ENERGY SAVINGS

PROACTIVE CONTROL

FläktGroup

SEMCO

# NEUTON™

## CONTROLLED CHILLED BEAM PUMP MODULE

**NEUTON™ is the HVAC industry's first smart, plug-and-play controlled chilled beam pump module (CCBPM) for reducing chilled beam system installation and operational costs.**

NEUTON is a factory-built and pre-tested CCBPM package complete with its own powered integrated direct digital controller, chilled and hot water connections, valves, variable-speed electronically commutated motor (ECM) pump, smart sensors, and other unique features. The device provides active condensation control effectively addressing one of the key design concerns regarding active chilled beams.

The intuitiveness of NEUTON eliminates the expense of a separate chiller, boiler, and secondary water distribution system associated with conventional chilled beam designs. Instead of expensive secondary piping loops, each NEUTON blends and re-circulates return water within its zone to convert typical 42°F and 140°F primary loop water temperatures to optimal 58°F or 100°F chilled beam discharge temperatures. This prevents cooling mode condensation and heating season heat stratification.

Each NEUTON can control up to 20 chilled beams, depending upon the water flow rate required.

**Visit www.semcohvac.com for more information.**


SCHOOL Planning & Management NEW PRODUCT AWARD 2016

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AHR EXPO INNOVATION AWARDS 2016 WINNER

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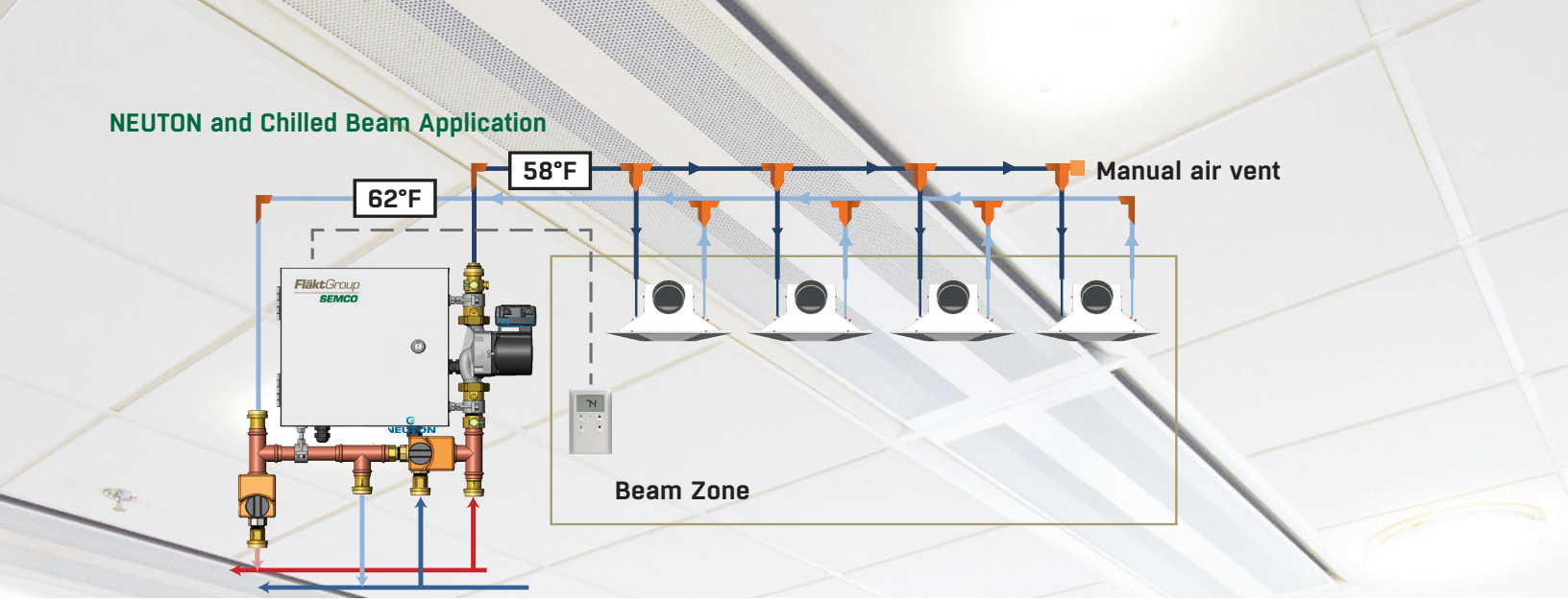
## KEY BENEFITS

- Active condensation control system effectively eliminates chilled beam condensation
- Reduces cost of a chilled beam installation by 30% or more by allowing for smaller pipe diameters, fittings and feet of pipe
- Cuts the amount of zone piping and fittings in half by eliminating the need for building-level secondary loops for the chilled beams
- Increases beam cooling and heating output allowing all coil passes to be used for cooling and heating
- Eliminates the frustration and cost of customized zone control development and installation
- High efficiency, variable speed ECM pump uses a fraction of the energy of traditional pump loops

## NEUTON and Chilled Beam Application




### UNIQUE ADVANTAGES

- Improved response to occupied/unoccupied and low load conditions - novel control sequences vary water flow and/or temperature, as needed, to accommodate changes in zone load conditions
- Available in 11, 20, and 30 gpm with single or dual actuators
- Can be used with any brand of active or passive chilled beam
- ZS Pro Zone Sensor with displayed temperature, humidity and $CO_2$ level readouts available
- NEUTON Automated Logic Corp.-based software was developed by SEMCO engineering, is compatible with all SEMCO DOAS and most building automation system (BAS) protocols and has passed all field tests at several beta-test sites for more than three years
- Assigned zone control set-ups can report operation data to the BAS, which in turn, transmits control commands to the DOAS for outdoor air and humidity control
- ECM pumps draw amperage equivalent to a 70-watt light bulb
- Chilled beams can cut fan energy costs in a building by up to 50% versus fan coil and variable air volume (VAV) systems

### EXAMPLE NEUTON LAYOUT:

20 beams at ½ GPM = 10 GPM

Designers should be cognizant of the furthest beam piping for the pressure drop in the piping loop.
MAX external head pressure is 12 ft.

3fficiency™
PINNACLE + NEUTON + CHILLED BEAMS

**The 3fficiency system** combines NEUTON with the Pinnacle DOAS and active chilled beams for a hydronic system that is safer and more efficient than the refrigerant-based VRF.

Acknowledged as one of the **Top 10 Green Building Products** for 2018 by Building Green, 3fficiency has been receiving industry recognition for providing an energy-efficient, easy-to-specify integrated system. 3fficiency improves upon a traditional chilled beam design by reducing piping and simplifying building controls.

3fficiency provides even more savings through the use of a water to water chiller and using the condenser water as the hot water for the system. No more concerns with ASHRAE 15, refrigerant leaks, or large electrical wire runs.

## *EXCELLENCE IN SOLUTIONS*

FläktGroup SEMCO delivers smart and energy efficient Air Distribution and Air Quality solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than fifty years of accumulated industry experience.
The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

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