

High Temperature Process Duct Heaters





Duct Heaters For Critical Process Applications

Wahlco® Duct Heaters are used to heat process air and gases up to 1200°F/650°C for forced-air applications, including drying, curing, heat treating, re-heating, dehumidification, and annealing. Wahlco makes premium duct heaters that are typically used in crucial high temperature applications requiring long life heaters.

High Temperatures

All Wahlco Duct Heaters employ rugged, heavy-wall Incoloy® 800 metal sheaths with maximum sheath temperature of 1600°F/870°C.

Engineered For Extended Life

Low Watt Density: 20 W/sq. inch density is achieved by increasing the element length and the length of resistance wire to maximize the element surface area and minimize element surface temperature. Lower surface temperatures, in turn, extend the life of the element.

High-Compaction Insulation: Wahlco has perfected the technique of multi-pass swaged compaction of high purity magnesium oxide (MgO), as well as the recompression of all element bends so as to retain compaction. The extremely dense MgO insulation eliminates "hot spots" and any voids in the electrical insulation. All elements are inspected for

insulation resistance and dielectric strength, with radiographs performed on a sample basis.

Three Phase Wye Connections: Standard on Wahlco heaters, wye connections reduce the required operating voltage, decreasing electrical stress and promoting longer element life.

Stand-Off Terminal Box:

Unique to Wahlco is the separation of the terminal box from the heater flange. This separation reduces the temperature in the terminal box and extends the life of the terminal wiring.

Simplified Heater Installation & Maintenance

Wahlco Duct Heaters can operate in any position. Heaters can also be mounted side-by-side if the maximum outlet air temperature is not exceeded.

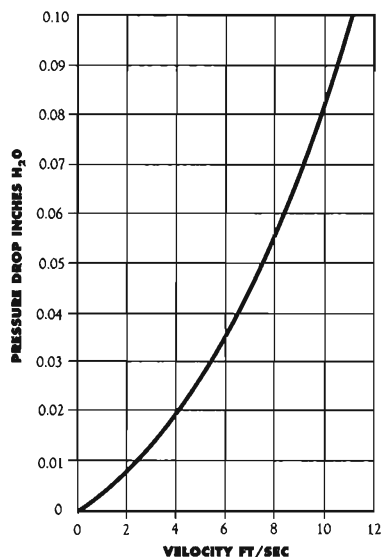
Dedicated field connections simplify the power connections. Standard wattage tolerance is $\pm 5\%$. Standard models are CSA recognized, file number LR86840.

Wahlco's unique element design reduces the number of elements required in each heater. As a result, there are fewer terminations and less heat transfer to the terminal box.

Custom Heater Designs

- Wahlco® thermocouples are attached directly to the elements for heater protection.
- Special wattages
- Special voltages
- Special watt densities
- Custom flange sizes and mounting configurations
- NEMA 4 and NEMA 7 enclosures for moisture and explosion-resistant terminal protection
- Multi-circuit busing

DUCT PRESSURE DROP vs. VELOCITY
6, 12 AND 18 ELEMENT DUCT HEATERS



ORDERING INFORMATION

22060-6

6 ELEMENTS

KW	DIMENSIONS ----- INCHES				MINIMUM AIR FLOW SCFM	APPROXIMATE WEIGHT LBS.	
	DUCT CUTOUT		DUCT DEPTH C	ELEMENT LENGTH L			TERMINAL BOX WIDTH D
	A	B					
6			7½	6½	115	35	
8			9½	8½	150	37	
10			11½	10½	190	39	
12			13½	12½	225	41	
14			15½	14½	265	43	
16			17½	16½	300	45	
18	6¾	9	19½	18½	335	47	
20			21½	20½	375	49	
22			23½	22½	410	51	
24			25½	24½	450	53	
26			27½	26½	490	55	
28			29½	28½	525	57	
30			31½	30½	560	59	

22061-12

12 ELEMENTS

KW	DIMENSIONS ----- INCHES				MINIMUM AIR FLOW SCFM	APPROXIMATE WEIGHT LBS.	
	DUCT CUTOUT		DUCT DEPTH C	ELEMENT LENGTH L			TERMINAL BOX WIDTH D
	A	B					
32			17½	16½	600	85	
34			18½	17½	640	87	
36			19½	18½	675	89	
38			20½	19½	715	91	
40			21½	20½	750	93	
42			22½	21½	790	95	
44			23½	22½	825	97	
46	12¾	9	24½	23½	865	99	
48			25½	24½	900	101	
50			26½	25½	940	103	
52			27½	26½	975	105	
54			28½	27½	1015	107	
56			29½	28½	1050	109	
58			30½	29½	1090	111	
60			31½	30½	1125	113	

