

TVN Series Trim and Pressure Build Vaporizers

Direct Steam Trim Heaters, Vaporizers and Pressure Build Units for Cryogenic and Liquefied Gases with Thermax In-Tube Vortex Generators for Low Surge Performance.

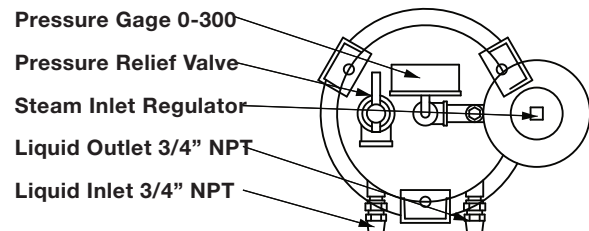
Description

Thermax TVN automatic trim heaters and pressure build units are fully engineered and assembled units. The main components are:

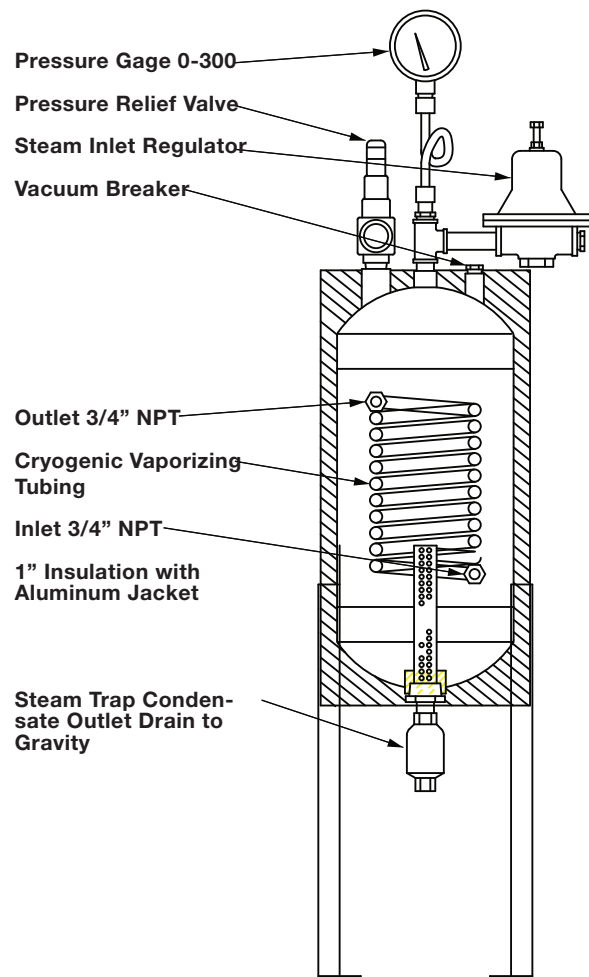
1. Vertical or horizontal steam chamber.
2. Process coil or tube bundle consisting of 18 BWG stainless steel tubes standard.
3. Standard temperature regulator on inlet steam line.
4. Optional temperature regulator on inlet steam line with a gas discharge temperature controller connected to a pneumatic steam valve.
5. Condensate trap assembly.
6. Computerized full ASME VIII Div. 1 code design as standard.
7. CRN. Stoomwezen, CUAU, TUV. Australian and other design approvals available.

Operating Principle

Liquefied or cold gas entering the tube bundle is heated or vaporized and is super heated by the steam condensing in the steam chamber. The standard unit with steam pressure regulator allows steam into the chamber on falling steam pressure. On optional temperature controlled units, the warm gas leaving the unit activates the controller, which in turn, throttles the steam valve. Final gas temperature is determined by the steam pressure the controller and valve maintain in the steam chest. The condensate trap drains spent steam from the chest, while holding the steam under pressure within the chest. Temperature control can also be achieved by using a self activating temperature regulator in lieu of the pressure regulator on the pneumatic valve. Accurate temperature control can be attained with Thermax 3-way mixing Thermavalve.



