

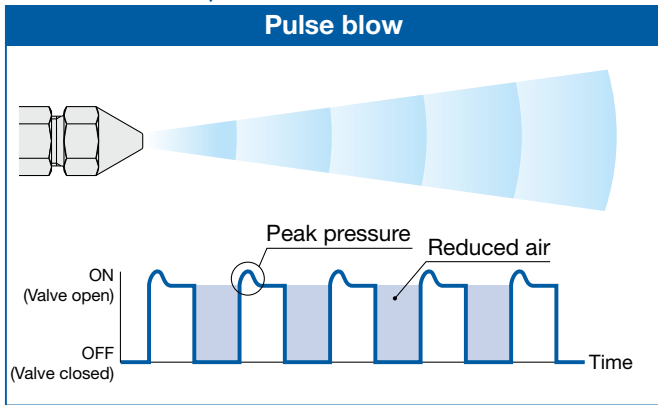
Pulse Blow Valve

[Built-in Pilot Valve]

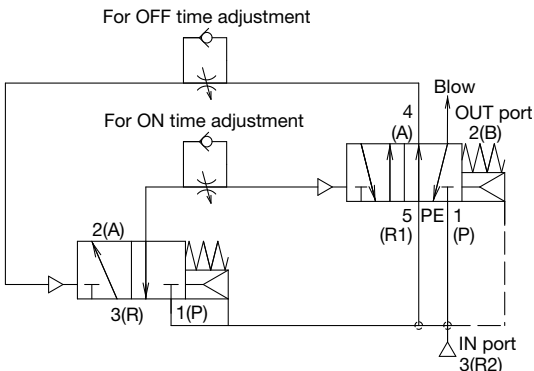
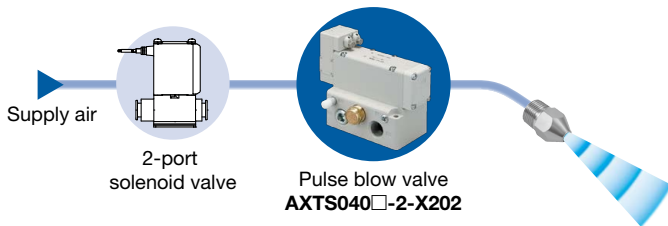
The peak pressure of repeatedly colliding air permits efficient blowing.

CO₂ emissions (Air consumption)
50% reduction

* Depending on pulse conditions (ON/OFF time)



Control for pulse generation is not required.
 Pulse blow can be used by simply supplying air.



AXTS040-X202

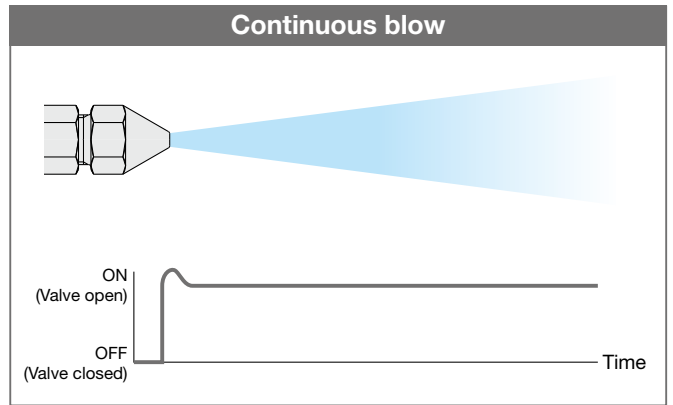
Number of needle rotations: 0 to 8 rotations

New

RoHS

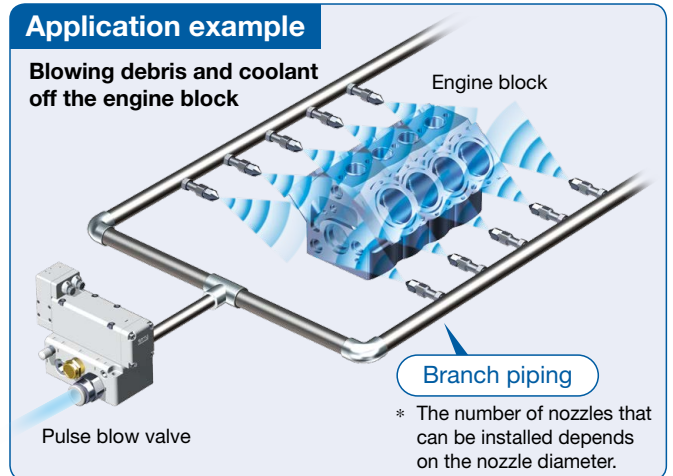


Port size: 1/2
 Rc, G, NPT, NPTF



Built-in pilot valve construction allows for stable blowing.

