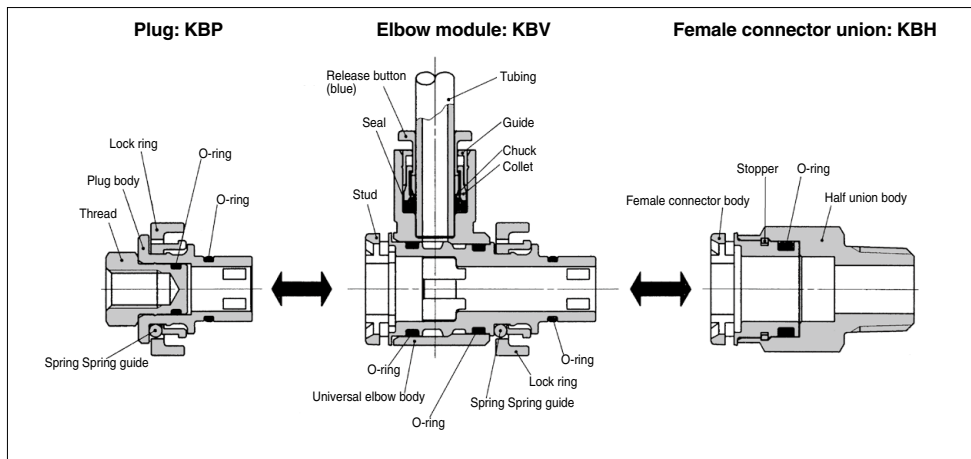


Piping Module *KB Series*

RoHS



Suitable for centralized distribution of supply air

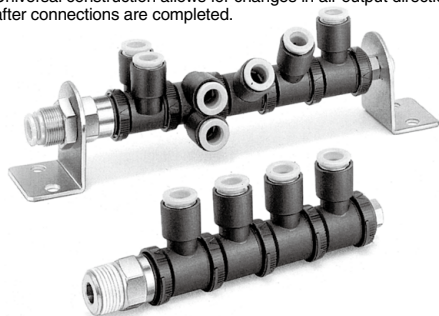
Easy distribution utilizing One-touch fittings

One-touch fitting installation without the use of tools

Locking system makes the use of tools unnecessary and piping more efficient.

Air output direction possible through 360°

Universal construction allows for changes in air output direction after connections are completed.



Applicable Tubing

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

Applicable Thread Size

Male thread	R1/8, R1/4, R3/8, R1/2
Female thread	M5 x 0.8, M6 x 1, Rc 1/8, Rc 1/4, Rc 3/8, Rc 1/2

Specifications

Fluid		Air
Operating pressure range <small>(Note)</small>		-100 kPa to 1 MPa
Proof pressure		3 MPa
Ambient and fluid temperature		-5 to 60°C (No freezing)
Thread	Mounting section	JIS B 0203 (Taper thread for piping)
	Nut section	JIS B 0205 (Metric coarse thread)
Seal on the threads (Standard)		With thread sealant
Copper-free (Standard)		Brass parts are all electroless nickel plated

(Note) Please avoid using in a vacuum holding application such as a leak tester, since there is leakage.

Principal Parts Material

Body	C3604, PBT, POM
Stud	POM
Lock ring	POM
Spring	Stainless steel 304
Spring guide	POM
Stopper	POM
Thread	C3604
Guide	Stainless steel 304, PBT, C3604
Collet, Release button	POM
Seal, O-ring	NBR
Chuck	Stainless steel 304



KQ2
KQB2
KS
KX
KM
KF
M
H/DL
L/LL
KC
KK
KK130
DM
KDM
KB
KR
KA
KQG2
KG
KFG2
MS
KKA
KP
LQ
MQR
T
IDK

How to Order

1

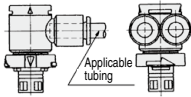
Air Output Port: KBV, KBZ(P.267)

KB V 1 - 04

Model
Tube size/
Connecting female
thread size
Body size

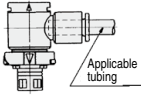
Branch Elbow Module: KBZ

Model	Applicable tubing O.D.
KBZ1-04	4
KBZ1-06	6
KBZ2-08	8
KBZ3-10	10
KBZ3-12	12
KBZ4-12	12



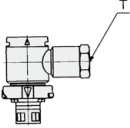
Elbow Module: KBV

Model	Applicable tubing O.D.
KBV1-04	4
KBV1-06	6
KBV2-06	6
KBV2-08	8
KBV3-08	8
KBV3-10	10
KBV3-12	12
KBV4-12	12
KBV4-16	16



