

COMPLETE A FUNCTIONAL CHECKLIST FOR EACH UNIT IN THE BUILDING **BEFORE** USING THIS TROUBLESHOOTING GUIDE

**Q:** I seem to have cold areas in my home or the System cannot keep up when the temperature drops outside:

**A:** Make sure you do not have excessive or unbalanced heat losses, and make sure that for water units, the water temperature matches the design drawing for the floor coverings used and that the water supply system is functional.

1. Have an air-tightness test (blower door test) done for the house. If there are significant infiltration losses, the interior climate will be very sensitive to outside temperature drops. LEGALETT is NOT designed for, nor intended to provide heat for infiltration losses. Total heating costs will also be excessive.
2. Review the product data sheet '[HRV/ERV Operation With LEGALETT](#)' to be sure that a) you are not over-ventilating (causes a cooling sensation from excessive drafts) and b) that you have a touch-up heater installed for the HRV/ERV to bring the ventilation air back up to ambient temperature. LEGALETT is NOT intended to provide touch-up heat for ventilation losses. If there are significant ventilation losses, the interior climate will be drafty and very sensitive to outside temperature drops. Total heating costs will also be excessive.
3. Insulative floor coverings require higher water temperatures than bare or non-insulative floor coverings to ensure that the SURFACE of the insulative floor covering is at the required temperature to keep the room at the desired comfort level. This means that the core of the slab (and thus the water temperature) must be higher, which is reflected on the design drawing. Electric units are not affected, as the core temperature will automatically rise until the required energy fluxes through the floor coverings. Refer to the [Construction Heaters & Floor Finishes](#) product data sheet. Do **NOT** exceed an inlet water temperature of 70°C (160°F) measured AT the heating unit.
4. For water coil units only, if more heating output is desired due to unforeseen heat losses, then the inlet water temperature can be raised to a maximum of 70°C (160°F) measured AT the heating unit.

**Q:** Heater is cycling, or is 'always on'.

**A:** This is normal for LEGALETT digital programmable thermostats manufactured by Aube/Honeywell, from 2007-2009.

1. LEGALETT digital programmable thermostats by Aube/Honeywell operate on a 15 minute cycle. Unless the room temperature significantly exceeds the set temperature, the heaters will run at least some of each 15 minute cycle. This 'duty cycle' is indicated on a scale of 1-5 flames on the display, when the thermostat is calling for heat. If this cycling is bothersome, use the time-of-day and day-of-the-week programming to set the temperature 1°C (2°F) above your target temperature when you are out of the building, and 1°C (2°F) below your target temperature when you are in the building. This way the LEGALETT slab will store energy in the slab when you are away, and heat the building with this stored energy (generally without coming on) while you are there.
2. As each of the 4 zones in the 4000 series heaters has its own thermostat (and thus a unique 15 minute cycle), and since the fan comes on each time ANY zone is activated, fan operation does not mean that all zones are operating concurrently. For water units, the fan remains running after each zone shuts off, until all the heat in the box is dissipated, which increases the chance of two cycles overlapping, and the fan running constantly during periods of medium to high heat demand, even though the thermostat has not yet reached 100% duty cycle (indicated by 5 flames on the display, sustained for 24 hours or more). Extended fan operation evens out floor temperatures and the energy consumed by the fan is dissipated as heat in the slab through air friction, so extended fan operation is not a 'waste of energy'.
3. If the sound of the unit operating is loud enough to be heard over other background noises, check that the lid is properly installed, and have a qualified electrician check to make sure that the electric and water conduits in the box are sealed. Sealing the conduits in the box makes a dramatic difference in operating sound level.

**Q:** Water insert is 'always on' and room is overheating.

**A:** If debris are lodged in the valve and keeping it open, the valve will not close all the way, and allow some heat to be delivered all the time, and keep the fan running all the time. If the inlet water pipe is consistently hot, regardless of the thermostat signal, then inspect the valve for the always-hot exchanger. If the valve is MMA, remove the actuator and use a 15/16" socket and ratchet to carefully unscrew the valve body (keep the socket square to the valve and restrain the valve from twisting) and check for debris. Vacuum out if any debris are found. If the valve is Danfoss, remove the valve as an assembly and inspect for debris. Make sure that the water supply is shut off and the system depressurized before valve disassembly/removal.