KEYTER



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Air-to-water multiscroll chillers

❄ 116-561 kW

Multi-Scroll · heat recovery · DHW

modular option

Version designed for modular assembly with Victaulic pipe connections for easy and quick interconnection

Up to 8 modules ->116-932 kW

Partial or total heat recovery systems to support the production of domestic hot water (DHW).

Free cooling water system

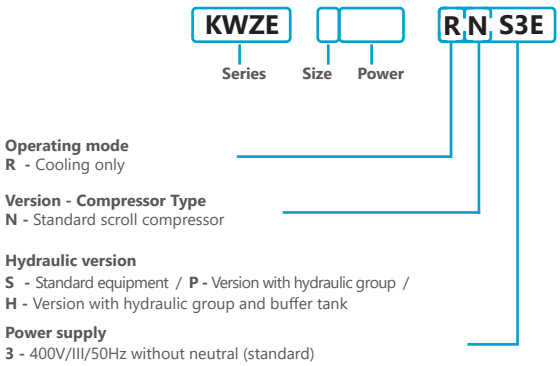
Adaptation and Environment

- Reduced refrigerant charge of low-GWP HFO R-1234ze, minimizing the CO_2 footprint (99.9% less GWP than R-410A and 99.5% less than R-32).
- Equipped with state-of-the-art hermetic scroll DSG compressors designed in tandem and state of-the-art plate heat exchangers, with an optional multitubular heat exchanger.
- Wide operating range for outdoor temperatures of the equipment.
- Equipped with the latest-generation modular programmable electronic control AQUAMATIX Siemens.

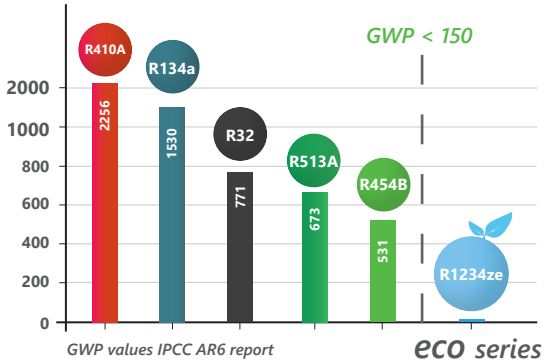
Energy Efficiency

- High energy efficiency at partial load, exceeding the seasonal efficiency requirements of the Ecodesign Regulation 2021 (EU 2016/2281) with up to 17% energy savings.
- Electronic fans and electronic expansion valve as standard for minimal energy consumption and electronic condensation control.

Codification:



Refrigerants - GWP



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range specification

General characteristics

		KWZE
Refrigerant	R1234ze	✓
	Equipment with refrigerant charge	✓
	Leak detection	●
Bodywork	Self-supporting bodywork/cabinet made of galvanised steel with oven cured polyester paint treatment	✓
	Customized color to suit the needs of the installation	●
	Equipment without paneling	✓
	Perimeter enclosure with panels (series 1) / panels + grille (series 2, 4, and 6)	●
	Panel insulation	●
	Enclosure with panel + grille for the lower panels of the chassis H (series 2, 4, and 6)	●
	Enclosure with panel on the top part of the chassis H (series 2, 4, and 6)	●
	Compressor encapsulation panel sandwich 20 mm (series 2, 4 and 6)	●
	Anti-vibration supplements	●
Compressors	Tandem Multiscroll technology	✓
	Compressor anti-vibration mounts	✓
	Soft starter	●
	Acoustic insulation jacket	●
	Original high-performance acoustic insulation jacket from the manufacturer	●
Expansion valves	Electronic expansion valves	✓

Fans

Outdoor fans	EC technology axial fans	✓
	AC axial fans with variable speed drive	●
	Condensing pressure control	✓
	Curved external nozzle	✓
	Internal nozzles (Only with EC fans)	●
	AxiTop diffusers for axial fans (Only with EC fans)	●
	High-performance EC axial fans (de serie con opcional freecooling)	●
	EC plug-fan radial fans	●

Heat exchangers (*)

