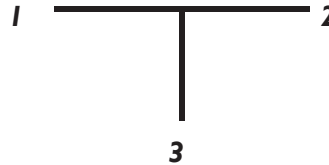


# 45° Flare Fittings

## Features:

- Recommended maximum working pressure (PS): 700 psig, 48 bar
- In conformance with Refrigeration Fitting Standards SAE J513, Military Standards MS-35867 through MS35873 inclusive, MS-35919, MS-24815 and MS-16993
- Fabricated from brass forgings or drawn brass rod eliminating the possibility of seepage by porosity
- Accurately machined and fully protected against damage during shipping, handling and storage to assure tight leak-proof joints
- Smooth interior finish provides unrestricted flow and reduced pressure drop

Tees are described by first sizing the run (1 to 2) and then the branch (3).



The letter in the first position of the catalog number is derived from the name of the fitting. Examples:

- B - Bonnets
- E - Elbows
- F - Fuse Plugs
- N - Nuts
- T - Tees
- U - Unions

The numeral in the second position of the catalog number designates the combination of threads on the fitting.

- 1 - External Pipe Thread (U1, E1, T1)
- 2 - Flare to Flare Fitting (U2, E2, T2)
- 4 - Forged Nut

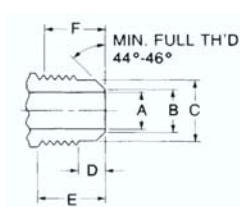
Indicators preceding the numeral in the second position of the catalog number designate the following:

- R - Internal pipe to flare fitting (excludes tees)
- R - Pipe thread to flare on the run (tees)
- R - Reducing flare nut (forged nuts)
- S - Short (forged nuts)

The last two characters in the catalog number designate the size. (Flare sizes are designated by numerals and pipe sizes are designated by letters.)

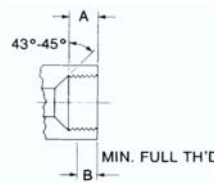
- 3 - 3/16
- 4 - 1/4
- 5 - 5/16
- 6 - 3/8
- 8 - 1/2
- 10 - 5/8
- 12 - 3/4

- A - 1/8
- B - 1/4
- C - 3/8
- D - 1/2
- E - 3/4
- F - 1



## External Flare:

Size	A (in)	B (in)	C (in)	D (in)	E (in)	Min Rull Thread	Size Thread
3/16	0.13	0.16	0.30	0.13	0.44	0.43	3/8 - 24
1/4	0.19	0.22	0.34	0.16	0.50	0.41	7/16 - 20
5/16	0.22	0.25	0.41	0.19	0.56	0.47	1/2 - 20
3/8	0.28	0.31	0.53	0.22	0.53	0.53	5/8 - 18
1/2	0.41	0.44	0.64	0.25	0.75	0.66	3/4 - 16
5/8	0.50	0.53	0.75	0.28	0.88	0.75	7/8 - 14
3/4	0.63	0.72	0.94	0.28	1.00	0.91	1 1/16 - 14



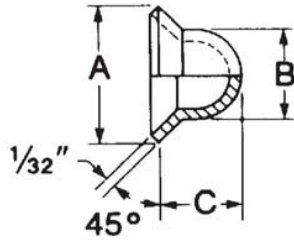
## Internal Flare:

Size	A (in)	Min Rull Thread	Size Thread
3/16	0.28	0.22	3/8 - 24
1/4	0.34	0.27	7/16 - 20
5/16	0.38	0.30	1/2 - 20
3/8	0.44	0.34	5/8 - 18
1/2	0.53	0.44	3/4 - 16
5/8	0.66	0.55	7/8 - 14
3/4	0.78	0.67	1 1/16 - 14

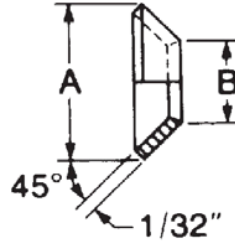
# 45° Flare Fittings

## Copper Flare Bonnets and Gaskets

Copper Flare Seal Bonnet



Copper Flare Gasket



### References

\* C Dimension: Copper Flare Seal Bonnet +/- 1/64, Copper Flare Gasket +/- 1/32

### Copper Flare Seal Bonnets

Cat Number	Part Number	Size Flare	A (in)	B (in) *	C (in)	Box Qty	Wt(lb)
BI-3	A 04737	3/16	0.31	0.16	0.16	25	0.001
BI-4	A 00414	1/4	0.36	0.22	0.22	100	0.001
BI-5	A 04935	5/16	0.42	0.28	0.28	50	0.004
BI-6	A 00415	3/8	0.55	0.36	0.34	100	0.004
BI-8	A 00416	1/2	0.66	0.47	0.41	100	0.007
BI-10	A 00485	5/8	0.77	0.61	0.44	20	0.010
BI-12	A 04738	3/4	0.95	0.72	0.56	25	0.015

