THE INSIDE.
3. AUTO-SWITCH AMBIENT TEMPERATURE IS -10 TO 60°C.

How to Order

MHF2-16D-MRSL X4324

-4°F (-20°C)
NOTE
1. DIFFERENCE FROM MHL-10D2:
   (1) THIS PRODUCT IS COLD RESISTANT TYPE.
   (2) MATERIAL OF PACKING AND GASKET ARE CHANGED TO LOW NITRILE RUBBER.
   (3) MATERIAL OF "U" NUT, RETAINING RING C, AND SPRING WASHER ARE CHANGED TO STAINLESS STEEL.
   (4) USE GREASE FOR LOW TEMPERATURE.
2. PLEASE USE THE AIR WHICH IS DRY ENOUGH BECAUSE DRAIN CONDENSES EASILY ON THE INSIDE.
3. AUTO-SWITCH AMBIENT TEMPERATURE IS –10 TO 60°C.

SPECIFICATION

1. MEDIUM AIR
2. OPERATING PRESSURE 0.15 TO 0.6 MPa
3. MINIMUM AND OPERATING TEMP. –20 TO 60°C (NO FREEZING)
4. GRIPPING FORCE (100, 200) 14N
5. FINISH STROKE (MIN, MEDIUM) 500mm
6. MAX. OPERATING FREQUENCY 40c/d.m.
7. LUBRICATION NOT REQUIRED
8. MASS 425g

PORT VALVES FOR FLUID CONTROL

Pneumatic Instrumentation Equipment
Port Valves for Fluid Control
Fittings and Tubing
Flow Control Equipment
Pressure Control Equipment
F.R.L.
AL AR AF AW
Rotary Actuator
Air Grippers
Air Cylinders
Valves

UNLESS OTHERWISE NOTED, ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS.
THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG ARE APPLIED. PLEASE CONTACT YOUR LOCAL SAC SALES OFFICE FOR FURTHER DETAILS.
Wedge Cam Operation

Slide Guide

MHKL2-16D

Slide Guide Round Body

Air Gripper 4-Finger Type

MHS4-16D-X3918

4°F (–20°C) – 48°F (–2°C)

Valves

Air Cylinders

Air Grippers

Rotary Actuator

F.R.L.

Pressure Control Equipment

Flow Control Equipment

Fittings and Tubing

Port Valves for Fluid Control

Pneumatic Instrumentation Equipment

NOTE

1. DIFFERENCE FROM MHKL2-16D:
   (1) THIS PRODUCT IS COLD RESISTANT TYPE.
   (2) MATERIAL OF PISTON PACKING, ROD PACKING AND
       GASKET ARE CHANGED TO LOW NITRILE RUBBER.
   (3) MATERIAL OF SEALING RING C IS CHANGED TO
       STAINLESS STEEL.
   (4) USE GREASE FOR LOW TEMPERATURE.

2. PLEASE USE THE AIR WHICH IS DRY ENOUGH BECAUSE
   DEW CONDENSES EASILY ON THE INSIDE.

3. AUTO-SWITCH AMBIENT TEMPERATURE IS -10 TO 60°C.

SPECIFICATION

1. MEDIUM

   AIR

2. OPERATING SYSTEM

   DOUBLE ACTING

3. OPERATING PRESSURE

   0.1 TO 0.8 MPa

4. AMBIENT TEMP. AND OPERATING TEMP.

   -20 TO 60°C (NO FREEZING)

5. GRIPPING FORCE (INTERNAL WORK HOLDING)

   27N

6. FINGER STROKE (DIAMETER)

   4mm

7. MAX. OPERATING FREQUENCY

   90 C, D, M

8. LUBRICATION

   NOT REQUIRED

9. MASS

   164 g

HOW TO ORDER

MHKL2-16DF - M3B4Y L S - X4771

UNLESS OTHERWISE NOTED ALONG WITH A SEPARATE CONTRACT
OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS.
THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOG
ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE
FOR FURTHER DETAILS.
Slide Guide Round Body
MHKL2-16D-X4771
Air Gripper 4-Finger Type
MHS4-16D-X3918

Wedge Cam Operation
Slide Guide

Valves
Air Cylinders
Air Grippers
Rotary Actuator

Pressure Control Equipment
Flow Control Equipment
Pneumatic Instrumentation Equipment
Port Valves for Fluid Control
Fittings and Tubing

NOTE
1. DIFFERENCE FROM MHS4-16D:
   (1) THIS PRODUCT IS COLO RESISTANT TYPE.
   (2) MATERIAL OF PISTON PACKING, ROD PACKING AND GASKET ARE CHANGED TO LOW NITRILE RUBBER.
   (3) MATERIAL OF REARING RING C AND CROSS-RECESS AND FLAT HEAD MACHINE SCREW ARE CHANGED TO STAINLESS STEEL.
   (4) USE GREASE FOR LOW TEMPERATURE.
2. PLEASE USE THE AIR WHICH IS DRY ENOUGH BECAUSE DEW CONDENSES EASILY ON THE INSIDE.
3. AUTO-SWITCH AMBIENT TEMPERATURE IS -10 TO 60°C.

SPECIFICATION
1. MEDIUM: AIR
2. OPERATING SYSTEM: DOUBLE ACTING
3. OPERATING PRESSURE: 0.2 TO 0.6 MPa
4. AMBIENT TEMP. AND OPERATING TEMP.: -30 TO 60°C (NO FREEZING)
5. REPEATABILITY: ± 0.01
6. GRIPPING FORCE: INTERNAL WORK HOLDING 2KN
7. FINGER STROKE (DIAMETER): 47mm
8. MAX. OPERATING FREQUENCY: 120Hz, d.m.
9. LUBRICATION: NOT REQUIRED
10. MASS: 660

PORT VALVES FOR FLUID CONTROL

LESS THAN OTHERWISE NOTED, ALONG WITH A SEPARATE CONTRACT OR AGREEMENT WITHIN THE PRODUCT SPECIFICATIONS.
THE SAFETY INSTRUCTIONS SPECIFIED IN THE PRODUCT CATALOGS ARE APPLIED. PLEASE CONTACT YOUR LOCAL SMC SALES OFFICE FOR FURTHER DETAILS.
### Specifications

**Operating Pressure Range:** 0.1~1.0 MPa

**Operating Temperature Range:** -20~60°C (but no freezing is allowed)

**Bore Rotation Range:** 360°

**Allowable Kinetic Energy:** 0.15 J

**Rotation Range:** as shown left.

*When left port is pressurized, the shaft rotates clockwise.*

#### Contents of Special

- Low-nitride butadiene rubber for seals.
- Change of gasket.
- Change of operating temperature range.
- Marks indicate the dimensions and sections which are different from standard.

#### The Parts Which Do Not Exist on the Parts List

<table>
<thead>
<tr>
<th>PART NO</th>
<th>PART NAME</th>
<th>MATERIAL</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TUBE GASKET</td>
<td>NBR 2 B1x79 x1.5</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>PISTON SEAL</td>
<td>NBR 2 NP-80</td>
<td></td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Filter Regulator
Stainless Steel 316 and Special Temperature Environment –40°F (–40°C) Specifications

For details about the series, refer to the WEB catalog [http://www.smcworld.com]

- External parts material: Stainless steel 316
- Ambient and fluid temperature: –40 to 176°F (–40 to 80°C)
- NACE International Standards compliant

The JIS component standards of the external parts and the component measurement results of the certificate for materials are within the ANSI/NACE standards.

Specifications

<table>
<thead>
<tr>
<th>Made-to-order part no.</th>
<th>-X2622</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–40 to 176°F (–40 to 80°C) (with no freezing)</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>435 psi (3.0 MPa)</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>290 psi (2.0 MPa)</td>
</tr>
<tr>
<td>Set pressure range</td>
<td>7.3 to 123 psi (0.05 to 0.85 MPa)</td>
</tr>
<tr>
<td>Nominal filtration rating</td>
<td>5 µm</td>
</tr>
<tr>
<td>Drain capacity (cm³)</td>
<td>AW30: 20, AW40: 80</td>
</tr>
<tr>
<td>Construction</td>
<td>Relieving type</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>AW30: 1.19, AW40: 3.40</td>
</tr>
</tbody>
</table>

Applicable Model

<table>
<thead>
<tr>
<th>Model</th>
<th>AW30</th>
<th>AW40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1/4, 3/8</td>
<td>1/4, 3/8, 1/2, 3/4</td>
</tr>
</tbody>
</table>

AW 30 03 2 X2622

Specifications

1. Made-to-order part no.
2. Fluid
3. Ambient and fluid temperature
4. Pressure
5. Set pressure range
6. Nominal filtration rating
7. Drain capacity (cm³)
8. Construction
9. Weight (kg)

Stainless steel 316 specification

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>2622</td>
<td>-</td>
</tr>
</tbody>
</table>

Symbol Description

- Nil
- Rc
- N
- NPT
- F
- G
- +
- 02
- 1/4
- 03
- 3/8
- 04
- 1/2
- 06
- 3/4
- a
- Float type auto drain
- b
- Bowl
- c
- Flow direction
- d
- Pressure gauge
- e
- Bracket

Option/Semi-standard: Select one each for a to d.

Example) AW30-03C-2R-X2622A

Note 1) When the float type auto drain is selected, the fluid temperature range is 23 to 140°F (−5 to 60°C) (with no freezing), and the maximum operating pressure is 145 psi (1.0 MPa). Take measures if the fluid temperature is likely to be out of the specified range due to the ambient temperature.

Note 2) Only metal bowl is available.

Note 3) The pressure gauge is shipped together, but not assembled. AW30: G43-10-□01-X3 or AW40: G43-10-□02-X3 is included.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
It appears the image contains a technical diagram and specification table for a product, the Filter Regulator AW30-F03-2-X2220. The text includes safety instructions, specifications, and cautionary notes. It also mentions that unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Applicable Model

AW30-03G-2-X430

Option/Semi-standard: Select one each for a to g.

Example) AW30-03BG-2N-X430

Specifications
Made-to-order part no. -X430

Environment
Low temperature
Ambient temperature –22 to 140°F (–30 to 60°C)
Fluid temperature 23 to 140°F (–5 to 60°C) (with no freezing)

Material Rubber parts Special NBR
Main parts Metal (Aluminum die-cast etc.)

Model
AW30
AW40
AW40-06
AW60

Port size
1/4, 3/8
1/4, 3/8, 1/2
3/4
3/4, 1

Special materials are used in the manufacturing of seals and resin parts to allow them to withstand temperature conditions in cold climates.

Pressure unit
Nil
Note 4) Metal bowl

Flow direction
Nil
Flow direction: Left to right
Flow direction: Right to left
Note 7) Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F

Exhaust mechanism
Nil
Relieving type
N
Non-relieving type
Note 6) Drain guide 1/4

Drain port
Nil
With drain cock
Note 5) 2.9 to 29 psi (0.02 to 0.2 MPa) setting

Pressure gauge
Nil
Without pressure gauge
Note 3) Round type pressure gauge (without limit indicator)

Mounting
Nil
Without mounting option
Note 2) With bracket

Thread type
Nil
Rc
N
NPT
F
G
Note 8) /L50263: For thread type: NPT only

Port size
02 1/4
03 3/8
04 1/2
06 3/4
10 1

Specifications

Proof Press: 1.5 MPa
Max. Working Press. 1.0 MPa
Set Press. 0.05~0.35MPa
0.2MPa Setting 0.02~0.2 MPa

Working Fluid AIR
Ambient Temp. -40~80°C
Working Fluid Temp. -5~60°C ( SHOULD BE NO FROZEN)
Rated Filtration 5 µm

Port Size 2-G 1/4~1/2
Gauge Port Size 2-G 1/4

Filter Regulator

For details about the series, refer to the WEB catalog or the Best Pneumatics No. http://www.smcworld.com

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment.

