

Process Air and Radiant

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.

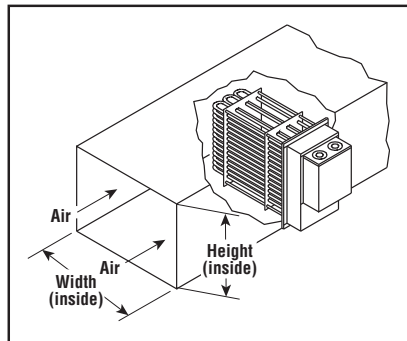
High Purity Magnesium Oxide — The elements are filled with highest purity blends of magnesium oxide refractory (MgO) compacted to a rock hard density to ensure good thermal conductivity and electrical insulation resistance.

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

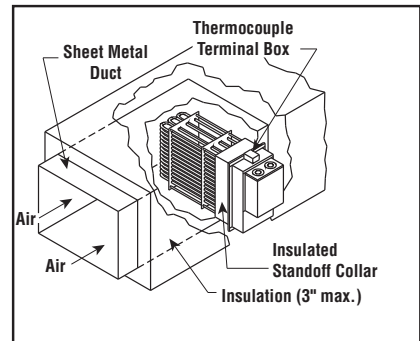
— Made of solid heavy gauge aluminized steel, rather than perforated metal, to resist dirt and dust accumulation on the electrical connections and thus provide longer service life.

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.

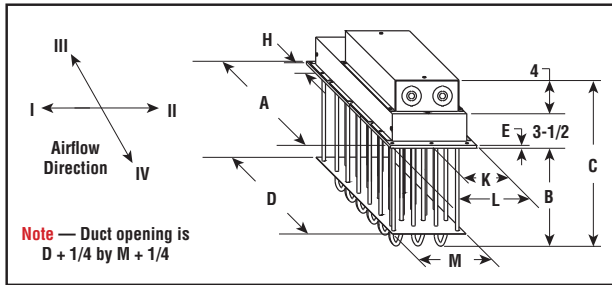
Application Assistance — Chromalox will assist you in the design or selection of equipment. Contact your Local Chromalox Sales office.

Process Air and Radiant

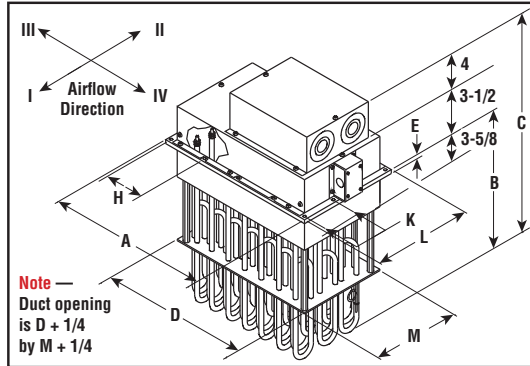
ADH & ADHT Series

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.

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.

Electrical Table for ADH and ADHT Duct heaters

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

Process Air and Radiant

ADH

High Temperature Air Duct Heaters

- 5 - 270 kW
- 240 and 480 Volt, Three Phase (Up to 600V Available)
- INCOLOY® Sheath Elements
- 30 W/In²
- 800°F Max. Outlet Air Temp.

Construction

Rugged Construction Elements — Sturdy 0.475" diameter INCOLOY® sheath tubular elements are mounted to a heavy 1/4 or 3/8" thick steel flange. Element fasteners allow for easy replacement.

Corrosion-Resistant Terminal Enclosure — The element terminal enclosure is made of 16 gauge high-temperature, corrosion-resistant steel and includes 1" thick high-temperature insulation to minimize temperatures in the wiring area.

Wiring Box — The 16 gauge wiring box encloses individual terminal blocks for each circuit. Threaded stud type terminals are provided to permit quick positive attachment of circuit wiring conductors.

Mounting

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".

Application & Selection Guidelines

Maximum Work Temperatures — Type ADH heaters can generally be used at the following maximum temperatures, provided the minimum air velocity is maintained uniformly through the heater.

Air Velocity (Ft./Sec.)	Max. Outlet Air Temp. (°F)
4 - 36	800

Note — Maximum temperatures are based on 30 W/In². If elements have a lower watt density, work temperature may be increased; if watt density is higher, work temperature should be lower.

Note — An airflow type switch or other device is recommended to protect against loss of airflow.