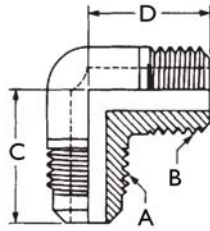
### Copper Flare Gaskets

Cat Number	Part Number	Size Flare	A (in)	B (in) *	C (in)	Box Qty	Wt(lb)
B2-4	A 00401	1/4	0.36	0.19		100	0.001
B2-5	A 04811	5/16	0.42	0.22		50	0.001
B2-6	A 00402	3/8	0.55	0.28		100	0.002
B2-8	A 00403	1/2	0.66	0.41		100	0.002
B2-10	A 05186	5/8	0.77	0.50		50	0.003
B2-12	A 04822	3/4	0.95	0.63		25	0.004

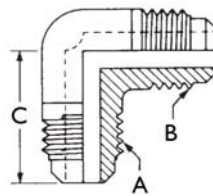
# 45° Flare Fittings

## 90° Elbows

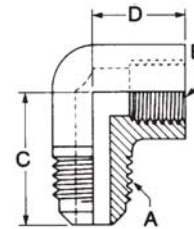
Half Union, Flare to NPTFE



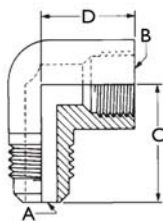
Union, Flare to Flare



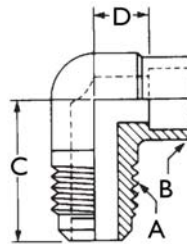
External Flare to NPTFI



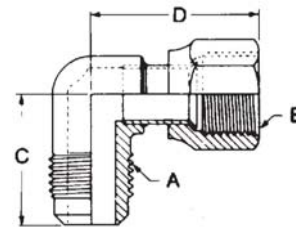
External Flare to Internal Flare



Half Union, Flare to Solder



External Flare to Internal Swivel



### Half Union - Flare to NPTFE

Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
EI-4A	A 00335	1/4	1/8	0.94	0.78	25	0.046
EI-4B	A 04890	1/4	1/4	0.91	0.94	25	0.055
EI-4C	A 04812	1/4	3/8	0.94	1.03	25	0.082
EI-6A	A 04937	3/8	1/8	1.03	0.91	25	0.080
EI-6B	A 00337	3/8	1/4	1.06	1.06	25	0.077
EI-6C	A 04889	3/8	3/8	1.06	1.09	25	0.108
EI-6D	A 04886	3/8	1/2	1.13	1.34	25	0.160
EI-8B	A 05044	1/2	1/4	1.22	1.19	10	0.135
EI-8C	A 00339	1/2	3/8	1.22	1.13	15	0.140
EI-8D	A 04887	1/2	1/2	1.28	1.38	15	0.180
EI-8E	A 05072	1/2	3/4	1.34	1.38	10	0.231
EI-10C	A 04856	5/8	3/8	1.47	1.25	10	0.225
EI-10D	A 04538	5/8	1/2	1.47	1.44	10	0.240
EI-10E	A 05054	5/8	3/4	1.47	1.50	10	0.255
EI-12E	A 04746	3/4	3/4	1.66	1.63	10	0.336

### Union - Flare to Flare

Cat Number	Part Number	Flare A (in)	B (in)	C (in)	D (in)	Box Qty	Wt(lb)
E2-4	A 00147	1/4	1/4	0.91		25	0.074
E2-6	A 00146	3/8	3/8	1.06		25	0.095
E2-8	A 00145	1/2	1/2	1.22		15	0.150
E2-10	A 04539	5/8	5/8	1.47		10	0.250
E2-12	A 04745	3/4	3/4	1.66		5	0.365

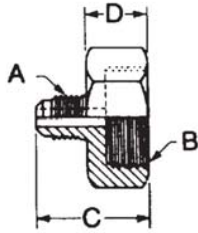
\* Gasket furnished

# 45° Flare Fittings

## Adaptors

Refrigerant Drum Adaptor

Flare to Internal Straight Pipe (NPSM) Furnished with Gasket



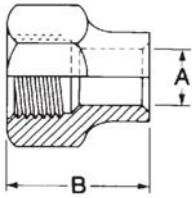
### Refrigerant Drum Adaptors

Cat Number	Part Number	Flare A (in)	NPSM B (in) *	C (in)	D (in)	Hex	Box Qty	Wt(lb)	Replacement Gasket
KI-1	A 08073	1/4	3/4	1.13	0.44	1 1/4	10	0.159	A 08074
KI-3	A 08274	3/8	3/4	1.25	0.44	1 1/4	10	0.187	A 08074
KI-5	A 08276	1/2	3/4	1.38	0.44	1 1/4	10	0.194	A 08074
KI-8	A 08166	1/4	1/2	1.13	0.44	1 1/8	10	0.148	A 08167