Note 6) Without a valve function

Note 7) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 8) 

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
**Filter Regulator for Special Temperature Environment**

- Special materials are used in the manufacturing of seals and resin parts to allow them to withstand temperature conditions in cold climates.

### Specifications

<table>
<thead>
<tr>
<th>Made-to-order part no.</th>
<th>-X430</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Low temperature</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-22 to 140°F (–30 to 60°C)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>23 to 140°F (–5 to 60°C) (with no freezing)</td>
</tr>
<tr>
<td>Material</td>
<td>Rubber parts</td>
</tr>
<tr>
<td></td>
<td>Special NBR</td>
</tr>
<tr>
<td>Main parts</td>
<td>Metal (Aluminum die-cast etc.)</td>
</tr>
</tbody>
</table>

### Applicable Model

<table>
<thead>
<tr>
<th>Model</th>
<th>AW30</th>
<th>AW40</th>
<th>AW40-06</th>
<th>AW60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1/4, 3/8</td>
<td>1/4, 3/8, 1/2</td>
<td>3/4</td>
<td>3/4, 1</td>
</tr>
</tbody>
</table>

### AW30-03BG-2-X430

- **Symbol**: Nil, Rc, N, NPT, F, G
- **Body size**: 30, 40, 60
- **Thread type**: Rc
- **Port size**: 02 (1/4), 03 (3/8), 04 (1/2), 06 (3/4), 10
- **Mounting**: Nil, B (Note 2), H
- **Pressure gauge**: Nil, G (Note 3)
- **Bowl**: 2 (Metal bowl)
- **Set pressure**: 7.3 to 123 psi (0.05 to 0.85 MPa) setting
- **Drain port**: Nil, J (Note 6), Drill guide 1/4
- **Exhaust mechanism**: Nil, N
- **Flow direction**: Nil, R
- **Pressure unit**: Nil, Note 7

#### Notes

- **Note 1**: Option B, G, H are not assembled and supplied loose at the time of shipment.
- **Note 2**: Assembly of a bracket and set nuts (AW30 to AW40) including 2 mounting screws for the AW60.
- **Note 3**: Mounting thread for pressure gauge: 1/8 for the AW30, 1/4 for the AW40, AW60. Pressure gauge type: G43
- **Note 4**: Only metal bowl 2 is available.
- **Note 5**: The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 29 psi (0.2 MPa) or more. When the pressure gauge is attached, a 29 psi (0.2 MPa) pressure gauge will be fitted.
- **Note 6**: Without a valve function
- **Note 7**: For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
- **Note 8**: For thread type: NPT only
Specifications

PROOF PRESS. 3.0 MPa
MAX. WORKING PRESS. 2.0 MPa
SET PRESS. 0.15-1.7 MPa
WORKING FLUID AIR
AMBIENT TEMP. -30 to 60°C
WORKING FLUID TEMP. -5 to 60°C (SHOULD NOT FREEZE).
PART FILTERATION 5 µm
PORT SIZE 2-2A (REFER TO TABLE 3)
GAUGE PORT SIZE 2-C (REFER TO TABLE 3)

CAUTIONS CONCERNING SPECIFICATIONS, AND INSPECTION OF CUSTOM-MADE PRODUCTS
#DIFFERENCE FROM THE STANDARD TYPE.
1. HIGH PRESSURE SPECIFICATION.
2. LOW TEMP. SPECIFICATION.

Note 1) Accessories are packed together.

Table 1: Bowl Assembly Portion EE

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>AW30</th>
<th>AW40</th>
<th>AW40-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTIONS</td>
<td>2J</td>
<td>2J</td>
<td>2J</td>
</tr>
<tr>
<td>PORT NO.</td>
<td>C3SF</td>
<td>C3SF</td>
<td>C3SF</td>
</tr>
<tr>
<td>PORT SIZE</td>
<td>1/4</td>
<td>3/8</td>
<td>1/4</td>
</tr>
<tr>
<td>NO.</td>
<td>C3SF</td>
<td>C3SF</td>
<td>C3SF</td>
</tr>
<tr>
<td>THREAD</td>
<td>M18</td>
<td>M18</td>
<td>M18</td>
</tr>
<tr>
<td>BOLT</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>NUT</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>M18</td>
<td>38</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>M18</td>
<td>53</td>
<td>53</td>
<td>53</td>
</tr>
</tbody>
</table>

Table 2: Dimensions of Each Part

<table>
<thead>
<tr>
<th>DWG NO.</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
<th>J</th>
<th>L</th>
<th>M</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>AA</th>
<th>CC</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AW30-02</td>
<td>RC 1/4, 3/8</td>
<td>60</td>
<td>53</td>
<td>36</td>
<td>137</td>
<td>3.5</td>
<td>58</td>
<td>41</td>
<td>46</td>
<td>6.5</td>
<td>8</td>
<td>40</td>
<td>8.3</td>
<td>2.3</td>
<td>M18</td>
<td>1.5</td>
<td>31</td>
<td>7</td>
<td>19</td>
<td>38.5</td>
</tr>
<tr>
<td>AW40-02</td>
<td>RC 1/4, 3/8, 1/2</td>
<td>60</td>
<td>70</td>
<td>38</td>
<td>158</td>
<td>1.5</td>
<td>75</td>
<td>50</td>
<td>57.5</td>
<td>8.5</td>
<td>10.5</td>
<td>54</td>
<td>70</td>
<td>2.3</td>
<td>M24</td>
<td>1.5</td>
<td>39</td>
<td>7</td>
<td>21</td>
<td>47.5</td>
</tr>
<tr>
<td>AW40-02</td>
<td>RC 3/4</td>
<td>60</td>
<td>75</td>
<td>38</td>
<td>161</td>
<td>1.2</td>
<td>75</td>
<td>50</td>
<td>59</td>
<td>8.5</td>
<td>10.5</td>
<td>54</td>
<td>70</td>
<td>2.3</td>
<td>M24</td>
<td>1.5</td>
<td>40.5</td>
<td>7</td>
<td>21</td>
<td>47.5</td>
</tr>
</tbody>
</table>

Note 3) Refer to Table 1 BOWL ASSEMBLY
Note 2) Refer to Table 2 BRACKET ASSEMBLY
Note 1) Refer to Table 3 SET NUT

Table 3: Items Related to the Use of Each Part

<table>
<thead>
<tr>
<th>DWG NO.</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
<th>J</th>
<th>L</th>
<th>M</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>AA</th>
<th>CC</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AW30-02</td>
<td>RC 1/4, 3/8</td>
<td>60</td>
<td>53</td>
<td>36</td>
<td>137</td>
<td>3.5</td>
<td>58</td>
<td>41</td>
<td>46</td>
<td>6.5</td>
<td>8</td>
<td>40</td>
<td>8.3</td>
<td>2.3</td>
<td>M18</td>
<td>1.5</td>
<td>31</td>
<td>7</td>
<td>19</td>
<td>38.5</td>
</tr>
<tr>
<td>AW40-02</td>
<td>RC 1/4, 3/8, 1/2</td>
<td>60</td>
<td>70</td>
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<td>158</td>
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<td>75</td>
<td>50</td>
<td>57.5</td>
<td>8.5</td>
<td>10.5</td>
<td>54</td>
<td>70</td>
<td>2.3</td>
<td>M24</td>
<td>1.5</td>
<td>39</td>
<td>7</td>
<td>21</td>
<td>47.5</td>
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<td>RC 3/4</td>
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<td>75</td>
<td>38</td>
<td>161</td>
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<td>75</td>
<td>50</td>
<td>59</td>
<td>8.5</td>
<td>10.5</td>
<td>54</td>
<td>70</td>
<td>2.3</td>
<td>M24</td>
<td>1.5</td>
<td>40.5</td>
<td>7</td>
<td>21</td>
<td>47.5</td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Air Filter for Special Temperature Environment

- Special materials are used in the manufacturing of seals and resin parts to allow them to withstand temperature conditions in cold climates.

Specifications

<table>
<thead>
<tr>
<th>Made-to-order part no.</th>
<th>-X430</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Low temperature</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–22 to 140°F (–30 to 60°C)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>23 to 140°F (–5 to 60°C) (with no freezing)</td>
</tr>
<tr>
<td>Material</td>
<td>Rubber parts Special NBR</td>
</tr>
<tr>
<td></td>
<td>Main parts Metal (Aluminum die-cast etc.)</td>
</tr>
</tbody>
</table>

Applicable Model

<table>
<thead>
<tr>
<th>Model</th>
<th>AF30</th>
<th>AF40</th>
<th>AF40-06</th>
<th>AF50</th>
<th>AF60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1/4, 3/8</td>
<td>1/4, 3/8, 1/2</td>
<td>3/4</td>
<td>3/4, 1</td>
<td>1</td>
</tr>
</tbody>
</table>

AF 30 – 03 B – 2 –X430

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body size</td>
</tr>
<tr>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

Symbol | Description
---|-------------|
N | Nil |
Rc | NPT |
Note 1) | Nil |
F | G |
Note 2) | |
| + | |
| 2 | 1/4 |
| 03 | 3/8 |
| 04 | 1/2 |
| 06 | 3/4 |
| 10 | 1 |

<table>
<thead>
<tr>
<th>Option (Mounting)</th>
<th>Nil</th>
<th>Without mounting option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note 3)</td>
<td>With bracket</td>
<td></td>
</tr>
<tr>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>+</td>
<td>Metal bowl</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semi-standard</th>
<th>Nil</th>
<th>Drain cock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note 5)</td>
<td>Drain guide 1/4</td>
<td></td>
</tr>
<tr>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flow direction</th>
<th>Nil</th>
<th>Flow direction: Left to right</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Flow direction: Right to left</td>
<td></td>
</tr>
<tr>
<td>+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure unit</th>
<th>Nil</th>
<th>Name plate and caution plate for bowl in imperial units: MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note 6)</td>
<td>Name plate and caution plate for bowl in imperial units: psi, °F</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) Drain guide is NPT1/4.
Note 2) Drain guide is G1/4.
Note 3) A bracket is not assembled and supplied loose at the time of shipment.
Including 2 mounting screws.
Note 4) Only metal bowl 2 is available.
Note 5) Without a valve function.
Note 6) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 7) ○: For thread type: NPT only

For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com) or the Best Pneumatics No. WEB.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
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-22°F (-30°C)

Pilot Operated

Regulator

AR935-20G1-L (-R)

Applicable Model

30AR X430 03 BG

AR30-03G-X430

Made-to-order part no.

-X430

Environment

Low temperature

Ambient temperature

-22 to 140°F (-30 to 60°C)

Fluid temperature

23 to 140°F (-5 to 60°C) (with no freezing)

Material

Rubber parts

Special NBR

Main parts

Metal (Aluminum die-cast etc.)

Model

AR25 AR30 AR40 AR40-06 AR50 AR60

Port size

1/4, 3/8 1/4, 3/8 1/4, 3/8, 1/2 3/4 3/4, 1 1

Special materials are used in the manufacturing of seals and resin parts to allow them to withstand temperature conditions in cold climates.

Option/Semi-standard: Select one each for a to g.

Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AR30-03BG-1NR-X430

Pressure unit

Nil

Name plate and pressure gauge in imperial units: MPa

Z

Note 5) Name plate and caution plate for bowl in imperial units: psi

Flow direction

Nil

Flow direction: Left to right

R

Flow direction: Right to left

E

Exhaust mechanism

Nil

Relieving type

N

Pressure gauge

Nil

Round type pressure gauge (without limit indicator)

A

Mounting

Nil

Without mounting option

B

Note 2) With bracket

H

With set nut (for panel fitting)

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of a bracket and set nuts (AR25 to AR40) including 2 mounting screws for the AR50 and AR60

Note 3) Mounting thread for pressure gauge: 1/8 for the AR25 to AR30; 1/4 for the AR40 to AR60. Pressure gauge type: G43

Note 4) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 29 psi (0.2 MPa) or more. When the pressure gauge is attached, a 29 psi (0.2 MPa) pressure gauge will be fitted.

