

iB Series

5-port manifold solenoid valve

iB-ZERO

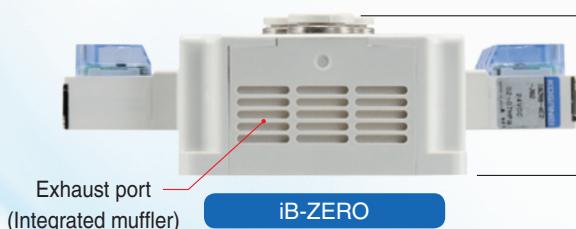
PAT.PEND.

**The first in the world!
Integrally molded, all-plastic body!**

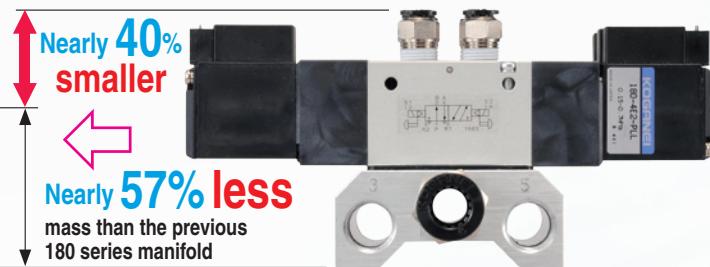
Easy assembly!



Thin and lightweight!



Nearly 40% smaller
Nearly 57% less
mass than the previous
180 series manifold



* Valve width: 18 mm [0.709 in.]

Easy assembly

Its simple configuration makes assembling the manifold a breeze.
Instant assembly → quick delivery

Simple Selection

All are integrated fitting types (select from $\phi 4$ [0.157 in], $\phi 6$ [0.236 in], $\phi 8$ [0.315 in])
Perfect for cylinder controls from small diameter to about $\phi 80$ [3.150 in]

Specifications

Item	Model	IBZR8-4E1	IBZR8-4E2		
Number of positions	2 positions				
Number of ports	5				
Valve function	Single solenoid Double solenoid				
Medium	Air				
Operation system	Internal pilot type				
Flow rate characteristics	Sonic conductance C $\text{dm}^3/(\text{s}\cdot\text{bar})$	J42: 0.8, J62: 1.6, J82: 2			
	Effective cross section area [Cv value] ^{Note 1} $\text{mm}^2 [\text{Cv}]$	J42: 4 [0.22], J62: 8 [0.44], J82: 10 [0.56]			
Connection port size	Supply port $\phi 10$ [0.394], outlet port $\phi 4$ [0.157], $\phi 6$ [0.236], $\phi 8$ [0.315]				
Lubrication	Not required				
Operating pressure range	MPa [psi]	0.2 to 0.7 [29 to 102]			
Proof pressure	MPa [psi]	1.05 [152]			
Operating temperature range (atmospheric and medium)	°C [°F]	5 to 50 [41 to 122]			
Response time ^{Note 2} on/off time	ms	15/30 or less	30 or less		
Maximum operating frequency	Hz	5			
Shock resistance	$\text{m/s}^2 [\text{G}]$	294.2 [30]			
Mounting direction	Unrestricted				

Notes 1: The effective cross section values are calculated values, and are not measured values.

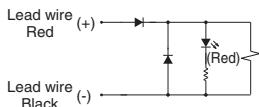
2: The valve when air pressure is 0.5 MPa [73 psi].

