

LEADER IN INDUSTRIAL PROCESS HEATING SOLUTIONS



SOLUTIONS FOR ENERGY TRANSITION

a degree above



PISTESARJAT

OUR MISSION



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



THERMON'S SOLUTIONS FOR ENERGY TRANSITION

Thermon offers a full solution of safe, efficient, reliable products that advance clean energy and energy transition. We are dedicated to providing solutions for renewable energy production facilities with sources that are not depleted with usage. By supporting the creation of alternative energy sources, Thermon is helping to create a more sustainable future.

We can help with energy transition efforts including,

- Hydrogen Production
- Renewable Fuels
- Retrofit of Carbon Intensive Heating Systems
- Ammonia and Methanol Production
- Renewable Power Generation
- Carbon Capture, Utilization and Storage (CCUS)
- Decarbonization or Electrification of Existing Processes for Heat Transfer
- Energy Storage

Thermon has a solution that is right for you. Our solutions include,

- Electric Boilers & Calorifiers
- Immersion Heaters
- Circulation Heaters
- Environmental Air & Space Heaters
- Electric Heat Tracing
- CEMS Bundles
- Removable Electric Blankets
- Catalytic Methane Heating

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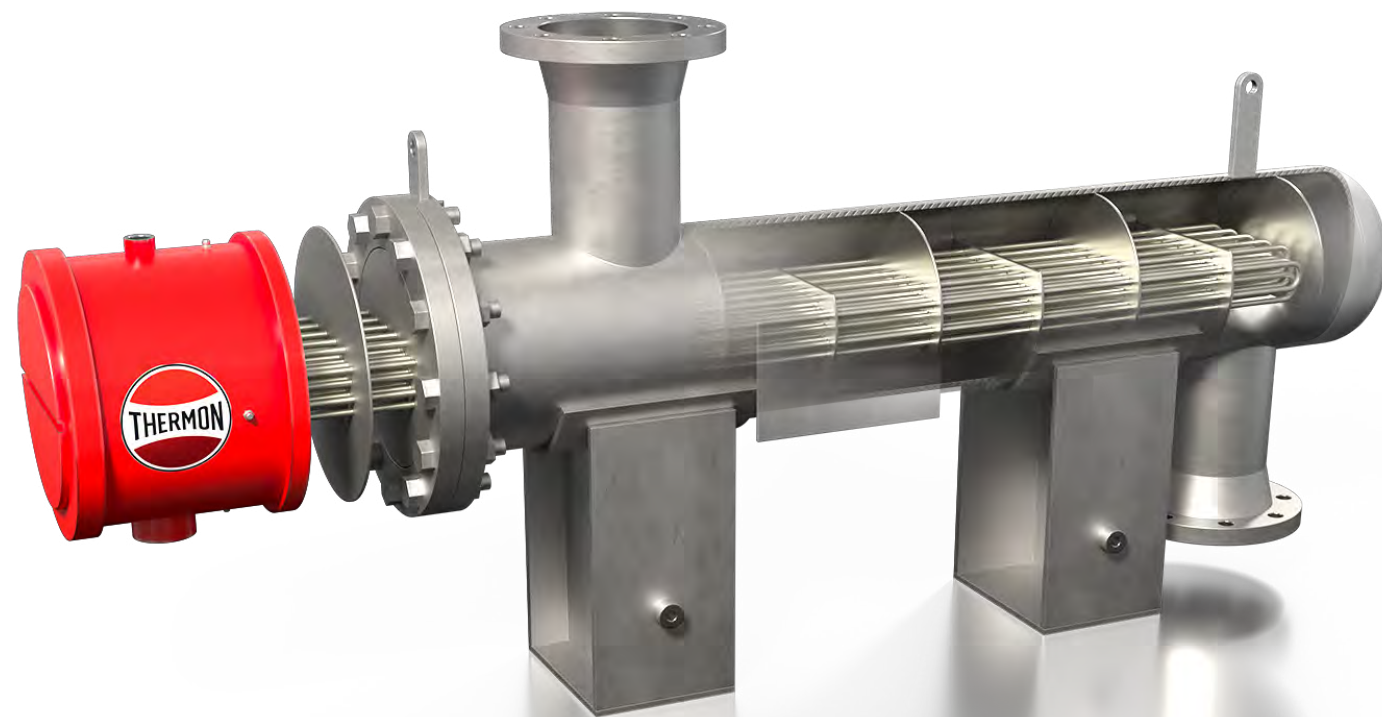
DECARBONIZATION APPLICATION MATRIX

INDUSTRIAL HEATING APPLICATIONS IN TYPICAL PLANT

Thermon Product Family	Shell & Tube Heat Exchangers	Steam Traced Piping Systems	Gas-fired Process Heaters	Vaporizers	Fluid Reboilers	Pneumatic Valves and Pumps	Catalyst Regeneration	Bulk Fluid Storage Tanks	Analyzer Shelters	Warehouse & Maintenance
Electric Boilers		✓	✓	✓						
Immersion Heaters	✓		✓	✓	✓	✓	✓	✓		
Environmental Heaters			✓					✓	✓	✓
Circulation Heaters	✓	✓	✓	✓	✓		✓	✓		
Electric Heat Tracing	✓	✓	✓				✓	✓	✓	
CEMS/Tubing Bundles		✓	✓				✓	✓	✓	
Removable (Blanket) Heat		✓	✓	✓		✓		✓	✓	✓
Catalytic Methane Heat			✓			✓			✓	

CALORITECH™ IMMERSION HEATERS

Electric immersion heaters are commonly used in tank and pressure vessel heating applications, where there is a requirement to maintain liquid temperature to a certain controlled set point.



ADVANTAGES OF ELECTRIC IMMERSION HEATERS

1. Eliminates Greenhouse Gas Emissions
2. Increases Energy Efficiency
3. Reduces Operational Costs
4. Improves Control – Temperature Maintenance

APPLICATIONS

- Shell & Tube Heat Exchangers
- Gas Fired Process Heaters
- Vaporizers, Fluid Reboilers
- Pneumatic Valves & Pumps
- Catalyst Regeneration
- Bulk Fluid Storage Tanks

CALORITECH™ CIRCULATION HEATERS

Circulation heaters are the equivalent to tube and shell heat exchangers with the particular feature that the core bundle is manufactured with electric tubular heating elements. Circulation heaters are used in applications where a process stream needs to be heated to a finely controlled set-point.

Circulation heaters are designed and manufactured in accordance with ASME Section III, Class 1, 2 or 3 and stamped N according to code requirements. Immersion heaters also are designed and manufactured under ASME Section VIII, Div 1 for non-nuclear code applications.



APPLICATIONS

- Shell & Tube Heat Exchangers
- Steam Traced Piping Systems
- Fluid Reboilers
- Catalyst Regeneration
- Bulk Fluid Storage Tanks

CALORITECH™ PACKAGED ELECTRIC STEAM BOILERS

(VSB, VHSB, HSB SERIES)

Caloritech™ Electric Steam Boilers provide a safe, versatile, easy to use heat source for low or high pressure steam. These boilers can be used as the sole source of steam or may be readily adapted to dual energy systems. Caloritech™ boilers have low water volumes for rapid response.

FEATURES

- Clean and odorless; venting not required
- Quiet operation
- Fully packaged to minimize electrical and plumbing installation costs
- Incoloy® sheathed heating elements silver brazed to mounting flange
- Designed and built to the latest edition of the ASME Code
- Compliant to SELO standards.
- Capacities up to 5000 kW and pressure ratings to 2500 are available

APPLICATIONS

- Steam Traced Piping Systems
- Gas-Fired Process Heaters
- Vaporizers



CALORITECH™ PACKAGED HOT WATER BOILERS

(HW, VW SERIES)

All Caloritech™ Packaged Hot Water Boilers are 100% efficient with over 98% of the energy consumed transferred directly to the water. Caloritech™ electric hot water boilers are recommended for applications where a clean, safe, quiet and reliable source of hot water is required.

