Outdoor packaged unit

BCX 360 - 600 kW

NEW PRODUCT

Available from MAY 2018

Axial fan | Scroll compressor | Refrigerant R-410A | Cooling only | Heating/ Cooling | Packaged execution

PLUS

- High efficiency under part load conditions thanks to trio configurations
- Intelligent modulation of the water flow rate
- Possibility to configure low-noise versions
- Incorporable hydraulic kit
- HyBlade® fans
- Remote connectivity with the most common protocols
- Electronically controlled electronic expansion valve

Technology and seasonal efficiency in Galletti's new solution

BCX is the new series of air-cooled heat pumps and chillers designed to meet the requirements of efficiency, configurability, reliability, and ease of maintenance. The series consists of 6 models with cooling capacities from 360 to 600 kW, in cooling only version or reversible heat pump.
In order to increase the efficiency at partial loads, trio solution (3 compressors on a circuit) were preferred and employed components and adjustment logic that make it possible to manage the water-side flow rate modulation.
High values of SEER and SCOP make the BCX series fully compliant with the provisions of the ErP Directives that regulate the requirements of eco-design.
The generously-sized finned pack heat exchanger is designed to optimize both the operation as an evaporator and as a condenser (also in terms of fin type and circuitry).
The fan sections, with their exclusive airfoil blades (HyBlade®) are characterized by extraordinary air performance and acoustics and represent the state of the art of the axial fan.
The air diffuser AxiTop® allows to raise the efficiency of the fan with benefits in terms of noise (in combination with the condensation control) and overall efficiency of the unit.
The BCX range adopts innovative solutions in the functioning and layout of the internal components of the hydraulic kit, that is now simplified to reduce connections and minimize the pressure drop on the water side inside the machine.
Each model is fully configurable with the choice of control options, hydraulic, acoustic, heat recovery without involving changes to the overall dimensions.

MAIN COMPONENTS

Microprocessor control
The microprocessor control unit efficiently manages the BCX units, the adjustment logic, the compressors, the alarms and, in the heat pumps, the cycle switchover and defrosting thanks to the Smart Defrost System logic.

Charge monitoring
Through continuous monitoring of the cooling cycle's characteristic parameters, BCX will detect a possible reduction in the amount of refrigerant and promptly report this situation to prevent more serious problems and protect the main components.

Structure
The range is designed modularly, replicating the optimized structure of V configuration condensing coils and fans. Its design ensures stability, sturdiness even during the most critical phases (such as transportation), and maximum accessibility to components in every BCX unit.

Scroll compressors
Scroll compressors in tandem configuration or trio, with optional acoustical insulation. The levels of efficiency, reliability and noise of such components are the state of the art for the scroll compressor.

Heat exchanger
In copper pipes (8 mm diameter) and aluminum fins. The particular design criterion of the heat exchangers allows speed up the defrosting phases (for heat pump versions) with obvious benefits in terms of the integrated efficiency of the whole cycle.

Fan drive assembly
Electric fan with 6-pole external rotor motor directly keyed to the axial fan, with internal thermal protection on the windings, complete with safety grille and dedicated supporting structure. Electric fans with BLDC motor are available on request.

Low noise execution
The units can be supplied in a low-noise version, with noise-canceling headsets, acoustical enclosure for the compressors, and Axitop diffusors on the axial fans. This configuration, combined with the night attenuation function, provides a large reduction in the sound power level.

CONFIGURATOR

The models are completely configurable by selecting the version and the options. To the right is shown an example of configuration.

Version	Fields	1	2	3	4	5	6	7	8	9	10	11	12	13
BCX475CS0A		A	1	S	0	C	0	2	M	0	P	0	0	1

To verify the compatibility of the options, use the selection software or the price list.

