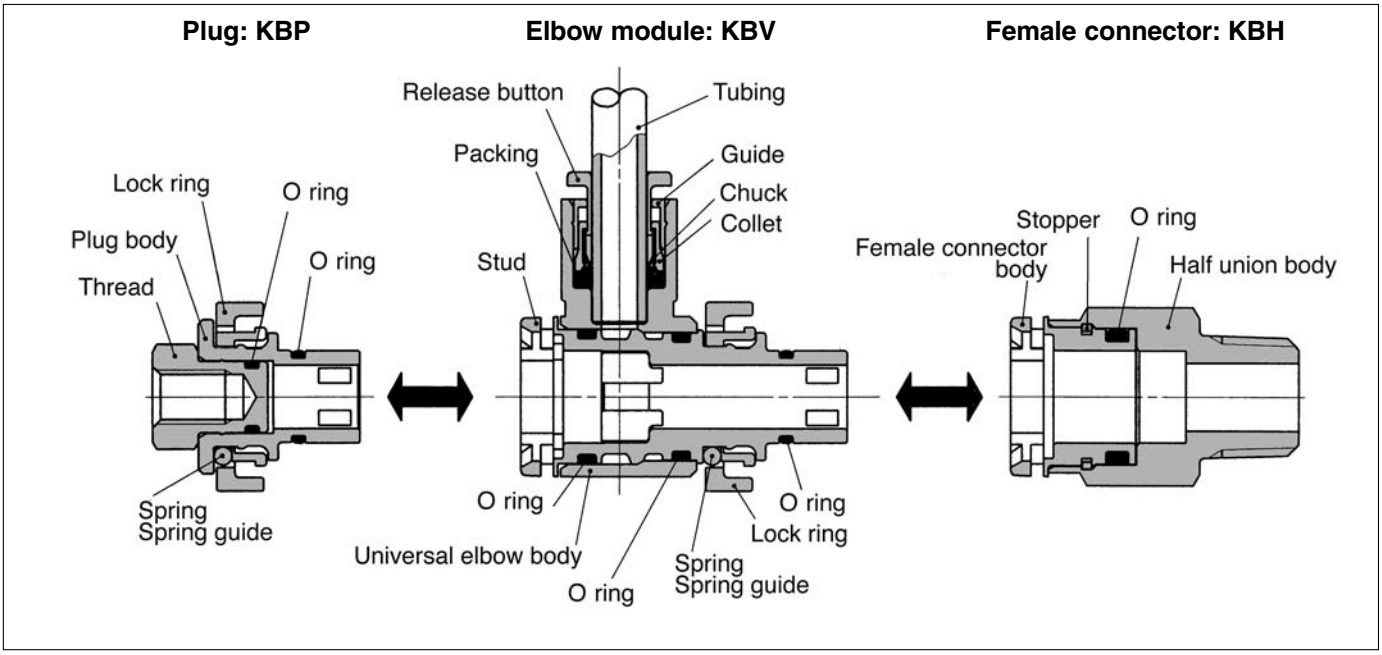
Piping Module
Series KB



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

Tube material	Nylon, Soft nylon, Polyurethane
Tube O.D.	ø4, ø6, ø8, ø10, ø12, ø16

Applicable Thread Size

Male thread	R(PT) 1/8, R(PT) 1/4, R(PT) 3/8, R(PT) 1/2
Female thread	M5, M6, Rc(PT) 1/8, Rc(PT) 1/4, Rc(PT) 3/8, Rc(PT) 1/2

Specifications

Operating fluid		Air
Max.operating pressure		1.0MPa
Max.operating vacuum pressure		–100kPa
Proof pressure		3.0MPa
Ambient and fluid temperature		–5 to 60°C (No freezing)
Thread	Thread portion	JIS B 0203 (Taper pipe thread)
		JIS B 0209, Class 2 (Metric coarse thread)
	Nut	JIS B 0211, Class 2 (Metric fine thread)
Sealant (Male thread)		With sealant (standard)
Copper-free specification		All brass parts electroless nickel plated (standard)

