

METRIC TUBE FITTINGS ABALOK



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ABAC expands the line of **ABALOK** Tube Fittings with the incorporation of Metric Connectors, also of the double ferrule type. For 6, 8, 10, 12 and 16 millimeter tubes.

These connectors are made entirely of AISI 316 stainless steel (connection body, nut, front ferrule and rear ferrule). Like the imperial ones, they can be used in instrumentation, control systems, chromatography, petrochemistry, refineries, Compressed and Liquefied Natural Gas (CNG and LNG) facilities and, in general, in highly demanding and reliable applications.

They comply with standards:

ISO 15500-1:2015 / ISO 15500-2:2016 / ISO 15500-19:2020

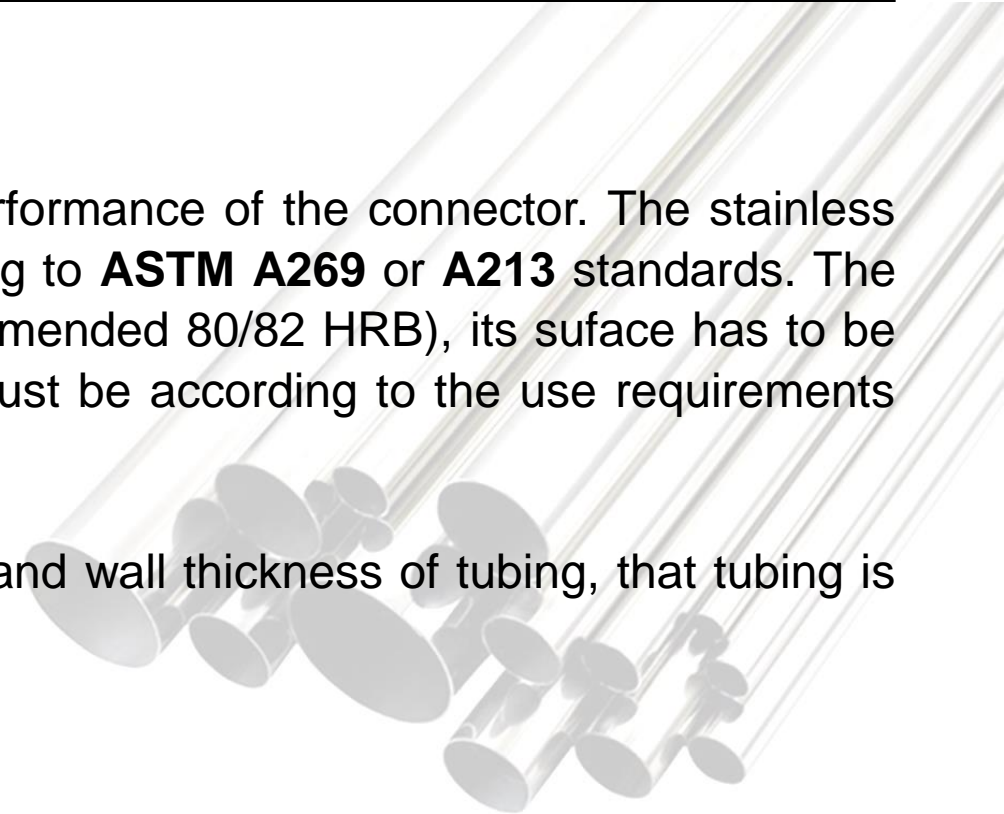
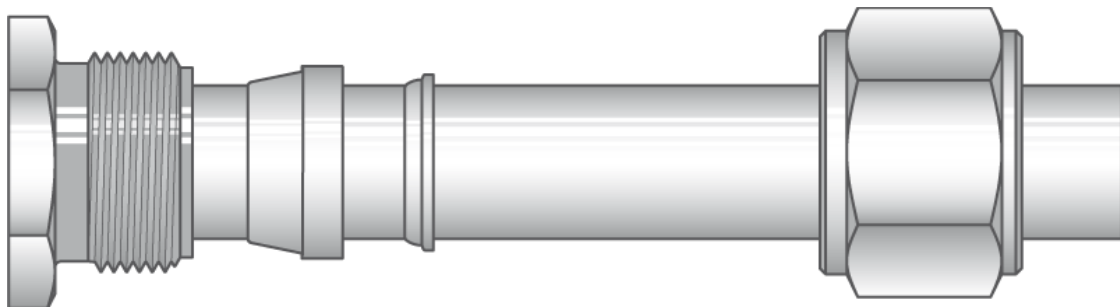


