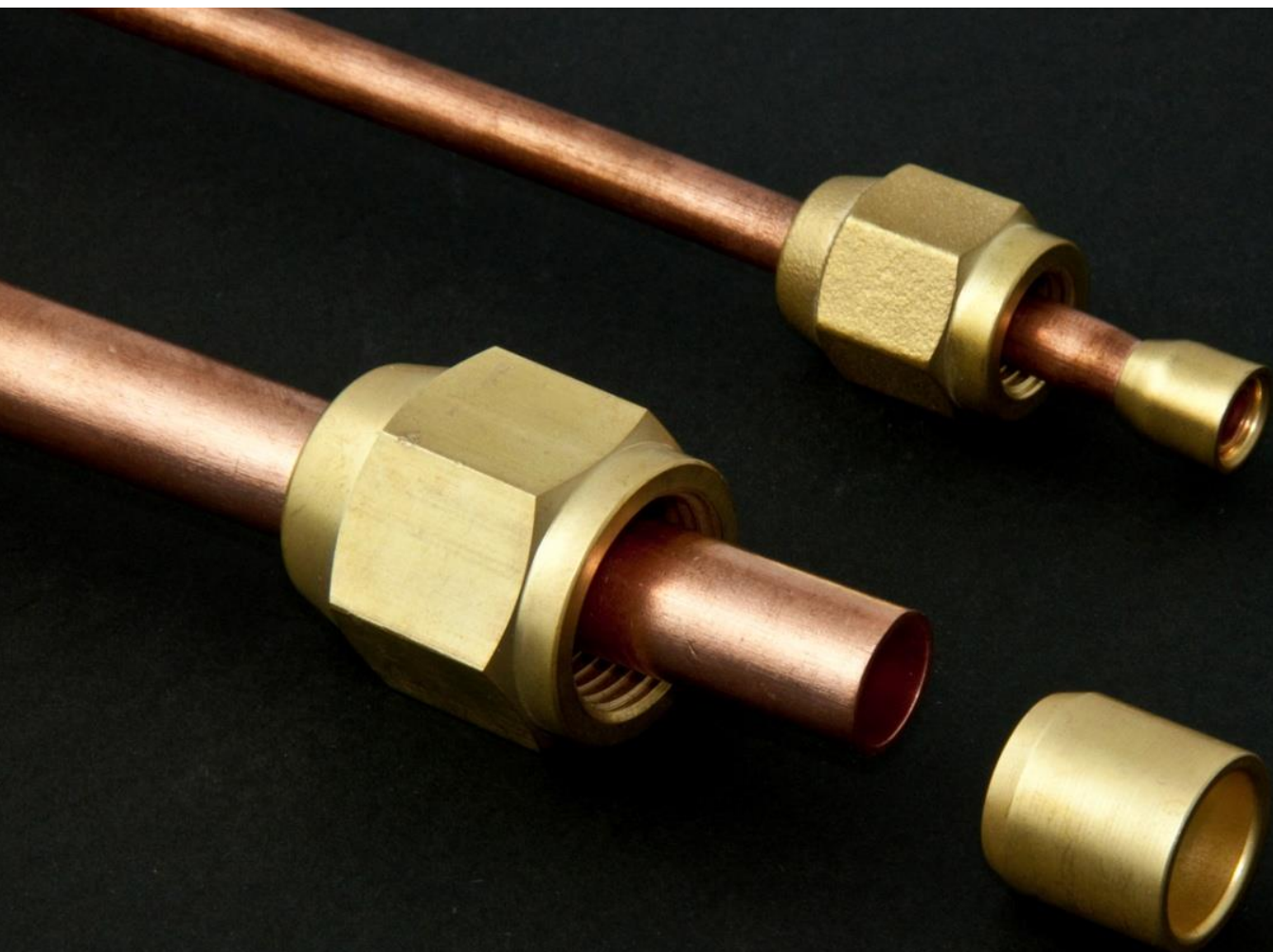


Self-flaring fittings

faster and safer than brazing



IGLOO QUICK fittings allow the joining of copper and aluminum tubes without flaring, are compatible with traditional 45° flare fittings and work with tubes of any thickness. Tests conducted in compliance with the European Standard for Safety and Environment EN 378 demonstrate that they can also be used as a reliable alternative to brazing, for example for interventions in explosive environments.

The metal seal and the working pressure up to 45 bar make this product particularly suitable for refrigeration and air conditioning systems operating with new low environmental impact refrigerants to connect tubes, valves, tanks and line components in general.

