



LZ Series



CHILLERS AND OUTDOOR MECHANICAL ROOMS



Air-Cooled



Evaporative-Cooled

Features:

- Air-cooled condenser chillers with capacities from 45-200 tons
- Evaporative-cooled condenser chillers with capacities from 53-540 tons
- Staged or VFD controlled variable speed R-410A scroll compressors
- Turbocor variable capacity oil-free magnetic bearing R-134a centrifugal compressors
- High efficiency brazed plate or shell and tube evaporators
- Factory installed 98% efficiency condensing boilers with input capacities from 400-6,000 MBH
- Factory engineered and installed pumping packages
- Lighted walk-in service vestibule
- Service access doors with full length stainless steel piano hinges and zinc cast lockable handles
- Factory installed DDC controller compatible with BACnet®, Modbus®, and LonTalk® protocols

Application Flexibility
Minimizes Installation Time and Reduces Cost

- *Factory Installed Pumping Packages*
- *Variable Capacity Compressors*
- *Easy to Install and Service*
- *Factory Installed Boilers*

LZ Series Chillers

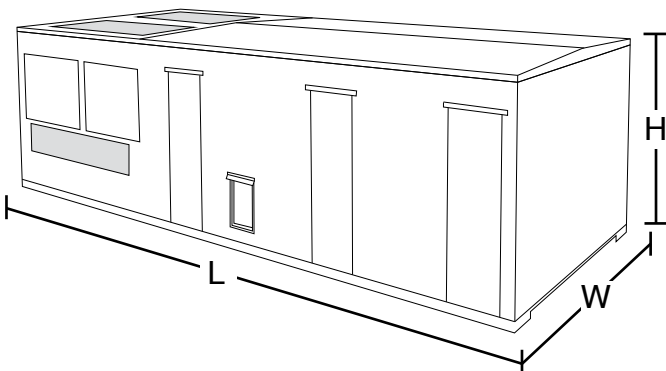
AAON LZ Series chillers and outdoor mechanical rooms are engineered for premium performance and superior serviceability. Variable capacity compressors and high efficiency air-cooled or evaporative-cooled condensers are available to maximize performance. All models feature double wall rigid polyurethane foam panel construction with walk-in service compartments that allow maximum accessibility when installing and maintaining the equipment. LZ Series chillers can also be provided with factory engineered and installed pumping packages and factory installed boilers, eliminating the need for an indoor mechanical room.

Superior Features

- Staged or VFD controlled variable speed R-410A scroll compressors or Turbocor variable capacity oil-free magnetic bearing R-134a centrifugal compressors are available for load matching cooling and increased part load efficiency.
- Compressors are installed with rubber isolation mounts on structural decks for quiet and efficient operation.
- Factory installed and insulated shell and tube or brazed plate evaporators are reliable and energy efficient.
- High efficiency evaporative-cooled condensers or microchannel air-cooled condensers are designed to maximize the performance of the chiller.
- Factory installed, microprocessor controlled, three chemical, water treatment system is standard with an evaporative-cooled condenser saving installation and maintenance time and money.
- Two inch double wall rigid polyurethane foam panel construction provides R-13 thermal resistance, makes the cabinet more rigid and resistant to damage, and attenuates radiated compressor and pump sound.
- Controls, compressors, evaporator and water system are accessed through a lighted walk-in cabinet that shields components and service personnel from weather and the outdoor elements year round. Service vestibule can be independently heated and cooled for comfort while maintenance is performed on the unit. Aluminum tread plate flooring is included in equipment access areas for improved durability and safety.
- Access doors with full length stainless steel hinges and zinc cast, lockable handles make the unit easily serviceable.
- Designed for outdoor operation, the LZ Series includes corrosion resistant exterior paint which exceeds a 2,500 hour salt-spray test.
- Single point electrical connection saves installation costs.
- Factory provided and installed DDC controller is compatible with BACnet®, Modbus®, and LonTalk® protocols.
- Run test report, color-coded wiring diagram, and Installation, Operation, and Maintenance manual with startup form are included in the control compartment.

