Smooth-Air

Electric Duct Heater

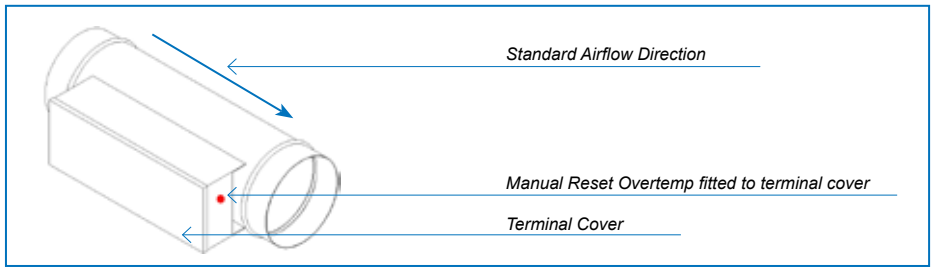
Electric Duct Heaters are an effective way of providing heat in new and existing ducting systems. The comprehensive range means that a heater is available for almost any situation.

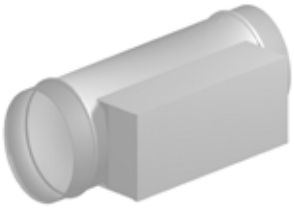
Electric Duct Heaters can be made to any size or specification: round, square or rectangular; 350W to over 90kW.

Typical applications include tempering fresh air supply and combining with air handlers to heat/reheat specific zones. Units can be supplied as:

- Bare terminal - elements and safeties are wired to bare terminals in terminal box.
- Pre Wired - Units supplied complete with staging contacts and isolators.

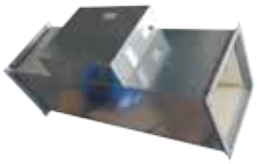
As the elements have minimal residual heat on shutdown, fan run on timers are not normally required.





Electric Duct Heater

Elements in square Duct Heater



Square Duct Heater

Options

BT: Heater fitted with elements and safety switches wired out to terminals, (but no contactors, control wiring or isolator)

PW: Heater as above plus contactors and internal wiring to isolator

PW1P: Heater specified as above plus 1 pole thermostat

PW3P: Heater specified as above plus 3 pole thermostat

Duct Heater Specifications

Model	Duct Diameter (mm)	Nominal Heat (kW)	Min. Airflow (l/s)	Typical Airflow (@5m/s) (l/s)	Typical (TR) Temp. Rise (°C)	Heater Length (mm)
EDH1507*	150	0.75	82	88	6	920
EDH1515*	150	1.50	82	88	12	920
EDH1530*	150	3.00	82	88	24	920
EDH2007	200	0.75	82	157	3	610
EDH2015	200	1.50	82	157	7	610
EDH2030	200	3.00	82	157	14	610
EDH2045	200	4.50	120	157	20	610
EDH2515	250	1.50	175	245	5	610
EDH2530	250	3.00	175	245	9	800
EDH2545	250	4.50	175	245	13	800
EDH2560	250	6.00	175	245	17	800
EDH3030	300	3.00	230	353	6	800
EDH3045	300	4.50	230	353	9	800
EDH3060	300	6.00	230	353	12	800

***Note:** Minimum duct heater diameter is 200mm, so reducers are added for 150mm duct.

Rectangular Duct Heater

Thermostat fitted to EDH

Code	Description	
EDHstat1pole	1 pole thermostat	(5-35°C)
EDHstat3pole	3 pole thermostat	(8-34, 10-36, 12-38°C)

Optional Extras

Code	Description	
DPS	Differential Pressure Switch	20-200Pa
EDHSS	EDH Sail Switch	

DPS front & side view

DPS with tube

Continued on next page

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Electric Duct Heater (continued)

Heater Calculations

Temperature rise °C = kW/(m^3/s*1.22)

