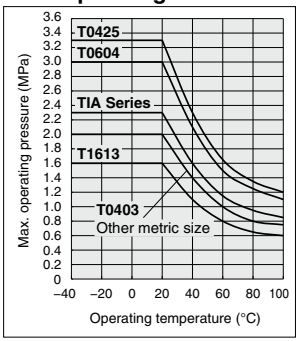
Nylon Tubing
T/TIA Series

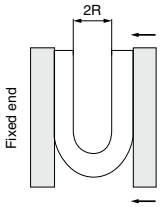
RoHS

For general pneumatic tubing, Nylon tubing

Max. Operating Pressure



How to measure the minimum bending radius.



At a temperature of 20°C, bend the tubing into a U shape. Fix one end and gradually move the other end closer. Measure 2R at the point where the outside diameter's rate of change is 10%.

⚠ Precautions

Be sure to read this before handling the products. Refer to page 11 for safety instructions and pages 14 to 18 for fittings and tubing precautions.

⚠Caution

1. Applicable for general industrial water. Please consult with SMC if using other kinds of fluid. Surge pressure must be under the max. operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
2. Abnormal temperature rise caused by adiabatic compression may result in the tube bursting.
3. Please exercise caution when using this item in a clean room. There is a possibility of plasticizer and other materials precipitating on the tube surface and detracting from the cleanliness level of the room.

Model

● — 20 m roll □ — 100 m roll (T1613 is reel.)

	Tubing size												
	Metric size (T series)								Inch size (TIA series)				
Model	T0425	T0403	T0604	T0645	T0806	T1075	T1209	T1613	TIA01	TIA05	TIA07	TIA11	TIA13
Tubing O.D. (mm)	4	4	6	6	8	10	12	16	3.18	4.76	6.35	9.53	12.7
Tubing I.D. (mm)	2.5	3	4	4.5	6	7.5	9	13	2.18	3.48	4.57	6.99	9.56
Black (B)	●	●	●	●	●	●	●	●	●	●	●	●	●
White (W)	●	●	●	●	●	●	●	●	●	●	●	●	●
Red (R)		●	●		●	●		●					
Blue (BU)			●		●								
Yellow (Y)			●										
Green (G)			●										
	5/32"				5/16"				Nominal size (inch)				
									1/8"	3/16"	1/4"	3/8"	1/2"
									Nominal size (mm)				
									3.2				

Specifications

Fluid and Applicable fitting size Note 1) Note 2)		Fluid: Air/Water							Fitting: One-touch fittings, Insert fittings, Self-align fittings, Miniature fittings				
		Fluid: Turbine oil class 1 (ISO VG32) Note 3)							Fitting: Insert fittings				
Max. operating pressure Note 1) (MPa)	20°C or less	3.3	2.0	3.0	2.0	2.0	2.0	2.0	1.6	2.3	2.3	2.3	2.3	2.3
	40°C	2.3	1.4	2.1	1.4	1.4	1.4	1.4	1.1	1.6	1.6	1.6	1.6	1.6
	60°C	1.65	1.0	1.5	1.0	1.0	1.0	1.0	0.8	1.15	1.15	1.15	1.15	1.15
	80°C	1.35	0.8	1.25	0.8	0.8	0.8	0.8	0.65	0.95	0.95	0.95	0.95	0.95
	100°C	1.2	0.75	1.1	0.75	0.75	0.75	0.75	0.6	0.85	0.85	0.85	0.85	0.85
Operating vacuum pressure [kPa] Note 4)		–101.3												
Min. bending radius (mm) Note 5)	Min. bending radius	13	20	24	30	40	50	60	100	15	25	30	50	65
	Bending value (Reference)	10	15	18	23	30	40	45	75	12	20	23	40	48
Operating temperature Note 1)		Air/Oil: –40 to 100°C, Water: 0 to 70°C (No freezing)												
Material		Nylon 12												

Note 1) Be sure to operate under the maximum operating pressure conditions using the lower maximum operating specification of either the tubing or fittings.
Note 2) Mount an inner sleeve when using metal One-touch fittings in high-temperature environments of 60°C or more. Use self-align fittings at a temperature of 60°C or less.
Note 3) • After long-term use, nylon materials may harden.
• Be sure to use with static piping.
• After removing a tube from the fitting, be sure to replace it with a brand new tube. Please refrain from reusing tubes.
• When using an oil other than turbine oil class 1 (ISO VG32), the deterioration of nylon materials may be accelerated due to the added agents.
Note 4) The operating vacuum pressure varies depending on the applicable fitting, so refer to the fitting specifications for details.
Note 5) The minimum bending radius is the representative value measured as shown in the left figure.
• Use a tube above the recommended minimum bending radius.
• The tubing may be bent if used under the recommended minimum bending radius. Therefore, refer to the refraction value and make sure that the tubing is not bent or flattened.
• Please note that the refraction value is not warranted because of the value when 2R is measured by the method in the left figure if the tubing is bent or flattened, etc.

How to Order

T0425 B – 20

Tubing model

Color

Symbol	Color
B	Black (Opaque)
W	White (Material color)
R	Red (Opaque)
BU	Blue (Opaque)
Y	Yellow (Opaque)
G	Green (Opaque)

Length per roll

Symbol	Length
20	20 m roll
100	100 m roll (Black and white only)

SMC

Made to Order

(Please contact SMC for specifications in detail, dimensions, delivery and specifications other than those mentioned above.)

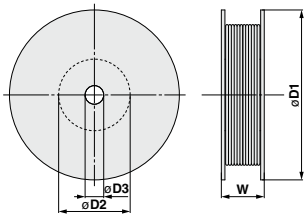
100 m reel	Metric size and Inch size except ø16: Suffix "-X3" to the end of part number. Ex.) T0425R-100-X3
Longer length reel	Metric size: Suffix "-X3" to the end of part number. Ex.) T0425G-500-X3
20 m roll	Inch size: Suffix "-X4" to the end of part number. Ex.) TIA01BU-20-X4
Reinforced corrugated cardboard specification longer length reel	ø6, Black and White only: Suffix "-X64" to the end of part number. Ex.) T0604B-500-X64

Made to Order Availability

Part no.	Model / Length	T0425□	T0604□	T0806□	T1075□	T1008□	T1209□	TIA01□	TIA05□	TIA07□	TIA11□	TIA13□	Color
X3	100 m reel	○	○	○	○	○Note 1)	○	○	○	○	○	○	Black, White,Red, Blue, Yellow, Green Note 1) Only Black, White, Blue, Green
	150 m reel				○								
	200 m reel			○									
	500 m reel	○	○										
X4	20 m roll							○	○	○	○	○	Red, Blue, Yellow, Green
X64	250 m reel		○										Black, White
	300 m reel			○									Black
	500 m reel		○										Black, White

Reinforced corrugated cardboard specification: Longer length reel/-X64

Dimensions



Dimensions

Model	øD1	øD2	øD3	W	Weight (kg)	Color
T0604□-250-X64	475	200	52	120	5.1	Black, White
T0604□-500-X64	475	200	52	200	9.4	
T0806B-300-X64	475	200	52	200	8.1	Black