Tel : +32 3 766 02 02
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BRASS FLARE FITTINGS

STANDARD FLARE SAE 45°

FITTING CONNECTIONS RANGE

1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8",

FFL : Female Flare sae 45°
MFL : Male Flare sae 45°
FPT : Female national Pipe Thread
MPT : Male national Pipe Thread

PURPOSE

• These FLARE SAE 45° fittings are widely used for:
- **REFRIGERATION**
- **AIR CONDITIONING**
- **MARINE and AIRCRAFT industries**
- **Flammable liquid and OIL industries**

DESCRIPTION

- These economical fittings resist mechanical pullout.
- Can be assembled and dissassembled repeatedly.
- Long dryseal pipe thread (*IMPORTANT: strictly in ACCORDANCE with the STANDARDS*) minimize leakage and provide more clearance for tightening flare nuts.
- Grooved shapes, elbows, tees, etc... made from brass forgings to maximize strength and eliminate cracks.

SPECIFICATIONS

- These FLARE SAE 45° fittings may be used with copper, brass, aluminium, steel and plastic tube provided an acceptable flare can be generated with the material.
- Vacuum to pressures of **350 bar** (5000 psi) can be handled dependent upon size, material and conditions.
  Using a safety factor the following general rule (excluding plastic tube) is used for copper tubing under **73°C** (163°F):

190 bar	(2800 psi)	for tubing up to 1/8"
135 bar	(1900 psi)	for tubing up to 3/16"
100 bar	(1400 psi)	for tubing up to 1/4"
85 bar	(1200 psi)	for tubing up to 5/16"
70 bar	(1000 psi)	for tubing up to 3/8"
53 bar	(750 psi)	for tubing up to 1/2"
46 bar	(650 psi)	for tubing up to 5/8"
39 bar	(550 psi)	for tubing up to 3/4"
32 bar	(450 psi)	for tubing up to 7/8"

- Temperature ranges:
  -54°C to +120°C (-65°C to +250°F)

INSTALLATION & INSTRUCTIONS

- Note that short nuts may be used when vibration is minimal.
- Long nuts are recommended when vibration is a factor.
- Tubing should be double flared in extreme applications to minimize flare thinning on over-tightening (*see our flaring tool **195-FB***).
- ***ASSEMBLY INSTRUCTIONS:***

- Cut tube and remove burr *(see our tools section)*.
  - Slide nut on tube, threaded end facing end of tube.
  - Flare tube following flaring tool manufacturer instructions to provide 45° SAE flare.
  - Thread nut on to fitting body "handtight".
  - With correct wrench tighten to a solid feel.

- ***ATTENTION:***
  - Over-tightening and dirt can damage fittings and/or tube causing leaks.
  - Lubrication of flare faces and threads is always recommended when practical.

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NORMS

- **U.L. Listed**, these FLARE SAE 45° fittings and NPT Pipe Fittings meet functional requirement of:
  - SAE J512, 45° + Flare
  - SAE J513C, ASA and ARI 720-55 *(All flare SAE)*
  - Military std and ASTM ANSI B70-1 *(All flare SAE)*
  - U.S. Std National Pipe Thread *(All "MPT" & "FPT")*

SAE FLARE THREAD SIZE

Dash Size	Inch Size	Thread	Male Thread O.D. mm	Male Thread O.D. Inches	Female Thread I.D. mm	Female Thread I.D. Inches
02	1/8"	5/16-24	7,9	,31	6,9	,27
03	3/16"	3/8-24	9,6	,38	8,6	,34
04	1/4"	7/16-20	11,2	,44	9,9	,39
05	5/16"	1/2-20	12,7	,50	11,4	,45
06	3/8"	5/8-18	15,7	,62	14,2	,56
08	1/2"	3/4-16	19,0	,75	17,0	,67
10	5/8"	7/8-14	22,3	,88	20,3	,80
12	3/4"	1 1/16-14	26,9	1,06	25,1	,99
14	7/8"	1 1/4-12	31,7	1,25	29,5	1,16
16	1	1 3/8-12	35,0	1,38	32,5	1,28

TORQUE FOR SAE FLARE FITTINGS

- After handtight any SAE flare fittings, use the correct wrench to tighten it by **2,5 turns** or use the correct wrench as follows:

TUBE DIAM.	RECOMMENDED TORQUE		MAXIMUM TORQUE	
1/8"	8,0 Nm	(6 ft.lbs)	9,5 Nm	(7 ft.lbs)
3/16"	11,0 Nm	(8 ft.lbs)	12,2 Nm	(9 ft.lbs)
1/4"	12,2 Nm	(9 ft.lbs)	13,5 Nm	(10 ft.lbs)
5/16"	19,0 Nm	(14 ft.lbs)	22,0 Nm	(16 ft.lbs)
3/8"	27,0 Nm	(20 ft.lbs)	33,7 Nm	(25 ft.lbs)
1/2"	40,5 Nm	(30 ft.lbs)	47,2 Nm	(35 ft.lbs)
5/8"	60,8 Nm	(45 ft.lbs)	74,2 Nm	(55 ft.lbs)
3/4"	107,0 Nm	(79 ft.lbs)	119,0 Nm	(88 ft.lbs)
7/8"	147,0 Nm	(108 ft.lbs)	154,0 Nm	(113 ft.lbs)

COMMON THREADS

Thread UNF	US Spec.	Outside mayor diameter mm	Core dia. (min size) mm	Pitch nr. per inch	Pitch mm
5/16" - 24 UNF	1/8" SAE	7,938	6,792	24	1,058
3/8" - 24 UNF	3/16" SAE	9,525	8,379	24	1,058
7/16" - 20 UNF	1/4" SAE	11,112	9,738	20	1,270
1/2" - 20 UNF	5/16" SAE	12,700	11,328	20	1,270
5/8" - 18 UNF	3/8" SAE	15,875	14,348	18	1,411
3/4" - 16 UNF	1/2" SAE	19,050	17,330	16	1,588
7/8" - 14 UNF	5/8" SAE	22,225	20,262	14	1,814
1 1/16" - 14 UNF	3/4" SAE	25,400	25,024	14	1,814
1 1/8" - 12 UNF	-	28,575	26,284	12	2,117
1 1/4" - 12 UNF	7/8" SAE	31,750	29,459	12	2,117
1 3/8" - 12 UNF	1" SAE	34,925	32,634	12	2,117
1 1/2" - 12 UNF	-	38,100	35,809	12	2,117