

WATER BATH HEATER

PRODUCT OVERVIEW

ENEVA Water Bath Heaters (WBH) are indirect heating systems designed for the safe and controlled heating of natural gas and other hazardous process gases without direct contact with flame. These systems are widely used in high-pressure and safety-critical gas applications where reliable temperature control is required.

The WBH operates on the indirect heat transfer principle. Combustion energy is first transferred to a water bath inside the heater vessel. The process gas flows through a coil bundle immersed in this water bath and is heated uniformly through the surrounding hot water.

This design ensures safe heating of flammable gases while providing stable outlet temperature, uniform heat distribution and reliable long-term operation.

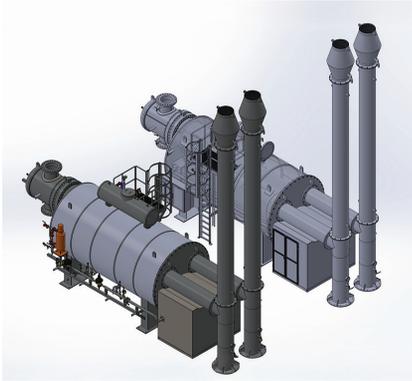


MAIN ADVANTAGES

- Indirect heating principle with no direct flame contact
- Safe heating of flammable and hazardous gases
- Uniform heat transfer through water bath
- Stable outlet gas temperature
- Suitable for high-pressure gas applications
- High efficiency and low self energy consumption
- Custom engineered for project requirements
- Robust industrial design for long service life

TECHNICAL SPECIFICATIONS (TYPICAL)

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|----------------------------|---|
| Thermal Capacity | Project specific, typically up to approximately 10 MW |
| Design Gas Pressure | Up to 75 barg |
| Heating Principle | Indirect heating via water bath |
| Heated Fluids | Natural gas and similar hazardous gases |
| Fuel Type | Gas or liquid fuels |
| Design Code | ASME Section VIII Division 1 |



In ENEVA Water Bath Heaters, the process gas is heated indirectly through a coil bundle immersed inside a water-filled heater vessel.

The heating process occurs in the following stages:

- 1- Fuel is burned in the burner system.
- 2- Combustion energy is transferred to the water bath surrounding the coil bundle.
- 3- The water bath provides uniform temperature distribution.
- 4- Process gas flows through the internal coil bundle.
- 5- The gas is heated indirectly through the surrounding hot water.
- 6- The gas reaches the required temperature without direct exposure to flame.

This indirect heating method ensures safe operation even when handling hazardous gases such as natural gas and other flammable process streams.

ENGINEERING AND SAFETY CONCEPT

ENEVA Water Bath Heaters are designed and manufactured according to internationally recognized engineering standards. Each system is engineered with a strong focus on process safety, operational reliability and long-term performance.

In the event of a coil leak, the gas mixes with the surrounding water bath instead of contacting the flame directly. The gas can then be safely discharged through the vent system, minimizing the risk of hazardous situations.

The system also includes multiple safety and control elements to ensure stable operation and controlled temperature distribution.

TYPICAL APPLICATIONS

- Natural gas pressure reduction and metering stations
- Gas transmission and distribution infrastructure
- Energy and gas processing facilities
- Chemical and petrochemical plants
- High-pressure gas pipelines
- Industrial facilities requiring safe gas heating

WHY ENEVA?

- Custom engineering approach for each project
- In-house thermal and mechanical design capabilities
- Compliance with international pressure vessel standards
- High manufacturing quality and strict testing procedures
- Reliable and safe equipment for critical gas infrastructure

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