FEATURES

- Clean and odorless; venting not required
- Quiet operation
- Fully packaged to minimize electrical and plumbing installation costs
- Incoloy® sheathed heating elements silver brazed to mounting flange
- Designed and built to the latest edition of the ASME Code
- Compliant to SELO standards
- Capacities up to 4950 kW and pressure ratings to 2500 psig are available.

APPLICATIONS

- Steam Traced Piping Systems
- Gas-Fired Process Heaters
- Vaporizers



CALORITECH™ CALORIFIERS

(HC,VC SERIES)

HCG, HCC, HCF Series

Caloritech™ Horizontal Calorifiers are essentially a hot water storage tank (horizontal vessel) fitted with one or more flange heaters and a prewired control panel, designed for either hard water storage, high purity water storage, or non-potable water heating. The tank is insulated and enclosed with a painted sheet steel housing. The vessel is constructed to ASME code requirements.

VCG, VCC, VCS, VCF Series

The Caloritech™ Vertical Calorifiers consist of a hot water storage tank (vertical vessel) fitted with one or more flange heaters with incoloy® sheathed heating elements and a prewired control panel. These units are ideal for either hard water storage, high purity water storage, or non-potable water heating.



APPLICATIONS

- Steam Traced Piping Systems
- Gas-Fired Process Heaters
- Vaporizers



ENVIRONMENTAL AIR AND SPACE HEATING

Thermon's advanced heating and filtration systems will help maintain safe temperatures in heavy industrial and hazardous facilities. Helping to keep your building, your equipment and your employees safe, is why we do what we do.

Our family of heating solutions includes the world-renowned Ruffneck™, Caloritech™, Cata-Dyne™, Norseman™ and 3L Filter™.

APPLICATIONS

- Gas-Fired Air & Space Heaters
- Bulk Fluid Storage Tanks
- Analyzer Shelters
- Warehouse & Maintenance



RUFFNECK™

Rugged, reliable and versatile heavy-duty explosion-proof heaters with global approvals.

FX6 - Explosion-Proof Electric Air Unit

In the world of explosion-proof electric unit heaters, the Ruffneck name stands alone and has come to define the rugged, reliable performance the industry has depended on. For explosion-proof heating in severe service applications there can be no compromises.

FEATURES AND BENEFITS

- Two levels of over temperature protection
- Backup over pressure protection standard on all heaters.
- Standard unit now has low ambient operating ranges to -58°F (-50°C)
- Backup over temperature protection with dedicated contactor.



CX1 - ProVector® Explosion-Proof Convection Heater

Explosion-Proof Convection Heater

Designed and manufactured specifically for demanding requirements and harsh operating conditions such as those in the oil and gas well drilling industry.

The Ruffneck™ CX1 ProVector® Explosion-Proof Convection Heater offers the most reliable, dependable and trouble-free service available for heating hazardous locations.



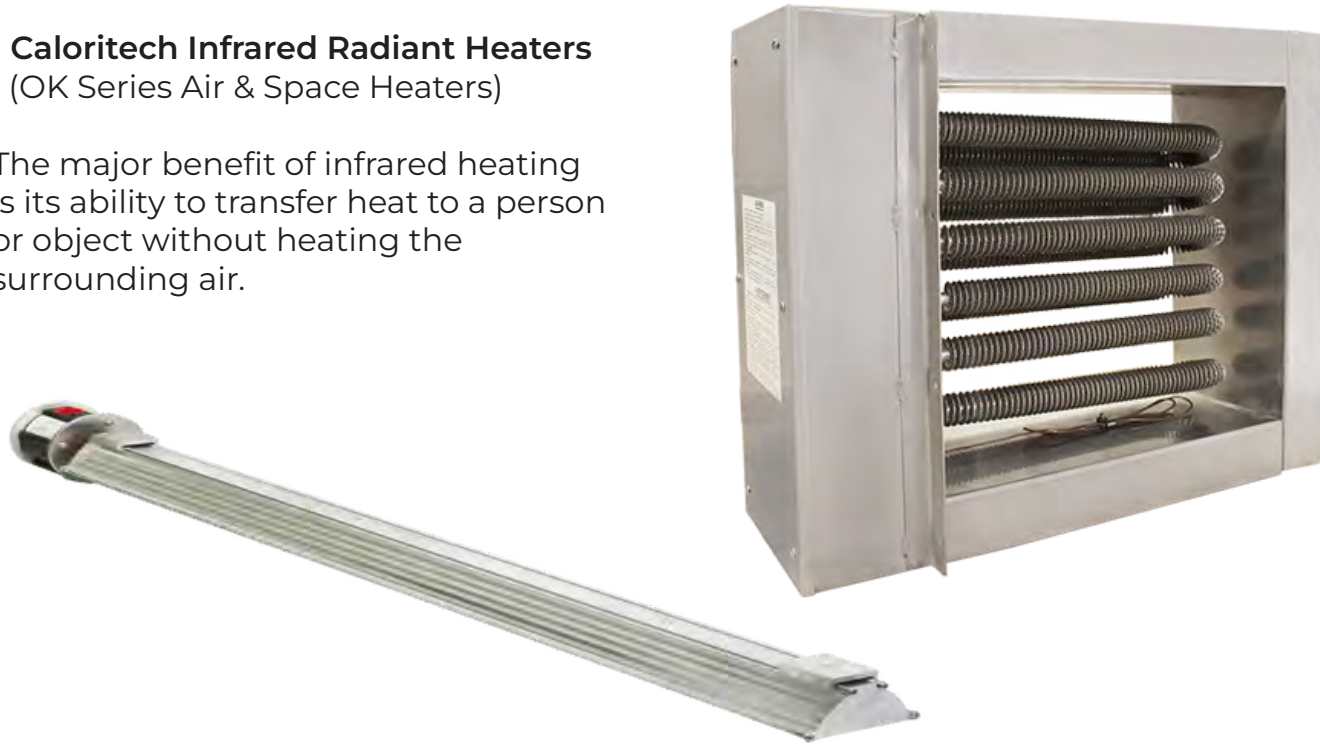
CALORITECH™

Electric heaters engineered for industrial processes and environments with global approvals.

- **Caloritech™ Air Duct Heaters** are designed for use in comfort heating applications such as makeup air heating, air preheating, air handling equipment, fan coils, terminal reheating, multizone reheating, heat pump auxiliary systems and return air heating.

- **Caloritech Infrared Radiant Heaters** (OK Series Air & Space Heaters)

The major benefit of infrared heating is its ability to transfer heat to a person or object without heating the surrounding air.

