

Description

The Whisper 200 is a heating fan, especially designed for wall mounting in larger vehicles, basically buses. It consists of a heat exchanger with water connections, and 24V (or 12V) axial fans with high and low speed. Above this a cover profile is very easily mounted with help of slots in the wall profile.

Whisper 200 is available in different configurations, e.g. with three, four or five fans, right, left or through waterflow connections. It can be used as stand alone heating source or preferably in combination with convectors.

The outstanding features are the:

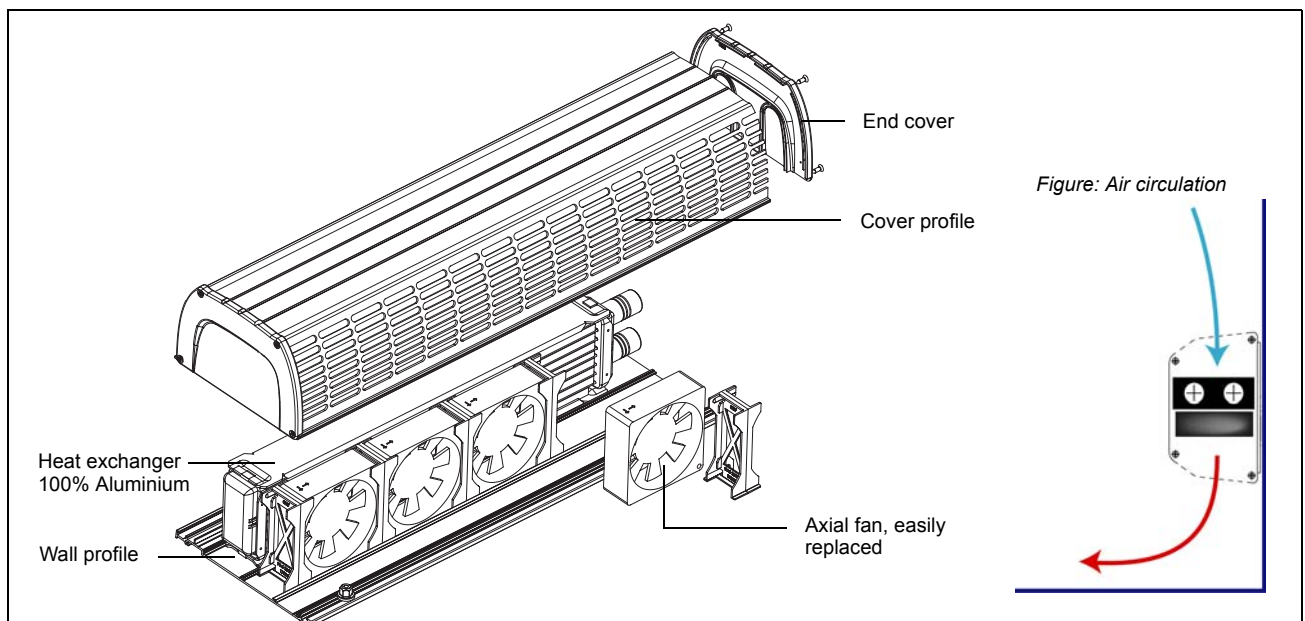
- high performance - compact design
- low weight
- two fan speeds
- silent
- quick and easy installation
- easy cleaning and maintenance
- environmental friendly
- prepared for convector integration
- designed for tough conditions
- prepared for temperature sensor installation



Figure: Whisper 200

For additional information see:
Spare Parts PRD0321

Figure below: Whisper 200, view showing fans and heat exchanger with removed cover profile



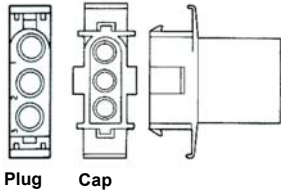
Technical data

Electric features

Unit voltage / Maximum voltage	24/28VDC	<i>Remark: 12V as option (3 & 5 fans)</i>
Protection class, fan	IP50	
Power consumption	30W	5 fans/24V

Electrical connections

Standard connection	Circuit board connection	GND=black RED=high speed BLUE=low speed
Optional connection	Cabling with connection cap	AMP Cap Part No. 1-350347-0 AMP plug Part No. 1-350346-0



Max number of W200 in serial connection 3 units

Water connections

Possibility to choose Ø22 mm hose connection, 3/8" inner screw connector, Hepworth couplings and pressfit couplings.

