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 Elbow 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

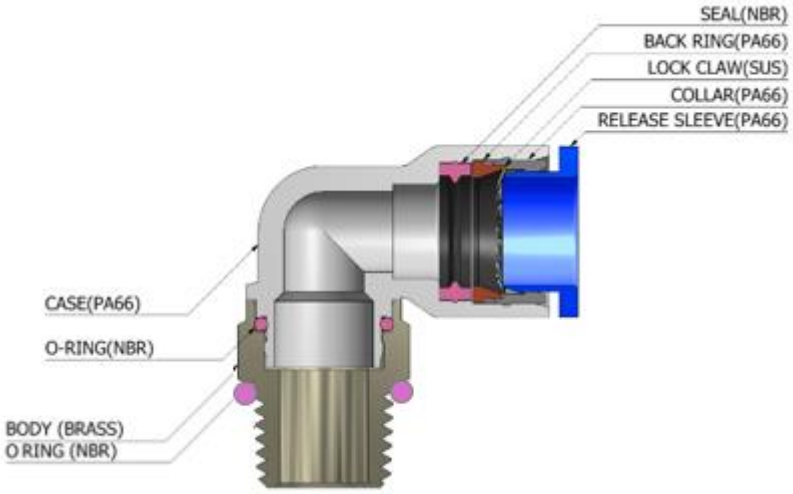
Series	RS PRO One Touch
Product Type	Push-in Fitting
Sub Type	Pneumatic Elbow Threaded-to-Tube Adaptor
Connection Style	Threaded-to-Tube
Angle	90°
Maximum Operating Pressure	20 Bar
Maximum Operating Temperature	80°C
Minimum Operating Temperature	-20°C
Tube Connection A Style	See next page for detailed attributes
Tube Connection A Size	See next page for detailed attributes
Connection B Thread Standard	See next page for detailed attributes
Connection B Thread Size	See next page for detailed attributes
Connection Gender	See next page for detailed attributes
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	Tube Connection A Type / Size	Threaded Connection B Standard / Size / Gender
0848567	Push In 4 mm	M5 Male
0848568	Push In 4 mm	M6 Male
0848570	Push In 6 mm	M5 Male
0848403	Push In 6 mm	M6 Male



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)

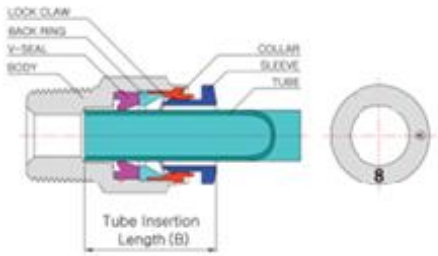
Tube Size	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø12
Tolerance	±0.1	±0.1	±0.1	±0.1	±0.15	±0.15	±0.15

▶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		
	Ø4	Ø6	Ø3	Ø10	Ø12	Ø16	Ø3	Ø4	Ø6
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		
	Ø5/32	Ø3/16	Ø1/4	Ø5/16	Ø3/8	Ø1/2	Ø1/8	Ø5/32	Ø1/4
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)

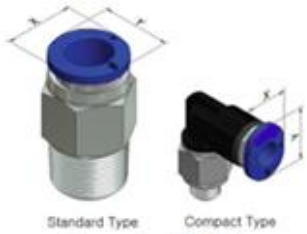
❷ Tube cutting — cut the tube at a right angle axial and vertically using tube cutter

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)

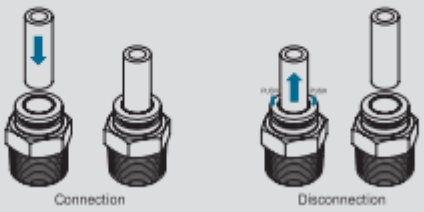
Sleeve specification	Standard Type							Compact Type		
	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ3	Φ4	Φ6
X	9.7	11.8	13.8	16.6	19.8	22	25.2	7.2	8.2	10.2
Y	-	-	-	-	-	-	-	9.2	10.4	12.4

▶ 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 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 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 0ł	×	△	△	○	○	△	×	×	×	○	×	○	△
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	△	△	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎

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	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	×	△	△	◎	○	◎	○	◎	◎	◎	◎	◎	◎
Etyle chloride	○	◎	◎	◎	–	×	×	◎	×	–	◎	◎	◎
Sulfur chloride	×	–	△	–	–	△	–	–	△	◎	△	×	◎
Kalium 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 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	○	○	○	×	○	○	×	×	○	◎	–	○	◎
Glucose	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎
Freon11	◎	◎	◎	◎	◎	–	–	○	–	○	◎	×	◎