

# Series 10-TU Polyurethane Tubing

RoHS

How to Order

For general pneumatic tubing  
Flexible  
Polyurethane tubing



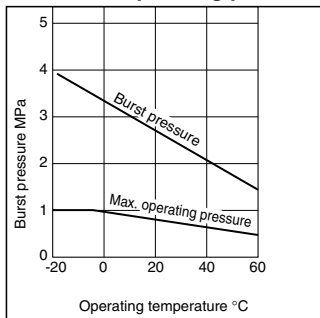
**10 - TU0425 BU - 20**

Clean series | Tubing model | Color | Length per roll

● - 20 m roll

**Color**  
B — Black  
W — White  
R — Red  
BU — Blue  
Y — Yellow  
G — Green  
C — Clear  
YR — Orange

## Burst Pressure Characteristics Curve and Operating pressure



## Model

Model	Tubing size						
	Inch size (Series TIUB)	Metric size (Series TU)					
	10-TIUB01	10-TU0212	10-TU0425	10-TU0604	10-TU0805	10-TU1065	10-TU1208
O.D. (mm)	3.2	2	4	6	8	10	12
I.D. (mm)	2	1.2	2.5	4	5	6.5	8

Color	10-TIUB01	10-TU0212	10-TU0425	10-TU0604	10-TU0805	10-TU1065	10-TU1208
Black (B)	●	●	●	●	●	●	●
White (W)	●	●	●	●	●	●	●
Red (R)	●	●	●	●	●	●	●
Blue (BU)	●	●	●	●	●	●	●
Yellow (Y)	●	●	●	●	●	●	●
Green (G)	●	●	●	●	●	●	●
Clear (C)	●	●	●	●	●	●	●
Orange (YR)	●	●	●	●	●	●	●

## Specifications

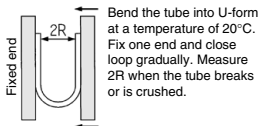
Fluid	Air, Water					
Max. operating pressure (20°C)	0.8 MPa					
Burst pressure	Refer to the burst pressure characteristics curve.					
Recommended fittings	Clean series fittings 10-KQ2, 10-KF, 10-KDM, 10-KG 10-M, 10-MS, KP, KPQ, KPG					
Min. bending radius (mm)	10	4	15	20	27	35
Operating temperature	-20 to 60°C, Water: 0 to 40°C (No freezing)					
Material	Polyurethane					
Cleanliness class (ISO class)	Class 3					

## ⚠ Precautions

**Be sure to read this before handling.**  
Refer to page 1382 for Safety Instructions and pages 1237 to 1240 for Fittings and Tubing Precautions.

## ⚠ Caution

- Applicable for general industrial water. Please consult with SMC if using for the other kind of fluid. Also, the surge pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, abnormal temperature rises caused by adiabatic compression may result in the burst of the tube.
- The value of the minimum bending radius is measured at the temperature of 20°C as shown in the figure on the right.



Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

Flow Control Equipment

Pressure Switches/Pressure Sensors

# Series 10-TCU

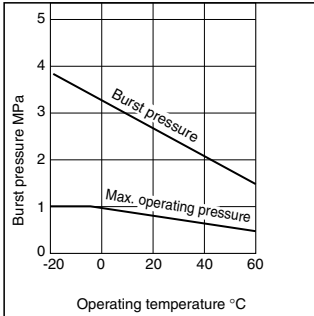
Polyurethane Coil Tubing

RoHS

For flexible tubing  
Compact piping possible



## Burst Pressure Characteristics Curve and Operating Pressure



## Specifications

Model	10-TCU	10-TCU	10-TCU	10-TCU	10-TCU	10-TCU	10-TCU
	0425B-1	0425B-2	0425B-3	0604B-1	0604B-2	0604B-3	0805B-1
Number of cores	1	2	3	1	2	3	1
Tubing O.D. (mm)	4			6			8
Tubing I.D. (mm)	2.5			4			5
Fluid	Air						
Max. operating pressure (20°C)	0.8 MPa						
Burst pressure	Refer to the burst pressure characteristics curve.						
Recommended fittings	Clean series fittings 10-KQ2, 10-KF, 10-KDM, 10-KG, 10-M, 10-MS, KP, KPQ, KPG						
Operating temperature	-20 to 60°C						
Material	Polyurethane						
Color	Black						
Cleanliness class (ISO class)	Class 3						