* The construction, which is less susceptible to operating conditions such as piping diameter and length and nozzle type, allows for easy and stable pulse blow.



- Individually adjustable ON/OFF times
- Operating pressure range: 0.2 to 1.0 MPa
- Operating frequency (Frequency): 1 to 12 Hz



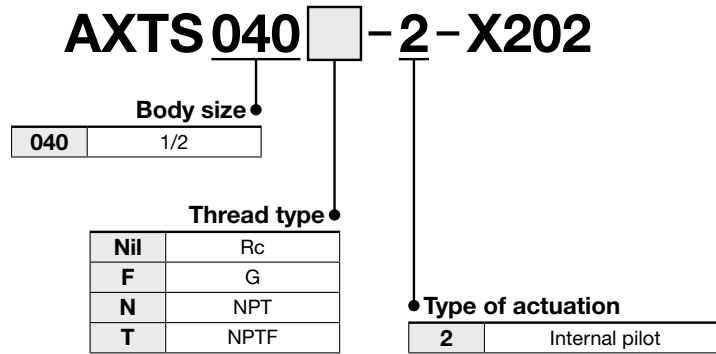
CAT.ES11-122A

Pulse Blow Valve

AXTS040- -2-X202

RoHS

How to Order



Specifications

Model	AXTS040 -2-X202
Type of actuation	Internal pilot
Valve construction	Metal seal
Fluid	Air
Operating pressure range	0.2 to 1.0 MPa
Frequency adjustment range	1 to 12 Hz
Proof pressure	1.5 MPa
Ambient and fluid temperatures	-5 to 50°C (No freezing)
Lubrication	Not required
Weight	Approx. 1400 g
Flow rate characteristics (IN port → OUT port)	C[dm ³ /(s·bar)]
	b
	Cv

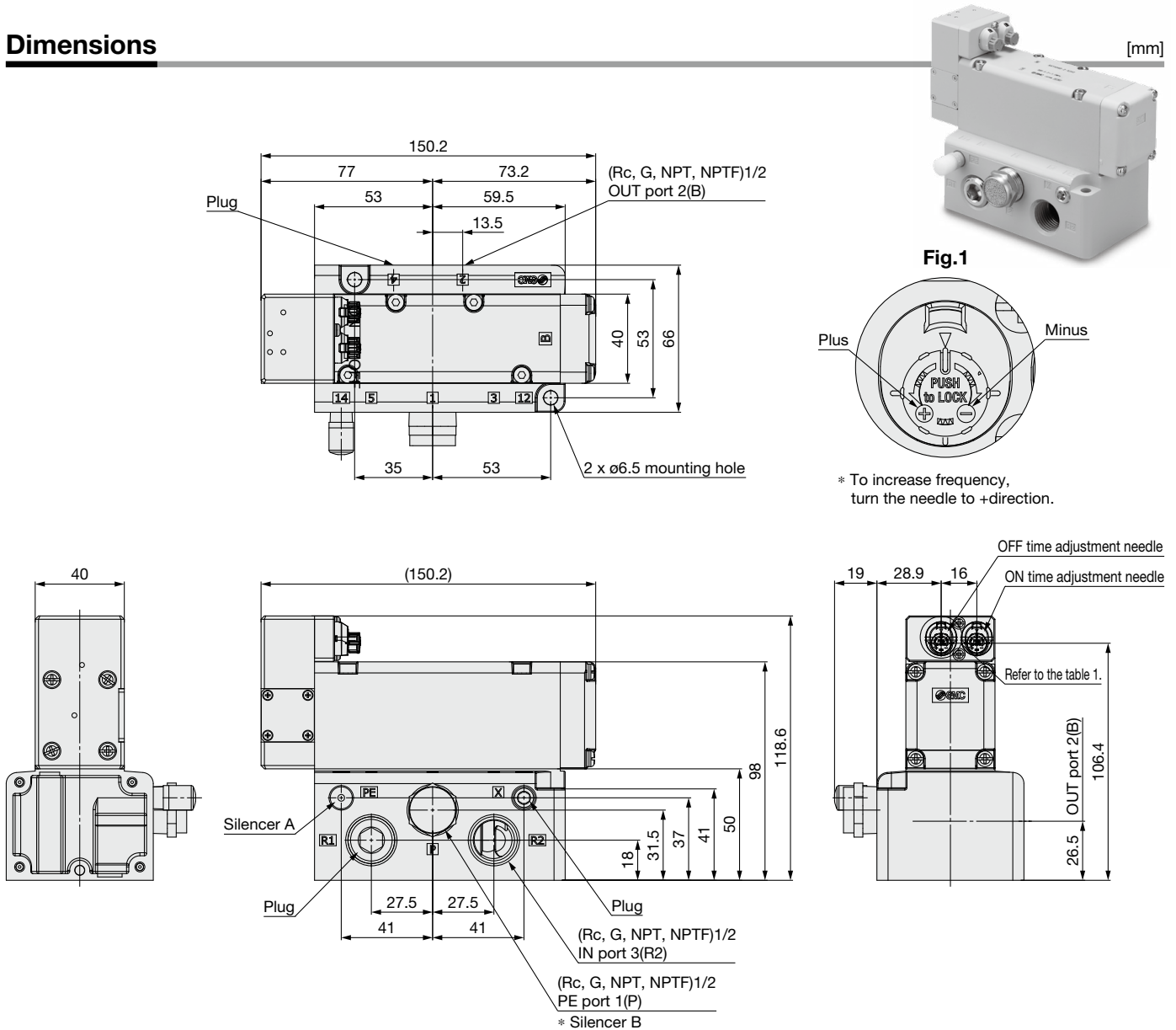
* The AXTS series is air operated. Ensure that pressure in the inlet port (P1) does not drop below the valve's minimum operating pressure (0.2 MPa) during operation.

