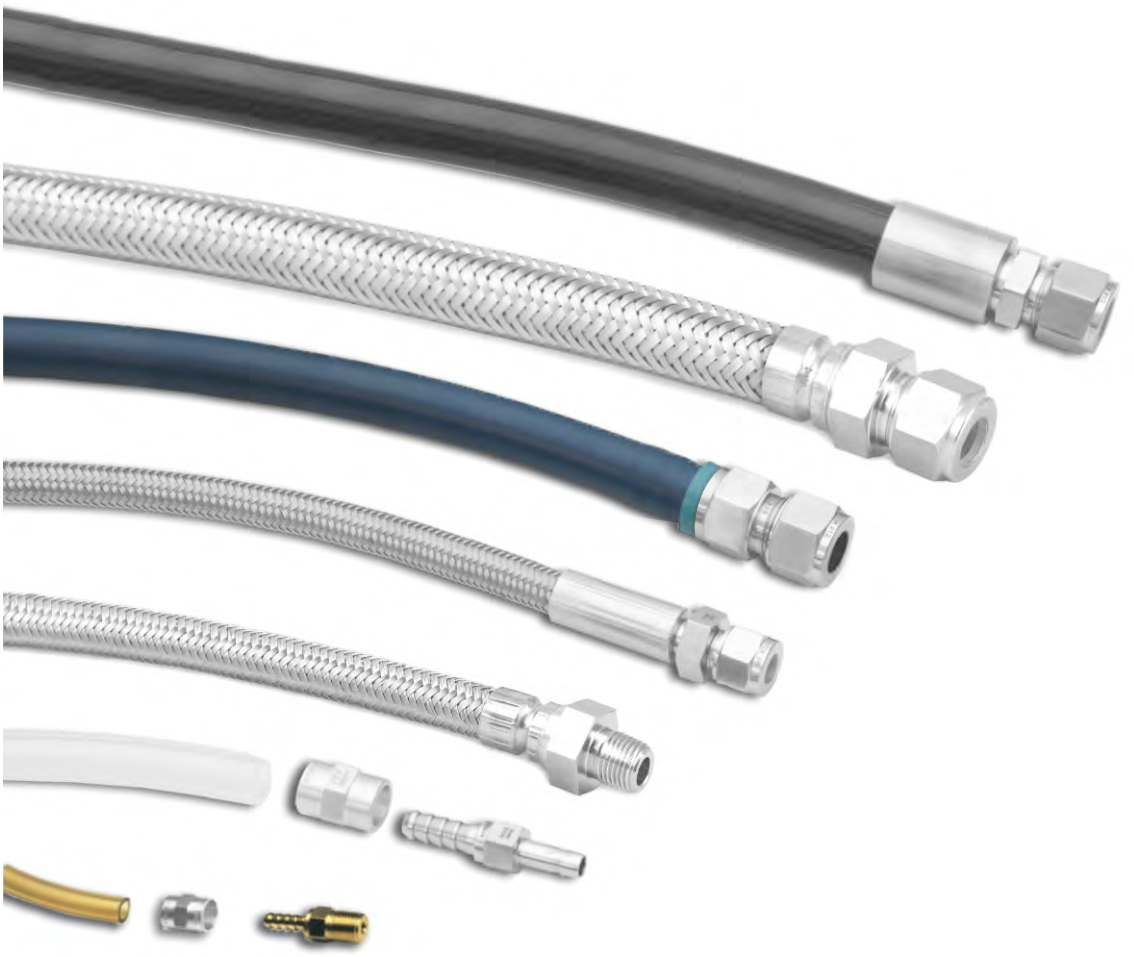
# Hoses and Connectors

## MH, MM, MX, PS, MP, TH, HCH and HC Series



# Contents

# Terms and Definitions

## Hose

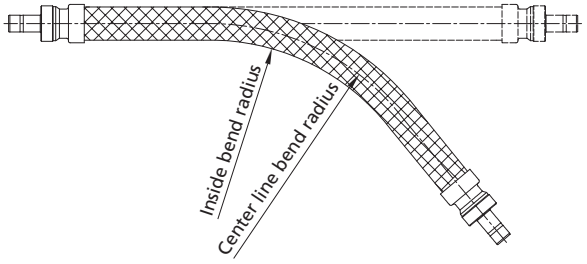
A multiple-layered flexible conduit through which fluid is conveyed from one point to another.

## Nominal Hose Size

An approximation of the hose inside diameter.

## Bend Radius

The radius of the bent section of a hose, measured to the center line or inside of the curved section.




### End Connection

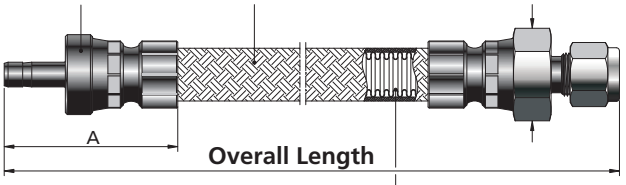
The fitting that is assembled onto each end of the hose to provide a means of installation into a fluid system.

### Overbraid

A flexible, woven reinforcement.

### Maximum Outside Dimension

The largest nominal outside dimension of the hose assembly.




### Spring Guard

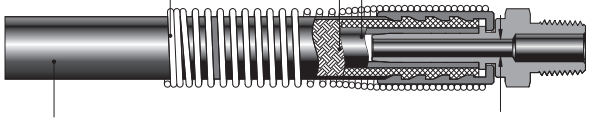
A helical metal spring used to protect the hose from abrasion overbending, and kinking.

### Reinforce-ment

Material used to reinforce the core and increase its pressure-containing capacity.

### Core

The hose's innermost material that comes into contact with the system media, often referred to as the wetted surface.



### Cover

The hose's outermost material, used to protect the reinforcement and core from environmental conditions and wear.

### Minimum Inside Diameter

The smallest inside diameter of inner flow path of the hose assembly.

## Minimum Dynamic Bend Radius

The smallest bend radius that a hose is allowed to perform in applications where the hose undergoes dynamic bending and position changes.

