

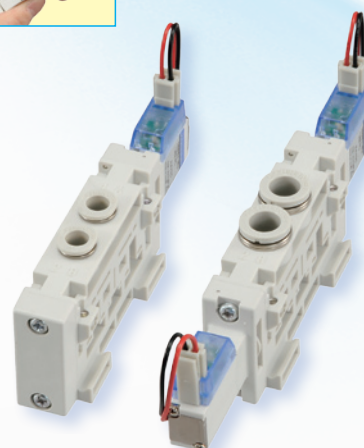
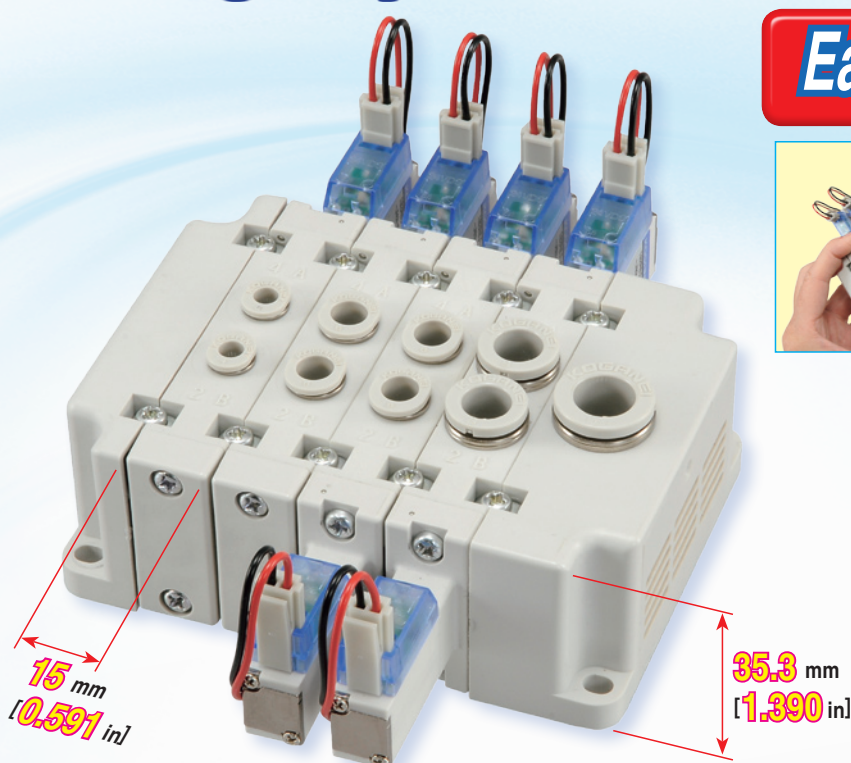
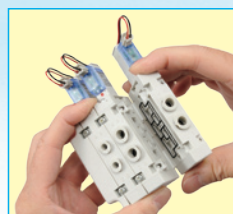
# iB-ZERO

PAT.PEND.

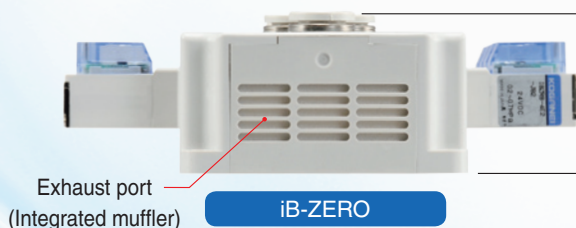
**NEW**  
Products

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

**Easy assembly!**



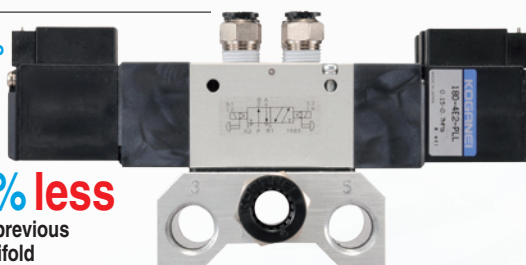
**Thin and lightweight!**



iB-ZERO

Nearly 40%  
smaller

Nearly 57% less  
mass than the previous  
180 series manifold



Previous 180 series

\* 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	dm <sup>3</sup> /(s·bar)	J42: 0.8, J62: 1.6, J82: 2	
	Effective cross section area [Cv value]	mm <sup>2</sup> [Cv]	J42: 4 [0.22], J62: 8 [0.44], J82: 10 [0.56]	
Connection port size			Supply port φ10 [0.394], outlet port φ4 [0.157], φ6 [0.236], φ8 [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 <sup>Note 2</sup> on/off time		ms	15/30 or less	30 or less
Maximum operating frequency		Hz	5	
Shock resistance		m/s <sup>2</sup> [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].