AVAILABLE VERSIONS

Versioni solo raffreddamento

BCX..CS0A	400V-3N-50Hz power supply + circuit breakers
BCX..CS2A	400V-3-50Hz power supply + transformer + circuit breakers

Versions with reversible heat pump

BCX..HS0A	400V-3N-50Hz power supply + circuit breakers
BCX..HS2A	400V-3-50Hz power supply + transformer + circuit breakers

CONFIGURATION OPTIONS

1 Expansion valve
- A Electronic

2 Water pump and accessories
- 0 Absent
- 1 LP pump + expansion vessel
- 2 LP run and standby double pump + expansion vessel
- 3 HP pump + expansion vessel
- 4 HP run and standby double pump + expansion vessel
- A LP inverter pump + expansion vessel
- B LP run and standby double inverter pump + expansion vessel
- C HP inverter pump + expansion vessel
- D HP run and standby double inverter pump + expansion vessel

3 Water buffer tank
- 0 Absent
- S Selected

4 Partial heat recovery
- 0 Absent
- D Desuperheater with water pump free contact

5 Air flow modulation
- 0 Absent
- C Condensation control by phase-cut fans
- E Condensation control performed by EC fans

6 Antifreezing kit
- 0 Absent
- E Plate exchanger
- P Plate exchanger and water pump
- S Plate exchanger, water pump and inertial tank

7 Acoustic insulation and attenuation
- 0 Absent
- 1 Compressor sound blanket and compressor compartment sound proofing
- 2 Fans noise reduction (AXITOP)
- 3 Fans noise reduction (AXITOP) + compressor sound blanket + compartment acoustic insulation

8 Refrigerant pipework accessories
- 0 Absent
- M Refrigerant pressure gauges

9 Remote control / Serial communication
- 0 Absent
- 2 RS485 serial board (Carel / Modbus protocol)
- B BACNET IP / PCOWEB serial board (advanced controller required)
- F BACNET MS/TP / PCONET serial board (advanced controller required)
- G BACNET IP / PCOWEB serial board + supervision software Gweb (advanced controller required)
- L LON FTT10 serial board (advanced controller required)
- S Remote simplified user panel
- X Remote user panel for advanced controller

10 Special coils / Protective treatments
- 0 Standard
- C Cataphoresis
- I Hydrophilic
- P Pre-painted fins with epoxy painting
- R Copper-copper

11 Anti vibration shock mounts
- 0 Absent
- G Rubber anti vibration shock mounts
- M Spring anti vibration shock mounts

12 Compressors options
- 0 Absent
- 1 Crankcase compressor heater (CHILLER), outdoor coil trace heater (HP)

13 Onboard controller
- 1 Advanced

ACCESSORIES

A	Outdoor finned coil heat exchanger protection grille
B	Refrigerant leak alarm
C	Pair of couplings Victaulic
D	ON/OFF status of the compressors
E	Remote control for step capacity limit (advanced controller required)
F	Configurable digital alarm board (advanced controller required)
G	Soft starter
H	Power factor capacitors
I	Filter isolation valves kit (solenoid valve and isolation valve)
L	Water pipes additional insulation
N	Compressor tandem/trio isolation valves
O	Anti-intrusion grille

RATED TECHNICAL DATA

BCX C			375	405	475	526	566	606
Power supply		V-ph-Hz	400 - 3N - 50					
Cooling capacity	(1)(E)	kW	366	402	468	523	560	591
Total power input	(1)(E)	kW	127	142	170	179	197	214
EER	(1)		2,89	2,83	2,76	2,93	2,84	2,77
SEER	(2)		4,21	4,31	4,50	4,44	4,38	4,39
Water flow	(1)	l/h	63137	69405	80816	90431	96769	102275
Water pressure drop	(1)(E)	kPa	41	39	52	53	62	69
Available pressure head - LP pumps	(1)	kPa	121	103	166	127	131	110
Available pressure head - HP pumps	(1)	kPa	262	253	217	237	215	194
Maximum current absorption		A	255	318	332	370	409	422
Star up current		A	530	509	543	464	565	577
Star up current with soft starter		A	396	375	407	359	429	441
Compressors / circuits			5\2	5\2	5\2	6\2	6\2	6\2
Buffer tank volume		dm^3	700	700	700	1040	1040	1040
Expansion vessel volume		dm^3	24	24	24	24	24	24
Sound power level	(3)(E)	dB(A)	95	96	96	95	96	97
Transport weight unit with pump and tank		kg	2750	2970	3484	3858	4151	4445
Operating weight unit with pump and full tank		kg	3258	3519	4127	4570	4917	5265

