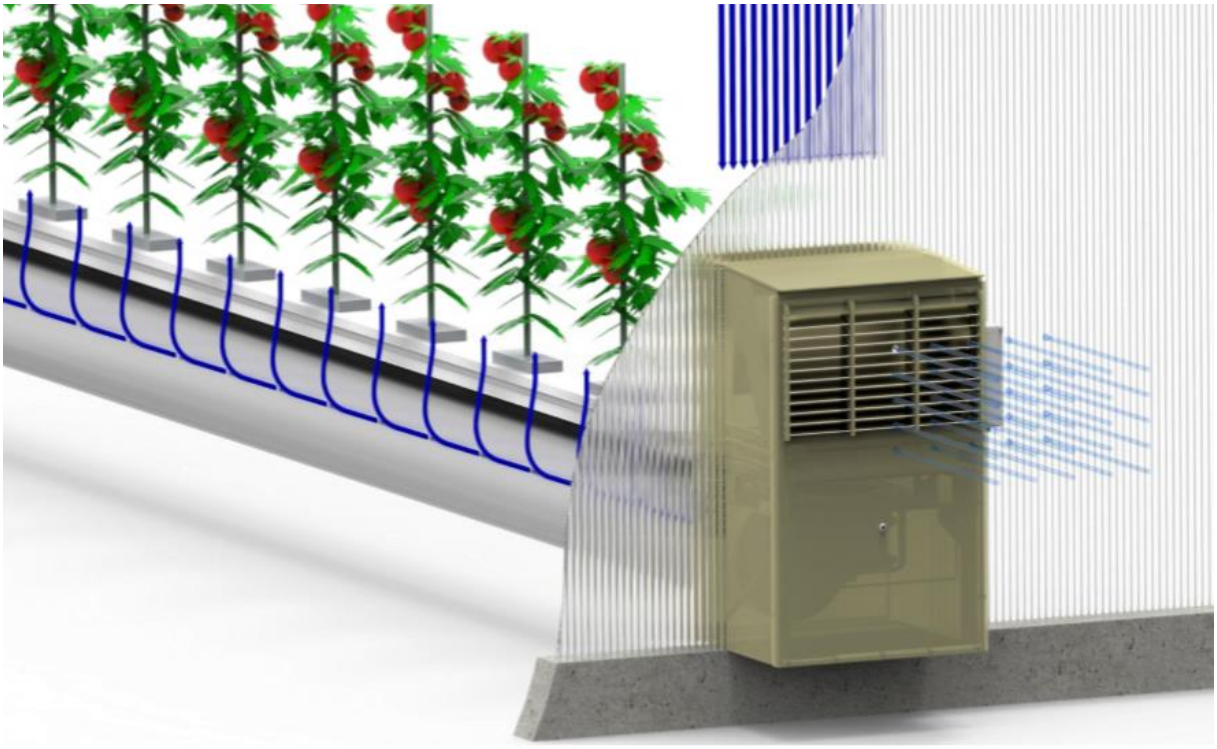
Ventilation and cooling under the gutter

Improves the microclimate around the crop and saves energy



The Active Ventilation System (AVS) enables growers to control the humidity and the microclimate in their greenhouse.

Thanks to the extra attention paid to sustainability and energy savings, conditioned cultivation is playing an increasingly important role in modern greenhouse horticulture. A new and simple application for this is the active ventilation of your greenhouse air with relatively dry outside air. Because the outside air contains less moisture than the greenhouse air, the greenhouse is dehumidified by blowing in outside air.

Functions

The active ventilation system with cooling (AVS-C) is has the following combined operating modes:

- Displacement of moist greenhouse air with heated outside air
- Displacement of moist greenhouse air with cooled outside air
- Cooling, dehumidification and reheating of recirculating greenhouse air (Closed greenhouse concept)
- Capturing heat from moist greenhouse air for usage in the future.

Features

- Improved climate with active ventilation of the greenhouse air
- A vertical flow of fresh air through the crop