Elbow Socket Module: KBV

Model	T Connection thread
KBV1-M5	M5 x 0.8
KBV1-M6	M6 x 1
KBV2-M5	M5 x 0.8
KBV2-M6	M6 x 1
KBV2-R1	Rc 1/8
KBV3-R1	Rc 1/4
KBV3-R2	Rc 1/4
KBV4-R2	Rc 3/8
KBV4-R3	Rc 3/8



2

Air Supply Port:
KBE, KBH, KBB, KBS, KBL

(P.268, 269)

KB H 1 - R1 S

Model
Body size
Tube size/Connection thread size
With sealant (Male thread only) Standard specifications

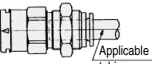
Male Connector Socket: KBB

Model	T Connection thread
KBB1-M5	M5 x 0.8
KBB2-M6	M6 x 1
KBB3-R1	Rc 1/8
KBB4-R2	Rc 1/4



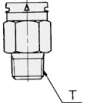
Bulkhead Female Connector: KBE

Model	Applicable tubing O.D.
KBE1-04	4
KBE1-06	6
KBE2-06	6
KBE2-08	8
KBE2-10	10
KBE3-08	8
KBE3-10	10
KBE3-12	12
KBE4-12	12



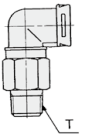
Female Connector Union: KBH

Model	T Connection thread
KBH1-R1S	R 1/8
KBH2-R1S	R 1/4
KBH2-R2S	R 1/4
KBH2-R3S	R 3/8
KBH3-R2S	R 1/4
KBH3-R3S	R 3/8
KBH3-R4S	R 1/2
KBH4-R3S	R 3/8
KBH4-R4S	R 1/2



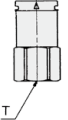
Female Connector Elbow Union: KBL

Model	T Connection thread
KBL1-R1S	R 1/8
KBL2-R1S	R 1/4
KBL2-R2S	R 1/4
KBL2-R3S	R 3/8
KBL3-R2S	R 1/4
KBL3-R3S	R 3/8
KBL3-R4S	R 1/2
KBL4-R3S	R 3/8
KBL4-R4S	R 1/2



Female Connector Socket: KBS

Model	T Connection thread
KBS1-R1	Rc 1/8
KBS2-R2	Rc 1/4
KBS3-R3	Rc 3/8
KBS4-R4	Rc 1/2



Combination Examples

3

Other Piping Material: KBN, KBD, KBR^(P.270)

KB N 1

Model

Body size

Nipple: KBN

Model
KBN1
KBN2
KBN3
KBN4



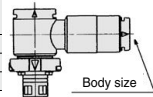
KB D 2-1

Model

Body size

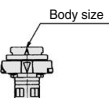
Elbow Different Diameter Female Connector Module: KBD

Model
KBD2-1
KBD3-2
KBD4-3



Different Diameter Module: KBR

Model
KBR2-1
KBR3-2
KBR4-3



4

Plug/Cap: KBP, KBC^(P.271)

KB P 1

Model

Body size

Plug: KBP

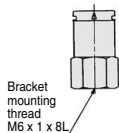
Model
KBP1
KBP2
KBP3
KBP4

Bracket mounting thread
M6 x 1 x 8L



Cap: KBC

Model
KBC1
KBC2
KBC3
KBC4



5

Bracket: KBX^(P.271)

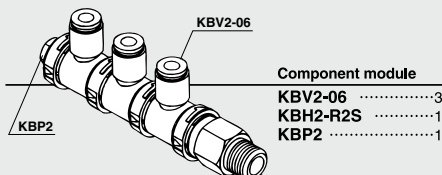
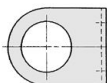
KB X 6

