FAQ

AERCO Gas Trains

The gas train is one of the main components of a gas-fired boiler or water heater. It is important to select the proper gas train for your specifications and site requirements to ensure best performance of your unit.

Question: What safeties are there on the gas train?
Answer: Different styles of gas trains have different safeties. AERCO gas trains include low- and high- pressure gas switches and a safety shut-off valve (SSOV). The SSOV will stop gas flow if a hazardous condition is detected. The low- and high- pressure gas switches are placed at the entrance and exit of the SSOV, respectively. These gas pressure switches shut down the unit if pressures are too low entering the unit or too high entering the combustion chamber.

Q: Does the SSOV have a proof of closure switch?
A: Yes, there is a proof of closure switch internal to the SSOVs on AERCO gas trains.

Q: Are there different options for gas trains?
A: The model dependent options are Factory Mutual (FM), Double Block and Bleed (DBB), Valve Proving System (VPS), Dual Fuel, and Dual Fuel DBB. For in depth discussion of gas train types, refer to the Gas Trains: FM, DBB, VPS, & Dual Fuel white paper, available in the Technologies section of the AERCO website.

Q: Does my gas train need to comply with any standards?
A: Insurance companies typically dictate the type of gas train chosen. The three main insurance compliances to look for are FM, IRI, and GE GAP. Many insurance companies require that all gas train components are ASME CSD-1 compliant.

Q: How do I get an FM Certificate of Compliance?
A: AERCO does not offer an FM Certificate of Compliance; however, AERCO adheres to the requirements of FM gas trains.

Q: How do I get a UL certificate?
A: AERCO's UL listings are viewable on the UL product line directory. Registered members can find the certificate on the UL Product IQ portal (https://iq.ulprospector.com/). Consult your local AERCO representative for more information.

Q: Which fuel does my gas train require?
A: AERCO gas trains are available in Natural Gas (NG), Propane, or Dual Fuel. NG is most commonly chosen, due to its convenience and cleanliness. NG is typically delivered in piping from the utility and piped into the building, whereas propane must be stored in tanks onsite. Dual Fuel units are typically chosen where propane is used as a backup in situations when required for critical installations or when the NG supply may be unreliable.

Q: Is there any chance of the two fuels in my Dual Fuel gas train mixing?
A: The Dual Fuel gas train has one complete gas train for each fuel, Propane and NG. Each fuel has a separate inlet and its own components, joining at the air/fuel valve. If the procedure at startup is not completed properly, then there is a risk of the fuel mixing. Otherwise, there is no risk.

Q: Can my unit automatically switch between fuels?
A: No, because Dual Fuel units do not share a common gas train, switching between fuel must be done manually.

Q: Will the fuel I choose affect my unit's performance?
A: Propane, as opposed to NG, will cause higher NO¬x levels in the exhaust, but will not affect combustion efficiency.

Q: Will my unit's fuel type require it to derate?
A: Neither NG nor Propane will require the unit to derate; however, other operating conditions, such as altitude, may.

Q: What if the gas pressure on site exceeds the equipment's maximum allowable gas pressure?
A: A lock-up type external pressure regulator is required when the site pressure is higher than the gas train's allowable limit. In situations where a lock-up type regulator is not required, a regular, non-lock-up type regulator may be recommended. External, knock-down, regulators are typically required by gas utilities. Contact your local gas utility for their specific requirements before installing AERCO equipment.

Q: Which external regulator should I choose for my unit?
A: Maxitrol, Jeavens, and Pietro Fiorentini regulators are recommended by AERCO. It is important to ensure that the chosen regulator will meet all manufacturer and local requirements.

Q: Do gas trains require venting?
A: Some do, depending on the gas train. Models such as DBB and Dual Fuel DBB must be vented to the outdoors. Some jurisdictions also specify regulator venting. Although the internal SSOV does not require venting, an external pressure regulator typically includes a vent port that may require piping to the outdoors. It is important to follow the requirements of the equipment manufacturer, regulator manufacturer, and local jurisdiction.

Q: Are vent limiters acceptable for my regulator?
A: AERCO does not offer or recommend unvented gas pressure regulators; however, AERCO has no restriction on field supplying a vent limiter or a ventless or limited regulator, provided the installation complies with local codes.

Q: Can I manifold my regulator venting in a multiple unit installation?
A: Each regulator must have a separate vent line.

Q: Do I need one regulator for each unit in a multi-unit installation?
A: It is highly recommended to have one regulator at each unit to ensure that the regulators can handle the turn-down of the plant. Individual pressure regulators will eliminate the risk of pressure fluctuation at differing fire rates.

Q: How do I size my gas supply line?
A: The fuel supplier, or utility, should be consulted to confirm that sufficient volume and normal pressure is provided to the building at the discharge side of the gas meter or supply pipe. All gas piping and components must comply with NFPA and local codes and utility requirements.

Q: What if my building supply piping diameter doesn't match the gas train diameter?
A: A reducing bushing may be used.

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