KEYTER



pangea eco inverter

Screw air-to-water chillers

❄ **239-921 kW**

Screw · Inverter · EC · heat recovery

Adaptation and Environment

- Reduced refrigerant charge of low-GWP HFO R-1234ze, minimizing the CO_2 footprint (99.5% less GWP than R-134a or R-32).
- Wide operating range of the equipment.
- Series condensing pressure control for year-round operation.
- They feature the latest generation AQUAMATIX Siemens modular programmable electronic control.
- Adaptability to the installation with a wide range of models and options.

heat recovery

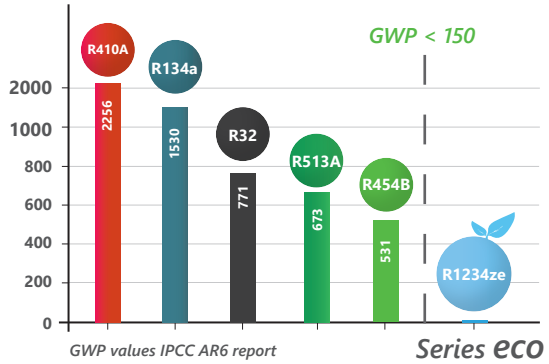
System that utilizes residual condensation heat from air to heat water for both domestic hot water (DHW) and industrial applications.

Decarbonize today, breathe tomorrow

Energy Efficiency

- Units with inverter screw compressors with external frequency converters and state-of-the-art shell and tube heat exchangers.
- Electronic fans and electronic expansion valve as standard for minimal energy consumption.
- PANGEA ECO offers very high energy efficiency at both partial and full load, reducing operating costs.

Refrigerants - GWP



Codification:

KWT | | **S V S3E**

Series · Size · Power

Operating mode
S - Standard equipment

Version - Compressor Type
V - Inverter screw compressor

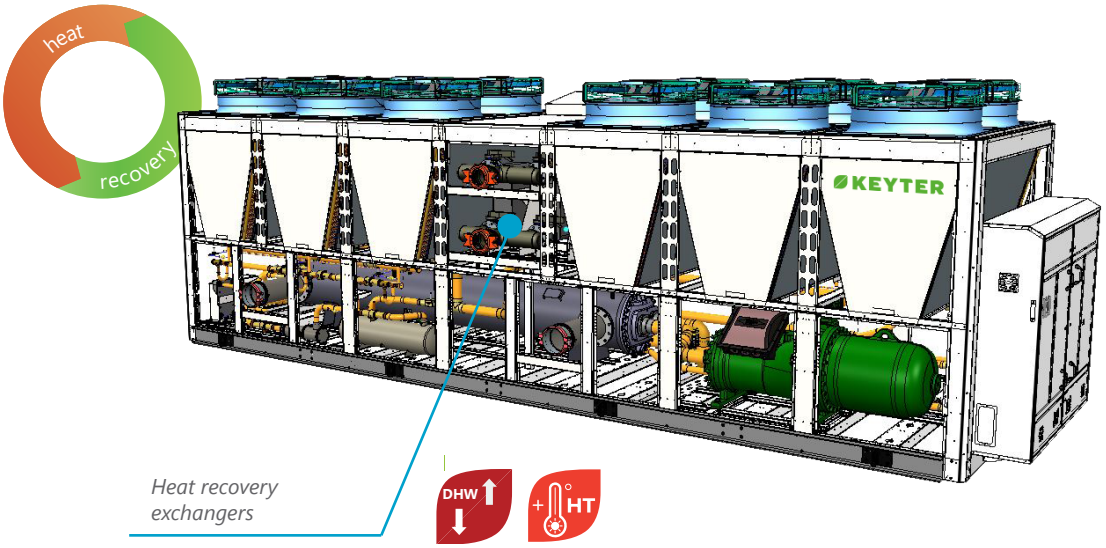
Hydraulic version
S - Standard equipment

Power supply
3 - 400V/III/50Hz without neutral (standard)

Refrigerant
E - R1234ze

heat recovery

System that utilizes the waste heat from air-cooled chillers to heat water for both domestic use and industrial applications through the integration of heat recovery exchangers in the refrigeration circuit.



