

CRITICAL COOLING

THE BREWERY CHILLER PLAYS AN ESSENTIAL PART OF THE BEER BREWING PROCESS. USING AN EFFICIENT CHILLER WITH ENERGY SAVING FEATURES CAN HELP TO REDUCE THE BREWERY'S POWER CONSUMPTION AND OPERATIONAL COSTS – AN ABSOLUTE NECESSITY IN TODAY'S POLITICAL AND ECONOMIC CLIMATE, EXPLAIN BREWERY AND DRINKS EQUIPMENT SUPPLIER VIGO LTD

When planning temperature control for the brewery, an accurate and comprehensive thermal calculation is imperative in order to determine the size the chiller required for production. Other considerations should include any planned future growth of production, contingency facilities for the avoidance of downtime, location of unit in terms of meeting permitted noise levels, and operation conditions such as ventilation and ambient temperature around the unit. Cooling units from specialist manufacturers who use leading technology to include energy efficiency features (see below), and thermal calculation by experienced professionals, can facilitate the operation of the brewery, assuring commensurable, energy-efficient cooling capacity and an ample supply of hot water for both brewery and other utilities. One such manufacturer is WTG Quantor-KREYER (Föhren, Germany), specialists in the field refrigeration and beverage

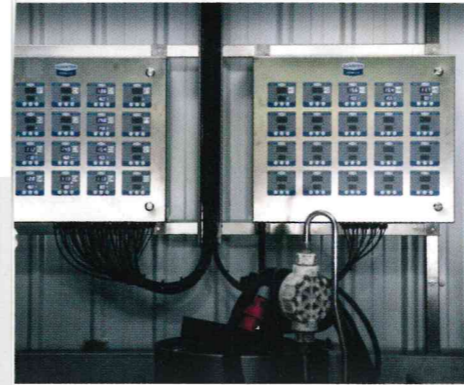
COOLING REQUIREMENTS

The brewery's cooling requirements will be included in this calculation:

- ◆ Wort must be cooled in 60 or even 30 minutes to stop enzymes
- ◆ Beer fermenters are under constant temperature control to assure quality process
- ◆ Cold-crashing after fermentation
- ◆ Beer conditioning
- ◆ Cooling for carbonation
- ◆ Cold-rooms & cooled storage

The requirements for heating will also be calculated:

- ◆ Tank heating
- ◆ Room heating
- ◆ Hot-water utilities in the building, bar, restaurant



process cooling for over 40 years. Their range includes Chiller Units; Heating and Chiller Units; Temperature Control Systems; and Air Conditioning Units. Specific energy efficiency features include reversible chillers with heat-recovery features, high-efficiency refrigerants, low-noise with smart system controls and built-in redundancy for a seamless and safer brewing operation. Quantor's chillers include utilities to save energy and reduce the CO₂ footprint of the brewery, by means of higher efficiency chillers and heat-recovery features. Modular units are available for

cooling only, or as reversible (via heat-pumps), producing hot-water. Quantor units are available through their UK agent, Vigo, now part of the Rawlings Group, who have been supplying and installing Quantor systems to drink producers in the UK for more 10 years. The business assess and work in partnership with Quantor to provide comprehensive unit sizing thermal calculations, and Vigo engineers install, commission and service the complete cooling/temperature regulation system. This could be either to control the temperature of a product in a tank via a cooling jacket, single temperature controller and stand alone cooling/heating unit; or via a centralised complete system for controlling multiple tanks on one circuit (via bespoke ringmain constructed by Vigo engineers) at the same or different temperatures, by terminal, or with software which records and captures data as well as allowing for remote accessing and control. The latter can include full control of both product and air temperature.

OPTIONAL FEATURES

- ◆ Partial Heat-Recovery - Units can be equipped with partial heat-recovery collecting the over-heat from the compressors, for heating up to 30% of the cooling capacity in hot water up to 70°C
- ◆ Total Heat-Recovery - Collects the complete heat emitted by the unit during the cooling operation, providing full capacity in hot-water in parallel to the cooling operation - the unit is cooling and heating at the same time
- ◆ Solar power - Using solar power to power the units is in R&D which Quantor are currently carrying out and plan to roll out soon, as part of their commitment to environmental sustainability

Schematic of brewery cooling installation, including tank temperature control

