



DATA SHEET 1601

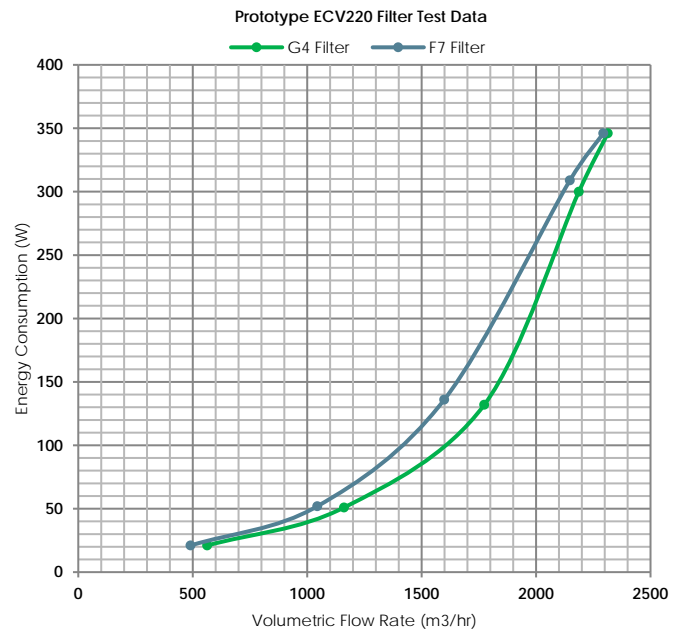
ECV220 – Server Room FreeCooler

The prototype ECV220 FreeCooler is manufactured by EcoCooling in the United Kingdom. The cooler is designed to meet all European electrical, water and other safety legislation.

- The prototype ECV220 mixes fresh and recirculated air to ventilate IT environments.
- The unit is designed to be located internally, with access to a fresh air feed.
- A steady supply air temperature is provided until ambient conditions preclude the use of fresh air.
- The unit has the capacity to automatically activate back-up A/C when necessary.
- The unit is designed to handle 2,200 m³/hr.
- All air supplied to the area being cooled must be extracted or exhausted from it.

Configuration Features

Maximum Flow Rate	2,200m ³ /hr or 0.6 m ³ /s
Unit Size (H x W x D) Unit Including Bracket Access Footprint	616 x 725 x 400 mm 666 x 725 x 400 mm 200mm (below) 400mm (to right) 700mm (in front)
Air Routes Fresh air intake position Recirculation intake position Air Supply Grille position	540 x 250mm (0.135m ²) Rear Face 540 x 250mm (0.135m ²) Top Face 695 x 90 mm (0.06255m ²) Lower Face
Air Filtration	EU4 or EU7 options
Unit Weight EU4 filtration option EU7 filtration option	43.0 kg 46.1 kg (Clean filter weight) 45.2 kg
Electrical Supply Voltage Current Protection	230V/50Hz 1.6 A Running (Soft Start) External Isolator Required



Control

- Integrated EcoCooling PLC control system
- Automatic Handover to back-up A/C
- Fire Alarm contact for deactivation
- Post fire suppressant release Gas Purge function
- HMI for local control
- Filter pressure drop monitoring
- Planned remote communication options
 - TCP/IP over Ethernet
 - Modbus RTU RS485
 - SNMP

Maintenance

- Notification of filter change requirement.
- Predicted interval of 12 months

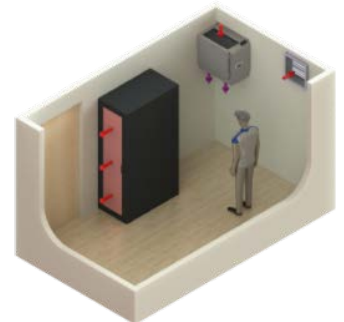
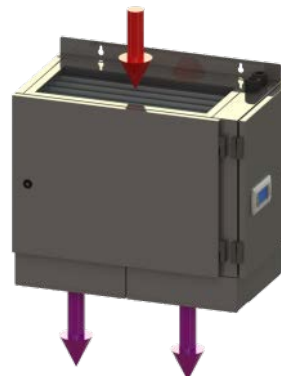
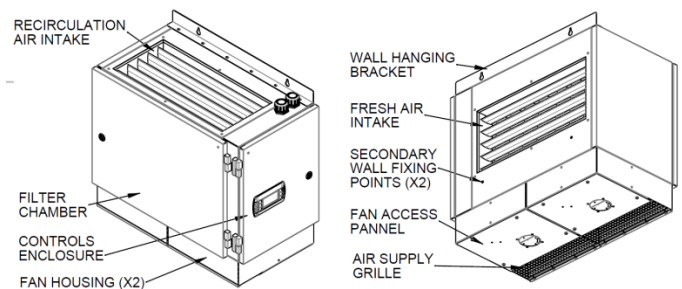
Serviceable Cooling Load (kW)

