

ADH & ADHT Series

High Temperature Air Duct Heaters

- 5 - 300 kW
- 240 and 480 Volt, Three Phase (Up to 600V Available)
- INCOLOY® Sheath Elements
- 800°F Max. Outlet Air Temp. (ADH)
- 1200°F Max. Outlet Air Temp. (ADHT)

Applications

- Heat Air for Drying and Curing operations up to 1200°F Air Temperature
- Heat Treating
- Reheating or Dehumidification
- Aircraft Manufacturing
- Autoclaves
- Annealing
- Drying
- Paint Baking or Drying
- Sterilizing

Features

Long Life Metal Sheath Tubular Elements

— High grade INCOLOY® sheath material for excellent corrosion/oxidation resistance at high operating temperatures.

Sturdy Metal Sheath Elements minimize problems associated with open coil resistance wire units.

High Purity Magnesium Oxide — The elements are filled with highest purity blends of magnesium oxide refractory (MgO) compacted to a rock hard density to ensure good thermal conductivity and electrical insulation resistance.

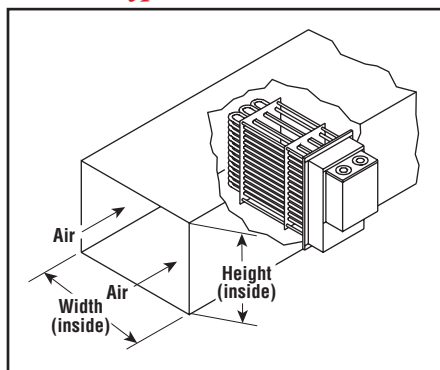
Superior Grade Resistance Wire — The heart of each heating element is made of high quality resistance wire for maximum life.

Low Watt Density Resistor Wire — Watt density on the heating coil is designed for low watt density operation by increasing the coil and wire diameter, and length of resistance wire to give maximum surface area and low operating coil surface temperature — providing longer coil life.

Superior Construction at Element Bends — All element bends are repressed in hydraulic



ADH — Typical Installation



presses after bending to assure recompaction of refractory material to eliminate hot spots and electrical insulation voids.

Low Wiring Compartment Temperatures

— Made possible by the addition of a one inch thick blanket of insulation in the terminal box. High temperature ADHT units include an additional three inches of insulation to help reduce duct heat losses.

Meets NEC Wiring Requirements — Heaters are subdivided into 48 Amp maximum circuits in compliance with the National Electrical Code.

Easy Access to Field Wiring Terminals

— Terminal housing is completely removable for maximum access to field wiring terminals. Individual terminal blocks with threaded stud type terminals are provided for each circuit to permit quick positive attachment of circuit wiring conductors.

Dirt & Dust Resistant Terminal Housing

— Made of solid heavy gauge aluminized steel, rather than perforated metal, to resist dirt and dust accumulation on the electrical connections and thus provide longer service life.

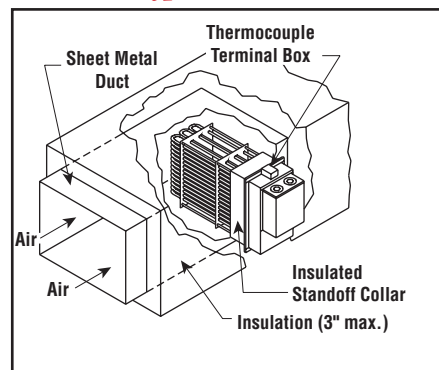
Flange Mounting Gasket — Packed separately with each duct heater to minimize air leakage between the flange and air duct.

Tandem Mounting — Multiple heaters may be mounted in tandem with each other provided the maximum recommended outlet air temperature is not exceeded.

Element Support Plate — A stainless steel element support plate is held in place with Stainless Steel support rods to provide structural stability.



ADHT — Typical Installation



Pressure Drop — See Pressure Drop Curve G-227-2 under Air & Gas Data in the Technical section of this catalog.

Options

Gas Tight Design — Threaded fittings with fiber washers attach heating elements to flange — prevents leakage of ducted air into terminal housing.

Overtemperature Protection — Thermocouple welded to the element sheath surface and wired to a terminal block allows for accurate overheat protection. Standard Type K thermocouple on ADHT high temperature heaters.

