PRODUCT SPECIFICATIONS

**TubeTrace® Type SE/ME**

ELECTRICALLY HEATED INSTRUMENT TUBING with MIQ Mineral Insulated Heat Tracing

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APPLICATION

TubeTrace, with series resistance MIQ heat tracing, is a pre-fabricated heat tracing circuit designed to maintain freeze protection or high temperatures from 40°F (5°C) to 932°F (500°C) where high temperature exposure is possible. MIQ withstands temperature exposures of 1,100°F (593°C).

The seamless Alloy 825 sheath and construction of the heating element make MIQ an exceptionally durable heat tracing option. This has made MIQ the industry standard for high temperature heat tracing applications.

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RATINGS

<table>
<thead>
<tr>
<th>MIQ</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Available watt densities up to 80 W/ft (262 W/m)</td>
</tr>
<tr>
<td></td>
<td>Tube temperature range 1 40°F to 932°F (5°C to 500°C)</td>
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<tr>
<td></td>
<td>Max. continuous exposure 2 Power-off 1100°F (593°C)</td>
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</tbody>
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CONSTRUCTION

1 Process tube(s)
2 MIQ mineral insulated electrical heat tracing
3 Heat reflective tape
4 Non-hygroscopic glass fiber insulation
5 Polymer outer jacket (ATP or TPU available)

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HOW TO SPECIFY

<table>
<thead>
<tr>
<th>Bundle Type</th>
<th>Process Tube Material</th>
<th>SE-4F1-MIQ-X-X-ATP-035-XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE = Single Tube</td>
<td>A = 316 SS Welded</td>
<td>Process Tube(s)</td>
</tr>
<tr>
<td>ME = Multiple Tubes</td>
<td>D = Monel 2</td>
<td>Wall Thickness</td>
</tr>
<tr>
<td></td>
<td>E = Titanium</td>
<td>028 = .028” (SS Only)</td>
</tr>
<tr>
<td></td>
<td>F = 316 SS Seamless</td>
<td>030 = .030”</td>
</tr>
<tr>
<td></td>
<td>G = 304 SS Welded</td>
<td>035 = .035”</td>
</tr>
<tr>
<td></td>
<td>H = 304 SS Seamless</td>
<td>049 = .049”</td>
</tr>
<tr>
<td></td>
<td>J = Alloy C276</td>
<td>065 = .065”</td>
</tr>
<tr>
<td></td>
<td>K = Alloy 825</td>
<td>083 = .083” (SS Only)</td>
</tr>
<tr>
<td></td>
<td>L = Alloy 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X = Special</td>
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</tbody>
</table>

Notes

1. Temperatures above 500°F (260°C) require high temperature woven fiberglass. Contact Thermon for design assistance and specify high temperature option HT for applications >500°F (260°C) and option HTX for applications > 750°F (398°C).

2. If bundle jacket is to remain below 140°F (60°C) in +80°F (27°C) ambient (in consideration of personnel burn risk) core temperatures must remain below 400°F (205°C). Alternative designs to keep jacket below 140°F (60°C) in higher ambients and/or with higher tube or heater temperatures are available.

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CONTACT THERMON

The Heat Tracing Specialists®
ISO 9001

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For the Thermon office nearest you visit us at . . . www.thermon.com

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MIQ HEATER SETS
For TubeTrace, MIQ mineral insulated heat tracing sets are available in two factory fabricated configurations: Type D or E. The standard assemblies consist of a predetermined length of heat tracing joined to a standard 1 4’ (1,220 mm) non-heating cold lead with 8” (203 mm) long thermoplastic insulated pigtail.

The non-heating section of the unit is sealed and fitted with a high pressure, liquid-tight 1/2” or 3/4” NPT stainless steel gland for connection into the supply junction box.

DESIGN TOOLS
Technical Design Information and CompuTrace® - IT computer design program for TubeTrace heated instrument tubing are available online at www.thermon.com. MIQ heaters will require assistance from Thermon.

TUBETRACE ACCESSORIES
Sealing the ends of pre-insulated tubing bundles ensures their efficient and reliable performance. A variety of termination kits and accessories are available and can be found on Form CLX0020.

ELECTRICAL HEAT TRACE ACCESSORIES
Thermon manufactures every type of electrical resistance heat tracing available in the world today. Power connection and termination kits (Form CLX0024) and a variety of controls are all available for heated instrument tubing applications.

CIRCUIT BREAKER SIZING AND TYPE
Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code.

The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

Notes
1. Cold lead will be sized for the circuit operating current in accordance with relevant NEC or CEC code requirements.
2. Cold lead gland is 1/2" NPT except for 2-conductor sets with larger wire sizes for which a 3/4” NPT gland is provided. M20, M25 and M32 glands are available, contact factory.
3. Heater identification is established before ordering the TubeTrace bundle. MIQ heaters require design based on specific lengths and are fabricated separately.
4. Flameproof system must be specified, contact factory.