

NEW

monobloc
AIR-WATER
HEAT PUMP

HYDRONIC UNIT



A Carrier Company

 **Beretta**

HYDRONIC UNIT B HE

HYDRONIC UNIT B HE IS A MONOBLOC HEAT PUMP FOR RESIDENTIAL APPLICATIONS, ABLE TO MEET ALL HEATING AND COOLING NEEDS ALONG WITH THE PRODUCTION OF DOMESTIC HOT WATER. THE SYSTEM IS DESIGNED TO BE INSTALLED OUTDOORS AND CONNECTED TO THE RESIDENTIAL SERVICES BY MEANS OF DEDICATED HYDRAULIC LINES.



The heat pump is compact and quiet. It includes a DC inverter rotary compressor, electronic expansion valve, fans with brushless EC motor and a finned pack coil with hydrophilic treatment, optimised for heat pump operation with outside air temperatures as low as -20°C.

Winter unit operation is optimised to reach high seasonal energy efficiency coefficients thanks also to the “Free Defrost” logic that, with positive outside

air temperatures, eliminates the ice that has formed on the finned coil pack without any need to reverse the cycle. This minimises electricity consumption in the heating period, notably increasing the level of indoor comfort.

HYDRONIC UNIT B HE can be installed as a stand-alone heat generator, as a generator in the hybrid configurations available in the BERETTA range, or as a single heat generator in full-electric systems.

THE CONTROL PANELS

WUI USER INTERFACE

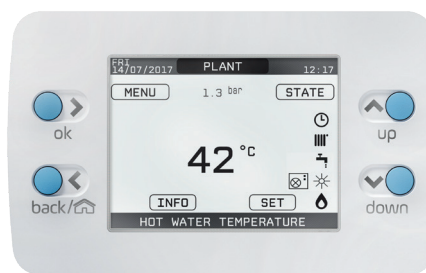
For all those installations where the heat pump doesn't need to be integrated in complex systems, it can be combined with WUI command. For complete unit control that's clear and user friendly.



REC10CH SYSTEM CONTROLLER

The REC10CH control panel provides the user with a simple, intuitive way of managing heat pump operation and the full-electric system that it's installed in.

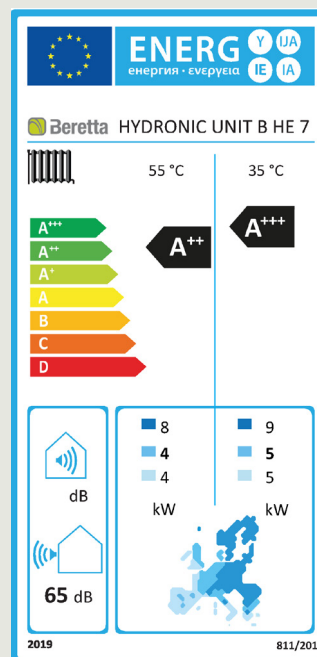
The large, backlit, colour display can be used to manage the various energy sources and set the operating temperatures and time bands and, when combined with a CONNECT HYBRID distribution system, the operation of the multi-zone system can also be controlled.



The panel is installed inside the home.

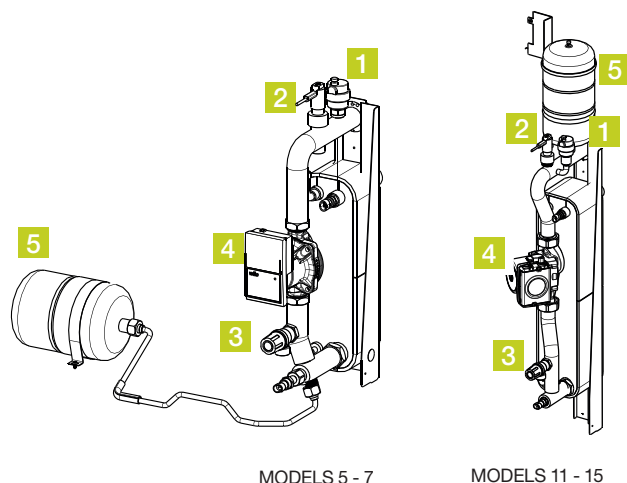
A CHOICE OF EFFICIENCY

- **a choice of environmental responsibility**, as it takes full advantage of renewable energy sources;
- **a design choice**, as it guarantees the flexibility needed to adapt to a variety of application contexts, whether residential or otherwise;
- **an energy choice** because, when combined with low temperature systems, it reaches class A+++
- **a value choice**, because it's the plant design solution that obtains the maximum overall energy efficiency of the building, minimising running costs and therefore enhancing the value of the building itself.