Component Materials

Body	C3604BD, PBT, POM
Stud	POM
Lock ring	POM
Spring	SUS304WPB
Spring guide	POM
Stopper	POM
Thread	C3604BD
Guide	SUS304, C3604BD, POM
Collet, Release button	POM
Packing, O ring	NBR
Chuck	Stainless steel (SUS304)

How to Order

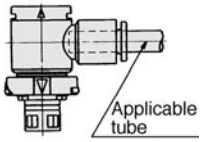
1 Air Output Port: KBV, KBZ (P7-85)

KB V 1 — 04

- V: Style
- 1: Body size
- 04: Tube size/ Connecting female thread size

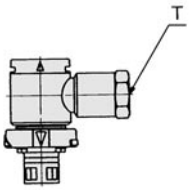
Elbow module: KBV

Part No.	Tube O.D.
KBV1-04	4
KBV1-06	6
KBV2-06	
KBV2-08	8
KBV3-08	
KBV3-10	10
KBV3-12	12
KBV4-12	
KBV4-16	16



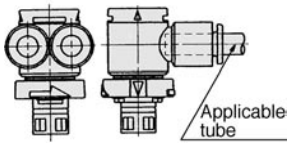
Elbow socket module: KBV

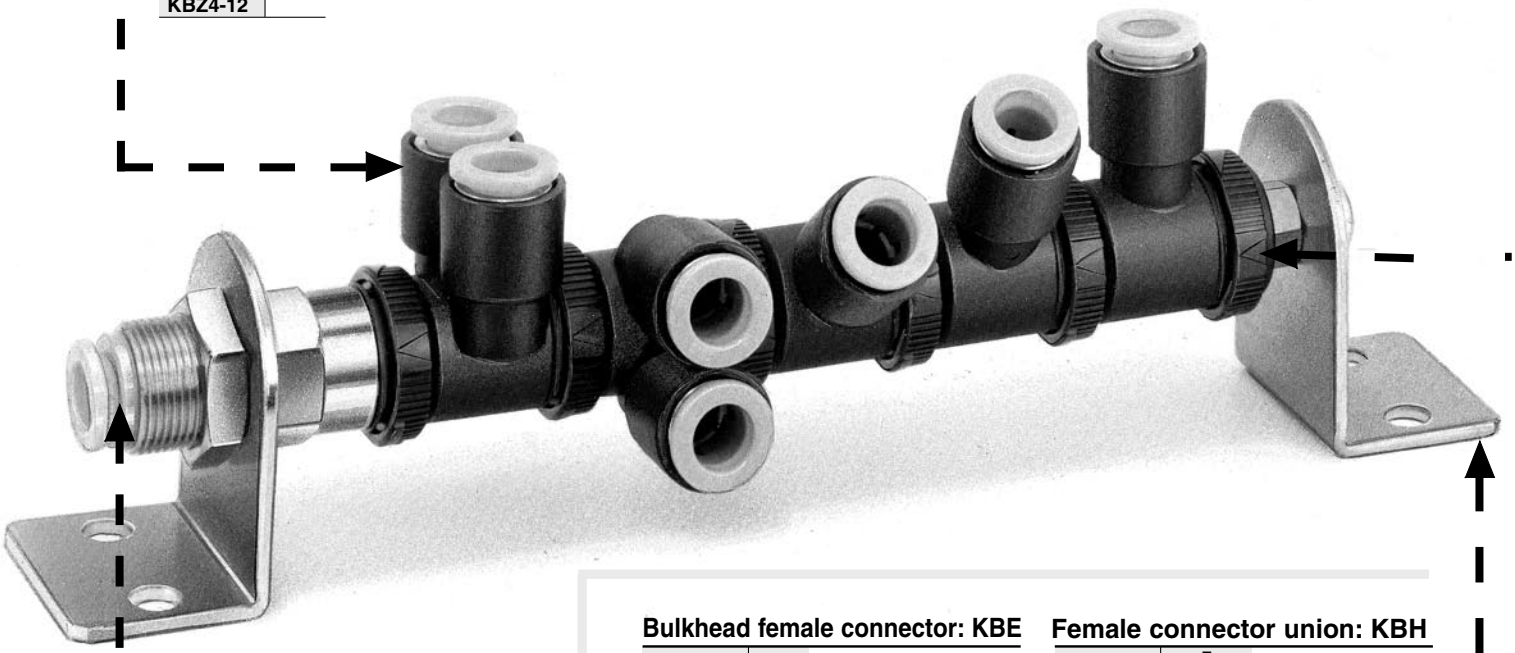
Part No.	T Connecting thread
KBV1-M5	M5
KBV1-M6	M6
KBV2-M5	M5
KBV2-M6	M6
KBV2-R1	Rc(PT) 1/8
KBV3-R1	
KBV3-R2	Rc(PT) 1/4
KBV4-R2	
KBV4-R3	Rc(PT) 3/8



