



OUTLINE

The heating-unit 3002 W is installed in the foundation slab and contains a fan and 2 water/air-exchangers, with

control valves that are controlled by 1 or 2 external electric room thermostats.

TECHNICAL DATA

The following data is generic. Each LEGALETT installation is unique. For actual design parameters refer to customized specification on the design drawing for your installation.

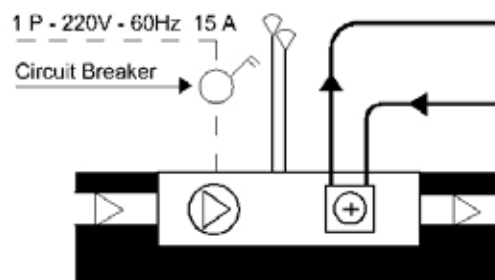
Operating voltage 1P - 220V - 60 Hz
 Fan motor power consumption 103 W
 Breaker rating (GFI recommended) 15A
 Water-air exchanger output 40°C-70°C 1.2-4.8kW
 Air temperature range 30°C-55°C
 Connection, pipe lavatory style, ½" threaded
 Air flow 425-450 m3/h/250-265 CFM

Design data for both exchangers and valves:
 Design flow 400 l/h/1.75 USGPM
 Design pressure drop 21.5 kPa/7.2'/3.1 PSI
 Maximum full flow
 pressure drop (noise limited): 35 kPa/11.2'/5.1 PSI
 Maximum zero flow pressure drop (i.e. maximum pump
 pressure, noise limited): 40 kPa/15'/7 PSI

OPERATION

The 3002 W is controlled by one (single zone) or two (dual zone) external electrical room thermostats. These external thermostats operate the control valves in the unit, opening the control valve when the room needs heat. A thermocouple built into the 3002 W starts the fan motor when the inlet water temperature reaches 300C. When the control valve is closed and the inlet water temperature decreases to approximately 270C, the fan motor stops. The fan operation is independent of the position of the zone valve, and responds only to water temperature.

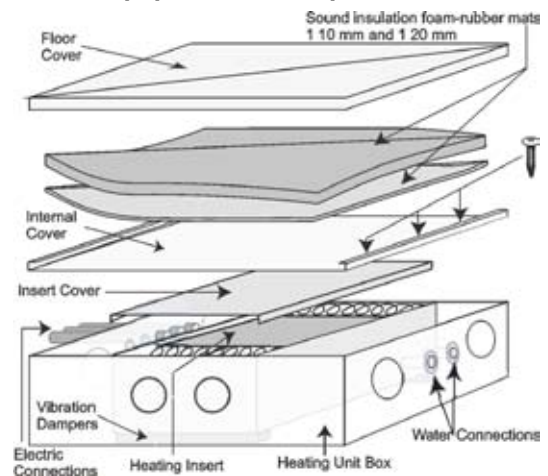
When connected to a clock thermostat, the 3002 W can use differentiated energy rates for night storage of heat in the LEGALETT heated foundation.



ASSEMBLY

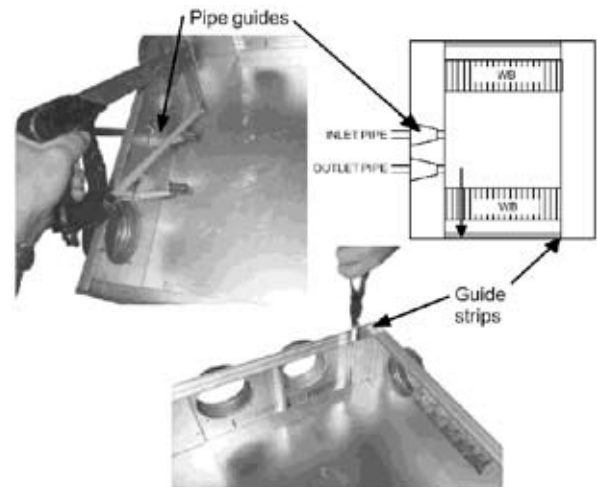
1. The 3000 series heating unit box rests in a cutout in the polystyrene sheet, with its upper edge adjusted to be flush with the finished slab elevation.
2. Conduit, for 230V power, is run from one of the cable inlets on the unit to the local disconnect. Conduits are run from the remaining cable inlets for each of the 24V thermostats and external 24V transformer (not supplied).
3. The sleeves for the inlet and outlet water pipes are connected to the water pipe connections of the furnace box. Install the water pipes, and make sure the water pipes extend past the ends of the internal pipe guides.
4. The spiral ducts in the concrete slab are laid in accordance with a separate drawing.
5. After the concrete has dried sufficiently with the use of the construction heater, the box is prepared for the heating unit according to the steps below, by an authorized electrician and plumber.

6. Clean the furnace box carefully. There should not be any water or dampness in the box or duct system when the equipment is set up.



WATER CONNECTION

1. Unscrew the pipe guides and discard.
2. Install threaded adaptors with integral gasket for 1/2" NPSM (lavatory-style straight threaded) on water pipe, and adjust pipe to length. If not using NPSM fittings, remove nipple and use 1/2" NPT fittings and a union.
3. Pull the two guide strips upwards that will locate the exchanger assembly when installed.
4. Verify that the vibration dampers (thick foam strips that are attached to insert) are installed properly at the bottom edge of the insert, under the exchanger.
5. Insert the exchanger assembly into the box so that it is away from the water pipes.
6. Move the exchanger assembly towards the pipes so that the water pipe connections are in the correct location.
7. Tighten the threaded connections.
8. Re-insert the two guide strips to lock the insert in place. Remove any protective cardboard.



9. Make sure that the exchanger assembly is centred so that it will not contact the box.
10. Turn on water and check for leaks.

ELECTRICAL CONNECTION

1. Check the electrical data on the unit so that other installation materials and equipment are compatible.
2. Used properly sized copper wire for connection to the panel.
3. A properly sized two-pole local disconnect must be included in the installation to enable total isolation for maintenance etc. GFI protection is recommended.
4. The installation must be by a licenced electrician.
5. The conduits which run into the unit must be sealed using sealing compound for both water and electrical, after the water and electrical connections have been made.
6. Mount the cover onto the unit as per the data sheet for the cover. Test run for 1 hour and then open for a check. If necessary clean, check for dryness, and test run again. If moisture is still present, re-install construction heater and run until the system is dry.

If the overheating protection for the fan has been tripped, it can be reset by pressing the red button.

