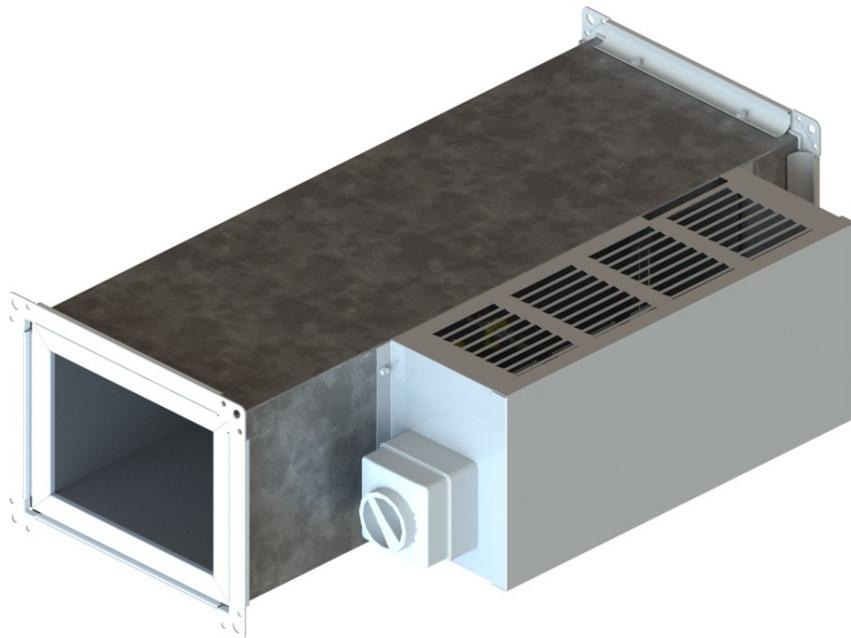


INSTALLATION INSTRUCTIONS

ELECTRIC DUCT HEATER



HOLYOAKE
AIR MANAGEMENT SOLUTIONS | by **PRICE**

ELECTRIC DUCT HEATER INSTALLATION INSTRUCTIONS

The following are mandatory requirements that must be followed by the installer. If these rules are not followed or installed incorrectly, this will void the warranty from the manufacturer and the AS/NZS 3102:2002 certification of the electric duct heaters.

REQUIREMENTS

1. The most important requirement to follow when installing our electric duct heaters is to ensure it is installed in the correct orientation. This is to ensure that the safety devices within the duct heaters work as intended and that the components are in the correct position. Follow the airflow direction sticker placed on the box with the writing right side up, see Figure 1. If the duct heater was ordered with the incorrect handing, it CANNOT be flipped on site. Please contact the Price Holyoake sales team to remedy this situation.

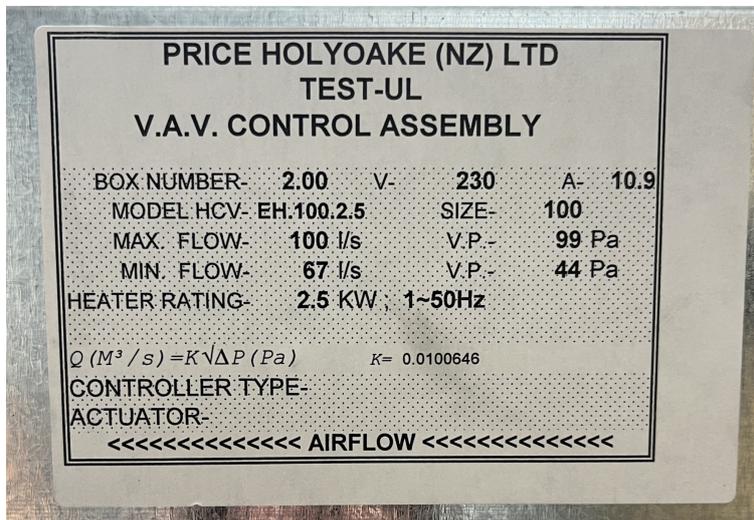


Figure 1: Heater Label

2. The electrical supply to the heating elements MUST be interlocked with the electrical supply to the associated fan upstream. This is an added safety feature so that any interruption of the supply to the blower motor will automatically interrupt the supply to the heating elements. This will ensure the heaters cannot be energized if no airflow is passing through the unit.
3. Never cover or wrap the electrical enclosure casing. There are openings that have been designed into the casing to allow proper airflow over the electrical components, see Figure 2. Without this, the components can become very warm and potentially cause problems.



