

Unit heater

Concept

A unit heater is a stand-alone appliance serving to heat a given space and capable of operating on different energy sources. The possible energy sources are hot water, steam, No. 2 fuel oil, propane and natural gas.

The equipment usually includes a heat exchanger, through which a fan blows air from the room to be heated. This can be a blade fan or squirrel cage fan. The air flows and the blowing distances are much greater with a squirrel cage fan.

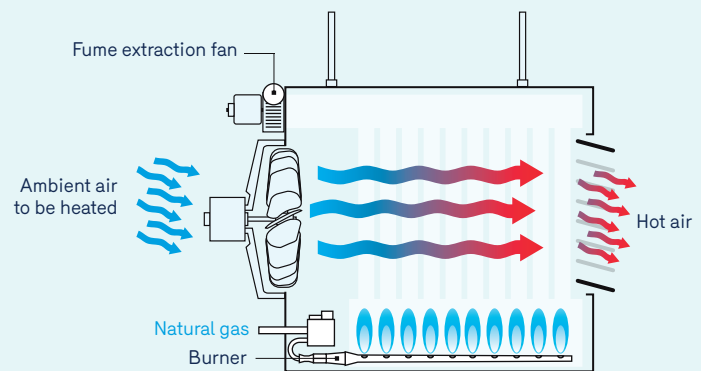
Unit heaters running on natural gas are equipped with a gas burner. There are two types:

1. Standard efficiency units

Standard efficiency units are not modulated, that is, they operate either at 100%, or not at all. When the temperature is reached, the unit heater stops running.

2. Condensing units

Condensing units allow the energy contained in the steam of combustion gases to be recovered. They also allow the power delivered to be modulated and they offer the best energy efficiency among pulsed air units.



Advantages

- Decentralized and oriented heating.
- Simple installation.
- Wide power range from 25,000 Btu/hr to 400,000 Btu/hr.
- Quick solution for heating large spaces, warehouses and garages.
- No need for a heat distribution network.
- Simple to control with a commercial or digital thermostat.
- High efficiency achieved by condensing units.
- Easy maintenance.

Applications

Here are the most frequent applications:

- Workshops;
- Warehouses;
- Garages;
- Factories;
- Underground parking (multi-tenant building).

Energy Efficiency Financial Assistance*

Financial assistance of \$1,700 on the installation of a condensing unit heater.

List of manufacturers

Here is a non-exhaustive list of manufacturers. This list may be revised and amended as needed.

- Beacon-Morris
- Modine
- Reznor
- Sterling

Selection criteria

Heating power:

Type of building	Heating power
Warehouse	25-35 Btu/h per ft ²
Mechanical shop	40-60 Btu/h per ft ²

Squirrel cage fans are preferable if the blowing distances and air flows to be heated are high or if there is air pressure to be countered at the hot air outlet. Here are the criteria to consider in selecting the units:

- Installation height;
- Positioning;
- Fan type;
- Heating power;
- Combustion: sealed or unsealed combustion;
- Venting: combustion products are usually vented outdoors by flues.



Installation standards

1. Minimum height to be respected, according to each manufacturer.
2. Installation is not recommended where there are chlorinated products, solvents or explosives.
3. Except when noted otherwise, the combustion products must be vented outdoors. For more details, see the manufacturer's Installation Guide.
4. Natural Gas and Propane Installation Code, CAN/CSA B149.1 in force.

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* Certain conditions apply.

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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