Model

Applicable thread size

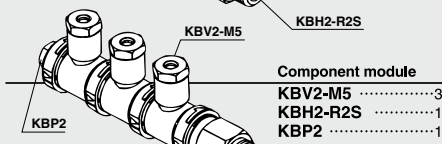
Bracket: KBX

Model
KBX6
KBX12
KBX14
KBX16
KBX20
KBX22



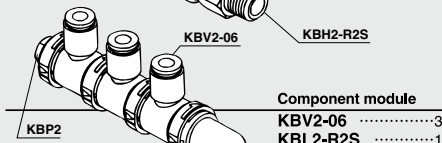
Component module

KBV2-06	3
KBH2-R2S	1
KBP2	1



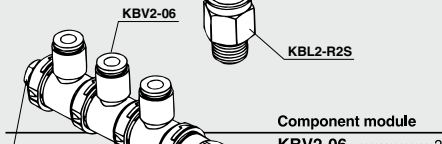
Component module

KBV2-M5	3
KBH2-R2S	1
KBP2	1



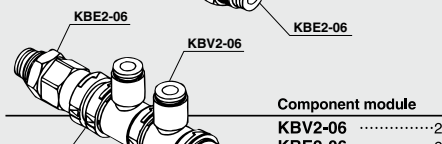
Component module

KBV2-06	3
KBL2-R2S	1
KBP2	1



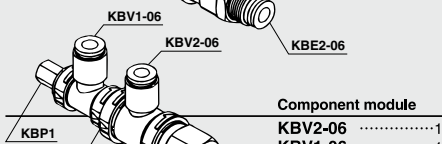
Component module

KBV2-06	3
KBE2-06	1
KBP2	1



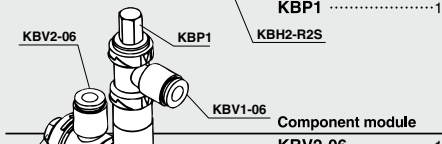
Component module

KBV2-06	2
KBE2-06	2
KBN2	1



Component module

KBV2-06	1
KBV1-06	1
KBR2-1	1
KBH2-R2S	1
KBP1	1



Component module

KBV2-06	1
KBV1-06	1
KBD2-1	1
KBH2-R2S	1
KBP2	1
KBP1	1

KQ2

KQB2

**KS
KX**

KM

KF

M

**H/DL
L/L**

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

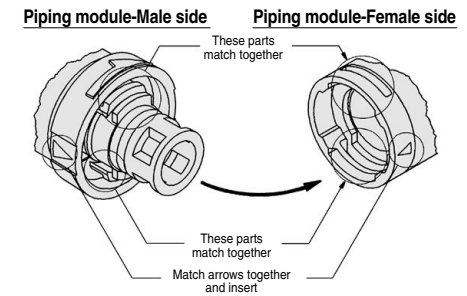
LQ

MQR

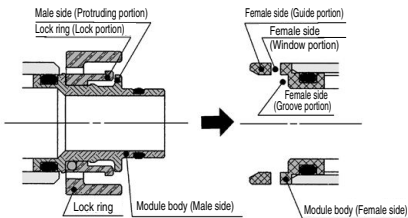
T

IDK

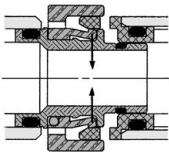
Piping Module-Insertion and Removal Structural Drawing



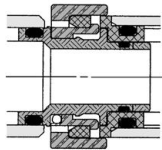
1. Match arrows together and insert piping module male side into female side.



2. By inserting the lock ring, the lock portion touches female side guide portion and falls into the direction shown with the arrow.



3. By pushing tighter, lock portion goes over female side guide portion and snaps into window slot portion. Male side protruding portion snaps into female side groove portion. This performs the function of a detent.

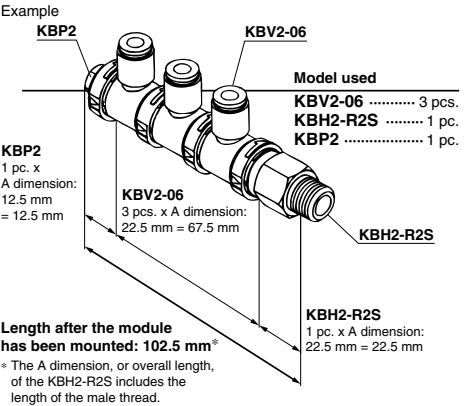


Male module inserted fully into position.

4. To remove, rotate lock ring 90° to release lock portion from female side window slot, then the lock is released. Removal is complete.

Dimensions of the Product After the Module Has Been Mounted

The overall length of the product after the module has been mounted is calculated as the total of the following: the A dimension in the dimension table x the number of units to be used.

