



Turn to the experts

XP Energy™ 38AW-R / 80AW-R
For residential and light commercial applications

SPLIT WALL-HUNG AIR-TO-WATER HEAT PUMP

WITH R32 REFRIGERANT



AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

XP ENERGY 38AW-R / 80AW-R

THE NEW RANGE OF AIR-TO-WATER SPLIT WALL-HUNG HEAT PUMPS

XP Energy split heat pumps are designed to provide heating, cooling and domestic hot water. Available in 10 power sizes, they offer a wide choice of single-phase models from 4 to 16 kW and three-phase models from 12 to 16 kW.

Thanks to the compressor with DC Inverter technology, they offer a heating temperature of up to 65 °C. On-board control as standard allows easy management of different functions.



XP Energy



Year-round comfort

XP Energy split heat pumps can be used at a wide range of outdoor air temperatures. In heating mode, they can operate from -25 °C outdoor air temperature, in cooling mode up to +43 °C and for domestic hot water from -5 °C to + 43 °C outdoor air temperature.



Efficient performance

All sizes of XP Energy split heat pumps offer energy class A+++ for heating (air 7 °C, water 35 °C) and can reach a central heating temperature of up to 65 °C.



Quiet operation

The product's design optimization for low noise levels means that the unit's standard sound power level starts from 56 dB(A) (outdoor unit) and 38 dB(A) (indoor unit) with a silent mode that can be activated by the user.



Compact Design

The XP Energy system includes a compact indoor unit (only 270 mm deep), which offers an effective solution either to replace a wall-hung gas boiler or for new housing.



Environmentally sustainable

R32 refrigerant (GWP=675) helps protect the environment and meets the greenhouse emissions phase-down requirements.



Wide range

Large choice of single-phase models from 4 to 16 kW and three-phase models from 12 to 16 kW.

**ONE RANGE,
MULTIPLE APPLICATIONS**



Individual
Housing



Collective
Housing



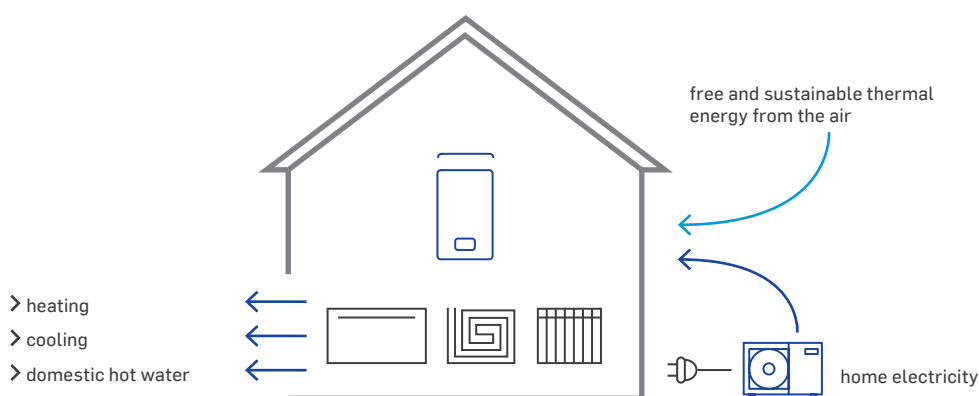
Light
Commercial

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

HOW DOES XP ENERGY WORK?

XP Energy is an air-to-water split heat pump that harnesses thermal energy from the air, a renewable and free source, by extracting it through the outdoor unit, and domestic electricity to provide year-round comfort, producing heating, cooling, and domestic hot water.

Thermal energy from the air is transferred via an inverter compressor and the refrigerant gas to the water for DHW use, as well as the circuit water of the underfloor heating system, fan coil units and radiators.

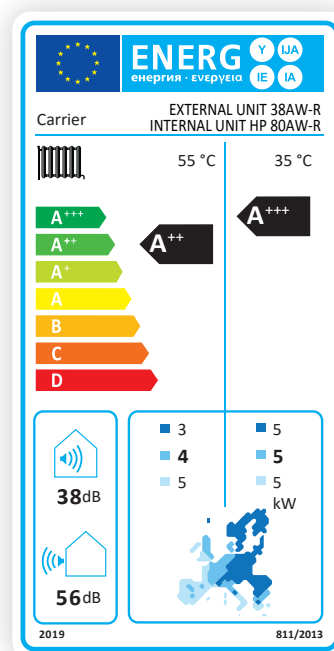


WHY CHOOSE CARRIER HEAT PUMPS?