22062-18

18 ELEMENTS

KW	DIMENSIONS ----- INCHES				MINIMUM AIR FLOW SCFM	APPROXIMATE WEIGHT LBS.	
	DUCT CUTOUT		DUCT DEPTH C	ELEMENT LENGTH L			TERMINAL BOX WIDTH D
	A	B					
62			22½	21½	1165	146	
64			22¾	21¾	1200	150	
66			23½	22½	1240	154	
68			24½	23½	1275	158	
70			24¾	23¾	1315	162	
72			25½	24½	1350	166	
74			26½	25½	1390	170	
76	18¾	9	26¾	25¾	1425	174	
78			27½	26½	1465	178	
80			28½	27½	1500	182	
82			28¾	27¾	1540	186	
84			29½	28½	1575	190	
86			30½	29½	1615	194	
88			30¾	29¾	1650	198	
90			31½	30½	1690	202	

VOLTAGE					
240	380	415	460	480	575

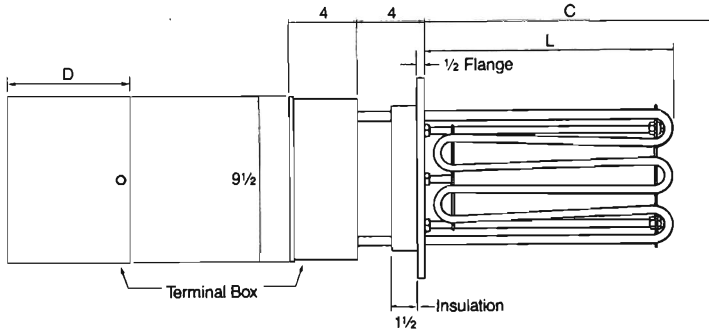
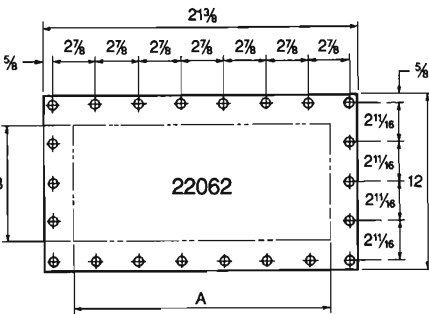
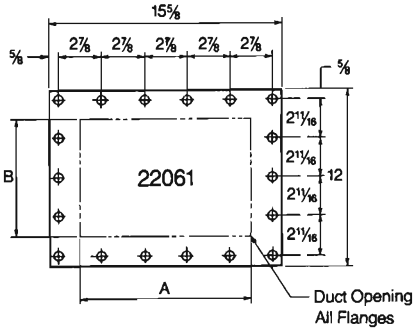
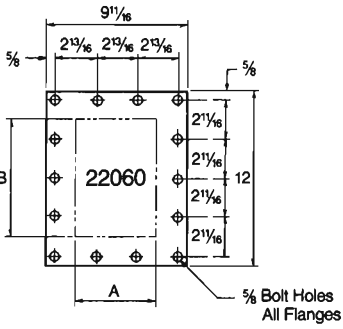
PHASE		
1	2	3

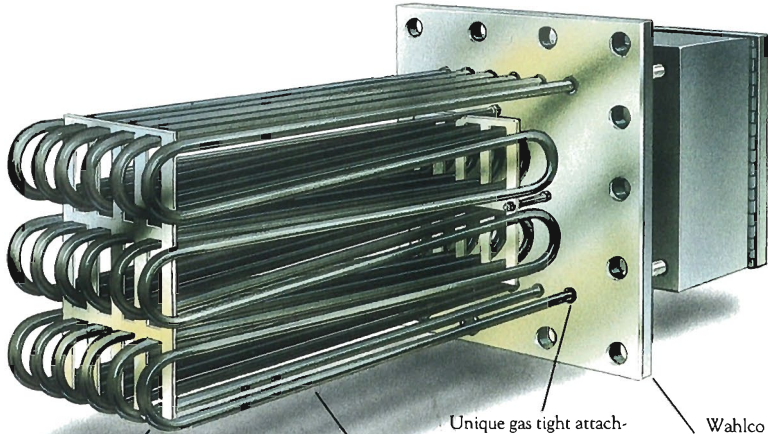
Ordering Example

Element/Flange Number
 KW Volts Phase
22061/54/480/3
 12 Elements 54 KW 480 Volts 3 Phase

For Special Requirements Contact the Factory

For custom sizes or engineering assistance, contact Wahlco at 714-979-7300 or Fax 714-641-9014. We will need to know: desired outlet temperature, inlet air temperature, air velocity, and the cross sectional area of the duct at heater installation.