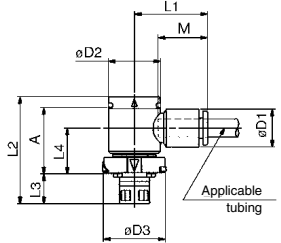


1 Air Output Port

Elbow Module: KBV



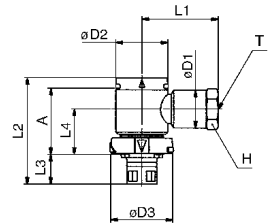
Model	Applicable tubing O.D.	D1	D2	D3	L1	L2	L3	L4	A	M	Weight (g)
KBV1-04	4	10.4	13.6	16.8	22.0	33.0	10.4	13.0	19.5	16.0	4.3
KBV1-06	6	12.8			24.0					17.0	4.9
KBV2-06			17.6	21.0	25.0	36.0	10.1	15.5	22.5		7.3
KBV2-08	8	15.2			28.5					18.5	8.3
KBV3-08					29.5			20.5			15.0
KBV3-10	10	18.5	25.2	28.6	31.5	42.6	11.4	19.5	27.0	21.0	17.5
KBV3-12	12	20.9			34.0					22.0	19.3
KBV4-12			27.0	30.4	35.0	41.4	12.2	18.0	25.0		20.2
KBV4-16	16	26.5	32.3		39.0	55.0		24.0	38.5	25.0	36.4



Elbow Socket Module: KBV



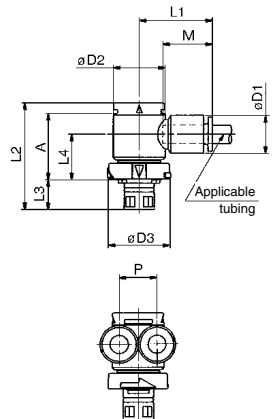
Model	T Connection thread	H width across flats	D1	D2	D3	L1	L2	L3	L4	A	Weight (g)
KBV1-M5	M5 x 0.8			13.6	16.8	25.0	33.0	10.4	13.0	19.5	12.4
KBV1-M6	M6 x 1	12	12.8								11.6
KBV2-M5	M5 x 0.8			17.6	21.0	26.0	36.0	10.1	15.5	22.5	14.0
KBV2-M6	M6 x 1					29.5					15.3
KBV2-R1	Rc 1/8	14	15.2			30.5			20.5	27.0	22.0
KBV3-R1						32.0	42.6	11.4	19.5		27.0
KBV3-R2	Rc 1/4	19	18.5	25.2	28.6	36.5					40.6
KBV4-R2						43.0	41.4	12.2	18.0	25.0	44.7
KBV4-R3	Rc 3/8	22	20.9	27.0	30.4						



Branch Elbow Module: KBZ



Model	Applicable tubing O.D.	D1	D2	D3	L1	L2	L3	L4	A	M	P	Weight (g)
KBZ1-04	4	10.4	13.6	16.8	22.0	33.0	10.4	13.0	19.5	16.0	10.4	5.8
KBZ1-06	6	12.8			24.0					17.0	12.8	7.1
KBZ2-08	8	15.2	17.6	21.0	28.5	36.0	10.1	15.5	22.5	18.5	15.2	11.6
KBZ3-10	10	18.5	25.2	28.6	31.5	42.6	11.4	19.5	27.0	21.0	18.5	24.4
KBZ3-12					34.0							27.1
KBZ4-12	12	20.9	27.0	30.4	35.0	41.4	12.2	18.0	25.0	22.0	20.9	28.5



[Click here for applicable color caps.](#)

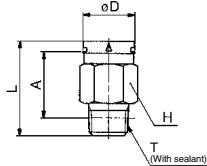
2 Air Supply Port

Female Connector Union: KBH



Model	T Connection thread	H width across flats	D	L	A*	Weight (g)
KBH1-R1S	R 1/8	14	13.6	27.0	20.0	13.4
KBH2-R1S				29.0	21.5	19.2
KBH2-R2S	R 1/4	17	17.6	32.0	22.5	23.3
KBH2-R3S	R 3/8			27.5	17.5	22.5
KBH3-R2S	R 1/4	19	25.2	35.5	25.4	26.5
KBH3-R3S	R 3/8			31.0	20.5	23.2
KBH3-R4S	R 1/2	22	27.0		19.0	41.5
KBH4-R3S	R 3/8	24		35.5	24.5	44.5
KBH4-R4S	R 1/2			31.5	19.0	36.5

