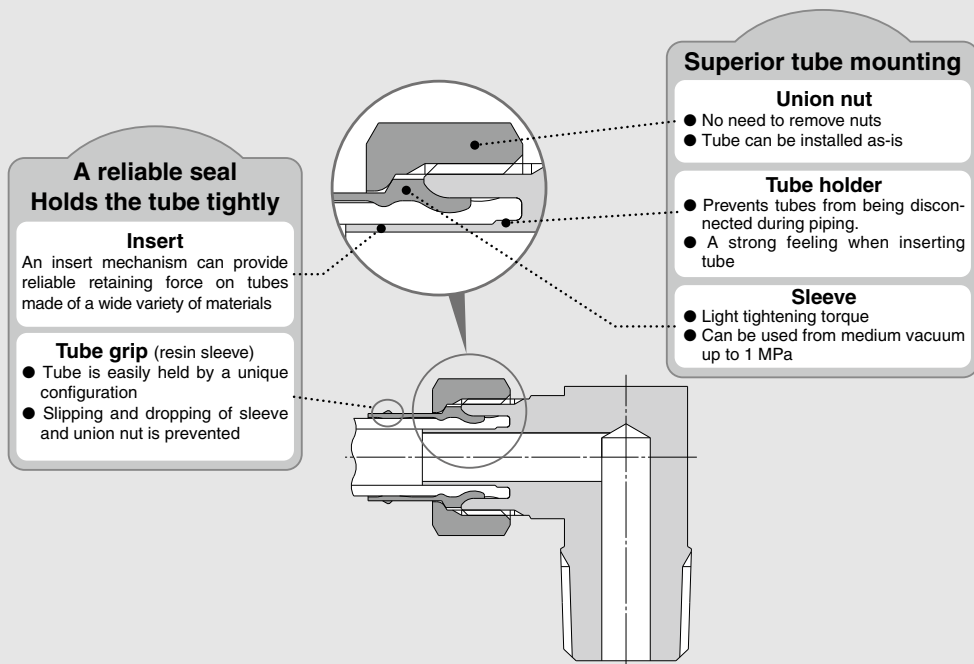


Insert Fittings

KF Series

RoHS



- Material / Body, Union nut: Brass
Sleeve: Resin or Brass
- Maximum operating temperature / **150°C** (Brass sleeve)
60°C (Resin sleeve)
- Applicable tubing material /
FEP • PFA • Modified PTFE • Nylon
Soft nylon • Polyurethane
Polyolefin • Soft polyolefin
- Can be used with steam. (For brass sleeve)
- Grease-free



Male Connector

Use to connect tubes in the same direction from female thread. Most general type.

Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFH04-01S	KFH04B-01S
		R1/4	KFH04-02S	KFH04B-02S
ø6	ø4	R1/8	KFH06-01S	KFH06B-01S
		R1/4	KFH06-02S	KFH06B-02S
		R3/8	KFH06-03S	KFH06B-03S
ø8	ø5	R1/8	KFH08U-01S	—
		R1/4	KFH08U-02S	—
		R3/8	KFH08U-03S	—
	ø6	R1/8	KFH08N-01S	KFH08B-01S
		R1/4	KFH08N-02S	KFH08B-02S
ø10	ø6.5	R3/8	KFH10U-03S	—
		R1/2	KFH10U-04S	—
		R1/4	KFH10N-02S	KFH10B-02S
	ø7.5	R3/8	KFH10N-03S	KFH10B-03S
		R1/2	KFH10N-04S	KFH10B-04S
ø12	ø8	R1/4	KFH12U-02S	—
		R3/8	KFH12U-03S	—
		R1/2	KFH12U-04S	—
	ø9	R1/4	KFH12N-02S	KFH12B-02S
		R3/8	KFH12N-03S	KFH12B-03S
		R1/2	KFH12N-04S	KFH12B-04S



Branch Tee

Use to branch line from female thread in both 90° directions.

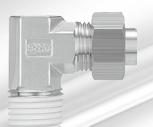
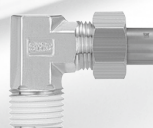
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFT04-01S	KFT04B-01S
		R1/4	KFT04-02S	KFT04B-02S
ø6	ø4	R1/8	KFT06-01S	KFT06B-01S
		R1/4	KFT06-02S	KFT06B-02S
		R3/8	KFT06-03S	KFT06B-03S
ø8	ø5	R1/8	KFT08U-01S	—
		R1/4	KFT08U-02S	—
		R3/8	KFT08U-03S	—
	ø6	R1/8	KFT08N-01S	KFT08B-01S
		R1/4	KFT08N-02S	KFT08B-02S
ø10	ø6.5	R3/8	KFT10U-03S	—
		R1/2	KFT10U-04S	—
		R1/4	KFT10N-02S	KFT10B-02S
	ø7.5	R3/8	KFT10N-03S	KFT10B-03S
		R1/2	KFT10N-04S	KFT10B-04S
ø12	ø8	R1/4	KFT12U-02S	—
		R3/8	KFT12U-03S	—
		R1/2	KFT12U-04S	—
	ø9	R1/4	KFT12N-02S	KFT12B-02S
		R3/8	KFT12N-03S	KFT12B-03S
		R1/2	KFT12N-04S	KFT12B-04S



Male Elbow

Use to pipe at right angles to female thread. Most general type.

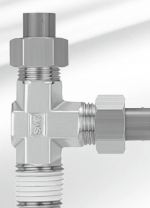
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFL04-01S	KFL04B-01S
		R1/4	KFL04-02S	KFL04B-02S
ø6	ø4	R1/8	KFL06-01S	KFL06B-01S
		R1/4	KFL06-02S	KFL06B-02S
		R3/8	KFL06-03S	KFL06B-03S
ø8	ø5	R1/8	KFL08U-01S	—
		R1/4	KFL08U-02S	—
		R3/8	KFL08U-03S	—
	ø6	R1/8	KFL08N-01S	KFL08B-01S
		R1/4	KFL08N-02S	KFL08B-02S
ø10	ø6.5	R3/8	KFL10U-03S	—
		R1/2	KFL10U-04S	—
		R1/4	KFL10N-02S	KFL10B-02S
	ø7.5	R3/8	KFL10N-03S	KFL10B-03S
		R1/2	KFL10N-04S	KFL10B-04S
ø12	ø8	R1/4	KFL12U-02S	—
		R3/8	KFL12U-03S	—
		R1/2	KFL12U-04S	—
	ø9	R1/4	KFL12N-02S	KFL12B-02S
		R3/8	KFL12N-03S	KFL12B-03S
		R1/2	KFL12N-04S	KFL12B-04S



Male Run Tee

Use to branch line in the same direction from female thread and in 90° direction.

Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFY04-01S	KFY04B-01S
		R1/4	KFY04-02S	KFY04B-02S
ø6	ø4	R1/8	KFY06-01S	KFY06B-01S
		R1/4	KFY06-02S	KFY06B-02S
		R3/8	KFY06-03S	KFY06B-03S
ø8	ø5	R1/8	KFY08U-01S	—
		R1/4	KFY08U-02S	—
		R3/8	KFY08U-03S	—
	ø6	R1/8	KFY08N-01S	KFY08B-01S
		R1/4	KFY08N-02S	KFY08B-02S
ø10	ø6.5	R3/8	KFY08N-03S	KFY08B-03S
		R1/4	KFY10U-02S	—
		R3/8	KFY10U-03S	—
	ø7.5	R1/2	KFY10U-04S	—
		R1/4	KFY10N-02S	KFY10B-02S
ø12	ø8	R3/8	KFY10N-03S	KFY10B-03S
		R1/2	KFY10N-04S	KFY10B-04S
		R1/4	KFY12U-02S	—
	ø9	R3/8	KFY12U-03S	—
		R1/2	KFY12U-04S	—
		R1/4	KFY12N-02S	KFY12B-02S



Female Union

Use to pipe from male thread such as pressure gauge.

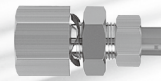
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/4	KFF04-02	KFF04B-02
		R1/4	KFF06-02	KFF06B-02
ø6	ø4	R3/8	KFF06-03	KFF06B-03
		R1/4	KFF08U-02	—
		R1/4	KFF08N-02	KFF08B-02
ø10	ø6.5	R1/4	KFF10U-02	—
		R1/4	KFF10N-02	KFF10B-02
ø12	ø8	R1/4	KFF12U-02	—
		R1/4	KFF12N-02	KFF12B-02



Bulkhead Connector

Use to connect male thread and tube through a panel.

Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø6	ø4	R1/4	KFE06-02	KFE06B-02
		R3/8	KFE08U-03	—
ø8	ø6	R3/8	KFE08N-03	KFE08B-03
		R3/8	KFE10U-03	—
ø10	ø7.5	R3/8	KFE10N-03	KFE10B-03
		R3/8	KFE12U-03	—
ø12	ø9	R3/8	KFE12N-03	KFE12B-03



Swivel Elbow

Use to pipe at right angles to female thread. Swiveled at any direction.

Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFV04-01S	KFV04B-01S
		R1/4	KFV04-02S	KFV04B-02S
ø6	ø4	R1/8	KFV06-01S	KFV06B-01S
		R1/4	KFV06-02S	KFV06B-02S
		R3/8	KFV06-03S	KFV06B-03S
ø8	ø5	R1/8	KFV08U-01S	—
		R1/4	KFV08U-02S	—
		R3/8	KFV08U-03S	—
	ø6	R1/8	KFV08N-01S	KFV08B-01S
		R1/4	KFV08N-02S	KFV08B-02S
		R3/8	KFV08N-03S	KFV08B-03S
ø10	ø6.5	R1/4	KFV10U-02S	—
		R3/8	KFV10U-03S	—
	ø7.5	R1/2	KFV10U-04S	—
		R1/4	KFV10N-02S	KFV10B-02S
ø12	ø8	R3/8	KFV10N-03S	KFV10B-03S
		R1/2	KFV10N-04S	KFV10B-04S
	ø8	R1/4	KFV12U-02S	—
		R3/8	KFV12U-03S	—
		R1/2	KFV12U-04S	—
	ø9	R1/4	KFV12N-02S	KFV12B-02S
		R3/8	KFV12N-03S	KFV12B-03S
		R1/2	KFV12N-04S	KFV12B-04S



Swivel Long Elbow

Use to pipe at right angles to female thread. Swiveled at any direction. Solid piece moves fittings up from workpiece.

Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFW04-01S	KFW04B-01S
		R1/4	KFW04-02S	KFW04B-02S
ø6	ø4	R1/8	KFW06-01S	KFW06B-01S
		R1/4	KFW06-02S	KFW06B-02S
		R3/8	KFW06-03S	KFW06B-03S
ø8	ø5	R1/8	KFW08U-01S	—
		R1/4	KFW08U-02S	—
		R3/8	KFW08U-03S	—
	ø6	R1/8	KFW08N-01S	KFW08B-01S
		R1/4	KFW08N-02S	KFW08B-02S
		R3/8	KFW08N-03S	KFW08B-03S
ø10	ø6.5	R1/4	KFW10U-02S	—
		R3/8	KFW10U-03S	—
	ø7.5	R1/2	KFW10U-04S	—
		R1/4	KFW10N-02S	KFW10B-02S
ø12	ø8	R3/8	KFW10N-03S	KFW10B-03S
		R1/2	KFW10N-04S	KFW10B-04S
	ø8	R1/4	KFW12U-02S	—
		R3/8	KFW12U-03S	—
		R1/2	KFW12U-04S	—
	ø9	R1/4	KFW12N-02S	KFW12B-02S
		R3/8	KFW12N-03S	KFW12B-03S
		R1/2	KFW12N-04S	KFW12B-04S



Straight Union

Use to connect tubes in the same direction.

Applicable tubing size (mm)		Model	
O.D.	I.D.	Resin sleeve	Brass sleeve
ø4	ø2.5	KFH04-00	KFH04B-00
		ø6	KFH06-00
ø6	ø4	KFH06-00	KFH06B-00
		ø5	KFH08U-00
ø8	ø6	KFH08N-00	KFH08B-00
		ø6.5	KFH10U-00
ø10	ø7.5	KFH10N-00	KFH10B-00
		ø8	KFH12U-00
ø12	ø9	KFH12N-00	KFH12B-00



Tee Union

Use to connect tubes in both 90° directions.

Applicable tubing size (mm)		Model	
O.D.	I.D.	Resin sleeve	Brass sleeve
ø4	ø2.5	KFT04-00	KFT04B-00
		ø6	KFT06-00
ø6	ø4	KFT06-00	KFT06B-00
		ø5	KFT08U-00
ø8	ø6	KFT08N-00	KFT08B-00
		ø6.5	KFT10U-00
ø10	ø7.5	KFT10N-00	KFT10B-00
		ø8	KFT12U-00
ø12	ø9	KFT12N-00	KFT12B-00



Bulkhead Union

Use to connect tubes through a panel.

Applicable tubing size (mm)		Model	
O.D.	I.D.	Resin sleeve	Brass sleeve
ø4	ø2.5	KFE04-00	KFE04B-00
		ø6	KFE06-00
ø6	ø4	KFE06-00	KFE06B-00
		ø5	KFE08U-00
ø8	ø6	KFE08N-00	KFE08B-00
		ø6.5	KFE10U-00
ø10	ø7.5	KFE10N-00	KFE10B-00
		ø8	KFE12U-00
ø12	ø9	KFE12N-00	KFE12B-00



Plug

Use to plug unused fittings.