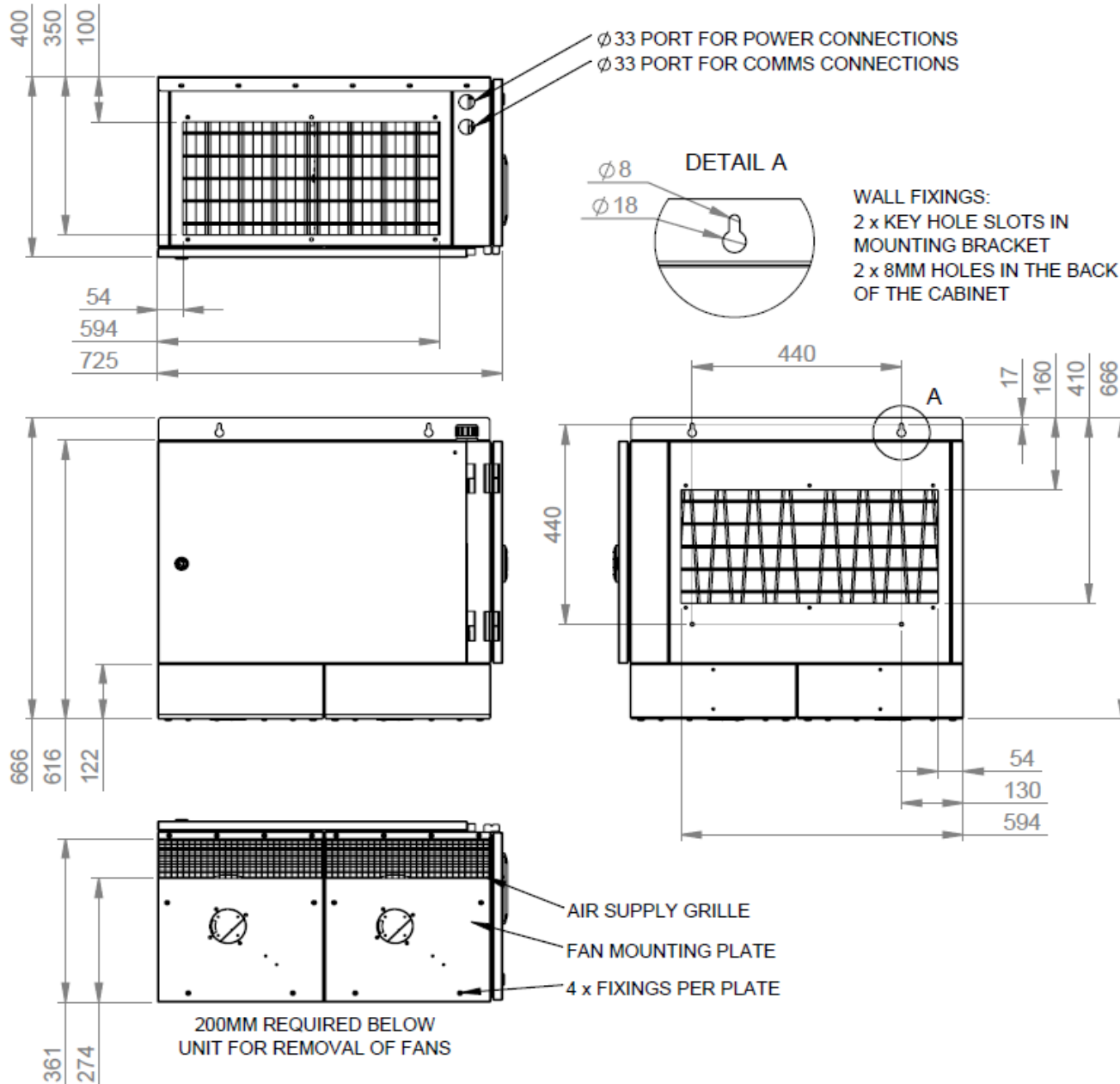
Dependant on:

- Temperature rise between supply and exhaust.
- Volumetric air flow rate.

Temp. Rise, ΔT	5°C	7.5 °C	10 °C	12.5 °C	15 °C
Air Flow					
2,200 m ³ /hr	3.7	5.5	7.4	9.2	11.1

Calculated using $\dot{Q} = (\dot{m}C_p)_{air} \Delta T$ with $\rho_{air,NTP} = 1.204$ & $C_{p,air,NTP} = 1.005$




EXTERNAL WIRING CONNECTIONS

No	Function	To	Voltage	Notes
1	Line - Mains	L	240VAC	240VAC Mains Electricity
2	Neutral - Mains	N	0VAC	240VAC Mains Electricity
3	Earth	E	-	Earth to Fan
10	Extract Fan Line	L	240VAC	240VAC Mains Electricity
11	Extract Fan Neutral	N	0VAC	0V AC Extract Fan Neutral
12	Earth	E	-	Earth to Fan
17	Room Temp 0V	0VAC	0V	To 0V AC power supply
18	Room Temp	U3	Return	From sensor to PLC
37	Extract Fan 0V	0VAC	0V	To extract fan 0V
38	Extract Fan Control	Y2	0-10V	To extract fan speed control
39	Extract Fan Fault 0V	0VAC	0VAC	To extract fan fault contact
40	Extract Fan Fault	U7	Return	From extract fan fault contact
41	Gas Purge 0V	0VAC	0VAC	Connection to fire panel
42	Gas Purge	ID1	Return	Connection to fire panel
43	Fire Alarm 0V	0VAC	0VAC	Connection to fire panel
44	Fire Alarm	ID2	Return	Connection to fire panel
45	Fault Contact Com	J12 C6	0VAC	Connection to BMS
46	Fault Contact NO	J12 NO6	24VAC	Connection to BMS
47	Fault Contact NC	J12 NC6	24VAC	Connection to BMS

