

Chiller, heat pumps and condensing units air/water type ZETA-ECHOS



Technical information manual

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

	ZETA ECHOS
	Water chiller
	ZETA ECHOS/HP
	Reversible heat pump
	ZETA ECHOS/ST
	Unit with tank and pumps
	ZETA ECHOS/DC
	Unit with recovery condenser
	ZETA ECHOS/DS
	Unit with desuperheater
	ZETA ECHO/LN
	Low-noise unit
	ZETA ECHOS/SLN
	Super low-noise unit
	ZETA ECHOS/LE
	Motocondensing unit
	ZETA ECHOS A
	High performance unit

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TECHNICAL CHARACTERISTICS

ZETA ECHOS

Air cooled water chiller with hermetic scroll compressors and brazed plate evaporators. Basic unit outfit.

STRUCTURE

Self supporting frame and removable panels lined with noise-absorbent expanded polyurethane matting in galvanised steel sheet painted in RAL 5014 with polyester powder at 180 °C, to offer high weather resistance. Screws and bolts in Stainless Steel.

COMPRESSORS

Parallel connected hermetic rotary screw scroll type compressors with oil level gauge, klixon thermal protection and oil equalization system. Enclosed in an insulated compartment and separated from the air flow, the compressors are accessible through the special panels for maintenance operations, even when the unit is on.

CONDENSERS

The heat exchanger is composed of an alluminium-finned copper-tube multirow coil, of high efficiency. The finned coil pack is protected by a metal mesh.

ELECTRO FANS

Axial fans designed to enhance performance and reduce noise emissions, driven directly by a 6-pole electric motor with integrated klixon thermal protection. Motor protection degree is IP 54. The fan is fitted with a protection grille in compliance with UNI EN 294.

EVAPORATOR

Plate type heat exchanger in AISI 316 stainless steel covered with closed-cell foam.

Each evaporator is equipped with temperature probe for antifreeze protection and vane operated flow switch supplied as standard. The plate heat exchangers provide for:

- Increased COP/EER;
- Reduced refrigerant charge;
- Reduced volume and weight of the unit;
- Easier maintenance.

COOLING CIRCUIT

Comprises: fluid valve, feeding plug, fluid sight glass, dehydrating filter, thermostatic expansion valve for pressure external control, high and low pressure switches and safety valve.

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TECHNICAL CHARACTERISTICS

ELECTRICAL PANEL

The panel consists of:

- Main disconnect switch;
- Fuses for main and auxilliary power circuit protection ;
- Magnetothermic switches, pumps (if present);
- Compressor remote switches;
- Fan remote switches ;
- Pump remote switches (for ST version)
- Microprocessor to control the following functions:
 - Control of ingoing water temperature;
 - Anti-freeze protection;
 - Compressor operation timers;
 - Automatic rotation of compressor start-up sequence;
 - Alarm signals;
 - Alarm reset;
 - Capacity steps;
 - Cumulative alarm contact for remote signaling;
 - Forced capacity reduction according to pressure limits;
- Display of:
 - Ingoing and outgoing water temperature;
 - Currently set temperature and differential;
 - Alarm description;
 - Hour counter for compressor operation;
- black box function;
 - Power supply [V/f/Hz]: 400/3~/50 ±5%.

CONTROL AND SAFETY DEVICES

- cooled water temperature control probe (on evaporator intake);
- anti-freeze probe on evaporator outtake;
- manual reset high pressure controller;
- controlled manual reset low pressure switch;
- high pressure safety valve;
- compressor overtemperature protection;
- fan overtemperature protection;
- vane actuated mechanical flow switch (supplied as standard)

TESTING

The units are factory-tested and supplied complete with oil and refrigerant.

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VERSIONS

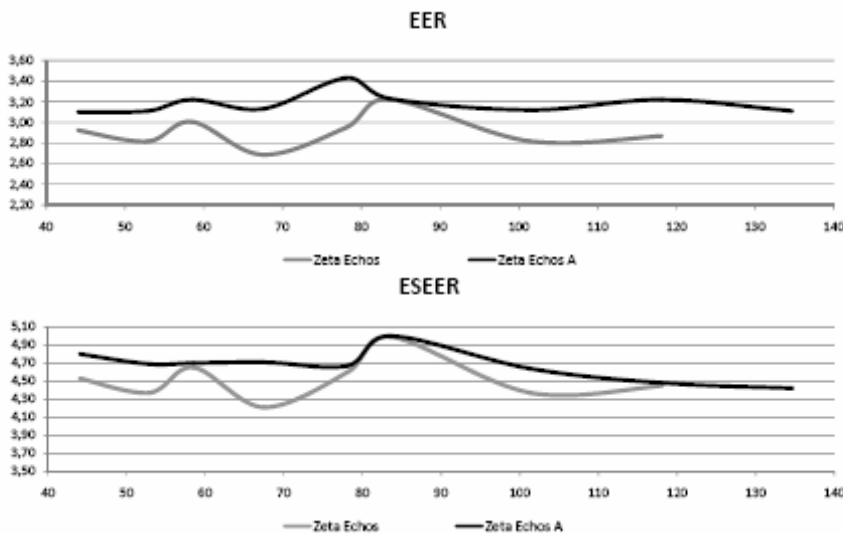
Check the table with the available configurations for any interferences between one option and the other.

ZETA ECHOS A:

high performance unit

Zeta Echus Class A carries the hallmark of energy-saving thanks to an EER of the chiller operation always greater than

3.1! There are 9 sizes available, with a capacity range from 44 to 135 kW, classified in full compliance with the regulations set by EUROVENT as high energy efficiency class. The diagram below describes the increase of energy efficiency of the Zeta Echus range, at 100% charge (EER) and partial charge (ESEER), according to the EUROVENT provisions.



ZETA ECHOS /HP:

reversible heat pump

Beside the basic version components, the unit comprises:

- 4-way reversing valve;
- fluid collector;
- a second thermostatic valve;
- solenoid valve on fluid line from 6.2 at 13.2;
- enablement of summer/winter mode switching and automatic defrosting via microprocessor, with a Blue Box patented logic, which ensures optimal activation and duration of defrosting operations.

ZETA ECHOS /LE:

motorcondensing unit

In addition to the basic version, this unit has no evaporator and thermostatic valve fitted.. The fluid receptors can be supplied as accessories. The solenoid valve on the fluid line is supplied as standard. The unit is supplied without refrigerant charge.

ZETA ECHOS /LE /HP:

heat pump motorcondensing unit

In addition to the basic version ZETA ECHOS/HP, this unit has no evaporator and thermostatic valves fitted. The solenoid valve on the fluid line is supplied as standard. The unit is supplied without refrigerant charge.

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VERSIONS

HYDRAULIC SYSTEM OPTIONS

ZETA ECHOS /ST 2PS

unit with pumps and tank

Beside the basic version components, the unit comprises:

- insulated storage tank;
- two circulation pumps of which one in stand-by mode, with automatic switch in case of failure;
- expansion vessel;
- check valve;
- gate valves.

The ST version is available in four additional configurations:

- ST 1PS: unit with pump and tank;
- ST 1P: unit with single pump without tank;
- ST 2P: with 2 pumps without tanks;
- ST S: with tank without pumps.

ACCESSORY VERSIONS

ZETA ECHOS /DC

unit with recovery condenser

Beside the basic version components, the unit comprises a recovery condenser on each cooling circuit (recovering 100% of the condensing heat for the production of hot water) and a fluid receptor. The condenser is brazed plate type. The accessory is available for sizes from 3.2-13.2 "1p-2p" and for all models without hydraulic module; is not available for the HP models. The control automatically enables the recovery function, depending on water temperature, and controls its safety desablement in case of high pressure. For maximum benefit use the accessory combined with the circuit regulator. The accessory is available for all models. It is not available for the HP version.

ZETA ECHOS /DS

unit with desuperheater

Beside the basic version components, the unit comprises a brazed plate recovery condenser on each cooling circuit (recovering 20 % of the condensate, connected in series with the condenser coil). The accessory is available for models from 3.2 to 13.2 with "1P-2P" and for all models without hydraulic module. For maximum benefit use the accessory combined with the circuit regulator. This version is also available for HP outfit. In this case, the system must be equipped with a shut-off valve on the water recovery line during the HP mode operation, as shown in the manual.

ZETA ECHOS /LN

low-noise unit

In addition to the basic version components, this unit has a fully soundproofed compressor compartment (using high acoustic impedance and sound-absorbent materials).

ZETA ECHOS /SLN

super low-noise unit

beside the /LN version components, the coil surface is larger, fans have reduced speed and a turn regulator.

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ACCESSORIES

REFRIGERANT CIRCUIT ACCESSORIES

- Electronic thermostatic valve;
- Condensing pressure controlled by operation circuit regulator with low external temperatures;
- Double set point (high/low temperature) with a single electronic expansion valve. The evaporator is sized according to high temperature operation. The set point can be changed from the keyboard or the digital input, in this case must be specified in the order;
- High and low pressure switches are available for all models;
- Fluid receptors (supplied as standard for HP, HP/LE and DC, DC/LE versions);
- Intake and delivery valves on compressor line;
- Solenoid valve on fluid line (supplied as standard for HP and HP/LE and LE versions);
- Low water temperature kit.

HYDRAULIC CIRCUIT ACCESSORIES

- Defroster for the evaporator (the ST version is equipped with an antifreeze resistance on the tank, piping system and on the pump spiral, which is insulated for this reason) and on any recovery heat exchanger;
- Water side safety valve (ST version only). The valve calibration value is 6 bar, which corresponds to the maximum allowed operating pressure.

ELECTRICAL ACCESSORIES

- Serial interface RS485 suited for Carel and Modbus protocols;
- Power factor correction $\cos f \geq 0.9$ under nominal operating conditions; on the external board in IP 55 (power supply connected by the installer directly on the main). The accessory is combined with dry contacts;
- Remote user terminal (in addition to the standard one);
- Dry contacts.

MISCELLANEOUS ACCESSORIES

- Rubber antivibration mounts;
- Copper/copper condensation coil;
- Copper/tinned-copper condensation coil;
- Prepainted aluminium condensation coil;
- Condensation coil with passivated aluminium and polyurethane coating.
 The treatment consists of a double layer, the first of which passivates the aluminium and acts as a primer and the second which is a polyurethanebased surface coating. The product has high anti-corrosive properties and virtually resists to all environmental conditions. For installation in marine and rural environments, from industrial to urban areas;
- Packaging in wooden crates;
- Special pallet/skid for container shipment;
- Non-standard "RAL" paint colours.

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Technical data standard unit

UNIT SIZE			3.2	4.2	5.2	6.2	7.2
Cooling							
Nominal cooling capacity	(1)	kW	40,9	45,9	51,8	60,4	66,76
Total absorbed power in cooling mode	(1),(2)	kW	13,6	15,7	18,4	20,1	24,85
Compressor absorbed power	(1)	kW	12,42	14,52	17,22	18,92	23,67
EER	(1)		3,01	2,92	2,82	3,00	2,69
ESEER			4,67	4,53	4,37	4,65	4,21
Heating							
Nominal heating capacity	(3)	kW	41,6	47,4	55,5	63,4	70,96
Total absorbed power in heating mode	(2),(3)	kW	14,2	16,2	18,7	20,8	25,05
Compressor absorbed power	(3)	kW	13,02	15,02	17,52	19,62	23,87
COP	(3)		2,93	2,93	2,97	3,05	2,83
Compressors							
Type			Scroll				
Quantity/Cooling circuits		n° / n°	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Capacity steps		n°	0-50-100	0-50-100	0-50-100	0-50-100	0-50-100
Total oil load		kg	5,2	6,5	6,5	6,5	6,6
Total refrigerant load (CH version)		kg	6,7	6,8	9	15,8	16
Total refrigerant load (/HP version)		kg	14,8	14,9	17	18,4	18,6
Fans							
Type			Axial				
Quantity		n°	2	2	2	2	2
Air flow		m3/h	17.000	17.000	15.000	19.000	19.000
Evaporator							
Type			With plates				
Quantity		n°	1	1	1	1	1
Water flow		l/h	7034	7893	8908	10387	11481
Pressure drop		kPa	65,0	55,7	54,8	51,1	35,5
Hydraulic module							
Head ratings	(6)	kPa	127	108	105	153	149
Storage tank capacity	(6)	l	165	165	165	200	200
Expansion vessel		l	5	5	5	18	18
Noise levels							
Noise power level (basic version)	(4)	dB(A)	83	83	83	83	84
Noise pressure level (basic unit)	(5)	dB(A)	51	51	51	51	52
Noise power level (LN version)	(4)	dB(A)	81	81	81	81	82
Noise pressure level (LN version)	(5)	dB(A)	49	49	49	49	50
Noise power level (SLN version)	(4)	dB(A)	76	77	78	78	79
Noise pressure level (SLN version)	(5)	dB(A)	44	45	46	46	47
Basic version dimensions and weights							
Length		mm	1750	1750	1750	2233	2233
Depth		mm	1003	1003	1003	1020	1020
Height		mm	1400	1400	1400	1738	1738
Operating weight		kg	428	439	453	631	631

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Technical data standard unit

UNIT SIZE			8.2	9.2	10.2	12.2	13.2
Cooling							
Nominal cooling capacity	(1)	kW	83,5	93,7	104	117	125
Total absorbed power in cooling mode	(1),(2)	kW	25,9	31,3	36,9	40,8	45,5
Compressor absorbed power	(1)	kW	24,13	29,53	35,13	36,8	41,5
EER	(1)		3,22	2,99	2,82	2,87	2,75
ESEER			4,99	4,63	4,37	4,45	4,26
Heating							
Nominal heating capacity	(3)	kW	83,9	97	112	127	139
Total absorbed power in heating mode	(2),(3)	kW	27,9	32,6	36,7	42,8	46
Compressor absorbed power	(3)	kW	26,13	30,83	34,93	38,80	42,00
COP	(3)		3,01	2,98	3,05	2,97	3,02
Compressors							
Type			Scroll				
Quantity/Cooling circuits		n° / n°	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Capacity steps		n°	0-50-100	0-50-100	0-50-100	0-50-100	0-50-100
Total oil load		kg	6,2	12,4	12,4	12,4	14,2
Total refrigerant load (CH version)		kg	23,2	23,4	23,6	23,7	23,9
Total refrigerant load (/HP version)		kg	25,7	25,8	26	26	26
Fans							
Type			Axial				
Quantity		n°	3	3	3	2	2
Air flow		m3/h	28.500	28.500	28.500	36.000	36.000
Evaporator							
Type			With plates				
Quantity		n°	1	1	1	1	1
Water flow		l/h	14359	16113	17885	20120	21496
Pressure drop		kPa	49,4	50,6	46,0	48,8	45,1
Hydraulic module							
Head ratings	(6)	kPa	123	130	108	124	108
Storage tank capacity	(6)	l	450	450	450	450	450
Expansion vessel		l	18	18	18	18	18
Noise levels							
Noise power level (basic version)	(4)	dB(A)	85	86	86	87	87
Noise pressure level (basic unit)	(5)	dB(A)	53	54	54	55	55
Noise power level (LN version)	(4)	dB(A)	83	84	84	85	85
Noise pressure level (LN version)	(5)	dB(A)	51	52	52	53	53
Noise power level (SLN version)	(4)	dB(A)	80	81	82	82	83
Noise pressure level (SLN version)	(5)	dB(A)	48	49	50	50	51
Basic version dimensions and weights							
Length		mm	3234	3234	3234	3233	3233
Depth		mm	1144	1144	1144	1120	1120
Height		mm	1740	1740	1740	1882	1882
Operating weight		kg	911	920	935	1077	1120

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Technical data ZETA ECHOS A unit

UNIT SIZE			3.2	4.2	5.2	6.2	7.2
Cooling							
Nominal cooling capacity	(1)	kW	44,04	52,85	58,52	67,48	78,1
Total absorbed power in cooling mode	(1),(2)	kW	14,17	17	18,22	21,64	22,8
Compressor absorbed power	(1)	kW	12,99	15,82	17,04	20,46	21,03
EER	(1)		3,11	3,11	3,21	3,12	3,43
ESEER			4,68	4,69	4,70	4,71	4,67
Heating							
Nominal heating capacity	(3)	kW	51,08	59,54	66,44	74,37	89,32
Total absorbed power in heating mode	(2),(3)	kW	13,78	15,98	17,78	20,38	23,77
Compressor absorbed power	(3)	kW	12,60	14,80	16,60	19,20	22,00
COP	(3)		3,71	3,73	3,74	3,65	3,76
Compressors							
Type			Scroll				
Quantity/Cooling circuits		n° / n°	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Capacity steps		n°	0-50-100	0-50-100	0-50-100	0-50-100	0-50-100
Total oil load		kg	6	6,6	6,6	6,6	6,6
Total refrigerant load (CH version)		kg	6,7	6,8	9	15,8	16
Total refrigerant load (/HP version)		kg	14,8	14,9	17	18,4	18,6
Fans							
Type			Axial				
Quantity		n°	2	2	2	2	3
Air flow		m3/h	15.000	15.000	19.000	19.000	28.500
Evaporator							
Type			With plates				
Quantity		n°	1	1	1	1	1
Water flow		l/h	7.574	9.089	10.064	11.604	13.431
Pressure drop		kPa	44,0	34,0	43,0	28,0	38,0
Hydraulic module							
Head ratings	(6)	kPa	138	119	107	167	137
Storage tank capacity	(6)	l	165	165	165	200	200
Expansion vessel		l	5	5	5	18	18
Noise levels							
Noise power level (basic version)	(4)	dB(A)	80	80	81	81	82
Noise pressure level (basic unit)	(5)	dB(A)	48	48	49	49	50
Noise power level (LN version)	(4)	dB(A)	78	78	79	79	80
Noise pressure level (LN version)	(5)	dB(A)	46	46	47	47	48
Basic version dimensions and weights							
Length		mm	1.750	1.750	2.233	2.233	3.234
Depth		mm	1.003	1.003	1.020	1.020	1.144
Height		mm	1.400	1.400	1.738	1.738	1.740
Operating weight		kg	467	486	673	695	883

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Technical data ZETA ECHOS A unit

UNIT SIZE			8.2	9.2	10.2	12.2
Cooling						
Nominal cooling capacity	(1)	kW	83,61	101,31	118,14	134,7
Total absorbed power in cooling mode	(1),(2)	kW	26,45	32,55	36,63	43,28
Compressor absorbed power	(1)	kW	24,68	29,05	33,13	39,78
EER	(1)		3,16	3,11	3,23	3,11
ESEER			5,00	4,64	4,48	4,42
Heating						
Nominal heating capacity	(3)	kW	99,23	114,4	135,52	151,16
Total absorbed power in heating mode	(2),(3)	kW	27,07	33,5	38,1	42,1
Compressor absorbed power	(3)	kW	25,30	30,00	34,60	38,60
COP	(3)		3,67	3,41	3,56	3,59
Compressors						
Type			Scroll			
Quantity/Cooling circuits		n° / n°	2 / 1	2 / 1	2 / 1	2 / 1
Capacity steps		n°	0-50-100	0-50-100	0-50-100	0-50-100
Total oil load		kg	6,2	12,4	12,4	12,4
Total refrigerant load (CH version)		kg	23,2	23,4	23,6	23,7
Total refrigerant load (/HP version)		kg	25,7	25,8	26	26
Fans						
Type			Axial			
Quantity		n°	3	2	2	2
Air flow		m ³ /h	28.500	36.000	40.000	40.000
Evaporator						
Type			With plates			
Quantity		n°	1	1	1	1
Water flow		l/h	14.378	17.422	20.316	23.164
Pressure drop		kPa	43,0	51,0	52,0	30,0
Hydraulic module						
Head ratings	(6)	kPa	119	119	92	132
Storage tank capacity	(6)	l	450	450	450	450
Expansion vessel		l	18	18	18	18
Noise levels						
Noise power level (basic version)	(4)	dB(A)	85	85	86	86
Noise pressure level (basic unit)	(5)	dB(A)	53	53	54	54
Noise power level (LN version)	(4)	dB(A)	83	83	84	84
Noise pressure level (LN version)	(5)	dB(A)	51	51	52	52
Basic version dimensions and weights						
Length		mm	3.234	3.233	3.233	3.233
Depth		mm	1.144	1.120	1.120	1.120
Height		mm	1.740	1.882	2.382	2.382
Operating weight		kg	953	1.018	1.192	1.250

(1) External air temperature 35°C; evaporator ingoing-outgoing water temperature 12-7°C

(2) The total capacity is represented by the sum of the power absorbed by compressors and that absorbed by fans

(3) External air temperature 7°C BS, 6°C BU; condenser ingoing-outgoing water temperature 40-45 °C

(4) Noise power levels measured according to ISO 3744, under nominal operating conditions.

(5) Sound pressure levels measured at 10 metres from the unit in free field under nominal operating conditions, according to ISO 3744.

(6) For ST 2PS version.

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Technical Electrical data standard unit

UNIT SIZE			3.2	4.2	5.2	6.2	7.2
Maximum absorbed power	(1),(3)	kW	19,18 (20,08)	21,38 (22,28)	25,18 (26,08)	27,58 (29,08)	31,94 (33,44)
Maximum absorbed current	(2),(3)	A	38,0 (40,8)	48,0 (50,8)	50,0 (52,8)	56,0 (59,5)	76,0 (79,5)
Maximum input current	(4)	A	117,0 (117,9)	138,0 (138,9)	146,0 (146,9)	149,0 (150,5)	199,0 (200,5)
Fan nominal power		n° x kW	2 x 0,6	2 x 0,6	2 x 0,6	2 x 0,6	2 x 0,6
Fan nominal current		n° x A	2 x 3,0	2 x 3,0	2 x 3,0	2 x 3,0	2 x 3,0
Pump motor nominal power		kW	0,9	0,9	0,9	1,5	1,5
Pump motor nominal current		A	2,61	2,61	2,61	3,49	3,49
Main power supply		V/ph/Hz	400/3N~/50				
Auxilliary power supply		V/ph/Hz	230/1~/50 ±5%				

UNIT SIZE			8.2	9.2	10.2	12.2	13.2
Maximum absorbed power	(1),(3)	kW	38,57 (40,07)	45,07 (46,57)	51,57 (53,07)	59,60 (61,80)	65,40 (67,60)
Maximum absorbed current	(2),(3)	A	87,0 (90,5)	99,0 (102,5)	111,0 (114,5)	124,0 (128,8)	138,0 (142,8)
Maximum input current	(4)	A	243,0 (244,5)	263,0 (264,5)	275,0 (276,5)	319,0 (321,2)	333,0 (335,2)
Fan nominal power		n° x kW	3 x 0,6	3 x 0,6	3 x 0,6	2 x 2,0	2 x 2,0
Fan nominal current		n° x A	3 x 3,0	3 x 3,0	3 x 3,0	2 x 4,0	2 x 4,0
Pump motor nominal power		kW	1,5	1,5	1,5	2,2	2,2
Pump motor nominal current		A	3,49	3,49	3,49	4,78	4,78
Main power supply		V/ph/Hz	400/3N~/50				
Auxilliary power supply		V/ph/Hz	230/1~/50 ±5%				

- (1) Electrical power that must be supplied by the mains to power the unit.
 (2) Internal breakers tripping current. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).
 (3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).
 (4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

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Technical Electrical data ZETA ECHOS A unit

UNIT SIZE			3.2	4.2	5.2	6.2	7.2
Maximum absorbed power	(1),(3)	kW	20,58 (21,48)	23,78 (24,68)	26,58 (27,48)	30,38 (31,88)	34,77 (36,27)
Maximum absorbed current	(2),(3)	A	38,0 (40,6)	46,0 (48,6)	48,0 (50,6)	54,0 (57,5)	63,0 (66,5)
Maximum input current	(4)	A	120,0 (120,9)	168,0 (168,9)	169,0 (169,9)	177,0 (178,5)	194,0 (195,5)
Fan nominal power		n° x kW	2 x 0,6	2 x 0,6	2 x 0,6	2 x 0,6	3 x 0,6
Fan nominal current		n° x A	2 x 3,0	2 x 3,0	2 x 3,0	2 x 3,0	3 x 3,0
Pump motor nominal power		kW	0,9	0,9	0,9	1,5	1,5
Pump motor nominal current		A	2,61	2,61	2,61	3,49	3,49
Main power supply		V/ph/Hz	400/3N~/50				
Auxilliary power supply		V/ph/Hz	230/1~/50 ±5%				

UNIT SIZE			8.2	9.2	10.2	12.2
Maximum absorbed power	(1),(3)	kW	38,97 (40,47)	48,20 (49,70)	55,20 (56,70)	61,60 (63,80)
Maximum absorbed current	(2),(3)	A	73,0 (76,5)	82,0 (85,5)	92,0 (95,5)	104,0 (108,8)
Maximum input current	(4)	A	236,0 (237,5)	255,0 (256,5)	265,0 (266,5)	310,0 (312,2)
Fan nominal power		n° x kW	3 x 0,6	2 x 2,0	2 x 2,0	2 x 2,0
Fan nominal current		n° x A	3 x 3,0	2 x 4,0	2 x 4,0	2 x 4,0
Pump motor nominal power		kW	1,5	1,5	1,5	2,2
Pump motor nominal current		A	3,49	3,49	3,49	4,78
Main power supply		V/ph/Hz	400/3N~/50			
Auxilliary power supply		V/ph/Hz	230/1~/50 ±5%			

- (1) Electrical power that must be supplied by the mains to power the unit.
 (2) Internal breakers tripping current. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).
 (3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).
 (4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

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Cooling Capacity standard unit

