

REVOMAX II

BY OPTICLIMATE

Installation Manual



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1. SPECIFICATIONS

MODEL	6000 REV2	10000 REV2	15000S REV2	15000 REV2
	REGULAR & DEEP COOL	REGULAR & DEEP COOL	REGULAR & DEEP COOL	REGULAR & DEEP COOL
Nominal Power Capacity - kWatt	6 kW	10 kW	15 kW	15 kW
Maximum Power Capacity - kWatt	7 kW	12 kW	19 kW	19 kW
De-humidification Capacity - Liters/24Hrs*	85 L	105 L	165 L	165 L
Electricity				
Power Supply - Volt	230v-400v	230v-400v	230v-400v	400v
Phase	1 or 3	1 or 3	1 or 3	3
Compressor (inverter) - Volt	DC (230V)	DC (230V)	DC (230V)	DC (400V)
Compr. Freq. Min (Max) - Hz	30 (110) Hz	30 (90) Hz	30 (85) Hz	30 (85)Hz
Fuse MCB single-phase (3-phase)	C32 (C20)	C40 (C25)	C63 (C40)	C25 3ph+N
Total 3-Phase Ampere	17 A	24 A	n/a	23 A
Total 1-Phase Ampere	28 A	38 A	68 A	n/a
Cable diameter (mm) 3 phase	2,5 mm2	4 mm2	10 mm2	6 mm2
Cable diameter (mm) 1 phase	6 mm2	6 mm2	25 mm2	n/a
Internal Glass Fuse Heater (3x) - Ampere	16 A	16 A	16 A	16 A
Internal Glass Fuse Main - Ampere	5 A	5 A	5 A	5 A
Power Factor cos Φ	0,9	0,9	0,9	0,9
Cooling & Heating				
Nominal (cooling) rated power - kWatt	1,3 kW	2,1 kW	5,0 kW	5,0 kW
Max cooling rated power - kWatt	1,9 kW	3,5 kW	6,5 kW	6,5 kW
Max current (cooling) - Ampere	9 A	16 A	30 A	16 A
Electrical Heating Power - kWatt	3 x 1,3 kW	3 x 1,6 kW	3 x 2,7 kW	3 x 2,7 kW
Electrical Heating Current - Ampere	3 x 5,5 A	3 x 8,0 A	3 x 13,0 A	3 x 13,0 A
De-Humidify 20 degrees WB - kg	5 kg	8 kg	12 kg	12 kg
Coefficient of Performance COP	4,6	4,6	3,2	3,5
Total max power capacity (heating& cooling)	10,9 kW	16,8 kW	17,6 kW	17,6 kW
Airflow				
Rated Air Flow m3/h	1300 m3/h	1900 m3/h	2200 m3/h	2200 m3/h
Static Pressure Pascal	0 Pa	0 Pa	0 Pa	0 Pa
Rated Air Flow m3/h	1100 m3/h	1600 m3/h	2450 m3/h	2450 m3/h
Static Pressure Pascal	100 Pa	100 Pa	100 Pa	100 Pa
Refrigerant				
Type	R410A	R410A	R410A	R410A
Charge Volume - kg	2,3 kg	2,7 kg	3,45 kg	3,85 kg
GWP number	2088	2088	2088	2088
CO2 Equivalent - Ton	4,8	5,64	7,2	7,2
Flow demand cold water (25 deg. Celcius Max)				
Cooling mode - Liters/min	2,0 - 4,0 L/min	3,0 - 6,0 L/min	3,0 - 10,0 L/min	3,0 - 10,0 L/min
Heating mode - Liters/min	0,0 - 4,0 L/min	0,0 - 6,0 L/min	0,0 - 10,0 L/min	0,0 - 10,0 L/min
Flow demand recirculating water				
Cooling mode - m3/hour	1,2 m3/h	2 m3/h	3 m3/h	3 m3/h
Heating mode - m3/hour	1,2 m3/h	2 m3/h	3 m3/h	3 m3/h
Water Temperature Limits				
Temp In (recirculating) - ° Celcius Max	25 (55) °	25 (55) °	25 (55) °	25 (55) °
Temp Out (recirculating) - ° Celcius Max	65 (65) °	65 (65) °	65 (65) °	65 (65) °
Delta (recirculating) - AT	5 °	5 °	5 °	5 °
Size L x W x H cm	91 x 57 x 44 cm	99 x 67 x 49 cm	114 x 70 x 54 cm	114 x 70 x 54 cm
Weight kg	79 kg	94 kg	124 kg	124 kg