## 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 <sup>Note</sup>		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

g [oz]

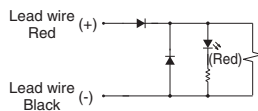
Model	Mass
IBZR8-4E1	-J42: 59 [2.08], -J62: 60 [2.12], -J82: 63 [2.22]
IBZR8-4E2	-J42: 75 [2.65], -J62: 75 [2.65], -J82: 78 [2.75]
IBZR8Z-E (end block)	81 [2.86]

## Handling Instructions and Precautions

### Internal circuit

#### ● 24 VDC

Solenoid with LED indicator and surge suppression

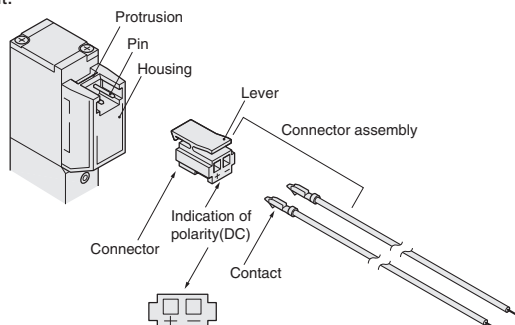


1. Do not apply megger between the pins.
2. Malfunctions, such as the solenoid valve not returning to normal, may occur if there is a leakage current within the circuit. Always use it at less than the allowable leakage current shown in the solenoid specifications. If circuit conditions, etc. cause the 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

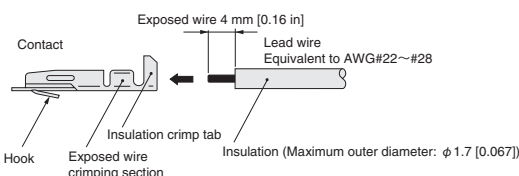
Use fingers to insert the connector into the pin, push it in until the lever claw latches onto the protruded section of the connector housing, and complete the connection.

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.

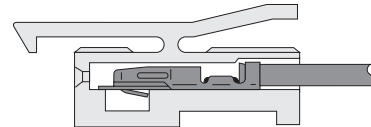


1. Do not pull hard on the lead wire.
2. Always use a dedicated tool for crimping of connecting lead wire and contact.  
Contact: Model 702062-2M  
Manufactured by Sumiko Tech, Inc.  
Crimping tool: Model F1-702062  
Manufactured by Sumiko Tech, Inc.

### 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.



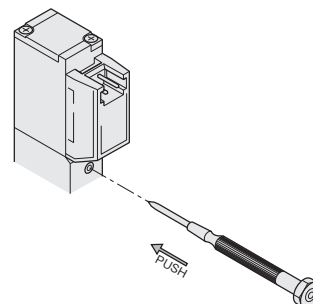
1. Do not pull hard on the lead wire. It could result in defective contacts, breaking wires, etc.
2. If the pin is bent, use a small screwdriver, etc. to gently straighten out the pin, and then complete the connection to the plug connector.

### 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

● Single valve unit (The single valve unit cannot be used alone.)



**Valve specifications**

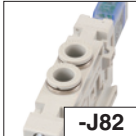


-4E1: 5-port, 2-position single solenoid  
-4E2: 5-port, 2-position double solenoid

**Single solenoid**  
14 (SA)  
4 (A) → 5 (R1)  
2 (B) → 1 (P)  
→ 3 (R2)


**Double solenoid**  
14 (SA)  
4 (A) → 5 (R1)  
2 (B) → 1 (P)  
→ 3 (R2)  
12 (SB)


**Specifications for fittings of pipe ports**


-J42: quick fitting for  $\phi 4$  [0.157] tubes  
-J62: quick fitting for  $\phi 6$  [0.236] tubes  
-J82: quick fitting for  $\phi 8$  [0.315] tubes



**Wiring specification**

L type plug connector  
Lead wire 300 mm [11.8 in]  
 -PL

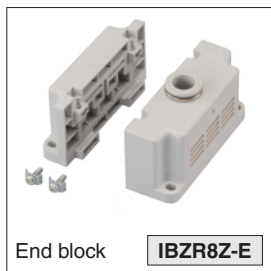
L type plug connector  
Lead wire 1000 mm [39 in]  
 -PL1

L type plug connector  
No connector  
 -PLN

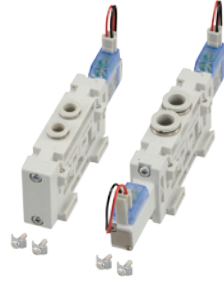
Model	Valve specifications	Specifications for fittings of pipe ports	Wiring specification	Voltage
IBZR8	-4E1 -4E2	-J42 -J62 -J82	-PL -PL1 -PLN	24 VDC <sup>Note</sup>

Remarks: The gasket is included on the valve body. Two mounting screws (bracket attached) are provided with the valve body.  
Note: For questions regarding support for 5-V, 6-V, and 12-V DC products, contact our sales office.

