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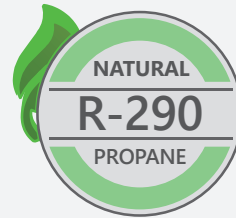
ZIRAN Pro

33-194 kW 41-253 kW



Heat pump air-water reversible units with heating capacity between 41 kW to 253 kW designed for commercial or industrial applications.

Optimized for R290 refrigerant use and **Full-Inverter Technology**, these units belong to PRO Series developed by KEYTER.

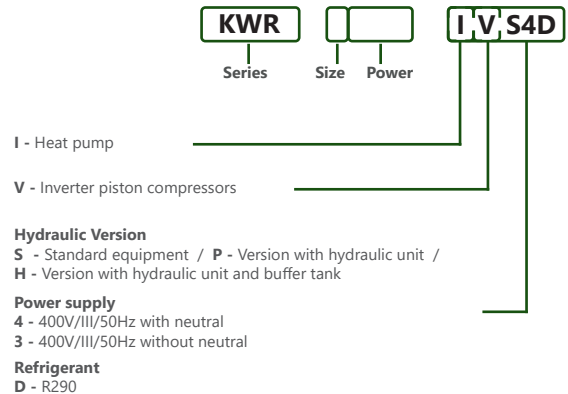


pro series

Adaptation and Environment

- Reduced refrigerant charge R290 natural refrigerant class A3 and ecological with low environmental impact (GWP =3) and high thermodynamic performance.
- High temperature water production.
- Robust and reliable design integrates leak detection and ATEX extraction fan for maximum safety.
- Carefully insulated to ensure adequate protection of the equipment and reduced noise level for super-quiet operation.
- Units equipped with an intelligent regulation system which guarantees an optimal defrosting process.

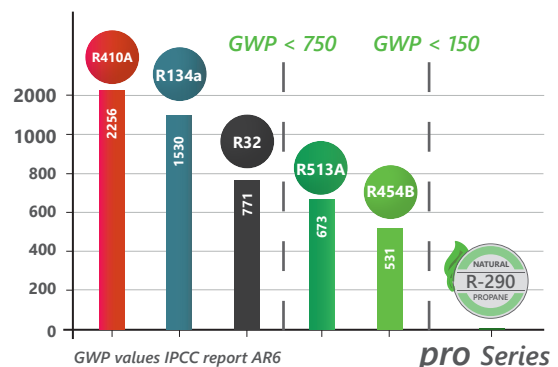
Codification:



Energy Efficiency

- Compact Full-Inverter units mounted with semi-hermetic inverter piston compressors, high quality EC fans ensuring the best seasonal performance (SEER/SCOP).
- High efficiency heat exchangers.
- Wide operating range with high efficiency and extended operating limits (operation down to -15°C outdoor temperature at full load).

Refrigerants - GWP



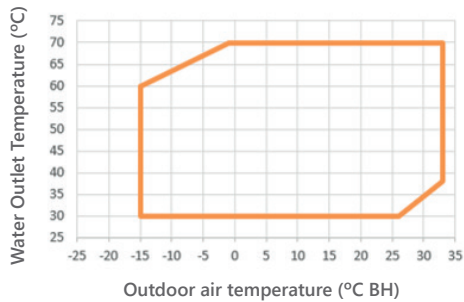
ziran pro

decarbonization and environment

Decarbonization

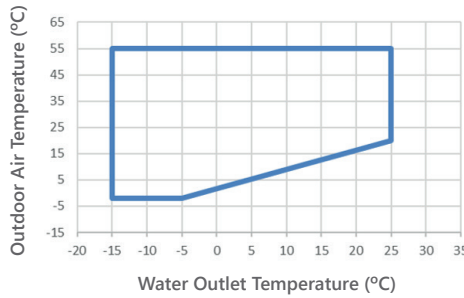
Wide operating range with high efficiency and extended operational limits (operating down to -15°C external temperature at full load).

Heating Mode:



Orange Zone: Full-load operation map for the unit.

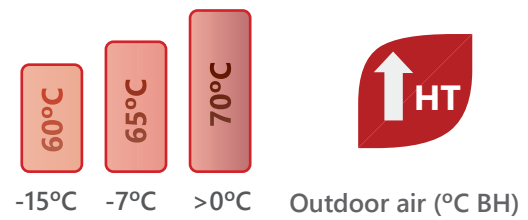
Cooling Mode:



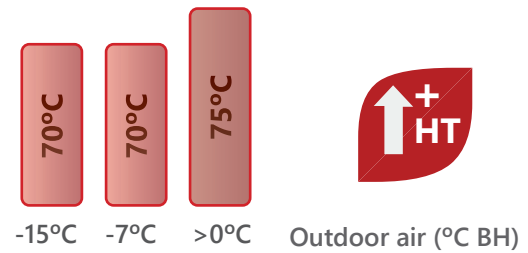
Blue Zone: Full-load operation map for the unit.