Note — See Allowable Watt Density & Heater Selection Graphs in the Technical section of this catalog.

Basic Model				Includes Thermocouple			Includes Gas Tight Fittings			Includes Thermocouple & Ftgs.		
Volts KW Phase	Model	PCN	SS	Model	PCN	SS	Model	PCN	SS	Model	PCN	SS
240V 5KW 1PH	ADH-005	210673	NS	ADH-005T	214770	NS	ADH-005F	215212	NS	ADH-005FT	215634	NS
240V 5KW 3PH	ADH-005	210681	NS	ADH-005T	214789	NS	ADH-005F	215220	NS	ADH-005FT	215642	NS
480V 5KW 1PH	ADH-005	210690	NS	ADH-005T	214797	NS	ADH-005F	215239	NS	ADH-005FT	215650	NS
480V 5KW 3PH	ADH-005	210016	NS	ADH-005T	214800	NS	ADH-005F	215247	NS	ADH-005FT	215669	NS
240V 10KW 1PH	ADH-010	210702	NS	ADH-010T	214818	NS	ADH-010F	215255	NS	ADH-010FT	215677	NS
240V 10KW 3PH	ADH-010	210710	NS	ADH-010T	214826	NS	ADH-010F	215263	NS	ADH-010FT	215685	NS
480V 10KW 1PH	ADH-010	210729	NS	ADH-010T	214834	NS	ADH-010F	215271	NS	ADH-010FT	215693	NS
480V 10KW 3PH	ADH-010	210024	S	ADH-010T	214842	NS	ADH-010F	215280	NS	ADH-010FT	215706	NS
240V 15KW 1PH	ADH-015	210737	NS	ADH-015T	214850	NS	ADH-015F	215298	NS	ADH-015FT	215714	NS
240V 15KW 3PH	ADH-015	210745	NS	ADH-015T	214869	NS	ADH-015F	215300	NS	ADH-015FT	215722	NS
480V 15KW 1PH	ADH-015	210753	NS	ADH-015T	214877	NS	ADH-015F	215319	NS	ADH-015FT	215730	NS
480V 15KW 3PH	ADH-015	210032	S	ADH-015T	214885	NS	ADH-015F	215327	NS	ADH-015FT	215749	NS
240V 20KW 1PH	ADH-020	210761	NS	ADH-020T	214893	NS	ADH-020F	215335	NS	ADH-020FT	215757	NS
240V 20KW 3PH	ADH-020	210788	NS	ADH-020T	214906	NS	ADH-020F	215343	NS	ADH-020FT	215765	NS
480V 20KW 1PH	ADH-020	210796	NS	ADH-020T	214914	NS	ADH-020F	215351	NS	ADH-020FT	215773	NS
480V 20KW 3PH	ADH-020	210040	S	ADH-020T	214922	NS	ADH-020F	215360	NS	ADH-020FT	215781	NS
240V 25KW 1PH	ADH-025	210809	S	ADH-025T	214930	NS	ADH-025F	215378	NS	ADH-025FT	215790	NS
240V 25KW 3PH	ADH-025	210817	NS	ADH-025T	214949	NS	ADH-025F	215386	NS	ADH-025FT	215802	NS
480V 25KW 1PH	ADH-025	210825	NS	ADH-025T	214957	NS	ADH-025F	215394	NS	ADH-025FT	215810	NS
480V 25KW 3PH	ADH-025	210059	NS	ADH-025T	214965	NS	ADH-025F	215407	NS	ADH-025FT	215829	NS
240V 30KW 1PH	ADH-030	210833	NS	ADH-030T	214973	NS	ADH-030F	215415	NS	ADH-030FT	215837	NS