Branch elbow module: KBZ

Part No.	Tube O.D.
KBZ1-04	4
KBZ1-06	6
KBZ2-08	8
KBZ3-10	10
KBZ3-12	12
KBZ4-12	





2 Air supply port: KBE, KBH, KBB, KBS, KBL

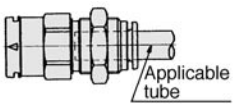
(P.7-86, 7-87)

KB H 1 — R1 S

- H: Style
- 1: Body size
- R1: Tube size/ Connecting thread size
- S: With sealant (only male thread) ·····standard specification

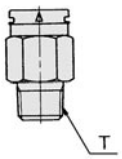
Bulkhead female connector: KBE

Part No.	Tube O.D.
KBE1-04	4
KBE1-06	6
KBE2-06	
KBE2-08	8
KBE2-10	10
KBE3-08	8
KBE3-10	10
KBE3-12	12
KBE4-12	



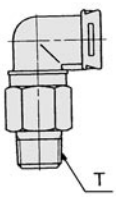
Female connector union: KBH

Part No.	T Connecting thread
KBH1-R1S	R(PT) 1/8
KBH2-R1S	
KBH2-R2S	R(PT) 1/4
KBH2-R3S	R(PT) 3/8
KBH3-R2S	R(PT) 1/4
KBH3-R3S	R(PT) 3/8
KBH3-R4S	R(PT) 1/2
KBH4-R3S	R(PT) 3/8
KBH4-R4S	R(PT) 1/2



Female connector elbow union: KBL

Part No.	T Connecting thread
KBL1-R1S	R(PT) 1/8
KBL2-R1S	
KBL2-R2S	R(PT) 1/4
KBL2-R3S	R(PT) 3/8
KBL3-R2S	R(PT) 1/4
KBL3-R3S	R(PT) 3/8
KBL3-R4S	R(PT) 1/2
KBL4-R3S	R(PT) 3/8
KBL4-R4S	R(PT) 1/2

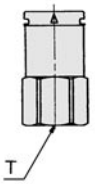


Male connector socket: KBB

Part No.	T Connecting thread
KBB1-M5	M5
KBB1-M6	M6
KBB3-R1	Rc(PT) 1/8
KBB4-R2	Rc(PT) 1/4

Female connector socket: KBS

Part No.	T Connecting thread
KBS1-R1	Rc(PT) 1/8
KBS2-R2	Rc(PT) 1/4
KBS3-R3	Rc(PT) 3/8
KBS4-R4	Rc(PT) 1/2



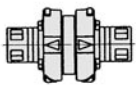
3 Other piping material: KBN, KBD, KBR (P.7-88)