## Minimum Static Bend Radius

The smallest bend radius that a hose is allowed to perform in applications where the hose is stationary without any movement in any plane.

## Flexibility

The relative ease or difficulty of bending a non-pressurized hose assembly.

## Burst Pressure

The pressure at which leakage occurs in a laboratory burst test.

## Permeation

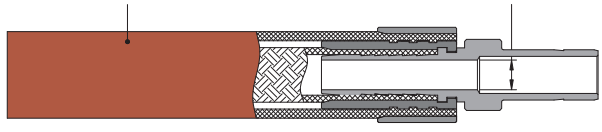
The movement of a liquid, gas, or vapor through a solid. All materials are permeable to a certain degree and must be tested for application compatibility before installation.

### Fire Jacket

Woven fiberglass coated with specially compounded silicone rubber to provide insulation from internal system fluid temperature extremes.

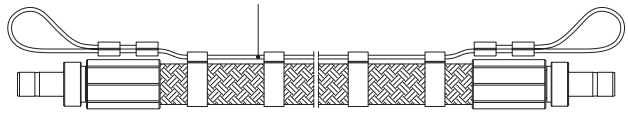
### Minimum Inside Diameter

The smallest inside diameter of inner flow path of the hose assembly.



### Safety Cable

Prevent hoses from whipping around and causing serious injuries in the event of fitting blow-off or hose burst. The knot at each end of cable can be adjusted before being secured to fixed point.



# Considerations for Selecting a Hose Assembly Solution

## Temperature

Identify the minimum and maximum temperatures the hose assembly will be exposed to in the system media and environment.

## Pressure

Identify the minimum and maximum pressures (or vacuum) within and outside the hose assembly.

## Material

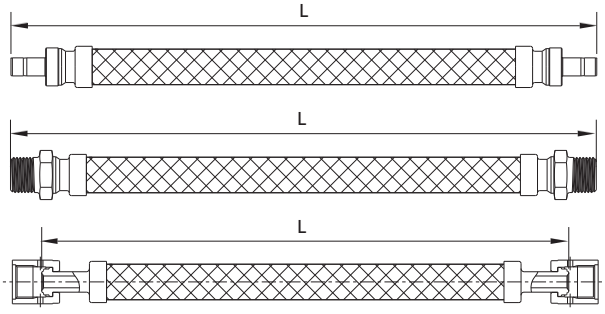
Identify the system media and the environment that the hose assembly will be exposed to. This will help determine the materials best suited to the application demands.

## Movement

Confirm whether the hose assembly will be installed in dynamic applications as this will require differentconsiderations than a static application.

## Length

Determine the most likely route for installation of the hose, use this to identify required length.
Note: Different types of hoses vary in measuring position. For hoses with pipe fittings, length loss due to threading into the mating fitting should be taken into account.




## Cleanliness

Identify the cleanliness need.

## End Connection

Identify the type of end connections that are most compatible with the system requirements. End connections differ in materials of construction and pressure ratings.

## Orientation

Address space constraint concerns. Hose assemblies with elbows and union ball joints may help resolve space constraint issues.

## Desired Flow

Consider desired flow. Hose connection size, core tube construction, and installation route may impact flow.

## Additional Protection

Identify whether additional protection is necessary for the hose assemblies or surrounding systems.

## Permeability

Nylon, PFA, polyethylene, PTFE, and rubber are permeable materials. Gases and vapors may migrate through cores of these materials. The permeation rate is affected by many factor variables.

# Installation and Use Guide

## ⚠ Warning

Product failure or improper use may pose a threat to your personal safety and property.

## Inspection

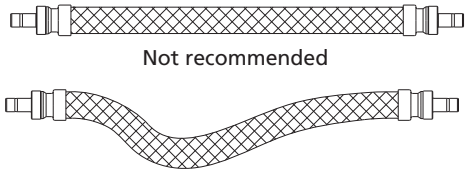
Inspect whether the hose length and layout are reasonable, and whether hose surface is free of defects and damage prior to installation. Establish an inspection schedule based on system application and replacement history.

## Vibration

Evaluate the amount of system vibration when selecting a hose. Metal hose may not be appropriate for systems with constant or severe vibration.

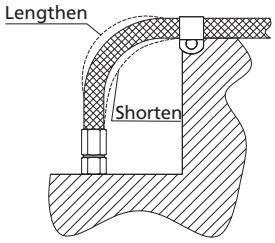
## Length

Consider hose movement, system pressurization, and thermal expansion when identifying hose length. Installing hose that is not long enough to accommodate these factors may shorten hose life.



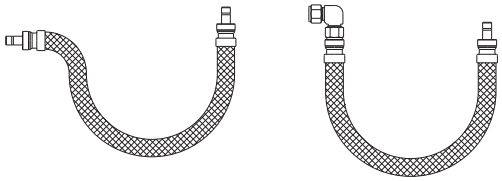
## System Pressure Changes

Use sufficient hose length to accommodate system pressure changes. Do not connect high pressure hoses and low pressure hoses together.




## Hose Strain

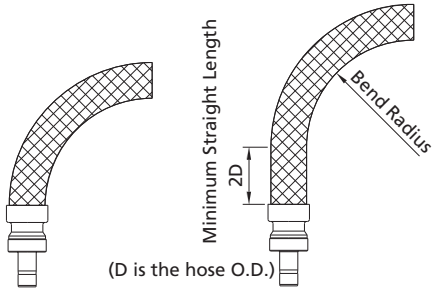
Elbows and adapters can be used to relieve hose strain.



Not recommended Recommended

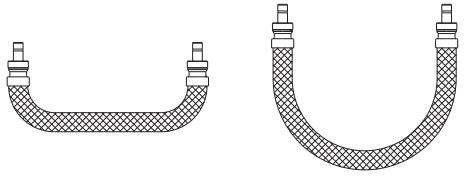
## Minimum Bend Radius & Minimum Straight Length

Follow minimum bend radius requirements for your hose. Installing hose with smaller bends may kink hose and shorten hose life.




