

Read before Use

Instruction Manual

Check Valves

Model: Type BCV



1. Preface

Thank you for purchasing Type BCV Check Valves.

Read this instruction manual thoroughly before use, and ensure that the product is used within its rated specifications according to the manual.

This product is supplied with a document containing a QR code for downloading the instruction manual. **Be sure to keep it in an easily accessible place for future reference. Always check the latest version of the instruction manual available on our website via the QR code before each use, paying particular attention to the safety precautions.**

2. Safety Precautions

■ Warning and caution indications

Warnings and cautions in this instruction manual provide **important safety information**.

To protect you and other people against danger or damage caused by improper use of the product, be sure to comply with these indications, as well as international standards (ISO/IEC), Japanese Industrial Standards (JIS)*¹, and other safety regulations*².

*1) IEC 60335-1: Household and similar electrical appliances -Safety-Part1 -General requirements

IEC 60335-2-24: Household and similar electrical appliances -Safety-Part2-24

IEC 60335-2-40: Household and similar electrical appliances -Safety-Part2-40

IEC 60335-2-89: Household and similar electrical appliances -Safety-Part2-89

ISO 5149: Refrigerating systems and heat pumps -Safety and environmental requirements Part 1 to 4, etc.

*2) Industrial Safety and Health Act, High Pressure Gas Safety Act, EU Directives, Occupational Safety and Health Act, etc.



WARNING

Indicates a hazardous situation that could result in serious injury⁽¹⁾ or death if the product is handled improperly.



CAUTION






Indicates a hazardous situation that could result in injury⁽²⁾ or property damage⁽³⁾ if the product is handled improperly.




(1) **Serious injury** refers to blindness, injury, burn (high-temperature, low-temperature), electric shock, bone fracture, or poisoning that leaves aftereffects and requires hospitalization and/or extended medical treatment.




(2) **Injury** refers to injury, burn, or electric shock that does not require hospitalization or extended medical treatment.

(3) **Property damage** refers to any damage affecting a house, household property, livestock, and/or pets.

Explanations of symbols

Symbol	Description	Example
Prohibition	Indicates prohibited actions for handling the product.	  General prohibition Prohibited: Disassembly
Warning	Indicates the hazards and precautions for handling the product.	  General caution Caution: Electric shock
Instruction	Indicates the instructions for handling the product.	 General instruction

 WARNING	
	Ensure that sufficient safety has been confirmed before performing the work. If refrigerant leaks from the check valve, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration.
	Use the product only under the conditions described in the instruction manual. Perform periodic maintenance. Exposure to harsh conditions beyond the specified operating conditions or prolonged use may degrade the sealing integrity of the product. In addition, leaked refrigerant may cause fire or suffocation.

 CAUTION	
	Do not use the product at pressures exceeding the maximum working pressure. Doing so may cause damage and is dangerous.
	Do not disassemble the product. Doing so may reduce pressure capacity or cause failure.

Description of terms

Terms	Definitions
°C	Temperature unit
cm ³ /min	Flow rate unit
Cv value	Valve flow coefficient
L/min	Flow rate unit
MPa	Pressure unit
m ³ /h	Flow rate unit
Erosion	A phenomenon in which the surface of the material inside the valve is gradually worn away by the fluid
Leak test pressure	The pressure used in tests performed to verify the sealing integrity of a check valve
Valve opening pressure differential	The pressure differential required to open a check valve
Maximum working pressure	The maximum allowable operating pressure at which the valve operates properly under normal operating conditions
Service life test	A test to verify the durability of a check valve
Pressure test pressure	The maximum pressure at which external leakage can be prevented, although performance cannot be guaranteed (1.5 times the maximum working pressure)
Installation orientation	The orientation of a check valve during installation
Valve leakage	Leakage that occurs when back pressure is applied to a check valve
Valve closing flow rate	The flow rate required to close the check valve
Fume	A mixture of gases and fine particles released during the heating of metals and flux
Fluid temperature	The temperature of the fluid flowing through a check valve

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3. Product Overview

- This check valve is a valve for refrigerant control.
- It opens and closes in response to fluid flow, thereby preventing fluid backflow.
- The product is not designed or manufactured for use in equipment or systems intended for life-critical applications. It is intended for use in air conditioning, heating, refrigeration, and other industrial equipment.

