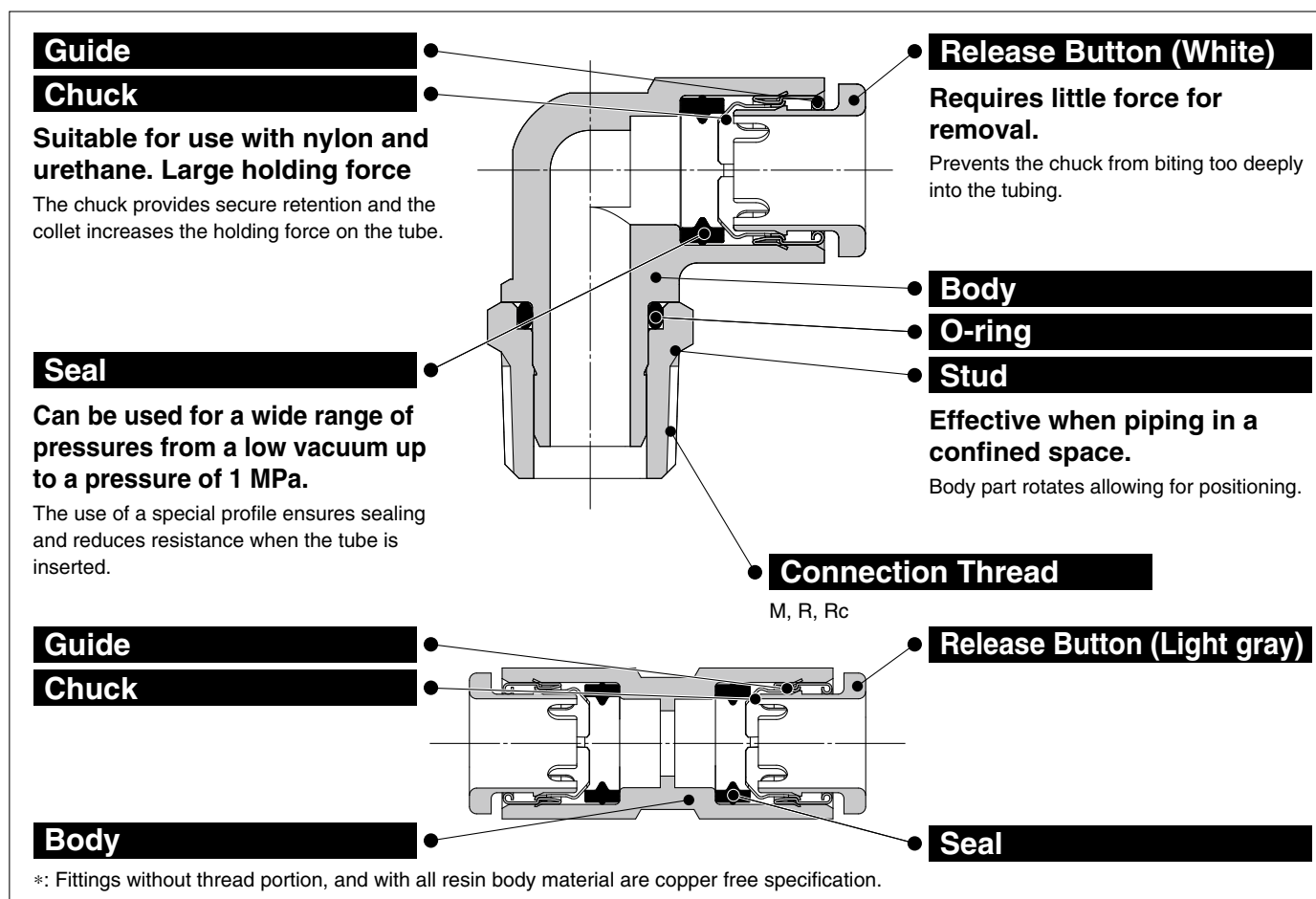


Metric Size Stainless Steel One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

KQ2-G Series



**One-touch IN/OUT
connection.
Possible to use in
vacuum to -100 kPa**



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid		Air, Water *1 *2
Operating pressure range *3		-100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		-5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	Mounting section	JIS B 0203 (Taper thread for piping) JIS B 0205 (Metric coarse thread)
	Nut section	JIS B 0205 (Metric fine thread)
Seal on the threads		With sealant

*1: The surge pressure must not exceed the maximum operating pressure.

