

**Air/Water chillers and heat pumps  
with axial fans and hermetic  
scroll compressors**

41 ÷ 250 kW



## ZETA ECHOS

Water chiller

### Unit frame

Galvanized steel frame with baked-on polyester powder coating (colour RAL 5014). Removable panels are internally soundproofed with a sound absorbing mat.

### Compressors

Hermetic scroll compressors connected in tandem. Fitted with guard heater, thermal overload protection, sight glass and oil equalisation line.

### Refrigerant circuit

Comprises : liquid line shut-off valve, charge connection, sight glass, filter dryer, thermostatic expansion valve, safety valve, high and low pressure switches. 4-compressor models are equipped with pressure transducer.

### Evaporator

Braze-welded plate type with antifreeze protection and mechanical flow switch.

### Condenser

High efficiency, finned coil protected by a grille with metal mesh filter.

### Fans

Axial fans, directly coupled to 6-pole electric motors, designed to reduce noise levels, thermal overload protection and safety guard.

### Electrical panel

With main switch, power and control circuit protection, compressor and fan contactors. Microprocessor control with function display.

### Testing

The units are factory-tested and supplied with HFC-410A refrigerant charge and oil.

## ZETA ECHOS/HP

Heat pump

In addition to the components featured on Zeta ECHOS, this model includes: liquid receiver, solenoid valve on the liquid line

models 6.2 to 26.4, 4-way reversing valve and second thermostatic expansion valve. High efficiency reverse cycle defrost function in accordance with patented Blue Box logic no 1335232 to optimise defrost cycle operation and duration.

## HYDRAULIC MODULE OPTIONS

### ZETA ECHOS/ST 2PS

In addition to the components of Zeta Echos , this model includes insulated storage tank, two water pumps (one in stand-by and the other with automatic changeover in the event of malfunctions), expansion vessel, check valves and gate valves.

### ZETA ECHOS/ST 1PS

Unlike model Zeta Echos /ST 2PS, the unit features only one pump.

### ZETA ECHOS/ST 2P

Unlike model Zeta Echos /ST 2PS, the unit is not fitted with a storage tank or expansion vessel.

### ZETA ECHOS/ST 1P

Unlike model Zeta Zeta Echos /ST 2PS, the unit is not equipped with a storage tank or expansion vessel, and has only one pump.

## ACCESSORY VERSIONS

### ZETA ECHOS/DC

Unit with 100% heat recovery condenser, water temperature thermostat and heat recovery safety device pressure switch. Contacts on terminal board for external enabling.

Not available for all models /HP and versions /ST as stated on price list.

### ZETA ECHOS/DS

Unit with desuperheaters for partial (20%) recovery of heat rejection. Not available for the /ST versions as stated on price list.

## ZETA ECHOS/LN

Low noise version: soundproofed compressor compartment with sound absorbing mat (with high acoustic impedance material inserted on compartment sides).

## ZETA ECHOS/SLN

Extra-low noise version: in addition to the components featured on the Zeta ECHOS /LN, this unit features oversized condensing coil, reduced fan speed and a fan speed regulator.

## ACCESSORI PRINCIPALI

- Electronic thermostatic valve
- Condensing pressure control with fan speed regulator (air down to -20 °C)
- Dual set point with single electronic thermostatic valve; the set point can be entered via the keyboard or digital input (specify type when ordering)
- RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer
- Carel or Modbus communication protocols
- Pressure gauges
- Electric heater on the evaporator (also on tank and piping on /ST option)
- Remote user terminal (in addition to one on board unit)
- Rubber or spring type anti-vibration mounts
- Soft starter to limit compressor peak current.