Silencers Part Numbers (For maintenance)

* A silencer is included when ordering the product. Refer to the table below to order a replacement if needed.

Product part no.	Silencer part no.		Thread type
	Silencer A [For PE port]	Silencer B [For 1(P) port]	
AXTS040-2-X202	AN10-01	EBKX-L7007-120	Rc
AXTS040F-2-X202	AN10-01	EBKX-L7007F-120	G
AXTS040N-2-X202	AN10-N01	EBKX-L7007N-120	NPT
AXTS040T-2-X202	AN10-N01	EBKX-L7007N-120	NPTF

Dimensions



⚠ Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and 2-port solenoid valve for fluid control precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smcworld.com>

⚠ Caution

- This valve converts continuous air blowing into intermittent air blowing. No wiring required. AXTS040 valve can be installed between the existing blow valve and the nozzle.

The adjustment needles allow to adjust ON/OFF times (frequency) individually. For more information, please refer to the table below and the operation manual.

Adjustment needle	Decrease (-direction, clockwise)	↔	Increase (+direction, counterclockwise)
Frequency (Operating frequency)	Low	↔	High
ON time adjustment needle	ON time: Long	↔	ON time: Short
OFF time adjustment needle	OFF time: Long	↔	OFF time: Short

- This product has a large effective area and can provide a large flow rate. To effectively use the pulse blow valve, it is recommended that the nozzle used downstream the pulse valve is at least 4 mm orifice diameter. Otherwise, the recommendation is to use multiple nozzles with a total equivalent effective area equal or higher than a 4 mm orifice diameter nozzle.

To reduce air consumption, set the needle for the ON time to be short. (Set the OFF scale smaller and the ON scale larger.) For more information, refer to the operation manual.

⚠ Caution

- The breathing hole and pilot exhaust hole are located at the bottom of the pilot plate, so the bottom of the pilot plate should not be blocked.

For more information, refer to the operation manual.

- The sliding parts of this product are lubricated. Be aware that due to the construction, some lubricant may flow out to the outlet side with the blow air.


- This valve is internally air operated, and intermittent operation will start when air is supplied to the inlet port. Air will continue to be discharged from the exhaust port (PE port) as long as air is supplied to the inlet port of the pulse valve, even if out port is sealed with a plug or another valve is installed blocking the air consumption downstream the pulse valve.


Therefore, install a component upstream the pulse valve to shut off the air supply to the inlet port of this product.