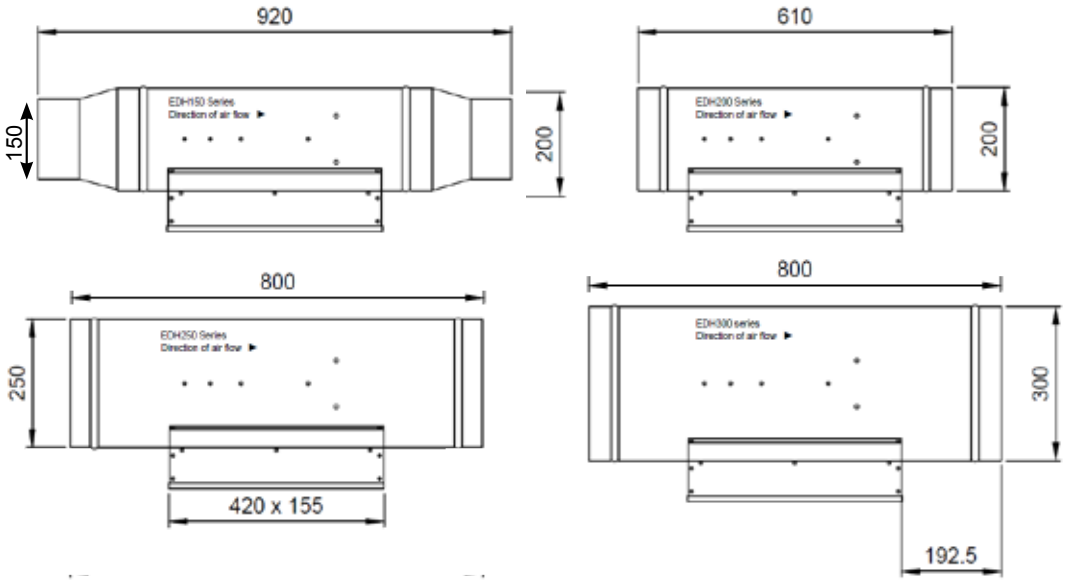
kW required = m^3/s*Δ°C*1.22

Airflow required = kW/(Δ°C*1.22) Note: This can be used to calculate the airflow required to remove heat from a process in a room.

Key

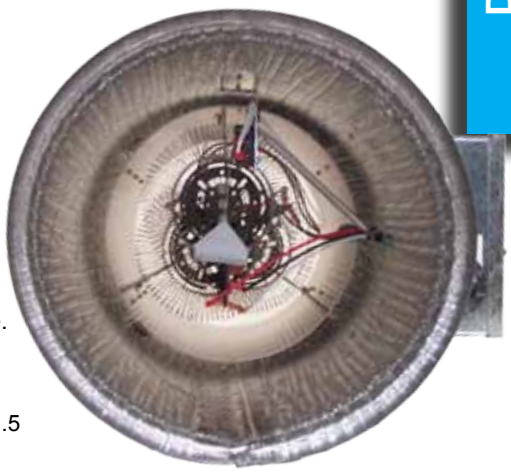
Heat (power) input:	kW (kJ/s)	
Airflow is:	m^3/s (1m^3/s=1000l/s)	
Specific Heat capacity:	1.22kJ/m^3 Δ°C	(at standard temperature (20°C) and atmospheric pressure)
Temperature rise is:	Δ°C	(ie difference between inlet and discharge temperatures)

Typical Dimensions



Notes:

- Units are constructed and tested to AS/NZS3102:2002 & AS/NZS3100:2009
- Minimum airflow stated above is essential to achieve satisfactory unit operation.
- Typical Airflow/Temperature Rise in the above table is given as a quick reference guide and is based on 5m/s air velocity in the heater casing.
- Units are supplied with:
  - 16A manual reset Hi-Limit stat (cut-off temperature 92°C)
  - Fusible links (rated to 121°C), 1 fitted to each 3 kW heater element module
  - Sail switch (Minimum Velocity 2.5m/s) (4A)
  - Terminal case (450mm x 150mm x 80mm deep)
- Sail switches are supplied as standard. Differential pressure switches are available as a non preferred option, which subsequently needs commissioning on installation.
- Standard units are for horizontal airflow in the direction marked, with SE each end (to suit flexible ducting). Other options are available for situations such as vertical airflow (using a differential pressure switch).
- Bare terminal units have elements and safeties pre-wired to terminal strip. Relays are required in all units except 650 W, see safety device amp. ratings noted above.
- Control thermostats are not included in the above prices due to the large variety of control methods available. We offer air-on thermostats (typically for a fresh tempered fresh air supply) fitted and pre-wired. (Note: units can be controlled in 1.5 kW modules).
- Pre-wired units have element relays and isolators fitted and wired. Isolators on 6kW units are 3 phase.
- Typical pressure loss graphs over page.