Plan View



Elevation View

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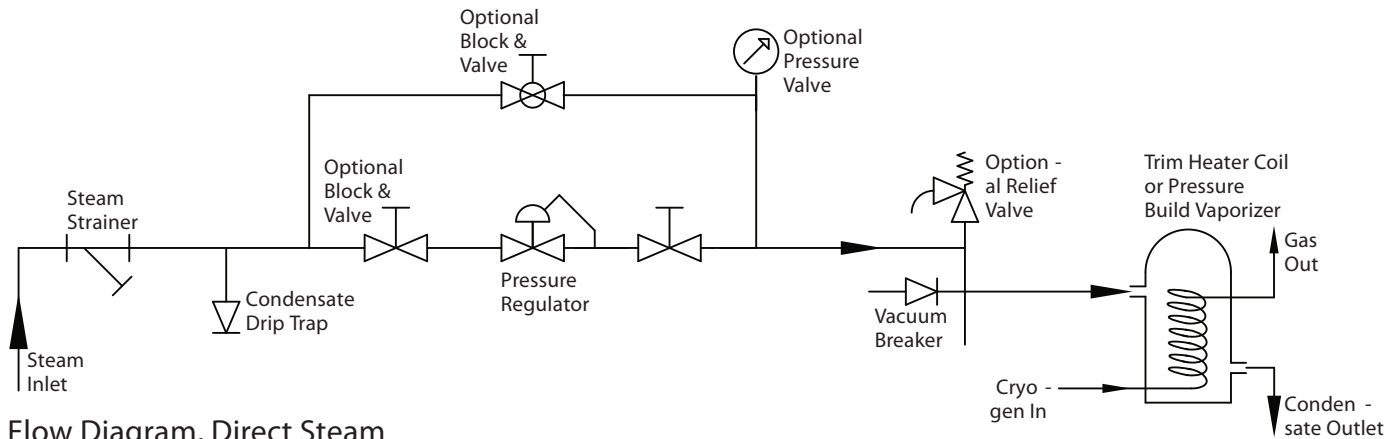


Steam Trim Heaters and Pressure Build Units			
Model	Ratings MSCFH	Approx. Dim., Vert. Dia. x H. (inches)	Approx. Weight (lbs.)
TC 5	5	10 x 52	250
TC 10	10	12 x 60	325
TC 15	15	14 x 72	400
TC 20	20	14 x 72	450
TC 25	25	14 x 72	500
TC 30	30	14 x 76	525
TC 35	35	14 x 76	550
TC 40	40	16 x 76	575
TC 45	45	16 x 80	650
TC 55	55	16 x 80	700

Controls & Steam Trim:

Thermax PRESSURE BUILD units can be designed for various outlet temperatures over a large flow range. Thermax vaporizers feature Vortex Flows action tubes for smooth, high performance which reduces surge over a wide range of flows. The Thermax vortex action greatly increases the unit over-all performance and permits surge free operation in the most common installations. In addition, each automatic vaporization unit is normally equipped with:

1. Steam strainer
 2. Oversize thermostatic main condensate trap
 3. Shell relief valve
 4. Weatherproof shell insulation, complete with aluminum or PVC outer jacket weather guard
-
1. All pneumatic control valve and temperature sensor
 2. Pneumatic supply pressure regulator
 3. Steam line drip trap
 4. Block and bypass valving
 5. Pressure gauges



Flow Diagram, Direct Steam

NOTE: Units In this "Process Coil" are also available with Steam Sparged Water Bath controls. The water bath option makes reduced "MAX OUT" gas temperatures possible by using 100-120°F bath design temperature.

Contact Thermax for details. See datasheet 6.0

All tables shown on this Datasheet are intended as a guide that reflect our experience on these models. Actual performance may vary. Please call Thermax Inc. for specific applications. This product and/or data was designed and/or developed by Thermax Inc. and shall not be used in any way injurious to the interests of Thermax Inc.