

An Installers --- Pocket Guide for

Swagelok®

Tube Fittings

**Swagelok Company
Solon, Ohio U.S.A.**

Fitting Locator

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TOOLS

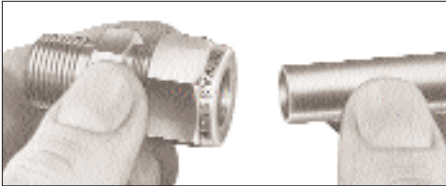
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Installation Instructions

Swagelok tube fittings 1 in. or 25 mm and under

Swagelok tube fittings come to you completely assembled, finger-tight and are ready for immediate use. Disassembly before use is unnecessary and can result in dirt or foreign material getting into fitting and causing leaks.

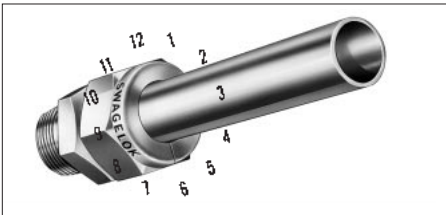
Swagelok tube fittings are installed in three (3) easy steps:



Step 1

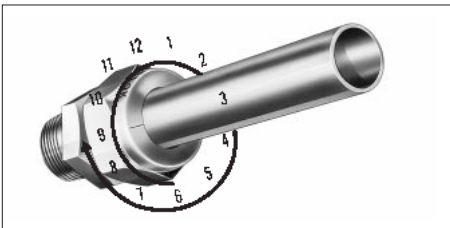
Simply insert the tubing into the Swagelok tube fitting.

Make sure that the tubing rests firmly on the shoulder of the fitting and that the nut is finger-tight.



Step 2

Before tightening the Swagelok nut, scribe the nut at the 6 o'clock position.



Step 3

Hold the fitting body steady with a backup wrench and tighten the nut 1 1/4 turns.^① Watch the scribe mark, make one complete revolution and continue to the 9 o'clock position.

INSTALLATION INSTRUCTIONS

By scribing the nut at the 6 o'clock position as it appears to you, there will be no doubt as to the starting position. When the nut is tightened 1 1/4 turns to the 9 o'clock position, you can easily see that the fitting has been properly tightened.

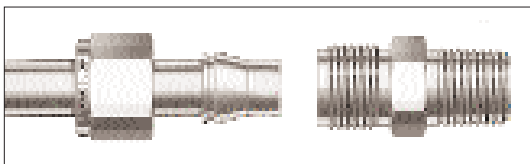
Use of the gap inspection gage (1 1/4 turns from finger-tight) ensures sufficient pull-up.

① For 1/16, 1/8, and 3/16 in.; and 2, 3, and 4 mm size tube fittings, only 3/4 turn from finger-tight is necessary.

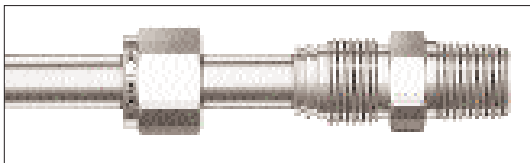
Retightening Instructions

Connections can be disconnected and retightened many times.

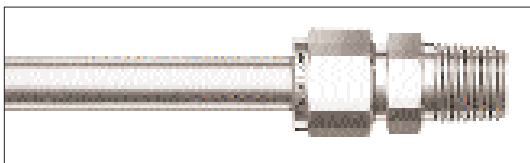
The same reliable leak-proof seal can be obtained when the connection is remade.



1 Fitting shown in the disconnected position.



2. Insert tubing with preswaged ferrules into fitting body until front ferrule seats.

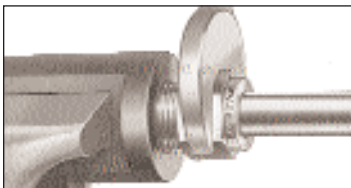


3. Tighten nut by hand. Rotate the nut to the previously pulled-up position with a wrench. *At this point, an increase in resistance will be encountered.* Then tighten slightly with the wrench. Smaller tube sizes will take less tightening to reach the original position, while larger tube sizes will require more tightening. The wall thickness will also have an effect on tightening.

Preswaging Instructions

When installing Swagelok tube fittings in cramped quarters or where ladders must be used, it may be advantageous to use a pre-swaging tool. It allows the preswaging of ferrules onto the tube in a more open or safe area. After using the tool simply follow the retightening instructions.

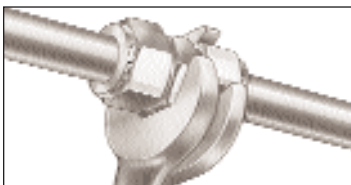
Oversized or very soft tubing may occasionally stick in the tool after pull-up. If this happens, remove the tube by gently rocking back and forth. **DO NOT TURN** the tube with pliers or other tools as this may damage sealing surfaces.



1 Assemble Swagelok nut and ferrules to preswaging tool. Insert tubing through ferrules until it bottoms in the preswaging tool, and tighten nut 1 1/4 turns.^①



2 Loosen the nut and remove the tubing with preswaged ferrules from the preswaging tool.



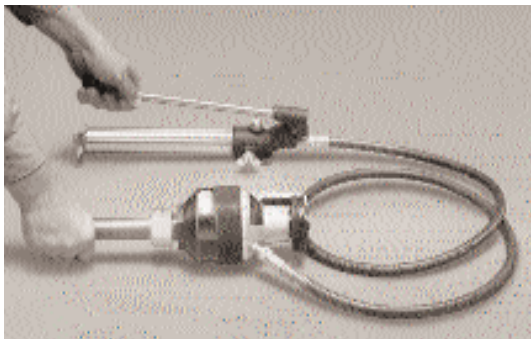
3 The connection can now be made by following the Retightening Instructions shown on page 7.

^① For 1/16, 1/8, and 3/16 in.; and 2, 3, and 4 mm size tube fittings, only 3/4 turn from finger-tight is necessary.

Swagelok

Hydraulic Swaging Unit *for installing larger size Swagelok tube fittings*

- must be used to install 1 1/4, 1 1/2, and 2 in.; and 28, 30, 32, and 38 mm Swagelok tube fittings
- is available to install 1/2 to 1 in., and 12 to 25 mm sizes
- reduces make-up torque by up to 70 % compared to 1 1/4 turns manual pull-up
- reduces field assembly time
- prevents galling, thread damage, and component deformation
- is portable and easy to use by one person
- requires little physical effort by the installer reducing installation time
- ensures proper and sufficient preswaging of the ferrules onto the tubing
- does not place any initial strain on the fitting body threads, or on body seal surfaces
- has an optional support base
- comes in a sturdy case containing a hydraulic pump, hose, and service equipment.



Consult your Swagelok representative for a demonstration.

INSTALLATION INSTRUCTIONS

Adapter Installation Instructions

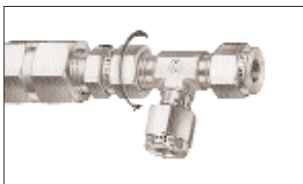
Female pipe port
on existing equipment



Step 1. To facilitate the installation of adapter fittings, it is advantageous to first connect the end opposite the tube adapter end. This will eliminate alignment problems which are often encountered with fittings such as male run or male branch tees.



Step 2. Place the Swagelok tube fitting over the adapter fitting. Make sure that the adapter fitting rests firmly on the shoulder of the Swagelok fitting and that the nut is finger-tight.



Step 3. Before tightening the Swagelok nut, scribe the nut at the 6 o'clock position.

Now, while holding the Swagelok fitting body steady with a backup

wrench, tighten the nut 1 1/4 turns.^① Watch the scribe mark, make one complete revolution and continue to the 9 o'clock position.

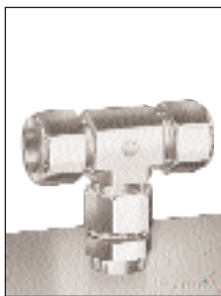
^① For 1/16, 1/8, and 3/16 in.; and 2, 3, and 4 mm size tube fittings, only 3/4 turn from finger-tight is necessary.

How to use **Swagelok** Adapters and Reducers

(1 1/4, 1 1/2, and 2 in; and 28, 30, 32 mm, and 38 mm)

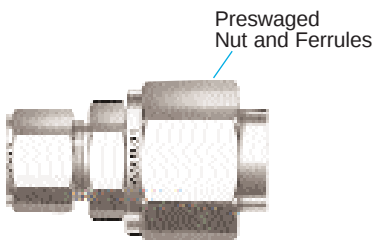
These adapters and reducers are furnished with preswaged nuts and ferrules. This feature adds the benefits of increased reliability and safety to the already versatile adapter line.

For male and female elbows, or connections to SAE/MS straight thread ports, use union elbow with male, female or straight thread adapter as shown. Adapters can also be used to make male run, male branch, female run and female branch tees when used in conjunction with union tees. Benefits are: smaller and more flexible inventories, plus improved ability to orient elbows and tees to the proper direction without thread leakage.



Installation Instructions

To install reducers with preswaged Swagelok nut and ferrules, wrench tighten 1/2 turn after snugging nut by hand.



INSTALLATION INSTRUCTIONS

Installation Instructions

Port Connector

1. Remove nut and ferrules from the first of two Swagelok ports to be connected.

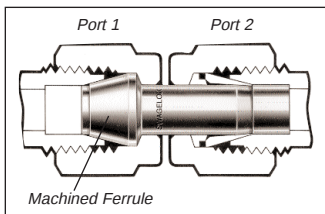
2. Slip nut (no ferrules) over *machined ferrule* end of port connector.

3. Insert port connector into Swagelok *Port 1* and snug by hand.

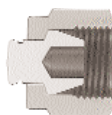
Tighten with wrench 1/4 turn only. For 1/16, 1/8, and 3/16 in.; and 2, 3, and 4 mm tube fittings, tighten only 1/8 turn. Subsequent connections are made by tightening slightly with a wrench after snugging the nut by hand.

4. Insert other end of port connector into Swagelok *Port 2* and tighten nut 1 1/4 turns from finger-tight. For 1/16, 1/8, and 3/16 in.; and 2, 3, and 4 mm tube fittings, only 3/4 turn from finger-tight is necessary.

See Port Connectors on pages 50, 51.



Plug



Tighten plug with wrench 1/4 turn from finger-tight position. For 1/8, and 3/16 in.; and 2, 3, and 4 mm tube fittings, tighten only 1/8 turn. Make subsequent connections by tightening slightly with wrench after snugging the nut by hand. For over 1 in. and 25 mm, tighten plug with wrench 1/2 turn from finger-tight. See Plug on page 53.

Swagelok to AN Adapter



Tighten nut by hand. Rotate nut to the previously pulled-up position with a wrench. *At this point, an increase in resistance will be encountered at the original position.* Then tighten slightly with the wrench. For nylon fittings, refer to Assembly Instructions shipped with each fitting.

See Swagelok to AN Adapter on page 63.

Installation Instructions

SAE/MS Straight Thread Positionable Elbows and Tees



1. Lubricate O-ring with a lubricant compatible with the system fluid, environment and O-ring material. (Standard O-ring material is Fluorocarbon FKM. Other O-ring materials are also available on request.)
2. Turn the fitting into the straight thread boss until the metal back-up washer contacts the face of the boss.
3. Position the fitting by backing it out **(not more than one turn counter clockwise)** until the Swagelok end is oriented in the proper direction.
4. Hold the wrench pad with a backup wrench and tighten the locknut until the washer is against the face of the boss.

NOTE: Positionable elbows and tees are compatible with SAE J1926, MS16142 or JIC female straight thread O-ring bosses.

Ordering Information

Tube Fittings and Adapter Fittings

For a complete Ordering Number add one of the following material designators as a prefix to the Basic Ordering Number.

Designator	Material
A-	Aluminum
B-	Brass
C20-	Alloy 20
HC-	Alloy C-276
INC-	Alloy 600
M-	Alloy 400/R-405
NY-	Nylon
PFA-	Perfluoroalkoxy
S-	Steel
SS-	316 Stainless Steel
T-	TFE
TI-	Titanium

Example: SS-400-1-4 (Stainless steel male connector)

For other materials, consult your Swagelok representative.

