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MULTISTACK®

MULTISTACK SOLUTIONS

CUSTOMER DRIVEN INNOVATION

CONTENTS

CUSTOMER DRIVEN INNOVATION

PIONEERS...

The modular water chiller was invented by Multistack®. It started with a radically simple idea: water chillers made up of modules that could be brought into the equipment room one at a time, through standard doorways and down elevators, to form a fully integrated water chiller system. The modular chiller idea launched a revolution and transformed Multistack into a visionary leader in the HVAC industry.

VISIONARIES...

Multistack perfected the modular chiller and leads the industry with market driven innovation and environmentally friendly HVAC solutions. Since founding in the late 1980's, Multistack has engineered, manufactured, and distributed an impressive array of air conditioning firsts: twenty-five years ago we invented the dedicated heat recovery chiller (DHRC®). In the early 2000's we pioneered the first production chiller to utilize MagLev® compressor technology. Today, our industry plays a pivotal role in the electrification and decarbonization movements and Multistack leads the way with multiple innovative carbon-free solutions.

LEADERS...

Multistack sets the standard in the industry for superior customer service, superior product quality, and new product development. Our pioneering leadership in environmental issues is well documented. If you want the best, be sure to specify the original and still the leader: Multistack.

ABOUT US

A HISTORY SPANNING OVER 35 YEARS

It started with a radically simple idea: water chillers made up of modules that could be brought into the equipment room one at a time, through standard doorways and down elevators, to form a fully integrated water chiller system. The modular chiller idea launched a revolution and transformed Multistack into a visionary leader in the HVAC industry.

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Multistack was the first modular chiller manufacturer to be AHRI-certified, and we are proud to lead the industry with the most AHRI-certified modular products. In the years since its founding in 1989, Multistack has transformed what began as one simple idea into a family of companies that is a driving force in our industry. Today, we continue to lead our industry by constantly challenging traditional thinking, driving innovative new product development of energy efficient, sustainable HVAC technologies, and always considering our customers' needs before our own.

The diversity of our applications is virtually limitless. Whether it's for manufacturing, comfort cooling, heat recovery, data centers, defense, or delivering critical solutions for the US Department of State's overseas operations, Multistack has the experience and the expertise.

OUR MISSION

To design and build reliable, energy-efficient equipment that fully supports the transition from fossil fuels to renewables through electrification.

"Our success is your success and we want to succeed together. "

OUR VISION

MOVING FORWARD

To create a world where environmentally sensitive design practice, reliability, and redundancy coexist and are embodied in the worlds most advanced HVAC equipment.

WHY MODULAR

COMPACT. FLEXIBLE. EFFICIENT. Multistack® invented the modular chiller with a view to solving a very specific problem nearly 30 years ago. Since that time we've perfected the modular concept making it a powerful, yet elegant solution for a wide variety of application challenges.

EFFORTLESS EXPANDABILITY

With Multistack, you can add capacity next week, next month or next year – with no cost penalty and no extra hassle. Not sure what your total building load will work out to? Multistack's scalable design lets you be conservative today without limiting your choices tomorrow. Planning to grow your operation in the future? No need to blow your budget with capacity you don't need right away. Install what you need and incorporate new modules when the timing is right!

AFFORDABLE REDUNDANCY

N+1 redundancy in a conventional system usually entails the installation of a second chiller of equal capacity or three chillers at 50% capacity. Multistack's modular design means that we can achieve the same level of redundancy at a much lower cost. A single backup module is all it takes to provide the critical protection you need to ensure continuity in the event of an interruption. An important consideration in modular redundancy is having controls sophisticated enough to avoid the loss of cooling even if the master module fails; we've got that covered too with our "Fail-To-Run Mode" controls.

LOW MAINTENANCE

Because Multistack modular systems are more straight-forward in their design than conventional chiller systems, they are generally easier and more economical to service. Modular units require no oil changes and no eddy current analysis. Simply keep the water clean and treated – and your job is done!

EASY INSTALLATION

Multistack was originally designed as a solution for problem chiller change outs, which required costly and cumbersome dismantling and reassembly. Our modular approach means that new equipment can be delivered and the chiller built module by module. They can easily fit through doorways and into elevators and can even be installed around obsolete equipment if necessary. A space efficient Multistack module can provide as much as 70 tons in as little as 9 square feet.