Not recommended Recommended

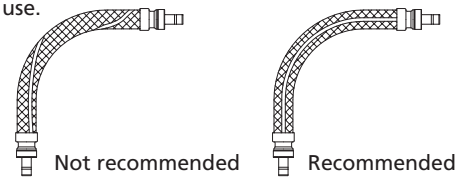
Maintain the minimum straight length for bent section, otherwise, hose rupture or leakage may result from bending too close to the hose/fitting connection.



Not recommended Recommended

## Twist Avoidance

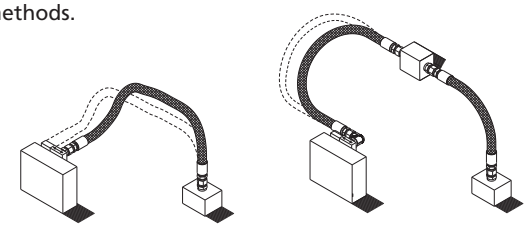
Avoid twisting the hose assembly and causing stress that may affect its use.



Not recommended Recommended

## Bending in One Plane

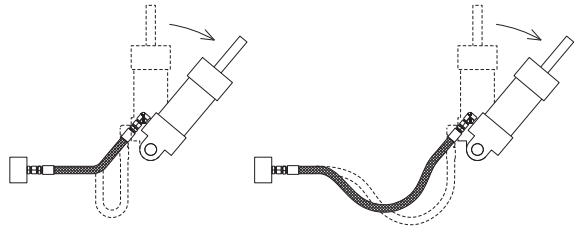
Bend the hose in one plane only so as to avoid twisting. For a compound bend, use multiple hose pieces or other isolation methods.



Not recommended Recommended

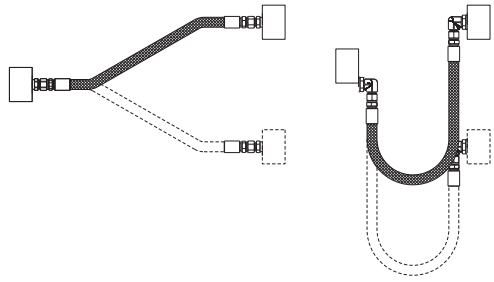
## Motion Absorption

Distribute movement and prevent bends smaller than the hose's minimum bend radius by ensuring sufficient hose length.



Not recommended Recommended

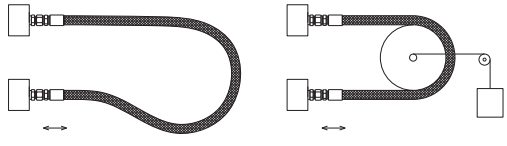
Elbow-connected hoses are better suited for vertical movement than hoses connected with straight fittings.



Not recommended Recommended

## Necessary Limits and Protection Devices

Install necessary limits and protection devices to facilitate hose movement and avoid twisting.



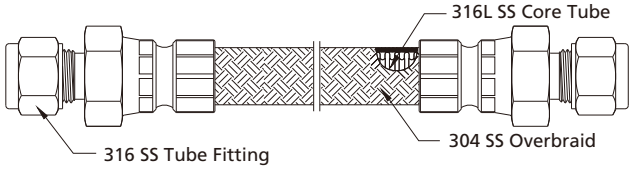
Not recommended Recommended

# Metal Flexible Hoses

## MH, MM, MX Series

### Features

- Core tube material: 316L stainless steel
  Fitting material: 316 stainless steel
- Overbraid material: 304, 316 stainless steel available (316 SS not applicable to MM series annular hoses)
- Nominal hose size: 1/4" to 2"
- End connection sizes: 1/4" to 2" and 6 mm to 50 mm
- Working pressure up to: 6000 psig (413 bar)
- Working temperature: -325°F to 800°F (-200°C to 426°C)
- Vacuum and positive pressure applications
- Welded fitting-to-hose construction to ensure reliable seal
- Standard and custom length available




### Hose Technical Parameters (MH Series)

| Nominal Hose Size | Inside Diameter | Min. Bend Radius Helical Convoluted Core | | Temperature Range | Working Pressure at 70°F (20°C) | Min. Burst Pressure at 70°F (20°C) |
|---|---|---|---|---|---|---|
| | | Static | Dynamic | | | |
| in. (mm) | in. (mm) | in. (mm) | in. (mm) | °F (°C) | psig (bar) | psig (bar) |
| 1/4 (6.4) | 0.28 (7.1) | 2.25 (57.2) | 10.0 (254) | -325 to 800 (-200 to 426) | 3100 (213) | 12400 (854) |
| 3/8 (9.7) | 0.42 (10.6) | 3.00 (76.2) | 12.0 (305) | | 2000 (137) | 8000 (551) |
| 1/2 (12.7) | 0.53 (13.5) | 4.50 (114) | 16.0 (406) | | 1800 (124) | 7200 (496) |
| 3/4 (19.0) | 0.80 (20.3) | 6.00 (152) | 17.0 (432) | | 1500 (103) | 6000 (413) |
| 1 (25.4) | 1.03 (26.0) | 6.75 (171) | 20.0 (508) | | 1200 (82.6) | 4800 (330) |
| 1 1/4 (31.8) | 1.30 (33.0) | 8.86 (225) | 23.0 (584) | | 950 (65.4) | 3800 (261) |
| 1 1/2 (38.1) | 1.53 (38.9) | 11.0 (280) | 26.0 (660) | | 900 (62.0) | 3600 (248) |
| 2 (50.8) | 2.05 (52.1) | 13.8 (350) | 32.0 (813) | | 500 (34.4) | 2000 (137) |

