

# We Chill With Red-Hot Solutions

Passion and determination for top-quality service: all part of Blue Box's red-hot solutions. A service that has increased the relationship of trust, through the years with customers from

more than thirty countries throughout the world. A customer-driven philosophy capable of transforming every initiative into a new opportunity for dialogue. This new price list is tangible proof of our commitment. Designed as a simple, up-to-date working tool, this price list and

catalogue contains the specifications and prices of all models in production, divided according to our four brand-names: Blue Box, Air Blue, Aertesi and Blue Service. The strategic inclusion at several points in the catalogue of two selection tables in which the topics are divided according to brandname and product family ensure rapid and easy consultation. So the document you are consulting is both a price list and a catalogue allowing rapid access to detailed and comprehensive product information. This initiative has been developed in relation to Blue Box's primary goal: to generate lasting customer satisfaction.



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BLUE  BOX  
c o n d i z i o n a m e n t o

A strong vocation for innovation, flexibility and a level of specialisation that has

companies able to offer a truly comprehensive range of solutions, with

## The development of cooling for large areas.

few equals: these are the reasons for Blue Box's top position on the air conditioning market. The first company in Italy to produce units with screw compressors, we have been refining our exclusive patents since 1986, reaching high levels of functionality, also in terms of low noise levels and ease of use. Blue Box today is one of the few

capacities from 40kW to 1,150 kW. Success that rewards the synergies of state-of-the-art design and technological skills, and confirms the culture of excellence that characterises this ISO 9001 certified company.



# SECTION CONTENTS

## *Air-water chillers*

- 8** BETA 2002 37 ÷ 260 kW Water chillers and air/water heat pumps with centrifugal fans and hermetic scroll compressors.
- 14** ZETA 2002 37 ÷ 260 kW Water chillers and air/water heat pumps with axial fans and hermetic scroll compressors.
- 20** KAPPA.V 2001 156 ÷ 540 kW Water chillers and air/water heat pumps with axial fans and screw compressors.

## *Air-cooled condensing units*

- 26** BETA 2002/LE 46 ÷ 320 kW Air-cooled condensing units and heat pumps with centrifugal fans and hermetic scroll compressors.
- 32** ZETA 2002/LE 46 ÷ 320 kW Air-cooled condensing units and heat pumps with axial fans and hermetic scroll compressors.

## *Water-water chillers*

- 38** SIGMA 42 ÷ 143 kW Water-water chillers and water-water heat pumps with hermetic scroll compressors.
- 42** OMEGA 127 ÷ 355 kW Water-water chillers and water-water heat pumps with semi-hermetic reciprocating compressors.
- 48** OMEGA.V 134 ÷ 361 kW Water chillers and water-water heat pumps with screw compressors.
- 54** OMEGA.V 2001 188 ÷ 1143 kW Water-water chillers with screw compressors.

## *Water-cooled condensing units*

- 58** SIGMA/LE 53 ÷ 179 kW Water-cooled condensing units and heat pumps with hermetic scroll compressors.

## *Water-cooled condenserless units*

- 62** SIGMA/LC 38 ÷ 126 kW Water-cooled condenserless units and heat pumps with hermetic scroll compressors.
- 66** OMEGA/LC 118 ÷ 330 kW Water-cooled condenserless units and heat pumps with semi-hermetic reciprocating compressors.
- 72** OMEGA.V/LC 125 ÷ 334 kW Water-cooled condenserless units and heat pumps with screw compressors.
- 78** OMEGA.V 2001/LC 170 ÷ 1043 kW Water-cooled condenserless units with screw compressors.

## *Air conditioners*

- 82** DELTA 2002 40 ÷ 85 kW Split air conditioners and air-air heat pumps with hermetic scroll compressors.

## *Roof Top*

- 88** GAMMA 12 ÷ 47 kW "Roof-Top" air conditioners and air/air heat pumps with scroll compressors.
- 90** LAMBDA 42 ÷ 243 kW "Roof-Top" air conditioners and air/air heat pumps with scroll compressors.

## *Air handlers*

- 96** SV

## *Remote condensers*

- 98** CHD-CLD-CQD Remote air-cooled condensers with axial fans.

## *Pumping and storage stations*

- 106** PSM Pumping stations with centrifugal pumps, storage tank and expansion vessel for hydraulic cooling and heating systems.

## *Dehumidifiers*

- 110** SCT Capacity 38 l/day
- 114** MCT Capacity 75 - 124 l/day
- 118** LCT - XLCT Capacity 128 - 330 l/day
- 122** TCT Capacity 560 - 940 l/day
- 126** LCT /BT - XLCT/BT Capacity 85 - 190 l/day
- 130** XTCT/BT Capacity 270 - 460 l/day
- 134** SMCT Capacity 90 - 330 l/day

## *138 Shipping costs*

Prices are given in euro without VAT.

**Water chillers and  
air/water heat pumps with  
centrifugal fans and  
hermetic scroll compressors**



## **BETA 2002** Water chiller

### **Unit frame**

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

### **Compressors**

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

### **Refrigerant circuit**

Comprises liquid line shut-off, charging connection, sight glass, drier filter, thermostatic expansion valve, safety valve, high and low-pressure switches (two-compressor models). Models with four compressors feature pressure transducers.

### **Evaporator**

Braze-welded plate type with no-frost protection and mechanical flow switch.

### **Condenser**

Finned coil type with protection guard (models upward of 14.4 include mesh guard).

### **Fans**

Centrifugal fans with three-phase, 4-pole motors, V-belt/pulley transmission and safety guard on delivery outlet.

### **Electrical panel**

With main switch, power and control circuit protection, compressor and fan contactors.

**Microprocessor** control with function display.

### **Testing**

Units are factory tested and supplied with refrigerant charge and oil.

## **BETA 2002 /HP**

Reversible heat pump

In addition to the components of model 2002 PRICE LIST 8

Beta 2002, this model includes: condensate drain pan, liquid receiver, four-way diverting valve and second thermostatic expansion valve. Cycle inversion defrost function.

## **HYDRAULIC MODULE OPTIONS**

### **BETA 2002 /ST 2PS**

In addition to the components featured on Beta 2002: insulated storage tank, two pumps (one as stand-by with automatic changeover on 4-compressor models), expansion vessel, check valves and gate valves.

### **BETA 2002 /ST 1PS**

Unlike the Beta 2002 ST 2PS, the unit features only one pump.

### **BETA 2002 /ST 2P**

Unlike the Beta 2002 ST 2PS, the unit is not fitted with storage tank nor expansion vessel.

### **BETA 2002 /ST S**

Unlike the Beta 2002 ST 2PS, the unit does not feature pumps.

### **BETA 2002 /ST 1P**

Unlike the Beta 2002 ST 2PS, the unit is not equipped with storage tank or expansion vessel, and has only one pump.

## **ACCESSORY VERSIONS**

### **BETA 2002 /DC**

Unit with 100% heat recovery condenser, water temperature control and deactivation of recovery safety device. Contacts on terminal board for external enabling.

Not available for all /HP models and for the /ST versions as indicated in the price list.

### **BETA 2002 /DS**

Unit with desuperheaters for partial (20%) recovery of heat rejection. Not available in /ST versions with tank from models 3.2 to 13.2.

### **BETA 2002 /LN**

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

### **BETA 2002 /SLN**

Extra-low noise version: besides components featured on the Beta 2002 /LN, this version features an oversized condensing coil and fan speed control.

## **ACCESSORIES**

- condensing pressure control:
  - with ambient air temperature probe (to +5 °C) step control; not available on models 3.2 to 8.2 and on 14.4;
  - with modulating air damper (air to -12°C) regulated by gas pressure signal read by transducers;
- dual set-point: in 4-compressor units, the set-point can be modified from the control panel or by digital input (specify when ordering). Set-point activation is automatic according to detected water temperature;
- RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer. Carel communication protocol (or Modbus on 4-compressor units);
- pressure gauges (4-compressor units feature pressure readout also from controller as standard);
- no-frost electric heater on evaporator (also on tank and pipelines in /ST option);
- remote shared terminal (in addition to control on unit).

## BETA 2002 - R407C TECHNICAL DATA

Unit size		3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2
<b>Nominal cooling capacity (*)</b>	kW	37.1	44.7	51.4	60.3	67.5	77.6	91.6	102.4
<b>Nominal heating capacity (**)</b>	kW	36.4	44.8	51.9	60.0	68.1	78.7	92.7	106.6

### Compressors

Quantity/Refrigerant circuits	n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Cooling power input (*)	kW	12.3	14.8	17.5	19.7	22.7	26.6	31.3	37.6
Heating power input (**)	kW	12.7	15.9	18.4	20.9	23.4	27.5	32.1	36.7
Capacity steps	%	50-100	50-100	50-100	50-100	50-100	50-100	50-100	50-100

### Fans

Air flow	m³/s	5.278	5.278	5.278	5.833	5.833	6.111	8.333	8.333
Available static pressure	Pa	50	50	50	50	50	50	50	50
n° x installed power	n° x kW	2 x 1.5	2 x 1.5	2 x 1.5	2 x 2.2	2 x 2.2	2 x 2.2	3 x 2.2	3 x 2.2

### Evaporator characteristics

Water contents	l	3.6	3.6	4.2	4.2	5.2	6.3	7.3	7.3
Pressure drops	kPa	25.9	37.3	33.7	45.8	37.5	35.0	36.2	44.8

### Hydraulic module characteristics

Water flow rate	l/s	1.771	2.134	2.453	2.883	3.225	3.708	4.374	4.892
Pump available pressure	kPa	148	121	108	145	140	123	134	109
Storage tank capacity	l	200	200	200	200	200	200	450	450
Expansion vessel	l	18	18	18	18	18	18	18	18

### Noise level (\*\*\*)

Basic unit	dB(A)	71.4	71.8	71.9	72.4	72.6	73.6	74.3	74.4
LN version	dB(A)	68.9	69.4	69.3	69.9	69.9	70.9	71.9	71.5

<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
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### Dimensions and weight of basic unit

Width	mm	2233	2233	2233	2233	2233	2233	3234	3234
Depth	mm	1003	1003	1003	1003	1003	1003	1103	1103
Height	mm	1630	1630	1630	1630	1630	1630	1630	1630
Shipping weight (#)	kg	692	702	723	768	787	835	1121	1198

Unit size		12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
<b>Nominal cooling capacity (*)</b>	kW	117.9	126.6	137.0	157.6	185.8	211.0	235.8	260.7
<b>Nominal heating capacity (**)</b>	kW	119.5	132.4	136.2	157.3	185.3	213.3	239.1	264.9

