

# Flare Fittings



## SAE 45° Flare

- Meets SAE Functional Requirements
- Resists Vibration
- Resists Mechanical Pull-out
- UL Listed



## Inverted Flare

- UL Listed
- Economical
- Steel Nut option

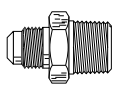
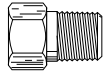
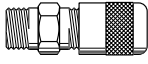


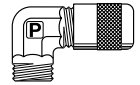
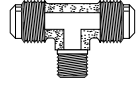

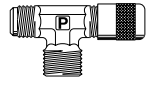
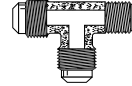
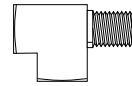
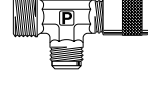
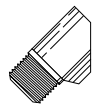
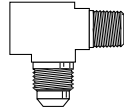
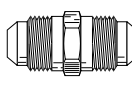

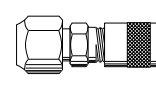
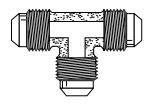

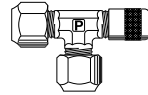
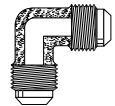

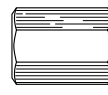
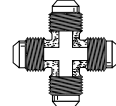
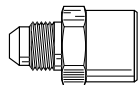

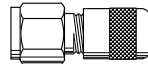
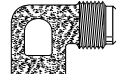
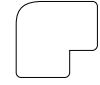

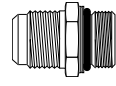
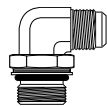
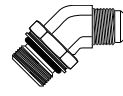
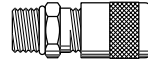
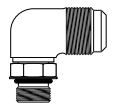
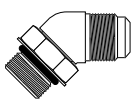
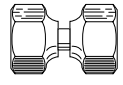
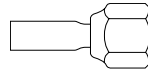
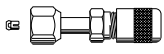
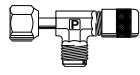
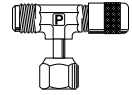



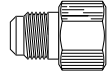

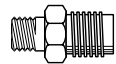
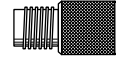
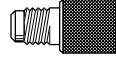


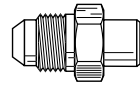
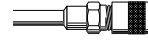
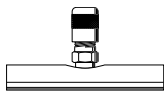
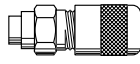
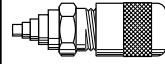
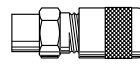



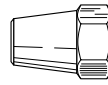







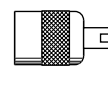

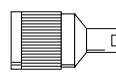

## Access Valves

- Teflon Seal on Valve core
- Machined to ARI Standards
- Finger Tight Quick Seal Cap

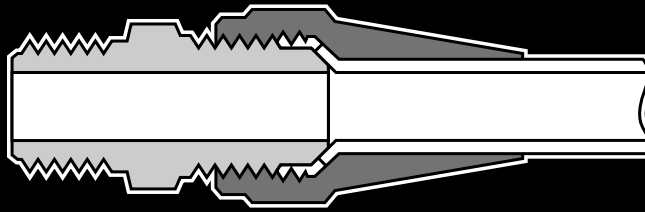
***The World Standard***

**E**

<b>Flare to Male NPT</b>	<b>48F</b> Male Connector  Page E8	<b>48IFHD</b> Male Connector  Page E16	<b>AVU1</b> Male Connector  Page E20	<b>149F/249F</b> Male Elbow  Page E10	<b>249IFHD/249IF</b> Male Elbow  Page E16	<b>AVE1</b> Male Elbow  Page E20
	<b>145F</b> Branch Tee  Page E9	<b>245IFHD</b> Branch Tee  Page E16	<b>AVT1</b> Branch Tee  Page E20	<b>151F</b> Run Tee  Page E11	<b>251IFHD</b> Run Tee  Page E17	<b>AVT3</b> Run Tee  Page E20
<b>259IFHD</b> 45° Male Elbow  Page E17	<b>256F</b> Adapter Tee  Page E12	<b>Flare to Flare</b>	<b>42F</b> Union  Page E7	<b>42IFHD</b> Union  Page E15	<b>AVU2</b> Union  Page E19	<b>144F</b> Union Tee  Page E9
<b>244IFHD</b> Union Tee  Page E16	<b>AVT2</b> Union Tee  Page E20		<b>155F</b> Union Elbow  Page E11	<b>255IFHD</b> Union Elbow  Page E17	<b>660FHD</b> Flare Union  Page E13	<b>147F</b> Cross  Page E9
<b>Flare to Female NPT</b>	<b>46F</b> Female Connector  Page E8	<b>46IFHD</b> Female Connector  Page E15	<b>AVUR3</b> Female Connector  Page E21	<b>150F</b> Female Elbow  Page E11	<b>250IFHD</b> Female Elbow  Page E17	<b>252IFHD</b> Branch Tee  Page E17
	<b>Flare to Metric Straight Thread</b>	<b>48F-MI</b> Male Connector  Page E8	<b>149F-MI</b> Male Elbow  Page E10	<b>159F-MI</b> 45° Male Elbow  Page E12	<b>Flare to Straight Thread</b>	<b>AVU1F1</b> Male Connector  Page E20
<b>1495F</b> Male Elbow  Page E10		<b>1595F</b> 45° Male Elbow  Page E12	<b>Swivels</b>	<b>14FSV</b> Swivel Nut Connector  Page E6		<b>US5</b> Flare Adapter  Page E6
<b>AVUS4D</b> Swivel Connector  Page E21	<b>AVTS4</b> Swivel Run Tee  Page E21	<b>AVTS6</b> Swivel Branch Tee  Page E22				

<b>Adapters</b>	<b>1F</b> Refrigerant Drum  Page E5	<b>661FHD</b> Reducer  Page E13	<b>664FHD</b> Female Flare to Pipe  Page E13	<b>88AC</b> Refrigerant Adapter  Page E23	<b>880AC</b> Refrigerant Adapter  Page E23	<b>881AC</b> Refrigerant Adapter  Page E23
	<b>Bulkheads</b>	<b>AVU2BH</b> Bulkhead Union  Page E19	<b>AVUS3BH</b> Solder Union  Page E19	<b>Flare to Solder</b>	<b>43F</b> Connector  Page E7	<b>AVUSE</b> Extended Copper Tube  Page E19
<b>AVTSL</b> Extended Solder Tee  Page E19		<b>AVUS3-40</b> 3 Way Solder  Page E21	<b>AVUS3-49</b> 9 Way Solder  Page E21		<b>AVUS</b> Solder Connector  Page E21	
<b>Auxiliary</b>	<b>14FL</b> Long Forged Nut  Page E5	<b>14FSX</b> Short Forged Nut  Page E5	<b>14FS</b> Forged Reducing Nut  Page E6	<b>41FL</b> Long Nut  Page E6	<b>41FS/41FX</b> Shorter Nut  Page E6, E7	<b>41IF</b> Inverted Flare Nut  Page E15
	<b>41IFS</b> Inverted Flare Nut Steel  Page E15	<b>41IFF</b> Inverted Flare Piloted Nut  Page E15	<b>639F</b> Seal Plug  Page E13	<b>640F</b> CAP NUT  Page E13	<b>640QSFC</b> Seal Cap with Chain  Page E22	<b>640QSFCR</b> Seal Cap with Core Remover  Page E22
<b>3GF</b> Seal Bonnet  Page E5	<b>CR</b> Core Remover  Page E22	<b>VC</b> Valve Core  Page E22				





## SAE 45° Flared Fittings

E

### Advantages

This economical fitting resists mechanical pullout. Can be assembled and disassembled repeatedly. Manufactured from CA 360, CA 345 or CA 377 brass.

### Specifications

Listed with Underwriter's Laboratories for flammable liquid, marine, refrigeration and gas applications. Meets functional requirements of SAE J512 and J513. Refer to list of UL listed fittings on page M10 for specific configurations.

### Applications

Use with copper, brass, aluminum and welded steel hydraulic tubing that can be flared. Manufactured especially for hard-to-hold liquids and gases.

### Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035
450	7/8	.035

### Temperature Ranges

From -65° to +250°F.

### Vibration

Short nut may be used when vibration is minimal. The long nut offers additional vibration capacity.

### Assembly Instructions

1. Cut tubing squarely and clean tube end thoroughly to remove burrs.
2. Place nut onto tube. Place threaded end of nut toward end of tube.
3. Flare tube end with flaring tool to provide 45° flare.
4. Clamp tube flare between nut and nose of fitting body by screwing nut on finger-tight. Tighten with a wrench an additional 1/4 to 1/2 turn past finger tight for a metal-to-metal seal.

Flare fittings are easy to disassemble and may be reassembled repeatedly, for a leak-proof connection.

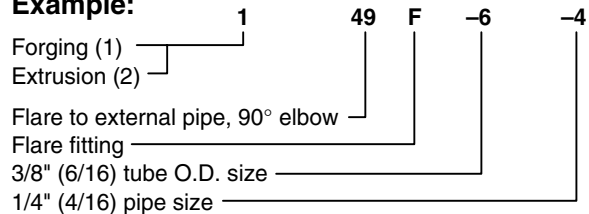
### Order

By part number and name. SAE 45° flared bodies and nuts are separate items. Both numbers must be indicated when ordered.

### Nomenclature

Part numbers are constructed from symbols that identify the style and size of the fitting. The first series of numbers and letters identifies the style and type fitting. The second series of numbers describes the size.