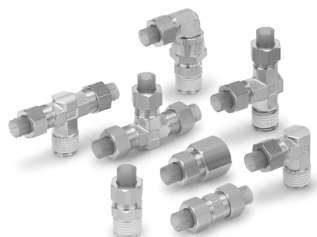
Applicable tubing size (mm)		Model
ø4		KFP-04
ø6		KFP-06
ø8		KFP-08
ø10		KFP-10
ø12		KFP-12



Insert Fittings

KF Series

RoHS



Resin sleeve



Brass sleeve

Specifications

Sleeve material	Resin	Brass
Fluid	Air, N ₂ , Water, Turbine oil class 1 (ISO VG32) (Note 2) (Note 3) (Note 5)	Air, N ₂ , Steam, Turbine oil class 1 (ISO VG32) (Note 2) (Note 3)
Ambient and fluid temperature	-5 to 60°C (No freezing) (Note 4) Water: 0 to 60°C (No freezing)	-5 to 150°C (No freezing) (Note 4)
Operating pressure range	-101.3 kPa to 1 MPa (Note 4)	
Proof pressure	7.0 MPa (at 60°C)	
Lubricant	Grease-free	
Seal on the threads	None or with sealant	

Note 1) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.
 Note 2) Swivel type is not compatible with water, steam and turbine oil class 1 (ISO VG32).
 Note 3) Consult with SMC regarding applicable tube separately.
 Note 4) Check the operating pressure range and operating temperature range of the tubing.
 Note 5) 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.

Applicable Tubing

Series	Tubing O.D.	Tubing O.D. x I.D. (mm)							
		ø4 x ø2.5	ø6 x ø4	ø8 x ø5	ø8 x ø6	ø10 x ø6.5	ø10 x ø7.5	ø12 x ø8	ø12 x ø9
T	Nylon	●	●	—	●	—	●	—	●
TS	Soft nylon	●	●	—	●	—	●	—	●
TU	Polyurethane	●	●	●	—	●	—	●	—
TPH	Polyolefin	●	●	—	●	—	●	—	●
TPS	Soft polyolefin	●	●	●	—	●	—	●	—
TH	FEP	●	●	—	●	—	●	—	●
TL	Super PFA	—	●	—	●	—	—	—	—
TD	Modified PTFE	●	●	—	●	—	●	—	●
TUS	Soft polyurethane	●	●	●	—	●	—	●	—
TUH	Hard polyurethane (High pressure)	●	●	—	—	—	—	—	—
TUZ	Wear resistant polyurethane	●	●	●	—	●	—	●	—

How to Order

KF H 06 — 01 S —

Type

H	Male connector
L	Straight union
L	Male elbow
T	Branch tee
T	Tee union
F	Female union
E	Bulkhead connector
E	Bulkhead union
Y	Male run tee
V	Swivel elbow
W	Swivel long elbow

Applicable tubing O.D.

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Made to Order

Refer to page 295 for details.

Bore size/
Applicable tubing O.D.

Thread connection	01	R1/8
	02	R1/4, Rc1/4
Tubing connection	03	R3/8, Rc3/8
	04	R1/2, Rc1/2
	00	Same tubing size

Sealant (Male thread)

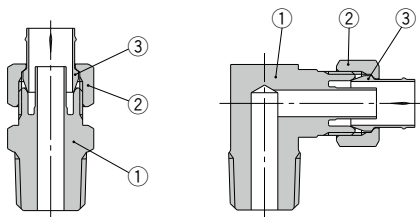
Nil	None
S	With sealant

Applicable tubing / Sleeve material

Applicable tubing material	Sleeve material	Tubing size (O.D. x I.D.)							
		ø4 x ø2.5	ø6 x ø4	ø8 x ø5	ø8 x ø6	ø10 x ø6.5	ø10 x ø7.5	ø12 x ø8	ø12 x ø9
Nylon	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Soft nylon	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Polyurethane	Resin	Nil	U	—	U	—	U	—	—
	Brass	Nil	—	—	—	—	—	—	—
Polyolefin	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Soft polyolefin	Resin	Nil	U	—	U	—	U	—	—
	Brass	Nil	—	—	N	—	N	—	N
FEP	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Super PFA	Resin	—	Nil	—	N	—	—	—	—
	Brass	—	B	—	B	—	—	—	—
Modified PTFE	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Soft polyurethane	Resin	Nil	U	—	U	—	U	—	—
	Hard polyurethane (High pressure)	Nil	U	—	U	—	U	—	—
Wear resistant polyurethane	Resin	Nil	U	—	U	—	U	—	—
	Brass	B	—	—	B	—	B	—	B

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Construction



Principal Parts Material

No	Part no.	Material
1	Body	C3604, C3771
2	Union nut	C3604
3	Resin sleeve, plug	Nylon 66
	Brass sleeve	C2700

Identification of Fitting Body Exterior by Applicable Tubing

- Fittings used with polyurethane tube and soft polyolefin tube (Tube O.D. ø8, ø10 and ø12) are identified by the following marks on the body.
- Union nut and sleeve are compatible.

KF□□U-□□	KF□□-□□ KF□□N-□□ KF□□B-□□
 Marking	 Without marking
 Marking	 Without marking



Made to Order

Symbol	Specifications
X2	Copper-free (Electroless nickel plated)

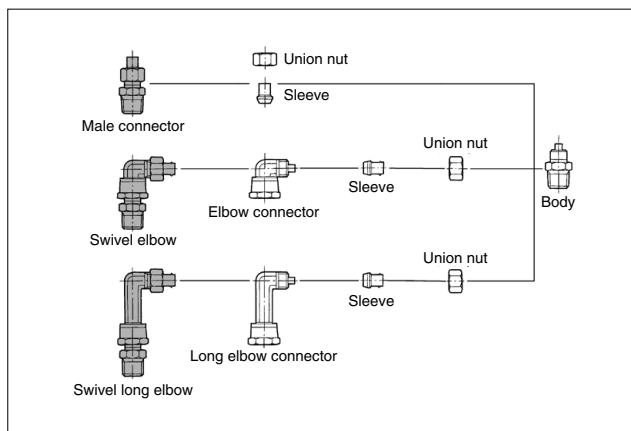
Suffix "X2" to the end of part number.

Ex.) KFH06-01S-X2

Swivel Type / Part No.

Swivel type fitting parts lineup

The bodies of elbow connectors and extended elbow connectors are compatible with almost any fitting. (Exceptions are "KFV-04" and "KFW-04" which are for the body of a ø6 tube.) Swivel fittings, elbow (KFV) and (KFW) constitute the combination with a male connector (KFH) and connector as shown in the diagram.



