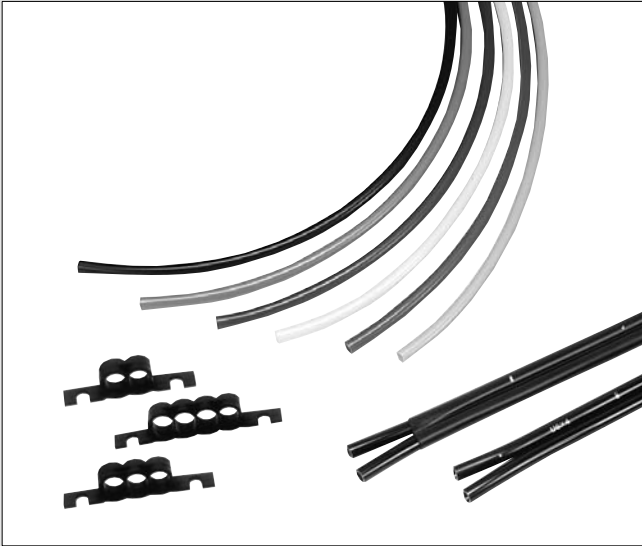


KOGANEI

ACCESSORIES GENERAL CATALOG

AIR TREATMENT, AUXILIARY, VACUUM,
AND FLUORORESIN PRODUCTS

TUBES CONTENTS



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TUBES

 **Caution** Before use, be sure to read the "Safety Precautions" on p. 49.

NYLON TUBES

Nylon Tubes Nylon Tubes for TAC Fittings

● Nylon tube

Low water absorption ensures excellent waterproof and dimensional stability.
Superior wear and bending fatigue resistance.
Superior cold resistance and weatherproofness.

● Nylon tube for TAC fittings

Nylon tube developed specially for TAC fittings brings out the best in nylon tube characteristics.

Specifications

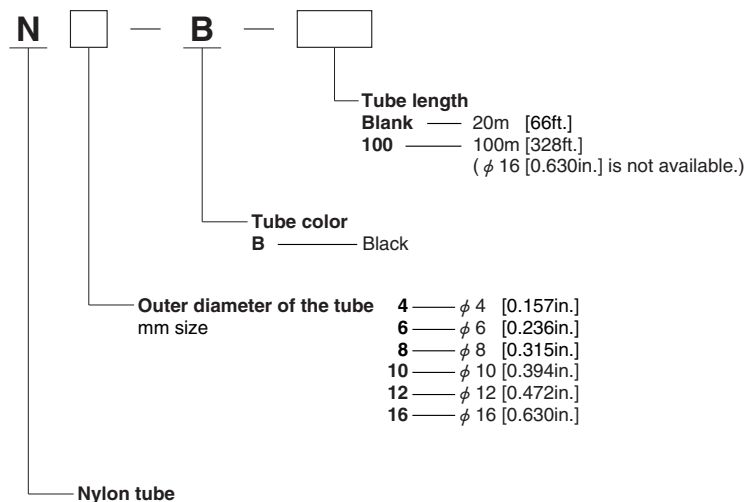
Item	Type	Nylon tube						Nylon tube for TAC fittings		
	Model	N4-B	N6-B	N8-B	N10-B	N12-B	N16-B	N3.2	N5	N6
O.D.×I.D.	mm [in.]	4×2.5 [0.157×0.098]	6×4 [0.236×0.157]	8×6 [0.315×0.236]	10×7.5 [0.394×0.295]	12×9 [0.472×0.354]	16×13 [0.630×0.512]	3.2×2.4 [0.126×0.094]	5×3 [0.197×0.118]	6×4 [0.236×0.157]
Media		Air, vacuum (−99.99~0kPa [−29.54~0in.Hg])						Air, vacuum (−99.99~0kPa [−29.54~0in.Hg])		
Operating temperature range ^{Note 1}	°C [°F]	−40~70 [−40~158]						0~80 [32~176]		
Materials		Nylon 12						Nylon 12		
Minimum bending radius ^{Note 2}	mm [in.]	15 [0.59] (20 [(0.79)])	25 [0.98] (30 [1.18])	50 [1.97] (50 [1.97])	60 [2.36] (80 [3.15])	70 [2.76] (150 [5.91])	130 [5.12] (500 [19.7])	13 [0.51]	15 [0.59]	20 [0.79]
Color		Black						White		
Unit mass	g/m [oz./ft.]	8.5 [0.091]	19.5 [0.210]	27.5 [0.296]	42 [0.45]	62 [0.67]	84 [0.90]	3.6 [0.039]	11.7 [0.126]	15 [0.16]
Standard length	m [ft.]	20 or 100 [66 or 328]					20 [66]	20 [66]		
Sales unit		1 roll (20 or 100m [66 or 328ft.])					1 roll (20m [66ft.])	1 roll (20m [66ft.])		