Handling Instructions and Precautions

Internal circuit

● 24 VDC

Solenoid with LED indicator and surge suppression

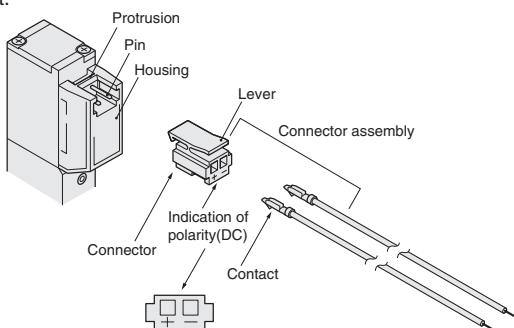


- NOTE**
1. Do not apply megger between the pins.
 2. Malfunctions, such as the solenoid valve not returning to normal, may occur if there is a leakage current within the circuit. Always use it at less than the allowable leakage current shown in the solenoid specifications. If circuit conditions, etc. cause the leakage current to exceed the maximum allowable leakage current, consult us.
 3. For the double solenoid configuration, avoid energizing both solenoids simultaneously.

Attaching and removing plug connector

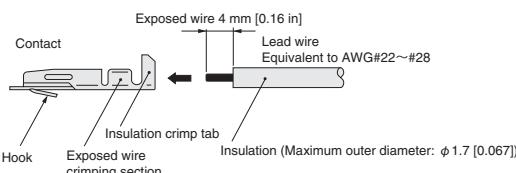
Use fingers to insert the connector into the pin, push it in until the lever claw latches onto the protruded section of the connector housing, and complete the connection.

To remove the connector, squeeze the lever along with the connector, lift the lever claw up from the protruded section of the connector housing, and pull it out.



Crimping of connecting lead wire and contact

To crimp lead wires into contacts, strip off 4 mm [0.16 in] of the insulation from the end of the lead wire, insert it into the contact, and crimp it. Be sure at this time to avoid catching the insulation on the exposed wire crimping section.



Electrical Specifications

Item	Rated voltage	24 VDC
Applicable voltage range	V	21.6 to 26.4 (24±10%)
Current (when rated voltage applied)	mA	23
Power consumption	W	0.55
Allowable circuit leakage current	mA	1.0
Type of insulation		B type
Insulation resistance ^{Note}	MΩ	100 or over
Color of LED indicator		Red
Surge protection (standard equipment)		Flywheel diode

Note: Value at 500 VDC Megger

Remark: Specification values are based on Koganei test standards.

Mass

Model	Mass	g [oz]
IBZR8-4E1	-J42: 59 [2.08], -J62: 60 [2.12], -J82: 63 [2.22]	
IBZR8-4E2	-J42: 75 [2.65], -J62: 75 [2.65], -J82: 78 [2.75]	
IBZR8Z-E (end block)	81 [2.86]	

1. Do not pull hard on the lead wire.

2. Always use a dedicated tool for crimping of connecting lead wire and contact.

Contact: Model 702062-2M

Manufactured by Sumiko Tech, Inc.

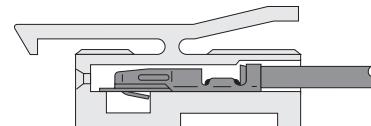
Crimping tool: Model F1-702062

Manufactured by Sumiko Tech, Inc.

Attaching and removing contact and connector

Insert the contact with lead wire into a plug connector hole until the contact hook latches on and is secured to the plug connector. Confirm that the lead wire cannot be easily pulled out.

To remove it, insert a tool with a fine tip (such as a small screwdriver) into the rectangular hole on the side of the plug connector to push up on the hook, and then pull out the lead wire.



1. Do not pull hard on the lead wire. It could result in defective contacts, breaking wires, etc.

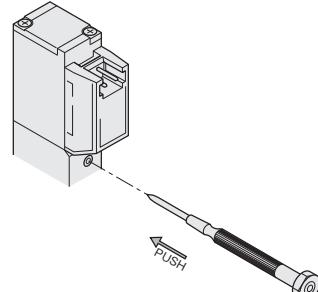
2. If the pin is bent, use a small screwdriver, etc. to gently straighten out the pin, and then complete the connection to the plug connector.

Manual override

To operate the manual override, press it all the way down.

For the single solenoid, the valve works the same as when in the energized state as long as the manual override is pushed down, and returns to the rest position upon release.

