BUCAN ELECTRIC HEATING DEVICES INC.

DUCT HEATERS

Typical Heating Applications:

- *Paint Drying*
- *Industrial Ovens*
- *Dehumidification*
- *Batch-Heating Ovens*
- *Forced-Air Drying/Curing*
- *Heat-Treating, up to 1100°F (570°C)*

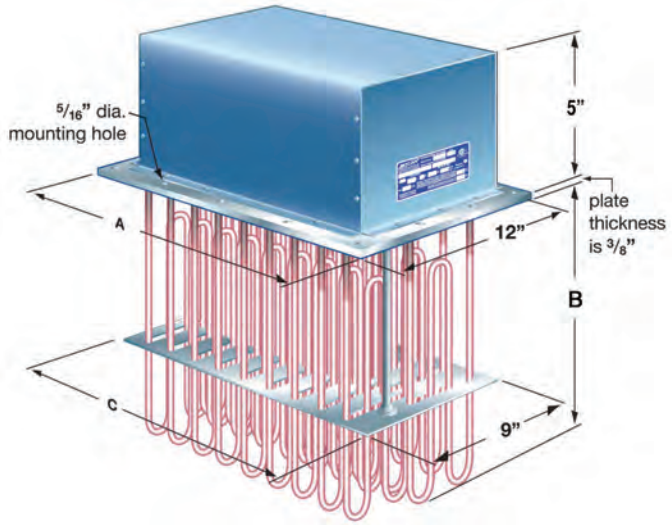
High efficiency, compactness and ease of installation make the utilization of a Forced-Air Duct Heater an ideal solution in applications where fan-forced heating is required. Two designs are available based on the operating temperature;

- Medium performance duct heaters, for up to 750°F outlet temperatures
- High performance duct heaters, for up to 1100°F outlet temperatures

The heat source is a set of tubular elements that are arranged in an optimum configuration to minimize the pressure drop.

CFM	Temperature Rise (°F)											
	50	100	150	200	250	300	350	400	450	500	550	600
	kilowatt estimation at standard conditions with 20% safety factor											
100	2	4	6	8	10	12	14	16	18	20	22	24
200	4	8	12	16	20	24	28	32	36	40	44	48
300	6	12	18	24	30	36	42	48	54	60	66	72
400	8	16	24	32	40	48	56	64	72	80	88	96
500	10	20	30	40	50	60	70	80	90	100	110	120
600	12	24	36	48	60	72	84	96	108	120	132	144
700	14	28	42	56	70	84	98	112	126	140	154	168
800	16	32	48	64	80	96	112	128	144	160	176	192
900	18	36	54	72	90	108	126	144	162	180	198	216
1000	20	40	60	80	100	120	140	160	180	200	220	240
1100	22	44	66	88	110	132	154	176	198	220	242	264
1200	24	48	72	96	120	144	168	192	216	240	264	288

BUCAN FORCED-AIR DUCT HEATERS



Standard construction for medium temperature duct heaters

(Outlet temperatures up to 750°F)

- Incoloy sheathed heating elements
- General purpose terminal enclosure (NEMA 1)
- Mild steel mounting plate, keeper plate and support hardware

Standard Duct heaters for outlet temperatures up to 750°F

Cat. No.	KW	A (in)	B (in)	C (in)	Approx. Wt. (lbs)
FHIL6	6	6	16	4 1/2	15
FHIL12	12	9	16	7 1/2	30
FHIL18	18	12	16	10 1/2	44
FHIL24	24	15	16	13 1/2	62
FHIL30	30	18	16	16 1/2	76
FHIL36	36	21	16	19 1/2	90
FHIL42	42	24	16	22 1/2	106
FHIL48	48	27	16	25 1/2	118
FHIL54	54	30	16	28 1/2	137
FHIL60	60	33	16	31 1/2	152

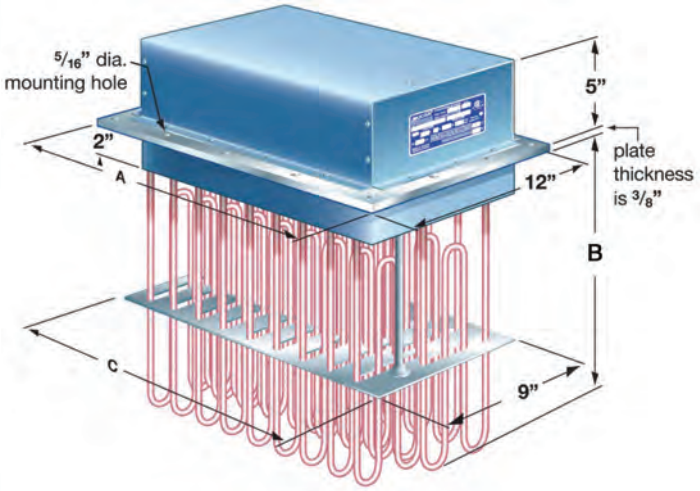
Recommended protective devices

- **Air-flow switch:** Installed on the inlet side of the duct heaters, air-flow switches prevent the energizing of heaters when there is no air flow.
- **Over temperature Protection:** A type "K" high limit thermocouple attached to one of the heating elements monitors the temperature. The thermocouple is attached to a controller that has a manual reset.
- **Fan interlock:** To prevent heater from energizing when the fan is not running, the fan starter circuit is interlocked with the heater controls. A time delay can be incorporated in order to keep the fan running after the heater gets de-energized.

Optional Features:

- Weatherproof terminal enclosure (NEMA 4)
- Airtight sealed joint between element and mounting flange
- 3" mineral wool insulation inside the terminal box (Box height will increase to 7")
- Air-flow switch
- Stainless steel terminal enclosure
- Process control thermocouple
- High-limit thermocouple

BUCAN FORCED-AIR DUCT HEATERS



Standard construction for high temperature duct heaters

(Outlet temperatures up to 1100°F)

- Incoloy sheathed heating elements
- Reduced watt density on tubular sheath
- General purpose terminal enclosure (NEMA 1)
- 2" mineral wool insulation under the mounting flamge
- Stainless steel mounting plate, keeper plate and support hardware

Standard Duct heaters for outlet temperatures up to 1100°F

Cat. No.	KW	A (in)	B (in)	C (in)	Approx. Wt. (lbs)
FHIH6	6	6	20	4 1/2	16
FHIH12	12	9	20	7 1/2	31
FHIH18	18	12	20	10 1/2	46
FHIH24	24	15	20	13 1/2	64
FHIH30	30	18	20	16 1/2	78
FHIH36	36	21	20	19 1/2	93
FHIH42	42	24	20	22 1/2	109
FHIH48	48	27	20	25 1/2	122
FHIH54	54	30	20	28 1/2	141
FHIH60	60	33	20	31 1/2	156

Installation and Maintenance

- Electric heaters must be installed by qualified personnel in accordance with all national and local electric codes.
- Positive airflow, evenly distributed over the heating elements is required.
- The blower should be placed upstream with respect to the heater.
- Airflow and temperature rise (specified by purchaser) are operating conditions used to design a duct heater; changes to these conditions affect heater performance. Airflow lower than design conditions or higher than specified air inlet temperature may cause premature failure.
- Mounting can be in any position.
- Only for use in non-hazardous locations.
- Power supply should match the nameplate data.
- Power should be disconnected before any maintenance.
- Periodically, terminal connections should be checked.