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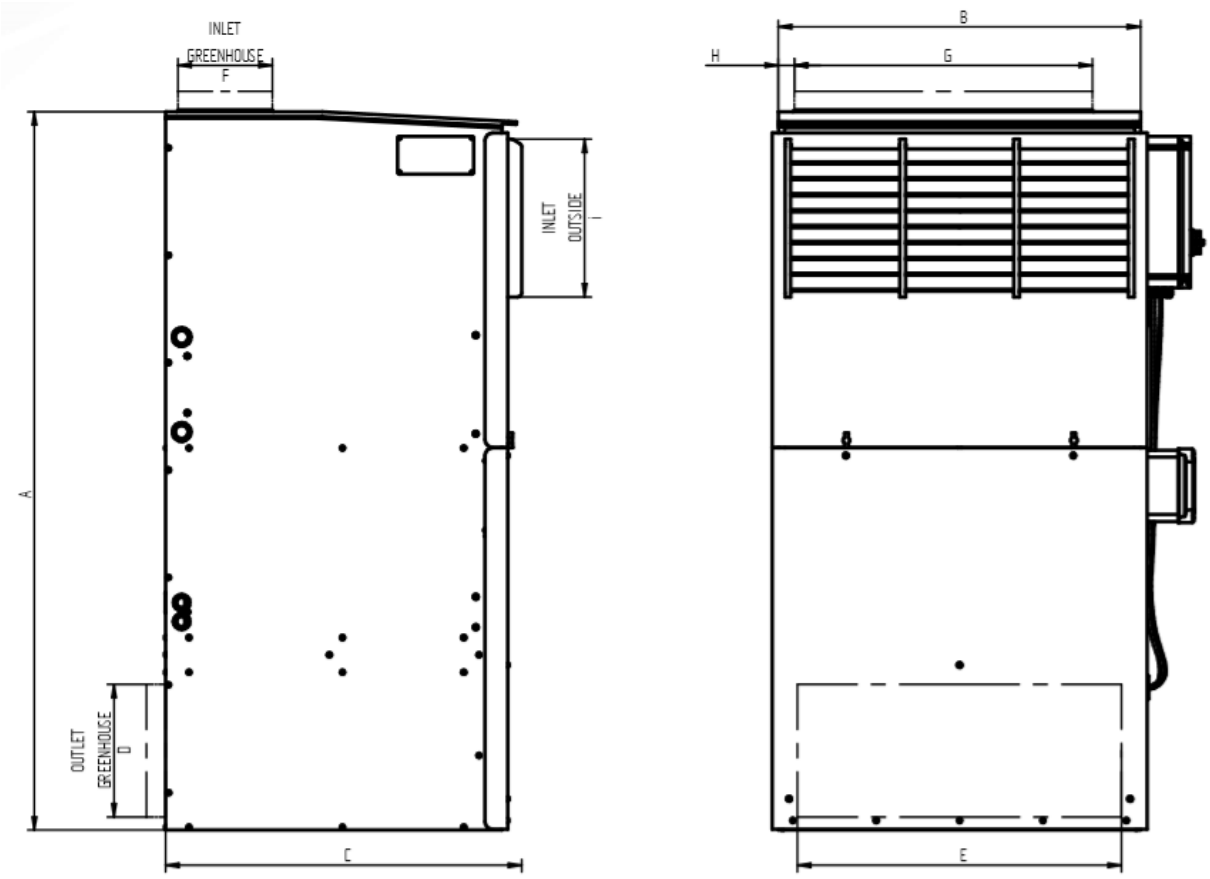
- Minimal temperature differences in the greenhouse
- An improved microclimate around the plant
- Better control of the microclimate
- Dehumidification of the greenhouse air without adding heating
- Makes grower able to make a more intensive usage of screens
- Minimal differences in temperature with recirculation

The cooling and dehumidification capacity depends on the desired function, greenhouse air conditions, local climate and available cooling water.

After the cooler, the formed condensate is immediately separated before the air flow is brought back to the desired conditions with a heating block. Finally, the air flow leaves the cabinet via a fan to be distributed among the cultivation gutters. The condensate flows via a water trap into an atmospheric condensate collecting pipe.

The housing
The housing of the AVS-C is made of UV-resistant polypropylene sheet material that is known for its excellent heat and sound insulating properties. The material is highly corrosion resistant and can be used at temperatures down to -20°C. The AVS-C is placed in the facade and the airflow is from top to bottom with an airflow opening at the bottom of the cabinet. At the top of the AVS-C unit there is an inlet for greenhouse and outside air. A mixing valve regulates the relationship between these two flows. After the mixing valve, the air flow flows over a water-cooled cooler, which lowers the air temperature (in many cases) to below the dew point.

Important note
An important consideration is the use of outside air for dehumidification at outside air temperatures below 0 °C. It is important that the cooling water continues to flow through the cooler even if there is no cooling and that the maximum external air supply is limited to 50%. These settings prevent the cooler from freezing. A water/glycol mixture can also be chosen to prevent the cooling block from freezing.



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CannaTechnics
BUILDING CANNABIS GREENHOUSES

Dimensions		
A	mm	1895
B	mm	955
C	mm	939
D x E	mm	350 x 855
F x G	mm	236 x 775
H	mm	42
I	mm	418
Weight (empty)	kg	200
Weight (full)	kg	225

Electrical		
Power	-	3 phase, ground
Voltage	V	380 - 480
Frequency	Hz	50/60
Max. Power	kW	1,8
Operating Power	kW	1,55

Communication		
Protocol	-	Modbus RTU/RS485
Baudrate	kB/s	19.200
Settings	-	1-8-E-1
Wiring	-	Twisted pair, shielded
Core	-	D+, D-, Com / D+, D- 2 x 2 x 0,75 mm² / 2 x 0,75 mm²

Air system		
Total flow (max.)	m³/h	6000
Control range	%	50 - 100
Inlet pressure (tube)	Pa	60
Filter class greenhouse	µm	600
Filter class outside (optional)	-	G2

Cooler		
Connections	-	2 x G1¼" Female BSP
Coolcapacity (max.)	kW	55
Volumetric flow rate	m³/h	5
Pressure drop	kPa	22,5
Temperature inlet	C°	6 - 12
Liquid volume	L	16
Operating pressure (max.)	barg	8

Heater		
Connections	-	2 x G1" Female BSP
Heat duty (max.)	kW	28,5
Volumetric flow rate	m³/h	2,55
Pressure loss	kPa	12,6
Temperature inlet	C°	40 - 70
Liquid volume	L	6
Operating pressure (max.)	barg	8

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