COMPACT AND FLEXIBLE

HYDRONIC UNIT B HE is one of the most compact monobloc heat pumps on the market, providing quiet operation, energy efficiency and accessible internal components.



FULLY INTEGRATED

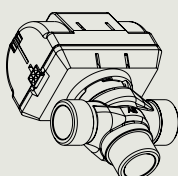
1. Automatic venting valve
2. Flow switch with blade
3. 3 bar safety valve
4. Circulator with variable rotations
5. Expansion tank:
2-litre (models 5 - 7)
3-litre (models 11 - 15)



- A. THE HYDRONIC UNIT B HE UNITS ARE QUIET, COMPACT AND EFFICIENT
- B. THEY CAN WORK WITH OUTSIDE AIR TEMPERATURES OF -20°C IN WINTER AND +46°C IN SUMMER
- C. MAXIMUM OUTPUT WATER TEMPERATURE 60°C

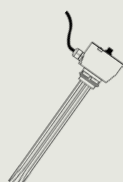
ACCESSORIES TO MEET EVERY NEED

A wide selection of accessories completes the HYDRONIC UNIT B HE range, to meet every plant design and usage requirement. The accessories, available upon request, are fitted on the worksite.



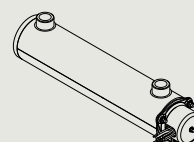
1" 3-WAY DIVERTING VALVE WITH STORAGE TANK PROBE

available separately or included in the STORAGE TANK RESISTOR kit



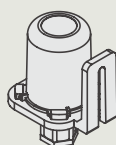
STORAGE TANK RESISTOR

2.2 kW power with single-phase supply. Includes 3-way diverting valve with storage tank probe. Remote control via the REC10CH



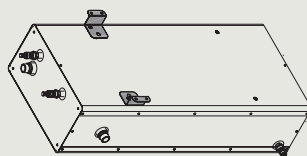
SUPPLEMENTARY RESISTOR

that can be configured from 2, 4 to 6kW single-phase or 6kW three-phase. Controlled by the heat pump



OUTSIDE AIR PROBE

managed by the REC10CH remote control



INERTIAL TANK OF 50L OR 100L

for horizontal installation underneath the heat pump



1" Y FILTER



REC10CH REMOTE CONTROL

system controller for full-electric systems



WUI REMOTE CONTROL

user interface for stand-alone installations. Compulsory for systems with several cascade units



ANTI-VIBRATION FEET

APPLICATION EXAMPLES

The following diagram is an installation example where **the only heat generator is the heat pump, which meets all the typical heating, cooling and DHW needs** of a single-family domestic context.

The REC10CH remote control coordinates system operation so as to guarantee optimum comfort for the people with the lowest possible electricity consumption.