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 20000 h (with outlet air temp of 60°C).

Lower internal air temperatures in the unit will increase life-time.

Quality assurance

Whisper 200 meets the requirements according to:

- Low Voltage Directive 73/23/EEC
- CE Marking Directive 93/68/EEC

EMC approval

Both are EMC-approved according to 72/245/EG including revision 2005/83/EG.

Approval number: e5*72/245*2006/28*0221*00

Environment and limitations

Whisper 200 is designed to work in the expected climate inside a vehicle.

Air temperature limitations

Max ambient temperature	+80°C	<i>NB. No operation allowed above +40°C</i>
Working air intake temperature	-10°C to +40°C	<i>Continuous operation</i>
Low air intake temperature range	-10°C to -30°C	<i>Short time only</i>
Min air intake temperature	-30°C	

Water temperature limitations

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

Storage

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

Maintenance and cleaning

As standard Whisper 200 is equipped with a net, to prevent larger particles from falling into the unit. This net has to be vacuum cleaned as required to ensure good air circulation. During cleaning of vehicle floor, direct spray of water or soluble on the unit should be avoided. To handle occasional wet conditions circuit board is protected with transparent insulation paint.

Performance and current consumption

The test is performed on the following premises:

- Q80°C (Water temp +80°C, Air temp +0°C)
- Water flow approximately 15 l/min
- Water with anti freeze agent 50/50
- Voltage 28V

Heating fan - number of fans	Heating capacity (kW) Q80 (Q100 in brackets)	Air flow (m ³ /h)	Current cons. (mA)
Whisper 200-3*	2,8 (3,5)	156	750
Whisper 200-4*	3,9 (4,9)	208	1000
Whisper 200-5	4,7 (5,9)	260	1250

* calculated values

Order information

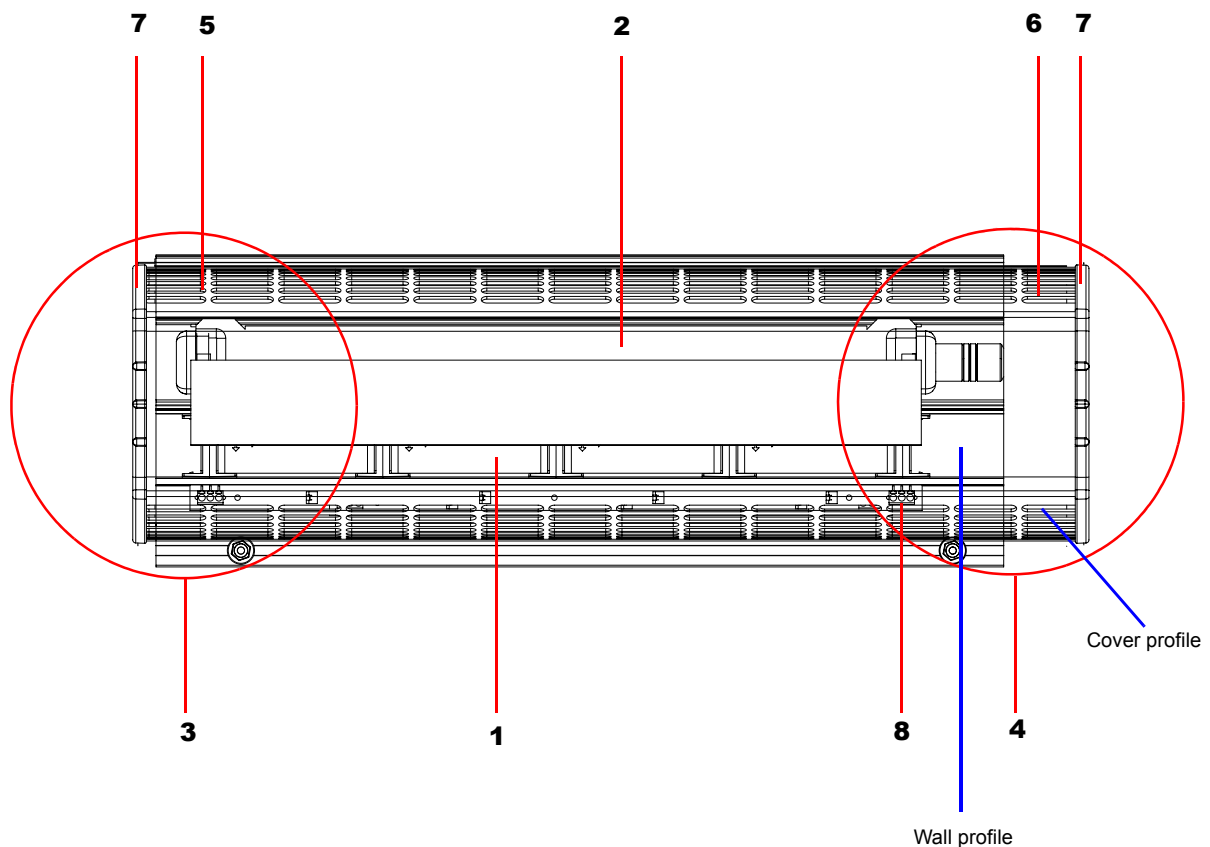
Overview of possible configuration selections

