



Defroster / Frontbox

Drivers best comfort

MCC Defrosters are of compact and flexible design to match different envelopes in typical large bus applications. The base unit consists of a heater coil, air filter, brushless blower (IP68, PWM), evaporator coil and flap system for fresh air. Different options are available to meet current and future market needs as also 750VDC electrical PTC heater with 4 & 8 KW capacity,

to ensure comfort and safety for electrical busses. All models are manufactured with mainly aluminum components to allow the lowest possible weight. The heat exchangers for cooling and heating have been optimized to provide maximum performance.



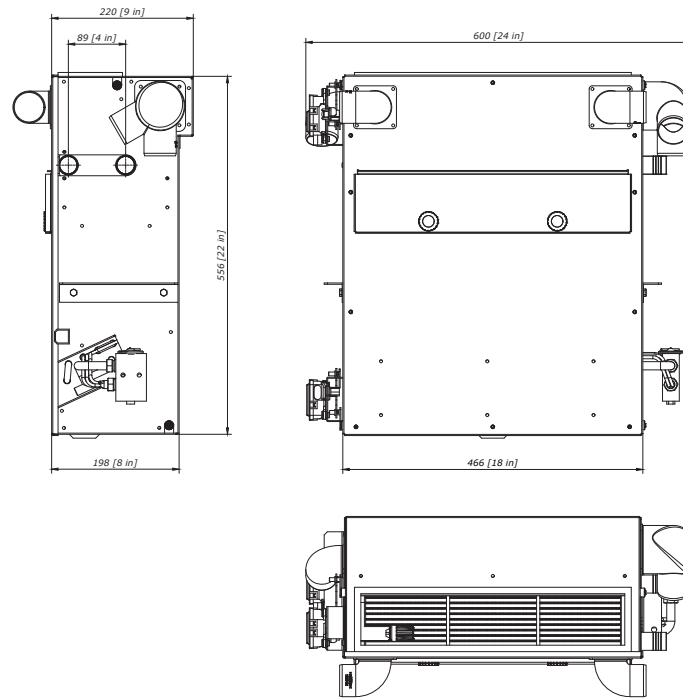
Features

- Design based on standard parts like coils, TXV, blower, flap motor & mechanism, control system
- Sheet metal design can be easily adjusted in width and height. All type of air distribution possible. Left & right connection Variable fixing points
- Enhanced coil technology, flexible control logic, low refrigerant charge
- Good accessible air filter, TXV, blower, flap motor, valves
- Brushless blower
- Aluminum housing, evaporator and heater coil
- Options: Valve for glycol heater, PTC heater (4 and 8kW), 0-100% Fresh Air, different MCC controllers

Benefits

- Fewer part numbers reduced the spare part variety
- High flexibility for customer applications, short installation time
- High efficiency, environmentally friendly
- Best serviceability. Saves time for seasonal maintenance or other service
- High reliability and efficiency, up to 40.000 hours life cycle
- Low weight, environmentally friendly
- Multiple options for diesel and electric bus, high flexibility

Drawing MCC Global X:



Technical Data

Heating capacity (Q80)	17 kW
Heating capacity electric*	4/8 kW
Cooling capacity (MAX) ^[1]	6,3 kW
Cooling capacity (ARI) ^[2]	4,5 kW
Min width **	466 mm
Min depth**	200 mm
Min height**	450 mm
Weight (total)	15 kg
Voltage	28 VDC
Voltage electrical heating	750 VDC
Current consumption	12 Amp
Air flow	780 m ³ /h
Refrigerant	R134a

* Optional

** Final dimensions will be according customer requirements

[1] Maximum cooling condition (MAX) ti 40 °C/ ta 35 °C/ 50%

[2] Nominal cooling condition (ARI) ti 27 °C/ ta 35 °C/ 50%



Mobile Climate Control



EV Electric Defroster

Front Drivers Full Electric Heat Only and Heating and Cooling Defrosters

The MCC Drivers EV Defroster Range allows for Electrical Power to provide the medium for the Heating supply best suited for Hybrid and Full Electric Vehicles. This range of defroster units utilizes many of the conventional defroster features including a Refrigerated Cooling Option, to provide superior Drivers Comfort as well as safety to demist and clear front windscreens and surrounding windows. All models also

include the option to provide Fresh Air to inside the vehicle or operate on a full recirculating operation. Temperature selection options are also for superior driver comfort. These under-dash defrosters allow for direct air distribution via connected ducting to both the driver, as well as the front screen and window areas. High Voltage DC is utilized for heating, while 24vdc low voltage is used for fan, safety and control operations.