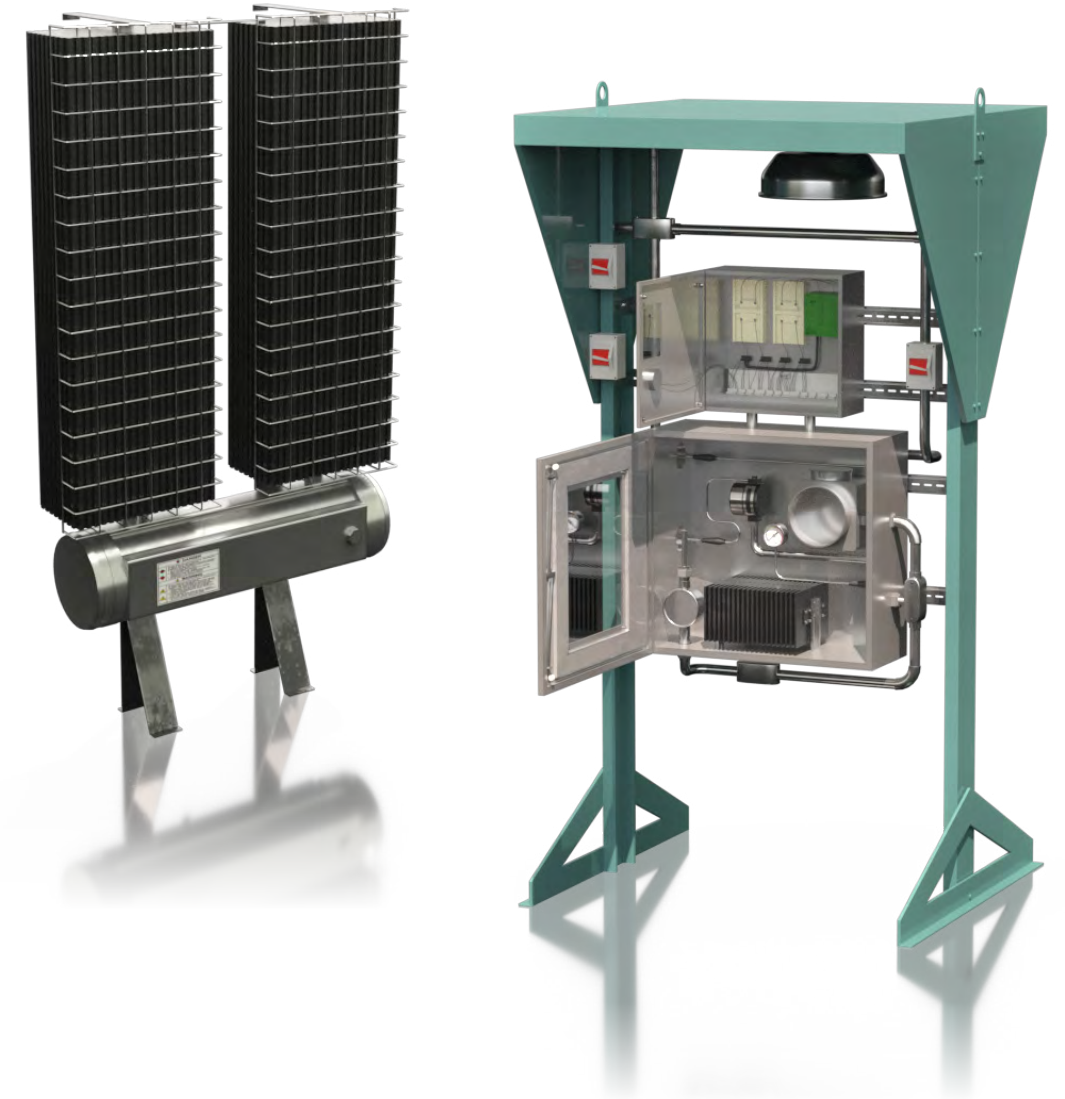


NORSEMAN™

Electric explosion proof heaters offering state of the art design.

The Norseman™ XB Explosion-Proof Natural Convection Heater is designed for heating applications where explosive substances may be present, such as control cabinets and small enclosures, storage rooms for paints and cleaners, grain elevators, flour mills, spray booths, gas plants, pump houses, oil platforms, cleaning and dyeing plants, and marine/offshore areas.

This safe and reliable heater offers a state of the art design, featuring unique copper-free aluminum extruded converter and patented x-Max® terminal housing.



CATA-DYNE™

Market leading technology, low emissions, explosion-proof gas catalytic heaters available in stock for same day shipment.

Cata-Dyne™ Heating Package

Enclosure Heaters

The Cata-Dyne™ Heating Package is the industry standard for space and spot heating applications where flammable gases, vapors or liquids may be present. Equipped with explosion-proof infrared heaters, this package comes standard or custom designed to meet any unique application.



3L FILTERS™

Provides a wide variety of advanced gas and liquid filtration systems for electrification and decarbonization.

Engineered Products and Packages

FGCS - Fuel Gas Conditioning System

Fuel Gas Conditioning Systems remove small amounts of moisture, liquid mist, and particulate contaminants from fuel gases. Capabilities include gas preheating and pressure reduction as required by specification.



ELECTRIC HEAT TRACING

Thermon manufactures the widest variety of heating cables in the world including self-regulating, parallel constant watt, series resistance and mineral insulated cables.

APPLICATIONS

- Shell & Tube Heat Exchangers
- Steam Traced Piping Systems
- Catalyst Regeneration
- Bulk Fluid Storage Tanks
- Analyzer Shelters

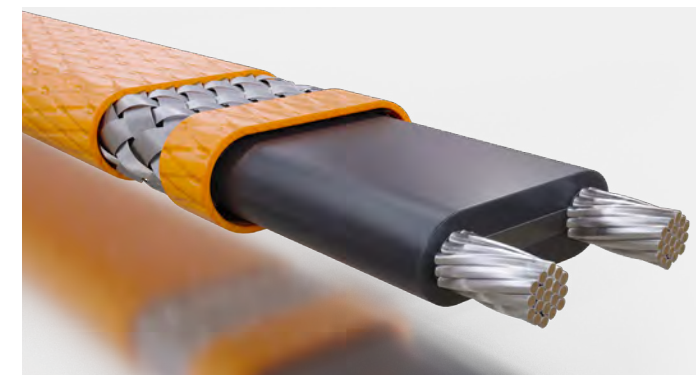


SELF-REGULATING HEAT TRACING



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: 110–120 or 208–277 V
- Available With Fluoropolymer Overjacket (FOJ)



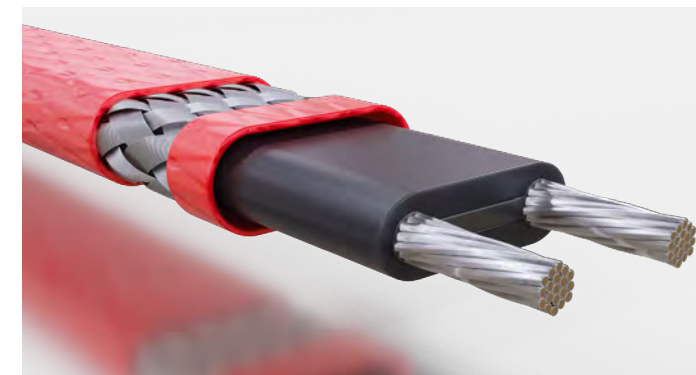
HTSX™

- Freeze Protection and Temperature Maintenance up to 150°C (302°F)
- Maximum Exposure Temperature up to 250°C (482°F)
- Withstands Temperatures Associated With Steam Purging
- Available Watt Densities: 10, 20, 30, 33, 39, 49, 66 W/m @ 10°C (3, 6, 9, 10, 12, 15, & 20 W/ft @ 50°F)
- Available Voltages: 110–120, 208–277 or 380–480 V



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)



USX™

- Freeze Protection and Temperature Maintenance to 240°C (464°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: 110–120 or 208–277 V

GENESIS NETWORK™

Genesis Network is a solution providing full operational awareness of the heat trace system.