#### Example:



### Sizes

Tube sizes are determined by the numbers of sixteenths of an inch in the tube O.D.

### Special Fittings

Fitting configurations and/or sizes other than those shown in the catalog can be furnished. It is suggested that a print or sketch be submitted with the inquiry. Special UL stamped fittings are available. Please consult price list.

### Pricing

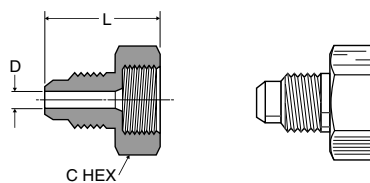
Only items priced in current supplementary price list PL3501 are carried in stock. Price and delivery for non-stock items furnished on request for specified quantity.

**Refrigerant Drum a Aapter 1F**

Ref. SAE 010165

PART NO.	TUBE O.D.	PIPE THREAD	C HEX	L	FLOW DIA. D
1F-4-8	1/4	1/2	1-1/8	1.12	.189
1F-4-12*	1/4	3/4	1-1/4	1.12	.189
1F-6-12*	3/8	3/4	1-1/4	1.24	.282
1F-8-12*	1/2	3/4	1-1/4	1.37	.407

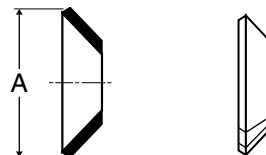
Gasket Furnished with each 1F adapter



**Copper Flare Gasket 2GF**

Ref. SAE 010113

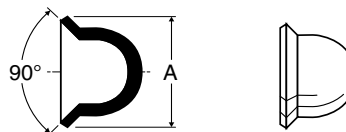
PART NO.	TUBE SIZE	A
2GF-3	3/16	.32
2GF-4	1/4	.36
2GF-5	5/16	.43
2GF-6	3/8	.56
2GF-8	1/2	.67
2GF-10	5/8	.78
2GF-12*	3/4	.97



**Seal Bonnet 3GF**

Ref. SAE 010114

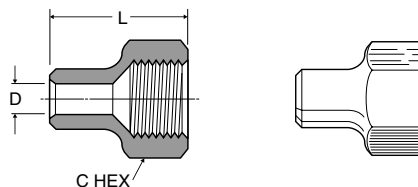
PART NO.	TUBE SIZE	A
3GF-3	3/16	.32
3GF-4	1/4	.37
3GF-5	5/16	.43
3GF-6	3/8	.56
3GF-8	1/2	.67
3GF-10	5/8	.78
3GF-12*	3/4	.97



**Long Forged Nut 14FL**

Ref. SAE 010167

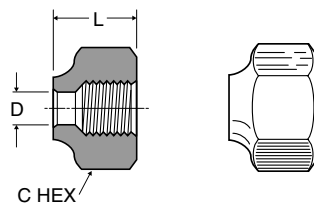
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FL-4	1/4	7/16-20	5/8	.257	.94
14FL-6	3/8	5/8-18	13/16	.382	1.06
14FL-8	1/2	3/4-16	15/16	.507	1.19
14FL-10	5/8	7/8-14	1-1/16	.632	1.44



**Short Forged Nut 14FSX**

Ref. SAE 010166

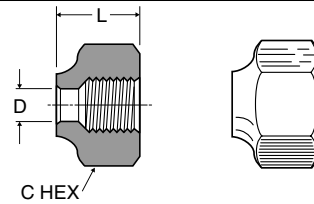
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FSX-4	1/4	7/16-20	5/8	.257	.63
14FSX-5	5/16	1/2-20	11/16	.320	.67
14FSX-6	3/8	5/8-18	13/16	.382	.74
14FSX-8	1/2	3/4-16	15/16	.507	.86
14FSX-10	5/8	7/8-14	1-1/16	.632	.97
14FSX-12*	3/4	1-1/16-14	1-5/16	.757	1.17



\*Comes standard with thread protectors

**Short Forged Reducing Nuts 14FS**

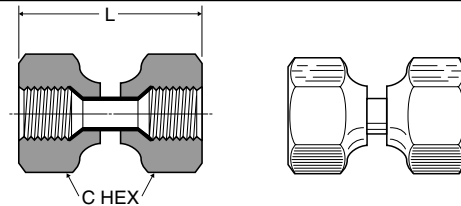
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FS-6-4	3/8 to 1/4	5/8-18	13/16	.257	.74
14FS-8-6	1/2 to 3/8	3/4-16	15/16	.382	.86
14FS-10-8	5/8 to 1/2	7/8-14	1-1/16	.507	.99



**Swivel Nut Valve Connector 14FSV**

Ref. SAE 010108

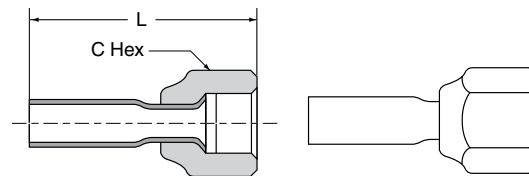
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
14FSV-4	1/4	7/16-20	5/8	1.31
14FSV-6	3/8	5/8-18	13/16	1.50
14FSV-8	1/2	3/4-16	15/16	1.75
14FSV-10	5/8	7/8-14	1-1/16	2.00



E

**Flare Adapter US5**

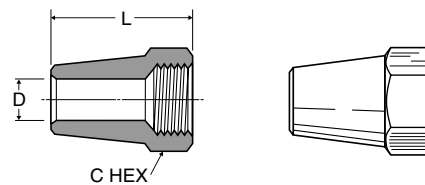
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
US5-4	1/4	7/16-20	5/8	1.50
US5-6	3/8	5/8-18	13/16	1.58
US5-8	1/2	3/4-16	15/16	1.80
US5-10	5/8	7/8-14	1-1/16	2.18



**Long Nut 41FL**

Ref. SAE 010111

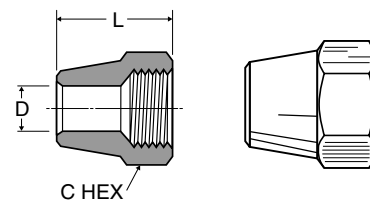
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
41FL-2	1/8	5/16-24	3/8	.133	.75
41FL-3	3/16	3/8-24	7/16	.195	.81
41FL-4	1/4	7/16-20	9/16	.257	.94
41FL-5	5/16	1/2-20	5/8	.320	1.12
41FL-6	3/8	5/8-18	3/4	.382	1.31
41FL-8	1/2	3/4-16	7/8	.507	1.62
41FL-10	5/8	7/8-14	1-1/16	.632	1.88
41FL-12*	3/4	1-1/16-14	1-1/4	.757	2.19



**Short Nut 41FS / Shorter Nut 41FX**

Ref. SAE 010110

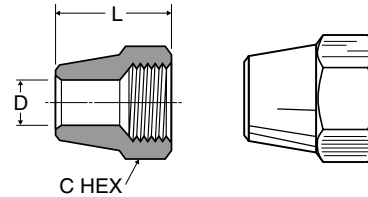
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
41FS-2	1/8	5/16-24	3/8	.132	.50
41FS-3	3/16	3/8-24	7/16	.195	.62
41FS-4	1/4	7/16-20	9/16	.257	.75
41FS-5	5/16	1/2-20	5/8	.320	.88
41FS-6	3/8	5/8-18	3/4	.382	1.00
41FX-6	3/8	5/8-18	3/4	.382	.91
41FS-8	1/2	3/4-16	7/8	.507	1.12
41FX-8	1/2	3/4-16	7/8	.507	1.00
41FS-10	5/8	7/8-14	1-1/16	.632	1.31
41FX-10	5/8	7/8-14	1-1/16	.632	1.06
41FX-12	3/4	1-1/16-14	1-1/4	.757	1.17
41FS-12*	3/4	1-1/16-14	1-1/4	.757	1.50
41FS-14*	7/8	1-1/4-12	1-1/2	.882	1.62



\*Comes standard with thread protectors

**Reducing Nuts 41FS**

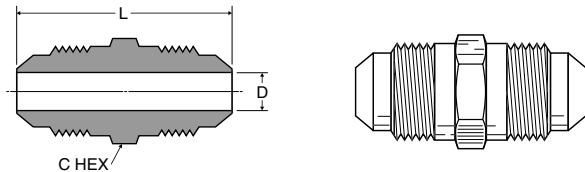
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
41FS-6-4	3/8 to 1/4	5/8-18	3/4	.257	1.00
41FS-8-6	1/2 to 3/8	3/4-16	7/8	.382	1.09
41FS-10-8	5/8 to 1/2	7/8-14	1-1/16	.507	1.25



**Union 42F**

Ref. SAE 010101 \*Thread Protectors

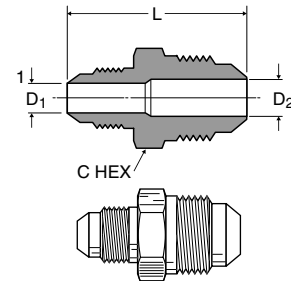
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
42F-2	1/8	5/16-24	5/16	.90	.079
42F-3	3/16	3/8-24	3/8	1.04	.125
42F-4	1/4	7/16-20	7/16	1.17	.189
42F-5	5/16	1/2-20	1/2	1.32	.220
42F-6	3/8	5/8-18	5/8	1.48	.282
42F-8	1/2	3/4-16	3/4	1.79	.407
42F-10	5/8	7/8-14	7/8	2.10	.501
42F-12*	3/4	1-1/16-14	1-1/16	2.42	.626
42F-14*	7/8	1-1/4-12	1-1/4	2.72	.751