* measured at 27 degrees Celcius / 60 % humidity

MODEL	21000 REV2	30000 REV2	30000 Free Air	30000 SEP-FAN
	REGULAR & DEEP COOL	REGULAR & DEEP COOL		
Nominal Cooling Capacity - kWatt	21 kW	30 kW	30 kW	30 kW
Maximum Cooling Capacity - kWatt	23 kW	35 kW	35 kW	30 kW
De-humidification Capacity - Liters/24Hrs	230 L	315 L	315 L	315 L
Electricity				
Power Supply - Volt	400v	400v	400v	400v
Phase	3	3	3	3
Compressor (inverter) - Volt	DC (400v)	DC (400V)	DC (400v)	DC (400v)
Compr. Freq. Min (Max) - Hz	30 (85) Hz	30 (85) Hz	30 (85) Hz	30 (85) Hz
Fuse MCB single-phase (3-phase)	C32 3ph+N	C50 3ph+N	C50 3ph+N	C50 3ph+N
Total 3-Phase Ampere	27 A	36 A	36 A	36 A
Total 1-Phase Ampere	n/a	n/a	n/a	n/a
Cable Diameter (mm) 3 phase	6 mm2	10 mm2	10 mm2	10 mm2
Cable Diameter (mm) 1 phase	n/a	n/a	n/a	n/a
Internal Glass Fuse Heater (3x) - Ampere	16 A	16 A	16 A	16 A
Internal Glass Fuse Main - Ampere	5 A	8 A	8 A	8 A
Power Factor cos Φ	0,9	0,9	0,9	0,9
Cooling & Heating				
Nominal cooling rated Power kWatt	6,0 kW	9,0 kW	9,0 kW	9,0 kW
Max cooling rated Power - kWatt	6,3 kW	15,0 kW	15,0 kW	15,0 kW
Max current cooling - Ampere	20 A	25 A	25 A	25 A
Electrical Heating Power - kWatt	3 x 2,7 kW	3 x 3,7 kW	3 x 3,7 kW	3 x 3,7 kW
Electrical Heating Current - Ampere	3 x 13,0 A	3 x 16,0 A	3 x 16,0 A	3 x 16,0 A
De-Humidify 20 degrees WB - kg	17 kg	19 kg	19 kg	19 kg
Coefficient of Performance w/w	3,5	3,3	3,3	3,3
Total max Power capacity (heating & cooling) kW	17,6 kW	26,1 kW	26,1 kW	26,1 kW
Airflow				
Rated Air Flow m3/h	3900 m3/h	6500 m3/h	6000 m3/h	6500 m3/h
Static Pressure Pascal	0 Pa	0 Pa	0 Pa	0 Pa
Rated Air Flow m3/h	3100 m3/h	5000 m3/h	5000 m3/h	5000 m3/h
Static Pressure Pascal	200 Pa	200 Pa	200 Pa	200 Pa
Refrigerant				
Type	R410A	R410A	R410A	R410A
Charge Volume - kg	4,4 kg	6 kg	6 kg	6 kg
GWP number	2088	2088	2088	2088
CO2 Equivalent - Ton	9,19	12,53	12,53	15,53
Flow demand cold water (25 deg. Celcius Max)				
Cooling mode - Liters/min	3,0 - 12,0 L/min	3,0 - 20,0 L/min	3,0 - 20,0 L/min	3,0 - 20,0 L/min
Heating mode - Liters/min	0,0 - 12,0 L/min	0,0 - 20,0 L/min	0,0 - 20,0 L/min	0,0 - 20,00 L/min
Flow demand recirculating water				
Cooling mode - m3/h	4,5 m3/h	6 m3/h	6 m3/h	6 m3/h
Heating mode - m3/h	4,5 m3/h	6 m3/h	6 m3/h	6 m3/h
Water Temperature Limits				
Temp In (recirculating) - ° Celcius Max	25 (55) °	25 (55) °	25 (55) °	25 (55) °
Temp Out (recirculating) - ° Celcius Max	65 (65) °	65 (65) °	65 (65) °	65 (65) °
Delta (recirculating) - AT ° Celcius	5 °	5 °	5 °	5 °
Size L x W x H cm	122 X 82 X 59 cm	148 x 86 x 74,9 cm	148 x 86 x 74,9 cm	148 x 86 x 74,9 cm
Weight kg	181 kg	232 kg	232 kg	232 kg

* measured at 27 degrees Celcius / 60 % humidity

2. SAFETY



CAUTION

Please read this manual carefully before attempting to install the Opticlimat Revomax II. The RevomaxII is a high performance climate control system, we strongly advice to seek the services of an installation professional.

These products may represent a possible shock or fire hazard if improperly installed or attached in any way. Products should be installed in accordance with the owners manual and local electrical guidelines and law.

When operating with a sepearte humidifier, make sure that it is connected to a reverse osmosis filter or scale filer.
Fan faults caused by lime deposits are not covered under our warranty.

2.1 SAFETY PRECAUTIONS

Installation

- Make sure the Revomax is installed spirit level.
- Make sure a P-trap is installed on the condensation outlet.
- Make sure the return air filter and/or plenum box are clean without obstructions or high air resistance.
- Make sure the supply air ducting and/or air distribution hose is of the correct diameter, typically the same diameter of the supplied flange.
- Make sure all covers and panels are on the machine while in operation.

Electricity

- Make sure the correct diameter cable is used to power the machine (see spec sheet, chapter 1 /local code).
- Make sure the correct MCB (miniature circuit breaker) is installed (see spec sheet, chapter 1 /local code).
- Make sure the correct RCD (residual current device) type B (earth-leak) is installed (see data sheet /local code).
- Make sure the room temperature sensor is connected on the correct position on the circuit-board.
- Make sure the room temperature sensor is in the room and shielded from direct light or air streams.

Water/glycol

- Allays install the watercooler outside the building. We do not support indoor placed watercoolers.
- Make sure flow and return piping has the correct diameter, check chapter 5 for more information.
- Make sure there is no air trapped in the system. Use an air vent at the hight point of the circuit (closed loop only, chapter 5).
- Never use water only, when outdoor temperatures are below freezing. (closed loop only, chapter 5).
- Use dipswitch 3 to start the pump and open water valve to test for leaks/air before full operation (chapter 7).
- Use water/glycol mix for below zero temperature protection (closed loop only, chapter 7).
- Make sure fresh water supply is steady below 25 degrees all year round.

General

- Keep distance from the fan / supply air. Turning parts and rotating fan blades are dangerous.
- Do not power the machine when the electric compartment is open, circuit-boards and connectors might be charged.
- In a food / agro environment always use food-grade glycol (propylene glycol) (closed loop only, chapter 7).
- Make sure you are aware of all features and settings for correct day-to-day operation.
- Electrical connections should be done by a certified electrician. In some regions this is required by law.
- Water glycol setup should be done by a certified installer. In some regions this is required by law.
- Operating the system should be done by personnel that is fully aware of it's functions.
- Do not operate the unit without the filter or with a less effective filter. The heat exchange coils inside the unit become clogged and require disassembly to clean.