Notes: 1. The operating temperature range shows values for when the tube is in a stationary state. For the operating temperature range in applications where the tube is forced to swing, consult us.

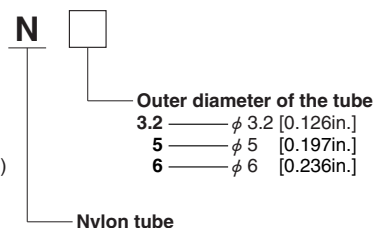
2. When using the nylon tube with a quick fitting, ensure that the minimum bending radius is greater than the value shown in parentheses ().

Order Codes

● Nylon tube

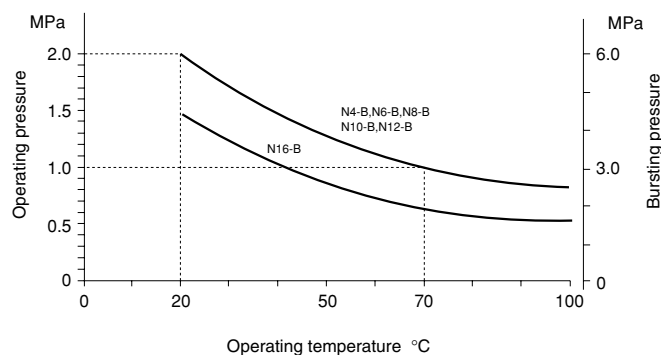


● Nylon tube for TAC fittings

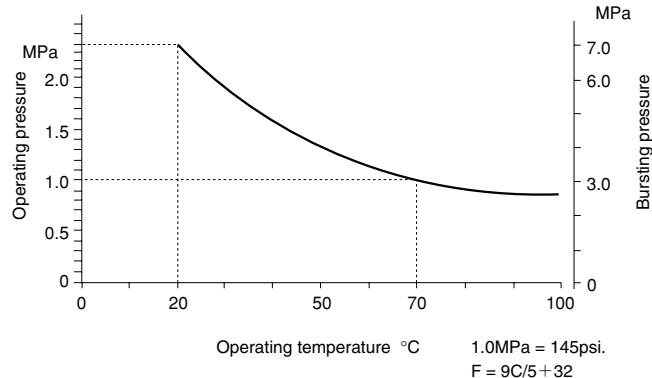


Operating Temperature and Pressure, and Bursting Pressure

● Nylon tube



● Nylon tube for TAC fittings



SOFT NYLON TUBES

● Soft nylon tube

Adds flexibility to the superior waterproof, dimensionally stable, and weatherproof characteristics of nylon tubes.

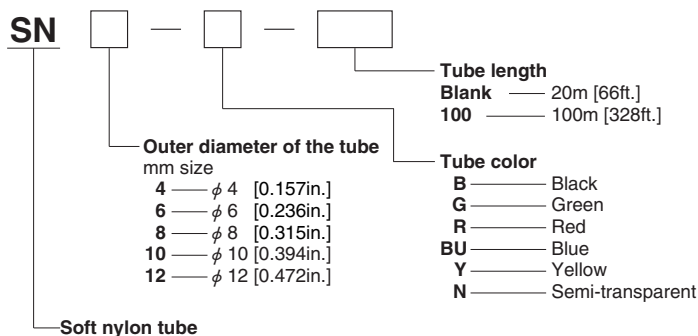
Tube colors come in six standard colors (for all sizes from ϕ 4 to ϕ 12).