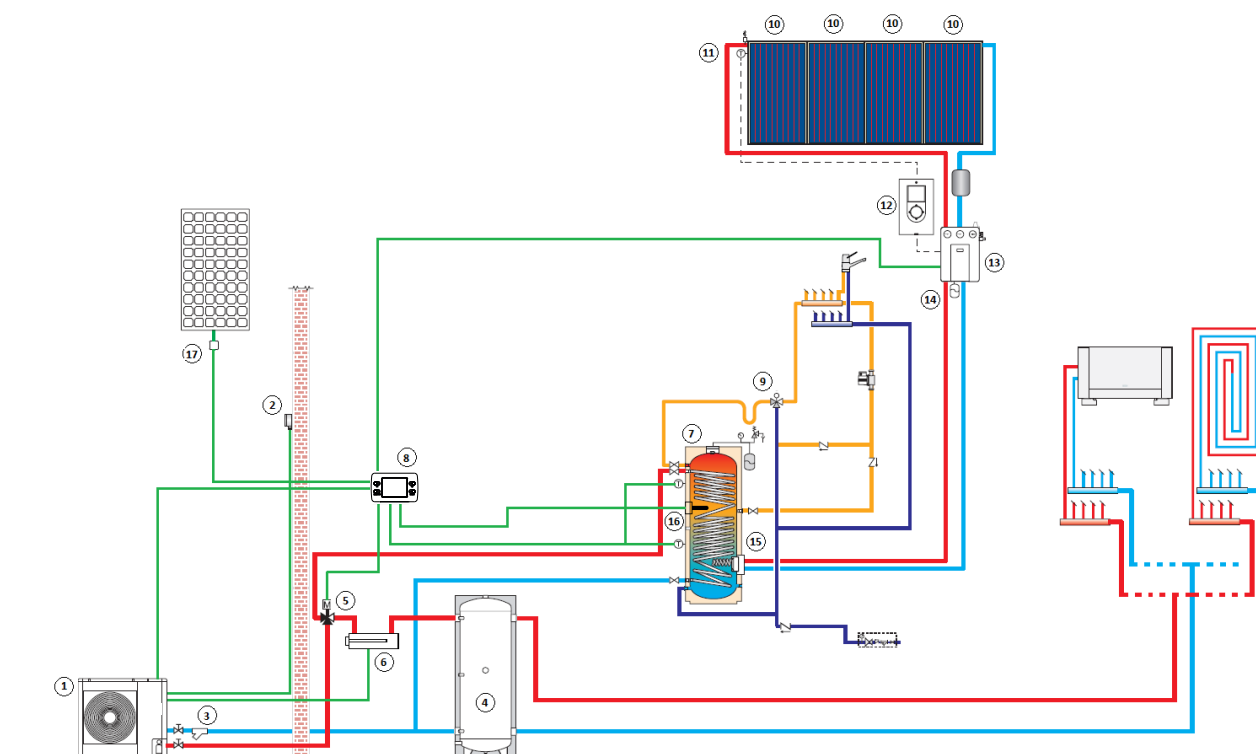


DIAGRAM: BIVALENT HEATING, COOLING AND DHW SYSTEM (FULL-ELECTRIC VERSION)

- | | |
|--|---|
| 1 HYDRONIC UNIT B HE heat pump | 9 ¾" thermostatic mixer |
| 2 HYDRONIC UNIT B HE external probe | 10 Solar collector |
| 3 Water filter | 11 Manual solar outgasser kit |
| 4 Hot/cold inertial accumulation kit | 12 Solar interface kit |
| 5 DHW diverting valve kit for HYDRONIC UNIT B HE | 13 Solar hydraulic unit |
| 6 Supplementary system resistor | 14 Solar expansion tank |
| 7 Storage heater | 15 Solar exchanger |
| 8 REC10CH system controller | 16 Storage tank resistor |
| | 17 Photovoltaic system with clean contact |

APPLICATION EXAMPLES

The following diagram shows one of the possible installation versions for a **heat pump and a boiler that meet all the typical heating, cooling and DHW needs** of a single-family domestic context. There are many hybrid solutions, but all of them are designed to minimise consumption without renouncing the user's well-being.

