

Brochure Dry+ Climate

DRY+ CLIMATE

The Ultimate Plug & Play
Movable Climate System



**Revolutionizing
Climate Control in
Horticulture**

orangeclimate.com

Plug and play machine

DRY+ CLIMATE

Orange Climate, in collaboration with Wagenaar Refrigeration and Green Simplicity introduces the game-changing plug & play movable climate system designed to revolutionize climate control in horticulture. With the Dry+ climate you gain unparalleled flexibility and control over your cultivation environment, ensuring optimal conditions for your crops.

Key USPs (Unique Selling Propositions):

1. Movable and Plug & Play: Easily relocate the Dry+ wherever it's needed, providing utmost convenience and adaptability to your changing requirements.
2. One-Stop-Shop Solution: the Dry+ Climate offers a comprehensive range of functionalities, including electric cooling, dehumidification, and heating, all in a single unit. Say goodbye to multiple installations and complex setups.
3. Lowest Total Cost of Ownership (TCO): Experience significant cost savings over the long term with the Dry+ Climate's exceptional energy efficiency, reducing your operational expenses.
4. Stand-Alone or Centralized BMS Integration: The Dry+ can operate autonomously or seamlessly integrate with a centralized Building Management System (BMS) for enhanced control and monitoring.

Unleash the Power of Versatility

The Dry+ Climate is engineered to deliver unrivalled performance while offering unmatched versatility in climate control.



Highlighted Features:

- **Portability:** Move the unit effortlessly to different cultivation areas, allowing you to optimize resources and adapt to changing crop needs.
- **Plug & Play:** Enjoy hassle-free installation with the user-friendly plug & play design. No complex setup or extensive modifications required.
- **Integrated Functionality:** Benefit from comprehensive climate control capabilities, including electric cooling, dehumidification, and heating, all conveniently packed into a single unit.
- **Maximum Energy Efficiency:** Lower your energy consumption and minimize operational costs with our advanced energy-saving technologies.
- **Seamless Integration:** Whether you prefer a stand-alone setup or integration with a centralized BMS, the Dry+ seamlessly adapts to your preferred control system.



Choose the Perfect Unit for Your Needs

Orange Climate, in collaboration with Wagenaar Refrigeration and Green Simplicity, offers a range of models to meet your specific dehumidification requirements. Each unit is designed to deliver exceptional performance and ensure the optimal cultivation environment. The values are at a design temperature of 24°C / 65%:

1. The Dry+ 50 Climate | 60 l/h dehumidification capacity. Ideal for smaller to medium-sized cultivation spaces, providing precise climate control.
2. The Dry+ 75 Climate | 90 l/h dehumidification capacity. Perfect for medium to large-scale cultivation areas, ensuring superior climate management.
3. The Dry+ 100 Climate | 120 l/h dehumidification capacity. Designed for large-scale cultivation operations, delivering robust dehumidification performance.



Customized Solutions Tailored to Your Needs

At Orange Climate, in collaboration with Wagenaar Refrigeration and Green Simplicity, we understand that every customer has unique requirements. That's why we offer not only the three models mentioned earlier but also the ability to provide tailor-made solutions that meet your specific demands.

Key Feature:

Customization: We can create a bespoke unit designed to perfectly suit your cultivation space and climate control needs. From capacity adjustments to specialized features, we ensure that your system is built to deliver optimum performance.

Price of a Standard Product, Quality of Customization:

We believe that customization should be accessible to everyone. That's why we offer personalized solutions at the price of a standard product, ensuring exceptional value for your investment.



Contact our experts today to discuss your requirements and explore the possibilities of a customized climate control solution that precisely matches your needs.

