

iB-ZERO

PAT.PEND.

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

NEW OPTION!!

Quick fitting exhaust port type

Possible to exhaust with tube piping, from the 3(R) port of the piping block.

End block with quick fitting exhaust port



1(P), 3(R) piping size

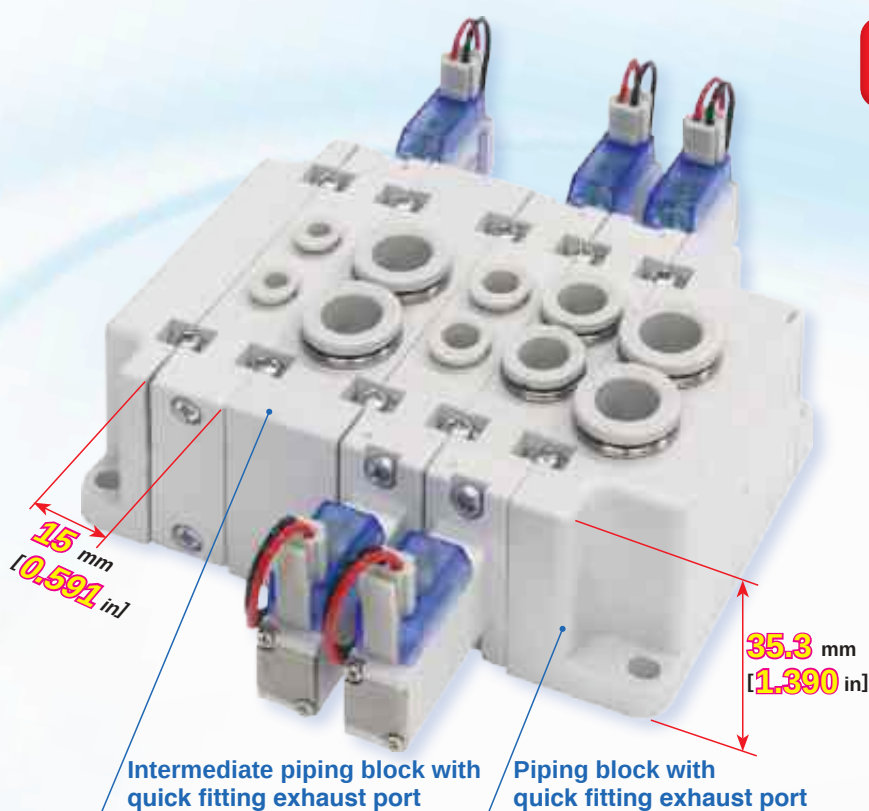
- $\phi 10$ mm tube
- 3/8 inch tube

Intermediate piping block with quick fitting exhaust port



1(P), 3(R) piping size

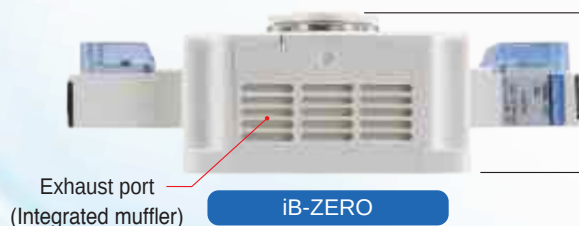
- $\phi 10$ mm tube
- 3/8 inch tube



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 mm: $\phi 4$, $\phi 6$, $\phi 8$ / in: 5/32, 1/4, 5/16)
Perfect for cylinder controls from small diameter to about $\phi 80$ [3.150 in]

Before selecting and using the products, please read all safety precautions carefully to ensure proper product use. The safety precautions described below are to help you use the product safely and correctly, and to prevent injury or damage to you, other people, and assets.

Always adhere to the following safety regulations: ISO4414 (Pneumatic fluid power - General rules and safety requirements for systems and their components) and JIS B 8370 (General rules relating to pneumatic systems).

Items are ranked as follows according to degree of potential danger or damage: “DANGER”, “WARNING”, “CAUTION”, and “ATTENTION”.

 DANGER	Indicates situations that can be clearly predicted as dangerous. Failure to avoid the situation creates the risk of death or serious injury. It could also result in damage or destruction of assets.
 WARNING	Indicates situations that, while not immediately dangerous, could become dangerous. Failure to avoid the situation creates the risk of death or serious injury. It could also result in damage or destruction of assets.
 CAUTION	Indicates situations that, while not immediately dangerous, could become dangerous. Failure to avoid the situation creates the risk of minor or semi-serious injury. It could also result in damage or destruction of assets.
 ATTENTION	While there is little chance of injury, this content refers to points that should be observed for appropriate use of the product.

■ This product was designed and manufactured for use in general industrial machinery.

- When selecting and handling equipment, the system designer or another person with sufficient knowledge and experience should always read the safety precautions, catalog, instruction manual and other literature before commencing operation. Improper handling is dangerous.
- After reading the catalog, instruction manual, etc., always keep them in a location where they are readily available for reference to users of this product.
- If transferring or lending the product to another person, always attach the catalog, instruction manual, etc., to the product where they are easily visible, to ensure that the new user can use the product safely and properly.
- The danger, warning and caution items listed under these safety precautions do not cover all possible contingencies. Read the catalog and instruction manual carefully, and always keep safety first.

DANGER

- Do not use the product for the purposes listed below:
 1. Medical equipment related to maintenance or management of human lives or bodies.
 2. Machines or equipment designed for the purpose of moving or transporting people.
 3. Critical safety components in mechanical devices.
 This product has not been planned or designed for purposes that require high levels of safety. Using the product in any of the ways described above creates the risk of loss of human life.
- Do not use the product in locations with or near dangerous substances such as flammable or ignitable substances. This product is not explosion-proof. Doing so creates the risk of ignition and fire.
- When mounting the product and workpiece, always make sure they are firmly supported and secured in place. Falling, dropping, or abnormal operation of the product creates the risk of personal injury.
- People using a pacemaker or other similar medical devices should keep a distance of at least one meter away from the product. Getting too close to the product creates the risk of malfunction of a pacemaker due to the strong magnet built into the product.
- Never attempt to modify the product. Abnormal operation can lead to injury, etc.
- Never attempt inappropriate disassembly, assembly or repair of the product relating to basic construction, or to its performance or to functions. Doing so creates the risk of injury, electric shock, fire, etc.
- Do not splash water on the product. Spraying it with water, washing it, or using it under water could result in malfunction of the product leading to injury, electric shock, fire, etc.
- While the product is in operation, avoid touching it with your hands or otherwise approaching too close. Also, do not attempt to make any adjustments to internal or attached mechanisms, or to perform any type of adjustment (manual override, connecting or disconnecting cable connectors, adjusting pressure switches, disconnecting tubes or sealed plugs, etc.) while the product is in operation.
Under such conditions, the actuator may move suddenly, creating the risk of personal injury.

WARNING

- Because Koganei products are designed for use under a wide variety of conditions, decisions concerning conformance with a particular system should be made upon the careful evaluation by the person in charge of system design. Assurances concerning expected system performance and safety are the responsibility of the designer who decides system conformity. Be sure to use the latest catalogs and technical materials to study and evaluate specification details, to consider the possibility of machine breakdown, and to configure a system that ensures fail-safe safety and reliability.
- Do not use the product in excess of its specification ranges. Doing so creates the risk of product breakdown, loss of function, or damage. It could also drastically reduce operating life.

- Before supplying air or electricity to the device and before starting operation, always conduct a safety check of the area of machine operation. Unintentional supply of air or electricity could possibly result in electric shock, or in injury caused by contact with moving parts.
- Do not touch terminals, switches, or other parts, while power is turned on. Doing so creates the risk of electric shock and malfunction.
- Do not allow the product to be thrown into fire. Doing so creates the risk of explosion and the release of toxic gases.
- Do not sit on the product, place your foot on it, or place other objects on it. Doing so creates the risk of injury due to tripping or the product tipping over or dropping, resulting in product damage and abnormal, erratic, or runaway operation.
- When conducting any kind of operation for the product, such as maintenance, piping connection and disconnection, inspection, repair, or replacement, always turn off the air supply completely and confirm that residual pressure inside the product or in piping connected to the product is zero before proceeding. In particular, be aware that residual air will still be in the air compressor or air storage tank. The actuator could abruptly move if residual air pressure remains inside the piping, causing injury.
- Before commencing normal operation, confirm that the valve is in the proper switching position, and only then commence the operation. Failure to do so could lead to erroneous operation.
- Before performing any kind of wiring work, be sure to turn off power. Failure to do so creates the risk of electric shock.
- Correctly apply the rated voltage to the solenoid. Applying the wrong voltage will make it impossible to obtain the specified function, and creates the risk of damage to and burnout of the product.
- Do not allow lead wires and other cords to become damaged.
Allowing a cord to become cut, bent excessively, pulled, rolled up, placed under heavy objects, or squeezed between two objects creates the risk of current leaks or defective continuity that can lead to fire, electric shock, or abnormal operation.
- Do not connect or disconnect connectors while power is turned on. Also, never apply unnecessary force to connectors. Doing so creates the risk of personal injury, device damage, and electric shock due to abnormal machine operation.
- Always check the catalog and other reference materials for correct product wiring and piping. Improper wiring and piping creates the risk of damage to and abnormal operation of the actuator, etc.
- In initial operations after the equipment has been idle for 48 hours or more, or has been in storage, there is a possibility that contacting parts may have become stuck, resulting in equipment operation delays or in sudden movements. Before these initial operations, always run a test to check that operating performance is normal.
- When the device is not used for long periods (over 30 days), it is possible that the contacting parts may have become stuck leading to slow operation or sudden movements. Check for proper operation a minimum of once every 30 days.

