



ZIRAN Pro

❄️ 33-194 kW 41-253 kW 🔥



Air-to-water reversible heat pumps

Reversible or cooling-only units with a thermal power ranging from 41 kW to 253 kW, designed for commercial applications.

Optimized for the use of R290 refrigerant and **Full-Inverter technology**, these units are part of the new PRO Series developed by KEYTER.

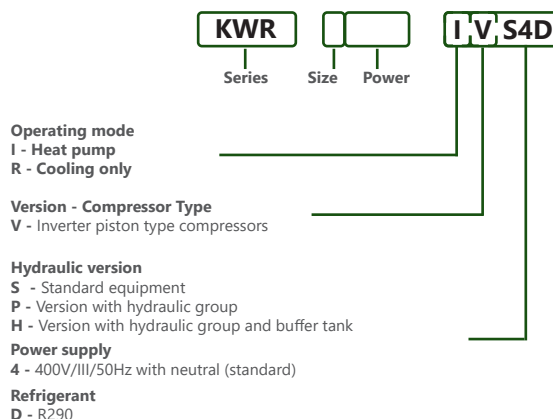


Pro series

Adaptation and Environment

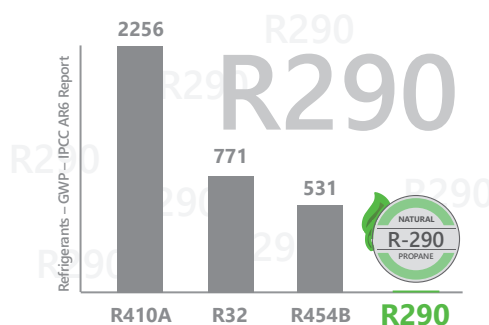
- Reduced charge of natural R290 refrigerant (A3 class), environmentally friendly with low global warming potential (GWP=3) and high thermodynamic performance.
- High-temperature water production.
- The robust and reliable design integrates leak detection and an ATEX extraction fan for maximum safety.
- With careful insulation, they ensure proper equipment protection and noise reduction, achieving ultra-quiet operation.
- The units are equipped with intelligent control that ensures an optimal defrosting process.

Codification:



Energy Efficiency

- Compact Full-Inverter units equipped with BITZER semi-hermetic inverter piston compressors, high-quality EC fans ensuring the best seasonal performance (SEER/SCOP).
- High-efficiency heat exchangers.
- These units have a wide operating range with high efficiency and extended operating limits, functioning at full load down to -25°C outdoor temperature.



ziran pro

energy efficiency and design

Energy Efficiency

Equipment with Inverter technology

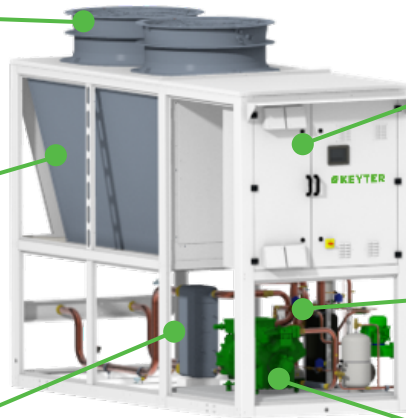
Compact **Full-Inverter** units equipped with BITZER semi-hermetic inverter piston compressors, high-quality EC fans, and high-efficiency heat exchangers, ensuring very high seasonal performance (SEER/SCOP).



High-efficiency and low-noise outdoor EC fans, with integrated curved nozzle.

Cu-Al coils with polyurethane, Blygold, and Cu-Cu coatings

Stainless steel AISI 316L brazed plate heat exchanger



SIEMENS electronic control, programmable AQUAMATIX, and CLIMATIX HMI terminal



Electronic expansion valve

BITZER semi-hermetic piston compressors with frequency INVERTER



Robust and safe design

- Robust and reliable outdoor design integrates leak detection and ATEX extraction fan for maximum safety.
- Compatible with optional sandwich panel with 20 mm thick rock wool insulation (M0).

- With careful insulation, it guarantees adequate equipment protection and noise level reduction, achieving ultra-silent operation.



Hydraulic components in open enclosure, unpanelled.

Optional paneling and insulation available.



Electrical panel in a sealed compartment with standard forced ventilation.

