## Features

- Working Pressure:

  20 Bar

- Negative pressure

  -29.5 in Hg / -750 mm Hg (-750 Torr)

- Working Temperature:

  From -20°C to +80 °C

  (From -4°F to +176°F)

- Application Tube:
  - Polyurethane
  - Nylon
- Suitability:

  Air (no other type of gas or liquid)

- Fast installation and quick Disconnection
- Applications:

  Pneumatic Piping and Fitting lines

# RS PRO Push-In Pneumatic Tee Threaded-to-Tube Fittings

**RS Stock No.: various**



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

## Product Description

**Features:**

- Easy Installation and disconnection by one touch
- Hexagonal type effective for piping in narrow spaces as the inner and outer sides are hexagonal
- Standard Push In without hexagonal shape have a rotating structure, thus, efficient for piping
- It is easily disconnected by pushing the tube without tools
- Working Temperature: From -20°C to +80 °C (From -4°F to +176°F)
- Negative pressure: -29.5 in Hg / -750 mm Hg (-750 Torr)

**Fluid Types:**

- Air (no other type of gas or liquid) Don't use with water applications

**Application Tube:**

- Polyurethane, Nylon

**Applications:**

- One-touch joints used in pneumatic piping and fitting lines

## General Specifications

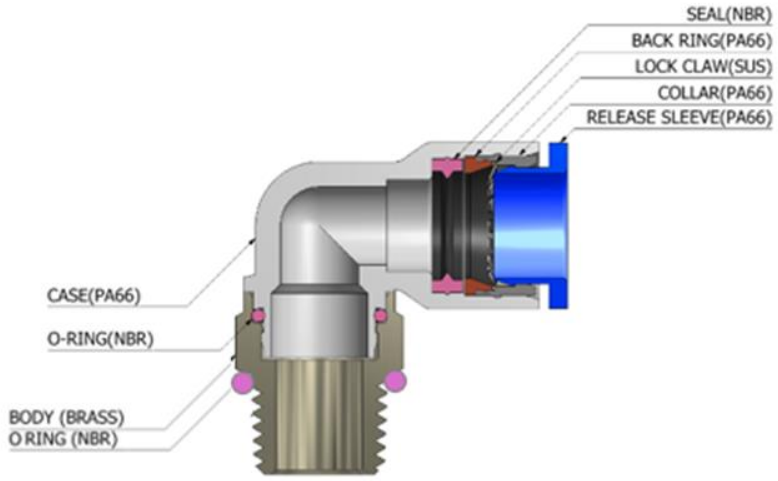
| | |
|---|---|
| **Series** | RS PRO Push In |
| **Product Type** | Pneumatic Tee Threaded-to-Tube Fittings |
| **Sub Type** | Pneumatic Plug-In Reducer |
| **Connection Style** | Threaded-to-Tube |
| **Angle** | 90° |
| **Maximum Operating Pressure** | 20 Bar |
| **Maximum Operating Temperature** | 80°C |
| **Minimum Operating Temperature** | -20°C |
| **Connection A Style** | See next page for detailed attributes |
| **Connection A Size** | See next page for detailed attributes |
| **Connection A Gender** | Female |
| **Connection B Style** | See next page for detailed attributes |
| **Connection B Size** | See next page for detailed attributes |
| **Connection B Gender** | Male |
| **Connection C Style** | See next page for detailed attributes |
| **Connection C Size** | See next page for detailed attributes |
| **Connection C Gender** | Female |
| **Applicable Fluid** | Air (no other type of gas or liquid) |
| **Food Grade** | No |
| **Applications** | Pneumatic Piping, Fitting Lines |
| **Material** | Brass (Body), Polyamide PA66 (Case, Back Ring, Collar, Release Sleeve); Stainless Steel SUS (Lock Claw) Nitrile NBR (Seal, O-Ring) |
| **Finish** | Nickel Plated (Electroless) |
| **Mounting Type** | Inline |