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

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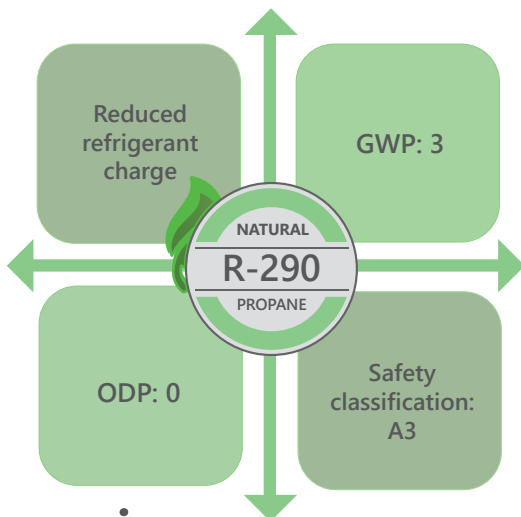
ZIRAN Pro Maxima



Extended Range Version KWRH 2070

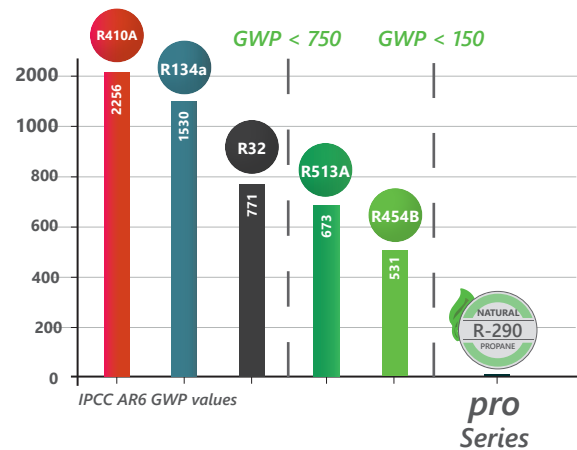
Adaptation and Environment

Reduced load of natural refrigerant R290, classified as A3, environmentally friendly with low environmental impact (GWP = 3), and high thermodynamic performance.



Pro series

Refrigerants - GWP



heat pumps air-to-water |

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energy efficiency and design

Energy Efficiency

Inverter Technology Equipment

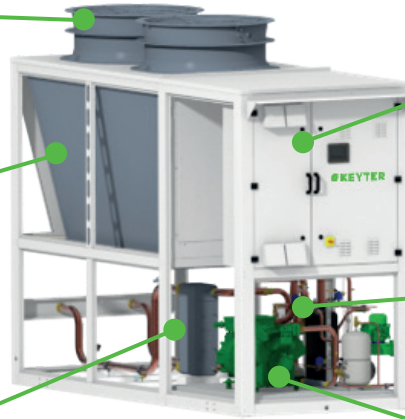
Compact Full-Inverter units featuring semi-hermetic inverter piston compressors, high-quality EC fans, and high-efficiency heat exchangers that ensure very high seasonal performance (SEER/SCOP).



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

Cu-Al coils
Polyurethane, Blygold, and Cu-Cu protections.

Welded plate heat exchanger made of stainless steel AISI 316L.



Programmable electronic control AQUAMATIX and CLIMATIX HMI terminal.



Electronic expansion valve.

Semi-hermetic piston compressors with inverter frequency converter.

Robust and secure design

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

- With careful insulation, they ensure proper equipment protection and reduce noise levels, achieving super-quiet operation.



Hydraulic components in an open enclosure, without paneling.