Units equipped with intelligent regulation that ensures an optimal defrosting process.

Refrigeration components separated in a closed compartment with easy accessibility via removable panels.

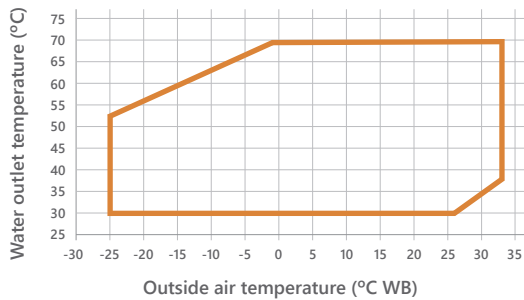
Pro series

propane air-to-water heat pumps | KEYTER

Decarbonization

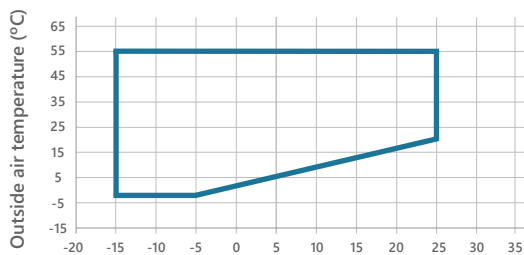
Wide operating range with high efficiency and extended operating limits, functioning down to -25°C ambient temperature at full load.

Heating mode:



Orange zone: full load operation map of the unit.

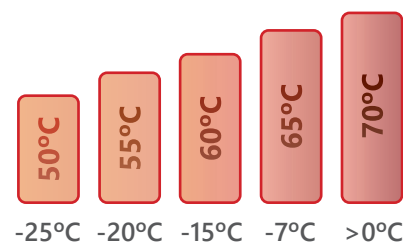
Cooling mode:



Blue zone: full load operation map of the unit.

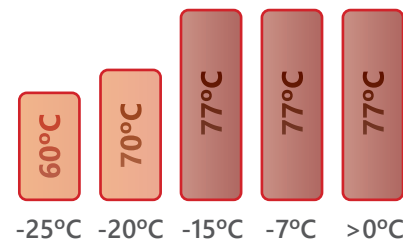
Year-round high-temperature water production for boiler replacement and carbon footprint reduction.

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Outside air (°C WB)

ZIRAN Pro Maxima

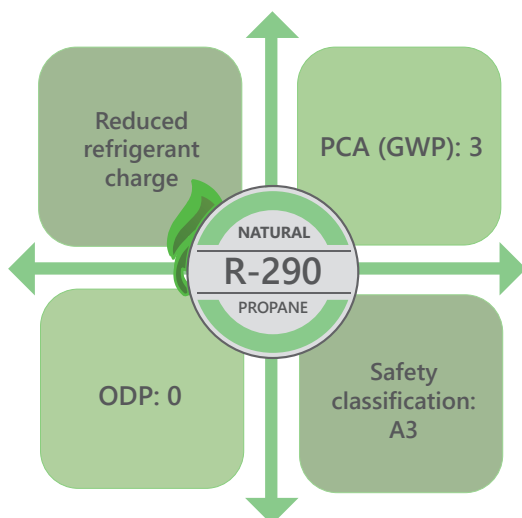


Outside air (°C WB)

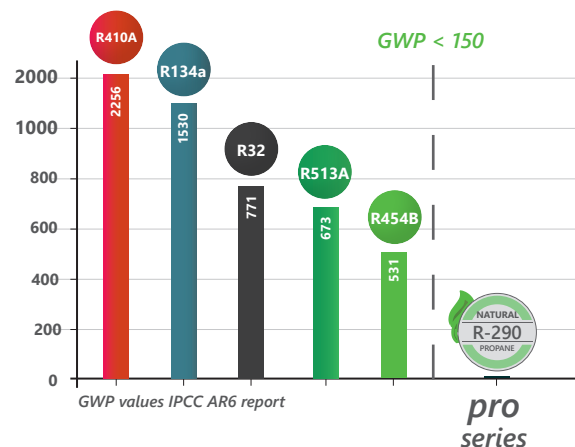
Extended range version KWRH 2070

Adaptation and Environment

Reduced charge of natural R290 refrigerant, class A3, eco-friendly with low environmental impact (GWP=3) and high thermodynamic performance.



