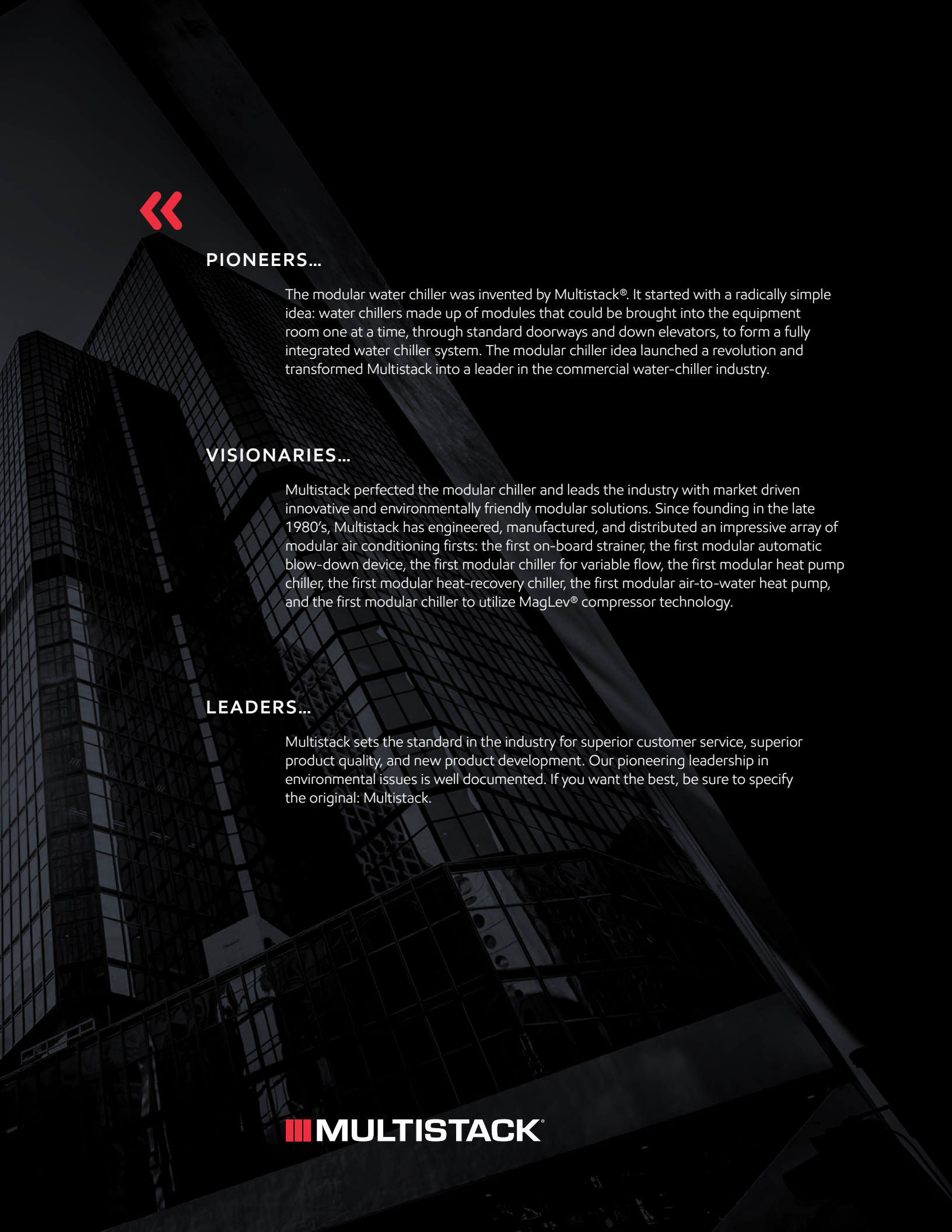
MULTISTACK

MULTISTACK SOLUTIONS

CUSTOMER DRIVEN INNOVATION

multistack.com



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 leader in the commercial water-chiller industry.

VISIONARIES...

Multistack perfected the modular chiller and leads the industry with market driven innovative and environmentally friendly modular solutions. Since founding in the late 1980's, Multistack has engineered, manufactured, and distributed an impressive array of modular air conditioning firsts: the first on-board strainer, the first modular automatic blow-down device, the first modular chiller for variable flow, the first modular heat pump chiller, the first modular heat-recovery chiller, the first modular air-to-water heat pump, and the first modular chiller to utilize MagLev® compressor technology.