**Union Reducers 42F**

Ref. SAE 010101

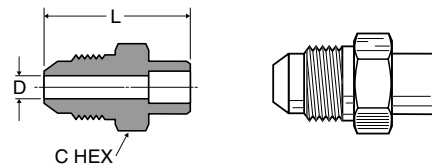
PART NO.	1 TUBE SIZE	2 TUBE SIZE	1 STRAIGHT THREAD	2 STRAIGHT THREAD	C HEX	L	FLOW DIA. D1	FLOW DIA. D2
42F-6-4	1/4	3/8	7/16-20	5/8-18	5/8	1.36	.189	.282
42F-6-5	5/16	3/8	1/2-20	5/8-18	5/8	1.42	.220	.282
42F-8-4	1/4	1/2	7/16-20	3/4-16	3/4	1.54	.189	.407
42F-8-6	3/8	1/2	5/8-18	3/4-16	3/4	1.67	.282	.407
42F-10-6	3/8	5/8	5/8-18	7/8-14	7/8	1.86	.282	.501
42F-10-8	1/2	5/8	3/4-16	7/8-14	7/8	1.98	.407	.501



**Flare to Solder 43F**

Ref. SAE 010104

PART NO.	TUBE SIZE	SOLDER OD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
43F-4-4	1/4	1/4	7/16-20	7/16	.98	.189
43F-4-5	1/4	5/16	7/16-20	7/16	.98	.189
43F-4-6	1/4	3/8	7/16-20	1/2	.98	.189
43F-6-4	3/8	1/4	5/8-18	5/8	1.17	.189
43F-6-5	3/8	5/16	5/8-18	5/8	1.17	.252
43F-6-6	3/8	3/8	5/8-18	5/8	1.17	.282
43F-6-8	3/8	1/2	5/8-18	5/8	1.23	.282
43F-6-10	3/8	5/8	5/8-18	3/4	1.36	.282
43F-8-6	1/2	3/8	3/4-16	3/4	1.36	.314
43F-8-8	1/2	1/2	3/4-16	3/4	1.42	.407
43F-8-10	1/2	5/8	3/4-16	3/4	1.54	.407
43F-10-8	5/8	1/2	7/8-14	7/8	1.60	.440
43F-10-10	5/8	5/8	7/8-14	7/8	1.73	.501
43F-10-12*	5/8	3/4	7/8-14	7/8	1.86	.501
43F-10-14*	5/8	7/8	7/8-14	1	1.98	.501
43F-12-12*	3/4	3/4	1-1/16-14	1-1/16	2.04	.626
43F-12-14*	3/4	7/8	1-1/16-14	1-1/16	2.17	.626

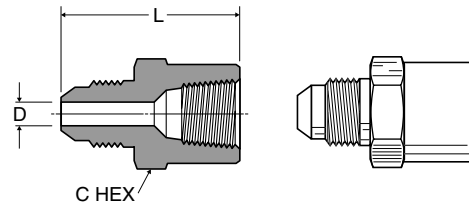


\*Comes standard with thread protectors

**Female Connector 46F**

Ref. SAE 010103

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
46F-2-2	1/8	1/8	5/16-24	9/16	.91	.078
46F-3-2	3/16	1/8	3/8-24	9/16	.95	.125
46F-4-2	1/4	1/8	7/16-20	9/16	1.01	.189
46F-4-4	1/4	1/4	7/16-20	11/16	1.23	.189
46F-4-6	1/4	3/8	7/16-20	13/16	1.26	.189
46F-5-2	5/16	1/8	1/2-20	9/16	1.05	.220
46F-5-4	5/16	1/4	1/2-20	11/16	1.26	.220
46F-6-2	3/8	1/8	5/8-18	5/8	1.10	.282
46F-6-4	3/8	1/4	5/8-18	11/16	1.29	.282
46F-6-6	3/8	3/8	5/8-18	13/16	1.36	.282
46F-6-8	3/8	1/2	5/8-18	1	1.60	.282
46F-8-4	1/2	1/4	3/4-16	3/4	1.39	.407
46F-8-6	1/2	3/8	3/4-16	13/16	1.48	.407
46F-8-8	1/2	1/2	3/4-16	1	1.73	.407
46F-8-12*	1/2	3/4	3/4-16	1-1/4	1.79	.407
46F-10-6	5/8	3/8	7/8-14	7/8	1.57	.501
46F-10-8	5/8	1/2	7/8-14	1	1.80	.501
46F-10-12*	5/8	3/4	7/8-14	1-1/4	1.89	.501

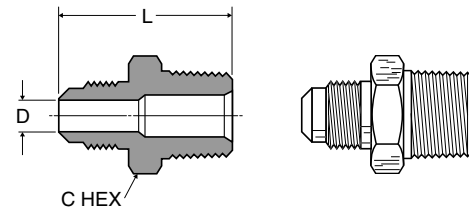


E

**Male Connector 48F**

Ref. SAE 010102

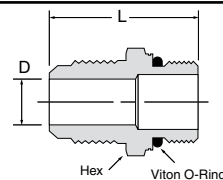
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
48F-2-2	1/8	1/8	5/16-24	7/16	.91	.078
48F-3-2	3/16	1/8	3/8-24	7/16	.98	.125
48F-3-4	3/16	1/4	3/8-24	9/16	1.17	.125
48F-4-2	1/4	1/8	7/16-20	7/16	1.04	.189
48F-4-4	1/4	1/4	7/16-20	9/16	1.23	.189
48F-4-6	1/4	3/8	7/16-20	11/16	1.29	.189
48F-4-8	1/4	1/2	7/16-20	7/8	1.54	.189
48F-5-2	5/16	1/8	1/2-20	1/2	1.14	.220
48F-5-4	5/16	1/4	1/2-20	9/16	1.32	.220
48F-5-6	5/16	3/8	1/2-20	11/16	1.36	.220
48F-6-2	3/8	1/8	5/8-18	5/8	1.23	.220
48F-6-4	3/8	1/4	5/8-18	5/8	1.42	.282
48F-6-6	3/8	3/8	5/8-18	11/16	1.42	.282
48F-6-8	3/8	1/2	5/8-18	7/8	1.67	.282
48F-6-12*	3/8	3/4	5/8-18	1-1/16	1.79	.282
48F-8-4	1/2	1/4	3/4-16	3/4	1.60	.407
48F-8-6	1/2	3/8	3/4-16	3/4	1.60	.407
48F-8-8	1/2	1/2	3/4-16	7/8	1.79	.407
48F-8-12	1/2	3/4	3/4-16	1-1/16	1.92	.407
48F-10-4	5/8	1/4	7/8-14	7/8	1.79	.313
48F-10-6	5/8	3/8	7/8-14	7/8	1.79	.408
48F-10-8	5/8	1/2	7/8-14	7/8	1.98	.501
48F-10-12*	5/8	3/4	7/8-14	1-1/16	2.04	.501
48F-12-8*	3/4	1/2	1-1/16-14	1-1/16	2.17	.626
48F-12-12*	3/4	3/4	1-1/16-14	1-1/16	2.17	.626
48F-14-12*	7/8	3/4	1-1/4-12	1-1/4	2.35	.751



**Flare to Metric Adaptor 48F-X-MIX**

PART NUMBER	TUBE SIZE	METRIC THREAD	HEX	L	D
48F-8-MII6	1/2	M16 X 1.5	7/8	1.60	.35
48F-10-MI27	5/8	M27 x 2.0	1 1/4	1.87	.50
48F-12-MI27*	3/4	M27 x 2.0	1 1/4	1.99	.63

Note: Viton o-ring is standard

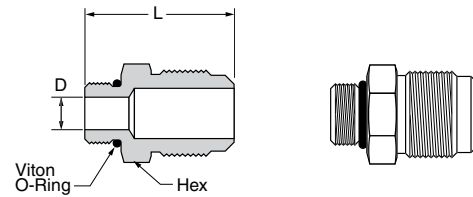


\*Comes standard with thread protectors



**Flare to SAE Straight Thread 485F**

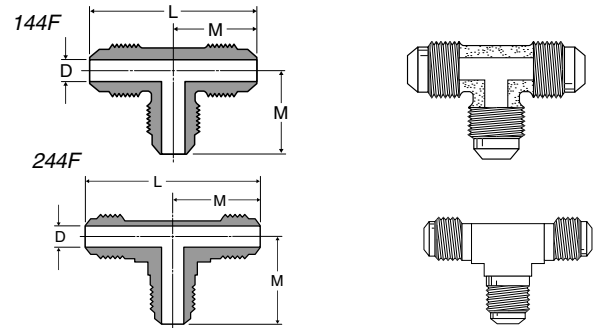
PART NO.	TUBE SIZE	STRAIGHT THREAD	HEX	L	FLOW DIA. D
485F-12-8*	3/4	3/4-16	1 1/16	1.80	.397
485F-12-12*	3/4	1 1/16-12	1 1/4	2.03	.615