## Specifications

| RS Stock Number | Connection A Type / Size | Connection B Type / Size | Connection C Type / Size |
|---|---|---|---|
| 0848427 | Push In 4 mm | G 1/4 Male | Push In 4 mm |
| 0848499 | Push In 6 mm | G 1/8 Male | Push In 6 mm |
| 0848500 | Push In 6 mm | G 1/4 Male | Push In 6 mm |
| 0848501 | Push In 6 mm | G 3/8 Male | Push In 6 mm |
| 0848506 | Push In 8 mm | G 1/8 Male | Push In 8 mm |
| 0848507 | Push In 8 mm | G 1/4 Male | Push In 8 mm |
| 0848508 | Push In 8 mm | G 3/8 Male | Push In 8 mm |
| 0848511 | Push In 10 mm | G 1/8 Male | Push In 10 mm |
| 0848512 | Push In 10 mm | G 1/4 Male | Push In 10 mm |
| 0848513 | Push In 10 mm | G 3/8 Male | Push In 10 mm |
| 0848514 | Push In 10 mm | G 1/2 Male | Push In 10 mm |
| 0848517 | Push In 12 mm | G 1/4 Male | Push In 12 mm |
| 0848518 | Push In 12 mm | G 3/8 Male | Push In 12 mm |
| 0848519 | Push In 12 mm | G 1/2 Male | Push In 12 mm |



## Structural Diagram




## Safety Instructions Manual

- When installing a fitting, refer to table of recommended tightening torque
- The taper pipe thread is coated with Teflon, thus requiring no additional Teflon tape or sealing treatment.

〈Table〉 Recommended Tightening Torque(Thread Size)

| Thread type | Thread Size | Recommended torque(kgf · cm) |
|---|---|---|
| Metric Thread (mm) | M3×P0.5 | 0.7 Nm |
| | M5×P0.8 | 1.5 Nm |
| | M6×P1.0 | 2.3 Nm |
| Pipe Taper Thread (PT) | R 1/8 | 7 Nm |
| | R 1/4 | 12 Nm |
| | R 3/8 | 22 Nm |
| | R 1/2 | 28 Nm |
| Unified Thread (UNF) | No. 10-32 UNF | 1.5 Nm |
| NPT Thread | NPT 1/16 | 7 Nm |
| | NPT 1/8 | 7 Nm |
| | NPT 1/4 | 12 Nm |
| | NPT 3/8 | 22 Nm |
| | NPT 1/2 | 28 Nm |
| PF Thread | G 1/8 | 10 Nm |
| | G 1/4 | 15 Nm |
| | G 3/8 | 25 Nm |
| | G 1/2 | 40 Nm |

## Tube Mounting Length

- Please check tube mounting length before connecting a fitting into a tube.
- When inserting a tube, the tube needs to be inserted fully into the pushing in fitting to the end. It goes through the packing till the end(point B).
- When the tube is completely installed, lock-claws tightens and it is sealed by packing.

### 〈Table〉 Tube O.D. Tolerance

▶mm Size O.D. Tolerance (Unit/mm)

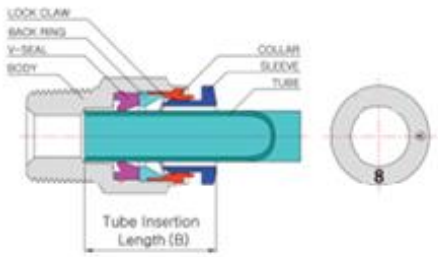
| Tube Size | Ø3 | Ø4 | Ø6 | Ø8 | Ø10 | Ø12 | Ø12 |
|---|---|---|---|---|---|---|---|
| Tolerance | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.15 | ±0.15 | ±0.15 |

▶Inch Size O.D. Tolerance (Unit/mm)

| Tube Size | Ø1/8 | Ø5/32 | Ø10/32 | Ø1/4 | Ø 5/16 | Ø3/8 | Ø1/2 |
|---|---|---|---|---|---|---|---|
| Tolerance | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.15 | ±0.15 | ±0.15 |

## Tube Mounting Length

- Check the tolerance of the outer diameter of the tube before use
- The tolerance for the outer diameter of the tube that can be mounted on the product is ±.01mm to ±0.15mm from the standard diameter. Please refer to the table for the tolerance for each size.