240V 30KW 3PH	ADH-030	210841	NS	ADH-030T	214981	NS	ADH-030F	215423	NS	ADH-030FT	215845	NS
480V 30KW 1PH	ADH-030	210850	NS	ADH-030T	214990	NS	ADH-030F	215431	NS	ADH-030FT	215855	NS
480V 30KW 3PH	ADH-030	210067	NS	ADH-030T	215001	NS	ADH-030F	215440	NS	ADH-030FT	215861	NS
240V 35KW 3PH	ADH-035	210868	NS	ADH-035T	215036	NS	ADH-035F	215458	NS	ADH-035FT	215870	NS
480V 35KW 1PH	ADH-035	210876	NS	ADH-035T	215044	NS	ADH-035F	215466	NS	ADH-035FT	215888	NS
480V 35KW 3PH	ADH-035	210075	NS	ADH-035T	215052	NS	ADH-035F	215474	NS	ADH-035FT	215896	NS
240V 40KW 3PH	ADH-040	210884	NS	ADH-040T	215060	NS	ADH-040F	215482	NS	ADH-040FT	215909	NS
480V 40KW 1PH	ADH-040	210892	NS	ADH-040T	215079	NS	ADH-040F	215490	NS	ADH-040FT	215917	NS
480V 40KW 3PH	ADH-040	210083	NS	ADH-040T	215087	NS	ADH-040F	215503	NS	ADH-040FT	215925	NS
240V 45KW 3PH	ADH-045	210905	NS	ADH-045T	215095	NS	ADH-045F	215511	NS	ADH-045FT	215933	NS
480V 45KW 1PH	ADH-045	210913	NS	ADH-045T	215108	NS	ADH-045F	215520	NS	ADH-045FT	215941	NS
480V 45KW 3PH	ADH-045	210091	NS	ADH-045T	215116	NS	ADH-045F	215538	NS	ADH-045FT	215950	NS
240V 50KW 3PH	ADH-050	210921	NS	ADH-050T	215124	NS	ADH-050F	215546	NS	ADH-050FT	215968	NS
480V 50KW 1PH	ADH-050	210930	NS	ADH-050T	215132	NS	ADH-050F	215554	NS	ADH-050FT	215976	NS
480V 50KW 3PH	ADH-050	210104	NS	ADH-050T	215140	NS	ADH-050F	215562	NS	ADH-050FT	215984	NS
480V 60KW 3PH	ADH-060	210112	NS	ADH-060T	215159	NS	ADH-060F	215570	NS	ADH-060FT	215992	NS
480V 70KW 3PH	ADH-070	210948	NS	ADH-070T	215167	NS	ADH-070F	215589	NS	ADH-070FT	216004	NS
480V 80KW 3PH	ADH-080	210120	NS	ADH-080T	215175	NS	ADH-080F	215597	NS	ADH-080FT	216100	NS
480V 90KW 3PH	ADH-090	210139	NS	ADH-090T	215183	NS	ADH-090F	215600	NS	ADH-090FT	216119	NS
480V 100KW 3PH	ADH-100	210147	NS	ADH-100T	215191	NS	ADH-100F	215618	NS	ADH-100FT	216127	NS
480V 126KW 3PH	ADH-126	210956	NS	ADH-126T	215204	NS	ADH-126F	215626	NS	ADH-126FT	216135	NS
480V 144KW 3PH	ADH-144	210155	NS	ADH-144T	216936	NS	ADH-144F	216952	NS	ADH-144FT	216143	NS
480V 162KW 3PH	ADH-162	210163	NS	ADH-162T	216944	NS	ADH-162F	216960	NS	ADH-162FT	216151	NS
480V 216KW 3PH							ADH-216F	210171	NS	ADH-216FT	216928	NS
480V 270KW 3PH							ADH-270F	210180	NS	ADH-270FT	216160	NS