Safety precautions (iB-ZERO)

- For double solenoid type (excluding the Tandem 3-port valve), do not apply current through both solenoids simultaneously. It is impossible in such a situation to maintain the correct valve position, and the equipment may operate in an unintended direction, leading to the possibility of equipment breakdown or personal injury.
- For double solenoid types, due to the valve position when newly purchased, connected equipment may operate in unintentional directions, and may lead to damage of the machine, or personal injury, so prepare countermeasures to avoid danger.
- Do not locate the solenoid valve and the wiring that controls it near power lines running a large current, powerful magnetic fields, or where power surges occur. Doing so could cause erratic operation.
- Solenoid valves generate surge voltage and electromagnetic waves at the OFF operation, which can interfere with the operation of nearby equipment. Use a surge protected solenoid or implement appropriate surge and electromagnetic protection measures for the electrical circuitry.
- Do not use the product at the beach, in direct sunlight, near mercury vapor lamps, or near equipment that generates ozone. Ozone causes rubber components to deteriorate resulting in reduced performance, or a limitation or stop of functions. (Excluding items with measurements against ozone.)
- Do not use any type of medium that is not specifically stipulated in the specifications. Using a non-specified medium could lead to short term loss of function, sudden degradation of performance, and a reduced operating life.
- When a solenoid valve is installed within the control panel and when the energizing time is long, implement heat dissipation measures in order to keep the temperature around the solenoid within specifications. Also note that continuous energizing for long periods will result in heat generation by the coil which can lead to deterioration of solenoid valve performance and shortening of its service life, and can adversely affect nearby equipment. Contact Koganei if you need to continuously energize for long periods or if the energizing time in a day needs to be longer than the deenergizing time.
- After completing wiring work, check to make sure that all connections are correct before turning on power.
- When using the valve in a manifold, be aware when operating an air cylinder, or performing air blowing operations, back pressure could cause erratic operations of the cylinder or erroneous air delivery from the air blow port. Caution is particularly needed when operating single acting cylinders, or when operating a cylinder and blowing air from the same manifold.
- Do not use the product in locations subject to direct sunlight (ultraviolet radiation), high temperatures or high humidity, dust, salt, or iron powder. Do not expose the product to fluids or an ambient atmosphere that contains organic solvents, phosphate-based hydraulic fluid, sulfur dioxide gas, chlorine gas, acids, etc. It could lead to early shutdown of some functions, a sudden degradation of performance, and a reduced operating life. For information about materials, see Materials of major parts.



- When mounting the product, leave room for adequate working space around it. Failure to do so will make it more difficult to conduct daily inspections or maintenance, which could eventually lead to system shutdown or damage to the product.
- Whenever transporting or installing a heavy product, use a lift or supports to securely support it, and use several people to help lift it and take other precautions to ensure personal safety.
- Do not bring any magnetic media or memory media, or other similar items within one meter of an energized solenoid valve. Doing so creates the risk of damage to data on the magnetic media due to magnetism.
- If leakage current is flowing in the control circuit, there is a possibility of the product performing an unintended operation. Take measures against current leaking in the control circuit, to ensure that the leakage current value does not exceed the allowed range in the product specifications.
- Do not use a solenoid valve in locations subject to large electrical currents or strong magnetic fields. Doing so could result in erratic operation.
- Oil from a compressor (except from the oil free compressor) can greatly reduce product performance and can even cause functional stoppages. Be sure to install a mist filter before pneumatic equipment to remove oil.
- The properties of the lubrication oil can change when used in dry air where dew point temperatures is lower than -20°C [-4°F]. It could result in degraded performance or in functional shutdown.
- While the product is in operation, avoid touching it with your hands or otherwise approaching too close. Heat generated by the coil can cause burn injury.



ATTENTION

- When considering the possibility of using this product in situations or environments not specifically noted in the catalog or instruction manual, or in applications where safety is an important requirement such as in aircraft equipment, combustion equipment, leisure equipment, safety equipment, and other places where human life or assets may be greatly affected, take adequate safety precautions such as allowing plenty of margin for ratings and performance, or fail-safe measures. Contact the sales department at Koganei regarding use in such applications.
- When handling the product, wear protective gloves, safety glasses, safety shoes, and other protective clothing.
- When the product can no longer be used, or is no longer necessary, dispose of it appropriately, according to the "Law Regarding the Disposal and Cleaning of Waste" or other local governmental rules and regulations, as industrial waste.
- Pneumatic equipment can exhibit degraded performance and function over its operating life. Always conduct daily inspections of the pneumatic equipment, and confirm that all requisite system functions are satisfied, to prevent accidents from happening.
- Air leakage of the solenoid valves cannot be cut to zero. Take volume and holding time requirements into consideration when designing pressure (including vacuum) retention in the pressure vessel, and other factors.
- Air leakage of the solenoid valves cannot be cut to zero. Take volume and holding time requirements into consideration when designing pressure (including vacuum) retention in the pressure vessel, and other factors.



Other precautions

- Always observe the following items.
 1. When using this product in pneumatic systems, always use genuine Koganei parts or compatible parts (recommended parts). When conducting maintenance and repairs, always use genuine Koganei parts or equivalent parts (recommended parts). Always observe the prescribed methods and procedures.
 2. Never attempt inappropriate disassembly or assembly of the product relating to basic configurations, or its performance or functions.

Koganei shall not be held responsible for any problems that occur as a result of these items not being properly observed.

Warranty and General Disclaimer

1. Warranty Period

Koganei warrants this product for a period of no more than 180 days from the date of delivery.

2. Scope of Warranty and General Disclaimer

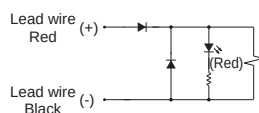
- (1) The Koganei product warranty covers individual products. When a product purchased from Koganei or from an authorized Koganei distributor malfunctions during the warranty period in a way that is attributable to Koganei's responsibility, Koganei will repair or replace the product free of charge. Even if a product is still within the warranty period, its durability is determined by its operation cycles and other factors. Contact your nearest Koganei sales office or the Koganei overseas department for details.
- (2) Koganei shall not be held responsible for any losses or for any damage to other machinery caused by breakdown, loss of function, or loss of performance of Koganei products.
- (3) Koganei shall not be held responsible for any losses due to use or storage of the product in a way that is outside of the product specifications prescribed in Koganei catalogs and the instruction manual, and/or due to actions that violate the mounting, installation, adjustment, maintenance and other safety precautions.
- (4) Koganei shall not be held responsible for any losses caused by breakdown of the product due to factors outside the responsibility of Koganei, including but not limited to fire, natural disaster, the actions of third parties, and intentional actions or errors by you.

Handling Instructions and Precautions

Internal circuit

•24 VDC

Solenoid with LED indicator and surge suppression

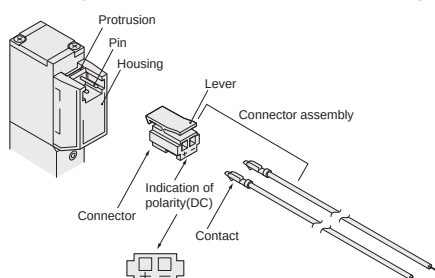


1. Do not apply megger between the pins.
2. Malfunctions, such as the solenoid valve not returning to normal, may occur if there is a leakage current within the circuit. Always use it at less than the allowable leakage current shown in the solenoid specifications. If circuit conditions, etc. cause the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

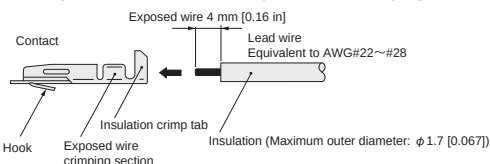
Use fingers to insert the connector into the pin, push it in until the lever claw latches onto the protruded section of the connector housing, and complete the connection.

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.

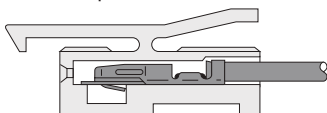


1. Do not pull hard on the lead wire.
2. Always use a dedicated tool for crimping of connecting lead wire and contact.
Contact: Model 702062-2M
Manufactured by Sumiko Tech, Inc.
Crimping tool: Model F1-702062
Manufactured by Sumiko Tech, Inc.

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.



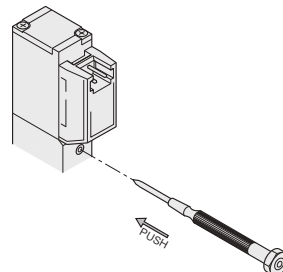
1. Do not pull hard on the lead wire. It could result in defective contacts, breaking wires, etc.
2. If the pin is bent, use a small screwdriver, etc. to gently straighten out the pin, and then complete the connection to the plug connector.

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.

Identification of quick fitting size

Tube size unit	Release ring color
mm size	Ivory
in size	Milk white



General precautions

Mounting

1. While any mounting direction is allowed, be sure to avoid strong shocks or vibrations applied directly to the body.
2. Avoid using in the locations and environment listed below, as it could result in malfunction of the valve. If use in such conditions is unavoidable, always provide a cover or other adequate protective measures.
 - Location directly exposed to water drops or oil drops
 - Environment where a valve body is subject to dew condensation
 - Location directly exposed to machining chips, dust, etc
3. In piping connection with valves, flush the tube completely (by blowing compressed air) before piping.
Intrusion of machining chips or sealing tape, rust, etc., generated during plumbing could result in air leaks and other defective operations.
4. Never use the valve with the 4(A) and 2(B) ports vented to the atmosphere.
5. When mounting a valve inside a control panel, or when energizing time is long, make adequate consideration for ventilation and other heat dissipation measures.
6. When adding or subtracting units in the manifold, or replacing a fitting block, be sure to tighten to within the specified tightening torque range.

Media

1. Use air for the media. For the use of any other media, consult us.
2. Air used for the cylinder should be clean air that contains no deteriorated compressor oil, etc. Install an air filter (filtration of 40 μm or less) near the valve to remove collected liquid or dust. In addition, drain the air filter periodically.
3. When supply pressure is low, use piping for the 1(P) port with sufficient tube size.

