

ROOFTOP BCN

ENVELOPE

- ✓ Galvanised sheet metal coated with epoxy baked powder paint
- ✓ Thermo-acoustic fire resistant insulation foam
 - Customized design to meet special requirements

REFRIGERATION CIRCUIT

- ✓ 1 or 2 refrigeration circuits
- ✓ Thermostatic expansion valves
- ✓ Filter dryer
- ✓ Full operating charge of R410A
- ✓ Non-return valves
- ✓ 4 way valve for heat pump mode
- ✓ High and low pressure switch
 - Electronic expansion valves
 - R-134a refrigerant for high ambient temperatures

SOFTWARE & CONTROL

- ✓ **Unity Software:** Dedicated RC Clima software
- ✓ Time zone programming
- ✓ BMS port communication via Modbus RTU
- ✓ Data logging and alarms log
- ✓ EC fans controlled via Modbus
- ✓ User terminal Th-Tune
 - BMS communication cards available (Bacnet, Modbus, Ethernet)
 - pGD Graphic Display

COMPRESSORS

- ✓ Scroll compressors with Crankcase heaters
- ✓ Compressor discharge temperature protection
 - Scroll Inverter compressors
 - Compressors jacket for lower sound levels
 - Compressor soft start

ENERGY SAVINGS

To increase the operating efficiency when the indoor air must be renewed (air from the room is extracted and fresh air shall be brought in), the BCN range has the option to include a thermodynamic energy economizer which is fit in the refrigeration circuit. This allows the unit to take the energy from the exhaust air to increase the efficiency of the whole system.

- Free cooling (based on temperature or enthalpy), of 2 or 3 dampers
- Thermodynamic energy economizer

HEAT EXCHANGERS

- ✓ Optimised coils manufactured from copper tube and aluminium fins
 - Fins coating protection (Epoxy, Blygold©...)

VENTILATION

- ✓ EC plug fans for further efficiency and high external static pressure, constant Air Flow, flexibility to adapt to the installation pressure drop with the minimum power input to always maintain the required air flow
- ✓ Axial fans
 - Axial EC fans with stepless head pressure control (PID)
 - EC Return fans

ELECTRICAL COMPONENTS

- ✓ In accordance with EN-60204-1
- ✓ Door interlocking electric isolator
- ✓ Phase rotation protection
- ✓ Sub circuit and fuse protection
- ✓ Wired to the latest European standards and codes of practice
 - Magnetothermal protection
 - Energy manager to monitor energy consumption

AIR FILTRATION

- ✓ Category G4 air filter
 - Category M5, M6, F7, F8, F9
 - Filter change pressure switch



OTHERS

- Electric heating for additional heating
- Low pressure hot water coil for additional heating
- Air quality sensors
- Fire and smoke detector

✓ Standard
*Options

Cooling capacity and input power at nominal conditions. Indoor temperature of DBT= 27°C, WBT = 19°C and outdoor temperature of DBT = 35°C, in accordance with UNE-EN 14511 standard. Heating capacity and input power at nominal conditions. Indoor temperature of DBT = 20°C, WBT = 15°C max., And outdoor temperature of DBT = 7°C, WBT = 6°C, in accordance with UNE-EN 14511 standard.

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BCN200, BCN250 & BCN290 ON APPLICATION

MODEL		BCN025	BCN035	BCN045	BCN050	BCN065	BCN085	BCN095	BCN125	BCN160
COOLING MODE										
Total cooling capacity	kW	24,8	35,6	42,1	47,9	63,9	83,2	93,1	125,6	153,6
Sensible cooling capacity										
Input power in cooling	kW	8,3	12,9	15,4	16,3	21,6	27,4	31,3	42,3	55,5
EER	W/W	2,99	2,77	2,73	2,94	2,95	3,03	2,97	2,97	2,77
HEATING MODE										
Total heating capacity	kW	25,6	36,9	43,7	49,1	65,7	85,2	95,5	129,6	157,7
Input power in heating	kW	7,7	12,2	14,3	15,2	20,3	25,6	29,3	39,3	51,9
COP	W/W	3,32	3,03	3,06	3,23	3,23	3,33	3,26	3,30	3,04
COMPRESSORS										
Type of compressor		Scroll								
Nº of compressors	ud	2	2	2	2	2	2	2	2	2
Nº of circuits	ud	1	1	1	2	2	2	2	2	2
OUTDOOR FANS										
Type		AC axial								
Air flow	m³/h	8.300	14.500	14.300	18.000	18.400	31.200	29.000	41.600	46.000
External static pressure	Pa	50	50	60	55	55	50	60	50	62
INDOOR FANS										
Type		EC radial								
Air flow	m³/h	4.500	6.200	8.000	9.500	10.500	13.000	15.400	24.000	26.000
External static pressure	Pa	927	824	631	548	462	793	636	624	800
GENERAL DATA										
Mains incoming supply		400V- 3ph -50Hz								
Refrigerant		R410A								

