

Special Electrical Construction: The gas mixer is designed to meet the US National Electrical Code for Class 1, Division 2, Group B, C, D hazardous location. Local codes should be consulted concerning the installation.

Any additions or changes in the electrical components or wiring of components on this equipment must meet the National Electrical Code and Local Codes for a Class 1, Division 2, Group B, C, D area. No changes in the flow components or piping should be made to change the classification from Division 2 to Division 1.

Adequate ventilation should be provided to prevent the accumulation of hydrogen in the event of a leak.

Do not install the gas mixer directly under ordinary electrical equipment with arcing contacts or other sources of ignition. In the unlikely case of a hydrogen leak or a hydrogen mixture leak, the hydrogen will rise above the gas mixer.

Power Requirements: This gas mixer is designed for 115 VAC, 220 VAC or 240 VAC, 50/60 Hz, 1 Ø power. Refer to the Data Sheet for the actual power requirements. A 2 ampere (minimum) circuit is required to supply power to this equipment.

Inlet Gas Pressures: The inert gas and hydrogen supply systems must be designed to supply gas at the maximum gas mixer flowrate while maintaining the inlet gas pressures above the minimum shown on the Data Sheet. For gas mixers designed for typical inlet pressures of 100 - 125 PSIG (6.9 - 8.6 BARG) the supply gas safety relief valves should be set to 200 PSIG. For non-typical inlet pressures contact Thermco for the recommended supply gas safety relief valve set pressure.

Gas Temperature: The two supply gases should enter the gas mixer at nearly equal temperatures to achieve the proper mixing accuracy. If the gas supplies will be at significantly differing temperatures, the resultant mixing inaccuracy should be considered and the proper corrective action taken. Design to prevent exposure of the gas mixer to high pressures or liquid gases should be practiced.

Gas Analyzer Sample Exhaust: The sample gas from the gas analyzer should be vented outdoors at a safe location. A 1/4" tube or larger is adequate. To avoid gas analyzer instability caused by pressure changes, do not run this piping into any other piping. The exit end of this tube / pipe should be protected from insects and impingement of wind.