INSTALLATION INSTRUCTIONS

Male Connector (tapered thread)



Connects
fractional
tube to
female NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/16	1/16	-100-1-1
1/16	1/8	-100-1-2
1/16	1/4	-100-1-4
1/8	1/16	-200-1-1
1/8	1/8	-200-1-2
1/8	1/4	-200-1-4
1/8	3/8	-200-1-6
1/8	1/2	-200-1-8
3/16	1/8	-300-1-2
3/16	1/4	-300-1-4
1/4	1/16	-400-1-1
1/4	1/8	-400-1-2
1/4	1/4	-400-1-4
1/4	3/8	-400-1-6
1/4	1/2	-400-1-8
1/4	3/4	-400-1-12
5/16	1/8	-500-1-2
5/16	1/4	-500-1-4
5/16	3/8	-500-1-6
3/8	1/8	-600-1-2
3/8	1/4	-600-1-4
3/8	3/8	-600-1-6
3/8	1/2	-600-1-8
3/8	3/4	-600-1-12
1/2	1/8	-810-1-2
1/2	1/4	-810-1-4
1/2	3/8	-810-1-6
1/2	1/2	-810-1-8
1/2	3/4	-810-1-12
1/2	1	-810-1-16
5/8	3/8	-1010-1-6
5/8	1/2	-1010-1-8
5/8	3/4	-1010-1-12
3/4	1/2	-1210-1-8
3/4	3/4	-1210-1-12
3/4	1	-1210-1-16
7/8	3/4	-1410-1-12
7/8	1	-1410-1-16
1	1/2	-1610-1-8
1	3/4	-1610-1-12
1	1	-1610-1-16
1 1/4	1	-2000-1-16
1 1/4	1 1/4	-2000-1-20
1 1/2	1 1/2	-2400-1-24
2	2	-3200-1-32

Connects
fractional
tube to female ISO•
tapered pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

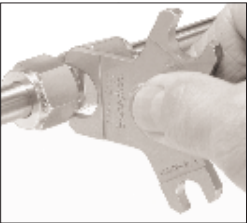
Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-1-2RT
1/8	1/4	-200-1-4RT
1/4	1/8	-400-1-2RT
1/4	1/4	-400-1-4RT
1/4	3/8	-400-1-6RT
1/4	1/2	-400-1-8RT
5/16	1/8	-500-1-2RT
5/16	1/4	-500-1-4RT
3/8	1/8	-600-1-2RT
3/8	1/4	-600-1-4RT
3/8	3/8	-600-1-6RT
3/8	1/2	-600-1-8RT
1/2	1/4	-810-1-4RT
1/2	3/8	-810-1-6RT
1/2	1/2	-810-1-8RT
1/2	3/4	-810-1-12RT
3/4	3/4	-1210-1-12RT
1	1	-1610-1-16RT

Gap Inspection Gages

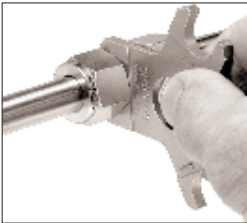
Swagelok gap inspection gages assure the installer or inspector that a fitting has been sufficiently pulled up.

Consistent gageability ensures added safety and reliability. This is a Swagelok tube fitting feature that allows easy inspection for sufficient pull-up, before a system is pressurized.

Most Swagelok tube fittings are gageable except for plastic fittings. Gap inspection gages are accurate only when all components are Swagelok components.



Gap inspection gage **does not fit** between nut and body hex. **Fitting is sufficiently tightened on initial assembly of the tube fitting.**



Gap inspection gage fits between nut and body hex. **Additional tightening is required.**

Male Connector (tapered thread)



Connects
metric
tube to female NPT
thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
2	1/8	-2M0-1-2
3	1/8	-3M0-1-2
3	1/4	-3M0-1-4
4	1/8	-4M0-1-2
4	1/4	-4M0-1-4
6	1/8	-6M0-1-2
6	1/4	-6M0-1-4
6	3/8	-6M0-1-6
6	1/2	-6M0-1-8
8	1/8	-8M0-1-2
8	1/4	-8M0-1-4
8	3/8	-8M0-1-6
8	1/2	-8M0-1-8
10	1/8	-10M0-1-2
10	1/4	-10M0-1-4
10	3/8	-10M0-1-6
10	1/2	-10M0-1-8
10	3/4	-10M0-1-12
12	1/8	-12M0-1-2
12	1/4	-12M0-1-4
12	3/8	-12M0-1-6
12	1/2	-12M0-1-8
12	3/4	-12M0-1-12
14	1/4	-14M0-1-4
14	3/8	-14M0-1-6
14	1/2	-14M0-1-8
15	1/2	-15M0-1-8
16	3/8	-16M0-1-6
16	1/2	-16M0-1-8
16	3/4	-16M0-1-12
18	1/2	-18M0-1-8
18	3/4	-18M0-1-12
20	1/2	-20M0-1-8
20	3/4	-20M0-1-12
22	3/4	-22M0-1-12
22	1	-22M0-1-16
25	1/2	-25M0-1-8
25	3/4	-25M0-1-12
25	1	-25M0-1-16
28	1	-28M0-1-16
28	1 1/4	-28M0-1-20
30	1 1/4	-30M0-1-20
32	1 1/4	-32M0-1-20
38	1 1/2	-38M0-1-24

TUBE FITTINGS

Connects

metric

tube to female ISO•
tapered pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
2	1/8	-2M0-1-2RT
3	1/8	-3M0-1-2RT
3	1/4	-3M0-1-4RT
4	1/8	-4M0-1-2RT
4	1/4	-4M0-1-4RT
6	1/8	-6M0-1-2RT
6	1/4	-6M0-1-4RT
6	3/8	-6M0-1-6RT
6	1/2	-6M0-1-8RT
8	1/8	-8M0-1-2RT
8	1/4	-8M0-1-4RT
8	3/8	-8M0-1-6RT
8	1/2	-8M0-1-8RT
10	1/8	-10M0-1-2RT
10	1/4	-10M0-1-4RT
10	3/8	-10M0-1-6RT
10	1/2	-10M0-1-8RT
12	1/4	-12M0-1-4RT
12	3/8	-12M0-1-6RT
12	1/2	-12M0-1-8RT
12	3/4	-12M0-1-12RT
15	1/2	-15M0-1-8RT
16	1/4	-16M0-1-4RT
16	3/8	-16M0-1-6RT
16	1/2	-16M0-1-8RT
16	3/4	-16M0-1-12RT
18	1/2	-18M0-1-8RT
18	3/4	-18M0-1-12RT
20	1/2	-20M0-1-8RT
20	3/4	-20M0-1-12RT
22	3/4	-22M0-1-12RT
22	1	-22M0-1-16RT
25	3/4	-25M0-1-12RT
25	1	-25M0-1-16RT
28	1	-28M0-1-16RT
28	1 1/4	-28M0-1-20RT
30	1 1/4	-30M0-1-20RT
32	1 1/4	-32M0-1-20RT
38	1 1/2	-38M0-1-24RT

TUBE FITTINGS

**Bulkhead
Male
Connector**
(tapered thread)



Connects
fractional
tube to
female NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-11-2
1/4	1/8	-400-11-2
1/4	1/4	-400-11-4
3/8	1/4	-600-11-4
3/8	3/8	-600-11-6
3/8	1/2	-600-11-8
1/2	3/8	-810-11-6
1/2	1/2	-810-11-8
3/4	3/4	-1210-11-12
1	1	-1610-11-16

Connects
metric
tube to female NPT
thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
6	1/4	-6M0-11-4
12	1/2	-12M0-11-8

Male Connector (SAE/MS straight thread)



Connects
fractional
tube to SAE/MS
straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/8	5/16-24	-200-1-2ST
1/8	7/16-20	-200-1-4ST
1/8	9/16-18	-200-1-6ST
1/4	7/16-20	-400-1-4ST
1/4	9/16-18	-400-1-6ST
1/4	3/4-16	-400-1-8ST
1/4	7/8-14	-400-1-10ST
5/16	1/2-20	-500-1-5ST
3/8	7/16-20	-600-1-4ST
3/8	9/16-18	-600-1-6ST
3/8	3/4-16	-600-1-8ST
3/8	7/8-14	-600-1-10ST
1/2	9/16-18	-810-1-6ST
1/2	3/4-16	-810-1-8ST
1/2	7/8-14	-810-1-10ST
1/2	1 1/16-12	-810-1-12ST
5/8	3/4-16	-1010-1-8ST
5/8	7/8-14	-1010-1-10ST
3/4	3/4-16	-1210-1-8ST
3/4	1 1/16-12	-1210-1-12ST
7/8	1 3/16-12	-1410-1-14ST
1	1 1/16-12	-1610-1-12ST
1	1 5/16-12	-1610-1-16ST
1 1/4	1 5/8-12	-2000-1-20ST
1 1/2	1 7/8-12	-2400-1-24ST
2	2 1/2-12	-3200-1-32ST

Long Male Connector (SAE/MS straight thread)



Connects
fractional
tube to SAE/MS
straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/4	7/16-20	-400-1L-4ST
5/16	1/2-20	-500-1L-5ST
3/8	9/16-18	-600-1L-6ST
1/2	3/4-16	-810-1L-8ST
5/8	7/8-14	-1010-1L-10ST
3/4	1 1/16-12	-1210-1L-12ST
7/8	1 3/16-12	-1410-1L-14ST
1	1 5/16-12	-1610-1L-16ST
1 1/4	1 5/8-12	-2000-1L-20ST
1 1/2	1 7/8-12	-2400-1L-24ST
2	2 1/2-12	-3200-1L-32ST

■ Adapts to SAE J1926 straight thread boss and MS 16142 boss.

TUBE FITTINGS

Male Connector (O-Seal straight thread)



Connects
fractional
tube to
female straight
thread

Tube OD (in.)	Thread Size (in.)	Basic Ordering Number
1/16	5/16-24	-100-1-OR
1/8	5/16-24	-200-1-OR
3/16	3/8-24	-300-1-OR
1/4	7/16-20	-400-1-OR
5/16	1/2-20	-500-1-OR
3/8	9/16-18	-600-1-OR
1/2	3/4-16	-810-1-OR
3/4	1 1/16-12	-1210-1-OR
1	1 5/16-12	-1610-1-OR

Male Connector (O-Seal pipe thread)



Connects
fractional
tube to
female NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-1-2-OR
1/4	1/8	-400-1-2-OR
1/4	1/4	-400-1-4-OR
3/8	1/4	-600-1-4-OR
3/8	3/8	-600-1-6-OR
3/8	1/2	-600-1-8-OR
1/2	1/2	-810-1-8-OR

Male Connector (parallel thread)



Connects
fractional
tube to female
ISO• parallel thread

Connects
metric
tube to female ISO•
parallel thread

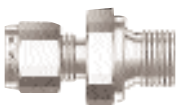
•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-1-2RP
1/8	1/4	-200-1-4RP
1/4	1/8	-400-1-2RP
1/4	1/4	-400-1-4RP
1/2	1/2	-810-1-8RP

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
3	1/8	-3M0-1-2RP
3	1/4	-3M0-1-4RP
4	1/8	-4M0-1-2RP
6	1/8	-6M0-1-2RP
6	1/4	-6M0-1-4RP
6	3/8	-6M0-1-6RP
6	1/2	-6M0-1-8RP
8	1/8	-8M0-1-2RP
8	1/4	-8M0-1-4RP
8	3/8	-8M0-1-6RP
8	1/2	-8M0-1-8RP
10	1/4	-10M0-1-4RP
10	3/8	-10M0-1-6RP
10	1/2	-10M0-1-8RP
12	1/4	-12M0-1-4RP
12	3/8	-12M0-1-6RP
12	1/2	-12M0-1-8RP
12	3/4	-12M0-1-12RP
15	1/2	-15M0-1-8RP
16	3/8	-16M0-1-6RP
16	1/2	-16M0-1-8RP
18	1/2	-18M0-1-8RP
18	3/4	-18M0-1-12RP
20	1/2	-20M0-1-8RP
20	3/4	-20M0-1-12RP
22	3/4	-22M0-1-12RP
22	1	-22M0-1-16RP
25	3/4	-25M0-1-12RP
25	1	-25M0-1-16RP
28	1	-28M0-1-16RP
28	1 1/4	-28M0-1-20RP
30	1 1/4	-30M0-1-20RP
32	1 1/4	-32M0-1-20RP
38	1 1/2	-38M0-1-24RP

TUBE FITTINGS

Male Connector (parallel thread)



Connects
fractional
tube to female ISO•
parallel thread

- Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-1-2RS
1/8	1/4	-200-1-4RS
1/8	3/8	-200-1-6RS
1/4	1/8	-400-1-2RS
1/4	1/4	-400-1-4RS
1/4	3/8	-400-1-6RS
1/4	1/2	-400-1-8RS
3/8	1/4	-600-1-4RS
3/8	3/8	-600-1-6RS
3/8	1/2	-600-1-8RS
1/2	1/4	-810-1-4RS
1/2	3/8	-810-1-6RS
1/2	1/2	-810-1-8RS
3/4	1/2	-1210-1-8RS
3/4	3/4	-1210-1-12RS
1	1/2	-1610-1-8RS
1	1	-1610-1-16RS

Connects
metric
tube to female ISO•
parallel thread

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
2	1/8	-2M0-1-2RS
3	1/8	-3M0-1-2RS
3	1/4	-3M0-1-4RS
4	1/8	-4M0-1-2RS
6	1/8	-6M0-1-2RS
6	1/4	-6M0-1-4RS
6	3/8	-6M0-1-6RS
6	1/2	-6M0-1-8RS
8	1/8	-8M0-1-2RS
8	1/4	-8M0-1-4RS
8	3/8	-8M0-1-6RS
8	1/2	-8M0-1-8RS
10	1/4	-10M0-1-4RS
10	3/8	-10M0-1-6RS
10	1/2	-10M0-1-8RS
12	1/4	-12M0-1-4RS
12	3/8	-12M0-1-6RS
12	1/2	-12M0-1-8RS
12	3/4	-12M0-1-12RS
16	3/8	-16M0-1-6RS
16	1/2	-16M0-1-8RS
18	1/2	-18M0-1-8RS
18	3/4	-18M0-1-12RS
20	1/2	-20M0-1-8RS
20	3/4	-20M0-1-12RS
22	3/4	-22M0-1-12RS
22	1	-22M0-1-16RS
25	3/4	-25M0-1-12RS
25	1	-25M0-1-16RS
28	1	-28M0-1-16RS
28	1 1/4	-28M0-1-20RS
30	1 1/4	-30M0-1-20RS
32	1 1/4	-32M0-1-20RS
38	1 1/2	-38M0-1-24RS

Male Elbow (tapered thread)