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2013)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2017 regulation.
(3) Sound power level measured according to ISO 9614
(E) EUROVENT certified data

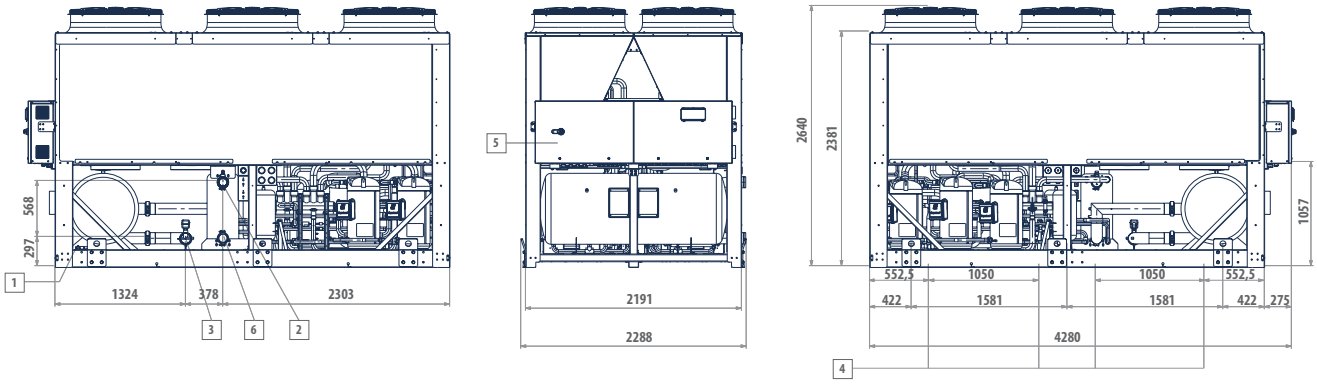
RATED TECHNICAL DATA

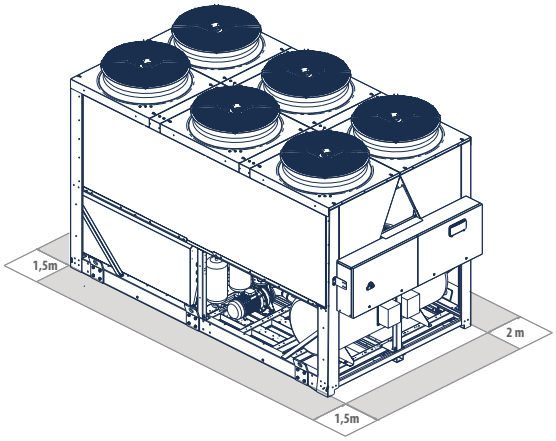
BCX H			375	405	475	526	566	606
Power supply		V-ph-Hz	400 - 3N - 50					
Cooling capacity	(1)(E)	kW	353	388	451	502	539	571
Total power input	(1)(E)	kW	132	149	179	190	208	225
EER	(1)(E)		2,67	2,60	2,52	2,64	2,59	2,54
SEER	(2)		4,10	4,15	4,28	4,16	4,13	4,10
Water flow	(1)	l/h	60933	67019	77847	86650	93192	98708
Water pressure drop	(1)(E)	kPa	41	39	52	53	62	69
Available pressure head - LP pumps	(1)	kPa	131	114	181	147	144	124
Available pressure head - HP pumps	(1)	kPa	268	260	227	249	227	208
Heating capacity	(3)(E)	kW	409	447	533	580	622	662
Total power input	(3)(E)	kW	133	147	173	191	205	219
COP	(3)(E)		3.06	3.04	3.08	3.03	3.02	3.02
SCOP	(2)(E)		3,60	3,74	3,97	3,56	3,63	3,83
Heating energy efficiency class	(4)		A+	A+	A++	A+	A+	A++
Water flow	(3)	l/h	70022	76611	91225	99264	106341	113231
Water pressure drop	(3)(E)	kPa	49	46	65	64	73	83
Available pressure head - LP pumps	(3)	kPa	94	73	116	83	101	73
Available pressure head - HP pumps	(3)	kPa	245	236	187	212	186	159
Maximum current absorption		A	256	319	332	369	408	421
Star up current		A	530	509	543	464	565	577
Star up current with soft starter		A	401	421	466	442	517	528
Compressors / circuits			5\2	5\2	5\2	6\2	6\2	6\2
Buffer tank volume		dm^3	700	700	700	1040	1040	1040
Expansion vessel volume		dm^3	24	24	24	24	24	24
Sound power level	(5)(E)	dB(A)	95	96	96	95	96	97
Transport weight unit with pump and tank		kg	2948	3184	3735	4136	4450	4765
Operating weight unit with pump and full tank		kg	3456	3732	4378	4848	5216	5585