### Hose Technical Parameters (MM Series)

| Nominal Hose Size | Inside Diameter | Min. Bend Radius Helical Convoluted Core | | Min. Bend Radius Annular Convoluted Core | | Temperature Range | Working Pressure at 70°F (20°C) | Min. Burst Pressure at 70°F (20°C) |
|---|---|---|---|---|---|---|---|---|
| | | Static | Dynamic | Static | Dynamic | | | |
| in. (mm) | in. (mm) | in. (mm) | in. (mm) | in. (mm) | in. (mm) | °F (°C) | psig (bar) | psig (bar) |
| 1/4 (6.4) | 0.25 (6.4) | 1.38 (35) | 8.66 (220) | 0.79 (20) | 4.33 (110) | -325 to 800 (-200 to 426) | 1600 (110) | 6400 (440) |
| 3/8 (9.7) | 0.38 (9.5) | 2.36 (60) | 10.40 (264) | 0.98 (25) | 5.91 (150) | | 1470 (101) | 6000 (413) |
| 1/2 (12.7) | 0.50 (12.7) | 2.95 (75) | 11.89 (302) | 1.18 (30) | 4.88 (124) | | 1110 (76.4) | 4500 (310) |
| 3/4 (19.0) | 0.75 (19.0) | 3.54 (90) | 13.58 (345) | 1.50 (38) | 6.65 (169) | | 860 (59.2) | 3500 (241) |
| 1 (25.4) | 1.00 (25.4) | 4.13 (105) | 15.00 (381) | 1.77 (45) | 7.68 (195) | | 680 (46.8) | 2680 (184) |
| 1 1/4 (31.8) | 1.25 (31.8) | 4.72 (120) | 16.22 (412) | | | | 680 (46.8) | 2600 (179) |
| 1 1/2 (38.1) | 1.50 (38.1) | 5.51 (140) | 16.89 (429) | | | | 520 (35.8) | 2200 (151) |
| 2 (50.8) | 2.00 (50.8) | 6.30 (160) | 18.43 (468) | | | | 450 (31.0) | 1800 (124) |

## Hose Technical Parameters (MX Series)

| Nominal Hose Size | Inside Diameter | Outside Diameter | Min. Bend Radius Annular Convoluted Core | | Temperature Range | Working Pressure at 70°F (20°C) | Min. Burst Pressure at 70°F (20°C) | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | Static | Dynamic | | | | |
| in. (mm) | in. (mm) | in. (mm) | in. (mm) | in. (mm) | °F (°C) | psig (bar) | psig (bar) | lb/ft (kg/m) |
| 1/4 (6.4) | 0.25 (6.4) | 0.57 (14.5) | 1.50 (38.1) | 5.50 (140.0) | -325 to 800 (-200 to 426) | 6000 (413) | 24000 (1655) | 0.33 (0.49) |
| 3/8 (9.7) | 0.38 (9.5) | 0.80 (20.2) | 2.50 (64.0) | 7.00 (178.0) | | 5000 (344) | 20000 (1378) | 0.50 (0.74) |
| 1/2 (12.7) | 0.51 (13.0) | 0.88 (22.3) | 3.00 (76.2) | 8.00 (203.0) | | 4500 (310) | 18000 (1240) | 0.56 (0.83) |

## Testing

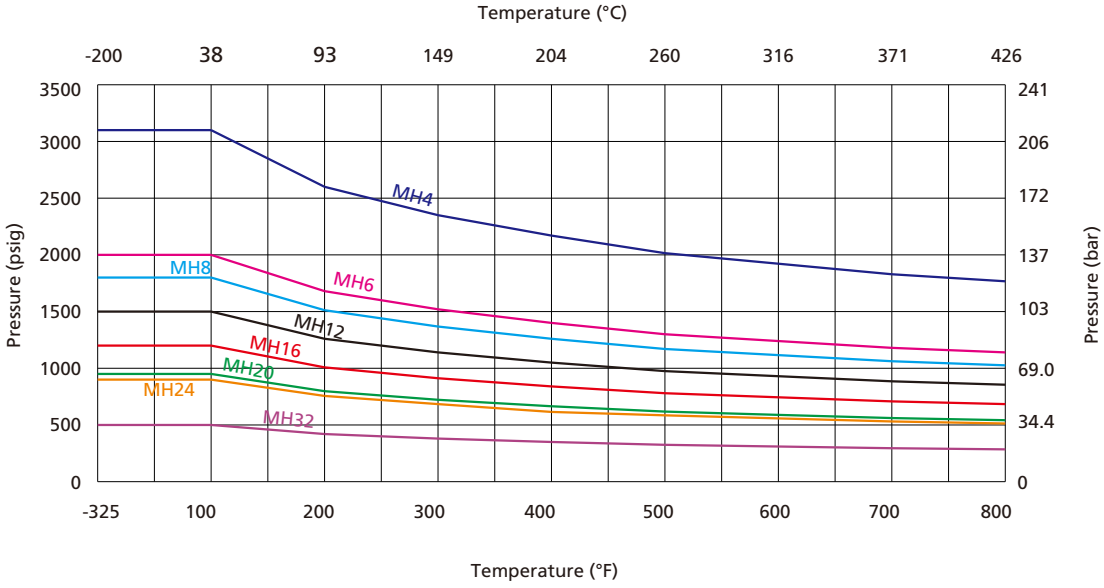
Every FITOK metal flexible hose is factory-tested with nitrogen or air at maximum working pressure and is subject to sampling test with helium to a maximum leak rate of $1 \times 10^{-5}$ std $cm^3/s$ before shipment . For other requirements, please contact FITOK Group or our authorized distributors.