- If clogging in the nozzle or filter takes place in operation, air blow discharge pressure decreases, resulting in ineffective pulse blow. Perform periodic maintenance.

Safety Instructions

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

 **Danger :** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

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

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

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

Warning

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

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

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

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

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

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

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

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

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

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

*2) **Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

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

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

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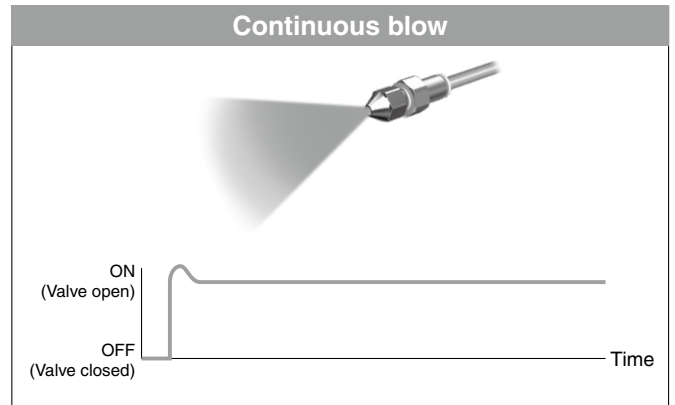
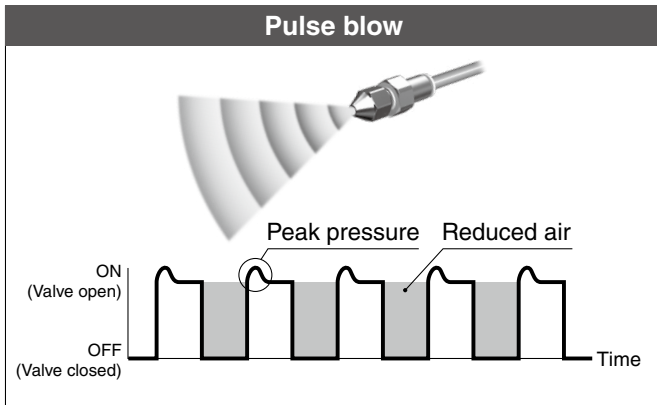
Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

D-G

Pulse Blow Valve

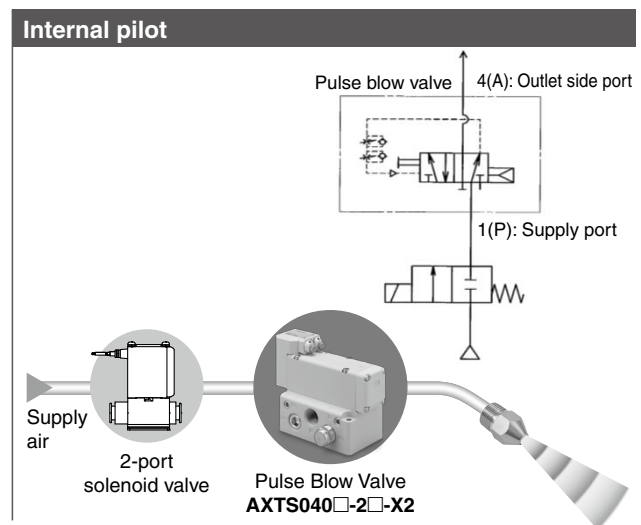
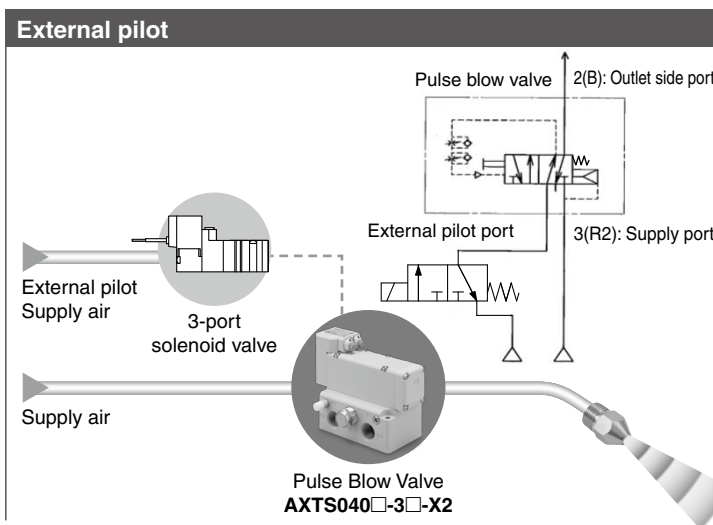
The peak pressure of repeatedly colliding air permits efficient blowing.