Lubrication

Can be used without lubrication due to the factory lubricant (grease). When the pneumatic products require lubrication, use Turbine Oil Class 1 (ISO VG32) or the equivalent. In addition, cutting off oil feed while an operation is in progress could lead to malfunction due to the dissipation of the factory lubricant (grease). As a result, always keep the oil feed running continuously. However, use caution since excessive oil feed can also be a cause of malfunction. Avoid using spindle oil or machine oil.

Atmosphere

The product cannot be used when the media or ambient atmosphere contains any of the substances listed below.
Organic solvents, phosphate ester type hydraulic oil, sulphur dioxide, chlorine gas, or acids, etc.

Wiring

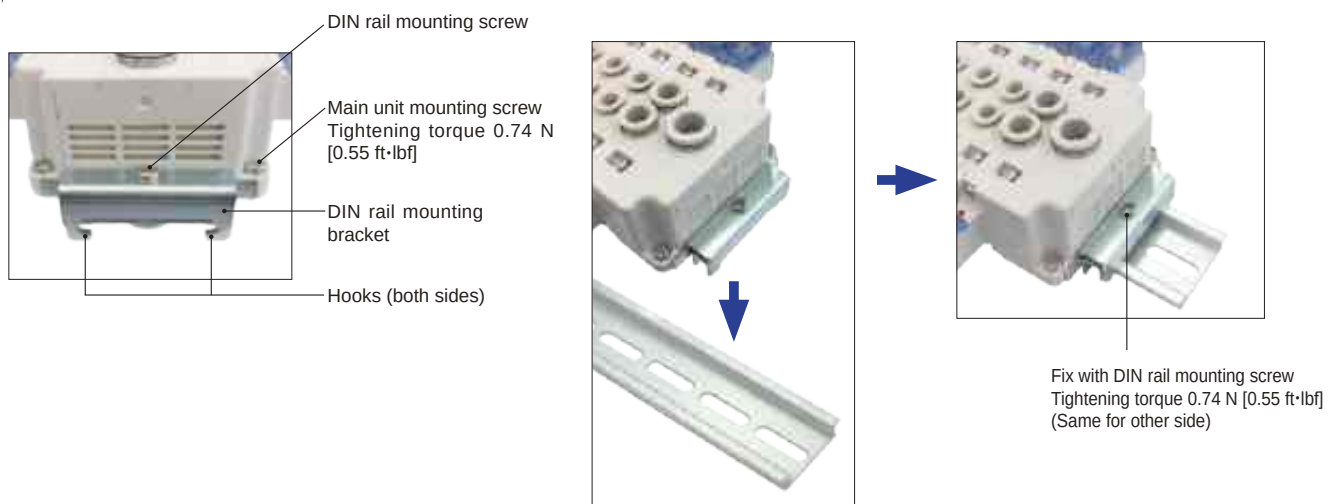
After wiring, check that there is no error in the wiring connections.

DIN rail mounting brackets

As shown in below images, first make sure that the DIN rail mounting bracket is mounted on both sides of the manifold. Then securely connect the hooks of both sides to the DIN rail from above, and fix the position with DIN rail mounting screws.



When the DIN rail mounting bracket is selected, the maximum is number of valves is 16 stations.

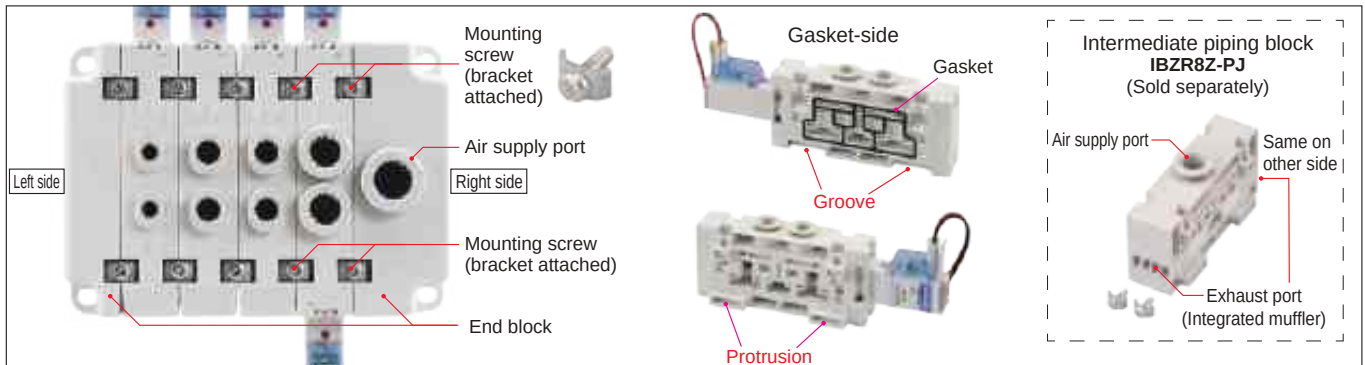


How to assemble and replace valves

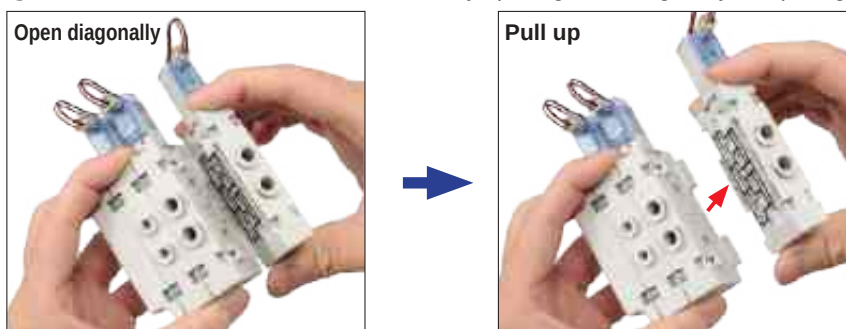
Assemble or replace the valves while the manifold body is not fixed.

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

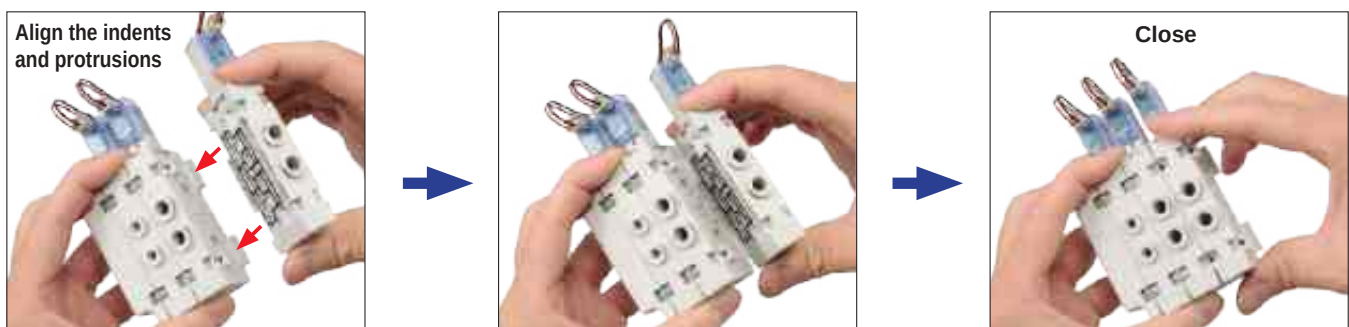
- ① Remove the mounting screws (bracket attached) from the four places (when adding valves, the two places on the top and bottom of where you are adding the valve) on the top and bottom of the valve to replace.



- 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 (-PJ3/8)」 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 (-PJ3/8)」 and valves can be added using the same procedure.
- For muffler exhaust 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.



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	dm³/(s·bar)	mm	J42 : 0.8、J62 : 1.6、J82 : 2		
			in	J5/32 : 0.8、J1/4 : 1.6、J5/16 : 2		
	Effective cross section area [Cv value] ^{Note 1}	mm² [Cv]	mm	J42 : 4 [0.22]、J62 : 8 [0.44]、J82 : 10 [0.56]		
			in	J5/32 : 4 [0.22]、J1/4 : 8 [0.44]、J5/16 : 10 [0.56]		
Connection port size			mm	Supply port ϕ 10 [0.394] ^{Note 2} , outlet port ϕ 4 [0.157], ϕ 6 [0.236], ϕ 8 [0.315]		
			in	Supply port 3/8、outlet port 5/32、1/4、5/16		
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 3} on/off time		ms	15/30 or less		30 or less	
Maximum operating frequency		Hz	5			
Shock resistance		m/s² [G]	294.2 [30]			
Mounting direction			Unrestricted			

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

2: Only when the intermediate piping block with quick fitting exhaust port is selected.

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

Electrical Specifications

Rated voltage		24 VDC
Item		
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

g [oz]

Model		Mass
IBZR8-4E1	mm	J42: 59 [2.08], J62: 60 [2.12], J82: 63 [2.22]
	in	J5/32: 59[2.08], J1/4: 60[2.12], J5/16: 63[2.22]
IBZR8-4E2	mm	J42: 75 [2.65], J62: 75 [2.65], J82: 78 [2.75]
	in	J5/32: 75[2.65], J1/4: 75[2.65], J5/16: 78 [2.75]
IBZR8Z-E (end block)		81 [2.86]
IBZR8Z-E3/8		81 [2.86]
IBZR8Z-PJ		50 [1.76]
IBZR8Z-PJ3/8		50 [1.76]
IBZR8Z-EJ		84 [2.96]
IBZR8Z-E3/8J		84 [2.96]
IBZR8Z-PJJ		53 [1.87]
IBZR8Z-PJ3/8J		53 [1.87]

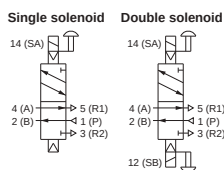
Order codes

• 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



■ 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
- J5/32: quick fitting for 5/32 in. tubes
- J1/4: quick fitting for 1/4 in. tubes
- J5/16: quick fitting for 5/16 in. tubes

■ Wiring specification

- L type plug connector Lead wire 300 mm [11.8 in]
- L type plug connector Lead wire 1000 mm [39 in]
- L type plug connector Lead wire 3000 mm [118.1 in]



- L type plug connector No connector



Model	Valve specifications	Specifications for fittings of pipe ports	Wiring specification	Voltage
IBZR8	-4E1 -4E2	-J42 -J62 -J82 -J5/32 -J1/4 -J5/16	-PL -PL1 -PL3 -PLN -CPL Note 1 -CPL1 Note 2 -CPL3 Note 3	24 VDC*

Note 1: Common connector assembly EAZ-PB is attached.

