

# HIGH TEMPERATURE AIR DUCT HEATERS

ADH and ADHT Series Starts at

**\$993**



- ✓ Series ADH Outlet Air Temperatures to 426°C (800°F)
- ✓ Series ADHT Outlet Air Temperatures to 648°C (1200°F)
- ✓ 5 to 270 kW
- ✓ 480V, 3 Phase
- ✓ 0.475" Dia. Tubular Elements

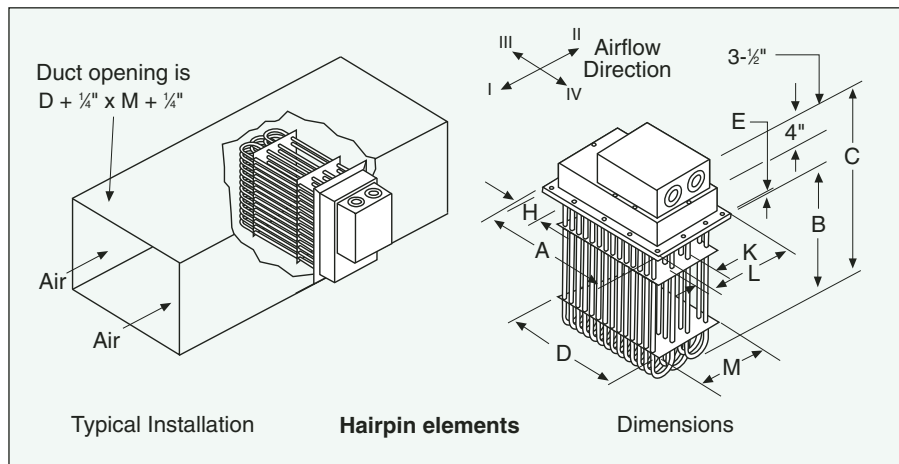
## APPLICATIONS

Heating air for various drying/curing operations up to 648°C (1200°F) air temperature, heat treating, re-heating or dehumidification, and other similar air heating applications.

## FEATURES

**Rugged construction.** Sturdy 0.475" diameter tubular elements mounted to a heavy ¼ or ⅜" thick steel flange. Terminal housing made of 18 gage aluminized steel. Element support plates of 16 gage aluminized steel are held in place by stainless steel support rods. High temperature units have the

ADH-005/480V/3P, \$993 shown smaller than actual size



additional feature of stainless steel material for the 3" insulation housing and element support plate—all of which provides superior rigidity, strength and reliability.

**Long life metal sheath tubular elements—Corrosion/oxidation resistant sheath.** High grade Incoloy sheath material for excellent corrosion/oxidation resistance at high operating temperatures.

**MOST POPULAR MODELS HIGHLIGHTED!**

## To Order (Specify Model Number)

### ADH-Low-Medium Temperature (30 W/in<sup>2</sup>)

kW	Dimensions - Inches									No. Elem.	No. Circ.	Model No.	Price	Wt. lbs
	A	B	C	D	E	H	K	L	M					
5	5%	20%	28%	4	¼	2½	3½	11%	9½	3	1	ADH-005/480V/3P	\$993	8
10	7%	20%	28%	6	¼	3½	3½	11%	9½	6	1	ADH-010/480V/3P	1112	15
15	9%	20%	28%	8	¼	3	3½	11%	9½	9	1	ADH-015/480V/3P	1291	25
20	11%	20%	28%	10	¼	2¾	3½	11%	9½	12	1	ADH-020/480V/3P	1658	35
25	13%	20%	28%	12	¼	3¼	3½	11%	9½	15	1	ADH-025/480V/3P	2030	40
30	15%	20%	28¼	14	¾	3¾	3½	11%	9½	18	1	ADH-030/480V/3P	2402	55
35	17%	20%	28¼	16	¾	4¼	3½	11%	9½	21	1	ADH-035/480V/3P	2858	65
40	19%	20%	28¼	18	¾	4¾	3½	11%	9½	24	2	ADH-040/480V/3P	3265	70
45	21%	20%	28¼	20	¾	5¼	3½	11%	9½	27	2	ADH-045/480V/3P	3668	80
50	23%	20%	28¼	20	¾	5%	3½	11%	9½	30	2	ADH-050/480V/3P	4024	90
60	27%	20%	28¼	26	¾	4½	3½	11%	9½	36	2	ADH-060/480V/3P	4481	105
100	43%	20%	28¼	42	¾	5%	3½	11%	9½	60	5	ADH-100/480V/3P	5597	175
162	39%	35	42%	38	¾	4¾	3½	11%	9½	54	6	ADH-162/480V/3P	8638	185
216	27%	35	42%	26	¾	4½	3%	20	18%	72	6	ADH-216F/480V/3P	14045	240
270	33%	35	42%	32	¾	5½	3%	20	18%	90	8	ADH-270F/480V/3P	16903	300

Ordering Example: ADH-035/480V/3P is a 21-element, 3-phase, 480V high temperature air duct heater, \$2858. Refer to J-5 for application data.

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

**Easy element replacement.** Individual elements are mechanically fastened to the flange permitting convenient, easy replacement.

