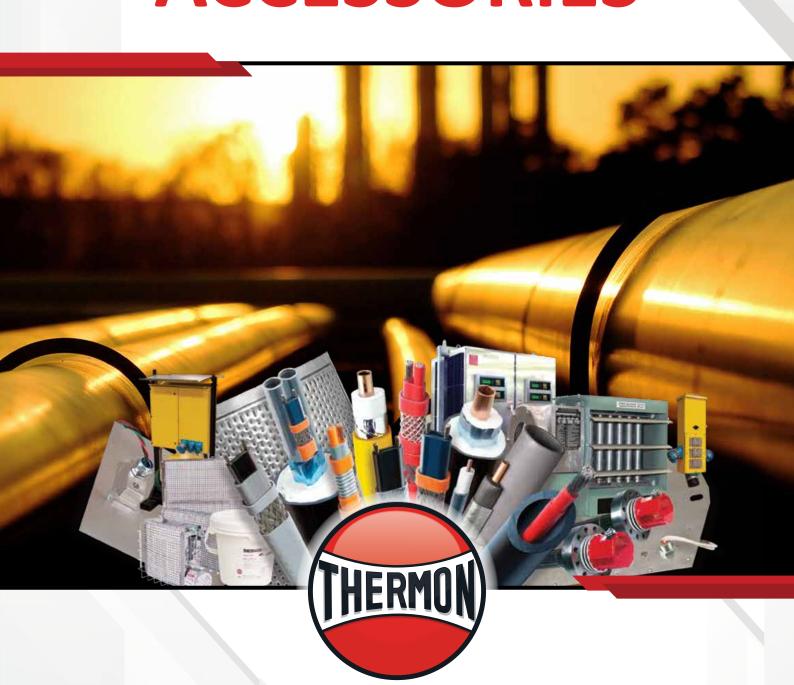
# PRODUCTS & ACCESSORIES



# From exploration to end users, we have a solution for you.

Thermon provides highly engineered thermal solutions for process industries, including energy, chemical processing and power generation. Thermon offers a single source responsibility with a truly comprehensive range of solutions that addresses every essential process heating requirement.

	UPSTREAM	MIDST	TREAM	DOWNSTREAM	POWER
	点				
	Exploration and Production	Natural Gas Processing	Pipelines and Storage	Oil, Gas, and Chemical Processing	Power Generation
HEAT TRACING Electric, Steam, & Tubing Bundles	•	•	•	•	•
POWER SOLUTIONS Temporary Power & Lighting	•	•	•	•	•
<b>CATA-DYNE</b> <sup>TM</sup> Explosion-Proof Gas Catalytic Heaters	•	•	•	•	•
RUFFNECK <sup>TM</sup> Heaters for the Harshest Environments	•	•	•	•	•
NORSEMAN <sup>TM</sup> Electric Explosion-Proof Heaters	•	•	•	•	•
CALORITECH™ Engineered Electric Heat	•	•	•	•	•
<b>3L FILTERS™</b> Engineered Filtration Systems	•	•	•	•	•

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Caloritech™
3L Filters <sup>™</sup>
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### **OIL AND GAS**



**UPSTREAM SECTOR Onshore Oil and Gas Production Bitumen Production and Processing Coal-Bed Methane** Offshore Oil and Gas Production Mining



MIDSTREAM SECTOR LNG Liquefaction **LNG Receiving Terminal LNG Storage Fuel Storage Transmission Pipeline** 



**DOWNSTREAM SECTOR Hydro Treating Alkylation Plant Coking Unit Continuous Catalytic Reforming Sulfur Recovery Crude Oil Distillation** Fluid Catalytic Cracking **Hydrogen Plant Hydrocracking** 

### **CHEMICAL**



**Chemical Processing Fertilizer Plant** 

### **POWER GENERATION**



**Combined Cycle Power Nuclear Power Wind Power Concentrated Solar Plant** 

### **TRANSPORTATION**



**Rail Switching Commuter Train** 

### **COMMERCIAL**



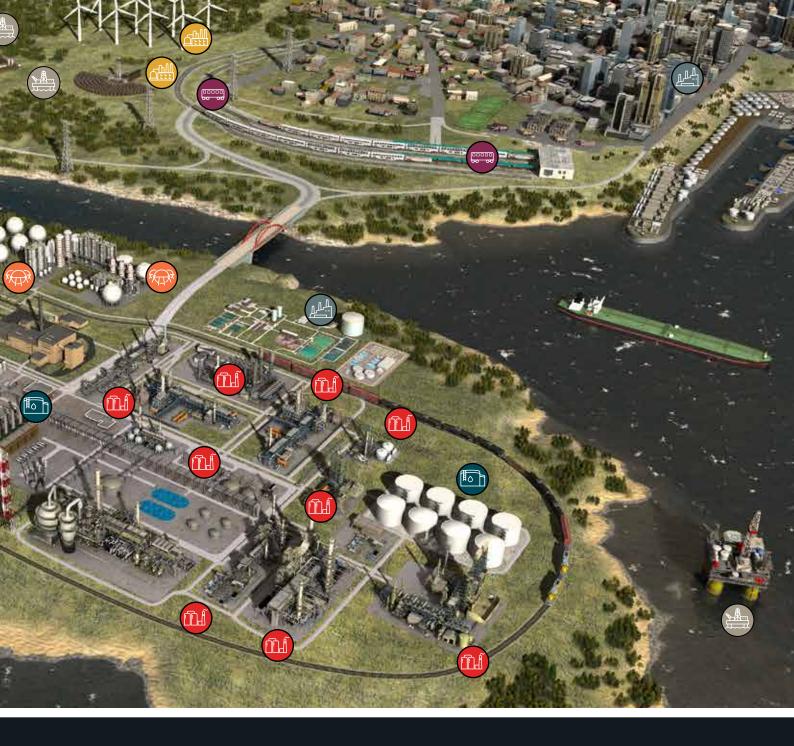
**Waste Water Treatment Hot Water Temperature Maintenance Industrial Manufacturing** 



# **OUR MISSION**



To provide safe, reliable, and innovative mission-critical industrial process heating solutions that create value for our customers.



# THROUGH OUR GLOBAL NETWORK, THERMON PROVIDES HIGHLY ENGINEERED THERMAL SOLUTIONS FOR PROCESS INDUSTRIES, INCLUDING ENERGY, CHEMICAL PROCESSING, AND POWER GENERATION.

Thermon is the leading single-source provider of industrial process heating, delivering comprehensive, engineered solutions for complex projects, including hazardous area applications.

Since 1954, we've led the industry in designing a full spectrum of custom services that address every essential **process heating requirement**, from beginning to end.

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Tank Heating												
Foundation												
External Tracing												
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TraceNet Command + Components												
Space/Comfort Heating							_			1		
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Electric Unit (Ruffneck™, Norseman™, Caloritech™)												
Hydronic Unit (Ruffneck™)												
Convection Unit (Ruffneck™, Norseman™, Caloritech™)												
Duct (Ruffneck™, Caloritech™)												
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Circulation (Caloritech™)												
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Process Packages (Caloritech™, 3L Filters™, Cata-Dyne™)												
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### **ELECTRIC HEATING CABLES**

### SELF-REGULATING HEATING CABLES

### Features:

- Semiconductive Self-Regulating Heating Matrix
- Cut-to-Length Parallel Circuitry
- Nickel-Plated Copper Bus Wires
- Metallic Braid for Grounding Purposes
- Polyolefin or Fluoropolymer Overjacket
- Worldwide Approvals

### **BSX™**

- Freeze Protection and Temperature Maintenance to 65°C (150°F)
- Maximum Exposure Temperature: 85°C (185°F)
- Available Watt Densities:
   10, 16, 26, 33 W/m @ 10°C (3, 5, 8 & 10 W/ft @ 50°F)
- Available Voltages: 100-277 Vac
- Available With Fluoropolymer Overjacket (FOJ)

### **KSX™**

- Freeze Protection and Temperature Maintenance to 121°C (250°F)
- Maximum Exposure Temperature: 121°C (250°F)
- Available Watt Densities: 15, 32, 48, 64 W/m @ 10°C
- Supply Voltage: 230 Vac

### HTSX™

- Freeze Protection and Temperature Maintenance to 150°C (302°F)
- Maximum Exposure Temperature: 250°C (482°F)
- Withstands Temperatures Associated With Steam Purging
- Available Watt Densities: 10, 20, 30, 39, 49, 66 W/m @ 10°C (3, 6, 9, 12, 15, & 20 W/ft @ 50°F)
- Available Voltages: 100-277 Vac

### VSX™-HT

- Freeze Protection and Temperature Maintenance up to 200°C (392°F)
- Maximum Exposure Temperature: 250°C (482°F)
- Withstands Temperatures Associated with Steam Purging
- Available Watt Densities: 16, 33, 49, 66 W/m @ 10°C (5, 10, 15, & 20 W/ft @ 50°F)
- Available Voltages: 100-277 Vac

### KSR™

- Surface Snow and Ice Melting
- Maximum Exposure Temperature: 121°C (250°F)
- Minimum Installation Temperature: -60°C (76°F)
- Available Voltages: 230 Vac

### POWER-LIMITING HEATING CABLES

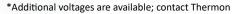
### **Features:**

- PTC Coiled Resistive Alloy Heating Element
- Cut-to-Length Parallel Circuitry
- Nickel-Plated Copper Bus Wires
- Metallic Braid for Grounding Purposes
- Fluoropolymer Overjacket
- Worldwide Approvals