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: Multistack.

MULTISTACK®

CONTENTS

ABOUT US

A HISTORY SPANNING OVER 30 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 leader in the commercial water-chiller industry.

Multistack perfected the modular chiller and leads the industry with market-driven innovation and environmentally friendly modular solutions. Since its founding in the late 1980s, Multistack has engineered, manufactured, and distributed an impressive array of modular air conditioning firsts: the first on-board strainer, the first modular automatic blow-down device, the first modular chiller for variable flow, the first modular chiller/heater (heat pump), the first modular heat-recovery chiller, the first modular air-to-water heat pump, and the first modular chiller to utilize MagLev® compressor technology.

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.

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.

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 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!

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 are virtually always compliant with ASHRAE 15 and CSA B52 standards, which means you can do without auxiliary ventilation, monitoring, and SCBA equipment. The result? Big savings in terms of cost and installation time, not to mention an operational advantage when it comes to obtaining LEED certification.

STOCK/SPEED OF DELIVERY

Because we place our customer needs above all else, we are available to deliver worldwide on very short notice. We maintain a core inventory of the most popular modules and are agile enough to shift production schedules as needed, so that we can satisfy virtually any emergency shipping requirement.

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.

MODULAR SOLUTIONS

This simple idea allows clients to purchase only what they need and leave room for future expandability all with the added benefits of enhanced efficiency and redundancy.

CASE STUDIES

VISIT **MULTISTACK.COM** FOR MORE ON OUR CASE STUDIES

- EMPIRE STATE BUILDING
- CHAUTAUQUA INSTITUTE
- SPENCER BREWERY
- J.CRAIG VENTER INSTITUTE

MSS

WATER-COOLED
SCROLL MODULAR

- Available in 10, 20, 30, 40, 50, 70, and 85 ton sizes with fixed speed scrolls.
- True-Variable™ speed scroll compressors available on 10 to 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.
- Micro R-410A refrigerant micro-charge typically meets ASHRAE 15 requirements without mechanical room monitoring or ventilation.
- Optional modulating valves for variable primary flow applications.
- Optional shell and tube heat exchangers; brazed plate standard.

MSS

QUAD SCROLL
MODULAR CHILLER

- Available in 105, 135, 145, 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.
- Micro R-410A refrigerant micro-charge typically meets ASHRAE 15 requirements without mechanical room monitoring or ventilation.
- Optional modulating valves for variable primary flow applications.

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 140F with R-410A and 175F with R-134a while producing simultaneous chilled and hot 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.

VME II

SCROLL MODULAR
CHILLER OR HEATER

- Dual scroll compressor modules of 10 to 85 tons.
- Quad scroll compressor modules of 105, 135, 145, 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 10 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.

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 85 tons) and True-Variable™ speed scroll compressors (10 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.

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.

ARA

AIR-TO-WATER SCROLL
MODULAR HEAT RECOVERY

- Modular heat pumps with air-cooled condensers are available in 20 to 60 ton capacities.
- 30 ton modules available with envelope expanding injection scrolls enabling hot water production to 0F 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.
- 30 ton modules available with envelope expanding injection scrolls enabling hot water production to 0F 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.

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.

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.

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 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.

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.

J. CRAIG VENTER INSTITUTE

Headquartered in Rockville, Maryland, JCVI started planning for a new laboratory and office building on the West Coast in 2005. The new facility, completed in 2013, is situated on the UC-San Diego campus, overlooking the Pacific Ocean. Every aspect of the 44,600 square-feet, three-story building was designed with the environment in mind and to achieve two goals: Net zero energy use by generating on-site as much energy as the building consumes, and water conservation in the semi-arid part of the U.S. The building also achieved USGBC LEED Platinum designation. These goals were met using a multi-faceted approach to building design and construction.

Read more on **multistack.com**

PRINCETON UNIVERSITY

Since the 1960s Princeton University's district chilled water system has grown from serving a few thousand tons of cooling demand to a peak demand of 15,000 ton. The system now includes 180 buildings and 13 miles of chilled water piping connected to eight electric and steam driven chillers totaling 20,000 tons cooling capacity plus a thermal energy storage system of 40,000 ton-hours. The steam-drive chillers use "waste" steam from a 15-megawatt cogeneration system. Read more on **multistack.com**

MAGLEV SOLUTIONS

Multistack® has harnessed cutting edge technology with its full array of oil-free, Magnetic Levitation Centrifugal offerings. MagLev® Technology is at the heart of an almost unlimited suite of solutions providing premium efficiency, easy maintenance, extended lifetime, and low sound operation.