Connects
fractional
tube to
female NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/16	1/16	-100-2-1
1/16	1/8	-100-2-2
1/8	1/16	-200-2-1
1/8	1/8	-200-2-2
1/8	1/4	-200-2-4
3/16	1/8	-300-2-2
3/16	1/4	-300-2-4
1/4	1/16	-400-2-1
1/4	1/8	-400-2-2
1/4	1/4	-400-2-4
1/4	3/8	-400-2-6
1/4	1/2	-400-2-8
5/16	1/8	-500-2-2
5/16	1/4	-500-2-4
5/16	3/8	-500-2-6
3/8	1/8	-600-2-2
3/8	1/4	-600-2-4
3/8	3/8	-600-2-6
3/8	1/2	-600-2-8
3/8	3/4	-600-2-12
1/2	1/4	-810-2-4
1/2	3/8	-810-2-6
1/2	1/2	-810-2-8
1/2	3/4	-810-2-12
5/8	3/8	-1010-2-6
5/8	1/2	-1010-2-8
5/8	3/4	-1010-2-12
3/4	1/2	-1210-2-8
3/4	3/4	-1210-2-12
7/8	3/4	-1410-2-12
1	3/4	-1610-2-12
1	1	-1610-2-16
1 1/4	1 1/4	-2000-2-20
1 1/2	1 1/2	-2400-2-24
2	2	-3200-2-32

Connects
metric
tube to
female NPT thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
3	$\frac{1}{8}$	-3M0-2-2
3	$\frac{1}{4}$	-3M0-2-4
4	$\frac{1}{8}$	-4M0-2-2
4	$\frac{1}{4}$	-4M0-2-4
6	$\frac{1}{8}$	-6M0-2-2
6	$\frac{1}{4}$	-6M0-2-4
6	$\frac{3}{8}$	-6M0-2-6
6	$\frac{1}{2}$	-6M0-2-8
8	$\frac{1}{8}$	-8M0-2-2
8	$\frac{1}{4}$	-8M0-2-4
8	$\frac{3}{8}$	-8M0-2-6
8	$\frac{1}{2}$	-8M0-2-8
10	$\frac{1}{8}$	-10M0-2-2
10	$\frac{1}{4}$	-10M0-2-4
10	$\frac{3}{8}$	-10M0-2-6
10	$\frac{1}{2}$	-10M0-2-8
12	$\frac{1}{4}$	-12M0-2-4
12	$\frac{3}{8}$	-12M0-2-6
12	$\frac{1}{2}$	-12M0-2-8
12	$\frac{3}{4}$	-12M0-2-12
15	$\frac{1}{2}$	-15M0-2-8
16	$\frac{3}{8}$	-16M0-2-6
16	$\frac{1}{2}$	-16M0-2-8
16	$\frac{3}{4}$	-16M0-2-12
18	$\frac{1}{2}$	-18M0-2-8
18	$\frac{3}{4}$	-18M0-2-12
20	$\frac{1}{2}$	-20M0-2-8
20	$\frac{3}{4}$	-20M0-2-12
22	$\frac{3}{4}$	-22M0-2-12
22	1	-22M0-2-16
25	$\frac{3}{4}$	-25M0-2-12
25	1	-25M0-2-16
28	1	-28M0-2-16
30	1	-30M0-2-20
32	$1\frac{1}{4}$	-32M0-2-20
38	$1\frac{1}{2}$	-38M0-2-24

TUBE FITTINGS

Male Elbow (tapered thread)



Connects
fractional
tube to female ISO•
tapered pipe thread

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-2-2RT
1/4	1/4	-400-2-4RT
1/4	3/8	-400-2-6RT
1/4	1/2	-400-2-8RT
5/16	1/4	-500-2-4RT
3/8	1/4	-600-2-4RT
3/8	3/8	-600-2-6RT

Connects
metric
tube to female ISO•
tapered pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
3	1/8	-3M0-2-2RT
3	1/4	-3M0-2-4RT
4	1/8	-4M0-2-2RT
4	1/4	-4M0-2-4RT
6	1/8	-6M0-2-2RT
6	1/4	-6M0-2-4RT
6	3/8	-6M0-2-6RT
6	1/2	-6M0-2-8RT
8	1/8	-8M0-2-2RT
8	1/4	-8M0-2-4RT
8	3/8	-8M0-2-6RT
8	1/2	-8M0-2-8RT
10	1/4	-10M0-2-4RT
10	3/8	-10M0-2-6RT
10	1/2	-10M0-2-8RT
12	1/8	-12M0-2-2RT
12	1/4	-12M0-2-4RT
12	3/8	-12M0-2-6RT
12	1/2	-12M0-2-8RT
12	3/4	-12M0-2-12RT
16	3/8	-16M0-2-6RT
16	1/2	-16M0-2-8RT
18	1/2	-18M0-2-8RT
18	3/4	-18M0-2-12RT
20	1/2	-20M0-2-8RT
20	3/4	-20M0-2-12RT
22	3/4	-22M0-2-12RT
22	1	-22M0-2-16RT
25	3/4	-25M0-2-12RT
25	1	-25M0-2-16RT

TUBE FITTINGS

45° Male Elbow



Connects
fractional
tube to
female NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-5-2
1/4	1/4	-400-5-4
3/8	1/8	-600-5-2
3/8	1/4	-600-5-4
3/8	3/8	-600-5-6
1/2	3/8	-810-5-6
1/2	1/2	-810-5-8
3/4	3/4	-1210-5-12
1	1	-1610-5-16

45° Positionable Male Elbow (SAE/MS straight thread)



Connects
fractional tube to SAE/MS straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/4	7/16-20	-400-5-4ST
3/8	9/16-18	-600-5-6ST
1/2	3/4-16	-810-5-8ST
3/4	1 1/16-12	-1210-5-12ST
1	1 5/16-12	-1610-5-16ST

■ Adapts to SAE J1926 straight thread boss and MS16142 boss.

Positionable Male Elbow (SAE/MS straight thread)



Connects
fractional
tube to SAE/MS
straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/4	7/16-20	-400-2-4ST
1/4	9/16-18	-400-2-6ST
5/16	1/2-20	-500-2-5ST
3/8	9/16-18	-600-2-6ST
3/8	3/4-16	-600-2-8ST
1/2	3/4-16	-810-2-8ST
5/8	7/8-14	-1010-2-10ST
3/4	1 1/16-12	-1210-2-12ST
7/8	1 3/16-12	-1410-2-14ST
1	1 5/16-12	-1610-2-16ST
1 1/4	1 5/8-12	-2000-2-20ST
1 1/2	1 7/8-12	-2400-2-24ST
2	2 1/2-12	-3200-2-32ST

■ Adapts to SAE J1926 straight thread boss and MS16142 boss.

TUBE FITTINGS

Positionable Male Elbow (ISO parallel thread)



Connects
fractional
tube to female ISO*
parallel thread

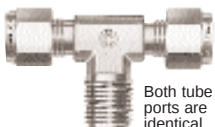
Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-2-2PR
1/4	1/4	-400-2-4PR
3/8	1/4	-600-2-4PR
3/8	3/8	-600-2-6PR
1/2	1/4	-810-2-4PR
1/2	3/8	-810-2-6PR
1/2	1/2	-810-2-8PR
5/8	1/2	-1010-2-8PR
3/4	1/2	-1210-2-8PR
3/4	3/4	-1210-2-12PR
1	3/4	-1610-2-12PR
1	1	-1610-2-16PR

Connects
metric
tube to female ISO*
parallel thread

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-2-2PR
6	1/4	-6M0-2-4PR
8	1/8	-8M0-2-2PR
8	1/4	-8M0-2-4PR
10	1/4	-10M0-2-4PR
10	3/8	-10M0-2-6PR
12	1/4	-12M0-2-4PR
12	3/8	-12M0-2-6PR
12	1/2	-12M0-2-8PR
12	3/4	-12M0-2-12PR

Male Branch Tee (tapered thread)



Connects
fractional
tube to female
NPT thread

Both tube
ports are
identical.

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-3TTM
1/8	1/4	-200-3-4TTM
3/16	1/8	-300-3TTM
1/4	1/8	-400-3TTM
1/4	1/4	-400-3-4TTM
5/16	1/8	-500-3TTM
3/8	1/4	-600-3TTM
3/8	3/8	-600-3-6TTM
1/2	3/8	-810-3TTM
1/2	1/2	-810-3-8TTM
5/8	1/2	-1010-3TTM
3/4	3/4	-1210-3TTM

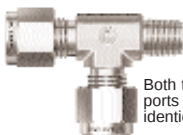
TUBE FITTINGS

Male Branch Tee (tapered thread)

Connects
metric
tube to female
NPT thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TTM
8	1/8	-8M0-3TTM
10	1/4	-10M0-3TTM
12	3/8	-12M0-3TTM
16	1/2	-16M0-3TTM

Male Run Tee



Both tube ports are identical.

Connects
fractional
tube to female
NPT thread

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-3TMT
1/8	1/4	-200-3-4TMT
3/16	1/8	-300-3TMT
1/4	1/8	-400-3TMT
1/4	1/4	-400-3-4TMT
5/16	1/8	-500-3TMT
3/8	1/4	-600-3TMT
3/8	3/8	-600-3-6TMT
1/2	3/8	-810-3TMT
1/2	1/2	-810-3-8TMT
5/8	1/2	-1010-3TMT
3/4	3/4	-1210-3TMT

Connects
metric
tube to female
NPT thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TMT
6	1/4	-6M0-3-4TMT
8	1/4	-8M0-3-4TMT
12	1/4	-12M0-3-4TMT
12	1/2	-12M0-3-8TMT
16	1/2	-16M0-3TMT

Positionable Male Run Tee (SAE/MS straight thread)



Connects

fractional

tube to SAE/MS straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/4	7/16-20	-400-3TST
3/8	9/16-18	-600-3TST
1/2	3/4-16	-810-3TST
3/4	1 1/16-12	-1210-3TST
1	1 5/16-12	-1610-3TST
1 1/4	1 5/8-12	-2000-3TST
1 1/2	1 7/8-12	-2400-3TST
2	2 1/2-12	-3200-3TST

■ Adapts to SAE J1926 straight thread boss and MS16142 boss.

Positionable Male Run Tee (ISO parallel thread)

Connects

fractional

tube to female ISO•
parallel thread

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-3TRT
1/4	1/4	-400-3-4TRT
3/8	1/4	-600-3TRT
1/2	3/8	-810-3TRT
1/2	1/2	-810-3-8TRT
5/8	1/2	-1010-3TRT
3/4	3/4	-1210-3TRT
3/4	1/2	-1210-3-8TRT
1	1	-1610-3TRT

Connects

metric

tube to female ISO•
parallel thread

Tube OD (mm.)	ISO Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TRT
6	1/4	-6M0-3-4TRT
8	1/8	-8M0-3TRT
8	1/4	-8M0-3-4TRT
10	1/4	-10M0-3TRT
12	3/8	-12M0-3TRT
12	1/2	-12M0-3-8TRT

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

TUBE FITTINGS

Positionable Male Branch Tee

(SAE/MS straight thread)



Connects

fractional

tube to SAE/MS straight thread boss■

Tube OD (in.)	SAE/MS Thread Size (in.)	Basic Ordering Number
1/4	7/16-20	-400-3TTS
3/8	9/16-18	-600-3TTS
1/2	3/4-16	-810-3TTS
3/4	1 1/16-12	-1210-3TTS
1	1 5/16-12	-1610-3TTS
1 1/4	1 5/8-12	-2000-3TTS
1 1/2	1 7/8-12	-2400-3TTS
2	2 1/2-12	-3200-3TTS

■ Adapts to SAE J1926 straight thread boss and MS16142 boss.

Positionable Male Branch Tee

(ISO parallel thread)

Connects

fractional

tube to female ISO* parallel thread

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-3TTR
1/4	1/4	-400-3-4TTR
3/8	1/4	-600-3TTR
1/2	3/8	-810-3TTR
1/2	1/2	-810-3-8TTR
5/8	1/2	-1010-3TTR
3/4	3/4	-1210-3TTR
3/4	1/2	-1210-3-8TTR
1	1	-1610-3TTR

Connects

metric

tube to female ISO* parallel thread

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TTR
6	1/4	-6M0-3-4TTR
8	1/8	-8M0-3TTR
8	1/4	-8M0-3-4TTR
10	1/4	-10M0-3TTR
12	3/8	-12M0-3TTR
12	1/2	-12M0-3-8TTR

*Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

TUBE FITTINGS

Female Connector (tapered thread)



Connects
fractional
tube to
male NPT thread

Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
$\frac{1}{16}$	$\frac{1}{16}$	-100-7-1
$\frac{1}{16}$	$\frac{1}{8}$	-100-7-2
$\frac{1}{8}$	$\frac{1}{8}$	-200-7-2
$\frac{1}{8}$	$\frac{1}{4}$	-200-7-4
$\frac{3}{16}$	$\frac{1}{8}$	-300-7-2
$\frac{1}{4}$	$\frac{1}{8}$	-400-7-2
$\frac{1}{4}$	$\frac{1}{4}$	-400-7-4
$\frac{1}{4}$	$\frac{3}{8}$	-400-7-6
$\frac{1}{4}$	$\frac{1}{2}$	-400-7-8
$\frac{5}{16}$	$\frac{1}{8}$	-500-7-2
$\frac{5}{16}$	$\frac{1}{4}$	-500-7-4
$\frac{3}{8}$	$\frac{1}{8}$	-600-7-2
$\frac{3}{8}$	$\frac{1}{4}$	-600-7-4
$\frac{3}{8}$	$\frac{3}{8}$	-600-7-6
$\frac{3}{8}$	$\frac{1}{2}$	-600-7-8
$\frac{3}{8}$	$\frac{3}{4}$	-600-7-12
$\frac{1}{2}$	$\frac{1}{4}$	-810-7-4
$\frac{1}{2}$	$\frac{3}{8}$	-810-7-6
$\frac{1}{2}$	$\frac{1}{2}$	-810-7-8
$\frac{1}{2}$	$\frac{3}{4}$	-810-7-12
$\frac{5}{8}$	$\frac{3}{8}$	-1010-7-6
$\frac{5}{8}$	$\frac{1}{2}$	-1010-7-8
$\frac{5}{8}$	$\frac{3}{4}$	-1010-7-12
$\frac{3}{4}$	$\frac{1}{2}$	-1210-7-8
$\frac{3}{4}$	$\frac{3}{4}$	-1210-7-12
$\frac{7}{8}$	$\frac{3}{4}$	-1410-7-12
1	$\frac{3}{4}$	-1610-7-12
1	1	-1610-7-16
$1\frac{1}{4}$	$1\frac{1}{4}$	-2000-7-20
$1\frac{1}{2}$	$1\frac{1}{2}$	-2400-7-24
2	2	-3200-7-32