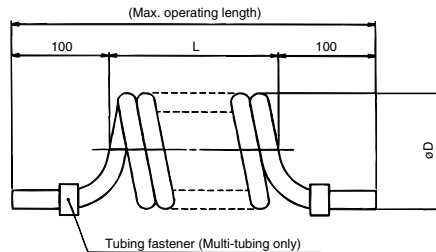
## ⚠ Precautions

Be sure to read this before handling.  
Refer to page 1382 for Safety Instructions and pages 1237 to 1240 for Fittings and Tubing Precautions.

### ⚠ Caution

- Please consult with SMC regarding use with any fluids other than air.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, abnormal temperature rises caused by adiabatic compression may result in the burst of the tube.
- Please do not cut the coil and insert it into the fitting. This may cause air leakage, or tubing to come out after installation.

## Dimensions



Specifications Model	Tubing size (mm)		Coil (mm)		Number of cores	No. of coil windings per tubing length	Max. operating length (m)
	O.D.	I.D.	L	D			
10-TCU0425B-1	4	2.5	210	18	1	52±2	1.5
10-TCU0425B-2			280	28	2	35±1	
10-TCU0425B-3			265		3	22±1	
10-TCU0604B-1	6	4	325	24	1	54±2	2
10-TCU0604B-2			37	2	27±1	1.5	
10-TCU0604B-3			305		3	17±1	1
10-TCU0805B-1	8	5	330	31	1	41±2	2

\* The number of coil windings per tube length and dimensions are changeable due to material.

# Series 10-TFU

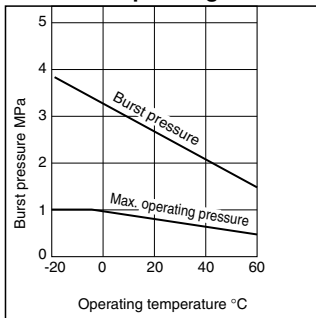
Polyurethane Flat Tubing

RoHS

Compact piping possible



## Burst Pressure Characteristics Curve and Operating Pressure



## ⚠️ Precautions

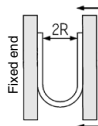
Be sure to read this before handling.  
 Refer to page 1382 for Safety Instructions and pages 1237 to 1240 for Fittings and Tubing Precautions.

## ⚠️ Caution

- Please consult with SMC regarding use with any fluids other than air.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, abnormal temperature rises caused by adiabatic compression may result in the burst of the tube.
- The value of the minimum bending radius is measured at the temperature of 20°C as shown in the figure on the right.
- As a result of product design characteristics, there are cases of very slight leakage.

## Specifications

Model	10-TFU 0425B-2	10-TFU 0425B-3	10-TFU 0604B-2	10-TFU 0604B-3	10-TCU 0805B-2	10-TCU 0805B-3
Number of cores	2	3	2	3	2	3
Tubing O.D. (mm)	4		6		8	
Tubing I.D. (mm)	2.5		4		5	
Fluid	Air					
Max. operating pressure (20°C)	0.8 MPa					
Burst pressure	Refer to the burst pressure characteristics curve.					
Recommended fittings	Clean series fittings 10-KQ2, 10-KF, 10-KDM, 10-KG 10-M, 10-MS, KP, KPQ, KPG					
Operating temperature	-20 to 60°C					
Material	Polyurethane					
Color	Black					
Min. bending radius (mm)	10		15		20	
Tubing length per roll (m)	10					
Cleanliness class (ISO class)	Class 3					



Bend the tube into U-form at a temperature of 20°C. Fix one end and close loop gradually. Measure 2R when the tube breaks or is crushed.