- Wireless mesh technology
- Customers using the Genesis Network will save time and be more efficient in maintenance operations

Genesis Network is IIoT technology and delivers industry leading benefits including:

- Browser interface
- Automatic software updates
- BI integration



CEMS | TUBING BUNDLES

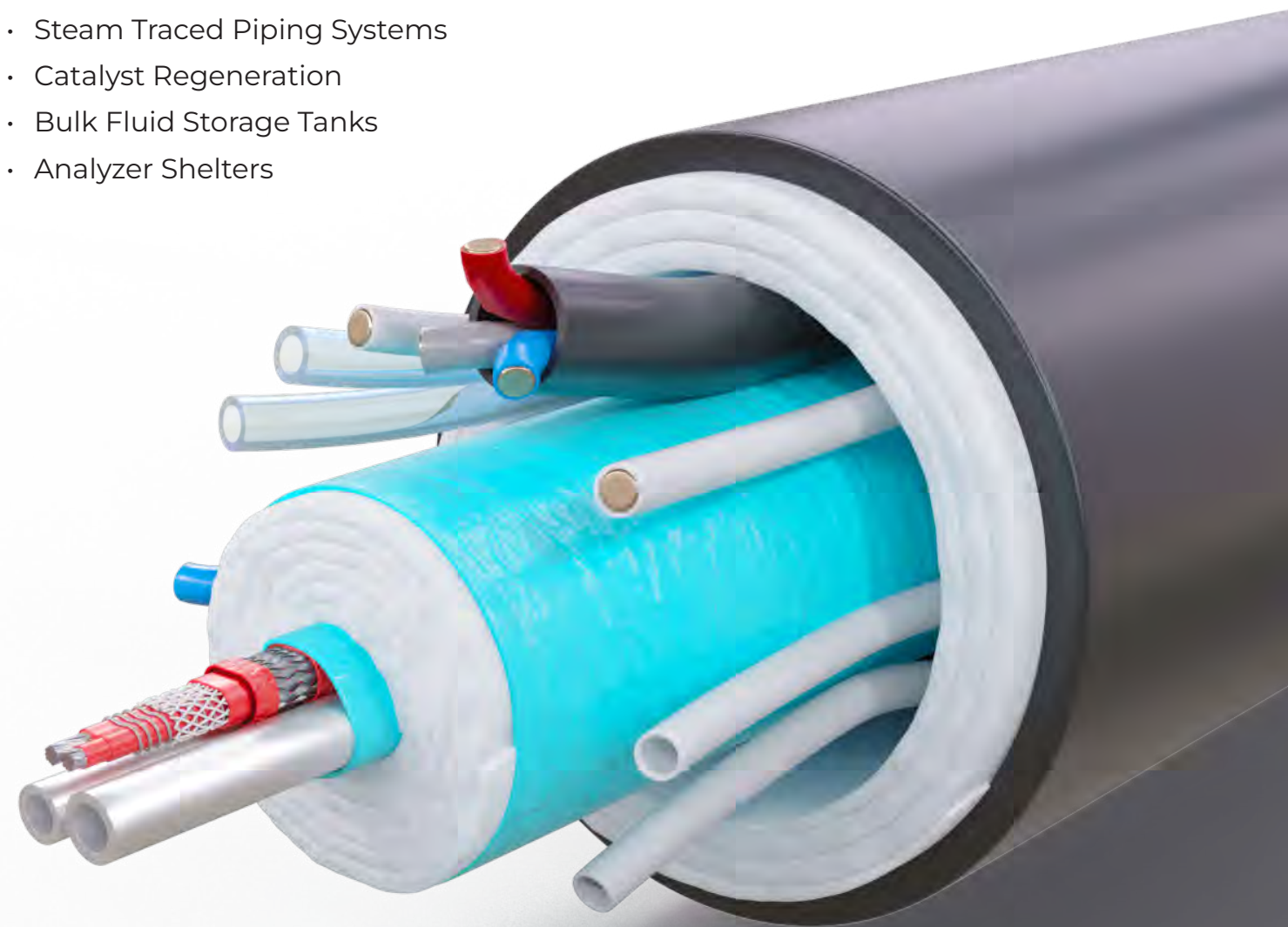
Thermon Tube Bundles are designed to meet your needs, from freeze protection to process temperature maintenance. In the face of increasing regulatory requirements, Thermon offers its customers proven products that meet or exceed specifications.

Custom CEMS and Analyzer Bundles

Custom heated “umbilicals” for extractive analyzers and CEMS (Custom Emissions Monitoring Systems)

Applications

- Steam Traced Piping Systems
- Catalyst Regeneration
- Bulk Fluid Storage Tanks
- Analyzer Shelters



REMOVABLE ELECTRIC BLANKETS

Thermon Powerblanket designs and builds heating blankets. Powerblanket products make equipment last longer, projects stay on track, and fluids flow smoothly.

APPLICATIONS

- Steam Traced Piping Systems
- Gas-Fired Process Heaters
- Vaporizers
- Pneumatic Valves and Pumps
- Bulk Fluid Storage Tanks
- Analyzer Shelters
- Warehouse & Maintenance



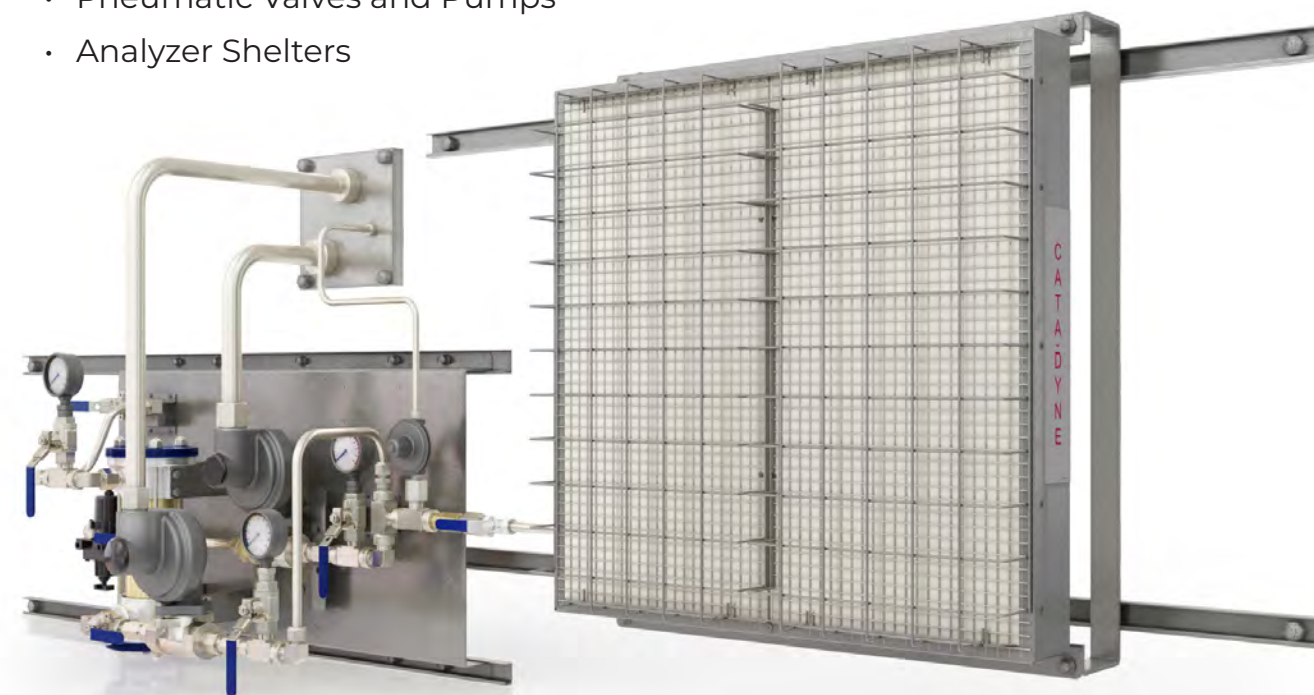
CATALYTIC METHANE HEATING

Thermon EnviroDyne™ Methane Destruction Unit

The reduction of methane emissions is crucial and has become a global concern. Methane is the main component of natural gas and a significant source of greenhouse gas, 80 times more potent than CO₂. Thermon's Methane Destruction Unit targets the flameless conversion of methane to carbon dioxide and water vapor. Thermon has been a global leader in catalytic heating technologies for use in hazardous locations for over 50 years.