Connects
fractional
tube to male ISO•
tapered pipe thread

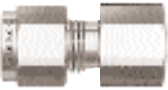
•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Tube OD (in.)	ISO Female Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-400-7-2RT
1/4	1/4	-400-7-4RT
1/4	3/8	-400-7-6RT
1/4	1/2	-400-7-8RT
3/8	1/4	-600-7-4RT
3/8	3/8	-600-7-6RT
3/8	1/2	-600-7-8RT
1/2	1/4	-810-7-4RT
1/2	3/8	-810-7-6RT
1/2	1/2	-810-7-8RT

Connects
metric
tube to
male NPT thread

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
3	1/8	-3M0-7-2
3	1/4	-3M0-7-4
4	1/8	-4M0-7-2
6	1/8	-6M0-7-2
6	1/4	-6M0-7-4
6	3/8	-6M0-7-6
6	1/2	-6M0-7-8
8	1/8	-8M0-7-2
8	1/4	-8M0-7-4
8	3/8	-8M0-7-6
8	1/2	-8M0-7-8
10	1/4	-10M0-7-4
10	3/8	-10M0-7-6
10	1/2	-10M0-7-8
12	1/4	-12M0-7-4
12	3/8	-12M0-7-6
12	1/2	-12M0-7-8
15	1/2	-15M0-7-8
16	1/2	-16M0-7-8
20	1/2	-20M0-7-8
20	3/4	-20M0-7-12
22	3/4	-22M0-7-12
22	1	-22M0-7-16
25	3/4	-25M0-7-12
25	1	-25M0-7-16

Female Connector (tapered thread)



Connects
metric
tube to
male ISO* tapered
pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Tube OD (mm)	ISO Female Pipe Size (in.)	Basic Ordering Number
3	1/8	-3M0-7-2RT
6	1/8	-6M0-7-2RT
6	1/4	-6M0-7-4RT
6	3/8	-6M0-7-6RT
6	1/2	-6M0-7-8RT
8	1/8	-8M0-7-2RT
8	1/4	-8M0-7-4RT
8	3/8	-8M0-7-6RT
8	1/2	-8M0-7-8RT
10	1/8	-10M0-7-2RT
10	1/4	-10M0-7-4RT
10	3/8	-10M0-7-6RT
10	1/2	-10M0-7-8RT
12	1/8	-12M0-7-2RT
12	1/4	-12M0-7-4RT
12	3/8	-12M0-7-6RT
12	1/2	-12M0-7-8RT
12	3/4	-12M0-7-12RT
15	3/8	-15M0-7-6RT
15	1/2	-15M0-7-8RT
20	1/2	-20M0-7-8RT
20	3/4	-20M0-7-12RT
22	3/4	-22M0-7-12RT
22	1	-22M0-7-16RT
25	3/4	-25M0-7-12RT
25	1	-25M0-7-16RT

Female Connector (ISO parallel thread)

Connects
fractional
tube to
male ISO* parallel
thread (gage)

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (in.)	ISO Female Pipe Size (in.)	Basic Ordering Number
1/4	1/4	-400-7-4RG
1/4	3/8	-400-7-6RG
1/4	1/2	-400-7-8RG
5/16	1/4	-500-7-4RG
5/16	1/2	-500-7-8RG
3/8	1/4	-600-7-4RG
3/8	3/8	-600-7-6RG
3/8	1/2	-600-7-8RG
1/2	3/8	-810-7-6RG
1/2	1/2	-810-7-8RG

Female Connector (ISO parallel thread)

Connects **metric** tube to male ISO* parallel thread (gage)

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

Tube OD (mm)	ISO Female Pipe Size (in.)	Basic Ordering Number
3	1/4	-3M0-7-4RG
6	1/4	-6M0-7-4RG
6	3/8	-6M0-7-6RG
6	1/2	-6M0-7-8RG
8	1/4	-8M0-7-4RG
8	3/8	-8M0-7-6RG
8	1/2	-8M0-7-8RG
10	1/4	-10M0-7-4RG
10	3/8	-10M0-7-6RG
10	1/2	-10M0-7-8RG
12	1/4	-12M0-7-4RG
12	3/8	-12M0-7-6RG
12	1/2	-12M0-7-8RG
20	1/2	-20M0-7-8RG
22	1/2	-22M0-7-8RG

Bulkhead Female Connector (tapered thread)



Connects **fractional** tube to male NPT thread

Connects **metric** tube to male NPT thread

Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-71-2
1/4	1/8	-400-71-2
1/4	1/4	-400-71-4
3/8	1/4	-600-71-4
1/2	3/8	-810-71-6
1/2	1/2	-810-71-8

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
6	1/4	-6M0-71-4
12	1/2	-12M0-71-8

Female Elbow

(tapered thread)



Connects
fractional
tube to
male NPT thread

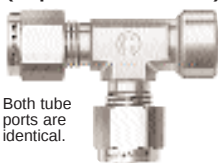
Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-8-2
1/8	1/4	-200-8-4
3/16	1/8	-300-8-2
1/4	1/8	-400-8-2
1/4	1/4	-400-8-4
1/4	3/8	-400-8-6
1/4	1/2	-400-8-8
5/16	1/8	-500-8-2
5/16	1/4	-500-8-4
3/8	1/8	-600-8-2
3/8	1/4	-600-8-4
3/8	3/8	-600-8-6
3/8	1/2	-600-8-8
1/2	1/4	-810-8-4
1/2	3/8	-810-8-6
1/2	1/2	-810-8-8
5/8	3/8	-1010-8-6
5/8	1/2	-1010-8-8
3/4	1/2	-1210-8-8
3/4	3/4	-1210-8-12
7/8	3/4	-1410-8-12
1	3/4	-1610-8-12
1	1	-1610-8-16

Connects
metric
tube to
male NPT thread

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-8-2
6	1/4	-6M0-8-4
6	1/2	-6M0-8-8
8	1/4	-8M0-8-4
10	1/8	-10M0-8-2
10	1/4	-10M0-8-4
12	1/4	-12M0-8-4
12	1/2	-12M0-8-8
16	1/2	-16M0-8-8

Female Run Tee

(tapered thread)



Both tube ports are identical.

Connects
fractional
tube to
male NPT thread

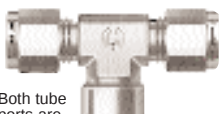
Connects
metric
tube to
male NPT thread

Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-3TFT
1/4	1/8	-400-3TFT
1/4	1/4	-400-3-4TFT
3/8	1/4	-600-3TFT
1/2	3/8	-810-3TFT
1/2	1/2	-810-3-8TFT
3/4	3/4	-1210-3TFT
1	3/4	-1610-3-12TFT
1	1	-1610-3TFT

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TFT
6	1/4	-6M0-3-4TFT
8	1/8	-8M0-3TFT
8	1/4	-8M0-3-4TFT
10	1/4	-10M0-3TFT
12	1/4	-12M0-3-4TFT
12	3/8	-12M0-3TFT
16	1/2	-16M0-3TFT

Female Branch Tee

(tapered thread)



Both tube ports are identical.

Connects
fractional
tube to
male NPT thread

Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-200-3TTF
1/4	1/8	-400-3TTF
1/4	1/4	-400-3-4TTF
3/8	1/4	-600-3TTF
3/8	3/8	-600-3-6TTF
3/8	1/2	-600-3-8TTF
1/2	1/4	-810-3-4TTF
1/2	3/8	-810-3TTF
1/2	1/2	-810-3-8TTF
5/8	1/2	-1010-3TTF
3/4	3/4	-1210-3TTF
1	3/4	-1610-3-12TTF
1	1	-1610-3TTF

Female Branch Tee (tapered thread)



Both tube ports are identical.

Connects
metric
tube to male NPT thread

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6M0-3TTF
6	1/4	-6M0-3-4TTF
8	1/8	-8M0-3TTF
8	1/4	-8M0-3-4TTF
10	1/4	-10M0-3TTF
12	1/4	-12M0-3-4TTF
12	3/8	-12M0-3TTF
16	1/2	-16M0-3TTF

Union



Both tube ports are identical.

Connects
fractional
tubes

Tube OD (in.)	Basic Ordering Number
1/16	-100-6
1/8	-200-6
3/16	-300-6
1/4	-400-6
5/16	-500-6
3/8	-600-6
1/2	-810-6
5/8	-1010-6
3/4	-1210-6
7/8	-1410-6
1	-1610-6
1 1/4	-2000-6
1 1/2	-2400-6
2	-3200-6

Connects
metric
tube to
fractional tube

Tube OD (mm)	Tube OD (in.)	Basic Ordering Number
2	1/8	-2M0-6-2
2	1/4	-2M0-6-4
3	1/8	-3M0-6-2
4	1/8	-4M0-6-2
4	1/4	-4M0-6-4
6	1/8	-6M0-6-2
6	1/4	-6M0-6-4
6	5/16	-6M0-6-5
8	1/4	-8M0-6-4
8	3/8	-8M0-6-6
10	1/8	-10M0-6-2
10	1/4	-10M0-6-4
10	5/16	-10M0-6-5
10	3/8	-10M0-6-6
12	5/16	-12M0-6-5
12	3/8	-12M0-6-6
12	1/2	-12M0-6-8
15	1/2	-15M0-6-8
16	5/8	-16M0-6-10
18	3/4	-18M0-6-12
20	1/2	-20M0-6-8
20	1	-20M0-6-16
25	1	-25M0-6-16

Connects
metric
tubes

Tube OD (mm)	Basic Ordering Number
2	-2M0-6
3	-3M0-6
4	-4M0-6
6	-6M0-6
8	-8M0-6
10	-10M0-6
12	-12M0-6
14	-14M0-6
15	-15M0-6
16	-16M0-6
18	-18M0-6
20	-20M0-6
22	-22M0-6
25	-25M0-6
28	-28M0-6
30	-30M0-6
32	-32M0-6
38	-38M0-6

Reducing Union



Connects
fractional
tubes

Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
1/8	1/16	-200-6-1
3/16	1/16	-300-6-1
3/16	1/8	-300-6-2
1/4	1/16	-400-6-1
1/4	1/8	-400-6-2
1/4	3/16	-400-6-3
5/16	1/8	-500-6-2
5/16	1/4	-500-6-4
3/8	1/16	-600-6-1
3/8	1/8	-600-6-2
3/8	1/4	-600-6-4
3/8	5/16	-600-6-5
1/2	1/8	-810-6-2
1/2	1/4	-810-6-4
1/2	3/8	-810-6-6
5/8	3/8	-1010-6-6
5/8	1/2	-1010-6-8
3/4	1/4	-1210-6-4
3/4	3/8	-1210-6-6
3/4	1/2	-1210-6-8
3/4	5/8	-1210-6-10
1	1/2	-1610-6-8
1	3/4	-1610-6-12

Connects
metric
tubes

Tube OD (mm)	Tube OD (mm)	Basic Ordering Number
3	2	-3M0-6-2M
6	2	-6M0-6-2M
6	3	-6M0-6-3M
6	4	-6M0-6-4M
8	6	-8M0-6-6M
10	6	-10M0-6-6M
10	8	-10M0-6-8M
12	6	-12M0-6-6M
12	8	-12M0-6-8M
12	10	-12M0-6-10M
16	10	-16M0-6-10M
16	12	-16M0-6-12M
18	12	-18M0-6-12M
25	18	-25M0-6-18M
25	20	-25M0-6-20M

Bulkhead Union



Both tube ports are identical.

Connects
fractional
tubes

Connects
metric
tubes

Tube OD (in.)	Basic Ordering Number
1/16	-100-61
1/8	-200-61
3/16	-300-61
1/4	-400-61
5/16	-500-61
3/8	-600-61
1/2	-810-61
5/8	-1010-61
3/4	-1210-61
1	-1610-61
1 1/4	-2000-61
1 1/2	-2400-61
2	-3200-61

Tube OD (mm)	Basic Ordering Number
3	-3M0-61
4	-4M0-61
6	-6M0-61
8	-8M0-61
10	-10M0-61
12	-12M0-61
14	-14M0-61
15	-15M0-61
16	-16M0-61
18	-18M0-61
20	-20M0-61
25	-25M0-61
30	-30M0-61
32	-32M0-61
38	-38M0-61

Bulkhead Reducing Union



Connects
fractional
tubes

Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
1/4	1/8	-400-61-2
3/8	1/4	-600-61-4
1/2	1/4	-810-61-4

Union Elbow



Both tube ports are identical.