Figure 2: Electrical Enclosure Vents

PRE-INSTALL CHECKS

- Check the electric duct heater for any signs of damage from shipping. This may include damage to the casing or damage to the internal heating elements and componentry inside the enclosure. If damage is found, do not power up. File a claim with the carrier or replace the heater.
- Check the specification label to ensure all the information is correct (volts, watts, phase, handing, airflow direction, etc.) See Figure 1 for example of label.
- Double check that the heater is being installed in the correct orientation, according to the labels provided.

GENERAL INSTALLATION DETAILS

- The standard electric duct heater come with 25mm duct mate flanges on both sides for ease of installation with other components in the HVAC system. A foam gasket should be used between the connection of two mating duct mate flanges to prevent air leaking from the joint.
- The electric duct heater can be supported similarly to the rest of the HVAC system, i.e. hanging rods, hanger brackets, etc.
- Solid and flexible ducting can be used upstream and downstream of the electric duct heater

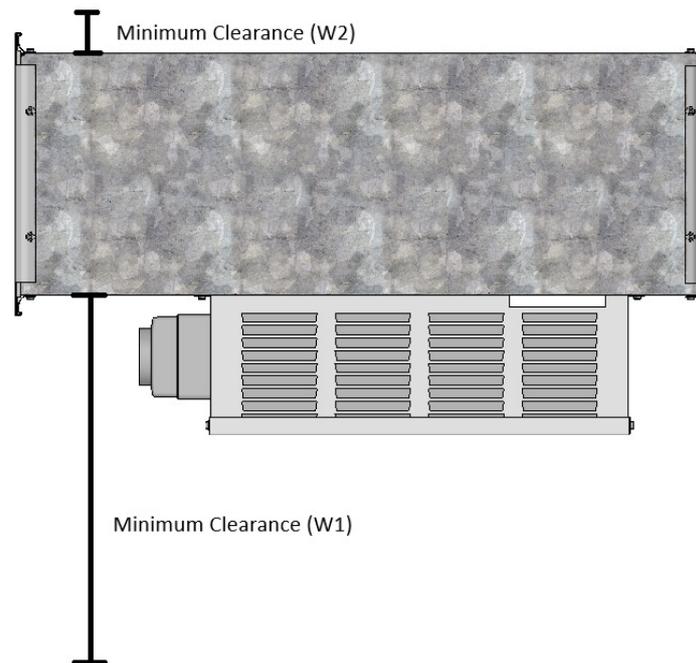


Figure 3: Installation Clearance

- Clearance above, below and on the side of the heater duct that does not contain the electrical enclosure (W2 in Figure 3) must have a minimum clearance from any wall, ceiling or other component of 50mm.
- Clearance on the side of the of the heater duct that contains the electrical enclosure (W1 in Figure 3) must have a minimum clearance from any wall or other component of the width of the heater ducting plus 250mm. i.e. If the duct width is 286mm, the clearance $W1 = 536\text{mm}$. This is to allow for the removal of the gland plate which holds the heating elements and electrical components.

WIRING ELECTRIC HEATER

- Components can only be wired or replaced by appropriately qualified people.
- Whether the unit is single or 3 phase, an isolator switch will come pre-installed on the side of the electrical enclosure, see Figure 3. This is where the 230V electrical supply will be fed to the unit. Follow local building and electrical codes for wires used. The interlock switch comes with a few knockout options to be used for incoming power. Use either one as needed.



(a) Single Phase



(b) 3 Phase

Figure 4: Isolator Switches

- All units will come fully wired from the factory and fully tested. A wiring diagram will be included on the inner side of the electrical enclosure cover for your reference.
- 24V is needed to energize the controls of the electric duct heater. This is to be fed into the electrical enclosure and wired to the 4 terminal blocks located under the contactor labelled CONTACTOR and SSR (solid state relay). See Figure 4. It is recommended to use a double insulated cable for this.