### Compressors

Quantity/Refrigerant circuits	n°	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2
Cooling power input (*)	kW	40.0	45.9	44.4	52.0	61.2	72.0	80.0	88.1
Heating power input (**)	kW	40.5	44.4	46.8	55.0	64.2	73.3	81.1	88.8
Capacity steps	%	50-100	50-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100

### Fans

Air flow	m³/s	8.333	8.333	10.000	13.333	15.833	19.444	19.444	18.500
Available static pressure	Pa	50	50	50	50	50	50	50	50
n° x installed power	n° x kW	3 x 2.2	3 x 2.2	2 x 4.0	3 x 3.0	3 x 4.0	4 x 4.0	4 x 4.0	4 x 4.0

### Evaporator characteristics

Water contents	l	8.4	9.4	5.2	6.3	7.3	7.3	8.4	9.4
Pressure drops	kPa	50.7	43.2	45.5	45.2	50.0	63.8	71.1	70.6

### Hydraulic module characteristics

Water flow rate	l/s	5.634	6.050	6.546	7.529	8.879	10.082	11.268	12.454
Pump available pressure	kPa	115	110	140	106	150	124	101	159
Storage tank capacity	l	450	450	340	700	700	700	700	700
Expansion vessel	l	18	18	18	18	18	18	18	18

### Noise level (\*\*\*)

Basic unit	dB(A)	75.0	75.2	74.4	76.2	77.0	78.5	78.5	78.6
LN version	dB(A)	72.4	72.4	72.0	73.8	74.1	74.7	74.8	74.8

<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
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### Dimensions and weight of basic unit

Width	mm	3234	3234	3234	3234	4234	4234	4234	4234
Depth	mm	1103	1103	1119	1119	1119	1119	1119	1119
Height	mm	1630	1630	2130	2130	2130	2130	2130	2130
Shipping weight (#)	kg	1263	1297	1428	1554	1967	2242	2311	2423

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

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

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

(#) For heat pump units increase weight by 10%.

# BETA 2002

Basic unit	3.2	4.2	5.2	6.2	7.2
BETA 2002	15.959,00	17.104,00	18.257,00	19.496,00	20.090,00
BETA 2002/HP	19.418,00	20.487,00	21.726,00	23.085,00	23.885,00
Reduction on the basic unit price for R22 refrigerant, 2,5%.					

Hydraulic module optional components	3.2	4.2	5.2	6.2	7.2
Module ST 2PS (2 pumps with tank)	4.338,00	4.338,00	4.338,00	4.338,00	4.338,00
Module ST 1PS (1 pump with tank)	3.460,00	3.460,00	3.460,00	3.460,00	3.460,00
Module ST 2P (2 pumps without tank)	3.564,00	3.564,00	3.564,00	3.564,00	3.564,00
Module ST 1P (1 pump without tank)	1.963,00	1.963,00	1.963,00	1.963,00	1.963,00
Module ST S (without pumps, with tank alone)	1.601,00	1.601,00	1.601,00	1.601,00	1.601,00

Accessory	3.2	4.2	5.2	6.2	7.2
DC - Total recovery (100% of heat rejection) excluding HP units not available with rejection	3.564,00  ←	3.654,00	3.744,00	3.899,00	4.054,00 →
DS - Partial recovery (20% of heat rejection) not available with rejection	1.343,00  ←	1.343,00	1.343,00	1.394,00	1.446,00 →
LN (Low-noise version)	671,00	671,00	671,00	671,00	671,00
SLN (Extra low-noise version)	Please contact the sales department for prices				

Refrigerant circuit accessories	3.2	4.2	5.2	6.2	7.2
Step condensing pressure control (+5 °C) (with fans on/off via microprocessor)	-	-	-	-	-
Condensing pressure control with modulating damper (-12 °C)	1.549,00	1.549,00	1.549,00	1.549,00	1.549,00
Dual set-point (high/low temperature) (1)	1.394,00	1.394,00	1.394,00	1.394,00	1.394,00
Pressure gauges	325,00	325,00	325,00	325,00	325,00
Liquid receivers (standard on HP and DC versions)	465,00 (1x18L)	465,00 (1x18L)	465,00 (1x18L)	568,00 (1x18L)	568,00 (1x18L)
Shut-off valves on compressor suction and discharge side	930,00	930,00	930,00	930,00	930,00
BETA liquid line solenoid valve	258,00	258,00	258,00	310,00	310,00
BETA/HP liquid line solenoid valve	516,00	516,00	516,00	620,00	620,00

Hydraulic circuit accessories	3.2	4.2	5.2	6.2	7.2
No-frost electric heater (2)	258,00	258,00	258,00	258,00	258,00
Safety valve on water side (ST version only)	207,00	207,00	207,00	207,00	207,00

Electrical accessories	3.2	4.2	5.2	6.2	7.2
Outlet water temperature control (except for HP versions)	-	-	-	-	-
RS485 serial interface	274,00	274,00	274,00	274,00	274,00
Power factor correction $\cos\phi \geq 0,9$	1.188,00	1.188,00	1.188,00	1.239,00	1.239,00
Variable set-point by remote signal (0-1V, 0-10V, 0-4mA, 0-20mA)	-	-	-	-	-



# BETA 2002

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
21.794,00	26.288,00	27.605,00	29.180,00	30.703,00	35.997,00	39.457,00	47.721,00	51.284,00	54.228,00	57.430,00
25.858,00	30.196,00	32.365,00	34.535,00	36.136,00	43.108,00	45.690,00	55.528,00	60.179,00	62.420,00	66.118,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.338,00	4.958,00	4.958,00	5.474,00	5.474,00	6.921,00	7.850,00	8.367,00	8.367,00	8.367,00	9.296,00
3.460,00	4.080,00	4.080,00	4.596,00	4.596,00	5.681,00	6.352,00	6.559,00	6.559,00	6.559,00	7.230,00
3.564,00	3.409,00	3.409,00	3.925,00	3.925,00	5.113,00	5.113,00	6.456,00	6.456,00	6.456,00	7.385,00
1.963,00	2.169,00	2.169,00	2.686,00	2.686,00	3.615,00	3.615,00	4.648,00	4.648,00	4.648,00	5.320,00
1.601,00	1.911,00	1.911,00	1.911,00	1.911,00	1.911,00	3.667,00	3.667,00	3.667,00	3.667,00	3.667,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.932,00	5.113,00	5.629,00	5.668,00	5.707,00	8.108,00	9.864,00	10.226,00	11.259,00	11.336,00	11.414,00
←	ST 2PS - ST 1PS - STS			→	all ST	-	←	ST 2PS - ST 1PS		→
1.498,00	1.498,00	1.653,00	1.653,00	1.653,00	2.892,00	2.995,00	2.995,00	3.305,00	3.305,00	3.305,00
←	ST 2PS - ST 1PS - STS			→	-	-	-	-	-	-
671,00	1.007,00	1.007,00	1.007,00	1.007,00	1.343,00	1.343,00	1.756,00	1.756,00	1.756,00	1.756,00

Please contact the sales department for prices

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	775,00	775,00	775,00	775,00	-	775,00	775,00	775,00	775,00	775,00
1.549,00	1.756,00	1.756,00	1.756,00	1.756,00	2.117,00	2.117,00	2.892,00	2.892,00	2.892,00	2.892,00
1.394,00	1.394,00	1.394,00	1.394,00	1.394,00	2.789,00	2.789,00	2.789,00	2.789,00	2.789,00	2.789,00
325,00	325,00	325,00	325,00	325,00	651,00	651,00	651,00	651,00	651,00	651,00
568,00 (1x18L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	1.136,00 (2x18L)	1.136,00 (2x18L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)
981,00	981,00	981,00	1.059,00	1.136,00	1.859,00	1.963,00	1.963,00	1.963,00	2.117,00	2.272,00
310,00	491,00	491,00	491,00	491,00	620,00	620,00	981,00	981,00	981,00	981,00
620,00	491,00	491,00	491,00	491,00	620,00	620,00	981,00	981,00	981,00	981,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
258,00	258,00	258,00	258,00	258,00	516,00	516,00	516,00	516,00	516,00	516,00
207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	-	-	-	-	165,00	165,00	165,00	165,00	165,00	165,00
274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00
1.291,00	1.291,00	1.343,00	1.343,00	1.343,00	2.376,00	2.376,00	2.582,00	2.582,00	2.582,00	2.582,00
-	-	-	-	-	775,00	775,00	775,00	775,00	775,00	775,00

# BETA 2002

Electrical accessories	3.2	4.2	5.2	6.2	7.2
Single volt-free contacts for compressors/fans operation (Basic unit)	124,00	124,00	124,00	124,00	124,00
Single volt-free contacts for compressors/pump operation (Unit with pumps)	186,00	186,00	186,00	186,00	186,00
Remote shared terminal	310,00	310,00	310,00	310,00	310,00
Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Rubber antivibration mounts for basic unit	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts for basic unit	-	-	-	-	-
Rubber antivibration mounts for unit with ST module	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts for unit with ST module	-	-	-	-	-
Pre-painted aluminium condensing coil	310,00	310,00	310,00	413,00	413,00
Copper-copper condensing coil	1.498,00	1.498,00	1.498,00	2.117,00	2.117,00
Tinned copper/copper condensing coil	2.531,00	2.531,00	2.531,00	3.512,00	3.512,00
Blygold Polual treated condensing coil	1.291,00	1.291,00	1.291,00	1.704,00	1.704,00
Horizontal air discharge	372,00	372,00	372,00	372,00	372,00
Packing in wooden crate of basic unit	671,00	671,00	671,00	671,00	671,00
Packing in wooden crate of unit with ST module	671,00	671,00	671,00	671,00	671,00
Special skid for shipment in container of basic units	516,00	516,00	516,00	516,00	516,00
Special skid for shipment in container of units with ST module	516,00	516,00	516,00	516,00	516,00
Increased condensing section fan available pressure 100-250Pa (Reg,+/- 30Pa)	227,00	227,00	227,00	227,00	227,00
Metal mesh coil guard + Metallic filter	325,00	325,00	325,00	325,00	325,00
Finish in "RAL" colour other than basic unit standard colour	775,00	775,00	775,00	775,00	775,00
Finish in "RAL" colour other than standard for unit with ST module	775,00	775,00	775,00	775,00	775,00

## Fully pre-assembled:

- all models can be supplied pre-assembled (without any additional charge).  
In this case the unit will be delivered without refrigerant and without final test.