## Cleaning and Packaging

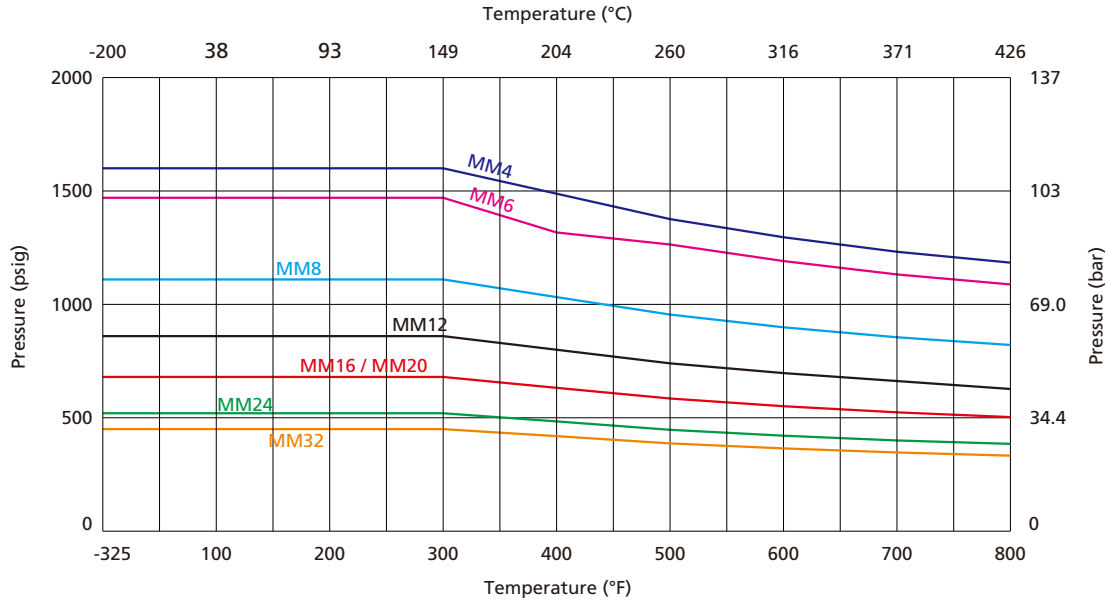
FITOK metal flexible hose components are cleaned in accordance with FITOK *Standard Cleaning and Packaging Process (FC-01)* for general industrial procedures.
Shorter hoses are packed in cartons with suitable protective material, longer hoses are coiled, bagged and boxed or crated.

## Pressure vs. Temperature

### MH series

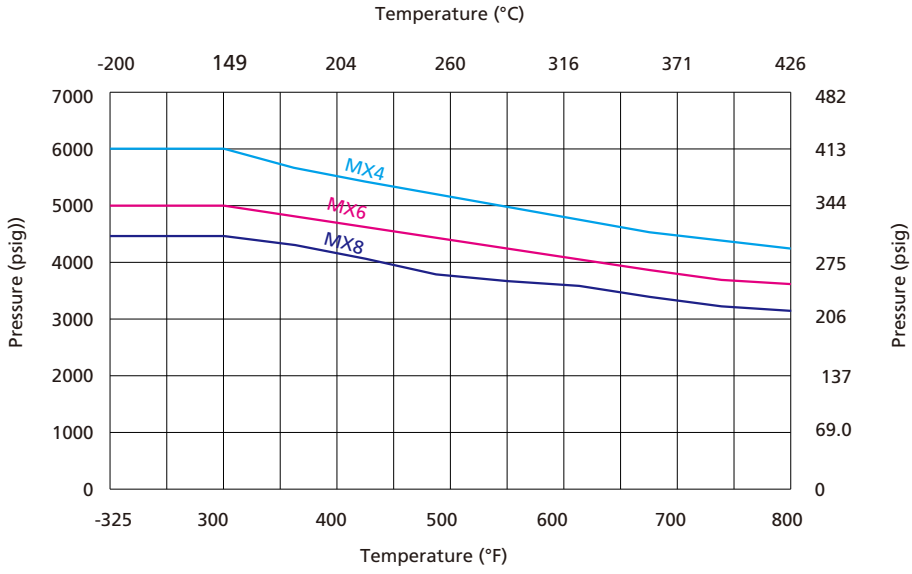


## MM series



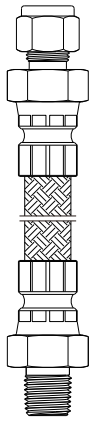

The peak value of pressure surge, shock or pulsations in the system should not exceed 50% of the rated working pressure of the hose.

## MX series



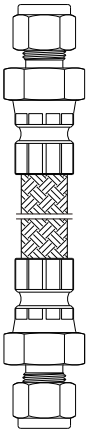
# Standard Assemblies

### Tube Fitting to Male NPT End



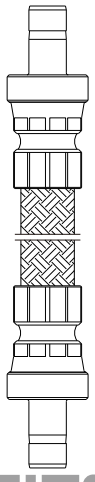
| Nominal Hose Size | Tube Fitting Size | NPT Size | Hose Series | Overall Length | Ordering Number | Minimum Inside Diameter | Maximum Outside Dimension |
|---|---|---|---|---|---|---|---|
| in. | in. | in. | | in. (mm) | | in. (mm) | in. (mm) |
| 1/4 | 1/4 | 1/4 | MX4 | 12 (305) | SS-MX4-FL4-NS4-F12 | 0.19 (4.8) | 0.94 (23.8) |
| | | | MH4 | 12 (305) | SS-MH4-FL4-NS4-F12 | 0.19 (4.8) | 0.94 (23.8) |
| | | | MM4 | 36 (914) | SS-MM4-FL4-NS4-F36 | 0.19 (4.8) | 0.87 (22.0) |
| 3/8 | 3/8 | 3/8 | MX6 | 18 (457) | SS-MX6-FL6-NS6-F18 | 0.28 (7.1) | 1.15 (29.3) |
| | | | MH6 | 18 (457) | SS-MH6-FL6-NS6-F18 | 0.28 (7.1) | 1.15 (29.3) |
| | | | MM6 | 36 (914) | SS-MM6-FL6-NS6-F36 | 0.28 (7.1) | 1.01 (25.7) |
| 1/2 | 1/2 | 1/2 | MX8 | 18 (457) | SS-MX8-FL8-NS8-F18 | 0.41 (10.4) | 1.30 (33.0) |
| | | | MH8 | 18 (457) | SS-MH8-FL8-NS8-F18 | 0.41 (10.4) | 1.30 (33.0) |
| | | | MM8 | 48 (1220) | SS-MM8-FL8-NS8-F48 | 0.41 (10.4) | 1.15 (29.3) |
| 3/4 | 3/4 | 3/4 | MH12 | 18 (457) | SS-MH12-FL12-NS12-F18 | 0.66 (16.0) | 1.74 (44.2) |
| | | | MM12 | 48 (1220) | SS-MM12-FL12-NS12-F48 | 0.66 (16.0) | 1.59 (40.5) |
| 1 | 1 | 1 | MH16 | 24 (610) | SS-MH16-FL16-NS16-F24 | 0.88 (22.4) | 2.02 (51.3) |