### HPT™

- Freeze Protection and Temperature Maintenance up to 210°C (410°F)
- Maximum Exposure Temperature: 260°C (500°F)
- Available Watt Densities: 16, 33, 49, 66 W/m @ 10°C
   (5, 10, 15 & 20 W/ft @ 50°F)
- Available Voltages\*: 100-277 Vac Nominal





### **ELECTRIC HEATING CABLES**

### CONSTANT WATT HEATING CABLES

### **Features:**

- Nichrome Heating Element
- Cut-to-Length Parallel Circuitry
- 12 AWG Copper Bus Wires
- Metallic Braid for Grounding Purposes
- Fluoropolymer Overjacket
- Worldwide Approvals

### FP

- Freeze Protection and Temperature Maintenance to 65°C (150°F) and Foundation Heating
- Maximum Exposure Temperature: 200°C (392°F)
- Available Watt Densities: 8, 16, 33 W/m @ 10°C
   (2.5, 5 & 10 W/ft 50°F)
- Available Voltages: 230–577 Vac



### MINERAL INSULATED HEATING CABLES

### Features:

- High Temperature Magnesium Oxide Dielectric
- Seamless Alloy 825 Sheath
- Worldwide Approvals

### MIQ™

- Freeze Protection and Temperature Maintenance to 500°C (932°F)
- Maximum Exposure Temperature: 600°C (1,112°F)
- Available Watt Densities: Designs up to 262 W/m (80 W/ft)
- Available Voltages: Rated up to 750 Vac

# 12°F) V/m (80 W/ft)

### SERIES RESISTANCE HEATING CABLES

### **Features:**

- Circuit Lengths up to 3660 m (12,000 ft)
- Metallic Braid for Grounding Purposes
- Fluoropolymer Overjacket
- Worldwide Approvals

### TEK™

- Freeze Protection and Temperature Maintenance to 101°C (214°F)
- Maximum Exposure Temperature: 232°C (450°F)
- Available Watt Densities: Designs up to 65 W/m (20 W/ft)
- Available Voltages: Rated up to 600 Vac

### TESH™

- Long Line Freeze Protection and Temperature Maintenance
- Maximum Exposure Temperature: 260°C (500°F)
- Available Watt Densities: Designs up to 25 W/m
- Available Voltages: Rated up to 750 Vac



### SKIN EFFECT HEATING SYSTEMS

### Features:

- Circuit Lengths up to 24 Kilometers (15 Miles)
- Nickel-Plated Copper Bus Wires
- Rugged Heat Tube to Generate Heat
- Available Scuff Jacket
- Worldwide Approvals

### **ThermTrac™**

- Freeze Protection and Temperature Maintenance to 200°C (392°F)
- Maximum Exposure Temperature: 260°C (500°F)
- Power Outputs: up to 165 W/m (50 W/ft)
- Operating Voltages: up to 5 kV



## **INSTRUMENT TUBING BUNDLES**

### ELECTRICALLY HEATED INSTRUMENT TUBING FOR FREEZE PROTECTION AND TEMPERATURE MAINTENANCE

### **TubeTrace® Type SE/ME**

Approved for hazardous (classified) locations, including options for Class I, Division 1 or Zone 1.

### TubeTrace with VSX™ **Self-Regulating Heat Trace**

- Use where high temperature exposure is a consideration.
- Tube Temperature Range: 5°C to 149°C (40°F to 300°F)
- Maximum Exposure Temperature1: 250°C (482°F)

### TubeTrace with HTSX™ Self-Regulating **Heat Trace**

- Use where temperature exposure to steam purge is expected
- Tube Temperature Range: 5°C to 150°C (40°F to 302°F)
- Maximum Exposure Temperature<sup>1</sup>: 250°C (482°F)



### TubeTrace with BSX™ **Self-Regulating Heat Trace**

- Use for water freeze protection and low temperature maintenance.
- Tube Temperature Range: 5°C to 65°C (40°F to 150°F)
- Maximum Exposure Temperature1: 85°C (185°F)

### TubeTrace with HPT™ **Power-Limiting Heat Trace**

- · A "cut-to-length" heat tracing for higher temperature maintenance. Also used for freeze protection where high temperature exposure is a factor. HPT power-limiting cables represent the best choice for maintaining temperatures up to 204°C (400°F) that can be "cut-to-length" in the field.
- Tube Temperature Range: 5°C to 204°C (40°F to 400°F)
- Maximum Exposure Temperature<sup>1</sup>: 260°C (500°F)



### CUSTOM CEMS AND ANALYZER BUNDLES

Many analyzer applications have specialty tubing requirements, all of which Thermon can provide within our instrument tubing bundles. Examples of tube materials and finishes available include:

- Fluoropolymer tubing, 316 and 304 stainless, welded or seamless, Monel, Titanium, Inconel 825, and Alloy 20.
- Optional Electropolished (EP), Chemical Passivation (CP), and performance coatings such as SilcoNert2000 are also available on stainless steel tubing.
- Multiple tube materials can be provided in a common bundle.

### "NI" Non-Insulated (And Non-Heated) Bundle & Other TubeTrace Options Can Include:

- Auxiliary Conductors
- Unheated Tubes
- Factory Installed Temperature Sensor(S)
- Special Markings And Identification As Required

### Notes:

- 1. Reflects maximum exposure temperature of heater.
- 2. Monel and Inconel are trademarks of Inco Alloys International., Inc. Trade name of SilcoTek™, formerly a division of Restek Performance Coatings. SilcoNert™1000 replaces Silcosteel\*. SilcoNert™2000 replaces Sulfinert\*/Siltek\*.



### **INSTRUMENT TUBING BUNDLES**

# ELECTRICALLY HEATED INSTRUMENT TUBING FOR FREEZE PROTECTION OF HIGH TEMPERATURE STEAM LINES

Isolated "cut-to-length" heat trace for high temperature exposure, suitable for ambient sensing control.

### TubeTrace® Type SEI/MEI - HT

• Maintain: 5°C (40°F)

• Continuous Exposure: 399°C (750°F)

### TubeTrace® Type SEI/MEI - HTX

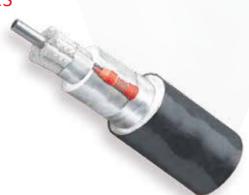
• Maintain: 5°C (40°F)

• Continuous Exposure: 593°C (1100°F)

### TubeTrace® Type SEI/MEI - HTX2

• Maintain: 5°C (40°F)

• Intermittent Exposure: 593°C (1100°F)



# STEAM OR FLUID HEATED INSTRUMENT TUBING FOR FREEZE PROTECTION AND TEMPERATURE MAINTENANCE

### Steam or Fluid "Light Traced" (SI/MI)

- For freeze protection and lower temperature maintenance. The tracer tube is isolated from the process tube(s), so process tube temperatures will be significantly lower than the tracer tube temperature.
- Tube Temperature Range: 5°C to 121°C (40°F to 250°F)
- Maximum Exposure: 205°C (400°F) \*

### Steam or Fluid "Heavy Traced" (SP/MP)

- For freeze protection and process maintenance. The tracer tube is in direct contact with the process tube(s), so process tube temperatures will be very close to the tracer tube temperature.
- Standard Tracer Temperature Range: 5°C to 205°C (40°F to 400°F)
- Maximum Exposure: 205°C (400°F)\*



<sup>\*</sup>Higher tube temperatures are possible with XINS-extra insulation, HT and HTX type designs.

### STEAM TRACING AND TANK/HOPPER HEATING

### **HEAT TRANSFER COMPOUNDS** TO MAINTAIN HIGH TEMPERATURES

### "Thermonized" With **Thermon Heat Transfer** Compounds

- Consistent Heat Transfer Properties
- Less Than 20% of Cost for Steam **Jacketing**

### Snaptrace®

### **Preformed Extrusions For Straight Piping**

- Available in 1.22 m (4 ft) lengths
- Significantly Reduces Installation Time
- No Surface Preparation Required
- Use With Up to 208°C (406°F) Fluid/Steam

### **HT Compounds for Piping, Valves & Irregular Surfaces**

(Maximum temperature ratings shown)

- T-3: 371°C (700°F)
- T-75: 425°C (800°F)
- T-99: 1,000°C (1,832°F)
- T-85: 190°C (375°F)
- T-802: 135°C (275°F) Two-Part Compound





### ISOLATED STEAM TRACERS FOR LOWER MAINTAIN TEMPERATURES

SafeTrace™ SLS-IT: 24°C to 93°C (75°F to 200°F)

SafeTrace™ DLS-IT:

5°C to 54°C (40°F to 130°F)

### SafeTrace™ Provides Increased Safety

- SafeTrace Tracers Comply With Tests for Skin Exposure (per ASTM Std C-1005/1057)
- Safety Yellow Jacket Alerts Plant Personnel to **Potentially Dangerous Conditions**

### SafeTrace™ Provides Predictable Heat Transfer

- Permits Winterization for Any Size Pipe
- Eliminates Hot/Cold Spots Associated With Bare Tubing and Spacer Blocks
- Suitable for Temperature-Sensitive Processes

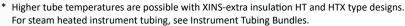
### **Medium Maintain Temperatures**

• SafeTrace™ BTS: 38°C to 121°C (100°F to 250°F)

### STEAM SUPPLY/CONDENSATE RETURN LINES

### ThermoTube® Pre-Insulated Tubing

- Ideally Suited to Transport Liquids, Gases or Refrigerants
- Non-hygroscopic Glass Fiber Insulation for Efficiency
- Protective Outer Jacket Resists Weather and Moisture
- ThermoTube Can be Installed in Cable Trays, Angles, Channels, Struts and on I-Beams
- All Tubing Types Available
- Continuous Temperature Range: Service to 205°C (400°F) \*
- ThermoTube ratings to 593°C (1100°F) also available \*.