■ Air consumption: Reduced by 50% or more



■ Control for pulse generation is not required.

Pulse blow can be used by simply supplying air.



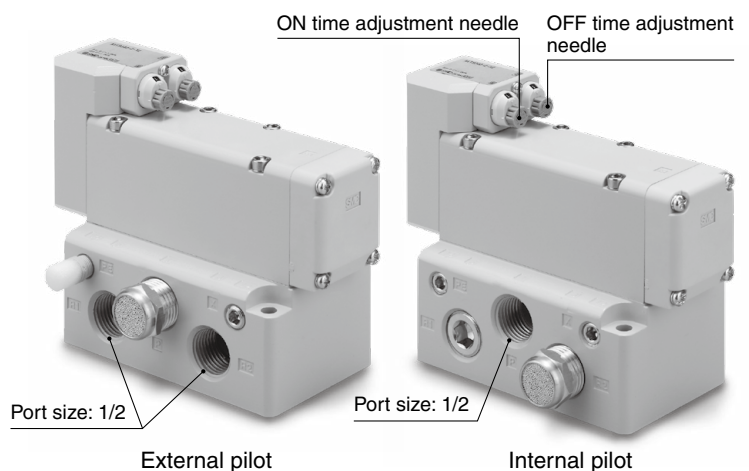
■ Long service life
(200 million cycles or more)

■ Flow rate characteristics

Type of actuation	C [dm ³ /(s·bar)]	b	Cv
External pilot	14	0.18	3.4
Internal pilot	12	0.14	2.9

■ ON/OFF time adjustable individually

■ Operating pressure range:
0.2 to 1.0 MPa



AXTS040□-□□-X2



AXTS040□-□□-X2

How to Order

AXTS 040 □ - 3 □ -X2

Body size	040 1/2	Direct manual override	Nil None
Thread type	Nil Rc	Type of actuation	2 Internal pilot
	F G		3 External pilot
	N NPT		
	T NPTF		

