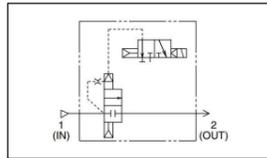




Instruction Manual
Impact Blow Valve
IBV Series



The intended use of IBV series is for use in blowing applications that require high peak impact pressure.

1 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^{*)}, and other safety regulations.
^{*)} ISO 4414: Pneumatic fluid power - General rules relating to systems.
 ISO 4413: Hydraulic fluid power - General rules relating to systems.
 IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)
 ISO 10218-1: Manipulating industrial robots - Safety, etc.

- Refer to product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
- Keep this manual in a safe place for future reference.

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

Warning

- **Always ensure compliance with relevant safety laws and standards.**
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

2 Specifications

Valve specifications	Fluid	Air
	Operating pressure range	0.15 to 0.7 MPa
	Ambient temperature	+5~50°C
	Operating fluid temperature	
Vibration/ impact resistance	150/30 m/s ²	
Coil Specifications	Rated voltage	24 VDC
	Allowable voltage fluctuation	±10% rated voltage
	Allowable Leakage voltage	≤3% rated voltage

Warning

Special products might have specifications different from those shown in this section. Contact SMC for specific drawings.

3 Installation

3.1 Installation

Warning

- Do not install the product unless the safety instructions have been read and understood.
- Review the specifications. Products represented in this manual are designed only for use in compressed air systems. If the product is used in an environment where pressure or temperature is out of the specified range, damage and/or malfunction may result.
- Do not use the product with flammable, explosive, or toxic fluid such as gas, gas fuel, and refrigerants.
- This product does not have a tank inside. The upstream piping volume acts as a tank. It is recommended to keep the upstream piping I.D. as large as possible. Example) Upstream side volume: 100cc (piping volume equivalent to IBG series)
 - Piping I.D.: ø8 --- Length 2000mm
 - Piping I.D.: ø10 --- Length 1300mm
 - Piping I.D.: ø13 --- Length 800mm
- ※ Discharged blow pressure is adjustable by adjusting the upstream piping conditions.
- ※ Oscillation may occur when supply air is insufficient. Upstream piping I.D. must be larger than ø8. Be careful that pressure drop does not occur.
- It is recommended to use the designated nozzle for the downstream side. Silencing nozzle is available.
 - Designated nozzle: IBG1-12-10-□ □: Nozzle length (50, 100, 150, 300)
 - Silencing nozzle: IBG1-12S
 - Set including the designated nozzle and silencing nozzle: IBG1-12-10-□S □: Nozzle length (50, 100, 150, 300)
- Impact resistance of the product is 150[m/s²]. Vibration resistance is 30[m/s²]. Avoid applying vibration exceeding the allowable value to the product.

3.2 Environment

Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact in excess of the product's specifications.
- Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product's specifications.
- Install a stop valve on the supply pressure side of the impact blow valve. This will be an emergency stop in case of leakage or breakage.
- After tightening the nozzle onto the impact blow valve by hand, add extra tightening by 2 to 3 turns. Tightening torque is 12 to 14N as a guide. If tightened insufficiently, the thread of the product may become loose.

3.3 Piping

Caution

- Before connecting piping make sure to clean up chips, cutting oil, dust etc.
- When installing piping or fittings, ensure sealant material does not enter inside the port. When using seal tape, leave 1.5 to 2 thread exposed on the end of the pipe/fitting.
- Tighten fittings to the specified tightening torque.
- Tighten the thread for the tube for primary side port by 2 to 3 turns after tightening by hand. Tightening torque is 22 to 24N as a guide.
- When connecting a tube, consider factors such as changes in the tubing length due to pressure, and allow sufficient leeway.
- Make sure that no twist, turn, tensile force or moment load is applied on the port or tube. This may cause damage to the fitting or crushing, bursting or disconnection of tubing.
- Mount so that tubing is not damaged by becoming entangled or abrasion. This can cause crushing, bursting or disconnection of tubing, etc.

3 Installation - continued

3.4 Lubrication

Caution

- SMC products have been lubricated for life at manufacture, and do not require lubrication in service.
- If a lubricant is used in the system, refer to catalogue for details.

4 How to Order

Refer to drawings or catalogue for 'How to Order'.

5 Outline Dimensions

Refer to drawings or catalogue for outline dimensions.

6 Maintenance

6.1 General Maintenance

Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous.
- Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation or maintenance instructions.

- Please check the following points in the regular maintenance and replace the parts as necessary.
 - a) Scratches, damage, wear, or corrosion
 - b) Air leakage
 - c) Squeezing or twisting of the tubing that is connected
 - d) Hardening, deterioration or softening of the tubing that is connected
 - e) Loosening of the nozzle
- Before removing the product, stop the supply pressure and exhaust compressed air in the piping.
- Do not modify or reconstruct the product.

7 Limitations of Use

7.1 Limited warranty and Disclaimer/Compliance Requirements

Refer to Handling Precautions for SMC Products.

Caution

Air blow pressure is high. Pay attention to the following for use.

- Make sure that the person and workpiece are safe from the objects scattered by the blowing pressure or by the air blow.
- Be sure to wear safety goggles to protect the eyes from splashed substances.
- Be careful with air blow sound.
- Do not use this product to the human body. It may cause injury to personnel.
- This product is not intended for amusement applications. Do not use the product as an air gun, etc.

7 Limitations of Use - continued

- To prevent lurching of the nozzle due to air pressure, confirm that the nozzle is not loosened or rattling by pulling on it by hand before operation.
- Do not use the product to clean or remove toxic substances or chemicals.
- Do not drop, step on or hit the product. This may cause damage.
- If product is to be used in a public place, ensure product is not directed at people or used in a manner that could adversely affect the environment.
- For other cautions, refer to the 2 Port Solenoid Valves for Fluid Control Precautions.
- Pressurizing the air blow discharge port may result in the breakage of the product.

9 Product disposal

This product should not be disposed of as municipal waste. Check your local regulations and guidelines to dispose this product correctly, in order to reduce the impact on human health and the environment.

10 Contacts

Refer to www.smcworld.com or www.smc.eu for contacts.

SMC Corporation

URL : [http:// www.smcworld.com](http://www.smcworld.com) (Global) [http// www.smc.eu](http:// www.smc.eu) (Europe)
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