Elbow Connector: KFV

Part no.	Applicable tubing O.D./I.D.
KFV-04	ø4/ø2.5
KFV-06	ø6/ø4
KFV-08U	ø8/ø5
KFV-08N	ø8/ø6
KFV-10U	ø10/ø6.5
KFV-10N	ø10/ø7.5
KFV-12U	ø12/ø8
KFV-12N	ø12/ø9

Union Nut: KFN

Part no.	Applicable tubing O.D.
KFN-04	ø4
KFN-06	ø6
KFN-08	ø8
KFN-10	ø10
KFN-12	ø12

Long Elbow Connector: KFW

Part no.	Applicable tubing O.D./I.D.
KFW-04	ø4/ø2.5
KFW-06	ø6/ø4
KFW-08U	ø8/ø5
KFW-08N	ø8/ø6
KFW-10U	ø10/ø6.5
KFW-10N	ø10/ø7.5
KFW-12U	ø12/ø8
KFW-12N	ø12/ø9

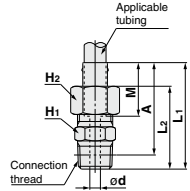
Sleeve: KFS

Part no.		Applicable tubing O.D.
Resin sleeve	Brass sleeve	
KFS-04	KFSB-04	ø4
KFS-06	KFSB-06	ø6
KFS-08	KFSB-08	ø8
KFS-10	KFSB-10	ø10
KFS-12	KFSB-12	ø12

Dimensions

Male Connector: KFH

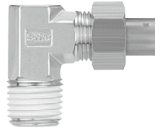
Applicable tubing size (mm)		Connection thread	Model	Width across flats		L ₁	L ₂	M	ød	A*	Effective area (mm ²)	Weight (g)
O.D.	I.D.			H ₁	H ₂							
ø4	ø2.5	R1/8	KFH04-01S	10		29.6	22.9	15.5		26.5	1.6	13
		R1/4	KFH04-02S	14		34	27.3			28.5		23
		R1/8	KFH04B-01S	10	10	26.5	23.5	12.4	1.5	23.4		14
		R1/4	KFH04B-02S	14		30.9	27.9			25.4		24
ø6	ø4	R1/8	KFH06-01S	10		29.3	22.6			26.2	6	14
		R1/4	KFH06-02S	14		33.7	27	15.2		28.2		25
		R3/8	KFH06-03S	17	12	34.1	27.4		3	28.9		36
		R1/8	KFH06B-01S	10		26.3	23.3			23.2		15
		R1/4	KFH06B-02S	14		30.7	27.7	12.2		25.2		26
		R3/8	KFH06B-03S	17		31.1	28.1			25.9		37
ø8	ø5	R1/8	KFH08U-01S	12		29.3	22.6			26.2	11	16
		R1/4	KFH08U-02S	14		33.7	27		4	28.2		25
		R3/8	KFH08U-03S	17		34.1	27.4			28.9		37
	ø6	R1/8	KFH08N-01S	12		29.3	22.6	16.2		26.2		16
		R1/4	KFH08N-02S	14	14	33.7	27			28.2		24
		R3/8	KFH08N-03S	17		34.1	27.4		5	28.9	17	36
		R1/8	KFH08B-01S	12		26.4	23.4			23.3		17
		R1/4	KFH08B-02S	14		30.8	27.8	13.3		25.3		25
		R3/8	KFH08B-03S	17		31.2	28.2			26.0		37
	ø6.5	R1/4	KFH10U-02S			35.3	28			29.8	21	32
		R3/8	KFH10U-03S	17		35.7	28.4		5.5	30.5		40
		R1/2	KFH10U-04S	22		38.9	31.6	18.8		31.6		65
		R1/4	KFH10N-02S			35.3	28			29.8		31
		R3/8	KFH10N-03S	17	17	35.7	28.4			30.5		39
		R1/2	KFH10N-04S	22		38.9	31.6		6.5	31.6	30	64
		R1/4	KFH10B-02S			31.5	28.5			26.0		33
		R3/8	KFH10B-03S	17		31.9	28.9	15.0		26.7		41
ø10	ø7.5	R1/2	KFH10B-04S	22		35.1	32.1			27.8		66
		R1/4	KFH12U-02S			35.8	29			30.3	35	33
		R3/8	KFH12U-03S	17		36.2	29.4		7	31.0		41
		R1/2	KFH12U-04S	22		39.4	32.6	19.3		32.1		65
	ø8	R1/4	KFH12N-02S			35.8	29			30.3		31
		R3/8	KFH12N-03S	17	19	36.2	29.4			31.0		39
		R1/2	KFH12N-04S	22		39.4	32.6		8	32.1	45	64
		R1/4	KFH12B-02S			32.1	29.1			26.6		33
	ø9	R3/8	KFH12B-03S	17		32.5	29.5	15.5		27.3		41
		R1/2	KFH12B-04S	22		35.7	32.6			28.4		66



* Reference dimensions after installation of R thread.

Dimensions

Male Elbow: KFL

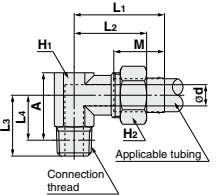


Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Connection thread	Model	Width across flats				L ₁	L ₂	L ₃	L ₄	M	ød	A*	Effective area (mm²)	Weight (g)			
O.D.	I.D.			H ₁	H ₂														
ø4	ø2.5	R1/8	KFL04-01S	10	10	27.5	20.8	17	13	15.5	1.5	19.3	1.6		21				
		R1/4	KFL04-02S					19						25					
		R1/8	KFL04B-01S					17						22					
		R1/4	KFL04B-02S					19						26					
ø6	ø4	R1/8	KFL06-01S	10	12	27.2	20.5	17	13	15.2	3	19.3	6.0	22					
		R1/4	KFL06-02S					19						27					
		R3/8	KFL06-03S	12	12	30.2	23.5	20	13.7	12.2	3	19.3	6.0	38					
		R1/8	KFL06B-01S					17						23					
		R1/4	KFL06B-02S	10	12	24.2	21.2	19	13	12.2	3	19.3	6.0	28					
		R3/8	KFL06B-03S					19						39					
ø8	ø5	R1/8	KFL08U-01S	12	14	28.2	21.5	18	14	16.2	4	21.3	9.5	30					
		R1/4	KFL08U-02S					21						32					
		R3/8	KFL08U-03S					20						39					
	ø6	R1/8	KFL08N-01S					5			21.3	12	31						
		R1/4	KFL08N-02S										22.3	32					
		R3/8	KFL08N-03S										21	37					
		R1/8	KFL08B-01S										18	32					
		R1/4	KFL08B-02S										22.3	33					
		R3/8	KFL08B-03S										21	38					
		R1/2	KFL08B-04S										25.3	66					
ø10	ø6.5	R1/4	KFL10U-02S	12	17	31.8	24.5	22	16	18.8	5.5	23.3	18	38					
		R3/8	KFL10U-03S					21						44					
		R1/2	KFL10U-04S					25						66					
	ø7.5	R1/4	KFL10N-02S	12	17	31.8	24.5	22	16	18.8	6.5	23.3	23	38					
		R3/8	KFL10N-03S					21						43					
		R1/2	KFL10N-04S					25						65					
		R1/4	KFL10B-02S					22						39					
		R3/8	KFL10B-03S					21						44					
R1/2	KFL10B-04S	25.3	66																
ø12	ø8	R1/4	KFL12U-02S	14	19	34.3	27.5	23	17	19.3	7	24.2	30	53					
		R3/8	KFL12U-03S					22						57					
		R1/2	KFL12U-04S					25						68					
	ø9	R1/4	KFL12N-02S					12	17		34.3	27.5	23	17	19.3	8	25.5	27	51
		R3/8	KFL12N-03S										22						52
		R1/2	KFL12N-04S										25						68
		R1/4	KFL12B-02S										23						53
		R3/8	KFL12B-03S										22						54
R1/2	KFL12B-04S	25	69																



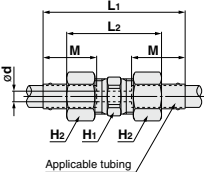
* Reference dimensions after installation of R thread.