CASE STUDIES

VISIT **MULTISTACK.COM** FOR MORE ON OUR CASE STUDIES

- UNIVERSITY OF HAWAII- MOORE HALL
- WELLSTAR WINDY HILL HOSPITAL
- PRINCETON UNIVERSITY
- AIRCO YGRENE ENERGY

ACF_M

CONFIGURABLE PACKAGED
AIR-COOLED MAGLEV® FLOODED

- Available in 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 pump expands 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 refrigerant free cooling.

MSF_M

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

- Available in capacities starting at 80 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.

MSF_H

WATER-COOLED MAGLEV FLOODED HEAT RECOVERY CHILLERS

- Heat recovery chillers are ideal for many water-heating applications. Water temps up to 145F.
- Available in capacities starting at 80 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.

MS080T

WATER-COOLED MAGLEV MODULAR WITH BRAZED PLATE

- Available in 80 ton modules. Up to 8 modules per chiller (640 tons).
- Modular water-cooled MagLev chiller with oil-free, magnetic levitation bearings in a centrifugal compressor.
- Quieter than typical background noise.
- Superior part-load efficiency.
- Integrated VFD control.
- Environmentally friendly R-134a refrigerant; low refrigerant volume qualifies for LEED EA credit superior dependability.
- Multiple independent systems for redundancy.
- Ideal for limited space installations and fits through a standard doorway.

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 145F.
- Modular design available in 90, 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.

MSS_M

WATER-COOLED MAGLEV MODULAR WITH SHELL AND TUBE

- Modular design available in 90, 120, 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.

MSA_M

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

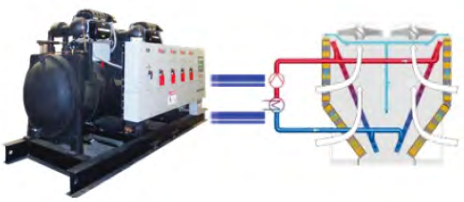
- Available in capacities starting at 80 tons.
- Split-system air-cooled MagLev with oil-free, remote, sensible air-cooled condenser.
- MagLev chillers deliver peak energy efficiency at all load conditions.
- Remote air-cooled condensers provide design flexibility in placement and configuration.
- Eliminate towers, condenser pumps, and water treatment.

MSA_Adiabatic

AIR-COOLED MAGLEV FLOODED CHILLERS WITH REMOTE ADIABATIC CONDENSERS

- Available in capacities starting at 80 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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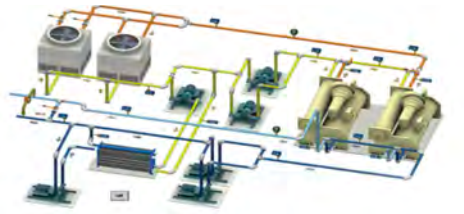
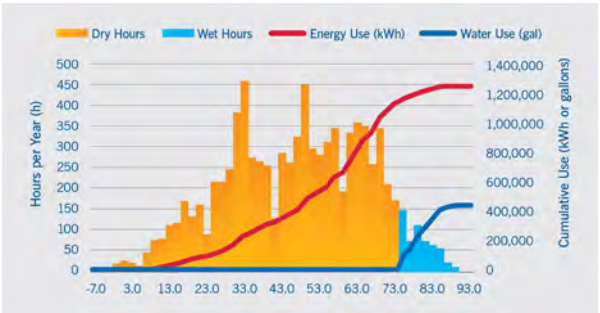
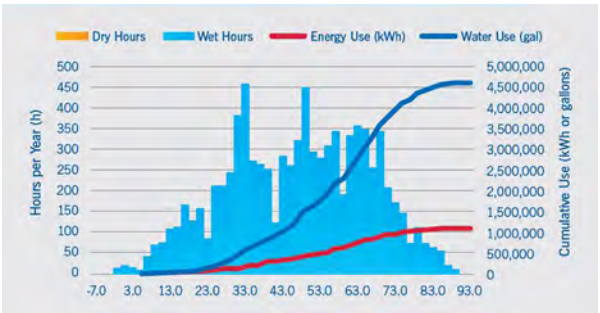




ANNUAL USAGE
Adiabatic in Water Priority Mode

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.


Airstack
Airstack
Airstack

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.

