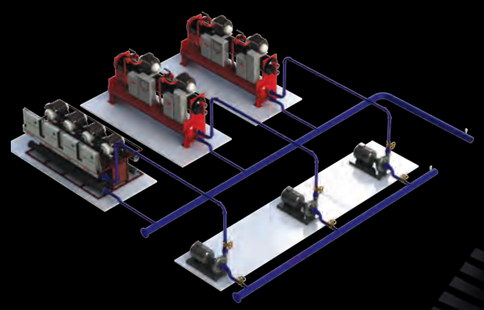
MULTIPRO CENTRAL PLANT CONTROLLERS

MultiPRO

MultiPRO is a state-of-the-art solution to your BAS needs. This central plant controller is optimized to make every part of your facility's HVAC System run most efficiently. Using inteligent sequencing and AHRI certified algorithms, **MultiPRO** is capable of learning and choosing from a set of predetermined paths to run your machines most efficiently and safely, all while maintaining comfort levels.

Features of MultiPRO include:

- Intelligent sequencing.
- Optimized for better internet security.
- Remote monitoring so you can check the status of your building from anywhere.
- Makes use of built-in Multistack logic to keep your building efficient.
- Can be configured for any building system, set-up or structure.
- Gives maintenance warnings so that you can keep your building running smoothly.
- Built-in diagnostics allows for analysis of your building's data in real time.
- Easy to use dashboard for monitoring performance.



MultiPRO CORE

Building on the success of **MultiPRO**, Multistack is announcing **MultiPRO CORE** – a low cost, high feature chiller plant control system. Incorporating the trusted and proven control algorithms of **MultiPRO** with a light weight yet informative HTML5 user experience, **MultiPRO CORE** is the ideal control system for chiller plant control projects that are particularly cost sensitive.

As with **MultiPRO**, **MultiPRO CORE** will include the ability to control chillers, pumps and cooling towers in a very wide array of plant configurations.

Users will be able to monitor current plant operating conditions in **MultiPRO CORE** via a succinct HTML5 user interface on either desktop, mobile or tablet without the need for JAVA or similar supporting software. **MultiPRO**'s reliable charting and alarming features will be present in **MultiPRO CORE** to allow end users to chart historical data effortlessly.

Multistack is releasing **MultiPRO CORE** on the highly reliable EdgeXI controller 534 series hardware.

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MADE in USA

MULTISTACK®

MULTISTACK SOLUTIONS MATRIX

CUSTOMER DRIVEN INNOVATION

AIR-COOLED

ACF
CONFIGURABLE PACKAGED AIR-COOLED MAGLEV® FLOODED

- Available in capacities starting at 60 tons
- Near water-cooled efficiencies at air-cooled conditions with unmatched part-load performance
- MagLev® technology offers a near-frictionless two-stage variable speed centrifugal compressor for maximum efficiency at all load conditions
- Flooded evaporator for maximum full-load and ultra-low-load efficiency
- FlexSys® Controls for real-time chiller optimization and maximized system efficiency
- State-of-the-art EC condenser fans deliver quiet, ultra-efficient operation — a perfect complement to the virtually silent MagLev® compressor
- Available as air-cooled condensing unit that can be matched with one or more DX evaporators
- Optional integrated water-side economizer free cooling or as an alternative configure with the MagLift™ refrigerant pump to expand the operational envelop and achieve unheard-of efficiencies allowing operation at ambients that eliminate the need for water-side economizer

ASP
AIR-COOLED SCROLL MODULAR

- Airstack® air-cooled modules are available in a wide range of capacities and with tandem scroll compressor sets to create chillers from 10 to 600 tons of capacity
- Can be factory packaged and shipped on skids with accessory modules, including - free cooling, pumps, strainers, air separators, glycol feeders, heat exchangers, storage tanks, expansion tanks and chemical pot feeders
- Numerous options including specialty coatings, stainless steel construction and various control interfaces, make it easy to meet specific customer needs including ducted and sound-sensitive applications
- Ideal for limited space installations, including single-side access for air-flow and/or service
- Available in a condensing unit ("ADX") configuration, designed to be connected to a field-supplied evaporator

ASF
AIR-COOLED SCROLL MODULAR W/ INTEGRAL FREE COOLING

- 30 ton modules available with dual refrigerant circuits
- Electrically Commutated Motor (ECM) fans standard, providing super-quiet operations with multiple options for sound-sensitive applications
- Integral free cooling for economizing without increasing footprint is optional
- Packaged controls provide chiller and free cooling control
- Up to 14 modules on a single master controller
- Single aluminum fin/copper tube coils incorporates both water and refrigerant circuit providing:
  - Efficient chiller and free cooling operation.
  - Service friendly design with coils that can be easily serviced or cleaned in place
- True variable speed scroll compressors as an option