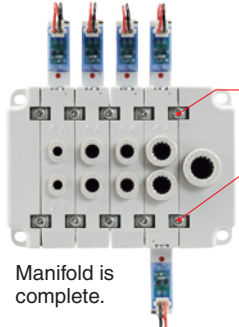
● End block (left-right set) The manifold can be easily made by assembling the end block and the valve.




End block **IBZR8Z-E**



Each type of valve



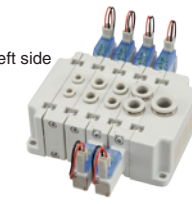
Manifold is complete.



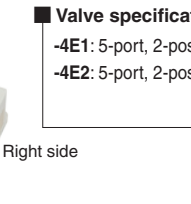
Mounting screw (bracket attached)

See the page ④ for details on the assembly method.

● Manifold



Left side



Right side

**Valve specifications**

-4E1: 5-port, 2-position single solenoid  
-4E2: 5-port, 2-position double solenoid




**Manifold format**

**N:** Finished product has each valve connected (fixed with mounting screw (bracket attached))


**NS:** Semi-finished product before each valve is connected<sup>Note 1</sup>  
\*Mounting screws (bracket attached) must be used to connect and fix each valve before use. (mounting screw (bracket attached) provided)


**Specifications for fittings of pipe ports**


-J42: quick fitting for  $\phi 4$  [0.157] tubes  
-J62: quick fitting for  $\phi 6$  [0.236] tubes  
-J82: quick fitting for  $\phi 8$  [0.315] tubes



**Wiring specification**

L type plug connector  
Lead wire 300 mm [11.8 in]  
 -PL

L type plug connector  
Lead wire 1000 mm [39 in]  
 -PL1

L type plug connector  
No connector  
 -PLN

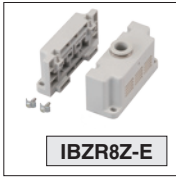
Model	Number of valves	Manifold format	Stations	Model	Valve specifications	Specifications for fittings of pipe ports	Wiring specification	Voltage
Manifold model				Model of mounted valve				
IBZR8M	1 : 20	N NS <sup>Note 1</sup>	stn.1 : stn.□ Note 2	IBZR8	-4E1 -4E2	-J42 -J62 -J82	-PL -PL1 -PLN <sup>Note 3</sup>	24 VDC <sup>Note 4</sup>
-PJ(If an intermediate piping block is mounted on the specified station)								

Note 1: After doing connections, before supplying air to the manifold, be sure to check that the connections that were made between each valve and end block are secure.  
2: Position of valve from left side of manifold.  
3: Common connector assemblies are available for common wiring connections. For details, see page ③.  
4: For questions regarding support for 5-V, 6-V, and 12-V DC products, contact our sales office.



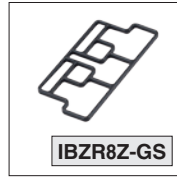
## Additional parts (available separately)

End block (left-right set)



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

Gasket



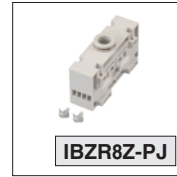
(Units: 1)

Set of brackets and mounting screws



(Units: 2 piece set)

Intermediate piping block



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

## Connector-related

**EAZ** -

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)

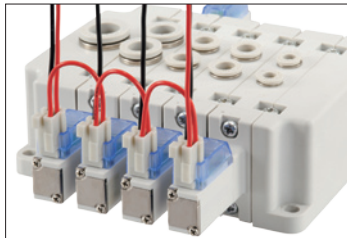
## Common connector assembly

**EAZ** -

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)

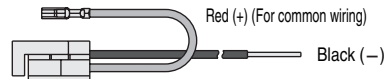
Application example



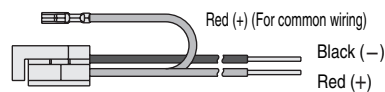
A type: **EAZ-PA** \*



B type: **EAZ-PB** \*

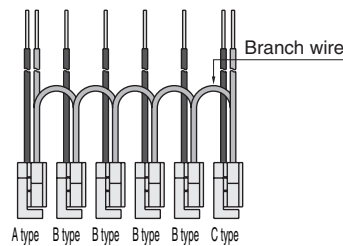


C type: **EAZ-PC** \*



- \* Lead wire length **Blank**: 300 mm [11.8 in]
- 1**: 1000 mm [39 in]
- 3**: 3000 mm [118 in]