Panelling and insulation options 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 through removable panels

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range specification

KWR



General characteristics

	R290	✓
Refrigerant	Equipment with refrigerant charge	✓
	Leak detector	✓
	ATEX leak detector	●
	ATEX axial fan for refrigerant extraction	✓
	ATEX centrifugal fan for refrigerant extraction	●
	Indicator light in case of leakage	✓
Bodywork	Self-supporting bodywork/cabinet in galvanized steel with paint treatment thermosetting baked thermosetting polyester	✓
	Customized color to suit the needs of the installation	●
	Enclosed enclosure with panels for refrigeration components	✓
	Propylene insulation of refrigeration enclosure panels	●
	Enclosure closed with 20 mm rock wool sandwich panel for the cooling components	●
	Enclosed enclosure with panels for hydraulic components	●
	Propylene insulation of the hydraulic enclosure panels	●
	Enclosure closed with 20 mm rock wool sandwich panel for the hydraulic components	●
Anti-vibration supplements	●	
Compressors	Piston technology with frequency converter	✓
	Compressor anti-vibration mounts	✓
Expansion valves	Electronic expansion valves	✓



Fans

External fans	EC axial fans with integrated curved nozzle	✓
	Condensing pressure control	✓
	Boosted EC axial fans	●
	EC plug-fan radial fans	●
	Curved outer nozzles (Silent ring) (only available with boosted EC fans)	●
	AxiTop diffusers for axial fans (only available with boosted 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	●
	COPPERFIN: Cu tubes / Cu fins	●
Heat exchangers	Propane-water heat exchanger, stainless steel AISI 316L plates, copper-welded, and thermally insulated	✓



Energy

Energy recovery	Partial condensation energy recovery for DHW	●
	Pump in the condensation heat recovery circuit	●
	Anti-freeze electric resistance in a recovery plate heat exchanger for domestic hot water (DHW)	●

- ✓ Included as standard
- Optional
- Not applicable

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range specification

KWR



Hydraulic

Pumps (P/H version)	Single pump normal available pressure (7-12 mWC)	✓
	High-pressure single pump available (15-20 mWC)	●
	Very high pressure single pump available (25-30 mWC)	●
	Variable speed pump	●
	Backup pump (standard pressure, high pressure, and very high pressure available)	●
	Electronic pump	●
Hydraulic elements	Electronic Backup pump	●
	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 version S	●
	Independent module with buffer tank available in 200 litres / 375 litres / 725 litres + Electric resistor	●



Installation

Protection Grille	Coil protection grille	●
Isolation	Thermal insulation in all cold metal lines (refrigerant or water)	●
	400 V / III ph / 50 Hz with neutral	✓
Power supply	400 V / III ph / 60 Hz	●
	Other electrical voltages (see different options available)	●
Packaging	Packaging for maritime transport	●



Control

Electronic Control and Communication	AQUAMATIX programmable electronic control	✓
	Climatix HMI user terminal for AQUAMATIX control	✓
	RS485 communication interface for ModBus communication	✓
	Modbus TCP/IP and BACnet IP communication	✓
Additional control and security features	Main switch in electrical panel	✓
	Magneto-thermal protections for compressors, fans and pumps	✓
	Differential switches	●
	Low pressure switch for pump protection	●
	PREMIUM phase monitoring relay, with phase failure detection and direction of rotation protection	✓
	EXCELLENT phase monitoring relay, adds phase unbalance, overvoltage and undervoltage detection	●
	Triple plate heat exchanger protection with water flow switch and water and freon freeze protection	✓
	Energy meter	●
Electrical Panel	Electrical panel insulated against refrigerant leaks	✓
	Fully wired electrical panel, with IP54 protection	✓
	Forced ventilation of the electrical panel	✓
	High temperature switchgear design	✓
	Tropicalised electrical panel	●
	Socket for common use	●
	Anti-freeze electric heater in switchboard for low outside temperatures	●



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technical data



KWR			1030	1060	2070	2080	2100	
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	
	Power absorbed (2)		kBTU/h	114	186	246	276	312
			kW	11,1	20,5	27,5	31,9	38,9
	EER (3)		kW/kW	3,00	2,70	2,64	2,54	2,36
			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	
$\eta_{s,c}$ (5)		%	168,0%	162,0%	167,9%	162,6%	162,1%	
Heating Mode	Nominal heating capacity (6)	kW	41,5	68,1	91,4	107,7	124,9	
	Power absorbed (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
	$\eta_{s,h}$ (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
	$\eta_{s,h}$ (8) (5)		%	143,2%	141,2%	141,3%	141,2%	140,8%

