



Guide Specifications

Chilled water cassette

CWS 600 x 600 (01 - 02 - 03)

CWS 800 x 800 (04 - 05 - 06)

CWE 600 x 600 (01 - 02 - 03)

CWE 800 x 800 (04 - 05 - 06)



Design

The unit shall be Eurovent certified and the process and production of the unit shall be in accordance with ISO 9001:2000.

Intake grid and air diffuser

The intake grid, the frame and the adjustable air distribution louvers shall be made of ABS (UL 94 HB fire certified), in RAL 9003 white color. Adjustable louvers shall allow a Coanda effect when oriented 30°.

Inner casing

The casing shall be made of galvanized steel with internal thermal insulation (closed cell polyethylene, 10mm thick) and external anti-condensate lining. It shall include three possible fresh air inlet locations (Ø105mm), and one outlet to air condition an adjacent room (Ø150mm or Ø180mm). The casing shall be provided with 4 hooks for a quick and easy installation.

Control panel

The control panel shall be made of an external galvanized steel box and shall include the electronic control board with an easily accessible terminal board.

Filter

The filter shall be made of washable polypropylene media and shall have a low air pressure drop. It shall be easily removable without any tool from underneath and the flame class shall be HB.

Fan assembly (AC motor)

The fan assembly shall be of high efficiency and shall be made of a large diameter single air inlet radial fan wheel connected to a 230V/50Hz/1Ph electric motor to ensure a low sound level. The motor shall have class B insulation, a minimum IP20 protection rating and shall be protected against overheating by a means of an integrated Klixon thermal contact. It shall be maintenance-free and shall have a minimum life span of 30.000 hours. The units shall be wired with 3 standard speeds.

High efficiency heat exchanger

The exchanger shall be made of copper tubes and aluminum fins. Fins shall be bonded onto the tubes for a maximum air transfer contact. It shall have 1/2" water connections (when no valve), a low water pressure drop and a maximum operating pressure of 8 bars. The air vent and the coil drainage shall be easily accessible.

Electric heaters (option)

The electric heater shall be made of hermetically sealed electric resistances inserted into the heat exchanger for a better heat diffusion and thermally protected with an electronic board and a safety thermostat. The electric heater shall be reset by switching the mains power supply off. The power supply shall be 230V/50Hz/1Ph up to 2.5kW and 400V/50Hz/3Ph above 2.5kW. The electric heater shall be factory-mounted.

Main condensate collection tray

The drain tray shall be made of high density ABS polystyrene foam, shaped in order to optimize the air diffusion, shall be fire retardant rating B2 to DIN 4102. The cassette shall be delivered with a 10mm external diameter flexible hose pipe for a quick pipe connection.

Condensate pump

The condensate pump shall be of centrifugal type with 650mm of maximum head, integrated into the unit as standard and wired to the control panel. It shall be equipped with a float switch and a voltage-free alarm contact for switching off the cooling valve or for external use.

Access

Access to the fan/motor shall be possible from underneath via 4 screws.

Packing

The unit and the diffuser shall be individually packed with an identification sticker for quick on-site dispatching.

Energy efficiency

In cooling mode and for any fan speed, the unit shall have a sensible cooling capacity / fan absorbed power minimum ratio at the Eurovent conditions of 33.

In heating mode and for any fan speed, the unit shall have a total heating capacity / fan absorbed power minimum ratio at the Eurovent conditions of 55.

Remote infra-red control

The unit shall be factory-equipped with a remote infra-red control which shall provide the following features:

- Control on one or two valves or on one valve + electric heater with manual or automatic change over.

- Manual or automatic fan speed management
 - 24-hour start/stop program
 - Allow a master/slave configuration up to 20 units without any additional interface
 - Anti-stratification function
 - Occupancy or window contact input
 - Fan operation based on a minimum hot water temperature in heating mode
- The remote control shall have a digital display.

Fan assembly – EC motor

The chilled water cassette with EC motor shall use a brushless synchronous permanent magnet electric motor controlled by an inverter card that is directly installed on the unit. The air flow can be varied continuously by means of a 1-10 V signal generated by Trane controls or by independent controllers. In the first case, an electronic board installed on the unit interfaces with specifically developed wall-mounted or infra-red controls, whereas in the second case programmable controllers should be used with a 1-10 V output.

Impeller: plastic

Motor frame: aluminium

Direction of rotation: counterclockwise

Insulation class: B

Mounting position: shaft vertical

Mode of operation: continuous operation

Bearings: maintenance free balls bearings

Expected motor time life: Depending on the ball bearing life that is greater than 35.000 hours, 25.000 hours without any noise issues. For 25.000 hours it expected the ball bearings shall have the same initial sound level. After this period the balls could deteriorate and the sound level could be increased

Expected inverter driver time life: the life time depends on the power charge on the PCB. The worst condition is when used with the cassette motor size 800 at the full load. On such condition we have an expected life of 35.000 hours at 55°C. The life is increased when the PCB is used at partial load:

66% of the load, 72.000 hours; 40% of the load 130.000 hours

Nominal input tension: 230 V +15/-10%; 50/60 Hz

Maximum power motor: 130 W

Maximum current: 1 A rms

In-rush peak: 25 A at the Max current of 1 A

Leakage current: < 3.5 mA according to EN 60335

Inverter power output

Max output current: 0.5 A rms continuously

Max output current 0.8 A rms peak

0-10V input signal

Voltage input permitted range 0.3 – 13V

Minimum fan speed on input tension 1 V

Nim input tension for fan on 0.9 V

Off input tension: 0.80 V

Maximum fan speed: 10 V

Motor fan speed range (linear type)

Input control impedance: 100 Ω

EMC and safety standards: EN 55014-1/-2, EN 61000-3-2/3, EN 60335-1, EN 60335-2-40, EMF, EN 50366

BLAC control card

Each CWE unit shall ship with a specific BLAC control card to drive the EC Motor. This card enables 1 to 10 V voltage. Any brand of controller on the market is compatible with this BLAC card to provide the minimum speed at 1 V, and the maximum speed at 10V.



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