

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

322 ÷ 523 kW



ZETA ECHOS

Water chiller

Unit Frame

Modular self-supporting frame in galvanised sheet steel with baked-on polyester powder coating (colour RAL 5014) and threaded fasteners in stainless steel.

Compressors

Hermetic scroll compressors connected in parallel (tandem or trio configuration). Equipped with crankcase heater, thermal protection, liquid line sight glass and oil equalisation line.

Refrigerant Circuit

The circuit includes: liquid line shut-off valve, charge connection, liquid line sight glass, filter dryer, electronic expansion valve, safety valve, pressure transducers to relay information on high and low pressure values and relative condensing and evaporating temperatures for display on the controller, high and low pressure switches.

Evaporator

Brazed plate dual circuit type with antifreeze protection and mechanical flow switch (factory fitted).

Condenser

Composed of high efficiency coils with reverse "M" execution and protected by a hail-resistant metal mesh guard.

Fans

Axial fan directly coupled to 6-pole motors, 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

Units are factory-tested and shipped complete with refrigerant charge and oil.

ZETA ECHOS/HP

Reverse cycle heat pump

In addition to the components featured on Zeta ECHOS, this model includes: liquid receiver, 4-way reversing valve. Reverse cycle defrost function (with independent activation on both circuits) in accordance with Blue Box logic, patent no. 1335232, to optimise defrost cycle operation and duration to obtain an overall increase in the efficiency of the unit.

HYDRAULIC MODULE OPTIONS

ZETA ECHOS /ST 2PS

In addition to the components featured on Zeta ECHOS, this model includes: insulated storage tank, two water pumps (with cyclic rotation and automatic changeover in the case of faults), expansion vessel, check valves and gate valves.

ZETA ECHOS /ST 1PS

Unlike model ZETA ECHOS /ST 2PS, this unit features only one pump.

ZETA ECHOS /ST 2P

Unlike model ZETA ECHOS /ST 2PS, this unit is not fitted with storage tank or expansion vessel.

ZETA ECHOS /ST 1P

Unlike model ZETA ECHOS /ST 2PS, this unit is not fitted with a storage tank or expansion vessel, and has only one pump.

ACCESSORY VERSIONS

ZETA ECHOS /DC

Unit with heat recovery condenser for 100% recovery of rejection heat for the production of hot water, liquid receiver and automatic microprocessor control of water temperature.

This accessory is not available in the HP and /ST version indicated in the price list.

ZETA ECHOS /DS

Unit with desuperheater for recovery of 20% of rejection heat, installed in series with the condensing coil. This accessory is not available in the /ST version indicated in the price list.

ZETA ECHOS /LN

In addition to the components of the basic version, this low noise unit features a compressor compartment acoustically insulated with sound absorbing matting and an interposed layer of sound-deadening material, and a fan speed regulator.

ZETA ECHOS /SLN

Extra-low noise version: in addition to the components of the ZETA ECHOS /LN version, this unit features an oversized condensing coil and fan speed control via 8-pole motor.

MAIN ACCESSORIES

- Condensing pressure control with fan speed regulator
- Dual set point (low/high temperature) with single electronic thermostatic valve
- Kit for low water temperatures
- RS485 serial interface supporting Carel, Modbus, Echelon and Bacnet protocols; combinable also with Johnson and Trend supervision
- Power factor correction $\cos\phi \geq 0,9$
- Remote user terminal panel (in addition to the on-board terminal)
- Variable set point with remote signal (0- 1V, 0-10V, 0-20mA, 4-20mA)
- Coils with special anti-corrosion treatment
- Rubber or spring type anti-vibration mounts
- Non-standard RAL paint colours.

ZETA ECHOS - DATI TECNICI GENERALI R410A

Unit size		32.6	36.6	39.6	42.8	48.8	52.8
Nominal cooling capacity (*)	kW	322,2	358,1	390,0	447,7	470,1	523,4
Nominal heating capacity (**)	kW	346,4	385,9	419,9	481,8	505,5	562,3
Compressors							
Quantity/Refrigerant circuits	n°	6/2	6/2	6/2	8/4	8/4	8/4
Cooling power input (*) (*)	kW	99,4	112,7	125,5	132,8	152	165,6
Heating power input (**)	kW	102,6	116,3	129,6	136,9	157,0	170,9
Capacity steps	%	16,7-33,3-50-50-100 66,7-83,3-100	14,8-29,6-44,4- 63-81,5-100	16,7-33,3-50- 66,7-83,3-100	12,5-25-37,5-50- 62,5-75-87,5-100	11,1-22,2-33,3-44,4- 58,3-72,2-86,1-100	12,5-25-37,5-50- 62,5-75-87,5-100
Fans							
Air flow	m³/s	38,4	37,7	37,0	51,7	50,9	50,2
No. x installed power	n° x kW	6 x 2	6 x 2	6 x 2	8 x 2	8 x 2	8 x 2
Evaporator characteristics							
Water flow rate	l/s	1,955	2,194	2,482	2,885	3,986	4,477
Pressure drop	kPa	37,6	31,4	39,5	53,4	49,1	59,7
Hydraulic module characteristics							
Available static pressure	kPa	204	186,1	223,6	224,2	217	192,3
Storage tank capacityaccumulo	l	740	740	740	740	740	740
Expansion vessel	l	25	25	25	25	25	25
Noise level (***)							
Basic unit	dB(A)	77	77	77	79	80	80
LN version	dB(A)	73	73	74	74	75	75
SLN version	dB(A)	67	67	68	68	69	69
Power supply	V/ph/Hz	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%	400/3~/50 ±5%
Dimensions and weight							
Width	mm	4251	4251	4251	5751	5751	5751
Depth	mm	2276	2276	2276	2276	2276	2276
Height	mm	2368	2368	2368	2368	2368	2368
Operating weight	kg	3120	3324	3486	4236	4484	4752

(*) 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