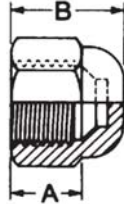
# 45° Flare Fittings

## Nuts

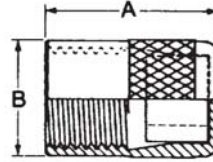
Long Forged Nuts



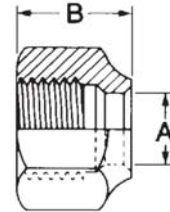
Flare Seal Caps



Flare Seal Cap -  
Finger Tightening



Short Forged Reducing Nuts  
Short Forged Nuts



### Long Forged Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
N4-4	A 00440	1/4	1/4	5/8	0.26	0.94	25	0.048
N4-6	A 00441	3/8	3/8	13/16	0.38	1.06	25	0.075
N4-8	A 00442	1/2	1/2	15/16	0.51	1.19	10	0.108
N4-10	A 01112	5/8	5/8	1 1/16	0.63	1.44	5	0.185
N4-12	A 04731	3/4	3/4	1 5/16	0.76	1.75	5	0.345

### Flare Seal Caps

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
N5-4	A 04544	1/4		9/16	0.34	0.56	50	0.030
N5-5	A 04758	5/16		5/8	0.38	0.56	25	0.027
N5-6	A 04545	3/8		3/4	0.44	0.69	25	0.050
N5-8	A 04546	1/2		7/8	0.55	0.81	25	0.069
N5-10	A 04560	5/8		1 1/16	0.63	0.94	10	0.137
N5-12	A 04951	3/4		1 5/16	0.75	1.09	10	0.221

### Flare Seal Caps - Finger Tightening

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NFT5-4	A 16447	1/4			0.56	0.48	N/A	0.015
NFT5-6	A 16448	3/8			0.73	0.67	N/A	0.038

### Short Forged Reducing Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NRS4-43	A 05132	1/4	3/16	5/8	0.19	0.59	10	0.027
NRS4-54	A 05247	5/16	1/4	1 1/16	0.26	0.63	10	0.055
NRS4-64	A 05140	3/8	1/4	13/16	0.26	0.69	25	0.060
NRS4-65	A 05282	3/8	5/16	13/16	0.32	0.69	10	0.027
NRS4-86	A 05141	1/2	3/8	15/16	0.38	0.81	15	0.094
NRS4-108	A 05228	5/8	1/2	1 1/16	0.51	0.94	15	0.125

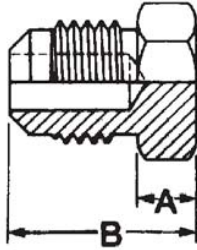
### Short Forged Nuts

Cat Number	Part Number	Flare A (in)	Size Tube	Hex	A (in)	B (in)	Box Qty	Wt(lb)
NS4-3	A 05238	3/16	3/16	1/2	0.19	0.53	50	0.024
NS4-4	A 05051	1/4	1/4	5/8	0.26	0.59	50	0.035
NS4-5	A 05239	5/16	5/16	1 1/16	0.32	0.63	25	0.040
NS4-6	A 05052	3/8	3/8	13/16	0.38	0.69	25	0.052
NS4-8	A 05053	1/2	1/2	15/16	0.51	0.81	15	0.084
NS4-10	A 05157	5/8	5/8	1 1/16	0.63	0.94	10	0.120
NS4-12	A 05222	3/4	3/4	1 5/16	0.76	1.13	10	0.235

# 45° Flare Fittings

## Plugs

Flare Plugs



Brass Pipe Plugs



### Flare Plugs

Cat Number	Part Number	Flare A (in)	Hex	A (in)	B (in)	Box Qty	Wt(lb)
P2-3	A 05045	3/16	3/8	0.16	0.59	15	0.016
P2-4	A 00121	1/4	7/16	0.19	0.69	25	0.022
P2-5	A 00124	5/16	1/2	0.22	0.78	15	0.034
P2-6	A 00122	3/8	5/8	0.25	0.88	25	0.070
P2-8	A 00123	1/2	3/4	0.31	1.06	25	0.095
P2-10	A 04536	5/8	7/8	0.31	1.19	15	0.137
P2-12	A 04757	3/4	1 1/16	0.31	1.31	10	0.225