# Series TPH Clean Tubing Polyolefin Tubing

RoHS

## How to Order



TPH0604 B 20

Tubing model

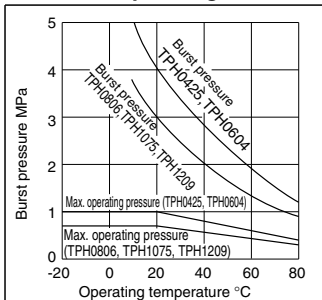
Color

Symbol	Color
W	White
B	Black
R	Red
BU	Blue
Y	Yellow
G	Green

Length per roll

Symbol	Length
20	20 m roll
100	100 m reel

## Burst Pressure Characteristics Curve and Operating Pressure



## Model

● -20 m roll □ -100 m reel

Model	TPH0425	TPH0604	TPH0806	TPH1075	TPH1209
O.D. (mm)	4	6	8	10	12
I.D. (mm)	2.5	4	6	7.5	9

White (W)	●	●	●	●	●
Black (B)	●	●	●	●	●
Red (R)	●	●	●	●	●
Blue (BU)	●	●	●	●	●
Yellow (Y)	●	●	●	●	●
Green (G)	●	●	●	●	●

## Specifications

Fluid	Air, Nitrogen gas, Water (Deionized water) <sup>Note 1)</sup>				
Max. operating pressure (20°C)	1.0 MPa <sup>Note 2)</sup>		0.7 MPa <sup>Note 2)</sup>		
Min. bending radius (mm)	15	25	35	45	55
Burst pressure	Refer to the burst pressure characteristics curve.				
Operating temperature	-20 to 80°C, for water 5 to 80°C (No freezing)				
Material	Polyolefin resin				
Cleanliness class (ISO class)	Class 3				

Note 1) Please consult with SMC regarding other fluids.

Note 2) The maximum operating pressure is the value at 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, an abnormal temperature rise due to adiabatic compression can cause tubing to burst.

Note 3) The minimum bending radius indicates the value at a temperature of 20°C with an outside diameter change rate of 10% or less. At higher temperatures, the outside diameter change rate may exceed 10% within the minimum bending radius.

## Caution

The TPH series was specially designed for clean blowing and washing lines. Please consult with SMC for use in other applications.

Materials: The durability of polyolefin resin against mineral oils is inferior. Because of this, it is unsuitable for general pneumatic equipment lines.

# Series **TPS** Clean Tubing Soft Polyolefin Tubing

RoHS

How to Order



**TPS0604** **B** **20**

Tubing model

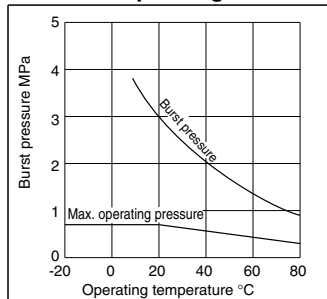
Color

Symbol	Color
W	White
B	Black
R	Red
BU	Blue
Y	Yellow
G	Green

Length per roll

Symbol	Length
20	20 m roll
100	100 m reel

## Burst Pressure Characteristics Curve and Operating Pressure



## Model

● -20 m roll □ -100 m reel

Model	TPS0425	TPS0604	TPS0805	TPS1065	TPS1208
O.D. (mm)	4	6	8	10	12
I.D. (mm)	2.5	4	5	6.5	8

White (W)	●	●	●	●	●
Black (B)	●	●	●	●	●
Red (R)	●	●	●	●	●
Blue (BU)	●	●	●	●	●
Yellow (Y)	●	●	●	●	●
Green (G)	●	●	●	●	●

## Specifications

Fluid	Air, Nitrogen gas, Water (Deionized water) <sup>Note 1)</sup>				
Max. operating pressure (20°C)	0.7 MPa <sup>Note 2)</sup>				
Min. bending radius (mm)	10	20	25	30	40
Burst pressure	Refer to the burst pressure characteristics curve.				
Operating temperature	-20 to 80°C, for water 0 to 80°C (No freezing)				
Material	Polyolefin resin				
Cleanliness class (ISO class)	Class 3				

Note 1) Please consult with SMC regarding other fluids.

Note 2) The maximum operating pressure is the value at 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, an abnormal temperature rise due to adiabatic compression can cause tubing to burst.

Note 3) The minimum bending radius indicates the value at a temperature of 20°C with an outside diameter change rate of 10% or less. At higher temperatures, the outside diameter change rate may exceed 10% within the minimum bending radius.

## Caution

The TPS series was specially designed for clean blowing and washing lines. Please consult with SMC for use in other applications.

Materials: The durability of polyolefin resin against mineral oils is inferior. Because of this, it is unsuitable for general pneumatic equipment lines.

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