Connects *fractional* tubes

Connects *metric* tubes

Tube OD (in.)	Basic Ordering Number
1/16	-100-9
1/8	-200-9
3/16	-300-9
1/4	-400-9
5/16	-500-9
3/8	-600-9
1/2	-810-9
5/8	-1010-9
3/4	-1210-9
7/8	-1410-9
1	-1610-9
1 1/4	-2000-9
1 1/2	-2400-9
2	-3200-9

Tube OD (mm)	Basic Ordering Number
3	-3M0-9
4	-4M0-9
6	-6M0-9
8	-8M0-9
10	-10M0-9
12	-12M0-9
14	-14M0-9
15	-15M0-9
16	-16M0-9
18	-18M0-9
20	-20M0-9
22	-22M0-9
25	-25M0-9
28	-28M0-9
30	-30M0-9
32	-32M0-9
38	-38M0-9

Union Tee



All tube ports are identical.

Connects *fractional* tubes

Connects *metric* tubes

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-100-3
$\frac{1}{8}$	-200-3
$\frac{3}{16}$	-300-3
$\frac{1}{4}$	-400-3
$\frac{5}{16}$	-500-3
$\frac{3}{8}$	-600-3
$\frac{1}{2}$	-810-3
$\frac{5}{8}$	-1010-3
$\frac{3}{4}$	-1210-3
$\frac{7}{8}$	-1410-3
1	-1610-3
$1\frac{1}{4}$	-2000-3
$1\frac{1}{2}$	-2400-3
2	-3200-3

Tube OD (mm)	Basic Ordering Number
2	-2M0-3
3	-3M0-3
4	-4M0-3
6	-6M0-3
8	-8M0-3
10	-10M0-3
12	-12M0-3
14	-14M0-3
15	-15M0-3
16	-16M0-3
18	-18M0-3
20	-20M0-3
22	-22M0-3
25	-25M0-3
28	-28M0-3
30	-30M0-3
32	-32M0-3
38	-38M0-3

Reducing Union Tees



Two tube ports are identical.

Connects ***fractional*** tubes

Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
3/8	1/4	-600-3-6-4
1/2	1/4	-810-3-8-4
1/2	3/8	-810-3-8-6
5/8	3/8	-1010-3-10-6
3/4	3/8	-1210-3-12-6
3/4	1/2	-1210-3-12-8
1	3/8	-1610-3-16-6
1	1/2	-1610-3-16-8
1	3/4	-1610-3-16-12
1 1/4	1	-2000-3-20-16
1 1/2	1	-2400-3-24-16
2	1	-3200-3-32-16



Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
3/8	1/4	-600-3-4-6



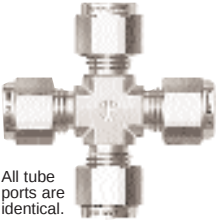
Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
1/2	3/8	-810-3-6-6
5/8	3/8	-1010-3-6-6
3/4	3/8	-1210-3-6-6



Tube OD (in.)	Tube OD (in.)	Tube OD (in.)	Basic Ordering Number
5/8	1/2	3/8	-1010-3-8-6
3/4	1/2	3/8	-1210-3-8-6
1	3/4	3/8	-1610-3-12-6

TUBE FITTINGS

Union Cross



All tube ports are identical.

Connects
fractional
tubes

Connects
metric
tubes

Tube OD (in.)	Basic Ordering Number
1/8	-200-4
1/4	-400-4
5/16	-500-4
3/8	-600-4
1/2	-810-4
3/4	-1210-4
1	-1610-4

Tube OD (mm)	Basic Ordering Number
3	-3M0-4
6	-6M0-4
8	-8M0-4
10	-10M0-4
12	-12M0-4
16	-16M0-4
18	-18M0-4
20	-20M0-4
25	-25M0-4

AN Union



Connects
fractional
tube to flared tube

Tube OD (in.)	AN Tube Flare Size (in.)	Basic Ordering Number
1/16	1/8	-100-6-2AN
1/8	1/8	-200-6-2AN
1/8	1/4	-200-6-4AN
1/4	1/4	-400-6-4AN
5/16	5/16	-500-6-5AN
3/8	1/4	-600-6-4AN
3/8	3/8	-600-6-6AN
1/2	1/2	-810-6-8AN
3/4	3/4	-1210-6-12AN
1	1	-1610-6-16AN

AN Bulkhead Union



Connects
fractional
tube to flared tube

Tube OD (in.)	AN Tube Flare Size (in.)	Basic Ordering Number
1/4	1/4	-400-61-4AN
3/8	3/8	-600-61-6AN
1/2	1/2	-810-61-8AN
3/4	3/4	-1210-61-12AN
1	1	-1610-61-16AN

Tube Socket Weld Union



Connects
fractional
tubes

Tube OD (in.)	Basic Ordering Number
1/8	-200-6-2W
1/4	-400-6-4W
3/8	-600-6-6W
1/2	-810-6-8W
3/4	-1210-6-12W
1	-1610-6-16W

Tube Socket Weld Elbow



Connects
fractional tubes

Tube OD (in.)	Basic Ordering Number
1/4	-400-9-4W
3/8	-600-9-6W
1/2	-810-9-8W
3/4	-1210-9-12W
1	-1610-9-16W

Male Pipe Weld Elbow



Connects
fractional
tube to pipe

Tube OD (in.)	Male Pipe Weld Size (in.)	Basic Ordering Number
1/4	1/8	-400-2-2W
1/4	1/4	-400-2-4W
3/8	1/4	-600-2-4W
1/2	1/2	-810-2-8W
3/4	3/4	-1210-2-12W

TUBE FITTINGS

Male Pipe Weld Connector



Connects
fractional
tube to pipe

Connects
metric
tube to pipe

Tube OD (in.)	Male Pipe Weld Size (in.)	Basic Ordering Number
1/8	1/8	-200-1-2W
3/16	1/8	-300-1-2W
1/4	1/8	-400-1-2W
1/4	1/4	-400-1-4W
5/16	1/8	-500-1-2W
5/16	1/4	-500-1-4W
3/8	1/4	-600-1-4W
3/8	3/8	-600-1-6W
3/8	1/2	-600-1-8W
3/8	3/4	-600-1-12W
1/2	3/8	-810-1-6W
1/2	1/2	-810-1-8W
1/2	3/4	-810-1-12W
5/8	1/2	-1010-1-8W
3/4	3/4	-1210-1-12W
1	1	-1610-1-16W
1 1/4	1 1/4	-2000-1-20W
1 1/2	1 1/2	-2400-1-24W
2	2	-3200-1-32W

Tube OD (mm)	Male Pipe Weld Size (in.)	Basic Ordering Number
3	1/8	-3M0-1-2W
4	1/8	-4M0-1-2W
6	1/8	-6M0-1-2W
6	1/4	-6M0-1-4W
8	1/8	-8M0-1-2W
8	1/4	-8M0-1-4W
8	1/2	-8M0-1-8W
10	1/4	-10M0-1-4W
10	3/8	-10M0-1-6W
10	1/2	-10M0-1-8W
12	1/4	-12M0-1-4W
12	3/8	-12M0-1-6W
12	1/2	-12M0-1-8W
14	3/8	-14M0-1-6W
15	1/2	-15M0-1-8W
16	1/2	-16M0-1-8W
18	1/2	-18M0-1-8W
30	1 1/4	-30M0-1-20W
32	1 1/4	-32M0-1-20W
38	1 1/2	-38M0-1-24W

Reducer



Connects
fractional
tube to
fractional
Swagelok port

Tube OD (in.)	Tube Stub OD (in.)	Basic Ordering Number
1/16	1/8	-100-R-2
1/16	1/4	-100-R-4
1/8	1/16	-200-R-1
1/8	1/8	-200-R-2
1/8	3/16	-200-R-3
1/8	1/4	-200-R-4
1/8	3/8	-200-R-6
1/8	1/2	-200-R-8
3/16	1/8	-300-R-2
3/16	1/4	-300-R-4
1/4	1/8	-400-R-2
1/4	3/16	-400-R-3
1/4	1/4	-400-R-4
1/4	5/16	-400-R-5
1/4	3/8	-400-R-6
1/4	1/2	-400-R-8
1/4	5/8	-400-R-10
1/4	3/4	-400-R-12
5/16	3/8	-500-R-6
5/16	1/2	-500-R-8
3/8	1/4	-600-R-4
3/8	3/8	-600-R-6
3/8	1/2	-600-R-8
3/8	5/8	-600-R-10
3/8	3/4	-600-R-12
1/2	1/4	-810-R-4
1/2	3/8	-810-R-6
1/2	1/2	-810-R-8
1/2	5/8	-810-R-10
1/2	3/4	-810-R-12
1/2	1	-810-R-16
5/8	3/4	-1010-R-12
5/8	7/8	-1010-R-14
5/8	1	-1010-R-16
3/4	1/2	-1210-R-8
3/4	1	-1210-R-16
1	1 1/4	-1610-R-20 ^①
1	1 1/2	-1610-R-24 ^①
1	2	-1610-R-32 ^①
1 1/4	1 1/2	-2000-R-24 ^①
1 1/4	2	-2000-R-32 ^①
1 1/2	2	-2400-R-32 ^①

^① Assembled with
preswaged nut and ferrules
on tube stub

Connects
metric
 tube to
metric
 Swagelok port

Tube OD (mm)	Tube Stub OD (mm)	Basic Ordering Number
2	3	-2M0-R-3M
3	4	-3M0-R-4M
3	6	-3M0-R-6M
3	10	-3M0-R-10M
4	6	-4M0-R-6M
6	3	-6M0-R-3M
6	8	-6M0-R-8M
6	10	-6M0-R-10M
6	12	-6M0-R-12M
6	18	-6M0-R-18M
8	6	-8M0-R-6M
8	10	-8M0-R-10M
8	12	-8M0-R-12M
10	6	-10M0-R-6M
10	8	-10M0-R-8M
10	12	-10M0-R-12M
10	15	-10M0-R-15M
10	18	-10M0-R-18M
12	6	-12M0-R-6M
12	8	-12M0-R-8M
12	10	-12M0-R-10M
12	16	-12M0-R-16M
12	18	-12M0-R-18M
12	20	-12M0-R-20M
12	22	-12M0-R-22M
12	25	-12M0-R-25M
16	12	-16M0-R-12M
18	12	-18M0-R-12M
18	16	-18M0-R-16M
18	20	-18M0-R-20M
18	22	-18M0-R-22M
18	25	-18M0-R-25M
20	16	-20M0-R-16M
20	18	-20M0-R-18M
20	22	-20M0-R-22M
20	25	-20M0-R-25M
22	18	-22M0-R-18M
22	20	-22M0-R-20M
22	25	-22M0-R-25M
25	18	-25M0-R-18M
25	20	-25M0-R-20M

TUBE FITTINGS

Reducer



Connects
metric
tube to
fractional
Swagelok port

Tube OD (mm)	Tube Stub OD (in.)	Basic Ordering Number
2	1/8	-2M0-R-2
3	1/8	-3M0-R-2
3	1/4	-3M0-R-4
4	1/4	-4M0-R-4
6	1/8	-6M0-R-2
6	1/4	-6M0-R-4
6	5/16	-6M0-R-5
6	3/8	-6M0-R-6
6	1/2	-6M0-R-8
8	3/8	-8M0-R-6
8	1/2	-8M0-R-8
10	3/8	-10M0-R-6
10	1/2	-10M0-R-8
12	1/2	-12M0-R-8
12	3/4	-12M0-R-12
18	3/4	-18M0-R-12
18	1	-18M0-R-16
25	1	-25M0-R-16

Bulkhead Reducer



Connects
fractional
tube to
fractional
Swagelok port

Tube OD (in.)	Basic Ordering Number
1/8	-200-R1-2
1/4	-400-R1-4
3/8	-600-R1-6
1/2	-810-R1-8
5/8	-1010-R1-10
1	-1610-R1-16

Port Connector



Connects two
fractional
Swagelok ports

Tube OD (in.)	Basic Ordering Number
1/16	-101-PC
1/8	-201-PC
1/4	-401-PC
5/16	-501-PC
3/8	-601-PC
1/2	-811-PC
3/4	-1211-PC
1	-1611-PC

TUBE FITTINGS

Connects two
metric
Swagelok ports

① Assembled with
preswaged nut and ferrules
on tube stub

Tube OD (mm)	Basic Ordering Number
3	-3M1-PC
6	-6M1-PC
8	-8M1-PC
10	-10M1-PC
12	-12M1-PC
15	-15M1-PC
16	-16M1-PC
18	-18M1-PC
20	-20M1-PC
25	-25M1-PC
28	-28M0-PC ^①
30	-30M0-PC ^①
32	-32M0-PC ^①
38	-38M0-PC ^①

Reducing Port Connector



Connects two
fractional
Swagelok ports

Tube OD (in.)	Reduced Tube OD (in.)	Basic Ordering Number
1/8	1/16	-201-PC-1
1/4	1/16	-401-PC-1
1/4	1/8	-401-PC-2
3/8	1/8	-601-PC-2
3/8	1/4	-601-PC-4
1/2	1/4	-811-PC-4
1/2	3/8	-811-PC-6
3/4	1/2	-1211-PC-8
1	1/2	-1611-PC-8
1	3/4	-1611-PC-12

Connects two
metric
Swagelok ports

Swagelok adapters,
reducers and port
connectors are to be used
ONLY in Swagelok tube
fittings manufactured by
the Swagelok Companies.
Use in fittings made by
other manufacturers may
result in failure.