## The basic unit comprises:

- Certification to Directive 97/23 EEC (PED);
- Main switch
- Compressor fuses
- Coil protection guard for models 3.2 to 13.2.
- Coil protection mesh + metallic filter for models 14.4 to 26.4.
- Hour meter
- Automatic compressor rotation

(1) With double thermostatic valves and solenoid valves, "dual set-point" version evaporator is sized on the basis of high temperature operation. For two-compressor models the set-point can be changed exclusively from the control panel; on 4-compressor models the set-point can be changed from the control panel or on a digital input (specify at time of order)

(2) With "ST" module, multiply the value by 3 in two-compressor units, multiply by 2 in four-compressor units. The no-frost electric heater is not fitted on recovery heat exchangers (if present).

(-) Not available

# BETA 2002

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
124,00	124,00	124,00	124,00	124,00	186,00	186,00	186,00	186,00	186,00	186,00
186,00	186,00	186,00	186,00	186,00	248,00	248,00	248,00	248,00	248,00	248,00
310,00	310,00	310,00	310,00	310,00	671,00	671,00	671,00	671,00	671,00	671,00
8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
473,00	708,00	708,00	708,00	708,00	708,00	708,00	945,00	945,00	945,00	945,00
-	-	-	-	-	-	-	1.498,00	1.498,00	1.498,00	1.498,00
473,00	708,00	708,00	708,00	708,00	708,00	943,00	1.181,00	1.181,00	1.181,00	1.181,00
-	-	-	-	-	-	-	1.872,00	1.872,00	1.872,00	1.872,00
620,00	465,00	465,00	775,00	775,00	775,00	930,00	1.239,00	1.239,00	1.239,00	1.549,00
3.150,00	2.272,00	2.272,00	3.925,00	3.925,00	3.925,00	4.493,00	6.094,00	6.094,00	6.094,00	7.644,00
5.268,00	3.822,00	3.822,00	6.559,00	6.559,00	6.559,00	7.540,00	10.226,00	10.226,00	10.226,00	12.756,00
1.704,00	2.427,00	2.427,00	2.892,00	2.892,00	3.099,00	3.099,00	4.132,00	4.132,00	4.132,00	4.855,00
372,00	-	-	-	-	-	-	-	-	-	-
671,00	981,00	981,00	981,00	981,00	1.085,00	1.085,00	1.239,00	1.239,00	1.239,00	1.239,00
671,00	981,00	981,00	981,00	981,00	1.085,00	1.239,00	1.498,00	1.498,00	1.498,00	1.498,00
516,00	826,00	826,00	826,00	826,00	826,00	826,00	1.033,00	1.033,00	1.033,00	1.033,00
516,00	826,00	826,00	826,00	826,00	826,00	878,00	1.136,00	1.136,00	1.136,00	1.136,00
227,00	227,00	227,00	227,00	227,00	348,00	348,00	523,00	697,00	697,00	697,00
325,00	491,00	491,00	491,00	491,00	standard	standard	standard	standard	standard	standard
775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.446,00	1.859,00	1.859,00	1.859,00	1.859,00
775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.808,00	2.324,00	2.324,00	2.324,00	2.324,00

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



## ZETA 2002

Water chiller.

### Unit frame

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

### Compressors

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

### Refrigerant circuit

Comprises liquid line shut-off valve, charging connection, sight glass, drier filter, thermostatic expansion valve, safety valve, high and low-pressure switches. Models with four compressors feature pressure transducers.

### Evaporator

Braze-welded plate type with no-frost protection and mechanical flow switch.

### Condenser

Finned coil type with protection guard (models upward of 14.4 include mesh guard).

### Fans

Axial fans directly coupled to 6-pole electric motors, thermal overload cut-out and safety guard.

### Electrical panel

With main switch, power and control circuit protection, compressor and fan contactors.

**Microprocessor** control with function display.

### Testing

Units are factory tested and supplied with refrigerant charge and oil.

## ZETA 2002 /HP

Reversible heat pump

In addition to the components of model Zeta 2002: liquid receiver, four-way diverting valve and second thermostatic

expansion valve. Cycle inversion defrost function.

## HYDRAULIC MODULE OPTIONS

### ZETA 2002 /ST 2PS

In addition to the components featured on Zeta 2002: insulated storage tank, two pumps (one as stand-by with automatic changeover on 4-compressor models), expansion vessel, check valves and gate valves.

### ZETA 2002 /ST 2PS

Unlike model Zeta 2002 ST 2PS, the unit features only one pump.

### ZETA 2002 /ST 2P

Unlike model Zeta 2002 ST 2PS, the unit is not fitted with storage tank nor expansion vessel.

### ZETA 2002 /ST S

Unlike model Zeta 2002 ST 2PS, the unit does not feature pumps.

### ZETA 2002 /ST 1P

Unlike model Zeta 2002 ST 2PS, the unit does not feature a storage tank or expansion vessel, and has only one pump.

## ACCESSORY VERSIONS

### ZETA 2002 /DC

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

Not available for all /HP models and for the /ST versions as indicated in the price list.

### ZETA 2002 /DS

Unit with desuperheaters for partial (20%) recovery of rejection heat.

Not available in /ST versions with tank from models 3.2 to 13.2.

## ZETA 2002 /LN

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

## ZETA 2002 /SLN

Extra-low noise version: besides components featured on the Zeta 2002 /LN, unit features oversized condensing coil and fan speed control.

## ACCESSORIES

- condensing pressure control, managed by the controller using pressure transducer signal:
  - by step control (air up to 0 °C); only available for models 18.4 to 26.4;
  - with fan speed control (air up to -12 °C);
- dual set-point: in 4-compressor units the set-point can be modified from the control panel or by digital input (specify when ordering). Set-point activation is automatic according to detected water temperature;
- RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer. Carel communication protocol (or Modbus on 4-compressor units);
- pressure gauges (4-compressor units feature pressure readout also from controller as standard);
- no-frost electric heater on evaporator (also on tank and pipelines in /ST option);
- remote shared terminal (in addition to control on unit).

## ZETA 2002 - R407C TECHNICAL DATA

Unit size		3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2
<b>Nominal cooling capacity (*)</b>	KW	37.1	44.7	51.4	60.3	67.5	77.6	91.6	102.4
<b>Nominal heating capacity (**)</b>	KW	36.4	44.8	51.9	60.0	68.1	78.7	92.7	106.6
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Cooling power input (*)	KW	12.3	14.8	17.5	19.7	22.7	26.6	31.3	37.6
Heating power input (**)	KW	12.7	15.9	18.4	20.9	23.4	27.5	32.1	36.7
Capacity steps	%	50-100	50-100	50-100	50-100	50-100	50-100	50-100	50-100
<b>Fans</b>									
Air flow	m³/s	4.472	4.472	4.472	4.528	4.528	4.389	6.833	6.833
n° x installed power	n° x kW	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	3 x 0.6	3 x 0.6
<b>Evaporator characteristics</b>									
Water contents	l	3.6	3.6	4.2	4.2	5.2	6.3	7.3	7.3
Pressure drops	kPa	25.9	37.3	33.7	45.8	37.5	35.0	36.2	44.8
<b>Hydraulic module characteristics</b>									
Water flow rate	l/s	1.771	2.134	2.453	2.883	3.225	3.708	4.374	4.892
Pump available pressure	kPa	148	121	108	145	140	123	134	109
Storage tank capacity	l	200	200	200	200	200	200	450	450
Expansion vessel	l	18	18	18	18	18	18	18	18
<b>Noise level (***)</b>									
Basic unit	dB(A)	65.7	66.0	66.1	66.8	67.0	67.7	68.7	68.9
LN version	dB(A)	62.9	63.1	63.3	63.9	64.0	65.9	66.3	66.8
<b>Power supply</b>	V/f/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	2233	2233	2233	2233	2233	2233	3234	3234
Depth	mm	1103	1103	1103	1103	1103	1103	1103	1103
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Shipping weight (#)	kg	616	626	647	692	711	759	1006	1083

  

Unit size		12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
<b>Nominal cooling capacity (*)</b>	KW	117.9	126.6	137.0	157.6	185.8	211.0	235.8	260.7
<b>Nominal heating capacity (**)</b>	KW	119.5	132.4	136.2	157.3	185.3	213.3	239.1	264.9
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2
Cooling power input (*)	KW	40.0	45.9	44.4	52.0	61.2	72.0	80.0	88.1
Heating power input (**)	KW	40.5	44.4	46.8	55.0	64.2	73.3	81.1	88.8
Capacity steps	%	50-100	50-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100
<b>Fans</b>									
Air flow	m³/s	6.600	6.583	11.267	11.267	16.375	16.417	19.389	18.500
n° x installed power	n° x kW	3 x 0.6	3 x 0.6	2 x 2.0	2 x 2.0	3 x 2.0	3 x 2.0	4 x 2.0	4 x 2.0
<b>Evaporator characteristics</b>									
Water contents	l	8.4	9.4	5.2	6.3	7.3	7.3	8.4	9.4
Pressure drops	kPa	50.7	43.2	45.5	45.2	50.0	63.8	71.1	70.6
<b>Hydraulic module characteristics</b>									
Water flow rate	l/s	5.634	6.050	6.546	7.529	8.879	10.082	11.268	12.454
Pump available pressure	kPa	115	110	140	106	150	124	101	159
Storage tank capacity	l	450	450	340	340	700	700	700	700
Expansion vessel	l	18	18	18	18	18	18	18	18
<b>Noise level (***)</b>									
Basic unit	dB(A)	69.1	69.2	69.3	71.9	72.3	73.0	73.9	74.0
LN version	dB(A)	66.3	66.6	65.6	70.1	70.4	70.8	71.7	71.8
<b>Power supply</b>	V/f/Hz	400/3+N/50	400/3+N/50	400/3/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	3234	3234	3234	3234	4234	4234	4234	4234
Depth	mm	1103	1103	1119	1119	1119	1119	1119	1119
Height	mm	1740	1740	2380	2380	2380	2380	2380	2380
Shipping weight (#)	kg	1148	1183	1423	1479	2003	2162	2281	2393

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

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

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

(#) For heat pump units increase weight by 10%.

# ZETA 2002

Basic unit	3.2	4.2	5.2	6.2	7.2
ZETA 2002	15.235,00	16.268,00	17.430,00	18.505,00	19.078,00
ZETA 2002/HP	18.318,00	19.351,00	20.384,00	21.881,00	22.439,00
Reduction on the basic unit price for R22 refrigerant, 2,5%.					

