

INSTRUCTION MANUAL

QUICK EXHAUST VALVE

QEV2

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

For Safety Use

To use this product safely, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (ISO 4414 *1 JIS B 8370 *2).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents **read this operation manual carefully for proper operation.**

Observe the cautions on handling described in this manual, as well as the following instructions:

Additionally, the caution is classified into the following three groups, “CAUTION”, “WARNING”, and “DANGER”, to identify the degree of the danger it presents and possible hazard.

 **DANGER :** Failure to pay attention to **DANGER** notices may cause a situation that results in a fatality or serious injury and that requires urgent addressing.

 **WARNING :** Failure to pay attention to **WARNING** notices may result in a fatality or serious injury.

 **CAUTION :** Failure to pay attention to **WARNING** notices may result in injury or damage to equipment or facilities.

*1) ISO 4414 : Pneumatic fluid power . . . Recommendations for the application of equipment to transmission and control systems.

*2) JIS B 8370 : General rule for pneumatic systems

INDEX

QEV2

QUICK EXHAUST VALVE

Manual No. SM-358398-A

1. UNPACKING	3
2. MOUNTING AND INSTALLATION	
2.1 Explanation of activation	3
2.2 Piping	4
2.3 Orientation of installation	4
2.4 Usage examples	4
3. MAINTENANCE	
3.1 Disassembling	5
3.2 Trouble shooting	5
4. INTERNAL STRUCTURE AND LISTS OF PARTS	5
5. PRODUCT SPECIFICATIONS	
5.1 How to order	6
5.2 Specifications	6
5.3 Dimensioned drawing	7

1. UNPACKING



CAUTION :

Bags containing product should be opened only when you are ready to connect the product to the pipes immediately afterward.

- If bags are opened before the product are ready to be connected to the pipes, the entry of foreign matter from the piping ports could cause the product to fail or malfunction.

- 1) Check the model number imprinted on the product to make sure that the product you received is exactly the product you ordered.
- 2) Check the exterior of the product for any damage.

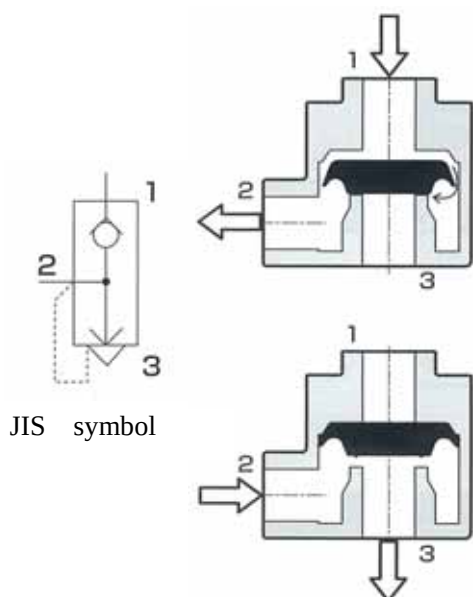
2. MOUNTING AND INSTALLATION



CAUTION :

- 1) Before tube exchange, the supply of compressed air and confirm the absence of residual pressure.
- 2) Tighten pipes with appropriate torque to prevent screw slack, air leakage and screw damage.
- 3) Carry out the piping work after checking the JIS symbols stated on the nameplate attached to the main body. If the piping is connected in an incorrect direction, this may cause the customer's equipment to break.
- 4) When conducting piping work, use tools to tighten at the hexagonal circumference .
- 5) Do not apply any lateral load to the main body during mounting and after mounting.

2.1 Explanation of activation



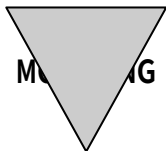
1→2

The pressure added to port 1 causes port 3 of the valve to be closed, forcing air to flow via the circumference of the valve to port 2.

2→3

A reduced pressure at port 1 causes port 1 of the valve to be closed, opening port 3 to discharge air from port 2.

JIS symbol



2.2 Piping

- 1) Lightly tighten the pipe into the connecting port temporarily by hand, and then tighten the width across flat firmly using the tool.

At this time, always tighten the pipe within a recommended tightening torque range.

[Appropriate tightening torque]

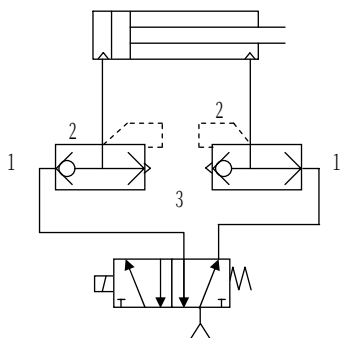
Port dia.	Tightening torque N·m
Rc1/8	3 to 5
Rc1/4	6 to 8
Rc3/8	13 to 15
Rc1/2	16 to 18
Rc3/4	19 to 40
Rc1	41 to 70

2.3 Orientation of installation

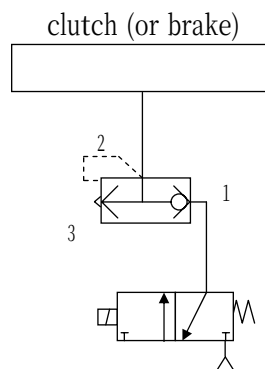
- 1) There is no orientation in installation, but operation may be slow with a small differential pressure (within 0.05MPa).