## STEAM TRACING AND TANK/HOPPER HEATING

### TANK AND VESSEL HEATING

### RT FlexiPanel® & RTF FlexiPanel® Tank and Vessel **Heating Units**

- High Temperature Lead Wires (16 AWG)
- Protective Metal Jacket
- Parallel Circuit High Temperature Alloy Heating Element
- Heat-Laminated, High Temperature Silicone Rubber Insulation

- Nominal Output:
  - RT FlexiPanel 500, 1,000, and 2,000 W
  - RTF FlexiPanel 300 and 500 W
- Supply Voltage: 120 or 240 Vac
- Temperature Maintenance to: 121°C (250°F)
- Maximum Exposure Temperature: 232°C (450°F)



### HeetSheet® Tank and Vessel Heating Units

- Provides Predictable and Reliable Heating (or Cooling)
- Factory-Applied Non-Hardening Heat Transfer Compound Ensures Maximum **Heat Transfer**
- Waffle Pattern Permits Multiple Flow Paths for Heating and Cooling Media
- Provides 2 to 3 Times the Heat Transfer of Plate-Type Coils
- No Risk of Cross-Contamination with Process
- Lightweight Stainless Steel Construction for Easy Installation
- Stainless Steel Inlet and Outlet Tubing Provided from Factory



### HOPPER AND CHUTE HEATING

### **HT Module Hopper Heater**

- Fluoropolymer Insulated High Temperature 16 AWG Lead Wires (with stress relief at connection)
- Parallel Circuit High Temperature Alloy Heating Element
- Temperature-Rated Insulation (directs energy towards surface to be heated)
- Aluminized Steel Protective Enclosure and Cover
- Temperature Maintenance up to 427°C (800°F)

Maximum Watt Density: 4,650 W/m² (3 W/in²)

• Supply Voltages: 120-600 Vac



### **CONTROL AND MONITORING**

### **ELECTRONIC CONTROLLERS**

### TraceNet™ Genesis

- Monitor electric heat trace circuit load currents
- Selectable control method (On/Off, On/Off With Soft Start, Proportional, Ambient Proportional) for each individual circuit
- · Programmable alarm set points, with time delay and remote alarm acknowledgment and reset capabilities
- Programmable "trip" set-points for each circuit
- Temperature sensor status indication
- Unique circuit identifier (48 characters maximum)

- Communication to host computer via Ethernet communications
- Adjustable ground/earth leakage "trip" and/or alarm capabilities
- Addressable RTD Temperature Sensors up to twenty (20) per circuit
- Up to 6 months history to aid in troubleshooting
- ISO drawing in pdf format for viewing on Genesis HMI



### TraceNet™ TCM18

- · Monitor electric heat trace circuit operating and ground/earth leakage currents
- Selectable control method (On/Off, On/Off With Soft Start, Proportional, Ambient Proportional) on a per circuit basis
- Programmable alarm set points, with alarm acknowledgment and reset capability
- Programmable trip set-points for each circuit
- Temperature sensor status indication

- · Unique circuit identifier
- · Communication to host computer via RS485 serial
- "Push to Test" ground/earth leakage test feature on a per circuit basis





### TraceNet™ TCM2

- Monitor electric heat trace circuit operating and ground/earth leakage currents
- Selectable control method (On/Off, On/Off With Soft Start, Proportional, Ambient Proportional) on a per circuit basis
- Programmable alarm set points, with alarm acknowledgment and reset capability
- Programmable trip set-points for each circuit

- Temperature sensor status indication
- Communication to host computer via RS485 serial communication.
- "Push to Test" ground/earth leakage test feature on a per circuit
- Ground/earth leakage interruption capability



### TraceNet™ ECM

- Encapsulated electronics and control
- One temperature control module for wide range of temperature control and limiter applications
- · Energy saving accurate electronic temperature control action
- · Data highway communication capability

- · Selectable automatic or manual reset limiter action
- Control/limiter setting in degrees Centigrade or degrees Fahrenheit
- · Combines power junction box and control module in one unit
- Also available as ambient thermostat (WP mount only)



- Data highway communication capability
- · Control in degrees Centigrade or degrees Fahrenheit
- · Combines power junction box and control module in one unit



### TraceNet™ ECM-Ambient

- Encapsulated electronics and control
- One temperature control module for wide range of temperature control
- · Energy saving accurate electronic temperature control action

### **CONTROL AND MONITORING**

### **ELECTRONIC CONTROLLERS WITH POWER DISTRIBUTION**

Pre-assembled controller skids are an integral component of Thermon's total systems approach to provide you with the most cost effective system.

Designed specifically for YOUR electrical requirements, Thermon Controller skids can include transformer(s), distribution panel, electrical heat tracing controller panel, and connection accessories. All on one convenient skid.

- Reduce site installation costs
- Pre-wiring is done in a controlled environment
- Completed assembly is delivered to your site ready for hook-up to your main power feed(s)
- Reduce RTD and power wiring costs
- Reduce maintenance and total costs of ownership
- Components are secured to a structurally designed, pre-wired skid



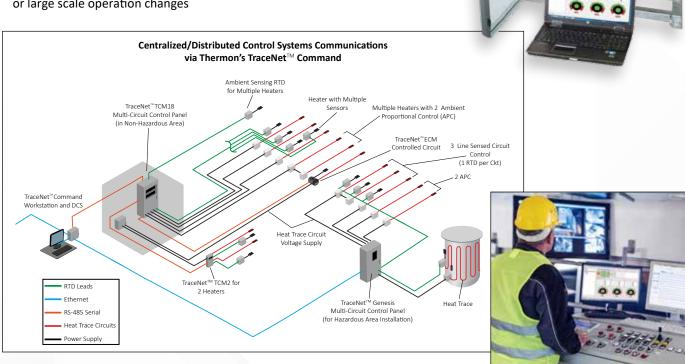
### **COMMUNICATION SOFTWARE**

### TraceNet™ Command

- Simple coordination, organization, control, and monitoring of multiple heat tracing circuits
- The alarm list makes tracking and trending conditions in the plant easier using current and historical data
- Multivariable trending enables smoother and more functional Key Performance Indicator (KPI) development
- System scenario batch settings build for quick process or large scale operation changes

 SQL database allows efficient and reliable storage and access to data

 DCS integration for remote operations are made more efficient with TraceNet Command



### **ACCESSORIES**

# POWER CONNECTION KITS



Terminator ZP nonmetallic kits fabricate power connections of an electric heat trace circuit.



Terminator ZL nonmetallic kits fabricate power connections and provide visual indication of an energized heat trace circuit.

### END TERMINATION KITS



Terminator ZS/ZE nonmetallic kits fabricate an end termination of an electric heat trace circuit.



Terminator ZE-B nonmetallic kits provide visual indication of an energized heat trace circuit. (Also available in red)

### **MISCELLANEOUS**



PETK power and end termination kits are required for use with all Thermon parallel heating cable connection kits.



**SCTK** splice connection kits are required when preparing splices with all Thermon parallel heating cable connection kits.



FT-1L, FT-1H fixing tapes for attaching heating cable to piping every 30 cm (12") or as required.

### MECHANICAL THERMOSTATS



**Terminator ZP Ambient** is designed to provide ambient sensing control of electric heat trace circuits.

### T-SPLICE KITS

IN-LINE SPLICE KITS



Terminator ZP nonmetallic kits fabricate T-splice connections of an electric heat trace circuit.

**Terminator ZS/ZE** 

nonmetallic kits

fabricate in-line

heat trace circuit.

splices of an electric

AL-20L, AL-20H, AL-30L, AL-30H aluminum tape for continuous (longitudinal) covering.



XP-1 predrilled stainless steel (type 304) mounting bracket for mounting junction boxes and thermostats directly to pipework.



IEK insulation entry kits for non-hazardous locations for inserting permanent circular and non-circular cables into insulation.



Non-metallic Glands for inserting permanent circular and non-circular cables into an enclosure.

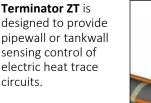


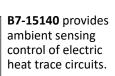
Brass Glands for entry of an electric heat trace circuit into a Thermon approved junction box.



PTD-100 probe improves measuring accuracy between control input sensors and controllers.

### **7T** is





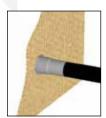


**E7-25325** provides pipewall or tankwall sensing control of electric heat trace circuits.

T-SPLICE KITS

### **ACCESSORIES**

### **ENCLOSURE/SHELTER ENTRY KITS**



**Bulkhead Entry Heat** Shrink Seal FAK-9 Series provides an effective transition and strain relief when bundle passes through a wall 2.5 cm (1") thick or less.

FAK-1 Kit for

waterproof seal

around the bundle.



Terminator ZP/FAK-4 Kits for an in-line splice power connection of electrically heated TubeTrace bundles.

In-line Splice

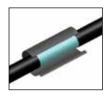
FAK-4 Kits create

a waterproof seal

over TubeTrace and



Terminator ZS/ZE/ FAK-4 Kits fabricate outside in-line splices on insulated TubeTrace with electric heat tracing.



FAK-8 Kits create a waterproof seal over TubeTrace and ThermoTube splices.

### IN-LINE SPLICE KITS



T-Splice FAK-5 Kits create a waterproof seal over TubeTrace and ThermoTube splices.