Coils	Al / Al microchannel batteries	✓
	Microchannel coils with polyurethane coating	●
	Cu tube and Al fin coils	●
	Cu tube bundle / polyurethane pre-lacquered Al fins	●
	BLYGOLD: Cu tubes / Al fins with Blygold coating	●
	COPPERFIN: Cu tubes / Cu fins	●
Heat exchangers	Refrigerant-water heat exchanger, stainless steel AISI 316L plates, copper-welded, and thermally insulated	✓
	Shell-and-tube heat exchanger (2-4-6 series)	●

Energy

Energy recovery	Partial recovery of condensation energy for domestic hot water (DHW)	●
	Total condensation energy recovery for domestic hot water (DHW)	●
	Pump in the condensation heat recovery circuit	●
	Electric anti-icing heater in the plate heat exchanger for domestic hot water (DHW) recovery	●
Free-cooling	Integrated free cooling with additional external coil, external sensor, and three-way valve.	●

✓ Included as standard
● Optional
- Not applicable

* Some options may require changes to the equipment dimensions; please consult us.

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Hydraulic (*)

		KWZE
Pumps (version P/H)	Single pump, normal available pressure (7-12 mH_2O)	✓
	Single pump with high pressure available (15-20 mH_2O)	●
	Single pump, very high available pressure (25-30 mH_2O)	●
	Pump with variable speed drive	●
	Backup pump (standard pressure, high pressure, and very high pressure available)	●
	Electronic pump	●
	Electronic backup pump	●
Hydraulic components	Low temperature kit for operation with water outlet temperature < 0 °C	●
	Low outdoor temperature kit	●
	Flexible water inlet and outlet connections	●
	Water filter	●
	Installation of pressure gauges at the inlet and outlet of the equipment for S version	●
	Independent module with available buffer tank of 200 liters / 375 liters / 725 liters + electric heaters	●

Installation

Protection grilles	Coil protection grille	●
	Bird-proof protection grille at the base of the equipment	●
Insulation	Thermal insulation in all cold metal lines (refrigerant or water)	●
Power supply	400 V / III ph / 50 Hz without neutral	✓
	400 V / III ph / 60 Hz	●
	Other electrical voltages (see different options available)	●
Packaging	Packaging for maritime transport	●

Control

Electronic control and communication	Programmable electronic control AQUAMATIX	✓
	Climatix HMI user terminal for AQUAMATIX control	✓
	RS485 communication interface for ModBus communication	✓
	Modbus TCP/IP and BACnet IP communication	✓
Additional control and safety components	Main switch in electrical panel	✓
	Magneto-thermal protections for compressors, fans and pumps	✓
	Differential switches	●
	Low pressure switch for pump protection	●
	PREMIUM phase control relay, with phase failure detection and direction of rotation protection	✓
	EXCELLENT phase monitoring relay, adds phase unbalance, overvoltage and undervoltage detection	●
	Triple protection for the plate heat exchanger with a water flow switch and anti-ice protections for both water and refrigerant	✓
	Energy meter	●
Electrical panel	Fully wired electrical panel, with IP54 protection	✓
	Forced ventilation of the electrical panel	✓
	Design of electrical switchgear for high temperatures	✓
	Tropicalised electrical panel	●
	Socket for common use	●
	Antifreeze electrical resistor in electrical panel for low outdoor temperatures	●

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R1234ze technical data

KWZE model			1120	2200	4400	6600
Cooling mode	Cooling capacity (1)	kW	116,4	186,8	373,6	560,3
		TR	33,5	53,5	106,5	159,5
		kBTU/h	402	642	1278	1914
	Absorbed power (2)	kW	43,7	63,2	126,5	189,7
	EER (3)	kW/kW	2,67	2,95	2,95	2,95
		BTU/(h*W)	9,21	10,15	10,10	10,09
	SEER (4)	kWh/kWh	4,2	4,3	4,5	4,6
	ηs,c (4)(5)	%	166,5%	169,4%	178,4%	182,4%
	SEPR (7°C) (6)	kWh/kWh	6,23	6,81	6,90	6,95
	SEPR (-8°C) (6)	kWh/kWh	4,13	4,60	4,77	4,77
TECHNICAL SPECIFICATIONS						
Power supply			400 V / III / 50 Hz without neutral			
Refrigeration circuit	Refrigerant fluid / GWP	kg CO_2	R1234ze / 4			
	No. of refrig. circuits / compressors		1/2	1/2	2/4	3/6
	No. power stages		2	2	4	6
Hydraulic Circuit	Indoor water flow rate	m³/h	20,0	32,2	64,3	96,5
	Type of heat exchanger		brazed stainless steel plate heat exchanger			
	Ø hydraulic connections	inch	VIC 3''	DN 80	DN 100	DN 125
	Ø hydraulic connections modular equipment (7)	inch	VIC 5''	-	-	-
Outdoor fan	Outdoor air flow rate	m³/h	44000	88000	176000	264000
	Number of fans		2	4	8	12
	Ø and Type of fan	mm	800 EC	800 EC	800 EC	800 EC
Sound pressure level of the equipment (Lp10) (8)		dB(A)	57	60	63	66
Weights	Empty weight (S version)	kg	1059	1849	3503	5323

