CWS CLIMMA DC VARIABLE SPEED CHILLER MODELS

The new DC chiller range goes now from 35,000 up to 130,000 Btu as single module; below you can find the technical specification of basic modules, while in the next pages you can find more information about additional options and modularity options.

	DC35	DC50	DC65	DC130
Power supply - Alimentazione	230V/1/50-60Hz	230V/1/50-60Hz (or 400V/3/50-60Hz)	230V/1/50-60Hz (or 400V/3/50-60Hz)	400V/3/50-60Hz
Standard single unit code	MDC00351JNWNNS	MDC00501JNWNNS (MDC00501HNWNNS)	MDC00651JNWNNS (MDC00651HNWNNS)	MDC01301HNWNNS
Capacity cool - Capacità in freddo (Btu)	**0 - 35.000 Btu**	**0 - 50.000 Btu**	**0 - 65.000 Btu**	**0 - 130.000 Btu**
Capacity heat - Capacità in caldo (Btu)	**0 -35.000 Btu**	**0 - 55.000 Btu**	**0 - 70.000 Btu**	**0 - 130.000 Btu**
Capacity cool - Capacità in freddo (kW)	0 - 10 kW	0 - 14 kW	0 - 19kW	0 - 38kW
Capacity heat - Capacità in caldo (kW)	0 - 10 kW	0 - 16 kW	0 - 20,5kW	0 - 38kW
Consumption in cool - Assorbimento in freddo (A)*	0 - 9 A	0 - 18,5 A (230V) - (400V)	0 - 22.2 A (230V) 0 - 11.7 A (400V)	0 - 13,7 A
Consumption in heat - Assorbimento in caldo (A)*	0 - 10,5 A	0 - 23,8 A (230V) - (400V)	0 - 26.6 A (230V) 0 - 13,5 A (400V)	0 - 15,7 A
Start current - Spunto (A)	0 A	0 A	0 A	0 A
Sea water temp. (heat) - Acqua mare (in caldo)	> 5 °C	> 5 °C	> 5 °C	> 5 °C
Sea water temp. (cool) - Acqua mare (in freddo)	< 38 °C	< 38 °C	< 38 °C	< 38 °C
Size - Dimensioni (LxDxH in mm)**	340 x 342 x 472	380 x 422 x 472	500 x 425 x 460	415 x 650 x 630
Electrical box size - Scatola elettrica (LxDxH in mm)	250 x 200 x 100	250 x 200 x 100	250 x 200 x 100	included in size
Finishing - Finitura	paneled, painted RAL9010	paneled, painted RAL9010	paneled, painted RAL9010	paneled, painted RAL9010
Fresh water flow meter - Sensore acqua dolce	included	included	included	included
Sea water flow meter - Sensore acqua mare	optional	optional	optional	included
Weight - Peso (Kg)	42 Kg	55 kg	55 kg	120 kg
Fresh water flow - Acqua circolazione (lit/min - m3/hr)	30 lit/min (1,8 m3/hr)	34 lit/min (2 m3/hr)	50 lit/min (3 m3/hr)	108 lit/min (6,5 m3/hr)
Sea water flow - Acqua mare (lit/min - m3/hr)	15 lit/min (1 m3/hr)	34 lit/min (2 m3/hr)	50 lit/min (3 m3/hr)	108 lit/min (6,5 m3/hr)

MODULARITY AND OPTIONS

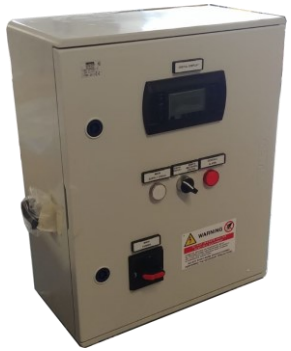
All Climma DC chillers can be installed alone, or they can be installed in a modular system up to 8 modules of the same power.