Stock Status: S = stock NS = non-stock
To Order—Specify model, PCN, kW and quantity.

Process Air and Radiant

ADHT

High Temperature Air Duct Heater

- 5 - 300 kW
- 240 and 480 Volt, Three Phase (Up to 600V Available)
- INCOLOY® Sheath Elements
- 20 W/In²
- 1200°F Max. Outlet Air Temp.
- Insulated Standoff Collar

Type ADHT

Construction

Rugged Construction Elements — Sturdy 0.475" diameter INCOLOY® sheath tubular elements are mounted to a heavy 1/4 or 3/8" thick steel flange. Element fasteners to allow for easy replacement.

Corrosion-Resistant Terminal Enclosure — The element terminal enclosure is made of 16 gauge high-temperature, corrosion-resistant steel and includes 1" thick high-temperature insulation to minimize temperatures in the wiring area.

Wiring Box — The 16 gauge wiring box encloses individual terminal blocks for each circuit. Threaded stud type terminals are provided to permit quick positive attachment of circuit wiring conductors.

Insulation Housing — Includes 3" of high-temperature thermal insulation to reduce duct heat conducted into terminal enclosure.

Overtemperature Protection — A type K thermo-couple is welded to the element sheath surface to sense element temperature, and is wired to a terminal block located on the outer surface of the terminal housing.

Mounting

Generally mounted to a field fabricated stand off collar from the ductwork to position the heater such that the 3" insulation housing is in the same plane as the duct insulation.

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.

Application & Selection Guidelines

Maximum Work Temperatures — Type ADHT heaters can generally be used at the following maximum temperatures, provided the minimum air velocity is maintained uniformly through the heater. Maximum temperatures are based on 20 W/In².

Air Velocity (Ft./Sec.)	Max. Outlet Air Temp. (°F)
4	1050
9	1100
16	1150
25	1200
36	1200

Note — See Allowable Watt Density & Heater Selection Graphs in Technical section.

Note — An airflow type switch or other device is recommended to protect against loss of airflow.

Basic Model				Includes Gas Tight Fittings		
Volts KW Phase	Model	PCN	SS	Model	PCN	SS
240V 5KW 1PH	ADHT-005	216178	NS	ADHT-005F	216450	NS
240V 5KW 3PH	ADHT-005	216186	NS	ADHT-005F	216469	NS
480V 5KW 1PH	ADHT-005	216194	NS	ADHT-005F	216477	NS
480V 5KW 3PH	ADHT-005	210198	NS	ADHT-005F	216485	NS
240V 10KW 1PH	ADHT-010	216215	NS	ADHT-010F	216493	NS
240V 10KW 3PH	ADHT-010	216223	NS	ADHT-010F	216506	NS
480V 10KW 1PH	ADHT-010	216231	NS	ADHT-010F	216549	NS
480V 10KW 3PH	ADHT-010	210200	NS	ADHT-010F	216557	NS
240V 15KW 1PH	ADHT-015	216248	NS	ADHT-015F	216565	NS
240V 15KW 3PH	ADHT-015	216258	NS	ADHT-015F	216573	NS
480V 15KW 1PH	ADHT-015	216266	NS	ADHT-015F	216581	NS
480V 15KW 3PH	ADHT-015	210219	NS	ADHT-015F	216590	NS
240V 20KW 1PH	ADHT-020	216274	NS	ADHT-020F	216602	NS
240V 20KW 3PH	ADHT-020	216282	NS	ADHT-020F	216610	NS
480V 20KW 1PH	ADHT-020	216290	NS	ADHT-020F	216629	NS
480V 20KW 3PH	ADHT-020	210227	NS	ADHT-020F	216637	NS
240V 25KW 1PH	ADHT-025	216303	NS	ADHT-025F	216645	NS
240V 25KW 3PH	ADHT-025	216311	NS	ADHT-025F	216653	NS
480V 25KW 1PH	ADHT-025	216320	NS	ADHT-025F	216661	NS
480V 25KW 3PH	ADHT-025	210235	NS	ADHT-025F	216670	ST
240V 30KW 1PH	ADHT-030	216338	NS	ADHT-030F	216688	NS
240V 30KW 3PH	ADHT-030	216346	NS	ADHT-030F	216696	NS
480V 30KW 1PH	ADHT-030	216354	NS	ADHT-030F	216709	NS
480V 30KW 3PH	ADHT-030	210243	NS	ADHT-030F	216717	NS
240V 35KW 3PH	ADHT-035	216362	NS	ADHT-035F	216725	NS
480V 35KW 1PH	ADHT-035	216370	NS	ADHT-035F	216733	NS
480V 35KW 3PH	ADHT-035	210251	NS	ADHT-035F	216741	NS
240V 40KW 3PH	ADHT-040	216389	NS	ADHT-040F	216750	NS
480V 40KW 1PH	ADHT-040	216397	NS	ADHT-040F	216768	NS
480V 40KW 3PH	ADHT-040	210260	NS	ADHT-040F	216776	NS
240V 45KW 3PH	ADHT-045	216408	NS	ADHT-045F	216784	NS
480V 45KW 1PH	ADHT-045	216418	NS	ADHT-045F	216792	NS
480V 45KW 3PH	ADHT-045	210278	NS	ADHT-045F	216805	NS
240V 50KW 3PH	ADHT-050	216426	NS	ADHT-050F	216813	NS
480V 50KW 1PH	ADHT-050	216434	NS	ADHT-050F	216821	NS
480V 50KW 3PH	ADHT-050	210286	NS	ADHT-050F	216830	NS
480V 60KW 2-3PH	ADHT-060	210294	NS	ADHT-060F	216848	NS
480V 70KW 3PH	ADHT-070	216442	NS	ADHT-070F	216856	NS
480V 80KW 3PH	ADHT-080	210307	NS	ADHT-080F	216864	NS
480V 90KW 3PH	ADHT-090	210315	NS	ADHT-090F	216872	NS
480V 100KW 3PH	ADHT-100	210323	NS	ADHT-100F	216880	NS
480V 120KW 3PH	ADHT-120	210331	NS	ADHT-120F	216899	NS
480V 160KW 3PH	ADHT-160	210340	NS	ADHT-160F	216901	NS
480V 180KW 3PH	ADHT-180	210358	NS	ADHT-180F	216910	AS
480V 240KW 3PH				ADHT-240F	210366	NS
480V 300KW 3PH				ADHT-300F	210374	NS