Specifications

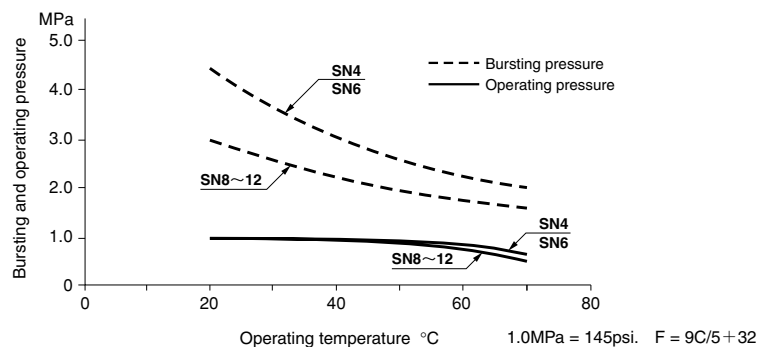
Item	Type	Soft nylon tube				
	Model	SN4	SN6	SN8	SN10	SN12
O.D×I.D.	mm [in.]	4×2.5 [0.157×0.098]	6×4 [0.236×0.157]	8×6 [0.315×0.236]	10×7.5 [0.394×0.295]	12×9 [0.472×0.354]
Media		Air				
Operating pressure range	Positive pressure	0~1.0MPa [0~145psi.] (at 20°C [68°F])				
	Vacuum	-99.9~0kPa [-29.53~0in.Hg]				
Operating temperature range ^{Note}	°C [°F]	-40~70 [-40~158]				
Materials		Nylon 12				
Minimum bending radius	mm [in.]	13 [0.51]	17 [0.67]	35 [1.38]	42 [1.65]	52 [2.05]
Color		Black, green, red, blue, yellow, semi-transparent				
Unit mass	g/m [oz./ft.]	8.5 [0.091]	19.5 [0.210]	27.5 [0.296]	42 [0.45]	62 [0.67]
Sales unit		1 roll (20 or 100m [66 or 328 ft.])				

Note: The operating temperature range shows values for when the tube is in a stationary state. For the operating temperature range in applications where the tube is forced to swing, consult us.

Order Codes



Operating Temperature and Pressure, and Bursting Pressure



URETHANE TUBES

Urethane Tubes Conductive Urethane Tubes

● Urethane tube

Flexible material allows for smaller minimum bending radius.
Highly weatherproof, particularly against the effects of ozone.
Highly oil resistant.

● Conductive urethane tube

Urethane tube incorporates anti-static measures.

Specifications

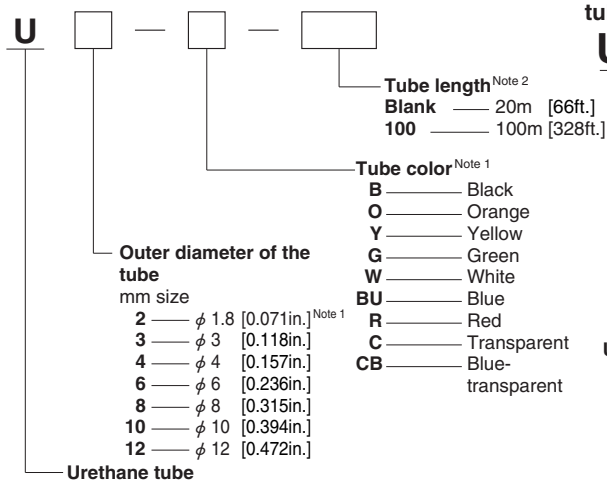
● Urethane tube

Item	Type	Urethane tube						
	Model	U2	U3	U4	U6	U8	U10	U12
O.D x I.D.	mm [in.]	1.8 x 1 [0.071 x 0.039]	3 x 1.5 [0.118 x 0.059]	4 x 2.5 [0.157 x 0.098]	6 x 4 [0.236 x 0.157]	8 x 5 [0.315 x 0.197]	10 x 6.5 [0.394 x 0.256]	12 x 8 [0.472 x 0.315]
Media		Air						
Operating pressure range	Positive pressure	0 ~ 0.8MPa [0 ~ 116psi.] (at 20°C [68°F])						
	Vacuum	-99.9 ~ 0kPa [-29.53 ~ 0in.Hg]						
Operating temperature range ^{Note}	°C [°F]	-15 ~ 60 [5 ~ 140]						
Materials		Polyurethane						
Minimum bending radius	mm [in.]	4 [0.16]	7 [0.28]	10 [0.39]	15 [0.59]	20 [0.79]	27 [1.06]	35 [1.38]
Color		Black, transparent, blue-transparent		Black, orange, yellow, green, ivory, blue, red, transparent, blue-transparent				
Unit mass	g/m [oz./ft.]	2.1 [0.023]	6.5 [0.070]	9 [0.10]	19 [0.20]	36 [0.39]	54 [0.58]	74 [0.80]
Sales unit		1 roll (20m) [66ft.]			1 roll (20 or 100m) [66 or 328ft.]			