Thermocouple Sensor for air temperature control.

Moisture or Explosion-Resistant Terminal Enclosures are available for those applications requiring special terminal protection. Explosion-Resistant enclosure design meets requirements for Class I, Div.2, Group D area but does not carry any third party listing.

CAUTION — If atmosphere in duct contains combustible gases or vapors, sheath temperatures must be limited not to exceed 80% of the ignition temperature of the gas or the vapor involved. Check with your Local Chromalox Sales office for recommendations.

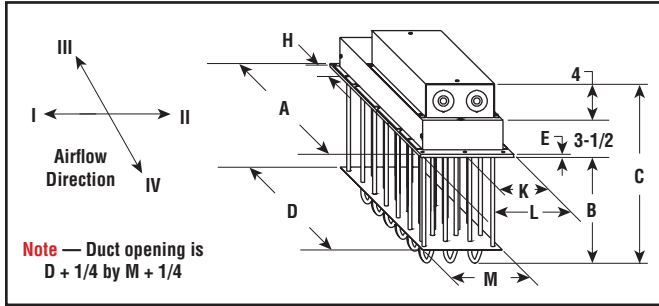
Special Ratings, Sizes or Construction Materials — Chromalox can fabricate a duct heater to your special rating, physical size or other specifications.

Application Assistance — Chromalox will assist you in the design or selection of equipment. Contact your Local Chromalox Sales office.

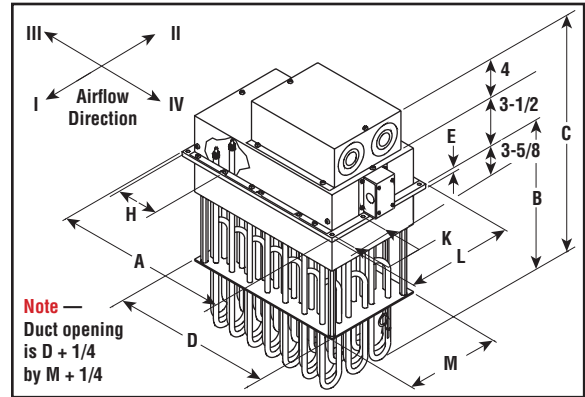
ADH & ADHT Series

High Temperature Air Duct Heaters (cont'd.)

ADH - Dimensions (Inches) (See Dimensional Table)



ADHT - Dimensions (Inches) (See Dimensional Table)