Terminator ZP/FAK-5 Kits for T-splice of electrically heated TubeTrace bundles. Creates a waterproof seal at T-splice connections of TubeTrace bundle with electric heat tracing.

# bulkhead entry of TubeTrace and ThermoTube bundles. Creates

Terminator ZP/FAK-1 Kits for bulkhead entry of electrically heated TubeTrace bundles create a waterproof seal over the end of TubeTrace and terminates

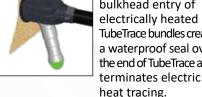
electric heat tracing.





TraceNet ECM/ FAK-1 Kit is an electronic control module that controls electric heat trace circuits. Functions as temperature control, sensor, and power connection.





heat tracing. HIGH TEMPERATURE **SEAL KIT** 



FAK-7HTS Kits create a seal over the end of TubeTrace and ThermoTube for high temperature applications.

### 90° ELBOW TRANSITION KITS



90° Elbow Transition FAK-2 Kits create a waterproof seal over TubeTrace and ThermoTube splices.



Terminator ZS/ZE/ FAK-2 Kits fabricate accessible outside the insulation in-line splices or end terminations on TubeTrace with electric heat tracing.



**Terminator ZP/FAK-2** Kits fabricate outside the insulation power connection, in-line splices or end terminations on TubeTrace with electric heat tracing.

### FIELD INSTALLED **CONTROL SENSOR KITS**



FAK-4T Kits provide a waterproof seal over TubeTrace for field installed thermostat.



FAK-4S Kits provide a waterproof seal over TubeTrace for field installed sensor.

### TERMINATION/ SFAL KITS



**FAK-7 Seal Kits** create a waterproof seal over the end of TubeTrace and ThermoTube.



FAK-10 Kits create a waterproof seal over the end of TubeTrace and ThermoTube. Kits include heat shrink seal.

- Terminator "D" kits Division 2 and Zone 2 Areas
- Terminator "Z" kits Zone 1 Areas.
- Heat Trace power and end termination and splice connection kits purchased separately.

# **Cata-Dyne**<sup>™</sup>

### **EXPLOSION-PROOF GAS CATALYTIC HEATERS**

### WX INFRARED GAS CATALYTIC HEATER

### Features:

 The industry standard for space or spot heating applications in hazardous environments, including comfort heating for industrial buildings and installations, freeze protection for equipment and components, and drying or curing processes

- Models range from 1,250 to 60,000 BTU/hr and 12 to 600 V
- Available for either natural gas or propane fuel
- CSA, FM and CE/ATEX certified for use in hazardous locations
- EAC marked for Eurasian markets



### MKII INFRARED GAS CATALYTIC HEATER

### Features:

- Like the WX Series, the MKII Series is an industry standard for space or spot heating applications in hazardous environments, including comfort heating for industrial buildings and installations, freeze protection for equipment and components, and drying or curing processes
- Side mounted hardware for lower installation profile
- Models range from 5,000 to 40,000 BTU/hr and 12 to 600 V
- Available for either natural gas or propane fuel
- CSA and FM certified for use in hazardous locations
- EAC marked for Eurasian markets



### WXS SLIMLINE INFRARED GAS CATALYTIC HEATER

### **Features:**

- Offers the same industry standard performance for space or spot heating applications in hazardous environments as the WX Series, with the added convenience of a compact stainless steel cabinet only 3.8 cm (1.5") thick, making it ideal for applications with space installation constraints
- 40% greater BTU/unit area than our WX heater

- Faster startup time
- Available for either natural gas or propane fuel
- 6 available cabinet sizes; models range from 1,750 to 56,000 BTU/hr and 12 to 600 V
- FM certified for use in hazardous locations
- Available in the USA only



### LH LINE HEATER

- Prevents equipment freezing and possible hydrate formation during pressure reduction at natural gas regulating sites
- Available in five standard sizes, ranging from 40,000 to 160,000 BTU/hr
- Custom engineered units for non-standard applications are available
- The heart of each LH Series line heater is the industry standard Cata-Dyne™ WX Gas Catalytic Heater. The Cata-Dyne™ WX brings its trademark quality, durability and performance efficiency to provide the most consistently reliable radiant heat source available.
- Designed for use in Class I, Division 2, Group D hazardous locations



### **EXPLOSION-PROOF GAS CATALYTIC HEATERS**

### SS SURE SEAL™ PIPELINE SYSTEM

### **Features:**

 A unique infrared heating system consisting of propane fired Cata-Dyne™ heaters (the hottest catalytic gas heater on the market) mounted in a clamshell frame configuration to provide a safe and fast method of applying heat to the construction and maintenance of pipeline systems of various sizes greater than 5 cm (2") diameter

- The large surface area of the Cata-Dyne™
  heaters allows for efficient transfer of infrared
  heat that can be utilized in a variety of
  pipeline applications
- Suitable for preformed wrap around sleeves
- Ideal for both preheat and shrink sleeve processes
- Available for pipeline applications up to 122 cm (48") in diameter



### SCH - SUPER CONDUCTOR ENCLOSURE

### **Features:**

- Innovative heat transfer technology using radiant heat from conducting rods to create a moisture-free heat source
- Used for applications such as providing dry penetrating heat for small enclosures that house batteries, radio controls, and other moisture-sensitive equipment
- Heating capacity ranges from 1,000 to 4,000 BTU/hr
- Available for either natural gas or propane fuel
- CSA and FM certified for use hazardous locations



### **IGP - INSTRUMENT GAS PREHEATER**

### **Features:**

- The preferred solution for providing the gas industry with freeze protection for instrument supply gas, pilot actuated regulators and related applications, including freeze prevention at metering sites or gas chromatographs, valves, pilots and other low flow
- Heat capacity ranges from 1,700 to 5,000 BTU/hr
- Available for either natural gas or propane fuel
- CSA and FM certified for use in hazardous locations



### **HEA - REGULATOR ENCLOSURE**

### Features:

- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Optional thermostats and regulators are available
- Custom designed enclosure packages available upon request
- Cata-Dyne<sup>™</sup> heaters are CSA or FM certified, available in both natural gas or propane



### CHS CATA-DYNE™ HEATING PACKAGE

- Automated space and spot heating for applications where flammable gases, vapors or liquids may be present
- Equipped with Cata-Dyne<sup>™</sup> explosion-proof infrared heaters, this system comes standard or custom designed to meet any unique application
- Cata-Dyne™ infrared heaters are controlled remotely with an integrated explosion-proof control panel
- Applications include comfort heating for industrial buildings, CNG or propane vehicle maintenance facilities, and freeze protection for equipment and components



### **Ruffneck**<sup>™</sup>

### **HEATERS FOR THE HARSHEST ENVIRONMENTS**

### CX1 PROVECTOR® CONVECTION HEATER

### **Features:**

- Designed and manufactured specifically for demanding requirements and harsh operating conditions such as those in the gas well drilling industry
- Models range from 0.75 to 10.0 kW, 120 to 600 V, single phase, and 208 to 600 V, three phase
- UL C/US certified for Groups A, B, C, D, IIA, IIB and IIC; IP55 moisture ingress protection available



### AH ADVANCED HORIZONTAL HEAT EXCHANGER UNIT HEATER

### **Features:**

- Designed for rugged industrial applications and can be used with a variety of heat transfer fluids such as steam, circulating hot water, and glycol heating systems or in liquid cooling applications
- Models range from 6,000 to 1,200,000 BTU/hr and 115 to 440 V
- UL and CSA certified motors; explosion-proof or general purpose
- All models are CRN registered



### AV ADVANCED VERTICAL HEAT EXCHANGER UNIT HEATER

### **Features:**

- Designed for rugged industrial applications such as steam, circulating hot water, or glycol heating systems, in addition to a wide range of other heating fluids and can be used for both space heating and liquid cooling applications
- Maximum operating pressure and temperature rating of 450 psi and 343°C (650°F)
- UL and CSA certified motors; explosion-proof or general purpose
- All models are CRN registered



### RGE REGULAR-DUTY FORCED AIR UNIT HEATER

### **Features:**

- Designed for use in regular-duty industrial and commercial space heating applications
- $\bullet$  Models range from 2 to 40 kW and 208 to 600 V
- CSA C/US certified
- CE marked
- EAC marked



### RGX HEAVY-DUTY FORCED AIR UNIT HEATER

- Specifically engineered for heavy-duty use in industrial environments
- Models range from 15 to 50 kW and 208 to 600 V
- UL and CSA certified
- CE marked
- EAC marked



### **HEATERS FOR THE HARSHEST ENVIRONMENTS**

### FX5 EXPLOSION-PROOF ELECTRIC AIR UNIT HEATER

### **Features:**

- Designed for the harshest industrial environments including dry indoor industrial applications, drilling rigs, plant and process buildings
- Models range from 3 to 35 kW and 208 to 600 V
- UL certified for the following hazardous location classifications: Class I, Divisions 1 & 2, Groups C & D; Class II, Divisions 1 & 2, Groups E, F & G; Class I, Zones 1 & 2, Groups IIA & IIB; Temperature Code T3B 165°C (329°F)



### FX5-SD SEVERE DUTY ELECTRIC AIR UNIT HEATER

### Features:

- Built for severe duty applications that can lead to accelerated wear of electrical components and damage to the heater core, including locations with fluctuating power quality, temporary power generation, high vibration, dirty or corrosive atmospheres, or extended maintenance intervals
- Models range from 3 to 35 kW and 208 to 600 V
- UL certified for the following hazardous location classifications: Class I, Divisions 1 & 2, Groups C & D; Class II, Divisions 1 & 2, Groups E, F & G; Class I, Zones 1 & 2, Group IIA & IIB; Temperature Code T3B 165°C (329°F)