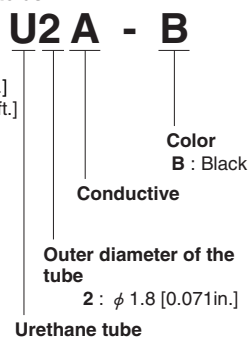
Note: The operating temperature range shows values for when the tube is in a stationary state.
For the operating temperature range in applications where the tube is forced to swing, consult us.

Order Codes

● Urethane tube



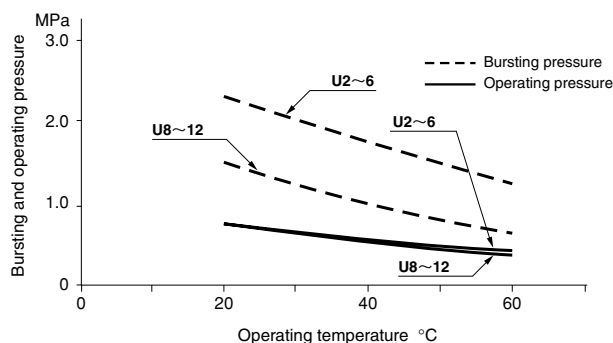
● Conductive urethane tube



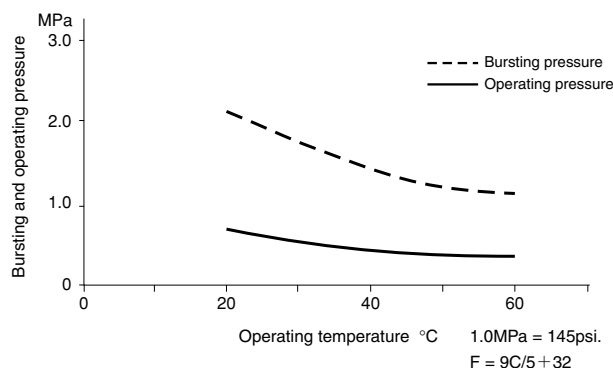
Notes: 1. Colors for the ϕ 1.8 [0.071in.] tube are available in black (-B), transparent (-C), and blue-transparent (-CB) only.
2. The ϕ 1.8 [0.071in.] tube is available at 20m [66ft.] only.

Operating Temperature and Pressure, and Bursting Pressure

● Urethane tube



● Conductive urethane tube



FLAT TUBES

Nylon Tubes, Urethane Tubes



- Dual-conduit tube supports ease of use for ports collected at one surface type actuators and control valves.
- Optimum use in tight piping spaces. Clean profile piping also improves maintainability.

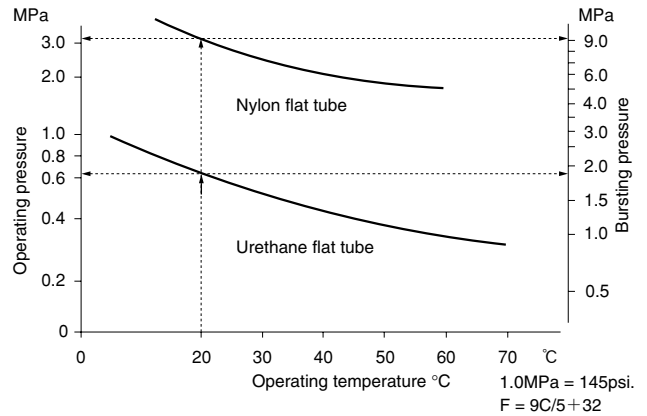
- Tube has markings for easy identification when making tubing connections. Even long tubing portions can be identified at a glance.
- Emphasis on ease of use ensures fingertip separation of tubings. Matches up with quick fittings and all other kinds of fittings.