Tube OD (mm)	Reduced Tube OD (mm)	Basic Ordering Number
6	3	-6M1-PC-3M
8	6	-8M1-PC-6M
10	6	-10M1-PC-6M
10	8	-10M1-PC-8M
12	6	-12M1-PC-6M
12	8	-12M1-PC-8M
12	10	-12M1-PC-10M
16	12	-16M1-PC-12M
28	25	-28M1-PC-25M
32	25	-32M1-PC-25M
38	25	-38M1-PC-25M

TUBE FITTINGS

Cap



Caps end of
fractional
tube

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-100-C
$\frac{1}{8}$	-200-C
$\frac{3}{16}$	-300-C
$\frac{1}{4}$	-400-C
$\frac{5}{16}$	-500-C
$\frac{3}{8}$	-600-C
$\frac{1}{2}$	-810-C
$\frac{5}{8}$	-1010-C
$\frac{3}{4}$	-1210-C
$\frac{7}{8}$	-1410-C
1	-1610-C
$1\frac{1}{4}$	-2000-C
$1\frac{1}{2}$	-2400-C
2	-3200-C

Caps end of
metric
tube

Tube OD (mm)	Basic Ordering Number
2	-2M0-C
3	-3M0-C
4	-4M0-C
6	-6M0-C
8	-8M0-C
10	-10M0-C
12	-12M0-C
14	-14M0-C
15	-15M0-C
16	-16M0-C
18	-18M0-C
20	-20M0-C
22	-22M0-C
25	-25M0-C
28	-28M0-C
30	-30M0-C
32	-32M0-C
38	-38M0-C

Plug



Plugs unused
port of
**fractional/
metric**
Swagelok
fittings

fractional

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-100-P
$\frac{1}{8}$	-200-P
$\frac{3}{16}$	-300-P
$\frac{1}{4}$	-400-P
$\frac{5}{16}$	-500-P
$\frac{3}{8}$	-600-P
$\frac{1}{2}$	-810-P
$\frac{5}{8}$	-1010-P
$\frac{3}{4}$	-1210-P
$\frac{7}{8}$	-1410-P
1	-1610-P
$1\frac{1}{4}$	-2000-P
$1\frac{1}{2}$	-2400-P
2	-3200-P

metric

Tube OD (mm)	Basic Ordering Number
2	-2M0-P
3	-3M0-P
4	-4M0-P
6	-6M0-P
8	-8M0-P
10	-10M0-P
12	-12M0-P
15	-15M0-P
16	-16M0-P
18	-18M0-P
20	-20M0-P
22	-22M0-P
25	-25M0-P
28	-28M0-P
30	-30M0-P
32	-32M0-P
38	-38M0-P

Nut



fractional

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-102-1
$\frac{1}{8}$	-202-1
$\frac{3}{16}$	-302-1
$\frac{1}{4}$	-402-1
$\frac{5}{16}$	-502-1
$\frac{3}{8}$	-602-1
$\frac{1}{2}$	-812-1
$\frac{5}{8}$	-1012-1
$\frac{3}{4}$	-1212-1
$\frac{7}{8}$	-1412-1
1	-1612-1
$1\frac{1}{4}$	-2002-1
$1\frac{1}{2}$	-2402-1
2	-3202-1

metric

Tube OD (mm)	Basic Ordering Number
2	-2M2-1
3	-3M2-1
4	-4M2-1
6	-6M2-1
8	-8M2-1
10	-10M2-1
12	-12M2-1
14	-14M2-1
15	-15M2-1
16	-16M2-1
18	-18M2-1
20	-20M2-1
22	-22M2-1
25	-25M2-1
28	-28M2-1
30	-30M2-1
32	-32M2-1
38	-38M2-1

Knurled Nut

Knurled nuts up to 1 in. are available in the same sizes as shown for Swagelok nuts.

To order, add suffix **K** to catalog number. Example: B-402-1**K**.



Back Ferrule



fractional

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-104-1
$\frac{1}{8}$	-204-1
$\frac{3}{16}$	-304-1
$\frac{1}{4}$	-404-1
$\frac{5}{16}$	-504-1
$\frac{3}{8}$	-604-1
$\frac{1}{2}$	-814-1
$\frac{5}{8}$	-1014-1
$\frac{3}{4}$	-1214-1
$\frac{7}{8}$	-1414-1
1	-1614-1
$1\frac{1}{4}$	-2004-1
$1\frac{1}{2}$	-2404-1
2	-3204-1

metric

Tube OD (mm)	Basic Ordering Number
2	-2M4-1
3	-3M4-1
4	-4M4-1
6	-6M4-1
8	-8M4-1
10	-10M4-1
12	-12M4-1
14	-14M4-1
15	-15M4-1
16	-16M4-1
18	-18M4-1
20	-20M4-1
22	-22M4-1
25	-25M4-1
28	-28M4-1
30	-30M4-1
32	-32M4-1
38	-38M4-1

Front Ferrule



fractional

Tube OD (in.)	Basic Ordering Number
$\frac{1}{16}$	-103-1
$\frac{1}{8}$	-203-1
$\frac{3}{16}$	-303-1
$\frac{1}{4}$	-403-1
$\frac{5}{16}$	-503-1
$\frac{3}{8}$	-603-1
$\frac{1}{2}$	-813-1
$\frac{5}{8}$	-1013-1
$\frac{3}{4}$	-1213-1
$\frac{7}{8}$	-1413-1
1	-1613-1
$1\frac{1}{4}$	-2003-1
$1\frac{1}{2}$	-2403-1
2	-3203-1

metric

Tube OD (mm)	Basic Ordering Number
2	-2M3-1
3	-3M3-1
4	-4M3-1
6	-6M3-1
8	-8M3-1
10	-10M3-1
12	-12M3-1
14	-14M3-1
15	-15M3-1
16	-16M3-1
18	-18M3-1
20	-20M3-1
22	-22M3-1
25	-25M3-1
28	-28M3-1
30	-30M3-1
32	-32M3-1
38	-38M3-1

Ferrule Pak®



fractional

Basic Ordering Number

Tube OD (in.)	Quantity 1 Ferrule-Pak (100 Sets)
1/16	-100 Sets-100
1/8	-200 Sets-100
3/16	-300 Sets-100
1/4	-400 Sets-100
5/16	-500 Sets-100
3/8	-600 Sets-100
1/2	-810 Sets-100

metric

Basic Ordering Number

Tube OD (in.)	Quantity 1 Ferrule-Pak (100 Sets)
6	-6M0 Sets-100
8	-8M0 Sets-100
10	-10M0 Sets-100
12	-12M0 Sets-100

Gap Inspection Gages

for individual sizes



Tube Size		Fitting Series		Inspection Gage Ordering No.
(in.)	(mm)	Fractional	Metric	
1/16	—	100	—	MS-IG-100
1/8	2 3	200	-2M0 -3M0	MS-IG-200
3/16	4	300	-4M0	MS-IG-300
1/4	6	400	-6M0	MS-IG-400
5/16	8	500	-8M0	MS-IG-500
3/8	—	600	—	MS-IG-600
—	10	—	-10M0	MS-IG-10M0
1/2	12	810	-12M0	MS-IG-810
5/8	14 15 16	1010	-14M0 -15M0 -16M0	MS-IG-1010
3/4	18	1210	-18M0	MS-IG-1210
7/8	20 22	1410	-20M0 -22M0	MS-IG-1410
1	25	1610	-25M0	MS-IG-1610

for multiple sizes



This gage works on five sizes of Swagelok tube fittings: 1/4, 3/8 and 1/2 in; and 6 and 12 mm.

Ordering Number:
MS-IG-468



This gage works on four sizes of Swagelok tube fittings: 6, 8, 10, and 12 mm.

Ordering Number:
MS-IG-612M

TUBE FITTINGS

Male Adapter (tapered thread)



Connects
fractional
Swagelok port to
female NPT thread



Over 1 in. and
25 mm male adapter.

① Assembled with
preswaged nut and ferrules
on tube stub

Tube OD (in.)	NPT Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-2-TA-1-2
1/8	1/4	-2-TA-1-4
3/16	1/8	-3-TA-1-2
3/16	1/4	-3-TA-1-4
1/4	1/8	-4-TA-1-2
1/4	1/4	-4-TA-1-4
1/4	3/8	-4-TA-1-6
1/4	1/2	-4-TA-1-8
5/16	1/8	-5-TA-1-2
5/16	1/4	-5-TA-1-4
3/8	1/8	-6-TA-1-2
3/8	1/4	-6-TA-1-4
3/8	3/8	-6-TA-1-6
3/8	1/2	-6-TA-1-8
1/2	1/4	-8-TA-1-4
1/2	3/8	-8-TA-1-6
1/2	1/2	-8-TA-1-8
5/8	1/2	-10-TA-1-8
3/4	1/2	-12-TA-1-8
3/4	3/4	-12-TA-1-12
1	3/4	-16-TA-1-12
1	1	-16-TA-1-16
1 1/4	1 1/4	-20-TA-1-20 ^①
1 1/2	1 1/2	-24-TA-1-24 ^①
2	2	-32-TA-1-32 ^①

Connects
fractional
Swagelok port to
female ISO* tapered
pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-2-TA-1-2RT
1/8	1/4	-2-TA-1-4RT
1/4	1/8	-4-TA-1-2RT
1/4	1/4	-4-TA-1-4RT
3/8	1/4	-6-TA-1-4RT
3/8	3/8	-6-TA-1-6RT
3/8	1/2	-6-TA-1-8RT
1/2	1/4	-8-TA-1-4RT
1/2	3/8	-8-TA-1-6RT
1/2	1/2	-8-TA-1-8RT
3/4	3/4	-12-TA-1-12RT
1	1	-16-TA-1-16RT

ADAPTER FITTINGS

Connects

metric

Swagelok port to
female NPT thread

Tube OD (mm)	NPT Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-1-2
6	1/4	-6-MTA-1-4
8	1/4	-8-MTA-1-4
10	1/4	-10-MTA-1-4
10	3/8	-10-MTA-1-6
10	1/2	-10-MTA-1-8
12	1/4	-12-MTA-1-4
12	1/2	-12-MTA-1-8
28	1	-28-MTA-1-16 ^①
28	1 1/4	-28-MTA-1-20 ^①
30	1 1/4	-30-MTA-1-20 ^①
32	1 1/4	-32-MTA-1-20 ^①
38	1 1/2	-38-MTA-1-24 ^①

Connects

metric

Swagelok port to
female ISO* tapered
pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

^① Assembled with
preswaged nut and ferrules
on tube stub

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-1-2RT
6	1/4	-6-MTA-1-4RT
8	1/4	-8-MTA-1-4RT
10	1/4	-10-MTA-1-4RT
10	3/8	-10-MTA-1-6RT
12	1/4	-12-MTA-1-4RT
12	3/8	-12-MTA-1-6RT
12	1/2	-12-MTA-1-8RT
28	1	-28-MTA-1-16RT ^①
28	1 1/4	-28-MTA-1-20RT ^①
30	1 1/4	-30-MTA-1-20RT ^①
32	1 1/4	-32-MTA-1-20RT ^①
38	1 1/2	-38-MTA-1-24RT ^①

ADAPTER FITTINGS

Male Adapter (parallel thread)



Connects

fractional

Swagelok port to
female ISO* parallel
thread

Tube OD (in.)	ISO Male Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-2-TA-1-2RS
1/8	1/4	-2-TA-1-4RS
1/4	1/8	-4-TA-1-2RS
1/4	1/4	-4-TA-1-4RS
3/8	1/4	-6-TA-1-4RS
3/8	3/8	-6-TA-1-6RS
1/2	1/4	-8-TA-1-4RS
1/2	3/8	-8-TA-1-6RS
1/2	1/2	-8-TA-1-8RS
3/4	3/4	-12-TA-1-12RS
1	1	-16-TA-1-16RS



Connects

metric

Swagelok port to
female ISO* parallel
thread

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-1-2RS
6	1/4	-6-MTA-1-4RS
8	1/4	-8-MTA-1-4RS
10	1/4	-10-MTA-1-4RS
10	3/8	-10-MTA-1-6RS
10	1/2	-10-MTA-1-8RS
12	1/4	-12-MTA-1-4RS
12	3/8	-12-MTA-1-6RS
12	1/2	-12-MTA-1-8RS
18	1/2	-18-MTA-1-8RS
18	3/4	-18-MTA-1-12RS
28	1	-28-MTA-1-16RS ^①
28	1 1/4	-28-MTA-1-20RS ^①
30	1 1/4	-30-MTA-1-20RS ^①
32	1 1/4	-32-MTA-1-20RS ^①
38	1 1/2	-38-MTA-1-24RS ^①

•Reference Specification:
BS 2779
DIN/ISO 228/1
JIS B0202
ISO 228/1

^① Assembled with
preswaged nut and ferrules
on tube stub

ADAPTER FITTINGS

Male Adapter



Connects

metric

Swagelok port to female ISO* parallel thread

•Reference Specification:
BS 2779
DIN/ISO 228/1
JIS B0202
ISO 228/1

Tube OD (mm)	ISO Male Pipe Size (in.)	Basic Ordering Number
28	1	-28-MTA-1-16RP ^①
28	1 $\frac{1}{4}$	-28-MTA-1-20RP ^①
30	1 $\frac{1}{4}$	-30-MTA-1-20RP ^①
32	1 $\frac{1}{4}$	-32-MTA-1-20RP ^①
38	1 $\frac{1}{2}$	-38-MTA-1-24RP ^①

Male Adapter (SAE/MS straight thread)



Connects

fractional

Swagelok port to SAE/MS straight thread boss[■]

■ Adapts to SAE J1926 straight thread boss and MS16142 boss.