APPLICATIONS

- Gas-Fired Air & Space Heaters
- Pneumatic Valves and Pumps
- Analyzer Shelters



THERMON HEATING SOLUTIONS FOR THERMAL ENERGY | CSP PLANT

Powerblanket Pre-insulated
Heated Blanket

Ruffneck FX-6 Electric
Fan-Forced Heater

Caloritech CX
Immersion Heaters

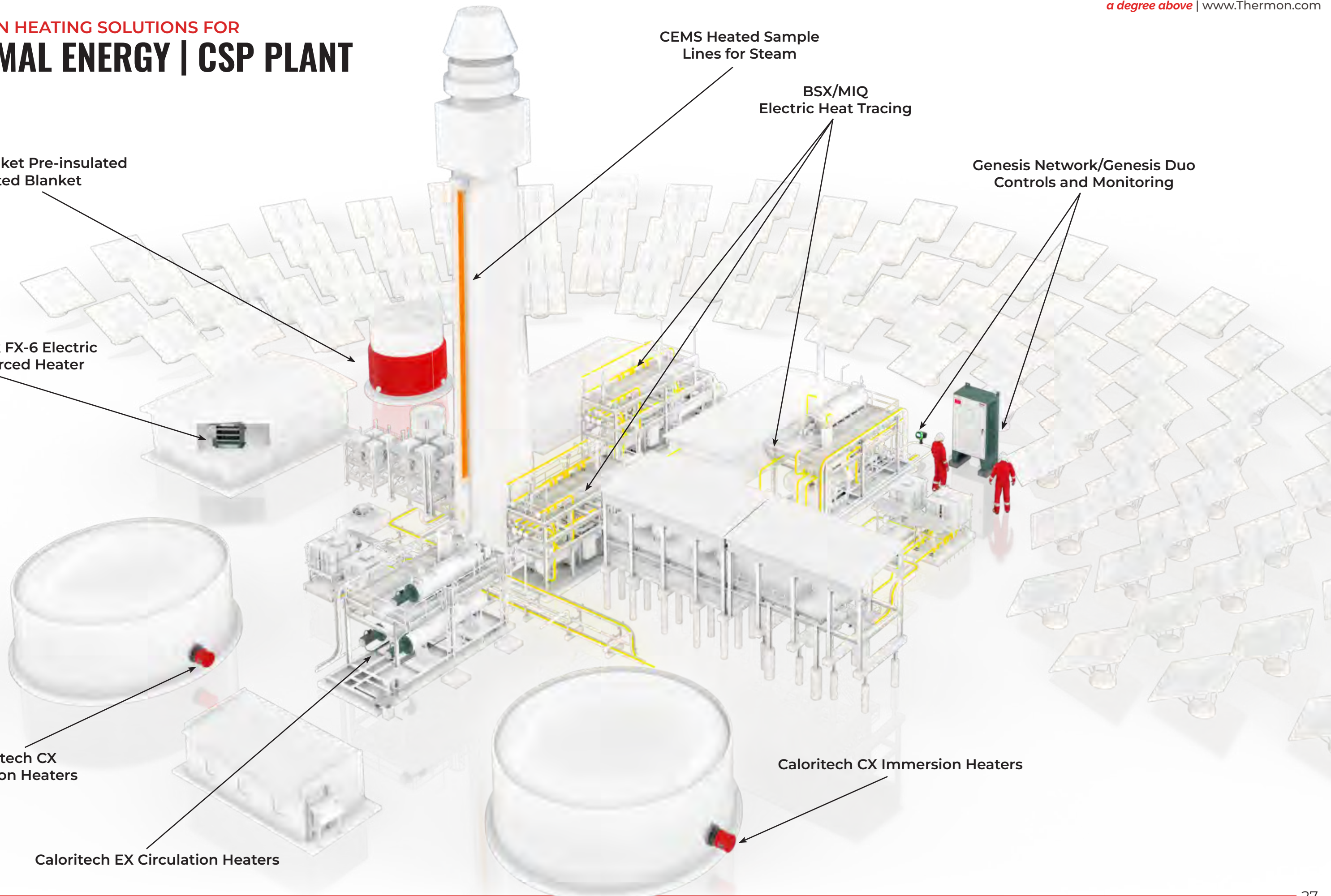
Caloritech EX Circulation Heaters

