

Stainless steel pipe fittings for high-purity oxygen applications

Reliable analysis of oxygen concentrations is crucial in the electrolysis of water, for example, in order to monitor the LEL in a safety-relevant manner. Oxygen is also measured continuously in biogas plants, flue gas analysis and air separation plants. For this purpose, the gas must be transported safely from the sampling point to the analyser through pipe connections.

Due to its oxidising properties, oxygen places high demands on the cleanliness of parts in contact with the medium. The connecting and joining elements are cleaned in accordance with ASTM-G93 to ensure that they are free of particles, oil and grease.

The fittings are supplied individually shrink-wrapped to maintain cleanliness until installation on site. Only fittings frequently used with our gas conditioning components are listed here: Straight screw-in connections, straight pipe connectors, spare parts.

For applications with high-purity oxygen.

Special cleaning according to the ASTM-G93 standard procedure for stage C oxygen applications

Suitability-tested materials for high_o2 concentrations

Removable compression fittings; material: Stainless steel 316

Tapered thread (ISO/BSP); standard: 1/4" and 3/8"

NPT thread; standard: 1/4" and 3/8"

Metric tube sizes; standard: 6, 8, 10 and 12 mm

US tube sizes; standard: 1/4", 3/8" and 1/2"



Examples for use of screw fittings

- Connecting stainless steel gas heat exchangers.
- Spare parts for gas pumps with stainless steel head.

General Technical Data

Material: Stainless steel 316 (1.4401).

All specifications in this data sheet are in mm, US specifications in parentheses!

Special cleaning of fittings according to ASTM-G93 standard procedure for applications with increased oxygen concentration. Parts in contact with media are cleaned free of oil and grease and partially silver-plated. Parts not in contact with media are cleaned and greased with Krytox 240AC lubricant. Fittings are individually packaged and shrink-wrapped, do not open until immediately before use.

Permissible pressures

Permissible operating pressure in bar/psig for seamless stainless steel tubes.

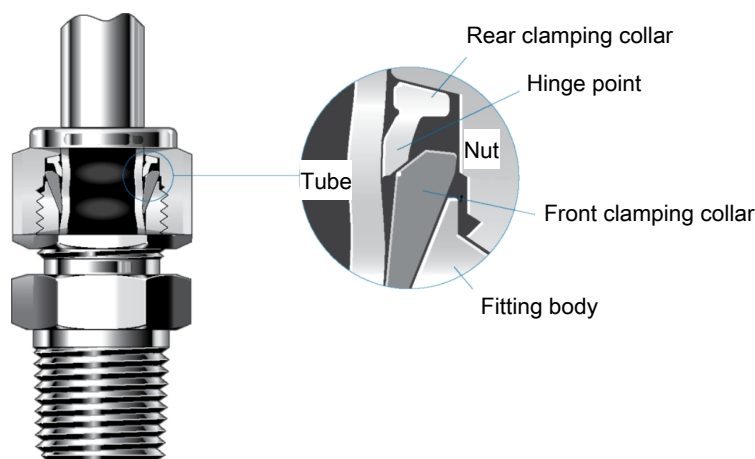
For single weld tubes, multiply the specified pressure by 0.8.

Information in the pressure tables are guidelines!

	Tube wall thickness	6 mm	8 mm	10 mm	12 mm	1/4"	3/8"	pressure
metric	1 mm	420	310	240	200	-	-	bar
		6094	4498	3482	2902	-	-	psig
	1.5 mm	710	520	400	330	-	-	bar
		10302	7545	5804	4788	-	-	psig
	2 mm	-	-	580	470	-	-	bar
		-	-	8415	6819	-	-	psig
US	0,89 mm (0.035").	-	-	-	-	341.5	227	bar
		-	-	-	-	5100	3300	psig
	1.25 mm (0.049").	-	-	-	-	517	330	bar
		-	-	-	-	7500	4800	psig
	1 mm (0.065").	-	-	-	-	703	448	bar
		-	-	-	-	10200	6500	psig

Special properties

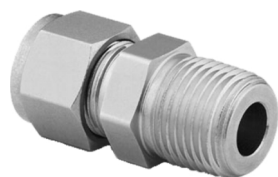
- Silver-plated front clamping collar.
- Special cleaning according to the ASTM-G93 standard procedure for stage C oxygen applications.
- Spring-loaded design with two clamping collars.
- Easy installation.
- No torque is applied to the tube during installation.