Specifications

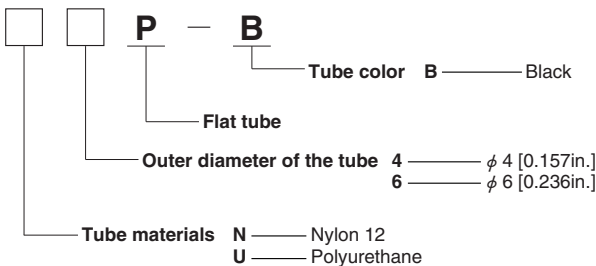
Item	Type	Nylon flat tube		Urethane flat tube	
	Model	N4P-B	N6P-B	U4P-B	U6P-B
Nominal dimensions (O.D.×I.D.)	mm [in.]	4×2.5 [0.157×0.098]	6×4 [0.236×0.157]	4×2.5 [0.157×0.098]	6×4 [0.236×0.157]
Media		Air, vacuum ^{Note 1}		Air, vacuum ^{Note 1}	
Operating temperature range	°C [°F]	-20~60 [-4~140]		-15~70 [5~158]	
Materials		Nylon 12		Polyurethane	
Minimum bending radius ^{Note 2}	mm [in.]	24 [0.94]	36 [1.42]	10 [0.39]	15 [0.59]
Color		Black		Black	
Unit mass	g/m [oz./ft.]	28 [0.30]	49 [0.53]	19 [0.20]	38 [0.41]
Outer dimensions	mm [in.]	4.4×8.8 [0.173×0.346]	6.6×12.7 [0.26×0.50]	4×8 [0.16×0.31]	6×12 [0.24×0.47]
Standard length	m [ft.]	20 [66]		20 [66]	
Sales unit		1 roll (20m [66ft.])		1 roll (20m [66ft.])	

Notes: 1. The vacuum is -99.99~0KPa [-29.54~0in.Hg].
 2. The operating temperature range shows values for when the tube is in a stationary state. For the operating temperature range in applications where the tube is forced to swing, consult us.

Operating Temperature, Pressure, and Bursting Pressure



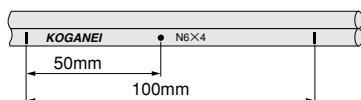
Order Codes



Handling Instructions and Precautions

Piping

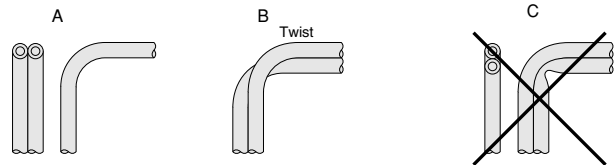
1. There are markings at 50mm, 100mm, 400mm intervals on one side of the nylon flat tube insulation. These markings are also found on one of the two tubes in the urethane flat tube. Use the markings as guides for cutting tube lengths.



2. When cutting the tube, cut so that the cut surface is perpendicular to the tube's center of axis.
3. The nylon flat tube is insulated with a PVC sheath. To separate it off, break off as much of the sheath as is needed, and then peel it off in the circumferential direction.
4. The urethane flat tube consists of two tubes welded together. To separate the two tubes, grasp them on left and right with fingertips, pull them apart until separated. If difficult to separate with fingertips, separation can be made easier by cutting a small section at the front edge with a cutter.

Caution: As the depth of cut section made with the cutter, etc., could damage the tube's roundness, always discard that section afterward.

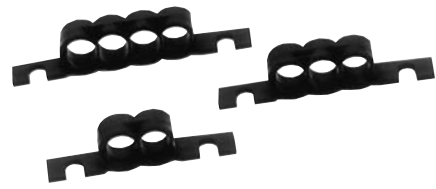
5. If bending the flat tube for a piping, bend only in the directions shown in Figure A or B for not crushing the flat tube.



Atmosphere

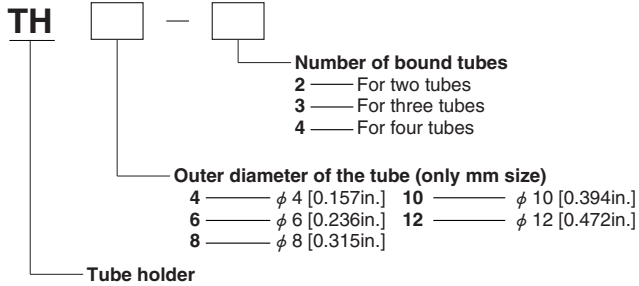
1. Do not use in atmospheres where the operating temperature range will exceed the values in the specifications. In addition, do not use in locations where sparks could occur, because the PVC sheath used on the nylon flat tube is not fire resistant.
2. The product cannot be used when the media or the ambient atmosphere contains any of the substances listed below. Organic solvents, phosphate ester type hydraulic oil, sulphur dioxide, chlorine gas, or acids, etc.

