

DUCT HEATERS

air heaters

OVERVIEW

WATTCO™ duct heaters are composed of open coil, tubular or finned tubular heating elements that are either flanged or inserted in the duct. WATTCO™ supplies two types of duct heaters: air duct heaters and process heaters. Air duct heaters are primarily used in air flowing ventilation systems and comfort heating applications while process duct heaters are mainly used for industrial process heating applications (ovens that require re-circulated air or forced circulation).

WATTCO™ designs and configures your electric duct heaters according to your specifications. Our team is dedicated to research and development of the latest technologies, while striving to meet every customer's needs by manufacturing first class duct heaters. Our 50-year expertise in developing and manufacturing electric duct heaters make WATTCO™ duct heaters, the most easily adaptable solutions for most non-pressurized air-heating systems.

KEY FEATURES

- » 16-gauge satin coat steel
- » Exclusive modular construction with stock frame components used with 2" vertical and horizontal dimensional increments for faster delivery
- » Single and three-phase tensions
- » Stainless steel supports
- » Field replaceable heating elements, if required
- » ¼" (6 mm) inside diameter thermowell
- » 3 ½" (90 mm) thick insulation
- » General purpose terminal enclosure
- » Primary linear cutout:
 - 160°F (71°C)
 - 277/600 VAC
 - 25/10 AMP non-inductive
- » Secondary linear cutout:
 - Manual reset with back-up magnetic contactor on units of 300V, 30 kW and less
 - 225°F (107°C)
 - 277/600 VAC
 - 25/10 AMP non-inductive
- » Special sizes, wattages, and materials available upon request
- » Built stainless steel frames available upon request
- » American and Canadian Standards Associations (CSA, CSAus) certified

BENEFITS

- » Versatile
- » Corrosion and oxidation resistant
- » Easy to maintain
- » Easy to install
- » Durable
- » Compatible with local power supplies
- » Built for safety
- » Maximal dielectric strength and heat transfer
- » Minimal heat loss
- » Maintained wiring cooler
- » Clean heat
- » Easy service
- » Minimal downtime

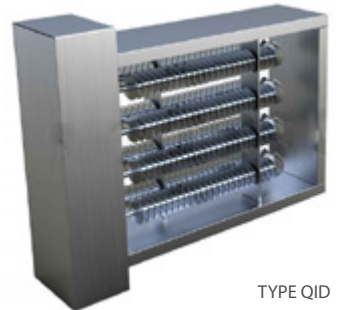


APPLICATIONS

- » Heat treating
- » Forced air comfort heating
- » Booster air heater
- » Air drying operations
- » Core drying
- » Air pre-heating
- » Air handling equipment
- » Fan coils
- » Terminal reheating
- » Multizone reheating
- » Heat pump auxiliary systems
- » Return air heating
- » Resistor load banks
- » Annealing



TYPE QFD



TYPE QID

SELECTING YOUR WATTCO™ AIR DUCT HEATER

APPLICATIONS	CONSTRUCTION TYPE	TUBULAR ELEMENTS	HEATER TYPE
Comfort heating	Flanged duct heater	Finned	QFD
Comfort heating	Insert duct heater	Finned	QID
Comfort heating	Flanged duct heater	Incoloy® (non-finned)	QFE
Comfort heating	Insert duct heater	Finned	QIE

Please call us at **1-800-4WATTCO (1-800-492-8826)** for further assistance.

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SELECTING YOUR WATTCO™ AIR DUCT HEATER

A broad range of custom built electric duct heaters with capacities up to 1000kW is available upon request. WATTCO™ heaters can be used for applications with the following voltages:

- » 347 volts/1 phase
- » 600 volts/1 phase
- » 600 volts/3 phases
- » 208/240 volts/1 phase
- » 208 volts/3 phases

WATTCO™ duct heaters have the international, American recognized, Canadian Standards Association (CSAus) label, which set the standards for the electric heating industry. Duct heater can include proper built-in safety devices to extend the service life of the heater.

WATTCO™ also manufactures heaters for industrial processes, original equipment manufacturers (OEM) or any other special applications.

KILOWATTS

Refer to Figure 3 to choose the appropriate kW for your application.