The bite ring acts as a clamp on the external surface of the tube in order to resist pressure and constitute an effective seal.

Self-flaring fittings

Features

- Fluid temperature: from -40°C to +150°C
- Maximum working pressure: 140 bar
- Suitable for all HCFC, HFC, HC and R744 (CO₂) refrigerants and oils
- Triple metal seal
- Compatible with traditional 45° flare fittings
- No need to calibrate or flare the tube end, nor to tighten with torque wrench

Approvals

- CE (PED, RoHS, REACH), EAC
- Performance exceeding DIN 8912 and SAE J513 requirements for traditional 45° flare fittings
- Patented system

Technical data

Suitable for all HFO, HFC, HC refrigerants (and their blends) and R744 (CO₂). Not suitable for ammonia. IGLOO QUICK fittings are guaranteed for a leak rate lower than 100 milligrams/year of refrigerant and have been approved to replace brazed joints and flare fittings: they are compatible with all traditional 45° flare fittings.

For copper and aluminum tubes of any thickness.

SFC Series	Self-flaring nuts	-40 ÷ +150 °C	140 bar
SFL Series	Self-flaring nipples		

Standard supply

IGLOO QUICK nuts (SFC Series) are made of 2 parts supplied in 1 bag of 10 pcs/each. Bags are packaged into carton boxes of 100 pieces.

IGLOO QUICK unions (SFL Series) are made of 1 SAE Flare straight union + 2 IGLOO QUICK nuts and comes already assembled from the factory supplied in 1 bag of 10 pcs/each. Bags are packaged into carton boxes of 100 pieces.

Available models

Compatibility with all SAE threaded components, of any brand.

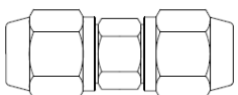
Self-flaring nuts. SFC Series

Mod.	Thread ANSI/ASME B1.1	Flare conn. SAE J513	Tube diameter	
	int thread (female)		mm	inch
SFC-4	7/16" - 20 UNF	1/4"	6	1/4"
SFC-6	5/8" - 18 UNF	3/8"	10	3/8"
SFC-8	3/4" - 16 UNF	1/2"	12	1/2"
SFC-10	7/8" - 14 UNF	5/8"	16	5/8"