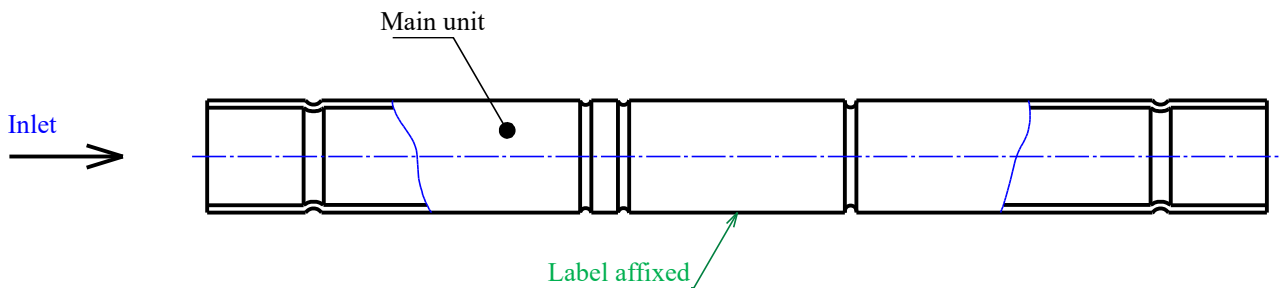
Do not use the product in any of the applications listed in 1) to 3) below:

- 1) Nuclear power or radiation-related applications
- 2) Space or subsea equipment-related applications
- 3) Applications in which equipment or device failure or malfunction may result in serious consequences

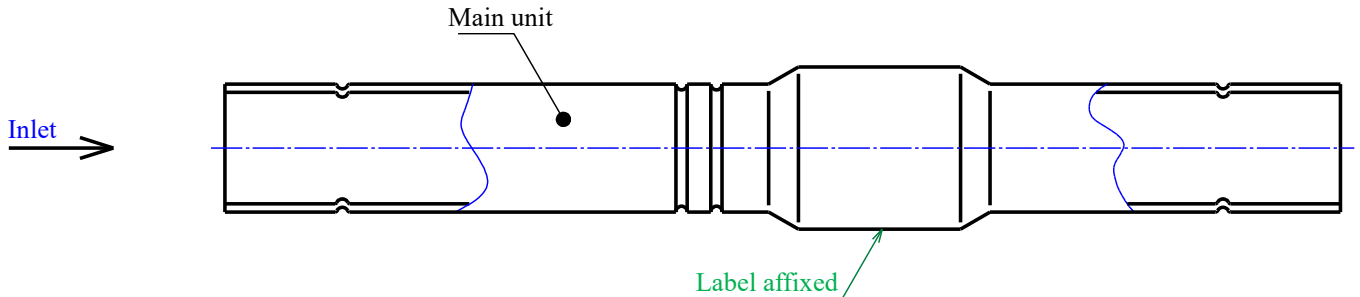
- Names and functions of parts

- Part names

Type BCV-302DY to -804DY



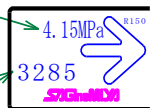
Type BCV-1005DY to -1810DY



Product label

Maximum working pressure

Manufacturing number

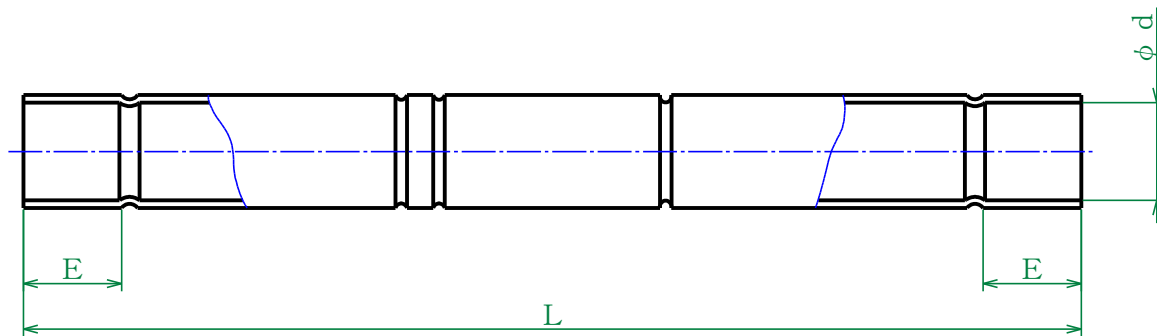


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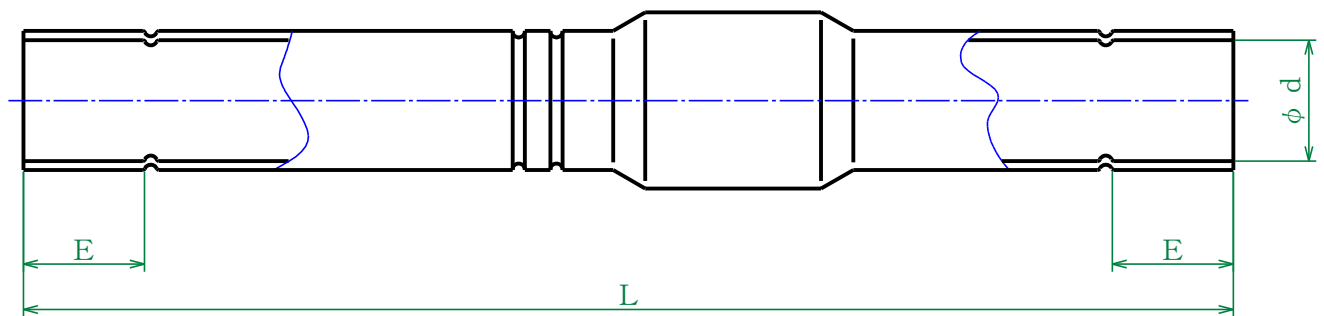
3. Product Overview