**Union Tee 144F-244F**

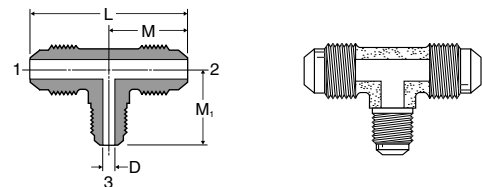
Ref. SAE 010401

PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	FLOW DIA. D
144F-3	3/16	3/8-24	1.46	.73	.125
144F-4	1/4	7/16-20	1.72	.86	.189
244F-4	1/4	7/16-20	1.72	.86	.189
144F-5	5/16	1/2-20	1.82	.91	.220
144F-6	3/8	5/8-18	2.08	1.04	.282
144F-8	1/2	3/4-16	2.46	1.23	.407
144F-10	5/8	7/8-14	2.78	1.39	.501



**Union Tee 144F-244F combination sizes**

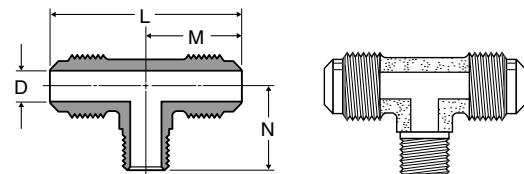
PART NO.	1 TUBE SIZE	2 TUBE SIZE	3 TUBE SIZE	L	M	M1	FLOW DIA. D
144F-6-6-4	3/8	3/8	1/4	2.08	1.04	.89	.189
144F-8-8-6	1/2	1/2	3/8	2.40	1.20	1.10	.282



**Male Branch Tee 145F**

Ref. SAE 010425

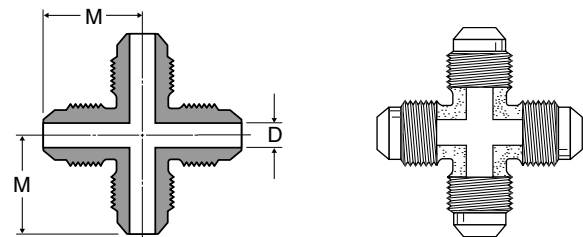
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
145F-2-2	1/8	1/8	5/16-24	1.26	.63	.69	.079
145F-4-2	1/4	1/8	7/16-20	1.58	.79	.76	.189
145F-4-4	1/4	1/4	7/16-20	1.78	.89	.92	.189
145F-5-4	5/16	1/4	1/2-20	1.90	.95	.96	.220
145F-6-4	3/8	1/4	5/8-18	1.96	.98	1.05	.282
145F-6-6	3/8	3/8	5/8-18	2.00	1.00	.98	.282
145F-6-8	3/8	1/2	5/8-18	2.28	1.14	1.26	.282
145F-8-6	1/2	3/8	3/4-16	2.40	1.20	1.10	.407
145F-8-8	1/2	1/2	3/4-16	2.46	1.23	1.36	.407
145F-10-8	5/8	1/2	7/8-14	2.78	1.39	1.36	.501



**Cross 147F**

Ref. SAE 010501

PART NO.	TUBE SIZE	STRAIGHT THREAD	M	FLOW DIA. D
147F-6	3/8	5/8-18	1.04	.282



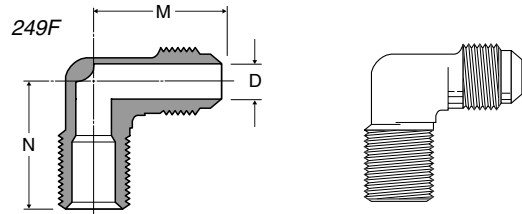
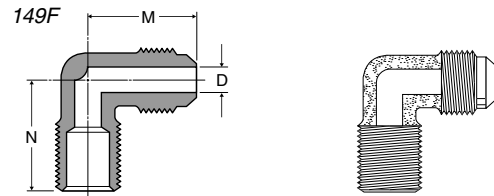
\*Comes standard with thread protectors



**Male Elbow 149F-249F**

Ref. SAE 010202

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
149F-2-2	1/8	1/8	5/16-24	.63	.69	.079
149F-3-2	3/16	1/8	3/8-24	.75	.75	.125
249F-3-2	3/16	1/8	3/8-24	.73	.73	.125
149F-4-2	1/4	1/8	7/16-20	.79	.76	.189
249F-4-2	1/4	1/8	7/16-20	.79	.76	.189
149F-4-4	1/4	1/4	7/16-20	.89	.92	.189
249F-4-4	1/4	1/4	7/16-20	.89	.92	.189
149F-4-6	1/4	3/8	7/16-20	.92	1.01	.189
249F-4-6	1/4	3/8	7/16-20	.92	1.01	.189
149F-4-8	1/4	1/2	7/16-20	1.02	1.26	.189
149F-5-2	5/16	1/8	1/2-20	.90	.79	.220
249F-5-2	5/16	1/8	1/2-20	.89	.77	.220
149F-5-4	5/16	1/4	1/2-20	.95	.95	.220
249F-5-4	5/16	1/4	1/2-20	.95	.92	.220
149F-5-6	5/16	3/8	1/2-20	.98	1.01	.220
149F-6-2	3/8	1/8	5/8-18	1.01	.90	.282
249F-6-2	3/8	1/8	5/8-18	1.01	.89	.220
149F-6-4	3/8	1/4	5/8-18	1.01	1.05	.282
249F-6-4	3/8	1/4	5/8-18	.98	1.04	.282
149F-6-6	3/8	3/8	5/8-18	1.04	1.07	.282
249F-6-6	3/8	3/8	5/8-18	1.04	1.07	.282
149F-6-8	3/8	1/2	5/8-18	1.15	1.26	.282
249F-6-8	3/8	1/2	5/8-18	1.14	1.26	.282
149F-6-12*	3/8	3/4	5/8-18	1.25	1.38	.282
149F-8-4	1/2	1/4	3/4-16	1.20	1.17	.407
149F-8-6	1/2	3/8	3/4-16	1.20	1.10	.407
249F-8-6	1/2	3/8	3/4-16	1.20	1.10	.407
149F-8-8	1/2	1/2	3/4-16	1.28	1.38	.407
249F-8-8	1/2	1/2	3/4-16	1.26	1.36	.407
149F-8-12*	1/2	3/4	3/4-16	1.38	1.38	.407
149F-10-4	5/8	1/4	7/8-14	1.41	1.25	.501
149F-10-6	5/8	3/8	7/8-14	1.41	1.25	.501
149F-10-8	5/8	1/2	7/8-14	1.40	1.39	.501
249F-10-8	5/8	1/2	7/8-14	1.39	1.36	.501
149F-10-12*	5/8	3/4	7/8-14	1.42	1.48	.501
149F-12-8*	3/4	1/2	1-1/16-14	1.60	1.48	.626
149F-12-12*	3/4	3/4	1-1/16-14	1.60	1.62	.626
149F-14-12*	7/8	3/4	1-1/4-12	1.73	1.67	.751

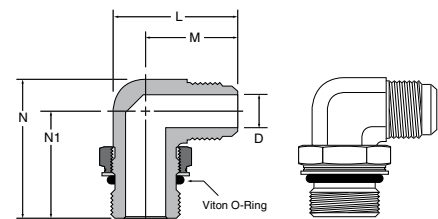


E

**Flare Elbow to SAE Metric Straight Thread 149F-X-MIX**

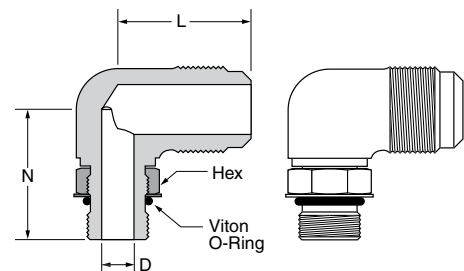
PART NUMBER	TUBE SIZE	METRIC THREAD	L	M	N	N1	D
149F-10-MI27	5/8	M27 x 2.0	1.95	1.46	2.12	1.63	.501

Note: Viton o-ring is standard



**Flare Elbow to SAE Straight Thread 1495F**

PART NO.	TUBE SIZE	STRAIGHT THREAD	HEX	L	N	FLOW DIA. D
1495F-12-8*	3/4	3/4-16	7/8	1.60	1.60	.398
1495F-12-12*	3/4	1-1/16-12	1 1/4	1.59	2.12	.616



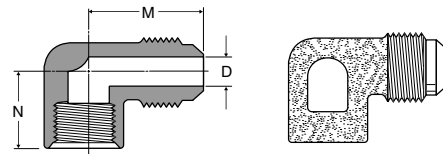
\*Comes standard with thread protectors



**Female Elbow 150F**

Ref. SAE 010203

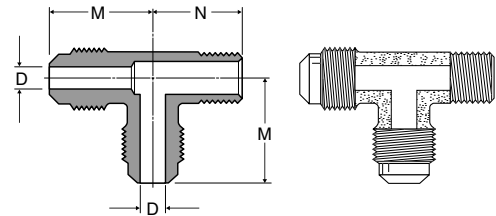
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
150F-4-2	1/4	1/8	7/16-20	.86	.50	.189
150F-4-4	1/4	1/4	7/16-20	.95	.64	.189
150F-5-4	5/16	1/4	1/2-20	1.01	.64	.220
150F-6-2	3/8	1/8	5/8-18	1.08	.48	.282
150F-6-4	3/8	1/4	5/8-18	1.07	.67	.282
150F-6-6	3/8	3/8	5/8-18	1.14	.67	.282
150F-6-8	3/8	1/2	5/8-18	1.23	.86	.282
150F-8-6	1/2	3/8	3/4-16	1.25	.69	.407
150F-8-8	1/2	1/2	3/4-16	1.36	.92	.407
150F-8-12	1/2	3/4	3/4-16	1.51	.92	.407
150F-10-8*	5/8	1/2	7/8-14	1.48	.98	.501
150F-10-12*	5/8	3/4	7/8-14	1.64	.98	.501