2: Common connector assembly EAZ-PB1 is attached.

3: Common connector assembly EAZ-PB3 is attached.

Remarks: The gasket is installed in the valve body. Two mounting screws (bracket attached) are provided with the valve body.

* For questions regarding support for 5-V, 6-V, and 12-V DC products, contact our sales office.

• Manifold



■ Valve specifications

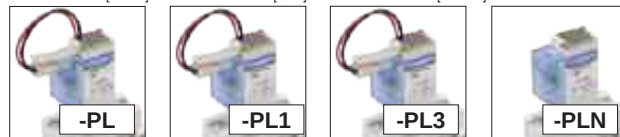
- 4E1: 5-port, 2-position single solenoid
- 4E2: 5-port, 2-position double solenoid
- PJ: Intermediate piping block for $\phi 10$ mm tube
- PJ3/8: Intermediate piping block for 3/8 inch tube
- PJJ: Intermediate piping block with quick fitting exhaust port for $\phi 10$ mm tube
- PJ3/8J: Intermediate piping block with quick fitting exhaust port for 3/8 inch tube

■ 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
- J5/32: quick fitting for 5/32 in. tubes
- J1/4: quick fitting for 1/4 in. tubes
- J5/16: quick fitting for 5/16 in. tubes

■ Wiring specification

- L type plug connector Lead wire 300 mm [11.8 in]
- L type plug connector Lead wire 1000 mm [39 in]
- L type plug connector Lead wire 3000 mm [118.1 in]
- L type plug connector No connector



- Pre-wired positive common terminal^{Note 6} Lead wire 300mm
- Pre-wired positive common terminal^{Note 6} Lead wire 1000mm
- Pre-wired positive common terminal^{Note 6} Lead wire 3000mm



■ Manifold format

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

NS: Semi-finished product before each valve is connected^{Note 1}

*Mounting screws (bracket attached) must be used to connect and fix each valve before use.
(mounting screw (bracket attached) provided)

■ Mounting

- Blank: Direct mounting
- DN: With DIN rail mounting bracket^{Note 1, Note 3}

■ Piping block (End block at right side)

- Blank: Quick fitting for $\phi 10$ mm tube
- J3/8: Quick fitting for 3/8 inch tube
- J: 1 (P), 3 (R) quick fitting for $\phi 10$ mm tube
- J3/8J: 1 (P), 3 (R) quick fitting for 3/8 inch tube

Model	Number of valves	Manifold format	Mounting	Piping block	Stations	Model	Valve specifications	Specifications for fittings of pipe ports	Wiring specification	Voltage
Manifold model						Model of mounted valve				
IBZR8M	1 ⋮ 20 (16) ^{Note 1}	N NS ^{Note 2}	Blank -DN ^{Note 1, Note 3}	Blank -J3/8 ^{Note 8} -J -J3/8J ^{Note 8}	stn. 1 ⋮ stn. ☐ ^{Note 4}	IBZR8	-4E1 -4E2	-J42 -J62 -J82 -J5/32 ^{Note 8} -J1/4 ^{Note 8} -J5/16 ^{Note 8}	-PL -CPL ^{Note 6} -PL1-CPL1 -PL3-CPL3 -PLN ^{Note 5}	DC24V ^{Note 7}
(If an intermediate piping block is mounted on the specified station)										
-PJ -PJ3/8 ^{Note 8} -PJJ -PJ3/8J ^{Note 8}										

Note 1: Note1: The maximum number of valves is 20 stations. When the DIN rail mounting bracket is selected, the maximum is 16 stations.

2: 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.

3: Please separately prepare the DIN rail. When -NS is selected for the manifold format, the DIN rail mounting brackets will be attached parts.

4: Valve positions are counted from the left side of the manifold.

5: Common connector assemblies are available for common wiring connections. For details, see page ③.

6: 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.

7: For questions regarding support for 5-V, 6-V, and 12-V DC products, contact our sales office.

8: (mm) fitting and (in.) fitting valves cannot be mixed in the same manifold.

Order codes

• Additional parts (available separately)

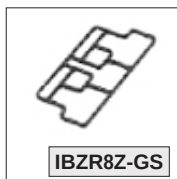
DIN rail mounting bracket



(4 mounting screws included)

NOTE When using DIN rail mounting brackets, the maximum number of valves is 16 stations.

Gasket



(Units: 1)

Set of brackets and mounting screws



(Units: 2 pcs)

DIN rail



(Unit: 1 pcs)

DIN - □

Length of DIN rail

125 : 125mm	325 : 325mm
150 : 150mm	350 : 350mm
175 : 175mm	375 : 375mm
200 : 200mm	400 : 400mm
225 : 225mm	425 : 425mm
250 : 250mm	450 : 450mm
275 : 275mm	475 : 475mm
300 : 300mm	500 : 500mm

End block (left-right set)



(With 1 gasket and 2 connecting brackets attached)

IBZR8Z-□

1 (P) port quick fittings
E : quick fitting for $\phi 10$ [0.394] tube
E3/8 : quick fitting for 3/8 in. tube

Intermediate piping block



(With 1 gasket and 2 connecting brackets attached)

IBZR8Z-□

1 (P) port quick fittings
PJ : quick fitting for $\phi 10$ [0.394] tube
PJ3/8 : quick fitting for 3/8 in. tube

A type: EAZ-PA□*



B type: EAZ-PB□*



C type: EAZ-PC□*



End block with quick fitting exhaust port (left-right set)



(With 1 gasket and 2 connecting brackets attached)

IBZR8Z-□

1 (P), 3 (P) port quick fittings
EJ : quick fitting for $\phi 10$ [0.394] tube
E3/8J : quick fitting for 3/8 in. tube

Intermediate piping block with quick fitting exhaust port



(With 1 gasket and 2 connecting brackets attached)

IBZR8Z-□

1 (P), 3 (P) port quick fittings
PJJ : quick fitting for $\phi 10$ [0.394] tube
PJ3/8J : quick fitting for 3/8 in. tube

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

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)

NOTE EAZ-P, P1, P3, PN cannot be wired with the common connector assembly.

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)

Lead wire assembly (order made) with completed common connections

Using lead wire assemblies with completed common connections reduces wiring.

Order codes

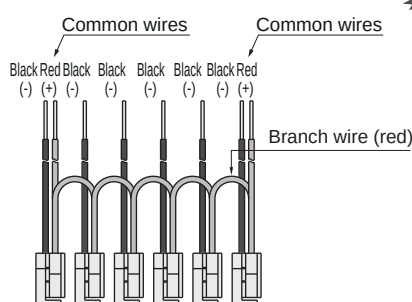
EAZ-1W - □ P □

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

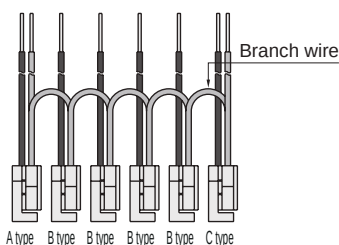
For the EAZ-1W-6P□



NOTE

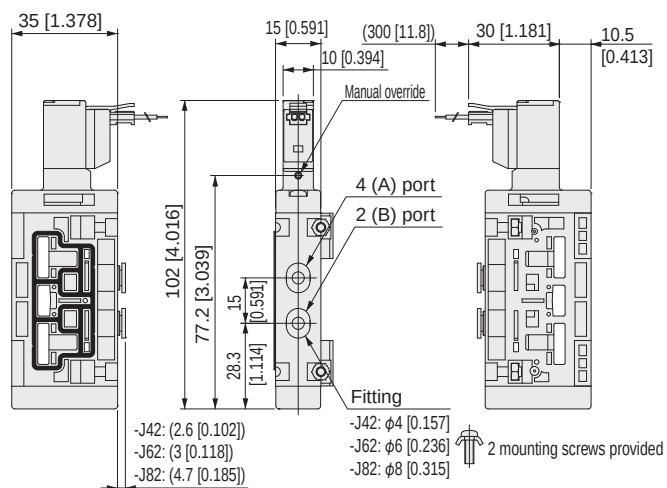
- Due to the relative length of the branch wires for common wire connections, connections cannot be done if two or more intermediate piping blocks are mounted between valves.
- When connecting common wires between double solenoid valves on the 12 (SB) side, connections are possible between double solenoid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

Connection example

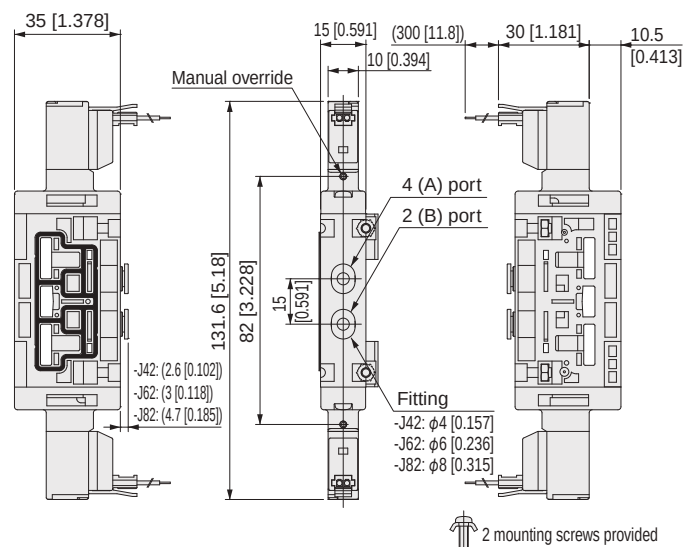


■ Single valve unit (With quick fittings for mm tubes)