- External dimensions

Type BCV-302DY to -804DY

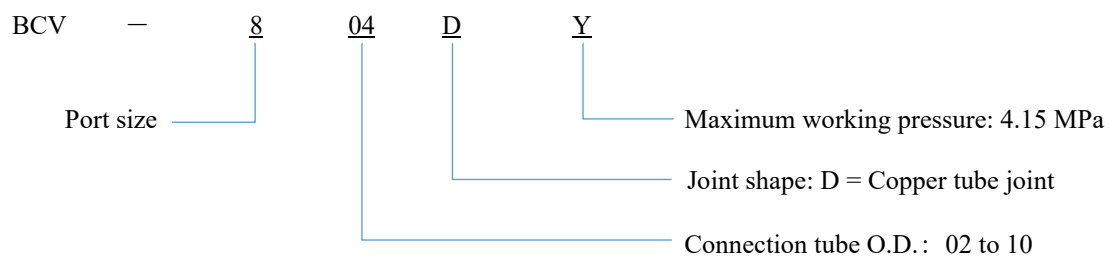


Type BCV-1005DY to -1810DY



Type	Dimensions (mm)		
	L	φd	E
BCV-302DY	112	6.55	-
BCV-603DY	120	9.71	8
BCV-804DY	140	12.93	13
BCV-1005DY	160	16.12	16
BCV-1306DY	180	19.30	19
BCV-1810DY	200	25.70	20

- Model designation and numbering system



4. Specifications

4. Specifications

Specifications table		
Product name	Type BCV Check Valve	
Type	See the information printed on the packaging box label.	
Purpose of the control device	Refrigerant flow control	
Pressure test pressure	6.23 MPa	
Leak test pressure	4.15 MPa	
Maximum working pressure	4.15 MPa	
Fluid*	Refrigerant type: A1	R22, R134a, R404A, R407A, R407C, R407F, R407H, R410A, R448, R449A, R449C, R450A, R452A, R463A, R507A
	Refrigerant type: A2L	R32, R1234yf, R1234ze(E), R452B, R454A, R454B, R454C, R455A
Fluid temperature range	-30 to 120°C	
Valve opening pressure differential	0.0078 MPa or less	
Valve leakage	See the table below, "Valve leakage and Cv values for each type".	
Cv value	See the table below, "Valve leakage and Cv values for each type".	
Installation orientation	No restrictions apply. (However, the valve closing flow rate varies. Perform piping with reference to the valve closing flow rate.)	
Valve closing flow rate (reference)	See p.8, the "Valve closing flow rates for each type" table.	
Service life test	After 100,000 cycles at $\Delta P = 1.47$ MPa, the requirements for sealing, valve leakage, and flow rate shall be met.	
Dimensions	See p.6.	
Connection method	Brazing	

Notes:

* If a refrigerant other than an A1 refrigerant is used with this product, review the applicable laws and regulations at the design stage, carefully confirm suitability, and select an appropriate model.
For use with any refrigerant not listed here, contact us regarding suitability.

Valve leakage and Cv values for each type		
Type	Valve leakage	Cv value
BCV-302DY	300 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	0.33
BCV-603DY	500 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	0.97
BCV-804DY	1000 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	2.00
BCV-1005DY	1000 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	3.50
BCV-1306DY	1500 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	4.70
BCV-1810DY	2000 cm ³ /min (air) or less at a reverse pressure of 0.98 MPa	8.00