Stock Status: S = stock NS = non-stock
To Order—Specify model, PCN, kW and quantity.

AIR DUCT

Process Air and Radiant

CAB & CABB

Low Temperature Air Duct Heaters

- Side Terminals (type CAB)
- Bottom Terminals (type CABB)
- 6 - 100 kW
- 120, 208, 240 and 480 Volt
- 1 or 3 Phase
- Rust-Resisting Iron or Chrome Steel Sheath Elements
- 440°F Max. Outlet Air Temp.

Applications

- Sole Heat Source
- Booster Heater in Process and Comfort Heating Ducts
- Convert existing Forced Air Dryers and Ovens
- With Blower and Duct, can be used to Fabricate simple Forced Air Drying Unit

Features

Simple Duct Transition Sections may be used to adapt standard heater sizes to various duct sizes to increase air velocities for better heat transfer, lower sheath temperature and longer element life.

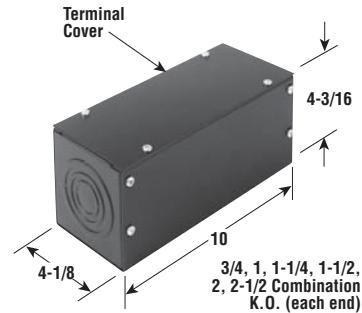
Field Wiring Terminals — Heavy duty 3/8" diameter bolts of either brass (iron sheath units) or Stainless Steel (chrome steel sheath units) with necessary hardware are provided for field wiring connections. Terminals are located on the side for CAB units and on the bottom for CABB units, and should be on the outside of ducting.

Fins of aluminized steel are provided to improve heat transfer to the air.

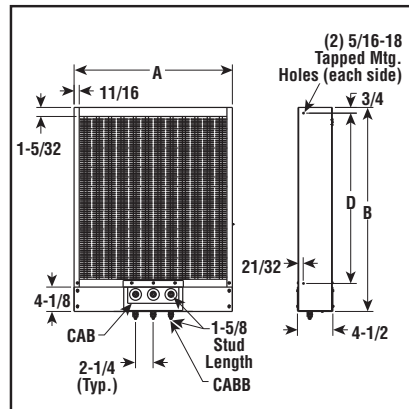
Elements are individually replaceable.

Terminal Cover Option is available to prevent accidental contact with live electrical terminals (PCN 269720), one (1) required per circuit.

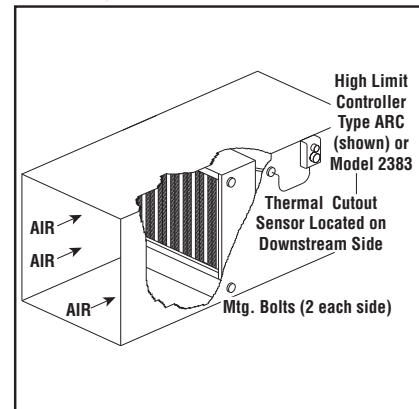
MONEL® Sheath and MONEL® Fins are available for humid conditions. Model TDH heaters, using Fintube® elements are also available. Contact your Local Chromalox Sales office.



Dimensions (Inches)



Overtemperature Protection



Construction

Rugged Finstrip® Elements are mounted in a sturdy steel frame with narrow side of elements and fins facing the air flow.