〈Image〉 Tube Mounting Depth

### 〈Table〉 Standard Fitting Type

| Tube Mounting Depth | Standard Type | | | | | | Compact Type | | |
|---|---|---|---|---|---|---|---|---|---|
| | Φ4 | Φ6 | Φ8 | Φ10 | Φ12 | Φ16 | Φ3 | Φ4 | Φ6 |
| B | 15.0 | 16.5 | 18.8 | 20.1 | 22.9 | 23.6 | 11.3 | 11.8 | 12.9 |

### 〈Table〉 Inch Fitting Type

| Tube Mounting Depth | Standard Type | | | | | | Compact Type | | |
|---|---|---|---|---|---|---|---|---|---|
| | Φ5/32 | Φ3/16 | Φ1/4 | Φ5/16 | Φ3/8 | Φ1/2 | Φ1/8 | Φ5/32 | Φ1/4 |
| B | 15.0 | 15.9 | 16.8 | 18.8 | 20.1 | 23.1 | 11.3 | 11.8 | 13.5 |

## Instructions for Fitting Installation

- Please check screw dimensions and thread size before use
- The taper pipe thread is coated with Teflon, thus requiring no additional Teflon tape or sealing treatment




R & NPT Thread M & U Thread

〈Image〉 Thread Size

〈Table〉 Metric Thread Size (Unit/mm)

| Thread type | M Thread | | R Thread | | | | U Thread | NPT Thread | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thread Size(T) | M5 | M6 | R⅛ | R¼ | R⅜ | R½ | UNF 10/32 | R⅛ | R¼ | R⅜ | R½ |
| Thread Length(A) | 4 | 4.1 | 8 | 10 | 11 | 14 | 4.1 | 8.5 | 10.5 | 11.5 | 14.5 |

〈Table〉Metric Thread Specfications

| Thread Code | Thread Size | Applicable product |
|---|---|---|
| M3 | M3 × 0.5 | (Applied to all products) |
| M5 | M5 × 0.8 | |
| M6 | M6 × 1.0 | |

## Instructions for Tube Insertion

### # Tube Insertion

- Make sure that the tube inserts fully into the fitting
- Make sure that the cut end surface of the tube is a right angle without a scratch on the surface and deformations. Pull the tube lightly to check the complete installation.
- There is a risk of leakage when there is damage to the outside of the tube
- Check tube diameter to avoid tube damage.

### # Instructions for Tube Disconnection

- Make sure there is no air pressure inside of the tube before disconnection it
- Push the release ring of the push-in fitting evenly and deeply enough to pull out the tube by hand
- Cut the compressed part of the tube before reuse

### # How to Insert Tube

❶ Preparation — prepare the tube, tube cutter, fitting connection devices(spanner or monkey wrench)

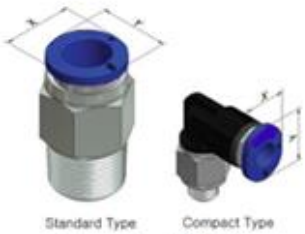
❷ Tube cutting — cut the tube at a right angle axial and vertically using tube cutter

❸ Fitting Installation — Tighten the fitting with the spanner or money referring recommended Tightening Torque

❹ Tube insertion — Insert the tube in a straight line into the fitting after marking the length of the tube insertion

## Instructions for removing a fitting

- When removing a fitting, use proper tools to loosen
- Remove the sealant stuck on the mating equipment
- Please refer to the size of sleeve




〈Image〉 X, Y size

〈Table〉 The Size of Sleeve

▶ The Size of Standard Sleeve Type (Unit/mm)

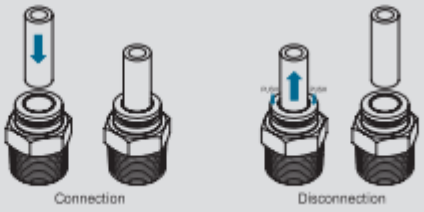
| Sleeve specification | Standard Type | | | | | | | Compact Type | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Φ4 | Φ6 | Φ8 | Φ10 | Φ12 | Φ14 | Φ16 | Φ3 | Φ4 | Φ6 |
| X | 9.7 | 11.8 | 13.8 | 16.6 | 19.8 | 22 | 25.2 | 7.2 | 8.2 | 10.2 |
| Y | - | - | - | - | - | - | - | 9.2 | 10.4 | 12.4 |

▶ The Size of Inch Sleeve Type (Unit/mm)

| Sleeve specification | Standard Type | | | | | | Compact Type | | |
|---|---|---|---|---|---|---|---|---|---|
| | Φ5/32 | Φ3/16 | Φ1/4 | Φ5/16 | Φ3/8 | Φ1/2 | Φ1/8 | Φ5/32 | Φ1/4 |
| X | 9.7 | 11.1 | 12.6 | 13.8 | 16.8 | 19.9 | 7.2 | 8.2 | 10.8 |
| Y | - | - | - | - | - | - | 9.2 | 10.4 | 12.8 |

