

### Description

#### Introduction

**PC 500** (Power Convector), *patented*, is a “crossover” product featuring the benefits of a normal convector and that of a heating fan unit. The PC500 can function *either* as a convector with the fans non-operating, *or* as a blower with fans in half- or full speed, for further information see next page. This immediately opens many possibilities for the customer:

- suits a wider range of bus types
- long life, uses standard parts
- fast operation, quick results
- greater temperature control
- modular configuration
- easy to install (thanks to unique integration)
- same cover profil as P200

Buses, coaches, and other vehicles are excellent choices for the PC 500. The increased efficiency offered means that space can be saved.

#### Design

The Power Convector consists of an aluminium heat exchanger with copper pipes. Just below this heat exchanger are the fans with the connecting electrical cables. The fans are axial-brushless types and have long lasting ball bearings.

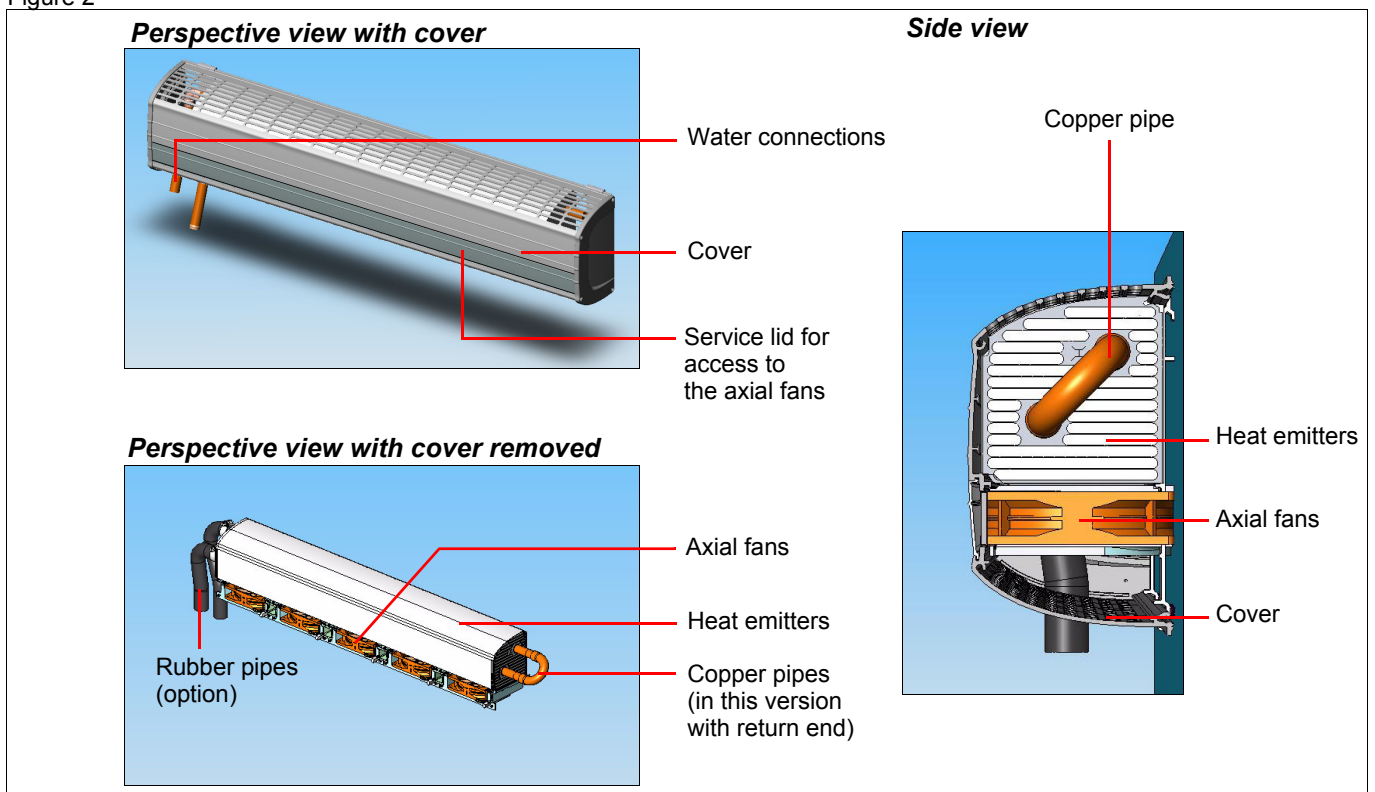


On the cover, for added convenience, is a service lid enabling access to the fans from the front, see figure 2.

#### Summary

Suitability, long life, fast operation, greater control, reduction of components, and easy installation are all good reasons for selection of the PC 500.

Figure 2



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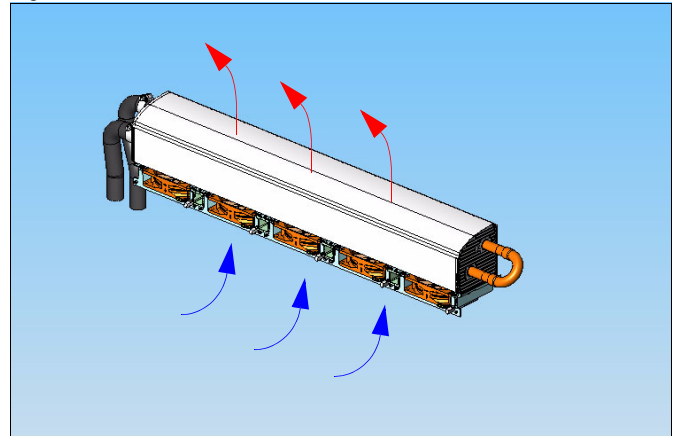
## Operation modes

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The PC 500 has three operating modes:

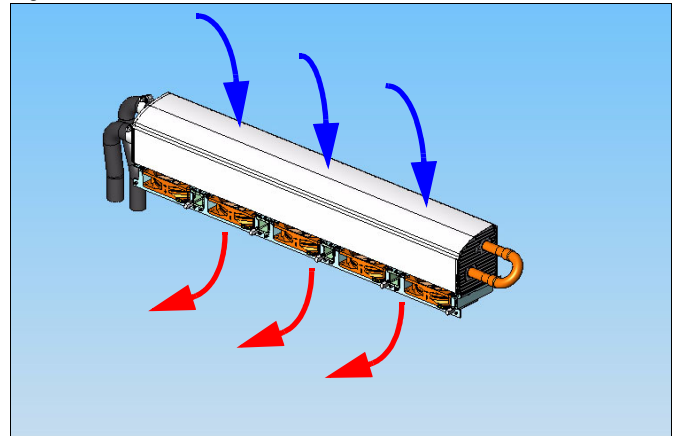
**Convective mode, figure 3**, (Free-Flow) warm air rises naturally (by convection) from the unit.

Figure 3



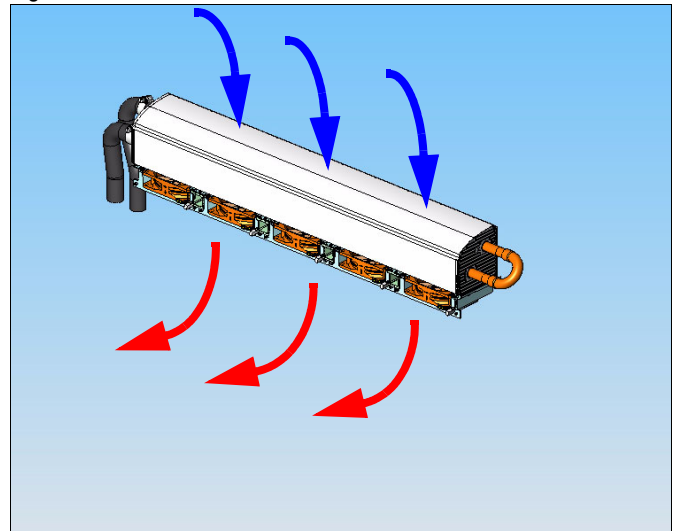
**Blower mode, half-speed, figure 4**, (Forced-Air) draws the air from the top of the unit through the fins and out to the floor. Once on the floor the warm air mixes and rises to the top.