Finstrip® Elements, Exclusive Construction — High-quality, coiled resistor wire is uniformly spaced over the width and length of the Finstrip® element, then embedded in high-grade refractory material which insulates the wire and transfers heat rapidly. Refractory is then compressed to rock hardness and maximum density under tremendous hydraulic pressure to improve heat transfer from coil to sheath. Elements are oven baked at high temperatures to semi-vitrify and mature the refractory. Sheath material is either rust-resisting iron or chrome steel.

Sturdy Steel Frame — 14 gauge cold rolled steel painted with high heat resisting black enamel paint.

Internal Electrical Connections are made using a combination of buss bars and jumper straps consisting of either Manganese-Nickel or MONEL®.

Mounting

Always install heaters in duct work with terminal box on bottom of heater. Type CAB units should have field wiring terminals facing upstream to provide maximum cooling affect. Secure to duct work using mounting holes on both vertical sides of heater.

Application & Selection Guidelines

Selection Heater Size — Refer to Technical section for examples on determining kW requirements. For quick estimating purposes, the following formula may be used for air at standard conditions:

$$kW = \frac{SCFM \times \text{Temp. Rise } (^\circ F)}{3000}$$

Maximum Work Temperatures — Type CAB and CABB heaters can generally be used at the following maximum temperatures, provided the minimum air velocity is maintained uniformly through the heater.

Air Velocity (Ft./Sec.)	Max. Outlet Air Temp. (°F)	
	Iron Sheath	Chrome Steel Sheath
4	—	200
9	90	330
16	220	440

Note — Maximum temperatures are based on 26 W/In². If elements have a lower watt density, work temperatures may be increased; if watt density is higher, work temperatures should be lower.

Note — See Allowable Watt Density & Heater Selection Graphs and Pressure Drop Curve G-112S1 under Air & Gas Heating Data in the Technical section of this catalog.