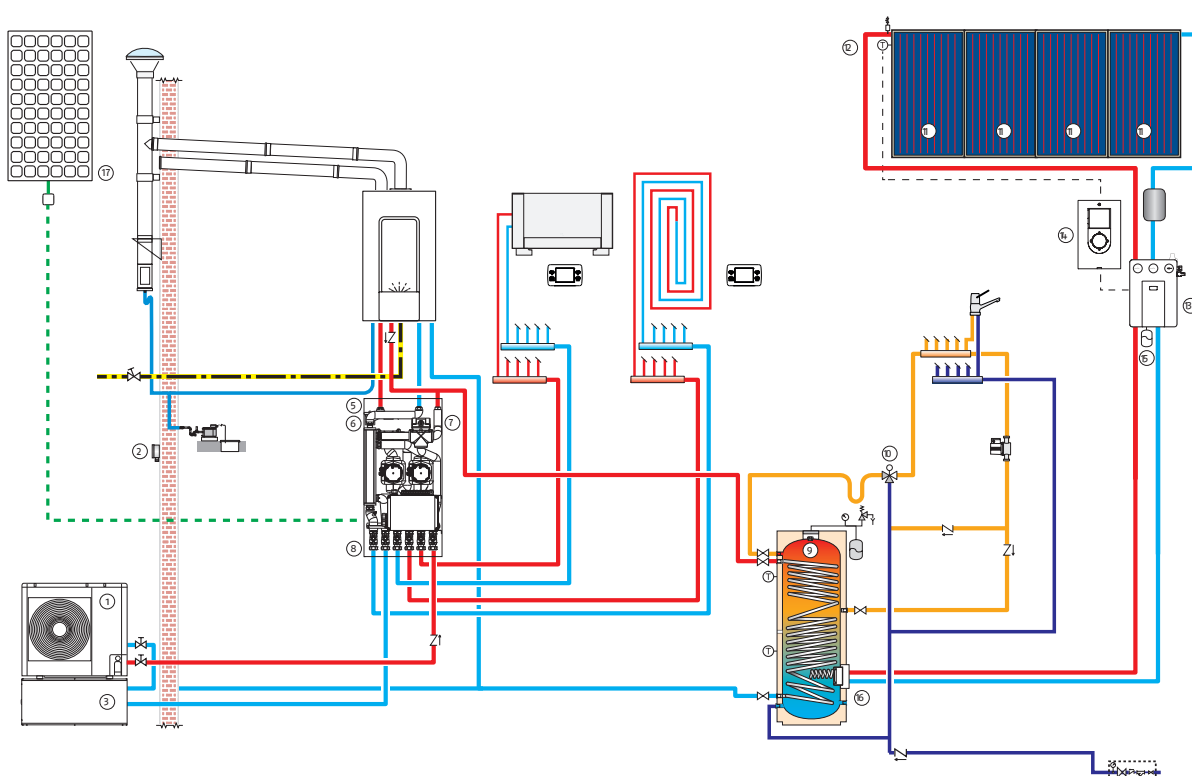
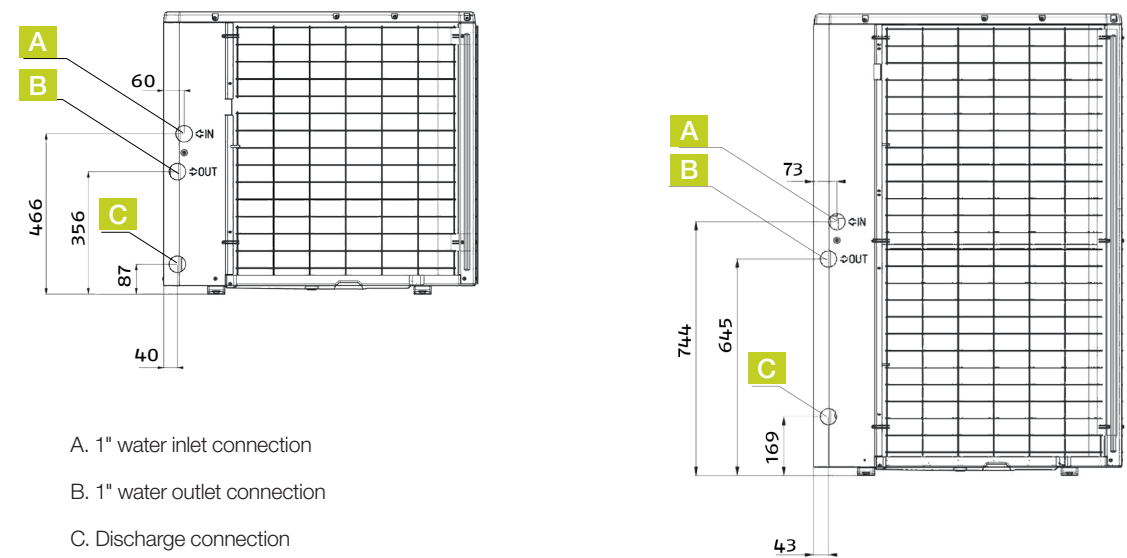


DIAGRAM: BIVALENT MULTI-ZONE HEATING, COOLING AND DHW SYSTEM (HYBRID VERSION)

- | | |
|---|---|
| 1 HYDRONIC UNIT B HE heat pump | 9 Storage heater |
| 2 HYDRONIC UNIT B HE external probe | 10 ¾" thermostatic mixer |
| 3 Hot/cold inertial accumulation kit | 11 Solar collector |
| 4 Wall-hung boiler | 12 Manual solar outgasser kit |
| 5 CONNECT HYBRID | 13 Solar hydraulic unit |
| 6 Flush-mounting box | 14 Solar interface kit |
| 7 CONNECT HYBRID diverting valve kit | 15 Solar expansion tank |
| 8 Tap kit for CONNECT HYBRID
(system side) and heat pump | 16 Solar exchanger |
| | 17 Photovoltaic system with clean contact |