### HP HIGH PRESSURE HEAT EXCHANGER UNIT HEATER

### **Features:**

- Extra heavy-duty to meet the most demanding service and long life requirements for rugged industrial applications, such as space heating and liquid cooling
- Models range from 115 to 575 V; explosion-proof or general purpose
- UL and CSA certified motors
- All models are CRN registered
- EAC marked for Eurasian markets



### FR FROST-RESISTANT HEAT EXCHANGER UNIT HEATER

### **Features:**

- Specifically designed for steam applications that may be subject to freezing conditions, and of particular value for outdoor applications
- Models range from 115 to 575 V; explosion-proof or general purpose
- UL and CSA certified motors
- All models are CRN registered
- EAC marked for Eurasian markets



### CR1 TRITON™ CORROSION-RESISTANT WASHDOWN HEATERS

- A new generation of NEMA 4X corrosion-resistant washdown heaters
- Entire heater is NEMA Type 4X
- Epoxy coated fan blade
- 16-gauge stainless-steel cabinet

- Custom configured stainless-steel elements
- Optional built-in accessories
- Stainless-steel wall/ceiling mounting kit
- 120 V controls
- Stainless-steel temperature high-limit



### **Caloritech**<sup>™</sup>

### **ENGINEERED ELECTRIC HEAT**

### CCR1 TRITON™ WASHDOWN UNIT HEATER

### Features:

- NEMA 4X corrosion-resistant washdown heater, suitable for non-hazardous locations and applications using water pressure of less than 70 psi
- Available in a range of wattages, from 3 to 39 kW
- UL listed for Coast Guard and marine applications
- EAC marked



### GE REGULAR-DUTY FORCED AIR UNIT HEATER

### **Features:**

- Designed for use in regular-duty industrial and commercial space heating applications
- Models range from 2 to 40 kW output
- Available in a range of voltages from 208 to 600 V
- CSA C/US certified
- CE marked for global markets
- EAC marked



### GX HEAVY DUTY FORCED AIR UNIT HEATERS

### **Features:**

- Specifically engineered for heavy-duty use in industrial environments
- Available in 15–50 kW units (optional 10 kW unit);
   40 and 50 kW units incorporate split loads (50%)

for remotely controlled energy management systems

- CSA C/US certified
- CE marked for global markets
- EAC marked



### **IMMERSION HEATERS**

### **Features:**

- Immersion heaters are mainly used for process heating in both hazardous and non-hazardous areas such as in tanks, pressure vessels, and pipe assemblies
- Process fluids include water, heavy and light hydrocarbons, acids, polymers, salts and gases
- Available in 500 W–2.5 MW depending on the element length and voltages from 110 V to 690 V
- High quality replacements for the most commonly used heater types
- CSA C/US certified
- CE/ATEX & IECEX marked
- EAC marked



### **PGH PILOT GAS HEATER**

- Designed to heat the pilot tube gas stream of an automatic pressure reducing valve
- Combines a high efficiency aluminum casting with a digital temperature controller to maintain the pilot tube gas stream temperature, regardless of the gas flow rate
- The precise temperature control of this heater prevents damage to valve seals caused by freezing of entrained moisture, while maintaining a temperature low enough to prevent damage caused by overheating
- Temperature code: T4
- Available in 250–750 W and 120 V, 208 V, and 240 V
- CSA C/US certified



### **Caloritech**<sup>™</sup>

### **ENGINEERED ELECTRIC HEAT**

### INDIRECT CIRCULATION HEATER

### Features:

- Used primary in indirect heating applications where the process fluid needs to be isolated from the heating source or media
- Based on a helicoidal coil immersed in an oil bath that is heated by an electric immersion heater
- Typical applications include high pressure gas (above 3000 psi) and applications with low gas flow rates
- Certified to CSA C/US, CE/ATEX, IECEx, and B31.3 (on coil)
- EAC marked
- CE marked



### **CIRCULATION HEATERS**

### Features:

- For use in liquid and gas applications
- Available in horizontal or vertical orientations
- Available in vessel sizes up to 127 cm (50")
- Carbon steel or custom alloy materials
- Available in wattages up to 5000 kW and voltages from 110 to 690 V
- Certified to CSA C/US, IECEx, and CE/ATEX
- EAC marked for Eurasian markets
- ASME Section VIII, Division 1 or Division 2
- CE marked



### HEAT TRANSFER SKID

### **Features:**

- Custom designed, skid mounted unit provides process heat utilizing electric heaters to heat water, glycol, oil or heat transfer mediums
- Custom designs can incorporate water or steam boilers, super heaters and filtration equipment
- Available in wattages up to 5000 kW and voltages from 110 to 690 V
- Carbon steel or custom alloy materials
- PLC or hard-wired controls
- Certified to CSA C/US, IECEx, and CE/ATEX
- EAC marked
- ASME Section VIII, Division 1 or Division 2



### **ENGINEERED SYSTEMS**

### **Features:**

- Customized heating, filtration, and process solutions in a turnkey package
- Complete switch gear and control packages
- Design registration

- ASME Section VIII, Division 1 and 2
- Certified to CSA C/US, IECEx, and CE/ATEX
- EAC marked
- ASME rated interconnecting piping
- Available on-site start-up and commissioning assistance



### CONTROL PANELS

- Custom built to meet various environmental requirements, including dust, oil, and water, as well as corrosive or hazardous locations
- Certified to CSA C/US, UL, IECEx, and CE/ATEX
- EAC marked
- Designs suitable for Ordinary Location, Class I, Division 1, Groups C & D, Zone 1, flameproof & purged



### **3L Filters**™

### **ENGINEERED FILTRATION SYSTEMS**

### GFS GAS FILTER SEPARATOR

### Features:

- Removes moisture, liquid mists, aerosol, and contaminants from hydrocarbon gases using a three-stage design
- · Horizontal or vertical configurations
- Designed to ASME Section VIII, Divisions 1 and 2 specifications
- Single, duplex or multiplex arrangement; skid package configuration with controls and heating equipment available
- -29°C/+66°C (-20°F/+150°F) standard design temperature



### FGCS FUEL GAS CONDITIONING SYSTEM

### Features:

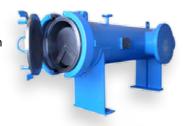
- Removes small amounts of moisture, liquid mist, and particulate contaminants from fuel gases
- Capabilities of gas preheating, superheating, pressure reduction, and gas metering
- Designed to deliver gas pressure, temperature, and degree of purity to meet custom specifications
- Approved for use in Class 1, Division 1, Group D hazardous locations



### **L DEHYDRATOR**

### **Features:**

- Provides gross water removal from liquid hydrocarbon fuels such as aviation fuel, kerosene, gasoline, diesel and liquid propane to an efficiency of 99%
- Employs a variety of replaceable coalescent filter packs to trap particle contamination and coalesce water from fuel
- Designed to ASME Section VIII, Divisions 1 and 2 specifications
- 150 psig standard design pressure; custom design pressures
- -29°C/+66°C (-20°F/+150°F) standard design temperature



### FC SINGLE BAG FILTER HOUSING

### **Features:**

- Provides effective, economical filtration of liquids
- Available in a wide range of materials and micron ratings to remove particulate matter down to 1 micron
- Designed to ASME Section VIII, Divisions 1 and 2 specifications
- Single, duplex, or multiplex arrangement
- 150 psig standard design pressure; custom design pressures
- -29°C/+66°C (-20°F/+150°F) standard design temperature



### BF MULTI-BAG FILTER HOUSING

- Provides economical bulk filtration for liquids
- Sized from 3 to 24 bags and accommodates replaceable filter bags to remove particulates down to 1 micron
- Designed to ASME Section VIII, Divisions 1 and 2 specifications
- Single, duplex or multiplex arrangement
- 150 psig standard design pressure; custom design pressures
- -29°C/+66°C (-20°F/+150°F) standard design temperature



### **ENGINEERED FILTRATION SYSTEMS**

### F & FD LUBE OIL, SEAL OIL & CONTROL OIL CARTRIDGE FILTER HOUSINGS

### Features:

- Provides continuous particulate filtration for both critical and non-critical lube, seal and control oil applications
- Many standard F & FD systems conform to API 614 requirements for system components, including the filters and transfer valves, as well as the required controls and instrumentation
- Designed to ASME Section VIII, Divisions 1 and 2 specifications
- 150 psig @ 66°C (150°F) standard design pressure; custom design pressures
- -29°C/+93°C (-20°F/+200°F) standard design temperature; higher design temperatures available



### F & FD LUBE OIL, SEAL OIL & CONTROL OIL CARTRIDGE FILTERS

### Features:

- Aluminum cartridge hardware
- Standard cartridge lengths of 457 mm (18") and 914 mm (36")
- Quick access cartridge replacement
- Custom cartridge configurations, sizes and filter media available



### BSF FABRICATED BASKET STRAINERS

### **Features:**

- Removes gross particles from a liquid stream
- Often used as a pre-filter placed before finishing filtration equipment
- Designed to ASME Section VIII, Division 1 and 2 specifications
- Single, duplex or multiplex arrangement
- 150 psig standard design pressure; custom design pressures
- -29°C/+93°C (-20°F/+200°F) standard design temperature



