



# WATERCOOLED AFTERCOOLERS

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## WATERCOOLED AFTERCOOLERS PERFORMANCE

Many factors affect the performance of an aftercooler. The following operating conditions must be known in order to make a proper selection:

1. Air Flow in SCFM
2. Air inlet temperature in °F
3. Moisture content of air
4. Required C.T.D. (cold temperature difference)
5. Water inlet temperature
6. Water flow in GPM

### GENERAL NOTES

#### Air Inlet Temperature

The air temperature discharging from a compressor can vary over a wide range and is affected by many factors. For ease of making selection we have selected the discharge temperatures associated with the types of compressors we deal with the most. As you will see on the following selection chart, we have shown capacity in SCFM at:

200°F for Rotary Type Compressors  
350°F for two stage Reciprocating Compressors with intercooling.  
400°F for single stage Reciprocating Compressor.

#### Moisture Control of Compressed Air

Performance selection has been based on 75°F ambient at 50% relative humidity at intake of compressor.

If inlet conditions to the compressor vary greatly contact Product

Management for correct selection.

#### Cold Temperature Difference (CTD)

This is the air outlet temperature minus inlet water temperature. The lower the required CTD the larger aftercooler is required. A 15°F CTD has been the standard in the industry for many years. This should be reviewed very closely.

When a lower CTD Cooler is selected the price will increase; however, because of lower discharge air temperature you may be able to reduce system cost by using a smaller air dryer.

#### Water Temperature and Flow

Within limits, the more water flow you put through the aftercooler the greater capacity it can handle. We have selected a relatively high flow in our selection charts. It should be remembered the capacity of each model can be increased somewhat if a

greater water flow is available. On the other hand, if customer is evaluating water, the flow can be reduced; however, it will require a larger aftercooler selection to produce the same performance.

#### Selection Procedure

Aftercooler selections are made very simply, by using the following selection charts:

##### Step 1

Select correct capacity based on compressor type, and CTD. We publish Performance Data for 5, 10, 15 and 20°F CTD.

##### Step 2

Once these are known, go down the appropriate capacity column until you come to the model where the unit equals or exceeds the required SCFM.