2.2 INTRODUCTION

The OptiClimate RevomaxII is a state-of-the-art climate control system designed to provide an optimal growing environment for a wide variety of plant species. Leveraging advanced Infinity DC inverter technology, this system offers unmatched flexibility in climate control, allowing for precise adjustments up to one tenth Hertz increments in cooling, heating, dehumidification, and air filtration. Its capacity to maintain super stable humidity, room temperature and output temperature ensures the health and productivity of your plants under any indoor condition.

Model Variations

Output Power

The RevomaxII is available in 6000 to 30000 Watt versions. The model you need with sufficient cooling capacity can be calculated by adding up the power outputs for all heat generating devices like fixtures. In most common situations, it's a 1 - 1 relationship. Example: 12 x 800 Watt HPS fixtures generate 9600 Watts of heat, which means you need a 10000 RevomaxII model to cool the growing area. LED is much more efficient per watt, so you need less watts and thus fixtures. This means a LED based installation generates less heat than an HPS one. The other factor is de-humidification capacity. To calculate the needed capacity for de-humidification, you can use a rough guideline of 650 watts per m² of green to get 50% of relative humidity (RH) in the night cycle (depending on your crop). Always check your personal needs before purchasing your RevomaxII.

Regular - Cultivation

All RevomaxII models are able to cool to a maximum of 0.2 degrees celcius deviation of the setpoint temperature. With the RevomaxII you are able to control humidity with a maximum 'swing' of 4% (depending on the humidity load) of the set humidity level. In case you use LED fixtures, you might even need to heat the room instead of cooling it. The RevomaxII is unique and can heat a room while de-humidifying.

Deep Cool - Storage

Normal Revomax units can cool a space to about 16 degrees Celsius, which is more than sufficient for all plants and vegetables, as they thrive in warmer conditions. But if you're looking to turn the space into a cold storage solution—keeping your harvest fresh, just like in a fridge—then we've developed the Revomax Deep Cooling system, designed specifically for your post-harvest needs. Depending on the insulation and capacity the unit can cool close to 0 degrees Celcius.

Separate Fan - Flexible installation

With the sep-fan model (separate-fan) you are able to place the active fan in another location, combined with air hoses or air duct systems.

Free Air - Glass houses

The RevomaxII Free Air is made to blow air freely instead of using a ducting system or hoses. The Free Air is designed in such a way that it takes up as little volume as possible and thus takes up as little space as possible and at the same time intercepts as little light as possible.

Product Features

Broad Capacity Range: We are able to adjust the cooling capacity in significantly smaller increments than our competition. We can reach 20-30 percent increments versus more than 60 percent at our competitors. This ensures a very stable climate all year round.

Optimized for LED Growing: Addresses the challenges of growing with LED lights by ensuring the room reaches optimal temperatures for photosynthesis more quickly and efficiently.

Advanced Safety Features: Includes built-in temperature protection, water leak safeguard (optional), and a fireproof system to ensure the operation is as safe as it is efficient.

Smart Remote Control: Comes with a smart remote controller for easy management of settings and receiving alarms and warnings via email, enhancing convenience and monitoring.

Superior Air Quality Management: Its built-in lightweight filter keeps the interior components clean ensuring your plants thriving at any moment during the growth cycle.



RevomaxII unit



Dimlux Xtremell LED Fixture



Dimlux Expert HPS Fixture



Separate Fan



Separate Fan on RevomaxII



RevomaxII Free-Air

3. INSTALLATION

3.1 PACKAGE CONTENTS

SYSTEM HARDWARE

All RevomaxII units are supplied with a model specific connector set (chapter 3.2) containing the following items:

- 1 Revomax II unit - in selected specification
- 2 Mounting Brackets
- 3 Rubber damping rings
- 4 Smart Remote Controller with accessories
- 5 Controller Cable
- 6 Various Mounting Parts
- 7 Humidity & Light Sensor
- 8 Temperature Sensor
- 9 Flange

1. REVOMAX II UNIT



2. MOUNTING BRACKETS



3. RUBBER DAMPING RINGS



4. SMART REMOTE CONTROLLER



5. CONTROLLER CABLE



6. VARIOUS MOUNTING PARTS



7. HUMIDITY & LIGHT SENSOR



8. TEMPERATURE SENSOR



9. FLANGE



3.2 CONNECTOR SET VARIATIONS

MODEL RANGE	FLANGE	INCLUDED CONNECTOR SET
REVOMAX 6000 & DEEP COOL	Ø250 AC 3-115	STANDARD 3500/6000 1-7810K
REVOMAX 10000 & DEEP COOL	Ø315 AC 3-118	STANDARD 10000/15000/21000 1-7810G
REVOMAX 15000 & DEEP COOL	Ø315 AC 3-118	STANDARD 10000/15000/21000 1-7810G
REVOMAX 21000 & DEEP COOL	ØD398 AC 3-125	STANDARD 10000/15000/21000 1-7810G
REVOMAX 30000 & DEEP COOL	ØD448 AC 3-126	STANDARD 10000/15000/21000 1-7810G
REVOMAX 30000 FREE AIR	ØD448 AC 3-126	STANDARD 10000/15000/21000 1-7810G

For the 21000 and 30000 models the Flange is sold separately

3.3 SUPPLIED SENSORS

Humidity Sensor with light cell

Detects actual humidity of the room, hang halfway between canopy and fixtures for optimal readings. Humidity level is shown on the Smart Remote Controller and is used to control the settings on the RevomaxII unit. Depending on the growing needs we can use the light sensor or the internal clock to determine the day and night cycle.

Air Temperature Sensor

Detects actual air temperature of the room, hang halfway between canopy and fixtures and in the shade (or weather housing) for optimal readings. The temperature is shown on the Smart Remote Controller in degrees Celcius and its values are used to control the settings on the RevomaxII unit.