Premier Options

- Factory installed primary or primary/secondary pumping systems in either constant or variable flow configurations.
- VFD controlled pumps for precise control and reduced power consumption.
- Factory installed 98% efficiency condensing boilers provide energy efficient heat and save valuable interior building space.
- Factory installed compressor isolation valves, water system thermometers, and pressure gauges save installation time at the job site.
- Diaphragm expansion/compression tanks can be pre-engineered and factory installed in the water system of the LZ Series outdoor mechanical room.
- Glycol chillers for refrigeration or low ambient cooling applications.
- Factory installed option boxes add space for field installed components or service access.
- Waterside economizer configurations can meet difficult design applications while maintaining high unit efficiencies.
- 5 year non-prorated compressor warranty.
- Auxiliary electric heating and/or chilled water cooling can be provided in the service vestibule.
- MCS Magnum Controller Touchscreen Computer Interface allows monitoring and adjustment of the complete hydronic system.



Comfort or Process Cooling

LZ Model Chiller Capacity (tons)	Condenser Type	Boiler Input Capacity	Waterside Economizer	Width	Height	Length						
Turbocor R-134a Centrifugal Compressors Chillers												
090	Air-Cooled	400-6,000 MBH	50-450 tons	142	104	Length varies depending on size and options selected.						
120												
181												
090	Evaporative-Cooled	400-6,000 MBH	50-450 tons	142	104	Length varies depending on size and options selected.						
120												
150												
180												
181												
240												
300												
360												
450												
540												
R-410A Scroll Compressors Chillers												
045							Air-Cooled	400-6,000 MBH	50-450 tons	142	104	Length varies depending on size and options selected.
055												
060												
075												
095												
105												
120												
140												
170												
200												
053	Evaporative-Cooled	400-6,000 MBH	50-450 tons	142	104	Length varies depending on size and options selected.						
061												
069												
078												
106												
121												
134												
161												
193												
239												
274												
319												
356												
401												
441												
478												

All dimensions are in inches.

Precise Chilled Water Delivery

Outdoor Mechanical Room Package

LZ Series packaged outdoor mechanical rooms are ideal for new construction, building retrofits, equipment expansion, system redundancy, or temporary chilled water applications. Walk-in service compartments provide access to controls, compressors, evaporator, and optional boilers, waterside economizer, and pumping packages.

Factory Installed Pumping Packages

Factory engineered, installed, and tested primary or primary/secondary pumping systems, in either constant or variable flow configurations, save field installation costs and valuable interior mechanical room building space. VFD controlled pumps provide precise control and reduce power consumption at part load. All pump packages include a factory installed in-line air separator, strainer, pump, and combination valve (isolation, check, and flow balancing) in the water system. Redundant and dualArm pumps are available for system for standby or parallel pump systems. Grooved end piping and fittings are standard with LZ Series chillers. AAON ECat selection software allows quick and easy selection of proper pumping package components and includes pump performance curves and water piping diagram.



^ **Turbocor** Oil-Free Magnetic Bearing Variable Capacity Centrifugal Compressor



Factory Installed Chiller and Pumping Package



Staged or VFD Controlled Variable >> Speed Scroll Compressor

Variable Capacity Compressors

LZ Series chillers are available with staged or VFD controlled variable speed R-410A scroll compressors for load matching cooling capabilities and increased part load efficiency. Turbocor variable capacity R-134a centrifugal compressors provide load matching cooling capabilities, with quiet energy efficient operation. During part load operation, reducing compressor capacity saves system operation costs. Low turndown capabilities minimize water loop volume required to maintain a stable setpoint temperature.

Easy to Install, Service, and Maintain



^ Microchannel condenser coils are more efficient, lighter, and use less refrigerant than traditional fin and tube condenser coils.

