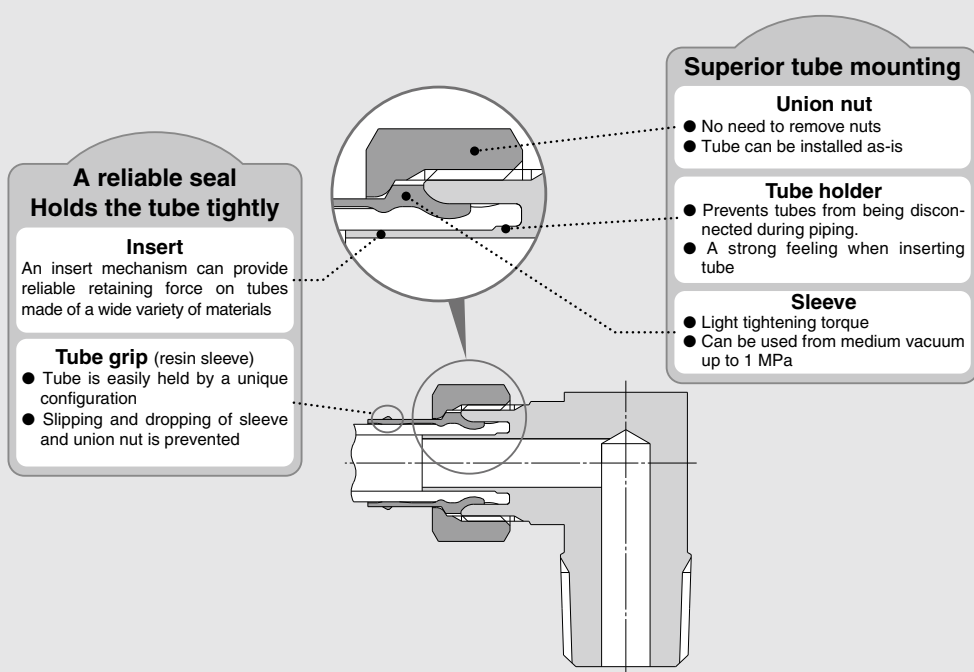


Insert Fittings

Series KF



- 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



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

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	—
ø10	ø6.5	R1/8	KFH08N-01S	KFH08B-01S
		R1/4	KFH08N-02S	KFH08B-02S
		R3/8	KFH08N-03S	KFH08B-03S
ø12	ø7.5	R1/4	KFH10U-02S	—
		R3/8	KFH10U-03S	—
		R1/2	KFH10U-04S	—
ø10	ø7.5	R1/4	KFH10N-02S	KFH10B-02S
		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	—
ø12	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.

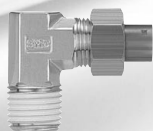
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFT04-01S	KFT04B-01S
		R1/4	KFT04-02S	KFT04B-02S
ø6	ø4	R1/8	KFT06-01S	KFT06B-01S
		R1/4	KFT06-02S	KFT06B-02S
		R3/8	KFT06-03S	KFT06B-03S
ø8	ø5	R1/8	KFT08U-01S	—
		R1/4	KFT08U-02S	—
		R3/8	KFT08U-03S	—
ø10	ø6.5	R1/8	KFT08N-01S	KFT08B-01S
		R1/4	KFT08N-02S	KFT08B-02S
		R3/8	KFT08N-03S	KFT08B-03S
ø12	ø7.5	R1/4	KFT10U-02S	—
		R3/8	KFT10U-03S	—
		R1/2	KFT10U-04S	—
ø10	ø7.5	R1/4	KFT10N-02S	KFT10B-02S
		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	—
ø12	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	—
ø10	ø6.5	R1/8	KFL08N-01S	KFL08B-01S
		R1/4	KFL08N-02S	KFL08B-02S
		R3/8	KFL08N-03S	KFL08B-03S
ø12	ø7.5	R1/4	KFL10U-02S	—
		R3/8	KFL10U-03S	—
		R1/2	KFL10U-04S	—
ø10	ø7.5	R1/4	KFL10N-02S	KFL10B-02S
		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	—
ø12	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	—
ø10	ø6.5	R1/8	KFY08N-01S	KFY08B-01S
		R1/4	KFY08N-02S	KFY08B-02S
		R3/8	KFY08N-03S	KFY08B-03S
ø12	ø7.5	R1/4	KFY10U-02S	—
		R3/8	KFY10U-03S	—
		R1/2	KFY10U-04S	—
ø10	ø7.5	R1/4	KFY10N-02S	KFY10B-02S
		R3/8	KFY10N-03S	KFY10B-03S
		R1/2	KFY10N-04S	KFY10B-04S
ø12	ø8	R1/4	KFY12U-02S	—
		R3/8	KFY12U-03S	—
		R1/2	KFY12U-04S	—
ø12	ø9	R1/4	KFY12N-02S	KFY12B-02S
		R3/8	KFY12N-03S	KFY12B-03S
		R1/2	KFY12N-04S	KFY12B-04S



Female Union

Use to pipe from male thread such as pressure gauge.