Model	EXTERNAL AIR TEMPERATURE [°C]										
	To [°C]	25		30		35		40		43	
		Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe
3.2	5	43,6	9,6	41,1	10,7	38,5	12	35,6	13,5	33,7	14,4
	6	44,9	9,6	42,4	10,8	39,7	12,1	36,7	13,6	34,8	14,5
	7	46,3	9,7	43,7	10,9	40,9	12,2	37,9	13,7	36	14,6
	8	47,6	9,8	45	11	42,2	12,3	39,1	13,8	37,1	14,7
	9	49	9,9	46,4	11	43,4	12,4	40,3	13,8	38,3	14,8
	10	50,5	10	47,7	11,1	44,7	12,5	41,5	13,9	39,5	14,9
4.2	5	49	11,2	46,2	12,5	43,2	14	40,1	15,7	38,2	16,8
	6	50,4	11,3	47,5	12,7	44,5	14,2	41,3	15,8	39,4	16,9
	7	51,9	11,5	48,9	12,8	45,9	14,3	42,6	16	40,6	17
	8	53,4	11,6	50,4	12,9	47,2	14,4	43,9	16,1	41,8	17,2
	9	54,9	11,7	51,8	13	48,6	14,5	45,2	16,2	43,1	17,3
	10	56,5	11,8	53,3	13,2	50	14,7	46,5	16,4	44,4	17,4
5.2	5	55,8	13,2	52,4	14,9	48,8	16,7	44,9	18,8	42,5	20,1
	6	57,4	13,4	54	15	50,3	16,9	46,3	18,9	43,8	20,2
	7	59,1	13,5	55,7	15,1	51,8	17	47,8	19	45,2	20,4
	8	60,8	13,7	57,2	15,3	53,4	17,1	49,2	19,2	46,6	20,5
	9	62,5	13,8	58,9	15,4	55	17,3	50,7	19,3	48	20,7
	10	64,3	13,9	60,6	15,6	56,6	17,4	52,2	19,5	49,4	20,8
6.2	5	64,3	14,9	60,7	16,5	56,8	18,4	52,6	20,6	49,9	22
	6	66,2	15	62,6	16,6	58,5	18,6	54,2	20,7	51,5	22,1
	7	68,2	15,1	64,5	16,8	60,3	18,7	55,9	20,8	53,1	22,2
	8	70,2	15,2	66,3	16,9	62,2	18,8	57,7	20,9	54,8	22,3
	9	72,2	15,3	68,3	17	64	18,9	59,4	21,1	56,5	22,5
	10	74,3	15,5	70,3	17,2	65,9	19,1	61,2	21,2	58,2	22,8
7.2	5	71,38	18,52	67,28	20,43	62,82	22,82	57,97	25,15	54,88	26,85
	6	73,41	18,7	69,2	20,63	64,81	22,83	59,84	25,36	56,45	27,06
	7	75,52	18,9	71,2	20,83	66,52	23,05	61,33	25,58	58,05	27,29
	8	77,63	19,09	73,17	21,04	68,32	23,26	63,06	25,81	59,69	27,52
	9	79,79	19,3	75,19	21,25	70,21	23,48	64,79	26,04	61,32	27,76
	10	81,95	19,5	77,22	21,47	72,1	23,71	66,53	26,28	62,96	28,01

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Cooling Capacity standard unit

Model	EXTERNAL AIR TEMPERATURE [°C]										
	To [°C]	25		30		35		40		43	
		Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe
8.2	5	88,5	19,3	83,7	21,2	78,4	23,5	72,9	26,1	69,2	27,8
	6	91,3	19,4	86,4	21,3	81	23,6	75,2	26,3	71,5	28
	7	94,2	19,5	89,1	21,5	83,5	23,8	77,4	26,4	73,8	28,1
	8	97,2	19,6	91,9	21,6	86,1	23,9	79,9	26,6	76	28,3
	9	100,1	19,8	94,7	21,8	88,8	24,1	82,3	26,7	78,3	28,4
	10	103,2	19,9	97,6	21,9	91,4	24,3	84,9	26,9	80,7	28,6
9.2	5	100	23,5	94,4	25,9	88,1	26,8	81,5	32	77,2	34,1
	6	103,2	23,7	97,3	26,2	90,9	29	84	32,2	79,6	34,3
	7	106,4	23,9	100,3	26,4	93,7	29,2	86,6	32,4	82,1	34,5
	8	109,5	24,1	103,3	26,6	96,6	29,4	89,3	32,6	84,6	34,7
	9	112,9	24,3	106,5	26,8	99,5	29,6	92	32,8	87,2	35
	10	116,3	24,5	109,7	27	102,5	29,9	94,7	33,1	89,8	35,2
10.2	5	112	28,1	105,4	31	98,2	34,4	90,4	38,3	85,4	40,9
	6	115,5	28,4	108,6	31,2	101,2	34,7	93,1	38,6	88	41,1
	7	119	28,6	111,9	31,5	104,2	34,9	95,9	38,8	90,6	41,4
	8	122,6	28,9	115,3	31,8	107,3	35,2	98,7	39,1	93,3	41,7
	9	126,2	29,2	118,7	32,1	110,5	35,6	101,7	39,4	96	42
	10	129,9	29,5	122,1	32,4	113,7	35,9	104,6	39,7	98,8	42,3
12.2	5	125,5	29,5	118,2	32,6	110,3	36,2	101,6	40,4	96,2	43,1
	6	129,3	29,7	121,9	32,8	113,7	36,5	104,8	40,6	99,2	43,4
	7	133,3	29,9	125,6	33,1	117,1	36,7	107,9	40,9	102,2	43,6
	8	137,3	30,2	129,3	33,3	120,6	37	111,2	41,2	105,3	43,9
	9	141,4	30,4	133,2	33,6	124,1	37,4	114,5	41,5	108,4	44,2
	10	145,7	30,7	137,1	33,9	127,8	37,7	117,9	41,8	111,6	44,4
13.2	5	135,4	33,2	127,2	36,9	118,4	41	108,8	45,7	102,8	48,7
	6	139,5	33,5	131	37,2	121,8	41,4	112,1	46	105,9	49
	7	143,6	33,8	135	37,5	125,4	41,7	115,4	46,3	109	49,3
	8	147,9	34,1	138,9	37,8	129,1	42	118,8	46,7	112,1	49,7
	9	152,1	34,4	142,8	38,2	132,9	42,4	122,2	47	115,3	50,1
	10	156,4	34,7	146,9	38,5	136,7	42,7	125,7	47,3	118,6	50,4

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

T0: evaporator outgoing water temperature [°C]

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Heating Capacity standard unit

Model	CONDENSER INGOING WATER TEMPERATURE [°C]									
	Ta [°C]	RH %	30		35		40		43	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
3.2	-5	90	32,6	9,5	32,7	10,7	-	-	-	-
	0	90	36,8	9,7	36,8	11	36,8	12,4	-	-
	5	80	40,6	10	40,5	11,2	40,3	12,7	40,2	13,6
	8	70	42,9	10,2	42,6	11,5	42,3	12,9	42,2	13,8
	10	70	44,6	10,4	44,5	11,7	44,1	13,1	43,9	14
4.2	15	70	49,5	10,9	49,2	12,2	48,8	13,7	48,5	14,7
	-5	90	37,3	11,1	37,3	12,5	-	-	-	-
	0	90	41,9	11,5	41,9	12,9	41,9	14,5	-	-
	5	80	46,1	11,7	46,1	13,1	45,9	14,8	45,9	15,9
	8	70	48,6	11,8	48,6	13,2	48,3	14,9	48,2	16
5.2	10	70	50,6	11,8	50,5	13,3	50,3	14,9	50,1	16
	15	70	56	12	55,8	13,5	55,5	15,2	55,3	16,2
	-5	90	43,8	13,2	43,8	14,9	-	-	-	-
	0	90	49,3	13,4	49,2	15,1	49,2	17	-	-
	5	80	54,4	13,6	54,2	15,3	53,9	17,2	53,7	18,5
6.2	8	70	57,2	13,6	57,1	15,4	56,8	17,4	56,5	18,7
	10	70	59,7	13,7	59,4	15,5	59	17,5	58,6	18,8
	15	70	66,7	13,9	66,2	15,7	65,2	17,7	64,9	19
	-5	90	50,2	15,1	50,1	16,8	-	-	-	-
	0	90	56,4	15,3	56,3	17,1	56,2	19,1	-	-
7.2	5	80	62,3	15,4	61,9	17,3	61,5	19,3	61,4	20,6
	8	70	65,4	15,5	65,2	17,3	64,9	19,4	64,5	20,7
	10	70	68,2	15,6	67,8	17,4	67,3	19,5	66,9	20,8
	15	70	76,1	15,8	75,4	17,6	74,3	19,7	73,9	21,1
	-5	90	52,94	16,94	53,35	18,98	53,94	21,32	54,37	22,9
7.2	0	90	59,25	17,04	59,46	19,03	59,67	21,31	59,95	22,85
	5	80	65,49	17,17	65,54	19,13	65,62	21,38	65,7	22,89
	8	70	69,03	17,25	68,76	19,19	68,72	21,42	68,73	22,92
	10	70	71,91	17,31	71,74	19,25	71,6	21,47	71,53	22,97
	15	70	79,84	17,51	79,4	19,43	78,95	21,62	78,7	23,1

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Heating Capacity standard unit

Model	CONDENSER INGOING WATER TEMPERATURE [°C]									
	Ta [°C]	RH %	30		35		40		43	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
8.2	-5	90	66,8	20,5	66,8	22,9	-	-	-	-
	0	90	74,8	20,6	74,7	23	74,6	25,7	-	-
	5	80	82,3	20,7	81,8	23,1	81,5	25,8	81,2	27,6
	8	70	86,8	20,8	86,3	23,2	85,5	25,9	85	27,6
	10	70	90,4	20,9	89,6	23,3	86,7	26	88,3	27,7
9.2	15	70	100,3	21,2	99,4	23,5	98,4	26,2	97,6	28
	-5	90	76,9	23,6	77,2	26,4	-	-	-	-
	0	90	86	23,9	86,1	26,7	86,4	30	-	-
	5	80	94,7	24,1	94,4	27	94,2	30,3	94,2	32,5
	8	70	99,6	24,3	99,4	27,1	99,1	30,4	98,8	32,6
10.2	10	70	103,8	24,5	103,3	27,3	102,7	30,6	102,2	32,7
	15	70	116	24,9	114,8	27,7	113,3	31	112,8	33,1
	-5	90	88,2	26,4	88,7	29,7	-	-	-	-
	0	90	98,7	26,9	99	30,1	99,5	34	-	-
	5	80	108,9	27,3	108,5	30,5	108,6	34,4	108,6	37
12.2	8	70	114,4	27,5	114,3	30,8	114	34,6	113,9	37,2
	10	70	119,6	27,8	119	31	118,2	34,8	117,9	37,3
	15	70	133,1	28,3	132,1	31,5	131,4	35,3	129,8	37,8
	-5	90	100,6	29,8	100,8	33,4	-	-	-	-
	0	90	113	30,3	112,8	33,8	112,8	38	-	-
13.2	5	80	124,1	30,7	123,6	34,3	123,1	38,4	122,9	41,2
	8	70	131,2	31	130,4	34,5	129,5	38,7	128,6	41,4
	10	70	136,6	31,1	135,4	34,7	134,1	38,9	133,2	41,6
	15	70	152,3	31,7	150,3	35,3	148,6	39,4	147,4	42,2
	-5	90	110,2	32,9	110,5	36,7	-	-	-	-
13.2	0	90	123,5	33,3	123,5	37,1	123,5	41,5	-	-
	5	80	135,7	33,7	135,2	37,5	134,7	42	134,4	44,9
	8	70	143,1	33,9	142,6	37,8	141,7	42,2	141	45,2
	10	70	149,2	34	148,2	38	147	42,4	146	45,4
	15	70	166,7	34,5	165,3	38,5	162,5	43	161,4	45,9

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]

RH : evaporator intake air relative humidity [%]

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Heat recovery standard unit

Model	CONDENSER INGOING WATER TEMPERATURE [°C]												
	To [°C]	35			40			45			48		
		Pf	Pe	Pr	Pf	Pe	Pr	Pf	Pe	Pr	Pf	Pe	Pr
3.2	5	40	11,3	51,3	37,3	12,7	50	34,3	14,2	48,5	32,4	15,2	47,6
	7	42,7	11,4	54,1	39,7	12,8	52,6	36,6	14,4	51	34,6	15,4	50
	10	47	11,6	58,5	43,8	13	56,8	40,4	14,5	54,9	38,2	15,6	53,7
4.2	5	45,6	12,9	58,5	42,5	14,5	57	39,2	16,3	55,5	37,2	17,4	54,6
	7	48,6	13	61,6	45,4	14,6	60	42	16,4	58,3	39,8	17,5	57,3
	10	53,4	13,2	66,6	49,9	14,8	64,7	46,3	16,6	62,8	44	17,7	61,7
5.2	5	51,9	15,2	67,1	48,2	17,1	65,3	44,1	19,2	63,4	41,5	20,6	62,2
	7	55,5	15,3	70,8	51,5	17,2	68,7	47,3	19,3	66,6	44,6	20,7	65,3
	10	61	15,4	76,5	56,9	17,3	74,2	52,3	19,5	71,8	49,4	20,9	70,3
6.2	5	59,2	17,4	76,6	55	19,5	74,5	50,6	21,8	72,3	47,7	23,2	71
	7	63,2	17,5	80,7	58,9	19,5	78,4	54,2	21,8	76	51,2	23,3	74,5
	10	69,5	17,6	87,2	64,9	19,7	84,6	59,9	21,9	81,8	56,7	23,4	80,1
7.2	5	72,13	17,65	89,77	68,24	19,51	87,75	64,02	21,63	85,65	61,32	23,06	84,38
	7	76,88	17,77	94,65	72,82	19,62	92,45	68,42	21,74	90,16	65,6	23,17	88,77
	10	84,43	17,95	102,38	80,03	19,81	99,84	75,22	21,93	97,15	72,15	23,35	95,5
8.2	5	80,5	22,8	103,3	74,9	25,4	100,3	68,8	28,3	97,1	64,9	30,1	95,1
	7	86,1	23	109	80	25,5	105,5	73,7	28,4	102,1	69,6	30,3	99,8
	10	94,9	23,2	118,1	88,4	25,7	114,1	81,3	28,6	109,9	76,8	30,5	107,2
9.2	5	91,8	27,3	119	85,2	30,3	115,5	78	33,8	111,9	73,7	36,2	109,8
	7	98,1	27,5	125,6	91,1	30,5	121,6	83,5	34	117,5	78,7	36,3	115
	10	108,2	27,8	136	100,6	30,8	131,4	92,3	34,3	126,5	87,1	36,5	123,6
10.2	5	104,9	31,2	136,1	97,4	34,8	132,2	89,3	38,9	128,1	84	41,6	125,6
	7	112,2	31,4	143,6	104,2	35	139,2	95,5	39,1	134,6	89,9	41,8	131,7
	10	123,8	31,8	155,6	115,1	35,3	150,4	105,5	39,4	144,9	99,4	42	141,4
12.2	5	116,4	33,6	150	108,1	37,4	145,6	99,1	41,8	140,9	93,3	44,7	138
	7	124,4	33,8	158,2	115,6	37,7	153,2	106	42	148	99,9	44,9	144,8
	10	137,1	34,1	171,3	127,5	38	165,4	117	42,3	159,3	110,3	45,2	155,5
13.2	5	128	37,4	163,5	116,9	41,8	158,7	107	46,6	153,6	100,7	49,7	150,4
		134,6	37,7	172,2	124,9	42	166,9	114,4	46,8	161,2	107,7	50	157,6
	10	148,2	38	186,2	137,6	42,3	179,9	126,1	47,2	173,3	118,8	50,3	169,1

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Pr: recovery condenser heating capacity [kW]

To: evaporator outgoing water temperature [°C]

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Cooling Capacity ZETA ECHOS LE

Model	EXTERNAL AIR TEMPERATURE [°C]										
	Tev [°C]	25		30		35		40		43	
		Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe
3.2	0	41,4	9,4	38,9	10,6	36,2	11,9	33,3	13,3	31,5	14,3
	2,5	44,8	9,6	42,2	10,8	39,3	12,1	36,2	13,5	34,3	14,5
	5	48,3	9,8	45,5	11	42,5	12,3	39,3	13,8	37,2	14,7
	7,5	52	10,1	49,1	11,2	45,9	12,6	42,4	14	-	-
	10	55,7	10,4	52,6	11,5	49,3	12,8	45,7	14,3	-	-
4.2	0	46,8	11,1	44	12,4	41	13,9	37,9	15,5	35,9	16,6
	2,5	50,5	11,4	47,5	12,7	44,4	14,1	41,1	15,8	39	16,9
	5	54,4	11,7	51,2	13	47,9	14,5	44,4	16,1	42,2	17,2
	7,5	58,5	12	55	13,4	51,5	14,8	47,8	16,5	-	-
	10	62,6	12,4	59	13,8	55,2	15,2	51,3	16,9	-	-
5.2	0	54,2	13,1	50,8	14,7	47,1	16,6	43,1	18,6	40,6	19,9
	2,5	58,5	13,5	54,9	15,1	51	16,9	46,8	18,9	44,1	20,2
	5	63	13,8	59,1	15,5	55	17,3	50,5	19,3	47,7	20,6
	7,5	67,6	14,2	63,5	15,9	59,1	17,7	54,4	19,7	-	-
	10	72,4	14,6	68	16,3	63,4	18,1	58,4	20,1	-	-
6.2	0	63,5	14,8	59,8	16,5	55,7	18,4	51,3	20,5	48,6	21,9
	2,5	68,6	15,1	64,6	16,8	60,3	18,7	55,7	20,8	52,7	22,2
	5	73,9	15,4	69,6	17,1	65,1	19	60,2	21,1	57,1	22,5
	7,5	79,3	15,8	74,9	17,5	70,1	19,4	64,9	21,5	-	-
	10	85	16,2	80,3	17,9	75,3	19,8	69,8	21,9	-	-
7.2	0	70,02	18,4	65,62	20,26	60,88	22,4	55,77	24,87	52,52	26,54
	2,5	75,57	18,9	70,81	20,79	65,69	22,95	60,19	25,43	56,69	27,1
	5	81,33	19,44	76,19	21,36	70,67	23,54	64,76	26,04	60,99	27,71
	7,5	87,3	20,02	81,76	21,97	75,82	24,18	69,46	26,7	65,43	28,38
	10	93,47	20,64	87,5	22,62	81,12	24,86	74,3	27,41	69,97	29,11
8.2	0	82,4	19	77,7	20,9	72,6	23,2	67,1	25,8	63,6	27,5
	2,5	89,5	19,3	84,4	21,2	78,9	23,5	72,9	26,1	69,1	27,8
	5	96,9	19,6	91,4	21,6	85,5	23,9	79	26,5	75	28,2
	7,5	104,8	20	98,8	22	92,3	24,3	85,4	26,9	-	-
	10	112,9	20,3	106,4	22,4	99,5	24,6	92,1	27,4	-	-
9.2	0	94,5	23,2	88,9	25,5	82,8	28,3	76,2	31,6	72	33,7
	2,5	102,5	23,7	96,3	26,1	89,7	28,9	82,6	32,1	78,1	34,2
	5	110,7	24,2	104,2	26,6	97	29,4	89,4	32,6	84,5	34,7
	7,5	119,5	24,7	112,4	27,2	104,7	30	96,4	33,2	-	-
	10	128,7	25,3	121	27,8	112,7	30,7	103,8	33,9	-	-
10.2	0	107	27,7	100,4	30,5	93,3	33,9	85,5	37,8	80,6	40,4
	2,5	115,9	28,4	108,7	31,3	100,9	34,6	92,5	38,5	87,2	41,1
	5	125,1	29,1	117,3	32	108,8	35,4	99,8	39,2	94	41,8
	7,5	134,8	29,8	126,3	32,8	117,2	36,2	107,4	40	-	-
	10	144,9	30,6	135,7	33,6	125,8	37	115,3	40,8	-	-
12.2	0	122,4	29,3	114,9	32,3	106,9	35,9	98,1	40,1	92,5	42,8
	2,5	132,5	29,9	124,4	33	115,6	36,6	106,1	40,8	100,2	43,4
	5	143,1	30,5	134,4	33,7	124,7	37,4	114,6	41,5	108,2	44,1
	7,5	154,1	31,2	144,6	34,5	134,3	38,2	123,4	42,2	-	-
	10	165,7	32	155,4	35,3	144,4	38,9	132,6	43	-	-
13.2	0	133,1	33,1	124,7	36,7	115,6	40,8	105,8	45,4	99,6	48,3
	2,5	143,9	33,8	134,7	37,5	124,7	41,7	114,3	46,2	107,7	49,2
	5	154,9	34,6	145	38,3	134,4	42,5	123,1	47,1	115,8	50,1
	7,5	166,6	35,4	155,9	39,2	144,4	43,4	132,2	48	-	-
	10	178,6	36,3	167,1	40,1	154,8	44,3	141,7	49	-	-

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Tev: evaporation temperature [°C]

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Zeta Echos HP /LE - heating capacity

Model	CONDENSATION TEMPERATURE [°C]											
	Ta [°C]	RH %	40		45		50		55		60	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
3.2	-5	90	32,7	9,9	32,5	11,2	-	-	-	-	-	-
	0	90	37,0	9,9	36,9	11,2	36,6	12,6	-	-	-	-
	5	80	40,8	9,9	40,6	11,1	40,4	12,6	40,2	14,2	-	-
	8	70	43,1	9,8	42,7	11,1	42,5	12,6	42,2	14,2	41,8	15,9
	10	70	45,0	9,8	44,8	11,1	44,2	12,5	43,8	14,1	43,4	15,9
	15	70	50,3	9,8	49,8	11,0	49,4	12,5	48,8	14,1	47,9	15,8
4.2	-5	90	37,5	11,2	37,5	12,7	-	-	-	-	-	-
	0	90	42,3	11,2	42,2	12,6	42,2	14,2	-	-	-	-
	5	80	46,6	11,1	46,4	12,5	46,2	14,1	46,1	15,9	-	-
	8	70	49,3	11,1	49,0	12,5	48,6	14,1	48,4	15,8	48,1	17,8
	10	70	51,3	11,0	51,1	12,4	50,8	14,0	50,3	15,8	49,9	17,7
	15	70	57,2	11,0	56,8	12,4	56,4	14,0	55,9	15,7	55,4	17,7
5.2	-5	90	43,8	13,0	43,8	14,7	-	-	-	-	-	-
	0	90	49,5	13,0	49,4	14,7	49,2	16,5	-	-	-	-
	5	80	54,7	12,9	54,3	14,6	54,0	16,5	53,7	18,6	-	-
	8	70	57,7	12,9	57,4	14,6	57,1	16,5	56,5	18,6	55,9	20,9
	10	70	60,2	12,9	59,8	14,6	59,4	16,5	58,7	18,6	58,1	20,9
	15	70	67,7	12,8	66,7	14,5	66,0	16,4	65,4	18,5	64,5	20,9
6.2	-5	90	50,5	15,1	50,4	16,9	-	-	-	-	-	-
	0	90	57,0	15,1	56,8	16,9	56,5	18,9	-	-	-	-
	5	80	62,9	15,0	62,5	16,8	62,0	18,9	61,6	21,1	-	-
	8	70	66,4	15,0	65,9	16,8	65,5	18,8	64,7	21,1	64,0	23,6
	10	70	69,2	15,0	68,7	16,8	68,0	18,8	67,1	21,1	66,4	23,6
	15	70	77,5	14,9	76,3	16,7	75,5	18,7	74,6	21,0	73,4	23,5
7.2	-5	90	53,0	17,5	53,5	19,7	54,2	22,1	55,0	25,0	56,0	28,2
	0	90	59,3	17,5	59,6	19,6	59,8	22,0	60,3	24,7	61,0	27,9
	5	80	65,5	17,5	65,6	19,6	65,7	21,9	65,9	24,6	66,0	27,7
	8	70	68,9	17,6	68,8	19,6	68,7	21,9	68,8	24,6	69,0	27,7
	10	70	71,9	17,6	71,7	19,6	71,6	21,9	71,3	24,5	71,3	27,6
	15	70	79,8	17,7	79,4	19,6	78,9	21,9	78,5	24,5	78,1	27,5
8.2	-5	90	67,0	20,5	66,9	22,9	-	-	-	-	-	-
	0	90	75,1	20,3	74,8	22,7	74,6	25,4	-	-	-	-
	5	80	82,7	20,2	82,1	22,5	81,6	25,2	81,2	28,2	-	-
	8	70	87,4	20,2	86,7	22,4	85,7	25,1	84,9	28,0	84,1	31,4
	10	70	91,1	20,1	90,3	22,4	89,2	25,0	88,2	28,0	87,2	31,3
	15	70	101,8	20,1	100,6	22,3	99,5	24,9	98,0	27,8	96,0	31,1
9.2	-5	90	77,2	23,6	77,4	26,4	-	-	-	-	-	-
	0	90	86,7	23,5	86,6	26,3	86,7	29,6	-	-	-	-
	5	80	95,5	23,5	95,1	26,2	94,7	29,4	94,5	33,1	-	-
	8	70	100,7	23,5	100,2	26,2	99,7	29,4	98,9	33,1	98,2	37,2
	10	70	105,0	23,6	104,3	26,2	103,5	29,4	102,5	33,0	101,7	37,1
	15	70	118,1	23,6	115,9	26,2	114,9	29,3	113,6	32,8	111,8	36,8

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]

RH : evaporator intake air relative humidity [%]

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Zeta Echos HP /LE - heating capacity