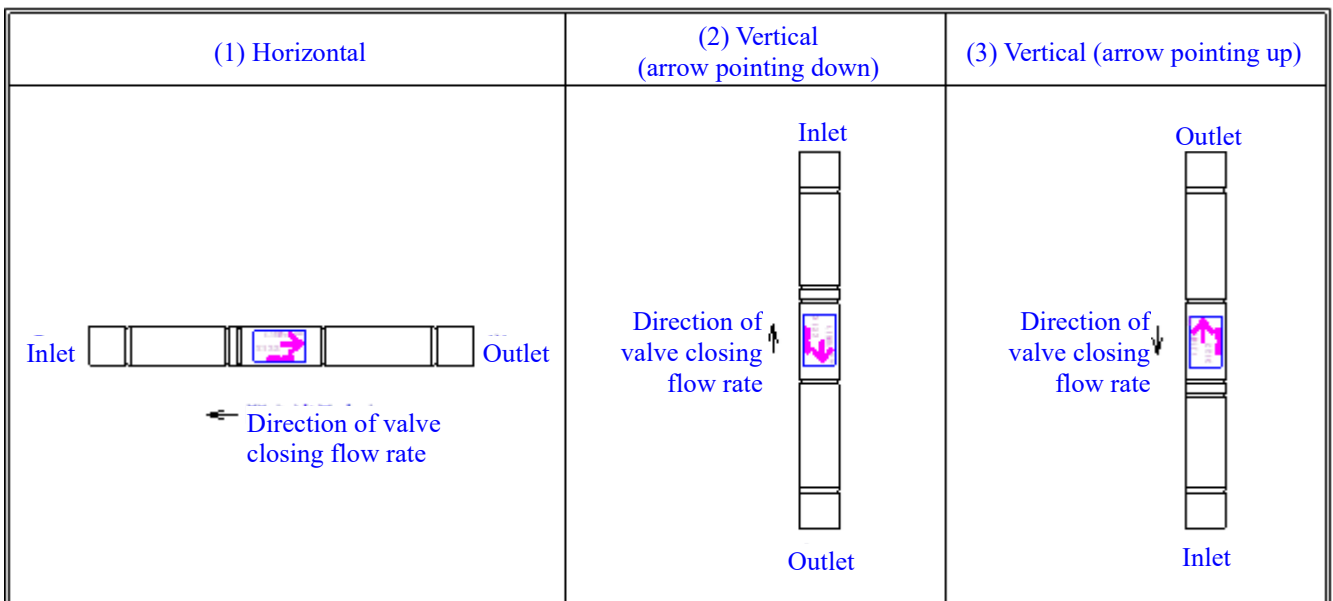
4. Specifications

Valve closing flow rates for each type






- Flow rates at which the valve closes securely against backflow in various installation orientations (see the figures below for the installation orientations).
- These are reference values for conditions in which no refrigeration oil is present.
Take care during piping installation.

Type	Installation orientation	Valve closing flow rate (air)
BCV-302DY	(1) Horizontal	Approx. 7.9 L/min
	(2) Vertical (arrow pointing down)	Approx. 11.5 L/min
	(3) Vertical (arrow pointing up)	Approx. 0 L/min*
BCV-603DY	(1) Horizontal	Approx. 13 L/min
	(2) Vertical (arrow pointing down)	Approx. 19 L/min
	(3) Vertical (arrow pointing up)	Approx. 0 L/min*
BCV-804DY	(1) Horizontal	Approx. 25.6 L/min
	(2) Vertical (arrow pointing down)	Approx. 39 L/min
	(3) Vertical (arrow pointing up)	Approx. 0 L/min*
BCV-1005DY	(1) Horizontal	Approx. 72 L/min
	(2) Vertical (arrow pointing down)	Approx. 100 L/min
	(3) Vertical (arrow pointing up)	Approx. 0 L/min*
BCV-1306DY	(1) Horizontal	Approx. 78 L/min
	(2) Vertical (arrow pointing down)	Approx. 134 L/min
	(3) Vertical (arrow pointing up)	Approx. 0 L/min*
BCV-1810DY	(1) Horizontal	Approx. 9 m ³ /h
	(2) Vertical (arrow pointing down)	Approx. 13 m ³ /h
	(3) Vertical (arrow pointing up)	Approx. 0 m ³ /h*

* In case (3), the valve is already closed under its own weight when backflow begins.















5. Handling and Storage

 WARNING	
	Do not use the product in corrosive environments. Doing so may cause external leakage or damage. If refrigerant leaks from the check valve, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration.
	When transporting the product, wear appropriate protective gear, such as safety shoes, to ensure safety. There is a risk of injury, such as a bone fracture, due to collision or dropping.
	When unpacking or installing the product, wear appropriate protective gear (work gloves, etc.) to ensure safety. There is a risk of injury from sharp edges on the packaging box, product, or tools.
	Use the product only under the conditions described in the instruction manual. Also, perform periodic maintenance. Use in harsh environments beyond the specified operating conditions, long-term use, or prolonged storage without use may cause the valve to seize and become uncontrollable. In addition, the sealing integrity of the main unit may deteriorate. In any of these cases, leaked refrigerant may cause fire or suffocation.




- The product is not designed or manufactured for use in equipment or systems intended for life-critical applications. Consult us in advance regarding use in applications requiring particularly high reliability.
- The product is manufactured based on the applicable specifications. Before use, confirm that the product is compatible with the system and that the design is safe and appropriate.
- Do not subject the product to impact, such as dropping, or apply excessive load. Doing so may cause malfunction or external leakage.
- To maintain proper function, handle the pipe with care so that no external stress, such as bending, is applied particularly to the crimped sections or the areas between them.
- Do not make significant scratches or dents.
- The resin parts inside the product may generate static electricity, which may create an ignition source.
- Do not disassemble the product. If disassembly is necessary, consult us.