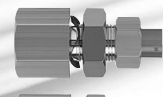
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/4	KFF04-02	KFF04B-02
		R1/4	KFF06-02	KFF06B-02
ø6	ø4	R3/8	KFF06-03	KFF06B-03
		R3/8	KFF08U-02	—
ø8	ø6	R1/4	KFF08N-02	KFF08B-02
		R1/4	KFF10U-02	—
ø10	ø7.5	R1/4	KFF10N-02	KFF10B-02
		R1/4	KFF12U-02	—
ø12	ø9	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	KFV08B-01S	KFV08B-01S
		R1/4	KFV08B-02S	KFV08B-02S
		R3/8	KFV08B-03S	KFV08B-03S
ø10	ø6.5	R1/4	KFV10U-02S	—
		R3/8	KFV10U-03S	—
	ø7.5	R1/2	KFV10U-04S	—
		R3/8	KFV10N-03S	KFV10B-03S
ø12	ø8	R1/2	KFV10N-04S	KFV10B-04S
		R1/4	KFV12U-02S	—
		R3/8	KFV12U-03S	—
	ø9	R1/2	KFV12U-04S	—
		R1/4	KFV12N-02S	KFV12B-02S
		R3/8	KFV12N-03S	KFV12B-03S
	ø10	R1/2	KFV12N-04S	KFV12B-04S
		R3/8	KFV12N-03S	KFV12B-03S



Swivel Long Elbow

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

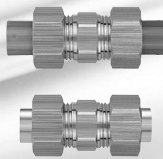
Applicable tubing size (mm)		Connection thread	Model	
O.D.	I.D.		Resin sleeve	Brass sleeve
ø4	ø2.5	R1/8	KFW04-01S	KFW04B-01S
		R1/4	KFW04-02S	KFW04B-02S
ø6	ø4	R1/8	KFW06-01S	KFW06B-01S
		R1/4	KFW06-02S	KFW06B-02S
		R3/8	KFW06-03S	KFW06B-03S
ø8	ø5	R1/8	KFW08U-01S	—
		R1/4	KFW08U-02S	—
		R3/8	KFW08U-03S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



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	KFH08U-00	—
		ø6	KFH08N-00
ø8	ø5	KFH10U-00	—
		ø6.5	KFH10N-00
ø10	ø7.5	KFH12U-00	—
		ø8	KFH12N-00
ø12	ø9	KFH12B-00	KFH12B-00



Tee Union

Use to connect tubes in both 90° directions.

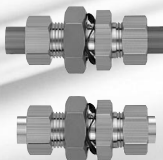
Applicable tubing size (mm)		Model	
O.D.	I.D.	Resin sleeve	Brass sleeve
ø4	ø2.5	KFT04-00	KFT04B-00
		ø6	KFT06-00
ø6	ø4	KFT08U-00	—
		ø6	KFT08N-00
ø8	ø5	KFT10U-00	—
		ø6.5	KFT10N-00
ø10	ø7.5	KFT12U-00	—
		ø8	KFT12N-00
ø12	ø9	KFT12B-00	KFT12B-00



Bulkhead Union

Use to connect tubes through a panel.

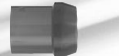
Applicable tubing size (mm)		Model	
O.D.	I.D.	Resin sleeve	Brass sleeve
ø4	ø2.5	KFE04-00	KFE04B-00
		ø6	KFE06-00
ø6	ø4	KFE08U-00	—
		ø6	KFE08N-00
ø8	ø5	KFE10U-00	—
		ø6.5	KFE10N-00
ø10	ø7.5	KFE12U-00	—
		ø8	KFE12N-00
ø12	ø9	KFE12B-00	KFE12B-00



Plug

Use to plug unused fittings.