Model	CONDENSATION TEMPERATURE [°C]											
	Ta [°C]	RH %	40		45		50		55		60	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
10.2	-5	90	89,2	26,6	89,4	29,9	-	-	-	-	-	-
	0	90	100,2	26,7	100,1	29,9	100,4	33,8	-	-	-	-
	5	80	110,4	26,8	109,9	30,0	109,5	33,7	109,5	38,1	-	-
	8	70	116,6	26,9	115,9	30,0	115,3	33,7	114,7	38,0	113,9	42,9
	10	70	121,6	27,0	120,8	30,0	119,8	33,7	118,6	38,0	117,8	42,8
12.2	15	70	136,7	27,1	135,4	30,1	133,1	33,7	131,5	37,8	129,3	42,5
	-5	90	100,4	29,9	100,5	33,5	-	-	-	-	-	-
	0	90	112,9	30,0	112,7	33,5	112,6	37,7	-	-	-	-
	5	80	124,2	30,0	123,5	33,5	122,9	37,6	122,4	42,3	-	-
	8	70	131,4	30,1	130,5	33,5	129,2	37,6	128,1	42,3	126,8	47,5
13.2	10	70	137,1	30,1	135,8	33,5	134,2	37,6	132,8	42,2	131,2	47,4
	15	70	153,0	30,1	151,5	33,5	149,6	37,5	147,4	42,1	144,0	47,2
	-5	90	110,2	33,3	110,4	37,1	-	-	-	-	-	-
	0	90	123,8	33,3	123,6	37,1	123,5	41,6	-	-	-	-
	5	80	136,0	33,3	135,3	37,1	134,7	41,5	134,0	46,5	-	-
13.2	8	70	143,7	33,2	142,9	37,1	142,0	41,5	140,4	46,5	138,8	52,0
	10	70	149,9	33,2	148,9	37,1	147,4	41,5	145,4	46,5	143,7	52,0
	15	70	168,2	33,1	165,2	37,0	163,6	41,4	161,4	46,4	158,0	51,9

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]

RH : evaporator intake air relative humidity [%]

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Zeta Echos HP /LE - heating capacity

Model	CONDENSATION TEMPERATURE [°C]											
	Ta [°C]	RH %	40		45		50		55		60	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
3.2	-5	90	32,7	9,9	32,6	11,2	-	-	-	-	-	-
	0	90	37,0	9,9	36,9	11,2	36,6	12,6	-	-	-	-
	5	80	40,8	9,9	40,6	11,1	40,4	12,6	40,2	14,2	-	-
	8	70	43,1	9,8	42,7	11,1	42,6	12,6	42,2	14,2	41,8	16,9
	10	70	45,0	9,8	44,8	11,1	44,2	12,6	43,8	14,1	43,4	16,9
	15	70	50,3	9,8	49,8	11,0	49,4	12,6	48,8	14,1	47,9	16,8
4.2	-5	90	37,6	11,2	37,6	12,7	-	-	-	-	-	-
	0	90	42,3	11,2	42,2	12,6	42,2	14,2	-	-	-	-
	5	80	46,6	11,1	46,4	12,6	46,2	14,1	46,1	15,9	-	-
	8	70	49,3	11,1	49,0	12,6	48,6	14,1	48,4	15,8	48,1	17,8
	10	70	51,3	11,0	51,1	12,4	50,8	14,0	50,3	15,8	49,9	17,7
	15	70	57,2	11,0	56,8	12,4	56,4	14,0	56,9	15,7	56,4	17,7
5.2	-5	90	43,8	13,0	43,8	14,7	-	-	-	-	-	-
	0	90	49,5	13,0	49,4	14,7	49,2	16,6	-	-	-	-
	5	80	54,7	12,9	54,3	14,6	54,0	16,6	53,7	18,6	-	-
	8	70	57,7	12,9	57,4	14,6	57,1	16,6	56,6	18,6	56,9	20,9
	10	70	60,2	12,9	59,8	14,6	59,4	16,6	58,7	18,6	58,1	20,9
	15	70	67,7	12,8	66,7	14,6	66,0	16,4	66,4	18,6	64,6	20,9
6.2	-5	90	50,6	15,1	50,4	16,9	-	-	-	-	-	-
	0	90	57,0	15,1	56,8	16,9	56,6	18,9	-	-	-	-
	5	80	62,9	15,0	62,6	16,8	62,0	18,9	61,6	21,1	-	-
	8	70	66,4	15,0	66,9	16,8	66,6	18,8	64,7	21,1	64,0	23,6
	10	70	69,2	15,0	68,7	16,8	68,0	18,8	67,1	21,1	66,4	23,6
	15	70	77,6	14,9	76,3	16,7	76,6	18,7	74,6	21,0	73,4	23,6
7.2	-5	90	53,0	17,6	53,6	19,7	54,2	22,1	56,0	25,0	56,0	28,2
	0	90	59,3	17,6	59,6	19,6	59,8	22,0	60,3	24,7	61,0	27,9
	5	80	66,6	17,6	66,6	19,6	66,7	21,9	66,9	24,6	66,0	27,7
	8	70	68,9	17,6	68,8	19,6	68,7	21,9	68,8	24,6	69,0	27,7
	10	70	71,9	17,6	71,7	19,6	71,6	21,9	71,3	24,6	71,3	27,6
	15	70	79,8	17,7	79,4	19,6	78,9	21,9	78,6	24,6	78,1	27,6
8.2	-5	90	67,0	20,6	66,9	22,9	-	-	-	-	-	-
	0	90	76,1	20,3	74,8	22,7	74,6	26,4	-	-	-	-
	5	80	82,7	20,2	82,1	22,6	81,6	26,2	81,2	28,2	-	-
	8	70	87,4	20,2	86,7	22,4	86,7	26,1	84,9	28,0	84,1	31,4
	10	70	91,1	20,1	90,3	22,4	89,2	26,0	88,2	28,0	87,2	31,3
	15	70	101,8	20,1	100,6	22,3	99,6	24,9	98,0	27,8	96,0	31,1
9.2	-5	90	77,2	23,6	77,4	26,4	-	-	-	-	-	-
	0	90	86,7	23,6	86,6	26,3	86,7	29,6	-	-	-	-
	5	80	96,6	23,6	96,1	26,2	94,7	29,4	94,5	33,1	-	-
	8	70	100,7	23,6	100,2	26,2	99,7	29,4	98,9	33,1	98,2	37,2
	10	70	106,0	23,6	104,3	26,2	103,6	29,4	102,6	33,0	101,7	37,1
	15	70	118,1	23,6	116,9	26,2	114,9	29,3	113,6	32,8	111,8	36,8

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]



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RH : evaporator intake air relative humidity [%]

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Zeta Echos HP /LE - heating capacity

Model	CONDENSATION TEMPERATURE [°C]											
	Ta [°C]	RH %	40		45		50		55		60	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
10.2	-5	90	89,2	26,6	89,4	29,9	-	-	-	-	-	-
	0	90	100,2	26,7	100,1	29,9	100,4	33,8	-	-	-	-
	5	80	110,4	26,8	109,9	30,0	109,5	33,7	109,5	38,1	-	-
	8	70	116,6	26,9	115,9	30,0	115,3	33,7	114,7	38,0	113,9	42,9
	10	70	121,6	27,0	120,8	30,0	119,8	33,7	118,6	38,0	117,8	42,8
12.2	15	70	136,7	27,1	135,4	30,1	133,1	33,7	131,5	37,8	129,3	42,5
	-5	90	100,4	29,9	100,5	33,5	-	-	-	-	-	-
	0	90	112,9	30,0	112,7	33,5	112,6	37,7	-	-	-	-
	5	80	124,2	30,0	123,5	33,5	122,9	37,6	122,4	42,3	-	-
	8	70	131,4	30,1	130,5	33,5	129,2	37,6	128,1	42,3	126,8	47,5
13.2	10	70	137,1	30,1	135,8	33,5	134,2	37,6	132,8	42,2	131,2	47,4
	15	70	153,0	30,1	151,5	33,5	149,6	37,5	147,4	42,1	144,0	47,2
	-5	90	110,2	33,3	110,4	37,1	-	-	-	-	-	-
	0	90	123,8	33,3	123,6	37,1	123,5	41,6	-	-	-	-
	5	80	136,0	33,3	135,3	37,1	134,7	41,5	134,0	46,5	-	-
13.2	8	70	143,7	33,2	142,9	37,1	142,0	41,5	140,4	46,5	138,8	52,0
	10	70	149,9	33,2	148,9	37,1	147,4	41,5	145,4	46,5	143,7	52,0
	15	70	168,2	33,1	165,2	37,0	163,6	41,4	161,4	46,4	158,0	51,9

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]



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RH : evaporator intake air relative humidity [%]

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Zeta Echos A - cooling capacity

Model	EXTERNAL AIR TEMPERATURE [°C]										
	To [°C]	25		30		35		40		43	
		Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe
3.2	5	46,68	10,58	44,1	11,61	41,48	12,77	38,71	14,07	36,97	14,93
	6	47,99	10,68	45,46	11,72	42,77	12,88	39,94	14,18	38,16	15,05
	7	49,43	10,78	46,81	11,82	44,04	12,99	41,12	14,3	39,29	15,16
	8	50,9	10,88	48,2	11,93	45,36	13,1	42,35	14,41	40,47	15,28
	9	52,38	10,98	49,61	12,04	46,68	13,21	43,6	14,53	41,66	15,4
	10	53,88	11,09	51,02	12,15	48,02	13,33	44,85	14,65	42,86	15,52
4.2	5	55,42	12,93	52,76	14,15	49,89	15,53	46,79	17,09	44,81	18,14
	6	57,1	13,07	54,34	14,29	51,37	15,67	48,17	17,24	46,12	18,3
	7	58,9	13,22	55,94	14,44	52,85	15,82	49,53	17,39	47,41	18,45
	8	60,66	13,35	57,57	14,59	54,37	15,97	50,92	17,55	48,73	18,6
	9	62,31	13,5	59,21	14,74	55,89	16,13	52,32	17,71	50,06	18,76
	10	64,08	13,65	60,86	14,89	57,42	16,28	53,73	17,87	51,4	18,92
5.2	5	61,9	13,84	58,62	15,21	55,14	16,75	51,45	18,48	49,12	19,62
	6	63,76	13,97	60,39	15,35	56,82	16,9	53,03	18,63	50,64	19,78
	7	65,72	14,11	62,28	15,5	58,52	17,04	54,62	18,79	52,16	19,94
	8	67,6	14,24	64,04	15,63	60,26	17,19	56,24	18,94	53,71	20,1
	9	69,56	14,38	65,9	15,78	62,01	17,34	57,88	19,1	55,28	20,26
	10	71,54	14,51	67,77	15,92	63,77	17,5	59,53	19,26	56,86	20,42
6.2	5	71,3	16,57	67,68	18,23	63,78	20,09	59,6	22,2	56,94	23,59
	6	73,34	16,73	69,62	18,4	65,62	20,27	61,33	22,39	58,61	23,79
	7	75,52	16,89	71,67	18,57	67,48	20,46	63,06	22,58	60,26	23,99
	8	77,58	17,05	73,63	18,75	69,39	20,65	64,84	22,79	61,96	24,2
	9	79,74	17,22	75,67	18,92	71,31	20,84	66,63	22,99	63,66	24,41
	10	81,91	17,39	77,73	19,11	73,24	21,03	68,43	23,2	65,39	24,63
7.2	5	82,19	17,02	78,07	18,75	73,58	20,71	68,72	22,97	65,62	24,49
	6	84,65	17,16	80,43	18,89	75,82	20,87	70,85	23,13	67,67	24,65
	7	87,27	17,3	82,94	19,05	78,1	21,03	72,97	23,29	69,7	24,81
	8	89,77	17,45	85,3	19,2	80,43	21,19	75,15	23,46	71,79	24,98
	9	92,39	17,6	87,78	19,36	82,77	21,35	77,35	23,63	73,9	25,16
	10	95,02	17,75	90,29	19,52	85,14	21,52	79,57	23,81	76,03	25,34
8.2	5	88,23	19,47	83,6	21,51	78,68	23,82	73,45	26,43	70,15	28,17
	6	90,87	19,59	86,13	21,64	81,1	23,95	75,75	26,57	72,37	28,31
	7	93,58	19,71	88,74	21,78	83,61	24,1	78,16	26,72	74,72	28,47
	8	96,48	19,85	91,4	21,91	86,13	24,24	80,53	26,88	76,98	28,62
	9	99,2	19,98	94,13	22,06	88,73	24,4	82,97	27,04	79,34	28,78
	10	102,08	20,11	96,86	22,21	91,32	24,55	85,42	27,2	81,72	28,95
9.2	5	106,92	23,31	101,42	25,83	95,51	28,68	89,23	31,9	85,29	34,03
	6	110,17	23,49	104,45	26,01	98,39	28,86	91,96	32,09	87,92	34,23
	7	113,38	23,66	107,52	26,19	101,31	29,05	94,72	32,29	90,58	34,44
	8	116,63	23,84	110,64	26,38	104,27	29,25	97,52	32,5	93,28	34,65
	9	119,93	24,03	113,79	26,57	107,27	29,45	100,36	32,71	96,02	34,87
	10	123,29	24,22	117	26,77	110,33	29,66	103,25	32,93	98,81	35,1
10.2	5	124,85	26,35	118,28	29,33	111,3	32,7	103,86	36,51	99,16	39,01
	6	128,57	26,54	121,84	29,53	114,69	32,92	107,08	36,73	102,28	39,25
	7	132,5	26,75	125,64	29,75	118,14	33,13	110,33	36,97	105,38	39,49
	8	136,31	26,95	129,22	29,96	121,68	33,36	113,65	37,21	108,57	39,74
	9	140,26	27,17	132,98	30,18	125,25	33,59	117	37,45	111,78	40
	10	144,25	27,39	136,78	30,4	128,84	33,83	120,38	37,7	115,03	40,25
12.2	5	143,14	32,04	135,35	35,41	126,99	39,2	118,02	43,43	112,33	46,21
	6	147,53	32,31	139,57	35,7	130,83	39,49	121,57	43,74	115,72	46,53
	7	151,77	32,57	143,54	35,97	134,7	39,78	125,22	44,06	119,2	46,86
	8	156,17	32,84	147,71	36,25	138,62	40,09	128,88	44,38	122,7	47,19
	9	160,51	33,11	151,91	36,54	142,58	40,39	132,58	44,7	126,23	47,53
	10	165,09	33,4	156,16	36,84	146,58	40,71	136,31	45,03	129,81	47,87

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]



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T0: evaporator outgoing water temperature [°C]

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Zeta Echos A - heating capacity

Model	CONDENSER INGOING WATER TEMPERATURE [°C]									
	Ta [°C]	RH %	30		35		40		43	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
3.2	-5	90	38,96	9,89	38,61	10,96	38,37	12,17	38,21	12,98
	0	90	44,43	10,09	43,93	11,15	43,48	12,35	43,15	13,15
	5	80	49,65	10,25	48,96	11,31	48,29	12,51	47,9	13,3
	8	70	52,63	10,34	51,72	11,4	50,92	12,59	50,47	13,39
	10	70	55,08	10,4	54,23	11,47	53,36	12,67	52,83	13,46
4.2	15	70	61,91	10,57	60,85	11,64	59,76	12,84	59,09	13,64
	-5	90	44,72	11,74	44,96	12,96	45,25	14,36	45,45	15,31
	0	90	50,81	11,92	50,82	13,14	50,85	14,53	50,89	15,47
	5	80	56,59	12,09	56,42	13,31	56,24	14,7	56,14	15,62
	8	70	60,12	12,2	59,76	13,42	59,39	14,8	59,18	15,72
5.2	10	70	62,78	12,28	62,2	13,49	61,77	14,87	61,49	15,79
	15	70	70,77	12,52	69,9	13,74	69,13	15,11	68,42	16,02
	-5	90	50,5	13	50,19	14,42	49,97	16,02	49,82	17,09
	0	90	57,54	13,25	56,99	14,66	56,48	16,26	56,2	17,32
	5	80	64,27	13,46	63,49	14,88	62,71	16,48	62,25	17,53
6.2	8	70	68,13	13,58	67,2	14,99	66,16	16,58	65,65	17,64
	10	70	71,12	13,66	70,13	15,08	69,13	16,68	68,53	17,74
	15	70	80,33	13,89	78,72	15,31	77,33	16,91	76,53	17,97
	-5	90	56,94	15,15	56,92	16,76	57,01	18,59	*	*
	0	90	64,15	15,39	63,96	17,01	63,84	18,85	63,78	20,07
7.2	5	80	70,97	15,6	70,58	17,23	70,23	19,08	70,04	20,3
	8	70	75,19	15,72	74,69	17,35	74,13	19,2	73,81	20,42
	10	70	78,46	15,8	77,75	17,44	77,12	19,29	76,7	20,52
	15	70	88,08	16,03	87,15	17,69	85,86	19,54	85,16	20,77
	-5	90	68,51	17,34	68	19,32	67,46	21,61	67,3	23,16
8.2	0	90	78	17,55	77,09	19,5	76,1	21,74	75,62	23,25
	5	80	86,94	17,76	85,67	19,69	84,37	21,91	83,6	23,4
	8	70	91,82	17,88	90,36	19,81	88,89	22,01	88	23,49
	10	70	96,35	18	94,71	19,91	93	22,11	91,95	23,59
	15	70	108,35	18,29	106,34	20,21	104,22	22,4	102,83	23,87
9.2	-5	90	76,41	20,43	75,74	22,74	75,21	25,36	74,91	27,11
	0	90	86,7	20,46	85,67	22,72	84,75	25,29	84,16	27,01
	5	80	96,57	20,53	95,16	22,77	93,8	25,31	93,01	27
	8	70	102,21	20,58	100,44	22,82	98,79	25,34	97,91	27,02
	10	70	106,87	20,63	105,16	22,86	103,42	25,38	102,36	27,06
10.2	15	70	120,08	20,77	117,95	23	115,78	25,52	114,46	27,18
	-5	90	88,66	23,93	88,73	26,63	88,6	29,65	88,26	31,64
	0	90	99,1	24,05	98,27	26,74	97,77	29,77	97,62	31,77
	5	80	110,84	24,19	109,56	26,88	108,36	29,91	107,71	31,91
	8	70	117,78	24,28	116,24	26,97	114,67	29,99	113,73	31,99
11.2	10	70	123,02	24,35	121,35	27,03	119,74	30,06	118,82	32,06
	15	70	138,17	24,56	135,97	27,24	133,82	30,27	132,58	32,27
	-5	90	103,94	27,25	103,22	30,44	102,62	33,98	102,24	36,3
	0	90	118,05	27,47	116,93	30,69	115,67	34,29	115,11	36,65
	5	80	131,35	27,65	129,73	30,89	128,16	34,52	127,24	36,91
12.2	8	70	138,79	27,75	136,64	30,99	134,83	34,63	133,77	37,03
	10	70	145,15	27,84	143,12	31,08	141,06	34,73	139,78	37,13
	15	70	162,9	28,1	160,25	31,33	157,58	34,97	155,95	37,39
	-5	90	116,04	30,74	115,39	34,11	114,85	37,88	114,43	40,36
	0	90	131,47	30,99	130,34	34,4	129,23	38,21	128,59	40,72
12.2	5	80	146,11	31,2	144,56	34,63	142,89	38,46	141,88	40,99
	8	70	154,55	31,3	152,62	34,74	150,42	38,58	149,29	41,11
	10	70	161,07	31,38	159,04	34,82	156,94	38,67	155,64	41,21
	15	70	181,29	31,62	177,86	35,05	174,99	38,91	173,26	41,46

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]



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RH : evaporator intake air relative humidity [%]

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos A - total recovery capacity

Model	CONDENSER INGOING WATER TEMPERATURE [°C]												
	To [°C]	35			40			45			48		
		Pf	Pe	Pr	Pf	Pe	Pr	Pf	Pe	Pr	Pf	Pe	Pr
3.2	5	46,1	10,8	56,9	43,51	11,88	55,39	40,78	13,1	53,88	39,06	13,91	52,97
	7	49,21	10,88	60,1	46,48	11,98	58,46	43,6	13,2	56,8	41,79	14,01	55,79
	10	54,12	11,01	65,14	51,17	12,11	63,28	48,04	13,34	61,37	46,07	14,15	60,22
4.2	5	55,06	12,83	67,89	52,41	14,07	66,47	49,53	15,46	64,99	47,68	16,4	64,08
	7	58,8	12,96	71,76	55,95	14,2	70,16	52,85	15,6	68,45	50,84	16,52	67,36
	10	64,66	13,16	77,82	61,46	14,4	75,86	58,02	15,79	73,81	55,82	16,72	72,54
5.2	5	60,96	14,2	75,17	57,55	15,65	73,21	53,93	17,28	71,21	51,65	18,36	70,01
	7	65,11	14,32	79,43	61,54	15,77	77,31	57,63	17,4	75,04	55,23	18,48	73,71
	10	71,53	14,49	86,02	67,63	15,95	83,58	63,5	17,58	81,08	60,88	18,66	79,55
6.2	5	71,98	16,33	88,31	68,3	18	86,3	64,35	19,87	84,22	61,84	21,11	82,95
	7	76,73	16,45	93,18	72,82	18,12	90,94	68,61	20	88,6	65,96	21,24	87,2
	10	84,04	16,6	100,65	79,84	18,29	98,14	75,34	20,18	95,52	72,47	21,43	93,9
7.2	5	79,79	18,04	97,83	75,37	19,94	95,31	70,57	22,12	92,69	67,5	23,58	91,08
	7	85,17	18,18	103,35	80,4	20,07	100,47	75,35	22,24	97,6	72,12	23,7	95,83
	10	93,38	18,38	111,76	88,36	20,28	108,64	82,9	22,45	105,35	79,41	23,9	103,31
8.2	5	90,15	20,14	110,29	85,11	22,31	107,42	79,77	24,76	104,53	76,41	26,38	102,79
	7	96,28	20,19	116,48	91,06	22,36	113,42	85,36	24,8	110,16	81,85	26,41	108,26
	10	105,84	20,28	126,12	100,19	22,45	122,64	94,2	24,88	119,09	90,43	26,5	116,92
9.2	5	106,42	23,68	130,11	100,51	26,34	126,85	94,25	29,34	123,59	90,3	31,32	121,62
	7	113,6	23,76	137,36	107,47	26,42	133,88	100,76	29,4	130,16	96,62	31,39	128,01
	10	124,76	23,89	148,66	118,11	26,54	144,65	111,05	29,52	140,57	106,6	31,5	138,09
10.2	5	123,31	27,06	150,37	116,52	30,19	146,71	109,33	33,72	143,05	104,79	36,05	140,84
	7	131,61	27,16	158,78	124,56	30,28	154,84	116,82	33,8	150,62	112,05	36,14	148,19
	10	144,49	27,33	171,82	136,82	30,43	167,24	128,68	33,94	162,62	123,54	36,26	159,8
12.2	5	144,55	31,54	176,09	136,6	34,95	171,55	128,04	38,8	166,84	122,61	41,33	163,93
	7	154,28	31,66	185,93	145,91	35,07	180,97	136,91	38,9	175,81	131,18	41,43	172,61
	10	169,54	31,84	201,38	160,51	35,24	195,75	150,81	39,07	189,88	144,63	41,6	186,23

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Pr: recovery condenser heating capacity [kW]



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To: evaporator outgoing water temperature [°C]

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Zeta Echos A - /LE - cooling capacity

Model	EXTERNAL AIR TEMPERATURE [°C]											
	Tev [°C]	25		30		35		40		43		
		Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	Pf	Pe	
3.2	0	44,66	10,45	42,06	11,46	39,33	12,59	36,46	13,86	34,68	14,71	
	2,5	48,39	10,71	45,58	11,73	42,63	12,87	39,55	14,16	37,63	15,01	
	5	52,3	10,98	49,27	12,02	46,1	13,17	42,78	14,47	40,71	15,32	
	7,5	56,37	11,26	53,12	12,31	49,71	13,48	46,15	14,79	43,92	15,65	
	10	60,62	11,55	57,12	12,62	53,47	13,8	49,65	15,12	47,27	15,99	
4.2	0	53,39	12,77	50,63	13,96	47,68	15,31	44,51	16,85	42,5	17,88	
	2,5	57,86	13,13	54,8	14,33	51,52	15,69	48,04	17,23	45,83	18,26	
	5	62,51	13,52	59,11	14,73	55,51	16,09	51,69	17,63	49,28	18,67	
	7,5	67,33	13,93	63,58	15,15	59,63	16,52	55,46	18,06	52,85	19,1	
	10	72,29	14,36	68,19	15,59	63,88	16,97	59,36	18,52	56,53	19,55	
5.2	0	60,01	13,71	56,53	15,05	52,85	16,55	48,99	18,24	46,57	19,36	
	2,5	65	14,06	61,23	15,42	57,27	16,93	53,1	18,64	50,49	19,77	
	5	70,22	14,42	66,15	15,8	61,88	17,33	57,39	19,05	54,59	20,19	
	7,5	75,66	14,8	71,29	16,2	66,69	17,75	61,87	19,49	58,85	20,63	
	10	81,33	15,19	76,62	16,61	71,69	18,18	66,51	19,93	63,28	21,08	
6.2	0	69,07	16,4	65,25	18,02	61,17	19,84	56,83	21,89	54,09	23,25	
	2,5	74,54	16,82	70,4	18,46	65,99	20,31	61,31	22,39	58,35	23,76	
	5	80,26	17,26	75,79	18,93	71,03	20,81	66,97	22,92	62,8	24,31	
	7,5	86,22	17,72	81,39	19,43	76,26	21,34	70,83	23,47	67,43	24,88	
	10	92,4	18,21	87,2	19,96	81,69	21,9	75,88	24,07	72,24	25,49	
7.2	0	79,53	16,88	75,15	18,58	70,41	20,52	65,31	22,75	62,07	24,25	
	2,5	86,18	17,25	81,44	18,97	76,32	20,92	70,82	23,16	67,33	24,66	
	5	93,16	17,65	88,03	19,39	82,51	21,36	76,59	23,6	72,84	25,11	
	7,5	100,46	18,07	94,93	19,83	88,98	21,82	82,62	24,09	78,6	25,6	
	10	108,09	18,52	102,13	20,31	95,73	22,33	88,91	24,61	84,6	26,14	
8.2	0	87,81	19,91	82,57	21,97	77,04	24,3	71,22	26,93	67,57	28,69	
	2,5	95,18	20,29	89,56	22,37	83,65	24,71	77,41	27,36	73,51	29,11	
	5	102,91	20,69	96,9	22,8	90,57	25,16	83,9	27,83	79,72	29,59	
	7,5	110,99	21,14	104,56	23,27	97,79	25,66	90,67	28,35	86,21	30,12	
	10	119,41	21,62	112,55	23,79	105,32	26,21	97,72	28,92	92,96	30,7	
9.2	0	104,38	23,19	98,35	25,67	92,01	28,48	85,33	31,66	81,15	33,76	
	2,5	113,07	23,66	106,62	26,16	99,82	28,98	92,67	32,18	88,2	34,3	
	5	122,18	24,17	115,27	26,68	108,01	29,53	100,36	32,76	95,59	34,89	
	7,5	131,7	24,72	124,32	27,26	116,56	30,13	108,4	33,38	103,31	35,53	
	10	141,62	25,33	133,75	27,88	125,47	30,78	116,78	34,06	111,35	36,22	
10.2	0	121,2	26,16	114,16	29,1	106,75	32,42	98,93	36,16	94,01	38,61	
	2,5	131,28	26,68	123,73	29,64	115,77	32,98	107,36	36,75	102,08	39,24	
	5	141,87	27,26	133,76	30,22	125,22	33,59	116,2	37,39	110,53	39,9	
	7,5	152,94	27,88	144,25	30,86	135,09	34,25	125,43	38,08	119,36	40,6	
	10	164,49	28,57	155,19	31,55	145,39	34,96	135,04	38,81	128,55	41,36	
12.2	0	135,04	31,58	127,05	34,89	118,53	38,6	109,44	42,76	103,7	45,49	
	2,5	146,08	32,24	137,49	35,59	128,31	39,34	118,54	43,55	112,37	46,31	
	5	157,63	32,95	148,39	36,33	138,53	40,13	128,04	44,38	121,42	47,17	
	7,5	169,68	33,71	159,75	37,13	149,17	40,97	137,92	45,26	130,83	48,07	
	10	182,21	34,54	171,55	37,99	160,21	41,86	148,17	46,19	140,58	49,03	