LOW SOUND LEVELS

Multistack modular chillers are inherently quieter than conventional systems and, if necessary, we can use a variety of techniques to attenuate sound levels, including specially selected compressors and our trademark panel system. Less noise makes Multistack the perfect choice for critical medical and business applications, as well as discerning homeowners.

LOW CHARGE

Multistack modular chillers contain a Micro-Charge™ of refrigerant as low as .60 lb/Ton per circuit. This tiny charge significantly enhances refrigerant room safety by reducing the risk of fire or asphyxiation. The Micro-Charge can also reduce cost of ownership over the life of the equipment and provide an operational advantage in the event of a loss of charge.

MSS

WATER-COOLED SCROLL MODULAR

- Available in 10, 15, 20, 30, 40, 50, 70, 85 and 100 ton sizes with fixed speed scrolls.
- True-Variable™ speed scroll compressors available on 15, 20, 30, 40 and 50 ton modules. Delivers up to a 20% improvement in IPLV.
- Mix-match and combine modules to create up to 15 module arrays – delivering overall capacity to 1,275 tons of cooling.
- Innovative modular design makes adding capacity as easy as installing more modules.
- Total Access™ Design – heat exchangers are on outer edges of the frame for easy serviceability and a small, compact footprint.
- 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 refrigerant and R-513A is optional.
- Optional modulating valves for variable primary flow applications.
- Optional shell and tube heat exchangers; brazed plate standard.

MSS_QUAD

QUAD SCROLL MODULAR CHILLER

- Available in 105, 135 and 165 tons.
- Module design incorporates two independent refrigerant circuits, each with a tandem scroll compressor set.
- Mix-match and combine modules to create multi-module arrays up to 1,320 tons of cooling capacity.
- Innovative modular design makes adding capacity as easy as installing more modules.
- Available Total Access™ Design – heat exchangers are on outer edges of frame for easy serviceability and compact footprint.
- 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 refrigerant and R-513A is optional.
- Optional modulating valves for variable primary flow applications.
- R-1234ze high temp hot water.

MSS_M

WATER-COOLED MAGLEV MODULAR WITH SHELL AND TUBE

- Modular design available in 65, 90, 95, 105, 120, 135, and 140 ton modules.
- Mix-match modules to provide up to 1400 tons of cooling in a single array.
- 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.
- Also available with remote air-cooled condensers or evaporative-cooled units.

ASF

AIR-COOLED SCROLL MODULAR WITH INTEGRAL FREE COOLING

- 30 ton modules available with dual refrigerant circuits.
- Electrically Communicated 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 15 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.

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 with a 10 to 600 tons of capacity.
- Modular design makes adding capacity as easy as purchasing and installing more modules.
- 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 airflow and/or service.
- Suitable for constant and variable flow applications (with optional accessories).
- Can be factory packaged and shipped on skids with the following accessory modules as an option to include: pumps, strainers, air separators, glycol feeders, storage tanks, expansion tanks and chemical pot feeders.

ADX

AIR-COOLED SCROLL MODULAR CONDENSING UNIT

- Air-cooled condensing units available in 10 to 60 ton units.
- Units are designed to be connected to a field-supplied evaporator.
- Refrigerant specialties are factory installed within the module.
- Single controller per unit with a customer provided demand signal.

MODULAR SOLUTIONS

MSA

AIR-COOLED SPLIT SCROLL MODULAR (REMOTE CONDENSER)

- Modular indoor air-cooled split system modules with remote air-cooled condensers.
- Available with fixed speed (10 to 100 tons) and True-Variable™ speed scroll compressors (15 to 50 tons).
- 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

WATER-COOLED SCROLL MODULAR CONDENSING UNIT

- Available in 10, 15, 20, 30, 40, 50, 70, and 85 ton sizes.
- Units are designed to connect with field-supplied evaporators.
- Each module has two independant refrigerant circuits.
- Refrigerant components are factory installed within the modules.
- Optional modulating valve for on-board head pressure control.
- Optional shell and tube condenser; brazed plate standard.