One of the great advantages with the Whisper 200 is the flexibility. To make it easier to choose a Whisper 200 matching your requirements there are eight configuration selections to make, according to the table below.

On the following pages we will go through the eight configuration selections one by one.

Figure: overview of the Whisper 200 product configuration selections

Config 1	Config 2	Config 3	Config 4	Config 5	Config 6	Config 7	Config 8
Number of fans/voltage	Heat exchanger left/right/through	Type of connection left side	Type of connection right side	Cover profiles, left side	Cover profiles, right side	End covers Left/right side	Cable connection

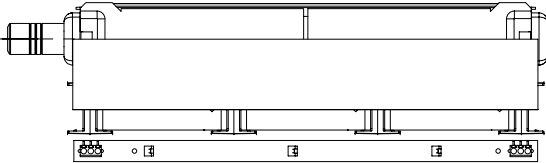
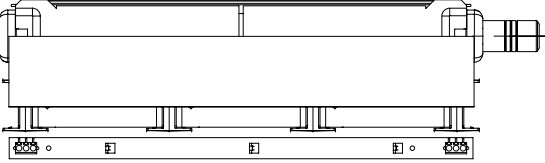
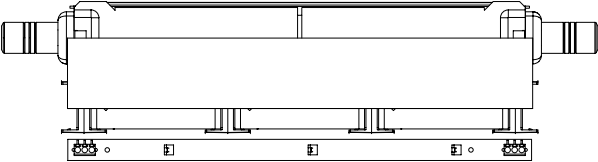


1st configuration: Number of fans and voltage

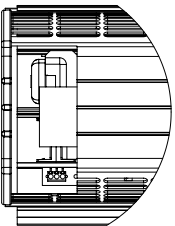
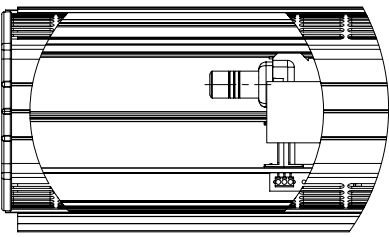
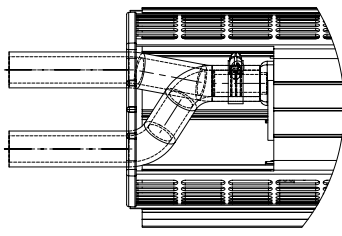
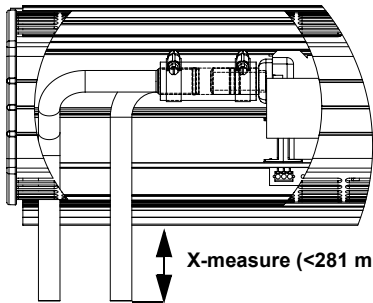
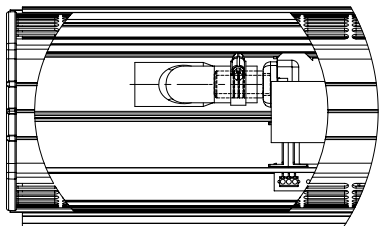
The first selection is to choose number of axial fans and voltage, according:

Selection	Possible voltage
3 fans	12V or 24V
4 fans	24V
5 fans	12V or 24V

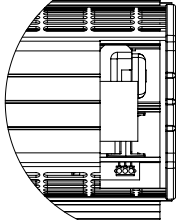
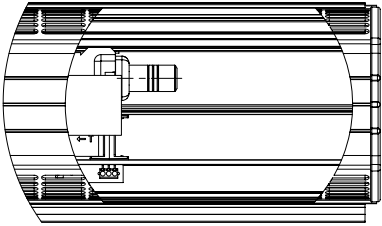
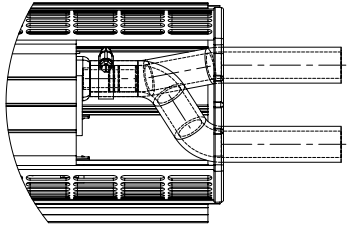
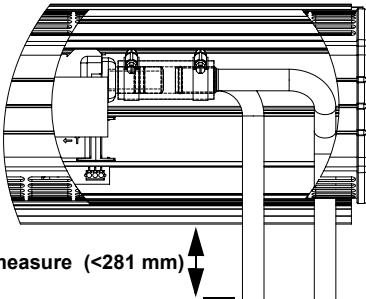
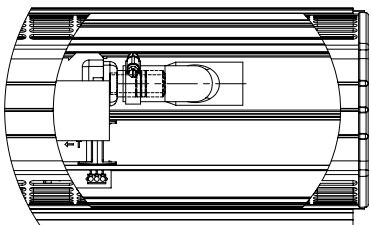
2nd configuration: Heat exchanger connection

Selection	Picture
Left connection	
Right connection	
Through connection	

3rd configuration: Type of left water connection

Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>Return end</p> <p>Note: Not possible in combination with silicon hose "Y-connection" (selection K and L)</p>	(A)	
Without extra connection	SRÅ 22mm (B)	
Silicone hose for convector	22mm (C)	
<p>Copper pipe through the floor</p> <p>IMPORTANT! If you choose pipe connection through floor you must state the measure required from the lower part of the wall profile to the end of the pipe in mm. This is the "X-measure".</p>	<p>Cut end 15 mm (D) 18 mm (E) 22 mm (F)</p> <p>End suitable for hose connection 15 mm (G) 18 mm (H) 22 mm (I)</p>	 <p>X-measure (<281 mm)</p>
<p>Silicon hose connection "Y-connection"</p> <p>Note: Only suitable with through water flow heat exchanger!</p>	<p>2x22mm to 22mm (K)</p> <p>2x22mm to 28 mm (L)</p>	