Pf: cooling capacity [kW]

Pe: electrical power absorbed by the compressors [kW]



Technical information manual ZETA-ECHOS

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Tev: evaporation temperature [°C]

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos A - HP /LE - heating capacity

Model	CONDENSATION TEMPERATURE [°C]											
	Ta [°C]	RH %	40		45		50		55		60	
			Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe	Pt	Pe
3.2	-5	90	38,82	10,28	38,53	11,41	38,26	12,69	*	*	*	*
	0	90	44,27	10,41	43,77	11,53	43,28	12,8	42,89	14,26	*	*
	5	80	49,47	10,52	48,77	11,63	48,09	12,9	47,45	14,34	46,86	15,99
	8	70	52,42	10,58	51,49	11,69	50,71	12,94	49,97	14,38	49,26	16,02
	10	70	54,9	10,62	54,03	11,73	53,14	12,99	52,25	14,42	51,37	16,05
	15	70	61,75	10,73	60,66	11,84	59,55	13,09	58,41	14,51	57,2	16,13
4.2	-5	90	44,8	12,15	45,05	13,44	45,37	14,94	*	*	*	*
	0	90	60,81	12,27	60,83	13,55	60,87	15,02	60,96	16,72	*	*
	5	80	66,54	12,39	66,37	13,66	66,19	15,11	65,99	16,79	65,8	18,74
	8	70	60,04	12,46	59,68	13,72	59,31	15,17	68,85	16,83	68,47	18,76
	10	70	62,66	12,51	62,11	13,77	61,66	15,21	61,18	16,87	60,7	18,78
	15	70	70,64	12,67	69,79	13,93	68,93	15,36	67,75	16,98	66,92	18,87
5.2	-5	90	50,38	13,48	50,1	14,97	49,88	16,67	*	*	*	*
	0	90	67,38	13,65	66,83	15,13	66,33	16,82	65,9	18,74	*	*
	5	80	64,09	13,79	63,29	15,27	62,5	16,94	61,74	18,85	61,02	21,02
	8	70	67,94	13,86	66,96	15,34	65,95	17,01	64,96	18,91	64,06	21,07
	10	70	70,94	13,91	69,92	15,39	68,91	17,06	67,89	18,96	66,84	21,11
	15	70	80,16	14,05	78,5	15,52	77,12	17,19	75,73	19,07	74,32	21,21
6.2	-5	90	66,92	15,58	66,93	17,26	67,07	19,19	*	*	*	*
	0	90	64,1	15,73	63,92	17,41	63,81	19,33	63,75	21,51	*	*
	5	80	70,91	15,85	70,52	17,53	70,17	19,44	69,88	21,62	*	*
	8	70	75,13	15,92	74,61	17,6	74,05	19,51	73,52	21,68	73,02	24,15
	10	70	78,37	15,96	77,68	17,64	77,05	19,55	76,26	21,72	75,68	24,19
	15	70	88,05	16,08	87,11	17,77	85,76	19,67	84,71	21,84	83,7	24,3
7.2	-5	90	68,45	17,52	67,93	19,56	67,43	21,92	*	*	*	*
	0	90	77,99	17,58	77,05	19,56	76,06	21,86	75,11	24,54	*	*
	5	80	87,01	17,66	85,71	19,62	84,39	21,87	83,08	24,49	81,83	27,53
	8	70	91,97	17,72	90,46	19,68	88,96	21,89	87,45	24,49	85,94	27,5
	10	70	96,55	17,77	94,89	19,7	93,14	21,92	91,35	24,5	89,54	27,49
	15	70	108,77	17,9	106,74	19,82	104,58	22,02	102,2	24,56	99,71	27,51
8.2	-5	90	76,37	20,59	75,69	22,95	75,15	25,55	*	*	*	*
	0	90	86,71	20,44	85,66	22,74	84,72	25,37	83,78	28,37	*	*
	5	80	96,69	20,36	95,24	22,62	93,85	25,2	92,53	28,15	91,29	31,5
	8	70	102,41	20,32	100,62	22,58	98,9	25,14	97,4	28,06	95,93	31,38
	10	70	107,14	20,3	105,39	22,55	103,61	25,09	101,8	27,99	100,03	31,3
	15	70	120,59	20,26	118,42	22,49	116,2	25,01	113,95	27,87	111,54	31,13
9.2	-5	90	88,67	23,98	88,69	26,77	88,54	29,93	*	*	*	*
	0	90	99,16	23,89	98,29	26,68	97,77	29,82	97,56	33,37	*	*
	5	80	111,04	23,82	109,7	26,58	108,44	29,71	107,32	33,25	106,37	37,25
	8	70	118,09	23,78	116,49	26,54	114,84	29,66	113,22	33,19	112,02	37,18
	10	70	123,42	23,76	121,65	26,51	119,96	29,62	118,37	33,14	116,92	37,12
	15	70	139,08	23,73	136,57	26,45	134,32	29,53	132,14	33,02	130,03	36,98
10.2	-5	90	103,91	27,33	103,2	30,57	102,58	34,19	*	*	*	*
	0	90	118,12	27,29	116,98	30,55	115,69	34,21	114,75	38,31	*	*
	5	80	131,57	27,25	129,91	30,5	128,3	34,17	126,74	38,29	125,19	42,92
	8	70	139,16	27,22	136,97	30,47	135,05	34,13	133,25	38,26	131,45	42,91
	10	70	145,58	27,21	143,5	30,44	141,4	34,1	139,23	38,23	137,03	42,88
	15	70	163,71	27,19	161	30,38	158,26	34,01	155,48	38,13	152,49	42,78
12.2	-5	90	115,88	31,5	115,25	34,99	114,66	38,92	*	*	*	*
	0	90	131,28	31,53	130,14	35,05	129,02	39	127,95	43,46	*	*
	5	80	145,96	31,53	144,36	35,05	142,66	39,02	140,94	43,49	139,19	48,52
	8	70	154,43	31,53	152,43	35,05	150,23	39,01	148,06	43,48	145,92	48,52
	10	70	160,98	31,52	158,92	35,03	156,77	39	154,54	43,47	152,16	48,51
	15	70	181,41	31,5	177,91	35	174,96	38,95	171,99	43,42	168,84	48,46

Pt: heating capacity [kW]

Pe: electrical power absorbed by the compressors [kW]

Ta: evaporator intake air temperature dry bulb [°C]



Technical information manual ZETA-ECHOS

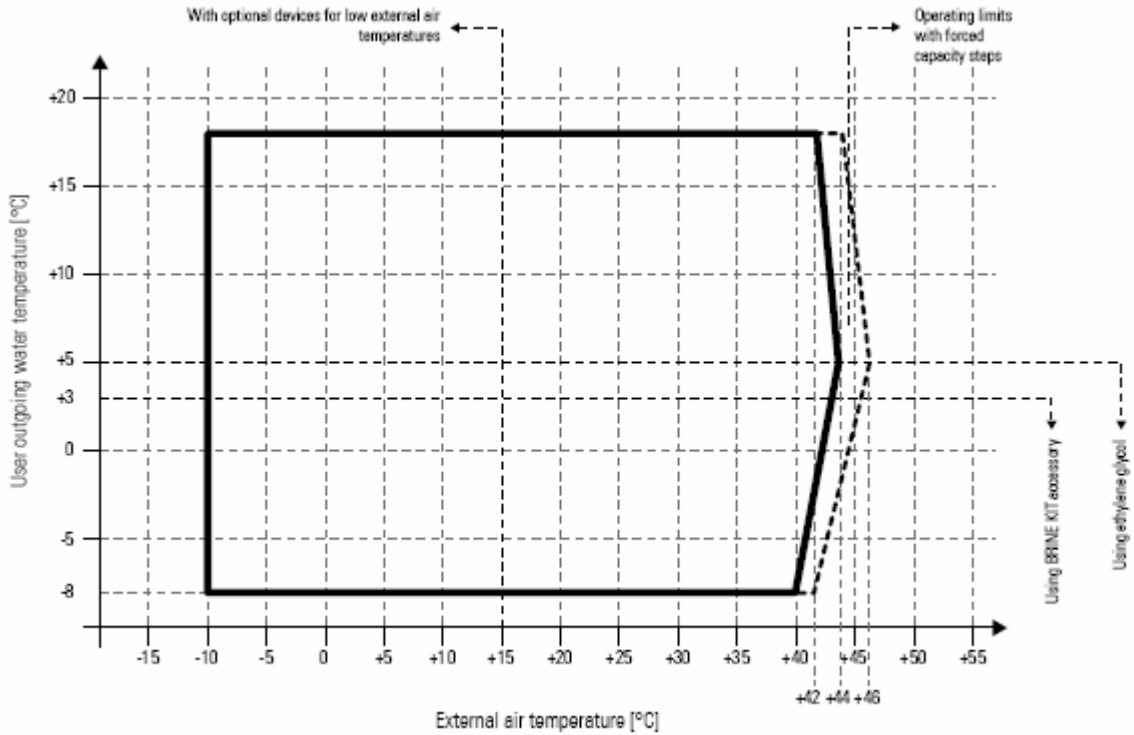
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

RH : evaporator intake air relative humidity [%]

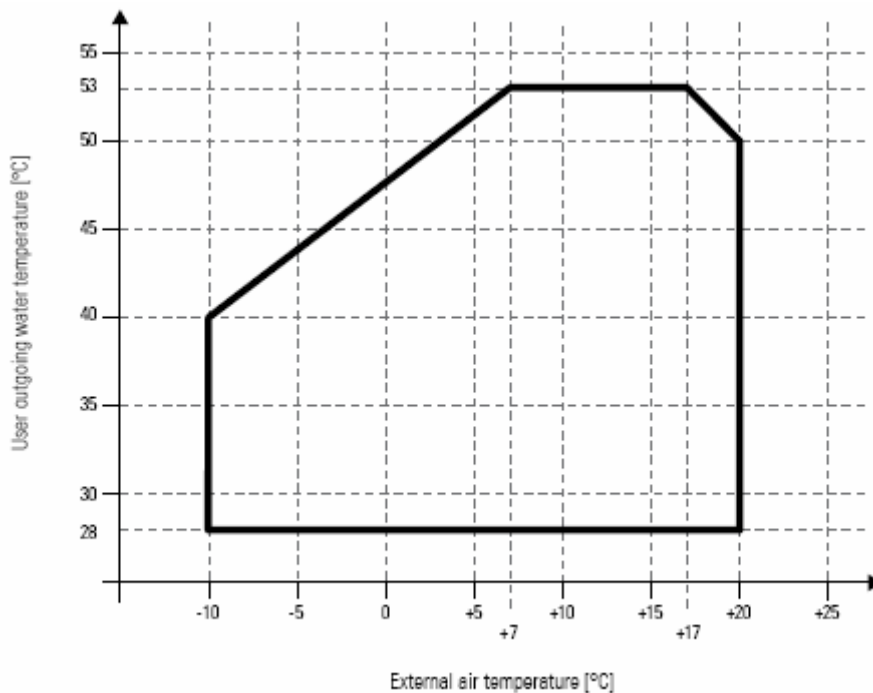
Technical information manual ZETA-ECHOS
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Zeta Echos - CH - HP - operating limits

COOLING



HEATING



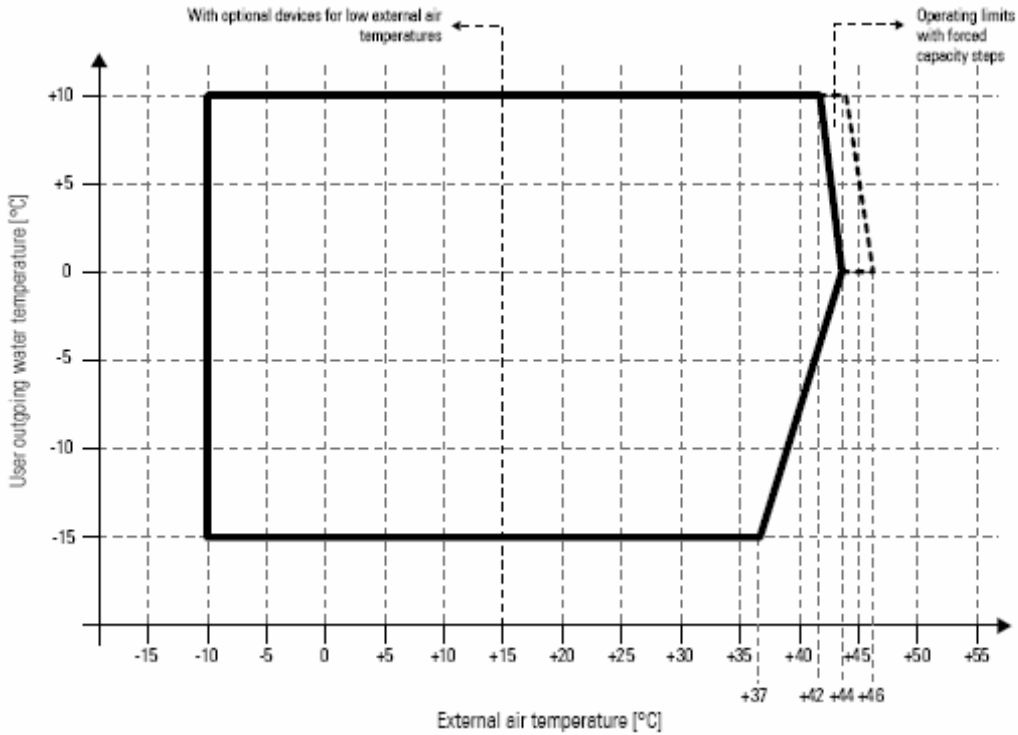


Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

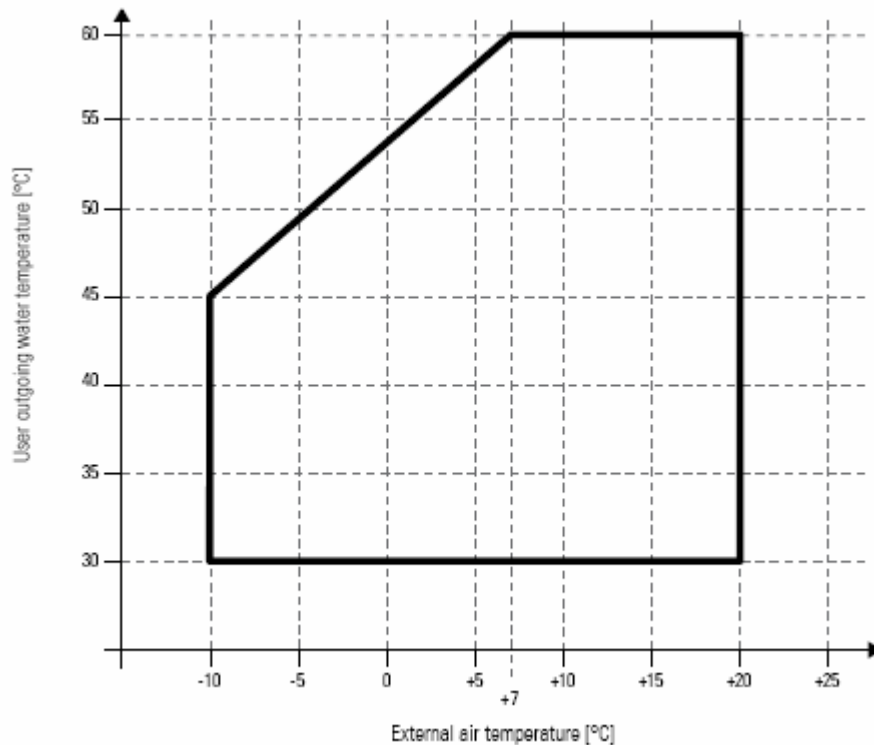
Technical information manual ZETA-ECHOS
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Zeta Echos - LE - LE/HP - operating limits

COOLING



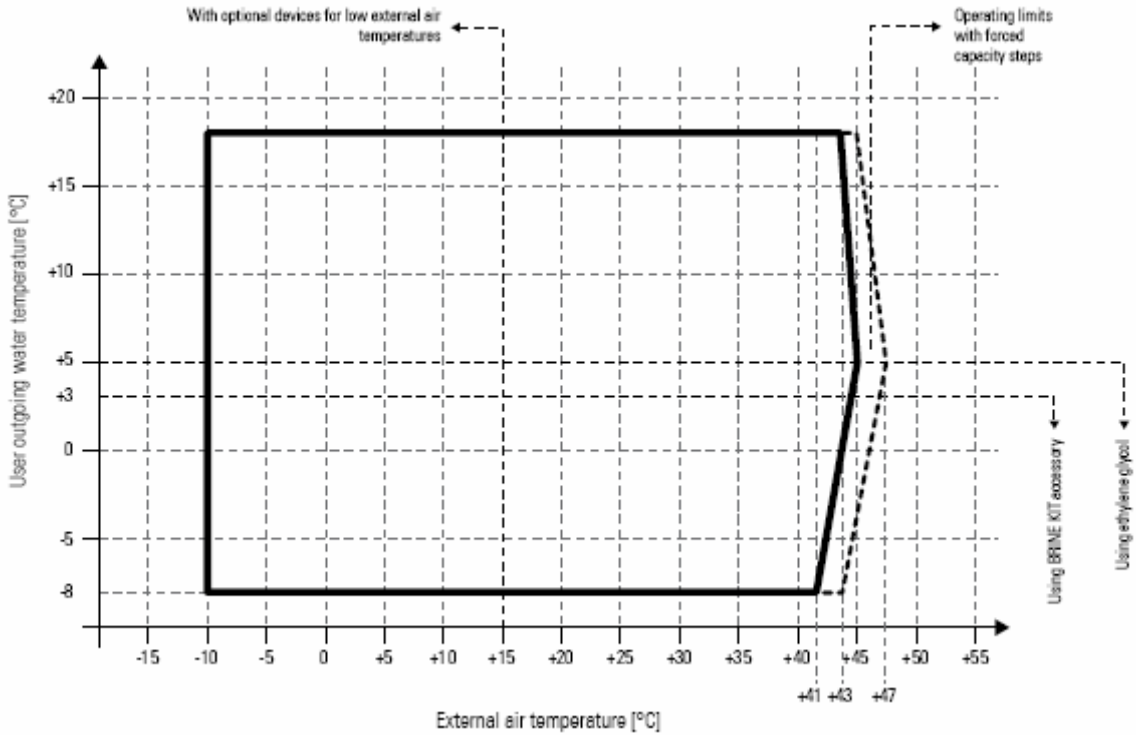
HEATING



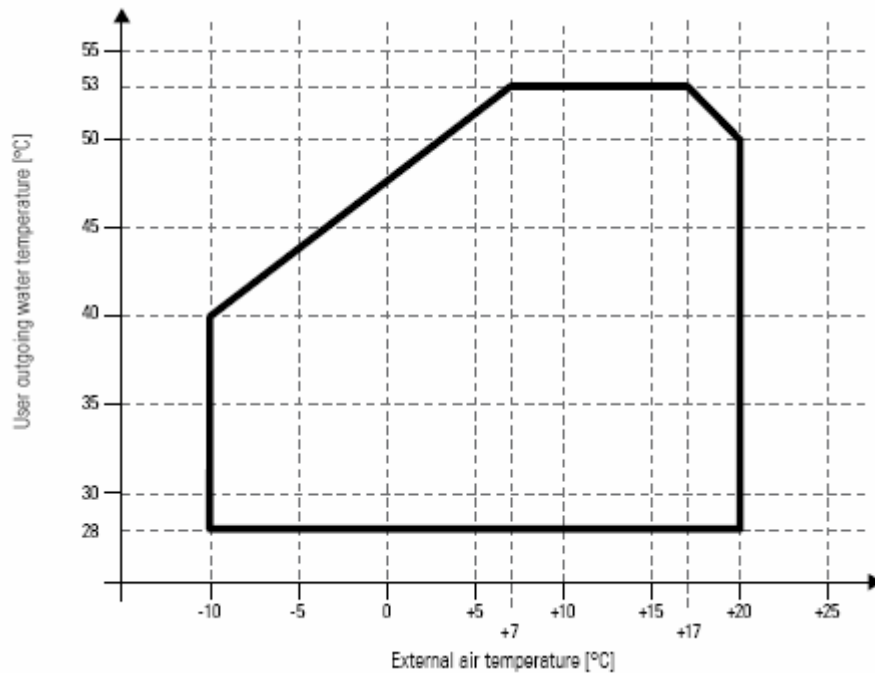
Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos A - CH - HP - operating limits

COOLING



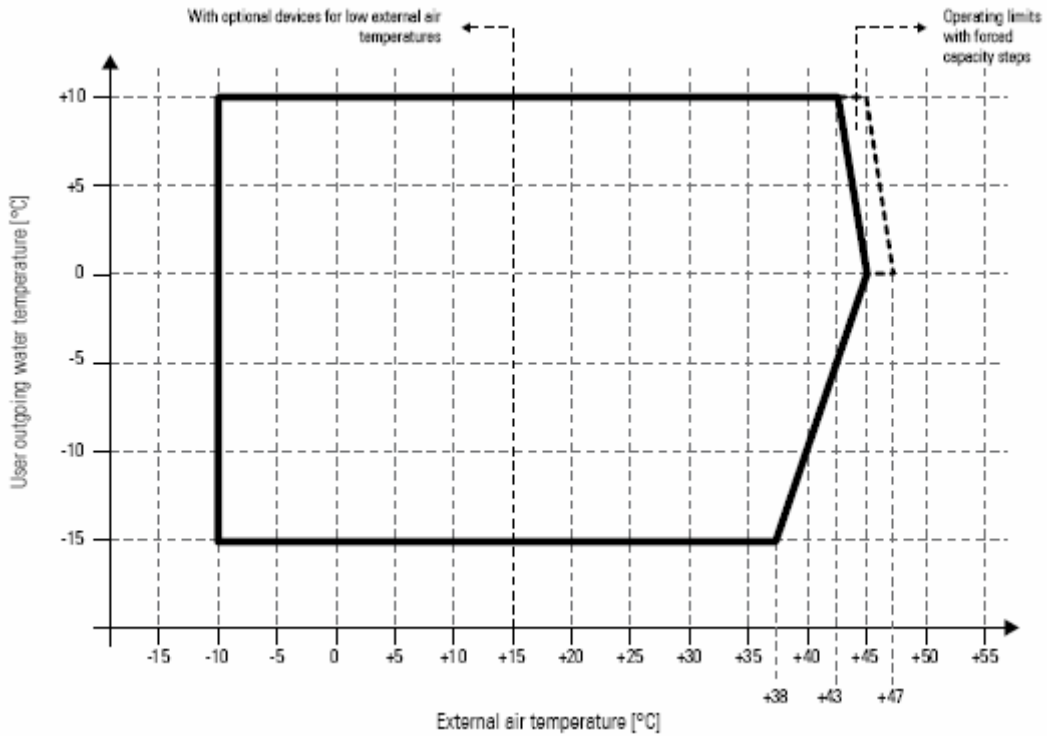
HEATING



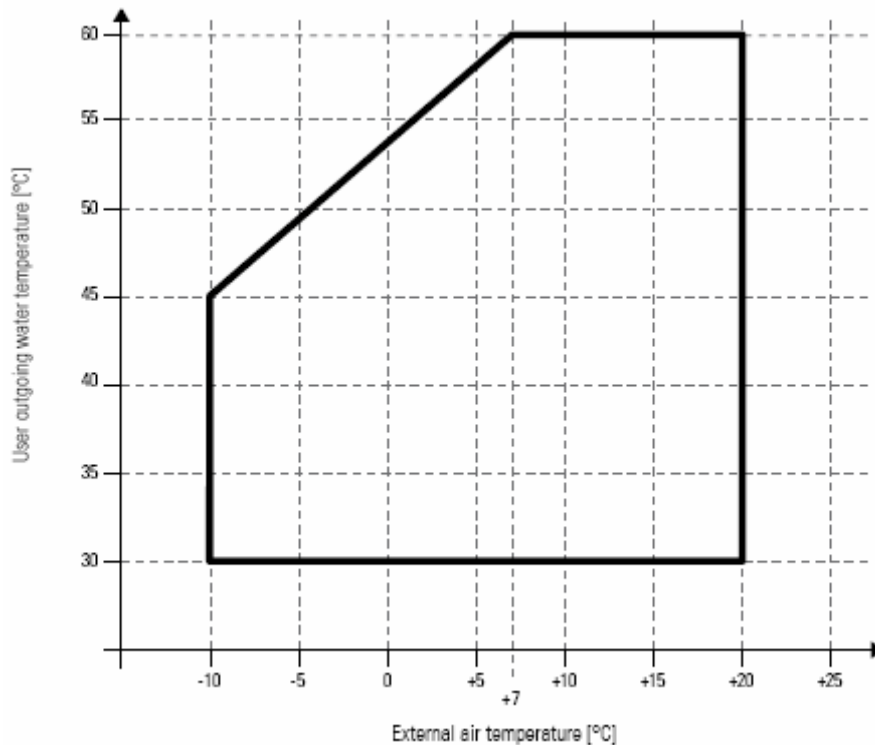
Technical information manual ZETA-ECHOS
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Zeta Echos A - LE - LE/HP - operating limits