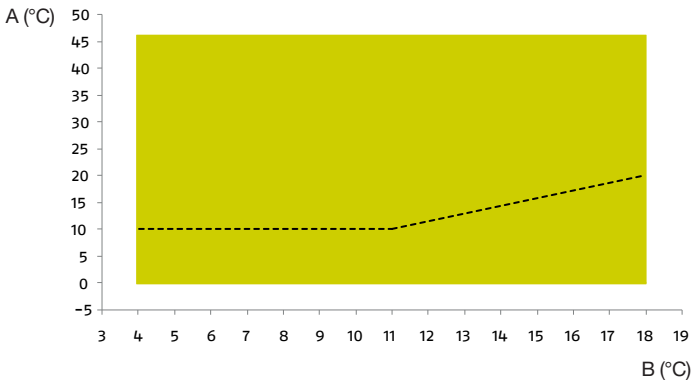
CONNECTIONS



OPERATING LIMITS

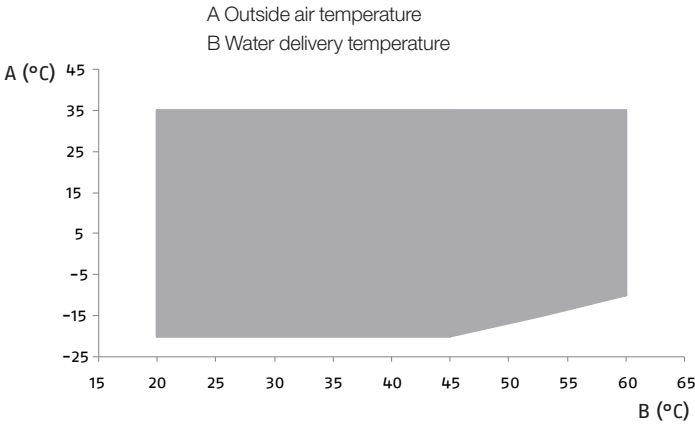
COOLING MODE

- Device firing rate
- Model HYDRONIC UNIT B HE 5

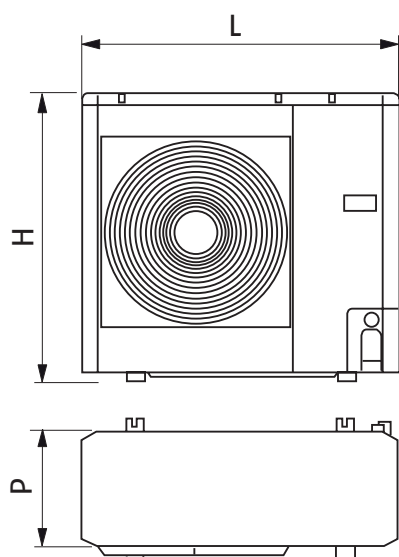


HEATING MODE

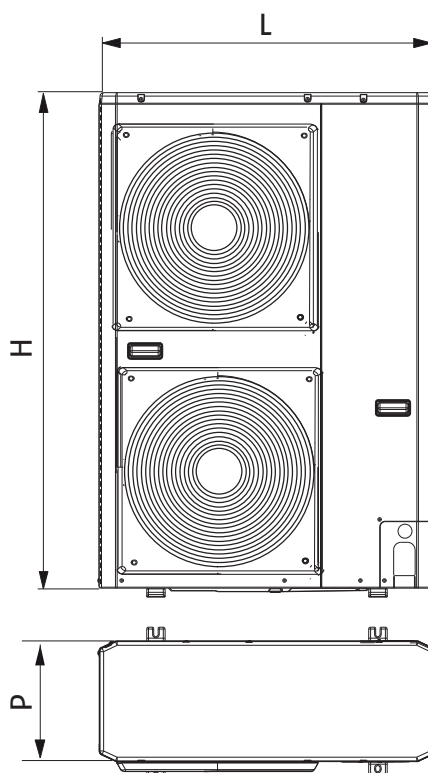
- Device firing rate



TECHNICAL DRAWINGS



HYDRONIC UNIT B HE 5 - 7



HYDRONIC UNIT B HE 11 - 15 - 11T - 15T

Model		5	7	11	15	11T	15T
L - Width	mm	908	908	908	908	908	908
P - Depth	mm	400	400	400	400	400	400
H - Height	mm	821	821	1363	1363	1363	1363
Net weight	kg	57	69	115	115	121	121