3.4 OPEN TAP & CLOSED LOOP WITH COOLER

The RevomaxII system is designed to be very flexible in setup and combinations while maintaining its trademark performance. This manual describes an overview of installation options. But we have near endless combinations and can scale up easily.

Possibilities are endless and all situations are different. For this reason we have created a collection of starter-kits for your convenience. All water-related piping and piping connectors are not part of our offer as we recommend different materials and diameters for different situations. Check our knowledgebase for a complete overview of everything you need.



RevomaxII Flange



Humidity & Light Sensor



Temperature Sensor

3.5 DIMENSIONS

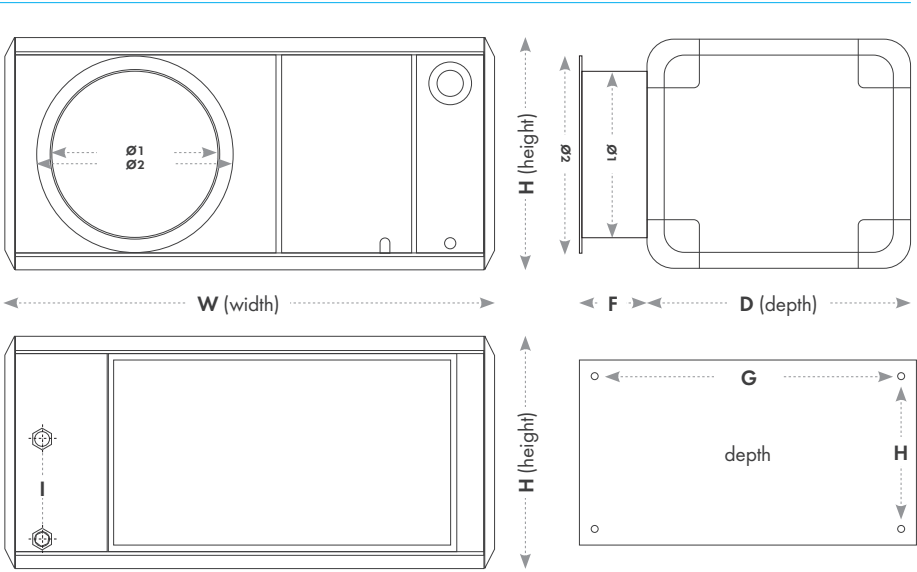
DIMENSIONS (MM)

Model	W	D	H	Ø1	Ø2	F	G	H	I
6000	910	570	440	245	310	55	805	405	250
10000	990	670	490	245	310	55	870	500	250
15000	1140	700	550	310	410	70	1015	535	250
21000	1220	820	590	398	-	-	1100	660	250
30000	1480	860	750	448	-	-	1365	675	465
30000 FREE AIR	1480	860	750	600	720	280	1365	675	465

WEIGHT

Model	KG	LB
6000	79	174,1
10000	94	207,2
15000	124	273,3
21000	181	399,0
30000	232	511,5
30000 FREE AIR	227	511,5

LINE DRAWING



3.6 PLACEMENT

The Revomax II is a high performance climate control system that needs 15 cm of open space for airflow to function properly. Please ensure to leave at least 15 cm of space on all sides (except at the bottom of the unit).

Mount the unit in any of the available options as described in chapter 3.7 to 3.11. Make sure the frame or structure is strong enough to carry the weight of your unit. For reference, check the table above.

For specific instructions check chapter 3.7.



Installation spacing for optimal airflow

3.7 PREPARING THE UNIT

1. Place the transport casing on a flat, stable surface
2. Carefully remove the packaging from the unit
3. Unscrew the bolts from the wooden pallet the unit was supplied on.
4. Choose mounting option:
 - A - Ceiling
 - B - Frame
 - C - Surface

Continue to the corresponding section below:

3.8 INSTALLATION OPTION A > CEILING

Install the Revomax II to the ceiling to maximize floor space. The additional needed installation equipment is not included in the package. All materials are industry standard and readily available at any hardware store.

Needed additional equipment (not included)

- 4 threaded rods M8 of desired length - bottom Revomax II to ceiling
- 4 M8 nuts
- 4 threaded rod ceiling plates
- 4 rubber damping rings
- 4 washing rings
- Lifting equipment

Steps

1. Mount the ceiling plates on the ceiling with corresponding spacing, check technical drawings (chapter 3.5) of your specific model
2. Use lifting equipment to raise the unit, spirit leveled, exactly below the ceiling plates
3. Use the equal length threaded rod and pass them through the casing on the edges of the casing
4. Connect the threaded rod to the ceiling plates
5. Use the rubber mounting rings below the holes to dampen vibrations
6. Use the mounting nuts and washer rings to secure the threaded rods

3.9 INSTALLATION OPTION B > FRAME

For maximum flexibility and ease of install, use a 3rd party wall mount heavy duty air conditioning frame to mount the Revomax II on the wall. The Needed equipment:

Needed additional equipment (not included)

- Heavy duty 3rd party wall mount frame
- Lifting equipment
- Brackets (included)

Steps

1. Place or mount the frame on the wall, make sure to place with corresponding spacing
2. Lift the unit on the brackets
3. Securely attach the unit on the frame, use the supplied rubber rings to dampen vibrations

3.10 INSTALLATION OPTION C > SURFACE

The Revomax II system can also just be placed on any stable surface. Floors or heavy duty shelves. No extra equipment needed except for lifting the unit on the target surface.

Needed additional equipment (not included)

- Lifting equipment
- Brackets (included)



RevomaxII is delivered on wooden pallet



Pass-through threaded rods holes



Pass-through threaded rods holes



Example wallmount



RevomaxII on surface

3.11 WATER COOLER PLACEMENT

When using a water cooler in a closed loop system as further explained in chapter 5, it is very important the water cooler is placed properly.

