

UNITHERM™ 2256/2266 SELF-REGULATING ELECTRIC TRACE TUBING LOW TEMPERATURE MAINTENANCE

Principal of Operation

Unitherm 2256/2266 LTM (Low Temperature Maintenance) Electric Trace tubing is comprised of single or multiple process tubes, a low temperature self-regulating heating element with tinned copper braid, a heat reflecting foil wrap, hydrophobic, inorganic, fibrous glass thermal insulation, and a 105°C black flame retardant PVC jacket. This highly efficient design will provide a minimum freeze protection temperature maintenance of 33°F (1°C) at -60°F (-51° C) ambient. The standard product is available with a 5 watt/ft. 120 VAC or 240 VAC self-regulating heating element. Designs are Factory Mutual Approved for Class I, Division 2, Groups B, C & D areas (File number J. I. OF6A2.AF).

Features

- Self-regulating heating element.
- Preinsulated and prefabricated for fast, easy installation.
- Consistent and predictable thermal characteristics.
- Maintenance free.
- Class I, Division 2 design.

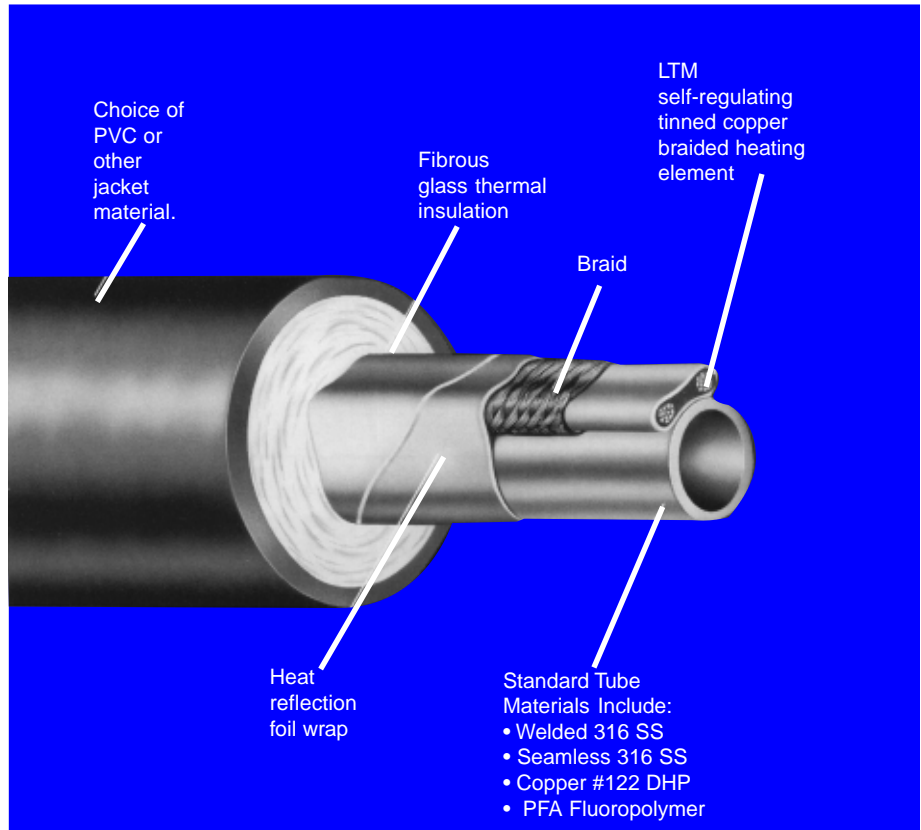
Applications

- Analyzer and instrument lines.
- Small diameter process lines.
- Impulse lines.

How To Specify

Example: 2256-20A30

Unitherm self-regulating LTM electric trace tubing; (1) 1/4" O.D. x .035" wall 316 stainless steel welded tube; 5 watt/ft. @120 VAC self-regulating tinned copper braided heating element; hydrophobic inorganic fibrous glass thermal insulation; 105°C black PVC jacket; MTR* = 185°F (85°C).