METRIC TUBE FITTINGS ABALOK

Tube Selection

The suitable selection of the tube is essential to have the best performance of the connector. The stainless steel must be **seamless**, type SS AISI 304, 316 or 316 L, according to **ASTM A269** or **A213** standards. The tubes must be annealed, with hardness lower than 90 HRB (recommended 80/82 HRB), its surface has to be free of scratches, blows and surface abrasion, the wall thickness must be according to the use requirements and be compatible with the process fluid and its temperature.

If in table of pag #8 not pressure is identified for a given diameter and wall thickness of tubing, that tubing is not considered suitable for use with **ABALOK** tube fitting.

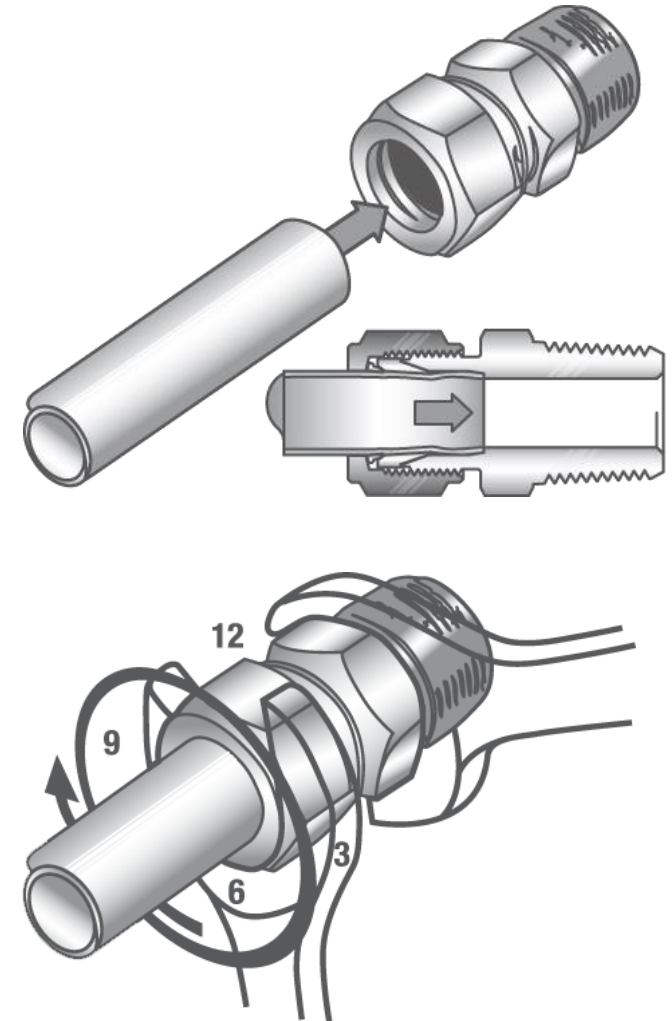


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Assembly Instructions

The tube fittings **ABALOK** are delivered assembled and ready to use. It is not necessary to disassembly the fitting before using it because this could introduce dirtiness or strange particles into the union.