KF Series

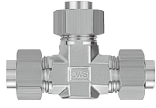
Dimensions

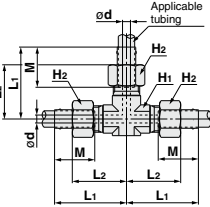
Straight Union: KFH

Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	M	ød	Effective area (mm ²)	Weight (g)
O.D.	I.D.		H ₁	H ₂						
	ø4	KFH04-00	8	10	40.9	27.6	15.5	1.5	1.6	13
		KFH04B-00			34.7	28.8	12.4			14
	ø6	KFH06-00	10	12	40.3	27	15.2	3	6	17
		KFH06B-00			34.3	28.4	12.2			19
	ø8	KFH08U-00	12	14	41.3	28	16.2	4	11	23
		KFH08B-00			35.5	29.6	13	5	17	22
	ø10	KFH10U-00	17	17	44.6	30	18.8	5.5	21	36
		KFH10B-00			37.0	31.0	15.0	6.5	30	39
	ø12	KFH12U-00	17	19	45.5	32	19.3	7	35	42
		KFH12N-00			38.1	32.2	15.5	8	45	41
		KFH12B-00								44



Tee Union: KFT

Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	M	ød	Effective area (mm ²)	Weight (g)
O.D.	I.D.		H ₁	H ₂						
	ø4	KFT04-00	10	10	27.5	20.8	15.5	1.5	1.6	33
		KFT04B-00			24.4	21.4	12.4			35
	ø6	KFT06-00	10	12	27.2	20.5	15.2	3	6	37
		KFT06B-00			24.2	21.2	12.2			39
	ø8	KFT08U-00	12	14	30.2	23.5	16.2	4	11	54
		KFT08B-00			27.3	24.3	13.3	5	17	53
	ø10	KFT10U-00	12	17	31.8	24.5	18.8	5.5	21	65
		KFT10B-00			28.0	25.0	15.0	6.5	30	63
	ø12	KFT12U-00	14	19	34.3	27.5	19.3	7	35	89
		KFT12N-00			30.6	27.6	15.5	8	45	85
		KFT12B-00								90



Dimensions

Branch Tee: KFT

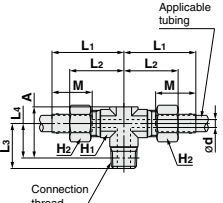


Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Connection thread R	Model	Width across flats								Effective area (mm²)	Weight (g)	
O.D.	I.D.			H ₁	H ₂	L ₁	L ₂	L ₃	L ₄	M	ød			A*
ø4	ø2.5	R1/8	KFT04-01S	10	10	27.5	20.8	17	13	15.5	1.5	19.3	3	29
		R1/4	KFT04-02S					19						34
		R1/8	KFT04B-01S					17						30
		R1/4	KFT04B-02S					19						35
ø6	ø4	R1/8	KFT06-01S	10	12	27.2	20.5	17	13	15.2	3	19.3	10	32
		R1/4	KFT06-02S					19						37
		R3/8	KFT06-03S	12	30.2	23.5	22	15.7	23	12		53		
		R1/8	KFT06B-01S						17			34		
		R1/4	KFT06B-02S	10	24.2	21.2	19	13	12.2	19.3		10	39	
		R3/8	KFT06B-03S							22			55	
ø8	ø5	R1/8	KFT08U-01S	12	14	30.2	23.5	20	16	16.2	4	23.3	14	49
		R1/4	KFT08U-02S					23						50
		R3/8	KFT08U-03S					22						57
		R1/8	KFT08N-01S					20						46
	ø6	R1/4	KFT08N-02S	12	17	31.8	24.5	23	17	18.8	5.5	24.3	34	63
		R3/8	KFT08N-03S					22						90
		R1/8	KFT08B-01S					20						48
		R1/4	KFT08B-02S					23						51
ø10	ø6.5	R3/8	KFT10U-03S	14	19	33.8	26.5	27	18.8	15.0	6.5	27.3	41	91
		R1/2	KFT10U-04S					23						99
		R1/4	KFT10N-02S					23						57
		R3/8	KFT10N-03S					22						62
	ø7.5	R1/2	KFT10N-04S	12	17	33.8	26.5	27	18.8	15.0	6.5	27.3	41	91
		R1/4	KFT10B-02S					28.0						65
		R3/8	KFT10B-03S					22						57
		R1/2	KFT10B-04S					27						98
ø12	ø8	R1/4	KFT12U-02S	14	19	34.3	27.5	25	19	19.3	7	27.3	44	94
		R3/8	KFT12U-03S					24						77
		R1/2	KFT12U-04S					27						101
		R1/4	KFT12N-02S					25						75
	ø9	R3/8	KFT12N-03S	14	19	30.6	27.6	24	17.7	15.5	8	26.2	48	93
		R1/2	KFT12N-04S					27						108
		R1/4	KFT12B-02S					25						78
		R3/8	KFT12B-03S					24						77
		R1/2	KFT12B-04S					27	18.8			26.2	48	96
												27.3		91

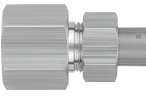


* Reference dimensions after installation of R thread.

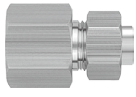
KF Series

Dimensions

Female Union: KFF

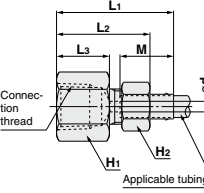


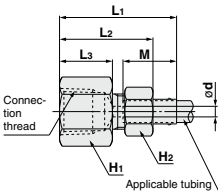
Resin sleeve



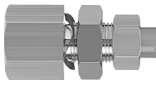
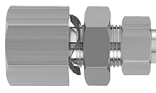
Brass sleeve

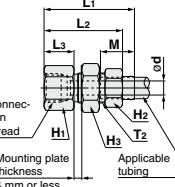
Applicable tubing size (mm)		Connection thread Rc	Model	Width across flats		L ₁	L ₂	L ₃	M	ød	Effective area (mm ²)	Weight (g)
O.D.	I.D.			H ₁	H ₂							
ø4	ø2.5	Rc1/4	KFF04-02	17	10	33.5	26.8	15	15.5	1.5	1.6	25
			KFF04B-02			30.4	27.4		12.4			26
ø6	ø4	Rc1/4	KFF06-02	17	12	33.2	26.5	15	15.2	3	6	27
		Rc3/8	KFF06-03	19		35.2	28.5	17				30
		Rc1/4	KFF06B-02	17		30.2	27.2	15				28
		Rc3/8	KFF06B-03	19		32.2	29.2	17	12.2			31
ø8	ø6	Rc1/4	KFF08U-02	17	14	33.2	26.5	15	16.2	4	11	28
			KFF08B-02			30.3	27.3		13.3	5	17	29
ø10	ø6.5	Rc1/4	KFF10U-02	17	17	34.8	27.5	15	18.8	5.5	21	32
			KFF10N-02			31.0	28.0		15.0	6.5	30	33
ø12	ø8	Rc1/4	KFF12U-02	17	19	35.3	28.5	15	19.3	7	35	35
			KFF12N-02									36
			KFF12B-02			31.6	28.6		15.5	8	45	38