(1) Nominal cooling capacity for an inlet/outlet water temperature of 12/7°C and outdoor air temperature of 35°C. Power ratings calculated with a fouling factor in the plate heat exchanger of 0.43·10E-4 (m^2K / W).
(2) Nominal power absorbed by compressors and outdoor fans.
(3) EER and COP calculated according to the EN 14511:2022 standard.
(4) Seasonal efficiencies calculated according to EN 14825:2022.
(5) Seasonal energy efficiencies (ηs,c) in compliance with EU Ecodesign Regulation 2016/2281 for comfort applications.
(6) Seasonal Energy Performance Ratio (SEPR) values for high-temperature process chillers (12/7°C) in compliance with EU Ecodesign Regulation 2016/2281. Seasonal Energy Performance Ratio (SEPR) values for medium-temperature process chillers (-2/-8°C) in compliance with EU Ecodesign Regulation 2015/1095.
(7) The diameter of the manifold may vary depending on the number of units supplied.
(8) Sound pressure level in dB(A) in open field conditions, at 10 m from the source, with a directivity of 1.

KWZE serie 1:



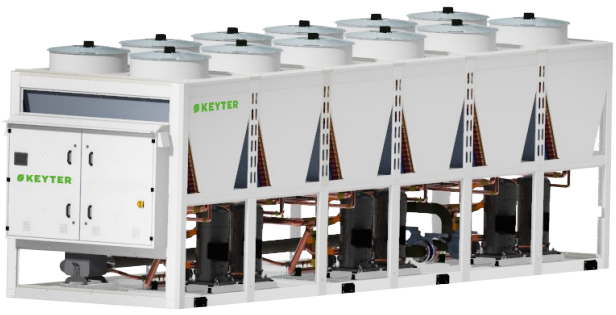
KWZE serie 2:



KWZE serie 4:



KWZE serie 6:



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range specification

modular version

Optional modular version (from series 1) for modular installation with easy and quick interconnection, making it an effective and straightforward solution for installations requiring compact, lightweight, easily transportable equipment with high power.

Additionally, they provide a significant solution for continuous operation without interruption, thanks to their independent electrical connections. In the event of a module failure, it can be easily repaired without stopping the operation of the entire modular installation.

Wide range of capacities due to its modulation, with each module reaching a cooling capacity of 124 kW and the possibility of up to 8 modules.



heat recovery

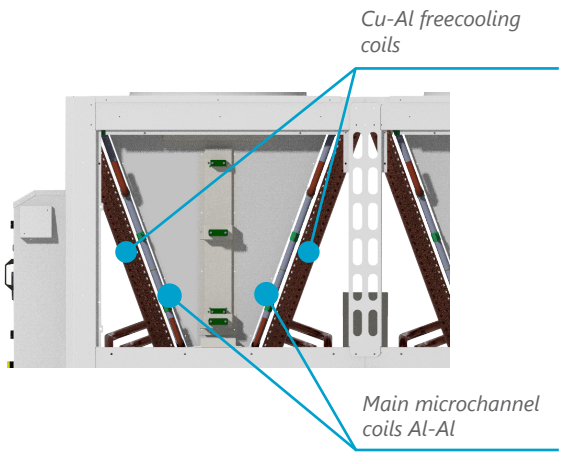
System that utilizes residual heat to heat water for both domestic hot water (DHW) and industrial applications.