**Male Run Tee 151F**

Ref. SAE 010424

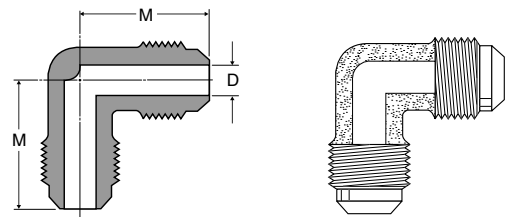
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
151F-4-2	1/4	1/8	7/16-20	.86	.76	.189
151F-4-4	1/4	1/4	7/16-20	.92	.89	.189
151F-5-4	5/16	1/4	1/2-20	.92	.95	.220
151F-6-4	3/8	1/4	5/8-18	1.04	1.04	.282
151F-6-6	3/8	3/8	5/8-18	.98	1.00	.282
151F-6-8	3/8	1/2	5/8-18	1.26	1.16	.282
151F-8-6	1/2	3/8	3/4-16	1.20	1.10	.407
151F-8-8	1/2	1/2	3/4-16	1.36	1.23	.407
151F-10-8	5/8	1/2	7/8-14	1.36	1.39	.501



**Union Elbow 155F**

Ref. SAE 010201

PART NO.	TUBE SIZE	STRAIGHT THREAD	M	FLOW DIA. D
155F-2	1/8	5/16-24	.64	.079
155F-3	3/16	3/8-24	.73	.125
155F-4	1/4	7/16-20	.86	.189
155F-5	5/16	1/2-20	.92	.220
155F-6	3/8	5/8-18	1.04	.282
155F-8	1/2	3/4-16	1.20	.407
155F-10	5/8	7/8-14	1.39	.501
155F-12*	3/4	1-1/16-14	1.64	.626



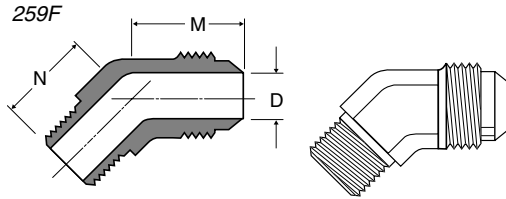
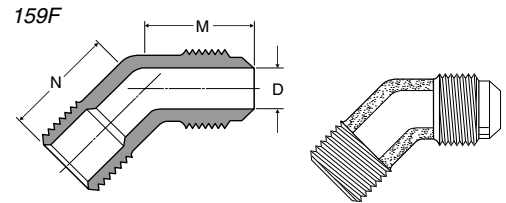
\*Comes standard with thread protectors



45° Elbow 159F-259F

Ref. SAE 010302

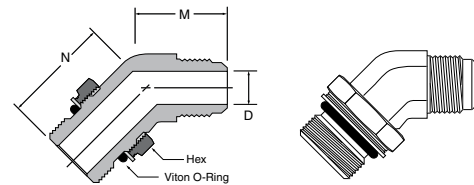
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
159F-4-2	1/4	1/8	7/16-20	.78	.56	.189
259F-4-2	1/4	1/8	7/16-20	.65	.62	.189
159F-4-4	1/4	1/4	7/16-20	.75	.84	.189
259F-4-4	1/4	1/4	7/16-20	.73	.84	.189
159F-5-2	5/16	1/8	1/2-20	.76	.65	.220
159F-5-4	5/16	1/4	1/2-20	.75	.81	.220
159F-6-2	3/8	1/8	5/8-18	.89	.67	.282
159F-6-4	3/8	1/4	5/8-18	.89	.86	.282
259F-6-4	3/8	1/4	5/8-18	.91	.86	.282
159F-6-6	3/8	3/8	5/8-18	.91	.93	.282
259F-6-6	3/8	3/8	5/8-18	.91	.93	.282
159F-8-4	1/2	1/4	3/4-16	1.06	.95	.407
159F-8-6	1/2	3/8	3/4-16	1.06	.95	.407
259F-8-6	1/2	3/8	3/4-16	1.04	.93	.407
159F-8-8	1/2	1/2	3/4-16	1.12	1.16	.407
159F-10-6	5/8	3/8	7/8-14	1.13	.95	.501
259F-10-6	5/8	3/8	7/8-14	1.20	1.15	.501
159F-10-8	5/8	1/2	7/8-14	1.21	1.16	.501
259F-10-8	5/8	1/2	7/8-14	1.21	.98	.501
159F-12-8*	3/4	1/2	1-1/16-14	1.28	1.16	.626



45° Flare Elbow to SAE Metric Straight Thread 159F-X-MIX

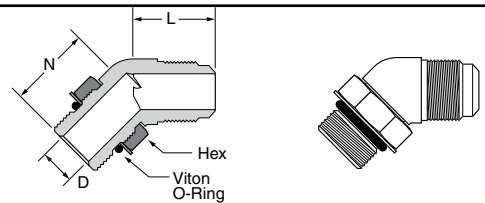
PART NUMBER	TUBE SIZE	METRIC THREAD	HEX	M	N	D
159F-8-MII6	1/2	M16 X 1.5	22mm	1.10	1.16	.36
159F-10-MI27	5/8	M27 x 2.0	1 1/4	1.21	1.50	.50

Note: Viton o-ring is standard



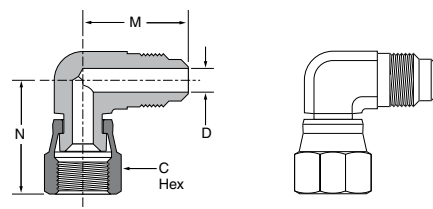
45° Flare to SAE Straight Thread 1595F

PART NO.	TUBE SIZE	STRAIGHT THREAD	HEX	L	N	FLOW DIA. D
1595F-8-8	1/2	3/4-16	7/8	1.00	1.16	.398
1595F-12-8*	3/4	3/4-16	7/8	1.41	1.30	.398
1595F-12-12*	3/4	1 1/16-12	1 1/4	1.41	1.45	.615



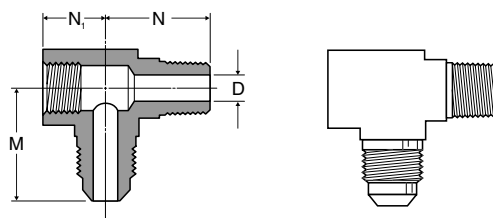
90° Swivel Elbow 166FSV

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	M	N	FLOW DIA. D
166FSV-4-4	1/4	7/16-20	9/16	.86	.93	.189
166FSV-6-6	3/8	5/8-18	3/4	1.04	1.12	.282
166FSV-8-8	1/2	3/4-16	7/8	1.20	1.29	.407
166FSV-10-10	5/8	7/8-14	1	1.39	1.50	.501
166FSV-12-12*	3/4	1-1/16-14	1-1/4	1.60	1.83	.626



Adapter Tee 256F

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	N1	FLOW DIA. D
256F-4-2	1/4	1/8	7/16-20	.86	.77	.47	.220



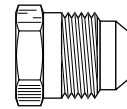
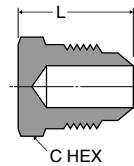
\*Comes standard with thread protectors



**Flared Seal Plug 639F**

Ref. SAE 010109

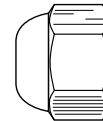
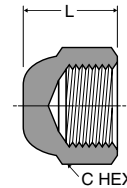
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
639F-4	1/4	7/16-20	7/16	.69
639F-5	5/16	1/2-20	1/2	.78
639F-6	3/8	5/8-18	5/8	.88
639F-8	1/2	3/4-16	3/4	1.06
639F-10	5/8	7/8-14	7/8	1.19



**Cap Nut 640F**

Ref. SAE 010112

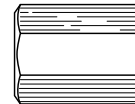
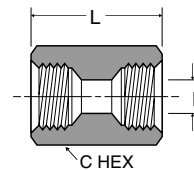
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
640F-3†	3/16	3/8-24	1/2	.47
640F-4†	1/4	7/16-20	9/16	.53
640F-5†	5/16	1/2-20	5/8	.62
640F-6†	3/8	5/8-18	3/4	.69
640F-8†	1/2	3/4-16	7/8	.84
640F-10†	5/8	7/8-14	1-1/16	.97



**Flared Union—Female Flare to Female Flare 660FHD**

Ref. SAE 010107

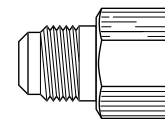
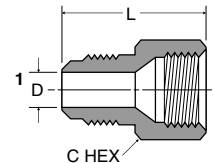
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
660FHD-4†	1/4	7/16-20	5/8	.98	.251
660FHD-6†	3/8	5/8-18	13/16	1.24	.376
660FHD-8†	1/2	3/4-16	15/16	1.43	.501
660FHD-10†	5/8	7/8-14	1-1/16	1.67	.626