Multistack's history of customer driven innovation has made our name synonymous with custom chiller options. Every crazy idea started with one yes, and our history has shown that those ideas might not be that crazy. We pride ourselves on our engineering team that can design your ideas from start to finish no matter what custom options you need.

Multistack® sets the standard in the industry for superior customer service, fast and on time shipment, 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: Multistack.

PACKAGED SOLUTIONS

Multistack's culture of innovation and history of leveraging cutting edge technology continues today with our packaged solutions. Our packaged chillers offer a wide array of applications and customization options directly from the factory.

ASC

AIR-COOLED SCROLL

- Efficient, reliable, and compact ASC package chillers with tandem and trio scroll compressors.
- R-410A refrigerant with dual refrigerant circuits per chiller for excellent load flexibility, reliability, redundancy, and serviceability.
- Fixed-speed, low-sound condenser fans standard; ECM fans optional. Fan sizes tailored to specific circuit requirements.
- Coils designed for customers' specific needs with numerous coating options.
- Latest controller technology from Carel with WiFi, USB 2.0 port for PC connection, local and remote connectivity, multitask operating system.
- Low ambient option to -20F.
- Sound pressure levels from 64 to 78 total dBA at 30 feet. Low sound options include compressor covers and discharge attenuators.
- 120 VAC convenience outlet. Options on select sizes include desuperheaters, pumps, expansions tanks, glycol feeders.

ASC_D

AIR-COOLED SCROLL
CONDENSING UNIT

- Efficient, reliable, and compact ASC packaged condensing units with single, tandem, and trio scroll compressors.
- R-410A refrigerant with dual refrigerant circuits per condensing unit for excellent load flexibility, reliability, redundancy, and serviceability.
- Fixed-speed, low-sound condenser fans standard; ECM fans optional. Fan sizes tailored to specific circuit requirements.
- Coils designed for customers' specific needs with numerous coating options.
- 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.
- Low ambient option to -20F.
- Sound pressure levels from 64 to 78 total dBA at 30 feet. Low sound options include compressor covers and discharge attenuators.
- 120 VAC convenience outlet. Options on select sizes to include desuperheaters

ASM

AIR-COOLED SCROLL
CHILLER (MEDICAL/
PROCESSING CHILLER)

- ASM packaged chillers available in 8 to 30 ton capacities with integral pump(s) and buffer tank options.
- Dual refrigeration circuits and electronic expansion valves for precise control and reliable operation.
- EC fan motors with the latest fan blade technology.
- Microprocessor controls interoperable with all major controls protocols.
- Web-based remote monitoring and diagnostics.
- Available in stainless steel construction, stainless steel components, or with epoxy paints and coil coatings.

HSS

HEATSTACK®
SCROLL HEATER

- 3 to 30 tons of capacity for cooling or heat recovery.
- Ideal for smaller commercial buildings or zones within a large building.
- Simple, easy to install, highly efficient stand alone units require minimal floor space.
- Provides water temps up to 175F.
- Available in single-phase power models up to 5 ton capacity.
- Available in up to 30 ton capacity using R-410A or R-134a refrigerant.
- Single compressor configurations, full-featured digital controls, electronic expansion valves with high and low pressure switches, and unit-mounted thermal dispersion flow switch.
- Options include double-wall heat exchangers in select sizes, stainless steel cabinets, freeze stat, remote display panel, water pumps, and BAS interface.

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

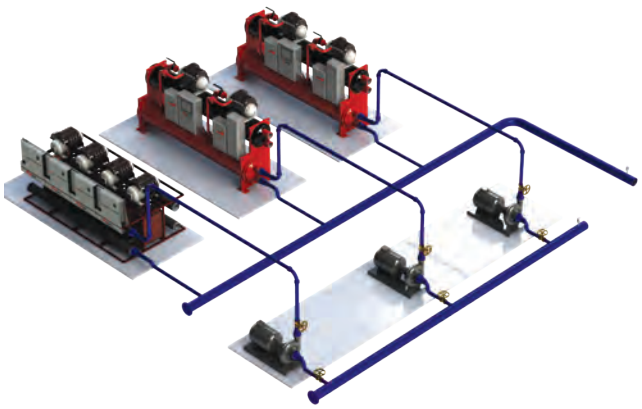
MultiPRO

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	✓	✗

Aura HEPA + UV

HIGH EFFICIENCY
AIRBORNE INFECTION
AIR FILTRATION UNITS

- High capacity and high efficiency airborne infection air filtration units.
- Portable all aluminum stand alone or ducted, 120/1/60 plug in power connection.
- Variable speed control of up to 1800 CFM of air handling for high air change recirculation or negative pressure isolation rooms.
- Free flow top air inlet and field switchable free flow floor or ducted clean air exhaust connection for negative pressure applications.
- Up to 4 or 6 inlet connections for multi classrooms applications.
- Up to 1800 CFM.
- Fully modulating ECM fan.
- MERV 8 pre-filter.
- High capacity, long service life V-bank Gel Seal frame HEPA filters rated at 99.99% @ 0.30 microns.
- Easy to maneuver lockable casters .
- 12 feet cord with plug.