WHY
HEAT WITH MULTISTACK

A LEGACY OF INNOVATION. Multistack® is the originator and innovator of the modular chiller concept, holding several patentsthat have shaped the HVAC industry, including the original modular chiller and Dedicated HeatRecovery Chiller (DHRC) controls. The company has maintained a long-standing commitment to energy-efficient, low-impact heating and cooling systems that minimize environmental footprint while maximizing performance.

From its inception nearly 30 years ago, Multistack has continued to refine and expand its product offerings, incorporating cutting-edge technologies such as oil-free magnetic bearing compressors and advanced control systems. This dedication ensures customers receive reliable, future-ready heating solutions tailored to evolving building needs.

COMPREHENSIVE HEATING SOLUTIONS
Multistack offers one of the broadest arrays of heating technologies in the industry, enabling designers and building owners to meet unique performance, sustainability, and redundancy requirements.

WATER-COOLED & AIR-COOLED HEATING SOLUTIONS
Multistack provides a wide range of configurations including water-cooled and air-cooled heating units, scroll-based systems, a high temperature screw compressor system, and MagLev-powered heat recovery equipment—each engineered for high efficiency, flexibility, and low maintenance.

DEDICATED HEAT RECOVERY CHILLERS (DHRC®)
DHRC optimize the efficiency of building systems when simultaneous heating and cooling loads are preset. With heating efficiency more than three times higher than conventional boilers, these solutions deliver exceptional operational savings while reducing carbon emissions. DHRCs are versatile enough for domestic hot water, VAV reheat, and other hydronic heating demands.

MAGLEV® HEAT RECOVERY SOLUTIONS
The MFH water-cooled MagLev flooded heat recovery chillers leverage magnetic bearing compressor technology for ultra-quiet, oil-free, and highly efficient operation. Combine that with the one-of-a-kind shell configuration for the 8-PIPE heat pump and you can extend the benefit by tapping into a source sink loop

HEATING & COOLING WITH VME II SYSTEMS
Central plant geothermal that comes in a time tested package, coordinating the heat recovery, cooling only, and heating only modes. Multistack's controls optimize the coordination to use the heat you already own while saving on pump energy by right sizing the amount of water exchanged with the source sink loop. VME II Systems are available in a wide range of module sizes and compressor types including Scroll & MagLev®.

MODULAR AIR-TO-WATER AND WATER-TO-WATER HEAT PUMPS
Modular heat pumps allow scalable capacity and cost-effective redundancy—customers can add only what they need, growing systems over time with minimal disruption. These units support electrification strategies and utilize more environmentally friendly refrigerants.

BUILDING THE FUTURE OF HEATINGS
As the industry shifts toward electrification and low-carbon solutions, Multistack continues to lead with products that meet the moment—from geothermal heat pumps to advanced MagLev recovery systems. With a deep commitment to innovation, reliability, and sustainability, Multistack stands ready to support the next generation of high-performance buildings.

MSH

DHRC® SCROLL MODULAR

- Dedicated Heat Recovery Chillers (DHRC) are ideal for many water-heating applications.
- Dual and quad scroll modules.
- Available in 10 to 1,320 tons of capacity with fixed speed and True-Variable™ speed scroll compressors.
- Produce hot water up to 145F HW with R-454B and 175F with R-513A while simultaneously producing chilled water.
- Eliminate or reduce the need for boilers.
- Reduce carbon emissions and water consumption.
- DHRCs feature heating COPs of more than 3.0 and combined COPs of more than 7.0.
- Control up to 15 modules on a single master controller.
- Produce hot water up to 145°F with R-454B (all sizes), 175°F with R-513A (fixed speed sizes only), and 190°F with R-1234ze (185°F with R-515B), medium 2 comp sizes only, while simultaneously producing chilled water.

MSH_QUAD

QUAD SCROLL MODULAR CHILLER

- Available in 105, 135 and 165 tons.
- Module design incorporates two independent refrigerant circuits, each with a tandem scroll compressor set.
- Mix-match and combine modules to create multi-module arrays up to 1,320 tons of cooling capacity.
- Innovative modular design makes adding capacity as easy as installing more modules.
- Available Total Access™ Design – heat exchangers are on outer edges of frame for easy serviceability and compact footprint.
- 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 refrigerant, R-513A, R-1234ze, and R-515B are options.
- Optional modulating valves for variable primary flow applications.
- Produce hot water up to 145°F with R-454B (all sizes), 175°F with R-513A (fixed speed sizes only), and 185°F with R-1234ze (R-515B is an option) ,small QUAD sizes only, while simultaneously producing chilled water.