Tube OD (in.)	SAE/MS Male Pipe Size (in.)	Basic Ordering Number
$\frac{1}{8}$	5/16-24	-2-TA-1-2ST
$\frac{1}{4}$	7/16-20	-4-TA-1-4ST
$\frac{3}{8}$	7/16-20	-6-TA-1-4ST
$\frac{3}{8}$	9/16-18	-6-TA-1-6ST
$\frac{3}{8}$	3/4-16	-6-TA-1-8ST
$\frac{1}{2}$	9/16-18	-8-TA-1-6ST
$\frac{1}{2}$	3/4-16	-8-TA-1-8ST
$\frac{5}{8}$	7/8-14	-10-TA-1-10ST
$\frac{3}{4}$	1 $\frac{1}{16}$ -12	-12-TA-1-12ST
1	1 $\frac{5}{16}$ -12	-16-TA-1-16ST
1 $\frac{1}{4}$	1 $\frac{5}{8}$ -12	-20-TA-1-20ST ^①
1 $\frac{1}{2}$	1 $\frac{7}{8}$ -12	-24-TA-1-24ST ^①
2	2 $\frac{1}{2}$ -12	-32-TA-1-32ST ^①

Over 1 in. and 25 mm male adapter

① Assembled with preswaged nut and ferrules on tube stub

Male Adapter (straight thread)



Connects

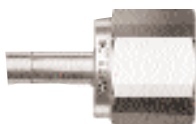
fractional

Swagelok port to O-Seal female straight thread

Tube OD (in.)	Male Straight Thread Size (in.)	Basic Ordering Number
$\frac{1}{8}$	5/16-24	-2-TA-1-OR
$\frac{3}{16}$	3/8-24	-3-TA-1-OR
$\frac{1}{4}$	7/16-20	-4-TA-1-OR
$\frac{5}{16}$	1/2-20	-5-TA-1-OR
$\frac{3}{8}$	9/16-18	-6-TA-1-OR
$\frac{1}{2}$	3/4-16	-8-TA-1-OR

ADAPTER FITTINGS

Female Adapter (tapered thread)



Connects
fractional
Swagelok port to
male NPT thread



Over 1 in. and 25 mm
female adapter

① Assembled with
preswaged nut and ferrules
on tube stub

Tube OD (in.)	NPT Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-2-TA-7-2
1/8	1/4	-2-TA-7-4
3/16	1/4	-3-TA-7-4
1/4	1/8	-4-TA-7-2
1/4	1/4	-4-TA-7-4
1/4	3/8	-4-TA-7-6
1/4	1/2	-4-TA-7-8
5/16	1/4	-5-TA-7-4
3/8	1/8	-6-TA-7-2
3/8	1/4	-6-TA-7-4
3/8	3/8	-6-TA-7-6
3/8	1/2	-6-TA-7-8
1/2	1/4	-8-TA-7-4
1/2	3/8	-8-TA-7-6
1/2	1/2	-8-TA-7-8
5/8	1/2	-10-TA-7-8
3/4	1/2	-12-TA-7-8
3/4	3/4	-12-TA-7-12
3/4	1	-12-TA-7-16
1	3/4	-16-TA-7-12
1	1	-16-TA-7-16
1 1/4	1 1/4	-20-TA-7-20 ^①
1 1/2	1 1/2	-24-TA-7-24 ^①
2	2	-32-TA-7-32 ^①

Connects
metric
Swagelok port to
male NPT thread

Tube OD (mm)	NPT Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-7-2
6	1/4	-6-MTA-7-4
8	1/4	-8-MTA-7-4
10	1/4	-10-MTA-7-4
10	3/8	-10-MTA-7-6
10	1/2	-10-MTA-7-8
12	1/4	-12-MTA-7-4
12	1/2	-12-MTA-7-8

Connects
fractional
Swagelok port to
male ISO• tapered
pipe thread

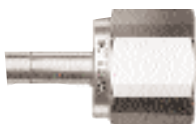
Tube OD (in.)	ISO Female Pipe Size (in.)	Basic Ordering Number
1/4	1/8	-4-TA-7-2RT
1/4	1/4	-4-TA-7-4RT
3/8	1/4	-6-TA-7-4RT
3/8	3/8	-6-TA-7-6RT
1/2	1/4	-8-TA-7-4RT
1/2	3/8	-8-TA-7-6RT
1/2	1/2	-8-TA-7-8RT

Connects
metric
Swagelok port to
male ISO• tapered
pipe thread

Tube OD (mm)	ISO Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-7-2RT
10	1/4	-10-MTA-7-4RT

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

Female Adapter (parallel thread)



Connects
fractional
Swagelok port to
male ISO[•] parallel
thread

Tube OD (in.)	ISO Female Pipe Size (in.)	Basic Ordering Number
1/8	1/8	-2-TA-7-2RP
1/4	1/8	-4-TA-7-2RP
1/4	1/4	-4-TA-7-4RP
3/8	1/4	-6-TA-7-4RP
3/8	3/8	-6-TA-7-6RP
1/2	3/8	-8-TA-7-6RP
1/2	1/2	-8-TA-7-8RP

Connects
metric
Swagelok port to
male ISO[•] parallel
thread

Tube OD (mm)	ISO Female Pipe Size (in.)	Basic Ordering Number
6	1/8	-6-MTA-7-2RP
6	1/4	-6-MTA-7-4RP

Connects
fractional
Swagelok port
to male ISO[•]
parallel thread

Tube OD (in.)	ISO Female Pipe Size (in.)	Basic Ordering Number
1/4	1/4	-4-TA-7-4RG
3/8	3/8	-6-TA-7-6RG
1/2	1/2	-8-TA-7-8RG

Connects
metric
Swagelok port
to male ISO[•]
parallel thread

Tube OD (mm)	ISO Female Pipe Size (in.)	Basic Ordering Number
6	1/4	-6-MTA-7-4RG
6	3/8	-6-MTA-7-6RG
6	1/2	-6-MTA-7-8RG
8	1/4	-8-MTA-7-4RG
8	1/2	-8-MTA-7-8RG
10	1/4	-10-MTA-7-4RG
10	1/2	-10-MTA-7-8RG
12	1/4	-12-MTA-7-4RG
12	1/2	-12-MTA-7-8RG
16	1/2	-16-MTA-7-8RG
18	1/2	-18-MTA-7-8RG

•Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

ADAPTER FITTINGS

AN Adapter



Connects
fractional
Swagelok port to
flared tube

Tube OD (in.)	AN Tube Flare Size (in.)	Basic Ordering Number
1/4	1/4	-4-TA-1-4AN
3/8	1/4	-6-TA-1-4AN
3/8	3/8	-6-TA-1-6AN
1/2	1/2	-8-TA-1-8AN
3/4	3/4	-12-TA-1-12AN
1	1	-16-TA-1-16AN



Connects
fractional
Swagelok port to
male AN

Tube OD (in.)	AN Tube OD (in.)	Basic Ordering Number
1/8	1/8	-200-A-2ANF
1/8	1/4	-200-A-4ANF
1/4	1/4	-400-A-4ANF
3/8	3/8	-600-A-6ANF
1/2	1/2	-810-A-8ANF

Weld Adapter



Connects
fractional
Swagelok port to
pipe

Tube OD (in.)	Male Pipe Weld Size	Ordering Number
1/4	1/4	SS-4-TA-1-4MPW
3/8	1/2	SS-6-TA-1-8MPW
1/2	1/2	SS-8-TA-1-8MPW
1/2	3/4	SS-8-TA-1-12MPW
3/4	3/4	SS-12-TA-1-12MPW

Ordering Information

Pipe Fittings and Threaded Adapter Fittings

For a complete Ordering Number add one of the following material designators as a prefix to the Basic Ordering Number

Designator	Material
SS	316 Stainless Steel
B	Brass
S	Carbon Steel

Pipe Fittings

Close Nipple

NPT tapered pipe thread



NPT Male Pipe Size	Basic Ordering Number
1/8	-2-CN
1/4	-4-CN
3/8	-6-CN
1/2	-8-CN
3/4	-12-CN
1	-16-CN

Hex Nipple

NPT tapered pipe thread



NPT Male Pipe Size	Basic Ordering Number
1/16	-1-HN
1/8	-2-HN
1/4	-4-HN
3/8	-6-HN
1/2	-8-HN
3/4	-12-HN
1	-16-HN
1 1/4	SS-20-HN
1 1/2	SS-24-HN
2	SS-32-HN

Hex Nipple

ISO* tapered pipe thread

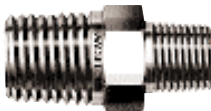


ISO Male Pipe Size	Basic Ordering Number
1/8	-2-HN-RT
1/4	-4-HN-RT
3/8	-6-HN-RT
1/2	-8-HN-RT

PIPE FITTINGS

Hex Reducing Nipple

NPT tapered pipe thread



NPT Male Pipe Size	NPT Male Pipe Size	Basic Ordering Number
1/8	1/16	-2-HRN-1
1/4	1/8	-4-HRN-2
3/8	1/8	-6-HRN-2
3/8	1/4	-6-HRN-4
1/2	1/8	-8-HRN-2
1/2	1/4	-8-HRN-4
1/2	3/8	-8-HRN-6
3/4	1/4	-12-HRN-4
3/4	1/2	-12-HRN-8
1	1/2	-16-HRN-8
1	3/4	-16-HRN-12
1 1/4	1	SS-20-HRN-16
1 1/2	1	SS-24-HRN-16
2	1	SS-32-HRN-16

Hex Long Nipple

NPT tapered pipe thread



NPT Male Pipe Size	Basic Ordering Number	A Available Lengths (in.) ^①				
		1.50	2.00	2.50	3.00	4.00
1/8	-2-HLN-	√	√	√	√	—
1/4	-4-HLN-	√	√	√	√	√
3/8	-6-HLN-	√	√	√	√	—
1/2	-8-HLN-	—	√	—	√	√
3/4	-12-HLN-	—	√	—	√	√
1	-16-HLN-	—	—	—	√	√

① Show desired length as a suffix to the Ordering Number.
Example: SS-4-HLN-2.00 (2.00 = 2 in. length).

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

PIPE FITTINGS

Adapter

NPT tapered
pipe thread



NPT Female & Male Pipe Size	Basic Ordering Number
$\frac{1}{8}$	-2-A
$\frac{1}{4}$	-4-A
$\frac{3}{8}$	-6-A
$\frac{1}{2}$	-8-A
$\frac{3}{4}$	-12-A
1	-16-A

Adapter

ISO* tapered
pipe thread



ISO Female & Male Pipe Size	Basic Ordering Number
$\frac{1}{8}$	-2-A-RT
$\frac{1}{4}$	-4-A-RT
$\frac{3}{8}$	-6-A-RT
$\frac{1}{2}$	-8-A-RT

Reducing Adapter

NPT tapered
pipe thread



NPT Female Pipe Size	NPT Male Pipe Size	Basic Ordering Number
$\frac{1}{8}$	$\frac{1}{16}$	-2-RA-1
$\frac{1}{4}$	$\frac{1}{8}$	-4-RA-2
$\frac{3}{8}$	$\frac{1}{8}$	-6-RA-2
$\frac{3}{8}$	$\frac{1}{4}$	-6-RA-4
$\frac{1}{2}$	$\frac{1}{8}$	-8-RA-2
$\frac{1}{2}$	$\frac{1}{4}$	-8-RA-4
$\frac{1}{2}$	$\frac{3}{8}$	-8-RA-6
$\frac{3}{4}$	$\frac{1}{4}$	-12-RA-4
$\frac{3}{4}$	$\frac{3}{8}$	-12-RA-6
$\frac{3}{4}$	$\frac{1}{2}$	-12-RA-8
1	$\frac{1}{4}$	-16-RA-4
1	$\frac{1}{2}$	-16-RA-8
1	$\frac{3}{4}$	-16-RA-12
$1\frac{1}{4}$	1	SS-20-RA-16
$1\frac{1}{2}$	$\frac{3}{4}$	SS-24-RA-12
$1\frac{1}{2}$	1	SS-24-RA-16
2	1	SS-32-RA-16

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 71

PIPE FITTINGS

Reducing Adapter

ISO* tapered pipe thread



ISO Female Pipe Size	ISO Male Pipe Size	Basic Ordering Number
1/4	1/8	-4-RAT-2RT
3/8	1/4	-6-RAT-4RT
1/2	1/4	-8-RAT-4RT
1/2	3/8	-8-RAT-6RT

Pipe Cap

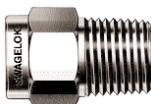
NPT tapered pipe thread



NPT Female Pipe Size	Basic Ordering Number
1/8	-2-CP
1/4	-4-CP
3/8	-6-CP
1/2	-8-CP
3/4	-12-CP
1	-16-CP
1 1/4	SS-20-CP
1 1/2	SS-24-CP
2	SS-32-CP

Pipe Plug

NPT tapered pipe thread



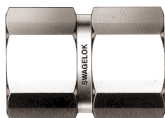
NPT Male Pipe Size	Basic Ordering Number
1/16	-1-P
1/8	-2-P
1/4	-4-P
3/8	-6-P
1/2	-8-P
3/4	-12-P
1	-16-P
1 1/4	SS-20-P
1 1/2	SS-24-P
2	SS-32-P

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

PIPE FITTINGS

Hex Coupling

NPT tapered pipe thread



NPT Female Pipe Size	Basic Ordering Number
1/8	-2-HCG
1/4	-4-HCG
3/8	-6-HCG
1/2	-8-HCG
3/4	-12-HCG
1	-16-HCG
1 1/4	SS-20-HCG
1 1/2	SS-24-HCG
2	SS-32-HCG

Hex Coupling

ISO* tapered pipe thread



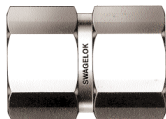
ISO Female Pipe Size	Basic Ordering Number
1/8	-2-HCG-RT
1/4	-4-HCG-RT
3/8	-6-HCG-RT
1/2	-8-HCG-RT