KB N 1 — Style: N; Body size: 1

KB D 2 — 1 — Style: D; Body size: 2; Body size: 1

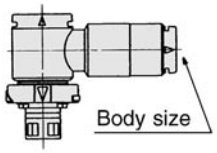
Nipple: KBN

Part No.
KBN1
KBN2
KBN3
KBN4



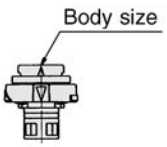
Different diameter elbow female connector module: KBD

Part No.
KBD2-1
KBD3-2
KBD4-3



Different bore module: KBR

Part No.
KBR2-1
KBR3-2
KBR4-3

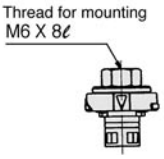


4 Plug/Cap: KBP, KBC (P.7-89)

KB P 1 — Body size: 1; Style: P

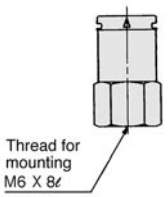
Plug: KBP

Part No.
KBP1
KBP2
KBP3
KBP4



Cap: KBC

Part No.
KBC1
KBC2
KBC3
KBC4

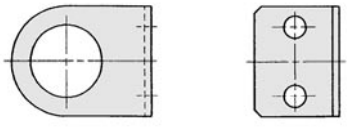


5 Bracket: KBX (P.7-89)

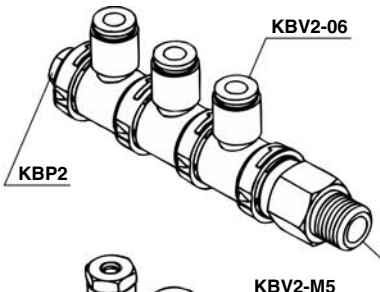
KB X 6 — Applicable thread size: 6; Style: X

Bracket: KBX

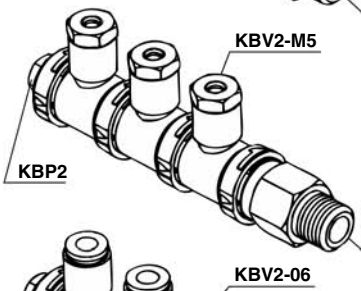
Part No.
KBX6
KBX12
KBX14
KBX16
KBX20
KBX22



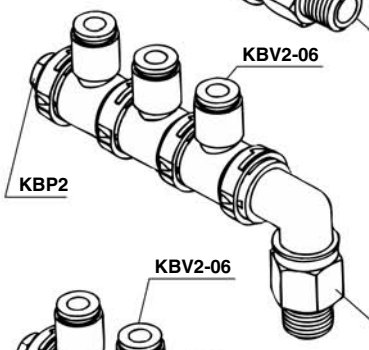
Combination Examples



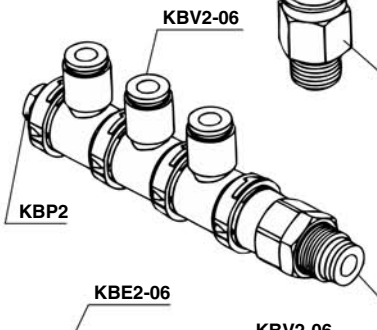
Component module
KBV2-06·····3
KBH2-R2S·····1
KBP2·····1



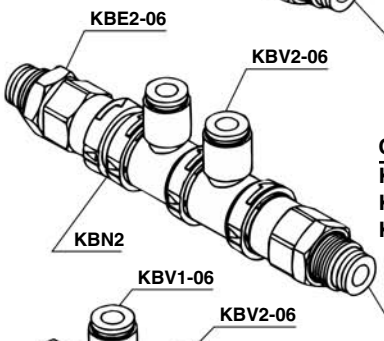
Component module
KBV2-M5·····3
KBH2-R2S·····1
KBP2·····1