AIR DUCT

Process Air and Radiant

CAB & CABB

Low Temperature Air Duct Heaters *(cont'd.)*

Specifications and Ordering Information

kW	Volts	Phase	Amps/ Circ.	No. Circ.	No. Elem.	Dimensions (In.)			Rust-Resisting Iron Sheath Temperatures to 750°F			Chrome Steel Sheath Temperatures to 950°F			Wt. (Lbs.)
						A	B	D	Model	Stock	PCN	Model	Stock	PCN	
CAB – Side Terminals (26 W/In²)															
6	120	1	50	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260013	CAB-611	NS	260398	25
6	208	1	28.9	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260021	CAB-611	NS	260400	25
6	240	1	25	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260030	CAB-611	NS	260419	25
6	480	1	12.5	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260048	CAB-611	NS	260427	25
6	208	3	16.7	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260064	CAB-611	NS	260443	25
6	240	3	14.5	1	6	10-3/4	15-7/8	11-1/2	CAB-62	NS	260072	CAB-611	NS	260451	25
6	480	3	7.2	1	6	10-3/4	15-7/8	11-1/2	CAB-62	S	260080	CAB-611	S	260460	25
12	208	1	57.7	1	9	15-3/8	18-1/2	14-1/8	CAB-122	NS	260099	CAB-1211	NS	260478	35
12	240	1	50	1	9	15-3/8	18-1/2	14-1/8	CAB-122	NS	260101	CAB-1211	NS	260486	35
12	480	1	25	1	9	15-3/8	18-1/2	14-1/8	CAB-122	NS	260110	CAB-1211	NS	260494	35
12	208	3	33.4	1	9	15-3/8	18-1/2	14-1/8	CAB-122	NS	260128	CAB-1211	NS	260507	35
12	240	3	28.9	1	9	15-3/8	18-1/2	14-1/8	CAB-122	NS	260136	CAB-1211	NS	260515	35
12	480	3	14.5	1	9	15-3/8	18-1/2	14-1/8	CAB-122	S	260144	CAB-1211	NS	260523	35
15	208	1	72.1	1	9	15-3/8	21-5/8	17-1/4	CAB-152	NS	260152	CAB-1511	NS	260531	40
15	240	1	62.5	1	9	15-3/8	21-5/8	17-1/4	CAB-152	NS	260160	CAB-1511	NS	260540	40
15	480	1	31.3	1	9	15-3/8	21-5/8	17-1/4	CAB-152	NS	260179	CAB-1511	NS	260558	40
15	208	3	41.7	1	9	15-3/8	21-5/8	17-1/4	CAB-152	NS	260187	CAB-1511	NS	260566	40
15	240	3	36.1	1	9	15-3/8	21-5/8	17-1/4	CAB-152	NS	260195	CAB-1511	NS	260574	40
15	480	3	18.1	1	9	15-3/8	21-5/8	17-1/4	CAB-152	S	260208	CAB-1511	S	260582	40
20	208	3	55.6	1	12	20-1/8	21-5/8	17-1/4	CAB-202	NS	260216	CAB-2011	NS	260590	55
20	240	3	48.2	1	12	20-1/8	21-5/8	17-1/4	CAB-202	NS	260224	CAB-2011	NS	260603	55
20	480	3	24.1	1	12	20-1/8	21-5/8	17-1/4	CAB-202	NS	260232	CAB-2011	NS	260611	55
25	208	3	69.5	1	12	20-1/8	26-1/8	21-3/4	CAB-252	NS	260240	CAB-2511	NS	260620	65
25	240	3	60.2	1	12	20-1/8	26-1/8	21-3/4	CAB-252	NS	260259	CAB-2511	NS	260638	65
25	480	3	30.1	1	12	20-1/8	26-1/8	21-3/4	CAB-252	NS	260267	CAB-2511	NS	260646	65
30	480	3	18.1	2	18	29-1/2	21-5/8	17-1/4	—	—	—	CAB-3011	S	279160	75
40	208	3	55.6	2	18	29-1/2	27-3/8	23	CAB-402	NS	260275	CAB-4011	NS	260654	90
40	240	3	48.2	2	18	29-1/2	27-3/8	23	CAB-402	NS	260283	CAB-4011	NS	260660	90
40	480	3	24.1	2	18	29-1/2	27-3/8	23	CAB-402	NS	260291	CAB-4011	S	260670	90
50	208	3	69.5	2	18	29-1/2	33-1/8	28-3/4	CAB-502	NS	260304	CAB-5011	NS	260689	110
50	240	3	60.2	2	18	29-1/2	33-1/8	28-3/4	CAB-502	NS	260312	CAB-5011	NS	260697	110
50	480	3	30.1	2	18	29-1/2	33-1/8	28-3/4	CAB-502	NS	260320	CAB-5011	NS	260700	110
75	208	3	69.5	3	27	44-7/16	42-1/8	37-3/4	CAB-752	NS	260339	CAB-7511	NS	260718	200
75	240	3	60.2	3	27	44-7/16	42-1/8	37-3/4	CAB-752	NS	260347	CAB-7511	NS	260726	200
75	480	3	30.1	3	27	44-7/16	42-1/8	37-3/4	CAB-752	NS	260355	CAB-7511	NS	260734	200
100	208	3	92.6	3	27	44-7/16	47-1/2	43-1/8	CAB-1002	NS	260363	CAB-10021	NS	260742	220
100	240	3	80.3	3	27	44-7/16	47-1/2	43-1/8	CAB-1002	NS	260371	CAB-10021	NS	260750	220
100	480	3	40.1	3	27	44-7/16	47-1/2	43-1/8	CAB-1002	NS	260380	CAB-10021	NS	260769	220
CABB – Bottom Terminals (26 W/In²)															
6	240	3	14.5	1	6	10-3/4	15-7/8	11-1/2	—	—	—	CABB-611	NS	266546	25
6	480	3	7.2	1	6	10-3/4	15-7/8	11-1/2	—	—	—	CABB-611	S	266554	25
12	208	3	33.4	1	9	15-3/8	18-1/2	14-1/8	—	—	—	CABB-1211	NS	203860	35
12	240	3	28.9	1	9	15-3/8	18-1/2	14-1/8	—	—	—	CABB-1211	NS	203801	35
12	480	3	14.5	1	9	15-3/8	18-1/2	14-1/8	—	—	—	CABB-1211	NS	266562	35
20	480	3	24.1	1	12	20-1/8	21-5/8	17-1/4	—	—	—	CABB-2011	S	266570	55
25	480	3	30.1	1	12	29-1/2	26-1/8	21-3/4	CABB-252	NS	266626	CABB-2511	S	266634	65
40	480	3	24.1	2	18	29-1/2	27-3/8	23	CABB-402	NS	266669	CABB-4011	NS	266642	90
50	480	3	30.1	2	18	29-1/2	33-1/8	28-3/4	CABB-502	NS	266466	CABB-5011	NS	266407	110
75	480	3	30.1	3	27	44-7/16	42-1/8	37-3/4	CABB-752	NS	261120	CABB-7511	NS	261147	200
100	480	3	40.1	3	27	44-7/16	47-1/2	43-1/8	CABB-1002	NS	261139	CABB-10021	NS	261166	220

Stock Status: S = stock NS = non-stock
To Order—Specify model, PCN, kW, volts and quantity.