Modularity ensures redundancy, guaranteeing a minimum downtime during maintenance operations, a basic requirement in yachting. Moreover, modular Climma DC chillers ensures less power consumption thanks to the unique Climma Intelligent Control unit (CIC).

For Modular systems, following options are available:

- Frame in stainless steel AISI 304 (standard is painted white RAL 9010)
- Manifolds to have a unique connection point for sea water and fresh water
- Modular systems do not require a central electrical box to work but they are already configured to work in a modular and optimized way. A central electrical box is an optional item that guarantees all the power management for pumps and for each module.

  Standard electrical boxes are provided with no pump backup, plastic finishing and right hinges but they can also be fully customized.
- Modbus compatibility is not provided as standard but it's an extra module to add to the on-board electrical box
- Water valves for each module can be added in case of manifolds and frame



Example of centralized electrical box.

	# modules		
	2	3	4
S=Standard frame			

Standard frame configuration

CLIMMA DC CHILLERS CODING

The basic versions of the chiller are indicated in the table above, but if special options are needed, please consider the coding below.

Chiller

MDC AAAA B C D E F G I

AAAA = Unit capacity in kBTU (example. 50,000 Btu = 0050)

B = Number of compressors

C = Power supply

		CENTRALIZED ELECTRICAL BOX	
		YES	NO
POWER SUPPLY	230/1/50-60	I	J
	400/3/50-60+N	K	H
	400/3/50-60	L	Y

D= Frame option
N=No
S=Standard frame (M for mountable frame)
H = Horizontal (O for mountable frame)
V = Vertical (E for mountable frame)
D = Divided (P for mountable frame)
L = Left shaped (F for mountable frame)
R = Right shaped (G for mountable frame)

E = Finishing (standard frame: SS AISI 304)
N = open modules, frame sandblasted
F = open modules, frame painted RAL 9010
W = closed modules and frame both painted RAL9010
C = open modules, custom colored RAL for frame
V = closed modules, custom colored RAL
(if no frame:
N = open modules
W = closed modules)

F = Manifolds
N = no manifolds
From A to Q → See next pages for details

G = additional options
N = standard (no optional)
V = with water valves
P = with bleeder and calibration valve mounted
F = with bleeder, calibration and water valve mounted
M = with accessories mounted (pumps, bleeder, exp. tanks)
A = with both water valve and accessories mounted

I = Modbus
S = STD (no Modbus)
M = With Modbus

Chiller electrical box

MQD AAAA B C D E F G

AAAA = Unit capacity in kBTU (example. 50,000 Btu = 0050)

B = Number of Compressors

C = Power supply
I = 230/1/50-60
K = 400/3/50-60 with neutral
L = 400/3/50-60 without neutral

D = Pumps single/backup
N = no pumps' backup
B = sw and fw pumps with back-up
F = single sw - fw with backup
S = single fw - sw with backup

E = Finishing
P = Plastic
W = White, metal RAL 9010
M = Metal RAL 7035
C = Metal RAL custom color

F = Door opening
S = Standard, right hinges
L = Left hinges
C = Custom

G = Others
N = Standard (no CO chiller, no boiler)
C_ _ _ = Custom (chiller CO, boiler or other) + a 3-digit numeric incremental value (00x)

ACCESSORIES AND OPTIONS – SECONDARY DISPLAY FOR CLIMMA DC CHILLERS

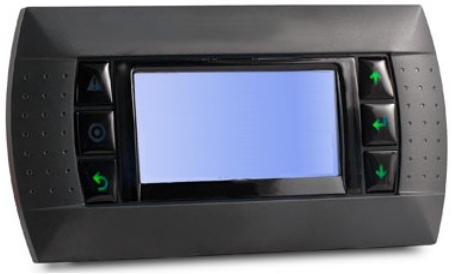
A secondary display can be installed remotely on each Climma DC chiller, leaving the main display on the electrical box of the chiller and allowing for a secondary control with the exact same functions as the main one.
Included in the kit: secondary display, splitter to divide into 2 the connection, 1 cable for the splitter and 1 for the secondary display.