**Example of uses**

- Use a hexagonal wrench or spanner to tighten internal and external hexagonal part
- PL and PT type are flexible for directional tube laying given its revolving construction of body
- Sleeve is circular, thus, no interference with equipment




**CAUTIONS**

- Be sure to read "Caution", "Warning", "Common Safety Instructions" and precautions of using fitting products before use.
- Make sure to check "Recommended Tightening Torque
- It is recommended to rotate the fitting 2-3 times using a tool after tightening by hand. Screws will break if it pushes too hard.
- Make sure that the cut end surface of the tube is a right angle without a scratch on the surface and deformations. Pull the tube lightly to check the complete installation.
- Avoid piping under the condition of tension and abruptly curved piping before the tube insertion

**WARNINGS**

- Avoid twisting or hitting the body of fitting when assembling. It may cause damage or air leakage.
- Make sure to check specifications before using fluid. It may cause damage or air leakage

## Caution

**DANGER** Do not use for the following purposes:
•Devices used for maintaining and handling human life and body
•Devices for moving and transporting human
•Devices that prioritize safety purposes

**WARNING** Do not use these products under the following conditions:
•Beyond the specifications stated in the datasheet or the instructions
•Excessive vibrations, impacts
•Avoid any load on products such as tensile strength, twisting and bending
•Exposure spatter (there is a risk of causing fire by sparks) •Under condition of over 60℃, hot temperature fluid (hydrolysis may occur) or thermal oil
•For Use in water (damaged by surge pressure) •Under condition of pharmaceuticals being used (see chemical compatibility table)

**CAUTION** Pay attention to the following:
•Remove dusts or drain before installation
•Supply air after connection fitting to the pipe. There is a possibility that the seal of fitting may come off and cause leakage. •Excessive force and exceeding the recommended allowable torque may cause damage or quality problems due to broken screws. •Tube detachable sleeve is designed in a circular shape, thus, suitable for the narrow space. However, in case of space being limited select other products (compact fitting and etc.)

## Approvals

| | |
|---|---|
| **Standards Met** | REACH, RoHS |




***** Please see our Product Guide for more sizes / options within this range**

* System performance always depend on fittings, tubes and possible other items and accessories used. It is a responsibility for users to cross check the technical characteristics of each single component in order to avoid possible failures and dangers.

## Chemical Compatibility

- Although the compatibility is proved as Excellent or Good, it maynot suitable in some purposes of applications.
- Be sure to refer in actual using condition.

| Judgement Standard | ◎ : Excellent | ○ : Good | △ : Require confirmation | × : Incompatible | - : No data |
|---|---|---|---|---|---|