All sizes of XP Energy appliances offer **energy class A+++** for heating (air 7 °C, water 35 °C) and can reach a central heating temperature of up to 65 °C.

XP Energy is also a **flexible choice** since the unit can adapt to a variety of applications, both residential and light commercial.

Finally, if you are looking for a **comfort solution all year round**, XP Energy can be used at a wide range of outdoor air temperatures. In heating mode, it can operate from -25 °C outdoor air temperature, in cooling mode up to +43 °C and for domestic hot water from -5 °C to +43 °C.



AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

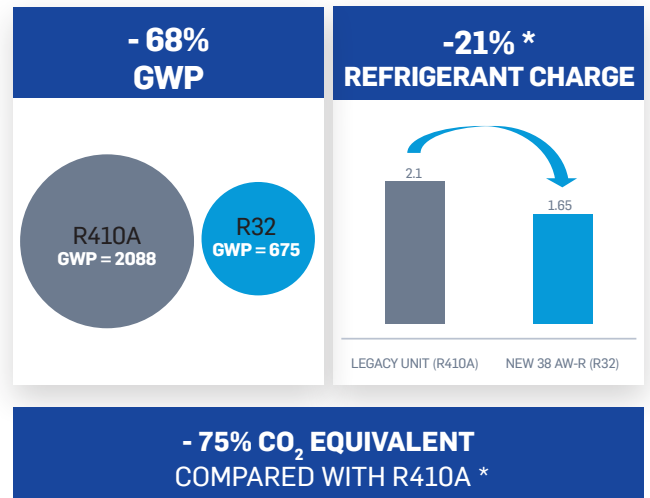
CHOOSING R32 MEANS:

HELPING TO PROTECT THE ENVIRONMENT

Carrier has opted for R32 refrigerant to replace R410A in commercial chillers and heat pumps using scroll technology. This choice has now been extended to air-to-water heat pumps using twin rotary compressors. In both cases, R32 was chosen for its lower environmental impact, high energy efficiency, wide availability and ease of use.

R32 refrigerant helps the new XP Energy split air pumps to operate more sustainably thanks to lower Global Warming Potential (GWP), and the lower charge volume means reduced CO₂ emissions.

With zero ozone depletion potential (ODP), R32 offers an excellent solution for heat pumps.



*comparison made on 8 kW model

QUIET OPERATION

The low noise level is achieved thanks to the product's design, and can be reduced by up to 39 dB(A)* when the user activates Silent Mode.

*sound pressure of 4 kW size model in Silent Mode 2

ONBOARD CONTROL AS STANDARD

The onboard control system is supplied as standard with each heat pump split system indoor unit.

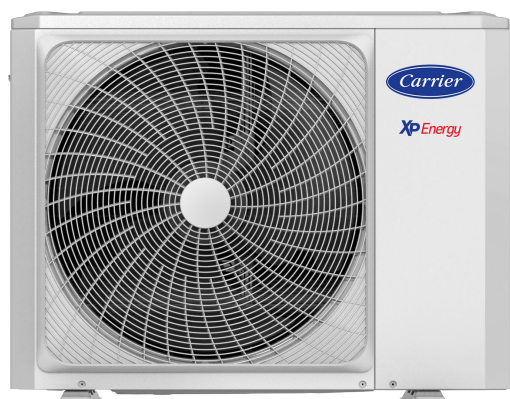
It is easy to navigate and enables you to activate all the available functions, including "Antifreeze" and "Holiday", and set a weekly program for home comfort management.

The large backlit display features intuitive icons that simplify reading, which is also made easier thanks to the multi-language menu.



AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

KEY FEATURES

4-6 KW



8-16 KW

- › **INVERTER CONTROL BOARD** - maximises power under critical load conditions and offers stability and efficiency at partial loads
- › **AISI 316 STAINLESS STEEL PLATE HEAT EXCHANGER** - protected with closed-cell anti-condensation insulation to offer high heat exchange efficiency
- › **OPERATING PARAMETER CONTROL BOARD** - constantly analyses room and water temperature to activate the various components and meet demand
- › **ELECTRONIC EXPANSION VALVE** - optimises the refrigerant flow
- › **TWIN ROTARY COMPRESSOR** - the Inverter System design including the twin DC rotary compressor, fan motor and pump ensures precise control of the motor speed for the right power to match the actual load and save energy
- › **FAN** - special design of the blade and its edge optimises the flow surface, improving efficiency and reducing fan noise
- › **HEAT EXCHANGE BATTERY** - with extended surface area and aluminium wings

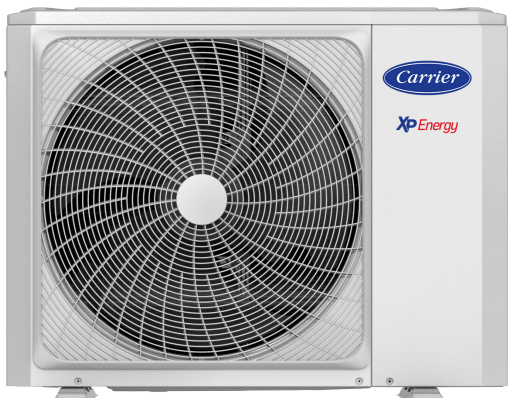
AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

INSTALLATION FLEXIBILITY

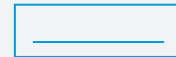
XP Energy, characterised by a compact indoor unit, represents a sound solution either to replace a wall-hung gas boiler or for new housing. In colder climates, the gas boiler can provide an auxiliary heat source.



ONLY 270 mm DEEP



TERMINAL UNITS



fan coils



floor heating



radiators

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

YEAR-ROUND COMFORT

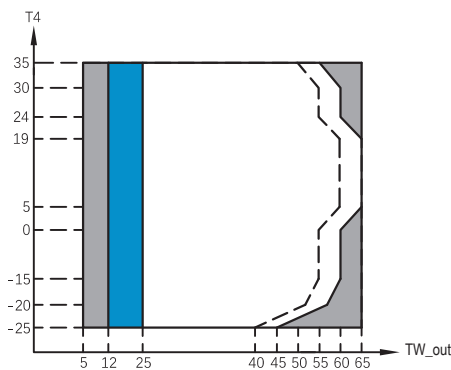
The XP Energy heat pump range can be used at a wide range of outdoor air temperatures.

As shown in the graphs, in heating mode it can operate from -25 °C outdoor air temperature, in cooling mode up to +43 °C and for domestic hot water from -5 °C to +43 °C.

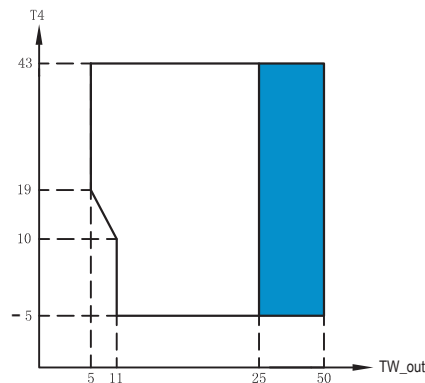


HEATING MODE

The maximum water flow temperature (T_{w_out}) that the heat pump can reach at different outdoor temperatures (T_4) is listed below:

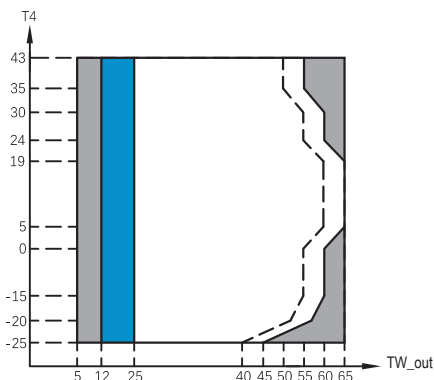


COOLING MODE



DHW MODE

The maximum water flow temperature (T_{w_out}) that the heat pump can reach at different outdoor temperatures (T_4) is listed below:



Operating limits

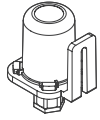
- Operating range only with gas boiler or electric resistance
- Operating range via heat pump with possible limitation and protection
- Maximum water inlet temperature line for heat pump operation