VME II

SCROLL MODULAR CHILLER OR HEATER

- Dual scroll compressor modules of 10 to 100 tons.
- Quad scroll compressor modules of 105, 135, and 165 tons of capacity are also available and may be mix-matched to create chillers of up to 1,320 ton capacity.
- 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.
- True-Variable™ speed scrolls available for 15 to 50 ton modules.
- On-board modulating valves provide precise temperature and head pressure control.

MSR

WATER-TO-WATER SCROLL MODULAR HEAT PUMP

- Modular heat pump with reversing valves.
- Available in 10 to 85 ton nominal capacity packages.
- 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.

MSH_M

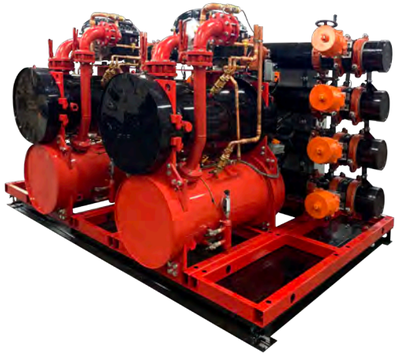
WATER-COOLED MAGLEV® MODULAR HEAT RECOVERY CHILLER WITH SHELL AND TUBE

- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145°F.
- Modular design available in 65, 85, 90, 95, 110, and 120 ton modules.
- Mix-match modules to provide up to 1400 tons of cooling in a single array.
- 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.
- Ideal for limited-space installations and fits through a standard doorway.
- Supports the environmentally sensitive design practice of electrification.

MSH_M_VMEII

CENTRAL STATION MAGLEV CHILLER HEATER

- Modular MagLev VME marries the efficiency of MagLev with VME.
- MagLev compressor modules of 90, 105, and 120 ton capacity are available and may be mix-matched to create chillers of up to 1,200 ton capacity.
- Low GWP refrigerants with no phase-out date: R-513A, R-515B, R-1234ze
- MagLev compressors provide extreme turndown that single compressor centrifugal chillers cannot achieve. This means greater system efficiency because compressor cycling is avoided and longer compressor life because of the avoidance of surge.
- 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_8 PIPE

WATER-COOLED MAGLEV®
8 PIPE HEAT PUMP

- MH-8-PIPE meets the efficiency of MagLev with WE and provides an elegant pipe-jackaged pipe-in-pipe central station heating/cooling solution delivering the highest system efficiency available.
- Scalable MagLev multi-compressor design delivers turndown across operational envelope that packaged equipment with 1 to 2 compressors cannot achieve. This means greater system efficiency because extreme compressor cycling is avoided and longer compressor life because of the avoidance of surge.
- E-PIPE is a geothermal friendly solution that can handle 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.
- MH-8-PIPE eliminates reversing valves, increasing simultaneous load efficiency by up to 30%.
- MH-8-PIPE operating algorithm automatically matches building heating and cooling load requirements by closing and/or opening the proportional 8-PIPE valves-maximizing efficiency all-in-one solution with the Building Automation System.
- Factory-engineered and fitted controls, valves, and piping ensure precise temperature and head pressure control while eliminating costly site labor and materials.
- Low GWP refrigerants with no phase-out dates: R-513A, R-515B, R-1234ze.

MFH

WATER-COOLED MAGLEV®
DEDICTATED HEAT RECOVERY CHILLER

- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145°F.
- Available in capacities starting at 65 tons.
- 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.
- Unrivaled efficiency—MagLev chillers deliver peak energy efficiency at heat recovery conditions.
- Supports the environmentally sensitive design practice of electrification.
- Helps qualify for USGBC LEED credits and other utility rebates.