### FW GENERAL INDUSTRIAL CARTRIDGE FILTER HOUSING

### **Features:**

- Removes particulates from liquid streams, often as a prefilter ahead of finer particle separation equipment
- Standard design is based upon a single or double openended cartridge, but can be adapted to many filter cartridge designs, configurations, and sizes
- 150 psig standard design pressure; custom design pressures
- -29°C/+66°C (-20°F/+150°F) standard design temperature; higher design temperatures available
- Designed to ASME Section VIII, Division 1 and 2 specifications



### CS & BS CONE AND BASKET STRAINERS

- Protects fluid and gas handling equipment by removing debris during system start-up
- Available in stainless steel alloys or carbon steel; media available in a selection of four perforated styles and five mesh styles
- Custom builds available upon request



### **ENGINEERED FILTRATION SYSTEMS**

### SWC FULFLO® STRING WOUND FILTER CARTRIDGE

### **Features:**

- · Wide range of fibers and core materials
- Roving is wound onto a center core for strength
- Diagonal pattern of the media forms a tight, interlocking weave
- Nominal removal ratings from 1 μm to 100 μm are available
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components



### PB FULFLO® PLEATED BAG SERIES

### **Features:**

- Available in several polypropylene formats: Poly-Mate Plus, Poly-Mate, Claripor, and Glass-Mate media
- Designed to fit within existing bag filter vessels without any hardware changes and incorporates an easy-to-grasp integrated handle for quick removal
- Several media types are available for a wide variety of applications



### FLO-DRI COMPRESSED GAS SCRUBBING SYSTEM

### **Features:**

- Designed for gas conditioning of fuel gas from natural gas wells at the point of use to remove aerosols, contaminants, H2S, moisture, oil, and solids
- Various sizes available for flow rates from 1 to 150 SCFM
- Working pressures up to 250 psig
- Designed and built in accordance with ASME standards; CRN for types G-10 and G-25



### NGS1000 NATURAL GAS SCRUBBER

### **Features:**

- Designed to remove contaminants found in fuel gas from natural gas wells, thereby reducing or eliminating instrument and heater failure caused by the presence of such contaminants
- Flow rates to 10 SCFM or 25 SCFM

- 250 psig standard design pressure; particulate removal down to 0.5 micron
- Maximum operating temperature of 93°C (200°F); minimum operating temperature of -40°C (-40°F)
- Designed to ASME Section VIII, Division 1 specifications; CRN registered



### FP FULFLO® FLO-PAC® FILTER CARTRIDGE

- The perfect choice for many industrial filtration requirements
- Contains premium grade, phenolic impregnated, cellulosic filter media
- Designed for critical filtration applications providing long service life, high flow rate, and low pressure drop
- Available in 0.5 μm, 1 μm, 5 μm, 10 μm, 20 μm, 30 μm, and 60 μm pore sizes (95% removal; β = 20)
- High strength spiral core withstands pressure surges to 100 psi
- Suitable for operating temperatures to 121°C (250°F)



### **ENGINEERED FILTRATION SYSTEMS**

### 336 FULFLO® 336 PLEATED CARTRIDGE

### Features:

- Provides highly efficient removal of solid contaminants from a variety of applications
- Manufactured from premium grade phenolic impregnated cellulose and polypropylene blown media.
- Available in 3 μ, 10 μ, 12 μ, 22 μ, and 100 μ pore sizes. (99.98% removal; β = 5000)
- Retrofits housings that use 3" OD x 36" long SOE cartridges with a spring
- -29°C/+93°C (-20°F/+200°F) standard design temperature; higher design temperatures available



### 1401 FULFLO® 1401 PLEATED CARTRIDGE

### Features:

 Designed to replace similar competitive cartridges in high pressure water injection & disposal, gas streams and fluid processing

- Available in cellulosic and polypropylene media
- Available in absolute ratings of 2.5, 6, 10, 12, 22, and 100 microns (99.98%, ß = 5000)
- Retrofits into compatible housings that use 1401 style cartridges



### PRO FULFLO® PROBONDTM FILTER CARTRIDGE

### **Features:**

- Features a unique, proprietary two-stage filtration design to maximize particle retention and service life in viscous fluid filtration applications
- Available in eight differentiated removal ratings of 2  $\mu$ m, 5  $\mu$ m, 10  $\mu$ m, 25  $\mu$ m, 50  $\mu$ m, 75  $\mu$ m, 125  $\mu$ m and 150  $\mu$ m pore sizes to meet a wide range of performance requirements
- Withstands pressure surges up to 150 psid across the cartridge (depending on fluid temperature)



### SSF STAINLESS STEEL CLEANABLE FILTER

- Provides effective filtration for gases and fluids in high temperature and flow rate applications
- Available in flat wrap or pleated format, and offer flexibility in particle removal ratings, size choices, and end cap configurations
- 20 standard particle removal ratings from 2 to 800 microns; various nominal particle size removal options



### **3L Filters**™

### **ENGINEERED FILTRATION SYSTEMS**

### FPE FULFLO® FLO-PAC® PLUS FILTER CARTRIDGE

### **Features:**

- Manufactured with premium grade, phenolic impregnated cellulosic filter media for long service life, high flow rate, and low pressure drop
- Available in a variety of sizes and configurations to fit most industrial vessels
- Available in 0.5  $\mu$ m, 1  $\mu$ m, 5  $\mu$ m, 10  $\mu$ m, 20  $\mu$ m, 30  $\mu$ m, and 60  $\mu$ m pore sizes (95% removal;  $\beta$  = 20)
- Suitable for operating temperatures to 121°C (250°F)



### MXG FULFLO® MAXGUARD™ FILTER CARTRIDGE

### Features:

- Provides a cost effective alternative to bag media or standard 21/2" cartridges for high flow applications
- Each MaxGuard<sup>™</sup> cartridge has a 6" nominal outside diameter and can handle flows up to 90 gpm to significantly reduce the number of cartridges required for large flow applications
- Available in polypropylene, cellulose, and Nomex™ media



### MP ORIFICE (METERING) PLATE TOOL

### Features:

- Used to alter the rate of fluid flow in a pipe
- Fluid flows through a pipe at a certain velocity and pressure, when the fluid reaches the orifice plate, it converges and is forced through the small hole of the plate, thereby altering the flow rate
- Custom builds, available upon request



### PS PLATE STRAINER TOOL

- Used to protect fluid and gas handling equipment by removing debris during start-up
- Easily installed or placed between large flange faces without modifying the surrounding pipe work
- · Easily removed
- Custom builds, available upon request

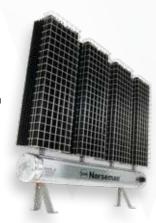


### **ELECTRIC EXPLOSION-PROOF HEATERS**

### XB EXPLOSION-PROOF NATURAL CONVECTION HEATER

### **Features:**

- Designed for heating applications where explosive substances may be present, such as control cabinets and small enclosures
- Safe and reliable heater offers state-ofthe-art design, featuring Thermon Heating Systems' unique copper-free aluminum extruded converter and patented x-Max® terminal housing
- A range of voltages available, from 120 to 600 V, depending on heater configuration
- A range of wattages available, from 475 to 5000 W, depending on heater configuration
- Temperature codes: T2D, T3B, T4A or T6
- CSA C/US certified
- CE/ATEX
- EAC marked



### XGB EXPLOSION-PROOF FORCED AIR UNIT HEATER

### **Features:**

- Designed for heating industrial spaces where explosive atmospheres may exist
- Two sizes available; small cabinet units rated up to 10 kW and large cabinet units rated up to 35 kW
- CSA certified for Class 1, Division 1 & 2,
   Groups C & D and Class II, Division 1 & 2,
   Groups E, F & G hazardous locations
- Temperature codes: T2C, T2D, T3A or T3B
- EAC marked



### XPA EXPLOSION-PROOF PANEL HEATER

### **Features:**

- Designed specifically for freeze protection of control enclosures in locations where explosive atmospheres may exist
- Available in 50–700 W and 120 V, 208 V and 240 V configurations
- Suitable for both 50 Hz and 60 Hz
- CSA C/US certified for Class I, Divisions 1 and 2, Groups A, B, C & D hazardous locations
- Temperature codes: T2 (215°C), T3 or T4
- EAC marked
- CE/ATEX
- IECEx

XPAS Panel Heater Mounted In a Control Panel





### **DISTRIBUTION CENTERS**

### MAIN DISTRIBUTION CENTER (MDC-GP) - TYPE 1

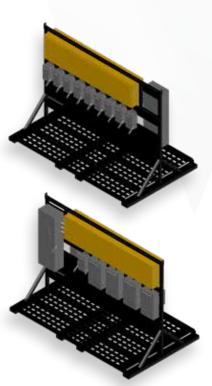
### **Applications:**

- Distributing 600 Vac power throughout General Purpose Areas
- Connecting to diesel generators to distribute 600 Vac power
- Early energization of high mast lighting on construction sites
- Welding machines

### Ratings/Features:

- 3 ph, 4 W, 600 Vac splitter with amp ratings up to 2000 A
- Main 600 Vac breaker up to 1200 A
   with electronic trip plug that can dial
   down to 50% of rating, enclosure heater
   included OR Main 600 Vac fused switch
   comes with fast acting fusing, NEMA
   3R enclosure
- Feeder switches are NEMA 3R rated comes with HRC fuses and female Meltric Plug & Play receptacle for fast connection to downstream equipment (fuse options available up to 400 A)
- Engineered steel stand with lifting lugs and forklift pockets
- Outdoor rated—NTRL listed