| Chemical name<br>Density(%), Temperature(℃) | Fitting | | | | | | Tube Type | | | | Seal material | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BRASS | SUS304 | SUS316 | POM | PBT | PP | Urethane | Nylon | Polyolefin | Fluorine | NBR | EPDM | FKM |
| Caustic soda (10% 20℃) | △ | △ | ○ | ◎ | △ | ○ | × | ○ | ○ | ◎ | ○ | ◎ | ○ |
| Caustic soda (30% 20℃) | - | - | - | ◎ | × | ○ | × | ○ | ○ | ◎ | - | - | - |
| Caustic soda (30% 70℃) | - | - | - | ○ | × | △ | × | × | △ | ○ | - | - | - |
| Gasoline | ○ | ○ | ○ | ◎ | ◎ | △ | ○ | ◎ | △ | ◎ | ◎ | × | ◎ |
| Air | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| Sodium perborate | × | – | ○ | ○ | ○ | ○ | - | ○ | ○ | ◎ | ○ | ◎ | ◎ |
| Sodium peroxide | × | – | ○ | – | – | ○ | - | × | ○ | ◎ | ○ | ◎ | ◎ |
| Hydrogen peroxide (5%,20℃) | × | ○ | ○ | ○ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | – | – | – |
| Hydrogen peroxide (5%,20℃) | × | ○ | ○ | △ | ○ | ◎ | △ | △ | ◎ | ◎ | – | – | – |
| Hydrogen peroxide (30%,20℃) | × | ○ | ○ | × | ○ | ○ | × | × | ○ | ◎ | – | – | – |
| Perchloric acid | × | × | × | × | ○ | ○ | × | × | ○ | ○ | – | ○ | ◎ |
| Grease | ○ | ◎ | ◎ | ◎ | ◎ | △ | ○ | ◎ | △ | ◎ | ◎ | × | ◎ |
| Sodium silicate | △ | – | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Glycerin 글리세린 | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Naphtha | △ | ○ | ○ | ◎ | ○ | △ | △ | ○ | △ | ◎ | △ | × | ◎ |
| Naphthaline | △ | – | △ | ◎ | ○ | ○ | △ | ◎ | △ | ◎ | × | × | ◎ |
| Nitropropane | – | – | – | ○ | – | ○ | - | - | ○ | ○ | – | – | – |
| Kerosene | ◎ | ◎ | ◎ | ◎ | ◎ | △ | ◎ | ◎ | △ | ◎ | ◎ | × | ◎ |
| Dichloro benzene | △ | – | – | △ | △ | △ | × | △ | × | ◎ | – | – | – |
| Linoleic acid | – | – | – | ○ | – | △ | - | △ | △ | ○ | ○ | × | ○ |
| Maleic acid | – | △ | △ | – | – | ◎ | △ | ◎ | ◎ | ◎ | – | △ | ◎ |
| Cottonseed oil | △ | ○ | ○ | ◎ | – | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ |
| Methane | ○ | – | △ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | × | ◎ |
| Methyl alcohol(Methanol) | ◎ | △ | ○ | ○ | ○ | ○ | △ | ○ | ○ | ◎ | ◎ | ◎ | △ |
| Methyl ethyl ketone(MEK) | ◎ | △ | ○ | ○ | ○ | ○ | × | ○ | ○ | ○ | × | ◎ | × |
| Methyl isobutyl ketone(MIBK) | △ | – | △ | ○ | ○ | ○ | × | ○ | ○ | ◎ | × | △ | × |
| Monoethanolamine | – | – | △ | ○ | – | ○ | - | ○ | △ | ○ | × | ○ | × |
| Monochlorobenzene | – | – | – | ○ | – | × | × | × | × | ○ | × | × | ◎ |
| Chloroacetic acid | – | – | – | △ | △ | × | × | × | × | ○ | – | – | – |
| Hydrofluoric acid Anhydride | × | – | × | × | – | × | × | × | × | ○ | – | ○ | – |
| Acetic Anhydride | × | ○ | ○ | × | – | △ | × | × | △ | ○ | △ | ○ | × |
| Water (24℃) | ○ | ○ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Water (100℃) | × | ○ | ○ | △ | × | △ | △ | △ | △ | ◎ | – | – | – |
| Sea Water | △ | ○ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | – | – | – |
| Bunker oil | △ | – | ○ | – | – | ○ | – | ○ | ○ | – | ◎ | – | ◎ |
| Benzene(Benzol) | × | △ | △ | ○ | ○ | △ | × | ○ | × | ◎ | × | × | ◎ |
| Butane | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | – | ○ | △ | ◎ | ◎ | × | ◎ |
| Fluorine | × | × | △ | × | – | × | × | – | × | × | – | △ | ○ |
| Borax | × | – | ○ | – | – | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ |
| Boric acid | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Amyl borate | – | – | – | ○ | – | △ | – | – | △ | ○ | ◎ | × | ◎ |
| Bromine | × | – | × | × | × | △ | × | × | × | ◎ | – | – | ◎ |
| Arsenic acid | △ | ○ | ○ | – | – | ○ | – | △ | ○ | ○ | – | – | – |
| Carbon tetrachloride | △ | △ | △ | ○ | ○ | △ | × | △ | × | ◎ | △ | × | ◎ |
| Oxygen | ◎ | ◎ | ◎ | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ○ | ◎ | ◎ |
| Petroleum | – | – | – | ○ | ○ | × | ◎ | ◎ | × | ◎ | ◎ | × | ◎ |



- Although the compatibility is proved as Excellent or Good, it maynot suitable in some purposes of applications.
- Be sure to refer in actual using condition.