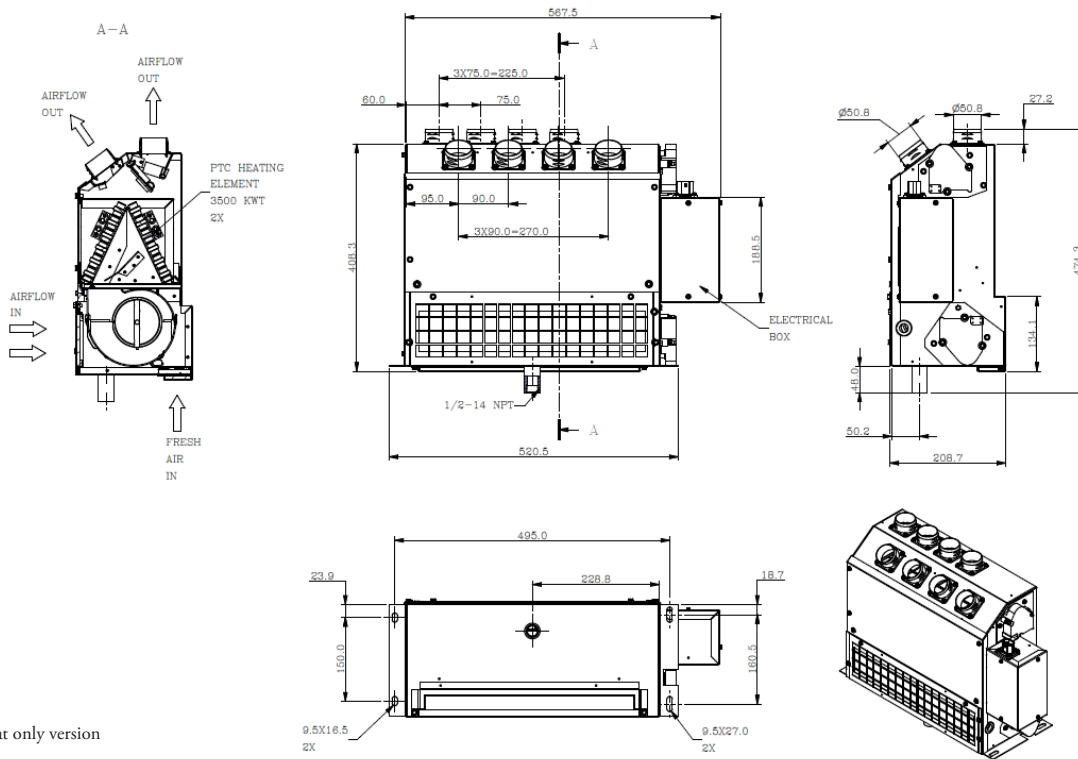
*heat only version

Features

- High voltage DC power connection
- Heating elements
- Brushless 24vdc motor
- Air distribution
- Cooling option
- Fresh air available
- Internal safety controls
- Control options

Benefits

- Allows direct connection of vehicle battery supply, meaning no need for heating coolant water to front defroster
- Both ptc and electric elements depending on model
- Standard part, multiple speed settings for reduced noise, less power, and long service
- Provides air to driver, screen or both
- Allows for refrigerated cooling to be utilized with connection via main passenger a/c system or connection to own electric condensing unit
- Allows driver to add fresh air for driver comfort or recirculating interior air
- Set up to ensure safety during normal operation and for servicing requirements
- Dedicated controller allows the driver to select desired airflow, temperature, and air direction for comfort and operation



*heat only version

Technical Data

Heating capacity	23,906 Btu/hr (7.0 Kw)
Optional max cooling capacity	33,810 Btu/hr (9.9 Kw) (q0)
Air flow	550 CFM (935 m ³ /h) free-blow
Cooling option refrigerant	R134a
Current	High voltage: 11.67 Amps @ 600 vdc Low voltage: 9.8 Amps at 28 v
Weight	Heat only: 32.0 Lbs (14.5 Kg) Heat/ cool: 45.2 Lbs (20.5 Kg)*
Dimensions (hwd)	Heat only: 18.68" (474.3 mm) x 22.35" (567.5 mm) x 8.22" (208.7 mm) Heat /cool: 18.68" (474.3 mm) x 25.09" (637.1 mm) x 8.22" (208.7 mm)