- Recovery of up to 100% of the 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.

Reduction of fossil fuels and CO_2 emissions with an efficient and renewable solution

pangea eco inverter

range specification

		KWT
General characteristics		
Compressor	Semi-hermetic screw compressors with inverter technology	✓
Expansion valves	Electronic expansion valve	✓
Fans		
Outdoor fans	Condensing pressure control	✓
	EC axial fans	✓
	High-performance EC axial fans	●
	EC AxiBlade axial fans	●
	Curved external nozzles (Silent ring)	✓
	Internal nozzles	●
	Difusor AxiTop	●
Hydraulic		
Pumps (in module Hydraulic module)	Single pump with standard, high, or very high pressure options	●
	Pump with variable speed drive	●
	Standard, high pressure, and very high pressure backup pump	●
Intercambiador	Shell-and-tube heat exchanger	✓
Hydraulic components	Low-temperature kit for operation with water outlet temperature < 0ºC	●
	Low outdoor temperature kit	●
	Victaulic – Flange adapter	●
	Water filter	●
Energy		
Energy recovery	Partial/total recovery of condensate heat	●
Anticorrosion		
Coils	Copper tube / aluminum fin coil	✓
	Al / Al microchannel batteries	●
	Cu tube bundle / polyurethane pre-lacquered Al fins	●
	ALUCOAST: high-strength coil with Cu tubes / Al fins	●
	BLYGOLD: copper tube and aluminum fin coil with Blygold coating	●
	COPPERFIN: copper tube and fin coil	●
Installation		
Antivibratorios	Anti-vibration mounts	●
Electrical panel	Electrical panel ventilation	✓
Electrical supply	400 V / III ph / 50 Hz without neutral	✓
	Other electrical voltages (please inquire)	●
Insulation	Compressors in a fully enclosed sheet metal compartment (1)	●
	Acoustic insulation of the compressor compartment	●
	Thermal insulation	✓
	Insulation of all cold piping lines	●
	High-performance acoustic insulation jacket for compressors from the manufacturer (1)	●
Protection grilles	Coil protection grille	●
	Access protection grille around the equipment perimeter	●
Control		
	Control programable AQUAMATIX	✓
	Climatix HMI user terminal for AQUAMATIX control	✓
	RS485 communication interface for ModBus communication	✓
	BACNET communication	●
	Electric energy meter	●

✓ Included as standard
● Optional
- Not applicable

(1) Both options are not compatible

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R1234ze technical data

KEYTER

KWT ECO Inverter model - Standard version			2075	3100	3125	4150	4160	6180
COOLING-ONLY VERSION (R)								
Cooling capacities	Nominal cooling capacity (1)	kW	239,4	330,5	425,9	460,2	478,8	526,4
		TR	68,5	94,0	121,5	131,0	136,5	150,0
		kBTU/h	822	1128	1458	1572	1638	1800
	Absorbed power (2)	kW	86,9	115,8	154,6	182,8	187,3	170,7
	EER (3)	kW/kW	2,8	2,9	2,8	2,5	2,6	3,1
		BTU/W*h	9,5	9,7	9,4	8,6	8,7	10,5
	SEER (4)	kWh/kWh	4,8	4,8	4,8	4,8	4,9	5,0
	ηs,c (5)	%	184%	183%	185%	184%	189%	193%
	SEPR (7°C) (6)	kWh/kWh	5,86	5,95	5,85	5,62	5,66	6,18
	SEPR (-8°C) (6)	kWh/kWh	3,73	3,90	3,73	3,59	3,53	4,03
	IPLV (7)	kW/TR	0,57	0,58	0,57	0,57	0,57	0,56
		kBtu/kWh	20,35	20,28	20,41	20,38	20,67	20,91
TECHNICAL SPECIFICATIONS								
Power supply			400V / III / 50HZ without neutral					
Refrigeration circuit	Refrigerant fluid / GWP	kg CO_2	R1234ze / 4					
	Compressor type		Semi-hermetic screw compressor + VDF					
	No. of refrig. circuits / compressors		1/1	1/1	1/1	1/1	2/2	2/2
	No. power stages		25%-100%					
Hydraulic circuit	Indoor water flow rate	m³/h	41,2	56,9	73,4	79,3	82,5	90,7
	Type of heat exchanger		Shell and tube heat exchanger					
	Hydraulic connections Ø		DN150 VIC	DN150 VIC	DN150 VIC	DN150 VIC	DN150 VIC	DN150 VIC
Outdoor fan	Outdoor air flow rate	m³/h	86000	129000	129000	172000	172000	258000
	Number of fans		4	6	6	8	8	12
	Ø and type of fan	mm	800 Axial EC HP					
Sound pressure level of the equipment (Lp10) (9)		dB(A)	67,0	67,4	67,5	67,9	68,1	67,6
Weights	Empty weight (S version)	kg	3042	4052	4072	5062	5092	6847
	In-service weight (S version)	kg	3138	4160	4216	5206	5284	7135