- Recovery of up to 100% of condensation heat.
- Free production of high-temperature hot water with partial recovery of hot gases.
- Reduction of electricity consumption in the hot water production system.
- Reduction of fossil fuels and CO_2 emissions with an efficient and renewable solution.



integrated free-cooling

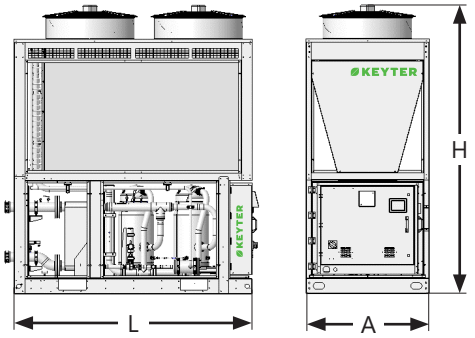
New optional additional free-cooling coils integrated into the unit in the same V-shaped configuration as the refrigeration circuit, allowing the use of external air energy when outdoor conditions are favorable for energy exchange with the system water.



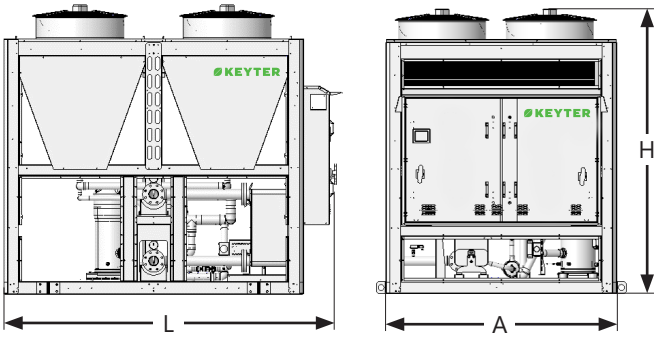
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dimensions