MSH_G

VARIABLE SPEED SCREW
MODULAR CHILLER

- Available in a nominal 115 tons of capacity with integral variable speed screw compressors.
- Exceptional turndown (30%) while still making 165°F hot water thanks to the use of positive displacement screw compressors and their inherent resistance to surge.
- Produced hot water up to 175°F with R-1234ze while simultaneously producing chilled water.
- Flexible temperature ranges with approximately 120°F lift.
- Capacity of 80 tons is based on 44°F leaving chilled water and 165°F leaving hot water.
- Unloading capability to provide an operating range from 30 tons to 100 tons.
- DHRC's are 300-400% more efficient than boilers.
- Control up to 15 modules on a single master controller with FlexSys Control System.
- Available in 460 V.

HSH

PACKAGED DEDICATED HEAT
RECOVERY CHILLER

- Unit capacities of 5, 10, 15 and 30-tons.
- Use of 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.
- Simple, easy to install, highly efficient stand alone units requiring minimal floor space.
- Provides water temperatures up to 145°F.
- Uses environmentally friendly R-454b refrigerant.
- Single compressor configuration, 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 in all sizes, allowing use in systems that heat domestic hot water.
- Stainless steel cabinets, remote display panel, and BAS interface are among the long list of this unit's features.

ARA

AIR-TO-WATER SCROLL
MODULAR HEAT RECOVERY

- Modular heat pumps with air-cooled condensers are available in 30 to 85 ton capacities.
- Available with envelope expanding injection scrolls enabling hot water production to -15°F ambients.
- Operates in dedicated heat recovery, cooling or heating modes.
- 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.
- Units feature full four-pipe operation with a brazed plate condenser sized for full heat rejection — providing 4 to 6 times more heat than a desuperheater.
- ECM fans standard providing super-quiet operation with multiple additional options for sound sensitive applications.

ARP

AIR-TO-WATER SCROLL
MODULAR HEAT PUMP

- 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 in modules that easily connect to provide systems of 10 to 600 tons of capacity.
- Available with envelope expanding injection scrolls enabling hot water production to 0°F ambients.
- 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 needs.

AFH

AIR-COOLED MAGLEV
FLOODED INTEGRAL DHRC

- The next evolution of air-cooled flooded MagLev chillers feature available.
- Integral Heat Recovery (iDHRC). These chillers will be able to have one or both circuits capable of operating in heat recovery mode. Two compressors, one standard-lift and one high-lift, provide chilled water to the cooling load while the high-lift compressor rejects heat to a dedicated refrigerant-to-water heat exchanger or, if the heat is not needed, to the air-cooled condenser coils. This means that we sustainably recover heat that you already own to handle heating loads rather than burning fossil fuels.
- Integral heat recovery.
- Internally integrated controls for ACF and DHRC mean seamless single-source responsibility Integrated heat recovery capability reduces equipment room footprint Factory packaged solution reduces job site installation labor.
- Provides hot water up to 145°F for heating needs concurrent with cooling load.
- Modes of Operation
  - Cooling only (both circuits)
  - Cooling only (1 circuit) & DHRC (1 circuit)
  - Heat recovery only (both circuits)

WHY MAGLEV

MagLev® was born out of Multistack®'s bent to harness disruptive technology for the good of our customers and to drive growth for our shareholders. Multistack was the first in America to develop a production magnetic chiller solution, and we built our first prototype two decades ago. Everything we've learned is embodied in the third-generation chiller platform we call GEN III.

Magnetic compressors are more like computers in that effective optimization requires a sophisticated and reliable controls platform that is capable enough to deliver the full efficiency of magnetic technology. The differentiator in any chiller, but especially in MagLev, is controls. Only MagLev chillers can offer *Transitional Efficiency*℠ over the entire range of operation.

HIGH EFFICIENCY
MagLev achieves superb efficiency across the full range of operation. Our chiller design and control delivers outstanding part-load performance at all condenser-water or ambient temperature conditions.

OIL FREE
The MagLev compressor operates in a near frictionless environment completely free of oil. Chiller efficiency is sustained and documentable over the life of the machine. Being free of oil also allows for ultimate installation flexibility – split your MagLev system as needed without the worry of traditional compressor's challenge of "keeping the oil".

QUIET OPERATION
MagLev compressors are the quietest compressor technology available and are generally quieter than the background noise in the equipment room. No need for elaborate attempts to attenuate sound since your MagLev is quiet by nature.