Connection example



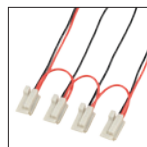
1. Due to the relative length of the branch wires for common wire connections, connections cannot be done if two or more intermediate piping blocks are mounted between valves.
2. When connecting common wires between double solenoid valves on the 12 (SB) side, connections are possible between double solenoid 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

**EAZ-1W** - **P**

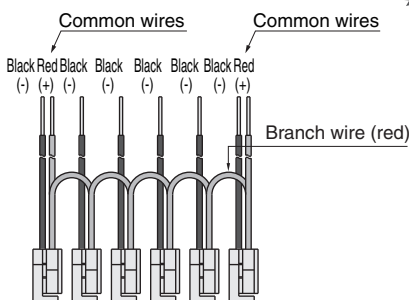


Lead wire length  
Blank — 300 mm [11.8 in]  
1 — 1000 mm [39 in]  
3 — 3000 mm [118 in]

Number of units wired together  
2: 2 connections  
20: 20 connections

Lead wire assembly with completed common connections

For the **EAZ-1W-6P**

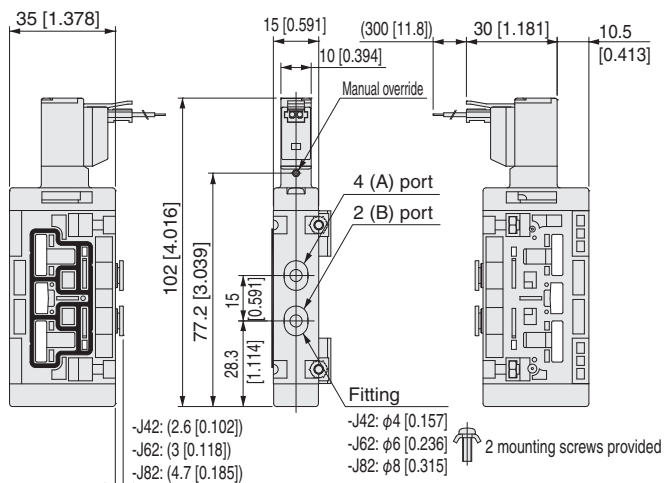


1. Due to the relative length of the branch wires for common wire connections, connections cannot be done if two or more intermediate piping blocks are mounted between valves.
2. When connecting common wires between double solenoid valves on the 12 (SB) side, connections are possible between double solenoid 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.