Figure 4



**Blower mode, full-speed, figure 5**, (Forced-Air) gives instant heating results by taking maximum heat from the PC 500 and distributing this air all over the floor.

Figure 5



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*This unique method of distributing air downwards along the floor uses the physical “Coanda” effect, which can be comparable with floor heating.*

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A sensor can be mounted in the PC 500 for measuring air temperature and works with all the modes, normal convective and fan heating.

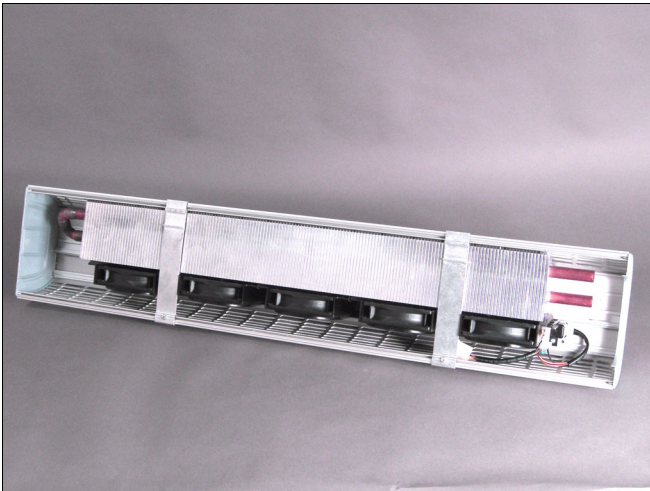
**Pictures**



Cover profile overview (front view)



Cover profile close up view (front view)



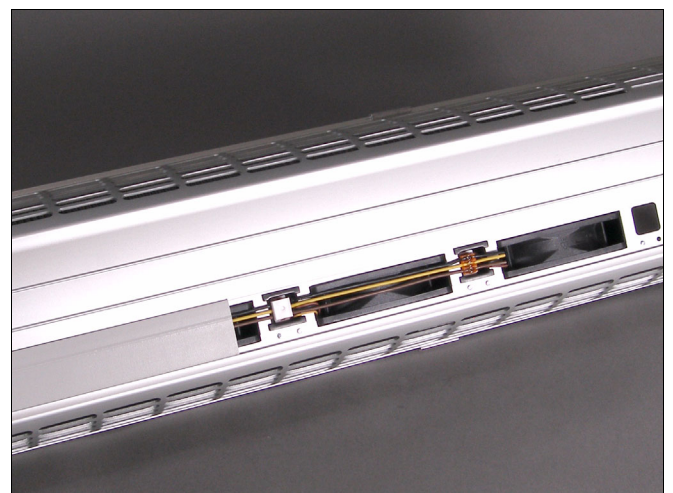
Overview of convector and the axial fans (rear view)



Close up view of convector and the axial fans



Side view



Front view with slided service lid enabling fan access

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## Technical data

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### Heating capacity

Mode	Note	Heating capacity per meter
Blower	Full speed	3 kW (Q60) 5 kW (Q100)
Convector	-	465 W(Q60) 775W (Q100)

### Air flow

Number of fans	Note	Air flow
5	Full speed	260 m <sup>3</sup> /h (28V)

### Electric features

Rated voltage / operating range	24 VDC (12 V on req)	VDC-22-29V
Start-up voltage/ Rated speed	7.0 VDC, Nominal	3800 RPM ±
Rated current/ rated power 2-speed control standard with PWM as a option	0.25 Amp. + 10% max	6 Watts/ fan
Mechanical		Ball bearing

### Electrical connections

Standard connection	AMP 1-180940-0	GND=black YEL=high speed BRWN=low speed
Optional connection	Cable adapter	Contact UWE for further info.
Max number of fans in serie	3-15 units	

### Water connections

The water pipes of the PC500 are 15mm outer diameter, and they are adapted for hose mounting with Ø15mm inner diameter, other diameters on request (16, 18 and 22) by means of hose adapters.