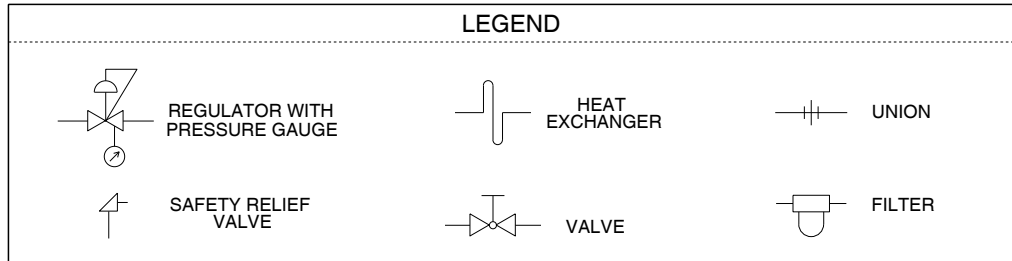
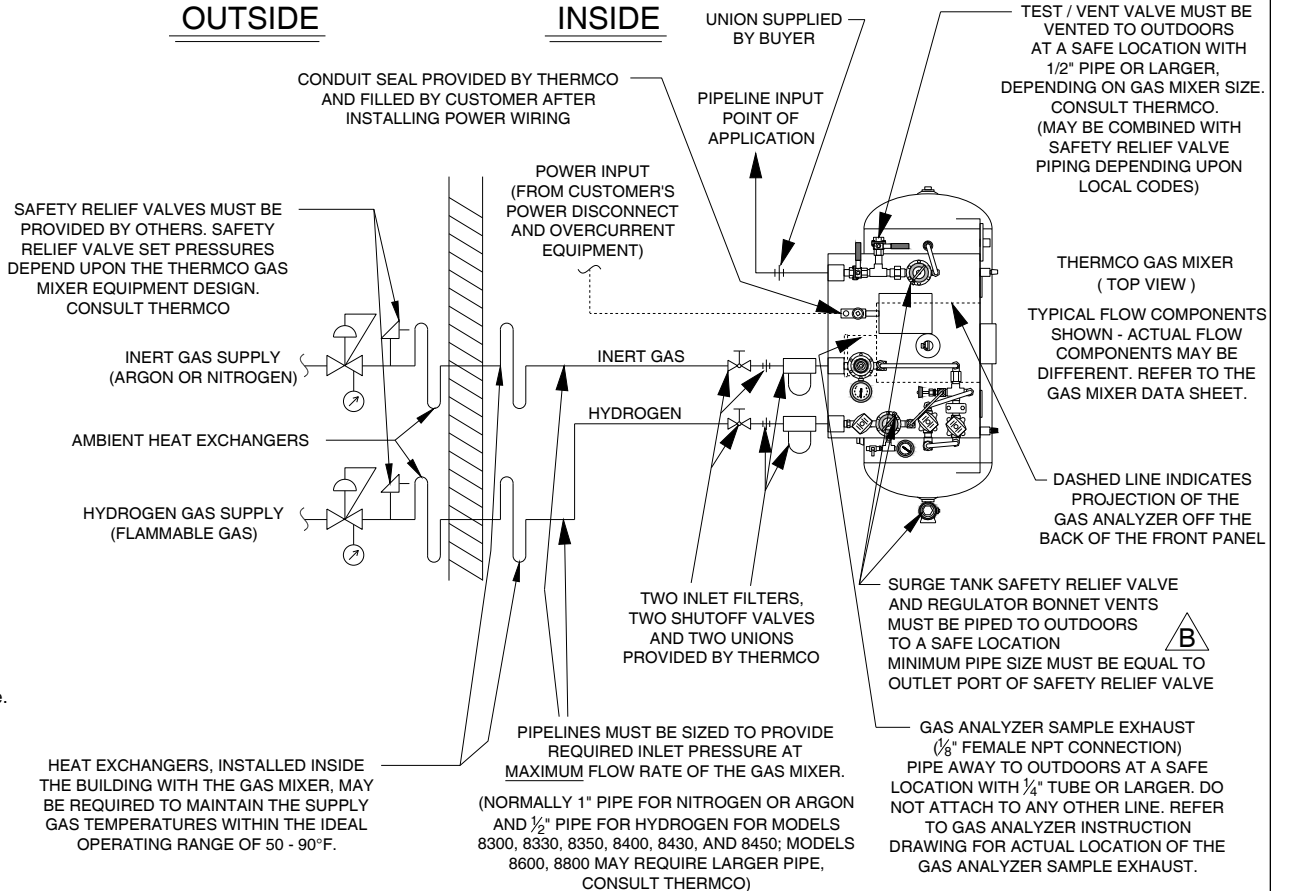
NFPA Requirements for Furnace Atmosphere Gas Mixer and Hydrogen Gas Supply: Piping and piping components shown are the requirements for the gas mixer system but do not include all the requirements for a furnace atmosphere gas system. The US National Fire Protection Association (NFPA) 86 standard states the requirements for flammable and non-flammable gas delivery systems. NFPA 50A and NFPA 50B state requirements for hydrogen gas systems. These standards should be consulted and followed in the installation of the hydrogen supply system.

Clearance Requirements: A minimum of 3 feet clearance is required on all four sides and above the gas mixing system. The mixer should be protected against damage or injury due to falling objects or working activity in the area.



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B	ADDED REFERENCE TO BONNET VENTS	GAR	8-2-21
A	REVISED CLEARANCE REQUIREMENTS	GAR	7-12-19
	REVISIONS	BY	DATE

thermco INSTRUMENT CORPORATION
LA PORTE, INDIANA USA

TITLE:
**INSTALLATION DIAGRAM FOR
HYDROGEN GAS MIXER, WITH
30 GALLON OR LARGER SURGE TANK
PROVIDED BY THERMCO**

DATE:	10-3-14
SCALE:	N.T.S.
DRAWN BY:	JTM
APPROVED BY:	<i>SAR</i>
SUPERSEDES:	1-10681
DRAWING NUMBER:	1-13824