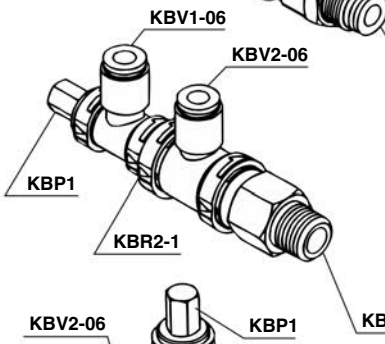
Component module
KBV2-06·····3
KBL2-R2S·····1
KBP2·····1



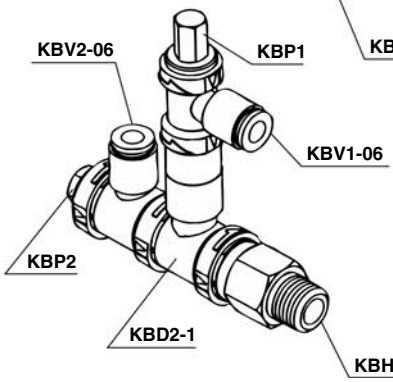
Component module
KBV2-06·····3
KBE2-06·····1
KBP2·····1



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
KBR2-1·····1
KBH2-R2S·····1
KBP2·····1
KBP1·····1

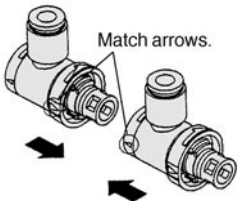
⚠ Precautions

How to Install

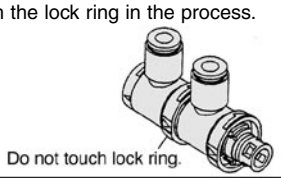
⚠ Caution

①Insert 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.

∗Refer to piping module insertion and removal diagram.
(To secure rigidity, it is slightly stiff.)



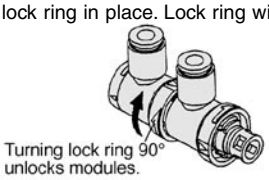
②Confirm insertion by turning modules to right and left or pulling on them. But do not touch the lock ring in the process.



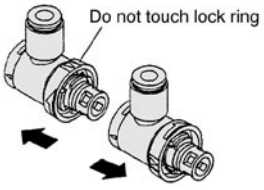
How to Remove

⚠ Caution

①Exhaust 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



②Remove 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.



Others

⚠ Caution

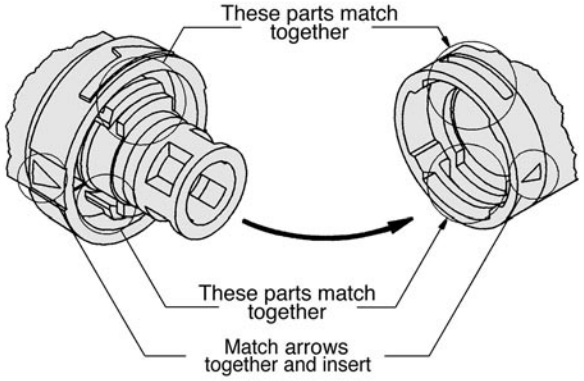
①If unit is longer than 5 stations, please use brackets to prevent deflection and/or bending of unit.

②Each type of module materials is capable of being piped with all other materials.

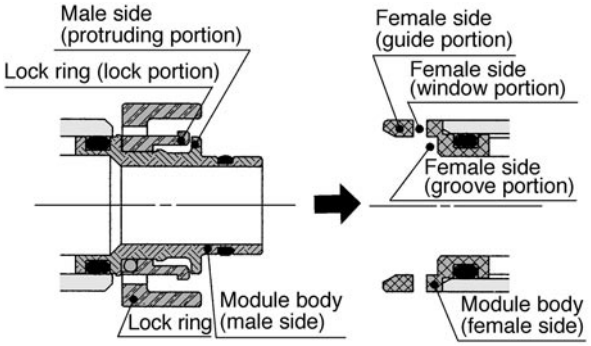
③When attaching female connector union and female connector elbow union, use the body's hexagon surface and tighten threads with a suitable wrench. Use the root nearest the thread when tightening with a wrench.