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

PIPE FITTINGS

Hex Reducing Coupling

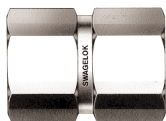
NPT tapered pipe thread



NPT Female Pipe Size	NPT Female Pipe Size	Basic Ordering Number
1/4	1/8	-4-HRCG-2
3/8	1/4	-6-HRCG-4
1/2	1/8	-8-HRCG-2
1/2	1/4	-8-HRCG-4
1/2	3/8	-8-HRCG-6
3/4	1/4	-12-HRCG-4
3/4	1/2	-12-HRCG-8
1	1/2	-16-HRCG-8
1	3/4	-16-HRCG-12
1 1/4	1	SS-20-HRCG-16
1 1/2	1	SS-24-HRCG-16
2	1	SS-32-HRCG-16

Hex Reducing Coupling

ISO* tapered pipe thread



ISO Female Pipe Size	ISO Female Pipe Size	Basic Ordering Number
3/8	1/4	-6-HRCGT-4RT
1/2	1/4	-8-HRCGT-4RT
1/2	3/8	-8-HRCGT-6RT

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

PIPE FITTINGS

Reducing Bushing

NPT tapered pipe thread



NPT Male Pipe Size	NPT Female Pipe Size	Basic Ordering Number
1/8	1/16	-2-RB-1
1/4	1/8	-4-RB-2
3/8	1/8	-6-RB-2
3/8	1/4	-6-RB-4
1/2	1/8	-8-RB-2
1/2	1/4	-8-RB-4
1/2	3/8	-8-RB-6
3/4	1/4	-12-RB-4
3/4	3/8	-12-RB-6
3/4	1/2	-12-RB-8
1	1/4	-16-RB-4
1	3/8	-16-RB-6
1	1/2	-16-RB-8
1	3/4	-16-RB-12
1 1/4	1/2	SS-20-RB-8
1 1/4	3/4	SS-20-RB-12
1 1/4	1	SS-20-RB-16
1 1/2	1/2	SS-24-RB-8
1 1/2	3/4	SS-24-RB-12
1 1/2	1	SS-24-RB-16
1 1/2	1 1/4	SS-24-RB-20
2	1/2	SS-32-RB-8
2	3/4	SS-32-RB-12
2	1	SS-32-RB-16
2	1 1/4	SS-32-RB-20
2	1 1/2	SS-32-RB-24

ISO* tapered pipe thread

- Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

ISO Male Pipe Size	ISO Female Pipe Size	Basic Ordering Number
1/4	1/8	-4-RBT-2RT
3/8	1/4	-6-RBT-4RT
1/2	1/4	-8-RBT-4RT
1/2	3/8	-8-RBT-6RT

Elbow

NPT tapered
pipe thread



NPT Female Pipe Size	Basic Ordering Number
1/8	-2-E
1/4	-4-E
3/8	-6-E
1/2	-8-E
3/4	-12-E
1	-16-E

Elbow

ISO* tapered
pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

ISO Female Pipe Size	Basic Ordering Number
1/4	-4-E-RT
3/8	-6-E-RT
1/2	-8-E-RT

Male Elbow

NPT tapered
pipe thread



NPT Male Pipe Size	Basic Ordering Number
1/8	-2-ME
1/4	-4-ME
3/8	-6-ME
1/2	-8-ME

Street Elbow

NPT tapered
pipe thread



NPT Female & Male Pipe Size	Basic Ordering Number
1/16	-1-SE
1/8	-2-SE
1/4	-4-SE
3/8	-6-SE
1/2	-8-SE
3/4	-12-SE
1	-16-SE

Reducing Street Elbow

NPT tapered pipe thread



NPT Female Pipe Size	NPT Male Pipe Size	Basic Ordering Number
1/8	1/16	-2-RSE-1
1/4	1/8	-4-RSE-2
3/8	1/4	-6-RSE-4
1/2	1/4	-8-RSE-4
1/2	3/8	-8-RSE-6

Tee

NPT tapered nine thread



NPT Female Pipe Size	Basic Ordering Number
1/8	-2-T
1/4	-4-T
3/8	-6-T
1/2	-8-T
3/4	-12-T
1	-16-T

ISO• tapered pipe thread

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

ISO Female Pipe Size	Basic Ordering Number
1/4	-4-T-RT
3/8	-6-T-RT
1/2	-8-T-RT

Male Tee

NPT tapered nine thread



NPT Male Pipe Size	Basic Ordering Number
1/8	-2-MT
1/4	-4-MT
3/8	-6-MT
1/2	-8-MT

Street Tee

NPT tapered
pipe thread



NPT Female & Male Pipe Size	Basic Ordering Number
1/8	-2-ST
1/4	-4-ST
3/8	-6-ST
1/2	-8-ST

Branch Tee

NPT tapered
pipe thread



NPT Female & Male Pipe Size	Basic Ordering Number
1/8	-2-BT
1/4	-4-BT
3/8	-6-BT
1/2	-8-BT

Cross

NPT tapered
pipe thread

NPT Female Pipe Size	Basic Ordering Number
1/8	-2-CS
1/4	-4-CS
3/8	-6-CS
1/2	-8-CS
3/4	-12-CS
1	-16-CS

Union Ball Joint

NPT tapered
pipe thread



NPT Female Pipe Size	Basic Ordering Number
1/8	SS-2-UBJ
1/4	SS-4-UBJ
3/8	SS-6-UBJ
1/2	SS-8-UBJ
3/4	SS-12-UBJ
1	SS-16-UBJ

Hollow Hex Plug



Plugs an SAE/MS straight thread boss where mounting is required

SAE/MS Thread Size	Basic Ordering Number ^①
5/16-24	-2-HPST
7/16-20	-4-HPST
9/16-18	-6-HPST
3/4 -16	-8-HPST
7/8 -14	-10-HPST
1 1/16-12	-12-HPST
1 3/16-12	-14-HPST
1 5/16-12	-16-HPST
1 7/8 -12	-24-HPST

Hollow Hex Plug



Plugs an NPT thread port

NPT Male Pipe Size	Basic Ordering Number ^①
1/8	SS-2-HP
1/4	SS-4-HP
3/8	SS-6-HP
1/2	SS-8-HP

^① Not available in brass.

Hex Head Plug



Plugs an SAE/MS straight thread boss

SAE/MS Thread Size	Basic Ordering Number ^①
$\frac{5}{16}$ -24	-2-PST
$\frac{7}{16}$ -20	-4-PST
$\frac{1}{2}$ -20	-5-PST
$\frac{9}{16}$ -18	-6-PST
$\frac{3}{4}$ -16	-8-PST
$\frac{7}{8}$ -14	-10-PST
$1\frac{1}{16}$ -12	-12-PST
$1\frac{3}{16}$ -12	-14-PST
$1\frac{5}{16}$ -12	-16-PST
$1\frac{7}{8}$ -12	-24-PST

Reducer



Connects a female SAE/MS straight thread to a male SAE/MS straight thread of different sizes

SAE/MS Male Pipe Size	SAE/MS Female Pipe Size	Basic Ordering Number ^①
$\frac{9}{16}$ -18	$\frac{7}{16}$ -20	-6-RBST-4
$\frac{3}{4}$ -16	$\frac{7}{16}$ -20	-8-RBST-4
$\frac{3}{4}$ -16	$\frac{9}{16}$ -18	-8-RBST-6
$\frac{7}{8}$ -14	$\frac{9}{16}$ -18	-10-RBST-6
$\frac{7}{8}$ -14	$\frac{3}{4}$ -16	-10-RBST-8
$1\frac{1}{16}$ -12	$\frac{3}{4}$ -16	-12-RBST-8
$1\frac{3}{16}$ -12	$1\frac{1}{16}$ -12	-14-RBST-12
$1\frac{5}{16}$ -12	$1\frac{1}{16}$ -12	-16-RBST-12
$1\frac{5}{8}$ -12	$1\frac{5}{16}$ -12	-20-RBST-16
$1\frac{7}{8}$ -12	$1\frac{5}{16}$ -12	-24-RBST-16

^① Not available in brass.

Threaded Adapter Fittings

Hex Nipple

NPT to ISO*

tapered pipe thread

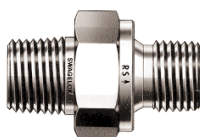


NPT Male Pipe Size	ISO Male Pipe Size	Basic Ordering Number
1/8	1/8	-2-HN-2RT
1/4	1/4	-4-HN-4RT
3/8	3/8	-6-HN-6RT
1/2	1/2	-8-HN-8RT
3/4	3/4	-12-HN-12RT
1	1	-16-HN-16RT

Hex Nipple

NPT to ISO*

parallel thread



NPT Male Pipe Size	ISO Male Pipe Size	Basic Ordering Number
1/8	1/8	-2-HN-2RS
1/4	1/4	-4-HN-4RS
3/8	3/8	-6-HN-6RS
1/2	1/2	-8-HN-8RS
3/4	3/4	-12-HN-12RS
1	1	-16-HN-16RS

Adapter

Female NPT to male ISO* tapered thread



NPT Female Pipe Size	ISO Male Pipe Size	Basic Ordering Number
1/8	1/8	-2-A-2RT
1/4	1/4	-4-A-4RT
3/8	3/8	-6-A-6RT
1/2	1/2	-8-A-8RT
3/4	3/4	-12-A-12RT
1	1	-16-A-16RT

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

■Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

THREADED ADAPTER FITTINGS

Adapter

Female ISO[•] tapered to male NPT pipe thread



ISO Female Pipe Size	NPT Male Pipe Size	Basic Ordering Number
1/4	1/4	-4-AT-4
3/8	3/8	-6-AT-6
1/2	1/2	-8-AT-8

Adapter

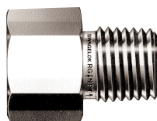
Female NPT to male ISO[■] parallel thread



NPT Female Pipe Size	ISO Male Pipe Size	Basic Ordering Number
1/8	1/8	-2-A-2RS
1/4	1/4	-4-A-4RS
3/8	3/8	-6-A-6RS
1/2	1/2	-8-A-8RS
3/4	3/4	-12-A-12RS
1	1	-16-A-16RS

Gauge Adapter

Female ISO[■] parallel to male NPT tapered pipe thread



ISO Female Pipe Size	NPT Male Pipe Size	Basic Ordering Number
1/4	1/4	SS-4-AG-4
3/8	3/8	SS-6-AG-6
1/2	1/2	SS-8-AG-8

•Reference Specification:
BS 21
DIN 2999
JIS B0203
ISO 7/1

■Reference Specification:
BS 2779
DIN-ISO 228/1
JIS B0202
ISO 228/1

THREADED ADAPTER FITTINGS

Adapter

Male SAE/MS
straight thread to
Male NPT tapered
pipe thread



SAE/MS Thread Size	NPT Thread Size	Basic Ordering Number ^①
5/16-24	1/4	-2-SAE-1-4
3/8 -24	1/4	-3-SAE-1-4
7/16-20	1/4	-4-SAE-1-4
7/16-20	1/2	-4-SAE-1-8
9/16-18	1/8	-6-SAE-1-2
9/16-18	1/4	-6-SAE-1-4
9/16-18	3/8	-6-SAE-1-6
3/4 -16	1/2	-8-SAE-1-8
1 1/16-12	3/4	-12-SAE-1-12
1 5/16-12	3/4	-16-SAE-1-12
1 5/16-12	1	-16-SAE-1-16

Adapter

Male SAE/MS
straight thread to
Female NPT
pipe thread



SAE/MS Thread Size	NPT Thread Size	Basic Ordering Number ^①
5/16-24	1/8	-2-SAE-7-2
7/16-20	1/4	-4-SAE-7-4
1/2 -20	1/8	-5-SAE-7-2
9/16-18	1/4	-6-SAE-7-4
9/16-18	3/8	-6-SAE-7-6
3/4 -16	3/8	-8-SAE-7-6
3/4 -16	1/2	-8-SAE-7-8
7/8 -14	1/2	-10-SAE-7-8
1 1/16-12	3/4	-12-SAE-7-12
1 5/16-12	1	-16-SAE-7-16

^① Not available in brass.

Tools

To order tools, refer to *Tools and Accessories Catalog MS-01-95* in your Swagelok Product Binder.



Tube Bender



Tube Deburring Tool



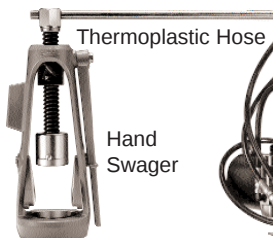
Tube Cutter



Tee Wrench

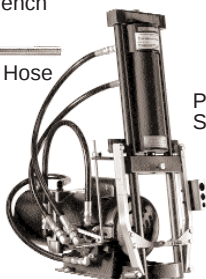


Ratchet Wrench



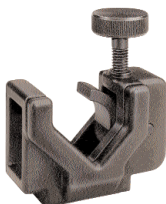
Thermoplastic Hose

Hand Swager



Power Swager

Tube Sawing Guide



Tubender



TOOLS

Other Fluid System Components

*available from the
Swagelok companies*



Quick-Connects

- Instrumentation
- Industrial
- Miniature
- TFE Sealed
- Full Flow
- Plastic

Hose

- Thermoplastic
- Flexible Metal
- TFE
- Push-On
- Conductive Core

Valves

- Ball/Plug
- Check/Relief/
Bleed/Purge
- Metering
- Needle
- Packless
- Pinch
- Manifold

Sample Cylinders

ISO 9001/9002 Certifications



ISO 9001
Certificate No. FM
01729



Certificate No.
QSC-7015



ISO 9002
Certificate No. 00139

Swagelok®

Safe Component Selection

When selecting a component, the total system design must be considered to ensure safe, trouble-free performance. Component function material compatibility, adequate ratings, proper installation, operation and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.