

## REVERSIBLE HEAT PUMPS

# ECA Technology Air-to-water heat pump

Our objective is to create solutions for environmentally and energetically sustainable comfort.

In all the environments we spend time in.  
In all the moments we live.

The targeted combination of research, design and advanced technology has enabled us to devise **360° reliable, efficient installation systems**, which provide well-being in residential as well as commercial buildings where **producing comfort while reducing energy maintenance costs** is essential.

ECA Technology's reversible heat pump systems, as a replacement for traditional systems, are designed to be integrated with a range of hydronic units to ensure optimum performance and activity.

## Versions

### **BWHE-S**

Air to water heat pump from 20 to 42kw

### **BWHE-Si**

INVERTER Air to water heat pump from from 20 to 42kw

### **BWHE-ZS**

Air to water heat pump from 46 to 182 kw



## BWHE-S / BWHE-Si Air to water heat pump



New range of BWHE series monobloc outdoor air/water heat pumps in R32 ecological gas, suitable for both comfort and process applications, designed to provide the best comfort and maximum respect for the environment.

Available in two versions:

**BWHE S** reversible heat pump

**BWHE** Yes reversible heat pump with inverter compressor

The standard versions with hermetic scroll compressor complete with rubber anti-vibration mounts. The on-off compressors are equipped with a crankcase heater as standard. The versions with inverter compressor with permanent magnet brushless motor and variable speed are designed to maximize seasonal efficiency and reduce the total starting current as its starting always occurs with an acceleration ramp.

Source side coil in aluminum finned copper with a high exchange surface with fin pitch sized to maximize heat exchange and reduce the acoustic impact and hydrophilic treatment to facilitate the drainage of condensation water from the coil.

Helical fans directly coupled to the 6-pole external rotor electric motor, IP 54 protection degree with accident prevention protection grid; User side exchanger with brazed plates in insulated AISI 316 stainless steel;



### The unit includes

- General disconnecting device and protection of auxiliary and power circuits,
- Flow switch (supplied)
- Advanced Control
- Circuit breakers
- Battery protection net,
- Summer/Winter and On/Off selection from digital input
- Condensate collection tray
- Electronic thermostatic valve
- Cu/Al battery with hydrophilic treatment
- Serial port for RS485 or TCP/IP BMS connection
- Condensation control with speed regulator



n.3 BWHE 28 kW



## BWHE-S Air to water heat pump from 20 kW to 42 kW



MODEL		S18	S24	S30	S36	S45
Power supply	V/f/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Cooling capacity (1)	kW	17,1	21,3	26,0	28,7	36,2
EER (1)		2,77	2,88	2,98	2,83	2,68
Heating Capacity (2)	kW	19,9	24,5	30,3	33,6	42,5
COP (2)		3,24	3,31	3,34	3,29	3,19
Number of compressors	N°	1/1	1/1	1/1	1/1	1/1
Number of fans	N°	1	2	2	2	2
Air flow volume	m3/h	9500	10400	18800	18900	18700
User exchange water flow rate	m3/h	2,99	3,78	5,21	5,78	7,31
User exchange load loss	kPa	13,2	17,2	20,4	24,8	17,7
Useful pump head (opt)	kPa	60	109	101	135	181
Tank capacity (opt)	Lt	130	130	130	130	130
Dimensions (see base) WxDxH	mm	1110*750*1370	1300*720*1580	1800*750*1610	1800*750*1610	1800*750*1610
Operating weight (base version)	Kg	235	250	305	315	320
Refrigerant / Q.tà	tipo / q.tà	R32 / 2,8	R32 / 3,85	R32 / 4,2	R32 / 4,2	R32 / 4,4
Tons CO2	tons	1,890	2,599	2,835	2,835	2,970

(1) EXTERNAL AIR TEMPERATURE 35°C; USER EXCHANGER INLET/OUTLET WATER TEMPERATURE 12/7°C. VALUES COMPLIANT WITH THE EN 14511 STANDARD.  
 (2) OUTDOOR AIR TEMPERATURE 7°C DB, 6°C WB; CONDENSER INLET/OUTLET WATER TEMPERATURE 40/45°C. VALUES COMPLIANT WITH THE EN 14511 STANDARD  
 NOTE: THE PRODUCTS INDICATED ABOVE, HERMETICALLY SEALED, CONTAIN FLUORINATED GREENHOUSE GASES REGULATED BY THE KYOTO PROTOCOL;