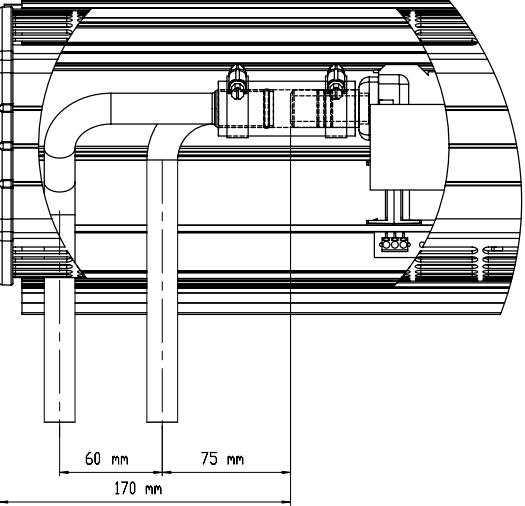
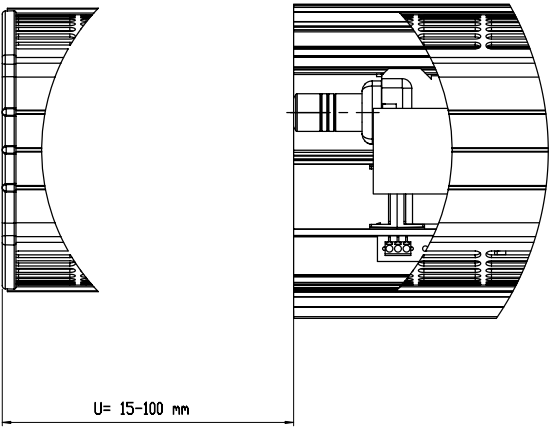
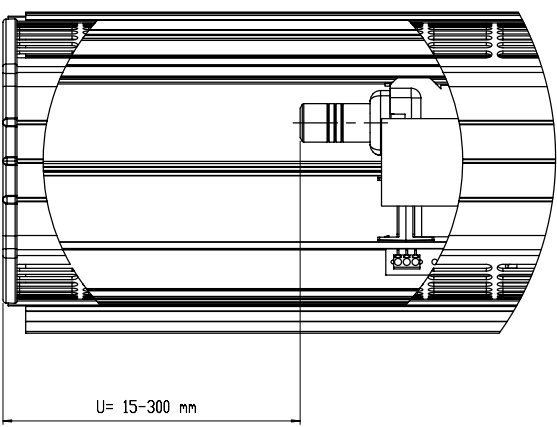
4th configuration: Type of right water connection

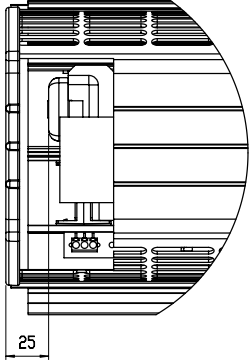
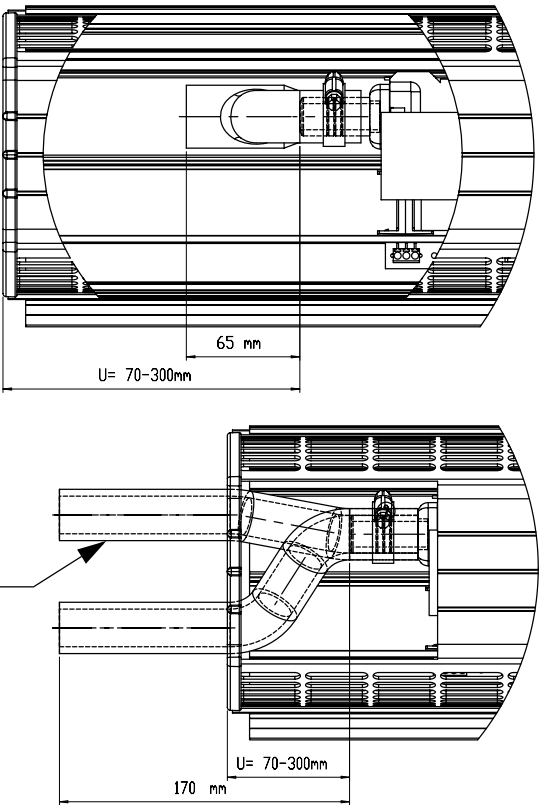
Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>Return end</p> <p>Note: Not possible in combination with silicon hose "Y-connection" (selection K and L)</p>	(A)	
<p>Without extra connection</p>	SRÄ 22mm (B)	
<p>Silicone hose for convector</p>	22mm (C)	
<p>Copper pipe through the floor</p> <p>IMPORTANT! If you choose pipe connection through floor you must state the measure required from the lower part of the wall profile to the end of the pipe in mm. This is the "Y-measure".</p>	<p>Cut end 15 mm (D) 18 mm (E) 22 mm (F)</p> <p>End suitable for hose connection 15 mm (G) 18 mm (H) 22 mm (I)</p>	 <p>Y-measure (<281 mm)</p>
<p>Silicon hose connection "Y-connection"</p> <p>Note: Only suitable with through water flow heat exchanger!</p>	<p>2x22mm to 22mm (K)</p> <p>2x22mm to 28 mm (L)</p>	

5th configuration: Cover profile left side

Here you choose the length of the cover profile on the left side. The length is stated as the U-measure from the end of the heat exchanger to the cover profile end. In the table you can see

whether the U-measure is fixed or variable. If you have chosen a plain heat exchanger (no extra connection), you are also able to choose wall profile length.