WATER-COOLED

MFW
WATER-COOLED MAGLEV® FLOODED CHILLERS (GEN II & GEN III)

- Available in capacities starting at 65 ton
- Extreme flexibility in configurations including multiple, independently controlled MagLev® compressors
- Including the option for compressors of different sizes, allowing unmatched turn-down
- Water-cooled MagLev® chiller with oil-free, magnetic levitation bearings in a centrifugal compressor is a leader in efficiency, reliability, redundancy, sustainability and serviceability
- Unrivaled efficiency—MagLev® chillers deliver peak energy efficiency at all load and condenser water conditions
- Helps qualify for USGBC LEED credit and other utility rebates
- Among the industry's lowest per ton refrigerant charge

MSS_M
WATER-COOLED MAGLEV® MODULAR WITH SHELL & TUBE

- Modular design available in 65, 90, 95, 105, 120, 135, and 140 ton modules
- Modular water-cooled MagLev® chiller with oil-free, magnetic levitation bearings in a centrifugal compressor
- Flooded evaporator and condenser for maximum full-load and low-load efficiency
- Ideal for limited-space installations and fits through a standard doorway
- Mix-match modules to provide up to 1400 tons of cooling in a single array
- Also available with remote air-cooled condensers or evaporative-cooled units

MSS
WATER-COOLED FIXED SPEED SCROLL MODULAR

- Fixed Speed: 15, 20, 30, 40, 50, 70, 85 and 100 tons True Variable Speed™: 15, 20, 30, 40, and 50 tons QUAD: 105, 135, and 165 tons
- Mix-match and combine modules to create up to 14 module arrays
- Total Access™ Design – for easy serviceability.
- Optional shell and tube heat exchangers; brazed plate standard
- Refrigerant Micro-Charge enhances refrigerant room safety, reduces cost of ownership, and offers operational advantages in the event of a loss of charge. R-454B is the standard and R-513A is optional

SPLIT SYSTEMS

MFA
AIR-COOLED MAGLEV® FLOODED CHILLER W/REMOTE ADIABATIC CONDENSERS

- Available capacities starting at 65 tons
- Flooded evaporator for maximum full-load and ultra-low-load efficiency
- Overall system efficiency better than or equal to comparable water-cooled systems
- Lower installed cost than water-cooled by eliminating cooling tower, condenser water pumps, water treatment, and reducing the complexity of controls
- FlexSys® Controls for real-time chiller optimization and maximized system efficiency
- Tremendous water and energy savings
- Enhanced efficiency with the adiabatic ambient relief option

MSA
AIR-COOLED SPLIT SCROLL MODULAR (REMOTE CONDENSER)

- Modular indoor air-cooled split system modules with remote air-cooled condensers
- Available with fixed speed (15 to 100 tons) and True-Variable™ speed scroll compressors
- All required refrigerant specialties for standard ambient units are factory installed in the indoor module unit
- Modular design makes adding capacity as easy as purchasing and installing more modules
- Optional modulating valves for variable primary flow applications

MSD / MSD_M
WATER-COOLED SCROLL MODULAR CONDENSING UNIT

- Scroll Units:
  - 15, 20, 30, 40, 50, 70, and 85 ton sizes
  - Each module has two independent circuits
  - Optional shell and tube condenser, brazed plate standard.
- MagLev® Units:
  - 90, 120, and 140 ton sizes
  - Each module has one independent circuit
  - Shell and tube condenser
- Connect with field-supplied evaporators
- Factory installed refrigerant components within the modules
- Optional modulating valve for on-board head pressure control

AUXILIARIES

PUMPS & VFDS

- Primary and Standby pumps controlled with automatic starting of the lag pump
- Lead / Lag timers and automatic switching.
- Wide range of pump types, configurations, sizes, and manufacturers available
- Factory assembled and tested as part of a complete hydronic system
- Flexible options for valves, sensors, and gauges
- Variable Frequency Drives fully integrated into the chiller's single point electrical power distribution system
- Available for integration with other auxiliaries and all products

HEAT EXCHANGERS

- Integration of control valves to manage flow through heat exchangers mounted and configured as part of a packaged central plant
- Provides an integrated solution to isolate building loops when glycol is required for freeze protection of air-cooled chillers
- Use of either plate and frame or brazed plate, water to water heat exchangers
- Flexible size, configuration, and material of construction options
- Available for integration with other auxiliaries and all products