COOLING



HEATING



Technical information manual ZETA-ECHOS
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Zeta Echos - noise levels

Standard unit

Model	OCTAVE BAND [dB]																Total	
	63 [dB]		125 [dB]		250 [dB]		500 [dB]		1000 [dB]		2000 [dB]		4000 [dB]		8000 [dB]		dB(A)	
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
3.2	83	51	86	54	81	49	79	47	79	47	73	41	68	38	57	25	83	51
4.2	83	51	87	55	81	49	81	49	79	47	73	41	70	38	57	25	83	51
5.2	83	51	87	55	81	49	81	49	79	47	73	41	70	38	57	25	83	51
6.2	83	51	87	55	81	49	81	49	79	47	73	41	70	38	57	25	83	51
7.2	84	52	88	56	82	50	82	50	80	48	74	42	71	39	58	26	84	52
8.2	85	53	89	57	83	51	83	51	81	49	75	43	72	40	60	28	85	53
9.2	85	53	89	57	83	51	83	51	82	50	76	44	72	40	60	28	86	54
10.2	85	53	89	57	83	51	83	51	82	50	76	44	72	40	60	28	86	54
12.2	86	54	90	58	84	52	84	52	83	51	77	45	73	41	61	29	87	55
13.2	86	54	90	58	84	52	84	52	83	51	77	45	73	41	61	29	87	55

Low Noise unit

Model	OCTAVE BAND [dB]																Total	
	63 [dB]		125 [dB]		250 [dB]		500 [dB]		1000 [dB]		2000 [dB]		4000 [dB]		8000 [dB]		dB(A)	
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
3.2	101	69	82	50	77	45	76	44	76	44	70	38	65	33	54	22	81	49
4.2	101	69	83	51	77	45	77	45	76	44	70	38	66	34	54	22	81	49
5.2	101	69	83	51	77	45	77	45	76	44	70	38	66	34	54	22	81	49
6.2	101	69	83	51	77	45	77	45	76	44	70	38	66	34	54	22	81	49
7.2	102	70	84	52	78	46	78	46	77	45	71	39	68	36	56	24	82	50
8.2	103	71	85	53	79	47	79	47	78	46	72	40	69	37	57	25	83	51
9.2	103	71	86	54	80	48	80	48	79	47	73	41	69	37	57	25	84	52
10.2	103	71	86	54	80	48	80	48	79	47	73	41	69	37	57	25	84	52
12.2	104	72	87	55	81	49	81	49	80	48	74	42	70	38	58	26	85	53
13.2	104	72	87	55	81	49	81	49	80	48	74	42	70	38	58	26	85	53

Lw: noise power levels measured in free field according to standard ISO 3744; under nominal operating conditions.

Lp: sound pressure levels measured at 10 metres from the unit in free field under nominal operating conditions, according to ISO 3744.

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos - noise levels

Super Low Noise unit

Model	OCTAVE BAND [dB]																Total	
	63 [dB]		125 [dB]		250 [dB]		500 [dB]		1000 [dB]		2000 [dB]		4000 [dB]		8000 [dB]		dB(A)	
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
3.2	96	84	79	47	72	40	72	40	71	39	65	33	61	29	49	17	76	44
4.2	97	85	79	47	73	41	73	41	72	40	66	34	62	30	50	18	77	45
5.2	98	86	79	47	74	42	73	41	73	41	67	35	62	30	51	19	78	46
6.2	98	86	80	48	74	42	74	42	73	41	67	35	63	31	51	19	78	46
7.2	99	87	81	49	75	43	75	43	74	42	68	36	64	32	52	20	79	47
8.2	100	88	82	50	76	44	76	44	75	43	69	37	65	33	53	21	80	48
9.2	100	88	83	51	77	45	77	45	76	44	70	38	66	34	54	22	81	49
10.2	101	89	84	52	78	46	78	46	77	45	71	39	67	35	55	23	82	50
12.2	101	89	84	52	78	46	78	46	77	45	71	39	67	35	55	23	82	50
13.2	101	89	84	52	80	48	78	46	78	46	72	40	67	35	58	24	83	51

Lw: noise power levels measured in free field according to standard ISO 3744; under nominal operating conditions.

Lp: sound pressure levels measured at 10 metres from the unit in free field under nominal operating conditions, according to ISO 3744.

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos A - noise levels

Standard unit

Model	OCTAVE BAND [dB]																Total	
	63 [dB]		125 [dB]		250 [dB]		500 [dB]		1000 [dB]		2000 [dB]		4000 [dB]		8000 [dB]		dB(A)	
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
3.2	80,1	48,1	82,7	50,7	77,8	45,8	78,6	44,6	78,6	44,6	70,4	38,4	65,7	33,7	54,6	22,6	80	48
4.2	80,5	48,5	83,0	51,0	78,1	46,1	77,9	45,9	78,3	44,3	70,7	38,7	65,9	33,9	54,8	22,8	80	48
5.2	81,0	49,0	84,0	52,0	78,8	46,8	77,7	45,7	77,0	45,0	70,7	38,7	65,9	33,9	54,8	22,8	81	49
6.2	81,0	49,0	84,0	52,0	78,8	46,8	77,7	45,7	77,0	45,0	70,7	38,7	65,9	33,9	54,8	22,8	81	49
7.2	83,0	51,0	86,0	54,0	81,8	49,8	79,6	47,6	77,9	45,9	71,5	39,5	66,6	34,6	55,8	23,8	82	50
8.2	84,5	52,5	86,5	54,5	83,2	51,2	83,5	51,5	80,3	48,3	75,4	43,4	71,6	39,6	59,5	27,5	85	53
9.2	84,4	52,4	87,9	55,9	82,7	50,7	82,8	50,8	80,2	48,2	74,4	42,4	71,2	39,2	59,9	27,9	85	53
10.2	85,0	53,0	88,3	56,3	83,2	51,2	83,2	51,2	81,1	49,1	75,8	43,8	72,1	40,1	59,9	27,9	85	53
12.2	85,0	53,0	88,3	56,3	83,2	51,2	83,2	51,2	81,1	49,1	75,8	43,8	72,1	40,1	59,9	27,9	85	53

Low Noise unit

Model	OCTAVE BAND [dB]																Total	
	63 [dB]		125 [dB]		250 [dB]		500 [dB]		1000 [dB]		2000 [dB]		4000 [dB]		8000 [dB]		dB(A)	
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
3.2	98,0	66,0	79,1	47,1	74,3	42,3	74,1	42,1	73,1	41,1	67,1	35,1	62,3	30,3	51,4	19,4	78	46
4.2	98,2	66,2	79,2	47,2	74,6	42,6	74,8	42,8	73,3	41,3	67,3	35,3	62,4	30,4	51,5	19,5	78	46
5.2	98,4	66,4	79,5	47,5	74,7	42,7	75,1	43,1	73,7	41,7	67,6	35,6	62,6	30,6	52,0	20,0	79	47
6.2	98,4	66,4	79,5	47,5	74,7	42,7	75,1	43,1	73,7	41,7	67,6	35,6	62,6	30,6	52,0	20,0	79	47
7.2	101,0	69,0	81,3	49,3	76,5	44,5	75,6	43,6	74,8	42,8	69,0	37,0	64,2	32,2	54,1	22,1	80	48
8.2	103,0	71,0	85,2	53,2	80,1	48,1	79,6	47,6	77,5	45,5	72,4	40,4	67,9	35,9	56,6	24,6	83	51
9.2	103,0	71,0	85,1	53,1	79,4	47,4	78,4	46,4	77,1	45,1	72,3	40,3	68,0	36,0	57,1	25,1	83	51
10.2	103,0	71,0	86,3	54,3	80,2	48,2	79,8	47,8	78,0	46,0	72,9	40,9	69,3	37,3	57,1	25,1	83	51
12.2	103,0	71,0	86,3	54,3	80,2	48,2	79,8	47,8	78,0	46,0	72,9	40,9	69,3	37,3	57,1	25,1	83	51

Lw: sound power levels measured in free field according to standard ISO 3744; under nominal operating conditions.



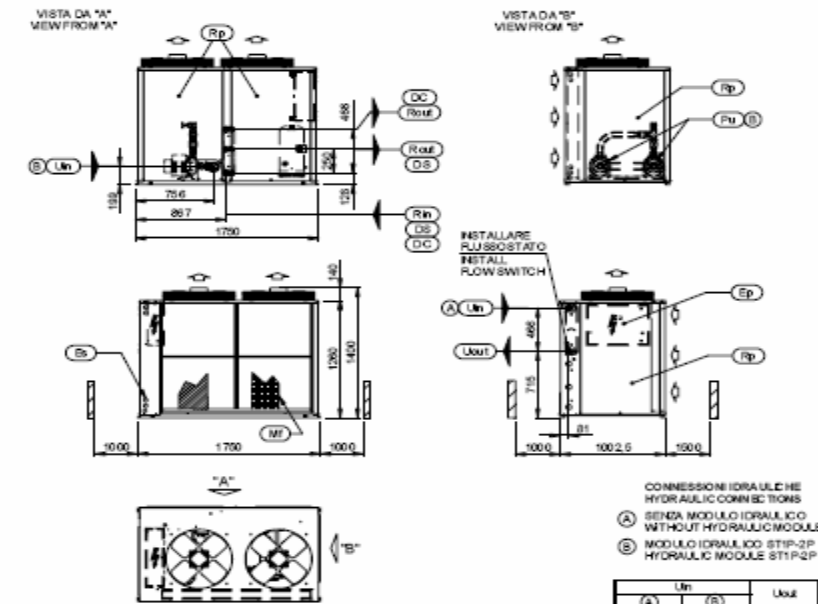
Technical information manual ZETA-ECHOS

REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Lp: sound pressure levels measured at 10 metres from the unit in free field under nominal operating conditions, according to ISO 3744.

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

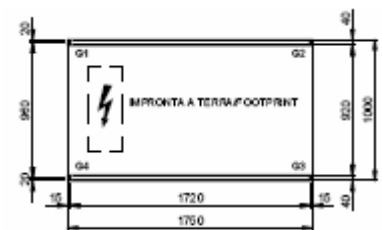
Overall dimensions, weights, clearance areas and hydraulic connections
ZETA ECHOS 3.2 - 5.2



Rin	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	
Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	Ø FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW
Ep	QUADRO ELETTRICO ELECTRICAL PANEL	Um INGRESSO ACQUA UTILIZZO USER WATER INLET
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Uout USCITA ACQUA UTILIZZO USER WATER OUTLET
MF	FILTRI METALLICI METALLIC FILTER	Rp PANNELLO ASPORTABILE REMOVABLE PANEL
Fu	POMPA PUMP	II SPAZIO INSTALLAZIONE CLEARANCE

MODELLO MODEL	PEBO(Kg) WEIGHT(Kg)	PEBO IN FUNZIONE(Kg) OPERATING WEIGHT(Kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS 3.2	425	428	147	72	68	140
ZETA ECHOS 4.2	436	439	152	74	69	144
ZETA ECHOS 5.2	449	453	155	75	73	150
ZETA ECHOS ST 1P2P 3.2	470	473	155	80	84	144
ZETA ECHOS ST 1P2P 4.2	481	484	161	81	84	148
ZETA ECHOS ST 1P2P 5.2	494	498	163	83	88	154
ZETA ECHOS DG DS 3.2	453	459	163	82	72	142
ZETA ECHOS DG DS 4.2	467	474	171	85	72	146
ZETA ECHOS DG DS 5.2	485	493	175	88	77	153
ZETA ECHOS ST 1P2P DCO-DS 3.2	505	511	174	101	87	149
ZETA ECHOS ST 1P2P DCO-DS 4.2	516	523	182	103	87	153
ZETA ECHOS ST 1P2P DCO-DS 5.2	537	545	187	107	91	160
ZETA ECHOS HP 3.2	447	450	157	76	71	146
ZETA ECHOS HP 4.2	458	461	163	78	71	149
ZETA ECHOS HP 5.2	471	475	165	79	75	156
ZETA ECHOS HP ST 1P-2P 3.2	491	494	165	94	85	150
ZETA ECHOS HP ST 1P-2P 4.2	502	505	171	95	85	154
ZETA ECHOS HP ST 1P-2P 5.2	515	519	173	97	89	160
ZETA ECHOS HP DS 3.2	451	455	160	78	71	146
ZETA ECHOS HP DS 4.2	465	469	167	80	72	150
ZETA ECHOS HP DS 5.2	478	480	168	82	75	155
ZETA ECHOS HP ST 1P-2P DS 3.2	496	500	168	96	85	150
ZETA ECHOS HP ST 1P-2P DS 4.2	508	512	175	97	85	154
ZETA ECHOS HP ST 1P-2P DS 5.2	519	524	176	99	90	159

Rh	FORI DI RISSAGGIO RISEH HOLE	Ø12
G.	PUNTI DI APOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

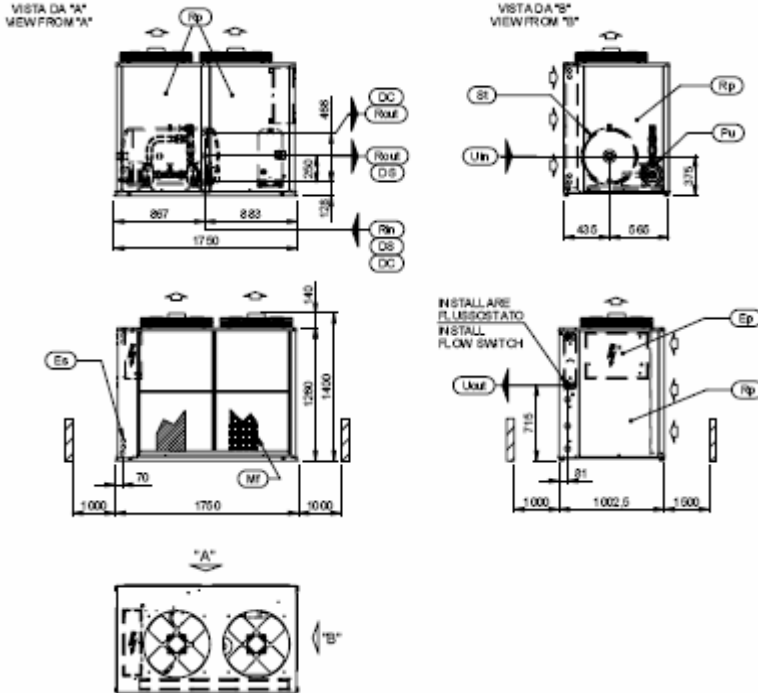


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Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

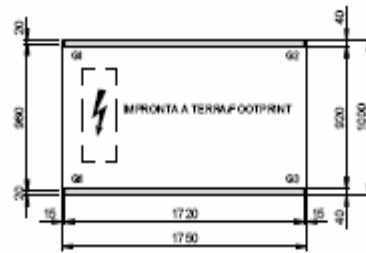
Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 3.2 - 5.2 1PS - 2PS



Q	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	Rn	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET
Rp	QUADRO ELETTRICO ELECTRICAL PANEL	Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET
Ds	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Un	INGRESSO ACQUA UTILIZZO USER WATER INLET
Mf	FILTRI METALLICI METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO USER WATER OUTLET
St	SERBATOIO DI ACCUMULO STORAGE TANK	Rp	PANNELLO A SPORTELLO REMOVABLE PANEL
Pu	POMPA PUMP		SPAZI DI INSTALLAZIONE CLEARANCES

	DC	DS
Rn	G 1 1/8" M	G 1"
Rout	G 1 1/8" M	G 1"



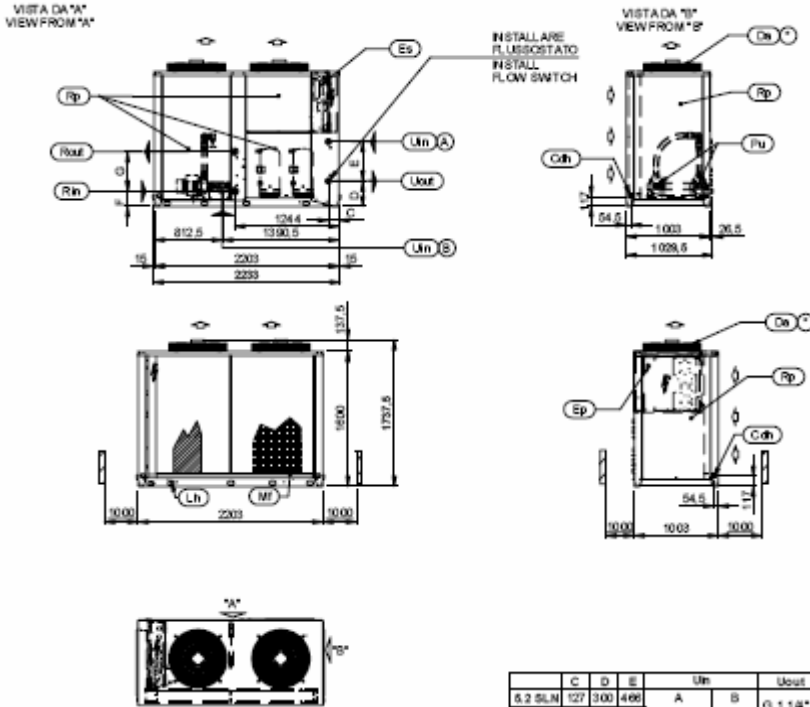
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Ph	FORI DI FISSAGGIO FIXING HOLES	Ø12
G	PUNTI DI ARROCCO ANTIVIBRANTE VIBRATION DAMPER FOOT HOLDS	

MODELLO MODEL	PESO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS-ST 1PS-2PS-S3.2	517	690	296	136	81	177
ZETA ECHOS-ST 1PS-2PS-S4.2	529	702	302	137	82	181
ZETA ECHOS-ST 1PS-2PS-S5.2	544	718	305	139	86	188
ZETA ECHOS-HP-ST 1PS-2PS-S3.2	540	713	307	140	83	183
ZETA ECHOS-HP-ST 1PS-2PS-S4.2	552	725	313	141	84	187
ZETA ECHOS-HP-ST 1PS-2PS-S5.2	562	736	314	142	87	193
ZETA ECHOS-ST 1PS-S-DC-DS3.2	532	708	308	138	81	181
ZETA ECHOS-ST 1PS-S-DC-DS4.2	547	724	316	141	82	185
ZETA ECHOS-ST 1PS-S-DC-DS5.2	563	741	320	144	86	191
ZETA ECHOS-HP-ST 1PS-S-DS3.2	529	703	305	134	81	183
ZETA ECHOS-HP-ST 1PS-S-DS4.2	541	715	312	135	81	187
ZETA ECHOS-HP-ST 1PS-S-DS5.2	554	729	313	138	86	193

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections
Zeta Echos 6.2 - 7.2 - ZETA 5.2 SLN



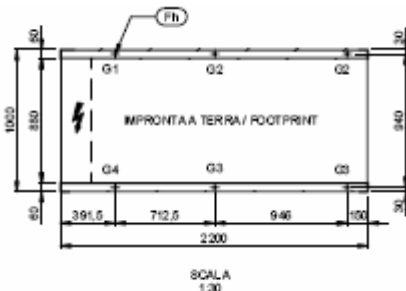
	C	D	E	Lin		Uout
5.2 SLN	127	300	496	A	B	G 1 1/4" M
6.2	127	300	496	G 1 1/4" M	G 2" F	G 2" M
7.2	200	180	519	G 2" M	G 2" F	G 2" M

Ø	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	Rin	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET
Ep	QUADRO ELETTRICO ELECTRICAL PANEL	Roul	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET
Da	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Lin	INGRESSO ACQUA UTILIZZO USER WATER INLET
Ln	FORI DI SOLLEVAMENTO LIFTING HOLES	Uout	USCITA ACQUA UTILIZZO USER WATER OUTLET
Mf	FILTRI METALLICI METALLIC FILTER	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL
Pu	POMPA PUMP		SPAZI DI INSTALLAZIONE CLEARANCES

	F	G	a Rin	a Pout
DC	180	519	G 2" M	G 2" M
DS	180	250	G 1" M	G 1" M

Ph	FORI DI RISSAGGIO PIVING HOLES	Ø16
G.	PUNTI DI ABBONDO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

CONNESSIONI IDRAULICHE
HYDRAULIC CONNECTIONS
(A) SENZA MODULO IDRAULICO
WITHOUT HYDRAULIC MODULE
(B) MODULO IDRAULICO ST 1P-2P
HYDRAULIC MODULE ST 1P-2P

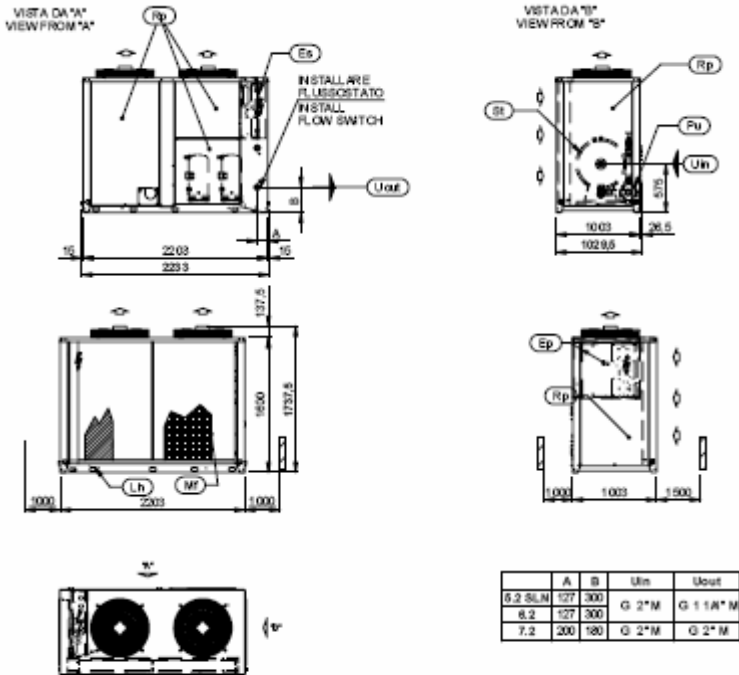


MODELLO MODEL	PESO(g) WEIGHT(kg)	PESO IN FUNZIONE(kg) OPERATING WEIGHT(kg)	G1(kg)	G2(kg)	G3(kg)	G4(kg)
ZETA ECHOS 6.2	627	631	215	62	53	186
ZETA ECHOS ST 1P-2P 6.2	681	685	212	80	67	179
ZETA ECHOS DC-DS 6.2	677	686	233	69	59	197
ZETA ECHOS ST 1P-2P-DC-DS 6.2	731	740	233	86	71	193
ZETA ECHOS HP 6.2	670	674	231	62	56	207
ZETA ECHOS HP-ST 1P-2P 6.2	723	727	231	78	69	202
ZETA ECHOS HP-DS 6.2	675	680	231	62	57	211
ZETA ECHOS HP-ST 1P-2P-DS 6.2	729	734	231	79	70	205
ZETA ECHOS 7.2	652	658	234	64	52	192
ZETA ECHOS ST 1P-2P 7.2	706	712	230	82	66	186
ZETA ECHOS DC-DS 7.2	700	711	252	71	57	203
ZETA ECHOS ST 1P-2P-DC-DS 7.2	755	766	251	88	70	199
ZETA ECHOS HP 7.2	693	699	250	64	54	213
ZETA ECHOS HP-ST 1P-2P 7.2	747	753	250	80	67	209
ZETA ECHOS HP-DS 7.2	702	709	251	64	56	218
ZETA ECHOS HP-ST 1P-2P-DS 7.2	754	761	249	81	69	212
ZETA ECHOS SLN 5.2	625	628	211	62	54	185
ZETA ECHOS ST 1P-2P-SLN 5.2	679	682	208	80	66	178
ZETA ECHOS SLN-DC-DS 5.2	657	669	224	70	59	187
ZETA ECHOS ST 1P-2P-SLN-DC-DS 5.2	717	725	225	85	71	188
ZETA ECHOS HP-SLN 5.2	661	664	225	62	56	203
ZETA ECHOS HP-ST 1P-2P-SLN 5.2	714	717	225	78	69	198
ZETA ECHOS HP-SLN-DS 5.2	665	669	225	62	57	206
ZETA ECHOS HP-ST 1P-2P-SLN-DS 5.2	719	723	224	79	70	201