FIG. 1 - FINNED TUBULAR ELEMENT

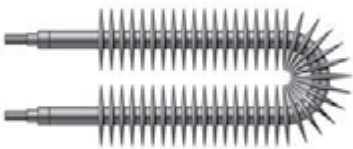
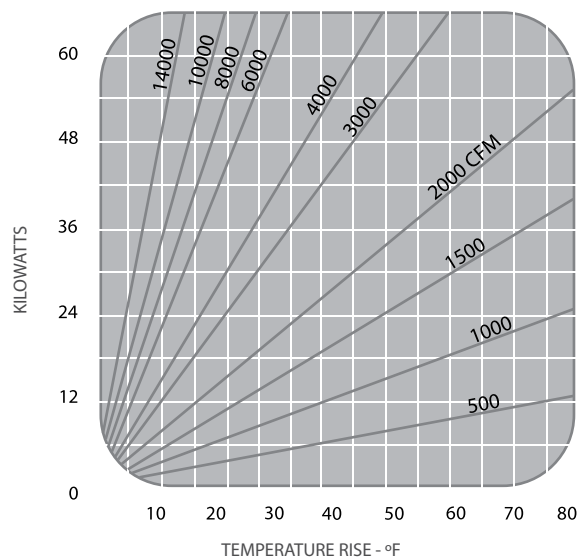


FIG. 2 - INCOLOY® UNFINNED TUBULAR ELEMENT



FIG. 3 - KILOWATTS



FINNED TUBULAR ELEMENTS vs INCOLOY® UNFINNED TUBULAR ELEMENTS

FINNED TUBULAR ELEMENTS	INCOLOY® UNFINNED TUBULAR ELEMENTS
The most common design	Available for approved special orders only
Include the highest wattage / cross sectional duct area	<ul style="list-style-type: none"> » Increase corrosion resistance » High humidity environments » Corrosive chemical contaminants in the air stream
Energy saver	Protect from electrical shock
Made of a steel tube with a corrugated steel fin wrapped around it and brazed together	Made of steel or stainless tube
Maximize the heat transfer surface of the element	Can be installed close to a register or grille
Provide lower operating temperature	N/A
Designed for low maintenance	Designed for low maintenance

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CONSTRUCTION

The two available basic heater frame constructions (Figures 4 and 5) are:

- » Insert type
- » Flange type

Notes:

- » Frames will be constructed with adequate thickness galvanized steel in order to provide sturdiness of the heater.
- » The mounting flanges for insertion provide an easy and safe fastening to the duct and do not require the main electrical control panel to be opened.
- » Heating elements are made of open nickel chrome.
- » High temperature resistant and first grade ceramics support coils horizontally.
- » Coils are machine-crimped onto galvanized terminal and secured by a ceramic socket which is resistant to anti-rotating high temperature.
- » All heaters are supplied with magnetic contactors and a primary automatic reset thermal cut-out to avoid overheating. Refer to the alternative auxiliary duct heater controls section on page 11.6 for a list of available controls.

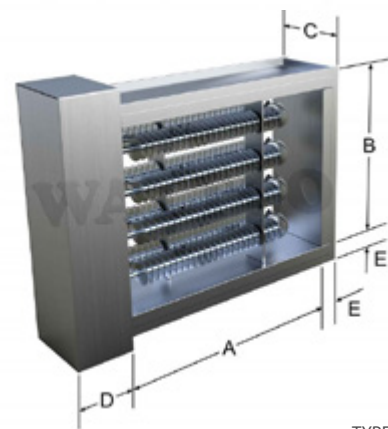
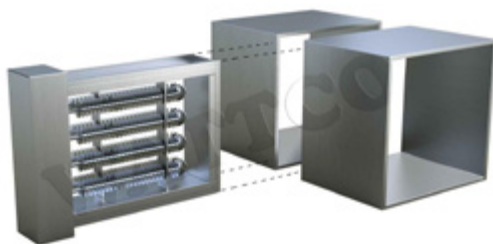
TYPICAL DIMENSIONS

- » Insert type heaters: Undersized to allow duct installation with A and B dimensions, as shown in Table 1 on Page 5

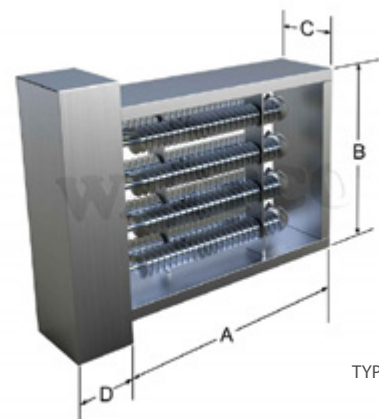
FIG. 4 - INSERT TYPE



FIG. 5 - FLANGE TYPE



TYPE QFD



TYPE QID

DIM.	in.	mm
C	6 1/2	163
D	7	178
E	2	51