6. Assembly



 WARNING	
	<p>When performing leak tests or charging refrigerant, do not apply pressure exceeding the limits specified in the instruction manual. Applying abnormal pressure beyond the specified limits may cause the equipment or piping to rupture, resulting in injury from scattered parts or suffocation due to leaked refrigerant.</p> <p>Before beginning work, be sure to check the specifications and pressure range of the equipment to be used, take all necessary safety precautions, and wear appropriate protective gear.</p>
	<p>When assembling the product, do not allow liquid to become trapped inside the product. If the temperature changes while liquid is trapped inside, the pressure may rise rapidly, causing damage to the product or refrigerant leakage and leading to serious accidents such as fire or suffocation. Before beginning work, always check the condition inside the piping and ensure a safe inspection environment.</p>
	<p>When unpacking or installing the product, wear appropriate protective gear (work gloves, etc.) to ensure safety.</p> <p>There is a risk of injury from sharp edges on the packaging box, product, or tools.</p>
	<p>When performing brazing with nitrogen purging, wear appropriate protective gear (protective goggles, heat-resistant gloves, etc.) and provide a pressure relief zone to prevent an unintentional rise in inner pressure for your safety.</p> <p>Failure to do so may cause blindness, injury, or burns due to splashing of high-temperature materials such as flux.</p>
	<p>When performing brazing, always ensure that there are no flammable materials in the vicinity and take all necessary safety precautions.</p> <p>Failure to do so may result in unexpected fire spread or burns.</p>
	<p>When performing brazing, wear appropriate protective gear (safety goggles, heat-resistant gloves, etc.).</p> <p>Working without protective gear may result in blindness or severe burns.</p>
	<p>When using a flame that emits intense light during brazing, wear appropriate protective gear such as safety goggles.</p> <p>Looking directly at the intense light without protective gear may cause impaired vision or blindness.</p>
	<p>Perform brazing in a well-ventilated location or using an exhaust system with adequate ventilation. Also, wear appropriate protective gear, such as a mask.</p> <p>Failure to do so may cause inhalation of hazardous substances, such as fumes, resulting in respiratory disorders, or suffocation from leaked gas.</p>
	<p>Do not use the product if it has been dropped or subjected to impact. If any part related to sealing integrity is damaged, refrigerant leakage may cause fire or suffocation.</p>
	<p>When transporting a heavy product, take all necessary safety precautions, use appropriate lifting aids, and ensure sufficient working space. Transporting the product in an awkward posture may place excessive strain on the body and harm your health.</p>
	<p>When transporting a heavy product, wear appropriate protective gear, such as safety shoes, to ensure safety. Failure to do so may result in serious injury, such as a bone fracture, if the product falls or tips over.</p>

6. Assembly

WARNING

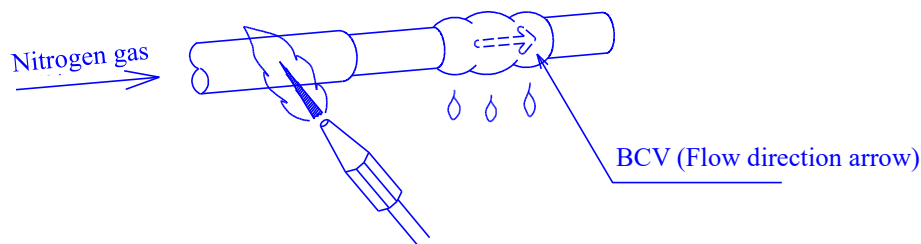
	Do not under any circumstances apply abnormal external force, such as using the products or pipe joints as scaffolding to climb. If the product or joints are damaged by such actions, refrigerant leakage may result, leading to frostbite, suffocation, or fire.
	When performing work, work in a well-ventilated location or use an exhaust system with adequate ventilation. Also, be sure to wear appropriate protective gear, such as a mask. Failure to do so may result in respiratory disorders due to accumulated gas or suffocation due to leaked gas or similar substances.
	When charging the product with refrigerant, before starting work, check the condition of the joint connections and the tightness of the threaded joints, and confirm that there is no leakage. In addition, perform the work in a well-ventilated area or in a location where adequate ventilation can be ensured so that refrigerant does not accumulate. Failure to take all necessary safety precautions may result in fire or suffocation due to refrigerant leakage.

CAUTION

	Use dollies, jacks, or similar equipment during transportation. Lifting heavy objects may cause physical injury.
	When installing heavy products, wear appropriate protective gear (such as safety shoes). There is a risk of injury if the product falls.