| Judgement Standard | ◎ : Excellent | ○ : Good | △ : Require confirmation | × : Incompatible | - : No data |
|---|---|---|---|---|---|

| Chemical name<br>Density(%), Temperature(℃) | Fitting | | | | | | Tube Type | | | | Seal material | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BRASS | SUS304 | SUS316 | POM | PBT | PP | Urethane | Nylon | Polyolefin | Fluorine | NBR | EPDM | FKM |
| Salt Water | × | △ | △ | ◎ | ○ | ○ | – | ○ | ○ | ○ | – | – | – |
| Soda water | – | – | – | ◎ | ○ | ○ | ○ | ○ | ○ | ○ | – | – | – |
| Soda ash→Sodium carbonate | ○ | △ | △ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Pine oil | △ | ○ | ◎ | – | ○ | ○ | – | × | ○ | ○ | ○ | × | ◎ |
| Oxalic acid | △ | △ | △ | × | ○ | ◎ | △ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ |
| Ethyl oxalate | – | – | – | ○ | ○ | × | × | ○ | × | ○ | × | ◎ | ◎ |
| Magnesium hydroxide | △ | – | △ | ◎ | × | ○ | △ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ |
| Barium hydroxide | × | – | ◎ | ◎ | △ | ○ | – | ○ | ○ | ◎ | ◎ | ◎ | ◎ |
| Ammonium hydroxide | × | △ | ○ | ◎ | × | ◎ | △ | ○ | ◎ | ◎ | × | ◎ | ○ |
| Potassium hydroxide | △ | △ | △ | ◎ | × | ○ | △ | △ | ◎ | ◎ | ○ | ◎ | ○ |
| Calcium hydroxide | △ | △ | △ | ◎ | × | ○ | △ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Hydrogen | △ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Marcury | × | – | △ | – | – | ◎ | – | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| Steam (150℃ or less) | ○ | – | ○ | △ | △ | × | × | × | × | ○ | × | ◎ | × |
| Steam (150℃ or higher) | – | – | – | × | × | △ | × | × | × | ○ | × | ○ | × |
| Vegetable oil | – | – | – | ○ | ○ | ○ | – | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| Salt water | △ | △ | △ | ◎ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | – | – | – |
| Silicone greases | – | – | – | ◎ | ◎ | △ | – | ○ | △ | ○ | ◎ | ◎ | ◎ |
| Silicone oil | – | – | – | ◎ | ◎ | △ | – | ○ | △ | ○ | ◎ | ◎ | ◎ |
| Glue | △ | – | △ | – | – | ◎ | – | ○ | ○ | ◎ | – | – | – |
| Aniline 0∤ | × | △ | △ | ○ | ○ | △ | × | × | × | ○ | × | ○ | △ |
| Amyl naphtalene | – | – | – | ◎ | ◎ | △ | – | – | △ | ○ | × | × | ◎ |
| Amyl alcohol | ○ | △ | △ | ◎ | ◎ | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ○ |
| Acetone | ◎ | △ | ○ | ○ | ○ | △ | × | ○ | △ | ○ | × | ◎ | × |
| Acetamide | – | – | – | ○ | ○ | △ | – | – | △ | ○ | ◎ | ◎ | ○ |
| Acetaldehyde | ◎ | ○ | ◎ | ○ | ○ | ○ | ○ | ○ | △ | ○ | × | ◎ | × |
| Acetylence | × | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ◎ | ◎ |
| Sulfurous acid | × | △ | △ | × | ○ | ○ | × | × | ○ | ◎ | ○ | ○ | ◎ |
| Sulfurous acid gas | – | – | ○ | △ | ○ | ○ | × | × | △ | ◎ | ○ | ○ | ◎ |
| Sodium sulfite | ○ | ○ | ◎ | ◎ | ○ | ○ | – | △ | ○ | ◎ | – | – | – |
| Ammonia (No water) | △ | ◎ | ◎ | ○ | △ | ○ | – | ○ | ○ | ◎ | ◎ | ◎ | × |
| Ammonia gas (Cold) | × | ○ | ○ | ○ | △ | △ | × | △ | △ | ○ | ◎ | ◎ | × |
| Ammonia gas (heat) | × | ○ | ○ | ○ | × | × | × | × | × | ○ | ◎ | ◎ | × |
| Liquid Ammonia | ○ | ◎ | ◎ | ○ | △ | ○ | – | ○ | ○ | ○ | – | – | – |
| Chlorine Liquide | – | – | – | × | ○ | × | × | × | × | ○ | – | – | – |
| Liquefied petroleum gas(LPG) | ◎ | ◎ | ◎ | ◎ | ◎ | △ | – | ○ | △ | ○ | ◎ | × | ◎ |
| Ethanolamine | – | – | – | ◎ | △ | △ | – | △ | △ | ○ | ○ | ○ | × |
| Ethylene glycol | △ | △ | △ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Ethyl cellulose | – | – | △ | ◎ | ◎ | ◎ | – | – | ○ | ◎ | – | ○ | × |
| Ethyl alcohol(Ethanol) | ◎ | ○ | ◎ | ◎ | ◎ | ○ | △ | ○ | ○ | ◎ | ◎ | ◎ | ◎ |
| Lye solution | – | – | – | ◎ | ○ | ○ | – | ○ | ○ | ○ | ○ | ◎ | ○ |
| Hydrochloric acid (10%, 20℃) | × | × | × | × | ○ | ◎ | △ | ○ | ◎ | ◎ | – | – | – |
| Hydrochloric acid (20%, 20℃) | × | × | × | × | △ | ○ | × | × | ○ | ◎ | – | – | – |
| Hydrochloric acid (20%, 80℃) | × | × | × | × | × | × | × | × | × | ○ | × | △ | ◎ |
| Hydrochloric acid (38%, 20℃) | × | × | × | × | △ | ○ | × | × | ○ | ◎ | ○ | ◎ | ◎ |
| Magnesium chloride | △ | △ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