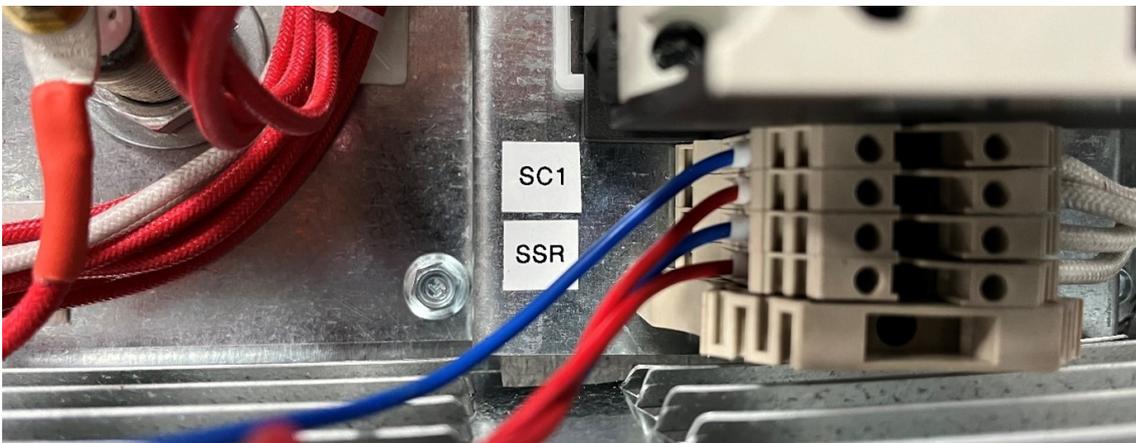
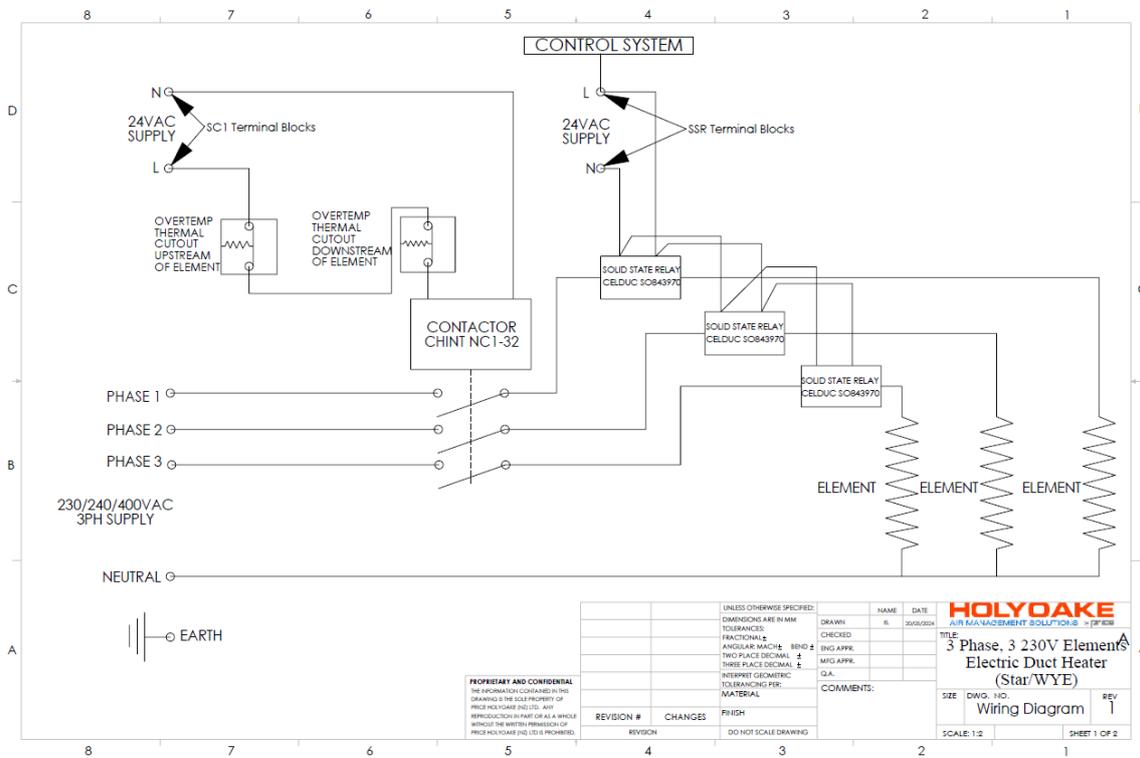
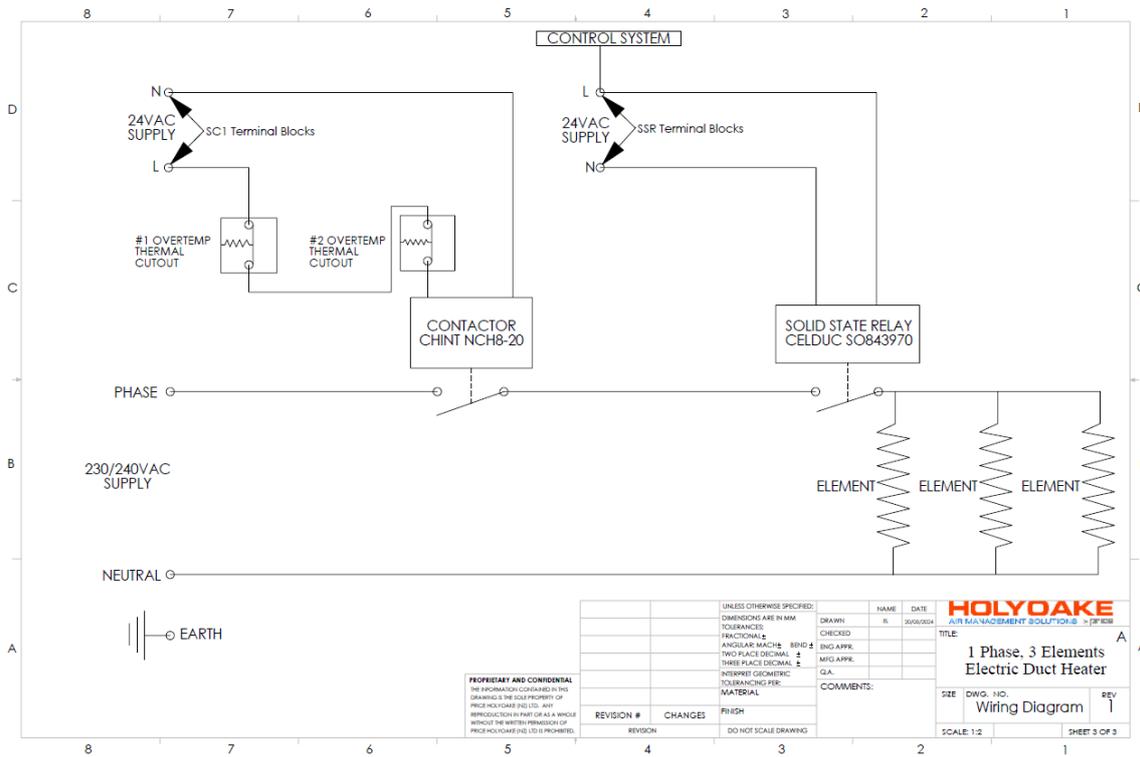