**Reducer—Male Flare to Female Flare 661FHD**

Ref. SAE 010105

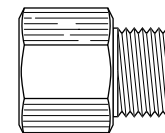
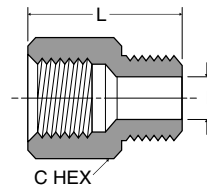
PART NO.	1 TUBE SIZE	2 TUBE SIZE	1 STRAIGHT THREAD	2 STRAIGHT THREAD	C HEX	L	FLOW DIA. D
661FHD-4-6†	1/4	3/8	7/16-20	5/8-18	13/16	1.20	.189
661FHD-4-8†	1/4	1/2	7/16-20	3/4-16	15/16	1.36	.189
661FHD-6-4†	3/8	1/4	5/8-18	7/16-20	5/8	1.10	.282
661FHD-6-8†	3/8	1/2	5/8-18	3/4-16	15/16	1.42	.282
661FHD-8-6†	1/2	3/8	3/4-16	5/8-18	13/16	1.39	.407
661FHD-8-10†	1/2	5/8	3/4-16	7/8-14	1-1/16	1.67	.407
661FHD-10-8†	5/8	1/2	7/8-14	3/4-16	15/16	1.60	.501
661FHD-10-12**	5/8	3/4	7/8-14	1-1/16-14	1-5/16	1.95	.501
661FHD-12-10**	3/4	5/8	1-1/16-14	7/8-14	1-1/16	1.86	.626



**Female Flare to Male Pipe Thread 664FHD**

Ref. SAE 010106

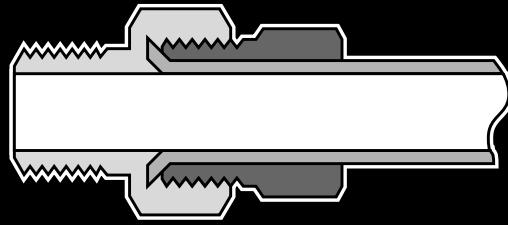
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
664FHD-4-2†	1/4	1/8	7/16-20	5/8	.91	.220
664FHD-4-4†	1/4	1/4	7/16-20	5/8	1.01	.252
664FHD-6-4†	3/8	1/4	5/8-18	13/16	1.28	.345
664FHD-8-6†	1/2	3/8	3/4-16	15/16	1.31	.407



†Should be used with 2GF copper flare gasket.

\*Comes standard with thread protectors





## Inverted Flared Fittings

E

### Advantages

Built to resist mechanical pullout. This economical fitting can be assembled and disassembled repeatedly. Readily available in a broad selection of styles to fill your specific needs. Manufactured from CA 360 or CA 345 brass.

### Specifications

Listed with Underwriter's Laboratories for flammable liquid and gas. Meets functional requirements of SAE, J512. Refer to list of UL listed fittings on page N10 for specific configurations.

### Applications

Use with copper, brass, aluminum and welded steel hydraulic tubing that can be flared. Manufactured especially for hard-to-hold liquids and gases.

### Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035

### Temperature Ranges

From -65° to +250°F.

### Vibration

Will withstand minimal vibration movements.

### Assembly Instructions

1. Cut tubing squarely and clean tube end thoroughly to remove burrs.
2. Place nut onto tube. Place threaded end of nut toward end of tube.
3. On thin wall copper, welded or brazed tubing, use double flare to prevent pinch-off or cracked flares.
4. Clamp tube flare between nut and flare seat of body by screwing nut on finger-tight. Tighten with a wrench an additional 1/4 turn for a metal-to-metal seal.

Note: The seat dimensions are predicated on practical threading limitations and use of these fittings with double flared tubing.

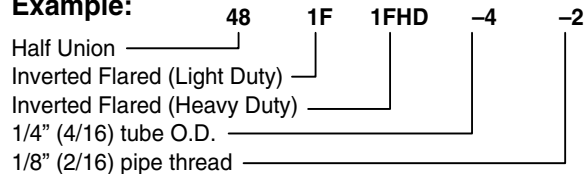
### Order

By part number and name. Bodies and nuts are separate items and individual part numbers must be indicated when ordered.

### Nomenclature

Part numbers are constructed from symbols that identify the style and size of the fitting. The first series of numbers and letters identifies the style and type fitting. The second series of numbers describes the size.

#### Example:



### Sizes

Tube sizes are determined by the numbers of sixteenths of an inch in the tube O.D.

### Special Fittings

Fitting configurations and/or sizes other than those shown in the catalog can be furnished. It is suggested that a print or sketch be submitted with the inquiry. Special UL stamped fittings are available. Please consult price list.

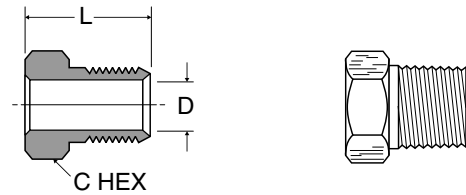
### Pricing

Only items priced in current supplementary price list PL3501 are carried in stock. Price and delivery for non-stock items furnished on request for specified quantity.

**Nut 41IF**

Ref. SAE 040110

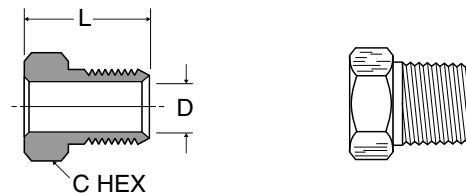
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
41IF-2	1/8	5/16-28	5/16	.52	.133
41IF-3	3/16	3/8-24	3/8	.56	.196
41IF-4	1/4	7/16-24	7/16	.56	.259
41IF-5	5/16	1/2-20	1/2	.62	.321
41IF-6	3/8	5/8-18	5/8	.66	.384
41IF-8	1/2	3/4-18	3/4	.74	.508



**Steel Nut-Zinc Chromate 41IFS**

Ref. SAE 040110

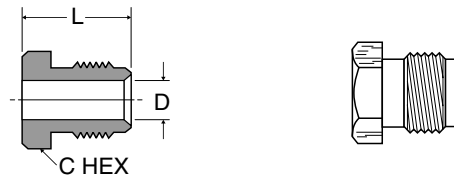
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
41IFS-3	3/16	3/8-24	3/8	.56	.196
41IFS-4	1/4	7/16-24	7/16	.56	.259
41IFS-5	5/16	1/2-20	1/2	.62	.321
41IFS-6	3/8	5/8-18	5/8	.66	.384
41IFS-8	1/2	3/4-18	3/4	.74	.508
41IFS-10	5/8	7/8-18	7/8	.80	.633
41IFS-12	3/4	1-1/16-16	1-1/16	.88	.759



**Piloted Nut 41IFF for Single Flared Tubing**

Ref. SAE 040110

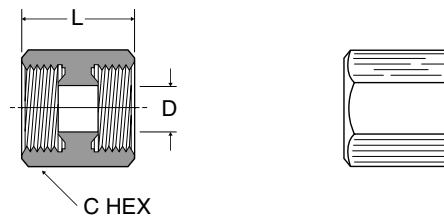
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
41IFF-2	1/8	5/16-28	5/16	.52	.133
41IFF-3	3/16	3/8-24	3/8	.56	.196
41IFF-4	1/4	7/16-24	7/16	.56	.259
41IFF-5	5/16	1/2-20	1/2	.62	.321
41IFF-6	3/8	5/8-18	5/8	.66	.384
41IFF-8	1/2	3/4-18	3/4	.74	.508



**Union 42IFHD**

Ref. SAE 040101

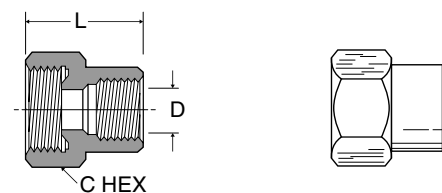
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
42IFHD-2	1/8	5/16-28	13/32	.60	.078
42IFHD-3	3/16	3/8-24	15/32	.63	.125
42IFHD-4	1/4	7/16-24	17/32	.63	.189
42IFHD-5	5/16	1/2-20	19/32	.71	.220
42IFHD-6	3/8	5/8-18	3/4	.81	.282
42IFHD-8	1/2	3/4-18	29/32	.92	.407



**Female Connector 46IFHD**

Ref. SAE 040103

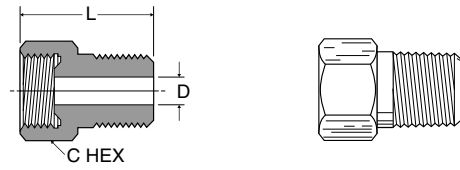
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
46IFHD-3-2	3/16	1/8	3/8-24	1/2	.76	.125
46IFHD-4-2	1/4	1/8	7/16-24	17/32	.78	.189
46IFHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
46IFHD-6-4	3/8	1/4	5/8-18	3/4	1.04	.282
46IFHD-8-6	1/2	3/8	3/4-18	29/32	1.10	.407



**Male Connector 48IFHD**

Ref. SAE 040102

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
48IFHD-2-2	1/8	1/8	5/16-28	13/32	.63	.078
48IFHD-3-2	3/16	1/8	3/8-24	15/32	.70	.125
48IFHD-4-2	1/4	1/8	7/16-24	17/32	.74	.189
48IFHD-4-4	1/4	1/4	7/16-24	9/16	.89	.189
48IFHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
48IFHD-5-4	5/16	1/4	1/2-20	19/32	.98	.220
48IFHD-6-2	3/8	1/8	5/8-18	3/4	.89	.220
48IFHD-6-4	3/8	1/4	5/8-18	3/4	1.03	.282
48IFHD-6-6	3/8	3/8	5/8-18	3/4	1.03	.282
48IFHD-8-4	1/2	1/4	3/4-18	29/32	1.07	.346
48IFHD-8-6	1/2	3/8	3/4-18	29/32	1.07	.407
48IFHD-8-8	1/2	1/2	3/4-18	29/32	1.26	.407
48IFHD-10-8	5/8	1/2	7/8-18	1-1/16	1.32	.533
48IFHD-12-12	3/4	3/4	1-1/16-16	1 1/4	1.38	.626