TECHNICAL DATA

		U.M.	5	7	11	15	11T	15T
PERFORMANCE DATA IN HEATING								
PERFORMANCE IN HEATING (A7°C DB; W35°C)								
Nominal heating capacity	(1)	kW	5.10	7.15	11.25	15.10	11.20	15.00
Total input power	(1)	kW	1.16	1.74	2.39	3.55	2.43	3.45
COP	(1)		4.40	4.10	4.70	4.25	4.60	4.35
SCOP	(6)		4.73	4.68	4.39	4.41	4.26	4.35
η_s	(6)	%	186	184	173	173	167	171
PERFORMANCE IN HEATING (A7°C DB; W45°C)								
Heating capacity	(2)	kW	4.85	6.80	11.30	13.40	10.40	13.50
Total input power	(2)	kW	1.43	2.13	3.14	3.94	2.89	3.86
COP	(2)		3.40	3.20	3.60	3.40	3.60	3.50
PERFORMANCE IN HEATING (A7°C DB; W55°)								
Heating capacity	(3)	kW	4.45	6.75	11.20	11.65	10.25	11.80
Total input power	(3)	kW	1.59	2.50	3.80	4.02	3.42	3.93
COP	(3)		2.80	2.70	2.95	2.90	3.00	3.00
SCOP	(7)		3.32	3.36	3.35	3.45	3.34	3.40
η_s	(7)	%	130	131	131	135	131	133
P rated	(7)	kW	3.49	4.32	8.69	10.30	8.69	11.09
Energy efficiency class			A++	A++	A++	A++	A++	A++
PERFORMANCE DATA IN COOLING								
PERFORMANCE IN COOLING (A35°C; W18°C)								
Cooling capacity	(4)	kW	4.85	8.00	13.70	16.00	13.75	17.00
Total input power	(4)	kW	1.11	2.00	2.98	3.90	2.96	4.10
EER	(4)		4.35	4.00	4.60	4.10	4.65	4.15

The performance values comply with Standards EN 14511:2013 and EN 14825:2013

(1) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 30/35°C

(2) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 40/45°C

(3) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 47/55°C

(4) Outside air temperature 35°C; water inlet/outlet 23/18°C

(5) Outside air temperature 35°C; water inlet/outlet 12/7°C

(6) Value referring to the average climatic profile for a 35°C delivery temperature. Values complying with regulation 811/2013

(7) Value referring to the average climatic profile for a 55°C delivery temperature. Values complying with regulation 811/2013

(8) Value referring to the average climatic profile for a 7°C delivery temperature. Values complying with regulation 2281/2016

		U.M.	5	7	11	15	11T	15T
PERFORMANCE IN COOLING (A35°C; W7°C)								
Cooling capacity	(5)	kW	4.00	5.55	11.20	12.80	10.65	13.00
Total input power	(5)	kW	1.29	1.79	3.29	4.13	3.13	4.06
EER	(5)		3.10	3.10	3.40	3.10	3.40	3.20
SEER	(8)		4.85	5.75	5.15	5	5.4	5.25
ηs	(8)	%	191	227	203	197	212	208
HYDRAULIC DATA								
Nominal flow rate (A7; W35)	(1)	m3/h	0.9	1.2	1.9	2.6	1.9	2.6
Nominal useful pump head	(1)	kPa	30	35	53	38	53	38
Expansion tank volume			2	2	3	3	3	3
System safety valve calibration		bar	3	3	3	3	3	3
CONNECTION DIAMETERS								
Water delivery/return		BSP GAS			1"			
SOUND DATA								
Sound pressure @10m			33	34	37	38	38	38
Sound power		dB(A)	64	65	68	69	69	69
ELECTRICAL DATA								
Supply voltage		V/ph/Hz		230/1+N/50			400/3+N/50	
COOLING DATA								
Compressor					DC inverter rotary			
Minimum capacity step			23	20	20	17	20	17
Refrigerant					R410A - GWP 2088			
Load		kg	1.10	1.60	2.80	2.80	3.00	3.00



Sales office:
Via Risorgimento, 23 A
23900 - Lecco - Italy

www.berettaheating.com

Beretta reserves the right to change the characteristics and data indicated in this brochure at any time and without prior notice, to implement product improvements.
This brochure cannot therefore be considered binding for third parties.