Magnesium oxide (MgO) insulation swaged for maximum compaction, with all element bends recompressed to retain compaction. Dense MgO compaction provides maximum thermal conductivity and dielectric strength.

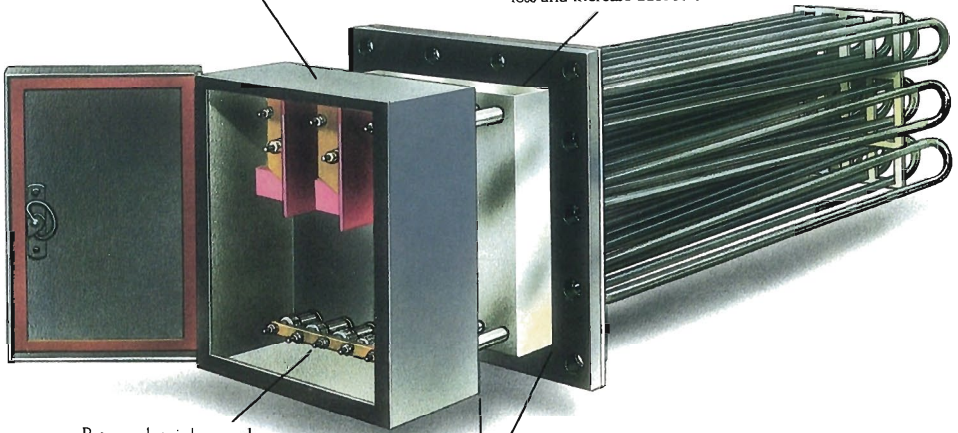
Long life Incoloy® 800 elements, resistant to corrosion and oxidation at high sheath temperatures.

Unique gas tight attachment system simplifies element replacement. Double moisture sealed at terminations.

Wahlco Exclusive: 1/2" thick steel mounting flange with stainless steel faceplate to prevent warpage, leakage and corrosion.

NEMA 12 hinged and gasketed terminal box cover, with slotted twist lock latch, for simplified installation and access.

1-1/2" thick calcium silicate insulation block, enclosed in stainless steel. The block is external to the duct to reduce heat loss and increase duct area.



Brass and stainless steel busbar hardware for high reliability.

Wahlco Exclusive: Terminal box separated from mounting flange for cooler enclosure temperatures.



Premium Wahlco Products For Critical

Process Applications



Reliable Tubular Heater Elements

Straight or custom formed elements consist of nickel-chromium resistance coils centered in .167"-.500" diameter Incoloy 800 or 321 stainless steel sheaths. Wahlco provides a variety of terminal configurations, moisture seals and mounting hardware.



High Temperature Duct Heaters

Heavy wall tubular elements employ Wahlco's unique gas-tight, non-sheath attachment system and are double moisture sealed. Terminal boxes are separated from flanges for reduced terminal and wiring temperatures.



Long Life Immersion Heaters

A wide variety of configurations and sizes is available, as dictated by watt density and media to be heated. Screw plug or flange mountings of brass, steel or stainless steel are standard.



Tubular Band Heaters For Uniform Heat

Typical applications include plastic injection molding and extrusion, pipe and die heating. Small diameter tubular elements provide rapid uniform heat transfer.



Versatile Silicone Rubber Heaters

These heaters offer excellent resistance to moisture, vibration and chemicals and can be designed to any shape and readily bonded to curved surfaces. Typical uses include pipe and tank heating, hopper heating, de-icing, food processing and medical equipment applications.



Fast Response Thermocouples

Wahlco fabricates custom-designed thermocouple probes and harnesses from bare wire or metal sheathed mineral insulated cable. Many types of junctions and terminations are offered, as well as specialized multi-point and rake assemblies.



2722 South Fairview Street, Santa Ana, CA 92704 USA - Phone (714) 979-7300 - Fax (714) 641-9014

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