Piping Module-Insertion and Removal Structual Drawing

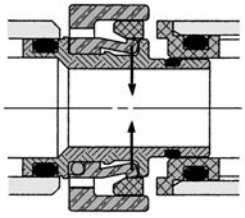
Piping Module-Male Side **Piping Module-Female Side**



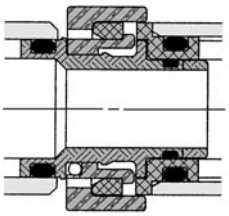
①Match arrows together and insert piping module male side into female side.



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



③By 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.



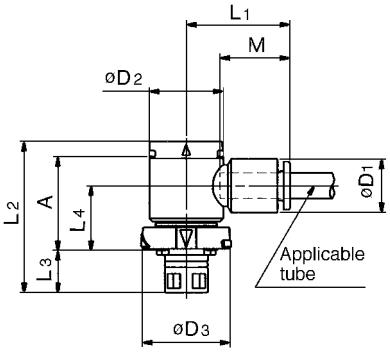
Male module inserted fully into position.

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

1 Air Output Port

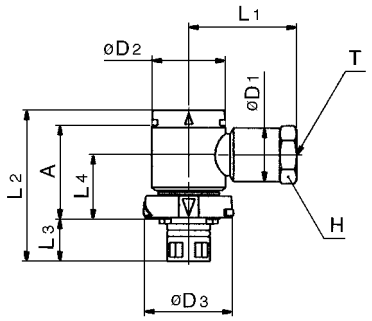
Elbow module: KBV

Part No.	Tube 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			25.2	28.6	29.5	42.6	11.4	20.5	27.0		15.0
KBV3-10	10	18.5			31.5			19.5		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



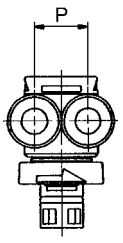
Elbow socket module: KBV

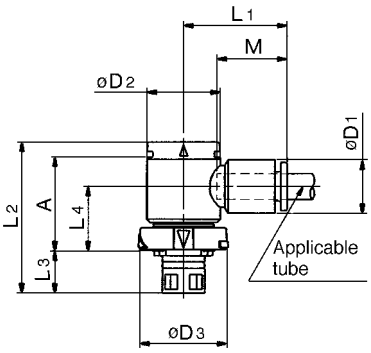
Part No.	T Connecting thread	H (Hex.)	D1	D2	D3	L1	L2	L3	L4	A	Weight (g)
KBV1-M5	M5	12	12.8	13.6	16.8	25.0	33.0	10.4	13.0	19.5	12.4
KBV1-M6	M6										11.6
KBV2-M5	M5			17.6	21.0	26.0	36.0	10.1	15.5	22.5	14.8
KBV2-M6	M6										14.0
KBV2-R1	Rc(PT) 1/8	14	15.2			29.5					15.3
KBV3-R1				25.2	28.6	30.5	42.6	11.4	20.5	27.0	22.0
KBV3-R2	Rc(PT) 1/4	19	18.5			32.0			19.5		27.0
KBV4-R2		22	20.9	27.0	30.4	36.5	41.4	12.2	18.0	25.0	40.6
KBV4-R3	Rc(PT) 3/8					43.0					44.7



Branch elbow module: KBZ

Part No.	Tube 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	12	20.9			34.0					22.0	20.9	27.1
KBZ4-12			27.0	30.4	35.0	41.4	12.2	18.0	25.0			28.5