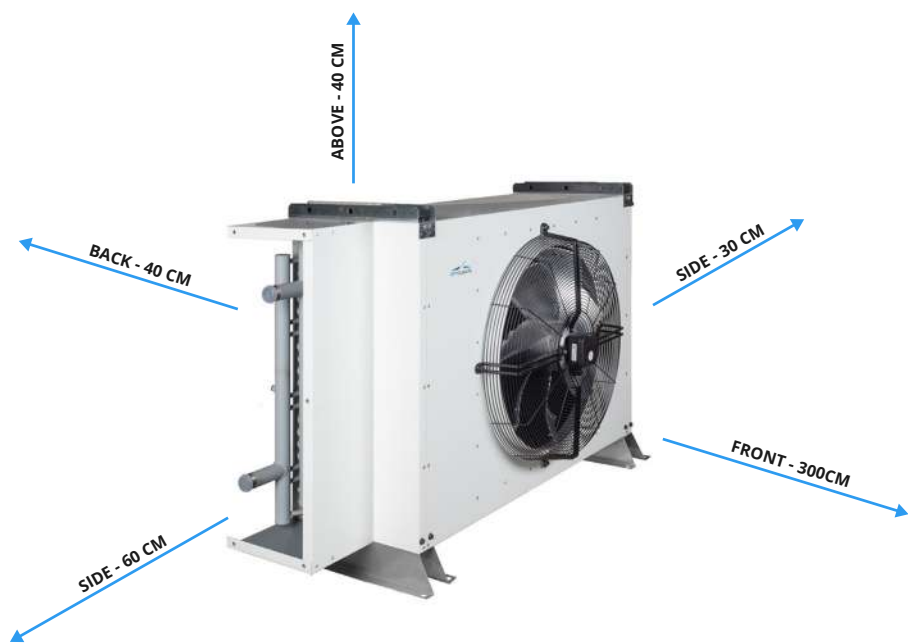
A watercooler needs room to suck air into its fans and dispatch the air on the other side. To provide the watercooler with sufficient free air to use for cooling, the watercooler needs to be placed outdoors and with sufficient room to operate.

We recommend, when possible, to place the watercooler outside of direct sunlight for best performance. Also, in snowy and sandy areas it's extremely important to keep the in- and outlet free of obstacles during operation. Build a roof or shelter to protect the watercoolers in- and outlet and/or direct sunlight.

Opticlimat has several types of watercoolers in its range. There are compact models, industrial grade models and two types of alignment: horizontal and vertical. Make sure to use the type of alignment correctly.

To ensure proper heat dissipation, the water cooler requires a minimum of 3 meters of unobstructed space in front of the unit. This clearance allows for adequate airflow, which can extend up to 50 meters. It is essential to ensure that the heated air can freely exit the area without obstruction.

In situations where there is insufficient horizontal space for effective airflow dissipation, we offer vertical discharge models. These units redirect airflow upward rather than sideways, eliminating the requirement for horizontal clearance.



3.12 EXAMPLE INSTALLATIONS



Ceiling mounted



Celling mounted with airhose, inside growing area



Wall mounted



Wall mounted with airhose inside growing area



Surface mounted with plenumbox (needs hoses)



Surface mounted outside the growing area with plenumbox (check chapter 6.6 for connecting air hoses)

4. WATER AND CONFIGURATIONS

4.1 WATER SUPPLY

The RevomaxII needs a clean, continuous and cool water supply to operate properly. This can be achieved in two distinct operation methods: tap water or a closed loop with an OptiClimate watercooler. Both are viable options, depending on your growing needs and surrounding situations like the availability of clean water and climate. In this chapter we will explore the first option. The closed loop is described in chapter 5 with a focus on a single RevomaxII and a single water cooler. Other configurations are possible as shown in chapter 4.4.

Check the specifications of your model in chapter 1 to determine the cool water supply in m3 per hour. In the case that your basic water supply is below 25 degrees celcius all year round without exception, you can operate without a separate water cooler.

Note that when you want to create a closed loop, the RevomaxII heats the water when in cooling mode. Make sure to have sufficient cooling power for your situation. When the inlet water temperature rises above 25 degrees Celcius, the Revomax cannot cool to specification and more cooling power is needed.

4.2 PIPING

Piping is not included in the RevomaxII package as every situation is different. The system can be connected with industry-standard PE Tylene or other type of water piping. We recommend using at least 32mm PE (Poly-Ethylene) piping with 'quick-connectors' for easy and flexible installation. A great alternative is to use PVC-C. We recommend using a certified plumber for the installation of the loop.

To determine the correct diameter for your setup, two key factors must be considered: length and complexity. We always recommend keeping the loop as short and straightforward as possible, since every bend and every additional meter reduces water flow.

There is no universal rule, as every installation differs. When in doubt, contact your dealer or local plumber for advice. As a general guideline, use 32 mm piping for shorter loops with few bends, and 40+ mm piping when length and complexity increase.



Revomax Backside:
water connections

- 1. Water Outlet
- 2. Water Inlet
- 3. Condensation Outlet



4.3 3RD PARTY WATER CONNECTIONS

To connect all piping and sensors to your system, you also need a list of water connections and accessories that fit your piping of choice. We have a comprehensive list of needed items on our knowledgebase at <https://opticlimate.com/knowledge-base/> in the checklist section.

4.4 SPECIAL CONFIGURATIONS

Beside the basic options, take a brief look at what we can do with the RevomaxII. All variations are perfectly viable and scalable and need a professional design and preparation from your dealer or find us at airluxtechnologies.com. The high-performing RevomaxII system needs to be installed with all hardware and guidelines (chapter 2.1) in mind to ensure long-term reliable operation.