### Tube Fitting End



| Nominal Hose Size | Tube Fitting Size | Hose Series | Overall Length | Ordering Number | Minimum Inside Diameter | Maximum Outside Dimension |
|---|---|---|---|---|---|---|
| in. | in. | | in. (mm) | | in. (mm) | in. (mm) |
| 1/4 | 1/4 | MX4 | 12 (305) | SS-MX4-FL4-F12 | 0.19 (4.8) | 0.94 (23.8) |
| | | MH4 | 12 (305) | SS-MH4-FL4-F12 | 0.19 (4.8) | 0.94 (23.8) |
| | | MM4 | 36 (914) | SS-MM4-FL4-F36 | 0.19 (4.8) | 0.87 (22.0) |
| 3/8 | 3/8 | MX6 | 18 (457) | SS-MX6-FL6-F18 | 0.28 (7.1) | 1.15 (29.3) |
| | | MH6 | 18 (457) | SS-MH6-FL6-F18 | 0.28 (7.1) | 1.15 (29.3) |
| | | MM6 | 36 (914) | SS-MM6-FL6-F36 | 0.28 (7.1) | 1.01 (25.7) |
| 1/2 | 1/2 | MX8 | 18 (457) | SS-MX8-FL8-F18 | 0.41 (10.4) | 1.30 (33.0) |
| | | MH8 | 18 (457) | SS-MH8-FL8-F18 | 0.41 (10.4) | 1.30 (33.0) |
| | | MM8 | 48 (1220) | SS-MM8-FL8-F48 | 0.41 (10.4) | 1.15 (29.3) |
| 3/4 | 3/4 | MH12 | 18 (457) | SS-MH12-FL12-F18 | 0.66 (16.0) | 1.74 (44.2) |
| | | MM12 | 48 (1220) | SS-MM12-FL12-F48 | 0.66 (16.0) | 1.59 (40.5) |
| 1 | 1 | MH16 | 24 (610) | SS-MH16-FL16-F24 | 0.88 (22.4) | 2.02 (51.3) |

### Tube Adapter End

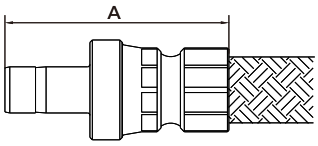


| Nominal Hose Size | Tube Adapter Size | Hose Series | Overall Length | Ordering Number | Minimum Inside Diameter | Maximum Outside Dimension |
|---|---|---|---|---|---|---|
| in. | in. | | in. (mm) | | in. (mm) | in. (mm) |
| 1/4 | 1/4 | MX4 | 12 (305) | SS-MX4-FT4-F12 | 0.17 (4.3) | 0.81 (20.6) |
| | | MH4 | 12 (305) | SS-MH4-FT4-F12 | 0.16 (4.1) | 0.81 (20.6) |
| | | MM4 | 36 (914) | SS-MM4-FT4-F36 | 0.16 (4.1) | 0.76 (19.2) |
| 3/8 | 3/8 | MX6 | 18 (457) | SS-MX6-FT6-F18 | 0.27 (6.9) | 1.02 (26.0) |
| | | MH6 | 12 (305) | SS-MH6-FT6-F12 | 0.27 (6.9) | 1.01 (25.6) |
| | | MM6 | 36 (914) | SS-MM6-FT6-F36 | 0.27 (6.9) | 0.91 (23.1) |
| 1/2 | 1/2 | MX8 | 18 (457) | SS-MX8-FT8-F18 | 0.37 (9.4) | 1.14 (29.0) |

1. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact FITOK Group or our authorized distributors.
2. Types listed are standard. Other types are available upon request.

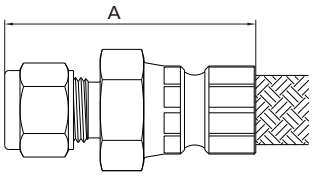
# End Connections

### Tube Adapters




| Tube Adapter Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Maximum Outside Dimension | Minimum Inside Diameter |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | FT4 | 1.76 (44.7) | 0.81 (20.6) | 0.16 (4.1) |
| 3/8 | 3/8 | FT6 | 1.82 (46.2) | 1.02 (26.0) | 0.27 (6.9) |
| 1/2 | 1/2 | FT8 | 2.22 (56.4) | 1.14 (29.0) | 0.37 (9.4) |
| 3/4 | 3/4 | FT12 | 2.35 (59.7) | 1.54 (39.1) | 0.58 (14.7) |
| 1 | 1 | FT16 | 2.69 (68.3) | 1.82 (46.3) | 0.80 (20.3) |
| in. | mm | —— | mm (in.) | | |
| 1/4 | 6 | MT6 | 44.4 (1.75) | 20.6 (0.81) | 4.1 (0.16) |
| 3/8 | 10 | MT10 | 47.0 (1.85) | 26.0 (1.02) | 7.1 (0.28) |
| 1/2 | 12 | MT12 | 57.2 (2.25) | 29.0 (1.14) | 8.9 (0.35) |