*2: Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3: Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	Stainless steel 303, PBT
Stud	Stainless steel 303 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304, Stainless steel 303, PBT
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR



Made to Order
(Refer to page 19 for details.)

KQ2-G Series

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

How to Order

ø4, ø6 (Oval type release button) **KQ2 H 06 - 01 G S 1**

ø8 to ø16 (Round type release button) **KQ2 H 08 - 01 G S**

One-touch fittings •

Model •

Symbol	Model	Oval type	Round type
H	Male connector	○	○
S	Hexagon socket head male connector	○	○
F	Female connector	○	○
L	Male elbow	○	○
LU	Branch male elbow	—	○
V	Universal male elbow	○	○
W	Extended male elbow	○	○
T	Male branch tee	○	○
Y	Male run tee	○	○
D	Male delta union	○	○
U	Branch "Y"	—	○
UD	Double branch "Y"	—	○
E	Bulkhead union	○	○
	Bulkhead connector	○	○

• Thread material: Stainless steel 303

• Port size/Applicable tubing O.D.

Symbol	Size
Tubing connection 00*1	Same diameter tubing
M5	M5 x 0.8
01	R1/8, Rc1/8
02	R1/4, Rc1/4
03	R3/8, Rc3/8
04	R1/2, Rc1/2

*1: Only for "Bulkhead union" and "Bulkhead male elbow"

• Male thread seal method

Symbol	Seal method
Nil	Without sealant
S	With sealant

• Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Spare Parts

Use the part number below to order the gasket for M5 thread.
Gasket for M5 thread: M-5G2

ø4, ø6 (Oval type release button) **KQ2 H 06 - 00 A 1**

ø8 to ø16 (Round type release button) **KQ2 H 08 - 00 A**

One-touch fittings •

Model •

Symbol	Model	Oval type	Round type
H	Straight union	○	○
	Different diameter straight	○	○
L	Union elbow	○	○
	Plug-in elbow	○	○
LU	Branch union elbow	—	○
T	Union tee	○	○
	Different diameter tee	○	○
D	Delta union	○	○
U	Union "Y"	—	○
	Different diameter union "Y"	—	○
UD	Different diameter double union "Y"	—	○
R	Plug-in reducer	○	○

• Port size/Applicable tubing O.D.

Symbol	Size
Tubing (rod) connection 00	Same diameter tubing
99	Same diameter rod
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

• Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Accessories/Tube cap

Model	Applicable tubing O.D. [mm]	Release button shape
KQ2C□-00A1	ø4, ø6	Oval type
KQ2C□-00A	ø8 to ø16	Round type

Metric Size One-touch Fittings *KQ2-G Series*

Variations

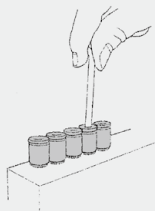
Hexagon Socket Head Male Connector

KQ2S-G

P.6



Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



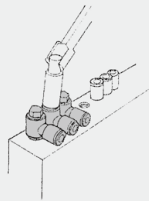
Universal Male Elbow

KQ2V-G

P.10



Hexagon head of the body allows tightening with a box wrench in confined spaces.



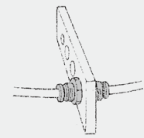
Bulkhead Union

KQ2E-G

P.18



Use to connect tubing through a panel etc.