### MAIN DISTRIBUTION CENTER (MDC) - TYPE 2

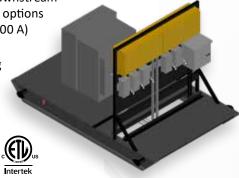
### **Applications:**

- Connecting to site distribution up to 25 kV
- Distributing 600 Vac power throughout General Purpose Areas
- Connecting to diesel generators to distribute 600 Vac power
- Early energization of high mast lighting on construction sites
- Welding machines

### Ratings/Features:

- Up to 1.5 MVA, 25 kV to 600/347 Vac, oil filled or dry type, NEMA 3R transformer
- 3 ph, 4 W, 600 Vac splitter with amp ratings up to 2000 A
- Main 600 Vac breaker up to 1200 A with electronic trip plug that can dial down to 50% of rating, enclosure heater included OR Main 600 Vac fused switch comes with fast acting fusing, NEMA 3R enclosure

- Feeder switches are NEMA 3R rated comes with HRC fuses and female Meltric Plug & Play receptacle for fast connection to downstream equipment (fuse options available up to 400 A)
- Engineered steel stand with lifting lugs
- Outdoor rated— NTRL listed



### **DISTRIBUTION CENTERS**

### MAIN DISTRIBUTION CENTER (MDC-GP) - TYPE 3

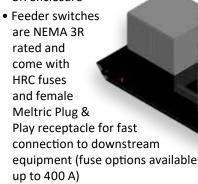
### **Applications:**

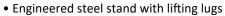
- Connecting to site distribution up to 25 kV using a ring bus distribution design for increased reliability
- Distributing 600 or 480 Vac power throughout General Purpose Areas
- Early energization of high mast lighting on construction sites
- Welding machines

### Ratings/Features:

- Up to 1.5 MVA, 25 kV-600/347 Vac, oil filled or dry type, NEMA 3R transformer
- 3 ph, 4 W, 600 Vac splitter with amp ratings up to 2000 A
- Main 600 Vac breaker up to 1200 A with electronic trip plug that can dial down to 50% of rating, enclosure heater

included OR Main 600 Vac fused switch comes with fast acting fusing, NEMA
3R enclosure









### REMOTE DISTRIBUTION CENTER (RDC-GP) - TYPE 1

### **Applications:**

 Providing power to 600 or 480 Vac loads and 120/208 Vac loads in General Purpose Areas

### Ratings/Features:

- Dual voltage panel consists of back side equipped with 600 Vac breakers and Meltric Plug & Play connectors for 600 Vac loads such as welding machines and area lighting
- Front side of dual voltage panel can handle up to 15 duplex receptacles fed from GFCI breakers in the adjacent 225 amp distribution panel
- Additional 120/208 Vac breakers can be added as required
- Meltric Plug and Play connections used for Master and Sub panels in adjacent work areas
- Plug & Play connectors that can be energized or deenergized under load i.e. "make" or "break" (no need for time consuming isolation practices)

- Up to 75 kVA transformer, NEMA 3R, various voltage options
- Aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Engineered steel stand with lifting lugs and forklift pockets
- Optional protective roof and convenience lights available
- Outdoor rated—NTRL listed



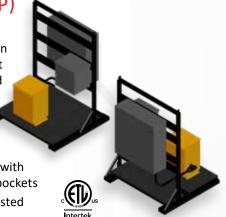
### REMOTE TRAILER DISTRIBUTION CENTER (RTDC-GP)

### **Applications:**

 Ideal for supplying power to project site infrastructure i.e. lunch trailers, wash cars, office trailers and office complexes, warehouse buildings, fabrication tents etc. in General Purpose Areas

### Ratings/Features:

- Up to 225 kVA transformer options
- Distribution panel may be equipped with main breaker if required, comes with breaker as required for trailers etc.
- Optional fused disconnect available on primary side of transformer
- Optional terminal box assembly for connection to field cables such that terminals are pre-wired to breakers.
- Optional data panel available for site data cables, fiber etc.
- Engineered steel stand with lifting lugs and forklift pockets
- Outdoor rated—NTRL listed



# **DISTRIBUTION CENTERS – HAZARDOUS LOCATIONS**

# MAIN DISTRIBUTION CENTER (MDC) – HAZARDOUS LOCATIONS

### **Applications:**

- Connecting to site distribution up to 600 V
- Distributing 600 Vac power throughout Hazardous Location Areas
- Connecting to diesel generators to distribute 600 Vac power
- Early energization of high mast lighting on construction sites
- Welding machines

### Ratings/Features:

- Up to 300 kVA, 600 120/208 Vac, dry type.
   NEMA 3R Transformer
- 3 ph, 3 W, 600 V, 400 A Splitter with amp ratings up to 2000 A
- 400 A, 600 V Molded Case Switch
- Main 600 Vac fused switch comes with fast acting arc flash fusing, NEMA 3R enclosure

 Feeder switches are NEMA 3R rated comes with HRC fuses

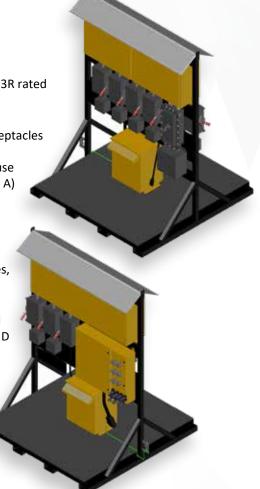
 Female Meltric Plug & Play Receptacles and T-Slot Receptacles for fast connection to downstream equipment (fuse options available up to 400 A)

 Engineered steel stand with lifting lugs and forklift pockets

 Optional data panel available for site data cables, fiber etc.

 Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D





### **DISTRIBUTION CENTERS – HAZARDOUS LOCATIONS**

# REMOTE DISTRIBUTION CENTER (RDC-HL) — HAZARDOUS LOCATIONS — TYPE 1

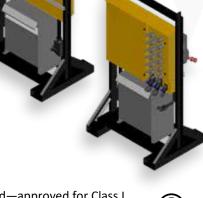
### **Applications:**

- Providing power to 120 Vac loads in hazardous areas (Class I, Zone II) with ground fault protection
- Ideal for in plant maintenance work, major shutdowns and turnarounds

### Ratings/Features:

- Various options available for a fused disconnect on the primary side of the 480 or 600 Vac transformer or additional 600 Vac loads
- Design based on Appleton's PowerPlex labyrinth flameproof technology where standard industrial style Cutler-Hammer breakers are secured inside individual housings
- Ground Fault Circuit Interrupting (GFCI) breakers used to supply power to receptacles
- 12 x 20 amp panel mount Appleton receptacles all powered through the protection breakers in the adjacent panel
- 2 x 40 amp Meltric Plug & Play connector used for Master panel powered through the protection breaker in the adjacent panel
- 1 x 20 amp Meltric Plug & Play connector used for Sub panel powered through the protection breaker in the adjacent panel

- Plug & Play connectors that can be energized or deenergized under load ("make" or "break") in hazardous areas (no need for time consuming isolation practices)
- Up to 75 kVA transformer, optional voltages available
- Gasketed aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Engineered steel stand with lifting lugs and forklift pockets
- Cart style available with heavy duty rolling casters
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D





# REMOTE DISTRIBUTION CENTER (RDC-HL) – HAZARDOUS LOCATIONS – TYPE 2

### **Applications:**

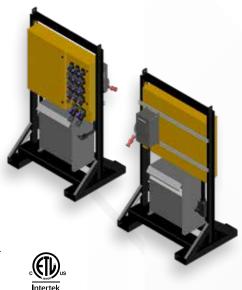
- Ideal for in plant maintenance work, major shutdowns and turnarounds
- Plug & Play connections for up to 9 Sub panels for congested work areas, multiple platforms etc.

### **Ratings/Features:**

- 60 amp, 600 Vac fused disconnect on primary side of transformer
- Design based on Appleton's PowerPlex labyrinth flameproof technology where standard industrial style Cutler-Hammer breakers are secured inside individual housings
- 1 x 40 amp Meltric Plug & Play connector used for Master panel powered through the protection breaker in the adjacent panel.
- 9 x 20 amp Meltric Plug & Play connector used for Sub panel powered through the protection breaker in the adjacent panel
- Meltric Plug & Play connections available for Master and Sub panels all powered through the protection breaker in the adjacent panel.
- Plug & Play connectors that can be energized or deenergized under load ("make" or "break") in

hazardous areas (no need for time consuming isolation practices)

- Up to 75 kVA transformer, optional voltages available
- Gasketed aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Engineered steel stand with lifting lugs and forklift pockets
- Cart style available with heavy duty rolling casters
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D



### **PANELS**

### MASTER PANEL - GENERAL PURPOSE

### **Applications:**

- Providing power to 120 Vac loads and Thermon Sub panels in General Purpose Areas
- Ideal for work on elevated platforms where additional Sub panels are required on upper platforms that are in close proximity
- Ideal for construction work required at interconnecting pipe rack modules

### Ratings/Features:

- 1 x single phase, 125/250 Vac, 60 amp incoming Plug & Play Meltric De-contactor
- 2 x single phase, 125/250 Vac, 30 amp feeder/ outgoing Plug & Play Meltric Decontactor to provide power to Sub panels
- 3 x 20 amp, weatherproof duplex receptacles fed from GFCI breakers in upper panel
- Patent protected scaffold/handrail friendly clamping devices
- Lightweight aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Twistlock receptacles available upon request
- Outdoor rated—NTRL listed





### SUB PANEL - GENERAL PURPOSE

### **Applications:**

- Providing power to 120 Vac loads in General Purpose Areas
- Ideal for work on elevated platforms
- Ideal for construction work required at interconnecting pipe rack modules