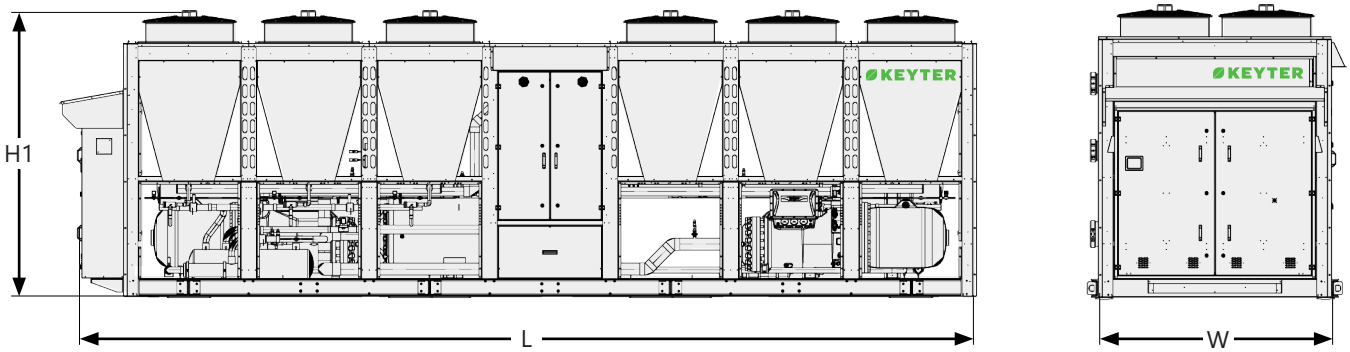
KWT ECO Inverter model - Standard version			6210	6240	6260	8250	8300
COOLING-ONLY VERSION (R)							
Cooling capacities	Nominal cooling capacity (1)	kW	661,0	756,2	852,1	837,7	920,7
		TR	188,0	215,5	242,5	238,5	262,0
		kBTU/h	2256	2586	2910	2862	3144
	Absorbed power (2)	kW	256,2	282,8	309,6	266,0	365,4
	EER (3)	kW/kW	2,6	2,7	2,8	3,1	2,5
		BTU/W*h	8,8	9,1	9,4	10,8	8,6
	SEER (4)	kWh/kWh	4,9	5,0	5,0	5,1	4,9
	ηs,c (5)	%	190%	191%	193%	194%	188%
	SEPR (7°C) (6)	kWh/kWh	5,68	5,77	5,85	6,25	5,62
	SEPR (-8°C) (6)	kWh/kWh	3,66	3,74	3,79	4,10	3,62
	IPLV (7)	kW/TR	0,56	0,56	0,56	0,56	0,57
		kBtu/kWh	20,71	20,82	20,89	21,01	20,62
TECHNICAL SPECIFICATIONS							
Power supply			400V / III / 50HZ without neutral				
Refrigeration circuit	Refrigerant fluid / GWP	kg CO_2	R1234ze / 4				
	Compressor type		Semi-hermetic screw compressor + VDF				
	No. of refrig. circuits / compressors		2/2	2/2	2/2	2/2	2/2
	No. power stages		25%-100%				
Hydraulic circuit	Indoor water flow rate	m³/h	113,9	130,3	146,8	144,3	158,6
	Type of heat exchanger		Shell and tube heat exchanger				
	Hydraulic connections Ø		DN150 VIC	DN200 VIC	DN200 VIC	DN200 VIC	DN200 VIC
Outdoor fan	Outdoor air flow rate	m³/h	258000	258000	258000	344000	344000
	Number of fans		12	12	12	16	16
	Ø and type of fan	mm	800 Axial EC HP				
Sound pressure level of the equipment (Lp10) (9)		dB(A)	68,9	69,0	69,2	69,0	70,2
Weights	Empty weight (S version)	kg	7157	7177	7192	9142	9237
	In-service weight (S version)	kg	7373	7429	7480	9478	9525