For the double solenoid, pressing the manual override on the 14 (SA) side switches the 14 (SA) to the energized state, and the unit remains in that state even after the manual override is released. To return it to the rest position, operate the manual override on the 12 (SB) side. This is the same for the solenoid 12 (SB).



1. The iB-ZERO series uses pilot type solenoid valves, so if you do not supply air to the 1 (P) port, the main valve will not change, even if you operate the manual override.

2. Do not attempt to operate the manual override with a pin or other object having an extremely fine tip. It could result in damage to the manual override.

Order codes

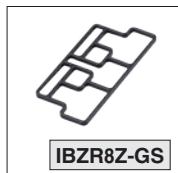
● Additional parts (available separately)

End block (left-right set)



(With 1 gasket and 2 mounting screws (bracket attached))

Gasket



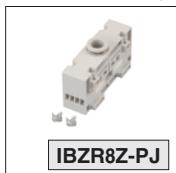
(Units: 1)

Set of brackets and mounting screws



(Units: 2 piece set)

Intermediate piping block



(With 1 gasket and 2 mounting screws (bracket attached))

Connector-related



Connector specification

P : Connector, lead wire length 300 mm [11.8 in]
 P1 : Connector, lead wire length 1000 mm [39 in]
 P3 : Connector, lead wire length 3000 mm [118 in]
 PN : Connector, without lead wire (contacts included)

Common connector assembly



Connector specification

PA : Positive common A type, connector, lead wire length 300 mm [11.8 in]
 PA1 : Positive common A type, connector, lead wire length 1000 mm [39 in]
 PA3 : Positive common A type, connector, lead wire length 3000 mm [118 in]
 PB : Positive common B type, connector, lead wire length 300 mm [11.8 in]
 PB1 : Positive common B type, connector, lead wire length 1000 mm [39 in]
 PB3 : Positive common B type, connector, lead wire length 3000 mm [118 in]
 PC : Positive common C type, connector, lead wire length 300 mm [11.8 in]
 PC1 : Positive common C type, connector, lead wire length 1000 mm [39 in]
 PC3 : Positive common C type, connector, lead wire length 3000 mm [118 in]
 CPN : Positive common, connector, without lead wire (short bar and contacts included)

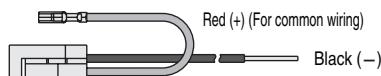
Application example



A type: EAZ-PA□*



B type: EAZ-PB□*



C type: EAZ-PC□*

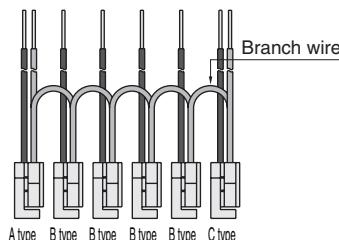


* Lead wire length Blank: 300 mm [11.8 in]

1: 1000 mm [39 in]

3: 3000 mm [118 in]

Connection example



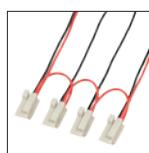
1. Due to the relative length of the branch wires for common wire connections, connections cannot be done if two or more intermediate piping blocks are mounted between valves.

2. When connecting common wires between double solenoid valves on the 12 (SB) side, connections are possible between double solenoid valves if 1 single solenoid valve is mounted between them, or even if 1 intermediate piping block is mounted between them. However, connections cannot be done if there are two or more, due to the relative length of the branch wires for common connections.

Lead wire assembly (order made) with completed common connections

Using lead wire assemblies with completed common connections reduces wiring.

Order codes

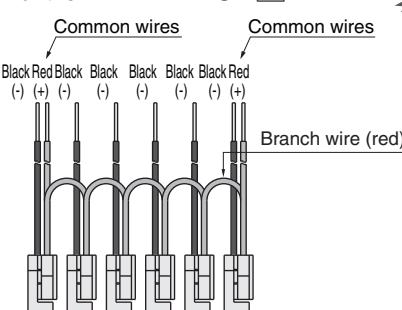


Lead wire length
 Blank — 300 mm [11.8 in]
 1 — 1000 mm [39 in]
 3 — 3000 mm [118 in]

Number of units wired together
 2: 2 connections
 3: 3 connections

Lead wire assembly with completed common connections

For the EAZ-1W-6P□



1. Due to the relative length of the branch wires for common wire connections, connections cannot be done if two or more intermediate piping blocks are mounted between valves.