Refrigerants - GWP



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range specification

KWR



General characteristics

Refrigerant	R290	✓
	Equipment with refrigerant charge	✓
	Leak detector	✓
	ATEX axial fan for refrigerant extraction	✓
	ATEX centrifugal fan for refrigerant extraction	●
	Indicator light in case of leakage	✓
Bodywork	Self-supporting chassis/cabinet in galvanized steel with a polyester powder coating cured in an oven	✓
	Customized color to suit the needs of the installation	●
	Enclosed compartment with panels for refrigeration components	✓
	Polypropylene insulation of the panels in the refrigeration compartment	●
	Enclosed compartment with 20 mm rock wool sandwich panels for refrigeration components	●
	Enclosed compartment with panels for hydraulic components	●
	Polypropylene insulation of the panels in the hydraulic compartment	●
	Enclosed compartment with 20 mm rock wool sandwich panels for hydraulic components	●
Compressors	BITZER piston technology with frequency inverter	✓
Expansion valves	Compressor anti-vibration mounts	✓
	Electronic expansion valves	✓



Fans

Outdoor fans	EC axial fans with integrated curved nozzle	✓
	Condensing pressure control	✓
	High-performance EC axial fans	●
	EC plug-fan radial fans	●
	Curved external nozzles (Silent ring) (available only with high-performance EC fans)	●
	AxiTop diffusers for axial fans (available only with high-performance EC fans)	●



Heat exchangers

Coils	Cu tube and Al fin coils	✓
	Cu tube bundle / polyurethane pre-lacquered Al fins	●
	BLYGOLD: Cu tubes / Al fins with Blygold coating	●
Heat exchangers	COPPERFIN: Cu tubes / Cu fins	●
	Propane-water heat exchanger, AISI 316L stainless steel plates, copper-welded and thermally insulated	✓



Energy

Energy recovery	Partial recovery of condensation energy 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	●

- ✓ Included as standard
- Optional
- Not applicable

KWR



Hydraulic

Pumps (version P/H)	Single pump, normal available pressure (7-12 mH ₂ O)	✓
	Single pump with high pressure available (15-20 mH ₂ O)	•
	Single pump, very high available pressure (25-30 mH ₂ O)	•
	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	•
Insulation	Thermal insulation in all cold metal lines (refrigerant or water)	•
Power supply	400 V / III ph / 50 Hz with 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	Electrical panel insulated against refrigerant leaks	✓
	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	•

Hydraulic versions

Available in three versions depending on the hydraulic components included:

- S Version - Standard unit, without hydraulic group.
- P Version - Unit with hydraulic group, including hydraulic pump and without buffer tank.
- H Version - Unit with hydraulic group, including hydraulic pump and buffer tank.



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R290 technical data



KWR model			1030	1060	2070	2080	2100
COOLING-ONLY VERSION (R) HEAT PUMP VERSION (I)							
Cooling mode	Nominal cooling capacity (1)	kW	33,4	55,2	72,5	81,0	92,0
		TR	9,5	15,5	20,5	23,0	26,0
		kBTU/h	114	186	246	276	312
	Absorbed power (2)	kW	11,1	20,5	27,5	31,9	38,9
		kW/kW	3,00	2,70	2,64	2,54	2,36
	EER (3)	BTU/(h*W)	10,24	9,20	8,99	8,66	8,06
	SEER (4)	kWh/kWh	4,3	4,1	4,3	4,1	4,1
	ηs,c (5)	%	168,0%	162,0%	167,9%	162,6%	162,1%
HEAT PUMP VERSION (I)							
Heating mode	Nominal heating power (6)	kW	41,5	68,1	91,4	107,7	124,9
	Absorbed power (2)	kW	9,5	16,3	23,4	27,8	33,1
	COP (3)	kW/kW	4,38	4,18	3,90	3,88	3,78
		BTU/(h*W)	14,95	14,27	13,30	13,24	12,88
	SCOP (7)	kWh/kWh	4,2	4,1	4,1	4,1	4,1
	ηs,h (7) (5)	%	163,2%	161,2%	161,3%	161,2%	160,8%
	SCOP (8)	kWh/kWh	3,7	3,6	3,6	3,6	3,6
	ηs,h (8) (5)	%	143,2%	141,2%	141,3%	141,2%	140,8%
TECHNICAL SPECIFICATIONS							
Power supply		400 V / III / 50 Hz with neutral					
Refrigeration circuit	Refrigerant fluid / GWP	kg CO ₂	R290/3				
	No. of refig. circuits / compressors		1/1	1/1	1/1	1/1	1/1
	No. power stages		50-100%	50-100%	50-100%	50-100%	50-100%
Hydraulic circuit	Indoor water flow rate	m³/h	7,1	11,7	15,7	18,6	21,5
	Type of heat exchanger		brazed stainless steel plate heat exchanger				
	Ø hydraulic connections	(inch)	1 1/2"	2"	2"	2"	2"
Outdoor fan	Outside air flow for cooling	m³/h	19000	19000	38000	38000	38000
	Outside air flow for heating	m³/h	21000	21000	35000	39000	39000
	Number of fans		1	1	2	2	2
	Ø and Type of fan	mm	800 EC-Z	800 EC-Z	800 EC-Z	800 EC-Z	800 EC-Z
Sound pressure level of the equipment (Lp10) (9)		dB(A)	55	60	60	62	62
Weights (S version)	Empty weight	kg	997	1059	1271	1285	1290
	In-service weight	ka	1003	1067	1280	1294	1300