T_{w_out} : water flow temperature

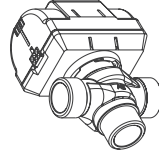
T_4 : outdoor air temperature

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

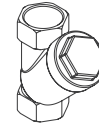
ACCESSORIES



OUTDOOR AIR PROBE

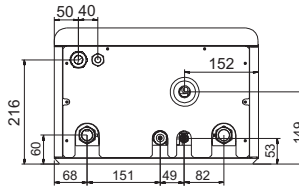
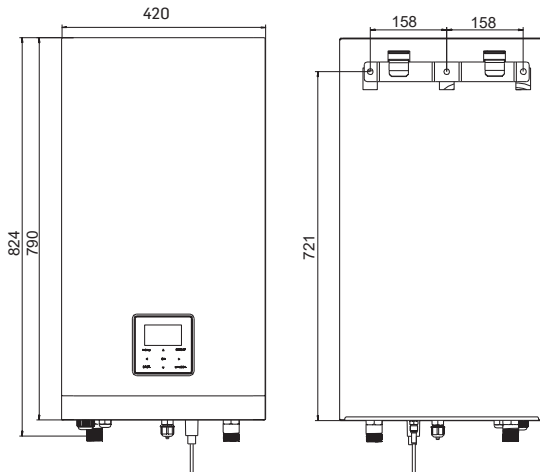