POWERFUL FLEXSYS® CONTROLS
Third-generation FlexSys controls with software developed in-house allow one-to-one compressor control optimizing efficiency, cost and turndown by mixing compressor sizes. FlexSys also provides impressive auxiliary device control, and the recording and trending of massive amounts of operational data accessible via 18.5" full touch color screen.

MULTIPLE AND MIXED COMPRESSORS
Multistack pioneered the use of multiple magnetic compressors on a single set of shells. This means we can offer a level of redundancy unachievable by single or dual compressor machines. A single extra compressor can provide the redundancy required at a fraction of the cost. By mixing various compressor sizes, we can optimize your chiller's full load design while delivering the highest part-load efficiency, best turndown, and lowest cost on the market.

MAGLIFT™ HIGH PERFORMANCE ECO-MIZER
MagLift expands the operational envelope by enabling lower pressure ratios and impressive efficiencies. Low lift operation is optimized allowing for efficiencies often better than achievable by traditional economizer strategies.

MULTIPLE CONFIGURATIONS
MagLev is available in a wide variety of configurations and equipment types to match magnetic compressors to your most demanding applications:
- Water-cooled MagLev chillers
- Heat recovery MagLev chillers
- Split condenser MagLev chillers with remote air-cooled or adiabatically cooled condensers
- Air-cooled or water-cooled MagLev condensing units serving one or more AHU evaporators
- Air-cooled packaged MagLev chillers with optional on-board free cooling
- Modular MagLev chillers
- Modular water-cooled MagLev condensing units

We offer the most configurations of magnetic chillers of any manufacturer in the world.

TRANSITIONAL EFFICIENCY
FlexSys' one-to-one control means that compressors start individually, optimally, and efficiently and run with a well damped response to changes in building load. Other look-alike magnetic chillers have large excursions in energy consumption while the chiller chases the load as the building needs change throughout the day. This *Transitional Efficiency* resulting from the chillers' smooth and controlled response drives measurable energy savings.

DHRC ADVANTAGES
Dedicated heat recovery chillers (DHRC) utilizing MagLev compressors have distinct advantages over single-compressor systems. Turndown on single compressor centrifugal heat recovery chillers is difficult and, depending on water temperatures, they may only turn down to 70% capacity. MagLev chillers have multiple compressors that can be shutdown when not needed and can deliver turn down of greater than 90% depending on configuration. MagLev DHRC are also oil-free so there is never a worry about oil management at light load.

ACF

CONFIGURABLE PACKAGED AIR-COOLED MAGLEV® FLOODED

- Available capacities starting at 60 tons.
- Select the optimal combination of compressors and coil/fan count to deliver your choice of highest efficiency, lowest cost, or best value.
- Available MagLift™ hi-performance refrigerant pumpexpands the operational envelope by enabling lower pressure ratios and unheard of efficiencies. Eliminates need for water-side economizer.
- Near water-cooled efficiencies at air-cooled conditions with unprecedented part-load performance.
- MagLev technology offers a near-frictionless two-stage variable speed centrifugal compressor for maximum efficiency at all load conditions.
- Oil-free design eliminates performance degradation and ensures sustainable, documentable performance over the life of the chiller as well as reduced maintenance.
- 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 MagLift.

MFW

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

- Available capacities starting at 65 tons.
- 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 credits and other utility rebates.
- Among the industry's lowest per ton refrigerant charge.

MFH

WATER-COOLED MAGLEV FLOODED HEAT RECOVERY CHILLERS

- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145°F.
- Available in capacities starting at 65 tons.
- 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.
- Unrivaled efficiency—MagLev chillers deliver peak energy efficiency at heat recovery conditions.
- Supports the environmentally sensitive design practice of electrification.
- Helps qualify for USGBC LEED credits and other utility rebates.