Note 5) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 6) /L50263: For thread type: NPT only

For details about the series, refer to the WEB catalog or the Best Pneumatics No. http://www.smcworld.com
Regulator for Special Temperature Environment

- Special materials are used in the manufacturing of seals and resin parts to allow them to withstand temperature conditions in cold climates.

Specifications

<table>
<thead>
<tr>
<th>Made-to-order part no.</th>
<th>-X430</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Low temperature</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–22 to 140°F (–30 to 60°C)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>23 to 140°F (~5 to 60°C) (with no freezing)</td>
</tr>
<tr>
<td>Material</td>
<td>Rubber parts: Special NBR, Main parts: Metal (Aluminum die-cast etc.)</td>
</tr>
</tbody>
</table>

Applicable Model

<table>
<thead>
<tr>
<th>Model</th>
<th>AR25</th>
<th>AR30</th>
<th>AR40</th>
<th>AR40-06</th>
<th>AR50</th>
<th>AR60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size</td>
<td>1/4, 3/8</td>
<td>1/4, 3/8</td>
<td>1/4, 3/8, 1/2</td>
<td>3/4</td>
<td>3/4, 1</td>
<td>1</td>
</tr>
</tbody>
</table>

AR 30[-][3][BG][-]X430

Symbol Description

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Rc</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td>F</td>
<td>G</td>
</tr>
</tbody>
</table>

Option/Semi-standard: Select one each for a to g.
Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AR30-03BG-1NR-X430

Note 1) Option B, G, H are not assembled and supplied loose at the time of shipment.
Note 2) Assembly of a bracket and set nuts (AR25 to AR40) including 2 mounting screws for the AR50 and AR60.
Note 3) Mounting thread for pressure gauge: 1/8 for the AR25 to AR30; 1/4 for the AR40 to AR60. Pressure gauge type: G43
Note 4) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 29 psi (0.2 MPa) or more. When the pressure gauge is attached, a 29 psi (0.2 MPa) pressure gauge will be fitted.
Note 5) For thread type: NPT, this product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
Note 6) #: For thread type: NPT only

For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com) or the Best Pneumatics No. [WEB]
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**Miniature Regulator**

**ARJ210-M5(-1) -X250**

-12°F (–30°C)

**Specifications**

- **Proof Press:** 1.2 MPa
- **Max. Working Press:** 0.8 MPa
- **Set Press:** 0.2 MPa
- **0.2MPa Setting:** 0.05-0.2 MPa

**Operating Instructions**

- **Ambient Temp.:** -30-80°C
- **Working Fluid Temp.:** -55°C (should be non-freezing)

**Port Size**

- IN: R1/8, M5X0.8 [INTERNAL THREAD]
- OUT: M5X0.8 [INTERNAL THREAD]

**Miniature Regulator**

**ARJ210-M5(-1) -X250**

- **Pressure Control Equipment**
- **Flow Control Equipment**
- **Fittings and Tubing**
- **Pneumatic Instrumentation Equipment**
- **Valves**

**Order Specification Code**

ARJ210-M5 - X250

**Tolerances Concerning Specifications, Assembly, and Inspection of Custom-Made Products**

1. Parts in the title column differ from standard.
2. Ambient temp is different.
3. Apply Teflon Grease (SMC-GF1) manufactured by Dow Corning.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

Filter Regulator for Low Temperatures
Series IW

For details about the series, refer to the WEB catalog http://www.smcworld.com
Filter Regulator for Low Temperatures

Series IW

- Two types are available: adjustable set pressure type and fixed set pressure type
- Low temperature and external parts copper-free types can be selected.
- Pressure gauge connecting direction: 2 directions (Front/Back)
- Weight: 0.66 kg (Adjustable type) 0.58 kg (Fixed type)

How to Order

IW 2 1 2 02 - L

Filter regulator

Type of setting
1 Adjustable type (Handle)

Set pressure
2 2.9 to 29 psi (0.02 to 0.2 MPa)
3 2.9 to 44 psi (0.02 to 0.3 MPa)
5 2.9 to 73 psi (0.02 to 0.5 MPa)

* Fixed type is IW222 only.

Accessories
Nil None
B With bracket
G With pressure gauge

Port size
02 1/4

Thread type
Nil Rc
N NPT*

Standard Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>IW212</th>
<th>IW213</th>
<th>IW215</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum supply pressure</td>
<td>Max. 145 psi (1.0 MPa)</td>
<td>(0.02 to 0.2 MPa)</td>
<td>(0.02 to 0.3 MPa)</td>
</tr>
<tr>
<td>Set pressure</td>
<td>2.9 to 29 psi</td>
<td>2.9 to 44 psi</td>
<td>2.9 to 73 psi</td>
</tr>
<tr>
<td>Air consumption (At maximum set pressure)</td>
<td>0.04 scfm [1 L/min (ANR)] or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–22 to 140°F (–30 to 60°C) (No freezing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filtration accuracy</td>
<td>5 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port size</td>
<td>Rc1/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure gauge port</td>
<td>Rc1/4 (2 locations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.66 kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SPECIAL SPECIFICATION**

**LOW TEMPERATURE SPECIFICATIONS**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Supply Pressure</th>
<th>Max. 1.0MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Pressure</td>
<td>1W212: 0.02 - 0.2MPa</td>
</tr>
<tr>
<td></td>
<td>1W213: 0.02 - 0.3MPa</td>
</tr>
<tr>
<td></td>
<td>1W215: 0.02 - 0.5MPa</td>
</tr>
<tr>
<td></td>
<td>1W217: 0.02 - 0.7MPa</td>
</tr>
</tbody>
</table>

**Operating Temperature**

-40°F to 140°F (60°C to 60°C) (DO NOT FREEZE)

**Degree of Filtration**

5μm

**Air Consumption**

Less than 1/4 (0.2 MPa) at minimum set pressure

**Sensitivity**

Within 0.2% F.S.

**Repeatability**

Within ±0.5% F.S.

**Body Size**

Type of setting
- For series IR2000
- For series IR3000

**Note**

Air operated type is model IR2120 only.

**Port Size**

- Accessory: Nil
- B with bracket

**Thread Type**

- \* Semi-standard

**Max. Supply Pressure**

Max. 1.0 MPa

**Set Pressure Range**

<table>
<thead>
<tr>
<th>Series</th>
<th>IR2000</th>
<th>IR3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.73 to 29 (0.005 to 0.2 MPa)</td>
<td>1.5 to 29 (0.01 to 0.2 MPa)</td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 58 (0.01 to 0.4 MPa)</td>
<td>1.5 to 58 (0.01 to 0.4 MPa)</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 116 (0.01 to 0.8 MPa)</td>
<td>1.5 to 116 (0.01 to 0.8 MPa)</td>
</tr>
</tbody>
</table>

**Input Signal Pressure**

<table>
<thead>
<tr>
<th>Series</th>
<th>IR2000</th>
<th>IR3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.73 to 29 (0.005 to 0.2 MPa)</td>
<td>1.5 to 29 (0.01 to 0.2 MPa)</td>
</tr>
<tr>
<td>1</td>
<td>1.5 to 58 (0.01 to 0.4 MPa)</td>
<td>1.5 to 58 (0.01 to 0.4 MPa)</td>
</tr>
<tr>
<td>2</td>
<td>1.5 to 116 (0.01 to 0.8 MPa)</td>
<td>1.5 to 116 (0.01 to 0.8 MPa)</td>
</tr>
</tbody>
</table>

**Air Consumption**

<table>
<thead>
<tr>
<th>Series</th>
<th>IR2000</th>
<th>IR3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.16 scfm (4.4 L/min (ANR)) or less</td>
<td>0.16 scfm (4.4 L/min (ANR)) or less</td>
</tr>
<tr>
<td>1</td>
<td>0.41 scfm (11.5 L/min (ANR)) or less</td>
<td>0.41 scfm (11.5 L/min (ANR)) or less</td>
</tr>
</tbody>
</table>

**Ambient and Fluid Temperature**

-22 to 140°F (–30 to 60°C) (No freezing)

**Weight (kg)**

<table>
<thead>
<tr>
<th>Series</th>
<th>IR2000</th>
<th>IR3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.30</td>
<td>0.35</td>
</tr>
<tr>
<td>1</td>
<td>0.64</td>
<td>0.71</td>
</tr>
</tbody>
</table>

**Model Identification Numbering**

IW212-02-L-X203

**Note 1**

The parts of this model are the same parts as 1W21-02 except specified parts at the below.

<table>
<thead>
<tr>
<th>6</th>
<th>KA01405 ORING</th>
<th>SILICONE RUBBER</th>
<th>1 A5568-22B</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>KA01053 ORING</td>
<td>SILICONE RUBBER</td>
<td>1 P4</td>
</tr>
<tr>
<td>4</td>
<td>1301530 PACKING</td>
<td>SILICONE RUBBER</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1301529 PACKING</td>
<td>SILICONE RUBBER</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1301528 PACKING</td>
<td>SILICONE RUBBER</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1301527 DIAPHRAGM</td>
<td>SILICONE RUBBER</td>
<td>1</td>
</tr>
</tbody>
</table>

**Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.**
For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com) or the Best Pneumatics No. 7.

- Sensitivity: Within 0.2% F.S.
- Repeatability: Within ±0.5% F.S.

### How to Order

<table>
<thead>
<tr>
<th>Precision regulator</th>
<th>Type of setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR 2000 02</td>
<td>0 Basic type (Handle)</td>
</tr>
<tr>
<td>IR 3000 02</td>
<td>1 Air operated type</td>
</tr>
</tbody>
</table>

Set pressure range

**For series IR2000**

- 0.73 to 29 psi (0.005 to 0.2 MPa)
- 1.5 to 58 psi (0.01 to 0.4 MPa)
- 1.5 to 116 psi (0.01 to 0.8 MPa)

**For series IR3000**

- 1.5 to 29 psi (0.01 to 0.2 MPa)
- 1.5 to 58 psi (0.01 to 0.4 MPa)
- 1.5 to 116 psi (0.01 to 0.8 MPa)

Note) Air operated type is model IR2120 only.

**Thread type**

- Nil
- R Bracket, Name plate, Mounting on the opposite side
- Rc

**Port size**

- 02 1/4
- 03 3/8
- 04 1/2

**Accessory**

- Nil
- B With bracket

### Standard Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Basic type</th>
<th>Air operated type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. supply pressure</td>
<td>Max. 1.0 MPa</td>
</tr>
<tr>
<td></td>
<td>Min. supply pressure psi (MPa)</td>
<td>Set pressure + 7.3 (0.05)</td>
</tr>
<tr>
<td></td>
<td>Set pressure range psi (MPa)</td>
<td>IR2000: 0.73 to 29 (0.005 to 0.2)</td>
</tr>
<tr>
<td></td>
<td>Input signal pressure psi (MPa)</td>
<td>(2)</td>
</tr>
<tr>
<td>Sensitivity (3)</td>
<td>Within 0.2% of full span</td>
<td>Repeatability (3)</td>
</tr>
<tr>
<td>Linearity (4)</td>
<td>Within ±1% of full span</td>
<td>Air consumption (5)</td>
</tr>
<tr>
<td>(At supply pressure of 145 psi (1.0 MPa))</td>
<td>0.16 scfm (4.4 L/min (ANR)) or less</td>
<td>0.41 scfm (11.5 L/min (ANR)) or less</td>
</tr>
<tr>
<td></td>
<td>or less</td>
<td>or less</td>
</tr>
<tr>
<td></td>
<td>Rc1/4</td>
<td>Rc1/4, 3/8, 1/2</td>
</tr>
<tr>
<td>Pressure gauge port</td>
<td>Rc1/8 (2 locations)</td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–22 to 140°F (–30 to 60°C) (No freezing)</td>
<td></td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.30</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Note 1) With the condition of no flow on the output side. Together with the set pressure, be sure to maintain a minimum differential pressure of 7.3 psi (0.05 MPa) for model IR2000, and 15 psi (0.1 MPa) for model IR3000.

