



Brochure Dry+ Climate

# **DRY+ CLIMATE** The Ultimate Plug & Play Movable Climate System

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orangeclimate.com

# Plug and play machine

## **DRY+ CLIMATE**

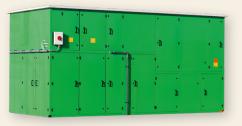
Orange Climate, in collaboration with Wagenaar Refrigeration and Green Simplicity introduces the game-changing plug & play movable climate system designed to revolutionize climate control in horticulture. With the Dry+ climate you gain unparalleled flexibility and control over your cultivation environment,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

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

General specifications         inside/outside         * designed to customer           Frechnical specifications         inside/outside         * designed to customer           Finishing         coated steel 50 micron         * Standard RAL6037 RAL7035           Foregy Label         A         *           Cooling Capacity range per unit:         10 - 400 kW         *integrated Cooling capacity per unit           Dehmedification range per unit:         0 - 500 L/hr         *           Airflow range per unit:         0 - 500 L/hr         *           Standardised units         Stood / 70.000 m3/h         *           Standardised units         Stood / 70.000 m3/h         Stood m3/h         Stood m3/h           Standardised units         DFY+50 Climate         DFY+57 Climate         DFY+100 Climate           Dehumidification (24°C - 65%)         Image: Stood m3/h         Stood m3/h         Stood m3/h           dehumidification capacity:         60 kg/h         90 kg/h         120 kg/h           dehumidification capacity:         60 kg/h         90 kg/h         120 kg/h           nominal Power:         13 Kg/m2/dag         3 kg/m2/dag         3 kg/m2/dag           max. airlow per m3g rowing surface         37,5 m3/m2/h         3427 m3/m2/h         3427 m3/m2/h           Store firitegran	Technical specifications			
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Type of refrigerantR744 (CO2) or R448AImage: Color R448AImage: Color R448ARefrigerant volume50 kg50 kg70 kgPED category111111Capacity external condensor (30°C outside)75 kW115 kWElectrical specifications:50 kg3x400V + N   50Hz3x400V + N   50HzPower supply:3x400V + N   50Hz3x400V + N   50Hz3x400V + N   50HzMain fuse50A63A80AInternal controlPriva PLCremover modbus)Working modeStand Alone or control by horticomputer of the client ( digital and Anagor or modbus)Alarm contactPotential freeremover modbusON/OFF controlmanual or horticomputer ( potential free)remover modbusDataloggingOptional with cloud connectorremover modbusDimensions2470 mm4470 mm4930 mmDRY+1480 mm2170 mm2400 mmHeight:1800 kg2400 kg4050 kgWidth:1480 ngm2480 mm3480 mmWidth:1480 mm2480 mm3480 mmWidth:1480 mm2480 mm3480 mmWidth:1001 mm1001 mm1002 mm	Cooling specifications			
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Alarm contact     Potential free     Image: Control intervention of the second	Internal control	Priva PLC		
ON/OFF control     manual or horticomputer ( potential free)     Imanual or horticomputer ( potential free)       Datalogging     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     Optional with cloud connector     Imanual or horticomputer ( potential free)       Dimensions     0P(1)     1480 mm     2400 mm       Weight:     1480 mm     2480 mm     3480 mm       Length:     1480 mm     2480 mm     3480 mm       Width:     1001 mm     1001 mm     1002 mm	Working mode	Stand Alone or control by horticomputer of the client ( digital and Analog or modbus)		
Datalogging     Optional with cloud connector       Dimensions     France       DRY+	Alarm contact	Potential free		
Dimensions         Image: Section of the section	ON/OFF control	manual or horticomputer ( potential free)		
DRY+         470 mm         4700 mm         4930 mm           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         External Condenser         100 mm         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm         1002 mm	Datalogging	Optional with cloud connector		
DRY+         470 mm         4700 mm         4930 mm           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         External Condenser         100 mm         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm         1002 mm	Dimensions			
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         External Condenser         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm				
Width:         1480 mm         2170 mm         2400 mm           Height:         2610 mm         2610 mm         2610 mm           Weight:         1800 kg         2400 kg         4050 kg           External condenser         6         6         6           Length:         1480 mm         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm           Height:         960 mm         960 mm         1100 mm		4470 mm	4700 mm	/930 mm
Height:         2610 mm         2610 mm         2610 mm           Weight:         1800 kg         2400 kg         4050 kg           External condenser	0			
Weight:         1800 kg         2400 kg         4050 kg           External condenser				
External condenser         2480 mm         3480 mm           Length:         1480 mm         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm           Height:         960 mm         960 mm         1100 mm	0			
Length:         1480 mm         2480 mm         3480 mm           Width:         1001 mm         1001 mm         1002 mm           Height:         960 mm         960 mm         1100 mm				
Width:         1001 mm         1001 mm         1002 mm           Height:         960 mm         960 mm         1100 mm	External condenser			
Height: 960 mm 960 mm 1100 mm	Length:	1480 mm	2480 mm	3480 mm
	Width:	1001 mm	1001 mm	1002 mm
Weight: +/- 200 kg +/- 250 kg +/- 250 kg	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 imput			
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 throug the farm
- 3. A plug & play solution ( no extra pumps, pips or others needed)
- 4. Fully tested and commisioned before transport
- 5. Monitoring on distance to optimize your indoor climate conditions





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