Hydraulic module optional components	3.2	4.2	5.2	6.2	7.2
Module ST 2PS (2 pumps with tank)	4.338,00	4.338,00	4.338,00	4.338,00	4.338,00
Module ST 1PS (1 pump with tank)	3.460,00	3.460,00	3.460,00	3.460,00	3.460,00
Module ST 2P (2 pumps without tank)	3.564,00	3.564,00	3.564,00	3.564,00	3.564,00
Module ST 1P (1 pump without tank)	1.963,00	1.963,00	1.963,00	1.963,00	1.963,00
Module ST S (without pumps, with tank alone)	1.601,00	1.601,00	1.601,00	1.601,00	1.601,00

Accessory	3.2	4.2	5.2	6.2	7.2
DC - Total recovery (100% of heat rejection) excluding HP units not available with rejection	3.564,00  ←	3.654,00	3.744,00	3.899,00	4.054,00 →
DS - Partial recovery (20% of heat rejection) not available with rejection	1.343,00  ←	1.343,00	1.343,00	1.394,00	1.446,00 →
LN (Low-noise version)	671,00	671,00	671,00	671,00	671,00
SLN (Extra low-noise version)	Please contact the sales department for prices				

Refrigerant circuit accessories	3.2	4.2	5.2	6.2	7.2
Step condensation control (0 °C) (with fans on/off via microprocessor)	-	-	-	-	-
condensing pressure control with fan speed control (-20 °C)	981,00	981,00	981,00	981,00	981,00
Dual set point (high/low temperature) (1)	1.394,00	1.394,00	1.394,00	1.394,00	1.394,00
Pressure gauges	325,00	325,00	325,00	325,00	325,00
Liquid receivers (standard on HP and DC versions)	465,00 (1x18L)	465 (1x18L)	465,00 (1x18L)	568,00 (1x18L)	568,00 (1x18L)
Shut-off valves on compressor suction and discharge side	930,00	930,00	930,00	930,00	930,00
ZETA liquid line solenoid valve	258,00	258,00	258,00	310,00	310,00
ZETA/HP liquid line solenoid valve	516,00	516,00	516,00	620,00	620,00

Hydraulic circuit accessories	3.2	4.2	5.2	6.2	7.2
No-frost electric heater (2)	258,00	258,00	258,00	258,00	258,00
Safety valve on water side (ST version only)	207,00	207,00	207,00	207,00	207,00

Electrical accessories	3.2	4.2	5.2	6.2	7.2
Outlet water temperature control (except for HP versions)	-	-	-	-	-
RS485 serial interface	274,00	274,00	274,00	274,00	274,00
Power factor correction $\cos\phi \geq 0,9$	1.188,00	1.188,00	1.188,00	1.239,00	1.239,00
Variable set-point by remote signal (0-1V, 0-10V, 0-4mA, 0-20mA)	-	-	-	-	-

# ZETA 2002

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
20.762,00	25.048,00	26.339,00	27.889,00	29.438,00	34.319,00	37.598,00	45.448,00	48.857,00	51.078,00	54.744,00
24.619,00	28.750,00	30.816,00	32.882,00	34.844,00	41.662,00	44.166,00	53.742,00	58.249,00	60.248,00	63.852,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.338,00	4.958,00	4.958,00	5.474,00	5.474,00	6.921,00	6.921,00	8.367,00	8.367,00	8.367,00	9.296,00
3.460,00	4.080,00	4.080,00	4.596,00	4.596,00	5.681,00	5.681,00	6.559,00	6.559,00	6.559,00	7.230,00
3.564,00	3.409,00	3.409,00	3.925,00	3.925,00	5.113,00	5.113,00	6.456,00	6.456,00	6.456,00	7.385,00
1.963,00	2.169,00	2.169,00	2.686,00	2.686,00	3.615,00	3.615,00	4.648,00	4.648,00	4.648,00	5.320,00
1.601,00	1.911,00	1.911,00	1.911,00	1.911,00	1.911,00	1.911,00	3.667,00	3.667,00	3.667,00	3.667,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.932,00	5.113,00	5.629,00	5.668,00	5.707,00	8.108,00	9.864,00	10.226,00	11.259,00	11.336,00	11.414,00
←	ST 2PS - ST 1PS - STS			→	all ST versions		←	ST 2PS - ST 1PS		→
1.498,00	1.498,00	1.653,00	1.653,00	1.653,00	2.892,00	2.995,00	2.995,00	3.305,00	3.305,00	3.305,00
←	ST 2PS - ST 1PS - STS			→	-	-	-	-	-	-
671,00	1.007,00	1.007,00	1.007,00	1.007,00	1.343,00	1.343,00	1.756,00	1.756,00	1.756,00	1.756,00

Please contact the sales department for prices

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	-	-	-	-	-	-	516,00	516,00	516,00	516,00
981,00	1.136,00	1.136,00	1.136,00	1.136,00	2.117,00	2.117,00	2.841,00	2.841,00	2.841,00	2.841,00
1.394,00	1.394,00	1.394,00	1.394,00	1.394,00	2.789,00	2.789,00	2.789,00	2.789,00	2.789,00	2.789,00
325,00	325,00	325,00	325,00	325,00	651,00	651,00	651,00	651,00	651,00	651,00
568,00 (1x18L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	1.136,00 (2x18L)	1.136,00 (2x18L)	1.446,00 (2x24L)	1.446 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)
981,00	981,00	981,00	1.059,00	1.136,00	1.859,00	1.963,00	1.963,00	1.963,00	2.117,00	2.272,00
310,00	491,00	491,00	491,00	491,00	620,00	620,00	981,00	981,00	981,00	981,00
620,00	491,00	491,00	491,00	491,00	620,00	620,00	981,00	981,00	981,00	981,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
258,00	258,00	258,00	258,00	258,00	516,00	516,00	516,00	516,00	516,00	516,00
207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00	207,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	-	-	-	-	165,00	165,00	165,00	165,00	165,00	165,00
274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00	274,00
1.291,00	1.291,00	1.343,00	1.343,00	1.343,00	2.376,00	2.376,00	2.582,00	2.582,00	2.582,00	2.582,00
-	-	-	-	-	775,00	775,00	775,00	775,00	775,00	775,00

# ZETA 2002

Electrical accessories	3.2	4.2	5.2	6.2	7.2
Single volt-free contacts for compressors/fans operation (Basic unit)	124,00	124,00	124,00	124,00	124,00
Single volt-free contacts for compressors/pump operation (Unit with pumps)	186,00	186,00	186,00	186,00	186,00
Remote shared terminal	310,00	310,00	310,00	310,00	310,00
Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Rubber antivibration mounts for basic unit	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts for basic unit	-	-	-	-	-
Rubber antivibration mounts for unit with ST module	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts for unit with ST module	-	-	-	-	-
Pre-painted aluminium condensing coil	310,00	310,00	310,00	413,00	413,00
Copper-copper condensing coil	1.498,00	1.498,00	1.498,00	2.117,00	2.117,00
Tinned copper/copper condensing coil	2.531,00	2.531,00	2.531,00	3.512,00	3.512,00
Blygold Polual treated condensing coil	1.291,00	1.291,00	1.291,00	1.704,00	1.704,00
Packing in wooden crate of basic unit	671,00	671,00	671,00	671,00	671,00
Packing in wooden crate of unit with ST module	671,00	671,00	671,00	671,00	671,00
Special skid for shipment in container of basic units	413,00	413,00	413,00	413,00	413,00
Special skid for shipment in container of units with ST module	413,00	413,00	413,00	413,00	413,00
Metal mesh coil guard + Metallic filter	325,00	325,00	325,00	325,00	325,00
Finish in "RAL" colour other than basic unit standard colour	775,00	775,00	775,00	775,00	775,00
Finish in "RAL" colour other than standard for unit with ST module	775,00	775,00	775,00	775,00	775,00

## Fully pre-assembled:

- all models can be supplied fully pre-assembled (without any additional charge). In this case the unit will be delivered without refrigerant and without final test.

## The basic unit comprises:

- Certification to directive 97/23 EEC (PED);
- Main switch
- Compressor fuses
- Coil protection guard for models 3.2 to 13.2.
- Coil protection mesh + metallic filter for models 14.4 to 26.4.
- Hour meter
- Automatic compressor rotation

(1) With double thermostatic valves and solenoid valves, the evaporator in the "dual set point" unit is sized on the basis of high temperature operation. For two-compressor models the set-point can be changed exclusively from the control panel; on 4-compressor models the set-point can be changed from the control panel or on a digital input (specify at time of order)

(2) With "ST" module, multiply the value by 3 in two-compressor units, multiply by 2 in four-compressor units. The no-frost electric heater is not fitted on recovery heat exchangers (if present).

(-) Not available



# ZETA 2002

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
124,00	124,00	124,00	124,00	124,00	186,00	186,00	186,00	186,00	186,00	186,00
186,00	186,00	186,00	186,00	186,00	248,00	248,00	248,00	248,00	248,00	248,00
310,00	310,00	310,00	310,00	310,00	671,00	671,00	671,00	671,00	671,00	671,00
8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
473,00	708,00	708,00	708,00	708,00	708,00	708,00	945,00	945,00	945,00	945,00
-	-	-	-	-	-	-	1.498,00	1.498,00	1.498,00	1.498,00
473,00	708,00	708,00	708,00	708,00	708,00	708,00	1.181,00	1.181,00	1.181,00	1.181,00
-	-	-	-	-	-	-	1.872,00	1.872,00	1.872,00	1.872,00
620,00	465,00	465,00	775,00	775,00	775,00	930,00	1.239,00	1.239,00	1.239,00	1.549,00
3.150,00	2.272,00	2.272,00	3.925,00	3.925,00	3.925,00	4.493,00	6.094,00	6.094,00	6.094,00	7.644,00
5.268,00	3.822,00	3.822,00	6.559,00	6.559,00	6.559,00	7.540,00	10.226,00	10.226,00	10.226,00	12.756,00
1.704,00	2.427,00	2.427,00	2.892,00	2.892,00	3.099,00	3.099,00	4.132,00	4.132,00	4.132,00	4.855,00
671,00	1.033,00	1.033,00	1.033,00	1.033,00	1.136,00	1.136,00	1.343,00	1.343,00	1.343,00	1.343,00
671,00	1.033,00	1.033,00	1.033,00	1.033,00	1.136,00	1.136,00	1.601,00	1.601,00	1.601,00	1.601,00
413,00	620,00	620,00	620,00	620,00	723,00	723,00	775,00	775,00	775,00	775,00
413,00	620,00	620,00	620,00	620,00	723,00	723,00	826,00	826,00	826,00	826,00
325,00	491,00	491,00	491,00	491,00	standard	standard	standard	standard	standard	standard
775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.446,00	1.859,00	1.859,00	1.859,00	1.859,00
775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.446,00	2.324,00	2.324,00	2.324,00	2.324,00

**Water chillers  
and air/water heat pumps  
with axial fans  
and screw compressor**



## KAPPA.V 2001

Water chiller

### Unit frame

In galvanized sheet steel, with epoxy-polyester powder paint (colour RAL 7032) baked.