* Reference dimensions after R thread

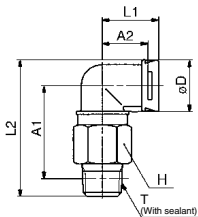


Female Connector Elbow Union: KBL



Model	T Connection thread	H width across flats	D	L1	L2	A1*	A2	Weight (g)
KBL1-R1S	R 1/8	14	13.6	18	38.0	27.0	15.0	14.8
KBL2-R1S					43.5	30.5		23.2
KBL2-R2S	R 1/4	17	17.6	19	46.5	31.5	15.5	27.3
KBL2-R3S	R 3/8				42.0	26.5		26.5
KBL3-R2S	R 1/4	19	25.2	22	56.0	37.5	18.0	32.6
KBL3-R3S	R 3/8					32.5		29.3
KBL3-R4S	R 1/2	22	27.0	24	51.5	31.0	19.5	47.6
KBL4-R3S	R 3/8	24			61.5	41.5		57.6
KBL4-R4S	R 1/2				57.5	36.0		48.8

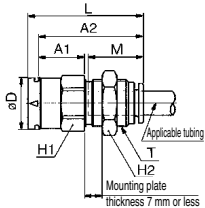
* Reference dimensions after R thread



Bulkhead Female Connector: KBE



Model	Applicable tubing O.D.	T (M)	H1 width across flats	H2 width across flats	D	L	A1	A2	M	Weight (g)
KBE1-04	4	M12 x 1	14	14	13.6	34.5	15.0	31.5	16.0	17.9
KBE1-06	6	M14 x 1	17	17		35.5	15.5	32.0	17.0	27.0
KBE2-06					17.6	37.5	17.0	33.5		26.0
KBE2-08	8	M16 x 1		19		39.0	15.5	35.5	18.5	29.5
KBE2-10	10	M20 x 1		24	25.2	41.5	15.5	38.0	21.0	57.5
KBE3-08	8	M16 x 1	22	19		43.5	19.5	39.5	18.5	51.6
KBE3-10	10	M20 x 1		24	27.0	45.0	18.5	41.0	21.0	63.0
KBE3-12	12	M22 x 1	24	27		46.0		42.0		83.4
KBE4-12							44.0	16.5	40.0	22.0



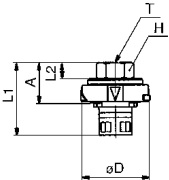
[Click here for applicable color caps.](#)

2 Air Supply Port

Male Connector Socket: KBB



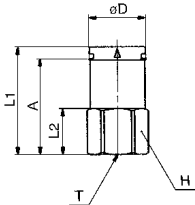
Model	T Connection thread	H width across flats	D	L1	L2	A	Weight (g)
KBB1-M5	M5 x 0.8	8	16.8	29.5	11.5	19.0	6.0
KBB2-M6	M6 x 1	10	21.0	23.0	5.0	12.5	6.3
KBB3-R1	Rc 1/8	14	28.6	27.5	6.5	16.0	11.4
KBB4-R2	Rc 1/4	19	30.4	31.5	9.5	19.5	24.1



Female Connector Socket: KBS



Model	T Connection thread	H width across flats	D	L1	L2	A	Weight (g)
KBS1-R1	Rc 1/8	14	13.6	28.0	11.0	25.0	17.8
KBS2-R2	Rc 1/4	17	17.6	33.5	14.0	30.0	28.5
KBS3-R3	Rc 3/8	19	25.2	38.5	17.0	34.5	33.8
KBS4-R4	Rc 1/2	24	27.0	39.0	20.0	35.0	57.1



[Click here for applicable color caps.](#)

KQ2

KQB2

KS
KX

KM

KF

M

H/DL
L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

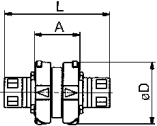
KB Series

3 Other Piping Material

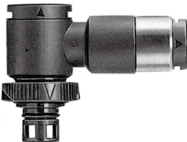
Nipple: KBN



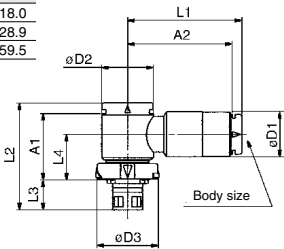
Model	D	L	A	Weight (g)
KBN1	16.8	35.0	14.0	2.9
KBN2	21.0		15.0	4.6
KBN3	28.6	39.0	16.5	7.2
KBN4	30.4	41.5	17.0	10.2



Elbow Different Diameter Female Connector Module: KBD



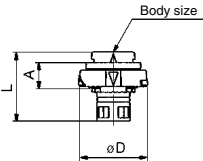
Model	D1	D2	D3	L1	L2	L3	L4	A1	A2	Weight (g)
KBD2-1	15.2	17.6	21.0	39.0	36.0	10.1	15.5	22.5	35.5	18.0
KBD3-2	20.9	25.2	28.6	38.0	42.6	11.4	19.5	27.0	34.5	28.9
KBD4-3	26.5	32.3	30.4	44.5	55.0	12.2	24.0	38.5	40.0	59.5