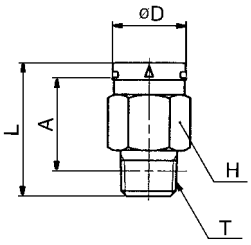


2 Air Supply Port

Female connector union: KBH

Part No.	T Connecting thread	H (Hex.)	D	L	A*	Weight (g)
KBH1-R1S	R(PT) 1/8	14	13.6	27.0	20.0	13.4
KBH2-R1S		17	17.6	29.0	21.5	19.2
KBH2-R2S	R(PT) 1/4			32.0	22.5	23.3
KBH2-R3S	R(PT) 3/8			27.5	17.5	22.5
KBH3-R2S	R(PT) 1/4	19	25.2	35.5	25.4	26.5
KBH3-R3S	R(PT) 3/8			31.0	20.5	23.2
KBH3-R4S	R(PT) 1/2	22			19.0	41.5
KBH4-R3S	R(PT) 3/8	24	27.0	35.5	24.5	44.5
KBH4-R4S	R(PT) 1/2			31.5	19.0	36.5

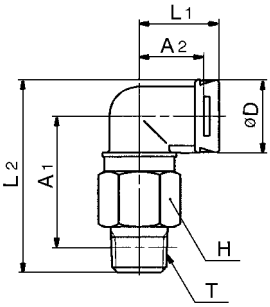
* Reference dimensions after R(PT) thread installation.



Female connector elbow union: KBL

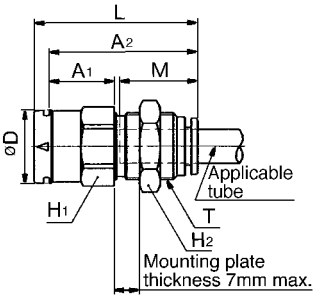
Part No.	T Connecting thread	H (Hex.)	D	L_1	L_2	A_1*	A_2	Weight (g)
KBL1-R1S	R(PT) 1/8	14	13.6	18	38.0	27.0	15.0	14.8
KBL2-R1S		17	17.6	19	43.5	30.5	15.5	23.2
KBL2-R2S	R(PT) 1/4				46.5	31.5		27.3
KBL2-R3S	R(PT) 3/8				42.0	26.5		26.5
KBL3-R2S	R(PT) 1/4	19	25.2	22	56.0	37.5	18.0	32.6
KBL3-R3S	R(PT) 3/8				51.5	32.5		29.3
KBL3-R4S	R(PT) 1/2	22				31.0		47.6
KBL4-R3S	R(PT) 3/8	24	27.0	24	61.5	41.5	19.5	57.6
KBL4-R4S	R(PT) 1/2				57.5	36.0		48.8

* Reference dimensions after R(PT) thread installation.



Bulkhead female connector: KBE

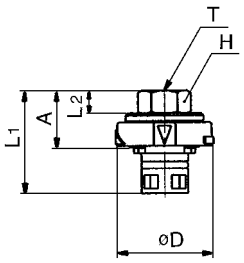
Part No.	Tube O.D.	T Connectiong thread	H_1 (Hex.)	H_2 (Hex.)	D	L	A_1	A_2	M	Weight (g)
KBE1-04	4	M12 X 1	14	14	13.6	34.5	15.0	31.5	16.0	17.9
KBE1-06	6	M14 X 1	17	17		35.5	15.5	32.0	17.0	27.0
KBE2-06					17.6	37.5	17.0	33.5		26.0
KBE2-08	8	M16 X 1		19		39.0	15.5	35.5	18.5	29.5
KBE2-10	10	M20 X 1	22	24		41.5	15.5	38.0	21.0	57.5
KBE3-08	8	M16 X 1		19	25.2	43.5	19.5	39.5	18.5	51.6
KBE3-10	10	M20 X 1		24		45.0	18.5	41.0	21.0	63.0
KBE3-12	12	M22 X 1	24	27		46.0		42.0	22.0	83.4
KBE4-12					27.0	44.0	18.0	41.5		66.6