### Compressor

Semi-hermetic twin-screw compressor, direct male-female rotor transmission, with two capacity steps, fitted with crankcase heater and thermal overload protection. Star-delta starting.

### Refrigerant circuit

Independent circuits with compressor delivery shut-off valve, liquid line shut-off valve, charging connection, sight glass, drier filter, thermostatic expansion valve, high and low-pressure switches, safety valve.

### Evaporator

Braze-welded plate type with no-frost protection and mechanical flow switch.

### Condenser

V-type with finned coil.

### Fans

Axial fans directly coupled to 6-pole electric motors, thermal overload switch and safety guard.

### Electrical panel

With main switch, power and control circuit protection, compressor and fan contactors.

**Microprocessor** control with function display.

### Testing

Units are factory tested and supplied with refrigerant charge and oil.

## KAPPA.V 2001 /HP

Reversible heat pump

In addition to the components of model

Kappa.V 2001: suction line separator, liquid receiver, four-way diverting valve and second thermostatic expansion valve. Cycle inversion defrost function.

## HYDRAULIC MODULE OPTIONS

### KAPPA.V 2001 /ST 2PS

In addition to the components featured on model Kappa.V 2001: insulated storage tank, two pumps (one as stand-by with automatic changeover), expansion vessel, check valves and gate valves. Not available for models 16.1 and 18.1.

### KAPPA.V 2001 /ST 2PS

Unlike model Kappa.V 2001 ST 2PS, the unit features only one pump.

### KAPPA.V 2001 /ST 2P

Unlike model Kappa.V 2001 ST 2PS, the unit is not fitted with storage tank.

### KAPPA.V 2001 /ST 1P

Unlike model Kappa.V 2001 ST 2PS, the unit is not fitted with a storage tank and has only one pump.

## ACCESSORY VERSIONS

### KAPPA.V 2001 /DC

Unit with total heat recovery condenser, liquid receiver, water control thermostat and heat recovery safety device pressure switch. Contacts on terminal board for external enabling.

Not available in /HP version and in /ST versions with tank from models 32.2 to 55.2.

### KAPPA.V 2001 /DS

Unit with desuperheaters for partial (20%) recovery of heat rejection.

## KAPPA.V 2001 /LN

Low-noise version: compressor is housed in galvanised painted steel sound-proofed compartment, internally clad with sound-absorbing mat and high acoustic impedance material.

## ACCESSORIES

- condensing pressure control with fan speed regulator (ambient air down to -20 °C), managed by the controller using pressure transducer signal;
- outlet water temperature control (except for /HP versions);
- dual set-point: the set-point can be modified from the control panel or by digital input (specify when ordering). Set-point changeover is automatic according to detected water temperature;
- RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer. Carel or Modbus communication protocol;
- continuous capacity control from 100% to 50% output (also possible from 100% to 25%);
- no-frost electric heater on evaporator (also on tank and pipelines in /ST option);
- protection guard with mesh filter installed flush to housing surface;
- electronic expansion valve (except for /HP versions);
- remote shared terminal (in addition to microprocessor fitted on electric panel).

## KAPPA.V 2001 - R407C TECHNICAL DATA

Unit size		16.1	18.1	23.1	27.1	32.2
<b>Nominal cooling capacity (*)</b>	kW	155.9	180.2	223.8	269.5	311.7
<b>Nominal heating capacity (**)</b>	kW	154.5	178.7	219.5	263.4	309.1
<b>Compressors</b>						
Quantity/Refrigerant circuits	n°	1/1	1/1	1/1	1/1	2/2
Cooling power input (*)	kW	60.1	69.5	83.9	100.1	120.3
Heating power input (**)	kW	58.4	67.5	81.4	97.1	116.7
Capacity steps	%	50-100	50-100	50-100	50-100	25-50-75-100
<b>Fans</b>						
Air flow	m³/s	10.833	10.833	22.222	20.889	21.111
n° x installed power	n° x kW	2 x 2.0	2 x 2.0	4 x 2.0	4 x 2.0	4 x 2.0
<b>Evaporator characteristics</b>						
Exchanger Water contents	l	1 x 14.3	1 x 15.7	1 x 22.0	1 x 22.0	2 x 14.3
Pressure drops	kPa	39.6	45.2	26.7	38.7	39.6
<b>Hydraulic module characteristics</b>						
Water flow rate	l/s	-	-	10.691	12.878	14.894
Pump available pressure	kPa	-	-	253	231	205
Storage tank capacity	l	-	-	600	600	600
Expansion vessel	l	-	-	18	18	18
<b>Noise level (***)</b>						
Basic unit	dB(A)	79.0	79.5	80.4	80.9	80.6
LN version	dB(A)	74.7	74.9	75.9	76.0	76.1
<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>						
Width	mm	2649	2649	2789	2789	2796
Depth	mm	1256	1256	2303	2303	2280
Height	mm	2385	2385	2385	2385	2385
Shipping weight (#)	kg	1305	1331	1842	1892	2583

Unit size		37.2	41.2	46.2	50.2	55.2
<b>Nominal cooling capacity (*)</b>	kW	360.3	403.9	447.5	493.3	539.1
<b>Nominal heating capacity (**)</b>	kW	357.3	398.1	439.0	482.9	526.9
<b>Compressors</b>						
Quantity/Refrigerant circuits	n°	2/2	2/2	2/2	2/2	2/2
Cooling power input (*)	kW	139.1	153.5	167.9	184.0	200.2
Heating power input (**)	kW	134.9	148.9	162.9	178.5	194.1
Capacity steps	%	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100
<b>Fans</b>						
Air flow	m³/s	21.667	31.500	31.556	42.556	41.778
n° x installed power	n° x kW	4 x 2.0	6 x 2.0	6 x 2.0	8 x 2.0	8 x 2.0
<b>Evaporator characteristics</b>						
Exchanger Water contents	l	2 x 15.7	1 x 42.8	1 x 42.8	2 x 22.0	2 x 22.0
Pressure drops	kPa	45.2	29.9	36.7	32.4	38.7
<b>Hydraulic module characteristics</b>						
Water flow rate	l/s	17.217	19.300	21.383	23.569	25.755
Pump available pressure	kPa	164	219	199	186	159
Storage tank capacity	l	600	750	750	750	750
Expansion vessel	l	18	18	18	18	18
<b>Noise level (***)</b>						
Basic unit	dB(A)	81.1	81.5	82.4	83.3	83.4
LN version	dB(A)	76.4	77.0	77.1	78.4	78.6
<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>						
Width	mm	2796	3991	3991	5201	5201
Depth	mm	2280	2280	2280	2280	2280
Height	mm	2385	2385	2385	2385	2385
Shipping weight (#)	kg	2625	3267	3412	3899	3961

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

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

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

(#) For heat pump units increase weight by 10%.

# KAPPA.V 2001

Basic unit	16.1	18.1	23.1
KAPPA,V 2001	36.152,00	39.716,00	50.200,00
KAPPA,V 2001/HP	45.328,00	49.770,00	62.785,00
Reduction of basic unit price for R22 refrigerant, 2,5%.			
Hydraulic module options	16.1	18.1	23.1
Module ST 2PS (2 pumps with tank)	-	-	8.005,00
Module ST 1PS (1 pump with tank)	-	-	6.456,00
Module ST 2P (2 pumps without tank)	-	-	6.456,00
Module ST 1P (1 pump without tank)	-	-	3.977,00
Accessory	16.1	18.1	23.1
DC - Total recovery (100% of heat rejection) excluding HP units	6.043,00	6.456,00	8.935,00
DS - Partial recovery (20% of heat rejection)	2.376,00	2.531,00	2.841,00
LN (Low-noise version)	1.756,00	1.756,00	1.756,00
Refrigerant circuit accessories	16.1	18.1	23.1
Condensing pressure control with fan speed control (-20 °C)	2.221,00	2.221,00	2.944,00
Dual set-point (high/low temperature) (5)	1.911,00	1.911,00	2.117,00
Pressure gauges	168,00	168,00	168,00
Three capacity steps	620,00	620,00	620,00
Six capacity steps	-	-	-
Continuous capacity control (except for HP versions)	775,00	775,00	775,00
Liquid receivers (standard on HP and DC versions)	723,00 (1x24L)	723,00 (1x24L)	1.446,00 (2x24L)
Compressor suction shut-off valves	620,00	620,00	826,00
Liquid line solenoid valve (6)	516,00	775,00	775,00
Electronic expansion valve (except for HP versions)	2.531,00	2.531,00	2.531,00
Hydraulic circuit accessories	16.1	18.1	23.1
Hydraulic connections flush with machine	-	-	-
Water manifold	-	-	-
No-frost electric heater (9)	491,00	491,00	491,00
Safety valve on water side (ST version only)	207,00	207,00	207,00
Electrical accessories	16.1	18.1	23.1
Outlet water temperature control (except for HP versions)	165,00	165,00	165,00
RS485 serial interface	274,00	274,00	274,00

# KAPPA.V 2001

27.1	32.2	37.2	41.2	46.2	50.2	55.2
55.364,00	69.205,00	76.900,00	90.793,00	94.563,00	102.310,00	106.287,00
69.189,00	86.335,00	95.838,00	113.088,00	117.736,00	127.342,00	132.248,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
8.005,00	8.780,00 (1)	8.780,00 (1)	11.362,00 (2)	11.362,00 (2)	12.602,00 (2)	12.602,00 (2)
6.456,00	7.230,00 (1)	7.230,00 (1)	9.296,00 (2)	9.296,00 (2)	10.536,00 (2)	10.536,00 (2)
6.456,00	7.230,00	7.230,00	9.813,00	9.813,00	11.052,00	11.052,00
3.977,00	4.390,00	4.390,00	5.681,00	5.681,00	6.301,00	6.301,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
8.935,00	12.085,00 (3)	12.912,00 (3)	15.391,00 (3)	17.870,00 (3)	17.870,00 (3)	17.870,00 (3)
3.460,00	4.751,00 (4)	5.061,00 (4)	5.371,00 (4)	5.681,00 (4)	6.352,00 (4)	6.972,00 (4)
1.756,00	3.512,00	3.512,00	3.512,00	3.512,00	3.512,00	3.512,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
2.944,00	3.099,00	3.099,00	4.958,00	4.958,00	4.958,00	4.958,00
2.117,00	3.822,00	3.822,00	4.028,00	4.235,00	4.235,00	4.235,00
168,00	336,00	336,00	336,00	336,00	336,00	336,00
620,00	-	-	-	-	-	-
-	1.239,00	1.239,00	1.239,00	1.239,00	1.239,00	1.239,00
775,00	1.549,00	1.549,00	1.549,00	1.549,00	1.549,00	1.549,00
1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)	2.892,00 (4x24L)	2.892,00 (4x24L)	2.892,00 (4x24L)	2.892,00 (4x24L)
826,00	1.239,00	1.239,00	1.446,00	1.653,00	1.653,00	1.653,00
1.291,00	1.033,00	1.549,00	1.549,00	1.549,00	2.066,00	2.582,00
2.531,00	5.061,00	5.061,00	5.061,00	5.061,00	5.061,00	5.061,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
-	-	-	413,00	413,00	-	-
-	826,00 (7)	826,00 (7)	-	-	930,00 (8)	930,00 (8)
491,00	697,00	697,00	697,00	697,00	697,00	697,00
207,00	207,00	207,00	207,00	207,00	207,00	207,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
165,00	165,00	165,00	165,00	165,00	165,00	165,00
274,00	274,00	274,00	274,00	274,00	274,00	274,00