Note 2) Applicable only to air operated types IR2120 and IR3120. The basic type is excepted.

Note 3) Characteristic values do not contain any secular change and temperature change.

Note 4) Indicates the linearity of the output pressure with respect to the input signal pressure.

Note 5) Air is normally being discharged to the atmosphere from a bleed hole or an exhaust port.
Speed Controller: Standard Type
Large Flow In-line Type

Series AS

- Able to control and set a constant speed easily.
- Speed may be accurately controlled even at low speed.
- Retainer prevents accidental loss of needle.

How to Order

AS 42 0 - 02 - L

- Low temperature (~30 to 60°C)
- Note) AS900 is available as special.

Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Free flow</th>
<th>Controlled flow</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow rate (L/min (ANR))</td>
<td>Sonic conductance dm³/(s·bar)</td>
<td>Critical pressure ratio</td>
</tr>
<tr>
<td>AS420-02</td>
<td>1/4</td>
<td>88.3 (2,500)</td>
<td>6.9</td>
<td>0.25</td>
</tr>
<tr>
<td>AS420-03</td>
<td>3/8</td>
<td>176 (5,000)</td>
<td>13.9</td>
<td>0.33</td>
</tr>
<tr>
<td>AS420-04</td>
<td>1/2</td>
<td>233 (6,600)</td>
<td>18.3</td>
<td>0.32</td>
</tr>
<tr>
<td>AS500-06</td>
<td>3/4</td>
<td>357 (10,100)</td>
<td>28.1</td>
<td>0.36</td>
</tr>
<tr>
<td>AS600-10</td>
<td>1</td>
<td>533 (15,100)</td>
<td>42</td>
<td>0.45</td>
</tr>
<tr>
<td>AS800-12</td>
<td>1½</td>
<td>1250 (35,400)</td>
<td>98</td>
<td>1.4</td>
</tr>
<tr>
<td>AS900-14</td>
<td>1½</td>
<td>1836 (52,000)</td>
<td>144</td>
<td>3.3</td>
</tr>
<tr>
<td>AS900-20</td>
<td>2</td>
<td>2040 (57,800)</td>
<td>161</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note) Flow rate values are measured at 73 psi (0.5 MPa) and 68°F (20°C).

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof pressure</td>
<td>218 (1.5 MPa)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>145 psi (1 MPa)</td>
</tr>
<tr>
<td>Min. operating pressure</td>
<td>7.3 psi (0.05 MPa)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-22 to 140°F (~30 to 60°C) (No freezing)</td>
</tr>
</tbody>
</table>
Speed Controller: Standard Type In-line Type

Series AS

- Compact size saves space.
- Speed may be accurately controlled even at low speeds.
- Constant speed easily set.
- Retainer prevents an accidental loss of needle.

For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com) or the Best Pneumatics No.

![AS4000 and AS3000](image)

**Symbol**

*Caution*

- Be sure to read this before handling.
- Refer to the back cover for Safety Instructions. Refer to “Handling Precautions for SMC Products” on SMC website, [http://www.smcworld.com](http://www.smcworld.com)

How to Order

```
AS 3 000 - 02 - L -
```

- **Body size**
  - 3: 3/8 standard
  - 4: 1/2 standard
  - 5: 1/2 standard

- **Thread type**
  - Nil
  - Rc
  - N
  - NPT
  - G

- **Lock nut option**
  - Nil
  - Hexagon lock nut

- **Bore size**
  - ~22 to 140°F (~−30 to 60°C)

Model/Flow Rate and Sonic Conductance

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Flow rate (scfm)</th>
<th>Sonic conductance (dm³/s/bar)</th>
<th>Critical pressure ratio</th>
<th>Flow rate (L/min (ANR))</th>
<th>Sonic conductance (dm³/s/bar)</th>
<th>Critical pressure ratio</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS3000-02</td>
<td>1/4</td>
<td>28.6 (810)</td>
<td>2.3</td>
<td></td>
<td>28.6 (810)</td>
<td>2.3</td>
<td></td>
<td>130</td>
</tr>
<tr>
<td>AS3000-03</td>
<td>3/8</td>
<td>28.6 (810)</td>
<td>2.3</td>
<td></td>
<td>28.6 (810)</td>
<td>2.3</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>AS4000-02</td>
<td>1/4</td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>221</td>
</tr>
<tr>
<td>AS4000-03</td>
<td>3/8</td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>214</td>
</tr>
<tr>
<td>AS4000-04</td>
<td>1/2</td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>59.0 (1,670)</td>
<td>4.6</td>
<td></td>
<td>205</td>
</tr>
<tr>
<td>AS5000-02</td>
<td>1/4</td>
<td>100 (2,840)</td>
<td>7.9</td>
<td>0.35</td>
<td>100 (2,840)</td>
<td>7.9</td>
<td>0.2</td>
<td>242</td>
</tr>
<tr>
<td>AS5000-03</td>
<td>3/8</td>
<td>151 (4,270)</td>
<td>11.9</td>
<td></td>
<td>151 (4,270)</td>
<td>11.9</td>
<td></td>
<td>233</td>
</tr>
<tr>
<td>AS5000-04</td>
<td>1/2</td>
<td>151 (4,270)</td>
<td>11.9</td>
<td></td>
<td>151 (4,270)</td>
<td>11.9</td>
<td></td>
<td>224</td>
</tr>
</tbody>
</table>

Note: Flow rate values are measured at 73 psi (0.5 Mpa) and 68°F (20°C).

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Proof pressure (Note)</th>
<th>Max. operating pressure (Note)</th>
<th>Min. operating pressure (Note)</th>
<th>Ambient and fluid temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>218 psi (1.5 MPa)</td>
<td>145 psi (1 MPa)</td>
<td>7.3 psi (0.05 MPa)</td>
<td>−22 to 140°F (~−30 to 60°C) (No freezing)</td>
</tr>
</tbody>
</table>
DIFFERENCE FROM THE AS3000-02~03 REGARDING SPECIFICATION, ASSEMBLY AND INSPECTION.
1. ★ MARKED PARTS OUT OF THE PARTS TABLE IS DIFFERENT.
2. LOW TEMPERATURE SPECIFICATION.
3. SILICONE GREASE IS USED FOR THREADS OF NEEDLE AND (3) O'RING, (M01 COAT: HP-300)

SPECIFICATIONS

PROOF PRESS. 1.5 MPa
WORKING PRESSURE 0.05~1 MPa
AMBIENT TEMP. AND WORKING FLUID TEMP. -40~60°C (NO FREEZING)
WORKING FLUID: AIR

PORT SIZE

<table>
<thead>
<tr>
<th>DWG. NO.</th>
<th>2-D</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS3000-02~03-X422</td>
<td>Rc 1/4~3/8</td>
</tr>
<tr>
<td>AS3000-N02~N03-X422</td>
<td>NPT 1/4~3/8</td>
</tr>
<tr>
<td>AS3000-F02~F03-X422</td>
<td>G 1/4~3/8</td>
</tr>
</tbody>
</table>

How to Order

Specifications

Type/Diaphragm: AQ
Thread type: RC

Model Port size Sonic conductance dm³/(s·bar) Critical pressure ratio Weight (g)

<table>
<thead>
<tr>
<th>EXH</th>
<th>IN</th>
<th>OUT OUT</th>
<th>11</th>
<th>NAME PLATE</th>
<th>POLYESTER</th>
<th>4</th>
<th>T1503-X422</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>AA00241</td>
<td>SCREW</td>
<td>STEEL PLATE</td>
<td>4</td>
<td>M4x8 NI PLATED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>142851</td>
<td>&quot;O&quot; RING</td>
<td>NBR</td>
<td>1</td>
<td>Suitable for low temp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>142840</td>
<td>PIN</td>
<td>STAINLESS STEEL</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>14307P</td>
<td>LOCK NUT</td>
<td>STEEL</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>142812P</td>
<td>NEEDLE</td>
<td>BRASS BAR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14285P</td>
<td>CAP</td>
<td>STEEL PLATE</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>14284-1</td>
<td>&quot;O&quot; RING</td>
<td>CR</td>
<td>1</td>
<td>Suitable for low temp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>142852</td>
<td>VALVE</td>
<td>BRASS BAR-NBR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14282</td>
<td>SPRING</td>
<td>STAINLESS STEEL</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Quick Exhaust Valve
Series AQ

- Excellent exhaust characteristics
- Large flow capacity
- Compact and lightweight
- A wide selection of models

For details about the series, refer to the WEB catalog [http://www.smcworld.com] or the Best Pneumatics No. 6.

How to Order

<table>
<thead>
<tr>
<th>AQ</th>
<th>2</th>
<th>000</th>
<th>02</th>
<th>L</th>
</tr>
</thead>
</table>

Standard size
- 2 \( \frac{1}{8} \)
- 3 \( \frac{3}{8} \)
- 5 \( \frac{1}{4} \)

Type/Diaphragm
- Nil
- Rc
- N
- NPT
- F
- G

Port size
- Low temperature
- \(-22 \text{ to } 140^\circ F\)
- \(-30 \text{ to } 60^\circ C\)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>( \frac{1}{8} ) AQ2000</td>
</tr>
<tr>
<td>02</td>
<td>( \frac{1}{4} ) AQ2000/3000</td>
</tr>
<tr>
<td>03</td>
<td>( \frac{3}{8} ) AQ3000</td>
</tr>
<tr>
<td>04</td>
<td>( \frac{1}{2} ) AQ5000</td>
</tr>
<tr>
<td>06</td>
<td>( \frac{3}{4} ) AQ5000</td>
</tr>
</tbody>
</table>

Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Sonic conductance ( \text{dm}^3/(s \cdot \text{bar}) )</th>
<th>Critical pressure ratio</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ2000-01</td>
<td>( \frac{1}{8} )</td>
<td>5 ( \text{IN} \rightarrow \text{OUT} ) 5 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>110</td>
</tr>
<tr>
<td>AQ2000-02</td>
<td>( \frac{1}{4} )</td>
<td>7 ( \text{IN} \rightarrow \text{OUT} ) 8 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>105</td>
</tr>
<tr>
<td>AQ3000-02</td>
<td>( \frac{3}{8} )</td>
<td>8 ( \text{IN} \rightarrow \text{OUT} ) 8.4 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>215</td>
</tr>
<tr>
<td>AQ3000-03</td>
<td>( \frac{1}{2} )</td>
<td>12 ( \text{IN} \rightarrow \text{OUT} ) 14 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>205</td>
</tr>
<tr>
<td>AQ5000-04</td>
<td>( \frac{1}{2} )</td>
<td>21 ( \text{IN} \rightarrow \text{OUT} ) 23 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>690</td>
</tr>
<tr>
<td>AQ5000-06</td>
<td>( \frac{3}{4} )</td>
<td>27 ( \text{IN} \rightarrow \text{OUT} ) 36 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>0.45 ( \text{IN} \rightarrow \text{OUT} ) 0.35 ( \text{OUT} \rightarrow \text{EXH} )</td>
<td>650</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof pressure</td>
<td>218 psi (1.5 MPa)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>AQ2000 to 5000 145 psi (1 MPa)</td>
</tr>
<tr>
<td>Min. operating pressure</td>
<td>AQ2000 to 5000 7.3 psi (0.05 MPa)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>(-22 \text{ to } 140^\circ F) ((-30 \text{ to } 60^\circ C) (No freezing)</td>
</tr>
</tbody>
</table>
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

<table>
<thead>
<tr>
<th>PART NO</th>
<th>PART NAME</th>
<th>MATERIAL</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10911P-02N-04N</td>
<td>BODY</td>
<td>ADC</td>
<td>1</td>
</tr>
<tr>
<td>10912P-02N-04N</td>
<td>COVER</td>
<td>ADC</td>
<td>1</td>
</tr>
<tr>
<td>10901A-5</td>
<td>SEAT RING</td>
<td>STAINLESS STEEL-NBR</td>
<td>1</td>
</tr>
<tr>
<td>109014</td>
<td>VALVE</td>
<td>POM</td>
<td>1</td>
</tr>
<tr>
<td>109015</td>
<td>SPRING</td>
<td>STAINLESS STEEL-WIRE</td>
<td>1</td>
</tr>
<tr>
<td>109016-3</td>
<td>RING</td>
<td>NBR</td>
<td>2</td>
</tr>
<tr>
<td>115015</td>
<td>SCREW</td>
<td>STEEL WIRE</td>
<td>4</td>
</tr>
</tbody>
</table>

**Valves**

- Air Cylinders
- Air Grippers
- Rotary Actuator
- F.R.L.