Air-Cooled Condenser

Air-cooled condenser is designed for quiet, energy efficient operation. Coils are sloped to prevent fin damage and coils facing outwards are protected by perforated metal screens. VFD controlled variable speed condenser fans are available for head pressure control at off-design ambient conditions. Low ambient option allows cooling operation at 0°F. Polymer e-coated air-cooled condenser coils are available to extend the life of the coils and protect them in corrosive environments.

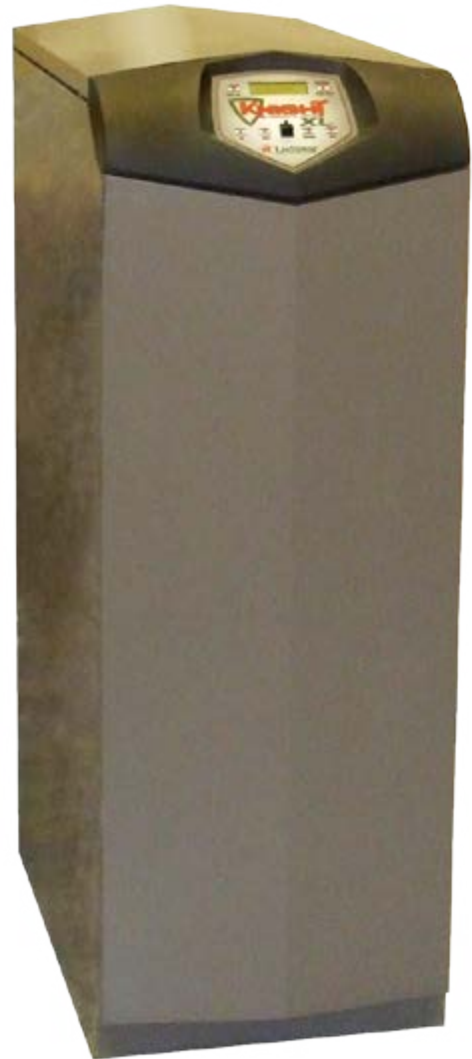
Factory Installed 98% Efficiency Condensing Boilers

Factory installed natural gas condensing boilers, with input capacities from 400-6,000 MBH, save interior mechanical room space and provide energy efficient heat. Multiple boilers input are available within a single LZ Series outdoor mechanical room for extra capacity or redundancy. Both 20°F ΔT and 40°F ΔT boilers operate with up to a 98% thermal efficiency, a fully modulating burner and a low NOx rating. The boiler heat exchanger is constructed of stainless steel and the burner includes direct-spark ignition. These boilers also include factory provided controls with a built-in cascading sequencer to optimize operation.



<< Factory installed glycol feeder allows glycol to be easily added to the fluid loop to help prevent freezing at low ambient temperatures.

