

Process Air Heaters Overview

- Fintube® Heaters
- Finstrip® Heaters
- Circular Finstrip® Heaters
- High Temperature Duct Heaters
- Medium Temperature Duct Heaters
- Low Temperature Duct Heaters



Heat processing applications vary widely from industry to industry. Curing, drying, heat treating, comfort heating, sterilizing and bonding represent just a few of the many uses for electrically heated air. Applications vary in temperature from super cool cryogenic to high temperatures up to 1200°F. Chromalox electric heaters can also be designed to heat special atmospheres such as argon or nitrogen. Special materials and custom designs are available for marine applications, power plants or hazardous applications.

Chromalox can supply individual finned elements for use in OEM equipment or entire duct heater assemblies where we have complete control over the product including the elements, frames and controls. Chromalox has earned an outstanding reputation for exceptional quality, reliability and long life.

Finned Heating Elements

Finstrip® Elements — Superior to open coil elements, the heating coil is completely encased in a metal sheath, minimizing a shock hazard due to accidental contact with the heater. The rigid metal sheath minimizes hot spots and electrical shorting, likely with open coil elements. Application temperatures to 565°F are typical using finned strip units.

Fintube® Elements — The finned tubular design provides the same benefits as the finned strip heater and additional features, allowing for special bending configurations to provide higher concentrations of installed kW for a given area. The elements can be supplied with bulkhead threaded fittings, and may include optional hermetically sealed terminals, or extra heavy wall thickness for use in atmospheres containing hazardous fumes or gasses. Element diameters of 0.315" and 0.475" are standard, with high temperature aluminum painted steel sheath and furnace brazed fins being the most common materials. Stainless Steel or MONEL® sheath and fins are also available for corrosive environments.

Duct Heater Assemblies

High Temperature — Type ADHT is designed to provide outlet air temperatures up to 1200°F using conservatively rated, low watt density, INCOLOY® tubular elements. The heater includes three inches of high temperature rated insulation below the mounting flange to reduce heat transfer to the wiring enclosure. The elements are prewired and

subdivided into 48 Amp maximum circuits in compliance with the National Electrical Code. The heater is provided with a Type "K" thermocouple attached to the sheath of one element to be used with a Chromalox high limit control.

Medium Temperature — Application temperatures to 750°F are common for ADH and TDH type duct heaters which feature INCOLOY® sheath tubular heating elements. These versatile units are fully assembled and prewired with the elements subdivided into 48 Amp maximum circuits in compliance with the National Electrical Code.

Low Temperature — Outlet air temperatures to 440°F are typical for types CAB, CABB and DAB which use finned strip heater elements in an assembly which is then inserted in and bolted to existing ductwork.

Comfort Heating Duct Heater — Chromalox DH Series duct heaters are complete custom duct heater systems which are listed with the Underwriters Laboratory for comfort heating applications in commercial and industrial buildings.

Process Air Heaters — Selection Guidelines

Type	Feature	Rating	kW Model	Page
Fintube®	0.475" Fintube®	0.47 - 10	FTS & FTI	E-3
	0.315" Fintube®	0.5 - 6.2	FTS & FTI	E-4
	0.475" Single End	0.5 - 4.3	SFTS & SFTI	E-5
	0.315" Single End	0.3 - 2.4	SFTS & SFTI	E-7
Finstrip®	Finstrip®	0.2 - 4.1	OTF	E-9
	Circular Strip	1.9 - 5.0	KSEF	E-11
Air Duct	Medium Temperature	5 - 270	ADH	E-12
	High Temperature	5 - 300	ADHT	E-12
	Medium Temperature	6 - 60	TDH	E-16
	Low Temperature	6 - 100	CAB & CABB	E-17
	Round Duct	2.5 - 5	DAB	E-19
Portable Blower Heater	High Temperature	30-60	SDRA	E-20
Tubular Air Duct Heaters (Specification Data Sheets)				E-23