Applicable tubing size (mm)		Model
O.D.	I.D.	Model
ø4	ø2.5	KFP-04
		ø6
ø6	ø4	KFP-06
		ø8
ø8	ø5	KFP-08
		ø10
ø10	ø7.5	KFP-10
		ø12
ø12	ø9	KFP-12



Insert Fittings Series **KF**

RoHS



Resin sleeve



Brass sleeve

Specifications

Sleeve material	Resin	Brass
Fluid	Air, Water ^{Note 2)}	Air, Steam ^{Note 2)}
Ambient and fluid temperature	-5 to 60°C (No freezing) Water: 0 to 60°C (No freezing)	-5 to 150°C (No freezing)
Operating pressure range ^{Note 1)}	-101.3 kPa to 1 MPa	
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 and steam.

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 ø5.5	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)	●	●	●	—	●	—	●	—

How to Order

KF H 06 — **01 S** —

Type

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

Applicable tubing O.D.

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

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

Made to Order

Refer to page 133 for details.

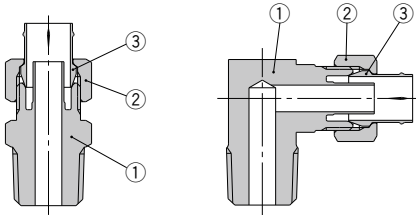
Sealant (Male thread)

NII	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 ø5.5	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	—	—	—	—	—	—	—	—
Polyolefin	Resin	Nil	—	—	N	—	N	—	N
	Brass	B	—	—	B	—	B	—	B
Soft polyolefin	Resin	Nil	U	—	U	—	U	—	—
	Brass	—	—	—	—	—	—	—	—
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)	Resin	Nil	U	—	U	—	U	—

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

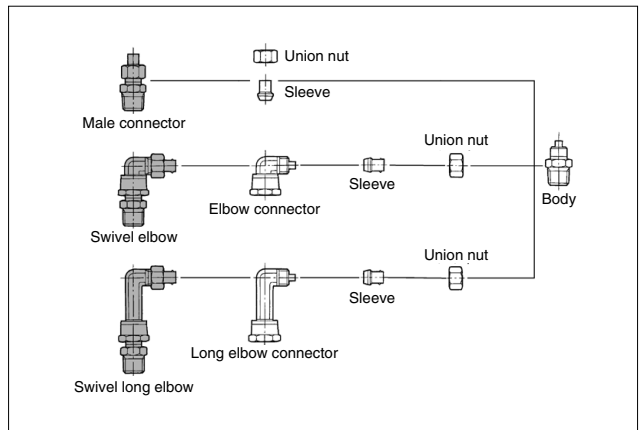
- Fittings used with polyurethane tube and soft polyolefin tube (Tube O.D. ø8, ø10 and ø12) are identified by the following marks on the body.
- Union nut and sleeve are compatible.

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

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.



Made to Order

Symbol	Specifications
X2	Copper-free (Electroless nickel plated)

Suffix "X2" to the end of part number.
Ex.) KFH06-01S-X2

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

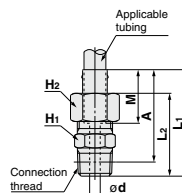


Resin sleeve



Brass sleeve

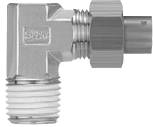
Applicable tubing size (mm)		Connection thread	Model	Width across flats		L ₁	L ₂	M	ød	A*	Effective area (mm ²)	Weight (g)
O.D.	I.D.			H ₁	H ₂							
ø4	ø2.5	R1/8	KFH04-01S	10		29.6	22.9	15.5		26.5		13
		R1/4	KFH04-02S	14		34	27.3			28.5		23
		R1/8	KFH04B-01S	10	10	26.5	23.5	12.4	1.5	23.4	1.6	14
		R1/4	KFH04B-02S	14		30.9	27.9			25.4		24
ø6	ø4	R1/8	KFH06-01S	10		29.3	22.6			26.2		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	6	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
		R1/8	KFH08U-01S	12		29.3	22.6			26.2		16
		R1/4	KFH08U-02S	14		33.7	27		4	28.2	11	25
ø8	ø5	R3/8	KFH08U-03S	17		34.1	27.4			28.9		37
		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
	ø6	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
		R1/4	KFH10U-02S	17		35.3	28		5.5	29.8	21	32
ø10	ø6.5	R3/8	KFH10U-03S	17		35.7	28.4			30.5		40
		R1/2	KFH10U-04S	22		38.9	31.6	18.8		31.6		65
		R1/4	KFH10N-02S	17		35.3	28			29.8		31
		R3/8	KFH10N-03S	17	17	35.7	28.4			30.5		39
	ø7.5	R1/2	KFH10N-04S	22		38.9	31.6		6.5	31.6	30	64
		R1/4	KFH10B-02S	17		31.5	28.5			26.0		33
		R3/8	KFH10B-03S	17		31.9	28.9	15.0		26.7		41
		R1/2	KFH10B-04S	22		35.1	32.1			27.8		66
ø12	ø8	R1/4	KFH12U-02S	17		35.8	29		7	30.3	35	33
		R3/8	KFH12U-03S	17		36.2	29.4			31.0		41
		R1/2	KFH12U-04S	22		39.4	32.6	19.3		32.1		65
		R1/4	KFH12N-02S	17		35.8	29			30.3		31
	ø9	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	17		32.1	29.1			26.6		33
		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



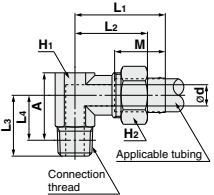
Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Conne- tion thread	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									
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					20						38
		R1/4	KFL06B-02S					17						23
ø8	ø6	R1/4	KFL06B-03S	10	12	24.2	21.2	19	13	12.2	3	19.3	6.0	28
		R3/8	KFL06B-03S					20						39
	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
		R1/8	KFL08N-01S					18						31
ø10	ø8	R1/4	KFL08N-02S	12	14	28.2	21.5	21	15	13.3	5	21.3	12	32
		R3/8	KFL08N-03S					20						37
		R1/8	KFL08B-01S					18						32
		R1/4	KFL08B-02S					21						33
ø12	ø6.5	R3/8	KFL08B-03S	12	14	27.3	24.3	20	13.7	15.0	7	21	16	38
		R1/4	KFL10U-02S					22						38
		R3/8	KFL10U-03S					21						44
		R1/2	KFL10U-04S					25						66
ø10	ø7.5	R1/4	KFL10N-02S	14	17	33.8	26.5	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
ø12	ø8	R3/8	KFL10B-03S	12	14	28.0	25.0	21	14.7	15.0	7	22	26	44
		R1/2	KFL10B-04S					25						66
		R1/4	KFL12U-02S					23						53
		R3/8	KFL12U-03S					22						53
ø12	ø9	R1/2	KFL12U-04S	14	19	34.3	27.5	25	16.8	19.3	8	25.3	30	68
		R1/4	KFL12N-02S					23						51
		R3/8	KFL12N-03S					22						52
		R1/2	KFL12N-04S					25						67
ø12	ø9	R1/4	KFL12B-02S	14	19	30.6	27.6	23	17	15.5	8	25.5	27	53
		R3/8	KFL12B-03S					22						54
ø12	ø9	R1/2	KFL12B-04S	14	19	30.6	27.6	25	16.8	15.5	8	25.3	35	69

* Reference dimensions after installation of R thread.



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

Dimensions

Straight Union: KFH

Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	M	ød	Effective area (mm ²)	Weight (g)
			H ₁	H ₂						
O.D.	I.D.									
	ø4	ø2.5 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	ø4 KFH06-00	10	12	40.3	27	15.2	3	6	17
		KFH06B-00			34.3	28.4	12.2			19
	ø8	ø5 KFH08U-00	12	14	41.3	28	16.2	4	11	23
		KFH08B-00			35.5	29.6	13	5	17	22
	ø10	ø6.5 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	ø8 KFH12U-00	17	19	45.5	32	19.3	7	35	42
		KFH12N-00			38.1	32.2	15.5	8	45	41
		ø9 KFH12B-00								44

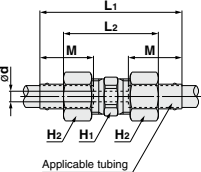


Diagram illustrating the dimensions of the Straight Union (KFH) fitting. The diagram shows the fitting with dimensions L₁, L₂, M, H₁, H₂, and ød. The applicable tubing is shown inserted into the fitting.