6. Assembly



- Before unpacking, ensure that the packaging box is not deformed or damaged.
- During unpacking, ensure that the product is not deformed or damaged.
- After unpacking, ensure that the check valve meets your requested specifications.
- Do not subject the product to impact during unpacking. Doing so may cause failure or malfunction.
- Do not use the product on the compressor discharge line. Severe refrigerant pulsation may shorten service life.
- Do not use the product in environments where water drips continuously, underwater, or in corrosive atmospheres. Doing so may cause external leakage.
- If vibrations from the piping are transmitted directly to the valve, bending stress may be applied, causing damage or external leakage. Securely fasten the piping using clamps or similar devices so that no stress is applied to the product.
- Do not deform the joints. Doing so may cause external leakage.
- Remove any dust or foreign matter from the system piping. Failure to do so may cause failure. Malfunction, valve leakage, or erosion caused by dust or foreign matter is outside the scope of the product specifications.
- Install the product so that the arrow on the product matches the direction of fluid flow.
- Installing it in the opposite direction may cause damage to peripheral equipment.
- There are no restrictions on installation orientation, but a vertical orientation with the outlet facing upward is optimal. Depending on the installation orientation, reverse flow may be required to close the valve.
- Do not install the valve in a manner that applies loads in the shear, tensile, or bending direction to the valve. This may cause fracture of the narrowed section of the valve main unit, resulting in damage or external leakage.
- To prevent oxide scale, which may cause valve leakage, fill the interior of the product with an inert gas (such as nitrogen or carbon dioxide) from the direction indicated by the arrow on the product before brazing.
- Use a brazing material with a low melting point. As shown in the figure below, wrap the center of the main unit with a moistened cloth or similar material, and perform brazing in a short time while cooling so that the temperature at the center of the main unit remains at 120°C or below.



- Prevent moisture from entering the product.
- Do not use the product in environments where repeated condensation and drying occur. Doing so may cause corrosion, leading to external leakage.
- Check that there are no sealing defects in the brazed sections. Such defects may cause external leakage.
- Do not subject the product to vibration or impact. Doing so may cause external leakage.
- Do not install the check valve in a location where it may be used as a step or foothold. If excessive force is applied by accidentally stepping on the valve or using it as a foothold, damage may result.
- Use the product in an atmosphere that does not corrode copper alloys. Failure to do so may cause the valve to fail, malfunction, or fail prematurely.
- After installing the product correctly, be sure to perform a trial operation and confirm that the entire system functions properly before use.

7. Operation

 WARNING	
	Use the product only under the conditions described in the instruction manual. Perform periodic maintenance. Exposure to harsh conditions beyond the specified operating conditions or prolonged use may degrade the sealing integrity of the product. In addition, leaked refrigerant may cause fire or suffocation.
	Ensure that sufficient safety has been confirmed before performing the work. If refrigerant leaks from the product, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration.
	Before use, check the specifications, and do not use the product under conditions outside the specifications. Doing so may cause the product to malfunction or be damaged, resulting in refrigerant leakage. If refrigerant leaks from the product, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration.
	Do not use the product in corrosive environments. Doing so may cause external leakage or damage. If refrigerant leaks from the product, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration.
	The surface of the product may become very hot during or immediately after use. Avoid touching it directly with bare skin. Also, wear appropriate protective gear, such as gloves, when handling the product. Direct contact with the product may cause burns.

 CAUTION	
	Do not use the product at pressures exceeding the maximum working pressure. Doing so may cause damage and is dangerous.

- Do not use the product outside the specified range. Doing so may cause malfunction or damage.
- Do not apply impact pressure such as liquid hammer. Doing so may cause malfunction or external leakage.
- Noise may occur if the flow rate is extremely low or if the fluid pulsates.
- Sudden changes in refrigerant flow rate may damage internal parts and cause unit failure.
- Use the product within the specified fluid temperature range.
- For Type BCV-302DY, BCV-603DY, and BCV-804DY, there may be cases in which they cannot be used in refrigeration or air-conditioning systems if significant refrigerant pulsation occurs, or if an operating differential pressure exceeding 2 MPa is applied instantaneously when the valve opens under high-temperature conditions above 100°C, so caution is required.
- After installing the product correctly, be sure to perform a trial operation and confirm that the entire system functions properly before use.