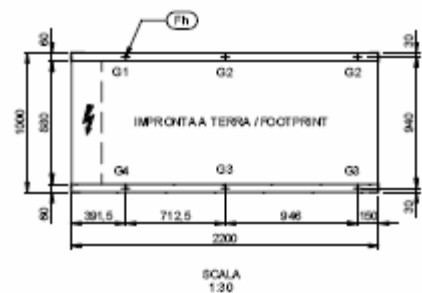
Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 6.2 - 7.2 2PS - 5.2 SLN 2PS



Ep	QUADRO ELETRICO ELECTRICAL PANEL		
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Φ	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Uin	INGRESSO ACQUA UTILIZZO USER WATER INLET
Mf	FILTRI METALLICI METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO USER WATER OUT LET
St	SERBATOIO DI ACCUMULO STORAGE TANK	Rp	PANNELLO APORTABILE REMOVABLE PANEL
Pu	POMPA PUMP		SPAZI DI INSTALLAZIONE CLEARANCES



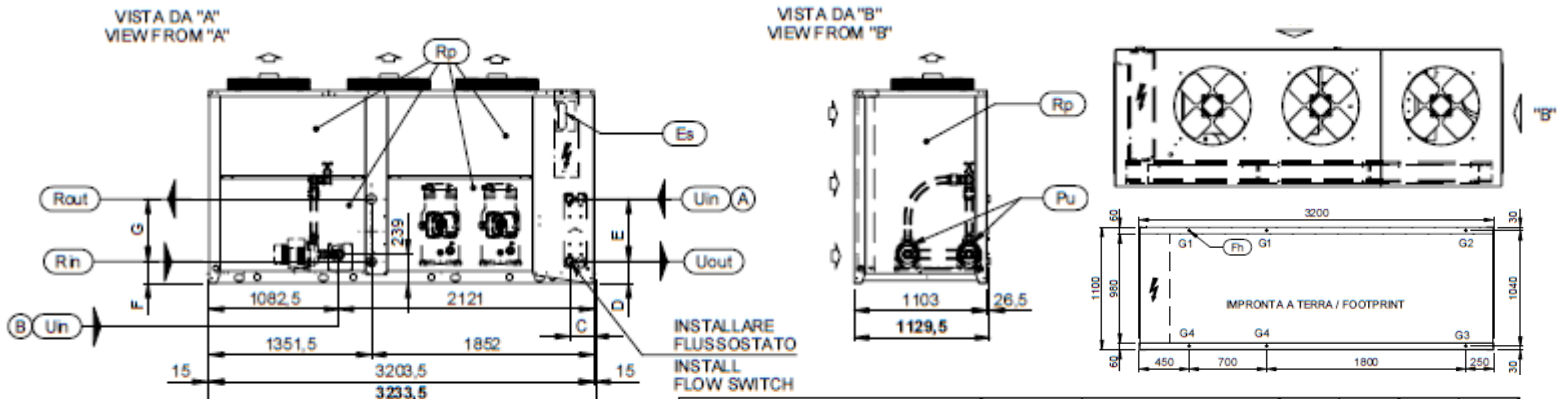
Pf	FORI DI PASSAGGIO FITTING HOLES	Ø16
G	PUNTI DI APPOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

MODELLO MODEL	PESSO(Kg) WEIGHT(Kg)	PESSO IN FUNZIONE(Kg) OPERATING WEIGHT(Kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS ST 1PS-2PS-S 6.2	766	908	221	165	131	175
ZETA ECHOS HP-ST 1PS-2PS-S 6.2	791	1013	231	164	133	188
ZETA ECHOS ST 1PS-2PS-S 7.2	766	1010	238	167	128	182
ZETA ECHOS HP-ST 1PS-2PS-S 7.2	813	1037	248	166	131	195
ZETA ECHOS ST 1PS-2PS-S-SLN 5.2	760	978	217	163	131	173
ZETA ECHOS HP-ST 1PS-2PS-S-SLN 5.2	781	1002	225	164	133	183

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 8.2 - 10.2 – Zeta Echos 6.2 - 7.2 SLN



MODELLO MODEL	PESO(Kg) WEIGHT(Kg)	PESO IN FUNZIONE(Kg) OPERATING WEIGHT(Kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS 8.2	905	911	193	104	89	166
ZETA ECHOS 9.2	914	920	197	104	88	167
ZETA ECHOS 10.2	928	935	202	105	88	169
ZETA ECHOS ST 1P-2P 8.2	962	968	200	126	106	168
ZETA ECHOS ST 1P-2P 9.2	969	975	203	126	105	169
ZETA ECHOS ST 1P-2P 10.2	982	989	208	127	104	171
ZETA ECHOS DC-DS 8.2	981	994	213	120	98	175
ZETA ECHOS DC-DS 9.2	993	1007	218	121	98	176
ZETA ECHOS DC-DS 10.2	1012	1028	225	124	98	178
ZETA ECHOS ST 1P-2P-DC-DS 8.2	1055	1068	224	143	115	181
ZETA ECHOS ST 1P-2P-DC-DS 9.2	1067	1081	229	144	115	182
ZETA ECHOS ST 1P-2P-DC-DS 10.2	1084	1100	235	147	115	184
ZETA ECHOS HP 8.2	954	960	202	104	92	180
ZETA ECHOS HP 9.2	963	969	206	104	91	181
ZETA ECHOS HP 10.2	975	982	211	104	90	183
ZETA ECHOS HP-ST 1P-2P 8.2	1006	1012	208	125	109	181
ZETA ECHOS HP-ST 1P-2P 9.2	1017	1023	212	125	108	183
ZETA ECHOS HP-ST 1P-2P 10.2	1028	1035	217	126	107	184
ZETA ECHOS HP-DS 8.2	961	968	205	107	93	179
ZETA ECHOS HP-DS 9.2	972	980	209	107	93	181
ZETA ECHOS HP-DS 10.2	1015	1024	214	112	100	192
ZETA ECHOS HP-ST 1P-2P-DS 8.2	1015	1022	211	128	110	181
ZETA ECHOS HP-ST 1P-2P-DS 9.2	1024	1032	215	129	109	182
ZETA ECHOS HP-ST 1P-2P-DS 10.2	1038	1047	220	130	109	184
ZETA ECHOS SLN 6.2	815	819	162	96	91	154
ZETA ECHOS ST 1P-2P-SLN 6.2	870	874	169	118	108	155
ZETA ECHOS SLN-DC-DS 6.2	878	887	178	107	98	163
ZETA ECHOS ST 1P-2P-SLN-DC-DS 6.2	947	956	188	129	115	168
ZETA ECHOS HP-SLN 6.2	862	866	171	96	94	167
ZETA ECHOS HP-ST 1P-2P-SLN 6.2	914	918	177	117	111	168
ZETA ECHOS HP-SLN-DS 6.2	866	871	173	96	95	166
ZETA ECHOS HP-ST 1P-2P-SLN-DS 6.2	918	923	179	119	112	167
ZETA ECHOS SLN 7.2	840	846	172	97	89	158
ZETA ECHOS ST 1P-2P-SLN 7.2	895	901	179	119	106	159
ZETA ECHOS SLN-DC-DS 7.2	899	910	187	107	95	167
ZETA ECHOS ST 1P-2P-SLN-DC-DS 7.2	972	983	198	130	113	172
ZETA ECHOS HP-SLN 7.2	882	888	180	97	91	170
ZETA ECHOS HP-ST 1P-2P-SLN 7.2	936	942	187	118	108	171
ZETA ECHOS HP-SLN-DS 7.2	888	895	182	99	92	170
ZETA ECHOS HP-ST 1P-2P-SLN-DS 7.2	942	949	189	120	109	171

	C	D	E	Uin A	Uin B	Uout
6.2 SLN	127	300	466	G 1 1/4" M	G 2" F	G 1 1/4" M
7.2 SLN	200	180	519			
8.2-13.2	200	180	519	G 2" M	G 2" F	G 2" M

		F	G	ø Rn	ø Rout
6.2-7.2 SLN	DC	180	468	G2" M	G2" M
	DS	180	250	G1" M	G1" M
8.2-13.2	DC	180	519	G2" M	G2" M
	DS	180	250	G1" M	G1" M

Ep	QUADRO ELETTROICO ELECTRICAL PANEL	Rin	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Uin	INGRESSO ACQUA UTILIZZO USER WATER INLET
Mf	FILTRI METALLICI METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO USER WATER OUTLET
∅	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL
Pu	POMPA PUMP	∅	SPAZI DI INSTALLAZIONE CLEARANCES

PUNTI DI APPOGGIO ANTI VIBRANTI
VIBRATION DAMPER FOOT HOLDS

FORI DI FISSAGGIO
FIXING HOLES

**CONNESSIONI IDRAULICHE
HYDRAULIC CONNECTIONS**

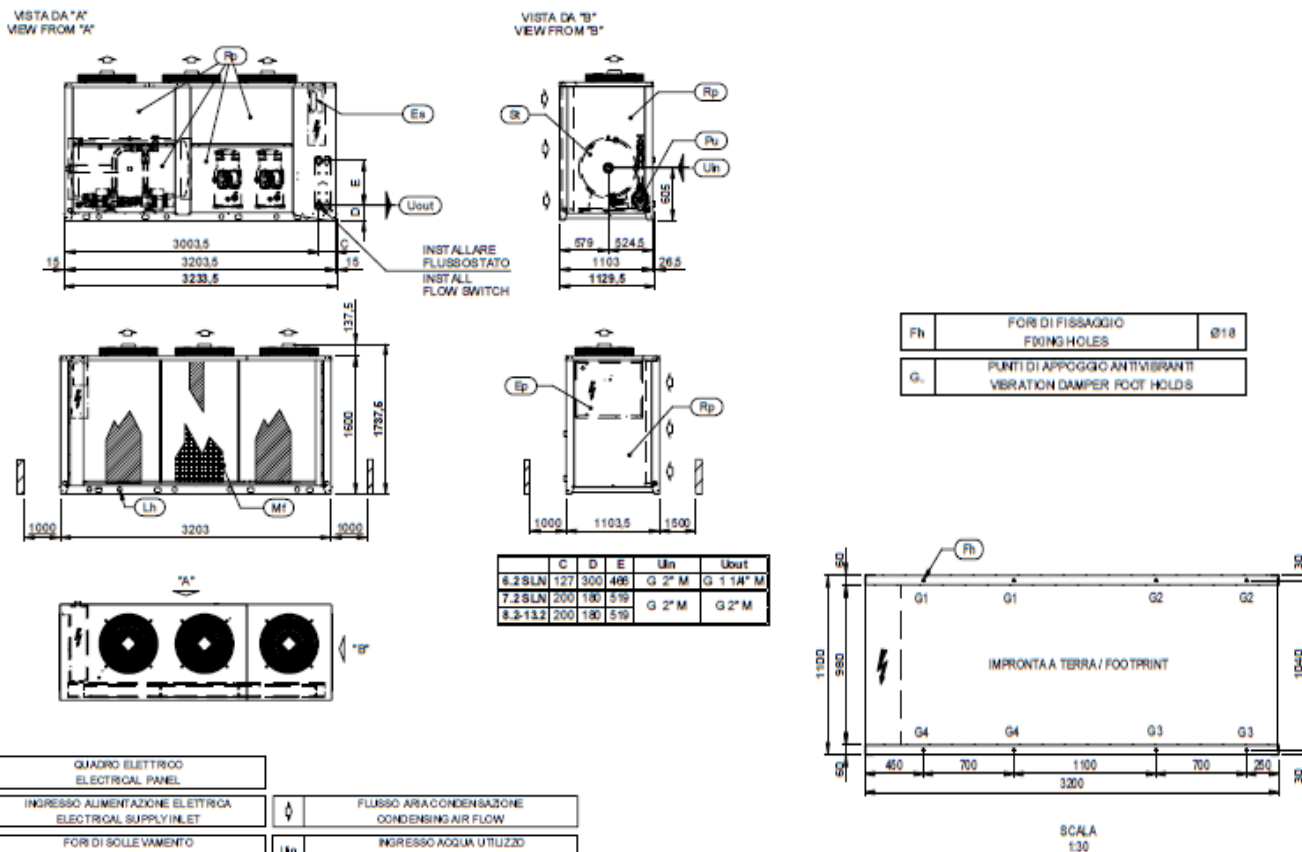
(A) SENZA MODULO IDRAULICO
WITHOUT HYDRAULIC MODULE

(B) MODULO IDRAULICO ST1P-2P
HYDRAULIC MODULE ST1P-2P

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 8.2 - 10.2 2PS – Zeta Echos SLN 6.2 - 7.2 2PS



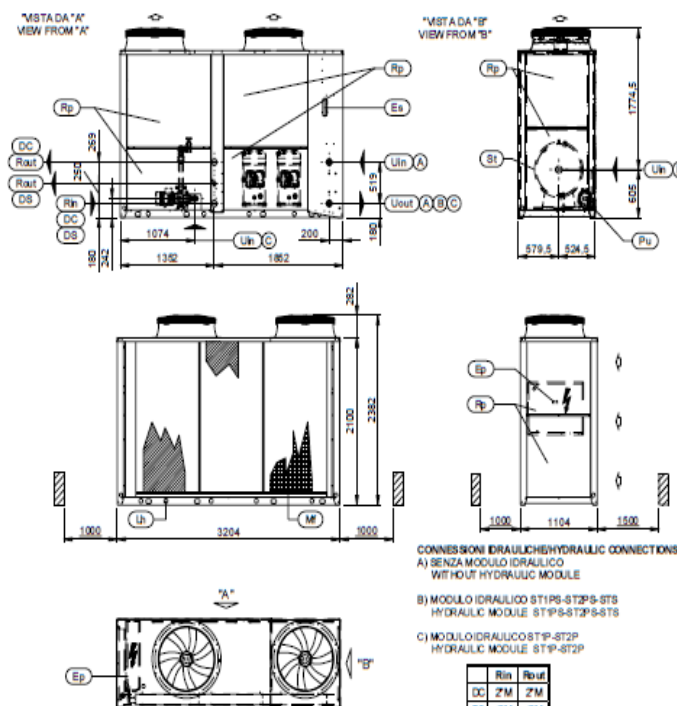
Ep	QUADRO ELETTROICO ELECTRICAL PANEL	
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Φ
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Un
Mf	FILTRI METALLICI METALLIC FILTER	Uout
Sr	SERBATOIO DI ACCUMULO STORAGE TANK	Rp
Pu	PMPPA PUMP	
		Φ
		Un
		Uout
		Rp

MODELLO MODEL	PESO(Kg) WEIGHT(Kg)	PESO IN FUNZIONE(Kg) OPERATING WEIGHT(Kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS ST 1PS-2PS-S 8.2	1068	1514	203	211	175	168
ZETA ECHOS ST 1PS-2PS-S 9.2	1076	1522	206	211	174	170
ZETA ECHOS ST 1PS-2PS-S 10.2	1089	1536	211	212	173	172
ZETA ECHOS HP-ST 1PS-2PS-S 8.2	1106	1552	207	205	181	183
ZETA ECHOS HP-ST 1PS-2PS-S 9.2	1116	1562	211	205	180	185
ZETA ECHOS HP-ST 1PS-2PS-S 10.2	1127	1574	219	210	175	183
ZETA ECHOS ST 1PS-2PS-S-SLN 6.2	978	1422	175	204	178	154
ZETA ECHOS HP-ST 1PS-2PS-S-SLN 6.2	1012	1456	179	198	184	167
ZETA ECHOS ST 1PS-2PS-S-SLN 7.2	1000	1446	184	205	176	158
ZETA ECHOS HP-ST 1PS-2PS-S-SLN 7.2	1036	1482	188	199	182	172

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta - Zeta/HP Echos SLN 8.2 - 13.2

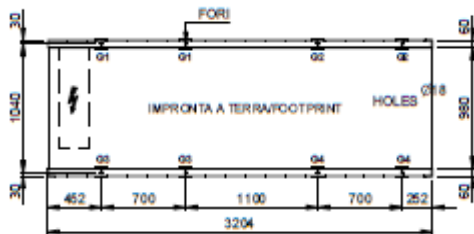


CONNESSIONI IDRAULICHE/HYDRAULIC CONNECTIONS
 A) SENZA MODULO IDRAULICO / WITHOUT HYDRAULIC MODULE
 B) MODULO IDRAULICO ST1PS-ST2PS-ST3 / HYDRAULIC MODULE ST1PS-ST2PS-ST3
 C) MODULO IDRAULICO ST1P-ST2P / HYDRAULIC MODULE ST1P-ST2P

Rin	Rout	Uin		Uout
DC	ZM	A	B	C
DB	PM	G 2" M	G 2" M	G 2" F

Ø	FLUSSO ARIA CONDENSAZIONE / CONDENSING AIR FLOW	St	SERBATOIO DI ACCUMULO / STORAGE TANK	
Ep	QUADRO ELETTRICO / ELECTRICAL PANEL	Rh	INGRESSO ACQUA RECUPERO / RECOVERY WATER INLET	* OPTIONAL
Es	INGRESSO ALIMENTAZIONE ELETTRICA / ELECTRICAL SUPPLY INLET	Rau	USCITA ACQUA RECUPERO / RECOVERY WATER OUTLET	Uin
Lh	FORI DI SOLLEVAMENTO / LIFTING HOLES	Pu	POMPA / PUMP	Uout
Mf	FILTRI METALLICI / METALLIC FILTER	Rp	PANNELLO ASPORTABILE / REMOVABLE PANEL	

MODELLO / MODEL	PESO(Kg) / WEIGHT (kg)	PESO IN FUNZIONE(Kg) / OPERATING WEIGHT (kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS SLN 8.2	1030	1036	880	73	80	216
ZETA ECHOS SLN 9.2	1138	1144	982	74	80	216
ZETA ECHOS SLN 10.2	1246	1256	1086	75	79	210
ZETA ECHOS SLN 12.2	1354	1366	1190	78	79	223
ZETA ECHOS SLN 13.2	1462	1478	1294	78	70	230
ZETA ECHOS SLN-DC-DS 8.2	1167	1182	1008	87	87	208
ZETA ECHOS SLN-DC-DS 9.2	1280	1296	1112	89	87	209
ZETA ECHOS SLN-DC-DS 10.2	1393	1410	1216	92	80	210
ZETA ECHOS SLN-DC-DS 12.2	1506	1524	1320	96	89	215
ZETA ECHOS SLN-DC-DS 13.2	1619	1638	1424	98	80	220
ZETA ECHOS ST P-2P-SLN 8.2	1206	1212	1026	97	103	209
ZETA ECHOS ST P-2P-SLN 9.2	1319	1322	1128	98	103	210
ZETA ECHOS ST P-2P-SLN 10.2	1432	1440	1230	101	103	210
ZETA ECHOS ST P-2P-SLN 12.2	1545	1552	1332	103	103	210
ZETA ECHOS ST P-2P-SLN 13.2	1658	1668	1434	105	103	210
ZETA ECHOS ST P-3P-SLN-DC-DS 8.2	1261	1266	1066	110	116	207
ZETA ECHOS ST P-3P-SLN-DC-DS 9.2	1374	1380	1170	111	116	212
ZETA ECHOS ST P-3P-SLN-DC-DS 10.2	1487	1492	1274	112	116	211
ZETA ECHOS ST P-3P-SLN-DC-DS 12.2	1600	1606	1378	112	112	217
ZETA ECHOS ST P-3P-SLN-DC-DS 13.2	1713	1720	1482	115	112	222
ZETA ECHOS ST P-3P-S-SLN 8.2	1314	1320	1124	116	120	211
ZETA ECHOS ST P-3P-S-SLN 9.2	1427	1434	1228	117	120	212
ZETA ECHOS ST P-3P-S-SLN 10.2	1540	1548	1332	117	120	212
ZETA ECHOS ST P-3P-S-SLN 12.2	1653	1662	1436	118	120	212
ZETA ECHOS ST P-3P-S-SLN 13.2	1766	1776	1540	119	120	212
ZETA ECHOS HP SLN 8.2	1100	1106	930	77	84	221
ZETA ECHOS HP SLN 9.2	1213	1218	1034	78	84	222
ZETA ECHOS HP SLN 10.2	1326	1334	1138	79	84	224
ZETA ECHOS HP SLN 12.2	1439	1448	1242	81	84	226
ZETA ECHOS HP SLN 13.2	1552	1562	1346	82	82	226
ZETA ECHOS HP SLN-DS 8.2	1209	1216	1016	85	111	217
ZETA ECHOS HP SLN-DS 9.2	1322	1330	1120	87	111	218
ZETA ECHOS HP SLN-DS 10.2	1435	1444	1224	88	111	220
ZETA ECHOS HP SLN-DS 12.2	1548	1558	1328	91	114	224
ZETA ECHOS HP SLN-DS 13.2	1661	1672	1432	92	114	224
ZETA ECHOS HP ST P-2P-SLN 8.2	1264	1270	1064	101	103	215
ZETA ECHOS HP ST P-2P-SLN 9.2	1377	1384	1168	102	103	217
ZETA ECHOS HP ST P-2P-SLN 10.2	1490	1498	1272	103	103	218
ZETA ECHOS HP ST P-2P-SLN 12.2	1603	1612	1376	104	103	223
ZETA ECHOS HP ST P-2P-SLN 13.2	1716	1726	1480	105	103	230
ZETA ECHOS HP ST P-3P-SLN-DS 8.2	1320	1322	1120	112	112	217
ZETA ECHOS HP ST P-3P-SLN-DS 9.2	1433	1436	1224	114	114	217
ZETA ECHOS HP ST P-3P-SLN-DS 10.2	1546	1550	1328	115	114	220
ZETA ECHOS HP ST P-3P-SLN-DS 12.2	1659	1664	1432	117	113	221
ZETA ECHOS HP ST P-3P-SLN-DS 13.2	1772	1778	1536	118	113	221
ZETA ECHOS HP ST P-3P-S-SLN 8.2	1384	1390	1184	119	125	189
ZETA ECHOS HP ST P-3P-S-SLN 9.2	1497	1504	1288	120	125	193
ZETA ECHOS HP ST P-3P-S-SLN 10.2	1610	1618	1392	121	125	196
ZETA ECHOS HP ST P-3P-S-SLN 12.2	1723	1732	1496	122	125	196
ZETA ECHOS HP ST P-3P-S-SLN 13.2	1836	1846	1600	123	125	204



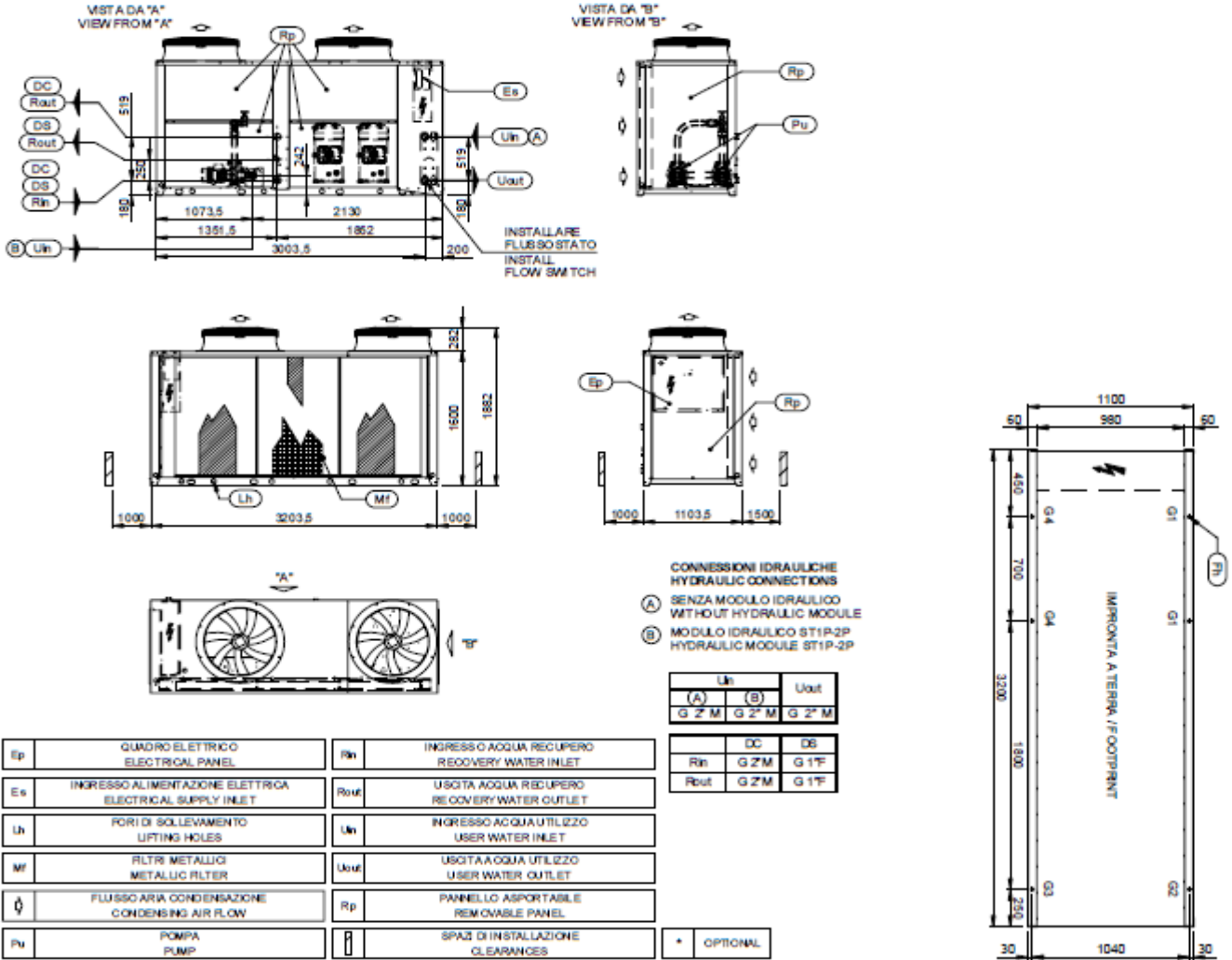
G. PUNTI DI APPOGGIO A NTM (BRANTI) / VIBRATION DAMPER FOOT HOLDS

fh FORI DI FISSAGGIO / FIXING HOLES

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 12.2 - 13.2



Ep	QUADRO ELETTRICO ELECTRICAL PANEL	Rm	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Uin	INGRESSO ACQUA UTILIZZO USER WATER INLET
Mf	FILTRI METALLICI METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO USER WATER OUTLET
Q	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL
Pu	POMPA PUMP		SPAZI DI INSTALLAZIONE CLEARANCES