Tee Union: KFT

Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	M	ød	Effective area (mm ²)	Weight (g)
			H ₁	H ₂						
O.D.	I.D.									
	ø4	ø2.5 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	ø4 KFT06-00	10	12	27.2	20.5	15.2	3	6	37
		KFT06B-00			24.2	21.2	12.2			39
	ø8	ø5 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	ø6.5 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	ø8 KFT12U-00	14	19	34.3	27.5	19.3	7	35	89
		KFT12N-00			30.6	27.6	15.5	8	45	85
		ø9 KFT12B-00								90

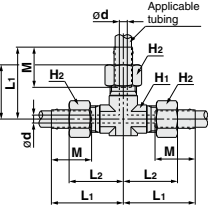


Diagram illustrating the dimensions of the Tee Union (KFT) fitting. The diagram shows the fitting with dimensions L₁, L₂, M, H₁, H₂, and ød. The applicable tubing is shown inserted into the fitting.

Dimensions

Branch Tee: KFT



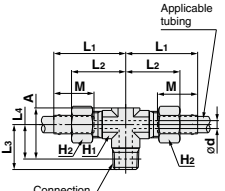
Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Connection thread R	Model	Width across flats						M	ød	A*	Effective area (mm²)	Weight (g)
O.D.	I.D.			H ₁	H ₂	L ₁	L ₂	L ₃	L ₄					
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	10	12	27.2	20.5	17	13	12.2	3	19.3	10	34
		R1/4	KFT06B-02S					19						39
		R3/8	KFT06B-03S	12	30.2	27.2	24.2	22	15.7	23	12	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						56
	ø6	R1/8	KFT08N-01S	12	14	30.2	23.5	20	16	13.3	5	23.3	16	46
		R1/4	KFT08N-02S					23						49
		R3/8	KFT08N-03S					22						54
		R1/8	KFT08B-01S					20						48
		R1/4	KFT08B-02S					23						51
R3/8	KFT08B-03S	22	56											
ø10	ø6.5	R1/4	KFT10U-02S	12	17	31.8	24.5	23	17	18.8	5.5	24.3	27	46
		R3/8	KFT10U-03S					22						63
		R1/2	KFT10U-04S					14						33.8
	ø7.5	R1/4	KFT10N-02S	12	17	31.8	24.5	23	17	6.5	24.3	30	57	
		R3/8	KFT10N-03S					22					62	
		R1/2	KFT10N-04S	14	33.8	26.5	27	18.8	23	41	88			
		R1/4	KFT10B-02S	12	14	28.0	25.0	23	17	15.0	24.3	30	60	
		R3/8	KFT10B-03S					22					65	
R1/2	KFT10B-04S	14	30.0	27.0	27	18.8	23	41	91					
ø12	ø8	R1/4	KFT12U-02S	14	19	34.3	27.5	25	19	19.3	7	27.5	31	79
		R3/8	KFT12U-03S					24						81
		R1/2	KFT12U-04S					27						94
	ø9	R1/4	KFT12N-02S	14	19	34.3	27.5	25	19	15.5	8	27.5	32	75
		R3/8	KFT12N-03S					24						78
		R1/2	KFT12N-04S					27						93
		R1/4	KFT12B-02S					25						78
		R3/8	KFT12B-03S					24						81
		R1/2	KFT12B-04S					27						96

* Reference dimensions after installation of R thread.



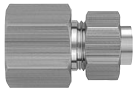
KQ2
KQB2
KS
KX
KM
KF
M
H/DL
L/LL
KC
KK
KK130
DM
KDM
KB
KR
KA
KQG2
KG
KFG2
MS
KKA
KP
LQ
MQR
T

Dimensions

Female Union: **KFF**

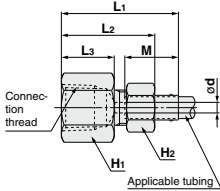


Resin sleeve

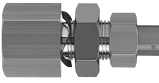


Brass sleeve

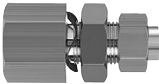
Applicable tubing size (mm)		Connection thread Rc	Model	Width across flats		L ₁	L ₂	L ₃	M	ød	Effective area (mm ²)	Weight (g)				
O.D.	I.D.			H ₁	H ₂											
ø4	ø2.5	Rc1/4	KFF04-02	17	10	33.5	26.8	15	15.5	1.5	1.6	25				
			KFF04B-02			30.4	27.4					26				
ø6	ø4	Rc1/4	KFF06-02	17	12	33.2	26.5	15	15.2	3	6	27				
		Rc3/8	KFF06-03	19		35.2	28.5	17				30				
		Rc1/4	KFF06B-02	17		30.2	27.2	15				12.2	28			
		Rc3/8	KFF06B-03	19		32.2	29.2	17					31			
ø8	ø6	Rc1/4	KFF08U-02	17	14	33.2	26.5	15	16.2	4	11	28				
			KFF08N-02							5	17	29				
ø10	ø6.5	Rc1/4	KFF08B-02	17	17	30.3	27.3	15	13.3	5.5	21	32				
			KFF10U-02			34.8	27.5						15	18.8	6.5	30
			KFF10N-02			31.0	28.0									
			KFF10B-02			33										
ø12	ø8	Rc1/4	KFF12U-02	17	19	35.3	28.5	15	19.3	7	35	35				
			KFF12N-02							8	45	36				
			ø9													
			KFF12B-02			31.6	28.6			15.5		38				