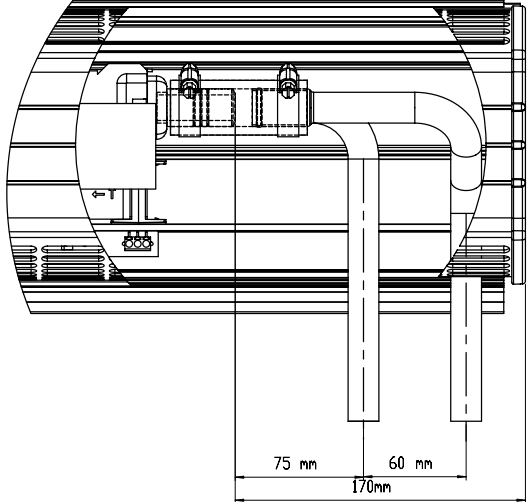
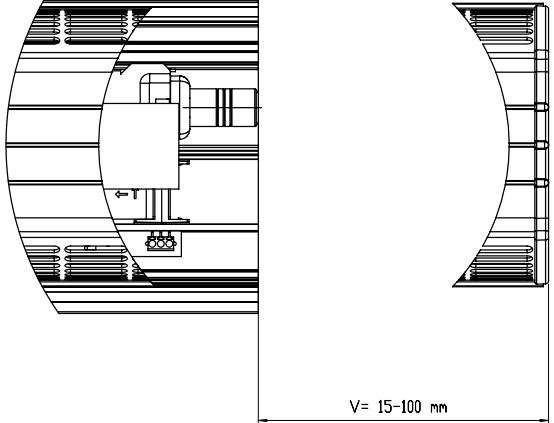
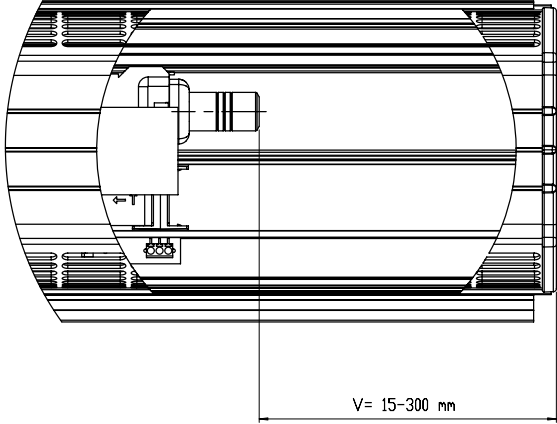
Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>If you have chosen pipe through floor the measure is fixed, 170mm.</p>	<p>U=170 mm (B)</p>	
<p>If you have chosen "without extra connection" in the 3rd configuration (SRÅ22) you can select either with short or full wall profile length.</p> <p>The short wall profile length alternative enables a wall lead-through of the pipes/hoses.</p>	<p>Short wall profile length. U measure 15-100 mm (C)</p>	
	<p>Full wall profile length. U measure 15-300mm (D)</p>	