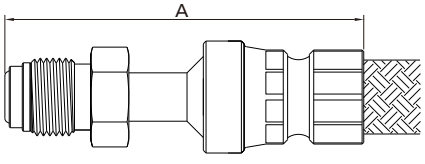
### Tube Fittings




Automatic Weld Style-1 in. and Under

| Tube Fitting Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Maximum Outside Dimension | Minimum Inside Diameter |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | FL4 | 1.94 (49.3) | 0.94 (23.8) | 0.19 (4.8) |
| 1/4 | 3/8 | FL6 | 2.00 (50.8) | 0.94 (23.8) | 0.28 (7.1) |
| 3/8 | 3/8 | FL6 | 2.02 (51.3) | 1.15 (29.3) | 0.28 (7.1) |
| 1/2 | 1/2 | FL8 | 2.24 (56.9) | 1.30 (33.0) | 0.41 (10.4) |
| 1/2 | 5/8 | FL10 | 2.27 (57.7) | 1.30 (33.0) | 0.50 (12.7) |
| 3/4 | 3/4 | FL12 | 2.35 (59.7) | 1.74 (44.2) | 0.63 (16.0) |
| 1 | 1 | FL16 | 2.64 (67.1) | 2.02 (51.3) | 0.88 (22.4) |
| 1 1/4 | 1 1/4 | FL20 | 4.04 (103) | 2.23 (58.9) | 1.09 (27.7) |
| 1 1/2 | 1 1/2 | FL24 | 4.75 (121) | 2.61 (66.3) | 1.34 (34.0) |
| 2 | 2 | FL32 | 5.72 (145) | 3.48 (88.4) | 1.88 (47.8) |
| in. | mm | —— | mm (in.) | | |
| 1/4 | 6 | ML6 | 62.2 (2.45) | 23.8 (0.94) | 4.8 (0.19) |
| 1/4 | 8 | ML8 | 63.2 (2.49) | 23.8 (0.94) | 6.4 (0.25) |
| 3/8 | 10 | ML10 | 51.6 (2.03) | 29.3 (1.15) | 7.9 (0.31) |
| 1/2 | 12 | ML12 | 56.9 (2.24) | 33.0 (1.30) | 9.7 (0.38) |

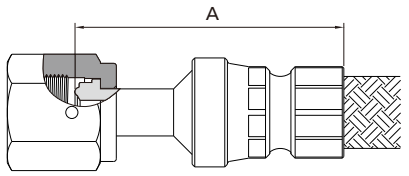
### Male FR Metal Gasket Face Seal Fittings Swivel




| FR Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | SFR4 | 2.60 (66.0) | 0.18 (4.6) | 0.81 (20.6) |
| 1/2 | 1/2 | SFR8 | 2.83 (71.9) | 0.40 (10.2) | 1.14 (29.0) |
| 3/4 | 3/4 | SFR12 | 4.19 (106) | 0.65 (16.5) | 1.54 (39.1) |
| 1 | 1 | SFR16 | 4.80 (122) | 0.87 (22.1) | 1.88 (47.7) |

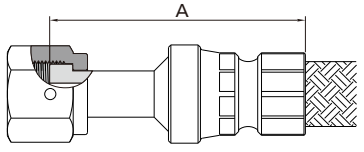
# End Connections

### Female FR Metal Gasket Face Seal Fittings Swivel



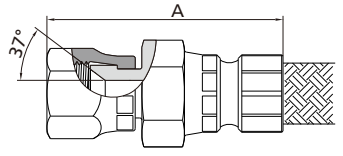

| FR Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | SFFR4 | 2.00 (50.8) | 0.18 (4.6) | 0.87 (22.1) |
| 1/2 | 1/2 | SFFR8 | 2.16 (54.9) | 0.40 (10.2) | 1.23 (31.3) |
| 3/4 | 3/4 | SFFR12 | 4.19 (106) | 0.65 (16.5) | 1.74 (44.2) |
| 1 | 1 | SFFR16 | 4.80 (122) | 0.87 (22.1) | 2.03 (51.6) |

### Female FO O-Ring Face Seal Fittings Swivel



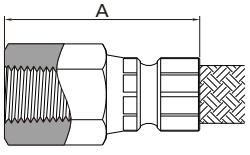

| FO Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | SFFO4 | 2.11 (53.6) | 0.18 (4.6) | 0.81 (20.6) |
| 1/2 | 1/2 | SFFO8 | 2.14 (54.4) | 0.40 (10.2) | 1.23 (31.3) |

### SAE 37° (JIC) Female Swivel



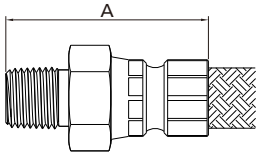

| Swivel Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | SAN4 | 1.87 (47.5) | 0.17 (4.3) | 0.81 (20.6) |
| 3/8 | 3/8 | SAN6 | 1.98 (50.3) | 0.28 (7.1) | 1.05 (26.6) |
| 1/2 | 1/2 | SAN8 | 2.25 (57.2) | 0.42 (10.7) | 1.23 (31.3) |

### Female Pipe Threads, NPT

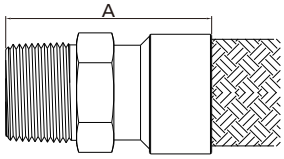



| NPT Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | FNS4 | 1.81 (46.0) | 0.28 (7.1) | 0.94 (23.8) |
| 3/8 | 3/8 | FNS6 | 1.87 (47.5) | 0.38 (9.7) | 1.15 (29.3) |
| 1/2 | 1/2 | FNS8 | 2.18 (55.4) | 0.47 (11.9) | 1.30 (33.0) |
| 3/4 | 3/4 | FNS12 | 2.21 (56.1) | 0.72 (18.3) | 1.74 (44.2) |

**Male Pipe Threads, NPT**




Automatic Weld Style-1 in. and Under




Manual Weld Style-Over 1 in.

