

## 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



## REVERSIBLE HEAT PUMPS

# BWHE-ZS Air-to-water heat pumps from 46 kW to 182 kW

Range of **air-to-water heat pumps** with axial fans and R410a gas designed and developed to provide optimum comfort and the highest levels of environmental well-being. Fully configurable with a wide range of models and accessories.

Compressors are hermetic scroll orbiting spiral compressors connected in tandem. They are equipped with thermal protection and an oil equalization line.

Condenser consisting of a coil with copper pipes and aluminium fins with a high exchange surface area. The base of each battery includes anti-ice control logic, which helps prevent ice from forming on the underside of the coil and therefore allows the unit to operate even in extremely cold temperatures and high humidity levels;

Helical fans directly coupled to 6-pin external rotor electric motor, IP 54 protection class with grille guard;

AISI 316 stainless steel brazed plate heat exchanger on the utility side, insulated with a closed-cell foam shell. The exchanger is equipped with a temperature probe for frost protection and a vane flow switch supplied as standard.



## The unit includes

- Fixed-setting automatic compressor switches,
- Fan fuses and auxiliary circuits,
- Numbered electrical cables in electrical panel,
- Flow switch or differential pressure switch fitted,
- Condensation control with speed controller for models Z32 to Z102,
- Inlet water control,
- RS485 serial connection with Modbus protocol,
- TCP-IP (Ethernet) serial connection with Modbus protocol (only for units with advanced control),
- TCP-IP port (Ethernet) with integrated web server (only for units with advanced control),
- Individual potential free contacts (compressors, fans and pumps when present),
- Coil protection mesh;
- Antifreeze element (v. without pumps).

R32



## TECHNICAL DATA

# BWHE-ZS Air-to-water heat pump from 46 kW a 182 kW



MODELLO		ZS32	ZS42	ZS52	ZS62	ZS72	ZS82	ZS92	ZS102	ZS122	ZS132	ZS152	ZS172
Power supply	V/f/Hz	400/3+N/50											
Cooling capacity (1)	kW	44,7	49,3	53,2	62,2	75,5	80,9	99,8	110,5	120,4	139,8	157,9	178,6
EER (1)		3,34	3,12	3,06	3,27	3,28	3,21	3,29	3,25	3,03	3,36	3,24	3,20
Thermal Power (2)	kW	46,10	50,80	54,70	64,10	75,50	81,90	102,20	112,80	123,20	142,50	161,90	183,00
COP (2)		3,42	3,34	3,36	3,41	3,34	3,34	3,36	3,44	3,43	3,40	3,39	3,38
n. compressors/ circuits	N°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Number of fans	N°	2	2	2	2	2	3	2	2	2	3	3	3
Air flow	m <sup>3</sup> /h	18.000	18.000	18.000	20.000	28.000	28.000	42.000	42.000	42.000	59.000	59.000	59.000
Useful pump head (opt)	kPa	125	149	151	142	140	181	155	154	177	170	162	174
Tank capacity (opt)	Lt	165	165	165	200	200	390	390	390	700	700	700	700
Dimensions (see base) WxDxH	cm	226*103*180			326*113*180			326*113*238			426*113*238		
Operating weight (see base)	Kg	543	567	578	823	880	883	1088	1116	1167	1384	1452	1480
Refrigerant	tipo	R32											
Refrigerant	q.tà	7,7	7,7	7,7	11	12,2	13	14,6	15,6	18	23,1	23,1	24,5

(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-ZS - Accessories

MODEL		ZS32	ZS42	ZS52	ZS62	ZS72	ZS82	ZS92	ZS102	ZS122	ZS132	ZS152	ZS172
<b>ACCESSORY VERSIONS</b>													
Silenced version	LN	-	-	-	-	-	-	-	-	-	-	-	-
Super-silenced version	SLN	-	-	-	-	-	-	-	-	-	-	-	-
<b>HYDRAULIC MODULE ACCESSORIES</b>													
Pump	1P	-	-	-	-	-	-	-	-	-	-	-	-
Pump and tank	1PS	-	-	-	-	-	-	-	-	-	-	-	-
Antifreeze resistance (see pump) (b)	RA1P	-	-	-	-	-	-	-	-	-	-	-	-
Antifreeze resistance (see pump and tank) (b)	RA1PS	-	-	-	-	-	-	-	-	-	-	-	-
Water side safety valve	VSIW	-	-	-	-	-	-	-	-	-	-	-	-
Water filter (a)	FW	-	-	-	-	-	-	-	-	-	-	-	-
<b>REFRIGERATING SYSTEM ACCESSORIES</b>													
Condensation control speed regulator	RG	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pressure gauges	MAFR	-	-	-	-	-	-	-	-	-	-	-	-
Electronic thermostatic valve	VTE	-	-	-	-	-	-	-	-	-	-	-	-
<b>ELECTRICAL ACCESSORIES</b>													
Advanced control	CA	-	-	-	-	-	-	-	-	-	-	-	-
Electronic soft starter	SOFT	-	-	-	-	-	-	-	-	-	-	-	-
Auto switches (in place of fuses)	IACV	-	-	-	-	-	-	-	-	-	-	-	-
Single clean contacts work.	CP	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Rem. user term. (basic check)	TERMB	-	-	-	-	-	-	-	-	-	-	-	-
Rem. user term. (advanced control)	TERMA	-	-	-	-	-	-	-	-	-	-	-	-
Connection RS485 Modbus serial	SERI	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
<b>ACCESSORIES</b>													
Rubber vibration dampers	AG	-	-	-	-	-	-	-	-	-	-	-	-
Battery protection net	RETE	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Treat. battery anti-corrosion	ANTC	-	-	-	-	-	-	-	-	-	-	-	-
Condensate collection tray	VASC	-	-	-	-	-	-	-	-	-	-	-	-