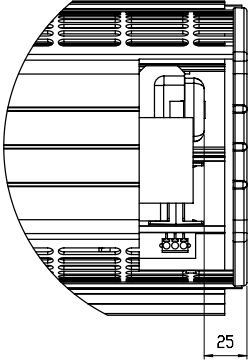
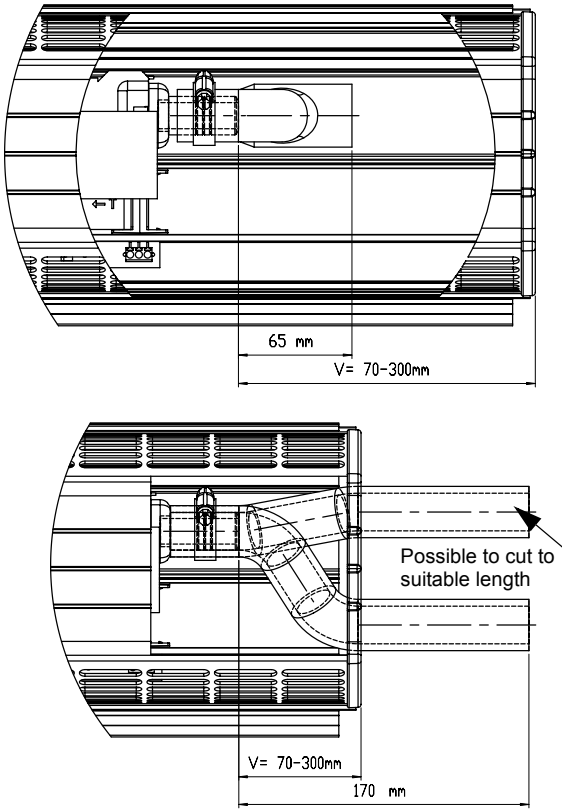
Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>If you have chosen return end, the U measure is fixed, 25 mm.</p>	<p>U=25mm (E)</p>	
<p>If you have chosen silicone hose for convector or the "Y-connection", the U measure is variable between 70-300 mm</p>	<p>U=70-300mm (F)</p>	

6th configuration: Cover profile right side

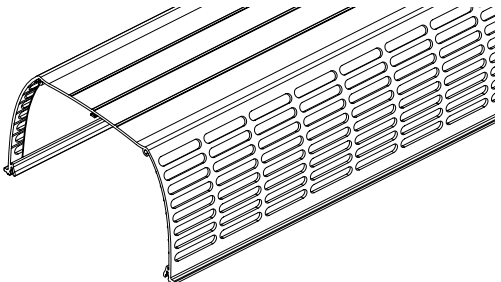
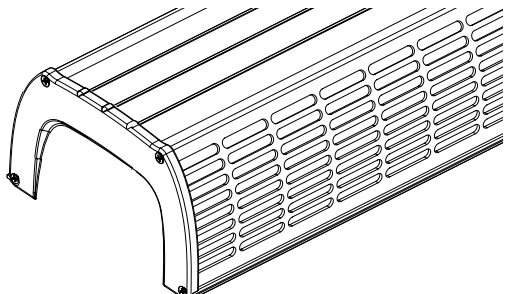
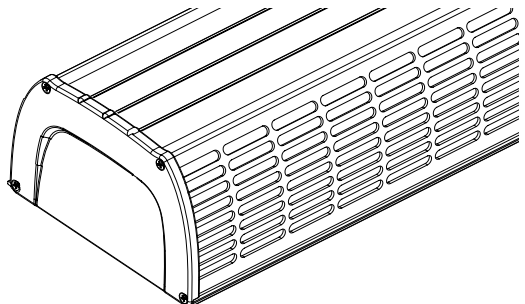
Here you choose the length of the cover profile on the right side. The length is stated as the V-measure from the end of the heat exchanger to the cover profile end. In the table you can see

whether the V-measure is fixed or variable. If you have chosen a plain heat exchanger (no extra connection), you are also able to choose wall profile length.

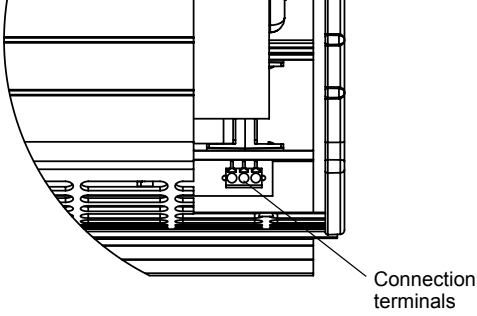
Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>If you have chosen pipe through floor the measure is fixed, 170mm.</p>	<p>V=170 mm (B)</p>	
<p>If you have chosen "without extra connection" in the 4th configuration (SRÅ22) you can select either with short or full wall profile length.</p> <p>The short wall profile length alternative enables a wall lead-through of the pipes/hoses.</p>	<p>Short wall profile length. V measure 15-100 mm (C)</p>	
	<p>Full wall profile length. V measure 15-300mm (D)</p>	