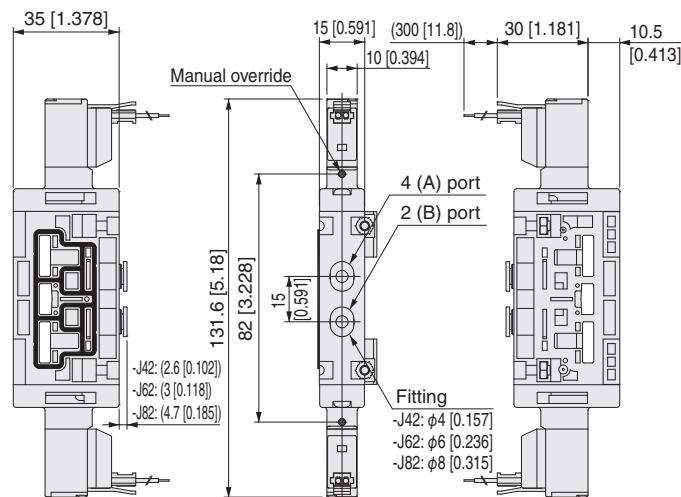


## Single valve unit

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



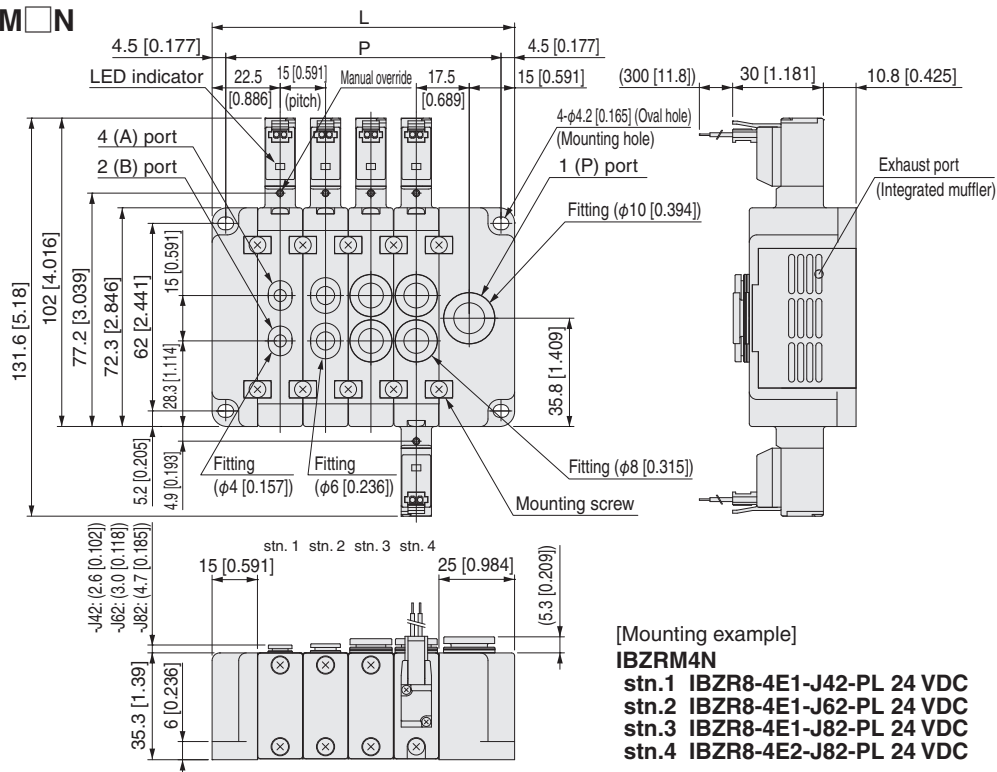
### IBZR8-4E2-J□-PL 5-port double solenoid



2 mounting screws provided

## Manifold

### IBZR8M□N



## Unit dimensions

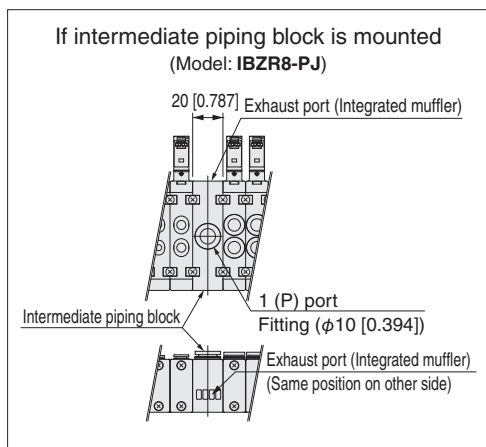
Number of units	L <sup>Note</sup>	P <sup>Note</sup>
1	55 [2.165]	46 [1.811]
2	70 [2.756]	61 [2.402]
3	85 [3.346]	76 [2.992]
4	100 [3.9]	91 [3.583]
5	115 [4.5]	106 [4.2]
6	130 [5.1]	121 [4.8]
7	145 [5.7]	136 [5.4]
8	160 [6.3]	151 [5.9]
9	175 [6.9]	166 [6.5]
10	190 [7.5]	181 [7.1]
11	205 [8.1]	196 [7.7]
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.

[Mounting example]

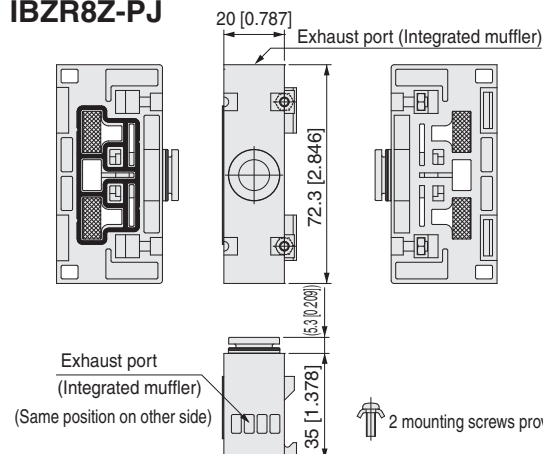
#### IBZRM4N

- stn.1 IBZR8-4E1-J42-PL 24 VDC
- stn.2 IBZR8-4E1-J62-PL 24 VDC
- stn.3 IBZR8-4E1-J82-PL 24 VDC
- stn.4 IBZR8-4E2-J82-PL 24 VDC



## Intermediate piping block (single unit)

### IBZR8Z-PJ



2 mounting screws provided



# 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.

URL <http://www.koganei.co.jp>

E-mail: [overseas@koganei.co.jp](mailto:overseas@koganei.co.jp)



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