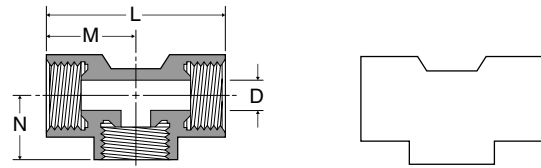


**E**

**Union Tee 244IFHD**

Ref. SAE 040401

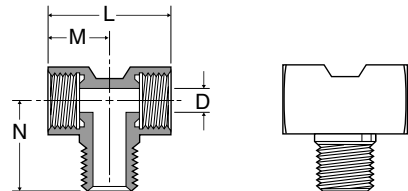
PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	N	FLOW DIA. D
244IFHD-3	3/16	3/8-24	1.10	.55	.39	.125
244IFHD-4	1/4	7/16-24	1.13	.56	.42	.189
244IFHD-5	5/16	1/2-20	1.26	.63	.45	.220
244IFHD-6	3/8	5/8-18	1.48	.74	.56	.282
244IFHD-8	1/2	3/4-18	1.76	.88	.67	.407



**Male Branch Tee 245IFHD**

Ref. SAE 040425

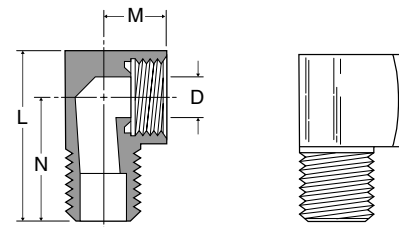
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
245IFHD-4-2	1/4	1/8	7/16-24	.85	.43	.64	.189
245IFHD-6-4	3/8	1/4	5/8-18	1.17	.58	.94	.282



**Male Elbow 249IFHD-249IF**

Ref. SAE 040202

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
249IFHD-2-2	1/8	1/8	5/16-28	.79	.25	.58	.078
249IFHD-3-2	3/16	1/8	3/8-24	.85	.27	.61	.125
249IFHD-4-2	1/4	1/8	7/16-24	.92	.33	.65	.189
249IFHD-4-4	1/4	1/4	7/16-24	1.10	.28	.82	.189
249IFHD-5-2	5/16	1/8	1/2-20	.98	.47	.68	.220
249IFHD-5-4	5/16	1/4	1/2-20	1.16	.45	.86	.220
249IFHD-6-2	3/8	1/8	5/8-18	1.13	.53	.76	.220
249IF-6-4†	3/8	1/4	5/8-18	1.26	.45	.92	.282
249IFHD-6-4	3/8	1/4	5/8-18	1.32	.53	.95	.282
249IFHD-6-6	3/8	3/8	5/8-18	1.32	.50	.94	.282
249IFHD-8-4	1/2	1/4	3/4-18	1.48	.59	1.02	.407
249IF-8-6+	1/2	3/8	3/4-18	1.42	.53	.99	.407
249IFHD-8-6	1/2	3/8	3/4-18	1.48	.59	1.02	.407
249IFHD-8-8	1/2	1/2	3/4-18	1.67	.66	1.22	.407
249IFHD-10-6	5/8	3/8	7/8-18	1.62	.67	1.09	.533
249IFHD-10-8	5/8	1/2	7/8-18	1.82	.67	1.29	.533



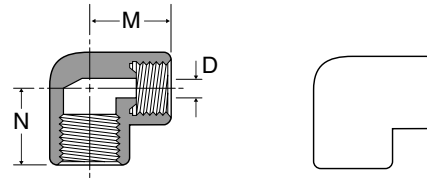
†Light Duty Series



**Female Elbow 250IFHD**

Ref. SAE 040203

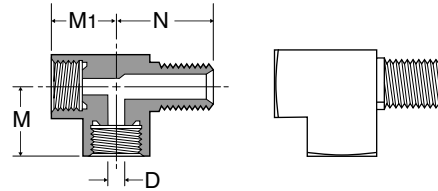
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
250IFHD-3-2	3/16	1/8	3/8-24	.50	.49	.125
250IFHD-4-2	1/4	1/8	7/16-24	.53	.53	.189
250IFHD-5-2	5/16	1/8	1/2-20	.59	.59	.220
250IFHD-6-4	3/8	1/4	5/8-18	.67	.68	.282



**Male Run Tee 251IFHD**

Ref. SAE 040424

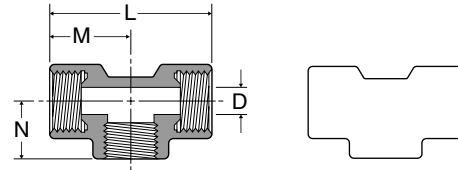
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	M1	N	FLOW DIA. D
251IFHD-3-2	3/16	1/8	3/8-24	.39	.53	.72	.125
251IFHD-5-2	5/16	1/8	1/2-20	.45	.62	.85	.220
251IFHD-6-4	3/8	1/4	5/8-18	.56	.75	1.08	.282



**Female Branch Tee 252IFHD**

Ref. SAE 040427

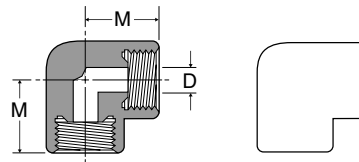
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
252IFHD-5-2	5/16	1/8	1/2-20	1.26	.63	.45	.220
252IFHD-6-4	3/8	1/4	5/8-18	1.48	.74	.56	.282



**Union Elbow 255IFHD**

Ref. SAE 040201

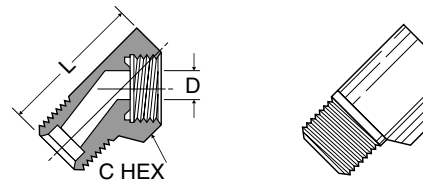
PART NO.	TUBE SIZE	STRAIGHT THREAD	M	FLOW DIA. D
255IFHD-4	1/4	7/16-24	.55	.189

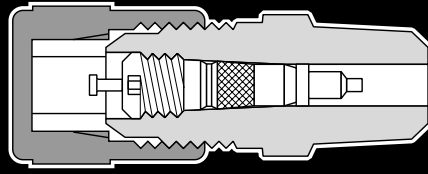


**45° Elbow 259IFHD**

Ref. SAE 040302

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
259IFHD-3-2	3/16	1/8	3/8-24	17/32	.88	.125
259IFHD-4-2	1/4	1/8	7/16-24	9/16	.94	.189
259IFHD-5-2	5/16	1/8	1/2-20	5/8	1.00	.220
259IFHD-5-4	5/16	1/4	1/2-20	5/8	1.16	.220
259IFHD-6-4	3/8	1/4	5/8-18	13/16	1.34	.282
259IFHD-8-6	1/2	3/8	3/4-18	7/8	1.44	.407
259IFHD-10-8	5/8	1/2	7/8-18	1-1/16	1.75	.533





## Access Valves

E

### Advantages

Access Valves are designed to offer convenient low cost access ports for Refrigeration service. All Access Valves feature 1/4" SAE male flare access ports and are furnished with a finger tight quick seal cap. For greater flexibility, all Tees and Crosses are machined to receive an access core in all 1/4" SAE flare ends. This allows for 2 or more access connections in one fitting plus greater flexibility in the positioning of the valves. All Access Valves with pipe connections have internal ODS solder cups so that these valves may be installed in either of 2 ways.

### Applications

Access Valves may be installed in any position on either high or low side for quick testing, pressure checking, purging or charging.

### Valve Bodies

Straight Access Valve bodies are manufactured from brass rod CA360 or CA345. Shaped Access Valve bodies are manufactured from brass forge rod CA377. All Access Valve bodies are machined in accordance with ARI standard 720.

### Valve Core

Parker valve cores meet ARI standard 720 and are designed for use with all fluorocarbon refrigerants such as R-12, R-22 and R-502, R-134a and are resistant to oils, alkalies and dilute mineral acids.

### Working Pressure and Temperature Ranges

Up to 500 PSI  
-20°F to +220°F

### Order

By part number and name.

### Nomenclature

Part numbers are constructed from symbols that identify the style and size of the valve. The first series of letters identifies the style and type valve. The second series of numbers describes the size.

#### Example:

	X	AV	T1	-2
Packaged	_____	_____	_____	_____
Access Valve	_____	_____	_____	_____
Male Branch Tee	_____	_____	_____	_____
1/8" (2/16) Pipe Thread	_____	_____	_____	_____

### Sizes

Tube sizes are determined by the number of sixteenths of an inch in the tube O.D.

### Special Fittings

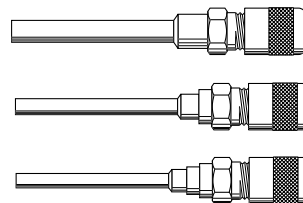
Fitting configurations and/or sizes other than those shown in the catalog can be furnished. It is suggested that a print or sketch be submitted with the inquiry.

### Pricing

Only items priced in current supplementary price list PL3501 are carried in stock. Price and delivery for non-stock items furnished on request for specified quantity.