- 1°. Cut the tube in square and eliminate the internal and external burr.
- 2°. Insert the tube through the nut until reaching the bottom seat. The accesory must be pre-assembled with its body ferrule and nut. Never the extreme has to be under external tress, for example, traction or flection, specially during the assembly.
- 3°. Finger-tighten the nut clockwise.
- 4°. Keep the connector's body with a wrench and with another wrench adjust according to the following criteria: 1 + 1/4 turns from the finger-tighten. For applications at very high pressure, where the fitting will be left working with only one adjustment, it is recommended a 1 + 1/2 turn.

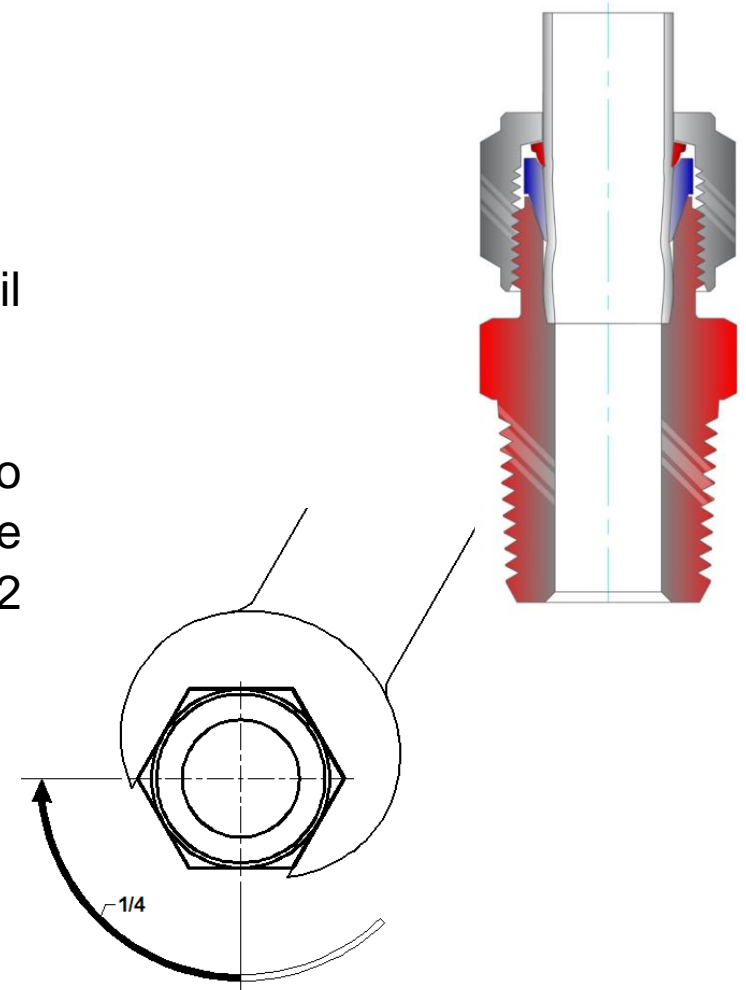


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Reassembly Instructions

The tube fittings **ABALOK** can be loosened and tightened many times.

- 1°. Insert the tube with the pre-assembled ferrules into the connector until the ferrule is fitted into the body.
- 2°. Finger-tighten the nut.
- 3°. Tight the nut with a wrench approximately 1/4 turn by going completely to the original position (there will be an important resistance). Then, tight the nut with the wrench lightly. The readjustment should not be more than 1/2 turn.



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Recommendations

- Make sure that the system is not pressurized when tightening or loosening an **ABALOK** fitting.
- Do not loosen an **ABALOK** nut to relief or bleed the system pressure.
- Do not exceed the maximum allowable working pressure and temperature for tubing used.
- Before assembling a new **ABALOK** tube fitting, loosen the nut before inserting the tube to allow full insertion of the tube to the seat.
- Always leave a length of straight tube between the bend and the fitting.
- During the assembly of the **ABALOK** connector, always hold the fitting with one wrench while tighten the nut with another wrench. Follow the same instruction when loosening.
- Always use an **ABALOK** tube insert when assembling an **ABALOK** fitting to soft, pliable plastic tubing.
- If you have any doubt or question, please, do not hesitate in contact us.