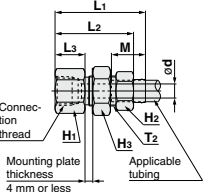


Bulkhead Connector: KFE

Applicable tubing size (mm)		Connection thread Rc	Model	Width across flats			L ₁	L ₂	L ₃	M	ød	T ₂	Mounting hole	Effective area (mm ²)	Weight (g)
				H ₁	H ₂	H ₃									
				O.D.	I.D.										
	ø6	ø4	Rc1/4	KFE06-02	17	12	17	44.2	37.5	15.2	3	M10 x 1	11	6	41
				KFE06B-02				41.2	38.2	12.2					42
	ø8	ø5	Rc3/8	KFE08U-03	19	14	19	46.2	39.5	16.2	4			11	49
				KFE08N-03				43.3	40.3	13.3	5	M12 x 1	13	17	50
	ø10	ø6		KFE08B-03											51
				KFE10U-03	19	17	22	48.8	41.5	18.8	5.5			21	63
	ø10	ø7.5	Rc3/8	KFE10N-03				45.0	42.0	15.0	6.5	M15 x 1	16	30	62
				KFE10B-03										30	63
	ø12	ø8	Rc3/8	KFE12U-03	22	19	24	51.3	44.5	19.3	7			35	93
				KFE12N-03				47.6	44.6	15.5	8	M17 x 1	18	45	91
	ø12	ø9	Rc3/8	KFE12B-03											45
				KFE12B-03											93

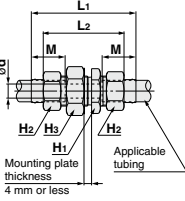


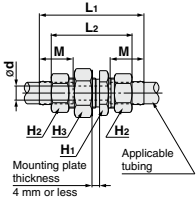
L₁
 L₂
 L₃
 M
 ød
 H₁
 H₂
 H₃
 T₂
 Connection thread
 Mounting plate thickness 4 mm or less
 Applicable tubing



Bulkhead Union: KFE

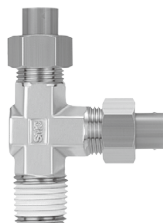
Applicable tubing size (mm)		Model	Width across flats			L ₁	L ₂	M	ød	Mounting hole	Effective area (mm ²)	Weight (g)	
			H ₁	H ₂	H ₃								
O.D.	I.D.												
	ø4	ø2.5	KFE04-00	12	10	13	50.9	37.6	15.5	1.5	9	1.6	23
			KFE04B-00				44.7	38.8	12.4				24
	ø6	ø4	KFE06-00	14	12	17	51.3	38	15.2	3	11	6	34
			KFE06B-00				45.3	39.4	12.2				36
	ø8	ø5	KFE08U-00	17	14	19	52.3	39	16.2	4	13	11	47
			KFE08N-00										
	ø6	KFE08B-00				46.5	40.6	13	5	17	48		
		ø6.5	KFE10U-00	19	17	22	56.6	42	18.8	5.5	16	21	67
	KFE10N-00												
	ø7.5	KFE10B-00				49.0	43.0	15.0	6.5	30	69		
		ø8	KFE12U-00	22	19	24	59.5	46	19.3	7	18	35	87
	KFE12N-00												
ø9	KFE12B-00				52.1	46.2	15.5	8	45	85			
										88			



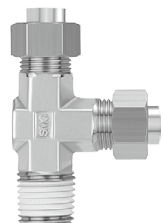


Dimensions

Male Run Tee: KFY

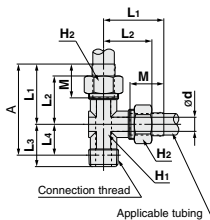


Resin sleeve



Brass sleeve

														(mm)			
Applicable tubing size (mm)		Connection thread R	Model	Width across flats		L ₁	L ₂	L ₃	L ₄ [*]	M	ød	A [*]	Effective area (mm²)	Weight (g)			
O.D.	I.D.			H ₁	H ₂												
ø4	ø2.5	R1/8	KFY04-01S	10	10	27.5	20.8	17	13	15.5	1.5	40.5	3.5	28			
		R1/4	KFY04-02S					19						32			
		R1/8	KFY04B-01S					17						29			
		R1/4	KFY04B-02S					19						33			
ø6	ø4	R1/8	KFY06-01S	10	12	27.2	20.5	17	13	15.2	3	40.2	11	31			
		R1/4	KFY06-02S					19						37			
		R3/8	KFY06-03S	12	12	30.2	23.5	22	15.7	45.8		13	51				
		R1/8	KFY06B-01S					17					33				
		R1/4	KFY06B-02S					19					39				
		R3/8	KFY06B-03S					22					53				
		ø8	ø5	R1/8	KFY08U-01S	12	14	30.2	23.5	20		16	16.2	4	46.2	15	48
				R1/4	KFY08U-02S					23							50
R3/8	KFY08U-03S			22	55												
ø6	R1/8			KFY08N-01S	20					5	46.2			18	47		
	R1/4			KFY08N-02S	23										48		
	R3/8			KFY08N-03S	22										53		
	R1/8		KFY08B-01S	20	44.3			18	49								
R1/4	KFY08B-02S		27.3	24.3					23	13.3				50			
R3/8	KFY08B-03S								22					55			
ø10	ø6.5		R1/4	KFY10U-02S	12			14	31.8	24.5	23	17	18.8	5.5	48.8	30	58
		R3/8	KFY10U-03S	22							63						
		R1/2	KFY10U-04S	14	17			33.8	26.5	27	18.8	52.6					38
		R1/4	KFY10N-02S							23				57			
		R3/8	KFY10N-03S	31.8	24.5			22	15.7		47.4	46		62			
		R1/2	KFY10N-04S	33.8	26.5			27	18.8		52.6	46		88			
	ø7.5	R1/4	KFY10B-02S	12	14			28.0	25.0	23	17	15.0	6.5	45.0	33	60	
		R3/8	KFY10B-03S							22						15.7	
		R1/2	KFY10B-04S	30.0	27.0			27	18.8		48.8			91			
		ø12	ø8	R1/4	KFY12U-02S	14	19	34.3	27.5	25	19		19.3	7	53.3	34	79
R3/8	KFY12U-03S			24	77												
R1/2	KFY12U-04S			27	93												
ø9	R1/4			KFY12N-02S	25					8		53.3		36	76		
	R3/8		KFY12N-03S	24	78												
	R1/2		KFY12N-04S	27	92												
	R1/4		KFY12B-02S	30.6	27.6			25	15.5		49.6	36	79				
	R3/8		KFY12B-03S					24					81				
	R1/2		KFY12B-04S					27					95				



* Reference dimensions after installation of R thread.