### Pressure Control Equipment

- Flow Control Equipment
- Fittings and Tubing
- Port Valves for Fluid Control

**Pneumatic Instrumentation Equipment**

### Specifications

- **Port Size**: DVG.NO.
- AIR WORKING FLUID
- WORKING TEMP. AND WORKING FLUID TEMP. -30-60°C(3-140°F)
- FREEZING RANGE
- WORKING PRESSURE RANGE 0.2~1 MPA
- PROOF PRESSURE 1.5 MPA

3. Assembly and Inspection is same as the Standard.

2. Low Temperature Type.

1. Marked parts out of the parts table is different.

Specification, Assembly and Inspection, Difference from the AK4000-N02-N04.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
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**Check Valve**

**AK-DP100324**

**-22°F (−30°C)**

**SPECFICATIONS**

PROOF PRESS. 1.5 MPa

WORKING PRESS. Δ0.02~1 MPa

AMBIENT TEMP. AND WORKING FLUID TEMP. -30~60°C (NO FREEZING)

WORKING FLUID AIR, WATER Δ

PORT SIZE 2-Rc1/4

---

**SPECIFICATIONS**

PROOF PRESS. 1.5 MPa

WORKING PRESS. Δ0.02~1 MPa

AMBIENT TEMP. AND WORKING FLUID TEMP. -30~60°C (NO FREEZING)

WORKING FLUID AIR, WATER Δ

PORT SIZE 2-Rc1/4

---

**ITEM** | **PART NO** | **PART NAME** | **MATERIAL** | **QTY** | **REMARKS**
--- | --- | --- | --- | --- | ---
6 | XTC-674-3-1 | NAME PLATE | PET | 1 | AK-DP100324
5 | 14313-6 | STOPPER | STAINLESS STEEL | 1 | 
4 | XTO-1684-2 | CHECK VALVE SPRING | STAINLESS STEEL | 1 | 
3 | 14315-3 | VALVE | STAINLESS STEEL-CR | 1 | 
2 | AK-DP100324-P02 | BODY B | ALUMINIUM ALLOY | 1 | CHROMATED
1 | AK-DP100324-P01 | BODY A | ALUMINIUM ALLOY | 1 | CHROMATED

---

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

### Specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IN - OUT</td>
<td>1.5 MPa</td>
<td>0.02~1 MPa</td>
<td>-30~60°C (NO FREEZING)</td>
<td>Air</td>
<td>RC1/4</td>
</tr>
</tbody>
</table>

### Difference From the AK4000-02

Regarding Specification, Assembly and Inspection:

1. * Marked parts out of the parts

### Table

<table>
<thead>
<tr>
<th>Item</th>
<th>Part No.</th>
<th>Part Name</th>
<th>Material</th>
<th>Qty</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>A6000098</td>
<td>Screw</td>
<td>Steel Wire</td>
<td>4</td>
<td></td>
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<tr>
<td>6</td>
<td>19016-3</td>
<td>Ring</td>
<td>NBR</td>
<td>2</td>
<td></td>
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<tr>
<td>5</td>
<td>19015</td>
<td>Spring</td>
<td>Stainless Steel Wire</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>19014</td>
<td>Valve</td>
<td>POM</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>19013-5</td>
<td>Seat Ring</td>
<td>Stainless Steel-NBR</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>19012P-02</td>
<td>Cover</td>
<td>ADC</td>
<td>1</td>
<td></td>
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<tr>
<td>1</td>
<td>19011P-02</td>
<td>Body</td>
<td>ADC</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Unless otherwise noted.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NO</th>
<th>PART NAME</th>
<th>MATERIAL</th>
<th>QTY</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>AA00098</td>
<td>SCREW</td>
<td>STEEL WIRE</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>19016-3</td>
<td>RING</td>
<td>NBR</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>19015</td>
<td>SPRING</td>
<td>STAINLESS STEEL WIRE</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>19014</td>
<td>VALVE</td>
<td>POM</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>19013-5</td>
<td>SEAT RING</td>
<td>STAINLESS STEEL NBR</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>19012P-04</td>
<td>COVER</td>
<td>ADC</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>19011P-04</td>
<td>BODY</td>
<td>ADC</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

SYMBOl
IN  OUT

DIFFERENCE FROM THE AK4000-04 REGARDING SPECIFICATION.
ASSEMBLY AND INSPECTION.
1. * MARKED PARTS OUT OF THE PARTS

**Specifications**
- **Proof Press:** 1.5 MPa
- **Working Press Renge:** 0.02~1 MPa
- **Ambient Temp. and Working Fluid Temp.:** -30~60°C (no freezing)
- **Working Fluid:** Air
- **Port Size:** Rc1/2

**Check Valve**
AK4000-04-DPH00876

-22°F (-30°C)

**Valves**
- Air Cylinders
- Air Grippers
- Rotary Actuator
- Flow Control Equipment
- Pressure Control Equipment
- FRL
- AL, AR, AF, AW

**SMC**

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**Pneumatic Instrumentation Equipment**

**Port Valves for Fluid Control**

**Fittings and Tubing**

**Flow Control Equipment**

**Pressure Control Equipment**

**F.R.L.**

**Rotary Actuator**

**Air Grippers**

**Air Cylinders**

**Valves**
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Check Valve

XTO-674-02L to 04L
XTO-674-N02L to N04L

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
NOTE

1. ASSEMBLY AND INSPECTION SHOULD BE PERFORMED ACCORDING TO THE INDICATION OF ASSEMBLY AND INSPECTION FOR SPECIAL PRODUCT. (ASME-PMC0737)
2. MIND THE LABEL (143038) APPLYING DIRECTION.

SPECIFICATIONS

PROOF PRESS. 1.5 MPa
WORKING PRESS. RANGE 0.05~1 MPa
AMBIENT TEMP. AND WORKING FLUID TEMP. -39~60°C (-22~140°F)(NO FREEZING)

PORT SIZE

<table>
<thead>
<tr>
<th>DWG.NO.</th>
<th>2-D</th>
</tr>
</thead>
<tbody>
<tr>
<td>XTO-674-06L</td>
<td>Rc 3/4</td>
</tr>
<tr>
<td>XTO-674-N06L</td>
<td>NPT3/4</td>
</tr>
</tbody>
</table>

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
**SPECIFICATIONS**

| PROOF PRESS. | 1.5 MPa |
| WORKING PRESS. RANGE | 0.2~1 MPa |
| AMBIENT TEMP. AND WORKING FLUID TEMP. | -30~60°C (NO FREEZING) |
| WORKING FLUID | AIR |
| PILOT PRESS. | 0.2~1 MPa |
| PILOT PORT | Rc 1/4 |
| PORT SIZE | 2-D |

---

**DIFFERENCE FROM THE XTO-2571-02-03 REGARDING SPECIFICATION.**

- **ASSEMBLY AND INSPECTION.**
  - 1. MARKED PARTS OUT OF THE PARTS TABLE IS DIFFERENT.
  - 2. LOW TEMPERATURE SPECIFICATION.

---

**Check Valve XTO-2571-02 to 03-L**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>XTO-2571-02-L</th>
<th>XTO-2571-03-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC 1/4</td>
<td>RC 3/8</td>
<td></td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NO.</th>
<th>PART NAME</th>
<th>MATERIAL</th>
<th>QTY</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>IB00024</td>
<td>PLUG</td>
<td>STEEL</td>
<td>2</td>
<td>R1/4</td>
</tr>
<tr>
<td>16</td>
<td>63114</td>
<td>NAME PLATE</td>
<td>POLYESTER</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>350118</td>
<td>NAME PLATE</td>
<td>POLYESTER</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>XTO-2571-3</td>
<td>NAME PLATE</td>
<td>POLYESTER</td>
<td>1</td>
<td>XTO-2571</td>
</tr>
<tr>
<td>13</td>
<td>13506-1</td>
<td>DIAPHRAGM</td>
<td>NBR FOR LOW TEMP</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>JA00221</td>
<td>STEEL BALL</td>
<td>STEEL</td>
<td>1</td>
<td>#3</td>
</tr>
<tr>
<td>11</td>
<td>200738</td>
<td>&quot;O&quot; RING</td>
<td>NBR FOR LOW TEMP</td>
<td>1</td>
<td>JIS B 2401 P3</td>
</tr>
<tr>
<td>10</td>
<td>35012</td>
<td>&quot;O&quot; RING HOLDER</td>
<td>ALUMINIUM</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>EC00079</td>
<td>SPRING WASHER</td>
<td>STEEL WIRE</td>
<td>4</td>
<td>No.24</td>
</tr>
<tr>
<td>8</td>
<td>AA00234</td>
<td>SCREW</td>
<td>STEEL WIRE</td>
<td>4</td>
<td>M40x28</td>
</tr>
<tr>
<td>7</td>
<td>200738</td>
<td>&quot;O&quot; RING</td>
<td>NBR FOR LOW TEMP</td>
<td>1</td>
<td>JIS W516 AM2227-14</td>
</tr>
<tr>
<td>6</td>
<td>13504-1</td>
<td>VALVE</td>
<td>BRASS BAR-CR</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>XTO-2571-8</td>
<td>STEM</td>
<td>STAINLESS STEEL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>13506</td>
<td>DIAPHRAGM SHELL</td>
<td>ADC</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>XTO-2571-1</td>
<td>DIAPHRAGM HOLDER</td>
<td>STEEL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>XTO-2571-3</td>
<td>DIAPHRAGM BONNET</td>
<td>ALUMINIUM</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>XTO-2571-3</td>
<td>BODY</td>
<td>ADC</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

---

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Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Self-align Fittings
Series H/DL/L/LL

- Flared ridge ferrule
  Prevents accidental loss of ferrule when inserting tubing into the fitting body.
- Hardened ridge ferrule
  Prevents breakage of ferrule when tightening nut.
- Flared I.D.
  Provides low flow resistance inside the fitting.
- Wide variety of styles and sizes
  Ten styles and five tube O.D's provide a wide range of fittings that will fit any application.

How to Order
Refer to the WEB catalog or the Best Pneumatics No. 6.

Specifications

<table>
<thead>
<tr>
<th>Applicable tubing material</th>
<th>Nylon, Soft nylon, Soft copper steel pipe (C1220T-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable tubing O.D.</td>
<td>ø4, ø6, ø8, ø10, ø12</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>145 psi (1 MPa)</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1450 psi (10 MPa)</td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–4 to 140°F (~–20 to 60°C) (No freezing) Note 1)</td>
</tr>
<tr>
<td>Thread</td>
<td>JIS B 0203 (Taper thread for piping)</td>
</tr>
<tr>
<td>Mounting section</td>
<td>JIS B 0205 (Metric fine thread)</td>
</tr>
<tr>
<td>Nut section</td>
<td></td>
</tr>
<tr>
<td>Seal on the threads Note 2)</td>
<td>None or with sealant</td>
</tr>
</tbody>
</table>

Note 1) Check the operating temperature range of the tube.
Note 2) Male elbow, Male branch tee, Male run tee with sealant is manufactured upon receipt of order.
Suffix “S” to the end of part number if w/ sealant is desired.

Principal Parts Material

<table>
<thead>
<tr>
<th>Body</th>
<th>C3604, C3771BE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nut</td>
<td>C3604</td>
</tr>
<tr>
<td>Ferrule</td>
<td>C2700</td>
</tr>
</tbody>
</table>
Brass sleeve Insert Fittings
Series KF□B

How to Order
Refer to the WEB catalog or the Best Pneumatics No. 6.