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Pressure rating:

The working pressures of the **ABALOK** tube fittings are determined by the tube characteristics where there are installed. Therefore, the maximum internal pressure limit is provided by the tube, that will collapse before than the connector.

MAXIMUM ALLOWABLE WORKING PRESSURES (BAR)

316 Stainless steel annealed seamless tubing (ASTM A-213 or equivalent)

Tube OD mm	Tube Wall Thickness, mm													
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5	5.0
	Working Pressure, bar													
	Note: For gas service, select a tube wall thickness outside of the shaded area.													
3	670													
6	310	420	540	710										
8		310	390	520										
10		240	300	400	510	580								
12		200	250	330	410	470								
14		160	200	270	340	380	430							
15		150	190	250	310	360	400							
16			170	230	290	330	370	400						

Size thread (inches)	Threaded connections			
	Straight		Tee or elbow	
	female	male	female	male
1/8"	503	848	393	669
1/4"	503	683	372	538
3/8"	379	621	345	517
1/2"	338	614	317	510
3/4"	255	572	283	476
1"	296	407		

Factor of safety: 4, considering tensile strength to be 5.172 bar at room temperature.

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How to order:

RM 10M - 2 - 316

TYPE

E.g. Straight Male

TUBE O.D.

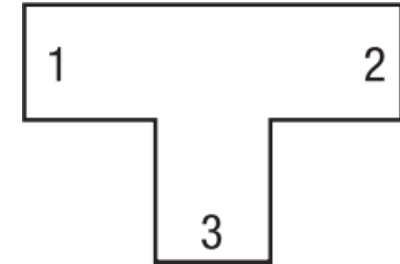
(in millimeters)
E.g. 10 mm

NPT PIPE SIZE

(in eighteenths of an inch)
E.g. 1/4 NPT

MATERIAL

316: stainless steel AISI 316



The unions tee are described by first the run (1 and 2), and next the branch (3).

TTM describes a Male branch tee that has tube connections at positions 1 and 2, and a male pipe thread at position 3.

THT describes a female run tee that has a female pipe thread at position 2 and tube connections at 1 and 3.

METRIC TUBE FITTINGS ABALOK

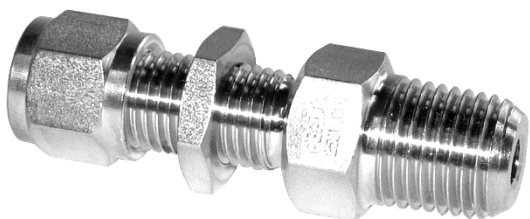
RM Male Connector



Model	OD Tube	R NPT	Model	OD Tube	R NPT
RM 6M-2-316	6 mm	1/4"	RM 12M-2-316	12 mm	1/4"
RM 6M-3-316	6 mm	3/8"	RM 12M-3-316	12 mm	3/8"
RM 6M-4-316	6 mm	1/2"	RM 12M-4-316	12 mm	1/2"
RM 6M-6-316	6 mm	3/4"	RM 12M-6-316	12 mm	3/4"
RM 8M-2-316	8 mm	1/4"	RM 16M-2-316	16 mm	1/4"
RM 8M-3-316	8 mm	3/8"	RM 16M-3-316	16 mm	3/8"
RM 8M-4-316	8 mm	1/2"	RM 16M-4-316	16 mm	1/2"
RM 8M-6-316	8 mm	3/4"	RM 16M-6-316	16 mm	3/4"
RM 10M-2-316	10 mm	1/4"			
RM 10M-3-316	10 mm	3/8"			
RM 10M-4-316	10 mm	1/2"			
RM 10M-6-316	10 mm	3/4"			

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RMP **Male Bulkhead** **Connector**