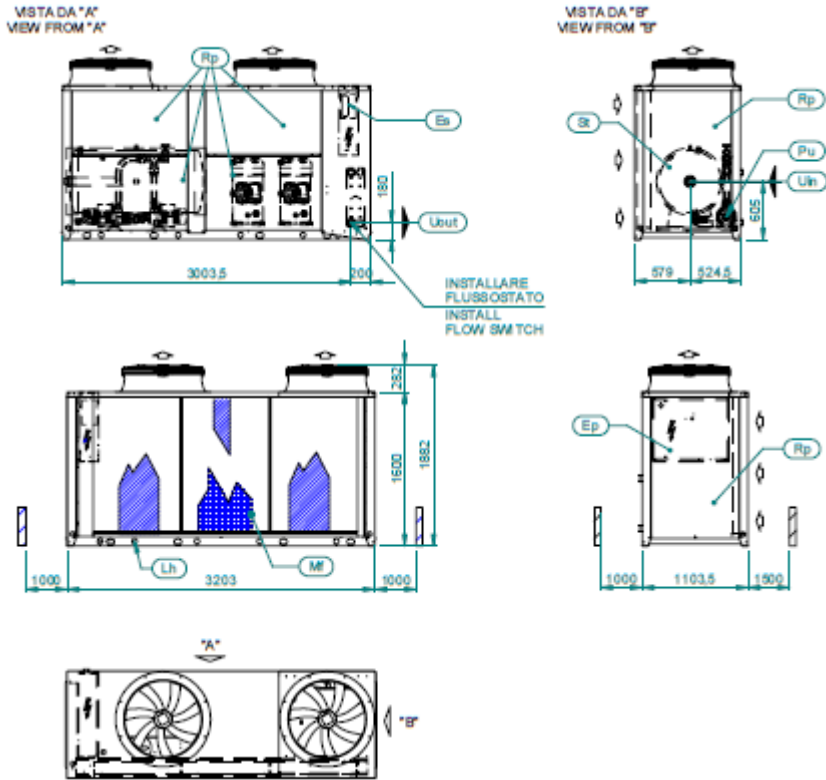
MODELLO MODEL	PESO (Kg) WEIGHT (Kg)	PESO IN FUNZIONE (Kg) OPERATING WEIGHT (Kg)	G1 (Kg)	G2 (Kg)	G3 (Kg)	G4 (Kg)
ZETA ECHOS 12.2	1066	1077	234	132	106	186
ZETA ECHOS 13.2	1111	1120	247	136	106	191
ZETA ECHOS ST 1P-2P 12.2	1124	1132	240	155	121	188
ZETA ECHOS ST 1P-2P 13.2	1165	1174	253	160	122	193
ZETA ECHOS DC DB 12.2	1158	1176	258	154	116	195
ZETA ECHOS DC DB 13.2	1203	1224	273	162	118	199
ZETA ECHOS ST 1P-2P-DC-DB 12.2	1230	1248	268	177	133	201
ZETA ECHOS ST 1P-2P-DC-DB 13.2	1277	1298	283	185	136	206
ZETA ECHOS HP 12.2	1118	1126	243	132	106	200
ZETA ECHOS HP 13.2	1157	1166	256	137	109	204
ZETA ECHOS HP-ST 1P-2P 12.2	1179	1181	249	154	126	202
ZETA ECHOS HP-ST 1P-2P 13.2	1211	1220	262	159	126	206
ZETA ECHOS HP-DS 12.2	1128	1138	247	136	110	199
ZETA ECHOS HP-DS 13.2	1172	1183	260	143	112	204
ZETA ECHOS HP-ST 1P-2P-DB 12.2	1183	1193	253	159	126	201
ZETA ECHOS HP-ST 1P-2P-DB 13.2	1226	1237	266	166	128	206

Fh	FORI DI RISSAGGIO FIXING HOLES	Ø18
G.	PUNTI DI APPOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

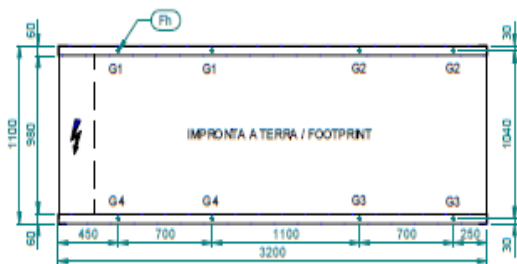
Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos 1PS-2PS 12.2 - 13.2



Ep	QUADRO ELETTRICO / ELECTRICAL PANEL		
Es	INGRESSO ALIMENTAZIONE ELETTRICA / ELECTRICAL SUPPLY INLET	↓	FLUSSO ARIA CONDENSAZIONE / CONDENSING AIR FLOW
Lh	FORI DI SOLLEVAMENTO / LIFTING HOLES	Un	INGRESSO ACQUA UTILIZZO / USER WATER INLET G 2" M
Mf	FILTRI METALLICI / METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO / USER WATER OUTLET G 2" M
St	SERBATOIO DI ACCUMULO / STORAGE TANK	Rp	PANNELLO ASPORTABILE / REMOVABLE PANEL
Pu	POMPA / PUMP		SPAZI DI INSTALLAZIONE / CLEARANCES

Fh	FORI DI RISSAGGIO / FIXING HOLES	Ø18
G.	PUNTI DI APPOGGIO ANTIVIBRANTI / VIBRATION DAMPER FOOT HOLDS	

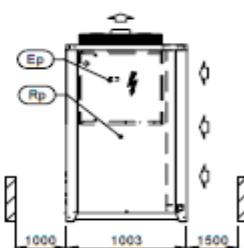
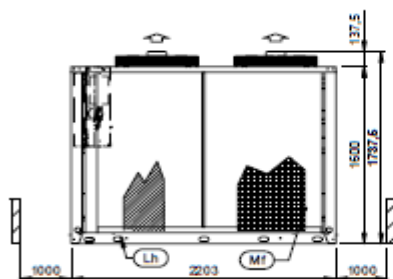
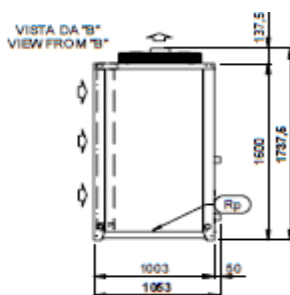
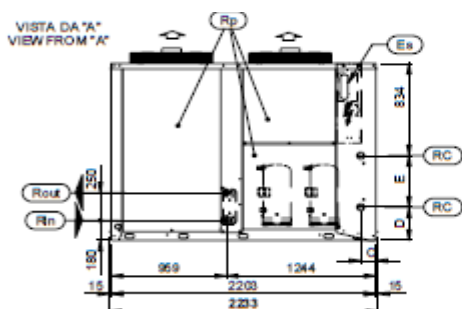


MODELLO / MODEL	PESO (Kg) / WEIGHT (Kg)	PESO IN FUNZIONE (Kg) / OPERATING WEIGHT (Kg)	G1 (Kg)	G2 (Kg)	G3 (Kg)	G4 (Kg)
ZETA ECHOS ST1PS-2PS-S 12.2	1128	956	224	214	171	179
ZETA ECHOS ST1PS-2PS-S 13.2	1167	966	235	218	171	184
ZETA ECHOS HP-ST1PS-2PS-S 12.2	1166	964	228	208	177	194
ZETA ECHOS HP-ST1PS-2PS-S 13.2	1205	954	240	212	176	199

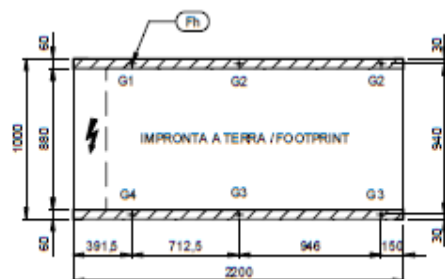
Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and refrigerant connections

Zeta Echos LE LE/HP 6.2 - 7.2 - 5.2 LE/HP SLN



	C	D	E	a/Rn	a/Rout
5.2 SLN	127	300	466	G6	G1'M
6.2	127	300	466	G6	G1'M
7.2	200	180	519	G6	G1'M



Rn	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	Φ	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW
Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL
Ep	QUADRO ELETTROICO ELECTRICAL PANEL	RC	CONNESSIONI REFRIGERANTE REFRIGERANT CONNECTIONS
Ea	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Mf	FILTRI METALLICI METALLIC FILTER
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	□	SPAZI DI INSTALLAZIONE CLEARANCES
		*	OPTIONAL

MODELLO MODEL	PESO(Kg) WEIGHT(Kg)	PESO IN FUNZIONE(Kg) OPERATING WEIGHT(Kg)	G1(Kg)	G2(Kg)	G3(Kg)	G4(Kg)
ZETA ECHOS LE 6.2	598	598	190	60	56	176
ZETA ECHOS LE-DS 6.2	602	603	190	60	57	179
ZETA ECHOS LE/HP 6.2	646	646	209	60	58	201
ZETA ECHOS LE/HP-DS 6.2	652	653	209	61	59	204
ZETA ECHOS LE 7.2	611	611	198	61	56	179
ZETA ECHOS LE-DS 7.2	618	619	198	62	57	183
ZETA ECHOS LE/HP 7.2	661	661	217	62	58	204
ZETA ECHOS LE/HP-DS 7.2	668	669	217	62	60	208
ZETA ECHOS LE-SLN 5.2	599	599	190	60	56	177
ZETA ECHOS LE-SLN-DS 5.2	603	604	190	60	57	180
ZETA ECHOS LE/HP-SLN 5.2	647	647	210	60	58	201
ZETA ECHOS LE/HP-SLN-DS 5.2	654	655	210	61	59	205

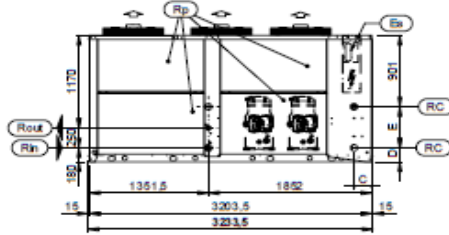
Fh	FORI DI FISSAGGIO FIXING HOLES	Ø16
G.	PUNTI DI APOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

Overall dimensions, weights, clearance areas and refrigerant connections

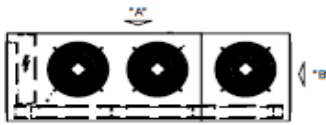
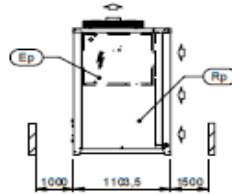
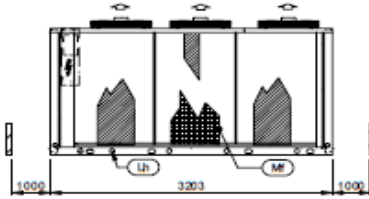
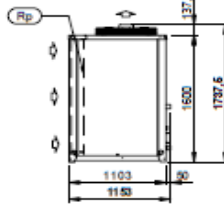
Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos LE 8.2 - 10.2 - 6.2 – 7.2 LE SLN

VISTA DA "A"
VIEW FROM "A"



VISTA DA "B"
VIEW FROM "B"

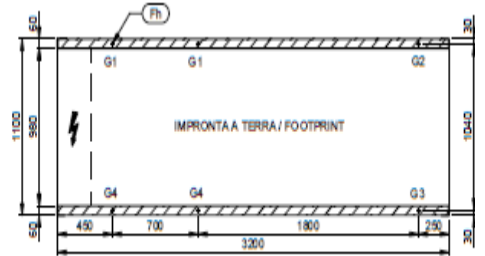


	C	D	E
6.2 SLN	127	200	406
7.2 SLN	200	280	519
8.2-13.2	200	380	519

	ØRm	ØRout
DS	G1" M	G1" M

Rm	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	↕	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW
Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL
Ep	QUADRO ELETTROICO ELECTRICAL PANEL	RC	CONNESSIONI REFRIGERANTE REFRIGERANT CONNECTIONS
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Mf	FILTRU METALLICO METALLIC FILTER
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	☑	SPAZI DI INSTALLAZIONE CLEARANCES

* OPTIONAL



FOOTPRINT

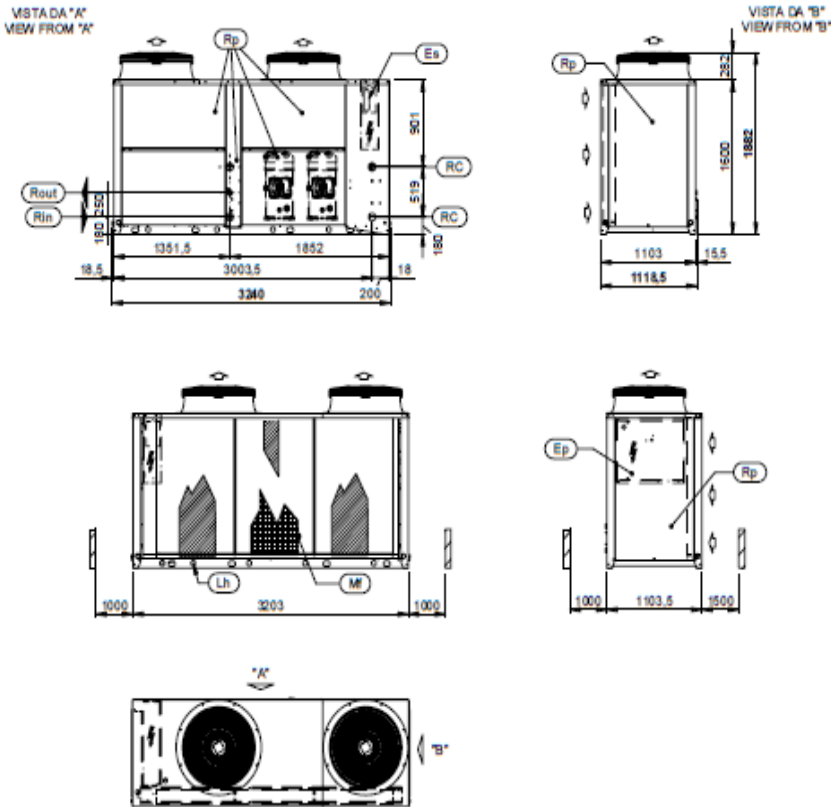
MODELLO MODEL	PESO (Kg) WEIGHT (Kg)	PESO IN FUNZIONE (Kg) OPERATING WEIGHT (Kg)	G1 (Kg)	G2 (Kg)	G3 (Kg)	G4 (Kg)
ZETA ECHOS LE 8.2	875	875	175	107	98	160
ZETA ECHOS LE 9.2	883	883	178	108	97	161
ZETA ECHOS LE 10.2	889	889	180	109	98	161
ZETA ECHOS LE-DS 8.2	893	894	180	112	100	161
ZETA ECHOS LE-DS 9.2	900	901	183	112	99	162
ZETA ECHOS LE-DS 10.2	908	909	185	113	100	163
ZETA ECHOS LEHP 8.2	924	924	185	106	100	174
ZETA ECHOS LEHP 9.2	931	931	187	107	100	175
ZETA ECHOS LEHP 10.2	937	937	189	107	100	176
ZETA ECHOS LEHP-DS 8.2	929	930	187	109	101	173
ZETA ECHOS LEHP-DS 9.2	938	939	190	110	101	174
ZETA ECHOS LEHP-DS 10.2	977	979	192	115	110	185
ZETA ECHOS LE-SLN 6.2	793	793	150	98	97	149
ZETA ECHOS LE-SLN-DS 6.2	813	814	155	102	100	151
ZETA ECHOS LEHP-SLN 6.2	845	845	160	97	100	164
ZETA ECHOS LEHP-SLN-DS 6.2	850	851	162	100	101	163
ZETA ECHOS LE-SLN 7.2	807	807	154	100	97	151
ZETA ECHOS LE-SLN-DS 7.2	829	830	160	104	100	153
ZETA ECHOS LEHP-SLN 7.2	859	859	164	99	100	166
ZETA ECHOS LEHP-SLN-DS 7.2	864	865	166	102	101	165

Ph	FORI DI FISSAGGIO FIXING HOLES	Ø18
G1	PUNTI DI APPOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

Overall dimensions, weights, clearance areas and refrigerant connections

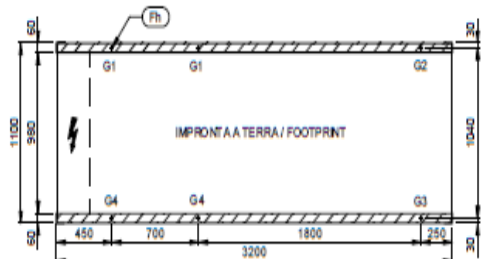
Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos LE 12.2 - 13.2



Rm	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	↓	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW
Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	↑	PANNELLO ASPORTABILE REMOVABLE PANEL
Ep	QUADRO ELETTRICO ELECTRICAL PANEL	→	CONNESSIONI REFRIGERANTE REFRIGERANT CONNECTIONS
Ea	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	←	FILTRI METALLICI METALLIC FILTER
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	□	SPAZI DI INSTALLAZIONE CLEARANCES

	Rm	Rout
Ø6	G1" M	G1" M



MODELLO MODEL	PESO (Kg) WEIGHT (Kg)	PESO IN FUNZIONE (Kg) OPERATING WEIGHT (Kg)	G1 (Kg)	G2 (Kg)	G3 (Kg)	G4 (Kg)
ZETA ECHOS LE 12.2	1033	1033	211	137	116	179
ZETA ECHOS LE 13.2	1071	1071	222	143	118	183
ZETA ECHOS LE-DS 12.2	1053	1055	216	144	119	180
ZETA ECHOS LE-DS 13.2	1089	1091	227	150	121	183
ZETA ECHOS LE/HP 12.2	1081	1081	220	136	119	193
ZETA ECHOS LE/HP 13.2	1117	1117	231	142	121	196
ZETA ECHOS LE/HP-DS 12.2	1092	1094	224	141	121	192
ZETA ECHOS LE/HP-DS 13.2	1131	1133	235	148	123	196

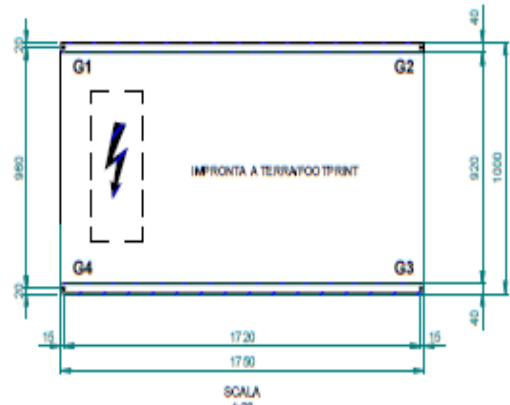
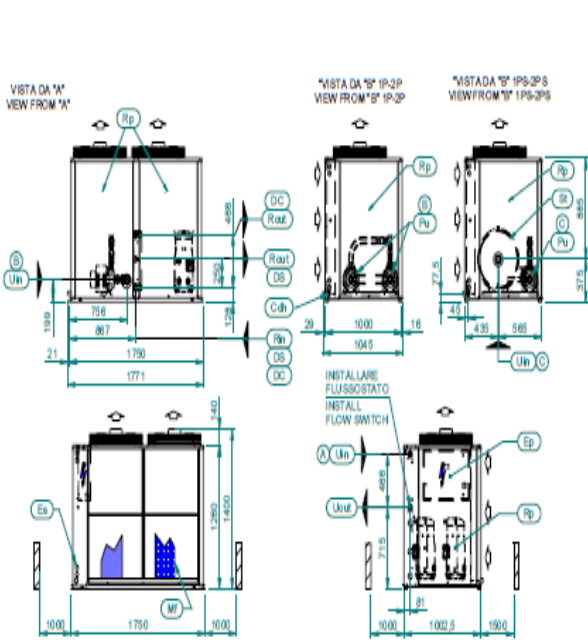
Fh	FORI DI RISSAGGIO FIXING HOLES	Ø18
G.	PUNTI DI APPOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

Overall dimensions, weights, clearance areas and hydraulic connections

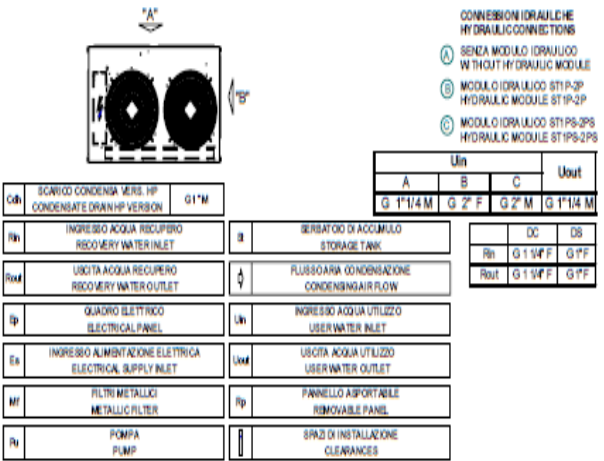
Technical information manual ZETA-ECHOS

REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Zeta Echos A CH-HP 3.2-4.2



MODELLO / MODEL	PIESO (kg) / WEIGHT (kg)	PIESO IN FUNZIONE (kg) / OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOSA 3.2 CH	411	444	190	75	73	146
ZETA ECHOSA 4.2 CH	458	493	161	77	73	152
ZETA ECHOSA 3.2 CH IP-2P	484	487	198	92	87	190
ZETA ECHOSA 4.2 CH IP-2P	503	508	170	95	87	196
ZETA ECHOSA 3.2 CH DS-DC	477	483	170	86	76	151
ZETA ECHOSA 4.2 CH DS-DC	497	506	183	89	77	157
ZETA ECHOSA 3.2 CH IP-2P DS-DC	521	527	176	104	90	155
ZETA ECHOSA 4.2 CH IP-2P DS-DC	540	546	191	107	90	161
ZETA ECHOSA 3.2 HP	464	467	161	79	75	152
ZETA ECHOSA 4.2 HP	481	486	172	81	75	158
ZETA ECHOSA 3.2 HP IP-2P	508	511	169	97	89	156
ZETA ECHOSA 4.2 HP IP-2P	525	530	190	99	89	162
ZETA ECHOSA 3.2 HP DS	467	471	164	81	75	151
ZETA ECHOSA 4.2 HP DS	486	492	175	84	75	156
ZETA ECHOSA 3.2 HP IP-2P DS	512	516	172	99	89	156
ZETA ECHOSA 4.2 HP IP-2P DS	529	535	183	101	89	162
ZETA ECHOSA 3.2 CH IPS-2PS-S	534	707	193	106	101	187
ZETA ECHOSA 4.2 CH IPS-2PS-S	552	727	204	109	101	193
ZETA ECHOSA 3.2 HP IPS-2PS-S	556	729	203	111	102	193
ZETA ECHOSA 4.2 HP IPS-2PS-S	574	749	214	114	102	199
ZETA ECHOSA 3.2 CH IPS-S DS-DC	557	733	207	112	101	193
ZETA ECHOSA 4.2 CH IPS-S DS-DC	576	755	219	116	100	200
ZETA ECHOSA 3.2 HP IPS-S DS	547	721	201	107	100	193
ZETA ECHOSA 4.2 HP IPS-S DS	566	742	212	110	100	200

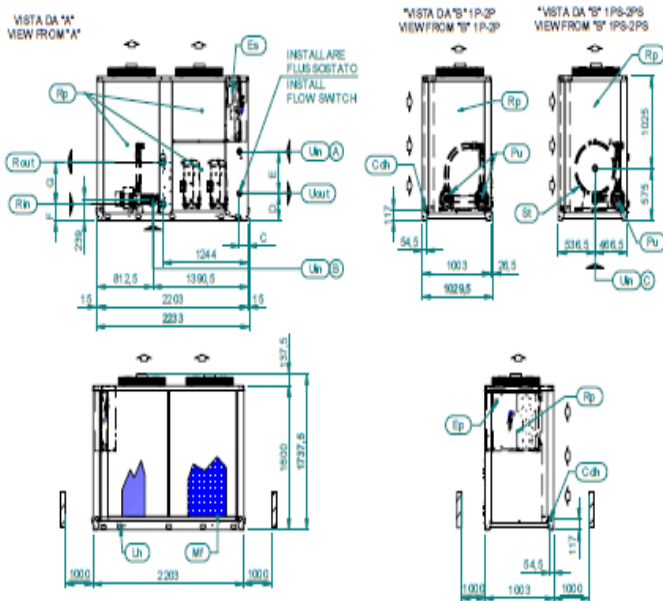


Rh	FORI DI RISERVOIO / RINGHOLES	Ø12
G.	PUNTI DI APPoggio ANTIVIBRANTI / VIBRATION DAMPER FOOT HOLDS	

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos A CH-HP 5.2-6.2



			Un			Unout	
C	D	E	A	B	C	G	H
5.2	127	300	G 1 1/4" M	G 2" F	G 2" M	G 1 1/4" M	G 1 1/4" M
6.2	200	180	G 2" M	G 2" F	G 2" M	G 2" M	G 2" M