Specifications

<table>
<thead>
<tr>
<th>Sleeve material</th>
<th>Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air, Steam (Note 2)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–40 to 302°F (–40 to 150°C (No freezing))</td>
</tr>
<tr>
<td>Operating pressure range (Note 1)</td>
<td>~14.7 to 145 psi (~101.3 kPa to 1 MPa)</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>1015 psi (7.0 MPa (at 140°F [60°C]))</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Grease-free</td>
</tr>
<tr>
<td>Seal on the threads</td>
<td>None or with sealant</td>
</tr>
</tbody>
</table>

Note 1) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Note 2) Swivel type is not compatible with water and steam.

Applicable Tubing

<table>
<thead>
<tr>
<th>Series</th>
<th>Tubing O.D.</th>
<th>Tubing O.D. x I.D. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ø4 x ø2.5</td>
<td>ø6 x ø4</td>
</tr>
<tr>
<td>T</td>
<td>Nylon</td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>Soft nylon</td>
<td></td>
</tr>
<tr>
<td>TU</td>
<td>Polyurethane</td>
<td></td>
</tr>
<tr>
<td>TPH</td>
<td>Polyolefin</td>
<td></td>
</tr>
<tr>
<td>TPS</td>
<td>Soft polyolefin</td>
<td></td>
</tr>
<tr>
<td>TH</td>
<td>PEP</td>
<td></td>
</tr>
<tr>
<td>TL</td>
<td>Super PFA</td>
<td></td>
</tr>
<tr>
<td>TD</td>
<td>Modified PTFE</td>
<td></td>
</tr>
</tbody>
</table>

For details about the series, refer to the WEB catalog [http://www.smcworld.com] or the Best Pneumatics No. 6.
**Stainless Steel 316 Insert Fittings**

**Series KFG2**

Applicable Tubing: Metric Size, Stainless steel 316 Rubber material is not used. (Except swivel elbow) 
Grease-free
Can be used with steam.

**How to Order**

Refer to the WEB catalog or the Best Pneumatics No. 6.

**Specifications**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air, Water, Steam (Note 2) (Note 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating pressure range</strong> (Note 1)</td>
<td>1.45 to 145 psi (–100 kPa to 1 MPa) (Note 4)</td>
</tr>
<tr>
<td><strong>Proof pressure</strong></td>
<td>435 psi (3.0 MPa)</td>
</tr>
<tr>
<td><strong>Ambient and fluid temperature</strong> (Note 4)</td>
<td>–85 to 500°F (–65 to 260°C) (No freezing)</td>
</tr>
<tr>
<td><strong>Lubricant</strong></td>
<td>Grease-free specification</td>
</tr>
<tr>
<td><strong>Seal on the threads</strong></td>
<td>Without sealant (With sealant type compatible) (Note 5)</td>
</tr>
</tbody>
</table>

Note 1) Avoid using in a vacuum holding application such as a leak tester, since there is leakage.
Note 2) Consult with SMC regarding applicable tubing separately.
Note 3) Using special FKM that is resistant even when steam is used.
Note 4) Check the operating pressure range and operating temperature range of the tube.
Note 5) With sealant: Suffix "S" to the end of part number.
Note 6) Union nut is shipped together.

**Applicable Tubing**

<table>
<thead>
<tr>
<th>Tubing material (Note)</th>
<th>FEP, PFA, Modified PTFE, Nylon, Soft nylon (Note), Polyurethane, Soft polyurethane, Polyolefin, Soft polyolefin, Antistatic soft nylon, Antistatic polyurethane, Hard polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tubing size</strong></td>
<td>ø4 x ø2.5, ø4 x ø3, ø6 x ø4, ø8 x ø6, ø10 x ø7.5, ø10 x ø8, ø12 x ø9, ø12 x ø10, ø16 x ø13</td>
</tr>
</tbody>
</table>

Note) For soft nylon tubing, soft polyurethane tubing, hard polyurethane tubing, antistatic polyurethane tubing, water cannot be used.

<table>
<thead>
<tr>
<th>Series</th>
<th>Tubing material</th>
<th>Tubing O.D. x I.D. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH</td>
<td>FEP</td>
<td>ø4 x ø2.5, ø4 x ø3, ø6 x ø4, ø8 x ø6, ø10 x ø7.5, ø10 x ø8, ø12 x ø9, ø12 x ø10, ø16 x ø13</td>
</tr>
<tr>
<td>TL</td>
<td>Super PFA</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TD</td>
<td>Modified PTFE</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>T</td>
<td>Nylon</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TS</td>
<td>Soft nylon</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TU</td>
<td>Polyurethane</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TPH</td>
<td>Polyolefin</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TUS</td>
<td>Soft polyurethane</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TUH</td>
<td>Hard polyurethane (High pressure)</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TPS</td>
<td>Soft polyolefin</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
<tr>
<td>TAS</td>
<td>Antistatic soft nylon</td>
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</tr>
<tr>
<td>TAU</td>
<td>Antistatic polyurethane</td>
<td>-- -- -- -- -- -- -- -- --</td>
</tr>
</tbody>
</table>
Clean One-touch Fittings For Blowing Series KP

For details about the series, refer to the WEB catalog [http://www.smcworld.com] or the Best Pneumatics No. 6.

- Completely oil free (Rubber parts are fluorine-coated.)
- Liquid-contact areas are non-metallic
- Parts cleaning, assembly and double packaging in a clean room
- Can be used for vacuum (–14.5 psi [–100kPa])

How to Order

Refer to the WEB catalog or the Best Pneumatics No. 6.

Specifications

<table>
<thead>
<tr>
<th>Particulate generation grade</th>
<th>Grade 1 Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Air/Nitrogen gas/Water (pure water) Note 2)</td>
</tr>
<tr>
<td>Maximum operating pressure (68°F [20°C])</td>
<td>145 psi (1 MPa ) Note 3)</td>
</tr>
<tr>
<td>Operating vacuum pressure</td>
<td>–14.5 psi (–100 kPa) (10 Torr)</td>
</tr>
<tr>
<td>Proof pressure (68°F [20°C])</td>
<td>435 psi (3 MPa)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–4 to 176°F (–20 to 80°C)</td>
</tr>
<tr>
<td>Threads</td>
<td>JIS B0203 (Taper thread for piping)</td>
</tr>
</tbody>
</table>

Note 1) Refer to particulate generation grade classifications.
Note 2) The degree of clean performance will be reduced.
Note 3) The maximum operating pressure is the value at 68°F (20°C). Refer to the operating pressure curve for other temperatures.
Note 4) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Applicable Tubing

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>PFA, Polyolefin Soft polyolefin, Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D.</td>
<td>ø4, ø6, ø8, ø10, ø12</td>
</tr>
</tbody>
</table>

Note 1) FEP, nylon and soft nylon tubing, and tubing not compatible with the clean series can also be used. However, the degree of clean performance will be reduced.
Note 2) Due to the softness of polyurethane tubing, it may fold when being inserted. Hold the end of the tubing and insert it all the way in.
Precautions

Be sure to read before handling. Refer to the Best Pneumatic No. 6 for Safety Instructions. Be sure to read this before handling. Refer to the back cover for Safety Instructions. Refer to “Handling Precautions for SMC Products” on SMC website, http://www.smcworld.com

Caution

1. Applicable for general industrial water. Please consult with SMC if using other kinds of fluid. Surge pressure must be under the max. operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.

2. Please exercise caution when using this item in a clean room. There is a possibility of plasticizer and other materials precipitating on the tube surface and deteriorating the cleanliness level of the room.

Specifications

Fluid

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure Note 1 (MPa)</td>
<td>T0425 2040 0.85 1.15 1.6 2.3 2.3 2.3 2.3 2.3</td>
</tr>
<tr>
<td>104°F (40°C) or less</td>
<td>2.3 2.3 1.1 1.6 1.6 1.6 1.6 1.6 1.6</td>
</tr>
<tr>
<td>140°F (60°C)</td>
<td>1.65 1.4 1.4 1.1 1.6 1.6 1.6 1.6 1.6</td>
</tr>
<tr>
<td>176°F (80°C)</td>
<td>1.35 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8</td>
</tr>
<tr>
<td>221°F (100°C)</td>
<td>1.2 0.75 0.75 0.75 0.75 0.75 0.6 0.85 0.85 0.85 0.85 0.85</td>
</tr>
</tbody>
</table>

Applicable fittings Note 1 Note 2

<table>
<thead>
<tr>
<th>One-touch fittings</th>
<th>Insert fittings</th>
<th>Self-align fittings</th>
<th>Miniature fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>1/4&quot;</td>
<td>5/32&quot;</td>
<td>3/32&quot;</td>
</tr>
</tbody>
</table>

Min. bending radius (mm) Note 3

| 13 | 20 | 24 | 30 | 40 | 50 | 60 | 100 | 15 | 25 | 30 | 50 | 65 |

Bending value (Reference)

| 10 | 15 | 18 | 23 | 30 | 40 | 45 | 75 | 12 | 20 | 23 | 40 | 48 |

Operating temperature Note 1

| −40 to 212°F (−40 to 100°C), Water: 32 to 158°F (0 to 70°C) (No freezing) |

Material

| Nylon 12 |

Tubing size

| Nominal size (inch) | T0425 | T0403 | T0604 | T0645 | T0806 | T1075 | T1200 | T1613 | T1A01 | T1A05 | T1A07 | T1A11 | T1A13 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Note 1 Be sure to operate under the maximum operating pressure conditions using the lower maximum operating specification of either the tubing or fittings.

Note 2 Mount an inner sleeve when using metal One-touch fittings in high-temperature environments of 140°F (60°C) or more. Use self-align fittings at a temperature of 140°F (60°C) or less.

Note 3 The minimum bending radius is the representative value measured as shown in the left figure.

- Use a tube above the recommended minimum bending radius.
- The tubing may be bent if used under the recommended minimum bending radius.
- Therefore, refer to the refraction value and make sure that the tubing is not bent or flattened.
- Please note that the refraction value is not warranted because of the value when 2R is measured by the method in the left figure if the tubing is bent or flattened, etc.
Nylon Tubing Series T/TIA –40°F (–40°C)

Made to Order

Made to Order Availability

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Length</th>
<th>T0425</th>
<th>T0604</th>
<th>T0806</th>
<th>T1075</th>
<th>T1209</th>
<th>TIA01</th>
<th>TIA05</th>
<th>TIA07</th>
<th>TIA11</th>
<th>TIA13</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>X3</td>
<td>100 m reel</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>Black, White, Red, Blue, Yellow, Green</td>
</tr>
<tr>
<td></td>
<td>150 m reel</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 m reel</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>500 m reel</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>X4</td>
<td>20 m roll</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>Red, Blue, Yellow, Green</td>
</tr>
</tbody>
</table>

(Please contact SMC for specifications in detail, dimensions, delivery and specifications other than those mentioned above.)

100 m reel Metric size and Inch size except ø16: Suffix “-X3” to the end of part number. Ex.) T0425R-100-X3

Longer length reel Metric size: Suffix “-X3” to the end of part number. Ex.) T0425G-500-X3

20 m roll Inch size: Suffix “-X4” to the end of part number. Ex.) TIA01BU-20-X4

For general pneumatic outside diameter’s rate of change is 10%.

At a temperature of 68°F (20°C), bend the tubing into close. Measure 2R at the point where the

How to measure the minimum bending radius.