CEMS Heated Sample
Lines for Steam

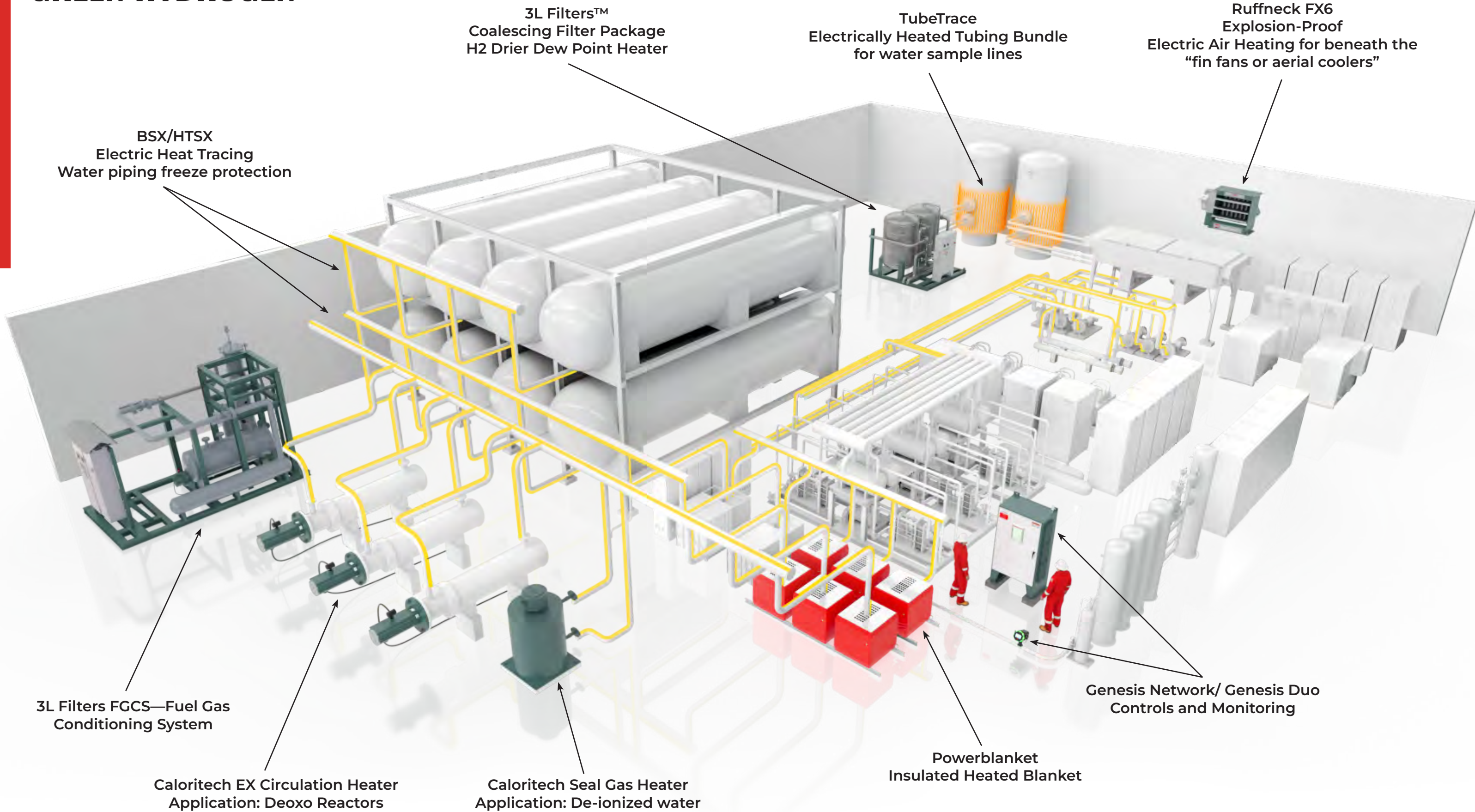
BSX/MIQ
Electric Heat Tracing

Genesis Network/Genesis Duo
Controls and Monitoring

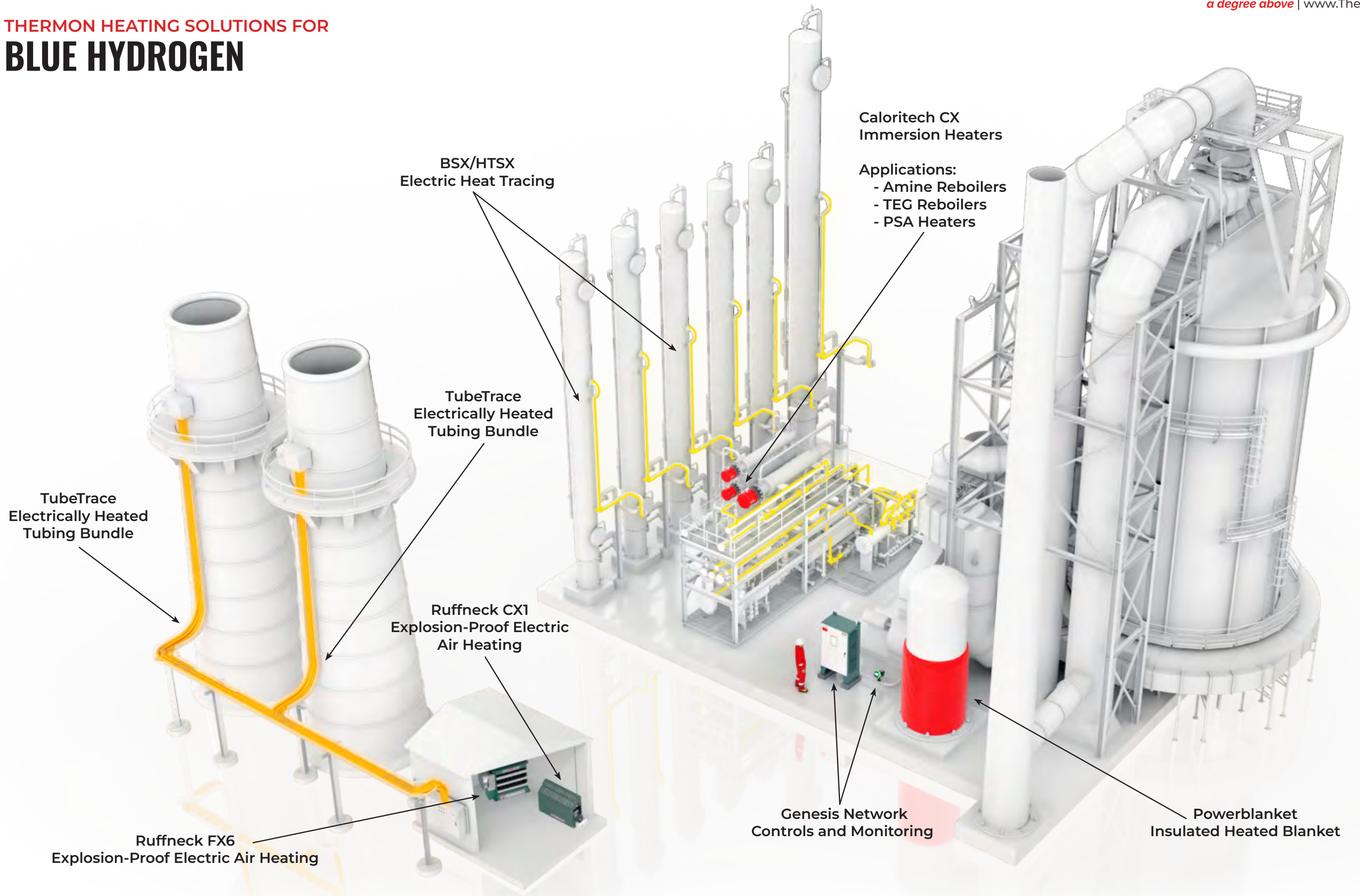
Caloritech CX Immersion Heaters



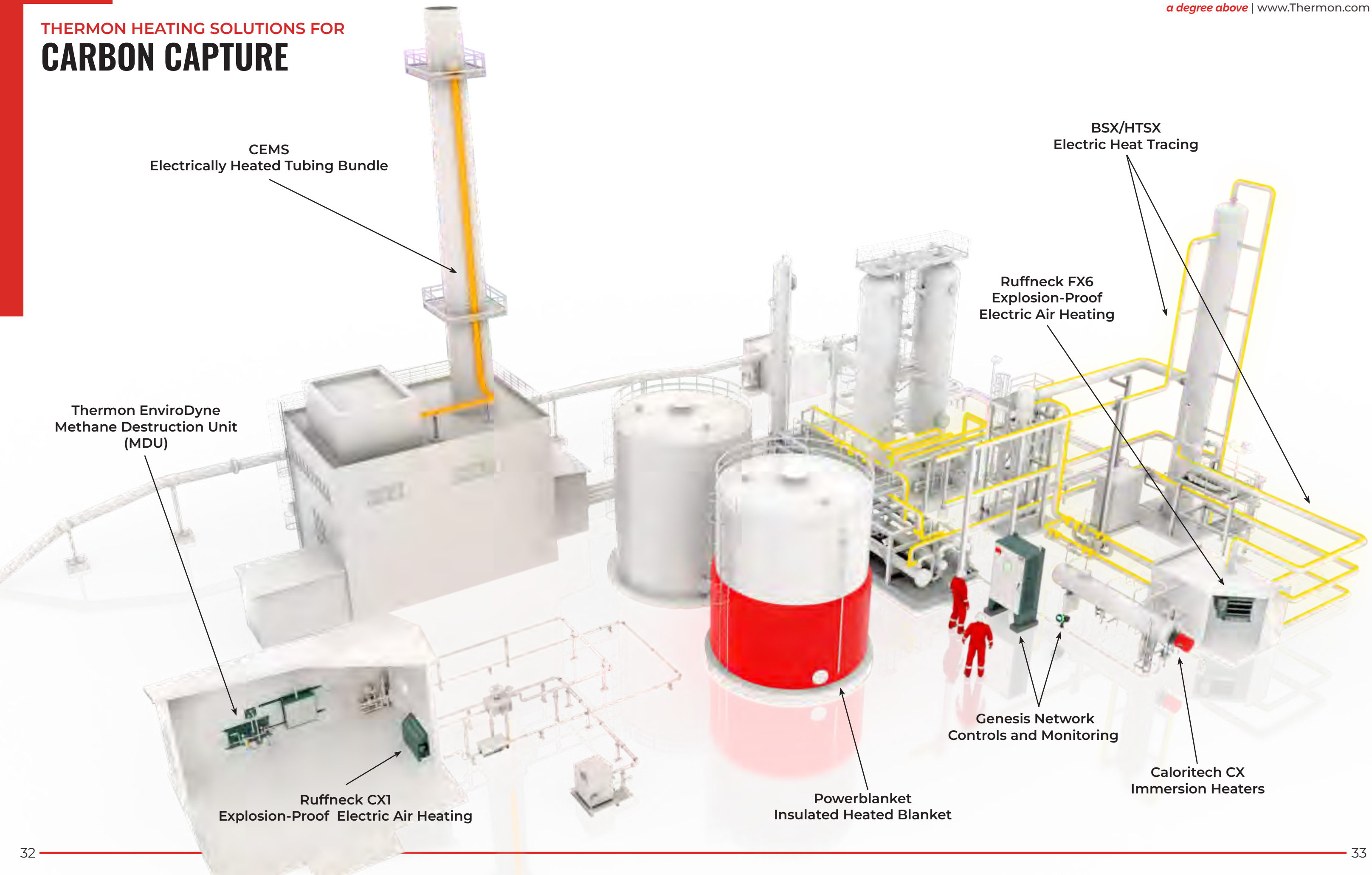
THERMON HEATING SOLUTIONS FOR GREEN HYDROGEN