Free Area for Air Flow

Model	Square Feet	Model	Square Feet
CAB-62 & 611	0.500	CAB-402 & 4011	3.29
CAB-122 & 1211	0.927	CAB-502 & 5011	4.13
CAB-152 & 1511	1.19	CAB-752 & 7511	8.25
CAB-202 & 2011	1.63	CAB-1002 & 10021	9.38
CAB-252 & 2511	2.07		

Note — The volume of air being circulated along with the free area for air flow (in table above) will enable you to calculate the air velocity over the heater.

Process Air and Radiant

DAB

Round Low Temperature Air Duct Heater

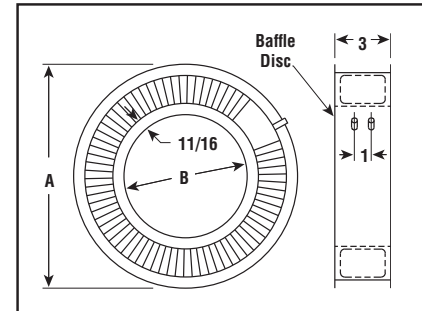
- 2.5 - 5 kW
- 240 Volt
- Single Phase
- Rust-Resisting Iron or MONEL® Sheath Elements

Applications

- Use in Dryers, Ovens and other Process Air Heating Equipment
- Comfort Heating in Ducts, Load Banks and Humidity Controls
- Sole Heat Source
- Booster Heater in Process and Comfort Heating Ducts



Dimensions (Inches)



Construction

Rugged KSEF Koilfin® Elements UL Recognized and CSA Certified, are enclosed in a spun steel round frame.

Element — Rust-Resisting Iron or MONEL® sheath.

Mounting Gasket — Furnished with each heater to minimize air leakage between the heater and the mounting surface or between heaters.

Baffle — Steel baffle furnished to close the center opening. When a multiple of units are interconnected, only the first and last heater are closed.

Features

Easy Installation in Round Ducts — Flange permits easy ganging of units to augment heating capacity.

Air is Forced Over Elements Only — The center opening of all DAB units may be closed with a sheet steel baffle furnished with the unit.

Application & Selection Guidelines

Maximum Work Temperatures — Finstrip® elements can generally be used at the following maximum temperatures, without exceeding their capability, if properly installed according to instructions packed with heaters.

Air Velocity (Ft./Sec.)	Max. Outlet Air Temp. (°F)	
	Iron Sheath	MONEL® Sheath
4	—	250
9	150	370
16	250	450

Note — Maximum work temperatures are based on 25 W/in². If elements have a lower watt density, work temperature may be increased; if watt density is higher, work temperature should be lower.

Note — See Allowable Watt Density & Heater Selection Graphs in Technical section.

AIR DUCT

Specifications and Ordering Information

Watts	Volts	W/in ²	Dimensions (In.)		Model	Stock	PCN	Wt. (Lbs.)
			A	B				
Rust-Resisting Iron Sheath — for Max. Sheath Temp. to 750°F								
2,500	240	27	12-3/16	6-9/16	DAB-30	NS	264014	6
3,000	240	27	13-15/16	8-5/16	DAB-36	NS	264030	10
4,000	240	25	17-11/16	12-1/16	DAB-48	NS	264057	14
5,000	240	27	19-11/16	14-1/16	DAB-54	NS	264073	16
MONEL® Sheath — for Max. Sheath Temp. to 900°F								
2,500	240	27	12-3/16	6-9/16	DAB-30M	S	264022	6
3,000	240	27	13-15/16	8-5/16	DAB-36M	NS	264049	10
4,000	240	25	17-11/16	12-1/16	DAB-48M	NS	264065	14
5,000	240	27	19-11/16	14-1/16	DAB-54M	NS	264081	16

Stock Status: S = stock NS = non-stock
To Order—Specify model, PCN, watts, volts and quantity.

Note — Chromalox can supply other sizes and ratings. Contact your Local Chromalox Sales office.