Caution

Max. operating pressure  psi (MPa)

−40

1. Applicable for general industrial water. Please

−40

Precautions for SMC Products” on SMC

C

°F

°C

−40

Precautions

T1613

Series TIA

T0604

T0804

Air/Water

Fluid

Material

Applicable fittings

pressure

Max. operating

specifications

Note 1) Note 2)

Other metric size

(0)

32

(20)

(60)

(80)

(100)

212

1.1

2.5

3.3

5 32 " 5 16 ”

0.75

0.8

1.0

1.4

2.0

1.4

2.3

3.3

68°F (20°C)

176°F (80°C)

140°F (60°C)

104°F (40°C)

Bending value (Reference)

Min. bending radius:

Tube size

Tubing size

Nylon 12

Tubing I.D. (mm)

Tubing O.D. (mm)

Port Valves for

Fluid Control

Air Cylinders

Air Grippers

Rotary Actuator

Pressure Control

Equipment

Flow Control

Equipment

F.R.L.

AL AR AF AW

Port Valves for Fluid Control

Fittings and Tubing

Pneumatic Instrumentation Equipment
Specifications

- **Valve Construction**: Direct Operated Pocket
- **Fluid Size**: 12 mm
- **Max. Operating Pressure**: 1.0 MPA
- **Max. Operating Temperature**: 80°C
- **Valve Leakage**: 1.0 x 10^-5
- **Fluid Temperature**: -30°C to 60°C
- **Ambient Temperature**: -20°C to 80°C
- **Weight**: 810 g
- **Seal Material**: NBR
- **Insulation Type**: Class B

**Valve Number**: VX230LZ2EAX410

---

**Note**: Unless otherwise noted along with a separate contract of agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Bag Filter Valve **VXF23A□□□□X39** –40°F (–40°C)

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
unless otherwise noted along with a separate contract or agreement within the product specifications, the safety instructions specified in the product catalog are applied. please contact your local smc sales office for further details.
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
### Pneumatic-Pneumatic Positioner

**(Lever type / Rotary type)**

**Series IP5000/5100**

For details about the series, refer to the WEB catalog [http://www.smcworld.com](http://www.smcworld.com)

- **JIS F8007 IP55**

#### How to Order

<table>
<thead>
<tr>
<th>Type</th>
<th>Model</th>
<th>Input lever feedback</th>
<th>Rotary type cam feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>L</td>
<td>Lever type</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>R</td>
<td>Rotary type</td>
<td></td>
</tr>
</tbody>
</table>

#### Pressure gauge (SUP, OUT)

<table>
<thead>
<tr>
<th>Pressure gauge</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td>1</td>
<td>29 psi (0.2 MPa)</td>
</tr>
<tr>
<td>2</td>
<td>44 psi (0.3 MPa)</td>
</tr>
<tr>
<td>3</td>
<td>145 psi (1.0 MPa)</td>
</tr>
</tbody>
</table>

#### Indication of opening (Note 1)

<table>
<thead>
<tr>
<th>Indication of opening</th>
<th>Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>IP5000 is available only with option “0” (no indication).</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

#### Pressure gauge/Air port

<table>
<thead>
<tr>
<th>Pressure gauge</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Rc (Standard)</td>
</tr>
<tr>
<td>N</td>
<td>NPT</td>
</tr>
<tr>
<td>F</td>
<td>G</td>
</tr>
</tbody>
</table>

### Precautions

1. Do not apply any excessive vibration or impact to the positioner during transportation, handling and operation, as it may cause malfunction.
2. Do not use the product in a temperature range exceeding its specifications, as various seals may deteriorate earlier or the product may malfunction.
3. When the product is in use or left at work site, attach a body cover to prevent entry of rainwater etc.
4. If the product is exposed to the high temperature or high humidity during transportation, storage, or when it is left at work site, take measures so that no dew condensation occurs inside the product.
5. The zero point may change depending on the mounting posture. Adjust the zero point after installed in the equipment (at work site).

### Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>IP5000</th>
<th>IP5100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lever type lever feedback</td>
<td>Rotary type cam feedback</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single acting</td>
<td>Double acting</td>
</tr>
<tr>
<td>Supply pressure</td>
<td></td>
<td>20 to 1015 psi (0.14 to 0.7 MPa)</td>
<td></td>
</tr>
<tr>
<td>Input pressure</td>
<td></td>
<td>2.9 to 145 psi (0.02 to 0.1 MPa)</td>
<td></td>
</tr>
<tr>
<td>Standard stroke</td>
<td></td>
<td>10 to 85 mm</td>
<td>60° to 100°</td>
</tr>
<tr>
<td>Sensitivity</td>
<td></td>
<td>Within 0.1%FS.</td>
<td>Within 0.5%FS.</td>
</tr>
<tr>
<td>Linearity</td>
<td></td>
<td>Within ±1%FS.</td>
<td>Within ±2%FS.</td>
</tr>
<tr>
<td>Hysteresis</td>
<td></td>
<td>Within 0.75%FS.</td>
<td>Within 1%FS.</td>
</tr>
<tr>
<td>Repeatability</td>
<td></td>
<td>Within ±0.5%FS.</td>
<td></td>
</tr>
<tr>
<td>Air consumption</td>
<td></td>
<td>5 L/min (ANR) or less (SUP = 0.14 MPa)</td>
<td>11 L/min (ANR) or less (SUP = 0.4 MPa)</td>
</tr>
<tr>
<td>Output flow rate</td>
<td></td>
<td>80 L/min (ANR) or more (SUP = 0.14 MPa)</td>
<td>200 L/min (ANR) or more (SUP = 0.4 MPa)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td></td>
<td>–22 to 140°F (~−30°C to 60°C)</td>
<td></td>
</tr>
<tr>
<td>Coefficient of temperature</td>
<td></td>
<td>Within 0.1%FS./°C</td>
<td></td>
</tr>
<tr>
<td>Air connection port</td>
<td></td>
<td>Rc1/4 (Standard)</td>
<td></td>
</tr>
<tr>
<td>Main component parts</td>
<td></td>
<td>Aluminum die-cast, Stainless steel, Brass, Nitrile rubber</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>Approx. 1.4 kg</td>
<td>Approx. 1.2 kg</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td>118 x 102 x 86 (Body)</td>
<td>118 x 92 x 77.5 (Body)</td>
</tr>
</tbody>
</table>

**Note:** Standard air temperature: 68°F (20°C) (293 K), Absolute pressure: 760 mmHg (14.7 psi [101.3 kPa]), Relative humidity: 65%

### Replacement Parts

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>P378010-54</td>
<td>Pilot valve unit</td>
<td>For IP5000-L</td>
</tr>
<tr>
<td>P378020-64</td>
<td>Pilot valve unit</td>
<td>For IP5000-L</td>
</tr>
<tr>
<td>P368010-24</td>
<td>Fork lever assembly M</td>
<td>For IP5100 (Accessory: C)</td>
</tr>
<tr>
<td>P368010-25</td>
<td>Fork lever assembly S</td>
<td>For IP5100 (Accessory: D)</td>
</tr>
<tr>
<td>P378001-11</td>
<td>Feedback lever</td>
<td>For IP5000/10 to 85 mm (Accessory: Nil)</td>
</tr>
<tr>
<td>P378010-12</td>
<td>Feedback lever</td>
<td>For IP5000/35 to 100 mm (Accessory: E)</td>
</tr>
<tr>
<td>P378010-13</td>
<td>Feedback lever</td>
<td>For IP5000/50 to 140 mm (Accessory: F)</td>
</tr>
</tbody>
</table>
Electro-Pneumatic Positioner (Lever type / Rotary type)
Series IP8000/8100

- Dustproof / Waterproof
- Monitoring function
- With external scale plate (Rotary type)
- explosion-proof construction
- ATEX intrinsically safe explosion-proof construction (II2G Ex ib IICT5/T6)
- With internal opening indicator plate

How to Order

ATEX Directive Intrinsically Safe Explosion proof

IP8000-010-X14-L

Pressure gauge

Symbol | Pressure
---|---
0 | None
1 | 29 psi (0.2 MPa)
2 | 44 psi (0.3 MPa)
3 | 145 psi (1.0 MPa)

ATEX directive compliance and connection

X14

- ATEX directive category 2
- Intrinsically safe explosion-proof item
- Air connection port: 1/4 NPT
- Conduit connection port: M20×1.5
- With blue cable gland

Accessories (Note 1)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Accessories</th>
<th>Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>None</td>
<td>IP8000 IP8100</td>
</tr>
<tr>
<td>A</td>
<td>ø0.7 Output restriction with pilot valve</td>
<td>✗ ✗</td>
</tr>
<tr>
<td>B</td>
<td>ø1.0 Output restriction with pilot valve</td>
<td>✗ ✗</td>
</tr>
<tr>
<td>C</td>
<td>Fork lever-type fitting M&lt;sup&gt;Note 3&lt;/sup&gt;</td>
<td>— ✗</td>
</tr>
<tr>
<td>D</td>
<td>Fork lever-type fitting S&lt;sup&gt;Note 4&lt;/sup&gt;</td>
<td>— ✗</td>
</tr>
<tr>
<td>E</td>
<td>For stroke 35 to 100 mm with lever unit&lt;sup&gt;Note 5&lt;/sup&gt;</td>
<td>✗ —</td>
</tr>
<tr>
<td>F</td>
<td>For stroke 50 to 140 mm with lever unit&lt;sup&gt;Note 5&lt;/sup&gt;</td>
<td>✗ —</td>
</tr>
<tr>
<td>G</td>
<td>Compensation spring&lt;sup&gt;Note 6&lt;/sup&gt;</td>
<td>✗ ✗</td>
</tr>
<tr>
<td>H</td>
<td>With external scale plate</td>
<td>— ✗</td>
</tr>
</tbody>
</table>

Note 1) If two or more accessories are required, the part numbers should be made according to alphabetical order.

Ex.) IP8100-010-AG

Note 2) “A” is applied to approx 90cm³-capacity actuator.
“B” is applied to approx 180cm³-capacity actuator.

Note 3) Fork lever-type fitting MX (Connection thread: M6 x 1) for IP8100-010-X14.

Note 4) Fork lever-type fitting SX (Connection thread: M6 x 1) for IP8100-010-X14.

Note 5) Standard lever is not attached.

Note 6) It is to be used together with “A” or “B” when tending to overshoot by the use of “A” or “B”.
It is mounted to the body as a replacement of the standard compensation spring.
ATEX directive compliance and connection

**X14**

ATEX directive category 2
Intrinsically safe explosion-proof item

Air connection port: 1/4 NPT
Conduit connection port: M20×1.5
With blue cable gland

---

Type
000IP8 0 X14

ATEX Directive Intrinsically Safe Explosion proof

Pressure gauge
Symbol Pressure
0
None
1
29 psi (0.2 MPa)
2
44 psi (0.3 MPa)
3
145 psi (1.0 MPa)

---

Electro-pneumatic lever type
100
Electro-pneumatic rotary type

---

Dustproof / Waterproof
Monitoring function
With external scale plate (Rotary type)
Explosion-proof construction
ATEX intrinsically safe explosion-proof construction
With internal opening indicator plate

---

II
2G Ex ib
II
CT5/T6)

---

Note 1) If two or more accessories are required, the part numbers should be made according to alphabetical order.
Ex.) IP8100-010-AG

Note 2) “A” is applied to approx 90cm 3-capacity actuator.
“B” is applied to approx 180cm 3-capacity actuator.

Note 3) Fork lever-type fitting MX (Connection thread: M6 x 1) for IP8100-00-X14.

Note 4) Fork lever-type fitting SX (Connection thread: M6 x 1) for IP8100-00-X14.

Note 5) Standard lever is not attached.

Note 6) It is to be used together with “A” or “B” when tending to overshoot by the use of “A” or “B.” It is mounted to the body as a replacement of the standard compensation spring.