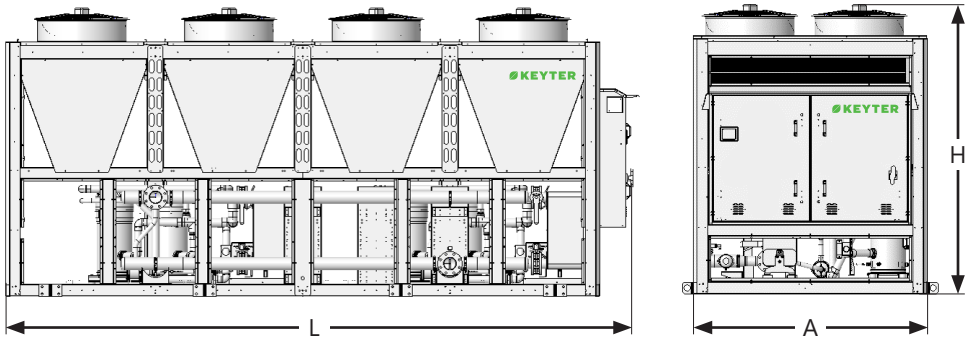
Series 1 S/P



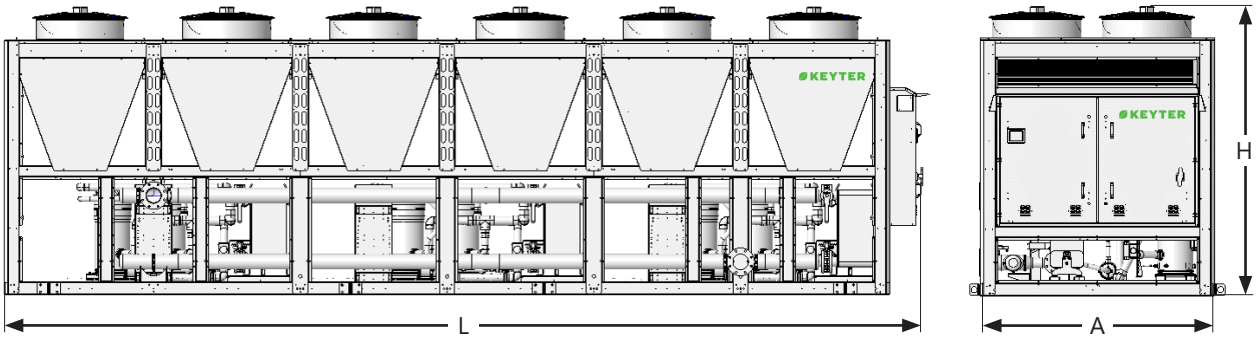
Series 2 S/P



Series 4 S/P



Series 6 S/P



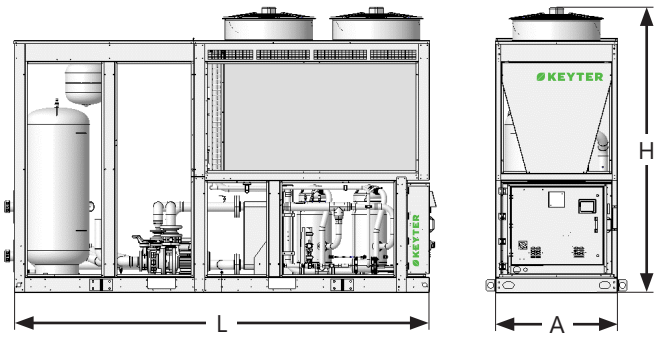
Dimensions (mm)											
	Series 1					Series 2		Series 4		Series 6	
Bodywork	S/P	B	B*	H	H*	S/P	H	S/P	H	S/P	H
L	2190	2640	2640	3830	3830	2980	4305	5630	6955	8280	9605
A	1100	1100	1300	1100	1300	2100	2100	2100	2100	2100	2100
H	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600

* Special width for integrated freecooling.

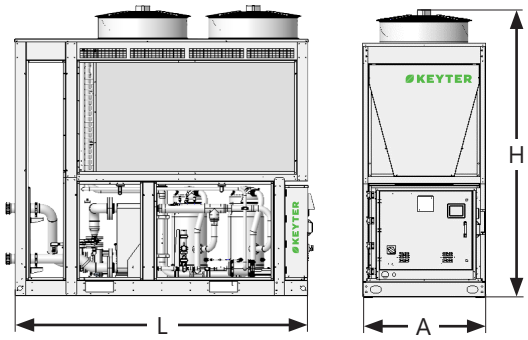
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dimensions

Series 1 H

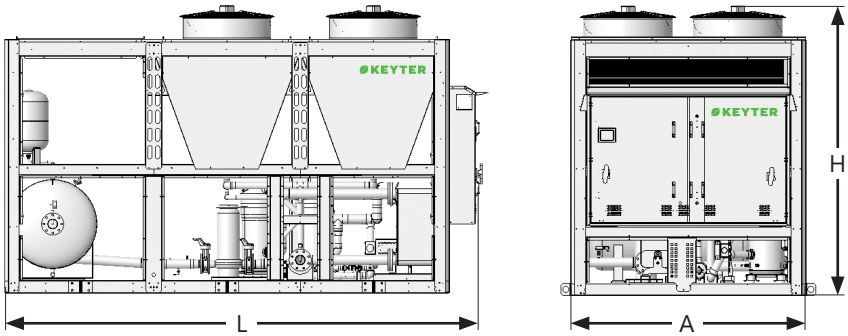


Series 1 B

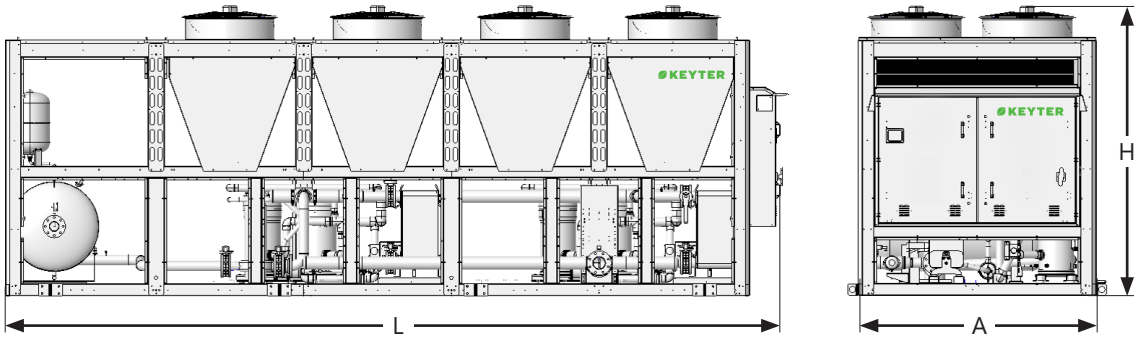


Series 1 B: Combination of optional features that require extending the S/P chassis.

Series 2 H



Series 4 H



Series 6 H