PERFORMANCE WITH THERMODYNAMIC ENERGY ECONOMIZER

DATA / MODEL	BCN025	BCN035	BCN045	BCN050	BCN065	BCN085	BCN095	BCN125	BCN160
60% air renewal									
Cooling capacity	33,4	48,0	56,8	64,5	86,1	112,1	125,4	169,2	207,0
EER	3,75	3,46	3,36	3,67	3,69	3,78	3,66	3,63	3,38

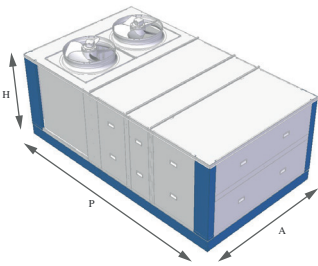
COOLING MODE

DATA / MODEL	BCN025	BCN035	BCN045	BCN050	BCN065	BCN085	BCN095	BCN125	BCN160
60% air renewal									
Heating capacity	31,9	46,0	54,5	61,2	81,9	106,1	119,0	161,5	196,5
COP	3,86	3,54	3,58	3,77	3,77	3,89	3,81	3,85	3,57

HEATING MODE

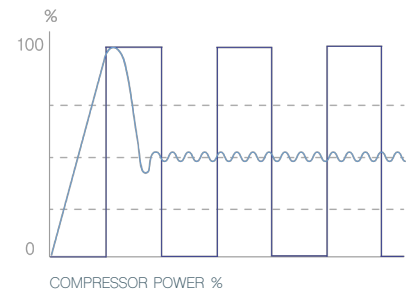
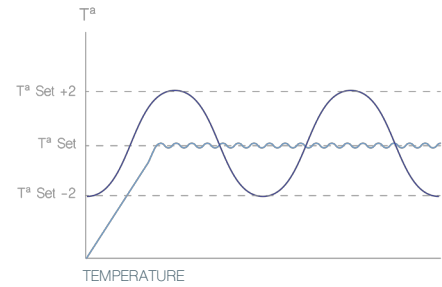
DIMENSIONS STANDARD UNIT

BCN MODEL	BCN025	BCN035	BCN045	BCN050	BCN065	BCN085	BCN095	BCN125	BCN160
Width (W)	mm 1470	1470	1470	2000	2000	2000	2000	2340	2340
Depth (D)	mm 2860	2860	2860	3250	3250	3850	3850	4370	4370
Height (H)	mm 1700	1700	1700	1500	1500	1780	1780	1900	1900



OPTIONAL: INVERTER

The Inverter compressor makes it possible to precisely adjust the capacity of the equipment to the thermal demand of the installation, consuming only the electrical power needed at any time. Inverter equipment is the most cost effective option when considering seasonal operating costs.

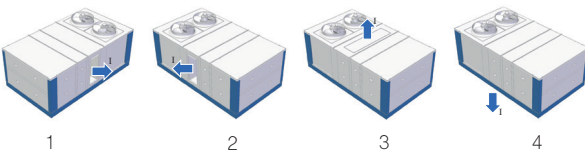


on/off compressor

Inverter compressor ✓

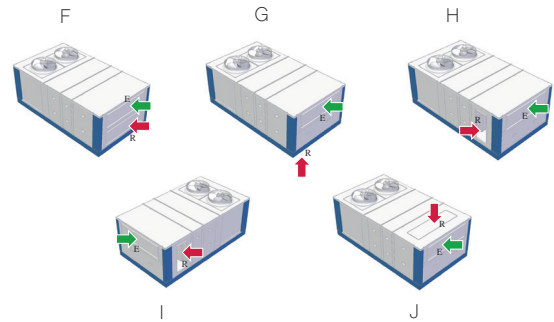
SUPPLY AIR CONFIGURATIONS

Supply air



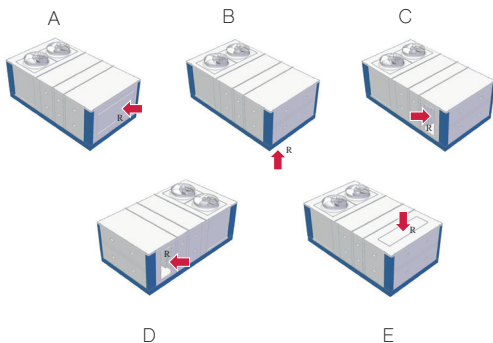
RETURN AIR CONFIGURATIONS

Freecooling _2 dampers



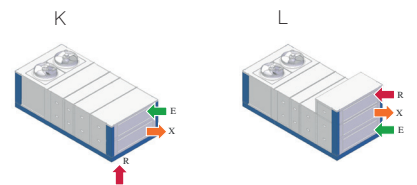
RETURN AIR CONFIGURATIONS

Standard return



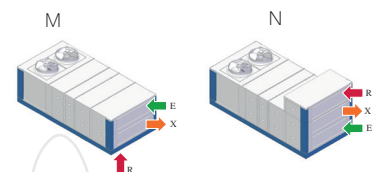
RETURN AIR CONFIGURATIONS

Freecooling _3 dampers + return fan



RETURN AIR CONFIGURATIONS

Thermodynamic energy economizer



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I - Supply air
 R - Return air
 X - Exhaust air
 E - Fresh air