HYDRONIC SPECIALTIES

- Integration of hydronic specialties to provide a factory assembled and factory tested packaged central plant
- Storage Tanks to add system volume
- Flexible size, configuration, and materials of construction for
  - Air Separators
  - Glycol Feeders
  - Expansion Tanks
  - Chemical Pot Feeders
- Available for integration with other auxiliaries and all products

HEATING - HEAT PUMP - HEAT RECOVERY

ARP
AIR-TO-WATER SCROLL MODULAR HEAT PUMP

- Available in 30, 60, and 85 ton modules that easily connect to provide systems of up to 600 tons of capacity
- Airstack® air-source heat pumps are among the most efficient in the HVAC industry
- Heat pump controls precisely match real-time operating loads for best efficiency and reduced energy use and cost
- Available with envelope expanding injection scrolls enabling hot water production to -15ºF ambient
- Can help owners qualify for USGBC LEED points and utility rebates
- Multiple compressors and modules for redundancy and reliability
- Adding capacity is as easy as installing more modules
- Options include specialty coatings, stainless steel construction, and various control interfaces to make it easy to meet specific customer

ARA
AIR-TO-WATER SCROLL MODULAR HEAT RECOVERY

- Modular heat pumps with air-cooled condensers are available in 30, 60, and 85 ton (with independent circuits) capacities– easily connected to provide systems of up to 600 tons
- Available with envelope expanding injection scrolls enabling hot water production to -15ºF ambient
- Operates in dedicated heat recovery, cooling or heating modes
- Units feature full four-pipe operation with a brazed plate condenser sized for full heat rejection — providing 4-6 times more heat than a desuper-heater
- Can be matched with ASP cooling-only modules to provide heat recovery with an air-cooled chiller
- Integrated auxiliary air-cooled condenser handles unneeded heat without a well field or heat sink
- High effective COP helps ensure low operating expense, fast payback, and small carbon footprint
- ECM fans standard providing super-quiet operation with multiple additional options for sound sensitive applications

HSH
HEAT STACK SCROLL CHILLER / HEATER

- 5, 10, 15 and 30-tons for heat recovery
- Use of single, variable speed scroll, compressors to provide flexible turndown
- Ideal for a system retrofit of smaller commercial buildings or zones within a large building when the magnitude of the simultaneous load does not align with our larger DHRC models
- Standalone units requiring minimal floor space
- Provides water temperatures up to 145ºF
- Uses environmentally friendly R-454B refrigerant
- Full-featured digital controls – the same field proven and time tested Multistack DHRC control logic used in our larger and more expensive heat recovery modules
- Options include double-wall vented heat exchangers allowing use in systems that heat domestic hot water
- Stainless steel cabinets, remote display panel, and BAS interface are among the long list of optional features

MSH / MSH_QUAD
WATER-COOLED SCROLL MODULAR

- Dedicated Heat Recovery Chillers (DHRC) provide simultaneous cooling and heating
- Available in the same module sizes as the MSS, & MSS_QUAD family
- Produce hot water - up to 145ºF with R-454B (all sizes), 175ºF with R-513A (Fixed Speed Sizes Only), 185ºF R-1234ze (R-515B is an option) in medium 2 Comp and Small QUAD sizes only, while simultaneously producing chilled water
- DHRCs feature heating COPs of more than 3.0 and combined COPs of more than 7.0
- Eliminate or reduce the need for boilers
- Reduce carbon emissions and water consumption

MSH_M
WATER-COOLED MAGLEV® MODULAR HEAT RECOVERY CHILLER W/ SHELL & TUBE

- Modular design available in 65, 85, 90, 95, 110, and 120 ton modules
- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145ºF
- Modular water-cooled MagLev® chiller with oil-free, magnetic levitation bearings in a high-lift centrifugal compressor
- Flooded evaporator and condenser for maximum full-load and low-load efficiency
- Mix-match modules to provide up to 1400 tons of cooling in a single array
- Ideal for limited-space installations and fits through a standard doorway
- Supports the environmentally sensitive design practice of electrification

VME II
SCROLL MODULAR CHILLER OR HEATER

- Dual scroll compressor modules of 15 to 100 tons
- Quad scroll compressor modules of 105, 135, and 165 nominal tons are also available and may be mix-matched to create chillers of up to 1,320 tons of capacity
- With cooling, heating, and simultaneous models available, Multistack VME II® chillers offer numerous advantages in efficiency, simplicity, ease of installation, reliability, redundancy, and cost
- True variable speed scroll compressors as an option