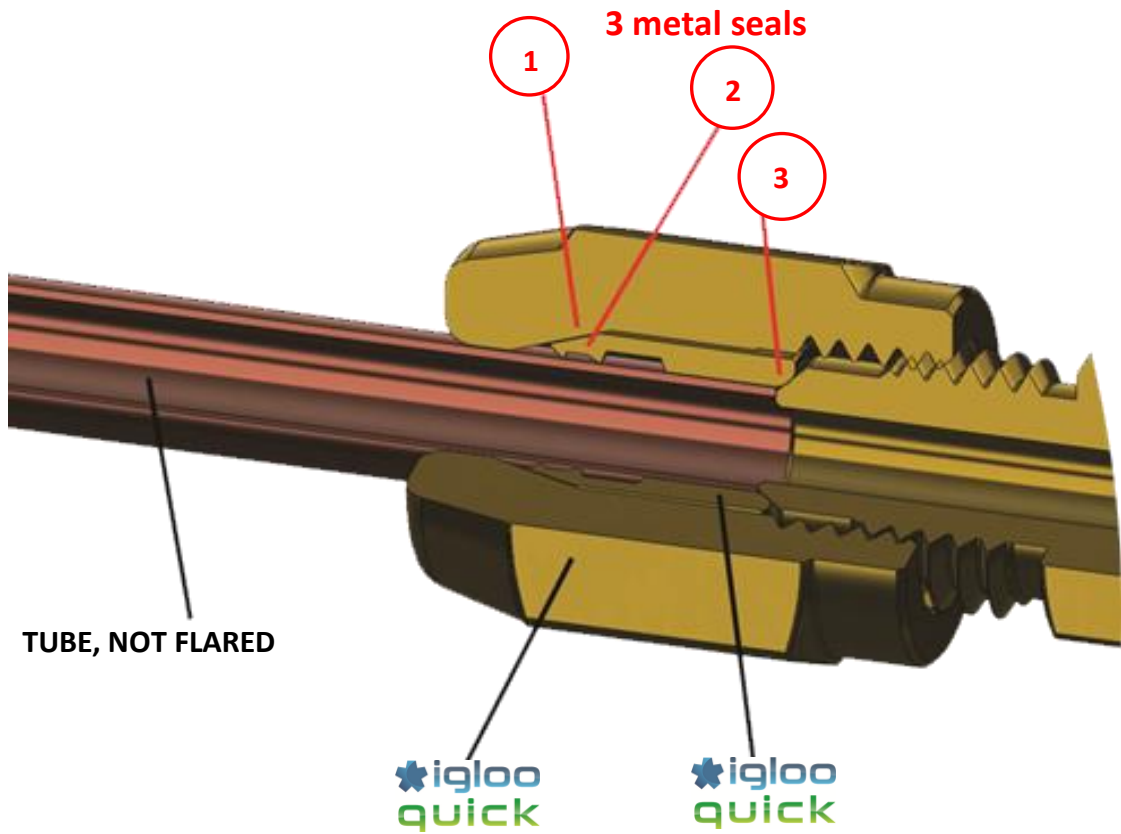


Self-flaring nipples. SFL Series

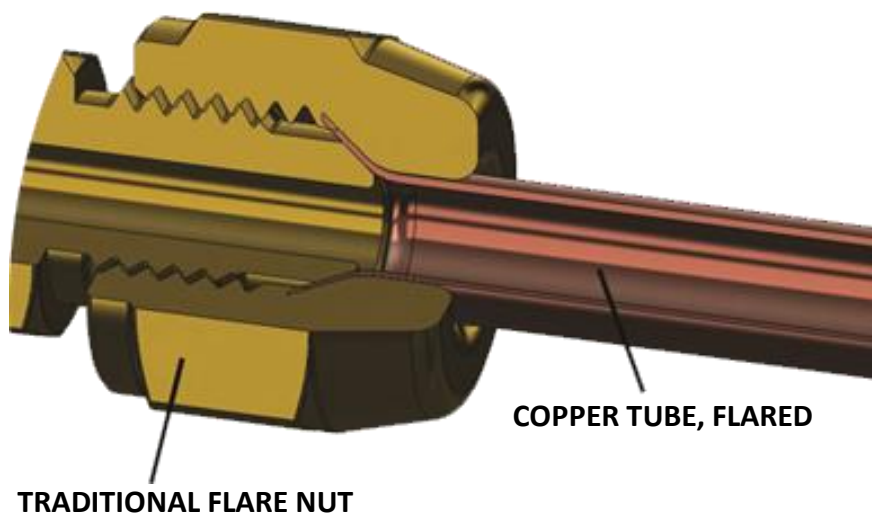
Mod.	Flare conn. SAE J513	Tube diameter	
		mm	inch
SFL-4	1/4"	6	1/4"
SFL-6	3/8"	10	3/8"
SFL-8	1/2"	12	1/2"
SFL-10	5/8"	16	5/8"



IGLOO QUICK fittings are suitable for metric/inch copper tubes of any thickness.



Traditional flare fittings require a flared copper tube.



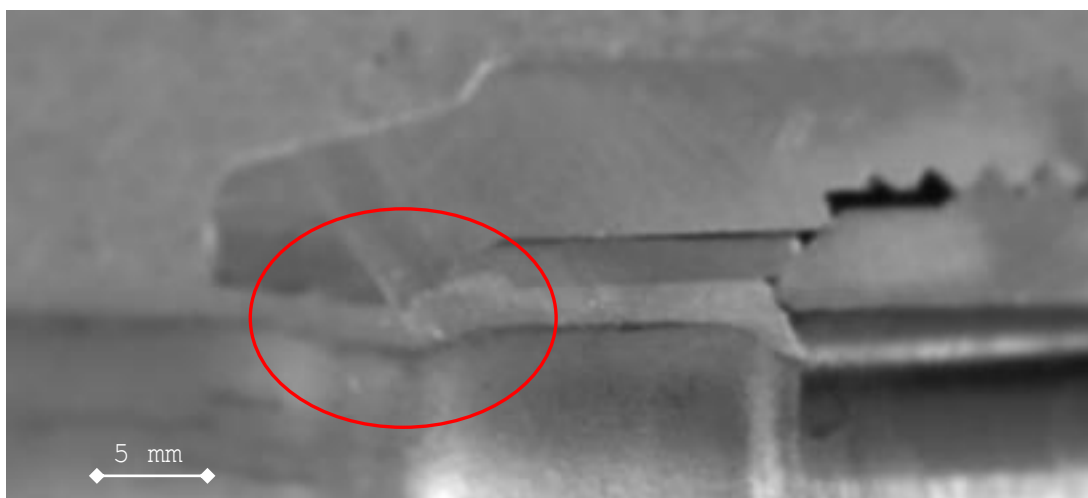
Triple metal seal:


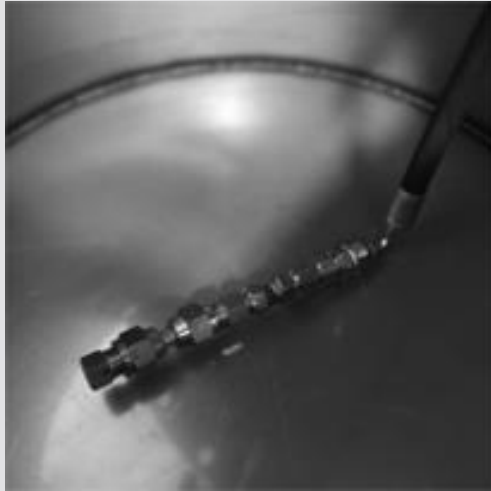
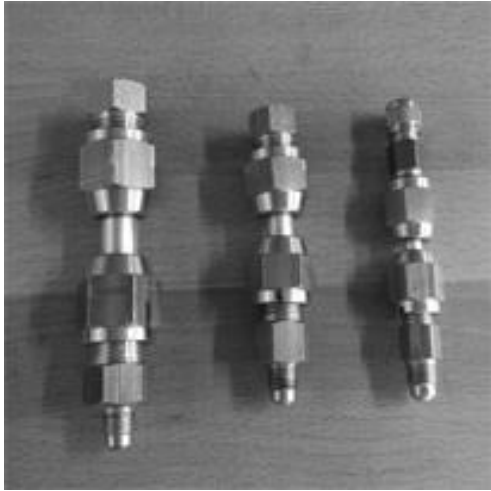

Metal seal 1 The clamping action of the IGLOO QUICK fitting imprints a radial force on the external circular surface of the tube that creates a **metal sealing** contact surface between the fitting and the tube, regardless of tube thickness. When the IGLOO QUICK fitting is tightened on the tube the risk of excessive biting and damaging the tube is avoided by the internal geometry of the bite ring, which features 2 small teeth with rounded edges that grip the tube together deforming it radially until forming the typical shape shown in the photograph below. The maximum working pressure is 45 bar and it has been pressure tested up to 200 bar.

Metal seal 2 When the IGLOO QUICK fitting is tightened the bite ring is pushed against the male threaded fitting: only 1 and 1/2 turns are sufficient to create a leak-proof **metal seal**.

Metal seal 3 During tightening of the IGLOO QUICK fitting the bite ring is pressed by the union against the fitting and, thanks to its elasticity, the reaction force that is created ensures a very strong **metal seal** and gives the joint an important property that cannot be found in traditional fittings: the anti-loosening property. The loosening resistance due to the elasticity of the bite ring makes the fitting resist the harshest operating conditions; such as vibrations, water hammer, thermal cycles, etc..

Cross section magnification:



	Leak test	Burst test (pressure)
Standards	EN 1779.B6	EN 378-2
Description	During this test the leak from the joints is quantified expressed in grams/year of refrigerant. The recommended threshold is 0,1 gram/year of refrigerant.	The pressure resistance of the fittings is evaluated, which must resist - without pulling off the tube - at least 4 times (420 bar) the maximum working pressure (140 bar).
Equipment	Leak testing machine with Helium as tracer gas, with a mass spectrometer sniffer operating in high vacuum chamber. The sensitivity of the sniffer used is approximately 1 milligram/year of refrigerant.	High pressure hydraulic jack (up to 1.000 bar) and sealed stainless steel housing to contain the samples and protect personnel from a possible burst.
		
Results	<p>✓ A leak rate lower than 50 milligrams/year of refrigerant was measured, equivalent to 1 gram of refrigerant in over 20 years.</p> 	<p>✓ The fittings withstood the burst of the tubes remaining perfectly intact up to the maximum test pressure (420 bar) without pulling off. Subsequently the pressure was raised to over 600 bar to burst the tubes, both aluminum and copper.</p> 

Assembly instructions



1. Remove burrs from the tube end, both inside and outside



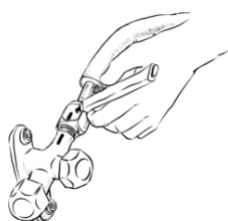
2. Remove any scratches on the surface with sandpaper



3. Manually screw the fitting onto the air conditioner



4. Insert the tube fully into the fitting



5. Make a mark with the marker to help you at the next step



6. Tighten the fitting for 1.5 turns with a regular wrench *Do not use the torque wrench*