**ZETA ECHOS - R410A TECHNICAL DATA**

Unit size		3.2	4.2	5.2	6.2	8.2	9.2	10.2
<b>Nominal cooling capacity (*)</b>	kW	40,9	45,9	51,8	60,4	83,5	93,7	104,3
<b>Nominal heating capacity (**)</b>	kW	42,4	48,3	56,8	64,8	85,5	99	114
<b>Compressor</b>								
Quantity/Refrigerant circuits	n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Cooling power input (*)	kW	12,2	14,3	17	18,7	23,8	29,2	34,9
Heating power input (**)	kW	12,9	14,9	17,4	19,4	25,9	30,5	34,6
Capacity steps	%	50-100	50-100	50-100	50-100	50-100	50-100	50-100
<b>Fans</b>								
Air flow	m³/s	4,722	4,722	4,167	5,278	7,917	7,917	7,917
No. x installed power	n° x kW	2 x 0,70	2 x 0,70	2 x 0,70	2 x 0,70	3 x 0,70	3 x 0,70	3 x 0,70
<b>Evaporator characteristics</b>								
Pressure drop	kPa	79,3	73,5	76,7	80,4	106,7	82,3	83,3
<b>Hydraulic module characteristics</b>								
Water flow rate	l/s	1,955	2,194	2,482	2,885	3,986	4,477	4,992
Available static pressure ST 2PS version	kPa	113	106	106	152	107	119	101
Storage tank capacity/accumulo	l	200	200	200	200	200	450	450
Expansion vessel	l	5	5	5	18	18	18	18
<b>Noise level (***)</b>								
Basic unit	dB(A)	65,5	66	66	66	68	68	68
LN version	dB(A)	63,5	64	64	64	66	66	66
SLN version	dB(A)	59	60	60,5	61	63	63	64
<b>Power supply</b>	V/ph/Hz	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3N~/50 ±5%
<b>Dimensions and weight</b>								
Width	mm	1750	1750	1750	2233	3234	3234	3234
Depth	mm	1003	1003	1003	1043	1144	1144	1144
Height	mm	1400	1400	1400	1740	1740	1740	1740
Operating weight	kg	709	720	733	1061	1558	1566	1574

  

Unit size		12.2	13.2	16.4	18.4	20.4	24.4	26.4
<b>Nominal cooling capacity (*)</b>	kW	117,2	125,4	158,3	188	211,1	231,2	249,8
<b>Nominal heating capacity (**)</b>	kW	129,4	141,7	165,5	202,8	230,2	249,4	273,8
<b>Compressor</b>								
Quantity/Refrigerant circuits	n°	2/1	2/1	4/2	4/2	4/2	4/2	4/2
Cooling power input (*)	kW	36,8	41,7	51,7	57,4	67,3	75,3	85,5
Heating power input (**)	kW	38,7	42,3	51,7	61,1	69,3	77,1	84,2
Capacity steps	%	50-100	50-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100
<b>Fans</b>								
Air flow	m³/s	10,000	10,000	11,111	16,667	16,667	19,444	19,444
No. x installed power	n x kW	2 x 2,00	2 x 2,00	2 x 2,00	3 x 2,00	3 x 2,00	4 x 4,00	4 x 4,00
<b>Evaporator characteristics</b>								
Pressure drop	kPa	94,5	97,8	129,6	107,3	115,3	135,7	138,2
<b>Hydraulic module characteristics</b>								
Water flow rate	l/s	5,603	6,009	7,580	8,979	10,104	11,071	11,916
Available static pressure ST 2PS version	kPa	124	116	128	126	95	157	149
Storage tank capacity/accumulo	l	450	450	340	700	700	700	700
Expansion vessel	l	18	18	18	18	18	18	18
<b>Noise level (***)</b>								
Basic unit	dB(A)	69	69	71,5	72	73	73,5	73,5
LN version	dB(A)	67	67	69,5	70	71	71,5	71,5
SLN version	dB(A)	64	64,5	67,5	67,5	68,5	69	69,5
<b>Power supply</b>	V/ph/Hz	400/3N~/50 ±5%	400/3N~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%
<b>Dimensions and weight</b>								
Width	mm	3234	3234	3234	5234	5234	5234	5234
Depth	mm	1144	1144	1119	1174	1174	1174	1174
Height	mm	1880	1880	2380	2380	2380	2380	2380
Operating weight	kg	1608	1644	1434	2145	2305	2426	2432

(\*) Ambient air temperature 35°C; evaporator inlet/outlet water temperature 12-7°C.

(\*\*) Ambient air temperature 8°C DB, 50% RH; condenser inlet/outlet water temperature 40-45°C.

(\*\*\*) Sound pressure levels measured in free field conditions at distance of 1 m from the unit, according to ISO 3746.

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation