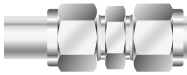




ISO 9001 : 2000

K LOK ***TUBE FITTINGS***





We are very grateful to our valuable customers who have shown a deep attention on to KPL's growth and extended generous supports.

KPL VALVE IND. CO., LTD. was established in 1986 and for the past years, we KPL's as a specialized company to manufacture valves & tube fittings that were use pipe line and process plant for instrumentation.

KPL became the leading company for its business productions in Korea with its qualified equipments, manpower and technical capability to design, manufacture and test in spite of young company.

These products are manufactured in our modern facilities where the quality is rigidly control in conformance to all application codes, standards and design criteria demanded by our licensors and clients.

We will do our best to accumulate advanced valve & tube fitting engineering technologies, to reduce production cost and improve quality assurance rules.

We promise that we will meet the needs and expectations of our valuable customers through the valve & tube fitting technology services and products of the highest quality.



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
QMI

hereby certify that the organization

KPL Valve Ind. Co., Ltd.

**#19-19, Samjung-Dong, Ojung-Gu
Bucheon-City, Kyunggi-Do
Korea**

for the following field of activities

Design, development, production and servicing of valve and fitting.

has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001:2000

Issued on: January 6, 2006

Validity date: June 25, 2007

Registration Number: CA - CERT-0016815 - 802036



*Dr. Fabio Roversi
President of IQNet*

*Wendy J. Tilford
President of QMI*



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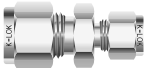
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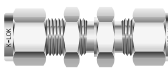
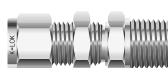


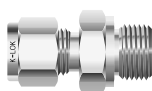
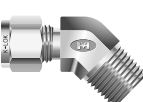
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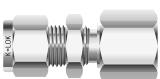
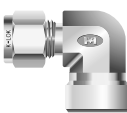
KU Union  12 Page	KUR Reducing Union  12,13 Page	KUE Union Elbow  14 Page	KUT Union Tee  15 Page	KRUT Reducing Union Tee  15 Page
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Tube to Male Pipe

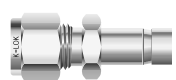
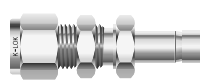
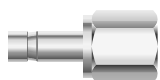
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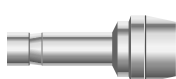
Tube to Female Pipe

KFC Female Connector  25, 26 Page	KBFC BulkHead Female Connector  27 Page	KFE Female Elbow  27 Page	KFBT Female Branch Tee  28 Page	KFRT Female Run Tee  28 Page
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Stub Tube Connector

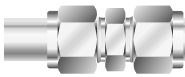
KR Reducer  29, 30 Page	KBR Bulk Head Reducer  30 Page	KMA Male Adapter  31 Page	KFA Female Adapter  32 Page	KPC Port Connector  33 Page
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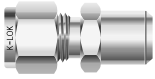
KRPC Reducing Port Connector  33 Page	KXU AN Union  34 Page	KRXU AN BulkHead Union  34 Page	KXA AN Adapter  34 Page
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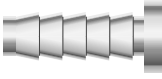
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KTSC O-Seal Straight Thread Male Connector  35 Page	KTSN O-Seal NPT Thread Male Connector  35 Page	KEC SAE/MS Straight Thread Male Connector  36 Page	KESE SAE/MS Straight Thread Positionable Male Elbow  36 Page
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 SAE/MS Straight Thread Positionable 45° Male Elbow KEEQ	 SAE/MS Straight Thread Positionable Male Branch Tee KEBT	 SAE/MS Straight Thread Positionable Male Run Tee KERT
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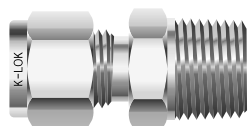
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ORDERING INFORMATION

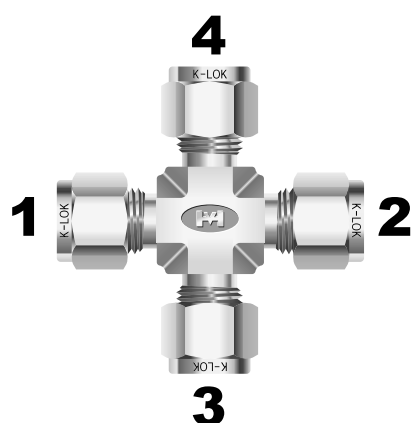
K-Lok Tube Fittings are ordered by part number as listed this catalog. Part number is identified products size, material configuration and thread connection.

Example



KMC-8-8N6
Male Connector. 316ss
1/2" O.D. x 1/2" M-NPT

	Tble 1	Tble 3	Tble 4	Tble 2
K	MC	- 8 -	8N	6
Symbol of K-Lok	Product Description	Tube O.D.	Thread End	Material



Tee & Cross Numbering

Tee	1 to 2 size and 3 size
Cross	1 to 2 size and 3 to 4 size

Table 2. Material Designator

Designator	Material
6	Stainless Steel 316
6L	Stainless Steel 316L
4	Stainless Steel 304
C	Carbon Steel
B	Brass
M	Alloy 400 (Monel)

* Other materials are available upon request.

Table 1. Fitting Type Designator

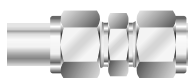
Description	Designator		Description
Union	KU	KRPC	Reducing Port Connector
Reducing Union	KUR	KXU	AN Union
Union Elbow	KUE	KRXU	Bulk Head AN Union
Union Tee	KUT	KXA	AN Adapter
Reducing Union Tee	KRUT	KTSC	O-Seal Straight Thread Male Connector
Bulk Head Union	KBU	KTSN	O-Seal NPT Thread Male Connector
Union Cross	KUC	KEC	SAE/MS Straight Thread Male Connector
Male Connector	KMC	KESE	SAE/MS Straight Thread Positionable Male Elbow
Bulk Head Male Connector	KBMC	KEEQ	SAE/MS Straight Thread Positionable 45° Male Elbow
Male Connector (For copper gasket)	KMCC	KEBT	SAE/MS Straight Thread Positionable Male Branch Tee
Male Connector (For metal gasket)	KMCM	KEBT	SAE/MS Straight Thread Positionable Male Run Tee
Male Elbow	KME	KERT	SAE/MS Straight Thread Positionable Male Run Tee
45° Male Elbow	KMEQ	KERT	SAE/MS Straight Thread Positionable Male Run Tee
Male Branch Tee	KMBT	KWM	Male Pipe Weld Connector
Male Run Tee	KMRT	KWE	Male Pipe Weld Elbow
Female Connector	KFC	KWS	Tube Socket Weld Union
Bulk Head Female Connector	KBFC	KWSE	Tube Socket Weld Elbow
Female Elbow	KFE	KTC	Tube End Cap
Female Branch Tee	KFBT	KPP	Port Plug
Female Run Tee	KFRT	KTI	Tube Insert
Reducer	KR	KN	Nut
Bulk Head Reducer	KBR	KFF	Front Ferrule
Male Adapter	KMA	KBF	Back Ferrule
Female Adapter	KFA	KFS	Ferrule Set
Port Connector	KPC	KGG	Gap Gauge

Table 3. Tube O.D. Designator

Fractional Tube O.D.	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-1/2"	2"				
Designator	1	2	3	4	5	6	8	10	12	14	16	20	24	32				
Metric Tube O.D.	2mm	3mm	4mm	6mm	8mm	10mm	12mm	14mm	15mm	16mm	18mm	20mm	22mm	25mm	28mm	30mm	32mm	38mm
Designator	2M	3M	4M	6M	8M	10M	12M	14M	15M	16M	18M	20M	22M	25M	28M	30M	32M	38M

Table 4. Pipe Thread Designator

Nominal Size	1/16"	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	Specification
NPT	1N	2N	4N	6N	8N	12N	16N	20N	24N	32N	ANSI B1.20.1 (NPT)
ISO Tapered	--	2R	4R	6R	8R	12R	16R	20R	24R	32R	JIS B0203(PT), ISO 7/1, BS21(BSPT), DIN2999
ISO Parallel	--	2G	4G	6G	8G	12G	16G	20G	24G	32G	ISO 288/1, BS 2779(BSPP), JIS B0202(PF)
Unified	--	2U	4U	6U	8U	12U	16U	20U	24U	32U	American Standard Unified Screw Threads



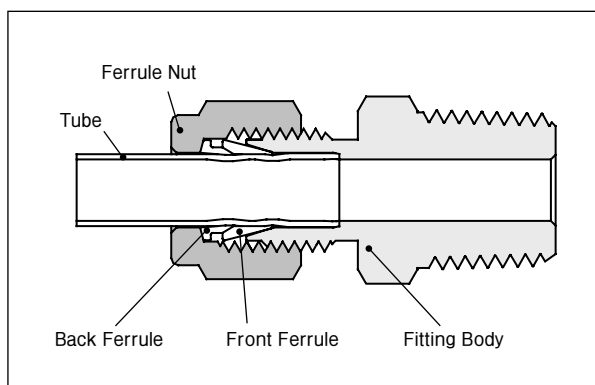
Introduction

K-Lok tube fittings have been carefully manufactured tested to withstand the demands of high performance tube fittings, such as high pressure, impulse, vibration, vacuum and temperature.

K-Lok tube fittings are used in process control, instrumentation, hydraulic & pneumatic applications in chemicals & petrochemicals, power plants and other process industries.

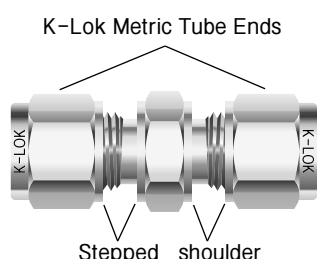
Features

K-Lok tube Fittings provide a leak-proof, torque free seal at all tubing connections and eliminate costly, hazardous leaks in process and instrumentation tubings.



- The double ferrule mechanical grip design.
- The front ferrule, as it is urged forward against the tapered area of the body is forced inward gripping and subsequently sealing the leading edge tightly onto tubing.
- The back ferrule, dove tailed directly behind the front ferrule, swages beneath its trailing edge affording the desired coining action and mechanical connection of tubing and fitting. It is this interaction of ferrules that allows achieve its excellent sealing.
- Ferrule nut threads are silver plated to extend the and avoid galling in extreme condition.
- Low torque for easy assembly & easy disassembly.

Identification of K-Lok Metric Tube Fittings



K-Lok metric and inch size tube fittings are similar in appearance. The significant difference is in the internal diameter of the tube fitting components, hence for easy identifications between metric and inch sizes tube fittings. K-Lok provides stepped shoulder into the body and nut hex on metric size tube fittings.

Operation

Through the critical interaction of precision machined fitting components with the process tube, a leak tight seal is achieved.

This simple geometric rotation of the K-Lok nut provides the axial thrust necessary to swage the ferrules to outside diameter of the tube. To eliminate any potential stress on an existing system, the tube fittings have been designed to not transmit installation torque from the tube fittings to the tubing.

During the rotary movement of the nut, the internal surface of the back ferrule axially moves the back ferrule forward against the rear angle of the front ferrule.

Simultaneously, the front ferrule is driven forward into the angular section of the fitting body where the desired lift to seal action of the front ferrule occurs.

The back ferrule locks on the outside diameter of the tube to complete the sealing action and secure the tube within the fitting.

The resulting engineered gap between the front and back ferrule is designed to help compensate for exposure to system variables such as vibration, pressure pulsation and thermal expansion – contraction.

Materials

K-Lok Tube Fittings are available as standard in 316ss. Straight body fittings are machined from cold finished hex bar stock material that is in accordance with ASTM A479 and shaped bodies are machined from close grained forgings in accordance with ASTM A182.

Material is heat code traceable.

<Other materials are available on request.>

Typical Raw Material Specifications

Fitting Material	Bar stock	Forging	Tubing
Stainless Steel Type 316	ASTM A479 ASTM A276 JIS G4303	ASTM A182 F316 JIS G3214	ASTM A269 ASTM A213 ASTM A249
Carbon Steel	JIS G4051 S20C-S48C	JIS G4051 S20C-S48C	ASTM A161 ASTM A179 DIN 2391
Brass	ASTM B16 Alloy 360 ASTM B453 Alloy 345 JIS H3250 Alloy C3604	ASTM B283 Alloy 377 JIS H3250 Alloy C3771	ASTM B68 ASTM B75 ASTM B88 DIN 1786
Alloy 400	ASTM B164	ASTM B164	ASTM B165



TUBING

When selecting of tubing, careful consideration should be applied to the following factors.

- Tubing material
- Tubing surface finish
- Tubing wall thickness
- Tubing Hardness

These factors and the other information in this catalog should be considered by selecting the proper tubing for application.

Tubing Surface Finish and Handling

Scratches on the O.D. of the tube can be a potential source of leakage in a tubing system.

A good surface finish and proper handling to protect the finish help to reduce this potential. Tubing should never be pulled out of the tubing rack. This is particularly true of the larger size of tubing which weight more and can get damaged on the tube O.D. by burrs on the ends of the tubes lying below them on the rack.

Tubing should not be dragged across any surface which could damage it.

Tube cutters, hacksaws ect. used on tubing should be sharp.

Tube ends must be cut reasonably square and be deburred prior to installing. This is to ensure that the tube does not damage the sealing edge of the ferrule and that it sits squarely inside the fitting body.

Tubing Hardness

Tubing of appropriate hardness will go on a long way in making connection with the K-Lok tube fitting safe and reliable. As a thumb-rule the hardness of the tubing used should always be less than the hardness of the fitting.

Such tubing not only lowers costs because it is easier to bend and installation. When tubing and fittings are same material, metal tubing must be fully annealed.

Tubing Installation

Properly selected handled tubing, together with quality K-Lok Tube Fittings will give leak free systems.

For maximum assurance of reliable performance K-Lok Tube Fittings should be assembled in accordance with catalog instructions and using high quality tubing.

When installing fittings near tube bends, there should be sufficient straight length of tubing allow the tube to be bottomed in the fitting body.

T : Tube O.D.

R : Radius of tubing bend as required or minimum allowed for specified wall thickness and tube size as recommended by tubing manufacture.

L : Straight tube length required from end of tube beginning of bend.

Tubing Wall Thickness

Table 1 to 7 give the working pressure ratings of tubing with difference wall thickness. These are based on ANSI B31.3 for pressure piping. K-Lok Tube Fittings are rated to the maximum allowable working pressure rating of the tubing with which they are used.

Gas Service

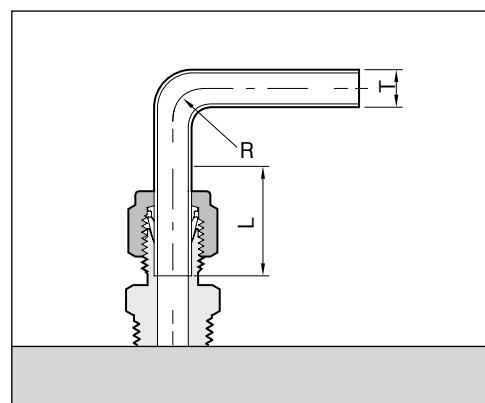
Gases have very small molecules which can escape from the most minute leak path. Surface defects on tubing may provide such a leak path. The larger tube O.D. the higher would be the chances of surface defects interfering with proper sealing.

For gas service, heavier walled tubing should be used.

A heavier walled tube resists ferrule action more than a thin walled tube, which could collapse during pull-up, thus reducing the chances for the ferrules to coin out surface defects.

For safety against surface defects in a gas system the minimum wall thickness of tubing should be as follows:

Fractional Tube O.D.	Nominal minimum Wall thickness-in.	Metric Tube O.D.	Nominal minimum Wall thickness-mm
1/8"	0.028	3mm	0.8
3/16"	0.028	6mm	0.8
1/4"	0.028	8mm	1.0
5/16"	0.035	10mm	1.0
3/8"	0.035	12mm	1.0
1/2"	0.049	14mm	1.2
5/8"	0.065	16mm	1.5
3/4"	0.065	18mm	1.5
7/8"	0.083	20mm	1.8
1"	0.083	22mm	2.0
1-1/4"	0.109	25mm	2.2
1-1/2"	0.134	28mm	2.8
2"	0.180	32mm	3.0
		38mm	3.5



Fractional Tube O.D.	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-1/2"	2"
L-in	1/2	23/32	3/4	13/16	7/8	15/16	1-3/16	1-1/4	1-1/4	1-5/16	1-1/2	2	2-13/32	3-1/4

Metric Tube O.D.	3mm	6mm	8mm	10mm	12mm	14mm	15mm	16mm	18mm	20mm	22mm	25mm	28mm	30mm	32mm	38mm
L-mm.	19	21	23	25	31	32	32	32	32	34	34	40	46	50	54	63



Maximum Allowable Pressure Table

Stainless Steel Tubing

Annealed 304 or 316 stainless steel tubing ASTM A269 or equivalent. Based on ultimate tensile strength 75000 psi.

For metal temperatures -20°F to 100°F (-29°C To 37°C). Allowable working pressure loads calculated from stress values. (20000 psi) as specified by ANSI B31.3 code.

For welded and drawn tubing, a derating factor must be applied for weld integrity:

For double welded tubing : 0.85 For single welded tubing : 0.80 Hardness : Rb 80 or less.

Table 1 : Stainless Steel Fractional Tubing

TUBE O.D.	TUBE WALL THICKNESS - in															
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188
1/16	5600	6800	8100	9400	12000											
1/8						8500	10800									
3/16						5400	7000	10200								
1/4						4000	5100	7500	10200							
5/16							4000	5800	7500							
3/8							3300	4800	5800							
1/2							2600	3700	4800	6700						
5/8								2900	3700	5200	6000					
3/4								2400	2900	4200	4900	5800				
7/8								2000	2400	3600	4200	4700				
1									2000	3100	3600	4200	4700			
1-1/4										2400	2800	3300	3600	4100	4900	
1-1/2											2300	2700	3000	3400	4000	4900
2												2000	2200	2500	2900	3600

Working Pressure in Psi
For tubing for gas service
use only tube wall thickness
on outside of screen area

Table 2 : Stainless Steel Metric Tubing

TUBE O.D.	TUBE WALL THICKNESS - mm												
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5
3	710												
6	330	420	520	670									
8		310	380	490									
10		240	300	380									
12		200	240	310	380	430							
14		180	220	280	340	390	430						
15		170	200	260	320	360	400						
16			190	240	300	330	370						
18			170	210	260	290	320	370					
20			150	190	230	260	290	330	380				
22			130	170	210	230	260	300	300				
25					180	200	230	260	290	320			
28						180	200	230	260	280	330		
30						170	190	210	240	260	310		
32						160	170	200	230	240	290	330	
38							140	170	190	200	240	280	310

Working Pressure in Bar
For tubing for gas service
use only tube wall thickness
on outside of screen area

Alloy 400 Tubing

Annealed Alloy 400 seamless tubing ASTM B165 or equivalent. Based on ultimate tensile strength 70000 psi.

For metal temperatures -20°F to 100°F (-29°C To 37°C). Allowable Working pressure loads calculated from stress values (18700 psi) as specified in ANSI B31.3 code. Hardness : Rb 75 or less.

Table 3 : Alloy 400 Fractional Tubing

TUBE O.D.	TUBE WALL THICKNESS - in							
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8"	7900	10200						
1/4"	3700	4800	7000	9600				
3/8"		3100	4400	6100				
1/2"		2300	3300	4400				
3/4"			2200	3000	4000	4600		
1"				2200	2900	3400	3900	4300

Working Pressure in Psi
For tubing for gas service
use only tube wall thickness
on outside of screen area



Copper Tubing

Based on ultimate strength 30000 psi. For metal temperatures -20°F to 100°F (-29°C To 37°C). Allowable working pressure loads calculated from stress values (6000 psi) as specified by ANSI B31.3 code. Hardness : Rb 60 or less.

Table 4 : For seamless Copper Fractional Tubing

TUBE O.D.	TUBE WALL THICKNESS - in									
	0.010	0.012	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/16	1700	3800	5400	6000						
1/8			2700	3400			Working Pressure in Psi For tubing for gas service use only tube wall thickness on outside of screen area			
3/16			1800	2300	3400					
1/4			1300	1600	2500	3500				
5/16				1300	1900	2700				
3/8				1000	1600	2200				
1/2				800	1100	1600	2200			
5/8					900	1200	1600	1900		
3/4					700	1000	1300	1500	1800	
7/8					600	800	1100	1300	1500	
1					500	700	700	1100	1300	1500

Table 5 : For seamless Copper Metric Tubing

TUBE O.D.	TUBE WALL THICKNESS - mm										
	0.7	0.8	1.0	1.2	1.5	1.6	1.8	2.0	2.2	2.5	3.0
3	225	260									
4	165	191	244	295			Working Pressure in Bar For tubing for gas service use only tube wall thickness on outside of screen area				
6		122	157	192	245	263					
8		89	114	140	179	193					
10		70	89	109	140	150	172	193			
12		58	73	89	114	123	140	158			
14			62	76	96	103	118	133	148	171	209
16			54	66	83	89	102	114	127	147	180
18			48	58	74	79	90	101	112	129	159
22			39	47	59	64	72	81	90	103	129
25			34	41	52	56	63	71	78	90	110

Carbon Steel Tubing

Soft annealed carbon steel tubing ASTM A179 or equivalent. Based on ultimate tensile strength 47000 psi.

For metal temperatures -20°F to 100°F (-29°C To 37°C). Allowable working pressure loads calculated from stress values (15700 psi) as specified by ANSI B31.3 code. Hardness : Rb 72 or less.

Table 6 : Seamless Carbon Steel Fractional Tubing

TUBE O.D.	TUBE WALL THICKNESS - in												
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.148	0.165	0.180	0.220
1/8	8000	10200											
3/16	5100	6600	9600										
1/4	3700	3700	7000	9600									
5/16		3800	5500	7600							Working Pressure in Psi For tubing for gas service use only tube wall thickness on outside of screen area		
3/8		3100	4500	6200									
1/2		2300	3300	4500	5900								
5/8		1800	2600	3500	4600	5300							
3/4			2100	2900	3700	4300	5100						
7/8			1800	2400	3200	3700	4300						
1			1500	2100	2700	3200	3700	4100					
1-1/4				1600	2100	2500	2900	3200	3600	4000	4600	5000	
1-1/2					1800	2000	2400	2600	3000	3300	3700	4100	5100
2						1500	1700	1900	2200	2400	2700	3000	3700

Table : 7 Seamless Carbon Steel Metric Tubing

TUBE O.D.	TUBE WALL THICKNESS - mm												
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5
3	670	830											
6	310	400	490	630									
8		290	360	460									
10		230	280	360									
12		190	230	290	360	410	450						
14		160	190	250	300	340	380				Working Pressure in Bar For tubing for gas service use only tube wall thickness on outside of screen area		
15		150	180	230	280	320	350						
16			170	210	260	290	330	380					
18			150	190	230	260	290	330					
20			130	170	200	230	250	290	330				
22			120	150	180	210	230	260	300				
25					160	180	200	230	260	280			
28						160	180	200	230	250	290		
30						150	160	190	210	230	270		
32						140	150	170	200	210	250	290	
38							130	140	160	180	210	240	280



Pipe End Pressure Ratings

Calculations based on ASME B31.3

Table 8

NPT-ISO Pipe Size	Stainless Steel 316 & Carbon Steel				Brass			
	Male		Female		Male		Female	
	Psi	Bar	Psi	Bar	Psi	Bar	Psi	Bar
1/16	11000	760	6700	460	5500	380	3300	230
1/8	10000	690	6500	440	5000	340	3200	220
1/4	8000	550	6600	450	4000	270	3300	220
3/8	7800	540	5300	360	3900	270	2600	180
1/2	7700	530	4900	330	3800	260	2400	160
3/4	7300	500	4600	320	3600	250	2300	160
1	5300	370	4400	370	2600	180	2200	150
1-1/4	6000	410	5000	350	3000	200	2500	170
1-1/2	5000	340	4600	310	2500	170	2300	150
2	3900	270	3900	270	1900	130	1900	130

Fittings with both tube ends and NPT, ISO 7, Threaded Pipe end connections have different pressure ratings. When specifying these type fittings, please refer to this tables for maximum allowable pressure ratings. A NPT Thread sealant is recommended when using NPT connections.

Stress Value

Calculations based on ASME B31.3

Table 9

Material	Allowable Stress Value		Design Factor	Ultimate Tensile Strength	
	Psi	Bar		Psi	Bar
316 SS	20000	1378	3.75:1	75000	5170
Carbon Steel	20000	1378	3:1	60000	4140
Brass	10000	689	4:1	40000	2760

SAE-MS Pressure Ratings

Pressur Ratings based on SAE J1926-3

Table 10

SAE / MS Thread Size	Stainless Steel 316 and Carbon Steel			
	Nonpositionable		Positionable	
	Psi	Bar	Psi	Bar
5/16-24	4568	315	4568	315
7/16-20				
1/2-20			3626	250
9/16-18				
3/4-16				
7/8-14	3626	250	2900	200
1-1/16-12	2900	200	2320	160
1-3/16-12				
1-5/16-12				
1-5/8-12	2320	160	1813	125
1-7/8-12				
2-1/2-12				
2-1/2-12	1813	125	1450	100

Tubing Temperature Ratings

Tubing Material	Temperature Range
316SS	-321°F (-160°C) ~ 1200°F (648°C)
Copper	-40°F (-40°C) ~ 400°F (204°C)
Carbon Steel	-65°F (-54°C) ~ 799°F (426°C)
Alloy 400	-324°F (-198°C) ~ 1200°F (648°C)

Temperature Derating Factors

Temperature factor used to calculate maximum working pressures at elevated temperatures.

Table 11

Temperatures		Multiplier Factors				
°F	°C	304SS	316SS	Copper	Carbon Steel	Alloy 400
100	38	1.00	1.00	1.00	1.00	1.00
200	93	1.00	1.00	0.80	0.96	0.88
300	149	1.00	1.00	0.78	0.90	0.82
400	204	0.94	0.97	0.50	0.86	0.79
500	260	0.88	0.90	0.13	0.82	0.79
600	315	0.82	0.85	--	0.77	0.79
700	371	0.80	0.82	--	0.73	0.79
800	428	0.76	0.80	--	0.59	0.76
900	482	0.73	0.78	--	--	--
1000	538	0.69	0.77	--	--	--
1200	648	0.30	0.37	--	--	--

* This table is to be used as a guide only and are based on normal wall thickness used for a various sizes. These ratings may vary widely from effects such as the proper use of sealant, size of stock, temperature, corrosion factors.

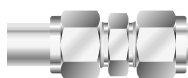
To find the maximum allowable working pressures for various tube materials at elevated temperatures, multiply the Max. allowable working pressure for the tube size and wall thickness found in tables. (Table 1~ Table 11)

Example

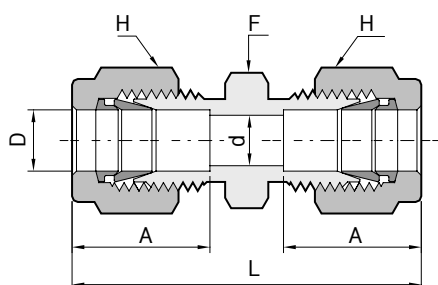
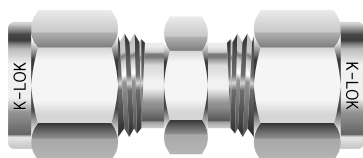
316SS 1/4" O.D. Tube / 0.28" Wall Thickness
100°F. Temperature
Maximum Allowable Pressure is 4000 psi

4000 psi x 1.0 = 4000 psi

(See Table 1) (See Table 11)



KU Union



Finger tight assembly dimensions(A, L)

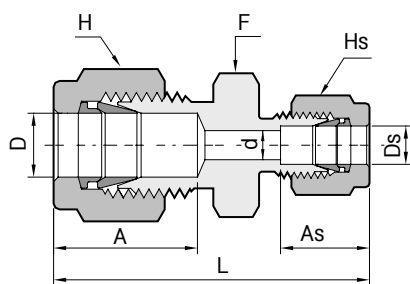
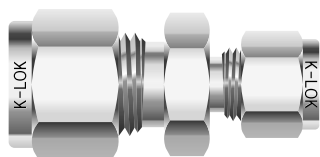
Connects Fractional Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KU-1	1/16	25.15	5/16	5/16	8.63	1.27
KU-2	1/8	35.56	7/16	7/16	12.70	2.28
KU-3	3/16	37.33	7/16	1/2	13.71	3.04
KU-4	1/4	40.89	1/2	9/16	15.24	4.82
KU-5	5/16	42.92	9/16	5/8	16.25	6.35
KU-6	3/8	44.95	5/8	11/16	16.76	7.11
KU-8	1/2	51.30	13/16	7/8	22.86	10.41
KU-10	5/8	52.07	15/16	1	24.38	12.70
KU-12	3/4	53.59	1-1/16	1-1/8	24.38	15.74
KU-14	7/8	55.37	1-3/16	1-1/4	25.90	18.28
KU-16	1	64.77	1-3/8	1-1/2	31.24	22.35
KU-20	1-1/4	92.20	1-3/4	1-7/8	41.14	27.68
KU-24	1-1/2	107.95	2-1/8	2-1/4	50.03	34.03
KU-32	2	149.35	2-3/4	2	67.56	45.97

Connects Metric Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KU-2M	2	35.6	12	12	12.9	1.7
KU-3M	3	35.3	12	12	12.9	2.4
KU-4M	4	37.3	12	12	13.7	2.4
KU-6M	6	41.0	14	14	15.3	4.8
KU-8M	8	43.2	15	16	16.2	6.4
KU-10M	10	46.2	18	19	17.2	7.9
KU-12M	12	51.2	22	22	22.8	9.5
KU-15M	15	52.0	24	25	24.4	11.9
KU-16M	16	52.0	24	25	24.4	12.7
KU-18M	18	53.5	27	30	24.4	15.1
KU-20M	20	55.0	30	32	26.0	15.9
KU-22M	22	55.0	30	32	26.0	18.3
KU-25M	25	65.0	35	38	31.3	21.8
KU-28M	28	85.0	41	46	36.6	21.8
KU-32M	32	97.3	46	50	42.0	28.6
KU-38M	38	113.6	55	60	49.4	33.7

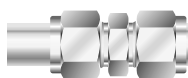
KUR Reducing Union



Finger tight assembly dimensions(A, L, As)

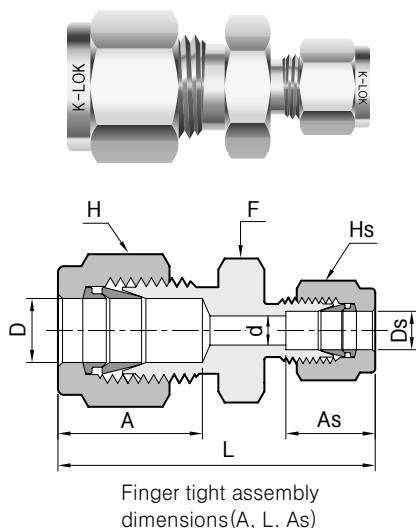
Connects Fractional Tubes

Part No.	Tube O.D. D	Tube O.D. Ds	L	Width Across Flat			A	As	d Min. Opening
				F	H	Hs			
KUR-2-1	1/8	1/16	30.91	7/16	7/16	5/16	12.70	8.63	1.27
KUR-3-1	3/16	1/16	32.25	7/16	1/2	5/16	13.71	8.63	1.27
KUR-3-2		1/8	36.57			7/16		12.70	2.28
KUR-4-1	1/4	1/16	34.29	1/2	9/16	5/16	15.24	8.63	1.27
KUR-4-2		1/8	38.60			7/16		12.70	2.28
KUR-4-3		3/16	39.37			1/2		13.71	3.04
KUR-5-2	5/16	1/8	39.87	9/16	5/8	7/16	16.25	12.70	2.28
KUR-5-4		1/4	42.16			9/16		15.24	4.82
KUR-6-1	3/8	1/16	36.57	5/8	11/16	5/16	16.76	8.63	1.27
KUR-6-2		1/8	40.89			7/16		12.70	2.28
KUR-6-4		1/4	43.18			9/16		15.24	4.82
KUR-6-5		5/16	44.19			5/8		16.25	6.35
KUR-8-2	1/2	1/8	45.21	13/16	7/8	7/16	22.86	12.70	2.28
KUR-8-4		1/4	46.99			9/16		15.24	4.81
KUR-8-6		3/8	48.51			11/16		16.76	7.11
KUR-10-6	5/8	3/8	49.27	15/16	1	11/16	24.38	16.76	7.11
KUR-10-8		1/2	52.07			7/8		22.86	10.41
KUR-12-4	3/4	1/4	49.27	1-1/16	1-1/8	9/16	24.38	15.24	4.82
KUR-12-6		3/8	50.80			11/16		16.76	7.11
KUR-12-8		1/2	53.59			7/8		22.86	10.41
KUR-12-10		5/8	53.59			1		24.38	12.70
KUR-16-8	1	1/2	63.24	1-3/8	1-1/2	7/8	31.24	22.86	10.41
KUR-16-12		3/4	62.73			1-1/8		24.38	15.74



KUR

Reducing Union



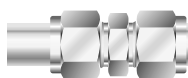
Connects Metric Tubes

Part No.	Tube O.D. D	Tube O.D. Ds	L	Width Across Flat			A	As	d Min. Opening
				F	H	Hs			
KUR-3M-1M	3	2	35.3	12	12	12	12.9	12.9	1.7
KUR-6M-2M	6	2	38.6	14	14	12	15.3	12.9	1.7
KUR-6M-3M		3	38.6						
KUR-6M-4M		4	39.4						
KUR-8M-6M	8	6	42.3	15	16	14	16.2	15.3	4.8
KUR-10M-6M	10	6	44.5	18	19	14	17.2	15.3	4.8
KUR-10M-8M		8	45.1			16		16.2	6.4
KUR-12M-6M	12	6	47.0	22	22	14	22.8	15.3	4.8
KUR-12M-8M		8	47.8			16		16.2	6.4
KUR-12M-10M		10	48.7			19		17.2	7.9
KUR-16M-10M	16	10	49.5	24	25	19	24.4	17.2	7.9
KUR-16M-12M		12	52.0			22		22.8	9.5
KUR-18M-12M	18	12	53.5	27	30	22	24.4	22.8	9.5
KUR-25M-18M	25	18	61.0	35	38	30	31.3	24.4	15.1
KUR-25M-20M		20	62.3			32		26.0	15.9
KUR-30M-18M	30	18	75.4	46	50	30	39.6	24.4	15.1
KUR-30M-20M		20	75.4			32		26.0	15.9
KUR-30M-25M		25	80.1			38		31.3	21.8
KUR-32M-18M	32	18	77.8	46	50	30	42.0	24.4	15.1
KUR-32M-20M		20	77.8			32		26.0	15.9
KUR-32M-25M		25	82.3			38		31.3	21.8
KUR-38M-20M	38	20	87.5	55	60	32	49.4	26.0	15.9
KUR-38M-25M		25	92.0			38		31.3	21.8
KUR-38M-30M		30	104.6			50		39.6	26.2

Connects Metric Tube To Fractional Tubes

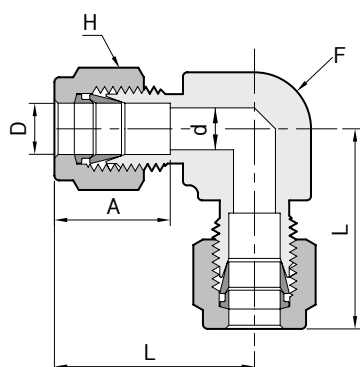
Part No.	Tube O.D. D	Tube O.D. Ds	L	Width Across Flat			A	As	d Min. Opening
				F	H	Hs			
KUR-3M-2	3	1/8	35.3	12	12	11.1	12.9	12.9	2.4
KUR-4M-2	4	1/8	36.5	12	12	11.1	13.7	12.9	2.4
KUR-4M-4		1/4	39.4	14		14.3		15.3	
KUR-6M-2	6	1/8	38.5	14	14	11.1	15.3	12.9	2.4
KUR-6M-4		1/4	41.0			14.3		15.9	4.8
KUR-6M-6		3/8	42.3			15.9		16.2	4.8
KUR-8M-4	8	1/4	42.3	15	16	14.3	16.2	15.3	4.8
KUR-10M-2	10	1/8	41.8	18	19	11.1	17.2	12.9	2.4
KUR-10M-4		1/4	45.5			14.3		15.3	4.8
KUR-10M-5		5/16	45.1			15.9		16.2	6.4
KUR-10M-6		3/8	45.9			17.5		16.9	7.1
KUR-12M-5	12	5/16	47.8	22	22	15.9	22.9	16.2	6.4
KUR-12M-6		3/8	48.4			17.5		16.9	7.1
KUR-12M-8		1/2	51.2			22.2		22.8	9.5
KUR-15M-8	15	1/2	52.0	24	25	22.2	24.4	22.8	10.3
KUR-16M-10	16	5/8	52.0	24	25	25.4	24.4	24.4	12.7
KUR-18M-12	18	3/4	53.5	27	30	28.6	24.4	24.4	15.1
KUR-20M-12	20	3/4	54.9	30	32	28.6	26.0	24.4	15.9
KUR-20M-16		1	60.3	35		38.1		31.2	
KUR-22M-16	22	1	60.3	35	32	38.1	26.0	31.2	18.3

Dimensions for reference only. subject to change.



KUE

Union Elbow



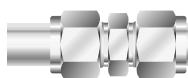
Finger tight assembly
dimensions (A, L)

Connects Fractional Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUE-1	1/16	17.88	3/8	5/16	8.63	1.27
KUE-2	1/8	22.35	3/8	7/16	12.70	2.28
KUE-3	3/16	24.38	1/2	1/2	13.71	3.04
KUE-4	1/4	26.92	1/2	9/16	15.24	4.82
KUE-5	5/16	28.70	9/16	5/8	16.25	6.35
KUE-6	3/8	30.48	5/8	11/16	16.76	7.11
KUE-8	1/2	36.06	13/16	7/8	22.86	10.41
KUE-10	5/8	38.80	15/16	1	24.38	12.70
KUE-12	3/4	39.87	1-1/16	1-1/8	24.38	15.74
KUE-14	7/8	44.70	1-3/8	1-1/4	25.90	18.28
KUE-16	1	49.02	1-3/8	1-1/2	31.24	22.35
KUE-20	1-1/4	66.54	1-11/16	1-7/8	41.14	27.68
KUE-24	1-1/2	77.97	2	2-1/4	50.03	34.03
KUE-32	2	107.18	2-3/4	3	67.56	45.97

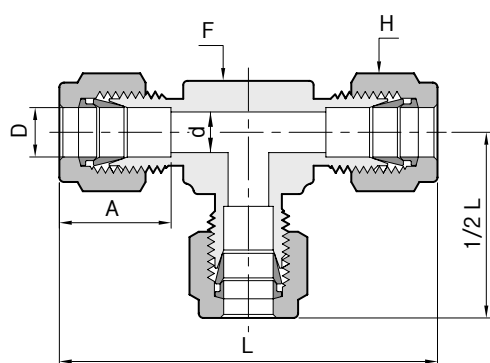
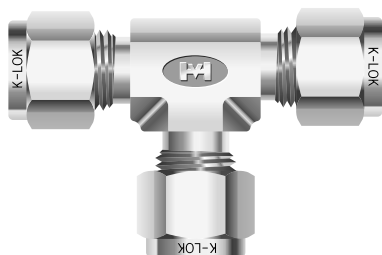
Connects Metric Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUE-2M	2	22.3	9.5	12	12.9	1.7
KUE-3M	3	22.3	9.5	12	12.9	2.4
KUE-4M	4	25.4	12.7	12	13.7	2.4
KUE-6M	6	27.0	12.7	14	15.3	4.8
KUE-8M	8	28.8	14.3	16	16.2	6.4
KUE-10M	10	31.5	17.5	19	17.2	7.9
KUE-12M	12	36.0	20.6	22	22.8	9.5
KUE-15M	15	38.8	25.4	25	24.4	11.9
KUE-16M	16	38.8	25.4	25	24.4	12.7
KUE-18M	18	39.8	27.0	30	24.4	15.1
KUE-20M	20	42.6	34.9	32	26.0	15.9
KUE-22M	22	42.6	34.9	32	26.0	18.3
KUE-25M	25	49.1	34.9	38	31.3	21.8
KUE-28M	28	64.0	41.0	46	36.6	21.8
KUE-32M	32	72.3	46.0	50	42.0	28.6
KUE-38M	38	84.0	55.0	60	49.4	33.7



KUT

Union Tee



Finger tight assembly dimensions(A, L)

Connects Fractional Tubes

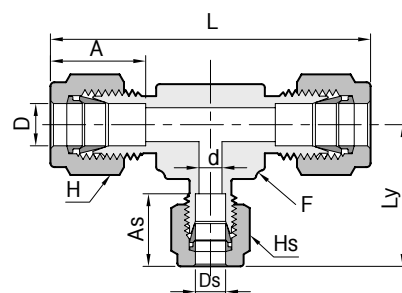
Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUT-1	1/16	35.76	3/8	5/16	8.63	1.27
KUT-2	1/8	44.70	3/8	7/16	12.70	2.28
KUT-3	3/16	48.76	1/2	1/2	13.71	3.04
KUT-4	1/4	53.84	1/2	9/16	15.24	4.82
KUT-5	5/16	57.40	9/16	5/8	16.25	6.35
KUT-6	3/8	60.96	5/8	11/16	16.76	7.11
KUT-8	1/2	72.12	13/16	7/8	22.86	10.41
KUT-10	5/8	77.60	15/16	1	24.38	12.70
KUT-12	3/4	79.74	1-1/16	1-1/8	24.38	15.74
KUT-14	7/8	89.40	1-3/8	1-1/4	25.90	18.28
KUT-16	1	98.04	1-3/8	1-1/2	31.24	22.35
KUT-20	1-1/4	133.08	1-11/16	1-7/8	41.14	27.68
KUT-24	1-1/2	155.94	2	2-1/4	50.03	34.03
KUT-32	2	214.36	2-3/4	3	67.56	45.97

Connects Metric Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUT-2M	2	44.6	9.5	12	12.9	1.7
KUT-3M	3	44.6	9.5	12	12.9	2.4
KUT-4M	4	50.8	12.7	12	13.7	2.4
KUT-6M	6	54.0	12.7	14	15.3	4.8
KUT-8M	8	57.6	14.3	16	16.2	6.4
KUT-10M	10	63.0	17.5	19	17.2	7.9
KUT-12M	12	72.0	20.6	22	22.8	9.5
KUT-15M	15	77.6	25.4	25	24.4	11.9
KUT-16M	16	77.6	25.4	25	24.4	12.7
KUT-18M	18	79.6	27.0	30	24.4	15.1
KUT-20M	20	85.2	34.9	32	26.0	15.9
KUT-22M	22	85.2	34.9	32	26.0	18.3
KUT-25M	25	98.2	34.9	38	31.3	21.8
KUT-28M	28	128.0	41.0	46	36.6	21.8
KUT-32M	32	144.6	46.0	50	42.0	28.6
KUT-38M	38	168.0	55.0	60	49.4	33.7

KRUT

Reducing Union Tee

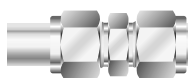


Finger tight assembly dimensions(A, As, L, Ly)

Connects Fractional Tubes

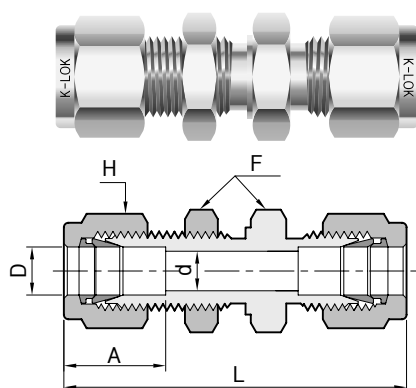
Part No.	Tube O.D. D	Tube O.D. Ds	L	Ly	Width Across Flat			A	As	d Min. Opening
					F	H	Hs			
KRUT-6-4	3/8	1/4	60.96	28.96	5/8	11/16	9/16	16.76	15.24	4.82
KRUT-8-4	1/2	1/4	72.14	31.75	13/16	7/8	9/16	22.86	15.24	4.82
KRUT-8-6	1/2	3/8	72.14	33.27	13/16	7/8	11/16	22.86	16.76	7.11
KRUT-10-6	5/8	3/8	77.72	36.07	1	1	11/16	24.38	16.76	7.11
KRUT-12-6	3/4	3/8	79.76	37.08	1-1/16	1-1/8	11/16	24.38	16.76	7.11
KRUT-12-8	3/4	1/2	79.76	39.88	1-1/16	1-1/8	7/8	24.38	22.86	10.41
KRUT-16-6	1	3/8	98.04	41.91	1-3/8	1-1/2	1-1/16	31.24	16.76	7.11
KRUT-16-8	1	1/2	98.04	44.70	1-3/8	1-1/2	7/8	31.24	21.84	10.41
KRUT-16-12	1	3/4	98.04	44.70	1-3/8	1-1/2	1-1/8	31.24	24.36	15.74
KRUT-20-16	1-1/4	1	133.08	55.12	1-11/16	1-7/8	1-1/2	41.14	31.24	22.35
KRUT-24-16	1-1/2	1	155.94	59.94	2	2-1/4	1-1/2	50.03	31.24	22.35
KRUT-32-16	2	1	214.36	70.87	2-3/4	3	1-1/2	67.56	31.24	22.35

Dimensions for reference only. subject to change.



KBU

Bulk Head Union



Finger tight assembly dimensions(A, L)

Connects Fractional Tubes

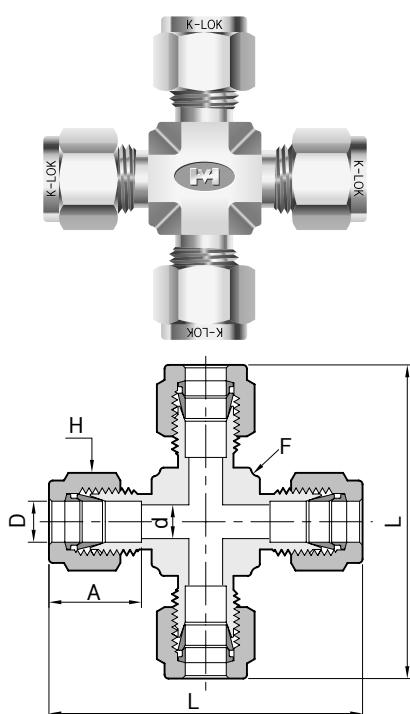
Part No.	Tube O.D. D	L	Width Across Flat		Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
			F	H				
KBU-1	1/16	31.50	5/16	5/16	5.16	3.05	8.63	1.27
KBU-2	1/8	51.30	1/2	7/16	8.33	12.70	12.70	2.28
KBU-3	3/16	53.59	9/16	1/2	9.92	12.70	13.71	3.04
KBU-4	1/4	57.65	5/8	9/16	11.50	10.16	15.24	4.82
KBU-5	5/16	60.70	11/16	5/8	13.09	11.17	16.25	6.35
KBU-6	3/8	62.23	3/4	11/16	14.68	11.17	16.76	7.11
KBU-8	1/2	71.12	15/16	7/8	19.44	12.70	22.86	10.41
KBU-10	5/8	72.64	1-1/16	1	22.62	12.70	24.38	12.70
KBU-12	3/4	78.99	1-3/16	1-1/8	25.79	16.76	24.38	15.74
KBU-14	7/8	84.58	1-3/8	1-1/4	28.97	19.05	25.90	18.28
KBU-16	1	95.75	1-5/8	1-1/2	33.73	19.05	31.24	22.35
KBU-20	1-1/4	123.19	1-7/8	1-7/8	41.67	19.05	41.14	27.68
KBU-24	1-1/2	139.19	2-1/4	2-1/4	49.61	19.05	50.03	34.03
KBU-32	2	180.34	2-3/4	3	67.07	19.05	67.56	45.97

Connects Metric Tubes

Part No.	Tube O.D. D	L	Width Across Flat		Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
			F	H				
KBU-3M	3	51.3	14	12	8.3	12.7	12.9	2.4
KBU-4M	4	53.6	14	12	9.9	12.7	13.7	2.4
KBU-6M	6	57.7	16	14	11.5	10.2	15.3	4.8
KBU-8M	8	61.0	18	16	13.1	11.2	16.2	6.4
KBU-10M	10	63.7	22	19	16.2	11.2	17.2	7.9
KBU-12M	12	71.0	24	22	19.5	12.7	22.8	9.5
KBU-15M	15	72.5	27	25	25.8	12.7	24.4	11.9
KBU-16M	16	72.5	27	25	22.8	12.7	24.4	12.7
KBU-18M	18	79.0	30	30	26.0	16.8	24.4	15.1
KBU-20M	20	84.5	35	32	29.0	17.0	26.0	15.9
KBU-22M	22	84.5	35	32	29.0	19.1	26.0	18.3
KBU-25M	25	95.9	41	38	33.7	19.1	31.3	21.8
KBU-32M	32	128.3	50	50	42.5	19.1	42.0	28.6
KBU-38M	38	144.6	60	60	50.5	19.1	49.4	33.7

KUC

Union Cross



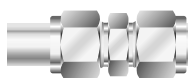
Finger tight assembly dimensions(A, L)

Connects Fractional Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUC-1	1/16	35.76	3/8	5/16	8.63	1.27
KUC-2	1/8	44.70	3/8	7/16	12.70	2.28
KUC-3	3/16	48.76	1/2	1/2	13.71	3.04
KUC-4	1/4	53.84	1/2	9/16	15.24	4.82
KUC-5	5/16	57.40	1/2	5/8	16.25	6.35
KUC-6	3/8	60.96	11/16	11/16	16.76	7.11
KUC-8	1/2	72.12	13/16	7/8	22.86	10.41
KUC-10	5/8	77.60	13/16	1	24.38	12.70
KUC-12	3/4	79.74	1	1-1/8	24.38	15.74
KUC-14	7/8	89.40	1-3/8	1-1/4	25.90	18.28
KUC-16	1	98.04	1-3/8	1-1/2	31.24	22.35

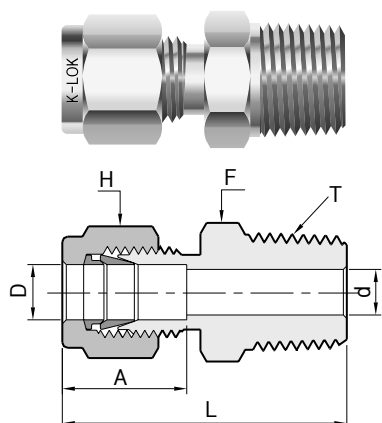
Connects Metric Tubes

Part No.	Tube O.D. D	L	Width Across Flat		A	d Min. Opening
			F	H		
KUC-3M	3	44.6	9.5	12	12.9	2.4
KUC-6M	6	54.0	12.7	14	15.3	4.8
KUC-8M	8	57.6	14.3	16	16.2	6.4
KUC-10M	10	63.0	17.5	19	17.2	7.9
KUC-12M	12	72.0	20.6	22	22.8	9.5
KUC-16M	16	77.6	25.4	25	24.4	12.7
KUC-18M	18	79.6	27.0	30	24.4	15.1
KUC-20M	20	85.2	34.9	32	26.0	15.9
KUC-25M	25	98.2	34.9	38	31.3	21.8



KMC

Male Connector



Finger tight assembly dimensions(A, L)

Connects Fractional Tube To Female NPT Thread

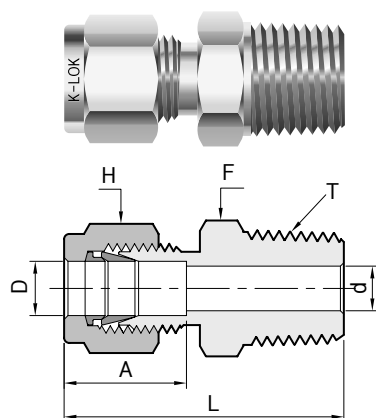
Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KMC-1-1N KMC-1-2N KMC-1-3N	1/16	1/16 1/8 1/4	23.38 26.23 30.98	5/16 7/16 9/16	5/16	8.63	1.27
KMC-2-1N KMC-2-2N KMC-2-4N KMC-2-6N KMC-2-8N	1/8	1/16 1/8 1/4 3/8 1/2	29.71 30.48 35.56 35.81 42.16	7/16 7/16 9/16 11/16 7/8	7/16	12.70	2.28
KMC-3-2N KMC-3-4N	3/16	1/8 1/4	31.24 36.32	7/16 9/16	1/2	13.71	3.04
KMC-4-1N KMC-4-2N KMC-4-4N KMC-4-6N KMC-4-8N KMC-4-12N	1/4	1/16 1/8 1/4 3/8 1/2 3/4	32.76 32.76 37.84 38.35 44.70 46.22	1/2 1/2 9/16 11/16 7/8 1-1/16	9/16	15.24	4.82
KMC-5-2N KMC-5-4N KMC-5-6N	5/16	1/8 1/4 3/8	34.03 38.60 39.11	9/16 9/16 11/16	5/8	16.25	4.82 6.35 6.35
KMC-6-2N KMC-6-4N KMC-6-6N KMC-6-8N KMC-6-12N	3/8	1/8 1/4 3/8 1/2 3/4	35.30 39.87 39.87 46.22 47.75	5/8 5/8 11/16 7/8 1-1/16	11/16	16.76	4.82 7.11 7.11 7.11 7.11
KMC-8-2N KMC-8-4N KMC-8-6N KMC-8-8N KMC-8-12N KMC-8-16N	1/2	1/8 1/4 3/8 1/2 3/4 1	38.86 43.43 43.43 49.02 50.54 57.15	13/16 13/16 13/16 7/8 1-1/16 1-3/8	7/8	22.86	4.82 7.11 9.65 10.41 10.41 10.41
KMC-10-6N KMC-10-8N KMC-10-12N	5/8	3/8 1/2 3/4	44.19 49.02 50.54	15/16 15/16 1-1/16	1	24.38	9.65 11.93 12.70
KMC-12-8N KMC-12-12N KMC-12-16N	3/4	1/2 3/4 1	50.54 50.54 57.15	1-1/16 1-1/16 1-3/8	1-1/8	24.38	11.93 15.74 15.74
KMC-14-12N KMC-14-16N	7/8	3/4 1	50.54 57.15	1-3/16 1-3/8	1-1/4	25.90	15.74 18.28
KMC-16-8N KMC-16-12N KMC-16-16N	1	1/2 3/4 1	57.40 57.40 62.23	1-3/8	1-1/2	31.24	11.93 15.74 22.35
KMC-20-16N KMC-20-20N	1-1/4	1 1-1/4	77.21	1-3/4	1-7/8	41.14	22.35 27.68
KMC-24-24N	1-1/2	1-1/2	88.90	2-1/8	2-1/4	50.03	34.03
KMC-32-32N	2	2	113.53	2-3/4	3	67.56	45.97

Dimensions for reference only. subject to change.



KMC

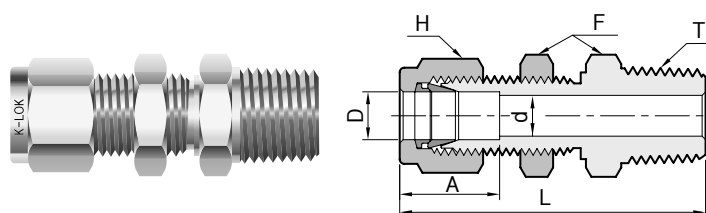
Male Connector



Finger tight assembly dimensions(A, L)

Connects Metric Tube To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KMC-2M-2N	2	1/8	30.5	12	12	12.9	1.7
KMC-3M-1N	3	1/16	30.5	12	12	12.9	2.4
KMC-3M-2N		1/8	35.6	14			
KMC-4M-2N	4	1/8	31.2	12	12	13.7	2.4
KMC-4M-4M		1/4	36.3	14			
KMC-6M-2N	6	1/8	32.8	14	14	15.3	4.8
KMC-6M-4N		1/4	37.9	14			
KMC-6M-6N		3/8	38.4	18			
KMC-6M-8N		1/2	44.7	22			
KMC-8M-2N	8	1/8	34.2	15	16	16.2	4.8
KMC-8M-4N		1/4	38.7	15			6.4
KMC-8M-6N		3/8	39.3	18			6.4
KMC-8M-8N		1/2	45.6	22			6.4
KMC-10M-2N	10	1/8	36.3	18	19	17.2	4.8
KMC-10M-4N		1/4	40.9	18			7.1
KMC-10M-6N		3/8	40.9	18			7.9
KMC-10M-8N		1/2	46.5	22			7.9
KMC-10M-12N		3/4	48.0	27			7.9
KMC-12M-2N	12	1/8	38.8	22	22	22.8	4.8
KMC-12M-4N		1/4	43.4	22			7.1
KMC-12M-6N		3/8	43.4	22			9.5
KMC-12M-8N		1/2	49.0	22			9.5
KMC-12M-12N		3/4	50.5	27			9.5
KMC-14M-4N	14	1/4	44.1	24	25	24.4	7.1
KMC-14M-6N		3/8	44.1				9.5
KMC-14M-8N		1/2	49.0				11.1
KMC-15M-8N	15	1/2	49.0	24	25	24.4	11.9
KMC-16M-6N	16	3/8	44.1	24	25	24.4	9.5
KMC-16M-8N		1/2	49.0	24			11.9
KMC-16M-12N		3/4	50.5	27			12.7
KMC-18M-8N	18	1/2	50.5	27	30	24.4	11.9
KMC-18M-12N		3/4					15.1
KMC-20M-8N	20	1/2	52.3	30	32	26.0	11.9
KMC-20M-12N		3/4					15.9
KMC-22M-12N	22	3/4	52.3	30	32	26.0	15.9
KMC-22M-16N		1	57.1	35			18.3
KMC-25M-8N	25	1/2	57.5	35	38	31.3	11.9
KMC-25M-12N		3/4	57.5				15.9
KMC-25M-16N		1	62.3				21.8
KMC-28M-16N	28	1	72.4	41	46	36.6	21.8
KMC-28M-20N		1-1/4	73.1	46			
KMC-30M-20N	30	1-1/4	77.2	46	50	39.6	26.2
KMC-32M-20N	32	1-1/4	79.6	46	50	42.0	28.6
KMC-38M-24N	38	1-1/2	91.6	55	60	49.4	33.7



Finger tight assembly dimensions(A, L)

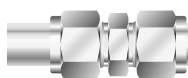
KBMC

BulkHead Male Connector

Connects Fractional Tube To Female NPT Thread

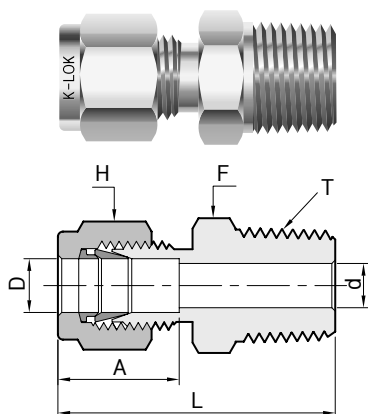
Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
				F	H				
KBMC-2-2N	1/8	1/8	46.48	1/2	7/16	8.33	12.70	12.70	2.28
KBMC-4-2N	1/4	1/8	49.53	5/8	9/16	11.50	10.16	15.24	4.82
KBMC-4-4N		1/4	53.54						
KBMC-6-2N	3/8	1/8	57.40	3/4	11/16	14.68	11.17	16.76	7.11
KBMC-6-6N		3/8	57.40	3/4					
KBMC-6-8N		1/2	63.75	7/8					
KBMC-8-6N	1/2	3/8	63.24	15/16	7/8	19.44	12.70	22.86	9.39
KBMC-8-8N		1/2	68.83						10.41
KBMC-12-12N	3/4	3/4	76.20	1-3/16	1-1/8	25.76	16.76	24.38	15.24
KBMC-16-16N	1	1	93.21	1-5/8	1-1/2	33.73	19.05	31.24	22.35

Dimensions for reference only. subject to change.



KMC

Male Connector



Finger tight assembly dimensions(A, L)

Connects Fractional Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KMC-2-2R KMC-2-4R	1/8	1/8 1/4	30.48 35.56	7/16 9/16	7/16	12.70	2.28
KMC-4-2R KMC-4-4R KMC-4-6R KMC-4-8R	1/4	1/8 1/4 3/8 1/2	32.77 37.85 38.35 45.47	1/2 9/16 11/16 7/8	9/16	15.24	4.81
KMC-5-2R KMC-5-4R	5/16	1/8 1/4	34.04 38.61	9/16	5/8	16.25	4.81 6.35
KMC-6-2R KMC-6-4R KMC-6-6R KMC-6-8R	3/8	1/8 1/4 3/8 1/2	35.31 39.88 39.88 46.23	5/8 5/8 11/16 7/8	11/16	16.76	4.81 7.11 7.11 7.11
KMC-8-4R KMC-8-6R KMC-8-8R KMC-8-12R	1/2	1/4 3/8 1/2 3/4	43.43 43.43 49.02 50.55	13/16 13/16 7/8 1-1/16	7/8	22.86	7.11 9.65 10.41 10.41
KMC-12-12R	3/4	3/4	50.55	1-1/16	1-1/8	24.38	15.74
KMC-16-16R	1	1	62.23	1-3/8	1-1/2	31.24	22.35

Connects Metric Tube To Female ISO Tapered Thread

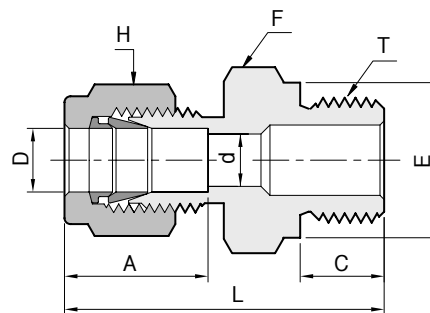
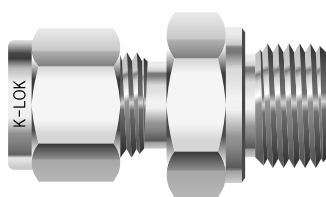
Part No.	Tube O.D. D	T (PT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KMC-2M-2R	2	1/8	30.5	12	12	12.9	1.7
KMC-3M-2R KMC-3M-4R	3	1/8 1/4	30.5 35.6	12 14	12	12.9	2.4
KMC-4M-2R KMC-4M-4R	4	1/8 1/4	31.2 36.3	12 14	12	13.7	2.4
KMC-6M-2R KMC-6M-4R KMC-6M-6R KMC-6M-8R	6	1/8 1/4 3/8 1/2	32.8 37.9 38.4 44.7	14 14 18 22	14	15.3	4.8
KMC-8M-2R KMC-8M-4R KMC-8M-6R KMC-8M-8R	8	1/8 1/4 3/8 1/2	34.2 38.7 39.2 45.6	15 15 18 22	16	16.2	4.8 6.4 6.4 6.4
KMC-10M-2R KMC-10M-4R KMC-10M-6R KMC-10M-8R	10	1/8 1/4 3/8 1/2	36.3 40.9 40.9 46.5	18 18 22 27	19	17.2	4.8 7.1 7.9 7.9
KMC-12M-4R KMC-12M-6R KMC-12M-8R KMC-12M-12R	12	1/4 3/8 1/2 3/4	43.4 43.4 49.0 50.5	22 22 22 27	22	22.8	7.1 9.5 9.5 9.5
KMC-15M-8R	15	1/2	49.0	24	24	24.4	11.9
KMC-16M-4R KMC-16M-6R KMC-16M-8R KMC-16M-12R	16	1/4 3/8 1/2 3/4	44.1 44.1 49.0 49.0	24 24 24 27	25	24.4	7.1 9.5 11.9 12.7
KMC-18M-8R KMC-18M-12R	18	1/2 3/4	50.5	27	30	24.4	11.9 15.1
KMC-20M-8R KMC-20M-12R	20	1/2 3/4	52.3	30	32	26.0	11.9 15.9
KMC-22M-12R KMC-22M-16R	22	3/4 1	52.3 57.1	30 35	32	26.0	15.9 18.3
KMC-25M-12R KMC-25M-16R	25	3/4 1	57.5 62.3	35	38	31.3	15.9 21.8
KMC-28M-16R KMC-28M-20R	28	1 1-1/4	72.3 73.1	41 46	46	36.6	21.8
KMC-32M-20R	32	1-1/4	79.6	46	50	42.0	28.6
KMC-38M-24R	38	1-1/2	91.6	55	60	49.4	33.7

Dimensions for reference only. subject to change.



KMCC

Male Connector (For Copper Gasket)



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Female ISO Parallel Thread

Part No.	Tube O.D. D	T (PF)	L	C	E	Width Across Flat		A	d Min. Opening
						F	H		
KMCC-2-2G	1/8	1/8	29.97	7.11	13.72	9/16	7/16	12.70	2.28
KMCC-2-4G		1/4	35.31	11.18	18.03	3/4			
KMCC-2-6G		3/8	36.32	11.18	21.84	7/8			
KMCC-4-2G	1/4	1/8	32.26	7.11	13.72	9/16	9/16	15.24	4.06
KMCC-4-4G		1/4	37.59	11.18	18.03	3/4			4.82
KMCC-4-6G		3/8	38.86	11.18	21.84	7/8			4.82
KMCC-4-8G		1/2	44.70	14.22	25.91	1-1/16			4.82
KMCC-6-4G	3/8	1/4	39.12	11.18	18.03	3/4	11/16	16.76	5.84
KMCC-6-6G		3/8	40.37	11.18	21.84	7/8			7.11
KMCC-6-8G		1/2	46.23	14.22	25.91	1-1/16			7.11
KMCC-8-4G	1/2	1/4	42.67	11.18	18.03	13/16	7/8	22.86	5.84
KMCC-8-6G		3/8	43.18	11.18	21.84	7/8			7.87
KMCC-8-8G		1/2	49.02	14.22	25.91	1-1/16			10.41
KMCC-12-8G	3/4	1/2	49.02	14.22	25.91	1-1/16	1-1/8	24.38	11.93
KMCC-12-12G		3/4	42.83	15.74	32.00	1-5/16			15.74
KMCC-16-8G	1	1/2	55.88	14.22	25.91	1-3/8	1-1/2	31.24	11.93
KMCC-16-16G		1	59.94	18.29	39.11	1-5/8			19.81

Connects Metric Tube To Female ISO Parallel Thread

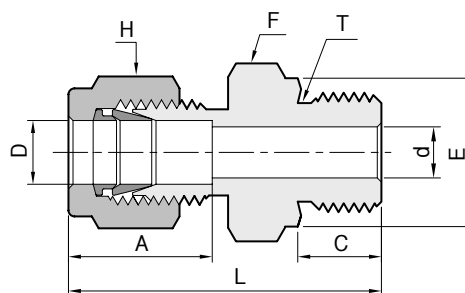
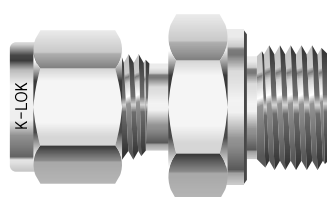
Part No.	Tube O.D. D	T (PF)	L	C	E	Width Across Flat		A	d Min. Opening
						F	H		
KMCC-2M-2G	2	1/8	30.0	7.1	13.8	14	12	12.9	1.7
KMCC-3M-2G	3	1/8	30.0	7.1	13.8	14	12	12.9	2.4
KMCC-3M-4G		1/4	35.3	11.2	18.0	19			
KMCC-4M-2G	4	1/8	30.7	7.1	13.8	14	12	13.7	2.4
KMCC-6M-2G	6	1/8	32.3	7.1	13.8	14	14	15.3	4.0
KMCC-6M-4G		1/4	37.6	11.2	18.0	19			4.8
KMCC-6M-6G		3/8	38.9	11.2	21.8	22			4.8
KMCC-6M-8G		1/2	44.7	14.2	26.0	27			4.8
KMCC-8M-2G	8	1/8	33.2	7.1	13.8	15	16	16.2	4.0
KMCC-8M-4G		1/4	38.5	11.2	18.0	19			6.4
KMCC-8M-6G		3/8	39.8	11.2	21.8	22			6.4
KMCC-8M-8G		1/2	45.6	14.2	26.0	27			6.4
KMCC-10M-4G	10	1/4	39.4	11.2	18.0	19	19	17.2	5.9
KMCC-10M-6G		3/8	40.6	11.2	21.8	22			7.9
KMCC-10M-8G		1/2	46.5	14.2	26.0	27			7.9
KMCC-12M-2G	12	1/8	42.6	11.2	18.0	22	22	22.8	5.9
KMCC-12M-4G		1/4	43.1	11.2	21.8	22			7.9
KMCC-12M-6G		3/8	49.0	14.2	29.0	27			9.5
KMCC-12M-12G		1/2	52.8	15.7	32.0	35			9.5
KMCC-16M-6G	16	3/8	43.9	11.2	21.8	24	25	24.4	7.9
KMCC-16M-12G		3/4	49.0	14.2	26.0	27			11.9
KMCC-18M-8G	18	1/2	49.0	14.2	26.0	27	30	24.4	11.9
KMCC-18M-12G		3/4	52.8	15.7	32.0	35			15.9
KMCC-20M-8G	20	1/2	50.5	14.2	26.0	30	32	26.0	11.9
KMCC-20M-12G		3/4	52.8	15.7	32.0	35			15.9
KMCC-22M-12G	22	3/4	52.8	15.7	32.0	35	32	26.0	15.9
KMCC-22M-16G		1	55.3	18.3	39.0	41			18.3
KMCC-25M-12G	25	3/4	57.5	15.7	32.0	35	38	31.3	15.9
KMCC-25M-16G		1	60.0	18.3	39.0	41			19.8
KMCC-28M-16G	28	1	70.0	18.3	39.0	41	46	36.6	19.8
KMCC-28M-20G		1-1/4	74.0	19.8	49.0	50			21.8
KMCC-30M-20G	30	1-1/4	76.5	19.8	49.0	50	50	39.6	25.0
KMCC-32M-20G	32	1-1/4	79.0	19.8	49.0	50	50	42.0	25.0
KMCC-38M-24G	38	1-1/2	90.8	22.1	54.7	55	60	49.4	31.8

Dimensions for reference only. subject to change.



KMCM

Male Connector (For Metal Gasket)



Finger tight assembly dimensions(A, L)

Connects Fractional Tube To Female ISO Parallel Thread

Part No.	Tube O.D. D	T (PF)	L	C	E	Width Across Flat		A	d Min. Opening
						F	H		
KMCM-2-2G KMCM-2-4G	1/8	1/8 1/4	29.97 35.30	7.11 11.18	13.72 18.03	9/16 3/4	7/16	12.70	2.28
KMCM-4-2G KMCM-4-4G	1/4	1/8 1/4	32.25 37.59	7.11 11.18	13.72 18.03	9/16 3/4	9/16	15.24	4.82
KMCM-8-8G	1/2	1/2	49.02	14.22	25.91	1-1/16	7/8	22.86	10.41

Connects Metric Tube To Female ISO Parallel Thread

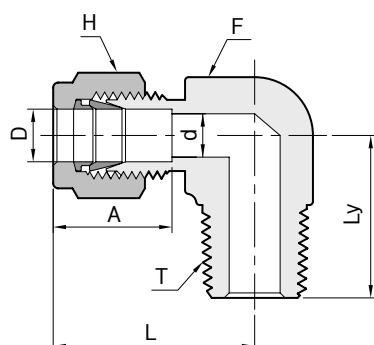
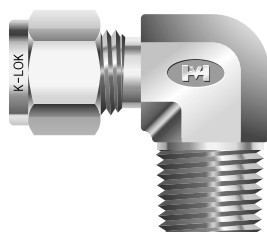
Part No.	Tube O.D. D	T (PF)	L	C	E	Width Across Flat		A	d Min. Opening
						F	H		
KMCM-3M-2G KMCM-3M-4G	3	1/8 1/4	30.0 35.3	7.1 11.2	13.8 18.0	14 19	12	12.9	2.4
KMCM-4M-2G	4	1/8	30.7	7.1	13.8	14	12	12.9	2.4
KMCM-6M-2G KMCM-6M-4G KMCM-6M-6G KMCM-6M-8G	6	1/8 1/4 3/8 1/2	32.3 37.6 38.9 44.7	7.1 11.2 11.2 14.2	13.8 18.0 21.8 26.0	14 19 22 27	14	15.3	4.0 4.8 4.8 4.8
KMCM-8M-2G KMCM-8M-4G KMCM-8M-6G KMCM-8M-8G	8	1/8 1/4 3/8 1/2	33.2 38.5 39.8 45.6	7.1 11.2 11.2 14.2	13.8 18.0 21.8 26.0	15 19 22 27	16	16.2	4.0 6.4 6.4 6.4
KMCM-10M-4G KMCM-10M-6G KMCM-10M-8G	10	1/4 3/8 1/2	39.4 40.6 46.5	11.2 11.2 14.2	18.0 21.8 26.0	19 22 27	19	17.2	5.9 7.9 7.9
KMCM-12M-4G KMCM-12M-6G KMCM-12M-8G KMCM-12M-12G	12	1/4 3/8 1/2 3/4	42.6 43.1 49.0 52.8	11.2 11.2 14.2 15.7	18.0 21.8 26.0 32.0	22 22 27 35	22	22.9	5.9 7.9 9.5 9.5
KMCM-15M-8G	15	1/2	49.0	14.2	26.0	27	25	24.4	11.9
KMMC-16M-6G KMMC-16M-8G	16	3/8 1/2	43.9 49.0	11.2 14.2	21.8 26.0	24 27	25	24.4	7.9 11.9
KMCM-18M-8G KMCM-18M-12G	18	1/2 3/4	49.0 52.8	14.2 15.7	26.0 32.0	27 35	30	24.4	11.9 15.1
KMCM-20M-8G KMCM-20M-12G	20	1/2 3/4	50.5 52.8	14.2 15.7	26.0 32.0	30 35	32	26.0	11.9 15.9
KMCM-22M-12G KMCM-22M-16G	22	3/4 1	52.8 55.3	15.7 18.3	32.0 39.0	35 41	32	26.0	15.9 18.3
KMCM-25M-12G KMCM-25M-16G	25	3/4 1	57.5 60.0	15.7 18.3	32.0 39.0	35 41	38	31.3	15.9 19.8
KMCM-28M-16G KMCM-28M-20G	28	1 1-1/4	70.0 74.0	18.3 19.8	39.0 49.0	41 50	46	36.6	19.8 21.8
KMCM-30M-20G	30	1-1/4	76.5	19.8	49.0	50	50	39.6	26.2
KMCM-32M-20G	32	1-1/4	79.0	19.8	49.0	50	50	42.0	28.6
KMCM-38M-24G	38	1-1/2	89.3	20.6	54.7	55	60	49.4	31.8

Dimensions for reference only. subject to change.



KME

Male Elbow



Finger tight assembly dimensions(A, L)

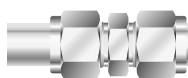
Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KME-1-1N KME-1-2N	1/16	1/16 1/8	19.05	17.78	7/16	5/16	8.63	1.27
KME-2-2N KME-2-4N	1/8	1/8 1/4	24.91	18.90 23.36	1/2	7/16	12.70	2.28
KME-3-2N KME-3-4N	3/16	1/8 1/4	25.40	18.79 23.36	1/2	1/2	13.71	3.04
KME-4-1N KME-4-2N KME-4-4N KME-4-6N KME-4-8N	1/4	1/16 1/8 1/4 3/8 1/2	26.90 26.47 27.18 29.71 31.97	18.79 19.10 23.87 28.40 35.10	1/2 1/2 1/2 11/16 13/16	9/16	15.24	3.04 4.82 4.82 4.82 4.82
KME-5-2N KME-5-4N KME-5-6N	5/16	1/8 1/4 3/8	28.70 29.77 30.48	19.81 24.50 28.40	9/16 9/16 11/16	5/8	16.25	4.82 6.35 6.35
KME-6-2N KME-6-4N KME-6-6N KME-6-8N KME-6-12N	3/8	1/8 1/4 3/8 1/2 3/4	30.48 30.48 31.24 31.42 37.08	20.60 25.40 28.40 33.02 36.83	5/8 5/8 11/16 13/16 1-1/16	11/16	16.76	4.82 7.11 7.11 7.11 7.11
KME-8-4N KME-8-6N KME-8-8N KME-8-12N	1/2	1/4 3/8 1/2 3/4	36.06 36.06 36.06 39.87	28.30 28.30 33.02 36.83	13/16 13/16 13/16 1-1/16	7/8	22.86	7.11 9.65 10.41 10.41
KME-10-6N KME-10-8N KME-10-12N	5/8	3/8 1/2 3/4	37.06 37.06 39.87	29.40 24.00 36.83	15/16 15/16 1-1/16	1	24.38	9.65 11.93 12.70
KME-12-8N KME-12-12N	3/4	1/2 3/4	39.87	37.00 36.83	1-1/16	1-1/8	24.38	11.93 15.74
KME-14-12N	7/8	3/4	44.70	41.65	1-3/8	1-1/4	25.90	15.74
KME-16-12N KME-16-16N	1	3/4 1	49.02	42.20 46.70	1-3/8	1-1/2	31.24	15.74 22.35
KME-20-20N	1-1/4	1-1/4	66.54	47.75	1-11/16	1-7/8	41.14	27.68
KME-24-24N	1-1/2	1-1/2	77.97	60.45	2	2-1/4	50.03	34.03
KME-32-32N	2	2	107.18	70.61	2-3/4	3	67.56	45.97

Connects Metric Tube To Female NPT Thread

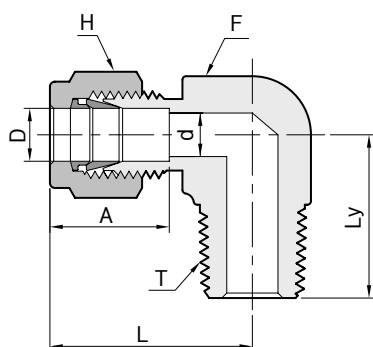
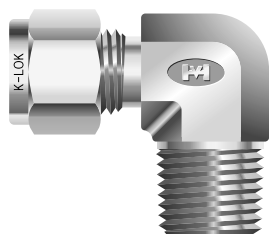
Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KME-3M-2N KME-3M-4N	3	1/8 1/4	23.6 24.6	17.8 23.4	12.7	12	12.9	2.4
KME-4M-2N KME-4M-4N	4	1/8 1/4	25.4	18.8 23.4	12.7	12	13.7	2.4
KME-6M-2N KME-6M-4N KME-6M-6N KME-6M-8N	6	1/8 1/4 3/8 1/2	27.0 27.0 29.8 31.8	18.8 23.4 26.2 33.0	12.7 12.7 17.5 20.6	14	15.3	4.8
KME-8M-2N KME-8M-4N KME-8M-6N KME-8M-8N	8	1/8 1/4 3/8 1/2	28.8 28.8 30.6 32.6	19.8 24.4 26.2 33.0	14.3 14.3 17.5 20.6	16	16.3	4.8 6.4 6.4 6.4
KME-10M-2N KME-10M-4N KME-10M-6N KME-10M-8N	10	1/8 1/4 3/8 1/2	31.5 31.5 31.5 33.5	31.6 26.6 26.2 33.0	17.5 17.5 17.5 20.6	19	17.2	4.8 7.1 7.9 7.9
KME-12M-4N KME-12M-6N KME-12M-8N KME-12M-12N	12	1/4 3/8 1/2 3/4	36.0 36.0 36.0 39.8	28.2 28.2 33.0 36.8	20.6 20.6 20.6 27.0	22	22.8	7.1 9.5 9.5 9.5
KME-16M-6N KME-16M-8N KME-16M-12N	16	3/8 1/2 3/4	38.0 38.0 39.8	30.2 35.1 36.8	25.4 25.4 27.0	25	24.4	9.5 11.9 12.7
KME-18M-8N KME-18M-12N	18	1/2 3/4	39.8	36.8	27.0	30	24.4	11.9 15.1
KME-20M-8N KME-20M-12N	20	1/2 3/4	44.6	41.7	34.9	32	26.0	11.9 15.9
KME-22M-12N KME-22M-16N	22	3/4 1	44.6	41.7 46.5	34.9	32	26.0	15.9 18.3
KME-25M-12N KME-25M-16N	25	3/4 1	49.1	41.7 46.5	34.9	38	31.3	15.9 21.8

Dimensions for reference only. subject to change.



KME

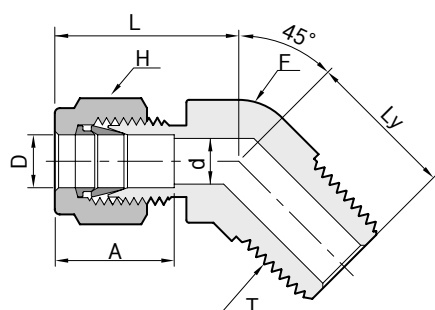
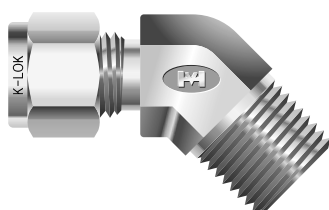
Male Elbow



Finger tight assembly dimensions(A, L)

Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KME-3M-2R KME-3M-4R	3	1/8 1/4	23.6 24.6	17.8 23.4	12.7	12	12.9	2.4
KME-4M-2R KME-4M-4R	4	1/8 1/4	25.4	18.8 23.4	12.7	12	13.7	2.4
KME-6M-2R KME-6M-4R KME-6M-6R KME-6M-8R	6	1/8 1/4 3/8 1/2	27.0 27.0 29.8 31.8	18.8 23.4 26.2 33.0	12.7 12.7 17.5 20.6	14	15.3	4.8
KME-8M-2R KME-8M-4R KME-8M-6R KME-8M-8R	8	1/8 1/4 3/8 1/2	28.8 28.8 31.4 32.6	19.8 24.4 26.2 33.0	14.3 14.3 17.5 20.6	16	16.2	4.8 6.4 6.4 6.4
KME-10M-2R KME-10M-4R KME-10M-6R KME-10M-8R	10	1/8 1/4 3/8 1/2	31.5 31.5 31.5 33.5	23.6 26.2 26.2 33.0	17.5 17.5 17.5 20.6	19	17.2	4.8 7.1 7.9 7.9
KME-12M-2R KME-12M-4R KME-12M-6R KME-12M-8R KME-12M-12R	12	1/8 1/4 3/8 1/2 3/4	36.0 36.0 36.0 36.0 39.8	23.6 28.2 28.2 33.0 36.8	20.6 20.6 20.6 20.6 27.0	22	22.8	4.8 7.1 9.5 9.5 9.5
KME-16M-6R KME-16M-8R KME-16M-12R	16	3/8 1/2 3/4	38.0 38.0 39.8	30.2 35.1 36.8	25.4 25.4 27.0	25	24.4	9.5 11.9 12.7
KME-18M-8R KME-18M-12R	18	1/2 3/4	39.8	36.8	27.0	30	24.4	11.9 15.1
KME-20M-8R KME-20M-12R	20	1/2 3/4	44.6	41.7	34.9	32	26.0	11.9 15.1
KME-22M-12R KME-22M-16R	22	3/4 1	44.6	41.7 46.5	34.9	32	26.0	15.9 18.3
KME-25M-12R KME-25M-16R	25	3/4 1	49.1	41.7 46.5	34.9	38	31.3	15.9 21.8



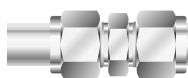
Finger tight assembly dimensions(A, L)

KMEQ

45° Male Elbow

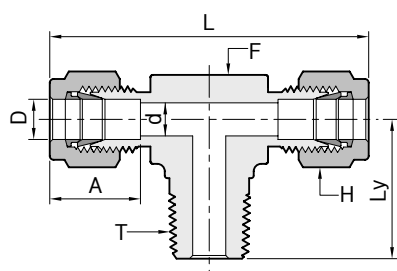
Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KMEQ-4-2N KMEQ-4-4N	1/4	1/8 1/4	24.63	16.51 21.08	1/2	9/16	15.24	4.82
KMEQ-6-2N KMEQ-6-4N KMEQ-6-6N	3/8	1/8 1/4 3/8	27.94 27.94 29.21	18.28 22.86 24.13	5/8 5/8 13/16	11/16	16.76	4.82 7.11 7.11
KMEQ-8-6N KMEQ-8-8N	1/2	3/8 1/2	32.00	24.13 28.95	13/16	7/8	22.86	9.65 10.41
KMEQ-12-12N	3/4	3/4	34.03	30.98	1-1/8	1-1/8	24.38	15.74
KMEQ-16-16N	1	1	40.38	37.84	1-3/8	1-1/2	31.24	22.35



KMBT

Male Branch Tee



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Female NPT Thread

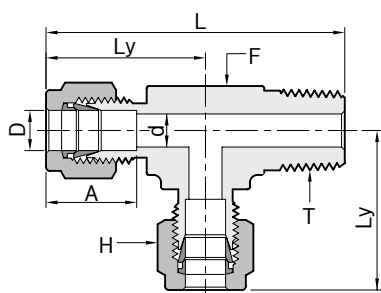
Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KMBT-2-2N	1/8	1/8	49.82	18.90	1/2	7/16	12.70	2.28
KMBT-2-4N	1/8	1/4	49.82	23.36	1/2	7/16	12.70	2.28
KMBT-3-2N	3/16	1/8	48.76	18.79	1/2	1/2	13.71	3.04
KMBT-4-2N	1/4	1/8	53.84	18.79	1/2	9/16	15.24	4.82
KMBT-4-4N	1/4	1/4	54.16	23.87	1/2	9/16	15.24	4.82
KMBT-5-2N	5/16	1/8	59.42	20.82	9/16	5/8	16.25	4.82
KMBT-6-4N	3/8	1/4	60.96	25.40	5/8	11/16	16.76	7.11
KMBT-6-6N	3/8	3/8	62.48	26.20	11/16	11/16	16.76	7.11
KMBT-8-6N	1/2	3/8	72.12	28.19	13/16	7/8	22.86	10.41
KMBT-8-8N	1/2	1/2	72.12	33.02	13/16	7/8	22.86	10.41
KMBT-10-8N	5/8	1/2	76.20	35.05	15/16	1	24.38	11.93
KMBT-12-12N	3/4	3/4	76.70	36.83	1-1/16	1-1/8	24.38	15.74

Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KMBT-3M-2R	3	1/8	47.2	17.8	12.7	12	12.9	2.4
KMBT-3M-4R	3	1/4	49.2	23.4	12.7	12	12.9	2.4
KMBT-4M-2R	4	1/8	50.8	18.8	12.7	12	13.7	2.4
KMBT-6M-2R	6	1/8	54.0	18.8	12.7	14	15.3	4.8
KMBT-6M-4R	6	1/4	54.0	23.4	14.3	14	15.3	4.8
KMBT-8M-2R	8	1/8	57.6	19.8	14.3	16	16.2	4.8
KMBT-8M-4R	8	1/4	57.6	24.4	14.3	16	16.2	6.4
KMBT-10M-4R	10	1/4	63.0	28.2	17.5	19	17.2	7.1
KMBT-10M-6R	10	3/8	63.0	28.2	17.5	19	17.2	7.9
KMBT-12M-4R	12	1/4	72.0	28.2	20.6	22	22.8	7.1
KMBT-12M-6R	12	3/8	72.0	28.2	20.6	22	22.8	9.5
KMBT-12M-8R	12	1/2	72.0	33.0	20.6	22	22.8	9.5
KMBT-16M-6R	16	3/8	76.0	30.2	25.4	25	24.4	9.5
KMBT-16M-8R	16	1/2	76.0	35.1	25.4	25	24.4	11.9
KMBT-20M-12R	20	3/4	89.2	41.7	34.9	32	26.0	15.9

KMRT

Male Run Tee



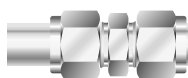
Finger tight assembly dimensions (A, L, Ly)

Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KMRT-2-2N	1/8	1/8	43.81	24.91	1/2	7/16	12.70	2.28
KMRT-2-4N	1/8	1/4	48.27	24.91	1/2	7/16	12.70	2.28
KMRT-3-2N	3/16	1/8	43.17	24.38	1/2	1/2	13.71	3.04
KMRT-4-2N	1/4	1/8	45.71	26.92	1/2	9/16	15.24	4.82
KMRT-4-4N	1/4	1/4	50.95	27.08	1/2	9/16	15.24	4.82
KMRT-5-2N	5/16	1/8	50.53	29.71	9/16	5/8	16.25	4.82
KMRT-6-4N	3/8	1/4	55.88	30.48	5/8	11/16	16.76	7.11
KMRT-6-6N	3/8	3/8	57.44	31.24	11/16	11/16	16.76	7.11
KMRT-8-6N	1/2	3/8	64.25	36.06	13/16	7/8	22.86	9.65
KMRT-8-8N	1/2	1/2	69.08	36.06	13/16	7/8	22.86	10.41
KMRT-10-8N	5/8	1/2	73.15	38.10	15/16	1	24.38	11.93
KMRT-12-12N	3/4	3/4	73.65	39.87	1-1/16	1-1/8	24.38	15.74

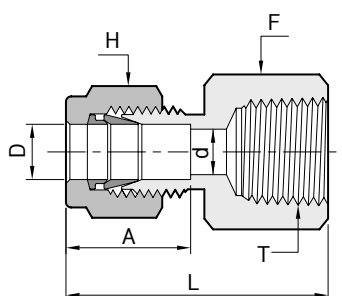
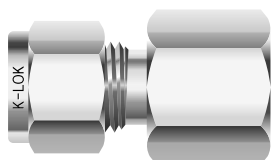
Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KMRT-3M-2R	3	1/8	41.4	23.6	12.7	12	12.9	2.4
KMRT-3M-4R	3	1/4	48.0	24.6	12.7	12	12.9	2.4
KMRT-4M-2R	4	1/8	44.2	25.4	12.7	12	13.7	2.4
KMRT-6M-2R	6	1/8	45.8	27.0	12.7	14	15.3	4.8
KMRT-6M-4R	6	1/4	50.4	27.0	14.3	14	15.3	4.8
KMRT-8M-2R	8	1/8	48.6	28.8	14.3	16	16.2	4.8
KMRT-8M-4R	8	1/4	53.2	28.8	14.3	16	16.2	6.4
KMRT-10M-4R	10	1/4	64.2	31.5	17.5	19	17.2	7.1
KMRT-10M-6R	10	3/8	59.7	31.5	17.5	19	17.2	7.9
KMRT-12M-4R	12	1/4	64.2	36.0	20.6	22	22.8	7.1
KMRT-12M-6R	12	3/8	64.2	36.0	20.6	22	22.8	9.5
KMRT-12M-8R	12	1/2	69.0	36.0	20.6	22	22.8	9.5
KMRT-16M-6R	16	3/8	68.2	38.0	25.4	25	24.4	9.5
KMRT-16M-8R	16	1/2	73.1	38.0	25.4	25	24.4	11.9
KMRT-20M-12R	20	3/4	86.3	44.6	34.9	32	26.0	15.9



KFC

Female Connector



Finger tight assembly dimensions (A, L)

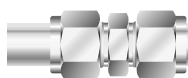
Connects Fractional Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KFC-1-1N KFC-1-2N	1/16	1/16 1/8	23.62 24.38	7/16 9/16	5/16	8.63	1.27
KFC-2-2N KFC-2-4N	1/8	1/8 1/4	28.70 33.52	9/16 3/4	7/16	12.70	2.28
KFC-3-2N	3/16	1/8	29.71	9/16	1/2	13.71	3.04
KFC-4-2N KFC-4-4N KFC-4-6N KFC-4-8N	1/4	1/8 1/4 3/8 1/2	31.24 35.81 37.59 42.41	9/16 3/4 7/8 1-1/16	9/16	15.24	4.82
KFC-5-2N KFC-5-4N	5/16	1/8 1/4	32.00 36.83	9/16 3/4	5/8	16.25	6.35
KFC-6-2N KFC-6-4N KFC-6-6N KFC-6-8N KFC-6-12N	3/8	1/8 1/4 3/8 1/2 3/4	32.76 37.59 39.11 43.94 47.75	5/8 3/4 7/8 1-1/16 1-5/16	11/16	16.76	7.11
KFC-8-4N KFC-8-6N KFC-8-8N KFC-8-12N	1/2	1/4 3/8 1/2 3/4	40.38 41.91 46.73 48.26	1-3/16 7/8 1-1/16 1-5/16	7/8	22.86	10.41
KFC-10-6N KFC-10-8N KFC-10-12N	5/8	3/8 1/2 3/4	41.91 46.73 48.26	15/16 1-1/16 1-5/16	1	24.38	12.70
KFC-12-8N KFC-12-12N	3/4	1/2 3/4	46.73 48.26	1-1/16 1-5/16	1-1/8	24.38	15.74
KFC-14-12N	7/8	3/4	49.78	1-5/16	1-1/4	25.90	18.28
KFC-16-12N KFC-16-16N	1	3/4 1	53.34 62.23	1-3/8 1-5/8	1-1/2	31.24	22.35
KFC-20-20N	1-1/4	1-1/4	74.67	2-1/8	1-7/8	41.14	27.68
KFC-24-24N	1-1/2	1-1/2	83.31	2-3/8	2-1/4	50.03	34.08
KFC-32-32N	2	2	101.60	2-7/8	3	67.56	45.97

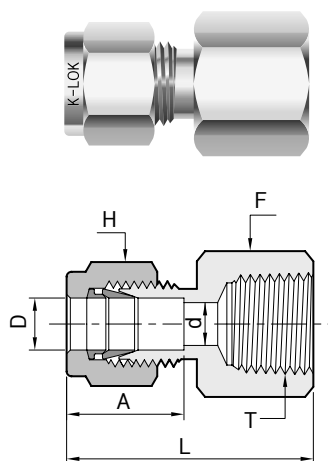
Connects Metric Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		A	ad Min. Opening
				F	H		
KFC-3M-2N KFC-3M-4N	3	1/8 1/4	28.7 33.5	14 19	12	12.9	2.4
KFC-4M-4N	4	1/4	29.7	14	12	13.7	2.4
KFC-6M-2N KFC-6M-4N KFC-6M-6N KFC-6M-8N	6	1/8 1/4 3/8 1/2	31.3 35.8 37.6 42.5	14 19 22 27	14	15.3	4.8
KFC-8M-2N KFC-8M-4N KFC-8M-6N KFC-8M-8N	8	1/8 1/4 3/8 1/2	32.1 37.0 38.5 43.3	15 19 22 27	16	16.2	6.4
KFC-10M-4N KFC-10M-6N KFC-10M-8N	10	1/4 3/8 1/2	37.8 39.4 44.2	19 22 27	19	17.2	7.9
KFC-12M-4N KFC-12M-6N KFC-12M-8N	12	1/4 3/8 1/2	40.3 41.9 46.7	22 22 27	22	22.8	9.5
KFC-15M-8N	15	1/2	46.7	27	25	24.4	11.9
KFC-16M-8N	16	1/2	46.9	27	25	24.4	12.7
KFC-20M-8N KFC-20M-12N	20	1/2 3/4	47.9 49.7	30 35	32	26.0	15.9
KFC-22M-12N KFC-22M-16N	22	3/4 1	49.7 57.9	35 41	32	26.0	18.3
KFC-25M-12N KFC-25M-16N	25	3/4 1	53.4 62.3	35 41	38	31.3	21.8

Dimensions for reference only. subject to change.



KFC Female Connector



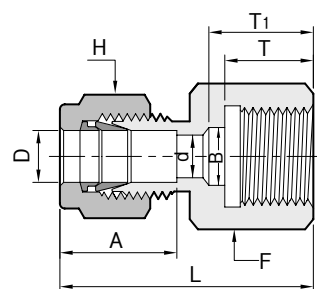
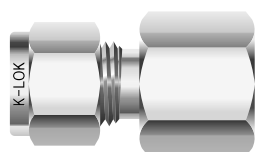
Finger tight assembly dimensions (A, L)

Connects Metric Tube To Male ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	Width Across Flat		A	d Min. Opening
				F	H		
KFC-3M-2R KFC-3M-4R	3	1/8 1/4	28.7 33.5	14 19	12	12.9	2.4
KFC-4M-2R	4	1/8	29.7	14	12	13.7	2.4
KFC-6M-2R KFC-6M-4R KFC-6M-6R KFC-6M-8R	6	1/8 1/4 3/8 1/2	31.3 35.8 36.9 42.5	14 19 22 27	14	15.3	4.8
KFC-8M-2R KFC-8M-4R KFC-8M-6R KFC-8M-8R	8	1/8 1/4 3/8 1/2	32.1 37.0 37.7 43.3	15 19 22 27	16	16.2	6.4
KFC-10M-2R KFC-10M-4R KFC-10M-6R KFC-10M-8R	10	1/8 1/4 3/8 1/2	33.0 37.8 38.6 44.2	18 19 22 27	19	17.2	7.9
KFC-12M-2R KFC-12M-4R KFC-12M-6R KFC-12M-8R KFC-12M-12R	12	1/8 1/4 3/8 1/2 3/4	38.5 40.3 41.1 46.7 49.0	22 22 22 27 35	22	22.8	8.3 9.5 9.5 9.5 9.5
KFC-15M-8R	15	1/2	46.7	27	25	24.4	11.9
KFC-16M-8R	16	1/2	46.9	27	25	24.4	12.7
KFC-20M-8R KFC-20M-12R	20	1/2 3/4	47.9 49.7	30 35	32	26.0	15.9
KFC-22M-12R KFC-22M-16R	22	3/4 1	49.7 57.9	35 41	32	26.0	18.3
KFC-25M-12R KFC-25M-16R	25	3/4 1	53.4 62.3	35 41	38	31.3	21.8

Finger tight assembly dimensions (A, L)

KFC ISO Parallel Thread Female Connector



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Male ISO Parallel Thread

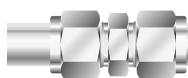
Part No.	Tube O.D. D	T (PF)	L	Width Across Flat		T	T ₁	B	A	d Min. Opening
				F	H					
KFC-4-2G KFC-4-4G KFC-4-6G KFC-4-8G	1/4	1/8 1/4 3/8 1/2	33.55 37.59 37.59 43.43	9/16 3/4 15/16 11/16	9/16	12.00 13.00 14.22 18.80	- 17.00 20.30 24.90	- 5.58 6.60 6.60	15.24	4.82
KFC-5-4G KFC-5-8G	5/16	1/4 1/2	38.35 40.38	3/4 1-1/16	5/8	13.00 18.80	- -	- -	16.25	5.58 7.11
KFC-6-2G KFC-6-6G KFC-6-8G	3/8	1/8 3/8 1/2	39.12 38.61 41.91	3/4 15/16 1-1/16	11/16	12.95 14.22 18.80	- -	- -	16.76	5.58 6.60 7.11
KFC-8-4G KFC-8-6G KFC-8-8G	1/2	1/4 3/8 1/2	41.95 44.45 48.26	7/8 15/16 1-1/16	7/8	13.00 14.24 18.80	- -	- 7.1	22.86	5.50 6.60 7.11

Finger tight assembly dimensions (A, L)

Connects Metric Tube To Male ISO Parallel Thread

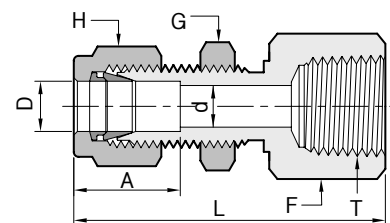
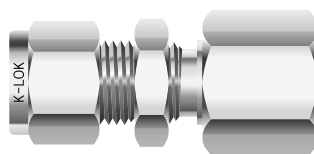
Part No.	Tube O.D. D	T (PF)	L	Width Across Flat		T	T ₁	B	A	d Min. Opening
				F	H					
KFC-3M-4G	3	1/4	35.3	19	12	13	17	5.5	12.9	2.4
KFC-6M-4G KFC-6M-6G KFC-6M-8G	6	1/4 3/8 1/2	37.6 37.6 43.0	19 24 27	14	13 14 19	17 20 25	5.5 6.5 7.0	15.3	4.8
KFC-8M-4G KFC-8M-6G KFC-8M-8G	8	1/4 3/8 1/2	38.5 36.2 40.5	19 24 27	16	13 14 19	- -	- -	16.2	5.5 6.5 7.0
KFC-10M-4G KFC-10M-6G KFC-10M-8G	10	1/4 3/8 1/2	39.4 38.8 41.4	19 24 27	19	13 14 19	- -	- -	17.2	5.5 6.5 7.0
KFC-12M-4G KFC-12M-6G KFC-12M-8G	12	1/4 3/8 1/2	41.9 44.4 48.2	22 24 27	22	13 14 19	- -	- -	22.8	5.5 6.5 7.0
KFC-20M-8G	20	1/2	54.3	30	32	19	-	-	26.0	7.0
KFC-22M-8G	22	1/2	54.3	30	32	19	-	-	26.0	7.0

Finger tight assembly dimensions (A, L)



KBFC

Bulkhead Female Connector



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Male NPT Thread

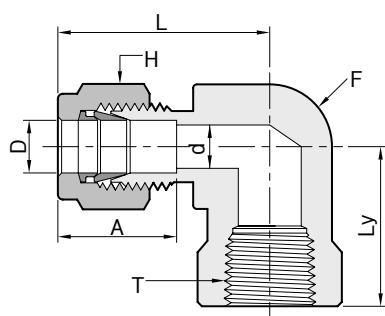
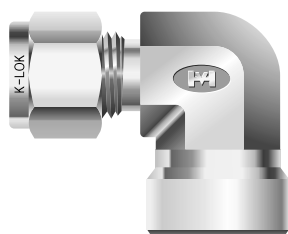
Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat			Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
				F	H	G				
KBFC-2-2N	1/8	1/8	44.70	9/16	7/16	1/2	8.33	12.70	12.70	2.28
KBFC-4-2N	1/4	1/8	46.99	5/8	9/16	5/8	11.50	10.16	15.24	4.82
KBFC-4-4N		1/4	51.81	3/4						
KBFC-6-4N	3/8	1/4	55.11	3/4	11/16	3/4	14.68	11.17	16.76	7.11
KBFC-8-6N	1/2	3/8	61.72	15/16	7/8	15/16	19.44	12.70	22.86	10.41
KBFC-8-8N		1/2	66.54	1-1/16						
KBFC-12-12N	3/4	3/4	73.51	1-1/4	1-1/8	1-3/16	25.79	16.76	24.38	15.74

Connects Metric Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat			Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
				F	H	G				
KBFC-6M-2N	6	1/8	46.9	15.8	14.0	15.8	11.5	10.2	15.3	4.8
KBFC-6M-4N		1/4	51.8	19.0		16.0				
KBFC-8M-4N	8	1/4	53.9	19.0	16.0	17.4	13.1	11.2	16.2	6.3
KBFC-12M-8N	12	1/2	66.5	27.0	22.0	24.0	19.5	12.7	22.8	9.5

KFE

Female Elbow



Finger tight assembly dimensions (A, L)

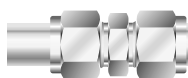
Connects Fractional Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFE-2-2N	1/8	1/8	24.63	19.05	1/2	7/16	12.70	2.28
KFE-2-4N		1/4	27.43	22.35	11/16			
KFE-3-2N	3/16	1/8	25.40	19.05	1/2	1/2	13.71	3.04
KFE-4-2N	1/4	1/8	26.92	19.05	1/2	9/16	15.24	4.82
KFE-4-4N		1/4	29.71	22.35	11/16			
KFE-4-6N		3/8	31.75	22.35	13/16			
KFE-4-8N		1/2	34.54	28.44	1			
KFE-5-2N	5/16	1/8	28.70	19.05	9/16	5/8	16.25	6.35
KFE-5-4N		1/4	30.48	22.35	11/16			
KFE-6-2N	3/8	1/8	30.48	19.05	5/8	11/16	16.76	7.11
KFE-6-4N		1/4	31.24	22.35	11/16			
KFE-6-6N		3/8	33.27	22.35	13/16			
KFE-6-8N		1/2	36.06	28.44	1			
KFE-8-4N	1/2	1/4	36.06	22.35	13/16	7/8	22.86	10.41
KFE-8-6N		3/8	36.06	22.35	13/16			
KFE-8-8N		1/2	38.86	28.44	1			
KFE-10-6N	5/8	3/8	38.10	22.35	15/16	1	24.38	12.70
KFE-10-8N		1/2	39.87	28.44	1			
KFE-12-8N	3/4	1/2	39.87	28.44	1-1/16	1-1/18	24.38	15.74
KFE-12-12N		3/4	44.70	31.75	1-3/8			
KFE-14-12N	7/8	3/4	44.70	31.75	1-3/8	1-1/4	25.90	18.28
KFE-16-12N	1	3/4	49.02	31.75	1-3/8	1-1/2	31.24	22.35
KFE-16-16N		1	50.29	38.10	1-11/16			

Connects Metric Tube To Male NPT Thread

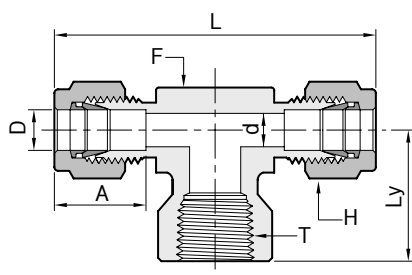
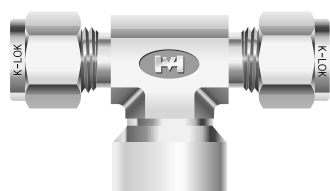
Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFE-6M-2N	6	1/8	27.0	19.0	12.7	14	15.3	4.8
KFE-6M-4N		1/4	29.8	22.4	17.5			
KFE-6M-6N		3/8	31.7	24.4	20.6			
KFE-6M-8N		1/2	34.6	28.4	25.4			
KFE-8M-4N	8	1/4	30.6	22.4	17.5	16	16.2	6.4
KFE-8M-8N		1/2	35.2	28.4	20.6			
KFE-10M-2N	10	1/8	31.5	19.0	17.5	19	17.2	7.9
KFE-10M-4N		1/4	33.5	22.35	17.5			
KFE-10M-6N		3/8	33.5	22.4	20.6			
KFE-10M-8N		1/2	36.1	28.4	25.4			
KFE-12M-4N	12	1/4	36.0	22.4	20.6	22	22.8	9.5
KFE-12M-6N		3/8	36.2	22.35	20.6			
KFE-12M-8N		1/2	38.8	28.4	25.4			
KFE-16M-8N	16	1/2	39.5	28.4	27.0	25	24.4	12.7

Dimensions for reference only. subject to change.



KFBT

Female Branch Tee



Finger tight assembly dimensions(A, L)

Connects Fractional Tube To Male NPT Thread

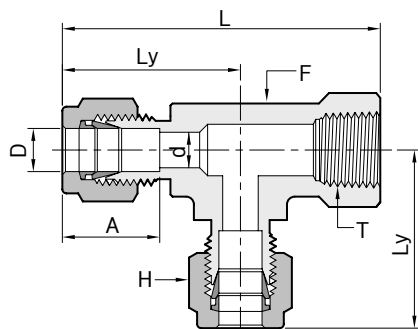
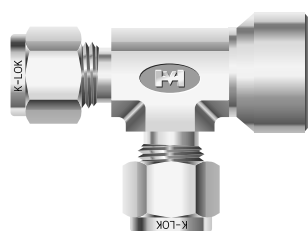
Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFBT-2-2N	1/8	1/8	48.76	19.05	1/2	7/16	12.70	2.28
KFBT-4-2N	1/4	1/8	53.84	19.05	1/2	9/16	15.24	4.82
KFBT-4-4N		1/4	59.42	22.35	11/16			
KFBT-6-4N	3/8	1/4	62.48	22.35	11/16	11/16	16.76	7.11
KFBT-8-4N	1/2	1/4	72.12	22.35	13/16	7/8	22.86	10.41
KFBT-8-6N		3/8	72.12	22.35	13/16			
KFBT-8-8N		1/2	77.72	28.44	1			
KFBT-10-8N	5/8	1/2	77.72	28.44	1	1	24.38	12.70
KFBT-12-12N	3/4	3/4	89.40	31.75	1-3/8	1-1/8	24.38	15.74
KFBT-16-12N	1	3/4	98.04	31.75	1-3/8	1-1/2	31.24	22.35
KFBT-16-16N		1	107.18	38.10	1-11/16			

Connects Metric Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFBT-6M-2N	6	1/8	54.0	19.0	12.7	14	15.3	4.8
KFBT-6M-4N		1/4	59.6	22.4	17.5			
KFBT-6M-6N		3/8	63.4	22.4	20.6			
KFBT-6M-8N		1/2	69.0	28.4	25.4			
KFBT-8M-2N	8	1/8	59.8	19.0	15.9	16	16.2	6.4
KFBT-8M-4N		1/4	61.2	22.4	17.5			
KFBT-8M-6N		3/8	64.8	22.4	20.6			
KFBT-8M-8N		1/2	70.4	28.4	25.4			
KFBT-10M-4N	10	1/4	67.0	22.4	20.6	19	17.2	7.9
KFBT-10M-6N		3/8	67.0		20.6			7.9
KFBT-10M-8N		1/2	67.2		25.4			9.5
KFBT-12M-4N	12	1/4	72.0	22.4	20.6	22	22.8	9.5
KFBT-12M-6N		3/8	72.0	22.4	20.6			
KFBT-12M-8N		1/2	80.0	28.4	25.4			
KFBT-16M-8N	16	1/2	80.0	28.7	25.4	25	24.4	12.7

KFRT

Female Run Tee



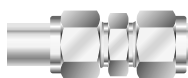
Finger tight assembly dimensions(A, L, Ly)

Connects Fractional Tube To Male NPT Thread

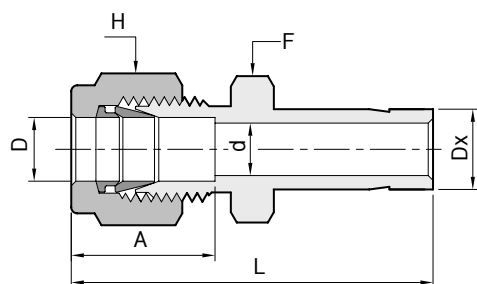
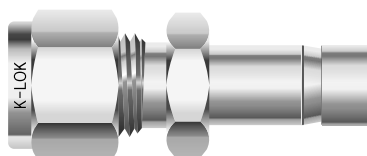
Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFRT-2-2N	1/8	1/8	43.68	24.63	1/2	7/16	12.70	2.28
KFRT-4-2N	1/4	1/8	45.97	26.92	1/2	9/16	15.24	4.82
KFRT-4-4N		1/4	52.06	29.71	11/16			
KFRT-6-4N	3/8	1/4	53.59	31.24	11/16	11/16	16.76	7.11
KFRT-8-6N	1/2	3/8	58.41	36.06	13/16	7/8	22.86	10.41
KFRT-8-8N		1/2	68.31	39.87	1			
KFRT-12-12N	3/4	3/4	76.45	44.70	1-3/8	1-1/8	24.38	15.74
KFRT-16-12N	1	3/4	80.77	49.02	1-3/8	1-1/2	31.24	22.35
KFRT-16-16N		1	91.69	53.59	1-11/16			

Connects Metric Tube To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Ly	Width Across Flat		A	d Min. Opening
					F	H		
KFRT-6M-2N	6	1/8	46.0	27.0	12.7	14	15.3	4.8
KFRT-6M-4N		1/4	52.2	29.8	17.5			
KFRT-6M-6N		3/8	54.1	31.7	20.6			
KFRT-6M-8N		1/2	62.9	34.5	25.4			
KFRT-8M-2N	8	1/8	48.9	29.9	15.9	16	16.2	6.4
KFRT-8M-4N		1/4	53.0	30.6	17.5			
KFRT-8M-6N		3/8	54.8	32.4	20.6			
KFRT-8M-8N		1/2	63.6	35.2	25.4			
KFRT-10M-4N	10	1/4	56.0	33.6	20.6	19	17.2	7.9
KFRT-10M-6N		3/8	56.0		20.6			
KFRT-10M-8N		1/2	62.0		25.4			
KFRT-12M-4N	12	1/4	58.4	36.0	20.6	22	22.8	9.5
KFRT-12M-6N		3/8	58.4	36.0	20.6			
KFRT-12M-8N		1/2	68.4	40.0	25.4			
KFRT-16M-8N	16	1/2	68.4	40.0	25.4	25	24.4	12.7



KR Reducer



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Fractional K-Lok Port

Part No.	Tube O.D.		L	Width Across Flat		A	d Min. Opening
	D	Dx		F	H		
KR-1-2 KR-1-4	1/16	1/8 1/4	29.21 31.49	5/16	5/16	8.63	1.27
KR-2-1 KR-2-2 KR-2-3 KR-2-4 KR-2-6 KR-2-8	1/8	1/16 1/8 3/16 1/4 3/8 1/2	28.95 33.52 34.29 36.06 37.59 44.19	7/16 7/16 7/16 7/16 7/16 9/16	7/16	12.70	0.76 2.03 2.28 2.28 2.28 2.28
KR-3-2 KR-3-4	3/16	1/8 1/4	34.79 37.08	7/16	1/2	13.71	2.03 3.04
KR-4-2 KR-4-3 KR-4-4 KR-4-5 KR-4-6 KR-4-8 KR-4-10 KR-4-12	1/4	1/8 3/16 1/4 5/16 3/8 1/2 5/8 3/4	36.83 37.59 39.11 39.87 40.64 46.22 48.00 47.75	1/2 1/2 1/2 1/2 1/2 9/16 11/16 13/16	9/16	15.24	2.03 3.04 4.82 4.82 4.82 4.82 4.82 4.82
KR-5-6 KR-5-8	5/16	3/8 1/2	41.91 47.49	9/16	5/8	16.25	6.35 6.35
KR-6-4 KR-6-6 KR-6-8 KR-6-10 KR-6-12	3/8	1/4 3/8 1/2 5/8 3/4	41.40 43.18 48.51 50.29 50.29	5/8 5/8 5/8 11/16 13/16	11/16	16.76	4.82 7.11 7.11 7.11 7.11
KR-8-4 KR-8-6 KR-8-8 KR-8-10 KR-8-12 KR-8-16	1/2	1/4 3/8 1/2 5/8 3/4 1	44.95 46.73 52.32 53.84 53.84 60.19	13/16 13/16 13/16 13/16 13/16 1-1/16	7/8	22.86	4.82 7.11 9.90 10.41 10.41 10.41
KR-10-12 KR-10-14 KR-10-16	5/8	3/4 7/8 1	54.61 56.13 60.96	15/16 15/16 1-1/16	1	24.38	12.70
KR-12-8 KR-12-16	3/4	1/2 1	54.61 62.48	1-1/16	1-1/8	24.38	9.90 15.74
KR-16-20 KR-16-24 KR-16-32	1	1-1/4 1-1/2 2	80.51 89.15 112.52	1-3/8 1-5/8 2-1/8	1-1/2	31.24	22.35
KR-20-24 KR-20-32	1-1/4	1-1/2 2	104.14 125.22	1-7/8	2-1/4 3	40.14	27.68
KR-24-32	1-1/2	2	131.31	2-1/4	3	50.03	34.03

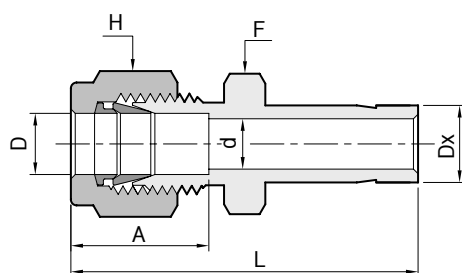
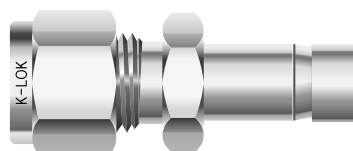
Connects Metric Tube To Fractional K-Lok Port

Part No.	Tube O.D.		L	Width Across Flat		A	d Min. Opening
	D	Dx		F	H		
KR-2M-2	2	1/8	33.5	12	12	12.9	1.7
KR-3M-2 KR-3M-4	3	1/8 1/4	33.5 36.1	12	12	12.9	2.0 2.4
KR-4M-4	4	1/4	37.1	12	12	13.7	2.4
KR-6M-2 KR-6M-4 KR-6M-5 KR-6M-6 KR-6M-8	6	1/8 1/4 5/16 3/8 1/2	36.9 39.2 39.9 40.7 46.3	14	14	15.3	2.0 4.8 4.8 4.8 4.8
KR-8M-6 KR-8M-8	8	3/8 1/2	42.0 47.6	15	16	16.2	6.4
KR-10M-6 KR-10M-8	10	3/8 1/2	44.2 49.8	18	19	17.2	7.1 7.9
KR-12M-8 KR-12M-12	12	1/2 3/4	52.3 53.8	22	22	22.8	9.5
KR-18M-12 KR-18M-16	18	3/4 1	56.1 62.4	27	30	24.4	15.1
KR-25M-16	25	1	69.5	35	38	31.3	20.1

Dimensions for reference only. subject to change.



KR Reducer

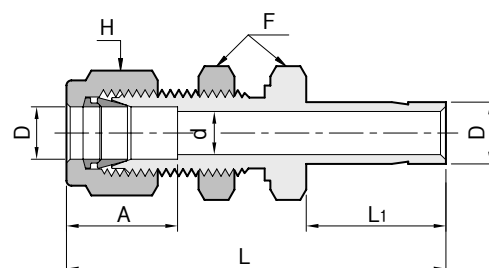
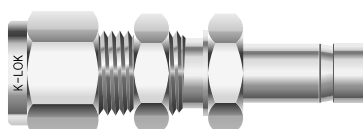


Finger tight assembly dimensions(A, L)

Connects Metric Tube To Metric K-Lok Port

Part No.	Tube O.D.		L	Width Across Flat		A	d Min. Opening
	D	Dx		F	H		
KR-2M-3M	2	3	33.5	12	12	12.9	1.7
KR-3M-4M	3	4	35.0	12	12	12.9	2.4
KR-3M-6M		6	36.1				
KR-3M-10M		10	38.4				
KR-4M-6M	4	6	37.1	12	12	13.7	2.4
KR-6M-3M	6	3	36.9	14	14	15.3	1.8
KR-6M-8M		8	39.9				4.8
KR-6M-10M		10	40.7				4.8
KR-6M-12M		12	46.3				4.8
KR-8M-6M	8	6	40.3	15	16	16.2	4.6
KR-8M-10M		10	42.0				6.4
KR-8M-12M		12	47.6				6.4
KR-10M-6M	10	6	42.4	18	19	17.2	4.6
KR-10M-12M		12	49.8	18			7.9
KR-10M-15M		15	51.3	18			7.9
KR-10M-18M		18	51.3	19			7.9
KR-12M-6M	12	6	44.9	22	22	22.8	4.6
KR-12M-10M		10	46.7	22			7.7
KR-12M-16M		16	53.8	22			9.5
KR-12M-18M		18	53.8	22			9.5
KR-12M-20M		20	56.1	24			9.5
KR-12M-22M		22	56.1	24			9.5
KR-12M-25M		25	62.4	27			9.5
KR-16M-12M	16	12	53.0	24	25	24.4	9.1
KR-18M-12M	18	12	54.6	27	30	24.4	9.1
KR-18M-16M		16	56.1				12.7
KR-18M-20M		20	57.6				15.1
KR-18M-22M		22	57.6				15.1
KR-18M-25M		25	62.4				15.1
KR-20M-16M	20	16	57.9	30	32	26.0	12.7
KR-20M-18M		18	57.9				13.9
KR-20M-22M		22	59.4				15.8
KR-20M-25M		25	64.2				15.8
KR-22M-18M	22	18	57.9	30	32	26.0	13.9
KR-22M-20M		20	59.4				15.1
KR-22M-25M		25	64.2				18.3
KR-25M-18M	25	18	63.1	35	38	31.3	13.9
KR-25M-20M		20	64.6				15.1

KBR BulkHead Reducer



Finger tight assembly dimensions(A, L)

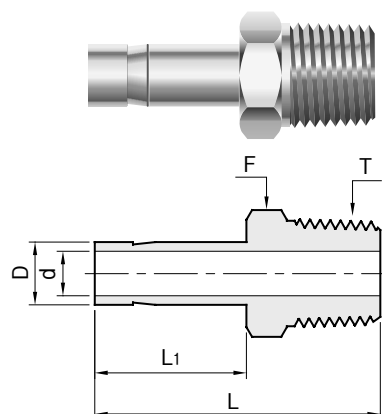
Connects Fractional Tube To Fractional K-Lok Port

Part No.	Tube O.D. D	L	L1	Width Across Flat		Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
				F	H				
KBR-2-2	1/8	49.53	13.46	1/2	7/16	8.33	12.70	12.70	2.03
KBR-4-4	1/4	55.88	15.74	5/8	9/16	11.50	10.16	15.24	4.82
KBR-6-6	3/8	61.21	17.52	3/4	11/16	14.68	11.17	16.76	7.11
KBR-8-8	1/2	72.89	23.11	15/16	7/8	19.44	12.70	22.86	10.41
KBR-10-10	5/8	75.18	24.70	1-1/16	1	22.62	12.70	24.38	12.70
KBR-16-16	1	100.33	31.70	1-5/8	1-1/2	33.73	19.05	31.24	20.32



KMA

Male Adapter



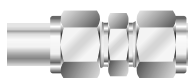
Connects Fractional K-Lok Port To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	L1	Width Across Flat F	d Min. Opening
KMA-2-2N KMA-2-4N	1/8	1/8 1/4	29.50 34.80	13.45	7/16 9/16	1.77
KMA-3-2N KMA-3-4N	3/16	1/8 1/4	30.22 35.56	14.20	7/16 9/16	3.04
KMA-4-2N KMA-4-4N KMA-4-6N KMA-4-8N	1/4	1/8 1/4 3/8 1/2	31.80 37.08 37.84 43.43	15.75	7/16 9/16 11/16 7/8	4.57
KMA-5-2N KMA-5-4N	5/16	1/8 1/4	32.76 38.10	16.80	7/16 9/16	6.35
KMA-6-2N KMA-6-4N KMA-6-6N KMA-6-8N	3/8	1/8 1/4 3/8 1/2	33.50 38.90 39.60 45.20	17.50	7/16 9/16 11/16 7/8	7.11
KMA-8-4N KMA-8-6N KMA-8-8N	1/2	1/4 3/8 1/2	44.50 45.20 50.50	23.20	9/16 11/16 7/8	9.90
KMA-10-6N KMA-10-8N KMA-10-12N	5/8	3/8 1/2 3/4	47.40 52.30 52.30	24.70	11/16 7/8 1-1/16	12.70
KMA-12-8N KMA-12-12N KMA-12-16N	3/4	1/2 3/4 1	52.30 52.30 57.91	24.70	7/8 1-1/16 1-3/8	14.98
KMA-14-12N	7/8	3/4	54.30	26.70	1-1/16	17.27
KMA-16-12N KMA-16-16N	1	3/4 1	58.70 66.00	31.70	1-1/16 1-3/8	20.06
KMA-20-20N	1-1/4	1-1/4	80.26	40.00	1-3/8	-
KMA-24-24N	1-1/2	1-1/2	94.48	51.50	2-1/8	-
KMA-32-32N	2	2	119.38	68.40	2-3/4	-

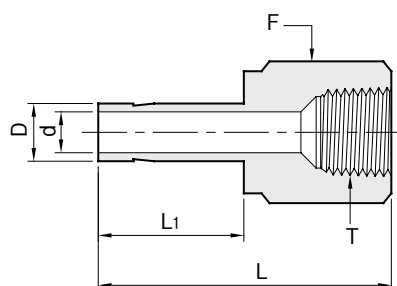
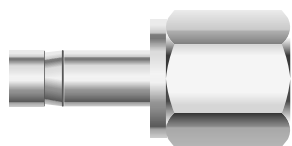
Connects Metric K-Lok Port To Female ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	L1	Width Across Flat F	d Min. Opening
KMA-3M-2R	3	1/8	29.4	13.2	12	1.8
KMA-6M-2R KMA-6M-4R	6	1/8 1/4	32.8 38.1	15.8	12 14	4.6
KMA-8M-4R	8	1/4	39.1	16.5	14	6.3
KMA-10M-4R KMA-10M-6R KMA-10M-8R	10	1/4 3/8 1/2	39.9 40.6 45.2	17.5	14 17 22	7.7
KMA-12M-4R KMA-12M-6R KMA-12M-8R	12	1/4 3/8 1/2	46.5 46.2 51.8	23.5	14 17 22	9.1
KMA-18M-8R KMA-18M-12R	18	1/2 3/4	53.2	24.9	22 27	13.9
KMA-28M-16R KMA-28M-20R	28	1 1-1/4	74.7 76.2	31.7	35 46	-
KMA-32M-20R	32	1-1/4	81.0	40.0	46	-
KMA-38M-24R	38	1-1/2	92.2	51.5	55	-

Dimensions for reference only. subject to change.



KFA Female Adapter

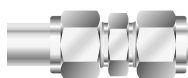


Connects Fractional K-Lok Port To Male NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	L1	Width Across Flat F	d Min. Opening
KFA-2-2N KFA-2-4N	1/8	1/8 1/4	31.50 35.30	13.45	9/16 3/4	1.77
KFA-3-2N KFA-3-4N	3/16	1/8 1/4	32.00 35.81	14.20	9/16 3/4	3.04
KFA-4-2N KFA-4-4N KFA-4-6N KFA-4-8N	1/4	1/8 1/4 3/8 1/2	33.02 37.10 39.37 45.50	16.00	9/16 3/4 7/8 1-1/16	4.57
KFA-5-2N KFA-5-4N	5/16	1/8 1/4	34.29 37.59	16.80	9/16 3/4	6.35
KFA-6-2N KFA-6-4N KFA-6-6N KFA-6-8N	3/8	1/8 1/4 3/8 1/2	34.29 38.10 40.38 46.73	17.50	9/16 3/4 7/8 1-1/16	7.11
KFA-8-4N KFA-8-6N KFA-8-8N	1/2	1/4 3/8 1/2	43.43 45.46 51.80	24.00	3/4 7/8 1-1/16	9.90
KFA-10-6N KFA-10-8N KFA-10-12N	5/8	3/8 1/2 3/4	48.26 53.84 55.37	24.70	7/8 1-1/16 1-5/16	12.70
KFA-12-8N KFA-12-12N KFA-12-16N	3/4	1/2 3/4 1	52.83 54.86 58.42	24.70	1-1/16 1-5/16 1-5/8	14.98
KFA-14-12N	7/8	3/4	57.15	26.70	1-5/16	17.27
KFA-16-12N KFA-16-16N	1	3/4 1	60.70 64.26	31.70	1-5/16 1-5/8	20.06
KFA-20-20N	1-1/4	1-1/4	77.72	40.00	2-1/8	27.68
KFA-24-24N	1-1/2	1-1/2	88.90	51.50	2-3/8	33.27
KFA-32-32N	2	2	107.44	68.40	2-7/8	44.45

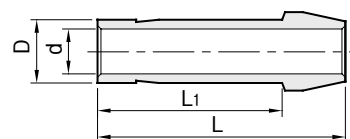
Connects Metric K-Lok Port To Male ISO Tapered Thread

Part No.	Tube O.D. D	T (PT)	L	L1	Width Across Flat F	d Min. Opening
KFA-3M-2R	3	1/8	31.2	13.2	14	1.8
KFA-6M-2R KFA-6M-4R	6	1/8 1/4	32.5 37.1	15.8	14 19	4.6
KFA-8M-4R	8	1/4	37.6	16.5	19	6.3
KFA-10M-4R KFA-10M-6R KFA-10M-8R	10	1/4 3/8 1/2	38.1 40.1 46.5	17.5	19 22 27	7.7
KFA-12M-4R KFA-12M-6R KFA-12M-8R	12	1/4 3/8 1/2	43.7 46.0 52.3	23.5	19 22 27	9.1
KFA-18M-12R	18	3/4	54.8	24.9	35	13.9



KPC

Port Connector



Connects Two Fractional K-Lok Ports

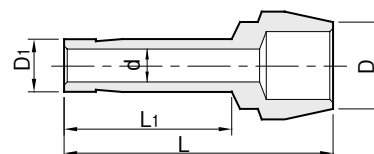
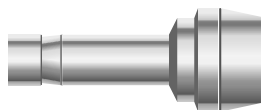
Part No.	Tube O.D. D	L	L1	d Min. Opening
KPC-1	1/16	13.71	10.66	0.76
KPC-2	1/8	22.35	15.74	2.28
KPC-4	1/4	24.63	18.79	4.82
KPC-5	5/16	25.90	20.06	6.35
KPC-6	3/8	26.16	20.32	7.11
KPC-8	1/2	35.81	25.90	9.90
KPC-12	3/4	37.33	27.68	14.98
KPC-16	1	48.00	34.54	20.32

Connects Two Metric K-Lok Ports

Part No.	Tube O.D. D	L	L1	d Min. Opening
KPC-3M	3	24.5	15.7	1.8
KPC-4M	4	25.8	16.7	2.2
KPC-6M	6	28.0	18.7	4.4
KPC-8M	8	29.9	20.0	6.2
KPC-10M	10	30.6	20.2	8.2
KPC-12M	12	42.6	26.1	9.1
KPC-15M	15	45.3	27.8	12.7
KPC-16M	16	45.3	27.8	12.7
KPC-18M	18	37.8	27.9	13.9
KPC-20M	20	45.8	29.2	15.1
KPC-22M	22	47.4	29.3	17.9
KPC-25M	25	47.7	34.5	19.8
KPC-28M	28	57.9	48.3	23.8
KPC-32M	32	80.7	52.4	27.4
KPC-38M	38	95.9	61.4	33.3

KRPC

Reducing Port Connector



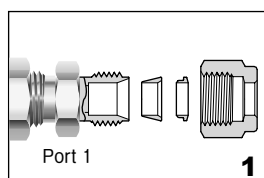
Connects Two Fractional K-Lok Ports

Part No.	Tube O.D.		L	L1	d Min. Opening
	D	D1			
KRPC-2-1	1/8	1/16	19.69	8.64	1.00
KRPC-4-1	1/4	1/16	21.47	8.64	1.00
KRPC-4-2		1/8	26.03	13.45	2.28
KRPC-6-2	3/8	1/8	26.70	13.45	2.28
KRPC-6-4		1/4	28.49	15.75	4.82
KRPC-8-4	1/2	1/4	35.95	15.75	4.82
KRPC-8-6		3/8	37.19	17.50	7.11
KRPC-12-8	3/4	1/2	46.02	24.47	9.90
KRPC-16-8	1	1/2	53.24	24.47	9.90
KRPC-16-12		3/4	53.91	25.90	14.98

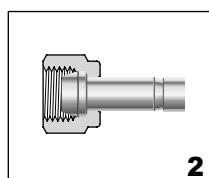
Connects Two Metric K-Lok Ports

Part No.	Tube O.D.		L	L1	d Min. Opening
	D	D1			
KRPC-6M-3M	6	3	26.0	13.5	1.8
KRPC-8M-6M	8	6	28.7	15.8	4.6
KRPC-10M-6M	10	6	29.6	15.8	4.6
KRPC-10M-8M		8	30.3	16.8	6.4
KRPC-12M-6M	12	6	36.1	15.8	4.6
KRPC-12M-8M		8	36.9	16.8	6.4
KRPC-12M-10M		10	37.4	17.6	7.7
KRPC-16M-6M	16	6	36.9	15.8	4.6
KRPC-16M-12M		12	44.0	23.1	9.1
KRPC-28M-25M	28	25	66.3	33.0	19.8
KRPC-32M-25M	32	25	71.2	33.0	19.8
KRPC-38M-25M	38	25	79.8	33.0	19.8

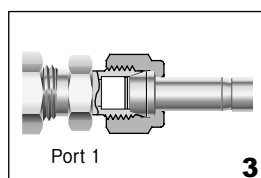
K-Lok Port Connector - Installation Instruction



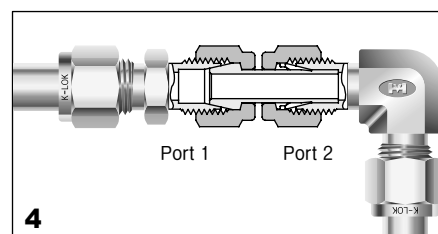
Remove the nut and ferrules from port 1.



Insert Port connector into nut.

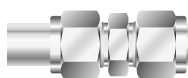


Insert nut & port connector into Port 1 and tighten nut with a wrench 1/4 turn only.



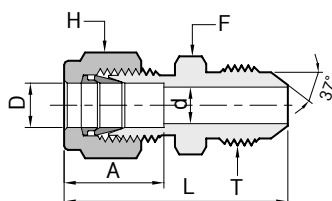
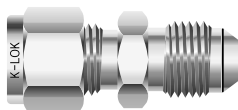
Insert other end of port connector into Port 2

Dimensions for reference only. subject to change.