Model	OD Tube	R NPT	Model	OD Tube	R NPT
RMP 6M-2-316	6 mm	1/4"	RMP 12M-2-316	12 mm	1/4"
RMP 6M-3-316	6 mm	3/8"	RMP 12M-3-316	12 mm	3/8"
RMP 6M-4-316	6 mm	1/2"	RMP 12M-4-316	12 mm	1/2"
RMP 6M-6-316	6 mm	3/4"	RMP 12M-6-316	12 mm	3/4"
RMP 8M-2-316	8 mm	1/4"	RMP 16M-2-316	16 mm	1/4"
RMP 8M-3-316	8 mm	3/8"	RMP 16M-3-316	16 mm	3/8"
RMP 8M-4-316	8 mm	1/2"	RMP 16M-4-316	16 mm	1/2"
RMP 8M-6-316	8 mm	3/4"	RMP 16M-6-316	16 mm	3/4"
RMP 10M-2-316	10 mm	1/4"			
RMP 10M-3-316	10 mm	3/8"			
RMP 10M-4-316	10 mm	1/2"			
RMP 10M-6-316	10 mm	3/4"			

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CM Male Elbow



Model	OD Tube	R NPT	Model	OD Tube	R NPT
CM 6M-2-316	6 mm	1/4"	CM 12M-2-316	12 mm	1/4"
CM 6M-3-316	6 mm	3/8"	CM 12M-3-316	12 mm	3/8"
CM 6M-4-316	6 mm	1/2"	CM 12M-4-316	12 mm	1/2"
CM 6M-6-316	6 mm	3/4"	CM 12M-6-316	12 mm	3/4"
CM 8M-2-316	8 mm	1/4"	CM 16M-2-316	16 mm	1/4"
CM 8M-3-316	8 mm	3/8"	CM 16M-3-316	16 mm	3/8"
CM 8M-4-316	8 mm	1/2"	CM 16M-4-316	16 mm	1/2"
CM 8M-6-316	8 mm	3/4"	CM 16M-6-316	16 mm	3/4"
CM 10M-2-316	10 mm	1/4"			
CM 10M-3-316	10 mm	3/8"			
CM 10M-4-316	10 mm	1/2"			
CM 10M-6-316	10 mm	3/4"			

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TTM Male Branch Tee



Model	OD Tube	R NPT	Model	OD Tube	R NPT
TTM 6M-2-316	6 mm	1/4"	TTM 12M-2-316	12 mm	1/4"
TTM 6M-3-316	6 mm	3/8"	TTM 12M-3-316	12 mm	3/8"
TTM 6M-4-316	6 mm	1/2"	TTM 12M-4-316	12 mm	1/2"
TTM 6M-6-316	6 mm	3/4"	TTM 12M-6-316	12 mm	3/4"
TTM 8M-2-316	8 mm	1/4"	TTM 16M-2-316	16 mm	1/4"
TTM 8M-3-316	8 mm	3/8"	TTM 16M-3-316	16 mm	3/8"
TTM 8M-4-316	8 mm	1/2"	TTM 16M-4-316	16 mm	1/2"
TTM 8M-6-316	8 mm	3/4"	TTM 16M-6-316	16 mm	3/4"
TTM 10M-2-316	10 mm	1/4"			
TTM 10M-3-316	10 mm	3/8"			
TTM 10M-4-316	10 mm	1/2"			
TTM 10M-6-316	10 mm	3/4"			

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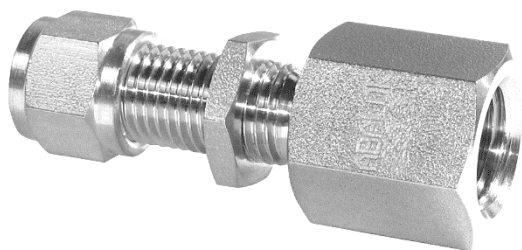
RH Female Connector



