

## ECT10800 Internal Evaporative Cooler with EC Fan

The ECT10800 is part of EcoCooling's internal evaporative cooler range. At its design flow rate of 10,800m<sup>3</sup>/hr it can service a cooling load of 35kW with a COP of 39. The ECT range is also available in a 5400 model for smaller IT loads (~15kW). A list of approved installers is available on request.

### Technical Specifications

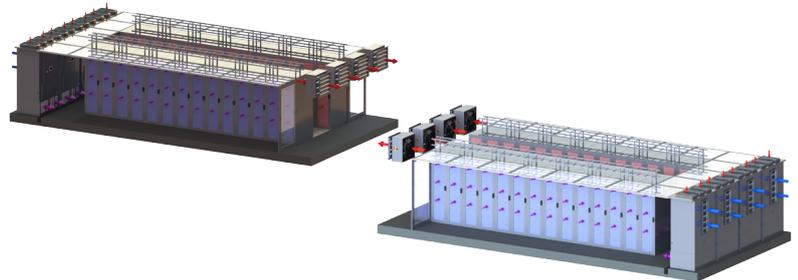
Characteristic/Feature	Value/Detail
Power Supply	3~400V 50 Hz
Cooling Capacity in Adiabatic Mode	35kW ( $\Delta T$ of 8°C)
Design Flow Rate	10,800m <sup>3</sup> /hr
Weight	396kg
Dimensions (h x d x w)	2494 x 960 x 1304mm
Design Power Usage (60% fan speed):	
Cooling Mode	0.9kW
Ventilation Mode	0.9kW
Fresh Air Intake Size (h x w)	1 x 1100 x 320 mm
Recirculation Air Intake Size	2 x 300 x 600 mm



Standard Build ECT10800

### Installation Requirements

- x 3 phase power supply
- x 1100 x 320mm (h x w) fresh air intake
- x ½" BSP mains water supply
- x 32mm gravity drain pipe
- x Room sensor (temperature and relative humidity)
- x Pressure relief vent or extract fan



Example of a Modular Data Centre Installation

### Core Features

The ECT10800 is shipped in 2 parts, the main cabinet and a separate filter plinth.

**EcoCooling Control System:** The unit is controlled via a touch screen user interface. Functionality includes logging of performance data and faults, altering of system parameters, a functional test routine and password protection. Software can be managed through an ESCROW account.

**Dynamic Control:** A consistent supply temperature is achieved year round by mixing cool air with warm recirculated air. Adjusting the speed of the supply fan keeps the exhaust temperature constant.

**Efficient Fan:** A Ziehl-Abegg 630mm FE2owlet ECblue fan drives the airflow. Use of electronically commutated (EC) fans results in significantly quieter and more energy efficient operation than AC alternatives.

**EU4 Filtration:** The airflow is subject to EU4 filtration both at the fresh air intake and at the point of supply.

**Configuration Options - Plinths:** The cooler supplies air through a plinth at its base. The cooler can supply air through grilles in the front, sides or a combination of the two. Supply through its base into a raised floor is also possible. A plinth with the facility to connect duct work is also available.

**Simple Servicing:** The cooler should be serviced quarterly. Three stages are involved in a routine visit:

- x Running a test routine to check the functionality of all components;
- x Cleaning the cooling module with fresh water and a damp cloth;
- x Inspection and changing of filters.

All core components are situated at the front of the machine, just inside the cabinet doors and any of the electrical components can be changed in 30 minutes.

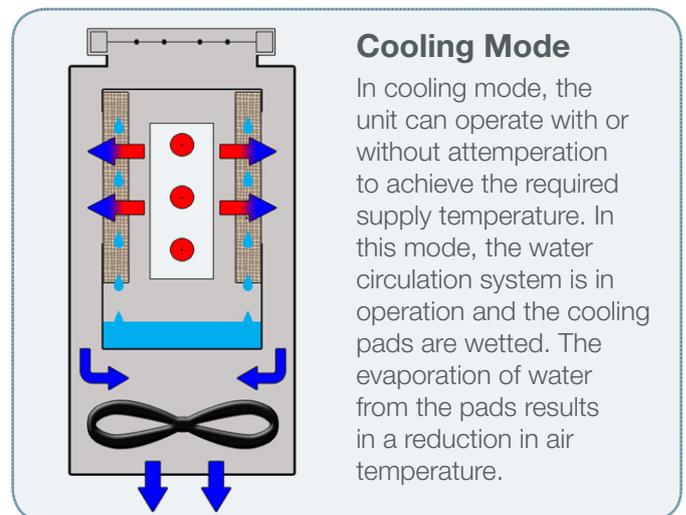
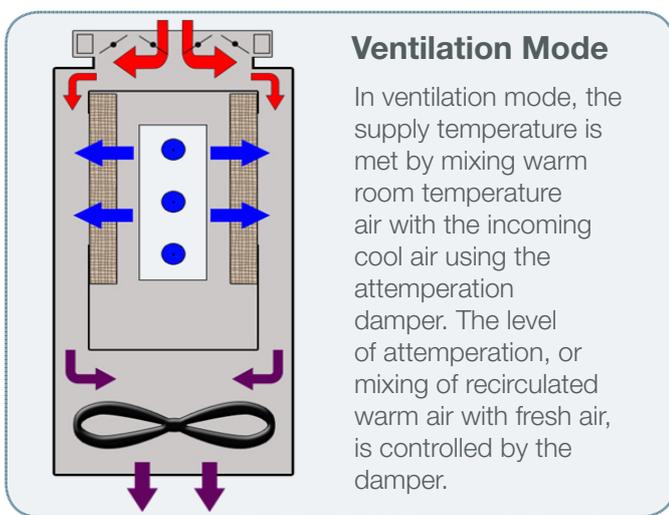
# Energy Savings and Cost Comparison

The table below contains operating cost comparisons for the ECT10800 evaporative cooler against traditional DX and CW (Chilled Water) air-conditioning systems.

**System Design:** 35kW cooling load. Electricity at 10p/kWhr. Water at £1.00/m<sup>3</sup>. London location.

Type of Cooling System	Typical COP	Effect on PUE	Energy Use (kW)	Water Used in Evaporation (m <sup>3</sup> /yr)	Annual Running Cost
ECT10800	39	0.026	0.9	40	£828.40
DX CRAC	2	0.5	17.5	0	£15,338
CW CRAC	3	0.33	11.6	0	£10,167

## Basic Principles



## Optional Add-Ons

**Remote monitoring:** Remote monitoring and control can be setup through either a Modbus or Ethernet connection. Email alerts of faults and alarms can also be enabled.

**Metering:** The control system continuously logs energy usage and performance data which can be viewed on the touch screen or downloaded in MS Excel format. Inputs are also available for water metering should one be installed.

**Redundancy:** Most supplementary cooling systems can be linked into the ECT10800 controller for automated switch over in the event of malfunction.

**Humidification:** Please contact us regarding our optional humidification damper which is available for low humidity climates.

## Legionnaires

EcoCooling's process control system ensures the risk of legionella is kept to a minimum. The main risk factors for legionella formation have all been addressed in the design and controls of the ECT units. For more information and risk assessment forms please contact EcoCooling directly.

## Commissioning Service

EcoCooling offer a commissioning service which should be completed after the installation of the ECT10800 unit. Parameters within the software will be set to client specifications and energy use optimised during the service. Commissioning can also be performed remotely.