Different Diameter Module: KBR



Model	D	L	A	Weight (g)
KBR2-1	21.0	21.5	8.0	2.8
KBR3-2	28.6	25.0	10.0	4.3
KBR4-3	30.4	30.5	14.0	8.8



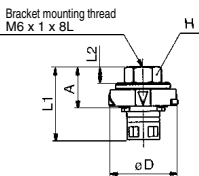
[Click here for applicable color caps.](#)

4 Plug / Cap

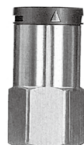
Plug: KBP



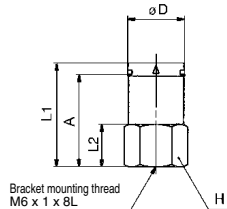
Model	H width across flats	D	L1	L2	A	Weight (g)
KBP1	8	16.8	29.5	11.5	19.0	5.6
KBP2	10	21.0	23.0	5.0	12.5	6.8
KBP3	14	28.6	25.5		14.0	13.4
KBP4	19	30.4	27.0		15.0	24.0



Cap: KBC



Model	H width across flats	D	L1	L2	A	Weight (g)
KBC1	14	13.6	30.0	13.0	26.5	23.4
KBC2	17	17.6	32.5		28.5	37.0
KBC3	19	25.2	35.5	14.0	31.5	46.7
KBC4	24	27.0	34.0	15.0	29.5	74.4



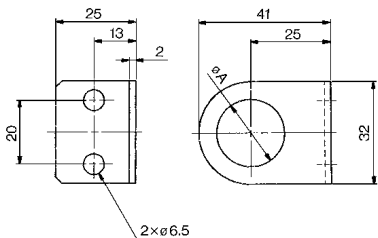
5 Bracket

Bracket: KBX



Model	A	Applicable model	Weight (g)
KBX6	7	KBP, KBC	27.5
KBX12	13	KBE1-04	26.1
KBX14	15	KBE1-06, KBE2-06	25.4
KBX16	17	KBE2-08, KBE3-08	24.4
KBX20	21	KBE2-10, KBE3-10	22.6
KBX22	23	KBE3-12, KBE4-12	21.6

* In the case of KBX6, use the enclosed mounting screws designed for KBP (plug) and KBC (cap).
Screw size: Cross recessed round head screw (M6 x 1 x 8L)
Screw color: Black



KQ2

KQB2

**KS
KX**

KM

KF

M

**H/DL
L/LL**

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

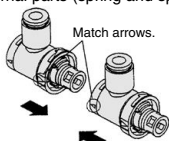
⚠ Precautions

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and
pages 13 to 17 for Fittings and Tubing Precautions.

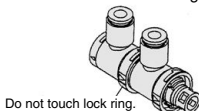
How to Install

⚠ Caution

1. Insert each piping module by matching the arrows on the lock ring and the body of the other module. Insert together. If it becomes difficult to match both modules, rotate modules to left and right while pushing together. When a match is not done, piping material will eject under pressure. Do not idle the lock ring before attaching. Idling the lock ring may cause the internal parts (spring and spring guide) to come off.



2. Confirm insertion by turning modules to right and left or pulling on them. But do not touch the lock ring in the process.



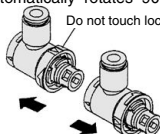
How to Remove

⚠ Caution

1. Exhaust the pressure in pipe before removing. If lock is released under pressure, piping material will eject. Turn the lock ring 90° clockwise (in the direction of the arrow). This will cancel out the affects of the lock ring. You need not hold lock ring in place. Lock ring will hold automatically in this position.



2. Remove the modules by pulling apart. Do not touch the lock ring. After removal, the lock ring will return to normal position automatically because of a return spring. When removed, it automatically rotates 90° in the opposite direction as its spring is built into the lock ring.



Others

⚠ Caution

1. When connecting piping material to each other, do not apply a bending force, etc. Piping material may be deformed or damaged. If unit is longer than 5 stations, please use brackets or it may result in deformation of the piping material by bends, deflection, etc. If the bracket is not used, the piping material may be deformed due to bending or deflection.
2. Each type of module materials is capable of being piped with all other materials.
3. When attaching female connector union and female connector elbow union, use the body's hexagon surface and tighten threads with a suitable wrench. Use the root nearest the thread when tightening with a wrench. Hex. across flats may be deformed, if using an improper wrench for hex. across flats.