Bulkhead Connector: **KFE**

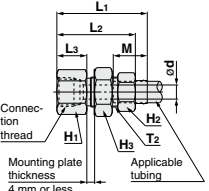


Resin sleeve



Brass sleeve

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 (mm²)	Weight (g)	
O.D.	I.D.			H ₁	H ₂	H ₃										
ø6	ø4	Rc1/4	KFE06-02	17	12	17	44.2	37.5	16	15.2	3	M10 x 1	11	6	41	
			KFE06B-02				41.2	38.2		12.2					42	
ø8	ø6	Rc3/8	KFE08U-03	19	14	19	46.2	39.5	17	16.2	4	M12 x 1	13	17	49	
			KFE08N-03				43.3	40.3		13.3					50	
			KFE08B-03						17	18.8	5.5		M15 x 1	16	21	63
			KFE10U-03				48.8	41.5								62
ø10	ø7.5	Rc3/8	KFE10N-03	19	17	22	45.0	42.0	17	15.0	6.5			30	63	
			KFE10B-03							62						
ø12	ø8	Rc3/8	KFE12U-03	22	19	24	51.3	44.5	17	19.3	7		M17 x 1	18	35	93
			KFE12N-03							91						
			ø12				ø9		KFE12B-03				47.6	44.6		15.5



Connection thread

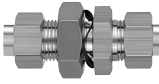
Mounting plate thickness 4 mm or less

Applicable tubing

Bulkhead Union: **KFE**

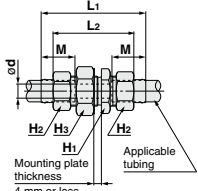


Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Model	Width across flats			L ₁	L ₂	M	ød	Mounting hole	Effective area (mm ²)	Weight (g)
O.D.	I.D.		H ₁	H ₂	H ₃							
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										
ø10	ø6	KFE08B-00				46.5	40.6	13	5			48
		KFE10U-00										67
ø12	ø6.5	KFE10N-00	19	17	22	56.6	42	18.8	5.5	16	21	67
		KFE10B-00										
ø12	ø7.5	KFE12U-00	22	19	24	59.5	46	19.3	7	18	35	87
		KFE12N-00										
		KFE12B-00				52.1	46.2	15.5	8		45	88



Mounting plate thickness
4 mm or less

Dimensions

Male Run Tee: KFY



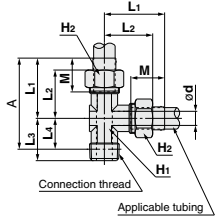
Resin sleeve



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 (mm²)	Weight (g)	(mm)		
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		30.2	23.5	22	15.7			45.8	13	51			
		R1/8	KFY06B-01S					17						33			
		R1/4	KFY06B-02S	10	12	24.2	21.2	19	13	12.2		37.2	11	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				43.3	18	49			
		R1/4	KFY08B-02S			27.3	24.3	23	17	13.3				50			
		R3/8	KFY08B-03S					22						55			
		R1/2	KFY10U-02S			31.8	24.5	23	17	18.8	5.5	48.8	30	58			
R3/8	KFY10U-03S	22	47.4					38				63					
R1/2	KFY10U-04S	33.8	26.5			27	18.8	52.6			89						
R1/4	KFY10N-02S					23		48.8			33	57					
R3/8	KFY10N-03S	31.8	24.5			22		47.4			46	62					
R1/2	KFY10N-04S	33.8	26.5			27		52.6			88						
R1/4	KFY10B-02S	28.0	25.0			23		15.0		45.0	33	60					
R3/8	KFY10B-03S					22				43.6	46	65					
R1/2	KFY10B-04S	30.0	27.0			27				48.8	46	91					
ø12	ø8	R1/4	KFY12U-02S			34.3	27.5	25	19	19.3	7	53.3	34	79			
		R3/8	KFY12U-03S					24				51.9	49	79			
		R1/2	KFY12U-04S					27						93			
	ø9	R1/4	KFY12N-02S	14	19	30.6	27.6	25	19	15.5	8	53.3	36	76			
		R3/8	KFY12N-03S					24				51.9	54	78			
		R1/2	KFY12N-04S					27						92			
		R1/4	KFY12B-02S					25				49.6	36	79			
		R3/8	KFY12B-03S					24						81			
		R1/2	KFY12B-04S					27				49.4	54	95			

* Reference dimensions after installation of R thread.



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

Dimensions

Swivel Elbow: KVF

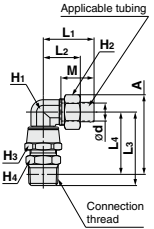


Resin sleeve



Brass sleeve

Applicable tubing size (mm)		Connec- tion 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
		R1/4	KFV06-02S				14	25.7	19	37.2	31.7	15.2		38.6		52
ø6	ø4	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
		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
ø8	ø5	R3/8	KFV08U-03S				17			38.6	33.4			41.5		73
		R1/8	KFV08N-01S				12	27.2	20.5	33.8	30.7	16.2		38.8		57
		R1/4	KFV08N-02S	12	14	17	14			38.2	32.7			40.8		60
		R3/8	KFV08N-03S				17			38.6	33.4			41.5		72
		R1/8	KFV08B-01S				12			33.8	30.7		5	38.8	14	58
		R1/4	KFV08B-02S				14	24.3	21.3	38.2	32.7	13.3		40.8		61
ø10	ø6.5	R3/8	KFV08B-03S				17			38.6	33.4			41.5		73
		R1/4	KFV10U-02S				17			40.2	34.7			44.5		73
		R1/2	KFV10U-04S				22	28.8	21.5	43.8	36.5	18.8		46.3	18	81
		R1/4	KFV10N-02S				17			40.2	34.7			44.5		104
		R3/8	KFV10N-03S	14	17	19	17			40.6	35.4			45.2		72
		R1/2	KFV10N-04S				22			43.8	36.5		6.5	46.3	25	80
ø12	ø7.5	R1/4	KFV10B-02S				17			40.2	34.7			44.5		104
		R3/8	KFV10B-03S				17	25.0	22.0	40.6	35.4	15.0		45.2		73
		R1/2	KFV10B-04S				22			43.8	36.5			46.3		81
		R1/4	KFV12U-02S				17			41.2	35.7			46.7		105
		R3/8	KFV12U-03S				17			41.6	36.4		7	47.4	30	92
		R1/2	KFV12U-04S				22	30.3	23.5	44.8	37.5	19.3		48.5		100
ø12	ø9	R1/4	KFV12N-02S				17			41.2	35.7			46.7		124
		R3/8	KFV12N-03S	17	19	22	17			41.6	36.4			47.4		90
		R1/2	KFV12N-04S				22			44.8	37.5		8	48.5	38	98
		R1/4	KFV12B-02S				17			41.2	35.7			46.7		123
		R3/8	KFV12B-03S				17	26.6	23.6	41.6	36.4	15.5		47.4		92
		R1/2	KFV12B-04S				22			44.8	37.5			48.5		100



* Reference dimensions after installation of R thread.

