



INDIRECTLY FIRED WCS VAPORIZERS

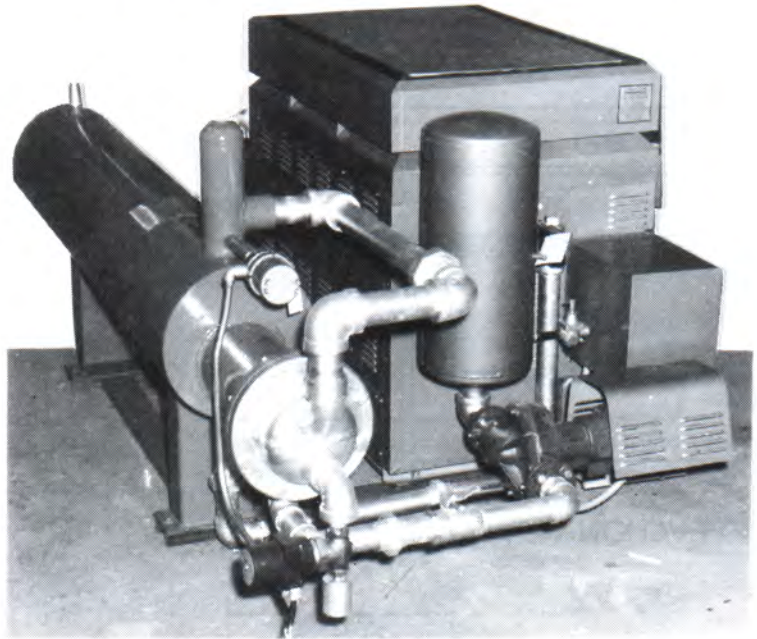
Thermax Recirculating Hot Water Vaporizers offer a safe, compact and reliable gas source for standby or continuous operation.

Description

WCS vaporizers consist of a propane or natural gas fired water heater and a Thermax Vortex Flow[®] hot water vaporizer with a sealed water/anti-freeze recirculating system and automatic controls that are all mounted on a single compact skid assembly.

Special Features

- ASME stainless steel vaporizing bundle
- Outdoor operating heater
- Sealed, trouble-free hot water system
- ASME/AGA rated equipment (CRN/CGA/CSA optional)
- Optional failsafe process gas shutdown on liquid breakthrough or low temperature (includes sensor and valve)
- Fully automatic control system
- Units in service for oxygen, nitrogen, argon, carbon dioxide, propane, LNG, etc.
- Burner can be remotely mounted away from vaporizer skid.



SKID MOUNTED

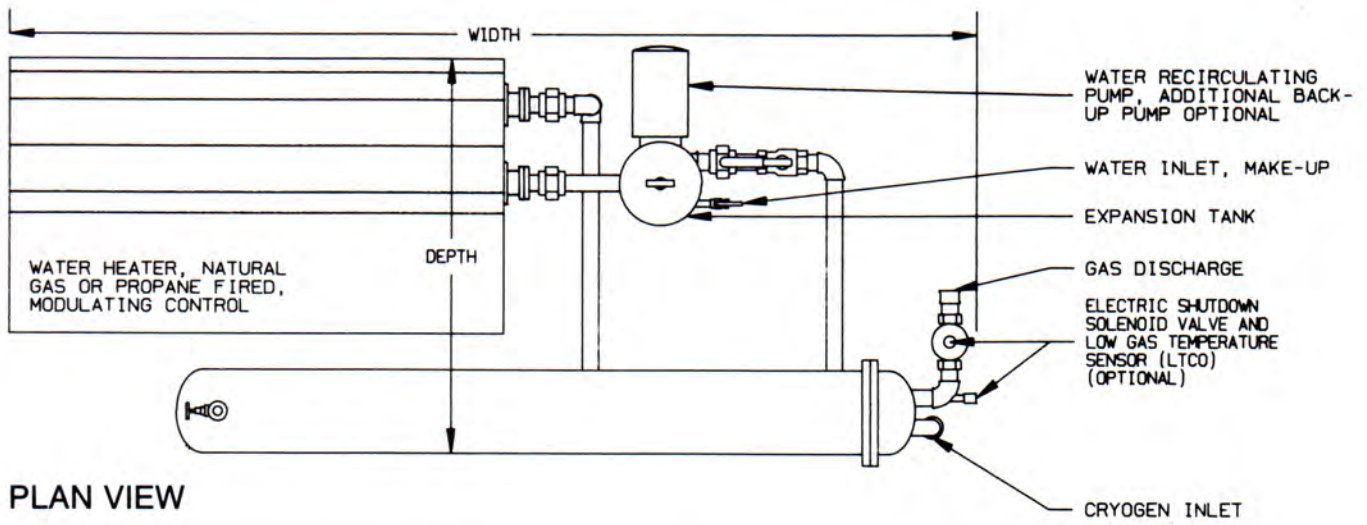
Thermax WCS 1060 Recirculating, gas fired vaporizer for 55,000 SCFH O₂/N₂ with low temperature shutdown valve, outdoor service.