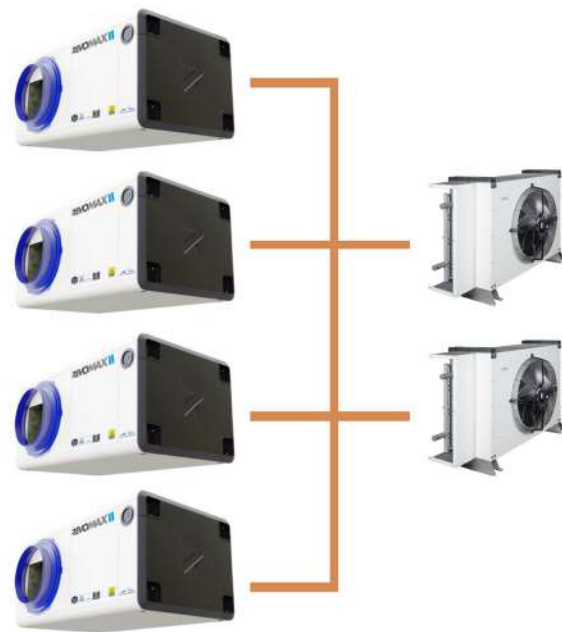
Multi-RevomaxII setup with single cooler

Install two or more RevomaxII units in multiple growing areas or rooms, combined with one big watercooler unit.



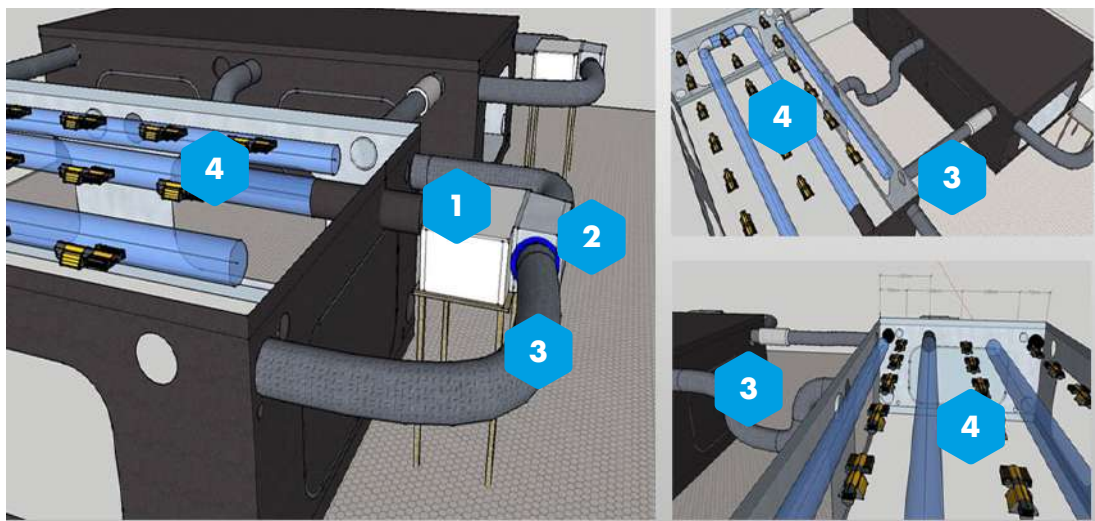
Multi-RevomaxII setup with multiple coolers

Install multiple RevomaxII units in multiple growing areas combined with multiple watercoolers



Option 3: RevomaxII unit outside growing area

Install the RevomaxII unit outside the growing area with our Plenumbox and airhose system



Multiple views of Plenumbox based multi-room setup

1. RevomaxII unit
2. PlenumBox
3. Airhose system
4. Growing Area

Whatever your growing needs

With the flexibility of the RevomaxII system you can easily scale to whatever situation you might have. There is no growing area too complex or difficult for us! Challenge us for your next project. Contact your dealer or find us at airluxtechnologies.com to guide you through the next level of indoor farming.



RevomaxII sep-fan and custom aluminium airhoses. The fan is installed integrated in the airhoses.

4.5 OPEN TAP

The most basic option is to use an open tap, continuous and steady water supply that is under 25 degrees Celsius year round. The source can be a public watersupply or a fresh watersource like a lake or river.

Solenoid valve & water leak sensor - Optional

Use our magnetic solenoid valve and water leak sensor for safety. When a leak is detected the system will shut down to prevent damage. Place the valve directly after the water source in a fixed, easy to access location. The magnetic coil of the valve must be placed upwards or alternatively to the side. Never downwards.