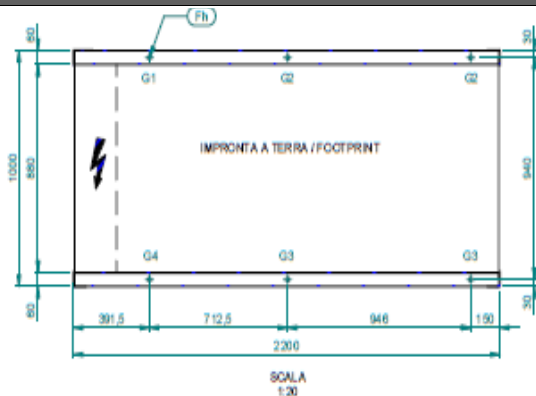
St	SERBATOIO DI ACCUMULO / STORAGE TANK	Cdh	SCARICO CONDENSATI VERSO HP / CONDENSATE DRAIN HP VERSION	G 1" M
↓	FLUSSO ARIA CONDENSAZIONE / CONDENSING AIR FLOW	Rin	INGRESSO ACQUA RECUPERO / RECOVERY WATER INLET	
Ep	QUADRO ELETTRICO / ELECTRICAL PANEL	Rout	USCITA ACQUA RECUPERO / RECOVERY WATER OUTLET	
Ex	INGRESSO ALIMENTAZIONE ELETTRICA / ELECTRICAL SUPPLY INLET	Un	INGRESSO ACQUA UTILIZZO / USER WATER INLET	
Lh	FORI DI SOLLEVAMENTO / LIFTING HOLES	Unout	USCITA ACQUA UTILIZZO / USER WATER OUTLET	
M	FILTRI METALLICI / METALLIC FILTER	Rp	PANNELLO A SPOSTABILE / REMOVABLE PANEL	
Pu	POMPA / PUMP		SPAZI D'INSTALLAZIONE / CLEARANCES	

T	G	A	B	Rout	Rout
DC	180	400	G 1 1/4" M	G 1 1/4" M	G 1 1/4" M
DS	180	230	G 1" M	G 1" M	G 1" M

- CONNESSIONI IDRAULICHE / HYDRAULIC CONNECTIONS**
- Ⓐ SENZA MODULO IDRAULICO / WITHOUT HYDRAULIC MODULE
 - Ⓑ MODULO IDRAULICO ST 1P-2P / HYDRAULIC MODULE ST 1P-2P
 - Ⓒ MODULO IDRAULICO ST 1PS-2PS / HYDRAULIC MODULE ST 1PS-2PS

Technical information manual ZETA-ECHOS

REF. ZETA-ECHOS-1021000602_09.10/ZETA_ECHOS_2011.DOC



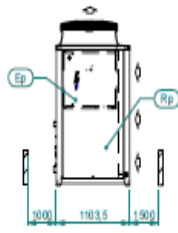
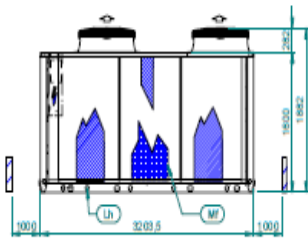
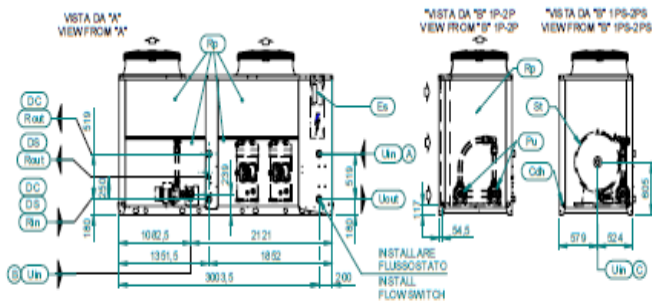
MODELLO MODEL	PESO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOSA 6.2 CH	627	631	216	62	53	186
ZETA ECHOSA 6.2 CH	646	652	233	63	52	189
ZETA ECHOSA 6.2 CH 1P 2P	661	665	213	80	67	178
ZETA ECHOSA 6.2 CH 1P 2P	700	706	229	82	65	183
ZETA ECHOSA 6.2 CH DS-DC	675	683	233	69	58	186
ZETA ECHOSA 6.2 CH DS-DC	696	707	251	71	57	200
ZETA ECHOSA 6.2 CH 1P 2P DS-DC	730	738	233	86	71	191
ZETA ECHOS A 6.2 CH 1P 2P DS-DC	749	760	250	88	69	196
ZETA ECHOSA 6.2 HP	689	673	232	62	55	207
ZETA ECHOSA 6.2 HP	689	695	248	64	54	211
ZETA ECHOSA 6.2 HP 1P 2P	724	728	232	79	68	202
ZETA ECHOSA 6.2 HP 1P 2P	742	748	248	80	67	206
ZETA ECHOSA 6.2 HP DS	677	682	232	63	57	210
ZETA ECHOSA 6.2 HP DS	696	703	249	64	55	216
ZETA ECHOSA 6.2 HP 1P 2P DS	729	734	231	79	70	205
ZETA ECHOSA 6.2 HP 1P 2P DS	748	755	248	81	69	209
ZETA ECHOS A 6.2 CH 1PS-2PS-S	753	975	193	151	124	157
ZETA ECHOS A 6.2 CH 1PS-2PS-S	771	995	224	160	131	177
ZETA ECHOS A 6.2 HP 1PS-2PS-S	795	1017	227	163	137	190
ZETA ECHOSA 6.2 HP 1PS-2PS-S	815	1039	242	165	135	197

fh	FORI DI FISSAGGIO FIXING HOLES	ø16
g.	PUNTI DI APOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and hydraulic connections

Zeta Echos A CH-HP 9.2

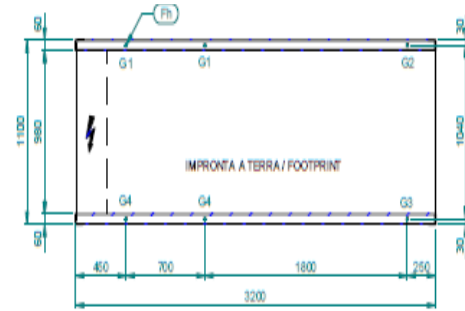


CONNESSIONI IDRAULICHE
HYDRAULIC CONNECTIONS

- A SENZA MODULO IDRAULICO
WITHOUT HYDRAULIC MODULE
- B MODULO IDRAULICO ST1P-2P
HYDRAULIC MODULE ST1P-2P
- C MODULO IDRAULICO ST1PS-2PS
HYDRAULIC MODULE ST1PS-2PS

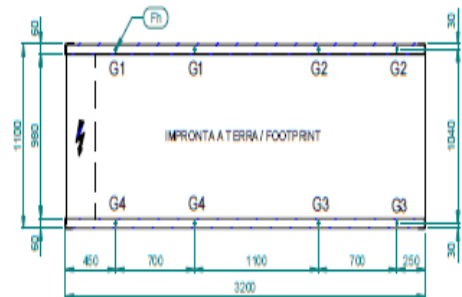
Un				Unit	
A	B	C		DC	DS
G 2" M	G 2" F	G 2" M		Rh	G 1" M
				Rout	G 2" F
					G 1" M

St	SERBATOIO DI ACCUMULO STORAGE TANK	Cdh	SCARICO CONDENSATI MERS. HP CONDENSATE DRAIN HP VERSION	G 1" M
Ip	QUADRO ELETTTRICO ELECTRICAL PANEL	Rh	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	G 2" F
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rout	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	G 1" M
Uh	FORI DI SOLLEVAMENTO LIFTING HOLES	Un	INGRESSO ACQUA UTILIZZO USER WATER INLET	G 2" M
Mf	FILTRI METALLICI METALLIC FILTER	Uout	USCITA ACQUA UTILIZZO USER WATER OUTLET	G 1" M
Q	FILUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	Rp	PANNELLO ASPORTABILE REMOVABLE PANEL	G 2" F
Pu	POMPA PUMP		SPAZI DI INSTALLAZIONE CLEARANCES	* OPTIONAL



SCALA
1:30

MODELLO MODEL	PESO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 92 CH	998	972	203	120	102	172
ZETA ECHOS A 92 CH 1P-2P	1020	1026	209	142	118	174
ZETA ECHOS A 92 CH DB-DC	1044	1058	224	137	111	181
ZETA ECHOS A 92 CH 1P-2P DB-DC	1067	1111	250	160	127	182
ZETA ECHOS A 92 HP	1012	1018	211	119	105	186
ZETA ECHOS A 92 HP 1P-2P	1066	1072	218	141	121	187
ZETA ECHOS A 92 HP DB	1021	1029	215	123	108	185
ZETA ECHOS A 92 HP 1P-2P DB	1076	1084	221	145	120	187



SCALA
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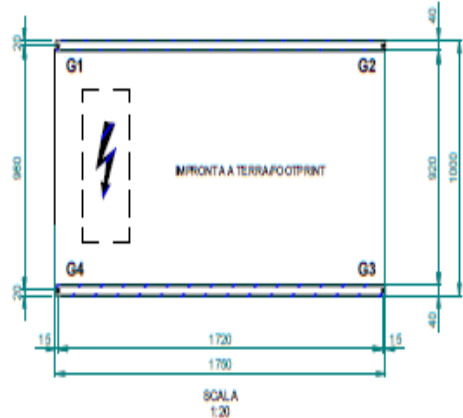
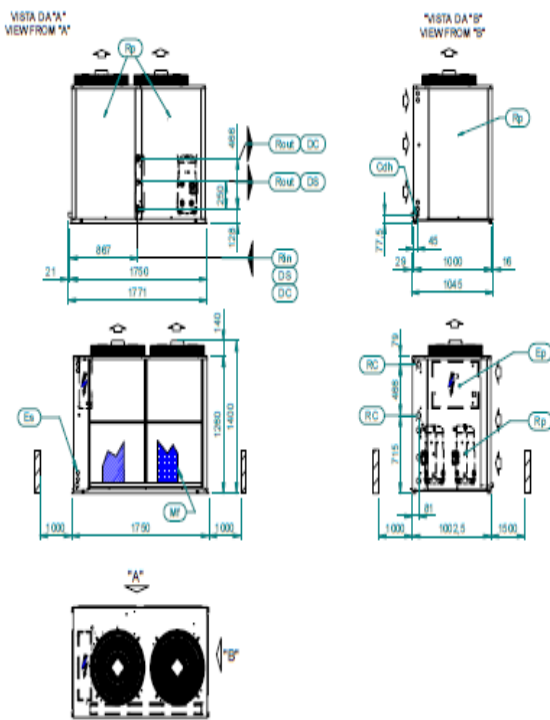
MODELLO MODEL	PESO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 92 CH 1PS-2PS-S	1292	1088	218	211	204	211
ZETA ECHOS A 92 HP 1PS-2PS-S	1300	1796	228	210	208	224

G.	PUNTI DI APPICCO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	Rh	FORI DI FISSAGGIO FIXING HOLES	Ø18
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Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and refrigerant connections

Zeta Echos A CH-HP / LE 3.2 – 4.2



MODELLO MODEL	PESO (kg) WEIGHT(kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 3.2 CH-LE	424	424	135	72	76	142
ZETA ECHOS A 4.2 CH-LE	436	436	141	72	76	147
ZETA ECHOS A 3.2 CH-LE, DS-DC	465	465	155	83	78	147
ZETA ECHOS A 4.2 CH-LE, DS-DC	474	478	162	85	79	152
ZETA ECHOS A 3.2 HP-LE	447	447	140	70	77	140
ZETA ECHOS A 4.2 HP-LE	458	458	151	77	77	153
ZETA ECHOS A 3.2 HP-LE, DS	451	452	148	70	77	148
ZETA ECHOS A 4.2 HP-LE, DS	463	464	154	70	78	153

Rn	INGRESSO ACQUA RECUPERO RECOVERY WATER INLET	Cdh	SCARICO CONDENSA MERS. HP CONDENSATE DRAIN HP VERSION	G 1" M
Rouf	USCITA ACQUA RECUPERO RECOVERY WATER OUTLET	Rc	CONNESSIONI REFRIGERANTE REFRIGERANT CONNECTIONS	
Ep	QUADRO ELETTRICO ELECTRICAL PANEL	Q	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	
Ea	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rp	PANNELLO A SPOSTABILE REMOVABLE PANEL	
M	FILTRI METALLICI METALLIC FILTER		SPAZZI DI INSTALLAZIONE CLEARANCES	

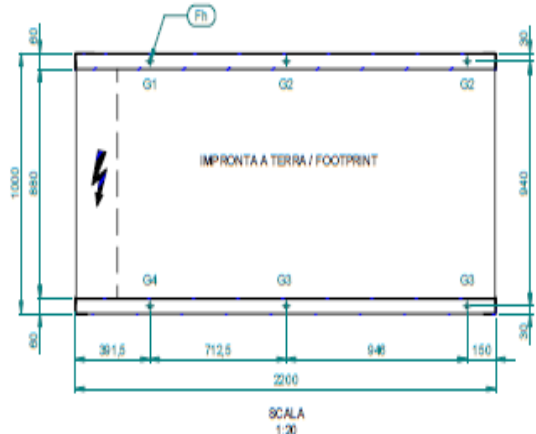
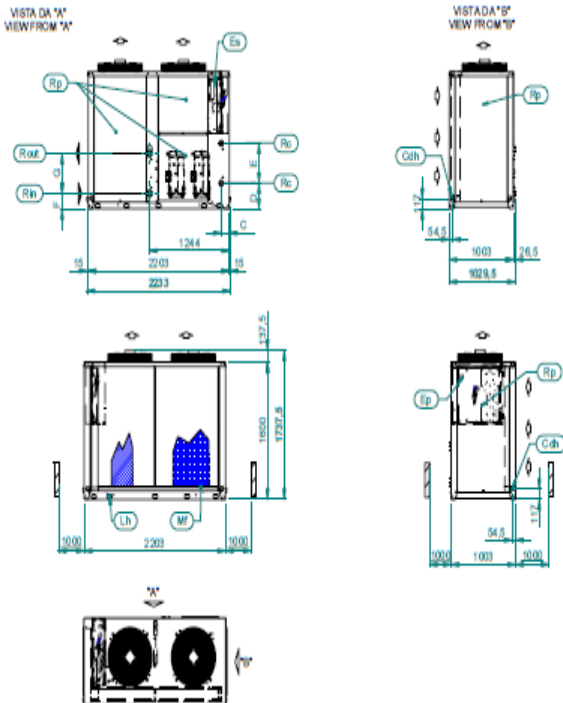
	DC	DS
Rn	G 1 1/4" F	G 1" F
Rouf	G 1 1/4" F	G 1" F

Fh	FORI DI RISSAGGIO FIXING HOLES	Ø12
G.	PUNTI DI APPoggio ANTIRIVANTI VIBRATION DAMPER FOOT HOLDS	

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Overall dimensions, weights, clearance areas and refrigerant connections

Zeta Echos A CH-HP / LE 5.2 – 6.2



MODELLO MODEL	PEBO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 5.2 CH-LE	605	605	192	61	57	177
ZETA ECHOS A 6.2 CH-LE	615	615	197	62	57	180
ZETA ECHOS A 5.2 CH-LE_DS-DC	650	654	208	66	61	188
ZETA ECHOS A 6.2 CH-LE_DS-DC	664	669	215	70	62	190
ZETA ECHOS A 5.2 HP-LE	646	648	207	62	59	199
ZETA ECHOS A 6.2 HP-LE	650	658	213	63	59	201
ZETA ECHOS A 5.2 HP-LE_DS	652	653	207	62	60	202
ZETA ECHOS A 6.2 HP-LE_DS	666	666	214	63	60	206

↓	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	
Ep	QUADRO ELETRICO ELECTRICAL PANEL	Rh
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rof
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Rc
Mf	FILTRI METALLICI METALLIC FILTERS	Cdh
	SPAZI DI INSTALLAZIONE CLEARANCES	Ep
		G1* M
		Panello rimovibile REMOVABLE PANEL

	G	D	E
5.2	127	300	400
6.2	200	190	510

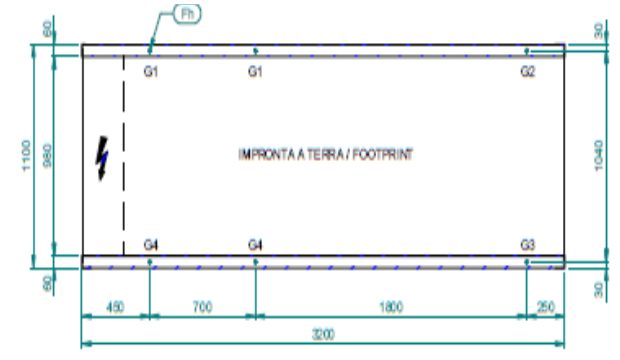
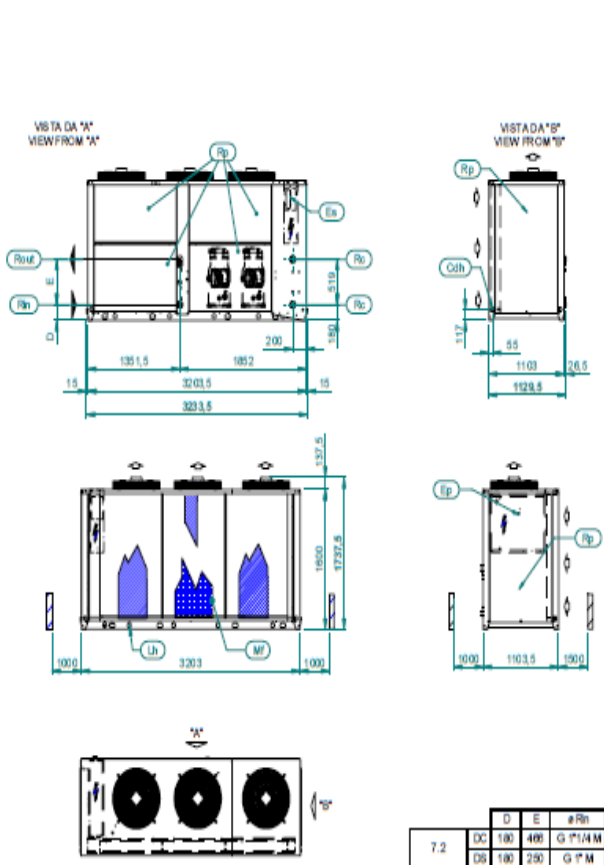
	F	G	e Ph	e Rout
DC	100	400	G 1/4" M	G 1/4" M
DS	100	200	G 1/4" M	G 1/4" M

Rh	FORI DI RISSAGGIO PILING HOLES	G1 6
G.	PUNTI DI APPoggio ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	

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Overall dimensions, weights, clearance areas and refrigerant connections

Zeta Echos A CH-HP / LE 7.2 – 8.2



MODELLO MOOD	PESO (kg) WEIGHT(kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 7.2 OH-LE	802	802	153	99	97	150
ZETA ECHOS A 8.2 OH-LE	874	874	176	107	97	159
ZETA ECHOS A 7.2 OH-LE DB-DC	909	914	177	115	109	168
ZETA ECHOS A 8.2 OH-LE DB-DC	988	994	202	126	110	177
ZETA ECHOS A 7.2 HP-LE	845	845	161	98	99	163
ZETA ECHOS A 8.2 HP-LE	915	915	184	106	99	171
ZETA ECHOS A 7.2 HP-LE DB	849	850	163	100	100	162
ZETA ECHOS A 8.2 HP-LE DB	924	926	187	110	100	171

Cdh	SCARICO CONDENSATI MERS. HP CONDENSATE DRAIN HP VERSION	G 1" M
Ep	QUADRO ELETTRICO ELECTRICAL PANEL	Rc
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rh
Lh	FORI DI SOLLEVAMENTO LIFTING HOLES	Rout
Mf	FILTRI METALLICI METALLIC FILTER	Rp
Ø	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW	

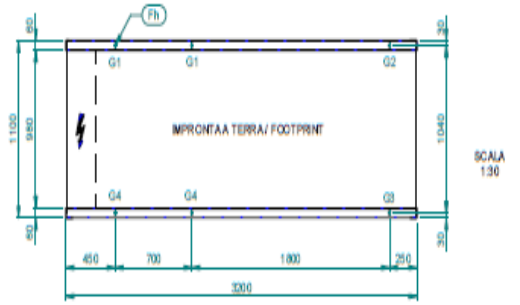
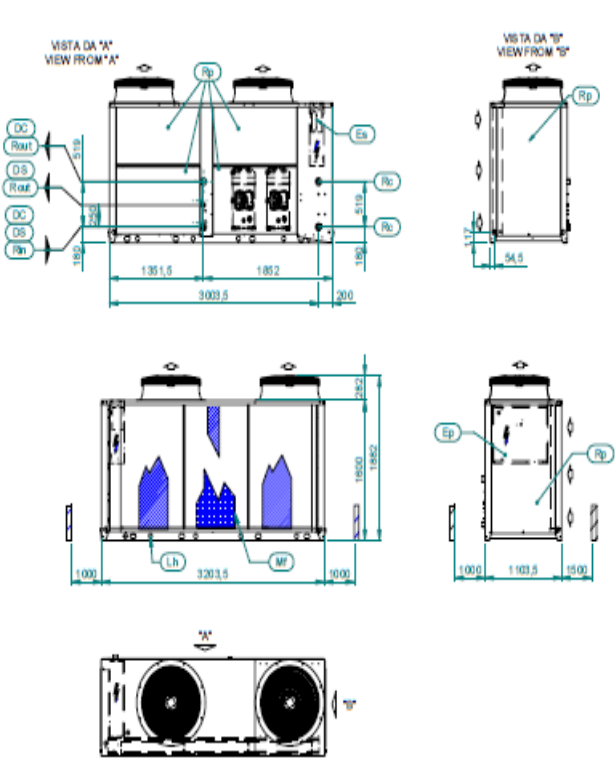
	D	E	#Rn	#Rout
7.2	DC	180	400	G 1" / 1/4 M
	DS	180	250	G 1" M
8.2	DC	180	519	G 2" F
	DS	180	250	G 1" M

G.	PUNTI DI APOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	Rh	FORI DI RISSAGGIO FOOND HOLES	G1B
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Technical information manual ZETA-ECHOS
REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

Overall dimensions, weights, clearance areas and refrigerant connections

Zeta Echos A CH-HP / LE 9.2



MODELLO MODEL	PESO (kg) WEIGHT (kg)	PESO IN FUNZIONE (kg) OPERATING WEIGHT (kg)	G1 (kg)	G2 (kg)	G3 (kg)	G4 (kg)
ZETA ECHOS A 9.2 CH-LE	802	802	180	123	111	168
ZETA ECHOS A 9.2 CH-LE DB-DC	1000	1017	204	141	120	174
ZETA ECHOS A 9.2 HP-LE	978	978	182	122	114	178
ZETA ECHOS A 9.2 HP-LE DB	989	990	195	126	116	178

Col	SCARICO CONDENSA VERS. HP CONDENSATE DRAIN HP VERSION	G 1" M	DC	DB
Ep	QUADRO ELETRICO ELECTRICAL PANEL	Rp	Rn	G 2" F
Es	INGRESSO ALIMENTAZIONE ELETTRICA ELECTRICAL SUPPLY INLET	Rn	Rout	G 2" F
Lh	FORI DI SOLLEVAMENTO LIFTING HOLDS	Rout		G 1" M
Mf	FILTRI METALLICI METALLIC FILTER	Rp		
↓	FLUSSO ARIA CONDENSAZIONE CONDENSING AIR FLOW			

G.	PUNTI DI APOGGIO ANTIVIBRANTI VIBRATION DAMPER FOOT HOLDS	Fh	FORI DI FISSAGGIO FIXING HOLES	Ø16
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Technical information manual ZETA-ECHOS
 REF. ZETA-ECHOS-10210000602_09.10/ZETA_ECHOS_2011.DOC

INSTALLATION GUIDELINES

POSITIONING

- Strictly comply with the clearance areas indicated in the catalogue.
- Make sure that there are no obstructions near the finned coil suction or the fan air discharge.
- Place the unit in a manner that assures the lowest environmental impact (noise, integration with nearby structures, etc.).

WIRING

- Always consult the enclosed wiring diagram, which provides all the instructions required for making the electrical connections.
- Power up the unit (closing the disconnect switch), at least 12 hours before start-up, in order to turn the crankcase heaters on. Do not switch the power off during short stoppages.
- Before turning on the disconnect switch, stop the unit by turning off all the operating switches or using the remote control.
- Before accessing the inner components, cut the power off by turning on the disconnect switch.
- The power supply must be fitted with all protections according to the standards in force.
- Electrical connections: three-pole power cable + earth, or three pole cable + neutral + earth; external interlock; remote alarm signalling..

HYDRAULIC CONNECTIONS

- Carefully vent the hydraulic system with the pump switched off, by turning the air valve. This procedure is particularly important, as even small air bubbles may cause the evaporator to freeze.
- Drain the system during winter stops or use special anti-freeze solutions. During short stops, it is advisable to install an electric heater (defroster) on the evaporator and the hydraulic circuit.
- Install the hydraulic circuit with all the components shown in the diagrams (expansion vessel, flow switch, storage tank, air valve, shut-off valves, flexible connections, etc. Please refer to the user, installation and maintenance manual).
- Connect the flow switch when supplied in the kit, following carefully the instructions provided with the units.

START-UP AND MAINTENANCE

- Strictly follow the instructions given in the use and maintenance manual. These operations must be carried out by qualified personnel only.