KF Series

Dimensions

Swivel Elbow: KFY

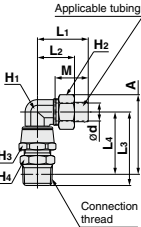


Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Connection thread R	Model	Width across flats				L ₁	L ₂	L ₃	L ₄ *	M	ød	A*	Effective area (mm ²)	Weight (g)
O.D.	I.D.			H ₁	H ₂	H ₃	H ₄									
ø4	ø2.5	R1/8	KFV04-01S				10	26	19.3	32.8	29.7	15.5		35.5		40
		R1/4	KFV04-02S				14			37.2	31.7			37.5		50
		R1/8	KFV04B-01S	10	10	14	10	22.9	19.9	32.8	29.7	12.4	1.5	35.5	1.4	41
		R1/4	KFV04B-02S				14			37.2	31.7			37.5		51
		R1/8	KFV06-01S				10			32.8	29.7			36.6		42
ø6	ø4	R1/4	KFV06-02S				14	25.7	19	37.2	31.7	15.2		38.6		52
		R3/8	KFV06-03S	10	12	14	17			37.6	32.4		3	39.3	5	64
		R1/8	KFV06B-01S				10			32.8	29.7			36.6		43
		R1/4	KFV06B-02S				14	22.7	19.7	37.2	31.7	12.2		38.6		53
		R3/8	KFV06B-03S				17			37.6	32.4			39.3		65
ø8	ø5	R1/8	KFV08U-01S				12			33.8	30.7			38.8		52
		R1/4	KFV08U-02S				14			38.2	32.7		4	40.8	9.4	61
		R3/8	KFV08U-03S				17	27.2	20.5	38.6	33.4	16.2		41.5		73
		R1/8	KFV08N-01S				12			33.8	30.7			38.8		57
		R1/4	KFV08N-02S	12	14	17	14			38.2	32.7			40.8		60
ø8	ø6	R3/8	KFV08N-03S				17			38.6	33.4		5	41.5	14	72
		R1/8	KFV08B-01S				12			33.8	30.7			38.8		58
		R1/4	KFV08B-02S				14	24.3	21.3	38.2	32.7	13.3		40.8		61
		R3/8	KFV08B-03S				17			38.6	33.4			41.5		73
ø10	ø6.5	R1/4	KFV10U-02S				17			40.2	34.7			44.5		73
		R3/8	KFV10U-03S				22			40.6	35.4		5.5	45.2	18	81
		R1/2	KFV10U-04S				22	28.8	21.5	43.8	36.5	18.8		46.3		104
		R1/4	KFV10N-02S				17			40.2	34.7			44.5		72
		R3/8	KFV10N-03S	14	17	19	22			40.6	35.4		6.5	45.2	25	80
ø10	ø7.5	R1/2	KFV10N-04S				22			43.8	36.5			46.3		104
		R1/4	KFV10B-02S				17			40.2	34.7			44.5		73
		R3/8	KFV10B-03S				22	25.0	22.0	40.6	35.4	15.0		45.2		81
		R1/2	KFV10B-04S				22			43.8	36.5			46.3		105
ø12	ø8	R1/4	KFV12U-02S				17			41.2	35.7			46.7		92
		R3/8	KFV12U-03S				22			41.6	36.4		7	47.4	30	100
		R1/2	KFV12U-04S				22	30.3	23.5	44.8	37.5	19.3		48.5		124
		R1/4	KFV12N-02S				17			41.2	35.7			46.7		90
		R3/8	KFV12N-03S	17	19	22	22			41.6	36.4		8	47.4		98
ø12	ø9	R1/2	KFV12N-04S				22			44.8	37.5			48.5		123
		R1/4	KFV12B-02S				17			41.2	35.7			46.7	38	92
		R3/8	KFV12B-03S				22	26.6	23.6	41.6	36.4	15.5		47.4		100
		R1/2	KFV12B-04S				22			44.8	37.5			48.5		125



* Reference dimensions after installation of R thread.

Dimensions

Swivel Long Elbow: KFW



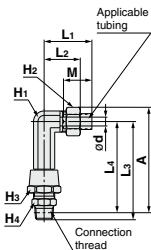
Resin sleeve



Brass sleeve

W: KFW																(mm)							
Applicable tubing size (mm)		Connection thread R	Model	Width across flats				L ₁	L ₂	L ₃	L ₄ *	M	ød	A*	Effective area (mm²)	Weight (g)							
O.D.	I.D.			H ₁	H ₂	H ₃	H ₄																
ø4	ø2.5	R1/8	KFW04-01S	10	10	14	10	26	19.3	52.8	49.7	15.5	1.5	55.5	1.4	58							
		R1/4	KFW04-02S				14			57.2	51.7			57.5		63							
		R1/8	KFW04B-01S				10	22.9	19.9	52.8	49.7			55.5		59							
		R1/4	KFW04B-02S				14			57.2	51.7			57.6		64							
		R1/8	KFW06-01S	10	12	14	10			53.8	50.7	15.2	3	57.5	5.0	61							
		R1/4	KFW06-02S				14	25.7	19.0	58.2	52.7			59.6		66							
		R3/8	KFW06-03S				17			58.6	53.4			60.3		77							
		R1/8	KFW06B-01S				10			53.8	50.7			57.6		62							
		R1/4	KFW06B-02S	10	12	14	14	22.7	19.7	58.2	52.7	12.2	60.3	67									
		R3/8	KFW06B-03S				17			58.6	53.4			59.6	78								
		ø8	ø5				R1/8	KFW08U-01S	12	14	17			12			54.8	51.7	16.2	4	59.8	9.4	81
							R1/4	KFW08U-02S						14			59.2	53.7			61.8		83
R3/8	KFW08U-03S			17	27.2	20.5	59.6	54.4				62.5	90										
R1/8	KFW08N-01S			12	14	17	14						54.8	51.7	59.8	81							
		R1/4	KFW08N-02S	12	14	17	14			59.2	53.7	13.3	5	61.8	14	83							
		R3/8	KFW08N-03S				17			59.6	54.4			62.5		88							
		R1/8	KFW08B-01S				12			54.8	51.7			59.8		82							
		R1/4	KFW08B-02S				14	24.3	21.3	59.2	53.7			61.8		84							
		R3/8	KFW08B-03S	10	12	14	17			59.6	54.4	15.0	6.5	62.5	25	89							
		ø10	ø6.5				R1/4	KFW10U-02S	17	19	17						61.2	55.7	18.8	5.5	65.5	18	100
							R3/8	KFW10U-03S			22			28.8		21.5	61.6	56.4			66.2		106
							R1/2	KFW10U-04S			22						64.8	57.5			67.3		128
R1/4	KFW10N-02S			14	17	19	14					61.2	55.7	65.5	99								
		R3/8	KFW10N-03S	14	17	19	17			61.6	56.4	6.5	25	66.2	30	104							
		R1/2	KFW10N-04S				22			64.8	57.5			67.3		126							
		R1/4	KFW10B-02S				17			61.2	55.7			65.5		100							
		R3/8	KFW10B-03S				22	25.0	22.0	61.6	56.4			66.2		105							
		R1/2	KFW10B-04S	10	12	14	22			64.8	57.5	15.0	8	67.3	38	127							
		ø12	ø8				R1/4	KFW12U-02S	17	22	17						64.2	58.7	19.3	7	69.7	40	146
							R3/8	KFW12U-03S			22			30.3		23.5	64.6	59.4			70.4		146
							R1/2	KFW12U-04S			22						67.8	60.5			71.5		161
R1/4	KFW12N-02S			17			64.2	58.7			69.7	144											
		R3/8	KFW12N-03S	17	19	22	17			64.6	59.4	15.5	8	70.4	42	145							
		R1/2	KFW12N-04S				22			67.8	60.5			71.5		159							
		R1/4	KFW12B-02S				17			64.2	58.7			69.7		146							
		R3/8	KFW12B-03S				22	26.6	23.6	64.6	59.4			70.4		147							
		R1/2	KFW12B-04S	10	12	14	22			67.8	60.5	15.5	8	71.5	44	161							

* Reference dimensions after installation of R thread.