During installation, the front clamping collar is pressed onto the fitting body and the tube, creating primary seals, whilst the rear clamping collar folds inward to firmly clamp around the tube. The geometry of the rear clamping collars creates a hinge-tension effect, which converts axial movement into radial pressure onto the tube, requiring little torque.

Straight screw-in connection for applications with high-purity oxygen.

To ensure the absence of particles, oil and grease, lubricant must not be used for screw connections that come into contact with media. To prevent leaks, a BAM-approved PTFE sealing tape should be used (see accessories).

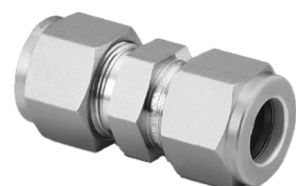


A	Outside tube diameter
B	Threaded connection
L	Total length
SW	Spanner size

	A*	B* (inch)	L mm/(inch)		SW mm/(inch)		Item no.
Tapered ISO/ BSP thread (RT)	6 mm	1/4"	37.9	(1.492)	14	(0.55)	9028111
	8 mm	1/4"	38.7	(1.52)	15	(0.59)	9028145
Metric tube	10 mm	3/8"	40.9	(1.61)	18	(0.708)	9028168
	12 mm	3/8"	43.4	(1.7)	22	(0.866)	9028113
US tube	1/4"	1/4"	37.9	(1.49)	9/16"	(0.56)	9028144
	3/8"	1/4"	39.87	(1.57)	5/8"	(0.625)	9028146
	1/2"	3/8"	43.4	(1.71)	13/16"	(0.813)	9028169
NPT thread Metric tube	6 mm	NPT 1/4	37.9	(1.492)	14	(0.55)	9028109
	8 mm	NPT 1/4	38.7	(1.52)	15	(0.59)	9028170
		NPT 3/8	39.2	(1.54)	18	(0.708)	9028171
	10 mm	NPT 3/8	40.9	(1.61)	18	(0.708)	9028172
US tube	12 mm	NPT 3/8	43.4	(1.7)	22	(0.866)	9028173
	1/4"	NPT 1/4	37.9	(1.49)	9/16"	(0.56)	9028174
	3/8"	NPT 1/4	39.87	(1.57)	5/8"	(0.625)	9028175
		NPT 3/8	39.87	(1.57)	11/16"	(0.688)	9028176
	1/2"	NPT 3/8	43.4	(1.71)	13/16"	(0.813)	9028177

* Other dimensions available upon request.

Straight connector for applications with high-purity oxygen



Definition of dimensions	
A	Outside tube diameter 1
B	Outside tube diameter 2
L	Length

	A*	B*	L	Item no.
metric	6 mm	6 mm	41 mm	9028182
		8 mm	39.4 mm	9028163
	10 mm	10 mm	46.2 mm	9028164
US	1/4"	1/4"	1.61"	9028165
	3/8"	3/8"	1.70"	9028166
		3/8"	1.77"	9028167

* Other dimensions available upon request.

Spare parts: Swivel nuts and cutting rings for applications with high-purity oxygen.



Swivel nut



Rear clamping collar



Silver-plated front clamping collar

	Tube OD	Spanner size SW mm/(inch)		Swivel nut	Front clamping collar	Rear clamping collar
metric	6 mm	14	(0.55)	9008794	9008795	9008796
	8 mm	16	(0.63)	9028154	9028155	9028156
	10 mm	19	(0.75)	9028157	9028158	9028159
	12 mm	22	(0.866)	9008791	9008792	9008793
US	1/8"	7/16"	(0.44)	9028160	9028161	9028162
	1/4"	9/16"	(0.56)	9028147	9028148	9028149
	3/8"	11/16"	(0.687)	9028150	9028151	9028152
	1/2"	7/8"	(0.875)	9028178	9028179	9028180

Accessories

Item no.	Description
9022325	BAM-approved PTFE sealing tape (Roll of 14,8 ft)