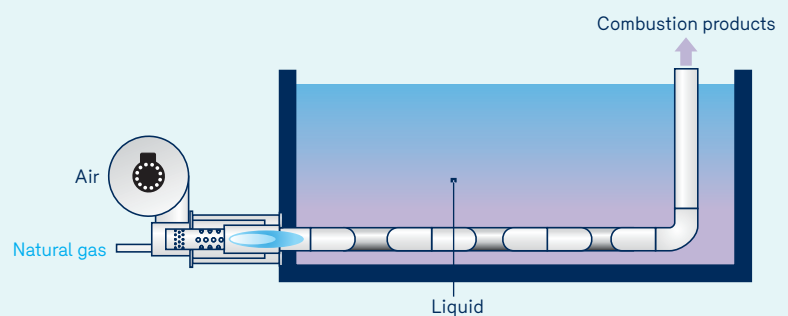


Industrial process heating

Submerged tube

Concept

Industrial process liquid tanks can be heated with a submerged tube connected to a natural gas burner at one end and a stack at the other end. The flame and the hot fumes circulate inside the tube. The liquid is heated by heat transfer from the tube.



Advantages

- Wide power range for burners.
- Precise control and wide range of modulation range for burners, giving the precision required for the tank to be heated.
- Tube easily adaptable to tank shape and dimensions.
- Unit capable of achieving 95% efficiency.
- More economical operation and increased power with natural gas than with electricity.
- Thermal energy production can be decentralized.
- No system needed to circulate steam or hot water.
- Design adapted to an industrial useful life cycle.
- Simple operation.
- Little maintenance.
- Low noise level.
- Recognized reliability, high-resistance burners and tubes; several tube alloys available.

Applications

- Tanks of various cleaning solutions
- Quenching tanks
- Washing tunnel tanks
- Salt baths
- Viscous product tanks: asphalt, molasses

List of manufacturers

Here is a non-exhaustive list of manufacturers.

- Eclipse
- Maxon
- North American

Financial assistance from Énergir*

Technology eligible for the Feasibility Studies and Implementation of Energy Efficiency Measures Grants, according to defined criteria. See energir.com for more details. The assistance is subject to a calculation of energy savings by the engineer of the customer requesting the assistance.

Selection criteria

- Recovery time of initial rise in temperature.
- Mass of parts and throughput of parts to be quenched or sprayed; frequency and recovery time.
- Insulation of tanks and cover.
- Operating temperature.
- Evaporation and liquid throughput to be renewed.
- Composition of liquid to be heated.
- Heating density on tube.
- Assistance from manufacturer in selecting burners and tubes and for special considerations.

Installation standards

Installation must comply with all codes, including the CAN/CSA B149.1 and B149.3 gas codes, and with other regulatory requirements in Québec.

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* Certain conditions apply. The financial assistance is subject to change without prior notice.

These data are provided for guidance only. This Information Sheet is for general use and must not be considered advice. Please ask for assistance on the questions that concern you and do not rely only on the text in this Information Sheet.

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