- (1) Nominal cooling capacity for an inlet/outlet water temperature of 12/7°C (53.6/44.6°F) and an outdoor air temperature of 35°C (95°F). Capacities calculated with a fouling factor in the plate heat exchanger of 0.43*10⁻⁴ (m²K/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) Values of η_{s,c} in compliance with EU Ecodesign Regulation 2016/2281 for comfort applications. Values of η_{s,h} conforming to Ecodesign under EU Regulation 813/2013 for heat pump applications.

KWR series 1



KWR series 2



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R290 technical data



KWR model			3120	4140	4160	4200
COOLING-ONLY VERSION (R) HEAT PUMP VERSION (I)						
Cooling mode	Nominal cooling capacity (1)	kW	113,5	148,1	167,6	193,9
		TR	32,5	42,0	47,5	55,0
		kBTU/h	390	504	570	660
	Absorbed power (2)	kW	40,5	54,5	63,2	77,5
		kW/kW	2,80	2,72	2,65	2,50
	EER (3)	BTU/(h*W)	9,55	9,27	9,04	8,54
	SEER (4)	kWh/kWh	4,2	4,3	4,2	4,1
	η _{s,c} (5)	%	164,1%	169,7%	165,6%	162,7%
HEAT PUMP VERSION (I)						
Heating mode	Nominal heating power (6)	kW	137,9	177,1	209,2	252,8
	Absorbed power (2)	kW	30,9	46,0	54,2	65,5
	COP (3)	kW/kW	4,47	3,85	3,86	3,86
		BTU/(h*W)	15,25	13,12	13,17	13,16
	SCOP (7)	kWh/kWh	4,1	4,1	4,1	4,1
	η _{s,h} (7) (5)	%	161,7%	161,8%	161,3%	160,9%
	SCOP (8)	kWh/kWh	3,6	3,6	3,6	3,6
	η _{s,h} (8) (5)	%	141,7%	141,8%	141,3%	140,9%
TECHNICAL SPECIFICATIONS						
Power supply			400 V / III / 50 Hz with neutral			
Refrigeration circuit	Refrigerant fluid / GWP	kg CO ₂	R290/3			
	No. of refig. circuits / compressors		2/2	2/2	2/2	2/2
	No. power stages		25-100%	25-100%	25-100%	25-100%
Hydraulic circuit	Indoor water flow rate	m ³ /h	23,7	30,5	36,0	43,5
	Type of heat exchanger		brazed stainless steel plate heat exchanger			
	Ø hydraulic connections	(inch)	DN80	DN80	DN80	DN80
Outdoor fan	Outside air flow for cooling	m ³ /h	38000	76000	76000	76000
	Outside air flow for heating	m ³ /h	39000	70000	78000	78000
	Number of fans		2	4	4	4
	Ø and Type of fan	mm	800 EC-Z	800 EC-Z	800 EC-Z	800 EC-Z
Sound pressure level of the equipment (Lp10) (9)		dB(A)	63	63	65	65
Weights (S version)	Empty weight	kg	2023	2387	2400	2411
	In-service weight	kg	2039	2408	2423	2434