Contact info www.orangeclimate.com

Technical specifications Dry+

Technical specifications			
General specifications			
Technical specifications	inside/outside		
Service side	left/right	* designed to customer	
Finishing	coated steel 60 micron	* Standard RAL6037 / RAL7035	
Energy Label	A		
Cooling Capacity range per unit:	10 - 400 kW	*integrated Cooling capacity per unit	
Dehumidification range per unit:	10 - 500 L/hr		
Airflow range per unit (EU):	5.000 / 70.000 m3/h		
Airflow range per unit (outside EU):	5.000 / 25.000 m3/h		
Standardised units			
DRY+ type x Climate	DRY+50 Climate	DRY+75 Climate	DRY+100 Climate
air volume	18.000 m3/h	25.000 m3/h	30.000m3/h
Externe druk:	200 Pa	200 Pa	200 Pa
Dehumidification (24°C - 65%)			
dehumidification capacity:	60 kg/h	90 kg/h	120 kg/h
Growing surface	480 m2	720 m2	960 m2
dehumidification rate per m2 per day	3 kg/m2/dag	3 kg/m2/dag	3 kg/m2/dag
max. airflow per m2 growing surface :	37,5 m3/m2/h	34,72 m3/m2/h	32,5 m3/m2/h
Nominal Power:	15 kW	24 kW	28kW
Nominal Power:	0,25 kWh/L	0,25 kWh/L	0,25 kWh/L
Cooling specifications			
Type of refrigerant	R744 (CO2) or R448A		
Refrigerant volume	50 kg	50 kg	70 kg
PED category			
Capacity external condensor (30°C outside)	75 kW	115 kW	150 kW
Electrical specifications:			
Power supply:	3x400V + N 50Hz	3x400V + N 50Hz	3x400V + N 50Hz
Main fuse	50A	63A	80A
Internal control	Priva PLC		
Working mode	Stand Alone or control by hortcomputer of the client (digital and Analog or modbus)		
Alarm contact	Potential free		
ON/OFF control	manual or hortcomputer (potential free)		
Datalogging	Optional with cloud connector		
Dimensions			
DRY+			
Length:	4470 mm	4700 mm	4930 mm
Width:	1480 mm	2170 mm	2400 mm
Height:	2610 mm	2610 mm	2610 mm
Weight:	1800 kg	2400 kg	4050 kg
External condenser			
Length:	1480 mm	2480 mm	3480 mm
Width:	1001 mm	1001 mm	1002 mm
Height:	960 mm	960 mm	1100 mm
Weight:	+/- 200 kg	+/- 200 kg	+/- 250 kg



Case study

Typical questions and selections: Multiple combinations possible

Typical design parameters

type of crop:	lettuce
Growing temperature	24°C
Growing Relative humidity	65%
desired airflow	25 (m3/m2/h)
Expected transpiration by the lettuce crop	3 L/m2/h
Growing surface	1000 m2
type of facility:	insulated green house without daylight 8 mm panels
Power by LED light:	66 Watt/m2
Climate environmental	Amsterdam (netherlands)

Design constraints:

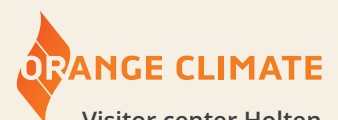
total airflow needed	25000 m3/hr
total dehumidification needed (60% daytime):	150 L/hr
lamp heat	66 kW

Selection by OC after clients input

Cooling power needed for dehumidification:	135 kW
airflow of the DRY+	25.000 m3/hr
2 coolskids integrated in the DRY+	(1 x 100 + 1 x 50 kW)
1 combined condensor	225 kW
At outside conditions > 35°C	adiabatic cooling on condenser integrated

What this solution offers you

1. Maximum dehumidification against the lower amount of cooling power
2. Sufficient ventilation capacity to really distribute air through the farm
3. A plug & play solution (no extra pumps, pips or others needed)
4. Fully tested and commissioned before transport
5. Monitoring on distance to optimize your indoor climate conditions



Visitor center Holten

Ondernemersweg 2

7451 PK Holten

+31(0)548 374 375

info@oc-waterloo.nl

Visitor center Drunen

Albert Einsteinweg 10

5151 DL Drunen

+31 (0)416 - 672 200

info@oc-verhulst.nl

orangeclimate.com