**Extended Copper Tube AVUSE**

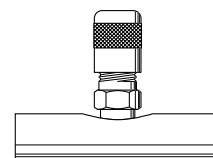
PART NO.	CONNECTION SIZE
AVUSE-2	1/8" O.D. Tube
AVUSE-3	3/16" O.D. Tube
AVUSE-4	1/4" O.D. Tube
AVUSE-5	5/16" O.D. Tube
AVUSE-6	3/8" O.D. Tube
AVUSE-8	1/2" O.D. Tube
AVUSE-9	1/8" O.D. Tube; Additional steps on body for 3/16", 1/4", 5/16", 3/8" O.D. Tube. 3/16", 1/4", or 5/16" Solder Fitting/Swaged Tube.
AVUSE-11	3/16" O.D. Tube; Additional steps on body for 1/4" or 3/8" Solder Fittings/Swaged Tubes 5/16" O.D. Tube.



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

**Solder Tee AVTS**

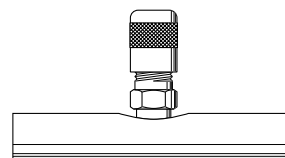
PART NO.	CONNECTION SIZE
AVTS-4	1/4" O.D. Tube or 3/8" Solder Fitting/Swaged Tube
AVTS-5	5/16" O.D. Tube or 3/8" Solder Fitting/Swaged Tube
AVTS-6	3/8" O.D. Tube or 1/2" Solder Fitting/Swaged Tube
AVTS-8	1/2" O.D. Tube or 5/8" Solder Fitting/Swaged Tube



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

**Extended Solder Tee AVTSL**

PART NO.	CONNECTION SIZE
AVTSL-6	3/8" O.D. Tube/Solder 5/16", 3/8" & 7/16" Tube



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

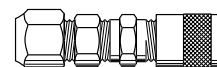
**Full Union AVU2**

PART NO.	CONNECTION SIZE
AVU2-4	1/4" O.D. Flare Tube With Forged Flare Nut



**Bulkhead Union AVU2BH**

PART NO.	CONNECTION SIZE
AVU2BH-4	1/4" Bulkhead Access X 1/4" SAE With Forged Nut



**Bulkhead Solder Union AVUS3BH**

PART NO.	CONNECTION SIZE
AVUS3BH-4	1/4" Bulkhead Access X 3 Way ODS

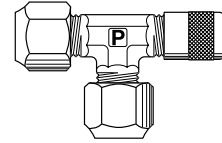


Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



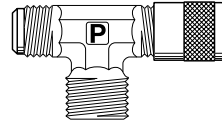
**Forged Union Tee AVT2**

PART NO.	CONNECTION SIZE
AVT2-4	1/4" Access All Ends With 2 Forged Flare Nuts and One Core and Cap



**Forged Branch Tee AVT1**

PART NO.	CONNECTION SIZE
AVT1-2	1/8" Male Pipe or 1/4" O.D. Solder on Branch x 1/4" Access Both Ends With One Core and Cap
AVT1-4	1/4" Male Pipe or 5/16" O.D. Solder on Branch x 1/4" Access Both Ends With One Core and Cap

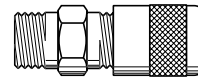


Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

**E**

**Male Connector AVU1**

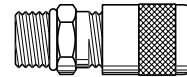
PART NO.	CONNECTION SIZE
AVU1-2	1/8" Male Pipe or 1/4" O.D. Solder
AVU1-4	1/4" Male Pipe or 5/16" O.D. Solder



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

**Access Valve Assembly AVUIFI**

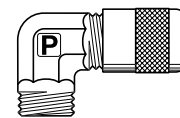
PART NO.	CONNECTION SIZE
AVUIFI-4	7/16-20 SAE Straight thread O-Ring Port Note: Standard o-ring is neoprene. Consult Brass Products Division for optional o-rings



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

**Forged Male Elbow AVE1**

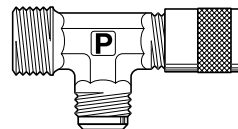
PART NO.	CONNECTION SIZE
AVE1-2	1/8" Male Pipe or 1/4" O.D. Solder



Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.

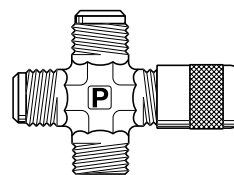
**Forged Male Run Tee AVT3**

PART NO.	CONNECTION SIZE
AVT3-2	1/8" Male Pipe or 1/4" O.D. Solder on Run x 1/4" Access on Run and Branch With One Core and Cap
AVT3-4	1/4" Male Pipe or 5/16" O.D. Solder on Run x 1/4" Access on Run and Branch With One Core and Cap



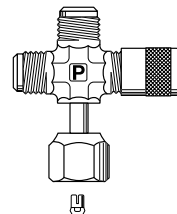
**Forged Male Cross AVC1**

PART NO.	CONNECTION SIZE
AVC1-2	1/8" Male Pipe or 1/4" O.D. Solder x 1/4" Access on all Flare Ends With One Core and Cap
AVC1-4	1/4" Male Pipe or 5/16" O.D. Solder x 1/4" Access on all Flare Ends With One Core and Cap



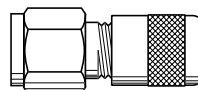
**Swivel Cross AVCS4D-4**

PART NO.	CONNECTION SIZE
AVCS4D-4	1/4" Forged Female Flare Swivel With Depressor x 1/4" Access on all Flare Ends with One Core and Cap



**Female Connector AVUR3**

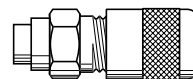
PART NO.	CONNECTION SIZE
AVUR3-4	1/4" Female Flare with Copper Gasket



**3 Way Solder Connector AVUS3**

PART NO.	CONNECTION SIZE
AVUS3-40	For 3/16" O.D. Tube or 1/4" and 3/8" Solder Fitting/Swaged Tube

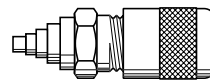
Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



**9 Way Solder Connector AVUS3**

PART NO.	CONNECTION SIZE
AVUS3-49	For 3/16", 1/4", 5/16", 3/8" or 1/2" O.D. Tube. Also Fits 3/16", 1/4" and 5/16" Solder Fitting/Swaged Tube or 1/8" Hole May Be Punched in Larger Size Tube

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



**Straight Solder Connector AVUS**

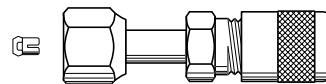
PART NO.	CONNECTION SIZE
AVUS-42	1/8" O.D. Tube or 1/4" Solder Fitting/Swaged Tube
AVUS-43	3/16" O.D. Tube or 1/4" Solder Fitting/Swaged Tube
AVUS-44	1/4" O.D. Tube or 3/8" Solder Fitting/Swaged Tube
AVUS-45	5/16" O.D. Tube or 1/2" Solder Fitting/Swaged Tube
AVUS-46	3/8" O.D. Tube or 1/2" Solder Fitting/Swaged Tube

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



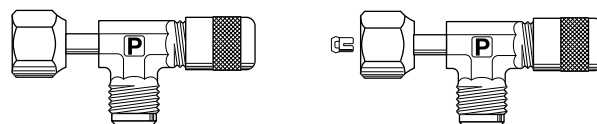
**Swivel Connector AVUS4D**

PART NO.	CONNECTION SIZE
AVUS4D-4	1/4" Forged Female Flare Swivel Nut with Depressor



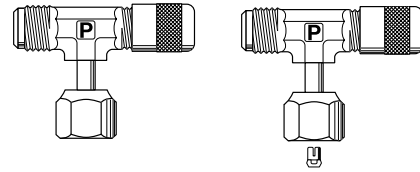
**Forged Female Run Swivel Tee AVTS4**

PART NO.	CONNECTION SIZE
AVTS4-4	1/4" Female Flare Swivel x 1/4" Access on Both Run and Branch
AVTS4D-4	1/4" Female Flare Swivel on Run with Depressor x 1/4" Access on Both Run and Branch



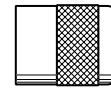
**Forged Female Branch Tee AVTS6**

PART NO.	CONNECTION SIZE
AVTS6-4	1/4" Female Flare Swivel x 1/4" Access on Both Ends
AVTS6D-4	1/4" Female Flare Swivel on Branch with Depressor x 1/4" Access on Both Ends



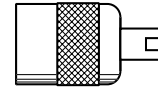
**Quick Seal Caps 640QSF**

PART NO.	CONNECTION SIZE
640QSF-4	1/4" SAE Seal Cap with Seal Gasket
640QSF-6	3/8" SAE Seal Cap with Seal Gasket



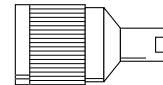
**Quick Seal Cap with Core Remover 640QSFCR**

PART NO.	CONNECTION SIZE
640QSFCR-4	1/4" SAE Seal Cap Core Remover with internal Seal Gasket



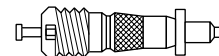
**Core Remover CR**

PART NO.	CONNECTION SIZE
CR-001	Standard Core Remover



**Valve Cores VC**

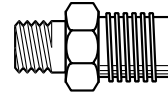
PART NO.	CONNECTION SIZE
VC-001	Replacement Valve Cores For all 1/4" Access Valves



**E**

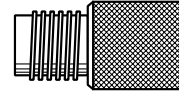
**Refrigerant adapter 88AC**

PART NO.	CONNECTION SIZE
88AC-8-2	1/8" male pipe to SAE J2197 Acme threaded male connector



**Refrigerant adapter 880AC**

PART NO.	CONNECTION SIZE
880AC-8-4	1/4" female SAE flare to SAE J2197 Acme threaded male connector



**Refrigerant adapter 881AC**

PART NO.	CONNECTION SIZE
881AC-8-4	1/4" SAE male flare to SAE J2197 Acme threaded female connector