**3-WAY DIVERTER VALVE
(1" AND 1/4 AND 1")**



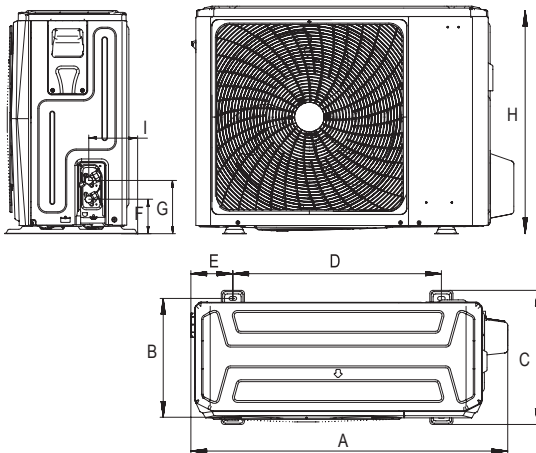
1" Y-FILTER

TECHNICAL DRAWINGS

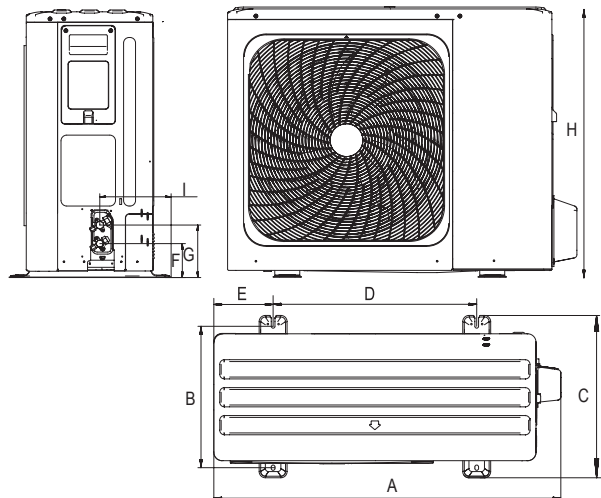


L x W x D: 420 × 790 × 270 mm

4-6 KW



8-16 KW

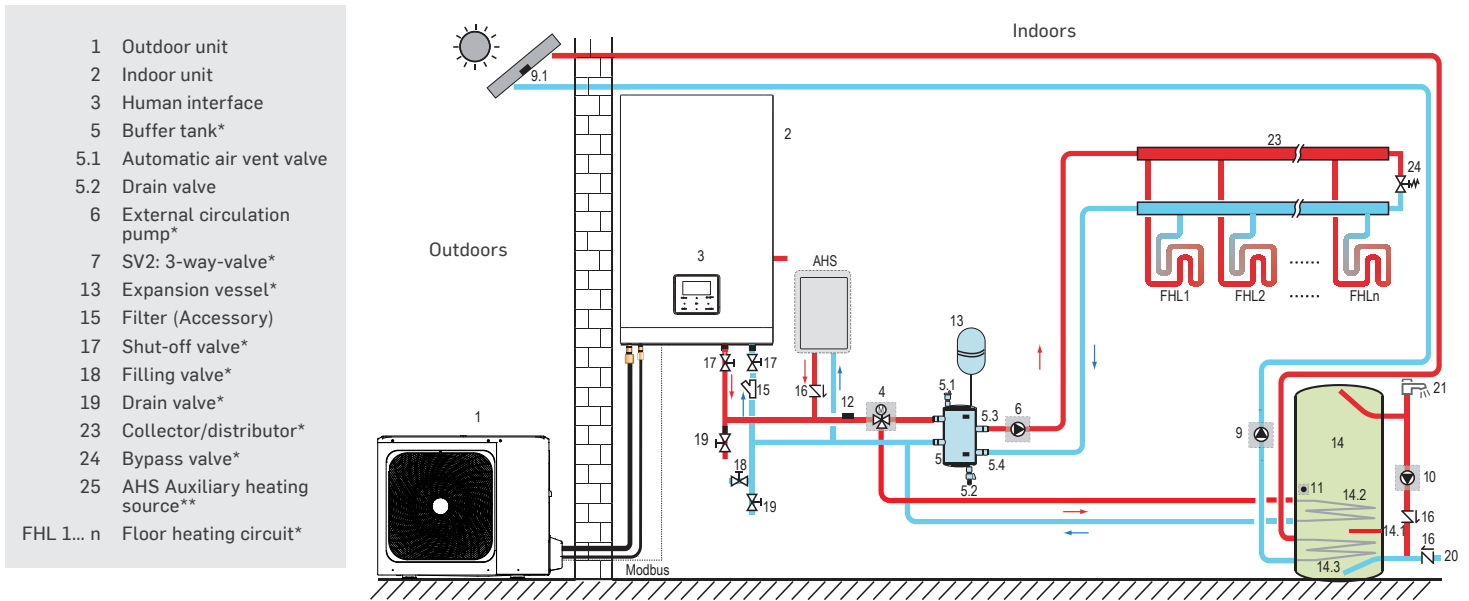


Model	uom	A	B	C	D	E	F	G	H	K
4-6 kW	mm	1008	375	426	663	134	110	170	712	160