98% Efficiency >>
Condensing Boiler



Chiller + Boiler + Pumps + Controls = Package Savings

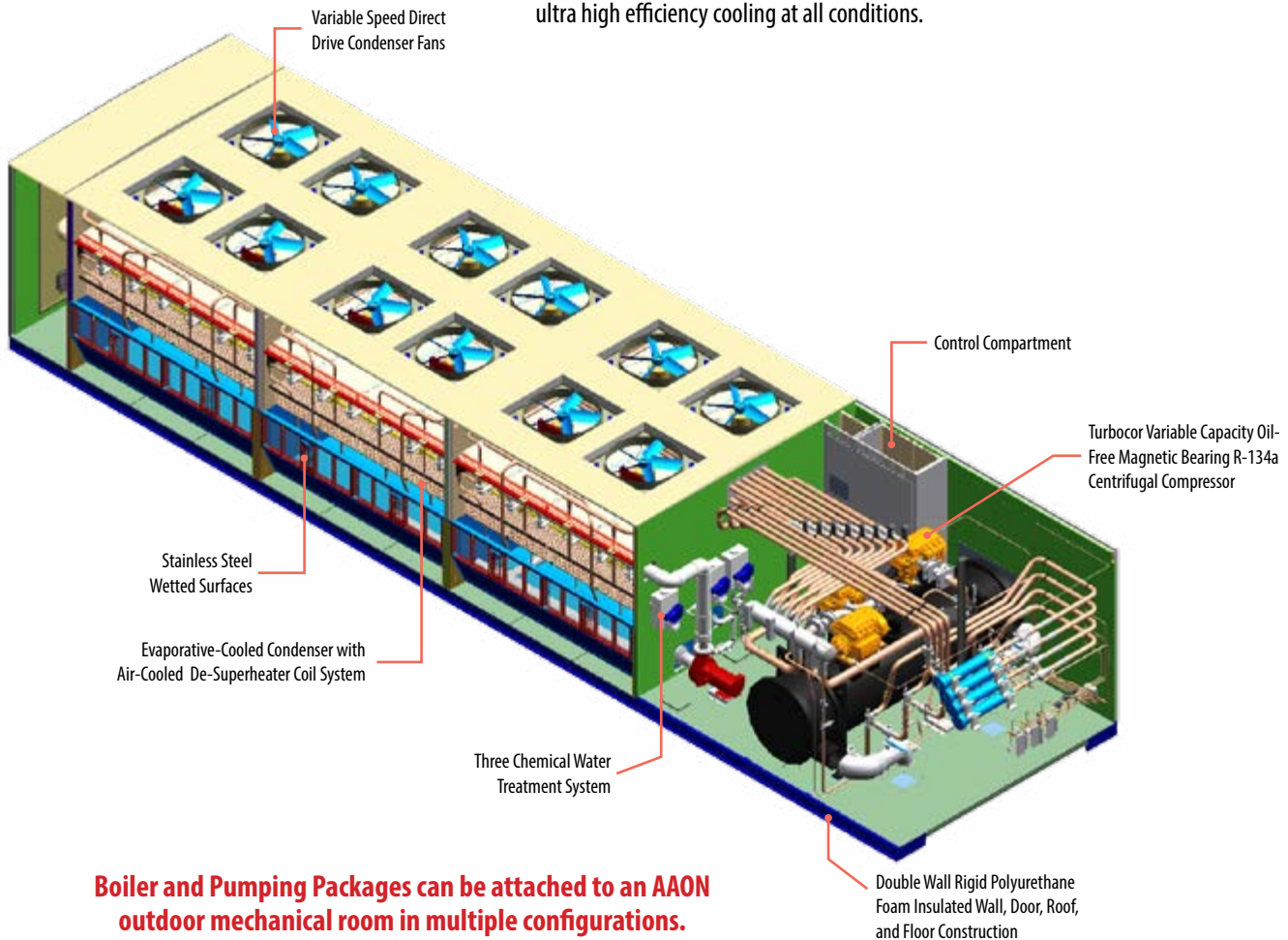
Evaporative-Cooled Condenser

Factory installed evaporative-cooled condenser is available for ambient wet bulb condensing. AAON engineered evaporative-cooled condenser, with air-cooled de-superheater and VFD controlled variable speed condenser fans, uses 22-100% less water than a conventional evaporative-cooled condenser and require 22-100% less chemical usage than a conventional evaporative-cooled condenser. Interior of evaporative-cooled condenser is constructed of 304 stainless steel and other non-corrosive materials. De-superheater coils include polymer e-coating for corrosion protection.

AAON evaporative-cooled condensing saves costs when compared with a water-cooled chiller system because the water treatment system is factory installed and evaporative-cooled condensing does not require field installation of a cooling tower or condenser water pumping.