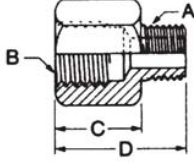
### Brass Pipe Plugs

Cat Number	Part Number	Flare A (in)	Hex	A (in)	B (in)	Box Qty	Wt(lb)
P3-A	A 00250	1/8	1/2	0.19	0.63	50	0.030
P3-B	A 00249	1/4	1 1/16	0.25	0.81	50	0.056
P3-C	A 00425	3/8	1 1/16	0.25	0.75	25	0.058
P3-D	A 04759	1/2	7/8	0.31	0.88	25	0.108
P3-E	A 05004	3/4	1 1/8	0.31	1.03	10	0.305

# 45° Flare Fittings

## Bushings

Bushing - External Pipe Thread to Internal Pipe Thread

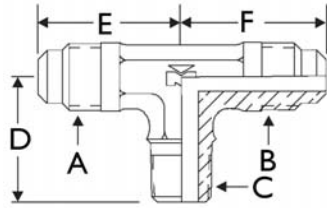


External Pipe Thread to Internal Pipe Thread								
Cat Number	Part Number	NPTE A (in)	NPTI B (in)	C (in)	D (in)	Hex	Box Qty	Wt(lb)
RI-AB	A 08756	1/8	1/4	0.61	0.92	11/16	25	0.054
RI-BA	A 00630	1/4	1/8	0.19	0.69	9/16	25	0.020
RI-CB	A 00631	3/8	1/4	0.25	0.75	11/16	25	0.034
RI-DB	A 00492	1/2	1/4	0.28	0.84	7/8	25	0.080
RI-DC	A 00632	1/2	3/8	0.28	0.84	7/8	25	0.051
RI-EC	A 00493	3/4	3/8	0.31	0.92	1 1/16	10	0.111
RI-ED	A 00633	3/4	1/2	0.31	0.92	1 1/16	10	0.092

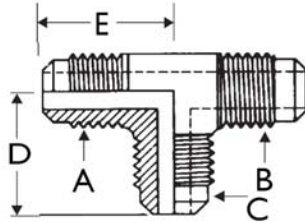
# 45° Flare Fittings

## Tees

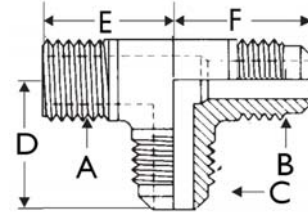
Two Way



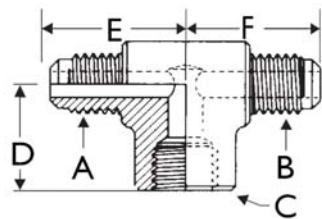
Three Way



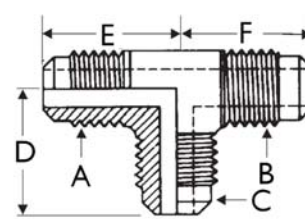
Right Angle Two Way



Three Way, Internal Branch



Three Way Reducing



Two-Way									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	NPTFE					
T1-4A	A 00345	1/4	1/4	1/8	0.81	0.94	0.94	25	0.066
T1-4B	A 04859	1/4	1/4	1/4	1.03	0.91	0.91	25	0.103
T1-4C	A 04771	1/4	1/4	3/8	1.03	0.94	0.94	15	0.116
T1-6B	A 00347	3/8	3/8	1/4	1.06	1.06	1.06	25	0.120
T1-8C	A 00349	1/2	1/2	3/8	1.13	1.22	1.22	15	0.191

Three-Way									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		Flare	Flare	Flare					
T2-4	A 00340	1/4	1/4	1/4	0.94	0.94		25	0.065
T2-6	A 00342	3/8	3/8	3/8	1.06	1.06		15	0.143
T2-8	A 00344	1/2	1/2	1/2	1.22	1.22		15	0.196
T2-12	A 04749	3/4	3/4	3/4	1.66	1.66		5	0.502

Right Angle Two-Way									
Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Box Qty	Wt(lb)
		NPTFE	Flare	Flare					
T3-4A	A 00127	1/8	1/4	1/4	0.94	0.80	0.94	25	0.070
T3-4B	A 04998	1/4	1/4	1/4	0.94	1.06	0.94	25	0.088
T3-6C	A 04941	3/8	3/8	3/8	1.06	1.09	1.06	25	0.140
T3-8C	A 04778	3/8	1/2	1/2	1.22	1.13	1.22	15	0.182