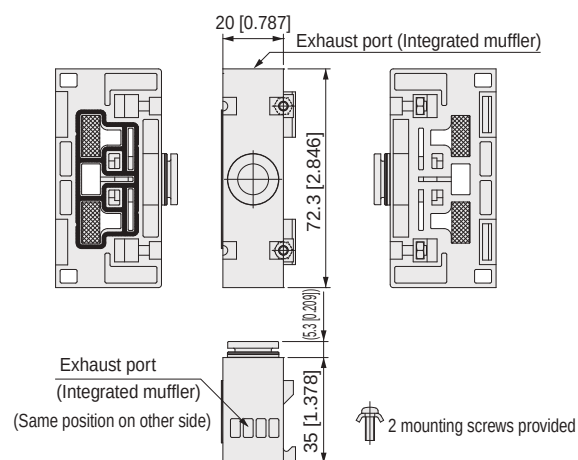
IBZR8-4E1-J□-PL 5-port single solenoid



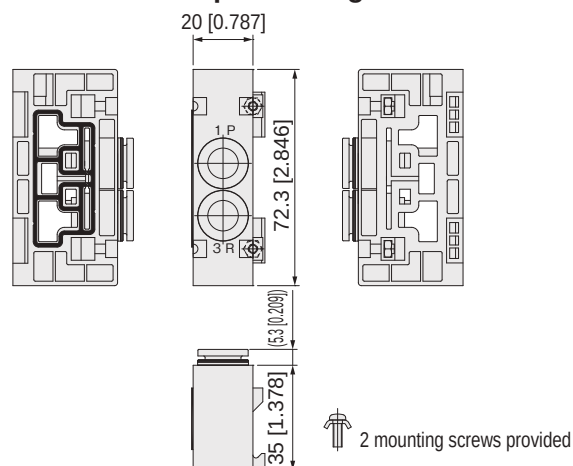
IBZR8-4E2-J□-PL 5-port double solenoid



■ Intermediate piping block (single unit)
IBZR8Z-PJ (With quick fittings for mm tubes)

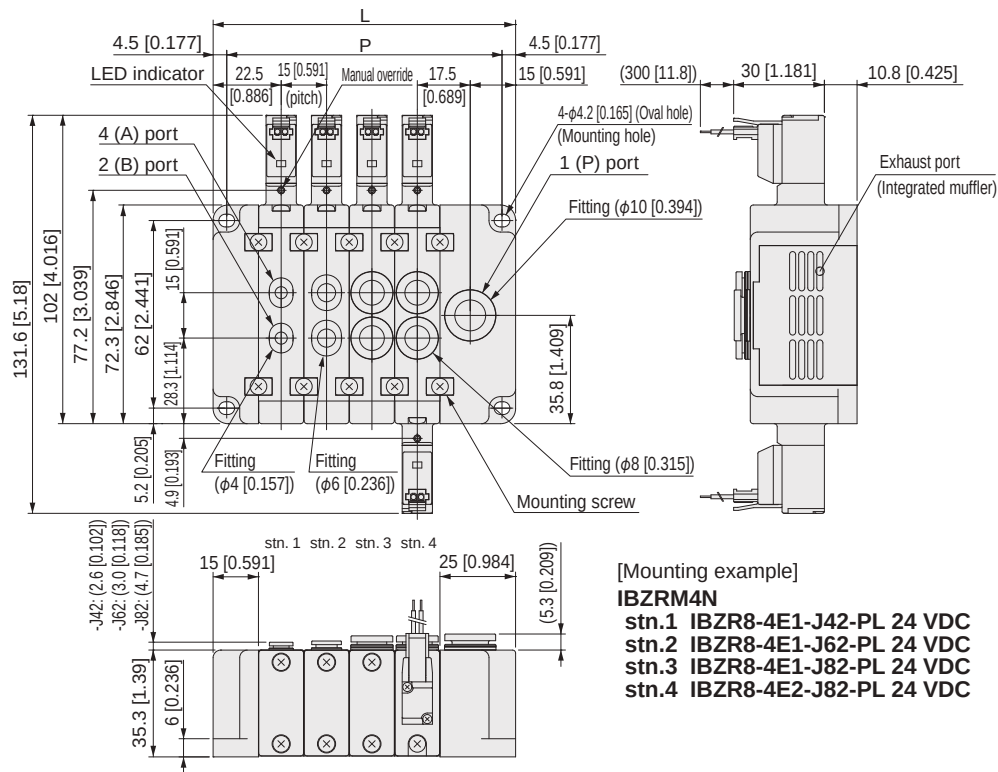


■ Intermediate piping block with quick fitting exhaust port (Single unit)
IBZR8Z-PJJ (With quick fittings for mm tubes)



Manifold

IBZR8M□N (With quick fittings for mm tubes)



[Mounting example]

IBZRM4N

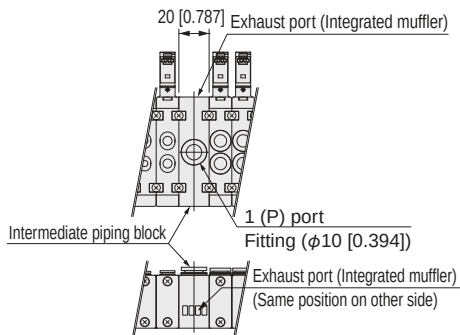
- stn.1 IBZR8-4E1-J42-PL 24 VDC
- stn.2 IBZR8-4E1-J62-PL 24 VDC
- stn.3 IBZR8-4E1-J82-PL 24 VDC
- stn.4 IBZR8-4E2-J82-PL 24 VDC

Unit dimensions

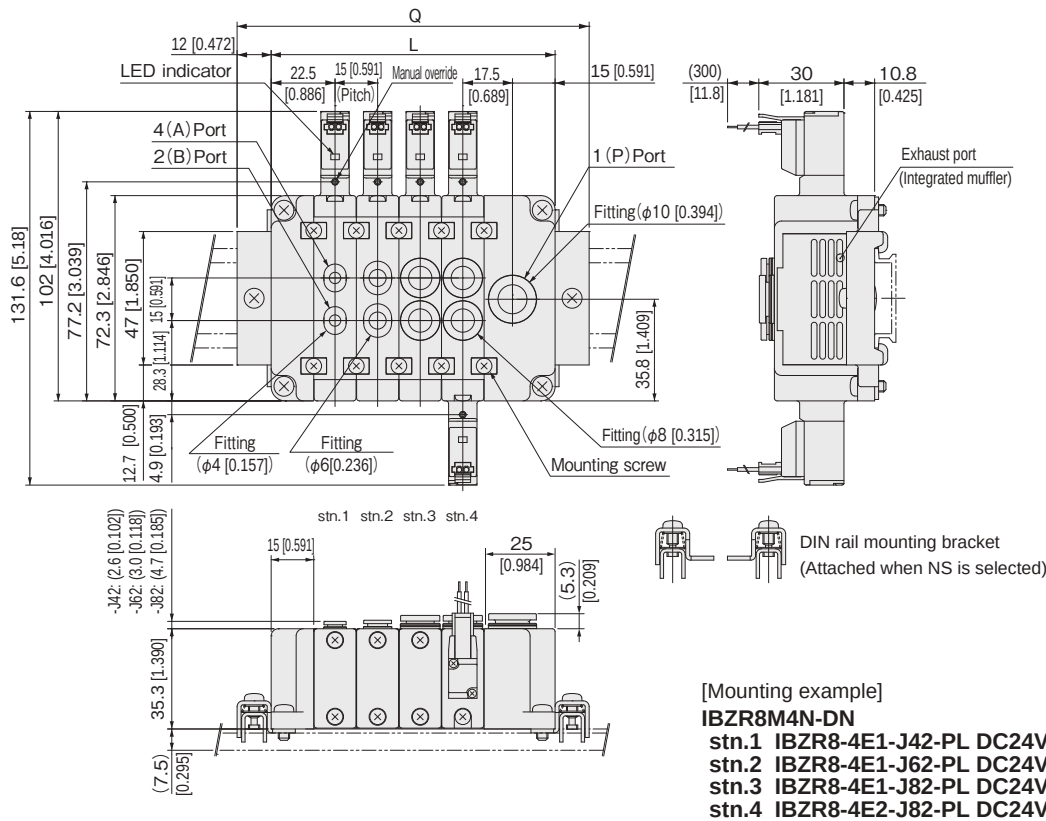
Number of units	L ^{Note}	P ^{Note}
1	55 [2.165]	46 [1.811]
2	70 [2.756]	61 [2.402]
3	85 [3.346]	76 [2.992]
4	100 [3.9]	91 [3.583]
5	115 [4.5]	106 [4.2]
6	130 [5.1]	121 [4.8]
7	145 [5.7]	136 [5.4]
8	160 [6.3]	151 [5.9]
9	175 [6.9]	166 [6.5]
10	190 [7.5]	181 [7.1]
11	205 [8.1]	196 [7.7]
12	220 [8.7]	211 [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)



■ Manifold (With DIN rail mounting bracket)
IBZR8M□N-DN (With quick fitting for mm tubes)



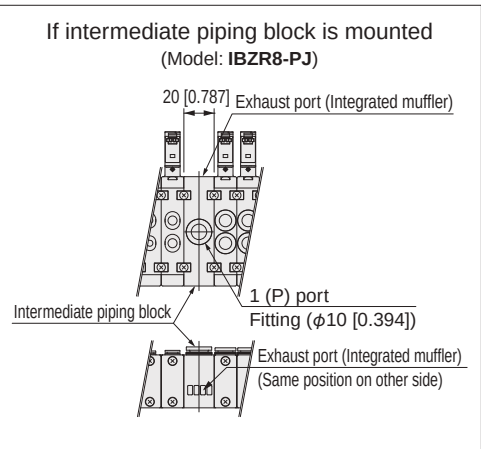
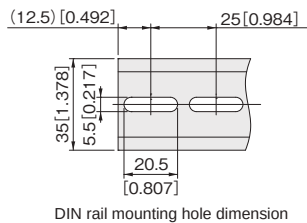
Unit dimensions