MFH_8 PIPE

WATER-COOLED MAGLEV® 8 PIPE HEAT PUMP

- MH-8-PIPE meets the efficiency of MagLev with WE and provides an elegant pipe-jackaged pipe-in-pipe central station heating/cooling solution delivering the highest system efficiency available.
- Scalable MagLev multi-compressor design delivers turndown across operational envelope that packaged equipment with 1 to 2 compressors cannot achieve. This means greater system efficiency because extreme compressor cycling is avoided and longer compressor life because of the avoidance of surge.
- E-PIPE is a geothermal friendly solution that can handle 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.
- MH-8-PIPE eliminates reversing valves, increasing simultaneous load efficiency by up to 30%.
- MH-8-PIPE operating algorithm automatically matches building heating and cooling load requirements by closing and/or opening the proportional 8-PIPE valves-maximizing efficiency all-in-one solution with the Building Automation System.
- Factory-engineered and fitted controls, valves, and piping ensure precise temperature and head pressure control while eliminating costly site labor and materials.
- Low GWP refrigerants with no phase-out dates: R-513A, R-515B, R-1234ze.

MFA

AIR-COOLED MAGLEV® FLOODED CHILLERS WITH REMOTE SENSIBLE - ONLY CONDENSERS

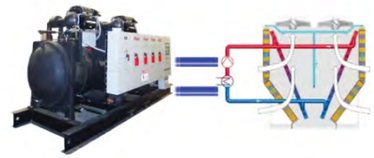
- Available capacities starting at 65 tons.
- Split-system air-cooled MagLev with oil-free, remote, sensible air-cooled condenser.
- MagLev chillers deliver peak energy efficiency at all load conditions.
- Remote air-cooled condensers provide design flexibility in placement and configuration.
- Eliminate towers, condenser pumps, and water treatment.

MFA_Adiabatic

AIR-COOLED MAGLEV FLOODED CHILLERS WITH REMOTE ADIABATIC CONDENSERS

- Available capacities starting at 65 tons.
- All the advantages of the remote condenser MSA plus.
- Lower installed cost than water-cooled by reducing the cost and complexity of controls, piping, commissioning, installation labor content
- Reduces installed cost vs water-cooled through lower cost components, piping, commissioning, and reduced labor content.
- Reduces maintenance by eliminating water treatment, condenser water pumps, system oil, and many system components.
- Simplified sequence of operations eliminates the need for suspect optimization strategies.
- Overall system efficiency better than or equal to comparable water-cooled systems.
- Tremendous water and energy savings, see charts below.

"Which system would you rather install, control, maintain, and service?"



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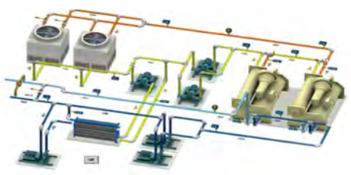
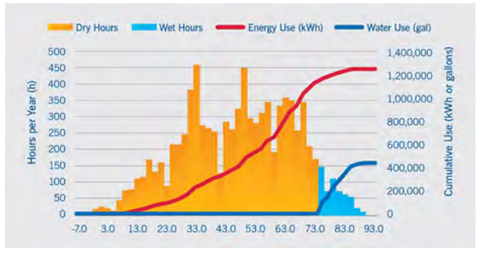
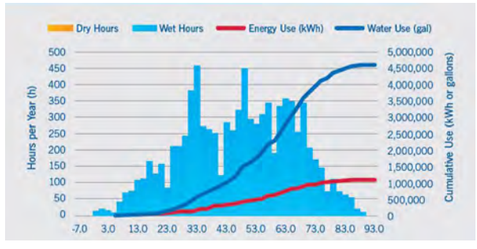




ANNUAL USAGE
Adiabatic in Water Priority Mode

400 Ton System Annual water and energy cost:
Adiabatic: $173,000
Evaporative: $205,000



ANNUAL USAGE
Evaporative Cooler/Condenser

Power and Water Rates:
Electricity rate: $0.10 / kWh
Demand charge: $11.00 / kW / mo.
Water & sewage: $8.00 / kgal
Water Treatment: $4.00 / kgal

Ask your Multistack rep about utility rates used and how savings may apply in your region.

WHY MULTISTACK

MORE THAN JUST MODULAR CHILLERS

Multistack's culture of customer driven innovation has strengthened our position as a market leader focused on building environmentally sustainable, energy-efficient solutions that fully support the transition from fossil fuels to renewables through electrification.

This can be seen today in our full array of products including modular, packaged, and heat recovery chillers, heat pumps, and airside energy recovery systems. We will continue to lead by embracing new refrigerants and disruptive technology.