(1) Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2013)
(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: [η = SCOP / 2,5 - F(1) - F(2)] e [η = SEER / 2,5 - F(1) - F(2)]. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2017 regulation.
(3) Outdoor air temperature dry bulb 7°C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2013)
(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]
(5) Sound power level measured according to ISO 9614
(E) EUROVENT certified data

DIMENSIONAL DRAWINGS

BCX 375 - 475

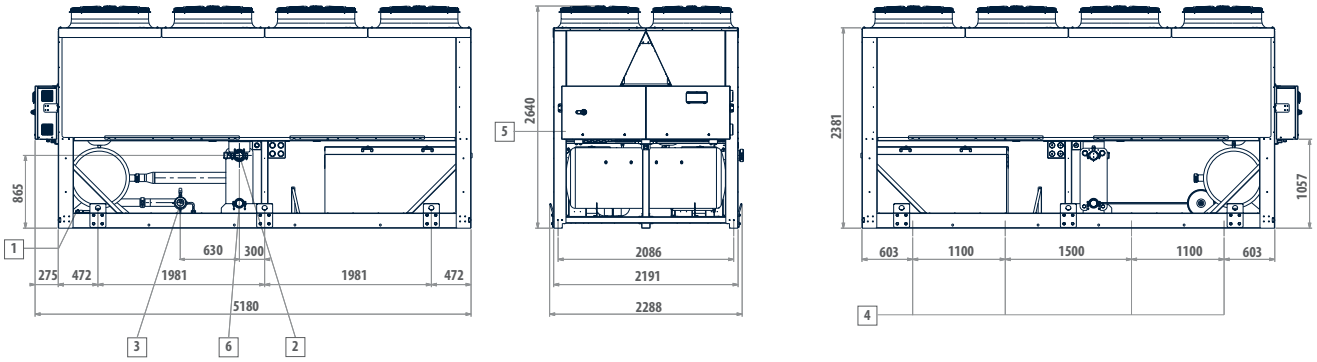


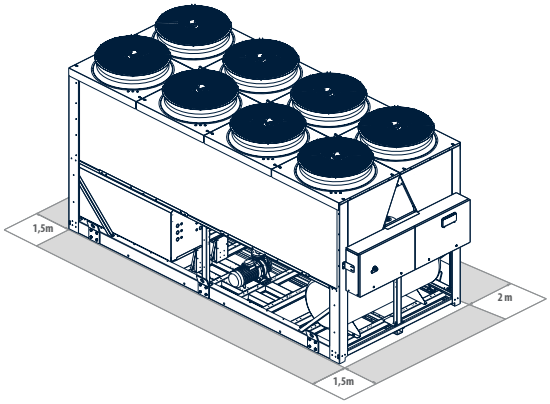


LEGEND	
1	Water drainage
2	Water inlet Victaulic 4"
3	Water outlet Victaulic 4"
4	Vibration dumpers
5	Electric control board
6	Water outlet, evaporator only

DIMENSIONAL DRAWINGS

BCX 526 - 606





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