Number of units	L ^{Note}	Q ^{Note}
1	55[2.165]	79[3.110]
2	70[2.756]	94[3.701]
3	85[3.347]	109[4.291]
4	100[3.937]	124[4.882]
5	115[4.528]	139[5.472]
6	130[5.118]	154[6.063]
7	145[5.709]	169[6.654]
8	160[6.299]	184[7.244]
9	175[6.890]	199[7.835]
10	190[7.480]	214[8.425]
11	205[8.071]	229[9.016]
12	220[8.661]	244[9.606]
13	235[9.252]	259[10.197]
14	250[9.843]	274[10.787]
15	265[10.433]	289[11.378]
16	280[11.023]	304[11.969]

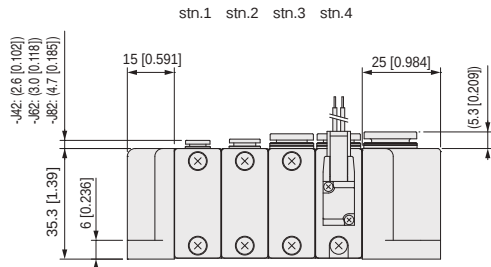
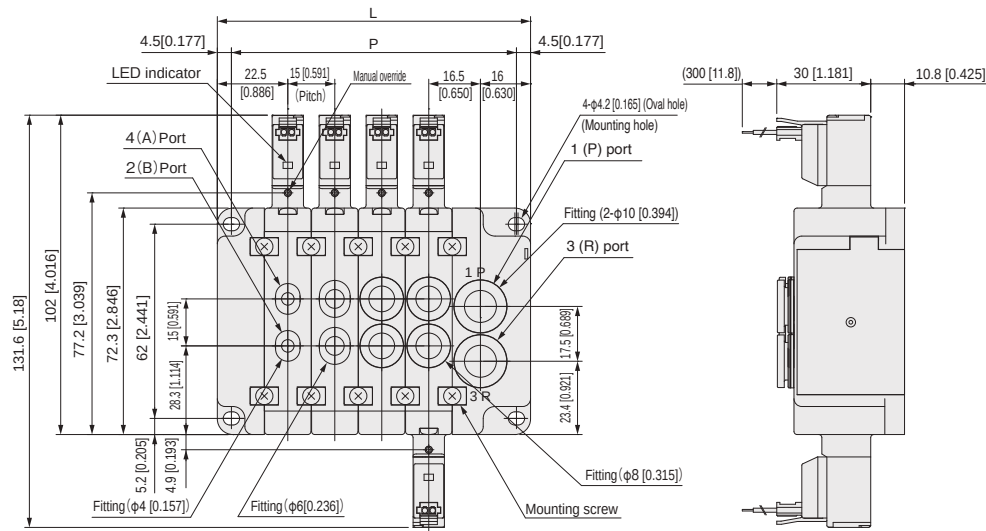
Note: If intermediate piping blocks are mounted, add 20 mm [0.787 in] for each of the intermediate piping blocks in L and P.

■ DIN rail

DIN-□



■ Manifold (Exhaust from quick fitting)
IBZR8M□N-J (With quick fitting for mm tubes)



[Mounting example]

- IBZR8M4N-J**
stn.1 IBZR8-4E1-J42-PL DC24V
stn.2 IBZR8-4E1-J62-PL DC24V
stn.3 IBZR8-4E1-J82-PL DC24V
stn.4 IBZR8-4E2-J82-PL DC24V

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[3.347]	76[2.992]
4	100[3.937]	91[3.583]
5	115[3.937]	106[4.173]
6	130[5.118]	121[4.764]
7	145[5.709]	136[5.354]
8	160[6.299]	151[5.945]
9	175[6.890]	166[6.535]
10	190[7.480]	181[7.126]
11	205[8.071]	196[7.717]
12	220[8.661]	211[8.307]
13	235[9.252]	226[8.898]
14	250[9.843]	241[9.488]
15	265[10.433]	256[10.079]
16	280[11.023]	271[10.670]
17	295[11.614]	286[11.260]
18	310[12.205]	301[11.850]
19	325[12.795]	316[12.441]
20	340[13.386]	331[13.031]

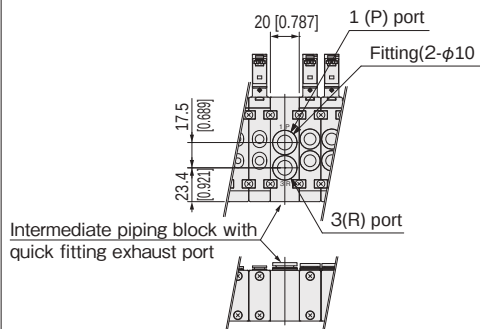
Note: If intermediate piping blocks are mounted, add 20 mm [0.787 in] for each of the intermediate piping blocks in L and P.

*When NS, NS-DN is selected, this must be connect by the customer before usage. For NS, the connecting brackets, for NS-DN the the connecting brackets and DIN rail mounting brackets will be attached.

*When -DN is selected, available stations will be from 1 to 16 stations.

When the intermediate piping block with quick fitting exhaust port is installed.

(Model: IBZR8-PJJ)



■ Manifold (With DIN rail mounting bracket, Exhaust from quick fitting)
IBZR8M□N-DN-J (With quick fitting for mm tubes)

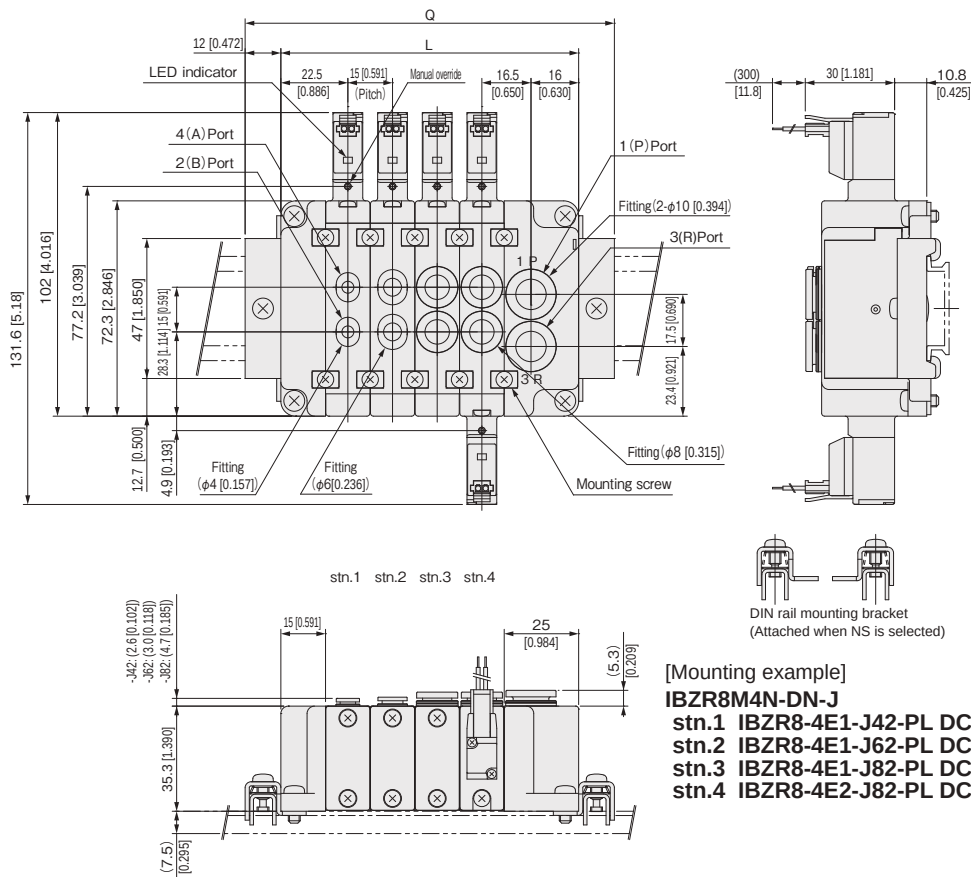
Unit dimensions

Number of units	L Note	P Note
1	55[2.165]	79[3.110]
2	70[2.756]	94[3.701]
3	85[3.347]	109[4.291]
4	100[3.937]	124[4.882]
5	115[3.937]	139[5.472]
6	130[5.118]	154[6.063]
7	145[5.709]	169[6.654]
8	160[6.299]	184[7.244]
9	175[6.890]	199[7.835]
10	190[7.480]	214[8.425]
11	205[8.071]	229[9.016]
12	220[8.661]	244[9.606]
13	235[9.252]	259[10.197]
14	250[9.843]	274[10.787]
15	265[10.433]	289[11.378]
16	280[11.023]	304[11.969]

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

*When NS, NS-DN is selected, this must be connect by the customer before usage. For NS, the connecting brackets, for NS-DN the the connecting brackets and DIN rail mounting brackets will be attached.

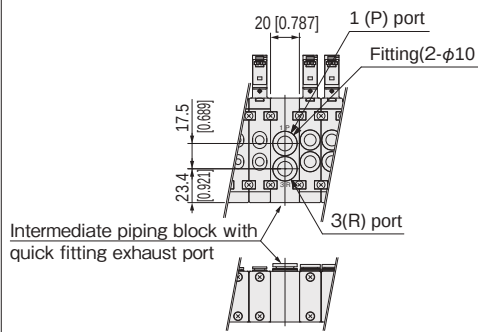
*When -DN is selected, available stations will be from 1 to 16 stations.