THERMON HEATING SOLUTIONS FOR BLUE HYDROGEN



THERMON HEATING SOLUTIONS FOR CARBON CAPTURE



CEMS
Electrically Heated Tubing Bundle

Thermon EnviroDyne
Methane Destruction Unit
(MDU)

Ruffneck CX1
Explosion-Proof Electric Air Heating

Powerblanket
Insulated Heated Blanket

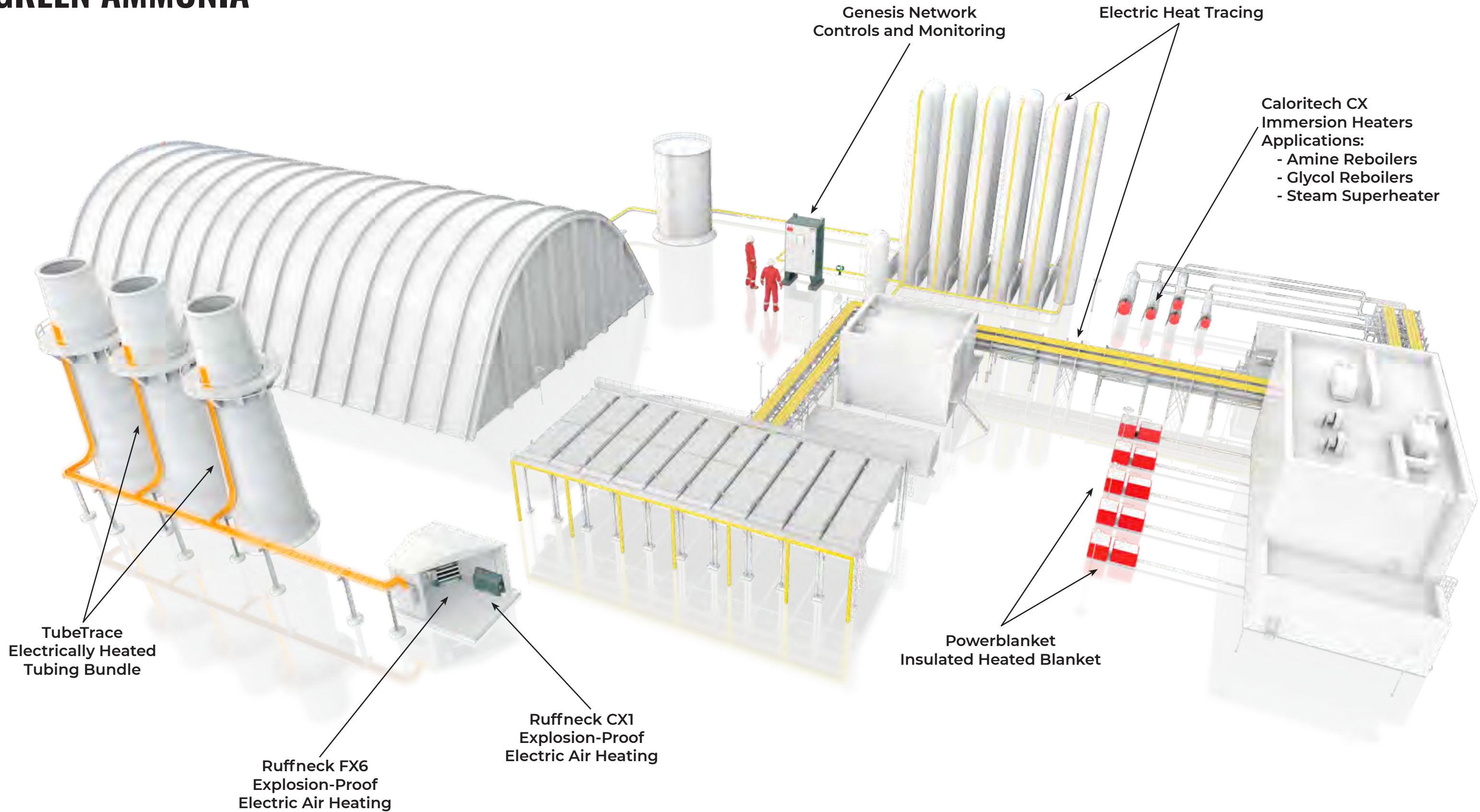
Genesis Network
Controls and Monitoring

Caloritech CX
Immersion Heaters

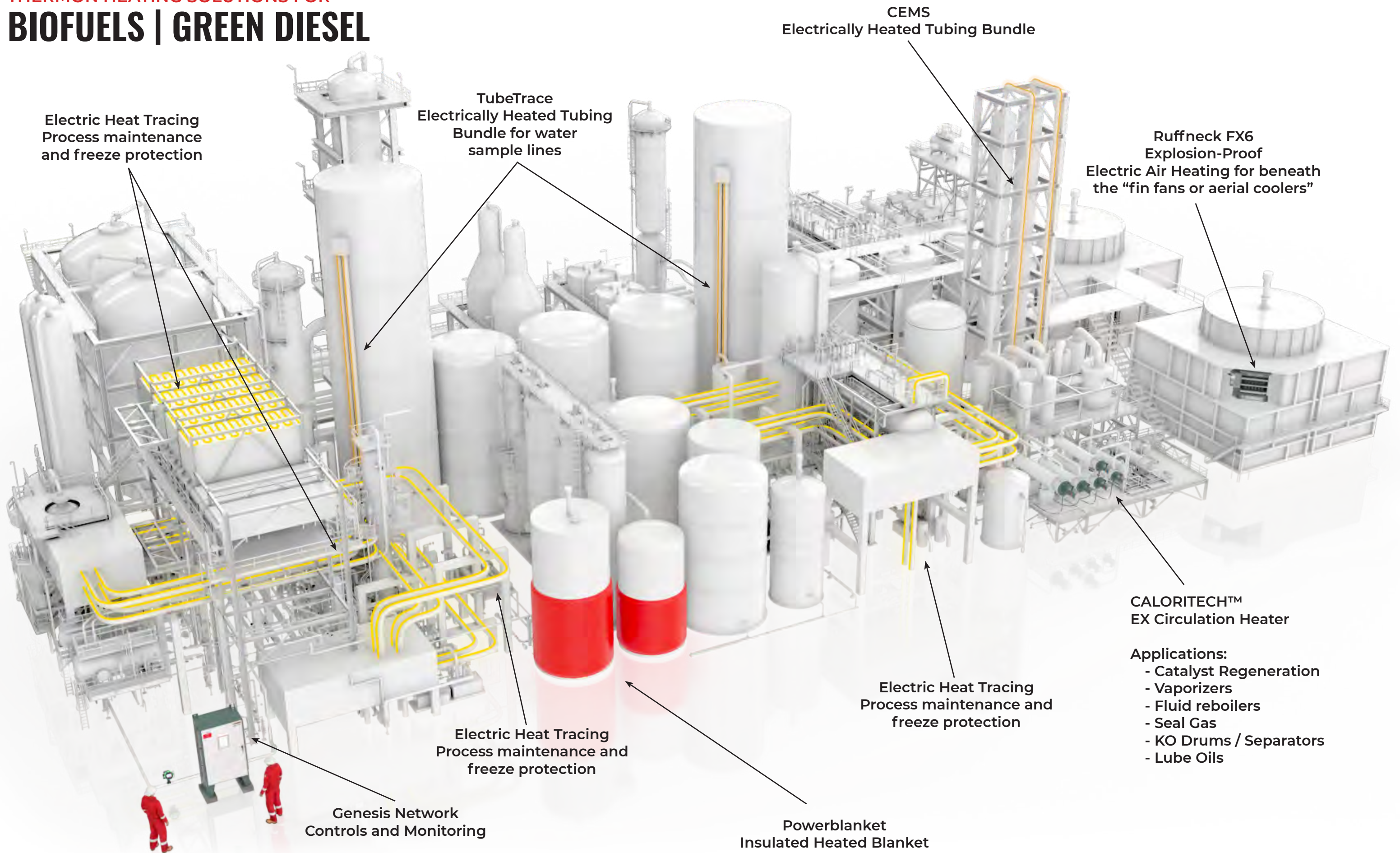
Ruffneck FX6
Explosion-Proof
Electric Air Heating

BSX/HTSX
Electric Heat Tracing

THERMON HEATING SOLUTIONS FOR GREEN AMMONIA

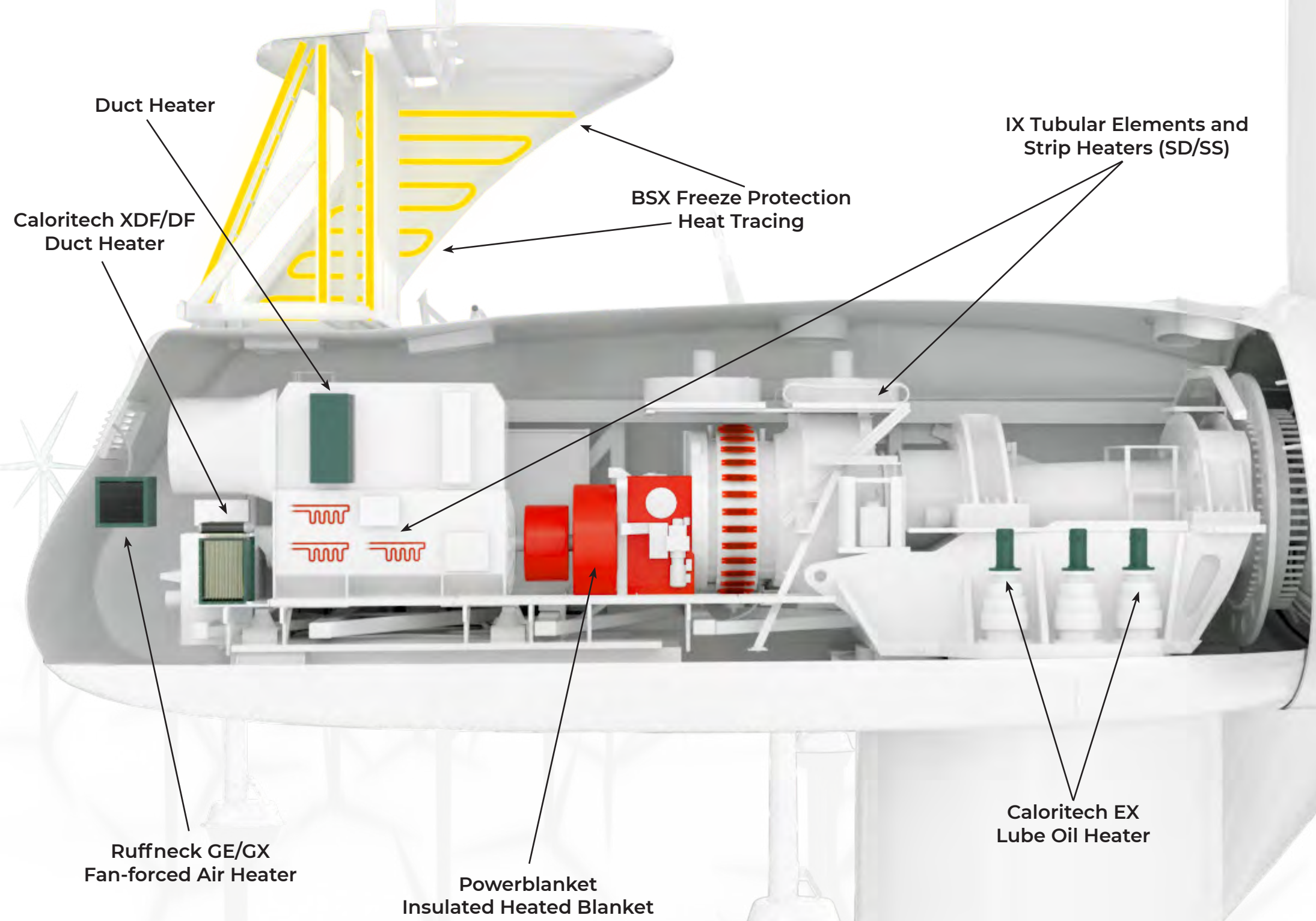


THERMON HEATING SOLUTIONS FOR BIOFUELS | GREEN DIESEL



- Applications:
- Catalyst Regeneration
 - Vaporizers
 - Fluid reboilers
 - Seal Gas
 - KO Drums / Separators
 - Lube Oils

THERMON HEATING SOLUTIONS FOR WIND TURBINES



ELECTRIFICATION AND DECARBONIZATION THERMON AUDIT SERVICES

Services Include:

- > Local Presence through Vast Representative Network
- > Site Survey and Review
- > Prioritization of Critical Components based on:
 - > Emissions Summary
 - > End of Life Assessment
 - > Heat Transfer Efficiency
 - > Electrical Load Mapping
 - > Cost and Emissions Savings Report
- > Technical Training on Electric Process Heating
- > Project Planning for Retrofit and Replacement
- > ESG Metric Tracking based on Results



THERMON ADVANTAGES

- > Breadth of solutions from Process Heating, Electric Heat Tracing and Steam Heat Tracing
- > Direct sales model and customer relationships
- > Decades of engineering design expertise
- > Substantial investment to build & maintain a robust certification portfolio
- > Capacity & technology to execute the world's largest projects
- > Global installed base
- > Industry leading safety record in hazardous areas
- > Commitment to quality & reliability
- > Top-tier on-time delivery and lead times



Official Distributor
FINLAND

At your service
for excellence

**Contact us for professional guidance
with product selection and solution**

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