- (6) Nominal heating power for an inlet/outlet water temperature of 30/35°C (86/95°F) and outdoor air temperature of 7°C (44.6°F). Power ratings calculated with a fouling factor in the plate heat exchanger of 0.43*10E-4 (m²K/W).
- (7) Seasonal coefficient of performance (SCOP) and seasonal heating energy efficiency (η_{s,h}) calculated for low-temperature applications and moderate climate.
- (8) Seasonal Coefficient of Performance (SCOP) and Seasonal Heating Energy Efficiency (η_{s,h}) calculated for medium temperature applications and moderate climate.
- (9) Sound pressure level in dB(A) in free field, at 10 m distance from the source, and directivity 1.

KWR series 3



KWR series 4

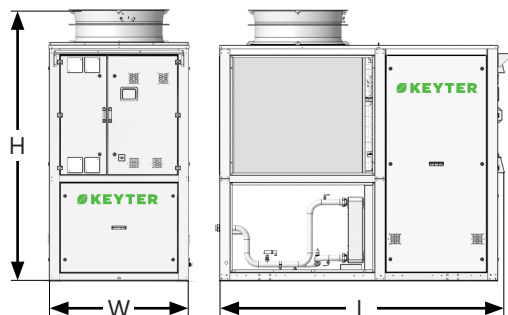


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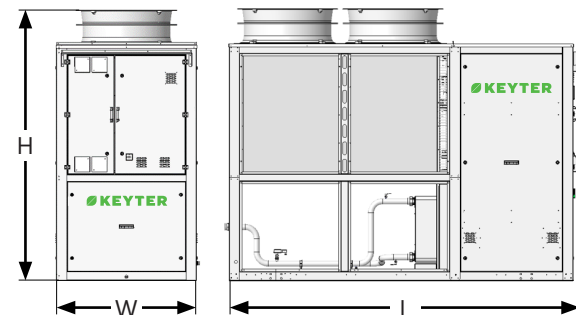
dimensions



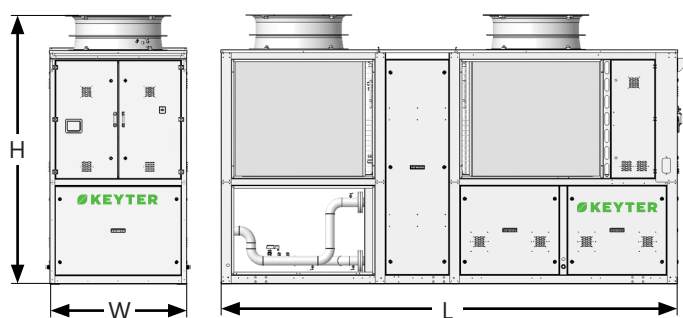
Series 1 S/P/H



Series 2 S/P/H

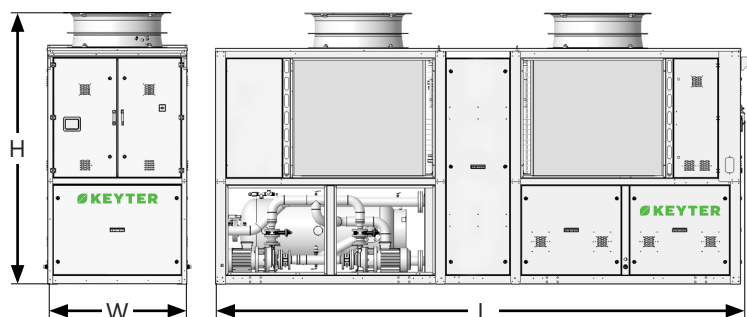


Series 3 S/P



Dimensions (mm)					
	Series 1	Series 2	Series 3		Series 4
Bodywork	S/P/H	S/P/H	S/P	H	S/P/H
L	2640	3240	4340	4940	5350
W	1300	1300	1300	1300	1300
H	2550	2550	2550	2550	2550

Series 3 H



Series 4 S/P/H