## BWHE-S - Accessories

HYDRAULIC SYSTEM ACCESSORIES		S18	S24	S30	S36	S45
Pump	1P	-	-	-	-	-
Standard user-side pump with tank	1PS	-	-	-	-	-
Filling group with pressure gauge	GRPC	-	-	-	-	-
Antifreeze heater (for units without pumps)	RA	(s)	(s)	(s)	(s)	(s)
Antifreeze heater (for units with pumps)	RA	-	-	-	-	-
Antifreeze heater (for units with pump and tank)	RA	-	-	-	-	-
Water filter	FW	-	-	-	-	-
ELECTRICAL ACCESSORIES						
Advanced control	CA	(s)	(s)	(s)	(s)	(s)
Speed regulator condensation control	CRG	(s)	(s)	(s)	(s)	(s)
Remote user terminal	TERM	-	-	-	-	-
Single clean operating contacts	CP	-	-	-	-	-
Stopping the unit for temp. lower than the operating limit	ARU	(s)	(s)	(s)	(s)	(s)
Set point compensation in operation of the temp. external air	CSP	(s)	(s)	(s)	(s)	(s)
Double set point from digital input	SETD	(s)	(s)	(s)	(s)	(s)
Management relay of 1 external pump	RE1P	-	-	-	-	-
ACCESSORIES						
Rubber vibration dampers	AG	-	-	-	-	-
Pre-painted aluminum battery	ALPR	-	-	-	-	-
Battery treated with anti-corrosion paints	ANTC	-	-	-	-	-
Condensate collection tray	VASC	(s)	(s)	(s)	(s)	(s)
Antifreeze heater for condensate collection tray	RAV	-	-	-	-	-
Battery protection net	RETE	(s)	(s)	(s)	(s)	(s)

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# BWHE-Si Air to water heat pump with **inverter** compressor from 20 kW to 42 kW



MODEL		Si18	Si24	Si30	Si36	Si45
Power supply	V/f/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Cooling capacity (1)	kW	18,1	22,1	30,2	36,4	42,5
EER (1)		2,92	2,99	3,19	3,01	2,74
Thermal Power (2)	kW	19,4	23,5	31,5	38,4	45,0
COP (2)		3,24	3,21	3,36	3,29	3,05
n. compressors/ circuits	N°	1/1	1/1	1/1	1/1	1/1
Number of fans	N°	1	2	2	2	2
Air flow	m <sup>3</sup> /h	9500	10400	18800	18900	18700
User exchange water flow rate	m <sup>3</sup> /h	3,34	4,04	5,42	6,59	7,73
User exchange load loss	kPa	16,1	20,1	22,7	32,2	20,7
Useful pump head (opt)	kPa	59	109	89	109	173
Tank capacity (opt)	Lt	130	130	130	130	130
Dimensions (see base) WxDxH	mm	1110*750*1370	1300*720*1580	1800*750*1610	1800*750*1610	1800*750*1610
Operating weight (see base)	Kg	239	257	310	323	330
Refrigerant / Qty	tipo / q.tà	R32 / 2,8	R32 / 3,85	R32 / 4,2	R32 / 4,2	R32 / 4,4
Refrigerant / Qty	tons CO <sub>2</sub>	1,890	2,599	2,835	2,835	2,970

(1) EXTERNAL AIR TEMPERATURE 35°C; USER EXCHANGER INLET/OUTLET WATER TEMPERATURE 12/7°C. VALUES COMPLIANT WITH THE EN 14511 STANDARD.  
 (2) OUTDOOR AIR TEMPERATURE 7°C DB, 6°C WB; CONDENSER INLET/OUTLET WATER TEMPERATURE 40/45°C. VALUES COMPLIANT WITH THE EN 14511 STANDARD  
 NOTE: THE PRODUCTS INDICATED ABOVE, HERMETICALLY SEALED, CONTAIN FLUORINATED GREENHOUSE GASES REGULATED BY THE KYOTO PROTOCOL;

## BWHE-Si - Accessories

HYDRAULIC SYSTEM ACCESSORIES		Si18	Si24	Si30	Si36	Si45
Pump	<b>1P</b>	-	-	-	-	-
Standard user-side pump with tank	<b>1PS</b>	-	-	-	-	-
Filling group with pressure gauge	<b>GRPC</b>	-	-	-	-	-
Antifreeze heater (for units without pumps)	<b>RA</b>	(s)	(s)	(s)	(s)	(s)
Antifreeze heater (for units with pumps)	<b>RA</b>	-	-	-	-	-
Antifreeze heater (for units with pump and tank)	<b>RA</b>	-	-	-	-	-
Water filter	<b>FW</b>	-	-	-	-	-
ELECTRICAL ACCESSORIES						
Advanced control	<b>CA</b>	(s)	(s)	(s)	(s)	(s)
Speed regulator condensation control	<b>CRG</b>	(s)	(s)	(s)	(s)	(s)
Remote user terminal	<b>TERM</b>	-	-	-	-	-
Single clean operating contacts	<b>CP</b>	-	-	-	-	-
Stopping the unit for temp. lower than the operating limit	<b>ARU</b>	(s)	(s)	(s)	(s)	(s)
Set point compensation in operation of the temp. external air	<b>CSP</b>	(s)	(s)	(s)	(s)	(s)
Double set point from digital input	<b>SETD</b>	(s)	(s)	(s)	(s)	(s)
Management relay of 1 external pump	<b>RE1P</b>	-	-	-	-	-
ACCESSORIES						
Rubber vibration dampers	<b>AG</b>	-	-	-	-	-
Pre-painted aluminum battery	<b>ALPR</b>	-	-	-	-	-
Battery treated with anti-corrosion paints	<b>ANTC</b>	-	-	-	-	-
Condensate collection tray	<b>VASC</b>	(s)	(s)	(s)	(s)	(s)
Antifreeze heater for condensate collection tray	<b>RAV</b>	-	-	-	-	-
Battery protection net	<b>RETE</b>	(s)	(s)	(s)	(s)	(s)