Performance

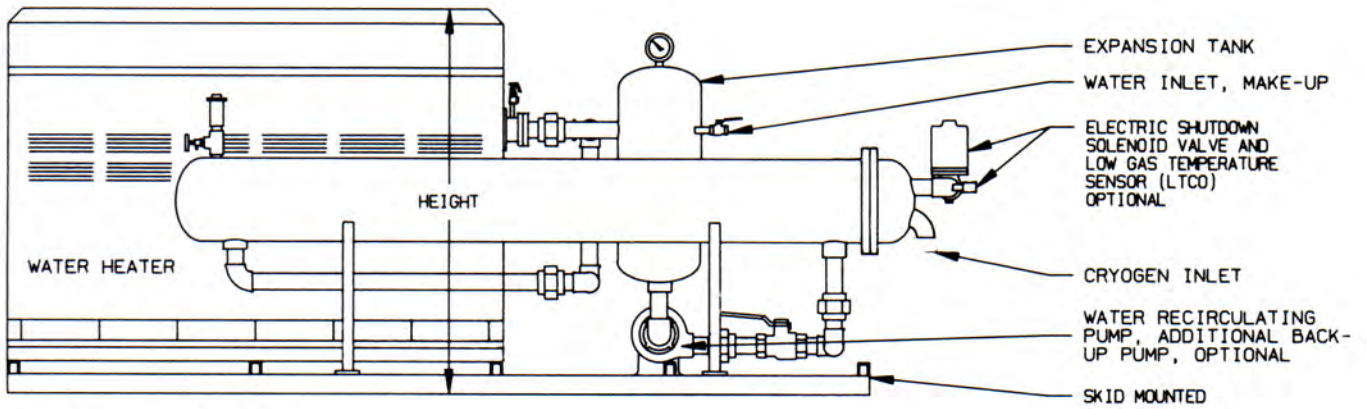
Thermax WCS Hot Vaporizers will perform continuously at full capacity within ten minutes of start-up or instantaneously if left "on" in standby mode. With the vaporizer turned "on", the water recirculating pump is activated and the water is heated automatically to the 180°F range (adjustable) and maintained there via the modulating heater temperature controller. Cryogen or liquefied gas entering the unit is vaporized and warmed to room temperature before entering the customer line. If overdraw or low water temperature occurs, the liquid breakthrough sensor or LTCO activates a liquid shutdown solenoid valve for safety.

Principle of Design

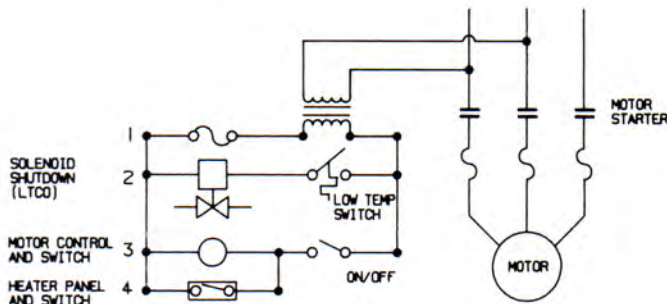
Primarily, these units offer a compact, high performance system with stable vaporizer operation from zero to 100% capacity. The water system provides stable temperatures, and Thermax unique Vortex-Flow[®] vaporizer tubes result in surge-free warm gas discharge.



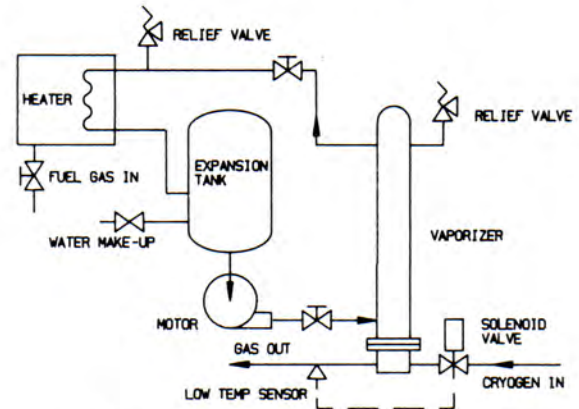
PLAN VIEW



ELEVATION VIEW



ELECTRICAL DIAGRAM



SIMPLIFIED FLOW DIAGRAM

NOTE: CAPACITIES FROM 300 MSCFH TO OVER 2,000 MSCFH USING SEPARATELY SKIDDED OIL OR GAS FIRED "BOILERS" ARE AVAILABLE.

MODEL	O2/N2 LNG MSCF		CO2 PROPANE LB/HOUR		PUMP HP	"W"	"D"	"H"	WT.
WCS 315	15	12	1500	780	3/4	96	54	45	1000
WCS 490	25	20	2500	1300	1	100	60	45	1600
WCS 685	35	28	3500	1800	1, 1/2	110	60	45	1800
WCS1060	55	45	5500	2900	2	120	60	45	2000
WCS1570	75	60	7500	3900	3	126	60	45	2700
WCS1815	100	80	10000	5000	3	128	86	75	3500
WCS3000	150	120	15000	7800	5	132	86	75	4800
WCS4000	200	160	20000	10000	7, 1/2	136	86	75	5600
WCS6000	300	240	30000	15000	10	144	92	80	7500

All the tables shown here are intended as guides reflecting our experience on these models. Actual performance may vary. 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.

VORTEX FLOW™ is a Thermax trademark.

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