Figure 5: Heater Label



COMMISSIONING

Once the electric duct heater is installed, wired and ready to be powered up, a few tests must be run to ensure all electrical components are in working order and nothing was damaged during shipping.

- Double check that all connections are tight, nothing is touching any live components, and that airflow is running through the box before powering the unit by turning the isolator switch to the 'ON' position.
- Both thermal switches are tested once installed on the unit prior to leaving the factory. It is a good idea to double check that they still work as intended once installed. Since both thermal switches are non-adjustable, the damper must be gradually closed to reduce the airflow running through the unit. This will eventually trip the thermal switches. Once tripped, open the damper to allow cool air to flow through the coils. After giving it some time to cool, push the pre-installed pin sticking out of each of the manual reset mounting plate to allow the heater to operate again.

TROUBLESHOOTING

- If 230V and 24V are wired correctly, isolator switch is turned on, but the elements (and contactor) are not energized, you may need to push the pins for the manual resets as they may not have been reset after factory testing.
- Another reason why the elements may not be working if all the above is checked is that the fan upstream is not powered on. Since the heating elements must be interlocked with the fan, ensure the fan is on.
- If the heaters have not been used for a summer season, there may be an accumulation of dust on the heating elements which may cause a burning smell. This will only last a few minutes and should dissipate quickly.

NOTES

- Heating elements become VERY HOT and should never be touched when live or for a reasonable period afterwards.
- Auxiliary devices such as pressure differential switches or thermostats fitted post supply are not covered by our warranty.
- The unit should not be subjected to moisture as the air vents do not allow for the enclosure to be IP rated. The unit is to be installed indoors only.