* weight calculations are estimates only





Igloo 724

Drivers heat and cool front defroster

Igloo 724 is an under-dash defroster, which provides heating and cooling for the driver, as well as demisting and clearing of the front windscreen and surrounding windows. Mounted under the vehicle's dash, allowing for direct air distribution to the driver and the front wind screen. High capacity performance for driver comfort and safety in even the most extreme

conditions. Robust casing and brushless motor for long reliability and trouble free operation. Directional air distribution allows selection for driver-only, wind-screens or both, as well as providing fresh air. Individual temperature control for selection of desired temperature regardless of any passenger compartment requirements.

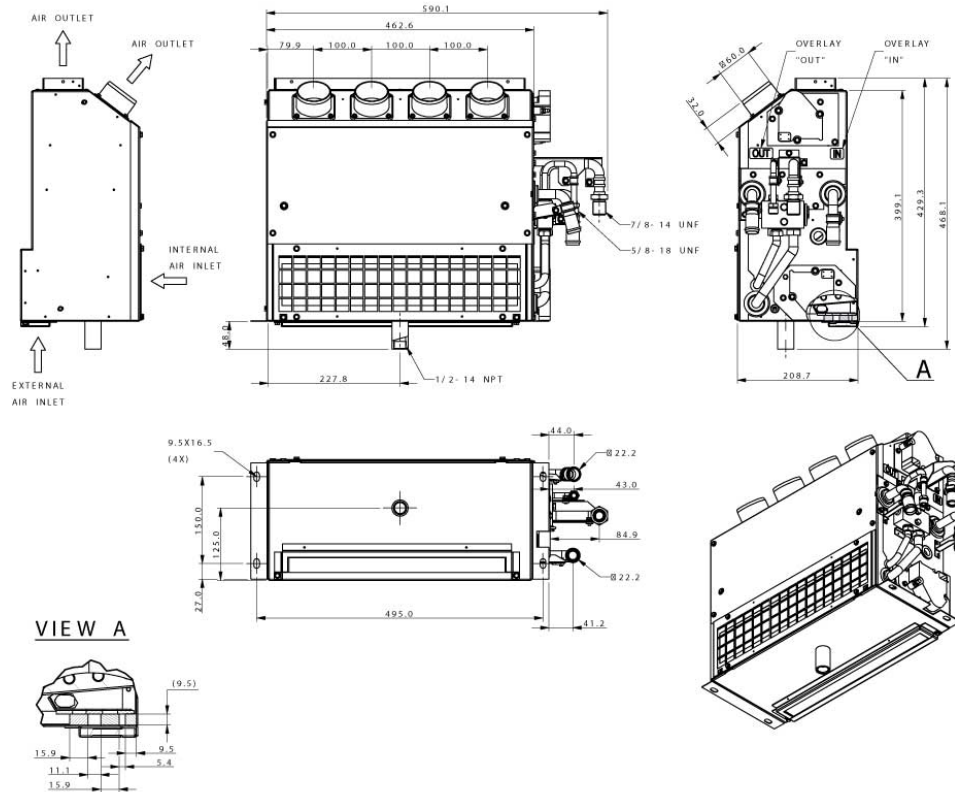


Features

- Brushless motor
- Directional air distribution
- Designed for R134a refrigerant
- Fresh air intake
- Multiple controller options

Benefits

- Reduces noise, less amp draw, long life
- Provides air to driver, wind screen or both at the same time
- Optimized performance
- Allows driver to add fresh air for comfort
- Allows driver to set desired temperature independent of passengers requirements



Technical Data

Cooling capacity @ max ^[1]	33810 Btu/hr (9.9kW)
Heating capacity	82647 Btu/hr (24.2 kW) @(Q100)
Airflow	677 CFM (1,150 m ³ /h) free-blow high speed @ 0 static press
Weight	44 lbs (20.2 kg)
Refrigerant	R134a
Current Draw (Max)	14.3 A at 28 V (High Speed @ 0 Static)
Dimensions (HWD)	17" (429.3 mm) x 18.2" (462.6 mm) x 8.2" (208.7 mm)

[1] Max conditions 95°F (35°C)/104°F (40°C)/50% RH