TUBE HOLDERS



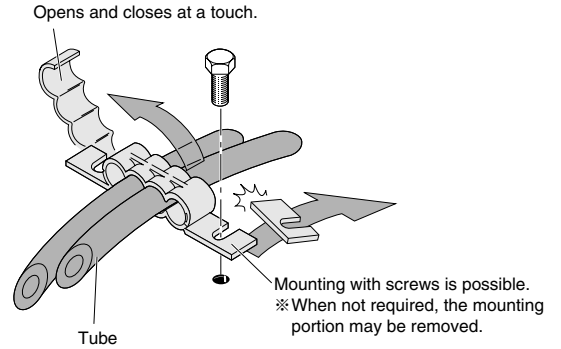
● Tube Holders enable binding of multiple tubes.

Order Codes

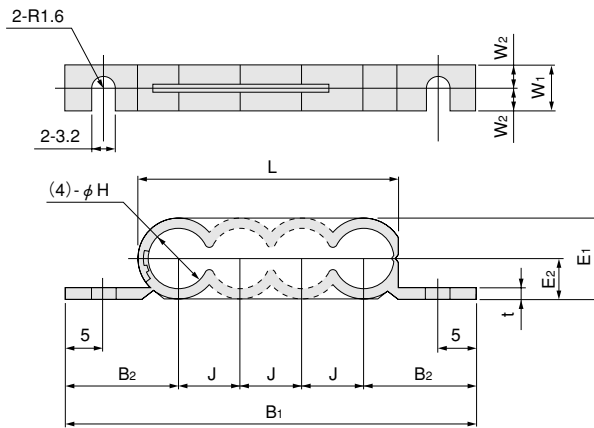


Remark: Standard products can be used as NCU specification.

Mounting Example



Dimensions (mm)



Model	Number of bound tubes	H Outer diameter of the tube	B ₁	B ₂	J	L	E ₁	E ₂	t	W ₁	W ₂	Mass g [oz.]
TH4-2	2	4	29.1	12.5	4.1	9.9	6.5	3.3	1.2	6	3	0.3 [0.011]
TH6-2		6	34.1	14	6.1	13.9	8.5	4.3	1.2			0.3 [0.011]
TH8-2		8	38.1	15	8.1	18.1	10.9	5.5	1.4			0.4 [0.014]
TH10-2		10	44.1	17	10.1	22.3	13.3	6.7	1.6	8	4	0.9 [0.032]
TH12-2		12	48.1	18	12.1	26.4	15.5	7.8	1.7			1.1 [0.039]
TH4-3	3	4	33.2	12.5	4.1	14	6.5	3.3	1.2	6	3	0.3 [0.011]
TH6-3		6	40.2	14	6.1	20	8.5	4.3	1.2			0.4 [0.014]
TH8-3		8	46.2	15	8.1	26.2	10.9	5.5	1.4			0.6 [0.021]
TH4-4	4	4	37.3	12.5	4.1	18.1	6.5	3.3	1.2	6	3	0.4 [0.014]
TH6-4		6	46.3	14	6.1	26.1	8.5	4.3	1.2			0.5 [0.018]
TH8-4		8	54.3	15	8.1	34.3	10.9	5.5	1.4			0.8 [0.028]
TH10-4		10	64.3	17	10.1	42.5	13.3	5.7	1.6	8	4	1.5 [0.053]
TH12-4		12	72.3	18	12.1	50.6	15.5	7.8	1.7			2 [0.07]

Handling Instructions and Precautions



General precautions

1. Always thoroughly blow off (use compressed air) the tubing before piping. Entering chips, sealing tape, rust, etc., generated during piping work could result in air leaks or other defective operation.
2. Use air for the media. For the use of any other media, consult us.
3. Do not use in atmospheres where the temperature will exceed the operating temperature range.
Do not use in locations where sparks could occur, because the tube is not fire resistant.
4. The product cannot be used when the media or the ambient atmosphere contains any of the substances listed below.
Organic solvents, phosphate ester type hydraulic oil, sulphur dioxide, chlorine gas, or acids, etc.