[Mounting example]

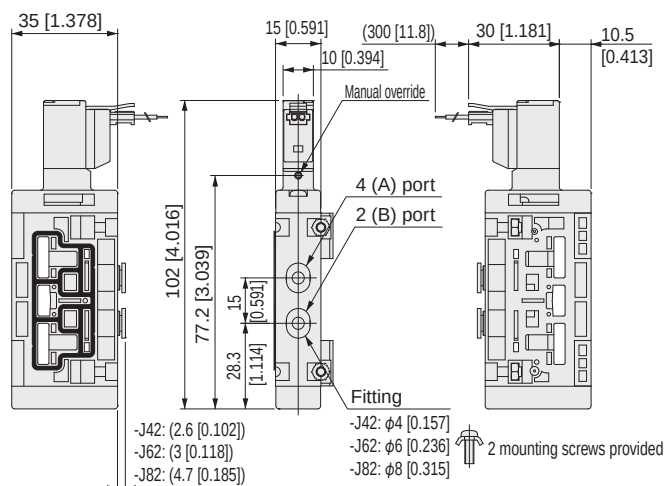
- IBZR8M4N-DN-J**
stn.1 IBZR8-4E1-J42-PL DC24V
stn.2 IBZR8-4E1-J62-PL DC24V
stn.3 IBZR8-4E1-J82-PL DC24V
stn.4 IBZR8-4E2-J82-PL DC24V

When the intermediate piping block with quick fitting exhaust port is installed.
(Model: IBZR8-PJJ)

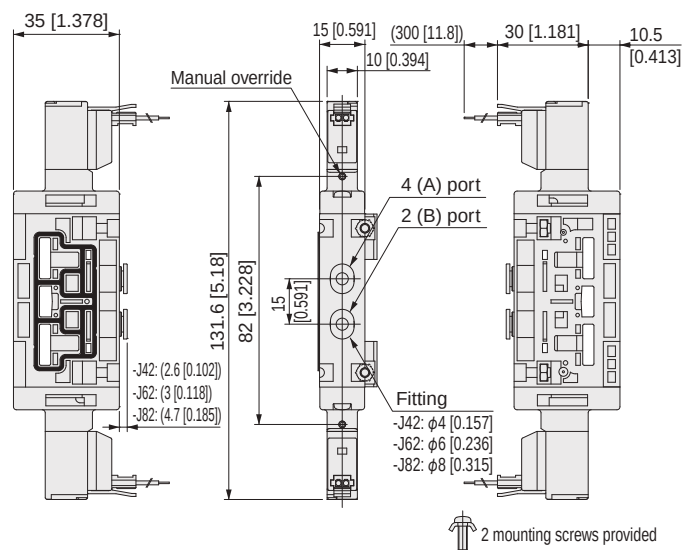


■ Single valve unit (With quick fittings for inch tubes)

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

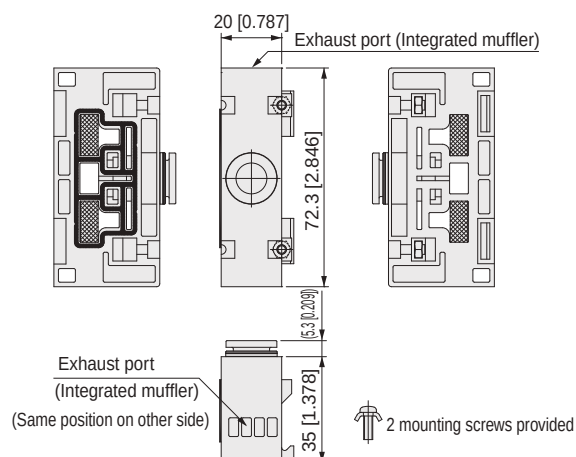


IBZR8-4E2-J□-PL 5-port double solenoid



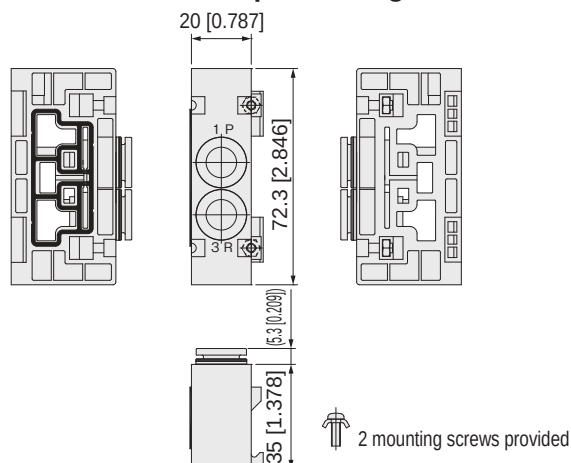
■ Intermediate piping block (single unit)

IBZR8Z-PJ3/8 (With quick fittings for inch tubes)



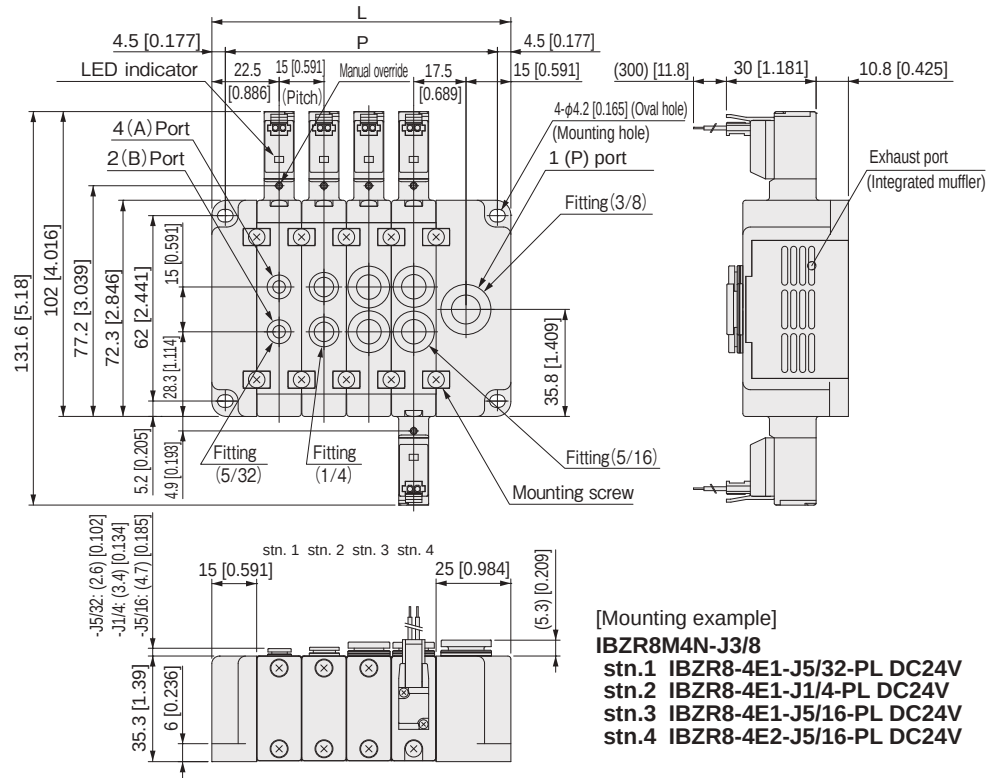
■ Intermediate piping block with quick fitting exhaust port (Single unit)

IBZR8Z-PJ3/8J (With quick fittings for inch tubes)



Manifold

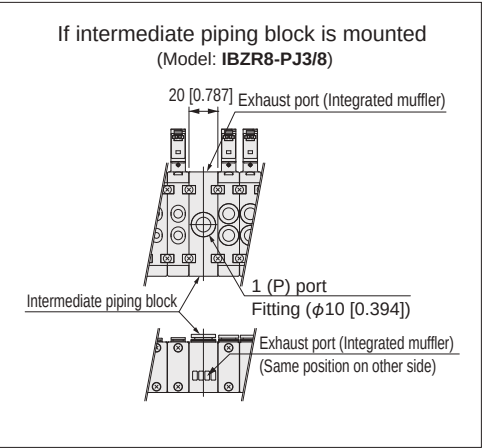
IBZR8M□N-J3/8 (With quick fittings for inch tubes)



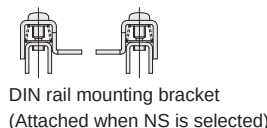
Unit dimensions

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 [3.937]	91 [3.583]
5	115 [4.528]	106 [4.173]
6	130 [5.118]	121 [4.764]
7	145 [5.709]	136 [5.354]
8	160 [6.299]	151 [5.945]
9	175 [6.890]	166 [6.535]
10	190 [7.480]	181 [7.126]
11	205 [8.071]	196 [7.717]
12	220 [8.661]	211 [8.307]
13	235 [9.252]	226 [8.898]
14	250 [9.843]	241 [9.488]
15	265 [10.433]	256 [10.079]
16	280 [11.024]	271 [10.669]
17	295 [11.614]	286 [11.260]
18	310 [12.205]	301 [11.850]
19	325 [12.795]	316 [12.441]
20	340 [13.386]	331 [13.031]

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



IBZR8M□N-DN-J3/8 (With quick fittings for inch tubes)



Number of units	L ^{Note}	Q ^{Note}
1	55 [2.165]	79 [3.110]
2	70 [2.756]	94 [3.701]
3	85 [3.346]	109 [4.291]
4	100 [3.937]	124 [4.882]
5	115 [4.528]	139 [5.472]
6	130 [5.118]	154 [6.063]
7	145 [5.709]	169 [6.654]
8	160 [6.299]	184 [7.244]
9	175 [6.890]	199 [7.835]
10	190 [7.480]	214 [8.425]
11	205 [8.071]	229 [9.016]
12	220 [8.661]	244 [9.606]
13	235 [9.252]	259 [10.197]
14	250 [9.843]	274 [10.787]
15	265 [10.433]	289 [11.378]
16	280 [11.024]	304 [11.969]

[Mounting example]
IBZR8M4N-DN-J3/8
 stn.1 IBZR8-4E1-J5/32-PL DC24V
 stn.2 IBZR8-4E1-J11/4-PL DC24V
 stn.3 IBZR8-4E1-J5/16-PL DC24V
 stn.4 IBZR8-4E2-J5/16-PL DC24V

