

# POLYURETHANE TUBE

### Application

- Used for industrial robots and pneumatic piping.
- Used for various applications by functions.

### Feature

- Higher flexibility than nylon(PA)helps working achievement.
- Higher flexibilty in low temperature.

### Specification

Fluid	Air(No other gases or liquids)	
Working Pressure Range	0~150PSI	0~9Kgf/cm <sup>2</sup> (0~900kPa)
Negative Pressure	-29.5 in Hg	-750mmHg(10Torr)
Temperature Range	32~140°F	-15~60°C

### Product Code System

U - 08 - 50 - B UC - 08 - 50 - 05 - Y

① ② ③ ④ ① ② ③ ⑤ ④

① Type

②③ Tube Dia(ØD)

	Metric Size									
Code	0320	0420	0425	0640	0850	0855	1065	1280	1290	1611
Outer Dia	Ø3	Ø4	Ø4	Ø6	Ø8	Ø8	Ø10	Ø12	Ø12	Ø16
Inner Dia	Ø2	Ø2	Ø2.5	Ø4	Ø5	Ø5.5	Ø6.5	Ø8	Ø9	Ø11

	Inch Size							
Code	1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8
Outer Dia	Ø1/8	Ø5/32	Ø3/16	Ø1/4	Ø5/16	Ø3/8	Ø1/2	Ø5/8

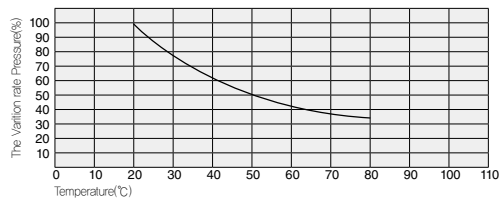
④ Color

	C	BK	R	BU	Y	G	W	O
Code	Clear	Black	Red	Blue	Yellow	Green	White	Orange

⑤Length(m)

### Working Pressure

- Temperature limits of tube : -40℃~80℃
- Normal Pressure : Control normal pressure within 1/3 of tube burst pressure.



### Common Precautions of Tube Series

Never fail to check the following

#### ⚠ WARNING

1. Never use for applications other than air.  
Using for applications other than air, it causes water leakage by breakage or crack of tube from chemical reaction.
2. Installing the tube near heater, it causes exposition of tube from heat.
3. Scarring the tube with a gimlet or a pin, it causes breakage of tube.
4. Twisting, screwing or bending the tube, it causes breakage or leakage of air.
5. Never use tube in a place of rising spatter.

#### ⚠ CAUTION

1. Be sure to keep the radius of curvature of tube per size.
2. Be sure to leave a margin for unexpected additional length of tube when piping.
3. Be sure to check that the section of tube is at a right angle(90) or tube is oval, not round



U



MODEL [OUT-IN] Metric size

MODEL	Outer Dia mm	Inner Dia mm	Packing Unit (m)	The radius of curvature (mm)	Burst pressure (kg/cm <sup>2</sup> )	W.G (g) g/m	Color							
							C	BK	R	BU	Y	G	W	O
U-03020	3	2	200	8	30	7	o	o	o	o	o	o	o	o
U-04020	4	2	200	10	30	9	o	o	o	o	o	o	o	o
U-04025	4	2.5	200	10	30	9	o	o	o	o	o	o	o	o
U-06040	6	4	100	15	30	19	o	o	o	o	o	o	o	o
U-08050	8	5	100	24	30	36	o	o	o	o	o	o	o	o
U-08055	8	5.5	100	24	30	36	o	o	o	o	o	o	o	o
U-08060	8	6	100	24	30	36	o	o	o	o	o	o	o	o
U-10065	10	6.5	100	30	30	54	o	o	o	o	o	o	o	o
U-12080	12	8	100	36	30	74	o	o	o	o	o	o	o	o
U-12090	12	9	100	36	30	74	o	o	o	o	o	o	o	o
U-16110	16	11	50	36	30	128	o	o	o	o	o	o	o	o

MODEL [OUT-IN] Inch size

MODEL	Outer Dia mm	Inner Dia mm	Packing Unit (m)	The radius of curvature (mm)	Burst pressure (kg/cm <sup>2</sup> )	W.G (g) g/m	Color							
							C	BK	R	BU	Y	G	W	O
U 1/8-1.6	3.17	1.6	200	8	30	7	o	o	o	o	o	o	o	o
U 1/8-2.0	3.17	2	200	8	30	7	o	o	o	o	o	o	o	o
U 5/32-2.0	3.97	2	200	10	30	9	o	o	o	o	o	o	o	o
U 5/32-2.5	3.97	2.5	200	10	30	9	o	o	o	o	o	o	o	o
U 3/16-3.2	4.76	3.2	100	12	30	13	o	o	o	o	o	o	o	o
U 1/4-4.2	6.35	4.2	100	15	30	22	o	o	o	o	o	o	o	o
U 5/16-5.0	7.94	5	100	24	30	36	o	o	o	o	o	o	o	o
U 3/8-6.4	9.52	6.4	100	30	30	53	o	o	o	o	o	o	o	o
U 1/2-8.5	12.7	8.5	100	36	30	85	o	o	o	o	o	o	o	o



## Classification of Warning Indication



### DANGER

Risk of death or serious injury.  
(The most dangerous condition.)