Model	OD Tube	R NPT	Model	OD Tube	R NPT
RH 6M-2-316	6 mm	1/4"	RH 12M-2-316	12 mm	1/4"
RH 6M-3-316	6 mm	3/8"	RH 12M-3-316	12 mm	3/8"
RH 6M-4-316	6 mm	1/2"	RH 12M-4-316	12 mm	1/2"
RH 6M-6-316	6 mm	3/4"	RH 12M-6-316	12 mm	3/4"
RH 8M-2-316	8 mm	1/4"	RH 16M-2-316	16 mm	1/4"
RH 8M-3-316	8 mm	3/8"	RH 16M-3-316	16 mm	3/8"
RH 8M-4-316	8 mm	1/2"	RH 16M-4-316	16 mm	1/2"
RH 8M-6-316	8 mm	3/4"	RH 16M-6-316	16 mm	3/4"
RH 10M-2-316	10 mm	1/4"			
RH 10M-3-316	10 mm	3/8"			
RH 10M-4-316	10 mm	1/2"			
RH 10M-6-316	10 mm	3/4"			

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RHP **Female Bulkhead** **Connector**



Model	OD Tube	R NPT	Model	OD Tube	R NPT
RHP 6M-2-316	6 mm	1/4"	RHP 12M-2-316	12 mm	1/4"
RHP 6M-3-316	6 mm	3/8"	RHP 12M-3-316	12 mm	3/8"
RHP 6M-4-316	6 mm	1/2"	RHP 12M-4-316	12 mm	1/2"
RHP 6M-6-316	6 mm	3/4"	RHP 12M-6-316	12 mm	3/4"
RHP 8M-2-316	8 mm	1/4"	RHP 16M-2-316	16 mm	1/4"
RHP 8M-3-316	8 mm	3/8"	RHP 16M-3-316	16 mm	3/8"
RHP 8M-4-316	8 mm	1/2"	RHP 16M-4-316	16 mm	1/2"
RHP 8M-6-316	8 mm	3/4"	RHP 16M-6-316	16 mm	3/4"
RHP 10M-2-316	10 mm	1/4"			
RHP 10M-3-316	10 mm	3/8"			
RHP 10M-4-316	10 mm	1/2"			
RHP 10M-6-316	10 mm	3/4"			

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CH Female Elbow



Model	OD Tube	R NPT	Model	OD Tube	R NPT
CH 6M-2-316	6 mm	1/4"	CH 12M-2-316	12 mm	1/4"
CH 6M-3-316	6 mm	3/8"	CH 12M-3-316	12 mm	3/8"
CH 6M-4-316	6 mm	1/2"	CH 12M-4-316	12 mm	1/2"
CH 6M-6-316	6 mm	3/4"	CH 12M-6-316	12 mm	3/4"
CH 8M-2-316	8 mm	1/4"	CH 16M-2-316	16 mm	1/4"
CH 8M-3-316	8 mm	3/8"	CH 16M-3-316	16 mm	3/8"
CH 8M-4-316	8 mm	1/2"	CH 16M-4-316	16 mm	1/2"
CH 8M-6-316	8 mm	3/4"	CH 16M-6-316	16 mm	3/4"
CH 10M-2-316	10 mm	1/4"			
CH 10M-3-316	10 mm	3/8"			
CH 10M-4-316	10 mm	1/2"			
CH 10M-6-316	10 mm	3/4"			