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.

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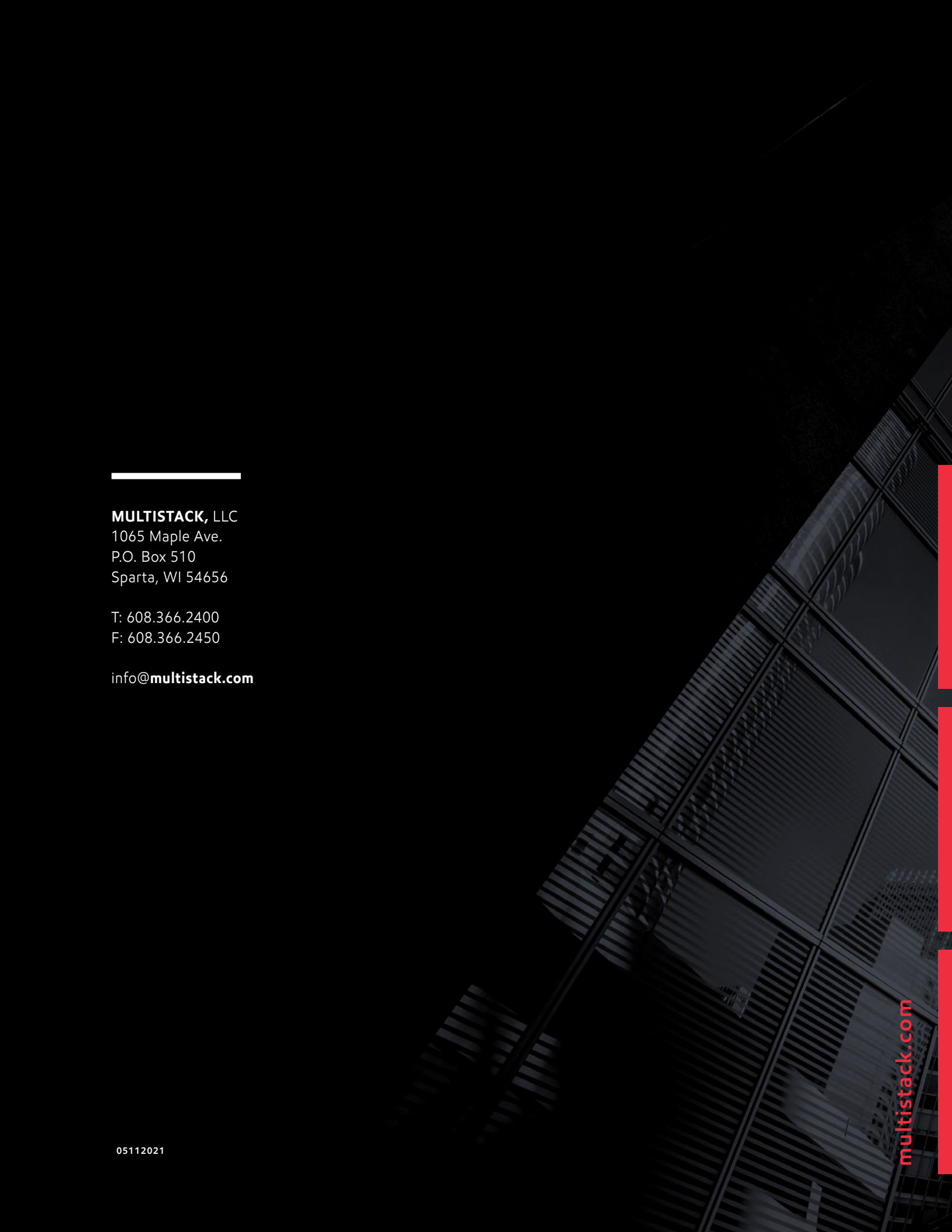

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