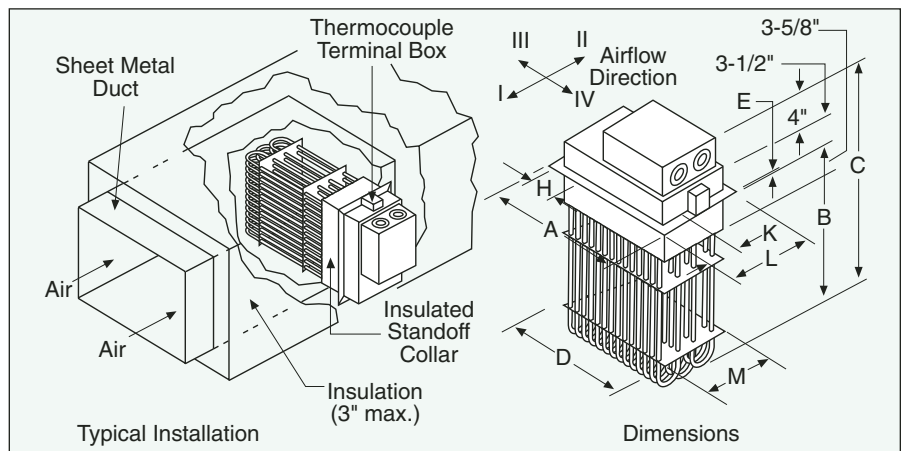
**Low wiring compartment temperatures.** Made possible by the addition of a one-inch thick blanket of insulation in the terminal box—allows use of low temperature field wiring instead of expensive high temperature busbars and wire. High temperature units include additional three inches of insulation to help reduce duct heat losses.

**Easy access to simplified 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.** 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.



ADHT-005/480V/3P, \$1463  
shown smaller than actual size



**Flange mounting gasket.** Packed separately with each duct heater to

minimize leakage between the flange and air duct.

**MOST POPULAR MODELS HIGHLIGHTED!**

**To Order (Specify Model Number)**

**ADHT-High Temperature (20 W/in<sup>2</sup>)**

kW	Dimensions - Inches									No. Elem.	No. Circ.	Model No.	Price	Wt. lbs
	A	B	C	D	E	H	K	L	M					
5	5 $\frac{5}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	4	$\frac{1}{4}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	3	1	ADHT-005/480V/3P	\$1463	10
10	7 $\frac{7}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	6	$\frac{1}{4}$ "	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	6	1	ADHT-010/480V/3P	1589	20
15	9 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	8	$\frac{1}{4}$ "	3	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	9	1	ADHT-015/480V/3P	1725	30
20	11 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	10	$\frac{1}{4}$ "	2 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	12	1	ADHT-020/480V/3P	2073	40
25	13 $\frac{3}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	12	$\frac{1}{4}$ "	3 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	15	1	ADHT-025/480V/3P	2354	50
30	15 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	14	$\frac{3}{8}$ "	3 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	18	1	ADHT-030/480V/3P	2794	65
35	17 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	16	$\frac{3}{8}$ "	4 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	21	1	ADHT-035/480V/3P	3324	80
40	19 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	18	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	24	2	ADHT-040/480V/3P	3796	90
45	21 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	20	$\frac{3}{8}$ "	5 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	27	2	ADHT-045/480V/3P	4261	100
50	23 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	22	$\frac{3}{8}$ "	5 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	30	2	ADHT-050/480V/3P	4677	110
60	27 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	26	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	36	2	ADHT-060/480V/3P	5206	130
80	35 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	34	$\frac{3}{8}$ "	4 $\frac{3}{8}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	48	4	ADHT-080/480V/3P	5881	175
90	39 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	38	$\frac{3}{8}$ "	4 $\frac{7}{8}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	54	5	ADHT-090/480V/3P	6195	200
100	43 $\frac{1}{8}$ "	20 $\frac{1}{2}$ "	28 $\frac{1}{4}$ "	42	$\frac{3}{8}$ "	5 $\frac{1}{8}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	60	5	ADHT-100/480V/3P	6510	220
120	27 $\frac{1}{4}$ "	35	42 $\frac{1}{2}$ "	26	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	36	4	ADHT-120/480V/3P	8243	205
160	35 $\frac{1}{2}$ "	35	42 $\frac{1}{2}$ "	34	$\frac{3}{8}$ "	4 $\frac{3}{8}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	48	8	ADHT-160/480V/3P	9915	270
180	39 $\frac{1}{2}$ "	35	42 $\frac{1}{2}$ "	38	$\frac{3}{8}$ "	4 $\frac{3}{8}$ "	3 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	54	6	ADHT-180/480V/3P	10815	305
240	27 $\frac{1}{2}$ "	35	42 $\frac{1}{2}$ "	26	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	20	18 $\frac{1}{2}$ "	72	8	ADHT-240F/480V/3P	17590	400

**Ordering Example:** ADHT-020/480V/3P is a 12-element, 3-phase, 480V high temperature air duct heater, \$2073.

Refer to J-5 for application data.

All ADHT models come with K type overtemp thermocouple.