Dimensions

Swivel Long Elbow: KFW



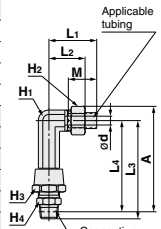
Resin sleeve



Brass sleeve

B. 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	26	19.3	52.8	49.7	15.5		55.5	1.4	58
		R1/4	KFW04-02S				14			57.2	51.7					57.5
		R1/8	KFW04B-01S	10	10	14	10	22.9	19.9	52.8	49.7	12.4	55.5	59		
		R1/4	KFW04B-02S				14			57.2	51.7			57.5		
ø6	ø4	R1/8	KFW06-01S				10			53.8	50.7	15.2		57.6	5.0	61
		R1/4	KFW06-02S				14	25.7	19.0	58.2	52.7					58.6
		R3/8	KFW06-03S	10	12	14	17			58.6	53.4		60.3	77		
		R1/8	KFW06B-01S				10			53.8	50.7	12.2	58.6	62		
		R1/4	KFW06B-02S				14	22.7	19.7	58.2	52.7			59.6		
		R3/8	KFW06B-03S				17			58.6	53.4		60.3	78		
ø8	ø5	R1/8	KFW08U-01S				12			54.8	51.7	4		59.8	9.4	81
		R1/4	KFW08U-02S				14			59.2	53.7					61.8
		R3/8	KFW08U-03S				17			59.6	54.4					62.5
		R1/8	KFW08N-01S				12	27.2	20.5	54.8	51.7					59.8
	ø6	R1/4	KFW08N-02S	12	14	17	14			59.2	53.7	5		61.8	14	83
		R3/8	KFW08N-03S				17			59.6	54.4					62.5
		R1/8	KFW08B-01S				12			54.8	51.7					59.8
		R1/4	KFW08B-02S				14	24.3	21.3	59.2	53.7					61.8
R3/8	KFW08B-03S				17			59.6	54.4		62.5	89				
ø10	ø6.5	R1/4	KFW10U-02S				17			61.2	55.7	5.5		65.5	18	100
		R3/8	KFW10U-03S				22			61.6	56.4					66.2
		R1/2	KFW10U-04S				22			64.8	57.5					67.3
	ø7.5	R1/4	KFW10N-02S				17	28.8	21.5	61.2	55.7	18.8		65.5	25	99
		R3/8	KFW10N-03S	14	17	19	17			61.6	56.4					66.2
		R1/2	KFW10N-04S				22			64.8	57.5					67.3
		R1/4	KFW10B-02S				17			61.2	55.7					65.5
		R3/8	KFW10B-03S				22	25.0	22.0	61.6	56.4					66.2
R1/2	KFW10B-04S				22			64.8	57.5		67.3	127				
ø12	ø8	R1/4	KFW12U-02S				17			64.2	58.7	7		69.7	30	146
		R3/8	KFW12U-03S				22			64.6	59.4					70.4
		R1/2	KFW12U-04S				22			67.8	60.5					71.5
	ø9	R1/4	KFW12N-02S				17	30.3	23.5	64.2	58.7	19.3		69.7	38	144
		R3/8	KFW12N-03S	17	19	22	17			64.6	59.4					70.4
		R1/2	KFW12N-04S				22			67.8	60.5					71.5
		R1/4	KFW12B-02S				17			64.2	58.7					69.7
		R3/8	KFW12B-03S				22	26.6	23.6	64.6	59.4					70.4
R1/2	KFW12B-04S				22			67.8	60.5		71.5	147				

* 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



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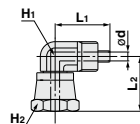
Series KF

Dimensions

Elbow Connector: KFY



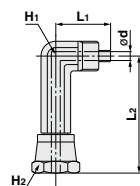
Applicable tubing size (mm)		Model	Width across flats		L ₁	L ₂	ød	Weight (g)
O.D.	I.D.		H ₁	H ₂				
ø4	ø2.5	KFY-04	10	14	18.5	18.5	1.5	21.1
ø6	ø4	KFY-06	10	14	18.5	18.5	3	21.6
ø8	ø5	KFY-08U	12	17	20	19.5	4	32.8
	ø6	KFY-08N					5	32.9
ø10	ø6.5	KFY-10U	14	19	21	21.5	5.5	41.9
	ø7.5	KFY-10N					6.5	41.7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





Series KF

Specific Product Precautions 1

Be sure to read before handling.

Refer to front matter 56 for Safety Instructions and pages 13 to 16 for Fittings and Tubing Precautions.

Selection

⚠ Caution

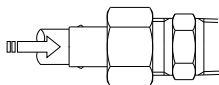
1. Please consult with SMC regarding fluids other than air and steam.

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.

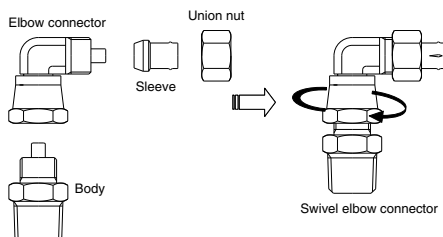
Fitting size	Sleeve material			
	Resin		Brass	
	Appropriate tightening rotations	Equivalent tightening torque (N·m)	Appropriate tightening rotations	Equivalent tightening torque (N·m)
KF□04	1.5 to 2.0	2 to 7	1.5	2 to 4
KF□06	1.5 to 2.0	3 to 8	1.5	4 to 6
KF□08	1.5 to 2.0	4 to 9	1.5	6 to 9
KF□10	1.5 to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

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



Series KF

Specific Product Precautions 2

Be sure to read before handling.

Refer to front matter 56 for Safety Instructions and pages 13 to 16 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.