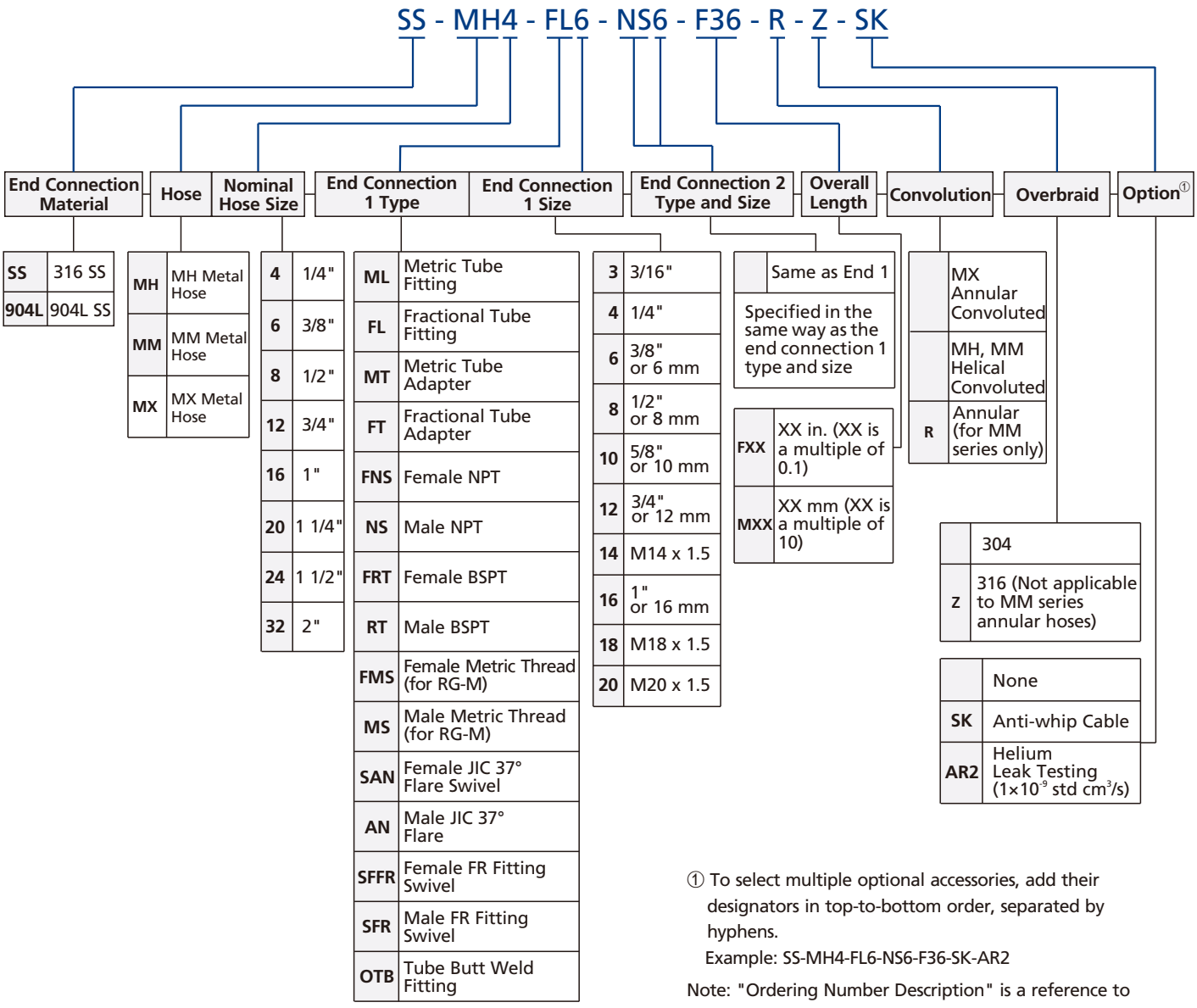
| NPT Size | Nominal Hose Size | End Connection Designator | Dimensions | | |
|---|---|---|---|---|---|
| | | | A | Minimum Inside Diameter | Maximum Outside Dimension |
| in. | in. | | in. (mm) | | |
| 1/4 | 1/4 | NS4 | 1.80 (45.7) | 0.28 (7.1) | 0.94 (23.8) |
| 1/4 | 3/8 | NS4 | 1.81 (46.0) | 0.28 (7.1) | 1.15 (29.3) |
| 3/8 | 3/8 | NS6 | 1.81 (46.0) | 0.38 (9.7) | 1.15 (29.3) |
| 1/2 | 1/4 | NS8 | 1.99 (50.6) | 0.47 (11.9) | 1.02 (25.8) |
| 1/2 | 1/2 | NS8 | 2.15 (54.6) | 0.47 (11.9) | 1.30 (33.0) |
| 3/4 | 3/4 | NS12 | 2.22 (56.4) | 0.63 (16.0) | 1.74 (44.2) |
| 1 | 1 | NS16 | 2.54 (64.5) | 0.88 (22.4) | 2.02 (51.3) |
| 1 1/4 | 1 1/4 | NS20 | 3.06 (77.7) | 1.09 (27.7) | 2.31 (58.7) |
| 1 1/2 | 1 1/2 | NS24 | 3.72 (94.5) | 1.34 (34.0) | 2.31 (58.7) |
| 2 | 2 | NS32 | 4.19 (106) | 1.81 (46.0) | 3.19 (81.0) |

## Options

**Anti-whip Cable**

- 304 stainless steel cable
- Available on hoses without changing the technical parameters of hoses
- Prevent hoses from whipping around and causing serious injuries in the event of fitting blow-off or hose burst

## Ordering Number Description




① To select multiple optional accessories, add their designators in top-to-bottom order, separated by hyphens.
Example: SS-MH4-FL6-NS6-F36-SK-AR2

Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.

**Example: SS-MH4-FT6-M710**

**SS:** End connection material is 316 stainless steel.
**MH4: MH series, nominal hose size is 1/4".**
**FT6:** End connection 1 is 3/8" tube adapter.
End connection 2 is 3/8" tube adapter.
**M710:** Overall length is 710 mm.

Connections are described based on the following rules:
1. Metric Tube Fitting - Fractional Tube Fitting - Metric Tube Adapters - Fractional Tube Adapters - NPT Threads - BSPT Threads - BSPP Threads - SAE/MS Parallel Threads - 37° Flare - FR Fitting - OTB Tube Butt Weld Fitting - Others
2. Put the sizes from the biggest down to the smallest if they are of the same type.
3. Put the female before male if they are of the same type and size.