How to Order: 2256 X X A X X **Single Process Line**

How to Order: 2266 X X X X X **Multiple Process Lines**

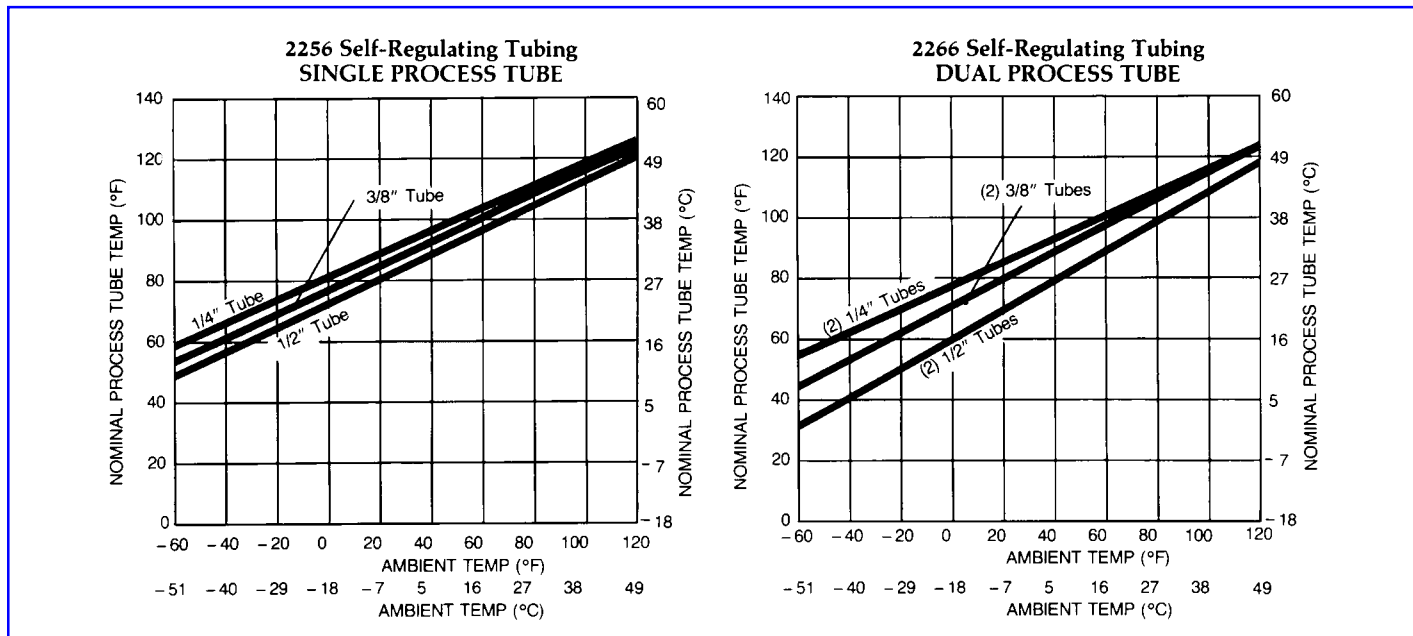
Process Tube O.D.	Process Tube Material	Number of Process Tubes	Heater Type
2 = 1/4"	0 = 316 S/S WLD	A = 1	30 = 5 watt/ft.120 VAC
3 = 3/8"	1 = #122 Copper	B = 2	Tinned Copper
4 = 1/2"	4 = PFA	C = 3	Braid Class 1
6 = 3/4"	7 = 316 S/S	D = 4	Div. 2
*Single Tube Only	Seamless	E = 5	90 = 5 watt/ft.240 VAC
			Tinned Copper
			Braid Class 1
			Div. 2

Note: Constructions and materials other than listed above are available upon request. Factory Mutual approvals require the use of Unitherm components and accessories. CSA approved heater. See next page for expanded list of product offering.

*Maximum Temperature Rating indicates the design condition under which this product is manufactured. Temperatures in excess of this rating may result in deterioration of the components or changes in the operational characteristics. Special designs are available, consult factory for details.

TECHNICAL INFORMATION

2256 / 2266 ELECTRIC TRACE TUBING — LTM



Electrical Specifications

Heater Type Self-Regulating
 Heater Insulation Flame Retardant Thermoplastic
 Circuit Length 270 Ft. @ 120 VAC
 540 Ft. @ 240 VAC
 Bus Wire Size (AWG) 16
 Power Output 5 watts/ft @ 120 VAC or 240 VAC @ 50°F
 Alternate Voltages Unitherm 240 VAC self-regulating heaters can be operated at alternative voltages. The chart below compares heater power output with product rating.

Adjustment Factor

208 VAC	277 VAC
76%	128%

Rating per N.E.C. 500 T5

Breaker Sizing vs. Max Circuit Length (feet)

if started	15A	20A	30A	40A
@50°F	120V 230	240V 460	120V 270	240V 540
@0°F	150	300	200	400
@-20°F	130	260	175	345

Alternate flame retardant jacket materials available include:

- Low Temperature Flame Retardant Polyvinyl
- Flame Retardant Urethane
- Flame Retardant Thermoplastic Elastomer

Tube O.D.	Standard Wall Thickness***	Material†	ASTM	Working Pressure @200°F	Maximum Coil Lengths
1/4"	.035"	316-S/S WLD	A-269	5320 psi**	500**
3/8"	.035"	316-S/S WLD	A-269	3400 psi**	400**
1/2"	.035"	316-S/S WLD	A-269	2500 psi**	300**
1/4"	.030"	#122 Copper	B-68 B-75	1600 psi	1000'
3/8"	.032"	#122 Copper	B-68 B-75	1200 psi	1000'
1/2"	.035"	#122 Copper	B-68 B-75	950 psi	1000'
1/4"	.030"	PFA	—	75 psi	500 ft*
3/8"	.062"	PFA	—	75 psi	500 ft*
1/2"	.062"	PFA	—	50 psi	500 ft*

*Longer coil lengths available on request. **Values given are for welded. Seamless is slightly higher. ***Heavier wall thickness available on request. †Other tube materials available.

Product Specifications

Jacket 105°C Black PVC
 Insulation Hydrophobic Inorganic Fibrous Glass
 Chloride Content less than 30 ppm
 Product Rating 185°F (85°C)

Nominal Bundle O.D.	Tube O.D.	Bundle O.D.
	1/4"	1.25"
	3/8"	1.40"
	1/2"	1.50"
(2)	1/4"	1.50"
(2)	3/8"	2.0"
(2)	1/2"	2.3"

Nominal Weight (Lb/Ft)	Tube O.D.	Bundle Weight
	1/4"	.4
	3/8"	.5
	1/2"	.6
(2)	1/4"	.5
(2)	3/8"	.7
(2)	1/2"	1.0

Installation Recommendation

See Installation Guidelines for details.
 Maximum Support

Centers	Vertical — 15 Feet
	Horizontal — 6 Feet
Maximum Bending Radius	Process Tube O.D. Min. Radius
	1/4" 6"
	3/8" 8"
	1/2" 10"
	(2) 1/4" 8"
	(2) 3/8" 10"
	(2) 1/2" 12"

Minimum Installation Temperature for PVC +15°F (-94°C)

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