8. Maintenance, Inspection, and Replacement

 WARNING	
	When replacing the product, recover the refrigerant from the refrigeration system and perform the work only after confirming that no refrigerant remains inside the product. If refrigerant recovery is incomplete, refrigerant may leak, causing fire due to ignition or suffocation due to a decrease in oxygen concentration. In addition, always follow the correct refrigerant recovery procedure, and thoroughly check the connections and control the recovered amount.
	When performing work, work in a well-ventilated location or use an exhaust system with adequate ventilation. Also, be sure to wear appropriate protective gear, such as a mask. Failure to do so may result in respiratory disorders due to accumulated gas or suffocation due to leaked gas or similar substances.
	When performing leak tests or charging refrigerant, do not apply pressure exceeding the limits specified in the instruction manual. Applying abnormal pressure beyond the specified limits may cause the equipment or piping to rupture, resulting in injury from scattered parts or suffocation due to leaked refrigerant. Before beginning work, be sure to check the specifications and pressure range of the equipment to be used, take all necessary safety precautions, and wear appropriate protective gear.
	Refrigerant may leak from the product due to deterioration over time resulting from prolonged use. If refrigerant leaks from the check valve, it may lead to serious accidents such as fire due to ignition or suffocation due to a decrease in oxygen concentration. Perform periodic maintenance and inspections.
	When charging the product with refrigerant, before starting work, check the condition of the joint connections, and confirm that there is no leakage. In addition, perform the work in a well-ventilated area or in a location where adequate ventilation can be ensured so that refrigerant does not accumulate. Failure to take all necessary safety precautions may result in fire or suffocation due to refrigerant leakage.
	Perform maintenance and inspections only after pump-down has been completed and all refrigerant has been completely recovered. Any remaining refrigerant may ignite, causing an explosion or fire.
	Before maintenance, inspection, or replacement, be sure to recover the refrigerant inside the refrigeration system and ensure that no refrigerant remains inside the product. Failure to do so may cause fire or suffocation due to refrigerant leakage. In addition, escaping refrigerant or flying debris may cause eye or bodily injury, or even blindness.
	Maintenance and inspection work must be performed by personnel with the appropriate skills. Do not apply abnormal external force, such as using the products or pipe joints as scaffolding to climb. Excessive loads may damage the product, resulting in refrigerant leakage and leading to serious accidents such as fire or suffocation due to a decrease in oxygen concentration. Always check the product for abnormalities before and after work, and ensure safety before proceeding.
	Be sure to turn off the power to the unit incorporating the product before performing any maintenance or inspection work. Although the product has no live parts, performing work with the power on may cause accidental contact with live parts of other products, resulting in electric shock, serious injury, or death.

- ★ Observe the instructions above when replacing the product.
- If there is any malfunction or other abnormality, contact us.

9. Disposal

9. Disposal

When you no longer need the product, dispose of it properly in accordance with the laws, regulations, and ordinances of your local government.

Also, do not reuse any part of the product.

CONSENT RELATED TO DISCLAIMERS

We, SAGINOMIYA SEISAKUSHO, INC., (hereinafter referred to as "Saginomiya"), truly appreciate your choosing Saginomiya's product. When using Saginomiya's own products and other products supplied by Saginomiya (hereinafter referred to as the "Product"), this document as provided below shall be applicable except to the extent that there is anything to the contrary in any applicable estimate, agreement, catalogue, specification, etc.

● CONFIRMATION OF OPERATION

All customers using the Product (hereinafter referred to as "Customers") are requested to, after properly installing the Product, test the operation of the Product to confirm that all the systems in connection with the Product fully function.

In order to prevent the occurrence of bodily injury, fire accidents, serious damage, etc., in connection with the Customers' machinery or equipment due to improper installation of the Product, Saginomiya kindly requests the Customers to take the necessary safety measures by preparing safe designs such as a fail-safe design (*1) and a fire spread prevention design, as well as to make the proper adjustments for product reliability necessary for fault-tolerance (*2).

(*1) Fail-safe design: Design to ensure safety in the event of any mechanical failure

(*2) Fault-tolerance: Utilization of redundancy technology

Periodic Inspection of the Product

Be sure to confirm the proper operation of the Product and keep records of such operation at least once a year.

Saginomiya shall be held harmless and be indemnified by the Customers from any damages incurred due to the Customers failing to conduct the above operational procedures, provided, however, that, this shall not apply if the damages which the Customers incurred due to the defect of the Product caused by Saginomiya.

● RESTRICTIONS OF USE

The Product is designed and manufactured for the purpose of using them for cooling and heating and refrigerating appliances and air conditioning equipment or various industrial equipment, but is not designed and manufactured for the purpose of using the Product for any instrument or system related to human life or health purposes.

Therefore, the use of the Product in fields related to items (1) through (3) below is not intended whatsoever.

Saginomiya shall be held harmless and be indemnified from any and all damages incurred by use of the Product under item (3).

- (1) In any field related to nuclear power and radiation;
- (2) In any field related to space or seafloor equipment;
- (3) In any equipment or device requiring a high degree of reliance on such equipment or device with respect to which it is reasonably foreseeable that failure or malfunction of the equipment or device would either directly or indirectly cause serious damage to human life, health or property;

Also, when using the Product under the fields related to items (1) through (10), (except for item (3), in relation to which the Product must never be used), please be sure to notify Saginomiya's contact desk in charge of sales and obtain Saginomiya's prior written approval for such use.