PF_AHU

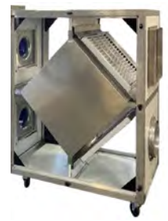
PERFECT FIT CUSTOM AIR HANDLING UNITS

- Custom-built units fit any mechanical room or roof curb,ensuring seamless integration with existing site conditions.
- Available in sizes from 5,000 to 100,000 CFM, meeting small to large-scale air handling requirements.
- Modular or one-piece shipping options allow easy installation through elevators, staircases, and tight spaces.
- Corrosion-resistant double-wall aluminum or painted steel enclosures with full thermal break for durability and efficiency.
- ECM fan array delivers lower energy consumption, quieter operation, and higher capacity in the same footprint.
- Bolt-based assembly technology with membrane tape and compression plate ensures quick, hassle-free installation.
- Optional features include packaged DX cooling, energy recovery systems, advanced controls, and acoustical insulation.

Aura DOAS

DEDICATED OUTSIDE AIR SYSTEM

- AHRI-certified fixed-plate heat exchanger ensures >65% total energy effectiveness with zero air crossover leakage for superior IAQ.
- Non-porous nanotechnology membrane blocks VOCs, CO_2, bacteria, and viruses while transferring heat and humidity efficiently.
- ECM fans deliver up to 30% energy savings without costly VFDs, offering redundancy and quiet operation.
- Integrated DX cooling, dehumidification, and hot-gas reheat maintain optimal humidity (40–60%) for occupant health and comfort.
- Meets ASHRAE 90.1 and 189.1 standards for highperformance buildings, ensuring compliance and sustainability.
- Modular design supports capacities from 500 to 5,000 CFM with customizable heating options (gas, hot water, steam).
- Lowest life-cycle cost through reduced energy consumption and easy maintenance with no moving parts in the core.



AuraGreen

FIXED PLATE ENERGY RECOVERY VENTILATOR

- Airside energy recovery for reduced outside air load.
- Total energy, fixed plate enthalpic cores for sensible and latent energy recovery.
- No moving parts in the heat exchanger means low maintenance and reliable performance.
- No cross-contamination between airstreams so it can be used in areas with offensive odors.
- Optional bypass for free cooling offers additional energy savings.
- Integrated controls are optional.
- Energy efficient ECM plenum fans are an option on all units.
- Sizes from 200 to 20,000 CFM for stand-alone units.
- Double wall construction with foam insulation is standard.
- Wide variety of customizable configurations.

MULTIPRO CENTRAL PLANT CONTROLLERS

MultiPRO is a building automation tool that works with any chiller array and seamlessly interfaces with the built-in BAS to deliver optimization of your entire system.

CUSTOMER DRIVEN INNOVATION

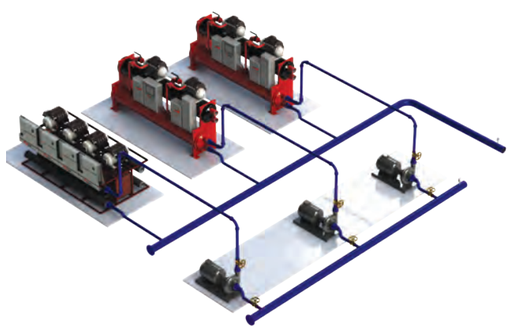
MultiPRO

CENTRAL PLANT CONTROLLER

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 mechanical room run most efficiently. Using intelligence 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:

- Intelligence 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 coded 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

CENTRAL PLANT CONTROLLER

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.

FEATURE COMPARISON

	MULTIPRO®	MULTIPRO® CORE
Desktop, Tablet or Mobile Friendly HTML 5 User Interface		
Hardware	 Next generation industrialised hardware platforms. 534 series controller or DEG-3000 series controller	
Chiller Command	✓	✓
Chiller Staging	✓	✓
Traditional Chiller Sequencing	✓	✓
Optimised Chiller Sequencing	✓	✗
Chilled Water & Condenser Water Pumping	✓	✓
Cooling Tower Control	✓	✓
Enhanced Plant, Chiller, Pump & Tower M&V	✓	✗
Diagnostics	✓	✗
Basic Alarming	✓	✓
Enhanced Alarming	✓	✗
Plant Schematics	✓	✗
Building Manager	✓	✓
Automatically Generated Reports	✓	✗