2.4 Usage examples

● Usage for quicker exhaust from air cylinder



● Usage for quicker exhaust from clutch (or brake)



3. MAINTENANCE

3.1 Disassembling

- 1) Loosen the cross recessed pan head screw to disconnect the plug.
Take out the inside valve in this state.

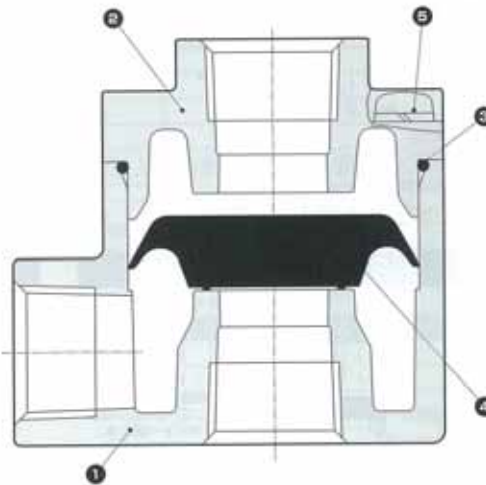
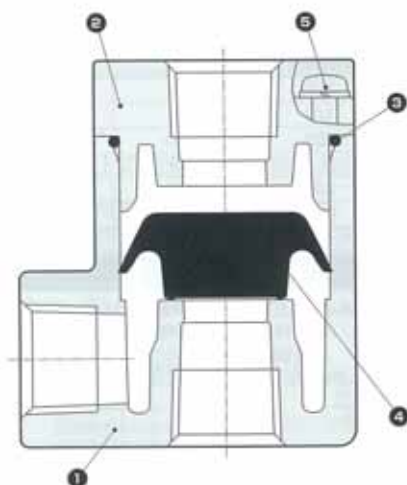
3.2 Trouble shooting

Motion troubles	Possible cause	Remedies
Though air flows in the shutting direction, air keeps flowing.	Dust stuck at valve seat	Flush air to remove dust.
External air leakage	Broken O-ring or caught foreign matter	Replace with a new part or flush air to remove foreign matter.
No flow	Wrong piping direction	Check the piping port instruction and connect pipes again.

4. INTERNAL STRUCTURE AND LISTS OF PARTS

●QE V2-6・8

●QE V2-10・15～20・25



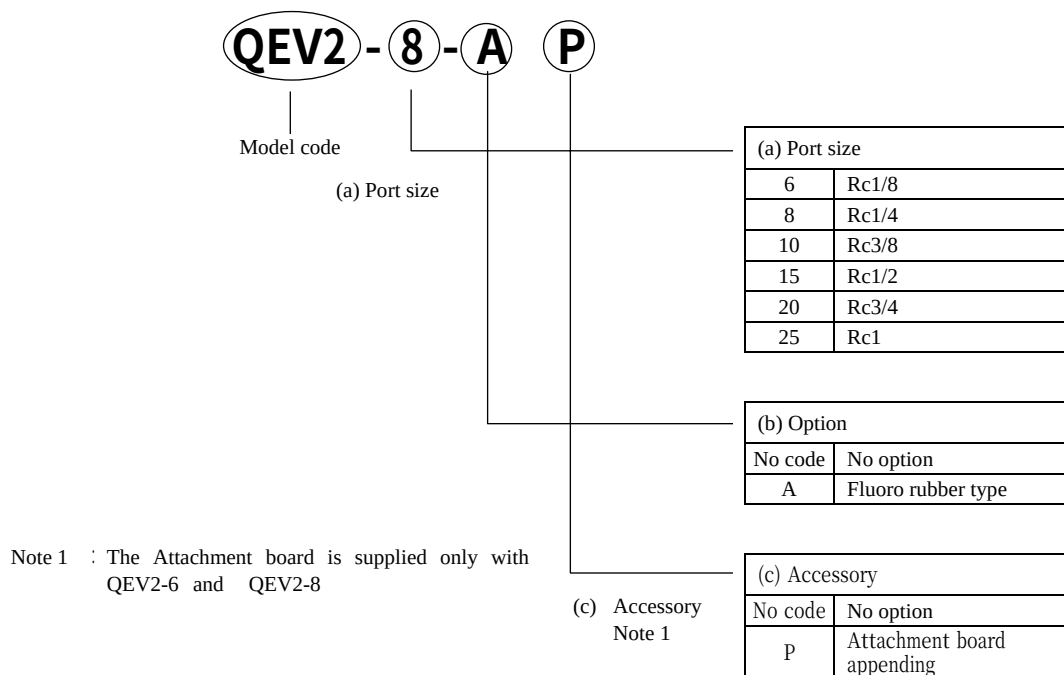
No.	Part name	Material
1	Body	Aluminum die cast
2	Plug	Aluminum die cast
3	O-ring	Nitrile rubber (fluororubber)
4	Valve	Hydrogenated-nitrile-rubber (fluororubber)
5	Cross recessed pan head screw with SW	Stainless stell

※ Description in parentheses () is for option A (fluororubber specification).