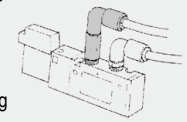
Extended Male Elbow

KQ2W-G

P.12



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



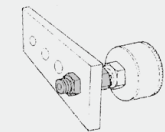
Bulkhead Connector

KQ2E-G

P.18



Use to connect a male thread and tubing through a panel etc.



Male Connector

KQ2H-G

P.5



Use to pipe a female thread in the same direction. Most general model.

Plug-in Elbow

KQ2L

P.11

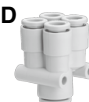


Use to change the tube direction of One-touch fittings by 90°.

Different Diameter Double Union "Y"

KQ2UD

P.17



Use to four-branch tubing in the same direction.

Female Connector

KQ2F-G

P.6



Use to pipe a male thread of a pressure gauge etc.

Male Delta Union

KQ2D-G

P.15



Use to branch a female thread at two right angles.

Union "Y"

KQ2U

P.17



Use to branch tubing in the same direction.

Straight Union

KQ2H

P.7



Use to connect tubing in the same direction.

Delta Union

KQ2D

P.15



Use to branch tubing at three right angles.

Different Diameter Union "Y"

KQ2U

P.17



Use to connect tubing of reduced size for branching in the same direction.

Different Diameter Straight

KQ2H

P.7



Use to connect tubing of different sizes.

Double Branch "Y"

KQ2UD-G

P.16



Use to four-branch a female thread in the same direction.

Branch "Y"

KQ2U-G

P.16



Use to branch a female thread in the same direction.

Branch Male Elbow

KQ2LU-G

P.9



Use to branch a female thread at right angles.

Male Branch Tee

KQ2T-G

P.13



Use to branch a female thread at both 90° angles.

Plug-in Reducer

KQ2R

P.18



Use to change size of One-touch fittings.

Branch Union Elbow

KQ2LU

P.11



Use to branch tubing at right angles.

Union Tee

KQ2T

P.13



Use to branch tubing at both 90° angles.

Tube Cap

KQ2C

P.19



Use to plug unused tubing.

Male Elbow

KQ2L-G

P.8



Use to pipe a female thread at right angles. Most general model.

Different Diameter Tee

KQ2T

P.14



Use to connect tubing of reduced size for branching at both 90° angles.

Union Elbow

KQ2L

P.10



Use to connect tubing at right angles.

Male Run Tee

KQ2Y-G

P.14



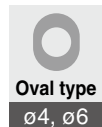
Use to branch a female thread in the same direction and at a 90° angle.

KQ2-G Series

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

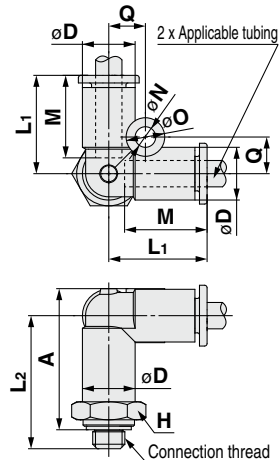
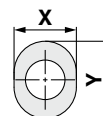
Dimensions

Male Delta Union: KQ2D-G (Gasket seal)

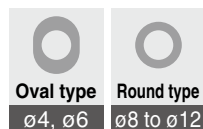


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	Release button dimensions		L1	L2	A	M	Q	øO	øN	Effective area [mm²]		Min. port size	Weight [g]
					øX	Y								Nylon	Urethane		
ø4	M5 x 0.8	KQ2D04-M5G1	10	8.2	7.7	10	15.8	20.7	21.8	13.3	5.7	6	3.2	2.2	2.2	1.8	6.6
ø6	M5 x 0.8	KQ2D06-M5G1	12	10.4	9.7	12	16.8	21.7	23.9	13.3	6.7	6	3.2	4.3	4.3	1.8	9.8

Release button dimensions



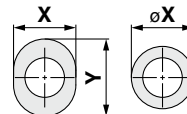
Male Delta Union: KQ2D-G (Sealant)