# KAPPA.V 2001

Electrical accessories	16.1	18.1	23.1
Power factor correction $\cos\theta \geq 0,9$	1.343,00	1.343,00	1.343,00
Variable set-point by remote signal (0-1V, 0-10V, 0-4mA, 0-20mA)	362,00	362,00	362,00
Single volt-free contacts for compressors/fan operation (Basic unit)	93,00	93,00	124,00
Single volt-free contacts for compressors/pump operation (Unit with pumps)	-	-	186,00
Remote shared terminal	671,00	671,00	671,00
Miscellaneous accessories	16.1	18.1	23.1
Rubber antivibration mounts	413,00	413,00	878,00
Spring antivibration mounts	775,00	775,00	1.601,00
Pre-painted aluminium condensing coil	1.136,00	1.136,00	1.343,00
Copper/copper condensing coil	5.423,00	5.423,00	6.507,00
Tinned copper/copper condensing coil	-	-	10.846,00
Blygold Polual treated condensing coil	3.925,00	3.925,00	5.113,00
Packing in wooden crate	1.085,00	1.085,00	1.498,00
Special skid for shipment in container	671,00	671,00	930,00
Metal mesh coil guard + Metallic filter	1.085,00	1.085,00	1.446,00
Painting in non-standard "RAL" colour	1.808,00	1.808,00	2.479,00

## Fully pre-assembled:

- all models can be supplied fully pre-assembled (without any additional charge).  
In this case the unit will be delivered without refrigerant and without final testing.

## The basic unit comprises:

- Certification to directive 97/23 EEC (PED);
- Main switch
- Compressor fuses
- Microprocessor control
- Hour meter
- Automatic compressor rotation
- Microprocessor display of high and low pressure
- Star-delta starting
- Compressor capacity control (2 steps for each compressor)
- Compressor discharge shut-off valves

- (1) Cannot be combined with versions HP, DC and DS
- (2) Cannot be combined with versions DC and DS
- (3) Not available with layouts: HP, ST 2PS, ST 1PS
- (4) Not available with layouts: ST 2PS, ST 1PS
- (5) With double thermostatic valves and solenoid valves, the evaporator in the "dual set-point" unit is sized on the basis of high temperature operation. The set-point can be changed from the control panel or on a digital input (specify at time of order).
- (6) The unit is equipped as standard with a device that isolates the liquid line, closing the expansion valve when the compressor stops.

- (7) External water manifold.  
Installed as standard on ST version.
- (8) Water manifold, supplied installed internally.  
Installed as standard on ST version.
- (9) With "ST" module, multiply the value by 3.  
The no-frost electric heater is not fitted on recovery heat exchangers (if present).
- (-) Not available.

# KAPPA.V 2001

27.1	32.2	37.2	41.2	46.2	50.2	55.2
1.808,00	2.686,00	2.686,00	2.686,00	2.686,00	3.150,00	3.615,00
362,00	775,00	7752,00	775,00	775,00	775,00	775,00
124,00	186,00	186,00	248,00	248,00	248,00	248,00
186,00	248,00	248,00	310,00	310,00	310,00	310,00
671,00	671,00	671,00	671,00	671,00	671,00	671,00

27.1	32.2	37.2	41.2	46.2	50.2	55.2
878,00	878,00	878,00	878,00	878,00	1.085,00	1.085,00
1.601,00	1.601,00	1.601,00	1.601,00	1.601,00	2.014,00	2.014,00
1.704,00	2.272,00	2.272,00	2.841,00	3.099,00	3.047,00	3.409,00
8.263,00	10.897,00	10.897,00	13.686,00	15.029,00	14.771,00	16.527,00
13.789,00	-	-	-	-	24.635,00	27.579,00
6.146,00	7.850,00	7.850,00	10.071,00	10.949,00	11.259,00	12.292,00
1.498,00	1.653,00	1.653,00	2.169,00	2.169,00	2.686,00	2.686,00
930,00	930,00	930,00	1.085,00	1.085,00	1.188,00	1.188,00
1.446,00	1.446,00	1.446,00	1.859,00	1.859,00	2.221,00	2.221,00
2.479,00	2.737,00	2.737,00	4.493,00	4.493,00	5.113,00	5.113,00

**Condensing units and  
air/water heat pumps with  
centrifugal fans  
and hermetic scroll compressors**



**BETA 2002 LE**  
Condensing unit

**Unit frame**

In galvanized sheet steel, stove enamelled with epoxy-polyester powder coating (colour RAL 5014). Removable panels are internally soundproofed with a sound-absorbing mat.

**Compressors**

Hermetic scroll compressors connected in tandem. Fitted with crankcase heater, thermal overload protection, level indicator and oil equalisation line.

**Refrigerant circuit**

It includes: solenoid valve, liquid line shut-off valve, charging connection, sight glass, drier filter, safety valve, high and low-pressure switches.

**Condenser**

Finned coil type with protection guard (models upward of 14.4 include metal filter).

**Fans**

Centrifugal fans with three-phase, 4-pole motors, V-belt/pulley transmission and safety guard on delivery outlet.

**Electrical panel**

With main switch, power and control circuit protection, compressor and fan contactors.

**Microprocessor** control with function display (2 compressor model only).

**Testing**

Units are subjected to a dry run and supplied with oil.

**BETA 2002 LE/HP**

Reversible condensing unit (heat pump).

In addition to the components of model Beta 2002 /LE: condensate drain pan, liquid receiver, four-way diverting valve and thermostatic expansion valve.

**ACCESSORY VERSIONS**

**BETA 2002 LE/DC**

Unit with 100% heat recovery condenser, water temperature thermostat and heat recovery safety device pressure switch. Contacts on terminal board for external enabling. Not available for all /HP models.

**BETA 2002 LE/DS**

Unit with desuperheaters for partial (20%) recovery of rejection heat.

**BETA 2002 LE/LN**

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

**BETA 2002 LE/SLN**

Extra-low noise version: in addition to the components of model Beta 2002 LE /LN, this unit features oversized condensing coil and fan speed control.

**ACCESSORIES**

- condensing pressure control:
  - via ambient fans on/off temperature-probe (up to +5 °C); not available for models from 3.2 to 8.2 and for model 14.4;
  - with modulating damper (air down to -12 °C), using gas pressure signal read by transducers;
- RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer. Provides with carel communication protocol. Available on 2-compressor model only;
- remote shared terminal in addition to control on unit (2-compressor model only);
- thermostat valves for remote evaporator.



## BETA 2002/LE - R407C TECHNICAL DATA

Unit size		3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2
<b>Nominal cooling capacity (*)</b>	kW	46.1	55.3	63.6	74.7	83.6	95.8	113.1	126.7
<b>Nominal heating capacity (**)</b>	kW	38.5	47.1	54.8	63.2	71.6	83.1	97.6	112.0
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Cooling power input (*)	kW	11.9	14.8	17.5	19.7	22.8	26.7	31.7	38.3
Heating power input (**)	kW	9.6	11.8	13.6	15.7	17.8	20.7	24.3	27.8
Capacity steps	%	50-100	50-100	50-100	50-100	50-100	50-100	50-100	50-100
<b>Fans</b>									
Air flow	m³/s	5.278	5.278	5.278	5.833	5.833	6.111	8.333	8.333
Available static pressure	Pa	50	50	50	50	50	50	50	50
n° x installed power	n° x kW	2 x 1.5	2 x 1.5	2 x 1.5	2 x 2.2	2 x 2.2	2 x 2.2	3 x 2.2	3 x 2.2
<b>Noise level (***)</b>									
Basic unit	dB(A)	71.4	71.8	71.9	72.4	72.6	73.6	74.3	74.4
LN version	dB(A)	68.9	69.4	69.3	69.9	69.9	70.9	71.9	71.5
<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	2233	2233	2233	2233	2233	2233	3234	3234
Depth	mm	1003	1003	1003	1003	1003	1003	1103	1103
Height	mm	1630	1630	1630	1630	1630	1630	1630	1630
Shipping weight (#)	kg	680	690	700	745	761	804	1082	1159

Unit size		12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
<b>Nominal cooling capacity (*)</b>	kW	145.3	155.7	169.5	194.4	229.5	261.0	290.6	320.2
<b>Nominal heating capacity (**)</b>	kW	124.9	137.8	143.1	166.2	195.1	224.1	249.9	275.7
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2
Cooling power input (*)	kW	40.9	47.0	44.7	52.3	62.1	73.4	81.8	90.1
Heating power input (**)	kW	30.7	33.6	35.7	41.5	48.6	55.7	61.4	67.2
Capacity steps	%	50-100	50-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100
<b>Fans</b>									
Air flow	m³/s	8.333	8.333	10.000	13.333	15.833	19.444	19.444	18.500
Available static pressure	Pa	50	50	50	50	50	50	50	50
n° x installed power	n° x kW	3 x 2.2	3 x 2.2	2 x 4.0	3 x 3.0	3 x 4.0	4 x 4.0	4 x 4.0	4 x 4.0
<b>Noise level (***)</b>									
Basic unit	dB(A)	71.4	71.8	71.9	72.4	72.6	73.6	74.3	74.4
LN version	dB(A)	68.9	69.4	69.3	69.9	69.9	70.9	71.9	71.5
<b>Power supply</b>	V/f/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	3234	3234	3234	3234	4234	4234	4234	4234
Depth	mm	1103	1103	1119	1119	1119	1119	1119	1119
Height	mm	1630	1630	2130	2130	2130	2130	2130	2130
Shipping weight (#)	kg	1220	1250	1368	1486	1890	2165	2225	2325