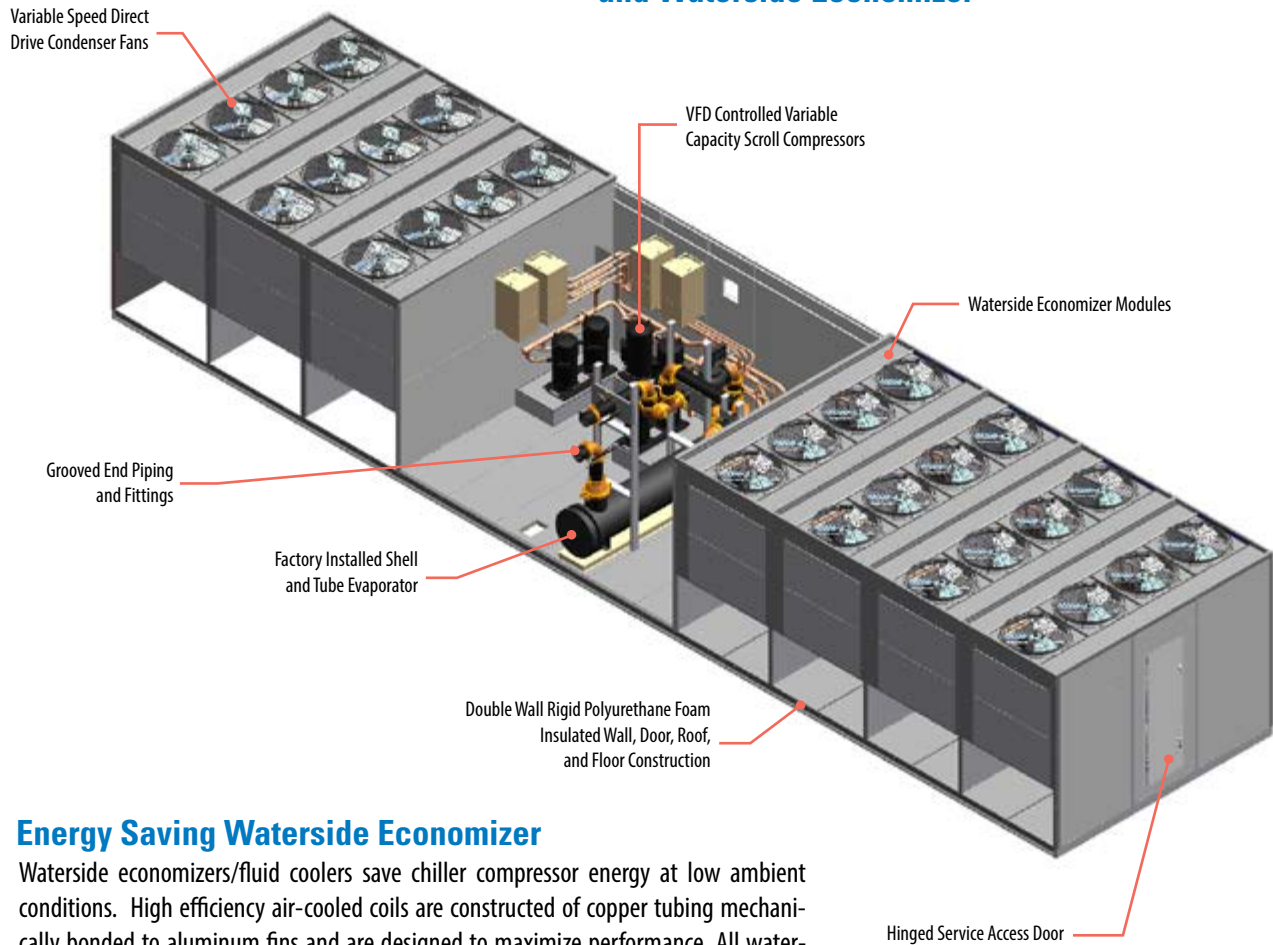
The Evaporative-Cooled Condenser LZ Series with Turbocor Compressors is the most energy efficient chiller available. It eliminates the water-to-water heat exchanger required in conventional chilled water systems, because the refrigerant gas is directly cooled by the condenser water and air. The oil-free compressor design allows the system to provide ultra high efficiency cooling at all conditions.