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TTH Female Branch Tee



Model	OD Tube	R NPT	Model	OD Tube	R NPT
TTH 6M-2-316	6 mm	1/4"	TTH 12M-2-316	12 mm	1/4"
TTH 6M-3-316	6 mm	3/8"	TTH 12M-3-316	12 mm	3/8"
TTH 6M-4-316	6 mm	1/2"	TTH 12M-4-316	12 mm	1/2"
TTH 6M-6-316	6 mm	3/4"	TTH 12M-6-316	12 mm	3/4"
TTH 8M-2-316	8 mm	1/4"	TTH 16M-2-316	16 mm	1/4"
TTH 8M-3-316	8 mm	3/8"	TTH 16M-3-316	16 mm	3/8"
TTH 8M-4-316	8 mm	1/2"	TTH 16M-4-316	16 mm	1/2"
TTH 8M-6-316	8 mm	3/4"	TTH 16M-6-316	16 mm	3/4"
TTH 10M-2-316	10 mm	1/4"			
TTH 10M-3-316	10 mm	3/8"			
TTH 10M-4-316	10 mm	1/2"			
TTH 10M-6-316	10 mm	3/4"			

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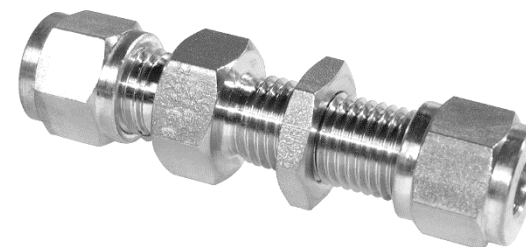
UT Union

Model	OD Tube
UT 6M-0-316	6 mm
UT 8M-0-316	8 mm
UT 10M-0-316	10 mm
UT 12M-0-316	12 mm
UT 16M-0-316	16 mm



UTP Bulkhead Union

Model	OD Tube
UTP 6M-0-316	6 mm
UTP 8M-0-316	8 mm
UTP 10M-0-316	10 mm
UTP 12M-0-316	12 mm
UTP 16M-0-316	16 mm



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CU Union Elbow

Model	OD Tube
CU 6M-0-316	6 mm
CU 8M-0-316	8 mm
CU 10M-0-316	10 mm
CU 12M-0-316	12 mm
CU 16M-0-316	16 mm



TU Union Tee

Model	OD Tube
TU 6M-0-316	6 mm
TU 8M-0-316	8 mm
TU 10M-0-316	10 mm
TU 12M-0-316	12 mm
TU 16M-0-316	16 mm



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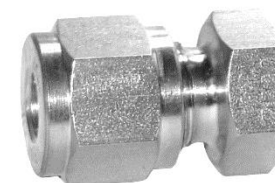
PO Plug

Model	OD Tube
PO 6M-0-316	6 mm
PO 8M-0-316	8 mm
PO 10M-0-316	10 mm
PO 12M-0-316	12 mm
PO 16M-0-316	16 mm



PA Cap

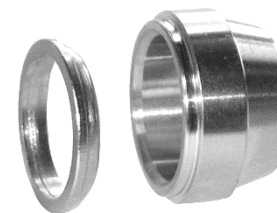
Model	OD Tube
PA 6M-0-316	6 mm
PA 8M-0-316	8 mm
PA 10M-0-316	10 mm
PA 12M-0-316	12 mm
PA 16M-0-316	16 mm



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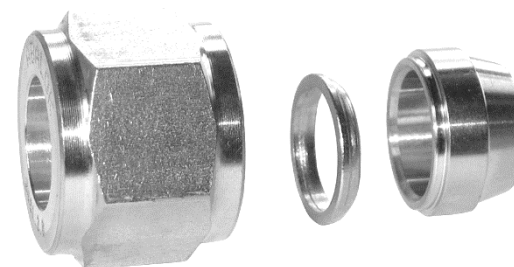
KV **Ferrule Set**

Model	OD Tube
KV 6M-0-316	6 mm
KV 8M-0-316	8 mm
KV 10M-0-316	10 mm
KV 12M-0-316	12 mm
KV 16M-0-316	16 mm



KT **Nut and Ferrule Set**

Model	OD Tube
KT 6M-0-316	6 mm
KT 8M-0-316	8 mm
KT 10M-0-316	10 mm
KT 12M-0-316	12 mm
KT 16M-0-316	16 mm



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