# BETA 2002/LE

Basic unit	3.2	4.2	5.2	6.2	7.2
BETA 2002/LE	13.888,00	15.017,00	15.676,00	16.835,00	17.188,00
BETA 2002/LE/HP	17.405,00	18.549,00	19.273,00	20.205,00	20.750,00

Accessory	3.2	4.2	5.2	6.2	7.2
DC - Total recovery (100% of heat rejection) excluding HP units	3.564,00	3.654,00	3.744,00	3.899,00	4.054,00
DS - Partial recovery (20% of heat rejection)	1.343,00	1.343,00	1.343,00	1.394,00	1.446,00
LN (Low-noise version)	671,00	671,00	671,00	671,00	671,00
SLN (Extra low-noise version)	Please contact the sales department for prices				

Refrigerant circuit accessories	3.2	4.2	5.2	6.2	7.2
Step condensing pressure control (+5 °C) (with fans on/off via microprocessor)	-	-	-	-	-
Condensing pressure control with modulating damper (-12 °C)	1.549,00	1.549,00	1.549,00	1.549,00	1.549,00
Capacity control with hot gas by-pass valves plus liquid injection	3.200,00	3.200,00	3.200,00	3.700,00	3.700,00
Pressure gauges	325,00	325,00	325,00	325,00	325,00
Liquid receivers (standard on HP and DC versions)	465,00 (1x18L)	465,00 (1x18L)	465,00 (1x18L)	568,00 (1x18L)	568,00 (1x18L)
Shut-off valves on compressor suction and discharge side	930,00	930,00	930,00	930,00	930,00
Thermostatic valve for remote evaporator	138,00	138,00	138,00	138,00	138,00

Hydraulic circuit accessories	3.2	4.2	5.2	6.2	7.2
No-frost electric heater on 100% recovery condenser	258,00	258,00	258,00	258,00	258,00

Electrical accessories	3.2	4.2	5.2	6.2	7.2
RS485 serial interface	274,00	274,00	274,00	274,00	274,00
Power factor correction $\cos\phi \geq 0,9$	1.188,00	1.188,00	1.188,00	1.239,00	1.239,00
Single volt-free contacts for compressors/fan operation	124,00	124,00	124,00	124,00	124,00
Remote shared terminal	310,00	310,00	310,00	310,00	310,00

Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Rubber antivibration mounts	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts	-	-	-	-	-
Pre-painted aluminium condensing coil	310,00	310,00	310,00	413,00	413,00
Copper/copper condensing coil	1.498,00	1.498,00	1.498,00	2.117,00	2.117,00
Tinned copper/copper condensing coil	2.531,00	2.531,00	2.531,00	3.512,00	3.512,00
Blygold Polual treated condensing coil	1.291,00	1.291,00	1.291,00	1.704,00	1.704,00
Horizontal air discharge	372,00	372,00	372,00	372,00	372,00
Packing in wooden crate	671,00	671,00	671,00	671,00	671,00

# BETA 2002/LE

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
18.620,00	22.773,00	24.145,00	25.264,00	26.429,00	28.272,00	31.315,00	39.732,00	43.559,00	46.084,00	48.576,00
22.424,00	26.452,00	28.645,00	30.399,00	31.635,00	34.921,00	37.267,00	48.008,00	52.811,00	55.218,00	58.148,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.932,00	5.113,00	5.629,00	5.668,00	5.707,00	8.108,00	9.864,00	10.226,00	11.259,00	11.336,00	11.414,00
1.498,00	1.498,00	1.653,00	1.653,00	1.653,00	2.892,00	2.995,00	2.995,00	3.305,00	3.305,00	3.305,00
671,00	1.007,00	1.007,00	1.007,00	1.007,00	1.343,00	1.343,00	1.756,00	1.756,00	1.756,00	1.756,00
Please contact the sales department for prices										

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	775,00	775,00	775,00	775,00	-	775,00	775,00	775,00	775,00	775,00
1.549,00	1.756,00	1.756,00	1.756,00	1.756,00	2.117,00	2.117,00	2.892,00	2.892,00	2.892,00	2.892,00
3.700,00	3.700,00	3.700,00	3.700,00	3.700,00	7.400,00	7.400,00	7.400,00	7.400,00	7.400,00	7.400,00
325,00	325,00	325,00	325,00	325,00	651,00	651,00	651,00	651,00	651,00	651,00
568,00 (1x18L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	1.136,00 (2x18L)	1.136,00 (2x18L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)
981,00	981,00	981,00	1.059,00	1.136,00	1.859,00	1.963,00	1.963,00	1.963,00	2.117,00	2.272,00
138,00	312,00	312,00	312,00	312,00	312,00	312,00	623,00	623,00	623,00	623,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
258,00	258,00	258,00	258,00	258,00	516,00	516,00	516,00	516,00	516,00	516,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
274,00	274,00	274,00	274,00	274,00	-	-	-	-	-	-
1.291,00	1.291,00	1.343,00	1.343,00	1.343,00	2.376,00	2.376,00	2.582,00	2.582,00	2.582,00	2.582,00
124,00	124,00	124,00	124,00	124,00	186,00	186,00	186,00	186,00	186,00	186,00
310,00	310,00	310,00	310,00	310,00	-	-	-	-	-	-

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
473,00	708,00	708,00	708,00	708,00	708,00	708,00	945,00	945,00	945,00	945,00
-	-	-	-	-	-	-	1.498,00	1.498,00	1.498,00	1.498,00
620,00	465,00	465,00	775,00	775,00	775,00	930,00	1.239,00	1.239,00	1.239,00	1.549,00
3.150,00	2.272,00	2.272,00	3.925,00	3.925,00	3.925,00	4.493,00	6.094,00	6.094,00	6.094,00	7.644,00
5.268,00	3.822,00	3.822,00	6.559,00	6.559,00	6.559,00	7.540,00	10.226,00	10.226,00	10.226,00	12.756,00
1.704,00	2.427,00	2.427,00	2.892,00	2.892,00	3.099,00	3.099,00	4.132,00	4.132,00	4.132,00	4.855,00
372,00	-	-	-	-	-	-	-	-	-	-
671,00	981,00	981,00	981,00	981,00	1.085,00	1.085,00	1.239,00	1.239,00	1.239,00	1.239,00

# BETA 2002/LE

Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Increase in price for fully pre-assembled construction	620,00	620,00	620,00	620,00	620,00
Special skid for shipment in container	516,00	516,00	516,00	516,00	516,00
Increased condensing section fan available pressure 100-250 Pa (Reg,+/- 30Pa)	227,00	227,00	227,00	227,00	227,00
Metal mesh coil guard + Metallic filter	325,00	325,00	325,00	325,00	325,00
Finish in "RAL" colour other than standard	775,00	775,00	775,00	775,00	775,00

#### The basic unit comprises:

- Certification to directive 97/23 EEC (PED);
- Main switch
- Compressor fuses
- Coil protection guard for models 3.2 to 13.2.
- Mesh coil guard + Metallic filter for models for models 14.4 to 26.4.
- Hour meter
- Automatic compressor rotation (only for units with 2 compressors)
- Liquid line solenoid valve

(-) Not available.

# BETA 2002/LE

	8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
	620,00	930,00	930,00	930,00	930,00	1.240,00	1.240,00	1.650,00	1.650,00	1.650,00	1.650,00
	516,00	826,00	826,00	826,00	826,00	826,00	826,00	1.033,00	1.033,00	1.033,00	1.033,00
	227,00	227,00	227,00	227,00	227,00	348,00	348,00	523,00	697,00	697,00	697,00
	325,00	491,00	491,00	491,00	491,00	standard	standard	standard	standard	standard	standard
	775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.446,00	1.859,00	1.859,00	1.859,00	1.859,00

**Condensing units  
and air/water heat pumps  
with axial fans  
and hermetic scroll compressors**



**ZETA 2002 LE**  
Condensing unit

**Unit frame**  
In galvanized steel, with epoxy-polyester powder paint (colour RAL 5014) baked. Removable panels are internally soundproofed with a sound-absorbing mat.

**Compressors**  
Hermetic scroll compressors connected in tandem. Fitted with electric heater, thermal overload protection, level indicator and oil equalisation line.

**Refrigerant circuit**  
It includes: solenoid valve, liquid line shut-off valve, charging connection, sight glass, drier filter, safety valve, high and low-pressure switches.

**Condenser**  
Finned coil type with protection guard (models upward of 14.4 include metal filter).

**Fans**  
Axial fans directly coupled to 6-pole electric motors, thermal overload cut-out and safety guard.

**Electrical panel**  
With main switch, power and control circuit protection, compressor and fan contactors.

**Microprocessor** control with function display (2 compressor model only).

**Testing**  
Units are factory subjected to adry run and supplied with oil.

**ZETA 2002 LE /HP**  
Reversible condensing unit (heat pump)

In addition to the components of model Zeta 2002 LE: liquid receiver, four-way diverting valve and thermostatic expansion valve.

**ACCESSORY VERSIONS**

**ZETA 2002 LE /DC**  
Unit with 100% heat recovery condenser, water temperature thermostat and heat recovery safety device pressure switch. Contacts on terminal board for external enabling.  
Not available for all /HP models.

**ZETA 2002 LE /DS**  
Unit with desuperheaters for partial (20%) recovery of rejection heat.

**ZETA 2002 LE /LN**  
Low-noise version: soundproofed compressor compartment with sound-absorbing mat (with high acoustic impedance material on compartment sides).

**ZETA 2002 LE /SLN**  
Extra-low noise version: in addition to the components of model Zeta 2002 LE /LN, this unit features oversized condensing coil and fan speed control.

- ACCESSORIES**
- condensing pressure control, managed by the controller using pressure transducer signal:
    - by step control (air down to 0 °C); only available for models from 18.4 to 26.4;
    - with fan speed control (air up to -20 °C);
  - RS485 microprocessor serial interface for supervision or tele-maintenance via personal computer. Prived with carel communication protocol. Available on 2-compressor model only;
  - remote shared terminal in addition to control on unit (2-compressor model only);
  - thermostat valves for remote evaporator.