8-10-12-14-16 kW	mm	1118	456	523	656	191	110	170	865	230

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

TYPICAL APPLICATION EXAMPLES

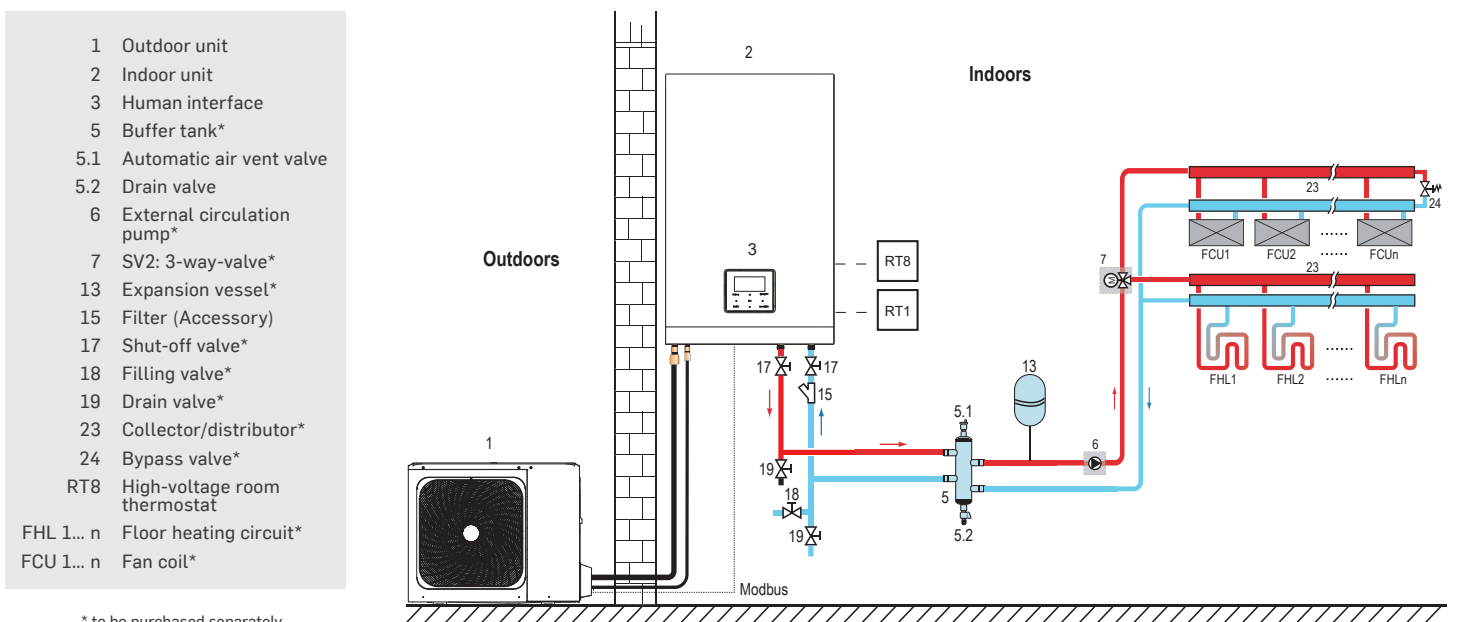
Example of a system with XP Energy and auxiliary heating source for floor heating and DHW production via DHW tank and solar thermal