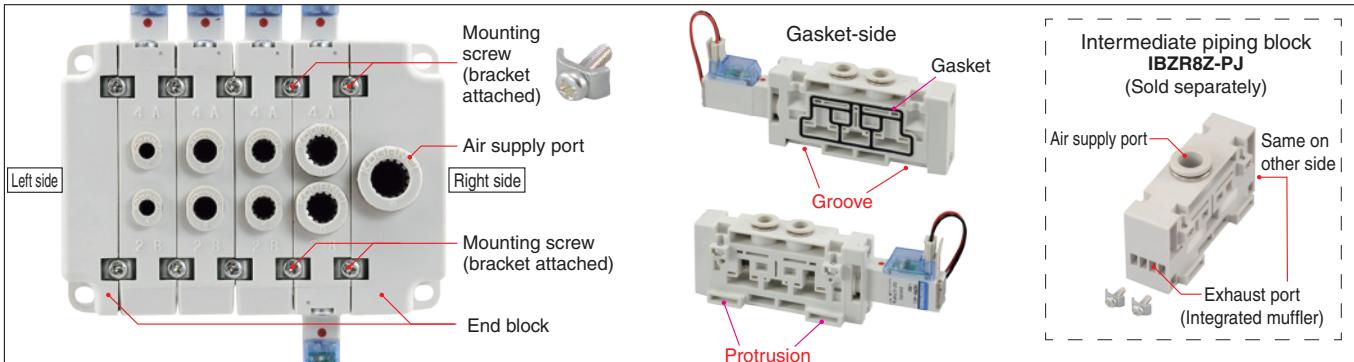
2. When connecting common wires between double solenoid valves on the 12 (SB) side, connections are possible between double solenoid valves if 1 single solenoid valve is mounted between them, or even if 1 intermediate piping block is mounted between them. However, connections cannot be done if there are two or more, due to the relative length of the branch wires for common connections.

How to assemble and replace valves

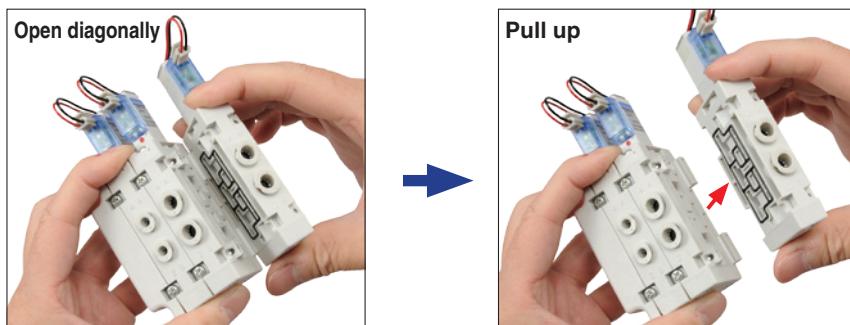
Assemble or replace the valves while the manifold body is not fixed.

Refer to ③ and ④ when the customer is the one purchasing the end block and valves and assembling the manifold.