Plug: KFP



Applicable tubing size (mm)		Model	(mm)		
			L ₁	ød	Weight (g)
ø4		KFP-04	12	6.5	0.3
ø6		KFP-06	12	8.5	0.5
ø8		KFP-08	12	10.4	0.7
ø10		KFP-10	13.5	13	1.0
ø12		KFP-12	14	15	1.4



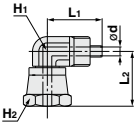
KF Series

Dimensions

Elbow Connector: KFY



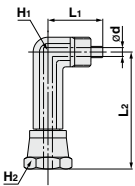
Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	ød	Weight (g)
			H ₁	H ₂				
O.D.	I.D.							
ø4	ø2.5	KFY-04	10	14	18.5	18.5	1.5	21.1
ø6	ø4	KFY-06	10	14	18.5	18.5	3	21.6
ø8	ø5	KFY-08U	12	17	20	19.5	4	32.8
	ø6	KFY-08N					5	32.9
ø10	ø6.5	KFY-10U	14	19	21	21.5	5.5	41.9
	ø7.5	KFY-10N					6.5	41.7
ø12	ø8	KFY-12U	17	22	22	22.5	7	61.8
	ø9	KFY-12N					8	61.6



Long Elbow Connector: KFW



Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	ød	Weight (g)
			H ₁	H ₂				
O.D.	I.D.							
ø4	ø2.5	KFW-04	10	14	18.5	38.5	1.5	31.7
ø6	ø4	KFW-06	10	14	18.5	39.5	3	33.0
ø8	ø5	KFW-08U	12	17	20	40.5	4	48.0
	ø6	KFW-08N					5	46.8
ø10	ø6.5	KFW-10U	14	19	21	42.5	5.5	62.4
	ø7.5	KFW-10N					6.5	63.4
ø12	ø8	KFW-12U	17	22	22	45.5	7	94.0
	ø9	KFW-12N					8	94.5



Sleeve: KFS



Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Model	L	øD	Weight (g)
ø4		KFS-04	12	6.5	0.1
		KFSB-04	8.7		0.6
ø6		KFS-06	12	8.5	0.1
		KFSB-06	8.8		0.9
ø8		KFS-08	12	10.5	0.2
		KFSB-08	8.8		1.2
ø10		KFS-10	13.5	13	0.3
		KFSB-10	9.6		1.7
ø12		KFS-12	14	15	0.4
		KFSB-12	10.1		2.1



Union Nut: KFN



Applicable tubing size (mm)		Model	Width across flats H	L	Weight (g)
ø4		KFN-04	10	8	3.0
ø6		KFN-06	12	8	3.8
ø8		KFN-08	14	8	4.7
ø10		KFN-10	17	9	7.0
ø12		KFN-12	19	10	9.5





KF Series

Specific Product Precautions 1

Be sure to read this before handling the products.

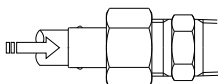
Refer to page 11 for safety instructions and pages 14 to 18 for fittings and tubing precautions.

Piping

⚠ Caution

1. Installation of tubing

- 1) Take a tube having no flaws on its periphery and cut it off at right angles. Do not use pinchers, nippers or scissors, etc. The tubing might be cut diagonally or flattened, making installation impossible or causing problems such as disconnection and leakage.
- 2) Without loosening the union nut, grab the tube and gently push it thoroughly into the fitting.
- 3) After insertion, confirm that the tube will not disconnect.



- 4) When the union is loose, tighten it additionally, temporarily by hand.
- 5) After fixing the body with the tightening tool, tighten the union nut with an appropriate wrench, applying the torque as shown below. After tightening the clearance between the union nut and the body in the axial direction is about 2 mm.

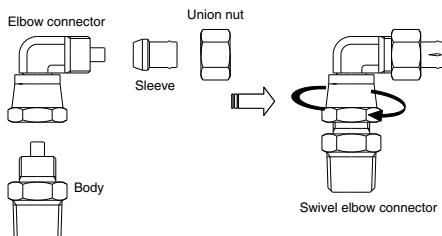
Fitting size	Sleeve material			
	Resin		Brass	
	Appropriate tightening rotations	Equivalent tightening torque (N·m)	Appropriate tightening rotations	Equivalent tightening torque (N·m)
KF□04	1.5 to 2.0	2 to 7	1.5	2 to 4
KF□06	1.5 to 2.0	3 to 8	1.5	4 to 6
KF□08	1.5 to 2.0	4 to 9	1.5	6 to 9
KF□10	1.5 to 2.0	6 to 9	1.5	10 to 12
KF□12	1.5 to 2.0	9 to 12	1.5	10 to 12

Piping

⚠ Caution

2. How to connect elbow type connector

- 1) First tighten by hand, then use an appropriate wrench to tighten 1/6 to 1/3 turns additionally. Refer to the table below for equivalent tightening torque.



Fitting size	Appropriate tightening rotations	Equivalent tightening torque (N·m)
KF□-04	1/6 to 1/3	3 to 7
KF□-06	1/6 to 1/3	3 to 7
KF□-08	1/6 to 1/3	3 to 7
KF□-10	1/6 to 1/3	5 to 10
KF□-12	1/6 to 1/3	5 to 10



KF Series

Specific Product Precautions 2

Be sure to read this before handling the products.

Refer to page 11 for safety instructions and pages 14 to 18 for fittings and tubing precautions.

Operating Environment

Warning

1. Do not use in environments or locations where there is a danger of damage to the fittings and tubing.
For fitting and tubing materials, refer to specifications and construction drawings, etc.

Maintenance

Caution

1. Pre-maintenance inspection
When the product is removed, turn off the power, cut off the supply pressure, and confirm that fluid in the piping has been discharged.
2. During regular maintenance, check for the following and replace any components as necessary.
 - a) Scratches, gouges, abrasion, corrosion
 - b) Leakage
 - c) Flattening or distortion of tubing
 - d) Hardening, deterioration or softness of tubing
3. Do not repair the fittings or patch the tubing for reuse.
4. Using this product for extended periods of time can result in leaks due to the material change. In such cases, tighten the union nut additionally.
A guide for the additional tightening is 1/6 to 1/4 turns. But in case of the brass sleeve, the limit for additional tightening is 1/2 turns.
When there is a leak even after additional tightening, replace the sleeve with new one.
5. Sleeve is not recyclable. Replace it every time piping is performed.