### WARNING

Potential risk of danger, death or serious injury.  
(Potential danger)



### CAUTION

Potential risk of danger and of financial damage.

## Common Precautions



### DANGER

► Never use for the following:

- ① As equipment for the purpose of the maintenance and management of human life.
- ② As equipment for the purpose of movement of human transportation.
- ③ As equipment requiring essential safety.



### WARNING

► Never use on the following environment:

- ① Using for applications other than originally intended.
- ② Place of excessive vibration, shock, rotation and curve.
- ③ Place consisting of corrosive gas, inflammable/flammable gas, chemicals, sea water, water and vapor.

- Never disassemble or remodel the equipment;  
this may cause malfunction or leakage.
- When repairing or checking equipment, remove air pressure first.
- Never tamper with the sleeve of fitting when pressure is on.



### CAUTION

► Never assemble with parts from other manufacturers; this may cause leakage or damage to the equipment.

Sang-A Pneumatic Co., Ltd. is not responsible for damage or injury that may occur due to interchanging of parts outside of the Sang-A Pneumatic brand.

## Using Precautions of Fitting Series

Never fail to check the following



### WARNING

1. Never use for fluids other than air and water(Water:available in case of special order only)
2. Never use at the place of spatter to avoid fire.
3. Be sure to use with Rotary Joint to prevent damage or leakage at the place of rotation.
4. Never use with water hotter than 60°C. This causes breakage of resin due to hydrolysis or heat.
5. Be sure to use after checking static electricity prevention requirements.
6. Avoid external impact such as bending, twisting and drawing on fittings.



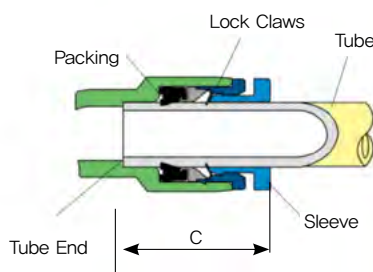
## CAUTION

- ① Be sure to meet the following conditions for the tube, otherwise it may cause leakage of air or inferiority of the application.

SIZE	POLYURETHANE TUBE	NYLON TUBE	SIZE	POLYURETHANE TUBE	NYLON TUBE
Ø 3mm	± 0.10	± 0.08	Ø 1/8	± 0.10	± 0.08
Ø 4mm	± 0.10	± 0.08	Ø 5/32	± 0.10	± 0.08
Ø 6mm	± 0.12	± 0.10	Ø 3/16	± 0.12	± 0.10
Ø 8mm	± 0.12	± 0.10	Ø 1/4	± 0.12	± 0.10
Ø 10mm	± 0.15	± 0.12	Ø 5/16	± 0.15	± 0.12
Ø 12mm	± 0.15	± 0.12	Ø 3/8	± 0.15	± 0.12
Ø 16mm	± 0.15	± 0.15	Ø 1/2	± 0.15	± 0.15

## ② Cautions in the application of tube:

- Be sure to confirm that the section of tube is cut at a right angle. Make sure that there is no indication of damage to the outside of the tube.
- Be sure to refer to the following for application and removal of the tube.  
Sang-A Pneumatic equipment is made to follow a 2-step insertion of tubing into the fitting.  
The 1st step goes past the Lock Claws, and the 2nd step goes into the Packing.  
Make sure that the second step has been acquired.
- The elliptical design of the sleeve makes for a simple and easy application.  
(Please order the round sleeve if there are restrictions)



## ► The size of Sleeve

SLEEVE SIZE	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø16
	Ø1/8	Ø5/32	Ø3/16	Ø1/4	Ø5/16	Ø3/8	Ø1/2
C General Specifications(mm)		10X12	11X13	12X14	14X16	17X19	21X23
C Compact Specifications(mm)	7X6	10X8		12X10			

- Minimum insertion part of tube is as follows and be sure to use leaving as much as the following size as margin.

SLEEVE SIZE	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø16
	Ø1/8	Ø5/32, 3/16	Ø1/4	Ø5/16	Ø3/8	Ø1/2	
C General Specifications(mm)		16	17	18.5	21	22	25
C Compact Specifications(mm)	9.5	11.5	12.5	Ø3/16(N/A)			

## ③ Cautions on disconnecting tube:

- Before disconnecting tube, be sure to confirm that the pressure inside the tube is at zero.
- Before disconnecting tube, pull it out after pressing the sleeve equally on both sides.  
Unequal pressing strength will make scratch on tube by insufficient open of lock claws, this will cause air leakage.
- Be sure not to shake or make 360 degree rotation when disconnecting the tube.  
The scratch made by the misuses will cause air leakage.

## ④ Cautions on treatment of the equipment body:

- When fastening the body onto the six-angle part of the inside and outside of the fitting, choose the correct tool and size.
- When fastening the thread, please refer to the "Torque Recommended"(P13)  
If torque is higher than the recommended, this may cause damage or air leakage.  
If torque is lower than the recommended, this may cause air leakage.
- After fastening the thread, most of Sang-A equipment allows control of the direction of the pipe.