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Facts You Should Know

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The following are a few tricks that you can use to optimize the electric duct heater design and provide a more competitive heater.

1. Duct heaters over 48 amps require built-in fusing. The following kW's equal 48 amps, so next time you see a heater at 40 kW, 480/3 offer 39.9 kW and optimize the heater construction for a lower cost with a smaller terminal box.

Single phase:

120V-5.7kW, 208V-9.9kW, 240V-11.5kW, 277V-13.2kW, 480V-23kW

Three phase:

208V-17.2kW, 240V-19.9kW, 480V-39.9kW

2. Duct heaters with SCR Option-K controls over 48-amps and less than 96-amps can often be optimized by specifying VERNIER control rather than full SCR. This is not a hard fast rule but it is worth while checking out.
3. You may find that you are unable to select a slip-in finned tubular duct heater because the maximum watt density is exceeded. Try changing the heater to flanged design which should help when you are at threshold of the maximum kW per square foot of a slip-in heater. The following formulas can be used to determine the maximum kW for heater frame sizes.

Slip-in Finned Tubular Duct Heater Max. kW = Width X (Height – 2) X 0.059

Flanged Finned Tubular Duct Heater Max. kW = Width X Height X 0.097

Minimum frame sizes for finned tubular heaters are:

Slip-in - Width = 4.75", Height = 5.25"

Flanged – Width = 4.5", Height = 5.25"

4. QUA slip-in open coil duct heaters offer low cost and fast delivery (3-weeks standard.) The QUA offering has been expanded to include additional frame sizes and construction features making the QUA even more flexible. QUA slip-in heaters are available for heaters up to 72" wide by 30" high and are easier to install than flanged type.
5. Open Coil vs. Finned Tubular duct heaters. Remember to compare the price of finned tubular heater against open coil. Many finned tubular duct heaters over 40 kW offer lower cost than open coil.

The engineering specification is the standard to which you must comply with. When you share these cost savings items you are providing a service that goes beyond just being a supplier, you are part of a better solution.

For additional information on optimizing an electric duct heater design contact:
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