TECHNICAL CHARACTERISTICS

Power supply			400 V / III / 50 Hz with neutral				
Cooling Circuit	Refrigerant Fluid / GWP	kg CO ₂	R290/3				
	No. circuits / compressors		1/1	1/1	1/1	1/1	1/1
	No. of power stages		50-100%	50-100%	33-100%	33-100%	33-100%
Hydraulic circuit	Indoor water flow rate	m ³ /h	7,1	11,7	15,7	18,6	21,5
	Type of heat exchanger		stainless steel brazed plates heat exchanger				
	Ø hydraulic connections	(inch)	1 1/2"	2"	2"	2"	2"
Outdoor Fan	Outdoor airflow cooling mode	m ³ /h	19000	19000	38000	38000	38000
	Outdoor airflow heating mode	m ³ /h	21000	21000	35000	39000	39000
	Number of fans		1	1	2	2	2
	Ø and Fan type	mm	800 EC	800 EC	800 EC	800 EC	800 EC
Equipment sound pressure (Lp10) (9)		dB(A)	55	60	60	62	62
Weight (S version)	Empty weight	kg	997	1059	1271	1285	1290
	In service weight	kg	1003	1067	1280	1294	1300

(1) Nominal cooling capacity for a water inlet/outlet 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*10E-4 (m²K/W).

(2) Nominal power absorbed by compressors and outdoor fans.

(3) EER and COP calculated according to EN 14511-2018 standard.

(4) Seasonal efficiencies calculated according to EN 14825:2022.

(5) $\eta_{s,c}$ values in compliance with EU Ecodesign Regulation EU 2016/2281 for comfort applications. $\eta_{s,h}$ values in accordance with ecodesign under EU Regulation UE 813/2013 for heat pump applications.

KWR 1 series



KWR 2 series



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technical data



KWR			3120	4140	4160	4200	
Cooling Mode	Nominal cooling capacity (1)	kW	113,5	148,1	167,6	193,9	
		TR	32,5	42,0	47,5	55,0	
	Power absorbed (2)		kBTU/h	390	504	570	660
			kW	40,5	54,5	63,2	77,5
	EER (3)	kW/kW	2,80	2,72	2,65	2,50	
		BTU/(h*W)	9,55	9,27	9,04	8,54	
SEER (4)	kWh/kWh	4,2	4,3	4,2	4,1		
$\eta_{s,c}$ (5)	%	164,1%	169,7%	165,6%	162,7%		
Heating Mode	Nominal heating capacity (6)	kW	137,9	177,1	209,2	252,8	
	Power absorbed (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	
	$\eta_{s,h}$ (7) (5)	%	161,7%	161,8%	161,3%	160,9%	
	SCOP (8)	kWh/kWh	3,6	3,6	3,6	3,6	
	$\eta_{s,h}$ (8) (5)	%	141,7%	141,8%	141,3%	140,9%	
TECHNICAL CHARACTERISTICS							
Power supply			400 V / III / 50 Hz with neutral				
Cooling Circuit	Refrigerant Fluid / GWP	kg CO ₂	R290/3				
	No. circuits / compressors		2/2	2/2	2/2	2/2	
	No. of power stages		25-100%	17-100%	17-100%	17-100%	
Hydraulic circuit	Indoor water flow rate	m ³ /h	23,7	30,5	36,0	43,5	
	Type of heat exchanger		stainless steel brazed plates heat exchanger				
	\emptyset hydraulic connections	(inch)	DN80	DN80	DN80	DN80	
Outdoor Fan	Outdoor airflow cooling mode	m ³ /h	38000	76000	76000	76000	
	Outdoor airflow heating mode	m ³ /h	39000	70000	78000	78000	
	Number of fans		2	4	4	4	
	\emptyset and Fan type	mm	800 EC	800 EC	800 EC	800 EC	
Equipment sound pressure (Lp10) (9)		dB(A)	63	63	65	65	
Weight (S version)	Empty weight	kg	2023	2387	2400	2411	
	In service weight	kg	2039	2408	2423	2434	

(6) Nominal heating capacity for a water inlet/outlet temperature of 30/35°C (86/95°F) and an outdoor air temperature of 7°C (44.6°F). Capacities calculated with a fouling factor in the plate heat exchanger of 0.43*10⁻⁴ (m²K/W).

(7) Seasonal Coefficient of Performance (SCOP) and seasonal heating energy efficiency ($\eta_{s,h}$) calculated for low-temperature applications and moderate climate.

(8) Seasonal Coefficient of Performance (SCOP) and seasonal heating energy efficiency ($\eta_{s,h}$) calculated for medium-temperature applications and moderate climate.

(9) Sound pressure level in dB(A) measured in a free field at 10 m from the source and with directivity 1.