Saginomiya shall be held harmless and be indemnified from any and all damages incurred by use of the Product in relation to these fields if the Customers do not notify Saginomiya's contact desk and obtain Saginomiya's prior written approval.

- (4) Heating, cooling, and refrigeration/air conditioning equipment using flammable and/or toxic refrigerants, excluding A2L refrigerants as defined in ISO 817, or various industrial equipment using flammable and/or toxic fluids, excluding A2L refrigerants as defined in ISO 817;
- (5) Transportation device (railroad, aviation, ship or vessel, vehicle equipment, etc.);
- (6) Disaster-prevention or crime-prevention device;
- (7) Facility or application directly related to medical equipment, burning appliances, electro thermal equipment, amusement rides and devices, facilities/applications associated directly with billing;
- (8) Equipment requiring high reliance on supply systems such as electricity, gas, water, etc., in large-scale communication system, or in transportation or air traffic control system;
- (9) Facilities that are to comply with regulations of governmental / public agencies or specific industries or
- (10) Other machineries or equipment equivalent to those set forth in the above items (4) to (9) which require for high reliability and safety.
- (11) Machinery and equipment that are intended or expected to be used under conditions other than those specified in the catalogues and instruction manuals;

It is recommended to replace the Product within 5 to 10 years of delivery if no other duration of use is provided in the applicable specifications or instruction manual because the conditions and environment of use also have an impact on the Product.

● SCOPE OF WARRANTY

SAGINOMIYA WILL PROVIDE THE CUSTOMERS WITH REPLACEMENT OR REPAIRED THE PRODUCT DELIVERED, FREE OF COST, ONLY WITHIN ONE YEAR (NOTE 1) OF DELIVERY TO THE CUSTOMER, IF FAILURE OCCURS IN THE CUSTOMERS' EQUIPMENT USING THE PRODUCT DUE TO A DEFECT OF THE PRODUCT; PROVIDED, HOWEVER, THAT IN ANY EVENT THE AMOUNT THAT SAGINOMIYA BEARS FOR THE DAMAGES INCURRED BY THE FAILURE OF THE PRODUCT OR CUSTOMERS' EQUIPMENT SHALL NOT EXCEED THE PRICE OF THE PRODUCT WE DELIVERED. IN ADDITION, SAGINOMIYA SHALL BE HELD HARMLESS AND BE INDEMNIFIED FROM ANY AND ALL DAMAGES INCURRED WHEN THE FAILURE OF THE CUSTOMERS' EQUIPMENT OCCURRED DUE TO ANY CAUSE SET FORTH BELOW.

- (1) WHEN CAUSED BY INAPPROPRIATE HANDLING OR USE OF THE PRODUCT BY THE CUSTOMERS (SUCH AS NOT COMPLYING WITH THE CONDITIONS, ENVIRONMENTAL SPECIFICATIONS OR CAUTIONS INDICATED IN ANY APPLICABLE CATALOGUE, SPECIFICATIONS, INSTRUCTION MANUAL, ETC.);
- (2) WHEN FAILURE OCCURRED DUE TO ANY REASON OTHER THAN THE PRODUCT;
- (3) WHEN CAUSED BY MODIFICATION OR REPAIR OF THE PRODUCT MADE BY ANYONE OTHER THAN SAGINOMIYA OR DESIGNEE OF SAGINOMIYA;
- (4) WHEN CAUSED BY THE USE OF THE PRODUCT IN VIOLATION OF THE ABOVE "RESTRICTIONS OF USE" OR "CONFIRMATION OF OPERATION";
- (5) WHEN SUCH FAILURE WAS NOT REASONABLY FORESEEABLE AT THE TIME OF SAGINOMIYA'S SHIPMENT; OR
- (6) BY ANY OTHER CAUSE NOT ATTRIBUTABLE TO SAGINOMIYA, SUCH AS AN ACT OF GOD, DISASTER, OR ACT OF ANY THIRD PARTY.

PLEASE NOTE THAT THE CUSTOMERS WILL NOT BE ENTITLED TO ANY OF THE ABOVE WARRANTY IF THE CUSTOMERS PURCHASED THE PRODUCT FROM INTERNET AUCTION, ETC.

(NOTE 1): IN THE CASE OF DANFOSS PRODUCTS, WITHIN EIGHTEEN (18) MONTHS FROM THE DATE OF MANUFACTURE.

SAGINOMIYA
SEISAKUSHO, INC.

This document shall apply to any catalogue and instruction manual issued by Saginomiya on or after December 2025.

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The information in this instruction manual is current as of the date of publication and is subject to change without prior notice due to specification changes or improvements to the product.

We have made every effort to ensure its accuracy, but we shall not be responsible for any damages, direct or indirect, arising from errors, omissions, or use of the information.

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本製品に関するお問い合わせは、お買い求めいただきました販売店
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