540 ton Outdoor Mechanical Room with Turbocor Compressors



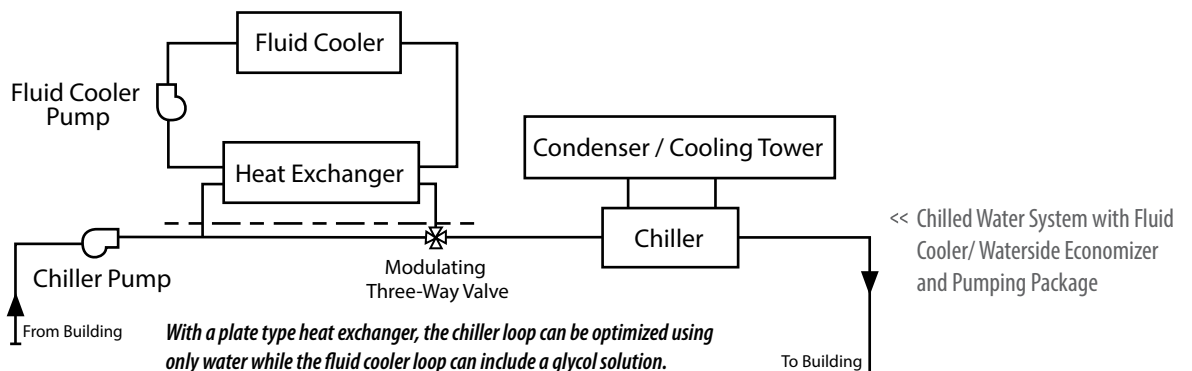
Waterside Economizer = Free Cooling

200 ton Outdoor Mechanical Room with Air-Cooled Condenser, Scroll Compressors, and Waterside Economizer



Energy Saving Waterside Economizer

Waterside economizers/fluid coolers save chiller compressor energy at low ambient conditions. High efficiency air-cooled coils are constructed of copper tubing mechanically bonded to aluminum fins and are designed to maximize performance. All waterside economizers can be selected with VFD controlled fans that save energy costs and reduce sound levels. Isolated modular construction of the waterside economizer allows each module's fans to be controlled independently. Modular construction also allows matching the capacity to the application requirements



AAON Environmentally Friendly HVAC Product Family

**Custom & Cataloged
Air Handling Units** ■.....
(800-200,000+ cfm)

Condensers & Condensing Units ■.....
(2-230 tons)

**Chillers (Air-Cooled &
Evaporative-Cooled)** ■.....
(4-540 tons)

Rooftop Units ■.....
(2-240 tons)

Outdoor Equipment Rooms ■.....
(Chillers, Boilers & Pumps)

Self-Contained Units ■.....
(3-70 tons)

Residential Systems ■.....
(2-5 tons)

Geothermal & WSHP Units ■.....
(2-230 tons)

Air-Source Heat Pumps ■.....
(2-230 tons)

Heating and Cooling Coils ■.....
(Booster, Hydronic, & DX)

Fluid Coolers ■.....
(50-450 tons)

Heating and Cooling *for...*

Auditoriums
Convenience Stores
Health Clubs
Healthcare Facilities
Homes
Lodgings
Manufacturing
Museums & Libraries
Natatoriums
Office Buildings
Restaurants
Retail Stores
Schools
Supermarkets



Defining Quality. Building Comfort.

2425 S. Yukon Ave.
Tulsa, OK 74107-2728
www.AAON.com

It is the intent of AAON to provide accurate and current product information. However, in the interest of product improvement, AAON reserves the right to change pricing, specifications, and/or design of its product without notice, obligation, or liability. Copyright © AAON, all rights reserved throughout the world. AAON® and AAONAIRES® are registered trademarks of AAON, Inc., Tulsa, OK.