- Although the compatibility is proved as Excellent or Good, it maynot suitable in some purposes of applications.
- Be sure to refer in actual using condition.

| Judgement Standard | ◎ : Excellent ○ : Good △ : Require confirmation × : Incompatible - : No data |
|---|---|

| Chemical name<br>Density(%), Temperature(℃) | Fitting | | | | | | Tube Type | | | | Seal material | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BRASS | SUS304 | SUS316 | POM | PBT | PP | Urethane | Nylon | Polyolefin | Fluorine | NBR | EPDM | FKM |
| Methyle chloride | ○ | ○ | ◎ | ◎ | – | × | × | △ | × | ○ | × | △ | ◎ |
| Barium chloride | × | – | ○ | – | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Zinc chloride | × | △ | ○ | × | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Acetyl chloride | – | – | △ | × | – | × | × | × | × | – | – | – | ◎ |
| Aluminium chloride | × | × | × | – | ○ | ◎ | – | △ | ○ | ◎ | ◎ | ◎ | ◎ |
| Ammounium chloride | × | △ | △ | ◎ | ○ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Ethyle chloride | ○ | ◎ | ◎ | ◎ | – | × | × | ◎ | × | – | ◎ | ◎ | ◎ |

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| Chemical name<br>Density(%), Temperature(℃) | Fitting | | | | | | Tube Type | | | | Seal material | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BRASS | SUS304 | SUS316 | POM | PBT | PP | Urethane | Nylon | Polyolefin | Fluorine | NBR | EPDM | FKM |
| Chloroacetone | – | – | – | – | – | × | – | – | × | – | × | ◎ | × |
| Chlorotoluene | – | – | – | ○ | ○ | × | – | × | × | ○ | × | × | ◎ |
| Chloroform | ○ | ○ | ○ | △ | △ | × | × | ○ | × | ◎ | × | × | ◎ |
| Soybean oil | △ | ○ | ○ | ◎ | ◎ | ○ | – | ○ | ○ | ◎ | ◎ | △ | ◎ |
| Tannic acid | × | △ | △ | ○ | – | ◎ | △ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| Tar | △ | ◎ | ◎ | – | – | ○ | ◎ | ◎ | ○ | ◎ | ○ | × | ◎ |
| Carbonic acid | ○ | △ | △ | – | – | ○ | △ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ |
| Carbon dioxide | ○ | ○ | ○ | ◎ | ◎ | ◎ | ○ | ○ | ○ | ◎ | – | – | – |
| Sodium carbonate | ○ | △ | △ | ◎ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | – | – | – |
| Ammonium carbonate | – | △ | △ | ◎ | ○ | ○ | – | ○ | ○ | ◎ | × | ◎ | – |
| Toluene | ◎ | ◎ | ◎ | ○ | △ | △ | △ | ○ | △ | ○ | × | × | ◎ |
| Triacetin | – | – | – | – | – | ○ | – | – | ○ | – | ○ | ◎ | × |
| Phenol | ○ | ○ | ○ | × | ○ | ○ | × | × | ○ | ◎ | – | ○ | ◎ |