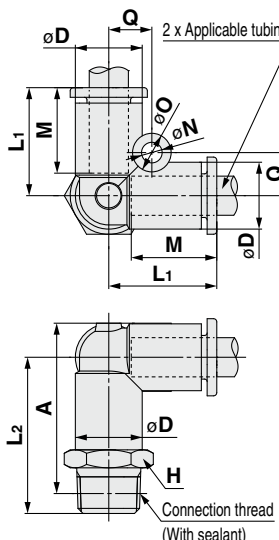
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions		L1	L2	A*1	M	Q	øO	øN	Effective area [mm²]		Min. port size	Weight [g]
					øX (X)	Y								Nylon	Urethane		
ø4	1/8	KQ2D04-01GS1	10	8.2	7.7	10	15.8	23.3	24.3	13.3	5.7	6	3.2	6	6	3.6	9.2
	1/4	KQ2D04-02GS1	14	8.2	7.7	10	15.8	27.7	27.1	13.3	5.7	6	3.2	6	6	3.6	19
ø6	1/8	KQ2D06-01GS1	12	10.4	9.7	12	16.8	24.3	26.4	13.3	6.7	6	3.2	13.9	11	5.4	10.2
	1/4	KQ2D06-02GS1	14	10.4	9.7	12	16.8	28.7	29.2	13.3	6.7	6	3.2	13.9	11	5.4	19.1
	3/8	KQ2D06-03GS1	17	10.4	9.7	12	16.8	30.1	30.2	13.3	6.7	6	3.2	13.9	11	5.4	31
ø8	1/8	KQ2D08-01GS	14	13.2	13	—	18.8	26.3	29.8	14.2	8.4	8	4.2	26.3	18.2	6	15.3
	1/4	KQ2D08-02GS	14	13.2	13	—	18.8	30.7	32.6	14.2	8.4	8	4.2	26.3	18.2	7.3	20.4
	3/8	KQ2D08-03GS	17	13.2	13	—	18.8	32.1	33.6	14.2	8.4	8	4.2	26.3	18.2	7.3	32.1
ø10	1/4	KQ2D10-02GS	17	15.9	15.6	—	21.2	33.1	36.3	15.6	9.6	8	4.2	40.8	29	9	24.9
	3/8	KQ2D10-03GS	17	15.9	15.6	—	21.2	34.5	37.3	15.6	9.6	8	4.2	40.8	29	9.4	32.7
ø12	1/2	KQ2D10-04GS	22	15.9	15.6	—	21.2	38.7	40.2	15.6	9.6	8	4.2	40.8	29	9.4	60.6
	1/4	KQ2D12-02GS	19	18.5	18.2	—	23.6	35.5	40	17	10.7	8	4.2	57.2	45.2	9	35
	3/8	KQ2D12-03GS	19	18.5	18.2	—	23.6	36.9	41	17	10.7	8	4.2	57.2	45.2	11	38
	1/2	KQ2D12-04GS	22	18.5	18.2	—	23.6	41.1	43.9	17	10.7	8	4.2	57.2	45.2	11.6	60