KWR 3 series



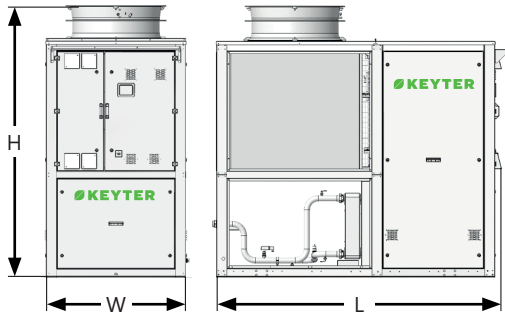
KWR 4 series



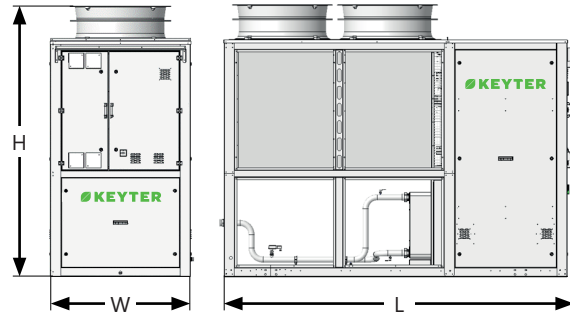
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dimensions

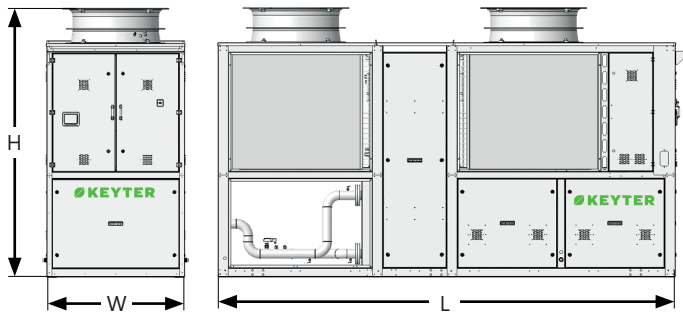
1 S/P/H series



2 S/P/H series

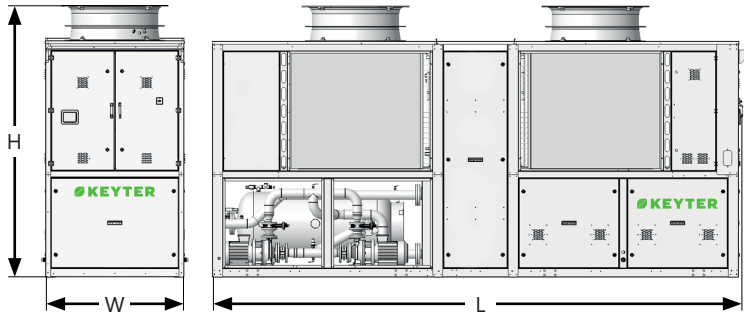


3 S/P series

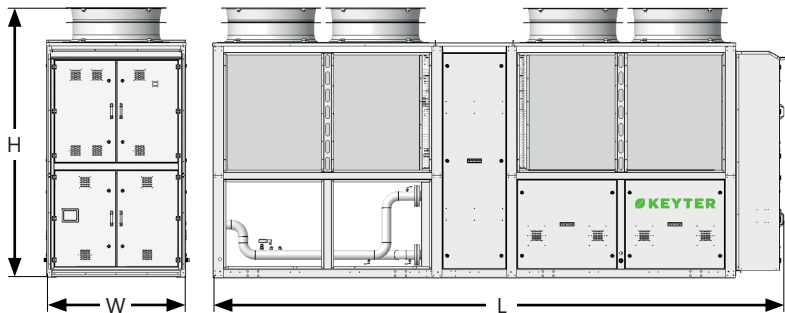


Dimensions (mm)					
	Series 1	Series 2	Series 3	Series 4	
Bodywork	S/P/H	S/P/H	S/P	H	S/P/H
L	2640	3240	4340	4940	5350
W	1300	1300	1300	1300	1300
H	2550	2550	2550	2550	2550

3 H series



4 S/P/H series



ziran pro

hydraulic versions and electronic control

Hydraulic versions

Available in three versions based on the hydraulic elements they incorporate:

- S version - Standard equipment, without hydraulic group.
- P version - Equipment with hydraulic group, including hydraulic pump and without buffer tank.
- H version - Equipment with hydraulic group, including hydraulic pump and buffer tank.

Electronic control

The ZIRAN PRO KWR units feature the latest-generation AQUAMATIX electronic control from Siemens.

Additionally, it includes the Climatix HMI user terminal for AQUAMATIX control and an RS485 communication interface for ModBus communication.



AQUAMATIX



Climatix HMI