KXU

AN Union



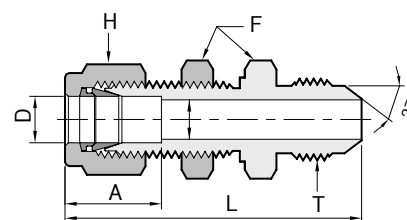
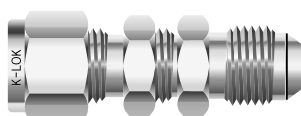
Finger tight assembly
dimensions(A, L)

Connects Fractional Tube To AN Flared Tube

Part No.	Tube O.D. D	AN Tube Flare Size	Straight Thread T	L	Width Across Flat		A	d Min. Opening
					F	H		
KXU-1-2	1/16	1/8	5/16-24	27.17	7/16	5/16	8.63	1.27
KXU-2-2	1/8	1/8	5/16-24	31.49	7/16	7/16	12.70	1.52
KXU-2-4		1/4	7/16-20	35.05	1/2			2.28
KXU-4-4	1/4	1/4	7/16-20	37.59	1/2	9/16	15.24	4.31
KXU-5-5	5/16	5/16	1/2-20	38.35	9/16	5/8	16.25	5.84
KXU-6-4	3/8	1/4	7/16-20	39.62	5/8	11/16	16.76	4.31
KXU-6-6		3/8	9/16-18					7.11
KXU-8-8	1/2	1/2	3/4-16	45.97	13/16	7/8	22.86	9.90
KXU-12-12	3/4	3/4	1-1/16-12	53.34	1-1/8	1-1/8	24.38	15.49
KXU-16-16	1	1	1-5/16-12	61.46	1-3/8	1-1/2	31.24	21.33

KRXU

AN BulkHead Union



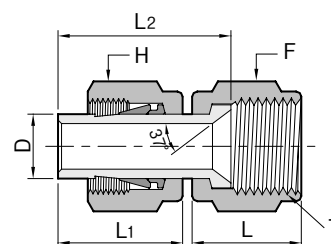
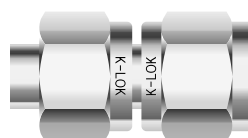
Finger tight assembly dimensions(A, L)

Connects Fractional Tube To AN Flared Tube

Part No.	Tube O.D. D	AN Tube Flare Size	Straight Thread T	L	Width Across Flat		Pannel Hole Drill Size	Pannel Max Thickness	A	d Min. Opening
					F	H				
KRXU-4-4	1/4	1/4	7/16-20	53.84	5/8	9/16	11.50	10.16	15.24	4.31
KRXU-6-6	3/8	3/8	9/16-18	57.15	3/4	11/16	14.68	11.17	16.76	7.11
KRXU-8-8	1/2	1/2	3/4-16	65.78	15/16	7/8	19.44	12.70	22.86	9.90
KRXU-12-12	3/4	3/4	1-1/16-12	78.99	1-3/16	1-1/8	25.76	16.76	24.38	15.49
KRXU-16-16	1	1	1-5/16-12	92.45	1-5/8	1-1/2	33.73	19.05	31.24	21.33

KXA

AN Adapter



Connects Fractional K-Lok Port Male AN

Part No.	Tube O.D. D	AN Tube Flare Size	Straight Thread T	Width Across Flat		L	L1	L2
				F	H			
KXA-2-2	1/8	1/8	5/16-24	3/8	7/16	13.71	13.46	18.54
KXA-2-4		1/4	7/16-20	9/16	7/16	15.74		19.05
KXA-4-4	1/4	1/4	7/16-20	9/16	9/16	15.74	15.74	21.33
KXA-6-6	3/8	3/8	9/16-18	11/16	11/16	18.28	17.52	24.89
KXA-8-8	1/2	1/2	3/4-16	7/8	7/8	21.59	23.11	31.75

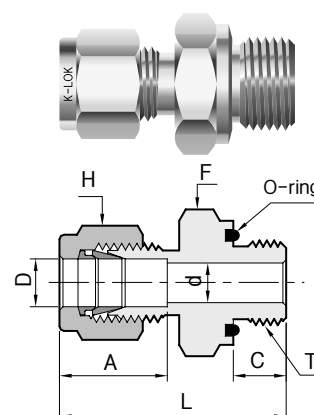


KTSC O-Seal straight Thread Male Connector

Connects Fractional Tube To Female Straight Thread

Part No.	Tube O.D. D	Straight Thread T	L	Width Across Flat		A	d Min. Opening	C	O-ring Uniform size No.
				F	H				
KTSC-2-2U	1/8	5/16-24	32.76	9/16	7/16	12.70	2.28	8.63	-011
KTSC-3-6U	3/16	3/8-24	34.29	5/8	1/2	13.71	3.04	9.65	-012
KTSC-4-4U	1/4	7/16-20	38.35	3/4	9/16	15.24	4.82	10.41	-111
KTSC-5-5U	5/16	1/2-20	40.64	7/8	5/8	16.25	6.35	11.17	-112
KTSC-6-6U	3/8	9/16-18	42.41	15/16	11/16	16.76	7.11	11.93	-113
KTSC-8-8U	1/2	3/4-16	45.97	1-1/8	7/8	22.86	10.41	11.93	-116
KTSC-12-12U	3/4	1-1/16-12	52.32	1-1/2	1-1/8	24.38	15.74	14.22	-215
KTSC-16-16U	1	1-5/16-12	58.16	1-3/4	1-1/2	31.24	22.35	14.22	-219

Finger tight assembly dimensions (A, L)

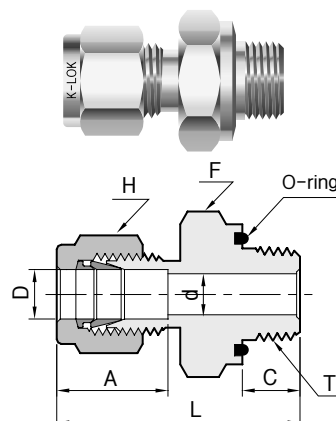


KTSN O-Seal NPT Thread Male Connector

Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D	T (NPT)	L	Width Across Flat		A	d Min. Opening	C	O-ring Uniform size No.
				F	H				
KTSN-2-2N	1/8	1/8	32.76	3/4	7/16	12.70	2.28	7.11	-111
KTSN-4-2N	1/4	1/8	35.05	3/4	9/16	15.24	4.82	7.11	-111
KTSN-4-4N		1/4	38.35	15/16				9.65	-113
KTSN-6-4N	3/8	1/4	39.87	15/16	11/16	16.76	7.11	9.65	-113
KTSN-6-6N		3/8	41.40	1-1/8				10.41	-116
KTSN-6-8N		1/2	46.99	1-5/16				13.46	-212
KTSN-8-8N	1/2	1/2	49.78	1-15/16	7/8	22.86	10.41	13.46	-212

Finger tight assembly dimensions (A, L)



Mounting Dimensions For O-Seal Connectors

Part No.	SAE/MS Straight Thread	NPT Male Pipe Size	A Min Dia	B Min Dia	C Min Dia	D Max Depth	E Max Depth
KTSC-2-2U	5/16-24	--	12.7	15.0	16.8	2.3	5.6
KTSC-3-6U	3/8-24	--	14.2	16.8	19.1	2.3	5.6
KTSC-4-4U	7/16-20	--	17.5	19.8	22.4	4.1	7.1
KTSC-5-5U	1/2-20	--	19.1	23.1	26.2	4.1	7.9
KTSC-6-6U	9/16-18	--	20.6	24.6	27.7	4.1	7.9
KTSC-8-8U	3/4-16	--	25.4	29.5	33.3	4.1	8.6
KTSC-12-12U	1-1/16-12	--	35.8	38.9	44.5	5.6	12.7
KTSC-16-16U	1-5/16-12	--	42.9	45.2	51.6	5.6	14.2
KTSN-2-2N	--	1/8	17.5	19.8	22.4	4.1	7.1
KTSN-4-2N	--	1/8	17.5	19.8	22.4	4.1	7.1
KTSN-4-4N	--	1/4	22.1	24.6	27.7	4.1	7.9
KTSN-6-6N	--	3/8	25.4	29.5	33.3	4.1	8.6
KTSN-6-8N	--	1/2	31.0	34.0	38.9	5.6	11.2
KTSN-8-8N	--	1/2	31.0	34.0	38.9	5.6	11.2

K-Lok O-seal male connectors are rated to the maximum allowable working pressure of the tubing recommended for use with the fittings. pressure ratings with O-ring ends may be lower.

* Buna N O-ring is standard. Other O-rings are available upon request.

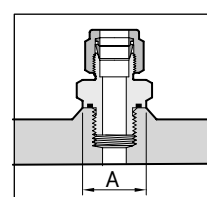


Fig.1 Raised Port

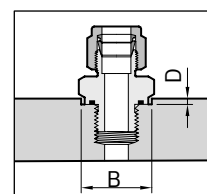


Fig.2 Counterbored Port

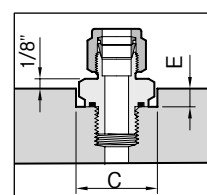


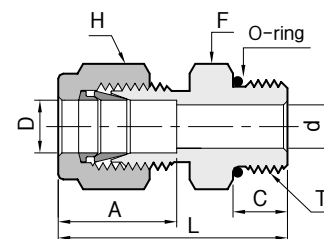
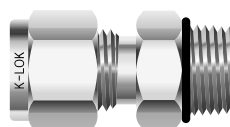
Fig.3 Recessed Port

Dimensions for reference only. subject to change.



KEC

SAE/MS Straight Thread Male Connector



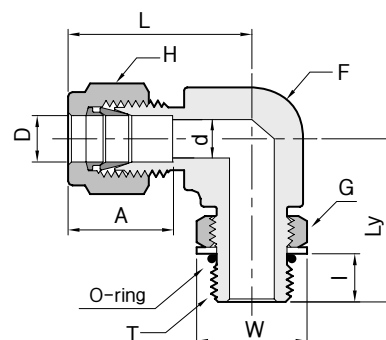
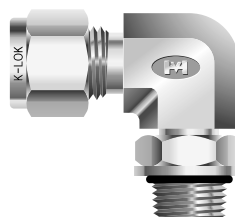
Finger tight assembly dimensions(A, L)

Connects Fractional Tube To SAE/MS Straight Thread Boss

Part No.	Tube O.D. D	SAE/MS Thread - T	L	C	Width Across Flat		A	d Min. Opening	O-ring Uniform Size No.
					F	H			
KEC-2-2U KEC-2-4U	1/8	5/16-24 7/16-20	29.97 31.49	7.62 9.14	7/16 9/16	7/16	12.70	2.28	-902 -904
KEC-4-4U KEC-4-6U KEC-4-8U KEC-4-10U	1/4	7/16-20 9/16-18 3/4-16 7/8-14	34.03 35.56 37.59 40.64	9.14 9.90 11.70 12.70	9/16 11/16 7/8 1	9/16	15.24	4.82	-904 -906 -908 -910
KEC-5-5U	5/16	1/2-20	34.79	9.14	5/8	5/8	16.25	5.84	-905
KEC-6-4U KEC-6-6U KEC-6-8U KEC-6-10U	3/8	7/16-20 9/16-18 3/4-16 7/8-14	35.56 37.08 39.11 42.16	9.14 9.90 11.17 12.70	5/8 11/16 7/8 1	11/16	16.76	5.08 7.11 7.11 7.11	-904 -906 -908 -910
KEC-8-6U KEC-8-8U KEC-8-10U KEC-8-12U	1/2	9/16-18 3/4-16 7/8-14 1-1/16-12	39.11 41.91 45.95 49.02	9.90 11.17 12.70 14.98	13/16 7/8 1 1-1/4	7/8	22.86	7.11 10.41 10.41 10.41	-906 -908 -910 -912
KEC-10-8U KEC-10-10U	5/8	3/4-16 7/8-14	41.91 45.21	11.17 12.70	15/16 1	1	24.38	10.66 12.70	-908 -910
KEC-12-8U KEC-12-12U	3/4	3/4-16 1-1/16-12	45.97 49.02	11.17 14.98	1-1/16 1-1/4	1-1/8	24.38	10.66 15.74	-908 -912
KEC-14-14U	7/8	1-3/16-12	49.02	14.98	1-3/8	1-1/4	25.90	18.28	-914
KEC-16-12U KEC-16-16U	1	1-1/16-12 1-5/16-12	53.34 54.35	14.98	1-3/8 1-1/2	1-1/2	31.24	16.76 22.35	-912 -916
KEC-20-20U	1-1/4	1-5/8-12	68.32	14.98	1-7/8	1-7/8	41.14	27.68	-920
KEC-24-24U	1-1/2	1-7/8-12	77.72	14.98	2-1/8	2-1/4	50.03	37.03	-924
KEC-32-32U	2	2-1/2-12	101.60	14.98	2-3/4	3	67.56	45.97	-932

KESE

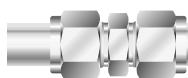
SAE/MS Straight Thread Positionable Male Elbow



Finger tight assembly dimensions(A, L)

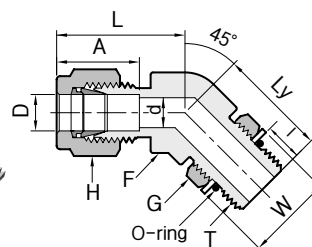
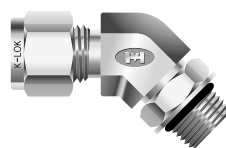
Connects Fractional Tube To SAE/MS Straight Thread Boss

Part No.	Tube O.D. D	SAE/MS Thread - T	L	Ly	I	Width Across Flat			W	A	d Min. Opening	O-ring Uniform Size No.
						F	H	G				
KESE-4-4U KESE-4-6U	1/4	7/16-20 9/16-18	28.44 30.48	28.44 32.25	9.90 11.17	1/2 5/8	9/16	9/16 11/16	16.51 20.06	15.24	4.82	-904 -906
KESE-5-5U	5/16	1/2-20	30.22	29.46	9.90	9/16	5/8	5/8	18.28	16.25	5.84	-905
KESE-6-6U KESE-6-8U	3/8	9/16-18 3/4-16	32.00 34.79	32.25 37.84	11.17 12.70	5/8 13/16	11/16	11/16 7/8	20.06 25.65	16.76	7.11	-906 -908
KESE-8-8U	1/2	3/4-16	37.59	37.84	12.70	13/16	7/8	7/8	25.65	22.86	10.41	-908
KESE-10-10U	5/8	7/8-14	39.62	43.43	14.22	1	1	1	29.46	24.38	12.70	-910
KESE-12-12U	3/4	1-1/16-12	41.40	48.76	16.76	1-1/16	1-1/8	1-1/4	36.57	24.38	15.74	-912
KESE-14-14U	7/8	1-3/16-12	43.18	50.54	16.76	1-1/4	1-1/4	1-3/8	40.38	25.90	18.28	-914
KESE-16-16U	1	1-5/16-12	50.54	53.59	16.76	1-3/8	1-1/2	1-1/2	43.94	31.24	22.35	-916
KESE-20-20U	1-1/4	1-5/8-12	67.81	58.16	16.76	1-11/16	1-7/8	1-7/8	54.86	41.14	27.68	-920
KESE-24-24U	1-1/2	1-7/8-12	77.97	60.45	16.76	2	2-1/4	2-1/8	62.23	50.03	34.03	-924
KESE-32-32U	2	2-1/2-12	107.18	71.62	16.76	2-3/4	3	2-3/4	80.26	62.73	45.97	-932



KEEQ

SAE/MS Straight Thread Positionable 45° Male Elbow



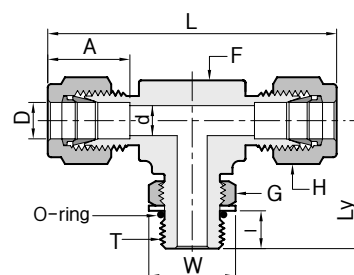
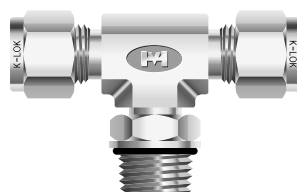
Connects Fractional Tube To SAE/MS Straight Thread Boss

Finger tight assembly dimensions (A, L)

Part No.	Tube O.D. D	SAE/MS Thread - T	L	Ly	I	Width Across Flat			W	A	d Min. Opening	O-ring Uniform Size No.
						F	H	G				
KEEQ-4-4U	1/4	7/16-20	25.65	25.65	9.90	1/2	9/16	9/16	16.51	15.24	4.82	-904
KEEQ-6-6U	3/8	9/16-18	27.94	28.19	11.17	5/8	11/16	11/16	20.06	16.76	7.11	-906
KEEQ-8-8U	1/2	3/4-16	32.00	32.25	12.70	13/16	7/8	7/8	25.65	22.86	10.41	-908
KEEQ-12-12U	3/4	1-1/16-12	39.87	47.24	16.76	1-1/8	1-1/8	1-1/4	36.57	24.38	15.74	-912
KEEQ-16-16U	1	1-5/16-12	47.49	50.54	16.76	1-3/8	1-1/2	1-1/2	43.94	31.24	22.35	-916

KEBT

SAE/MS Straight Thread Positionable Male Branch Tee



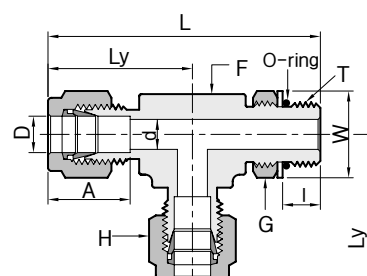
Connects Fractional Tube To SAE/MS Straight Thread Boss

Finger tight assembly dimensions (A, L)

Part No.	Tube O.D. D	SAE/MS Thread - T	L	Ly	I	Width Across Flat			W	A	d Min. Opening	O-ring Uniform Size No.
						F	H	G				
KEBT-4-4U	1/4	7/16-20	56.88	28.44	9.90	1/2	9/16	9/16	16.51	15.24	4.82	-904
KEBT-6-6U	3/8	9/16-18	64.00	32.25	11.17	5/8	11/16	11/16	20.06	16.76	7.11	-906
KEBT-8-8U	1/2	3/4-16	75.18	37.84	12.70	13/16	7/8	7/8	25.65	22.86	10.41	-908
KEBT-12-12U	3/4	1-1/16-12	82.80	48.76	16.76	1-1/8	1-1/8	1-1/4	36.57	24.38	15.74	-912
KEBT-16-16U	1	1-5/16-12	101.08	53.59	16.76	1-3/8	1-1/2	1-1/2	43.94	31.24	22.35	-916
KEBT-20-20U	1-1/4	1-5/8-12	135.62	58.16	16.76	1-11/16	1-7/8	1-7/8	54.86	41.14	27.68	-920
KEBT-24-24U	1-1/2	1-7/8-12	155.58	60.45	16.76	2	2-1/4	2-1/8	62.23	50.03	34.03	-924
KEBT-32-32U	2	2-1/2-12	214.36	71.62	16.76	2-3/4	3	2-3/4	80.26	67.56	45.97	-932

KERT

SAE/MS Straight Thread Positionable Male Run Tee



Connects Fractional Tube To SAE/MS Straight Thread Boss

Finger tight assembly dimensions (A, L, Ly)

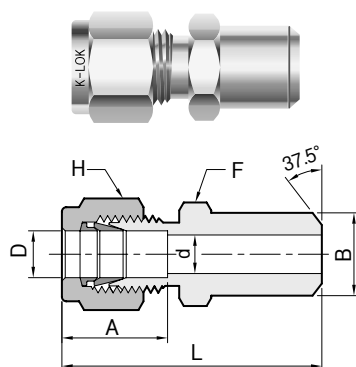
Part No.	Tube O.D. D	SAE/MS Thread - T	L	Ly	I	Width Across Flat			W	A	d Min. Opening	O-ring Uniform Size No.
						F	H	G				
KERT-4-4U	1/4	7/16-20	56.88	28.44	9.90	1/2	9/16	9/16	16.51	15.24	4.82	-904
KERT-6-6U	3/8	9/16-18	64.25	32.25	11.17	5/8	11/16	11/16	20.06	16.76	7.11	-906
KERT-8-8U	1/2	3/4-16	75.43	37.59	12.70	13/16	7/8	7/8	25.65	22.86	10.41	-908
KERT-12-12U	3/4	1-1/16-12	90.16	41.40	16.76	1-1/16	1-1/8	1-1/4	36.57	24.38	15.74	-912
KERT-16-16U	1	1-5/16-12	101.08	50.54	16.76	1-3/8	1-1/2	1-1/2	43.94	31.24	22.35	-916
KERT-20-20U	1-1/4	1-5/8-12	125.97	67.81	16.76	1-11/16	1-7/8	1-7/8	54.86	41.14	27.68	-920
KERT-24-24U	1-1/2	1-7/8-12	138.42	77.97	16.76	2	2-1/4	2-1/8	62.23	50.03	34.03	-924
KERT-32-32U	2	2-1/2-12	178.80	107.18	16.76	2-3/4	3	2-3/4	80.26	67.56	45.97	-932

Dimensions for reference only. subject to change.



