Thermacast™ Electric Vaporizers

provide reliable and economical vaporization of a wide variety of cryogenic liquids and liquefied gases. The Thermacast™ has a compact size and simple installation. Connect the inlet and outlet piping, bring in a single power line and the unit is ready to operate. These electric units vaporize the liquid and provide superheat, warming the gas for downstream processes. The outlet temperature is automatically maintained by cycling the heaters on and off via a feedback loop using an adjustable temperature controller and temperature probe.

CONSTRUCTION:
Stainless steel heat transfer coils are cast into a solid aluminum block. Electric cartridge heaters, moisture sealed and replaceable, are inserted into precision-drilled heat sinks in the aluminum block. Heat transfer is maximized by unique Vortex-Flow™ vaporizer tubes. Controls are enclosed in a NEMA 4 rated weatherproof electrical enclosure.

Standard Options
- Low Temperature Cut Off (LTCO) Kit featuring a temperature sensor and solenoid valve to prevent the flow of cold gas or liquid downstream of the vaporizer; 500 PSIG MAWP (add on item to any unit)
- Combo units with additional vaporization circuit for pressure building. Thermacast™ vaporizers in 15, 30 and 50 kW ratings have main coils for process vaporization and smaller secondary coils for pressure building. The pressure building coil comes with a pressure switch and solenoid valve to maintain the pressure in a CO2 tank. Pressure switch is adjustable from 100 to 375 PSIG
- “All-Weather” Package including NEMA 4X main high-voltage cabinet and side 120V cabinet, and internal cabinet heater
- Junction box with remote cabinet for hazardous area installation

Custom Options
- Thermacast™ units for Argon, Helium, Carbon Monoxide, Ethanol, Ammonia, Chlorine, Ethylene, Methanol, SO2, N2O, etc.
- Gas outlet temperature from -40°F to 400°F
- Design pressure to 12,000 PSIG
- High Purity, electropolished units
- Monel, Hastelloy or 316 Stainless Steel wetted part construction materials
- Class 1, Division 2, Group B, C, or D Hazardous Area Purge Package
- Remote Cabinet Option
- Custom Inlet/Outlet Connections or Flanges
- Custom controls and contacts

Standard features
- Replaceable stainless steel cartridge heaters
- NEMA 4 Electrical Cabinet
- Adjustable outlet temperature from 40°F to 120°F
- Fully automatic operation
- Compact design
- Redundant high temperature switches for safety
- Stainless steel casting jacket with insulation for corrosion resistance, low maintenance, improved appearance, and safety
- Thermacast™ unit comes fully factory wired, tested and ready to install
- Quick delivery of standard units
- Built in conformance with ASME B31.3 Process Piping Code
- 300 series Stainless Steel/Brass wetted parts
- Design pressure of 1,000 PSIG (Combo option reduces MAWP to 500 PSIG)
- Terminals to allow for emergency shutdown
- Dry contacts for main contractor ON and high block temperature limit
- Auxiliary 120V terminals (2 A max.)
- The components and electrical cabinet are all UL/cUL marked, and the heating elements are all UL recognized and CSA certified.
- All-Canada CRN
Note: If the actual voltage differs from the design voltage of the vaporizer, the power and capacity will be effected by the ratio of \((V_{\text{actual}} / V_{\text{design}})^2\). All tables shown in this Datasheet are intended as a guide that reflect our experience on these models. Actual performance may vary. Please call Thermax Inc. for guidance on specific applications.

* TV3 and TV7 are single phase units
* Nominal power and capacity based on standard heater tolerances: +5/-10%
* For 150 PSIG CO₂, the capacity will be de-rated by an additional 10%