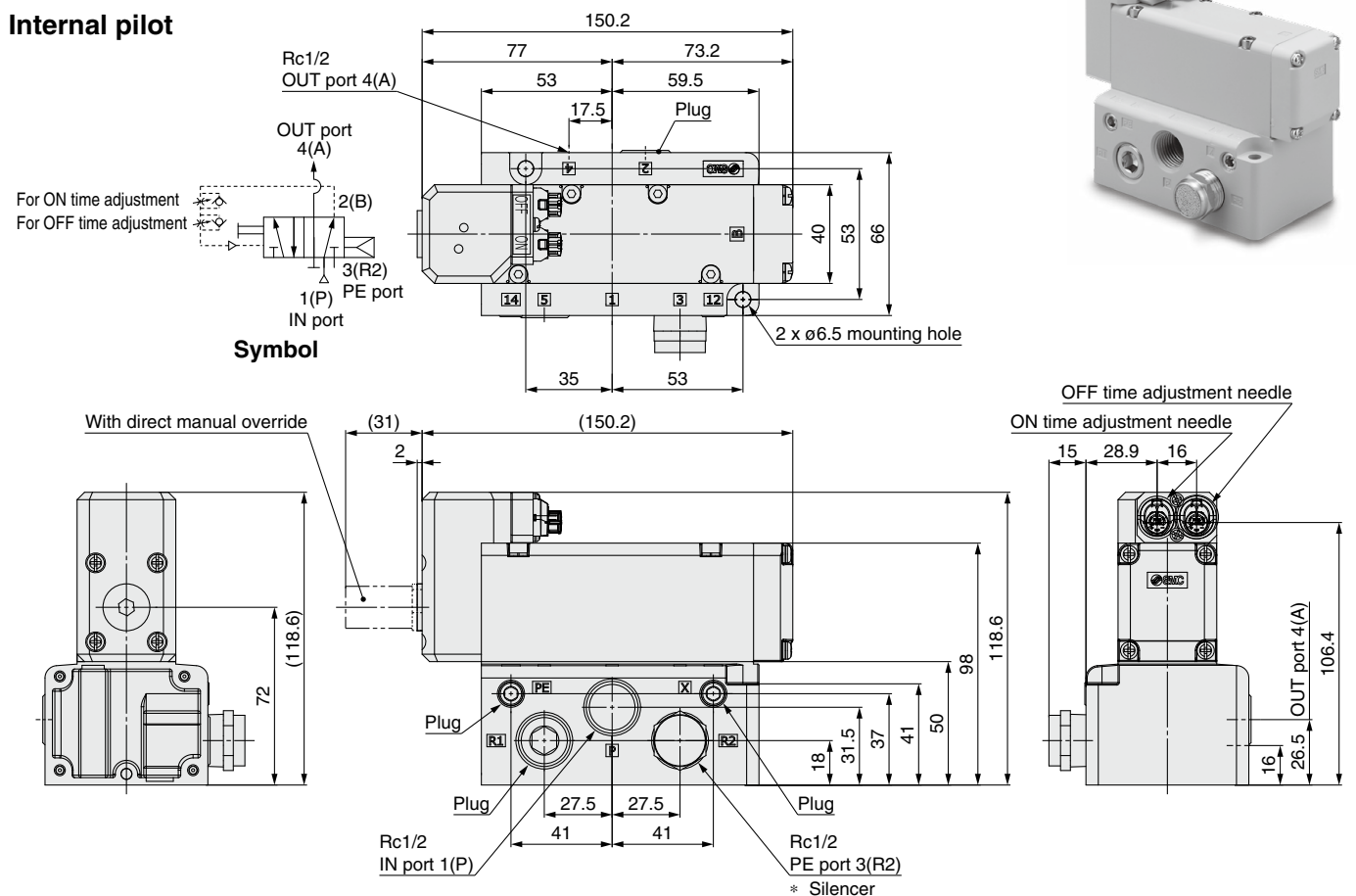
Specifications

Model	AXTS040□-2□-X2	AXTS040□-3□-X2
Type of actuation	Internal pilot	External pilot
Valve construction	Metal seal	
Fluid	Air	
Operating pressure range	0.2 to 1.0 MPa	0 to 1.0 MPa
External pilot air pressure	—	0.2 to 1.0 MPa*1
Frequency adjustment range	1 to 5 Hz	1 to 8 Hz
Proof pressure	1.5 MPa	
Ambient and fluid temperatures	-10 to 50°C	
Lubrication	Not required	
Flow rate characteristics (IN port → OUT port)	C [dm ³ /(s·bar)]	12
	b	0.14
	Cv	2.9

*1 Set the external pilot pressure higher than the operating pressure.