*1: Reference dimensions after installation of R thread

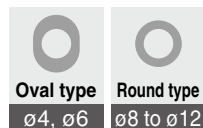
Release button dimensions



Applicable tubing O.D.: ø4, ø6

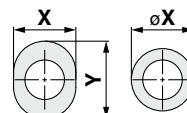


Delta Union: KQ2D

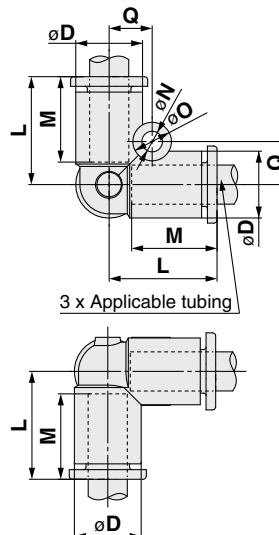


Applicable tubing O.D. [mm]	Model	øD	Release button dimensions		L	M	Q	øO	øN	Effective area [mm²]		Min. port size	Weight [g]
			øX (X)	Y						Nylon	Urethane		
ø4	KQ2D04-00A1	8.2	7.7	10	15.8	13.3	5.7	6	3.2	6	4.1	3	2.7
ø6	KQ2D06-00A1	10.4	9.7	12	16.8	13.3	6.7	6	3.2	13.9	11	4.5	3.8
ø8	KQ2D08-00A	13.2	13	—	18.8	14.2	8.4	8	4.2	26.3	18.2	6	6.8
ø10	KQ2D10-00A	15.9	15.6	—	21.2	15.6	9.6	8	4.2	40.8	29	7.5	10.3
ø12	KQ2D12-00A	18.5	18.2	—	23.6	17	10.7	8	4.2	57.2	45.2	9	15.2

Release button dimensions



Applicable tubing O.D.: ø4, ø6

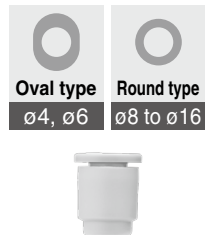


KQ2-G Series

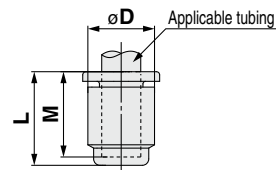
Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

Dimensions

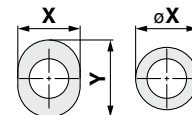
Tube Cap: KQ2C



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions		L	M	Weight [g]
			øX(X)	Y			
ø4	KQ2C04-00A1	8.2	7.7	10	14.5	13.3	0.8
ø6	KQ2C06-00A1	10.4	9.7	12	14.6	13.3	1.1
ø8	KQ2C08-00A	13.2	13	—	15.7	14.2	2
ø10	KQ2C10-00A	15.9	15.6	—	17.3	15.6	2.9
ø12	KQ2C12-00A	18.5	18.2	—	18.9	17	4.5
ø16	KQ2C16-00A	23.8	23.6	—	23	20.6	8.4



Release button dimensions



Applicable tubing O.D.: ø4, ø6

Made to Order / Clean Series / Spare Parts

Please contact SMC for detailed dimensions, specifications and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
KQ2□08-01G□□	Effective area is interchangeable with the current product (KG series). Model: Male elbow, Extended male elbow, Male branch tee, Male run tee Applicable tubing O.D./Port size: ø8/R1/8 Example) KQ2L08-01GQS

2 Clean Series

Please consult with SMC separately for applicable models.

Symbol	Specifications
10-	Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body/Release button color: White

Example) **10-KQ2H06-02GS1** (With thread)
10-KQ2H06-00A (Without thread)

3 Spare Parts

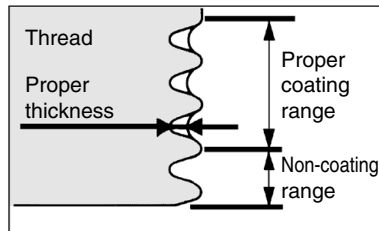
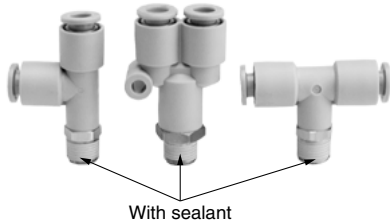
Description	Part number	Applicable thread	Applicable model
Gasket	M-5G2	M5	—

Description	Part no.	Applicable model	Material
Pipe nut	KQ04-P01G	KQ2E04-00G1, KQG2E04-01G1, KQ2E04-02G1	Stainless steel 303
	KQ06-P01G	KQ2E06-00G1, KQ2E06-01G1, KQ2E06-02G1, KQ2E06-03G1	
	KQ08-P01G	KQ2E08-00G, KQ2E08-01G, KQ2E08-02G, KQ2E08-03G	
	KQ10-P01G	KQ2E10-00G, KQG2E10-02G, KQ2E10-03G	
	KQ12-P01G	KQ2E12-00G, KQG2E12-03G, KQ2E12-04G	
	KQ16-P01G	KQ2E16-00G, KQG2E16-03G, KQ2E16-04G	

For Pneumatic Piping/Fittings & Tubing Prior to Use

Fittings with Sealant

Seal material (fluororesin) is coated on the thread part with the proper thickness and range, that reduces the piping work, such as coating the seal on the thread.