5. PRODUCT SPECIFICATIONS

5.1 How to order



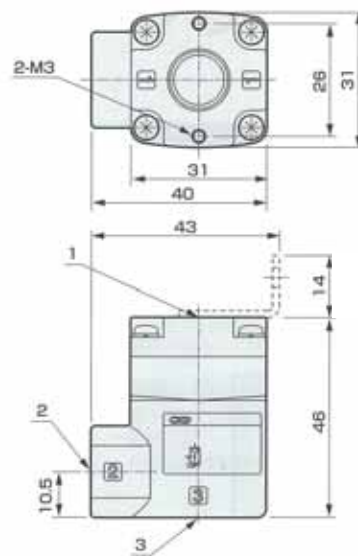
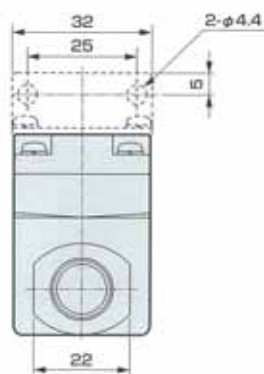
5.2 Specifications

Item		QEV2-6	QEV2-8	QEV2-10	QEV2-15	QEV2-20	QEV2-25
Media		Compressed air					
Maximum working pressure	MPa	1					
Minimum working pressure	MPa	0.05					
Proof pressure	MPa	1.5					
Fluid temperature	°C	5 to 60					
Ambient temperature	°C	0 to 60 (Not be frozen)					
Port size	1・2	1/8	1/4	3/8	1/2	3/4	1
	3	1/4	1/4	1/2	1/2	1	1
Product mass	g	80	78	250	250	710	660
Installation attitude		Arbitrary					
Effective sectional area	1→2	25	35	90	105	205	275
	2→3	30	40	100	115	280	330

5.2 Dimensioned drawing

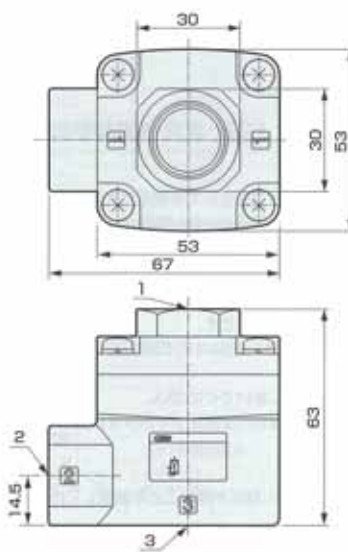
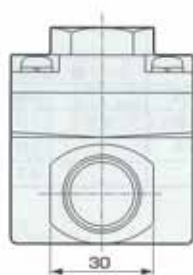
●QEV2-6·8

Model	Port position		
	1	2	3
QEV2-6	Rc1/8		Rc1/4
QEV2-8	Rc1/4		



●QEV2-10·15

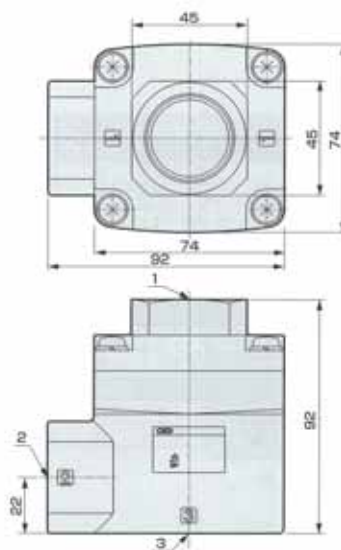
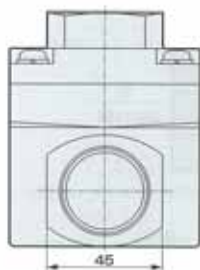
Model	Port position		
	1	2	3
QEV2-10	Rc3/8		Rc1/2
QEV2-15	Rc1/2		



5
PRODUCT

●QEV2—20·25

Model	Port position		
	1	2	3
QEV2-20	Rc3/4		Rc1
QEV2-25	Rc1		



[Piping port indication]

Indication	Description
1	IN(inlet)
2	OUT(outlet)
3	EXH(exhaust)