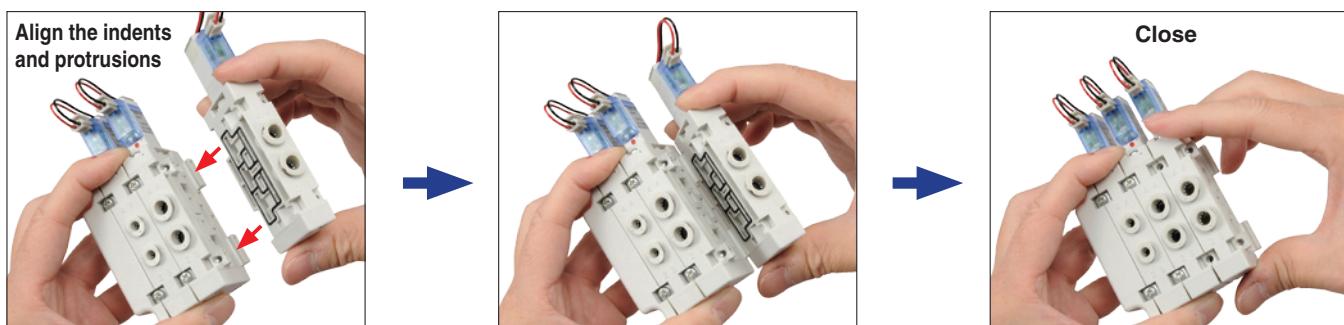
- ① Remove the mounting screws (bracket attached) from the four places (when adding valves, the two places on the top and bottom of where you are adding the valve) on the top and bottom of the valve to replace.



- ② The valve and end block can be removed by opening them diagonally and pulling up.



- ③ Assemble while diagonally aligning the positions of the indents and protrusions of the new valve.



- ④ After attaching, fix it with a mounting screws. (Recommended tightening torque: 0.49 N·m [0.36 ft·lbf])

[Caution]

- Always turn off the power and the air supplies before starting work. Also, be sure to proceed after checking that all air from inside the manifold is vented.
 - The maximum number of units that can be connected in a series is 20, including intermediate piping blocks.
 - Be careful that the gasket is not pinched or does not fall out.
 - Before supplying air to the manifold, be sure to check that the connections that were made between each valve and end block are secure.
 - We recommend adding intermediate piping blocks (IBZR8Z-PJ) if needed, when there is a large number of valves or a large number of valves simultaneously supplying air to the secondary side. Also, be careful of actuator malfunctions caused by the exhaust pressure.
- Furthermore, both intermediate piping blocks (IBZR8Z-PJ) and valves can be added using the same procedure.
- The exhaust port is an integrated muffler type. Before use, confirm that there is no exhaust noise or increase in pressure in the control panel when it is sealed.
 - Air leakage from valves is not zero. For questions regarding the allowable amount of leakage, contact our sales office.

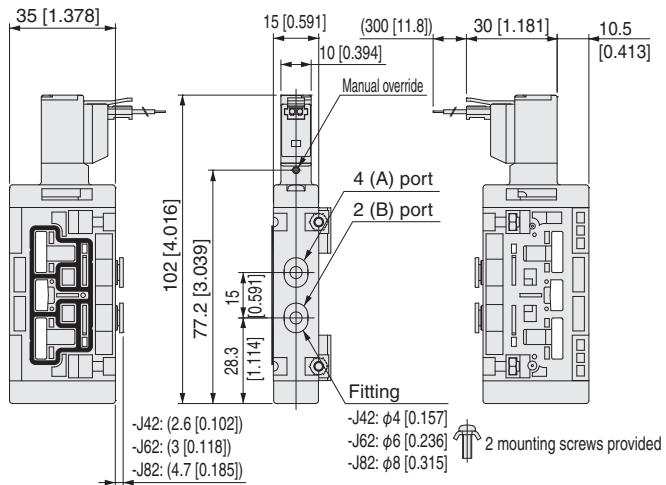
[Warranty Period]

- The warranty period for this product is 12 months from the date of delivery. However, failure, loss of performance, or loss of function due to normal degradation is outside the scope of warranty, even if it is within the warranty period.

