

American Made Brass

SAE 45° Flared Tube Fittings

For use with copper, brass, aluminum, steel, and plastic tube provided an acceptable flare could be generated with the material.

Vacuum and pressures of 5,000 psi can be handled depending upon the size, material, and conditions. Using a 4:1 safety factor, the following general rule (excluding plastic tube) is used:

3,000 psi to 1/4" 2,000 psi to 1/2" 1,500 psi to 1"

Long nuts are recommended when vibration is a factor. Tubing should be double-flared in extreme applications to minimize flare thinning on over-tightening.

Fittings listed generally comply with SAE, ASA, ASME, and MS standards; however, when design makes dimensions critical, please contact customer service for samples and/or prints for testing and evaluation.

Tube sizes listed are OD (outside diameter). To determine nominal (water tube) size, subtract 1/8", thus 5/8" OD equals 1/2" nominal. Pipe sizes listed are standard nominal pipe size and threads are to dry seal taper pipe standards.

JB will provide flare fitting to SAE Standard J513 whenever possible. In some cases, slight deviations will occur when full compliance fittings are not available.

Heavy-duty ACR tube fittings generally conform to SAE, ASA, and AHRI Standards for hydraulic, marine, and refrigeration service. Long dry seal pipe threads minimize leakage and provide more clearance for tightening flare nuts. Shapes, elbows, tees, etc., are made from brass forgings to maximize strength and eliminate cracks.

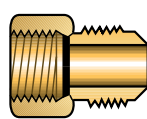
Assembly Instructions



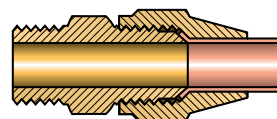
1. Cut tube square and remove cut-off burr
2. Slide nut on tube, threaded end facing end of tube
3. Flare tube following flaring tool manufacturers instructions (check flare quality)
4. Thread nut on to fitting body "hand tighten"
5. With proper wrench, tighten to a solid feel

CAUTION: Over-tightening and dirt can damage fittings and/or tube causing leaks.

NOTE: Lubrication of flare faces and threads is recommended when practical.



Copper seal gaskets (B2) series furnished with all female flares



Fiber gaskets (K1 and D/E) furnished with all drum adapters (K1-1 through 8)

THREAD SIZE OF TUBE ENDS			
OD TUBE	SAE - FLARE	OD TUBE	SAE FLARE
1/8"	5/16" - 24	1/2"	3/4" - 16
3/16"	3/8" - 24	5/8"	7/8" - 14
1/4"	7/16" - 20	3/4"	1-1/16" - 14
5/16"	1/2" - 20	7/8"	1-1/4" - 12
3/8"	5/8" - 18	1"	1-3/8" - 12
7/16"	11/16" - 16	—	—

TORQUE POUNDS FOR FLARE FITTING (DRY THREAD)	
SIZE	FT/LBS
1/4"	8-10
3/8"	15-25
1/2"	25-35
5/8"	40-55
3/4"	50-60

Copper Flare Bonnet



Use with flare nut to cap fittings



B1-3

PART NO.	SIZE	QTY.
B1-3	3/16"	5
B1-4	1/4"	25
B1-6	3/8"	5
B1-8	1/2"	5
B1-10	5/8"	10
B1-12	3/4"	5

Copper Flare Gasket



For brass-to-brass or brass-to-steel connections to prevent leaks



B2-3

PART NO.	SIZE	QTY.
B2-3	3/16"	5
B2-4	1/4"	25
B2-5	5/16"	5
B2-6	3/8"	25
B2-8	1/2"	25
B2-10	5/8"	10
B2-12	3/4"	10

Flare x Female Solder Ell



For brass-to-brass or brass-to-steel connections to prevent leaks



ES2-44

PART NO.	SIZE	QTY.
ES2-44	1/4" x 1/4"	5
ES2-66	3/8" x 3/8"	5
ES2-68	3/8" x 1/2"	2
ES2-88	1/2" x 1/2"	2

Flare x Male Pipe El



E1-12E

PART NO.	SIZE	QTY.
E1-2A	1/8" x 1/8"	5
E1-3A	3/16" x 1/8"	2
E1-4A	1/4" x 1/8"	10
E1-4B	1/4" x 1/4"	10
E1-4C	1/4" x 3/8"	5
E1-5A	5/16" x 1/8"	5
E1-5B	5/16" x 1/4"	5
E1-5C	5/16" x 3/8"	5
E1-6A	3/8" x 1/8"	5
E1-6B	3/8" x 1/4"	10
E1-6C	3/8" x 3/8"	10
E1-6D	3/8" x 1/2"	5
E1-6E	3/8" x 3/4"	2
E1-8B	1/2" x 1/4"	5
E1-8C	1/2" x 3/8"	5
E1-8D	1/2" x 1/2"	10
E1-8E	1/2" x 3/4"	2
E1-10C	5/8" x 3/8"	2
E1-10D	5/8" x 1/2"	2
E1-10E	5/8" x 3/4"	2
E1-12D	3/4" x 1/2"	2
E1-12E	3/4" x 3/4"	2

Flare x Female Pipe El



E3-4A

PART NO.	SIZE	QTY.
E3-4A	1/4" x 1/8"	5
E3-4B	1/4" x 1/4"	2
E3-5B	5/16" x 1/4"	2
E3-6A	3/8" x 1/8"	5
E3-6B	3/8" x 1/4"	2
E3-6C	3/8" x 3/8"	2
E3-6D	3/8" x 1/2"	2
E3-8C	1/2" x 3/8"	2
E3-8D	1/2" x 1/2"	2
E3-8E	1/2" x 3/4"	2
E3-10D	5/8" x 1/2"	2
E3-10E	5/8" x 3/4"	2

Flare El



E2-2

PART NO.	SIZE	QTY.
E2-2	1/8"	5
E2-3	3/16"	5
E2-4	1/4"	5
E2-5	5/16"	5
E2-6	3/8"	5
E2-8	1/2"	5
E2-10	5/8"	2
E2-12	3/4"	2

Refrigerant Drum Adapter



NPS cylinder x male flare; with fiber gasket



K1-1

PART NO.	SIZE	QTY.
K1-1	3/4" x 1/4"	10
K1-3	3/4" x 3/8"	2
K1-5	3/4" x 1/2"	2
K1-8	1/2" x 1/4"	2

Female Flare x Flare El



Includes copper gasket



E4-44

PART NO.	SIZE	QTY.
E4-44	1/4" x 1/4"	5
E4-66	3/8" x 3/8"	2
E4-88	1/2" x 1/2"	2

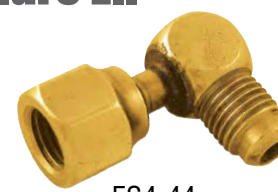
Reducing Flare El



ER2-64

PART NO.	SIZE	QTY.
ER2-64	3/8" x 1/4"	5
ER2-84	1/2" x 1/4"	2
ER2-86	1/2" x 3/8"	5
ER2-108	5/8" x 1/2"	2

Swivel Female Flare x Flare El



ES4-44

PART NO.	SIZE	QTY.
ES4-44	1/4" x 1/4"	2
ES4-66	3/8" x 3/8"	2
ES4-88	1/2" x 1/2"	2
ES4-1010	5/8" x 5/8"	2
ES4-1212	3/4" x 3/4"	2