### Ratings/features:

- 1 x single phase, 125/250 Vac, 30 amp incoming Plug & Play Meltric De-contactor
- 5 x 20 amp, weatherproof duplex receptacles fed from GFCI breakers in upper panel
- Ground faults can be reset locally on working platform
- Patent protected scaffold/handrail friendly clamping devices
- Lightweight aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Twistlock receptacles available upon request
- Outdoor rated—NTRL listed





### STAGHORN PANEL – GENERAL PURPOSE

### **Applications:**

- Providing power to 120 Vac loads and Thermon Sub panels in General Purpose Areas
- Ideal for work on elevated platforms
- Ideal for construction work required at interconnecting pipe rack modules

### Ratings/Features:

- 1 x two pole, 125/250 Vac, 20 amp incoming twist-lock plug
- 4 x 20 amp weatherproof GFCI receptacles fed from 2 x 20 amp, 1 p breakers in upper compartment
- Outdoor rated—NTRL listed





### **PANELS – HAZARDOUS LOCATIONS**

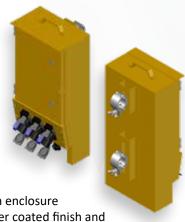
### MASTER PANEL – HAZARDOUS LOCATION

### **Applications:**

- Providing power to Thermon Sub panels in hazardous areas
- Ideal for in plant maintenance work, major shutdowns and turnarounds
- Ideal for work on elevated platforms where additional Sub panels are required on upper platforms that are in close proximity

### Ratings/features:

- 1 x 3 phase, 120/208 Vac, 40 amp breaker feeding incoming Plug & Play Meltric Decontactor
- 3 x 3 phase, 120/208 Vac,
   20 amp feeder/outgoing Plug
   Play Meltric Decontactor to provide power to Sub panels
- Patent protected scaffold/handrail friendly clamping devices
- Gasketed lightweight aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D





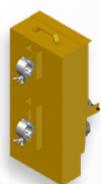
### SUB PANEL - HAZARDOUS LOCATION

### **Applications:**

- Providing power to 120 Vac loads in hazardous areas with ground fault protection
- Ideal for in plant maintenance work, major shutdowns and turnarounds
- Ideal for work on elevated platforms

### Ratings/features:

- 1 x 3 phase, 120/208 Vac, 20 amp incoming Plug & Play Meltric Decontactor
- 4 x 20 amp, 120 Vac panel mount Appleton receptacles fed from GFCI breakers in upper panel
- Ground faults can be reset locally on working platform
- Patent protected scaffold/handrail friendly clamping devices
- Gasketed lightweight aluminum enclosure with pad lockable doors, powder coated finish and stainless steel hardware
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D





### **POWER SOLUTIONS ACCESSORIES**

### THERMON HANDY-LED – GENERAL PURPOSE

### **Applications:**

- Ideal for detailed work such as welding, cleaning, cutting etc. in General Purpose Areas.
- Providing task lighting on work platforms

### Ratings/Features:

- Lightweight approx. 6 Kg
- Variable operating voltages ranging from 120 to 277 Vac
- Durable polycarbonate lens
- NEMA 4X enclosure, IP 66
- Patent protected scaffold/handrail friendly clamping devices and safety lanyard
- Receptacle/plug options available upon request
- Outdoor rated—NTRL listed



### THERMON AREA MASTER

### **Applications:**

 Provide general area lighting for parking lots, walkways, laydown areas and open work areas in General Purpose Areas

### Ratings/Features:

- 3 x 750 W equivalent LED floodlights, 120 Vac
- Robust engineered steel base rated for wind loads when pole is in fully extended position, forklift pockets for easy site movement
- Extends up to 9 m (29')
- Optional input voltages available
- Plug & Play quick connect at the bottom of the pole for quick connection to incoming power, photocell controlled
- Outdoor rated—NTRL listed





### **GENERAL PURPOSE CORDS**

### **Applications:**

 Ideal for small tool power and lighting located in a work area (i.e. drills, grinders, rod ovens, cutters, heaters etc...) in General Purpose Areas

### Ratings/Features:

- Various options available in SOOW cable including Vutron and Super Vutron
- Flexible power cable available in the following lengths; 8 m, 15 m, 30 m, to be specified in part number when ordering
- Watertight plugs and receptacles (options available for receptacles and plugs based on user preference)
- Outdoor rated—NTRL listed



### GENERAL PURPOSE Y CORDS

### **Applications:**

 Ideal for work involving multiple power tools (i.e. grinders and buffers) in General Purpose Areas

### Ratings/Features:

- Water tight plug and receptacles
- Outdoor rated—NTRL listed



### PLUG & PLAY CORD SETS – GENERAL PURPOSE

### **Applications:**

- Plug & Play connections from MDC's to RDC's (100 amp cord set) in General Purpose Areas
- Plug & Play connections from RDC's to Masters (60 amp cord set) in General Purpose Areas
- Plug & Play connections from RDC's to Subs (30 amp cord set) in General Purpose Areas
- Plug & Play connections from Masters to Subs (30 amp cord set) in General Purpose Areas

### Ratings/Features:

- Options available in SOOW cable
- Available in the following lengths: 8 m, 15 m, 30 m
- Meltric Plug & Play connectors, switch rated and breakable under load providing full Arc Flash protection for workers
- Outdoor rated—NTRL listed





### **ACCESSORIES – HAZARDOUS LOCATIONS**

### THERMON HANDY LED

### **Applications:**

- Ideal for detailed work such as welding, cleaning, cutting etc. in hazardous areas
- Providing task lighting on work platforms

### Ratings/Features:

- Lightweight (approx. 6 Kg)
- Variable operating voltages ranging from 100 to 277 Vac and 347 to 480 Vac
- Durable polycarbonate lens
- NEMA 4X enclosure, IP 66
- Patent protected scaffold/handrail friendly clamping devices and safety lanyard
- Appleton plug and receptacle for daisy chaining lights in hazardous areas.
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D



### HAZARDOUS RATED Y CORDS

### **Applications:**

• Ideal for work involving multiple power tools (i.e. grinders and buffers) in hazardous areas

### Ratings/Features:

- Appleton Hazardous rated plug and two receptacles
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D



### PLUG & PLAY CORD SETS - HAZARDOUS LOCATION

### **Applications:**

- Plug & Play connections from Hazardous Locations Main Panel to Masters (60 amp cordset) in hazardous areas
- Plug & Play connections from Hazardous Locations Main Panel to Subs (20 amp cord set) in hazardous areas
- Plug & Play connections from Masters to Subs (20 amp cord set) in hazardous areas

### Ratings/Features:

- Various options available in SOOW cable
- Flexible power cable available in the following lengths; 8 m, 15 m, 30 m
- Meltric Plug & Play connectors, switch rated and breakable under load providing full Arc Flash protection for workers
- Outdoor rated—NTRL listed—approved for Class I Division
   2, Groups B, C and D



### HAZARDOUS RATED CORD SETS – HAZARDOUS LOCATION

### **Applications:**

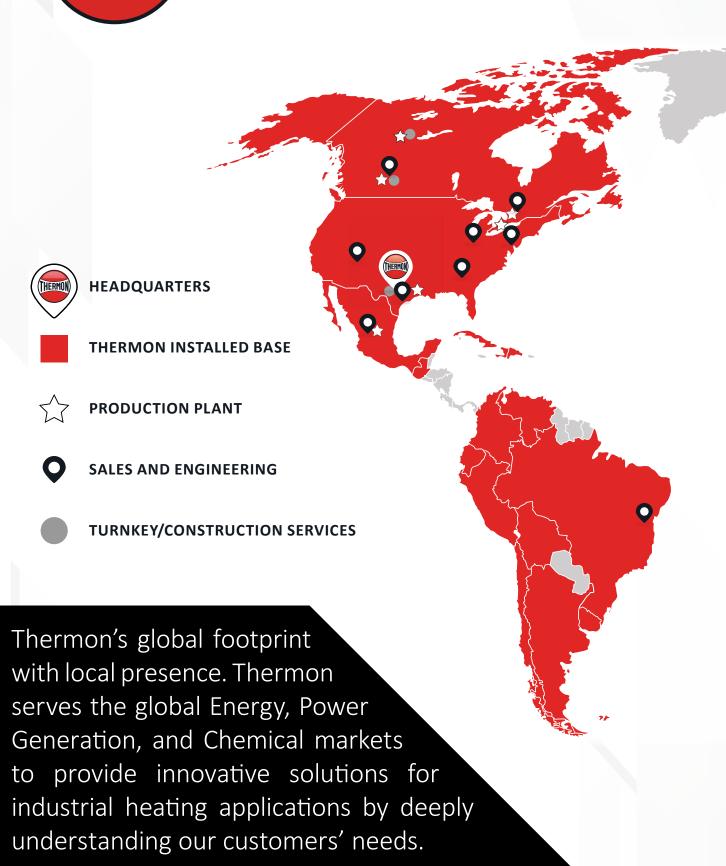
 Ideal for small tool power and lighting located in a work area (i.e. drills, grinders, rod ovens, cutters, heaters etc.) in hazardous areas

### Ratings/Features:

- Various options available in SOOW cable various options available in SOOW cable including Vutron and Super Vutron
- Flexible power cable available in the following lengths; 8 m, 15 m, 30 m
- Appleton Hazardous Rated plug & receptacle
- Outdoor rated—NTRL listed—approved for Class I Division 2, Groups B, C and D











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