(1) Nominal cooling capacity for a water inlet/outlet temperature of 12/7°C and an outdoor air temperature of 35°C. Capacities calculated with a fouling factor for the heat exchanger of $0.43 \cdot 10^{-4}$ (m^2K/W).
(2) Nominal power absorbed by compressors and outdoor fans.
(3) EER calculated according to the EN 14511:2022 standard.
(4) Seasonal efficiencies calculated according to EN 14825:2022.
(5) Values of ηs,c (Seasonal Energy Efficiency) in compliance with the EU Ecodesign Regulation 2016/2281 for comfort applications.
(6) Given values of the Seasonal Energy Performance Ratio (SEPR) for high-temperature process chillers (12/7°C) in compliance with the EU Ecodesign Regulation 2016/2281. Values of the Seasonal Energy Performance Ratio (SEPR) for medium-temperature process chillers (-2/-8°C) in compliance with the EU Ecodesign Regulation 2015/1095.
(7) Seasonal Energy Efficiency Factor according to AHRI Standards 550/590.
(9) Sound pressure level in dB(A) in free field, at 10 m distance from the source, and directivity 1.

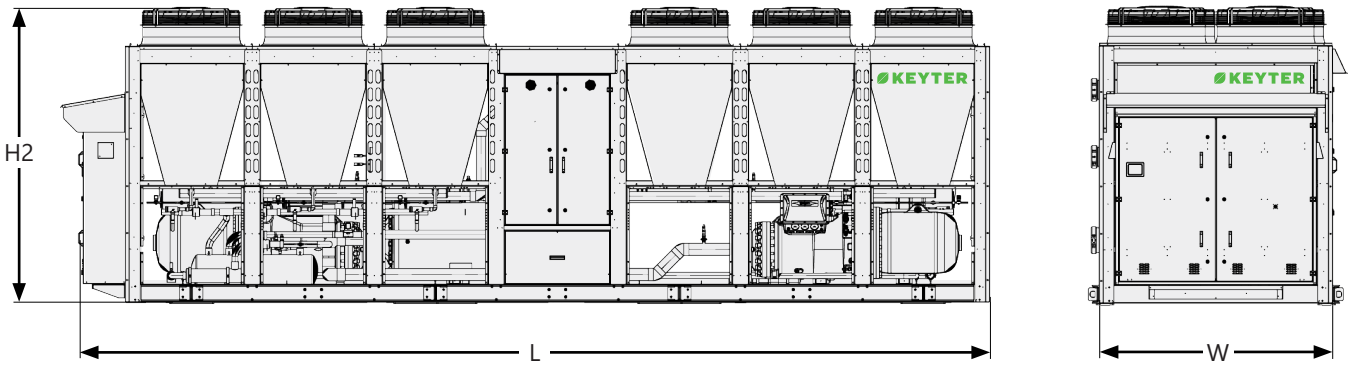
pangea eco *inverter*

dimensions

Standard version:



Version with optional Axiblade:



Dimensions KWT Inverter Version / Optional Total Recovery (mm)					
	Series 2	**Series 3**	**Series 4**	**Series 6**	**Series 8**
L	3810	4910	6010	8210	10410
W	2100	2100	2100	2100	2100
H1	2650	2650	2650	2650	2650
H2, with optional Axiblade	2650	2650	2650	2650	2650

For container transport, the external nozzles are shipped disassembled for subsequent installation on site. Optional internal nozzles are also available for container transport, with a total equipment height of 2400 mm.

With the optional AxiTop, the equipment height increases by 180 mm from the total equipment height. The AxiTop is a removable component that can be installed on site.

The optional hydraulic group with pump is supplied in a separate module (please refer to the technical documentation).