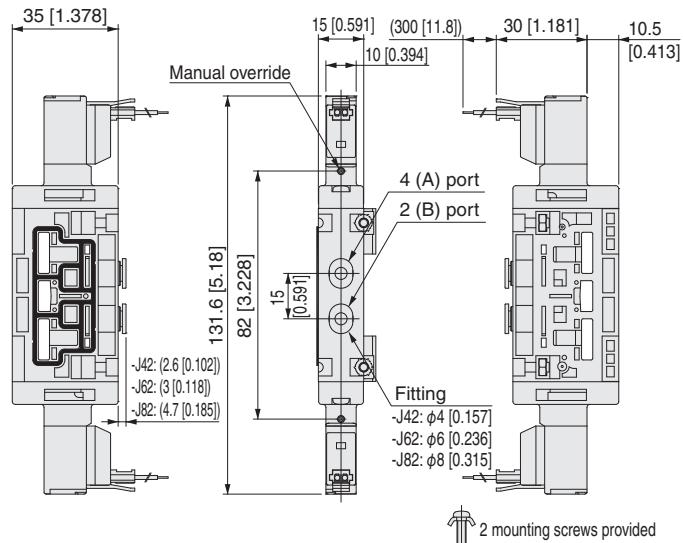
Before use, be sure to read the "Safety Precautions" and "General Precautions" in the general catalog.