Code	Description	Cable lenght	Display size (W x H x D - mm)	Color
MDCDISPG6	Big secondary display with 6mt cable	6 mt	156 x 82 x 30	Black
MDCDISPG12	Big secondary display with 12mt cable	12 mt	156 x 82 x 30	Black
MDCDISPG18	Big secondary display with 18mt cable	18 mt	156 x 82 x 30	Black
MDCDISPP6	Small secondary display with 6mt cable	6 mt	76 x 34,6 x 38,4	Black
MDCDISPP12	Small secondary display with 12mt cable	12 mt	76 x 34,6 x 38,4	Black
MDCDISPP18	Small secondary display with 18mt cable	18 mt	76 x 34,6 x 38,4	Black

ACCESSORIES AND OPTIONS – REMOTE MECHANICAL CONTROL

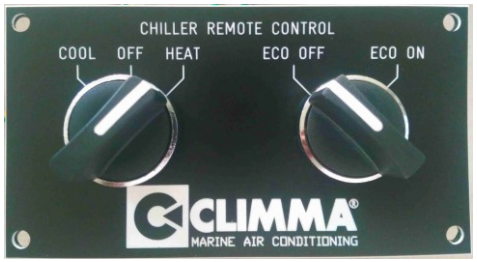
A mechanical remote control can be installed on each Climma DC chiller, leaving the main display on the electrical box of the chiller and allowing for a secondary remote mechanical control that allows to turn on and off the chiller, and to control ECO mode.
Included in the kit: secondary mechanical panel only.

Code	Description	Cable lenght	Display size (W x H x D - mm)	Color
M86675	Mechanical remote panel for Climma DC chillers (Cool-On-Off, Eco On-Off)	Cable not included	130 x 70 x 70	Black



MDCDISPG* - Digital big secondary display

MDCDISPP* - Digital small secondary display



- Mechanical remote panel.

ACCESSORIES AND OPTIONS – KIT TO REMOTE THE PRIMARY DISPLAY

Standard Climma DC chiller units are provided with a display already installed on the main electrical box. If there is the need to install the display remotely, a kit can be provided with a replacement lid for the electrical box and an extra connection cable to remote the display.

Included in the kit: extra lid to replace the standard one, extension cable.

Code	Description	Cable lenght
MDCREM12	Kit to remote the DC display with 12mt cable	12 mt
MDCREM18	Kit to remote the DC display with 18mt cable	18 mt

ACCESSORIES AND OPTIONS – MODBUS KIT

This kit is needed to add Modbus connectivity to standard Climma DC chiller units. The additional electrical board can be installed easily on the main DC electrical board.
(on modular or custom configuration this kit can be already premounted)

Included in the kit: extra electrical board for Modbus connection.

Code	Description
M86220	Kit for modbus interface for DC chillers

ACCESSORIES AND OPTIONS – PUMP ELECTRICAL BOX FOR POWER MANAGEMENT ON DC130

The standard Climma DC130 single unit, with no electrical box, is provided with two 230V relays for pumps control.
This extra electrical box allows to directly connect 400V pumps to the chiller.

Included in the kit: extra electrical box with 400V sea water and fresh water connection.

Code	Description	Size (W x H x D - mm)
M90500	Pump electrical box for single DC 130	190x140x140

ACCESSORIES AND OPTIONS – SEA WATER SENSOR

All standard DC chillers already include a fresh water meter to measure and record fresh water flow.
On the DC130 there is also a sea water meter included in the unit to measure and record sea water flow, which is optional on the other DC chillers.
The Sea water sensor can be easily added to the unit as the connection is already pre-cabled in the standard electrical box and there is no need of software update as the sensor is already configured.

Included in the kit: extra flow sensor.

Code	Description	Size (W x H x D - mm)	Connections
M88675	Flow meter sensor for DC chillers 1 1/4'	121 x 70 x 32	F 1' 1/4