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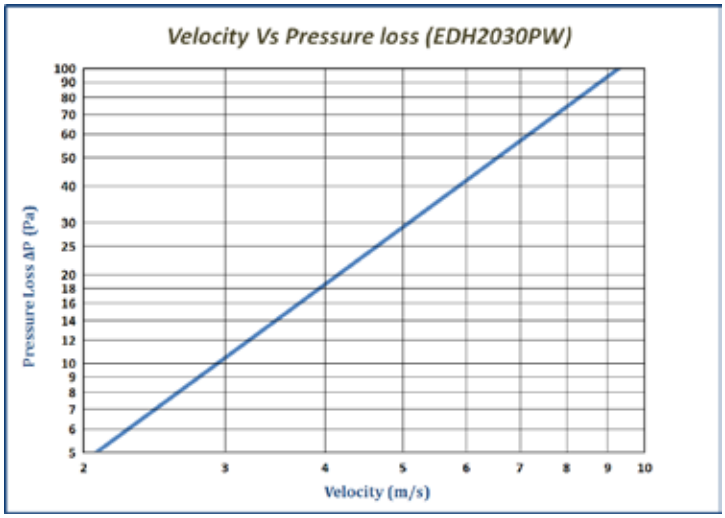
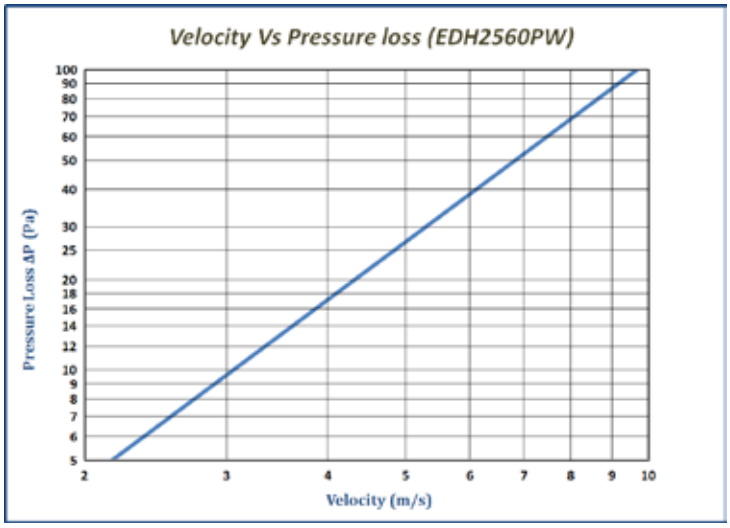
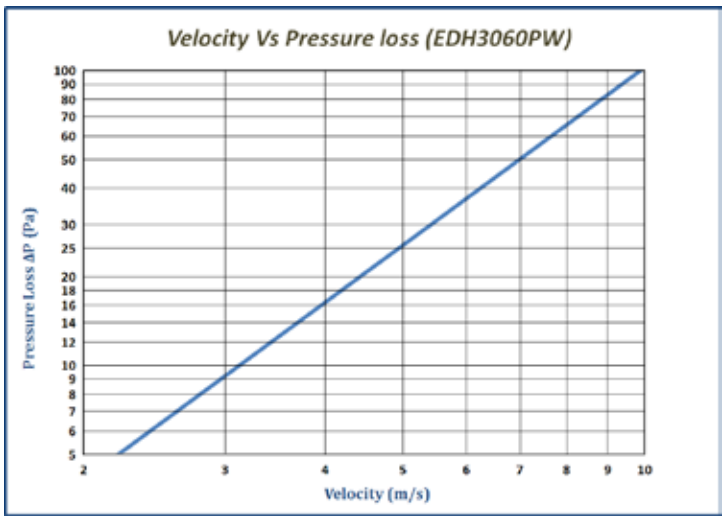
Due to a policy of continuous development, prices and specifications are subject to change without notice.

Electric Duct Heater (continued)

Typical Pressure Loss Graphs







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