Selection	Possible dimension selections (Letter in brackets concerns selection in configurator)	
<p>If you have chosen return end, the V measure is fixed, 25 mm.</p>	<p>V=25mm (E)</p>	
<p>If you have chosen silicone hose for convector or the "Y-connection", the V measure is variable between 70-300 mm</p>	<p>V=70-300mm (F)</p>	

7th selection: End covers

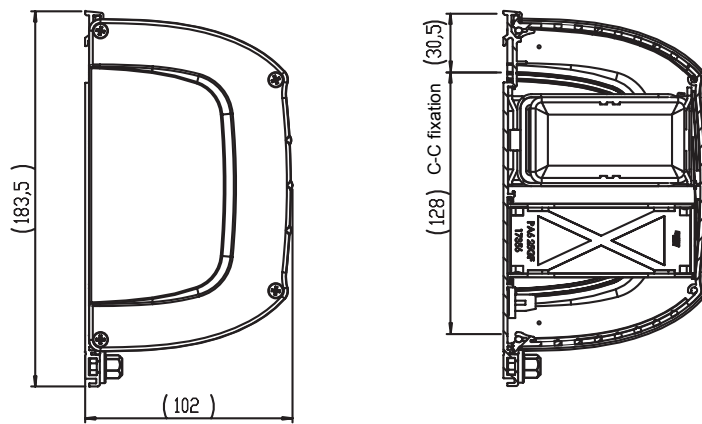
Selection	Picture
None	
Open	
Closed	

8th selection: Cabling

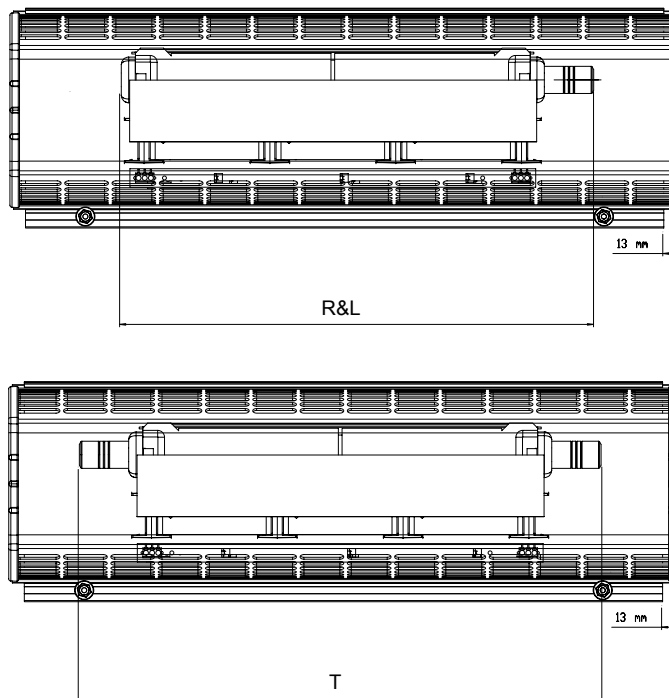
Selection	Selection in configurator	Picture
<p>No cables</p> <p>Possibility to use your own cabling, installing to terminals as shown in figure right.</p>	<p>(B)</p>	
<p>With UWE standard cables</p>		
<p>Male connector Faston 3 poles</p>		
<p>Connector cable AMP-929505-3</p>		

Dimensions (mm)

Sectional view



Heat exchanger dimensions



Variant	3 fan	4 fan	5 fan
Right- or left connection (R&L)	383 mm	487 mm	591 mm
Through water connection (T)	423 mm	527 mm	631 mm

- Note: The length of the cover profile is depending of the selections made in the Whisper 200 product configurator. Please see page 7-10 for cover profile lengths.