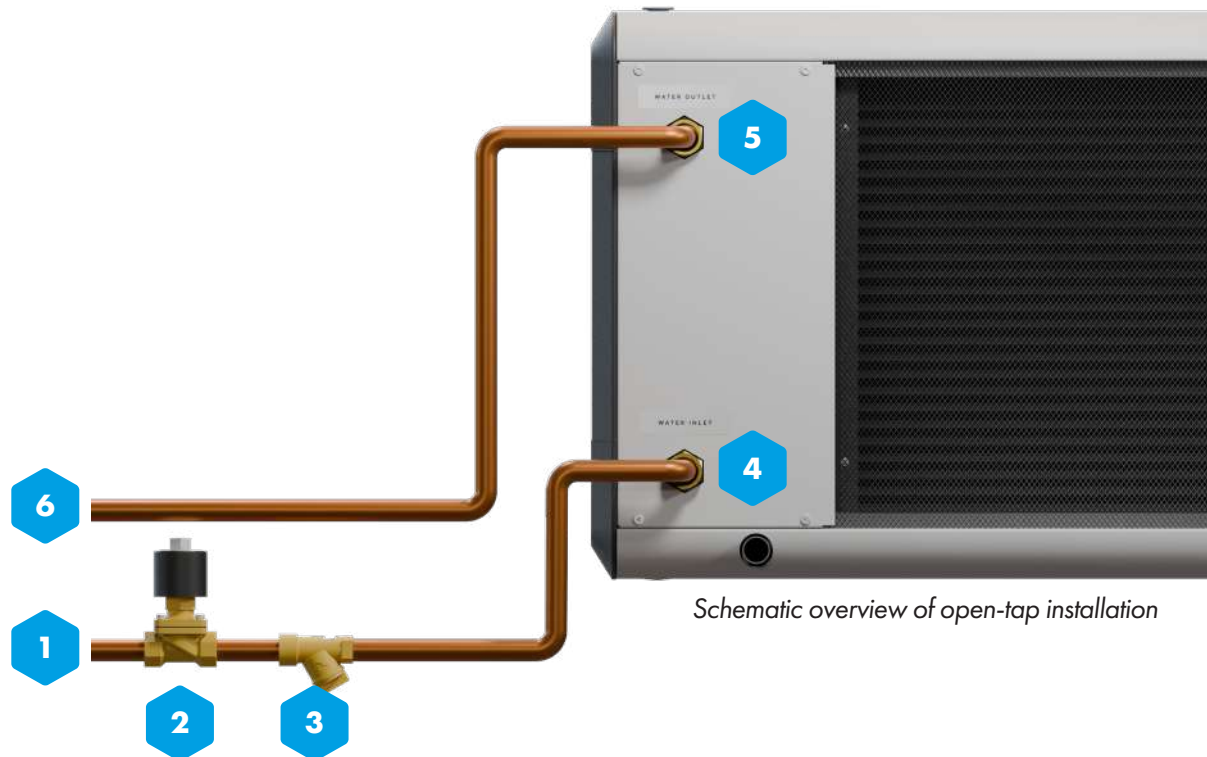
Strainer & Insulation - Optional

It's highly recommended to use a strainer to filter the water and insulate the water supply piping to prevent condensation build-up and optimize efficiency.

Connection diagram

Connect the system in following sequence to operate correctly:

1. Water source
2. Solenoid (magnetic) Valve - optional - closes when the water leak sensor detects water leakage
3. Water strainer - optional - filters particles that could be present in the water source like a river
4. RevomaxII water inlet
5. RevomaxII water outlet
6. Drainage / water recycling



Schematic overview of open-tap installation

5. BUILDING A CLOSED LOOP

5.1 WATER COOLER

The most common option is a closed loop water system. When cool fresh water is not available, economically viable or when the water temperature is above 25 degrees Celcius regularly, watercooler is mandatory for stable operation to specification.

Water cooler capacity

The needed capacity of the water cooler depends on variables like climate, season, sunshine, humidity, ambient temperatures and other hardware in operation that generates heat. Therefore, the needed cooler's capacity needs to be assessed per case.

In most moderate operating situations the rule of thumb is for the water cooler to have the same level or slightly exceeded power output versus the Revomax II unit. For example: a Revomax II 30000 (30kw) needs a watercooler that at least has the same 30 kw capacity. All our water coolers are designed with a small amount of headroom so the 32 kw industrial grade water cooler is usually a good fit.

It's possible to connect multiple Revomax unit's to a single cooler as long as the cooling capacity is met. For more information or specific watercooling questions needs contact your dealer or find us at airluxtechnologies.com.

5.2 STEPS TO CREATE A CLOSED LOOP

After determining the correct piping diameter (chapter 4.2) and acquiring all 3rd party piping and connectors, we can start building our closed loop system. For reference to all piping diameters check our knowledgebase at <https://opticlimate.com/knowledge-base/> in the checklist section.

For video instructions on all steps, refer to our [airluxtechnologies YouTube channel](https://www.youtube.com/channel/UCv8v8v8v8v8v8v8v8v8v8v8).

1. Install the pump, water cooler and RevomaxII

Install the pump, water cooler and RevomaxII in an upright position and make sure the RevomaxII has a very slight angle (1%) to the back so condensation water can run off. Instructions on placement are in chapter 3.

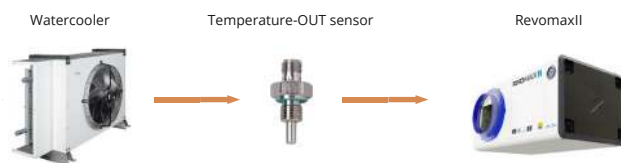
2. Connect the RevomaxII in- and out and air-bleeder

Install connectors from the RevomaxII in- and output to your specified piping diameter. Also install the air-bleeder on the highest point of the installation. Make sure you use teflon in all metal connections and properly glue all PVC-C piping when used.

Optional but highly recommended is to install drainage taps at in- and outlet to be able to shut down water supply to the RevomaxII when needed.

3. Connect RevomaxII in to water cooler out

Continue to connect the RevomaxII input to the water cooler output and make sure you install a temperature sensor in this part of the loop. Use a t-connector or tap saddle to install the temperature sensor between the watercooler (out) and RevomaxII (in). Note the water flow direction (orange arrows). Make sure the loop is empty before installing the temperature sensor. We designate the water temperature as OUT because it is installed after the watercooler. Always install sideways to prevent measuring air.