- 1 Outdoor unit
- 2 Indoor unit
- 3 Human interface
- 5 Buffer tank*
- 5.1 Automatic air vent valve
- 5.2 Drain valve
- 6 External circulation pump*
- 7 SV2: 3-way-valve*
- 13 Expansion vessel*
- 15 Filter (Accessory)
- 17 Shut-off valve*
- 18 Filling valve*
- 19 Drain valve*
- 23 Collector/distributor*
- 24 Bypass valve*
- 25 AHS Auxiliary heating source**
- FHL 1... n Floor heating circuit*

* to be purchased separately
 ** check compatibility with the individual gas boiler model selected

Example of a system with XP Energy™ for heating via floor heating system and cooling via fan coil units



- 1 Outdoor unit
- 2 Indoor unit
- 3 Human interface
- 5 Buffer tank*
- 5.1 Automatic air vent valve
- 5.2 Drain valve
- 6 External circulation pump*
- 7 SV2: 3-way-valve*
- 13 Expansion vessel*
- 15 Filter (Accessory)
- 17 Shut-off valve*
- 18 Filling valve*
- 19 Drain valve*
- 23 Collector/distributor*
- 24 Bypass valve*
- RT8 High-voltage room thermostat
- FHL 1... n Floor heating circuit*
- FCU 1... n Fan coil*


* to be purchased separately

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

TECHNICAL DATA

	U.M.	4R	6R	8R	10R	12R	14R	16R	12R (3-ph)	14R (3-ph)	16R (3-ph)
PERFORMANCE DATA											
HEATING PERFORMANCE [A7/W35] (1)											
Nominal heating capacity	kW	4,25	6,20	8,30	10,00	12,10	14,50	16,00	12,10	14,50	16,00
COP	kW/kW	5,20	5,00	5,20	5,00	4,95	4,70	4,50	4,95	4,70	4,50
SCOP	kW/kW	4,85	4,95	5,22	5,20	4,81	4,72	4,62	4,81	4,72	4,62
ηs	%	191	195	206	205	189	186	182	189	186	182
Seasonal energy class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
HEATING PERFORMANCE [A7/W45] (2)											
Nominal heating capacity	kW	4,35	6,35	8,20	10,00	12,30	14,20	16,00	12,30	14,20	16,00
COP	kW/kW	3,80	3,75	3,95	3,80	3,80	3,65	3,60	3,80	3,65	3,60
HEATING PERFORMANCE [A7/W55] (3)											
Nominal heating capacity	kW	4,40	6,00	7,50	9,50	12,00	13,80	16,00	12,00	13,80	16,00
COP	kW/kW	2,95	3,00	3,18	3,10	3,10	3,00	2,90	3,10	3,00	2,90
SCOP	kW/kW	3,31	3,52	3,37	3,47	3,45	3,47	3,41	3,45	3,47	3,41
ηs	%	130	138	132	137	135	136	133	135	136	133
Seasonal energy class		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
COOLING PERFORMANCE (A35/W18) (4)											
Nominal cooling capacity	kW	4,50	6,55	8,40	10,00	12,00	13,50	14,20	12,00	13,50	14,20
EER		5,55	4,90	5,05	4,80	4,00	3,61	3,61	4,00	3,61	3,61
SEER		7,77	8,21	8,95	8,78	7,10	6,90	6,75	7,04	6,85	6,71
COOLING PERFORMANCE (A35/W7) (5)											
Nominal cooling capacity	kW	4,70	7,00	7,40	8,20	11,60	12,70	14,00	11,60	12,70	14,00
EER		3,45	3,00	3,38	3,30	2,75	2,55	2,45	2,75	2,55	2,45
SEER		4,99	5,34	5,83	5,98	4,89	4,86	4,69	4,86	4,83	4,67
SOUND LEVELS											
Sound pressure (6) - outdoor unit	dB(A)	44	45	46	49	50	51	54	50	51	55
Sound power (7) - outdoor unit	dB(A)	56	58	59	60	64	65	68	64	65	68
Sound pressure (6) - indoor unit	dB(A)	28	28	30	30	32	32	32	32	32	32
Sound power (7) - indoor unit	dB(A)	38	38	40	40	42	44	44	42	44	44
ELECTRICAL SPECIFICATIONS											
Power supply	V/ph/Hz	220-240/1/50						380-415/3/50			
Permitted voltage	V	220-240						380-415			
Total power input (8)	kW	2,2	2,6	3,3	3,6	5,4	5,7	6,1	5,4	5,7	6,1
Full load current (9)	A	12	14	16	17	25	26	27	10	11	12
Refrigerant		R32									
Refrigerant charge	kg	1,5		1,65				1,84			
Compressor type		DC inverter dual rotary									
Outdoor fan type		DC motor/horizontal									
Number of fans		1									
Air side heat exchanger		Fin coil									
Water side heat exchanger		Plate type									