MSH_M_VMEII
CENTRAL STATION MAGLEV® CHILLER HEATER

- MagLev® compressor modules of 90, 105, and 120 nominal tons are available and may be mix-matched to create chillers of up to 1,200 tons of capacity
- Modular MagLev® VME marries the efficiency of MagLev® with VME
- Low GWP refrigerants with no phase-out date: R-513A, R-515B, R-1234ze
- With cooling, heating, and simultaneous modes available, Multistack VME II® chillers offer numerous advantages in efficiency, simplicity, ease of installation, reliability, redundancy, and cost
- VME II eliminates reversing valves, increasing simultaneous load efficiency by up to 30%
- VME II operating algorithm automatically matches building heating and cooling load requirements by closing and/or opening the appropriate VME II valves–maximizing efficiency

MFH
WATER-COOLED MAGLEV® FLOODED HEAT RECOVERY CHILLERS

- Available in capacities starting at 65 tons
- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145ºF
- Water-cooled MagLev® chiller with oil-free, magnetic levitation bearings in a high-lift centrifugal compressor is a leader in efficiency, reliability, redundancy, sustainability, and serviceability
- Scaleable MagLev® multi-compressor design delivers capacity turndown, at constant HW temperatures, across the entire operational envelope
- Unrivaled efficiency—MagLev® chillers deliver peak energy efficiency at heat recovery conditions
- Supports the environmentally sensitive design practice of electrification

MFH_8-PIPE
WATER-COOLED MAGLEV® 8-PIPE HEAT PUMP

- Scaleable MagLev® multi-compressor design delivers turndown across the entire operational envelope
- 8-PIPE is a geothermal friendly solution, handling a wide range of temperatures from the Source/Sink
- With cooling, heating, and simultaneous modes available, Multistack MFH_8-PIPE chillers offer numerous advantages in efficiency, simplicity, ease of installation, reliability, redundancy, and cost
- MFH_8-PIPE eliminates reversing valves, increasing simultaneous load efficiency by up to 30%
- Operating algorithm automatically matches building heating and cooling load requirements by closing and/or opening the appropriate 8-PIPE valves
- Factory engineered and fitted controls, valves, and piping ensure precise temperature and head pressure control, eliminating costly job site labor
- Low GWP refrigerants: R-513A, R-515B, R-1234ze

AFH
AIR-COOLED MAGLEV® FLOODED INTEGRAL DHRC

- The extremely high efficiency of our configurable packaged air-cooled MagLev® flooded chiller is now even greater with the integration of our Dedicated Heat Recovery Chiller technology
- Internally integrated controls for ACF and DHRC providing seamless single-source responsibility for a packaged cooling and heating system
- Integrated heat recovery capability reduces equipment room footprint
- Factory packaged solution reduces job site installation labor
- Provides hot water up to 145ºF for heating needs concurrent with cooling load
- Modes of Operation
  - Cooling Only (both circuits)
  - Cooling (1 Circuit) and DHRC (1 Circuit)
  - Heat Recovery Only (both circuits)
- Low GWP Refrigerants: R-515B, R-513A (optional), R-1234ze
- Vary coil V-bank count and compressor combination to achieve maximum efficiency, best value

MSH_G
WATER-COOLED SCREW DEDICATED HEAT RECOVERY CHILLER

- Available in a nominal 115 tons of capacity with integral variable speed screw compressors.
- Exceptional turndown (33%) while still making 165ºF hot water thanks to the use of positive displacement screw compressors and their inherent resistance to surge
- Produce hot water up to 175ºF with R-1234ze while simultaneously producing chilled water, R-515B is also available.
- Flexible temperature ranges with approximately 120ºF of lift
- Capacity of 80 tons is based on 44ºF leaving chilled water and 165ºF leaving hot water
- DHRC's are 300-400% more efficient than boilers
- Control up to 15 modules on a single master controller with our FlexSys Control System
- Available in 460 V

MSR
WATER-TO-WATER SCROLL MODULAR HEAT PUMP

- Available in 15 to 85 tons of nominal capacity packages
- Modular heat pump with reversing valves
- Ideal for closed-loop and ground-loop water-source heat-pump applications
- Assemble modules to create chillers of 10 to more than 1,275 tons of capacity
- Each module is designed with two independent refrigerant circuits
- Modular design makes adding capacity as easy as purchasing and installing more modules
- Optional modulating valves for variable primary flow applications