### Quality specifications

PC 500 meets the requirements according to:

- Low Voltage Direktive 73/23/EEC
- EMC Direktive 89/336/EEC
- CE Marking Direktive 93/68/EEC

### Environment and limitations

PC 500 is designed to work in the expected climate inside a vehicle.

### Air temperature limitations

Max ambient temperature	+40°C to +80°C	<i>During summer with parked vehicle</i>
Min air intake temperature	-30°C to -10°C	<i>Short time operation</i>
Working air intake temp continuously	-10°C to +40°C	

### Water temperature limitations

Max water temperature	+120°C	<i>Short time</i>
Operative water temperature	+40°C to +95°C	
Min water temperature	-30°C to +40°C	<i>Short time</i>

### Storage

Unit can be stored in a dry place with a surrounding temperature of -40 - +65°C.

### Noise

Measured noise from the wall mounted unit 1 m above floor level:

Full speed 58 dBA  
50% speed 46 dBA

### Life

Unit is designed to work for 25,000 h.

### Maintenance and cleaning

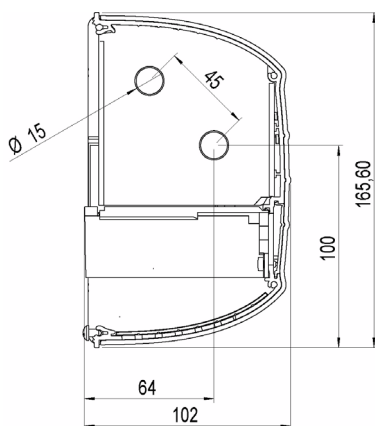
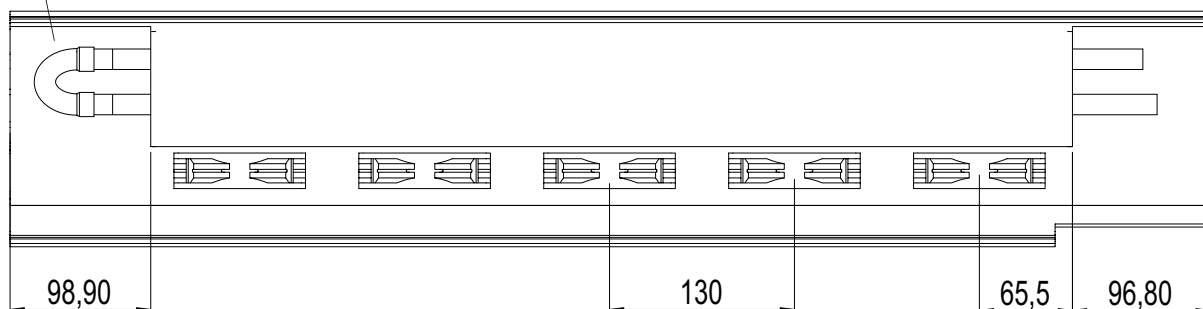
Normal cleaning procedures are to be followed. Avoid direct spray of water or solutions on the unit. At least once a year it is advisable to blow away dust and dirt from the opposite direction.

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## Drawings (mm)

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Cover profile



### Comments to drawing above

The unit above is just showing an example of how the PC500 can be configured. The number of fans, water connections left/right can be chosen according to customer demands.

## Product range

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PC500 can be ordered with 3 fans up to 15 fans (6 meters unit is the maximum length of a single PC 500 piece). The fans can be mounted according to customer specifications for each PC500 application.

Also the piping can be with through water flow or with return end. Another option is the temperature sensor that measures the air temperature inside the PC500 unit.