DENTON VACUUM
Enabling Innovation

Chiller Sizing Information

Use the formula for determining the size of chiller you need. Before you begin, you must know three factors:

- The incoming water temperature
- The chill water temperature you require
- The flow rate

General sizing formula:

1. **Calculate Temperature Differential (ΔT°F)** ΔT°F = Incoming Water Temperature (°F) - Required Chill Water Temperature
2. **Calculate BTU/hr.** BTU/hr. = Gallons per hr x 8.33 x ΔT°F
3. **Calculate tons of cooling capacity** Tons = BTU/hr. ÷ 12,000
4. **Oversize the chiller by 20%** Ideal Size in Tons = Tons x 1.2
5. **You have the ideal size for your needs**

For example, what size chiller is required to cool 40GPM from 70°F to 58°F?

1. ΔT°F = 70°F - 58°F = 12°F
2. BTU/hr. = 40gpm x 60 x 8.33 x 12°F = 239,904 BTU/hr.
3. Ton Capacity = 239,904 BTU/hr. ÷ 12,000 = 19.992 Tons
4. Oversize the chiller = 19.992 x 1.2 = 23.9904
5. A 23.9904 or 25-Ton chiller is required