- (1) Outdoor air temperature 7 °C DB; water inlet/outlet 30/35 °C
(2) Outdoor air temperature 7 °C DB; water inlet/outlet 40/45 °C
(3) Outdoor air temperature 7 °C DB; water inlet/outlet 47/55 °C
(4) Outdoor air temperature 35 °C; water inlet/outlet 23/18 °C
(5) Outdoor air temperature 35 °C; water inlet/outlet 12/7 °C
(6) Measured at a position 1 m in front of the unit and (1+unit height)/2 m above the floor in a semi-anechoic chamber
(7) Declared value in compliance with EN 12102-1
(8) Power absorbed by the compressors and fans at the limit operating conditions with a rated supply voltage
(9) Maximum circuit amps

 Performance declared in accordance with relevant EU standards and legislation:
EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

AIR-TO-WATER SPLIT HEAT PUMP - R32 - 38AW-R / 80AW-R

	U.M.	4R	6R	8R	10R	12R	14R	16R	12R (3-ph)	14R (3-ph)	16R (3-ph)
PERFORMANCE BASED ON THE CLIMATIC ZONE											
AVERAGE ZONE - AVERAGE TEMPERATURE [47/55 °C]											
η _s	%	129,5	137,9	131,5	136,6	135,1	135,6	133,3	135,1	135,6	133,2
SCOP	kW/kW	3,31	3,52	3,37	3,47	3,45	3,47	3,41	3,45	3,47	3,41
P _{design} -7 °C	kW	3,89	5,04	5,84	6,78	10,24	10,68	11,52	10,24	10,68	11,52
P _{design} +2 °C	kW	2,38	3,12	3,76	4,28	6,52	6,86	7,18	6,52	6,86	7,18
P _{design} +7 °C	kW	2,94	2,08	2,43	2,77	4,36	4,63	4,67	4,36	4,63	4,67
P _{design} +12 °C	kW	1,32	1,28	1,39	1,58	3,29	3,31	3,31	3,29	3,31	3,32
Annual energy consumption	kWh	2,74	3,34	4,05	4,53	6,92	7,20	7,89	6,92	7,20	7,89
Energy class		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Indoor sound power level	dB(A)	38	38	42	42	43	43	43	43	43	43
Outdoor sound power level	dB(A)	56	58	59	60	64	65	68	64	65	68
AVERAGE ZONE - LOW TEMPERATURE [30/35 °C]											
η _s	%	191	195	205,6	204,8	189,4	185,7	181,7	189,3	185,6	181,6
SCOP	kW/kW	4,85	4,95	5,22	5,2	4,81	4,72	4,62	4,81	4,72	4,62
P _{design} -7 °C	kW	4,88	6,03	7,18	8,1	10,61	12,14	13,45	10,61	12,14	13,45
P _{design} +2 °C	kW	3,05	3,88	4,65	5,18	6,69	7,94	8,56	6,69	7,94	8,56
P _{design} +7 °C	kW	1,93	2,39	2,9	3,32	4,44	5,2	5,7	4,44	5,2	5,7
P _{design} +12 °C	kW	1,48	1,39	1,63	1,65	3,74	3,75	3,78	3,74	3,75	3,78
Annual energy consumption	kWh	2,35	2,84	3,21	3,64	5,15	6,01	6,80	5,15	6,01	6,80
Energy class		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Indoor sound power level	dB(A)	38	38	42	42	43	43	43	43	43	43
Outdoor sound power level	dB(A)	56	58	59	60	64	65	68	64	65	68
WARM ZONE - AVERAGE TEMPERATURE [47/55 °C]											
η _s	%	162,4	164,7	176,9	180,3	174	174,9	176	173,8	174,7	175,8
P _{design} +2 °C	kW	4,83	5,02	7,55	8,06	12,07	13,04	13,38	12,07	13,04	13,38
P _{design} +7 °C	kW	3,22	3,31	5,38	5,54	8,04	9,11	9,11	8,04	9,11	9,11
P _{design} +12 °C	kW	1,47	1,59	2,31	2,53	3,75	4,08	4,06	3,75	4,08	4,06
Annual energy consumption	kWh	1,62	1,64	2,48	2,51	3,77	4,25	4,23	3,78	4,23	4,23
WARM ZONE - LOW TEMPERATURE [30/35 °C]											
η _s	%	255,4	259,8	276,6	280,5	256,1	260,3	248,5	255,6	259,8	248,1
P _{design} +2 °C	kW	5,34	5,93	7,56	8,44	11,1	12,04	13,1	11,1	12,04	13,1
P _{design} +7 °C	kW	3,56	3,93	5,22	5,52	7,14	7,78	8,41	7,14	7,78	8,41
P _{design} +12 °C	kW	1,63	1,79	2,62	2,62	3,55	3,75	3,87	3,55	3,75	3,87
Annual energy consumption	kWh	1,14	1,24	1,55	1,61	2,29	2,45	2,78	2,29	2,46	2,78
COLD ZONE - AVERAGE TEMPERATURE [47/55 °C]											
η _s	%	102,1	111,1	112	116,4	117,8	118,9	121,8	117,7	118,9	121,8
P _{design} -7 °C	kW	2,13	2,7	3,86	4,27	6,63	6,89	7,64	6,63	6,89	7,64
P _{design} +2 °C	kW	1,28	1,6	2,21	2,57	4,06	4,32	4,42	4,06	4,32	4,42
P _{design} +7 °C	kW	1,01	1,02	1,44	1,65	2,78	3,06	2,97	2,78	3,06	2,97
P _{design} +12 °C	kW	1,36	1,37	1,46	1,47	3,33	3,33	3,43	3,33	3,33	3,43
Annual energy consumption	kWh	3,15	3,68	4,95	5,54	8,41	8,86	9,30	8,42	8,86	9,31
COLD ZONE - LOW TEMPERATURE [30/35 °C]											
η _s	%	159,5	165,3	170	169,8	160,2	159,6	157,8	160,2	159,6	157,8
P _{design} -7 °C	kW	2,75	3,42	4,46	4,83	7,05	7,96	8,31	7,05	7,96	8,31
P _{design} +2 °C	kW	1,77	2,06	2,69	2,94	4,67	5,05	5,26	4,67	5,05	5,26
P _{design} +7 °C	kW	1,17	1,46	1,65	1,92	3,14	3,15	3,62	3,14	3,15	3,62
P _{design} +12 °C	kW	1,43	1,44	1,65	1,65	3,57	3,57	3,34	3,57	3,57	3,34
Annual energy consumption	kWh	2,76	3,3	3,97	4,42	6,87	7,66	8,43	6,87	7,66	8,43



Data declared in accordance with energy label directive 2010/30/EC regulation (EU) 811/2013

Váš autorizovaný Carrier partner:



Thermac Klimatechnika s.r.o.

info@thermac.cz

IČ: 087 65 758

www.thermac.cz



Turn to the experts

www.carrier.com

04/2023

B-RLC-027-BROCHURE_XP ENERGY 38AW-R / 80AW-R R32_EN

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