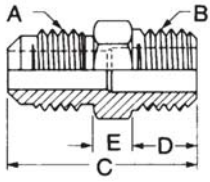
\* Gasket furnished



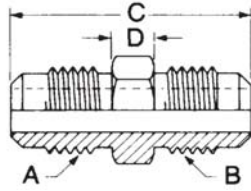
# 45° Flare Fittings

## Connectors

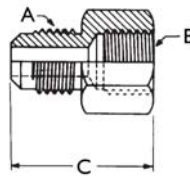
Half Union, Flare to NPTFE



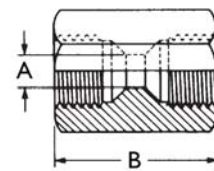
Union, Flare to Flare



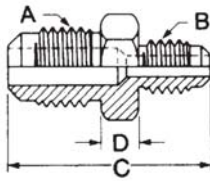
Half Union, Flare to NPTFI



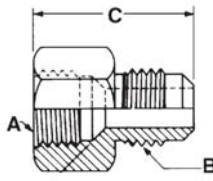
Internal Flare Union



Reducing Union, Flare to Flare



Union, Int to Ext Flare



### Half Union - Flare to NPTFE

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
		Flare	NPTFE						
U1-3A	A 01117	3/16	1/8	1.00	0.38	0.19	7/16	15	0.025
U1-4A	A 00330	1/4	1/8	1.06	0.38	0.19	7/16	25	0.030
U1-4B	A 04585	1/4	1/4	1.25	0.56	0.19	9/16	25	0.047
U1-4C	A 01197	1/4	3/8	1.31	0.56	0.25	11/16	25	0.071
U1-4D	A 04628	1/4	1/2	1.56	0.75	0.31	7/8	25	0.114
U1-5A	A 00331	5/16	1/8	1.16	0.38	0.31	1/2	25	0.040
U1-5B	A 05036	5/16	1/4	1.34	0.56	0.22	9/16	25	0.055
U1-5C	A 01198	5/16	3/8	1.38	0.56	0.25	11/16	25	0.075
U1-6A	A 05003	3/8	1/8	1.25	0.38	0.25	5/8	25	0.065
U1-6B	A 00332	3/8	1/4	1.44	0.56	0.25	5/8	25	0.075
U1-6C	A 01199	3/8	3/8	1.44	0.56	0.25	11/16	25	0.090
U1-6D	A 04993	3/8	1/2	1.69	0.75	0.31	7/8	25	0.135
U1-8A	A 05034	1/2	1/8	1.44	0.38	0.31	3/4	10	0.094
U1-8B	A 04439	1/2	1/4	1.63	0.56	0.31	3/4	10	0.108
U1-8C	A 00334	1/2	3/8	1.63	0.56	0.31	3/4	10	0.119
U1-8D	A 04780	1/2	1/2	1.81	0.75	0.31	7/8	10	0.155
U1-8E	A 05066	1/2	3/4	1.94	0.75	0.44	1 1/16	10	0.228
U1-10B	A 05035	5/8	1/4	1.81	0.56	0.38	7/8	10	0.155
U1-10C	A 01195	5/8	3/8	1.81	0.56	0.38	7/8	10	0.168
U1-10D	A 04540	5/8	1/2	2.00	0.75	0.38	7/8	10	0.189
U1-10E	A 04827	5/8	3/4	2.06	0.75	0.44	1 1/16	5	0.250
U1-12C	A 05005	3/4	3/8	2.00	0.56	0.44	1 1/16	10	0.265
U1-12D	A 04739	3/4	1/2	2.19	0.75	0.44	1 1/16	5	0.286
U1-12E	A 04740	3/4	3/4	2.19	0.75	0.44	1 1/16	5	0.316

### Unions - Flare to Flare

Cat Number	Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	Hex	Box Qty	Wt(lb)
		Flare	Flare						
U2-4	A 00325	1/4	1/4	1.19	0.19		7/16	25	0.026
U2-5	A 00326	5/16	5/16	1.34	0.22		1/2	25	0.050
U2-6	A 00327	3/8	3/8	1.50	0.25		5/8	25	0.092
U2-8	A 00329	1/2	1/2	1.81	0.31		3/4	15	0.141
U2-10	A 04845	5/8	5/8	2.13	0.38		7/8	10	0.215
U2-12	A 04733	3/4	3/4	2.44	0.44		1 1/16	10	0.368

\* 2 Gaskets furnished