Dimensional Table ADH / ADHT

Cat. No.	Cat. No.	kW	No. Elem.	Dimensions (In.)								
				A	B	C	D	E	H	K	L	M
ADH-005	ADHT-005	5	3	5-5/8	20-3/8	28-1/8	4	1/4	2-1/2	3-1/2	11-1/8	9-1/2
ADH-010	ADHT-010	10	6	7-5/8	20-3/8	28-1/8	6	1/4	3-1/2	3-1/2	11-1/8	9-1/2
ADH-015	ADHT-015	15	9	9-5/8	20-3/8	28-1/8	8	1/4	3	3-1/2	11-1/8	9-1/2
ADH-020	ADHT-020	20	12	11-5/8	20-3/8	28-1/8	10	1/4	2-3/4	3-1/2	11-1/8	9-1/2
ADH-025	ADHT-025	25	15	13-5/8	20-3/8	28-1/8	12	1/4	3-1/4	3-1/2	11-1/8	9-1/2
ADH-030	ADHT-030	30	18	15-5/8	20-3/8	28-1/4	14	3/8	3-3/4	3-1/2	11-1/8	9-1/2
ADH-035	ADHT-035	35	21	17-5/8	20-3/8	28-1/4	16	3/8	4-1/4	3-1/2	11-1/8	9-1/2
ADH-040	ADHT-040	40	24	19-5/8	20-3/8	28-1/4	18	3/8	4-3/4	3-1/2	11-1/8	9-1/2
ADH-045	ADHT-045	45	27	21-5/8	20-3/8	28-1/4	20	3/8	5-1/4	3-1/2	11-1/8	9-1/2
ADH-050	ADHT-050	50	30	23-5/8	20-3/8	28-1/4	22	3/8	5-3/4	3-1/2	11-1/8	9-1/2
ADH-060	ADHT-060	60	36	27-5/8	20-3/8	28-1/4	26	3/8	4-1/2	3-1/2	11-1/8	9-1/2
ADH-070	ADHT-070	70	42	31-5/8	20-1/8	28-1/4	30	3/8	3-7/8	3-1/2	11-1/8	9-1/2
ADH-080	ADHT-080	80	48	35-5/8	20-3/8	28-1/4	34	3/8	4-3/8	3-1/2	11-1/8	9-1/2
ADH-090	ADHT-090	90	54	39-5/8	20-3/8	28-1/4	38	3/8	4-7/8	3-1/2	11-1/8	9-1/2
ADH-100	ADHT-100	100	60	43-5/8	20-3/8	28-1/4	42	3/8	5-3/8	3-1/2	11-1/8	9-1/2
-	ADHT-120	120	48	35-5/8	35	42-7/8	26	3/8	4-1/2	3-1/2	11-1/8	9-1/2
ADH-126	-	126	42	31-5/8	35	42-7/8	30	3/8	3-7/8	3-1/2	11-1/8	9-1/2
ADH-144	-	144	48	35-5/8	35	42-7/8	34	3/8	4-3/8	3-1/2	11-1/8	9-1/2
-	ADHT-160	160	48	35-5/8	35	42-7/8	34	3/8	4-3/8	3-1/2	11-1/8	9-1/2
ADH-162	-	162	54	39-5/8	35	42-7/8	38	3/8	4-7/8	3-1/2	11-1/8	9-1/2
-	ADHT-180	180	54	39-5/8	35	42-7/8	38	3/8	4-7/8	3-1/2	11-1/8	9-1/2
ADH-216	-	216	72	27-5/8	35	42-7/8	26	3/8	4-1/2	3-7/8	20	18-3/8
-	ADHT-240	240	72	27-5/8	35	42-7/8	26	3/8	4-1/2	3-7/8	20	18-3/8
ADH-270	-	270	90	33-5/8	35	42-7/8	32	3/8	5-1/2	3-7/8	20	18-3/8
-	ADHT-300	300	90	33-5/8	35	42-7/8	32	3/8	5-1/2	3-7/8	20	18-3/8

All Heaters can be mounted in any position; top, side or bottom entry. In high ambient temperature operations, least corrosive action and least oxidation to the terminals will occur if heaters are mounted with terminals in the coolest possible ambient, usually on bottom or side of duct. Minimum duct size is A or L dimension plus 3/8" and B dimension plus 1-5/8", and 3" for insulation housing.

Electrical Table for ADH and ADHT Duct heaters

For selecting the proper control panel for use with the ADH and ADHT duct heaters, the number of circuits is of crucial importance. The Electrical table, at right, should be used for the purpose of determining the number of circuits in the panel.

Field Wiring — Refer to Graph ADHTB Terminal Box Temperature field wiring selection guide in the technical section of this catalog (Section I).

Gas tight construction should be considered if the gas pressure in the duct is at a higher relative pressure than in the terminal box which is at room air pressure. Refer to ADH/ADHT terminal box temperature and field wiring selection guide showing the temperature in the terminal box at various gas outlet temperatures. This guide is graph ADHTB located in the Air and Gas Heating section in the technical pages in the back of the catalog.

KW	No. Elements	Number of Circuits			
		240V 1Ph	240V 3 Ph	480V 1 Ph	480V 3 Ph
5	3	1	1	1	1
10	6	1	1	1	1
15	9	3	1	1	1
20	12	2	2	1	1
25	15	3	2	2	1
30	18	3	2	3	1
35	21	X	3	2	1
40	24	X	3	2	2
45	27	X	3	3	2
50	30	X	5	3	2
60	36	X	X	X	2
70	42	X	X	X	4
80	48	X	X	X	4
90	54	X	X	X	5
100	60	X	X	X	5
120	36	X	X	X	4
126	42	X	X	X	4
144	48	X	X	X	4
160	48	X	X	X	8
162	54	X	X	X	6
180	54	X	X	X	6
216	72	X	X	X	6
240	72	X	X	X	8
270	90	X	X	X	8
300	90	X	X	X	10

All standard circuits are maximum of 48 Amps
For other # of circuits/amps per circuit consult factory
X denotes not standard

AIR DUCT