KWM

Male Pipe Weld Connector



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Pipe

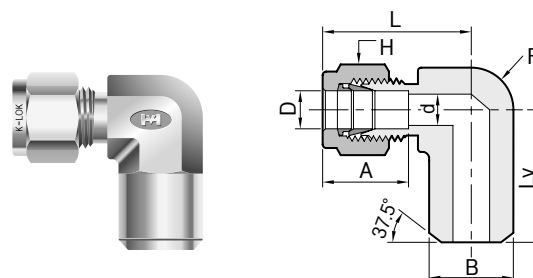
Part No.	Tube O.D. D	Pipe Weld Size -B		L	Width Across Flat		A	d Min. Opening
		Nom.	O.D.		F	H		
KWM-2-2W	1/8	1/8	10.30	31.24	7/16	7/16	12.70	2.28
KWM-3-2W	3/16	1/8	10.30	31.24	7/16	1/2	13.71	3.04
KWM-4-2W	1/4	1/8	10.30	32.76	1/2	9/16	15.24	4.82
KWM-4-4W		1/4	13.70	37.84	9/16			
KWM-5-2W	5/16	1/8	10.30	34.03	9/16	5/8	16.25	5.08 6.35
KWM-5-4W		1/4	13.70	38.60				
KWM-6-4W	3/8	1/4	13.70	39.87	5/8	11/16	16.76	7.11
KWM-6-6W		3/8	17.10	39.87	11/16			
KWM-6-8W		1/2	21.30	43.23	7/8			
KWM-6-12W		3/4	26.67	47.75	1-1/16			
KWM-8-6W	1/2	3/8	17.10	43.23	13/16	7/8	22.86	10.41
KWM-8-8W		1/2	21.30	49.02	7/8			
KWM-8-12W		3/4	26.67	50.54	1-1/16			
KWM-10-8W	5/8	1/2	21.30	49.02	15/16	1	24.38	12.70
KWM-12-12W	3/4	3/4	26.67	50.54	1-1/16	1-1/8	24.38	15.74
KWM-16-16W	1	1	33.40	62.23	1-3/8	1-1/2	31.24	22.35
KWM-20-20W	1-1/4	1-1/4	42.16	77.21	1-3/4	2	41.14	27.68
KWM-24-24W	1-1/2	1-1/2	48.26	88.90	2-1/8	2-1/4	50.03	34.03
KWM-32-32W	2	2	60.32	113.53	2-3/4	3	67.36	47.75

Connects Metric Tube To Pipe

Part No.	Tube O.D. D	Pipe Weld Size -B		L	Width Across Flat		A	d Min. Opening
		Nom.	O.D.		F	H		
KWM-3M-2W	3	1/8	10.3	29.7	12	12	12.9	2.4
KWM-4M-2W	4	1/8	10.3	30.7	12	12	13.7	2.4
KWM-6M-2W	6	1/8	10.3	32.8	14	14	15.3	4.8
KWM-6M-4W		1/4	13.7	37.6				
KWM-8M-2W	8	1/8	10.3	34.2	15	16	16.2	5.5
KWM-8M-4W		1/4	13.7	38.7	15			6.4
KWM-8M-8W		1/2	21.3	44.8	22			6.4
KWM-10M-4W	10	1/4	13.7	40.9	18	19	17.2	7.1
KWM-10M-6W		3/8	17.1	40.1	18			7.9
KWM-10M-8W		1/2	21.3	45.7	22			7.9
KWM-12M-4W	12	1/4	13.7	43.4	22	22	22.8	7.1
KWM-12M-6W		3/8	17.1	43.4				9.5
KWM-12M-8W		1/2	21.3	48.2				9.5
KWM-14M-6W	14	3/8	17.1	44.1	24	25	24.4	10.3
KWM-15M-8W	15	1/2	21.3	49.0	24	25	24.4	11.9
KWM-16M-8W	16	1/2	21.3	49.0	24	25	24.4	12.7
KWM-18M-8W	18	1/2	21.3	50.5	27	30	24.4	13.5
KWM-32M-20W	32	1-1/4	42.2	79.6	46	50	42.0	28.6
KWM-38M-24W	38	1-1/2	48.3	91.6	55	60	49.4	33.7

KWE

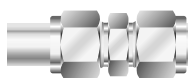
Male Pipe Weld Elbow



Finger tight assembly dimensions (A, L)

Connects Fractional Tube To Pipe

Part No.	Tube O.D. D	Pipe Weld Size -B		L	Ly	Width Across Flat		A	d Min. Opening
		Nom.	O.D.			F	H		
KWE-2-2W	1/8	1/8	10.30	26.92	18.79	1/2	9/16	15.24	4.82
KWE-4-4W	1/4	1/4	13.70	26.92	23.36	1/2	9/16	15.24	4.82
KWE-6-4W	3/8	1/4	13.70	30.48	25.40	5/8	11/16	16.76	7.11
KWE-8-8W	1/2	1/2	21.30	36.06	33.02	13/16	7/8	22.86	10.41
KWE-12-12W	3/4	3/4	26.67	39.87	36.83	1-1/16	1-1/8	24.38	15.74

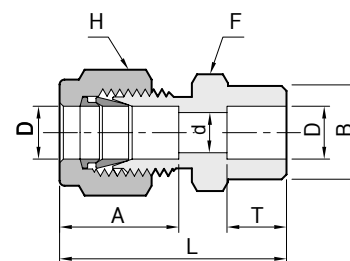
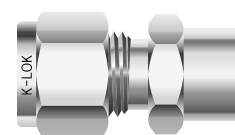


KWS

Tube Socket Weld Connector

Connects Fractional Tube

Part No.	Tube O.D. D	L	Width Across Flat		B	T	A	d Min. Opening
			F	H				
KWS-2-2	1/8	28.95	7/16	7/16	7.87	6.35	12.70	2.28
KWS-4-4	1/4	33.52	1/2	9/16	11.17	7.87	15.24	4.82
KWS-6-6	3/8	37.59	5/8	11/16	15.74	9.65	16.76	7.11
KWS-8-8	1/2	41.14	13/16	7/8	19.05	12.70	22.86	10.41
KWS-12-12	3/4	43.43	1-1/16	1-1/8	26.67	14.22	24.38	15.74
KWS-16-16	1	52.57	1-3/8	1-1/2	33.27	19.05	31.24	22.35



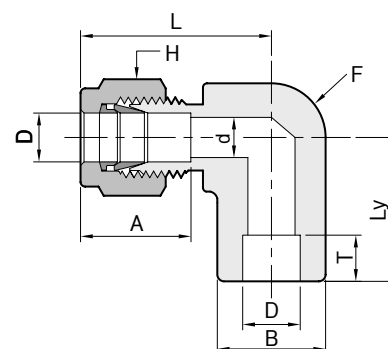
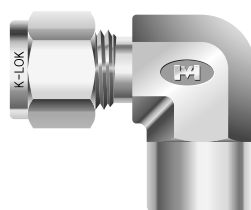
Finger tight assembly dimensions (A, L)

KWSE

Tube Socket Weld Elbow

Connects Fractional Tube

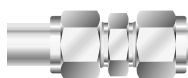
Part No.	Tube O.D. D	L	Ly	Width Across Flat		B	T	A	d Min. Opening
				F	H				
KWSE-4-4	1/4	26.92	19.55	1/2	9/16	17.78	7.87	15.24	4.82
KWSE-6-6	3/8	30.48	23.11	5/8	11/16	19.30	9.65	16.76	7.11
KWSE-8-8	1/2	36.06	25.90	13/16	7/8	21.84	12.70	22.86	10.41
KWSE-12-12	3/4	39.81	29.71	1-1/16	1-1/8	21.84	14.22	24.38	15.74
KWSE-16-16	1	49.02	36.83	1-3/8	1-1/2	26.41	19.05	31.24	22.35



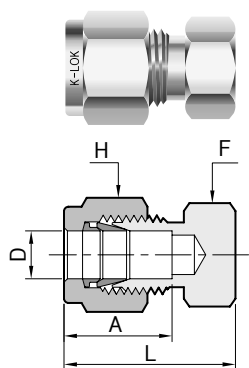
Finger tight assembly dimensions (A, L)

Precautions For Weld End Fittings

Remove the nut and ferrules from the fitting. It is important that the fitting thread and sealing surfaces be protected from weld splatter. A heat sink should be used to dissipate heat. Ensure alignment by tack welding symmetrically. Once welded, remove the weld splatter protection and reassemble the nut and ferrules on the fitting.



KTC Tube End Cap



Finger tight assembly dimensions (A, L)

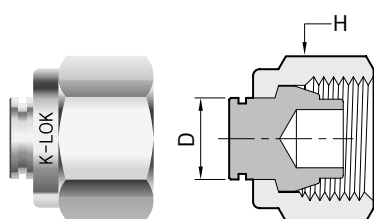
Connects Fractional Tube End

Part No.	Tube O.D. D	L	Width Across Flat		A
			F	H	
KTC-1	1/16	14.18	5/16	5/16	8.63
KTC-2	1/8	20.06	7/16	7/16	12.70
KTC-3	3/16	21.33	7/16	1/2	13.71
KTC-4	1/4	23.26	1/2	9/16	15.24
KTC-5	5/16	24.38	9/16	5/8	16.25
KTC-6	3/8	25.65	5/8	11/16	16.76
KTC-8	1/2	29.21	13/16	7/8	22.86
KTC-10	5/8	29.97	15/16	1	24.38
KTC-12	3/4	31.49	1-1/16	1-1/8	24.38
KTC-14	7/8	34.03	1-3/16	1-1/4	25.90
KTC-16	1	38.35	1-3/8	1-1/2	31.24
KTC-20	1-1/4	53.34	1-3/4	1-7/8	41.14
KTC-24	1-1/2	64.51	2-1/8	2-1/4	50.03
KTC-32	2	86.61	2-3/4	3	67.56

Connects Metric Tube End

Part No.	Tube O.D. D	L	Width Across Flat		A
			F	H	
KTC-2M	2	20.1	12	12	12.9
KTC-3M	3	20.1	12	12	12.9
KTC-4M	4	21.3	12	12	13.7
KTC-6M	6	23.1	14	14	15.3
KTC-8M	8	24.5	15	16	16.2
KTC-10M	10	26.6	18	19	17.2
KTC-12M	12	29.1	22	22	22.8
KTC-15M	15	30.0	24	25	24.4
KTC-16M	16	30.0	24	25	24.4
KTC-18M	18	31.4	27	30	24.4
KTC-20M	20	34.0	30	32	26.0
KTC-22M	22	34.0	30	32	26.0
KTC-25M	25	38.5	35	38	31.3
KTC-28M	28	48.5	41	46	36.6
KTC-32M	32	55.8	46	50	41.6
KTC-38M	38	65.4	55	60	47.9

KPP Port Plug



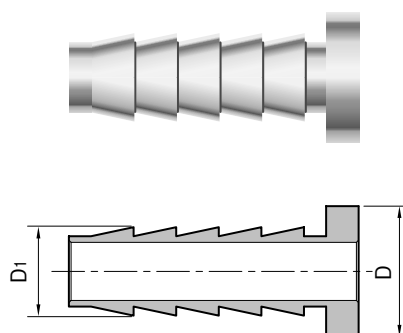
Connects Fractional K-Lok Port

Part No.	Tube O.D. D	Width Across Flat H
KPP-1	1/16	5/16
KPP-2	1/8	7/16
KPP-3	3/16	1/2
KPP-4	1/4	9/16
KPP-5	5/16	5/8
KPP-6	3/8	11/16
KPP-8	1/2	7/8
KPP-10	5/8	1
KPP-12	3/4	1-1/8
KPP-14	7/8	1-1/4
KPP-16	1	1-1/2
KPP-20	1-1/4	1-7/8
KPP-24	1-1/2	2-1/4
KPP-32	2	3

Connects Metric K-Lok Port

Part No.	Tube O.D. D	Width Across Flat H
KPP-2M	2	12
KPP-3M	3	12
KPP-4M	4	12
KPP-6M	6	14
KPP-8M	8	16
KPP-10M	10	19
KPP-12M	12	22
KPP-15M	15	25
KPP-16M	16	25
KPP-18M	18	30
KPP-20M	20	32
KPP-22M	22	32
KPP-25M	25	38
KPP-28M	28	46
KPP-32M	32	50
KPP-38M	38	60

KTI Tube Insert for Soft Plastic Tubing



Fractional

Part No.	Tube O.D.	
	D	D1
KTI-3-2	3/16	1/8
KTI-4-2	1/4	1/8
KTI-4-3		3/16
KTI-5-2	5/16	1/8
KTI-5-3		3/16
KTI-5-4		1/4
KTI-6-3	3/8	3/16
KTI-6-4		1/4
KTI-8-4	1/2	1/4
KTI-8-6		3/8
KTI-10-6	5/8	3/8
KTI-10-8		1/2
KTI-12-8	3/4	1/2
KTI-12-12		3/4
KTI-16-12	1	3/4

Metric

Part No.	Tube O.D.	
	D	D1
KTI-6M-4M	6	4
KTI-8M-6M	8	6
KTI-10M-8M	10	8
KTI-12M-8M	12	8
KTI-12M-10M	12	10

K-Lok Tube Inserts are Used to securing soft plastic tubing to K-Lok Tube Fittings.

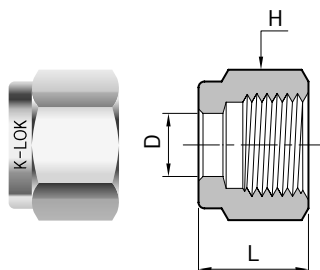


Check I.D. and O.D. of plastic tubing before using the K-Lok Tube Insert



KN

Nut



Fractional

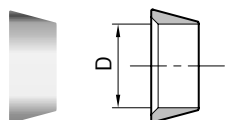
Part No.	Tube O.D. D	L	Width Across Flat F
KN-1	1/16	7.90	5/16
KN-2	1/8	11.93	7/16
KN-3	3/16	11.93	1/2
KN-4	1/4	12.70	9/16
KN-5	5/16	13.46	5/8
KN-6	3/8	14.22	11/16
KN-8	1/2	17.52	7/8
KN-10	5/8	17.52	1
KN-12	3/4	17.52	1-1/8
KN-14	7/8	17.52	1-1/4
KN-16	1	20.57	1-1/2
KN-20	1-1/4	31.75	1-7/8
KN-24	1-1/2	38.10	2-1/4
KN-32	2	52.32	3

Metric

Part No.	Tube O.D. D	L	Width Across Flat F
KN-2M	2	11.9	12
KN-3M	3	11.9	12
KN-4M	4	11.9	12
KN-6M	6	12.7	14
KN-8M	8	13.5	16
KN-10M	10	15.1	19
KN-12M	12	17.4	22
KN-15M	15	17.4	25
KN-16M	16	17.4	25
KN-18M	18	17.4	30
KN-20M	20	17.4	32
KN-22M	22	17.4	32
KN-25M	25	20.6	38
KN-28M	28	30.6	46
KN-32M	32	34.4	50
KN-38M	38	40.6	60

KFF

Front Ferrule



Fractional

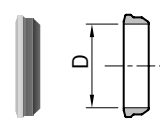
Part No.	Tube O.D. D
KFF-1	1/16
KFF-2	1/8
KFF-3	3/16
KFF-4	1/4
KFF-5	5/16
KFF-6	3/8
KFF-8	1/2
KFF-10	5/8
KFF-12	3/4
KFF-14	7/8
KFF-16	1
KFF-20	1-1/4
KFF-24	1-1/2
KFF-32	2

Metric

Part No.	Tube O.D. D
KFF-2M	2
KFF-3M	3
KFF-4M	4
KFF-6M	6
KFF-8M	8
KFF-10M	10
KFF-12M	12
KFF-15M	15
KFF-16M	16
KFF-18M	18
KFF-20M	20
KFF-22M	22
KFF-25M	25
KFF-28M	28
KFF-32M	32
KFF-38M	38

KBF

Back Ferrule



Fractional

Part No.	Tube O.D. D
KBF-1	1/16
KBF-2	1/8
KBF-3	3/16
KBF-4	1/4
KBF-5	5/16
KBF-6	3/8
KBF-8	1/2
KBF-10	5/8
KBF-12	3/4
KBF-14	7/8
KBF-16	1
KBF-20	1-1/4
KBF-24	1-1/2
KBF-32	2

Metric

Part No.	Tube O.D. D
KBF-2M	2
KBF-3M	3
KBF-4M	4
KBF-6M	6
KBF-8M	8
KBF-10M	10
KBF-12M	12
KBF-15M	15
KBF-16M	16
KBF-18M	18
KBF-20M	20
KBF-22M	22
KBF-25M	25
KBF-28M	28
KBF-32M	32
KBF-38M	38

KFS

Ferrule Set

Fractional

Part No.	Tube O.D. D
KFS-1	1/16
KFS-2	1/8
KFS-3	3/16
KFS-4	1/4
KFS-5	5/16
KFS-6	3/8
KFS-8	1/2
KFS-10	5/8
KFS-12	3/4
KFS-14	7/8
KFS-16	1
KFS-20	1-1/4
KFS-24	1-1/2
KFS-32	2

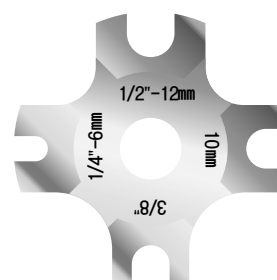
Metric

Part No.	Tube O.D. D
KFS-2M	2
KFS-3M	3
KFS-4M	4
KFS-6M	6
KFS-8M	8
KFS-10M	10
KFS-12M	12
KFS-15M	15
KFS-16M	16
KFS-18M	18
KFS-20M	20
KFS-22M	22
KFS-25M	25
KFS-28M	28
KFS-32M	32
KFS-38M	38



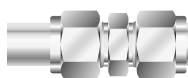
KGG

Gap gauge



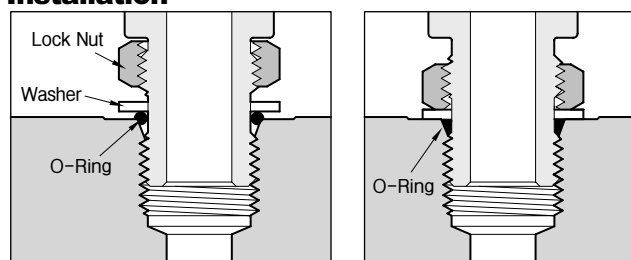
Part No.	Tube O.D.
KGG-B25	1/4" 3/8" 1/2" 6mm 10mm 12mm

Dimensions for reference only. subject to change.



SAE/MS Straight Thread Fittings

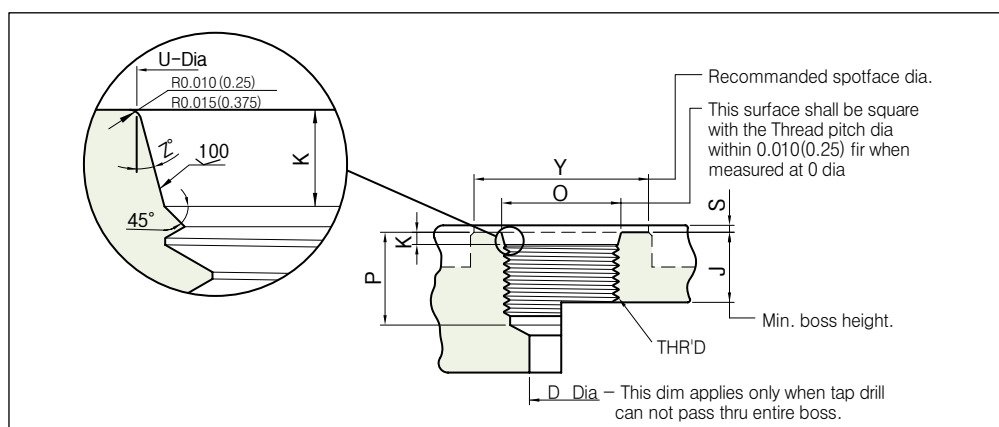
Installation



1. Lubricate O-ring with a lubricant that is compatible with system
2. Screw fitting into the straight thread boss until the metal back up washer contacts the face of port.
3. Position the fitting by backing it out no more than one turn.
4. Hold the fitting in position and tighten the lock nut until the washer contacts the face of the port.

O-Ring Dimension for SAE / MS Bosses

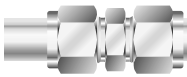
Nominal Tube O.D.	Port Size	Thread Size	O-Ring		
			Uniform Size No.	I.D. (in)	Cross Section (in)
1/8	2	5/16-24	902	0.239	0.064
3/16	3	3/8-24	903	0.301	0.064
1/4	4	7/16-20	904	0.351	0.072
5/16	5	1/2-20	905	0.414	0.072
3/8	6	9/16-18	906	0.468	0.078
1/2	8	3/4-16	908	0.644	0.087
5/8	10	7/8-14	910	0.755	0.097
3/4	12	1-1/16-12	912	0.924	0.116
7/8	14	1-3/16-12	914	1.048	0.116
1	16	1-5/16-12	916	1.171	0.116
1-1/4	20	1-5/8-12	920	1.475	0.118
1-1/2	24	1-7/8-12	924	1.720	0.118
2	32	2-1/2-12	932	2.337	0.118



Data For SAE/MS Straight Thread Boss

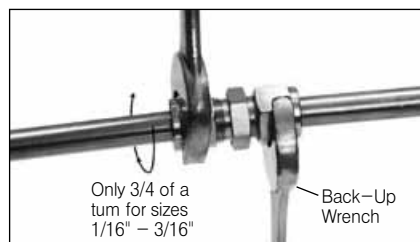
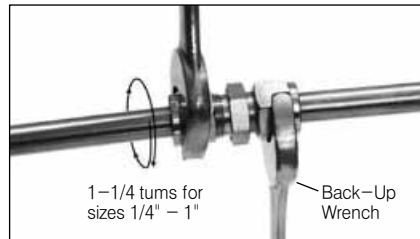
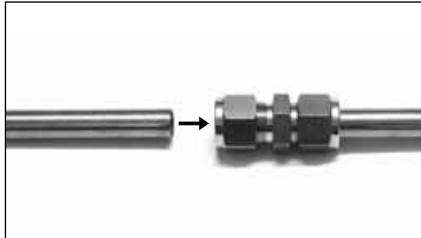
Nominal Tube O.D.	Thread Size	D Min.	J Min.	K	O Min.	P Min.	U	Y	S Max.	Z
1/8	5/16-24	1.6	10.0	1.9	11.0	12.0	9.1	17.0	1.6	12°
3/16	3/8-24	3.2	10.0	1.9	13.0	12.0	10.7	19.0	1.6	12°
1/4	7/16-20	4.4	11.5	2.4	15.0	14.0	12.4	21.0	1.6	12°
5/16	1/2-20	6.0	11.5	2.4	16.0	14.0	14.0	23.0	1.6	12°
3/8	9/16-18	7.5	12.7	2.5	18.0	15.5	15.6	25.0	1.6	12°
1/2	3/4-16	10.0	14.3	2.5	22.0	20.0	20.6	30.0	2.4	15°
5/8	7/8-14	12.5	16.7	2.5	26.0	23.0	23.9	34.0	2.4	15°
3/4	1-1/16-12	16.0	19.0	3.3	32.0	23.0	29.2	41.0	2.4	15°
7/8	1-3/16-12	18.0	19.0	3.3	35.0	23.0	32.3	45.0	2.4	15°
1	1-5/16-12	21.0	19.0	3.3	38.0	23.0	35.5	49.0	3.2	15°
1-1/4	1-5/8-12	27.0	19.0	3.3	48.0	23.0	43.5	58.0	3.2	15°
1-1/2	1-7/8-12	33.0	19.0	3.3	54.0	23.0	49.8	65.0	3.2	15°
2	2-1/2-12	45.2	19.0	3.3	70.0	23.0	65.7	88.0	3.2	15°

- a. Diameter U shall be connectic with thread pitch diameter within 0.13 full indicator reading (FIR), and shell be free from longitudinal and spiral tool marks. angular tool marks up to 2.5 micro meter max shell be permissible.
- b. Maximum recommended spotface depth to permit sufficient wrench grip for proper tightning of the fitting or locknut.
- c. If face of boss is on a machined surface, dimensions Y and S need not apply as long as R0.25/0.375 is maintained to avoid damage to thhe O-Ring during installation.
- d. Tap drill depths given require use of a bottoming taos to produce the specified full thread lengths. Where standard taps are used, the tap drill depths must be increased accordingly.
- e. Figures are for reference only, as any boss can be used for a tubing size depending upon other design criteria.



Assembly instruction

1. Loosen the ferrule nut.
2. Insert tubing into Fitting. Proper assembly requires that the tubing be fully bottomed in the fitting body
3. Check that the tube rest on the shoulder and that the nut is finger tight.



4. While holding the fitting body stable with a back-up wrench, scribe the nut for a reference point and wrench tighten the nut 3/4" turns for sizes 1/16" to 3/16" tighten the nut 1-1/4" turns for sizes 1/4" to 1".

Reassembly instruction

1. Mark the location of the nut with reference to the fitting body before disassembly.
2. Re insert the tubing into the body until it is seated.
3. With proper size wrench, retighten nut to original location by realigning previous marks.
4. A noticeable amount of torque will develop when the nut is turned to original position.
5. Rotate the nut slightly past original position to fully re set the seal.



Safety Information

- Do not install, tighten or loosen a fitting while the system under pressure.
- Do not bleed a system by loosening a fitting.
- Always use proper thread lubricants and sealants on tapered pipe threads.
- During assembly tube fitting, always hold the fitting with back-up wrench, while tightening ferrule nut.
- Do not weld tube fittings that are assembled.
- For proper sealing it is recommended that the tubing and fitting be of same material.



Tube Fittings



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