# HIGH TEMPERATURE AIR DUCT HEATERS

## APPLICATION GUIDE

**Selecting heater size.** Refer to Technical Section for examples on determining kW requirements. For quick estimating purposes, the following formula may be used for standard conditions (includes 1.2 safety factor):

$$\text{kW} = \text{CFM} \times \text{temp. diff}/2500$$

**Maximum work temperature.** Types ADH and ADHT process air heaters can generally be used at the following maximum temperature shown, provided the minimum air velocity is maintained uniformly through the heater:

Air Velocity (ft/sec)	Max. Outlet Air Temp. °F	
	ADH	ADHT
4	800	1050
9	800	1100
16	800	1150
25	800	1200
36	800	1200

**Application assistance.** OMEGALUX sales/application engineers are available to assist you in the design or selection of equipment.

## INSTALLATION MOUNTING TIPS

**Low temperature duct heaters** can be fastened directly to the sheet metal duct work with bolts or sheet metal screws.

**High temperature duct heaters** are 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 (preferred) entry. Minimum duct size is A or L dimension plus 3/8" and B dimension plus 1 5/8".

**Provide adequate heater support.** Consideration should be given to installing hangers or some other means of heater support whenever there is any question about the ability of the ductwork to support the heater weight.

**Overtemperature protection.** All heaters should include an overtemperature (overheat) control whose temperature sensing element is located on the air discharge side of the heater as close to the heater as is practical. High temperature ADHT units include an overtemperature (Type K) thermocouple as standard.

**Additional protection** can be achieved by installing an air flow or pressure differential switch to protect the heater against low air flow conditions.

**Operation controls.** Selection of these controls, thermostat, SCR units, contactors etc., depends on the degree of accuracy required, reliability, electrical rating of heater and economic considerations. (Refer to Control Section—P).

**Field power & control circuit wiring.** Must be capable of carrying the electrical load and be protected by overcurrent protective devices, such as fusing, circuit breakers or ground fault detection in accordance with the requirements of the NEC and local codes as applicable.

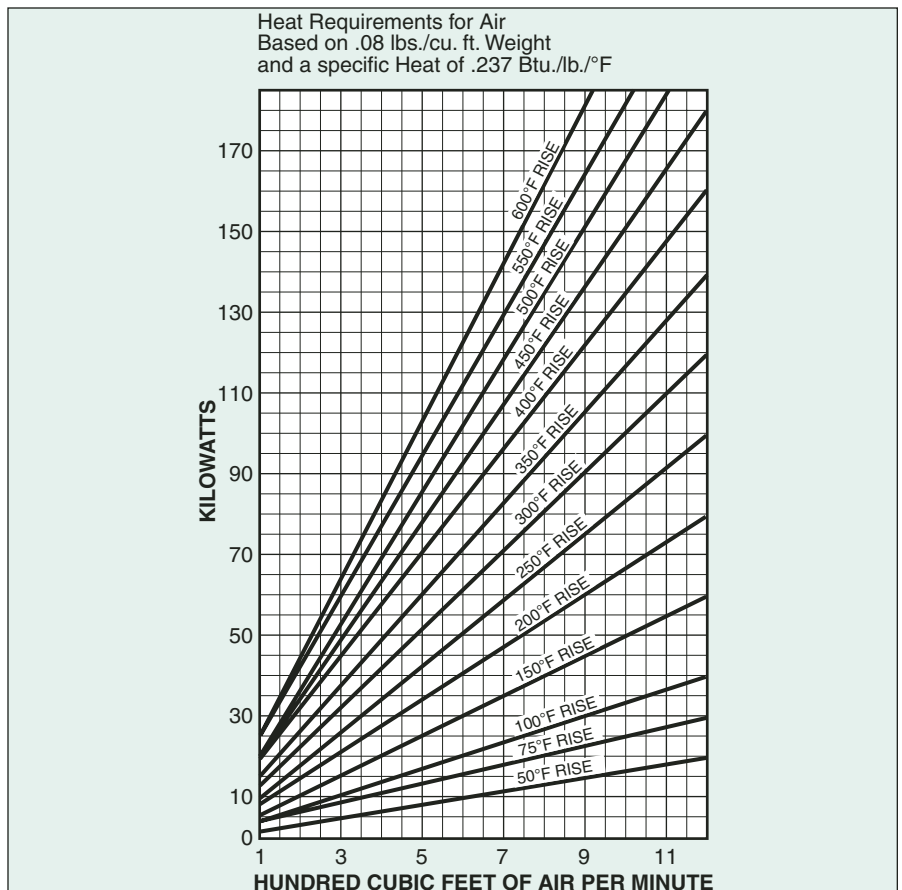
**Tandem mounting.** Multiple heaters may be mounted in tandem with each other provided the maximum recommended outlet air temperature is not exceeded.

## OPTIONS AVAILABLE

**Gas tight design.** Achieved by the use of threaded compression fittings with fiber washers to 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 can be provided for accurate overheat protection. Standard on high temperature units.

**Moisture or explosion-resistant terminal housings** are available for those applications requiring special terminal protection.



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