



F.Y.I.

TEMPERATURE CONTROLLERS... PORTABLE CHILLERS... CENTRAL CHILLERS... PUMP TANK STATIONS... TOWER SYSTEMS...

SUBJECT: HOT WEATHER CHILLER OPERATION

FYI #274

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The efficiency of any industrial liquid chiller is reduced as summer weather causes ambient and cooling tower water temperatures to climb. Most industrial liquid chillers are rated to produce full capacity at ambient temperatures up to 95°F for air-cooled liquid chillers or 85°F cooling tower water for water-cooled liquid chillers.

As these design values are exceeded, the ability of the liquid chiller condenser to transfer process heat from the refrigerant (which has already taken the heat from the process water) is reduced causing higher operating pressures and reduced performance and even shortened component life.

Keep your industrial liquid chiller running efficiently with these tips for Air-Cooled and Water-Cooled liquid chillers.



For Water-Cooled Industrial Liquid Chillers:

- Be sure that the plant water system providing the cooling water is operating properly. Most water-cooled liquid chillers require 3 gallons per minute of cooling water per ton of system capacity delivered at a 20 pound per square inch pressure differential.
- Keep the condenser clean by either physically cleaning the condenser tubes or by using a chemical cleaning system. Even a thin film of scale build up on the condenser surface can have a significant effect of performance.
- If the condenser is equipped with a pressure activated water-modulating valve (condenser water regulating valve) be sure it is adjusted to open fully when required.

For Air-Cooled industrial liquid chillers:

- Keep the condenser coil clean and fins combed to assure proper airflow. Generally use a non-acid based commercial coil cleaning solution readily available from Grainger (www.grainger.com and search on the word "coil cleaner"), local refrigeration wholesalers and others.
- Be sure there is adequate space around the chiller for proper airflow. Most chillers need 4-5 feet of clearance on the air inlet side and clear space above for top discharge units or 4-5 feet clearance for side discharge units.
- Be sure there is adequate ventilation in the area to prevent air recirculation, i.e. prevent the heated discharge air from re-entering the coil inlet.
- Be sure that fan blades, blowers and motors are in good condition and operating properly.

Follow these basic guidelines for both your central process chillers and portable process chillers and your chillers will operate reliably and efficiently even as summer weather brings warmer temperatures.

For more information or answers to your questions concerning ADVANTAGE liquid chillers and their operation, call the ADVANTAGE Service Department at 317-887-0729.