CASE STUDY

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J & E Hall cellar plus units solve brewery cooling problem



J & E Hall's new Cellar Plus units are the toast of a rural Kent brewery after providing the ideal solution to a cooling problem.

Two commercial condensing units and matching evaporators have been installed at the Wantsum Brewery near Margate, helping to keep its award-winning range of traditional ales and craft beers in the best possible condition all year round.

The brewery, on an old farm at St Nicholas at Wade, produces ten core beers, including Black Prince, Fortitude and Dynamo as well as some seasonal specials. The beers, many named after historical Kent events and figures, feature IPAs, best bitters, porter, stout and mild.

Head brewer Andrew Dudley explained: "There was an old potato chiller, at least 40 years old, in the storeroom when we moved in but even if it had been possible to convert it, it would not have made economical sense. We didn't even try to turn it on. "In the summer the problem was that the temperature could get up to 20-odd degrees – too high for storing ales, especially cask ales if you are not selling them quickly enough. We needed a solution to maintain the temperature at $12-15^{\circ}$ C.

"If it's too warm the beer will condition very quickly and you may get lots of off flavours in the barrels. Any wild yeast that got into the cask when you were barrelling would take hold and start spoiling the beer."

Andrew contacted Mark Hutchinson, managing director of Kent-based refrigeration and air-conditioning specialists Essential Mechanical Solutions. Two J & E Hall Cellar Plus 80-S units, running on R448A were supplied for the job by TF Solutions.





J & E Hall cellar cooler installed at historic inn

The J & E Hall Cellar Plus range includes ten models – six systems with twin indoor coolers and four with a single indoor cooler extending cooling duty to 10kw nominal. The new condensing units feature the Copeland Scroll compressor and come complete with all necessary refrigeration controls and components.

These new systems have the advantage of longer 50m pipe runs – enabling installation in the most demanding situations.

Each system is supplied with appropriately-sized expansion valves and fan discharge air straighteners to enhance air distribution in larger cold rooms. An air temperature range of 4° C to 15° C – adjusted and maintained by the electronic controller – allows product cooling in different industries.

The indoor cooling unit was developed specifically for cellar cooling. It has a robust case, can be wall or ceiling mounted and, importantly, has six fins per inch brewery specification evaporator coils which makes it easy to clean and maintain.

The J & E Hall Cellar Plus units are sold as a system with the condensing unit, controller and matching evaporator all included – often not the case with a typical cooling system. The in-built electronic controller fitted as standard makes it easier for the engineer in set-up and provides the customer with the accurate temperature control needed when cooling sensitive products. Depending on capacity, the systems are able to use R448A or R449. A three-year manufacturer's warranty gives the installer and the end-user total peace of mind. Before the units could be installed in the storeroom at the brewery, Mark removed the old Direct Expansion chiller. "It weighed a ton," he explained. "It had R22 in it, there were no PCBs and it was all controlled by mechanical wiring. We degassed and stripped it down and cut it up which freed up the space to put the two J & E Hall Cellar Plus units in.

"The old ceiling wasn't strong enough to take the units, so we built some Unistrut frames to put them on. We ran all the interconnecting pipework and cabling and even installed the electrical supplies for the condensers. Being a large space it took a while to get the temperature where it needed to be but the system is very energy efficient, and the units are very easy to install."

Andrew is confident that the investment will prove to be a wise one: "We will be throwing less beer away potentially in the summer through spoilage in the barrel. Our customers, in pubs, micropubs and various other outlets, can expect consistency of quality all year round."



J & E Hall Hansard Gate, West Meadows Derby DE21 6JN T: 01332 253400 E: marketing@jehall.co.uk

Www.jehallfridge