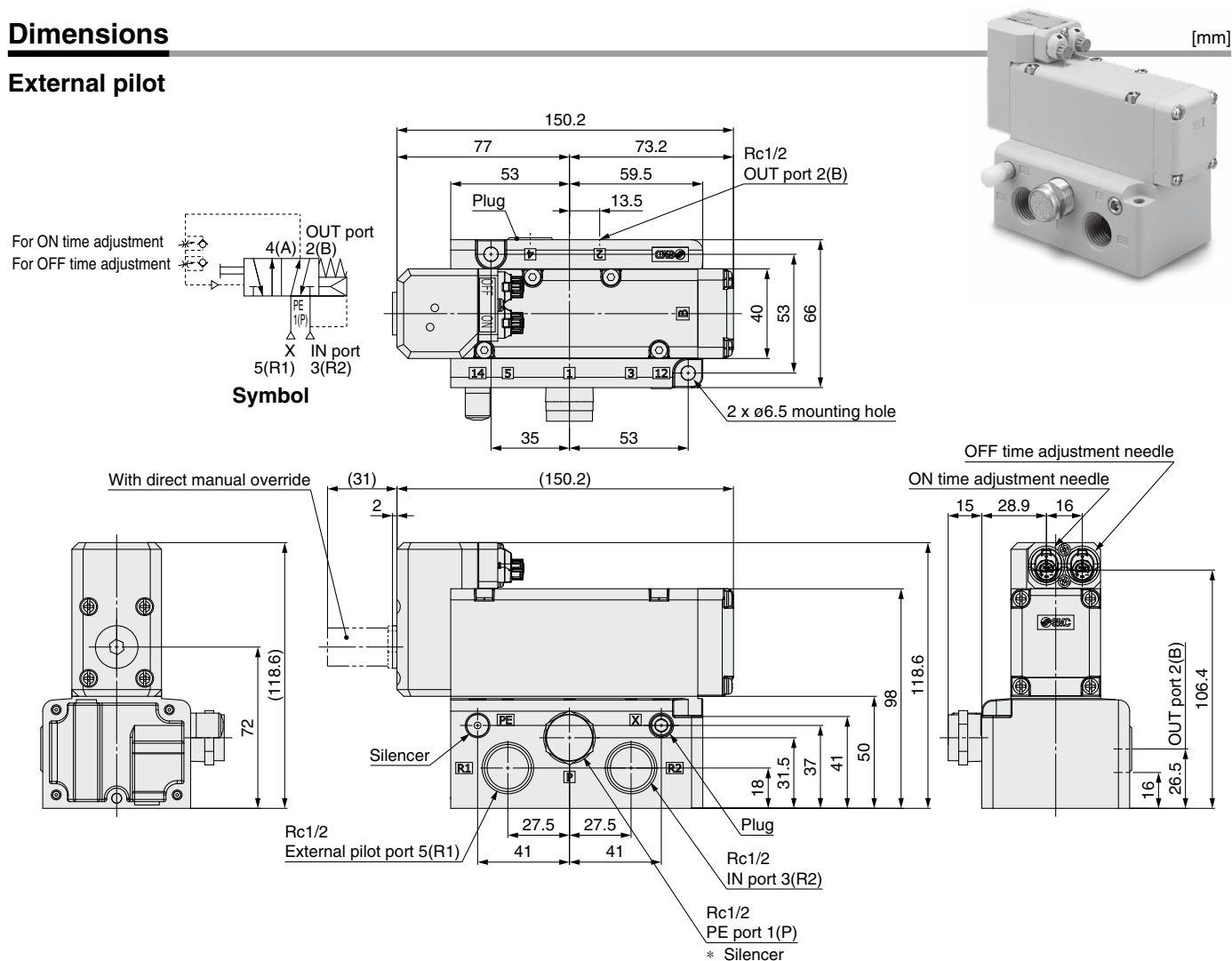
Dimensions

Internal pilot



Dimensions

External pilot





AXTS040□-□□-X2 Series

Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and 2-port solenoid valve for fluid control precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smcworld.com>

Precautions

- This is an air-operated product. If used under conditions where the flow rate is high and there are no pressure drops during operation, there will be no differential pressure inside the valve and it may fail to operate properly as a result.
- The operation frequency fluctuates depending on the operating conditions. Aside from the adjustment needle, the following conditions largely affect the operating frequency. Therefore, if adjustment cannot be made by the needle alone, try making adjustments to the following conditions.

Operation frequency	High ←→ Low
① Inlet side piping diameter ≥ Outlet side piping diameter	The inlet side piping diameter has no effect on the operation frequency.
② Inlet side piping diameter < Outlet side piping diameter	Inlet side piping diameter Large ←→ Small
③ Outlet side piping*1	Bore size Small ←→ Large
	Length Long ←→ Short
④ Supply pressure (External pilot pressure)	Pressure High ←→ Low
⑤ Nozzle	Bore size Small ←→ Large

*1 Blow air may not become pulse air depending on the volume of the downstream. Keep the product close to the nozzle as much as possible.

Internal Pilot Type


AXTS040□-2□-X2

- When an air gun and a pressure regulator are connected to OUT port, the back pressure of the OUT port will be high. Therefore, the product cannot be used.
- When a vacuum ejector and a suction filter are connected to the OUT port, the back pressure of the OUT port will increase due to the clogging of the filter during operation. As this will result in unstable operation, the product cannot be used. Please use the external pilot type, which is generally not affected by back pressure.

External Pilot Type

AXTS040□-3□-X2

- Use an External pilot pressure higher than IN port pressure.
- For the external pilot type, pulse air is only generated while the pilot air is being supplied. The blow is stopped by the return spring when the pilot air is not being supplied. However, due to the metal seal construction, zero air leakage cannot be guaranteed.
- When the product is used in a condition where the OUT port back pressure varies, for example, vacuum ejector and / or suction filter is connected to the OUT port, please consider that the operation frequency will be changed.

 **Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.