

Spencer Ale and Trappist Brothers Stay Cool with Multistack Chillers

The Spencer Brewery Highlights

- 36,000 Square-foot state-of-the-art micro brewery
- Eventually 10,000 barrels per year of Spencer Ale production
- First Trappist brewery outside of Europe

Design/Construction Team

- Kellar Associates, owner's representative
- LLT Architects, New York, primary designer
- BVH Integrated Services, engineer
- C.E. Floyd Company, Inc., contractor
- HVAC: New England Applied Products, Multistack
- Subcontractors: J.J. Bafaro Inc., Gregoire Electrical, M.J. Cataldo.

Awards

- 2015 Honor Award, Associated General Contractors, Build New England Awards Program
- 2014 AIA New England Merit Award for Excellence in Architecture
- 2014 AIA New York State Award of Merit

"From man's sweat and God's love, beer came into the world." -- St. Arnold of Metz, Patron Saint of Brewers

Although beer may be the result of "man's sweat and God's love," the Trappist monks at St. Joseph's Abbey in Spencer, Mass., selected Multistack modular chillers to keep their new brewery cool.

The monks have always adhered to the mantra of "ora et labora" or "pray and work." For more than 60 years the monks have been self-sufficient and have sustained the St. Joseph's Abbey financially by cooking, packaging and selling jams and jellies with the Trappist Preserves label. This work has also allowed the Abbey to provide charitable assistance to poorer communities and persons in need. To accommodate increasing costs and to further grow this support, in 2013 the monks voted to initiate for the first time in North America a Trappist monk tradition that has continued in Europe for centuries – brewing beer.

Spencer Brewery and the first batch of Spencer Trappist Ale was completed in late 2013. 2014 production was 3,600 barrels and will eventually increase to 10,000 barrels per year.

The Multistack chiller is comprised of three modules of 70 , 50 and 20 tons capacity to provide 44 degree (F) chilled water to air handlers that supply conditioned air to the building, including production areas and office and laboratory space. Each module includes multiple compressors and refrigeration circuits for best efficiency, reliability and redundancy. The Multistack chiller precisely, efficiently matches the air conditioning load by operating only

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**Father Isaac Keeley, Director,
The Spencer Brewery**

Left, Greg Furst, New England Applied Products, reviewing operation of the Multistack modular chiller with Father Isaac Keeley, The Spencer Brewery Director.



the modules and compressors needed to meet the load. And if a compressor should fail, the chiller has built-in redundancy.

Control of the chiller is through a master controller that is also linked to the building automation system. The individual chiller modules also have stand-alone controllability.

Air-cooled condensers located outside the building eliminate the need for cooling towers and a condenser water system—simplifying installation and reducing maintenance requirements.

Larry Littlehale, Operations Director, says the Multistack chillers have been running perfectly since installation in the new brewery in late 2013. Says Littlehale, “We’ve had no red flags. They’ve been maintenance free and we’ve seen no issues.”

Spencer Brewery Director Father Isaac Keeley said, “We selected Multistack chillers because of their adaptability to ever-changing, diverse year-round needs, because of the redundancy factor and ease of management.

Father Keeley added, “Greg Furst at New England Applied Products was great to work with on this project – from design to installation to commissioning. Our building houses diverse functions and so has diverse needs for production, warm and cool storage, admin and warehouse areas – Multistack meets them with reliable hardware and software that easily integrated with our building management system.”



Three Multistack chiller modules, above, provide 140 tons of cooling capacity for The Spencer Brewery, right.



L-r: Larry Littlehale, Operations Director, and Father Isaac Keeley, Director, The Spencer Brewery.

Multistack Modular Chiller Features/Benefits

HIGHLY DEPENDABLE – Multiple independent systems for redundancy; comprehensive computer monitoring of operations; automatic diagnostic recording of fault conditions; lead compressor rotates every 24 hours.

SIMPLE TO OPERATE – Large LCD screen displays information in plain English; simple keypad provides control of unit operations.

EASY TO INSTALL – Compact modules fit through standard doorways and into elevators; modules connect quickly and easily; all refrigeration systems are factory charged and run tested.

PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEM – Manual switch allows redundancy control as each module has a processor allowing it to run even if master controller fails; optional fail-to-run software; display at each module with a remote display option.

DESIGN FLEXIBILITY – Wide array of module combinations; install only the capacity required, when needed.

SIMPLE TO SERVICE – Service can often be performed on a convenient, non-emergency basis; most components are standard, off the shelf design.



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