2 Air Supply Port

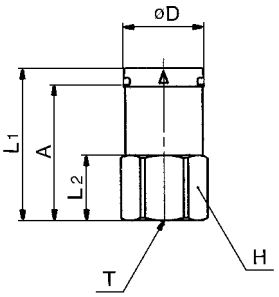
Male connector socket: KBB

Part No.	T Connecting thread	H (Hex.)	D	L_1	L_2	A	Weight (g)
KBB1-M5	M5	8	16.8	29.5	11.5	19.0	6.0
KBB2-M6	M6	10	21.0	23.0	5.0	12.5	6.3
KBB3-R1	Rc(PT)1⁄8	14	28.6	27.5	6.5	16.0	11.4
KBB4-R2	Rc(PT)1⁄4	19	30.4	31.5	9.5	19.5	24.1



Female connector socket: KBS

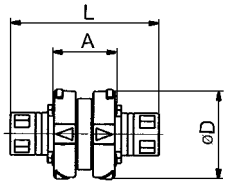
Part No.	T Connecting thread	H (Hex.)	D	L_1	L_2	A	Weight (g)
KBS1-R1	Rc(PT)1⁄8	14	13.6	28.0	11.0	25.0	17.8
KBS2-R2	Rc(PT)1⁄4	17	17.6	33.5	14.0	30.0	28.5
KBS3-R3	Rc(PT)3⁄8	19	25.2	38.5	17.0	34.5	33.8
KBS4-R4	Rc(PT)1⁄2	24	27.0	39.0	20.0	35.0	57.1



3 Other Piping Material

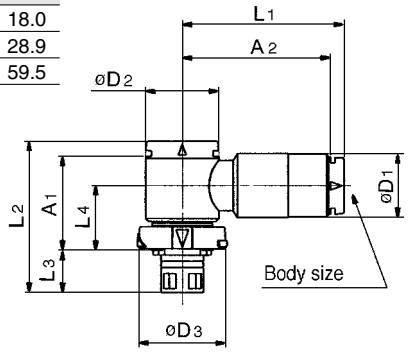
Nipple: KBN

Part No.	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



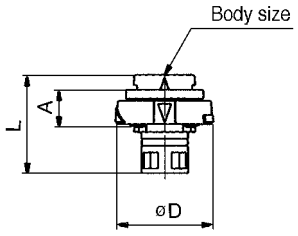
Elbow different diameter female connector module: KBD

Part No.	D_1	D_2	D_3	L_1	L_2	L_3	L_4	A_1	A_2	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

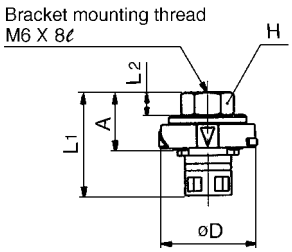
Part No.	D	L	A	Weight (g)
KBR2-1	21.0	21.5	8.0	2.8
KBR3-2	28.6	25.0	10.0	4.3
KBR4-3	30.4	30.5	14.0	8.8



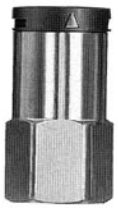
4 Plug/Cap

Plug: KBP

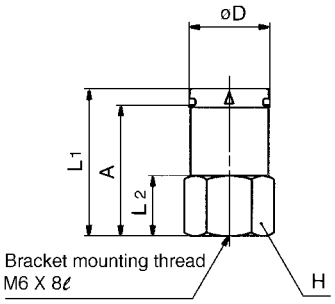
Part No.	H (Hex.)	D	L_1	L_2	A	Weight (g)
KBP1	8	16.8	29.5	11.5	19.0	5.6
KBP2	10	21.0	23.0	5.0	12.5	6.8
KBP3	14	28.6	25.5		14.0	13.4
KBP4	19	30.4	27.0		15.0	24.0



Cap: KBC



Part No.	H (Hex.)	D	L_1	L_2	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

Part No.	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 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