DIN-

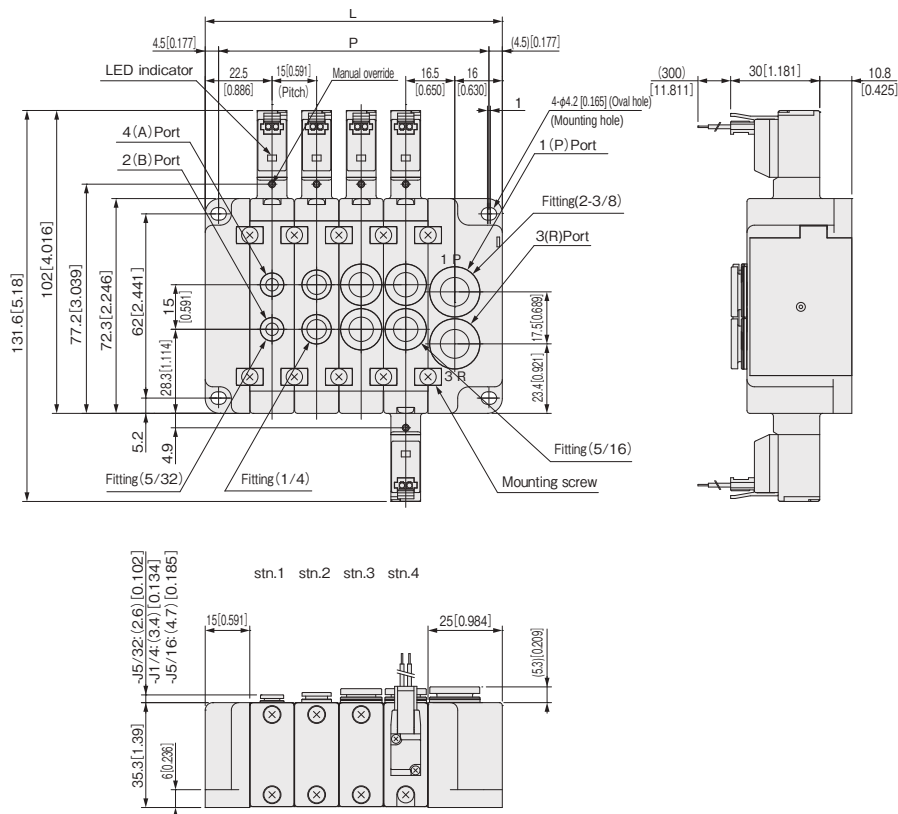
20 [0.787] Exhaust port (Integrated muffler)

1 (P) port
Fitting ($\phi 10$ [0.394])

Intermediate piping block

Exhaust port (Integrated muffler)
(Same position on other side)

■ Manifold (Exhaust from quick fitting)
IBZR8M□N-J3/8J(With quick fittings for inch tubes)



[Mounting example]
IBZR8M4N-J3/8J
stn.1 IBZR8-4E1-J5/32-PL DC24V
stn.2 IBZR8-4E1-J1/4-PL DC24V
stn.3 IBZR8-4E1-J5/16-PL DC24V
stn.4 IBZR8-4E2-J5/16-PL DC24V

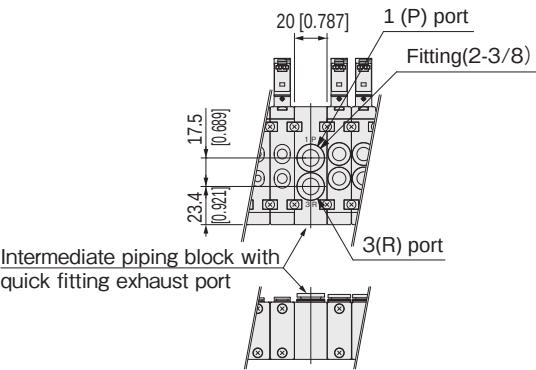
Unit dimensions

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 [3.937]	91 [3.583]
5	115 [4.528]	106 [4.173]
6	130 [5.118]	121 [4.764]
7	145 [5.709]	136 [5.354]
8	160 [6.299]	151 [5.945]
9	175 [6.890]	166 [6.535]
10	190 [7.480]	181 [7.126]
11	205 [8.071]	196 [7.717]
12	220 [8.661]	211 [8.307]
13	235 [9.252]	226 [8.898]
14	250 [9.843]	241 [9.488]
15	265 [10.433]	256 [10.079]
16	280 [11.024]	271 [10.669]
17	295 [11.614]	286 [11.260]
18	310 [12.205]	301 [11.850]
19	325 [12.795]	316 [12.441]
20	340 [13.386]	331 [13.031]

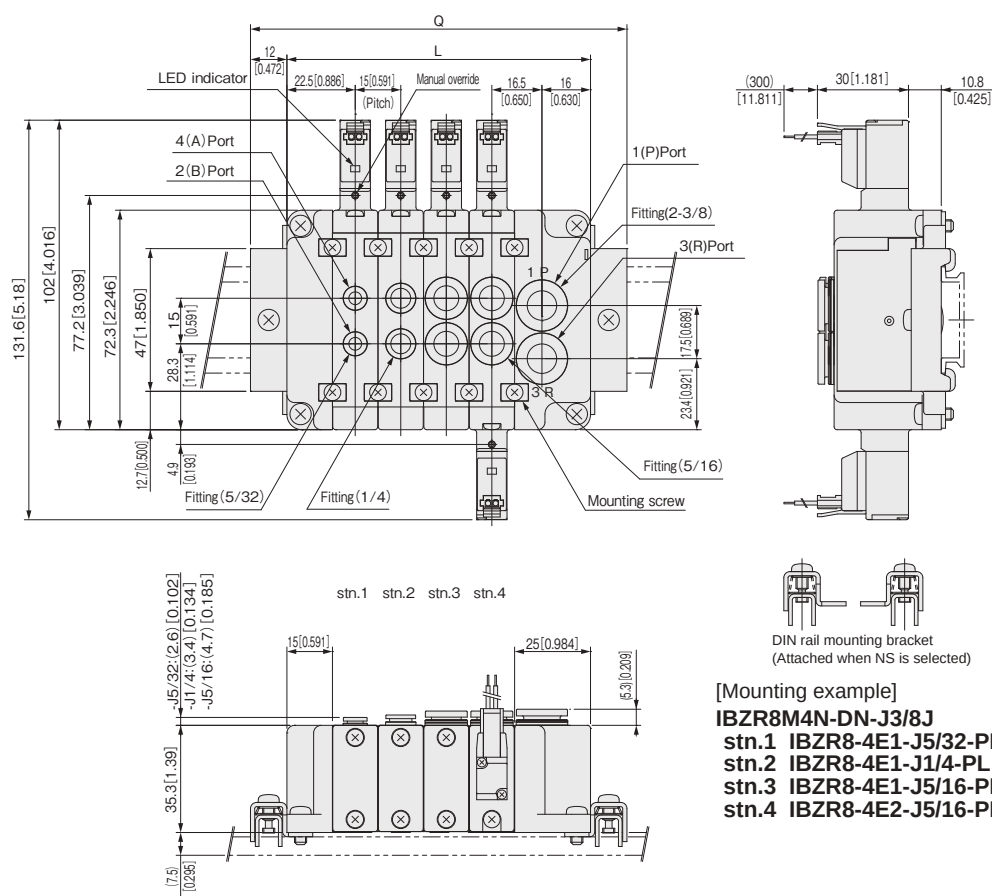
Note: If intermediate piping blocks are mounted, add 20 mm [0.787 in] for each of the intermediate piping blocks in L and P.

*When NS, NS-DN is selected, this must be connect by the customer before usage.
For NS, the connecting brackets, for NS-DN the the connecting brackets and DIN rail mounting brackets will be attached.
*When -DN is selected, available stations will be from 1 to 16 stations.

When the intermediate piping block with quick fitting exhaust port is installed.
(Model: IBZR8-PJ3/8J)



■ Manifold (With DIN rail mounting bracket, Exhaust from quick fitting)
IBZR8M □ N-DN-J3/8J (With quick fittings for inch tubes)



Unit dimensions

Number of units	L _{Note}	Q _{Note}
1	55 [2.165]	79 [3.110]
2	70 [2.756]	94 [3.701]
3	85 [3.346]	109 [4.291]
4	100 [3.937]	124 [4.882]
5	115 [4.528]	139 [5.472]
6	130 [5.118]	154 [6.063]
7	145 [5.709]	169 [6.654]
8	160 [6.299]	184 [7.244]
9	175 [6.890]	199 [7.835]
10	190 [7.480]	214 [8.425]
11	205 [8.071]	229 [9.016]
12	220 [8.661]	244 [9.606]
13	235 [9.252]	259 [10.197]
14	250 [9.843]	274 [10.787]
15	265 [10.433]	289 [11.378]
16	280 [11.024]	304 [11.969]

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

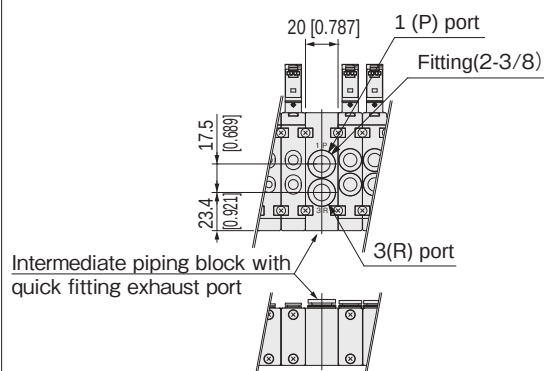
[Mounting example]

IBZR8M4N-DN-J3/8J

stn.1 IBZR8-4E1-J5/32-PL DC24V
stn.2 IBZR8-4E1-J1/4-PL DC24V
stn.3 IBZR8-4E1-J5/16-PL DC24V
stn.4 IBZR8-4E2-J5/16-PL DC24V

When the intermediate piping block with quick fitting exhaust port is installed.

(Model: **IBZR8-PJ3/8J**)



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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