Female Thread Conditions Applicable to Face Seal

1. Surface roughness of bearing surface: Rz 25 or less
 2. Chamfer dimension: $\phi D1$, Seal bearing surface diameter: $\phi D2$ (Refer to the table below.)
 3. Female thread inclination angle: 1° or less
 4. Counterbore diameter when the female thread is counterbored.: $\phi D3$
 - Models with width across flats: Body width across flats x 1.1 or more
 - Models other than hexagon (Hexagon socket head male connector etc.): Body dimensions + 0.2 mm or more
- *: The width across flats and the body dimensions differ depending on the model even when the same thread size is used.
Refer to the dimensions in the catalog.
5. If oil content or sealant is sticking to the female thread, this may cause damage of the product. Remove it before piping.

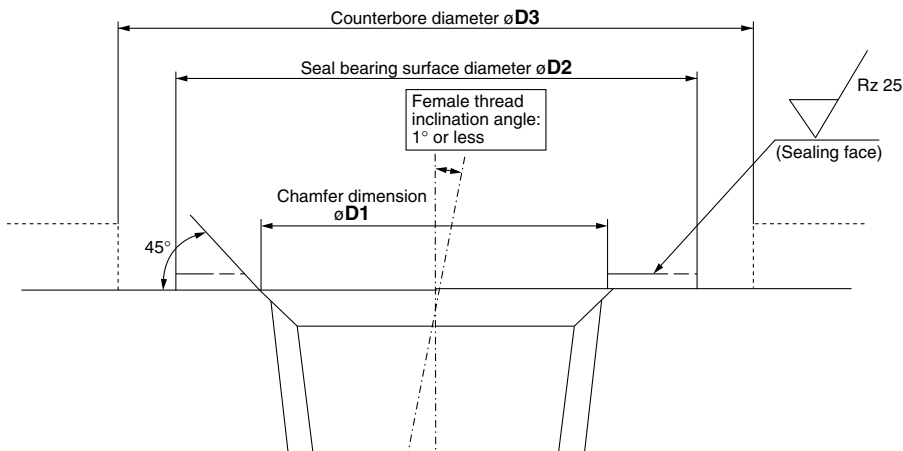


Table 1

Connection thread size	Chamfer dimension $\phi D1$ [mm]	Seal bearing surface diameter $\phi D2$ [mm]
R1/8	10.2 to 10.4	12 or more
R1/4	13.6 to 13.8	17 or more
R3/8	17.1 to 17.3	21 or more
R1/2	21.4 to 21.6	27 or more
NPT1/16	8.2 to 8.4	11.11 or more
NPT1/8	10.5 to 10.7	12.7 or more
NPT1/4	14.1 to 14.3	17.46 or more
NPT3/8	17.4 to 17.6	22 or more
NPT1/2	21.7 to 21.9	28.7 or more
G1/8	10.2 to 10.6	12 or more
G1/4	13.6 to 14.0	17 or more
G3/8	17.1 to 17.5	21 or more
G1/2	21.4 to 21.8	27 or more

Precautions

For products that do not satisfy the female thread conditions shown above and the piping with a piping pitch narrower than the product dimension, use the current sealant type.

*: The rubber parts of the face seal cannot be replaced.

*: The rubber parts of the face seal may fall off by the air blow and they cannot be mounted again. Be careful not to perform the air blow.