■ Single valve unit

IBZR8-4E1-J□-PL 5-port single solenoid

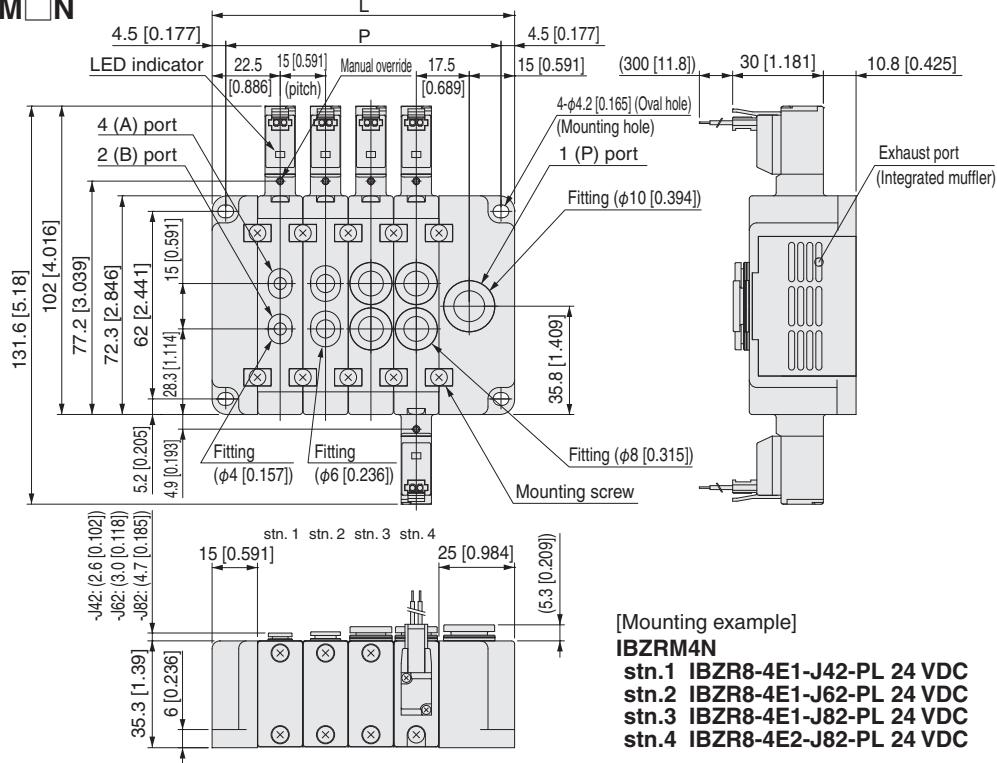


IBZR8-4E2-J□-PL 5-port double solenoid



■ Manifold

IBZR8M□N

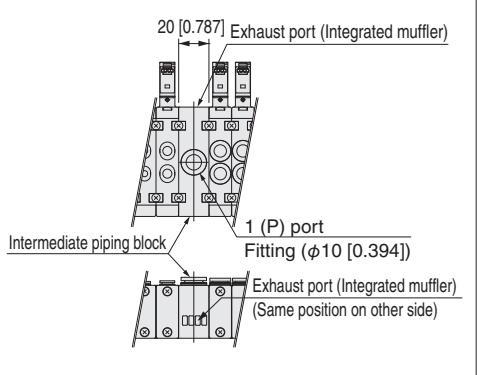


Unit dimensions

Number of units	L Note	P Note
1	55 [2.165]	46 [1.811]
2	70 [2.756]	61 [2.402]
3	85 [3.346]	76 [2.992]
4	100 [3.9]	91 [3.583]
5	115 [4.5]	106 [4.2]
6	130 [5.1]	121 [4.8]
7	145 [5.7]	136 [5.4]
8	160 [6.3]	151 [5.9]
9	175 [6.9]	166 [6.5]
10	190 [7.5]	181 [7.1]
11	205 [8.1]	196 [7.7]
12	220 [8.7]	211 [8.3]
13	235 [9.3]	226 [8.9]
14	250 [9.8]	241 [9.5]
15	265 [10.4]	256 [10.1]
16	280 [11]	271 [10.7]
17	295 [11.6]	286 [11.3]
18	310 [12.2]	301 [11.9]
19	325 [12.8]	316 [12.4]
20	340 [13.4]	331 [13]

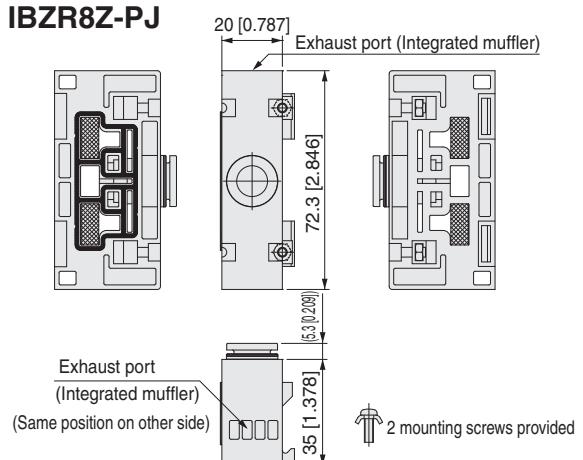
Note: If intermediate piping blocks are mounted, add 20 mm [0.787 in] for each of the intermediate piping blocks in L and P.

If intermediate piping block is mounted
(Model: IBZR8-PJ)



■ Intermediate piping block (single unit)

IBZR8Z-PJ



Limited Warranty

KOGANEI CORP. warrants its products to be free from defects in material and workmanship subject to the following provisions.

Warranty Period The warranty period is 180 days from the date of delivery.

Koganei Responsibility If a defect in material or workmanship is found during the warranty period, KOGANEI CORP. will replace any part proved defective under normal use free of charge and will provide the service necessary to replace such a part.

Limitations

- This warranty is in lieu of all other warranties, expressed or implied, and is limited to the original cost of the product and shall not include any transportation fee, the cost of installation or any liability for direct, indirect or consequential damage or delay resulting from the defects.

- KOGANEI CORP. shall in no way be liable or responsible for injuries or damage to persons or property arising out of the use or operation of the manufacturer's product.

- This warranty shall be void if the engineered safety devices are removed, made inoperative or not periodically checked for proper functioning.

- Any operation beyond the rated capacity, any improper use or application, or any improper installation of the product, or any substitution upon it with parts not furnished or approved by KOGANEI CORP., shall void this warranty.

- This warranty covers only such items supplied by KOGANEI CORP. The products of other manufacturers are covered only by such warranties made by those original manufacturers, even though such items may have been included as the components.

The specifications are subject to change without notice.

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