---

Accessories

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Accessories Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ø0.7 Output restriction with pilot valve Note 2)</td>
</tr>
<tr>
<td>B</td>
<td>ø1.0 Output restriction with pilot valve Note 2)</td>
</tr>
<tr>
<td>C</td>
<td>Fork lever-type fitting M Note 3)</td>
</tr>
<tr>
<td>D</td>
<td>Fork lever-type fitting S Note 4)</td>
</tr>
<tr>
<td>E</td>
<td>For stroke 35 to 100 mm with lever unit Note 5)</td>
</tr>
<tr>
<td>F</td>
<td>For stroke 50 to 140 mm with lever unit Note 5)</td>
</tr>
<tr>
<td>G</td>
<td>Compensation spring (A) Note 6)</td>
</tr>
<tr>
<td>H</td>
<td>With external scale plate</td>
</tr>
</tbody>
</table>

---

How to Order
Pneumatic Positioner (Lever type / Rotary type)
Series IP8000/8100

[Option]
For details about the series, refer to the WEB catalog http://www.smcworld.com

---

Pressure Control Equipment
Flow Control Equipment
Valves
Air Cylinders
Air Grippers
Rotary Actuator

---

Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
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**Model**
- IL201
- IL211
- IL220

**Action**
- Single acting
- Double acting
- 3 Port

**Signal pressure**
- Max. 145 psi (1.0 MPa)

**Set pressure range**
- 20 to 102 psi (0.14 to 0.7 MPa)
  - Note 1: Provide a differential pressure of 14.5 psi (0.1 MPa) or more between the signal pressure and set pressure. If the differential pressure is small, the internal part is worn out due to the structure of this product and the bleed amount from the exhaust port increases, which may affect the characteristics.

**Shut-off pneumatic circuit pressure**
- Max. 102 psi (0.7 MPa)

**Ambient and fluid temperature**
- –22 to 140°F (−30 to 60°C)
  - (Do not freeze.)

**Port size**
- 1/4

**Differential**
- Note 2: 1.45 psi (0.01 MPa)

**Weight**
- IL201: 0.45 kg
- IL211: 0.64 kg
- IL220: 0.7 kg

**Accessories**
- Nil

**How to Order**
- Standard Specifications
- IL201
- IL211
- IL220

**Lock-Up Valve**
- Series IL201/211/220
- For details about the series, refer to the WEB catalog http://www.smcworld.com

**Note 1:**
- The lock-up valve is used if any air source or air supply piping line failure occurs in the air operated process control line.

**Note 2:**
- Single acting, Double acting: Retains pressure at the operating area as emergency operation until the air source is recovered to its normal state.
- 3 Port: Changes the supply port if a trouble occurs.
• The lock-up valve is used if any air source or air supply piping line failure occurs in the air operated process control line.

Single acting, Double acting: Retains pressure at the operating area as emergency operation until the air source is recovered to its normal state.

3 Port: Changes the supply port if a trouble occurs.

How to Order

IL201 02 L

Action
201 Single acting
211 Double acting
220 3 Port

Port size
02 1/4

Accessories
Nil None
B With bracket

Thread type
Nil Rc
N NPT*
F G*

* Semi-standard

Standard Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>IL201</th>
<th>IL211</th>
<th>IL220</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Single acting</td>
<td>Double acting</td>
<td>3 Port</td>
</tr>
<tr>
<td>Signal pressure</td>
<td>Max. 145 psi (1.0 MPa)(^{Note 1})</td>
<td>(20) to (102) psi (0.14 to 0.7 MPa)(^{Note 1})</td>
<td>(20) to (102) psi (0.14 to 0.7 MPa)(^{Note 1})</td>
</tr>
<tr>
<td>Set pressure range</td>
<td>(20) to (102) psi (0.14 to 0.7 MPa)(^{Note 1})</td>
<td>(20) to (102) psi (0.14 to 0.7 MPa)(^{Note 1})</td>
<td>(20) to (102) psi (0.14 to 0.7 MPa)(^{Note 1})</td>
</tr>
<tr>
<td>Shut-off pneumatic circuit pressure</td>
<td>Max. 102 psi (0.7 MPa)</td>
<td>Max. 102 psi (0.7 MPa)</td>
<td>Max. 102 psi (0.7 MPa)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>(-22) to (140)°F ((-30) to (60)°C) (Do not freeze.)</td>
<td>(-22) to (140)°F ((-30) to (60)°C) (Do not freeze.)</td>
<td>(-22) to (140)°F ((-30) to (60)°C) (Do not freeze.)</td>
</tr>
<tr>
<td>Port size</td>
<td>1/4</td>
<td>1/4</td>
<td>1/4</td>
</tr>
<tr>
<td>Differential(^{Note 2})</td>
<td>1.45 psi (0.01 MPa)</td>
<td>1.45 psi (0.01 MPa)</td>
<td>1.45 psi (0.01 MPa)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.45 kg</td>
<td>0.64 kg</td>
<td>0.7 kg</td>
</tr>
</tbody>
</table>

Note 1) Provide a differential pressure of 14.5 psi (0.1 MPa) or more between the signal pressure and set pressure. If the differential pressure is small, the internal part is worn out due to the structure of this product and the bleed amount from the exhaust port increases, which may affect the characteristics.

Note 2) Pressure difference between lock activated and lock released.
Booster Relay  
Series IL100

- Used when the piping distance between instrumentation and operational area is long, or when operational area has large capacity.  
- Can help accelerate actuation speed considerably.

How to Order


- Port size: 02 (1/4), 03 (3/8)  
- Thread type: Nil, Rc, N, NPT*, F, G*  
  * Semi-standard  
- Accessories: Nil, None, B With bracket

Standard Specifications

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply pressure</td>
<td>Max. 145 psi (1.0 MPa)</td>
</tr>
<tr>
<td>Input pressure</td>
<td>Max. 102 psi (0.7 MPa)</td>
</tr>
<tr>
<td>Output pressure</td>
<td>Max. 102 psi (0.7 MPa)</td>
</tr>
<tr>
<td>Air consumption</td>
<td>0.11 scfm [3 L/min (ANR)] or less</td>
</tr>
<tr>
<td>(Outlet pressure: 73 psi [0.5 MPa])</td>
<td></td>
</tr>
<tr>
<td>Linearity</td>
<td>Within ±1%</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>Within 1%</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–22 to 140°F (–30 to 60°C)(Do not freeze.)</td>
</tr>
<tr>
<td>Port size</td>
<td>1/4, 3/8</td>
</tr>
<tr>
<td>Weight</td>
<td>0.56 kg</td>
</tr>
</tbody>
</table>

Flow-rate Characteristics

![Graph showing flow-rate characteristics]
Booster Relay

**IL100-L-DIO00047**

**Specifications**
- **Supply Pressure:** Max. 1.0 MPa
- **Input Pressure:** Max. 3.0 MPa
- **Output Pressure:** Max. 3.0 MPa
- **Linearity:** ±1% (When the needle valve is fully open)
- **Hysteresis:** ±1% (When the needle valve is fully open)
- **CV Factor:** 1:1
- **Temperature:** -40°F (-40°C) (Do not freeze.)
- **Mass:** 560g (with bracket: 820g)
- **Input:Output:** 1:1

**Port Size:**
- 02: 1/4
- 03: 3/8

**Weight:** 0.56 kg

**NOTE:** The parts of this model are the same parts as IL100-*** except for expressed parts at the below.

<table>
<thead>
<tr>
<th>Part No</th>
<th>Part Name</th>
<th>Material</th>
<th>Qty</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Washer Screws and Washer Assymetries</td>
<td>Stainless</td>
<td>6</td>
<td>MSx1x35</td>
</tr>
<tr>
<td>4</td>
<td>O-Ring</td>
<td>SI</td>
<td>1</td>
<td>P6</td>
</tr>
<tr>
<td>3</td>
<td>O-Ring</td>
<td>SI</td>
<td>1</td>
<td>P12</td>
</tr>
<tr>
<td>2</td>
<td>Diaphragm</td>
<td>SI</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Diaphragm</td>
<td>SI</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Port Values for Fluid Control**
- **Port Valves**
- **Flow Control Equipment**
- **Pressure Control Equipment**
- **F.R.L.**

**Valves**

**Fittings and Tubing**
- **Valves**

**Pneumatic Instrumentation Equipment**
- **Port Valves**
- **Fittings and Tubing**
- **Flow Control Equipment**
- **Pressure Control Equipment**
- **F.R.L.**

**Rotary Actuator**
- **Valves**
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.

-40°F (-40°C)

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Pressure</td>
<td>Max. 1.0 MPa</td>
</tr>
<tr>
<td>Input Pressure</td>
<td>Max. 0.7 MPa</td>
</tr>
<tr>
<td>Output Pressure</td>
<td>Max. 0.7 MPa</td>
</tr>
<tr>
<td>Temperature</td>
<td>-30 to 60°C</td>
</tr>
<tr>
<td>Mass</td>
<td>1.2 kg</td>
</tr>
<tr>
<td>Linearity</td>
<td>± 5% F.S.</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>± 2% F.S.</td>
</tr>
</tbody>
</table>

**NOTE:** The parts of this model are the same parts as XT240-1 except expressed parts at the below.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Part Name</th>
<th>Material</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Plug</td>
<td>Steel</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>O-Ring</td>
<td>S1</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>O-Ring</td>
<td>S1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>O-Ring</td>
<td>S1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>O-Ring</td>
<td>S1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>O-Ring</td>
<td>S1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Diaphragm</td>
<td>NBR</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Diaphragm</td>
<td>NBR</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Body</td>
<td>Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>Cover</td>
<td>Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
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Unless otherwise noted along with a separate contract or agreement within the Product Specifications, the safety instructions specified in the product catalog are applied. Please contact your local SMC Sales office for further details.
### 3/4/5 Port Solenoid Valves/Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions. Refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com

---

<table>
<thead>
<tr>
<th><strong>Air Supply</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Use air with a low dew point so that drain or moisture is not solidified or frozen.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wiring</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Take appropriate measures so that no dew condensation occurs in the electrical connection part of the solenoid valve. Failure to do so may cause malfunction or coil burning.</td>
</tr>
</tbody>
</table>
Actuators/Precautions

- This product should be used without lubrication.
- Use the air preparation equipment that can dehumidify sufficiently. If moisture enters the product, this may cause malfunction due to freezing.
- Please consult SMC for auto switch mounting.
- Rust may occur in an environment where water droplets generated by dew condensation stick to the product.
- Be aware that smoking cigarettes etc after your hands have come into contact with the grease used in this actuator can create a gas that is hazardous to humans.

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**Precautions**

[Model: Air Cylinder]
- Please contact SMC for the one with rubber bumper for CQ2, CQS.
- Series CG1 has no cushion type. Piston speed is ranged from 50 to 500 mm/s.
- Refer to the construction of the standard type for the details of the packing set for CJP2 6, 10 and 16.

[Model: Air Gripper]
- The service life and finger operation are not guaranteed due to effects of the temperature (low temperature).
- The air gripper with auto switch can be operated in an ambient temperature of between -10 to 60°C.

Be sure to read this before handling. Refer to the back cover for Safety Instructions. Refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com
Pressure Control Equipment/Pneumatic Instrumentation Equipment/Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions. Refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com

- Use the air preparation equipment that can dehumidify sufficiently. If moisture enters the product, this may cause malfunction due to freezing.

Precautions

[Model: Series IR]
- In a low temperature environment, the pulsations of the set pressure tend to occur when compared to the normal temperature (68°F [20°C]) environment. If a pulsation occurs under operating conditions, it can be avoided by taking corrective actions described below.
  a. Increase the outlet piping capacity.
  b. Operate with the supply pressure reduced as much as possible in a range of the minimum supply pressure or more.
  c. When using the low pressure range (IR2000, IR3000) or medium pressure range (IR2010, IR3010) type, change it to the high pressure range (IR2020, IR3020) type.
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.

**Caution:**
- Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

**Warning:**
- Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

**Danger:**
- Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious 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. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
   1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
   2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
   3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
   4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

### Caution

1. The product is provided for use in manufacturing industries.
   The product herein described is basically provided for peaceful use in manufacturing industries.
   If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
   If anything is unclear, contact your nearest sales branch.

### 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.
   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.
   - Vacuum pads are excluded from this 1 year 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.

### Caution

SMC products are not intended for use as instruments for legal metrology. Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

**Safety Instructions**
Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.