## ZETA 2002/LE - R407C TECHNICAL DATA

Unit size		3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2
<b>Nominal cooling capacity (*)</b>	kW	46.1	55.3	63.6	74.7	83.6	95.8	113.1	126.7
<b>Nominal heating capacity (**)</b>	kW	38.5	47.1	54.8	63.2	71.6	83.1	97.6	112.0
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Cooling power input (*)	kW	11.9	14.8	17.5	19.7	22.8	26.7	31.7	38.3
Heating power input (**)	kW	9.6	11.8	13.6	15.7	17.8	20.7	24.3	27.8
Capacity steps	%	50-100	50-100	50-100	50-100	50-100	50-100	50-100	50-100
<b>Fans</b>									
Air flow	m³/s	4.472	4.472	4.472	4.528	4.528	4.389	6.833	6.833
n° x installed power	n° x kW	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	2 x 0.6	3 x 0.6	3 x 0.6
<b>Noise level (***)</b>									
Basic unit	dB(A)	65.7	66.0	66.1	66.8	67.0	67.7	68.7	68.9
LN version	dB(A)	62.9	63.1	63.3	63.9	64.0	65.9	66.3	66.8
<b>Power supply</b>	V/f/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	2233	2233	2233	2233	2233	2233	3234	3234
Depth	mm	1103	1103	1103	1103	1103	1103	1103	1103
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Shipping weight (#)	kg	601	611	621	667	681	725	968	1045

Unit size		12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
<b>Nominal cooling capacity (*)</b>	kW	145.3	155.7	169.5	194.4	229.5	261.0	290.6	320.2
<b>Nominal heating capacity (**)</b>	kW	124.9	137.8	143.1	166.2	195.1	224.1	249.9	275.7
<b>Compressors</b>									
Quantity/Refrigerant circuits	n°	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2
Cooling power input (*)	kW	40.9	47.0	44.7	52.3	62.1	73.4	81.8	90.1
Heating power input (**)	kW	30.7	33.6	35.7	41.5	48.6	55.7	61.4	67.2
Capacity steps	%	50-100	50-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100	25-50-75-100
<b>Fans</b>									
Air flow	m³/s	6.600	6.583	11.267	11.267	16.375	16.417	19.389	18.500
n° x installed power	n° x kW	3 x 0.6	3 x 0.6	2 x 2.0	2 x 2.0	3 x 2.0	3 x 2.0	4 x 2.0	4 x 2.0
<b>Noise level (***)</b>									
Basic unit	dB(A)	69.1	69.2	69.3	71.9	72.3	73.0	73.9	74.0
LN version	dB(A)	66.3	66.6	65.6	70.1	70.4	70.8	71.7	71.8
<b>Power supply</b>	V/f/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
<b>Dimensions and weight of basic unit</b>									
Width	mm	3234	3234	3234	3234	4234	4234	4234	4234
Depth	mm	1103	1103	1119	1119	1119	1119	1119	1119
Height	mm	1740	1740	2380	2380	2380	2380	2380	2380
Shipping weight (#)	kg	1105	1135	1317	1365	1926	2085	2195	2295

(\*) Ambient air temperature 35°C; evaporation temperature 7.5°C.

(\*\*) Ambient air temperature 8°C DB, 50% R.H.; condensation temperature 40°C.

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

(#) For heat pump units increase weight by 10%.

# ZETA 2002/LE

Basic unit	3.2	4.2	5.2	6.2	7.2
ZETA 2002/LE	13.130,00	14.158,00	14.822,00	15.842,00	16.144,00
ZETA 2002/LE/HP	16.307,00	17.416,00	17.958,00	19.007,00	19.310,00

Accessory	3.2	4.2	5.2	6.2	7.2
DC - Total recovery (100% of heat rejection) excluding HP units	3.564,00	3.654,00	3.744,00	3.899,00	4.054,00
DS - Partial recovery (20% of heat rejection)	1.343,00	1.343,00	1.343,00	1.394,00	1.446,00
LN (Low-noise version)	671,00	671,00	671,00	671,00	671,00
SLN (Extra low-noise version)	Please contact the sales department for prices				

Refrigerant circuit accessories	3.2	4.2	5.2	6.2	7.2
Step condensing pressure control (0 °C) (with fans on/off via microprocessor)	-	-	-	-	-
Condensing pressure control with fan speed control (-20 °C)	981,00	981,00	981,00	981,00	981,00
Capacity control with hot gas by-pass valves plus liquid injection	3.200,00	3.200,00	3.200,00	3.700,00	3.700,00
Pressure gauges	325,00	325,00	325,00	325,00	325,00
Liquid receivers (standard on HP and DC versions)	465,00 (1x18L)	465,00 (1x18L)	465,00 (1x18L)	568,00 (1x18L)	568,00 (1x18L)
Shut-off valves on compressor suction and discharge side	930,00	930,00	930,00	930,00	930,00
Thermostatic valve for remote evaporator	138,00	138,00	138,00	138,00	138,00

Hydraulic circuit accessories	3.2	4.2	5.2	6.2	7.2
No-frost electric heater on 100% heat recovery condenser	258,00	258,00	258,00	258,00	258,00

Electrical accessories	3.2	4.2	5.2	6.2	7.2
RS485 serial interface	274,00	274,00	274,00	274,00	274,00
Power factor correction $\cos\phi \geq 0,9$	1.188,00	1.188,00	1.188,00	1.239,00	1.239,00
Single volt-free contacts for compressors/fan operation)	124,00	124,00	124,00	124,00	124,00
Remote shared terminal	310,00	310,00	310,00	310,00	310,00

Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Rubber antivibration mounts	473,00	473,00	473,00	473,00	473,00
Spring antivibration mounts	-	-	-	-	-
Pre-painted aluminium condensing coil	310,00	310,00	310,00	413,00	413,00
Copper/copper condensing coil	1.498,00	1.498,00	1.498,00	2.117,00	2.117,00
Tinned copper/copper condensing coil	2.531,00	2.531,00	2.531,00	3.512,00	3.512,00
Blygold Polual treated condensing coil	1.291,00	1.291,00	1.291,00	1.704,00	1.704,00
Packing in wooden crate	671,00	671,00	671,00	671,00	671,00
Increase in price for fully pre-assembled construction	620,00	620,00	620,00	620,00	620,00



# ZETA 2002/LE

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
17.554,00	21.528,00	22.880,00	23.973,00	25.161,00	26.949,00	29.616,00	37.798,00	41.520,00	43.343,00	46.238,00
21.151,00	25.008,00	27.111,00	28.773,00	30.325,00	33.733,00	35.820,00	46.410,00	51.066,00	53.227,00	56.082,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
4.932,00	5.113,00	5.629,00	5.668,00	5.707,00	8.108,00	9.864,00	10.226,00	11.259,00	11.336,00	11.414,00
1.498,00	1.498,00	1.653,00	1.653,00	1.653,00	2.892,00	2.995,00	2.995,00	3.305,00	3.305,00	3.305,00
671,00	1.007,00	1.007,00	1.007,00	1.007,00	1.343,00	1.343,00	1.756,00	1.756,00	1.756,00	1.756,00
Please contact the sales department for prices										

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
-	-	-	-	-	-	-	516,00	516,00	516,00	516,00
981,00	1.136,00	1.136,00	1.136,00	1.136,00	2.117,00	2.117,00	2.841,00	2.841,00	2.841,00	2.841,00
3.700,00	3.700,00	3.700,00	3.700,00	3.700,00	7.400,00	7.400,00	7.400,00	7.400,00	7.400,00	7.400,00
325,00	325,00	325,00	325,00	325,00	651,00	651,00	651,00	651,00	651,00	651,00
568,00 (1x18L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	723,00 (1x24L)	1.136,00 (2x18L)	1.136,00 (2x18L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)	1.446,00 (2x24L)
981,00	981,00	981,00	1.059,00	1.136,00	1.859,00	1.963,00	1.963,00	1.963,00	2.117,00	2.272,00
138,00	312,00	312,00	312,00	312,00	312,00	312,00	623,00	623,00	623,00	623,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
258,00	258,00	258,00	258,00	258,00	516,00	516,00	516,00	516,00	516,00	516,00

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
274,00	274,00	274,00	274,00	274,00	-	-	-	-	-	-
1.291,00	1.291,00	1.343,00	1.343,00	1.343,00	2.376,00	2.376,00	2.582,00	2.582,00	2.582,00	2.582,00
124,00	124,00	124,00	124,00	124,00	186,00	186,00	186,00	186,00	186,00	186,00
310,00	310,00	310,00	310,00	310,00	-	-	-	-	-	-

8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
473,00	708,00	708,00	708,00	708,00	708,00	708,00	945,00	945,00	945,00	945,00
-	-	-	-	-	-	-	1.498,00	1.498,00	1.498,00	1.498,00
620,00	465,00	465,00	775,00	775,00	775,00	930,00	1.239,00	1.239,00	1.239,00	1.549,00
3.150,00	2.272,00	2.272,00	3.925,00	3.925,00	3.925,00	4.493,00	6.094,00	6.094,00	6.094,00	7.644,00
5.268,00	3.822,00	3.822,00	6.559,00	6.559,00	6.559,00	7.540,00	10.226,00	10.226,00	10.226,00	12.756,00
1.704,00	2.427,00	2.427,00	2.892,00	2.892,00	3.099,00	3.099,00	4.132,00	4.132,00	4.132,00	4.855,00
671,00	1.033,00	1.033,00	1.033,00	1.033,00	1.136,00	1.136,00	1.343,00	1.343,00	1.343,00	1.343,00
620,00	930,00	930,00	930,00	930,00	1.240,00	1.240,00	1.650,00	1.650,00	1.650,00	1.650,00

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Miscellaneous accessories	3.2	4.2	5.2	6.2	7.2
Special skid for shipment in container	413,00	413,00	413,00	413,00	413,00
Metal mesh coil guard + Metallic filter	325,00	325,00	325,00	325,00	325,00
Finish in "RAL" colour other than standard	775,00	775,00	775,00	775,00	775,00

#### The basic unit comprises:

- Certification to directive 97/23 EEC (PED);
- Main switch
- Compressor fuses
- Coil protection guard for models 3.2 to 13.2.
- Mesh coil guard + Metallic filter for models for models 14.4 to 26.4.
- Hour meter
- Automatic compressor rotation (only for units with 2 compressors)
- Liquid line solenoid valve

(-) Not available.

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8.2	9.2	10.2	12.2	13.2	14.4	16.4	18.4	20.4	24.4	26.4
413,00	620,00	620,00	620,00	620,00	723,00	723,00	775,00	775,00	775,00	775,00
325,00	491,00	491,00	491,00	491,00	standard	standard	standard	standard	standard	standard
775,00	1.239,00	1.239,00	1.239,00	1.239,00	1.446,00	1.446,00	1.859,00	1.859,00	1.859,00	1.859,00