Step 3 install sequence



OptiClimate Watercooler



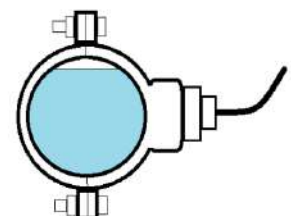
Drainage tap



Air Bleeder



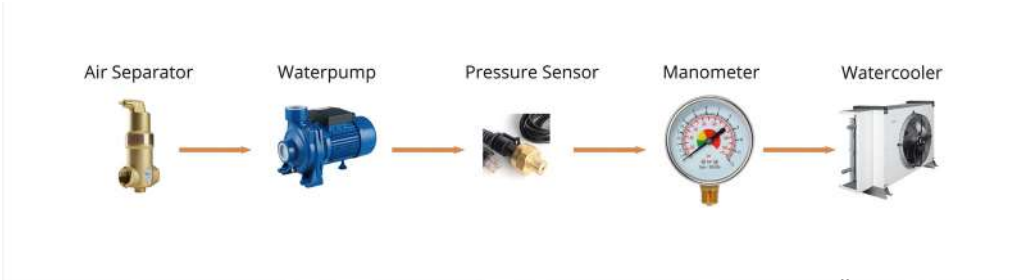
Tapsaddle



Tapsaddle side-view

4. Connect the pump, air separator and two ports

Now connect the air separator to the pump and start to connect the water pump output to the water cooler input. In between we'll install a manometer and the pressure (mandatory for advanced control systems) sensor the same way as the temperature sensor in the previous step. Optionally install a manual valve to shut down water flow when needed.



Step 4 install sequence

5. Complete loop from water pump in to RevomaxII out

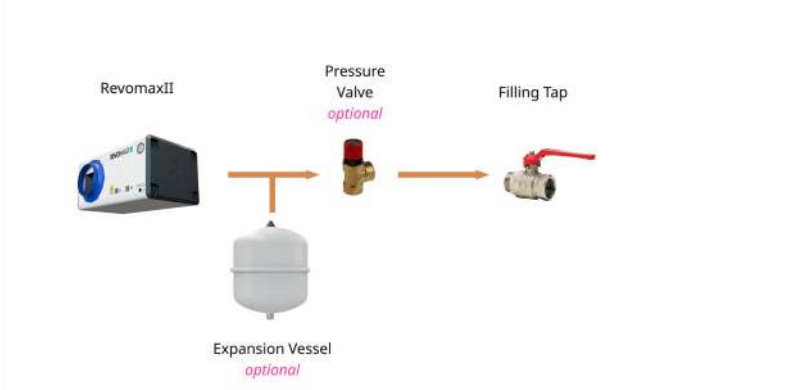
The loop is nearly complete. From the water pump in where the Air Separator is connected, lead the loop to the RevomaxII output. Optionally install a manual valve to shut down water flow when needed. Here we need two ports: a manometer, a pressure sensor and an extra temperature sensor in case you want to build an advanced control setup (chapter 6.7).



Step 5 install sequence

6. Filling Tap & Optional: Expansion Vessel and Pressure Relief Valve

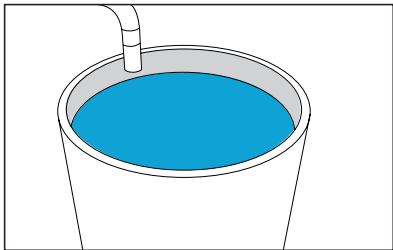
First make sure to install a filling tap so your loop can be filled later on. The location of the filling tap has no impact of the operation, install it in a convenient location, preferable at a low point to be able to drain the loop. Optionally for more stable operation you can install an expansion vessel and pressure relief valve. When temperature rises, water expands. The vessel compensates for this effect. The vessel must be installed outside the loop.



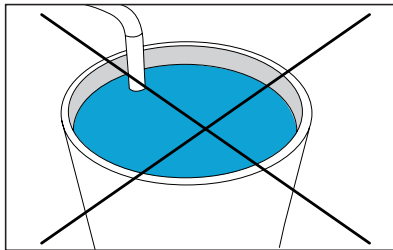
Step 6 install sequence

7. Discharge of the condensation water

The unit will dehumidify the air during cooling and in dehumidify mode. The moisture extracted from the air is collected in the internal condensation pan, which has a 3/4 drain pipe where the condensate will run off. The condensate is clean and can be used as irrigation water if desired. Collect or dispatch the water depending on your needs. Equipment or reservoirs are not included.

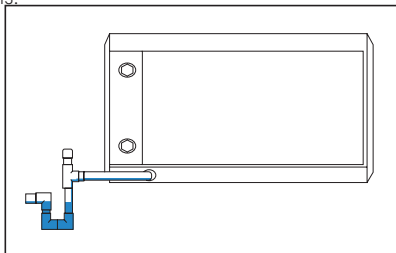


Correct: drainage above reservoir

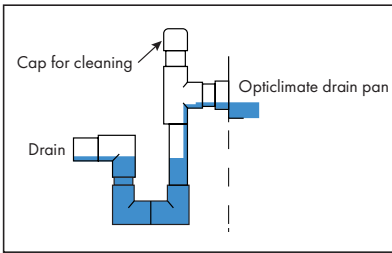


Incorrect: drainage in reservoir

Make sure the drainage outlet rests above the water-reservoir at all times. When in the water, the drainage stops and the RevomaxII can flood internally because the water cannot run off. Use a "P-trap" on the condensation outlet to prevent air entering the unit and to prevent condensate run-off problems.



P-trap connected correctly



P-trap close-up



**CONDENSATION
OUTLET**



P-trap

Reservoir

Depending on the humidity, watering habits and climate the Revomax dehumidifies up to 96 percent of water in the air. Make sure to have a large enough reservoir or drainage capacity when collecting the condensation water.

Condensation Lift Pump

If the unit is installed at the same level or lower than the drain or sewer, a condensation lift pump is mandatory for correct operation. Our basic lift pump (SKU 1-10) pumps the water through a 9mm hose to a height of 4 meters into the drain or collecting tank. Stronger pumps are also available. For more information or pump-capacity questions, don't hesitate to contact your dealer or find us at airluxtechnologies.com



Condensation Lift Pump

5.3 CONNECTION DIAGRAM

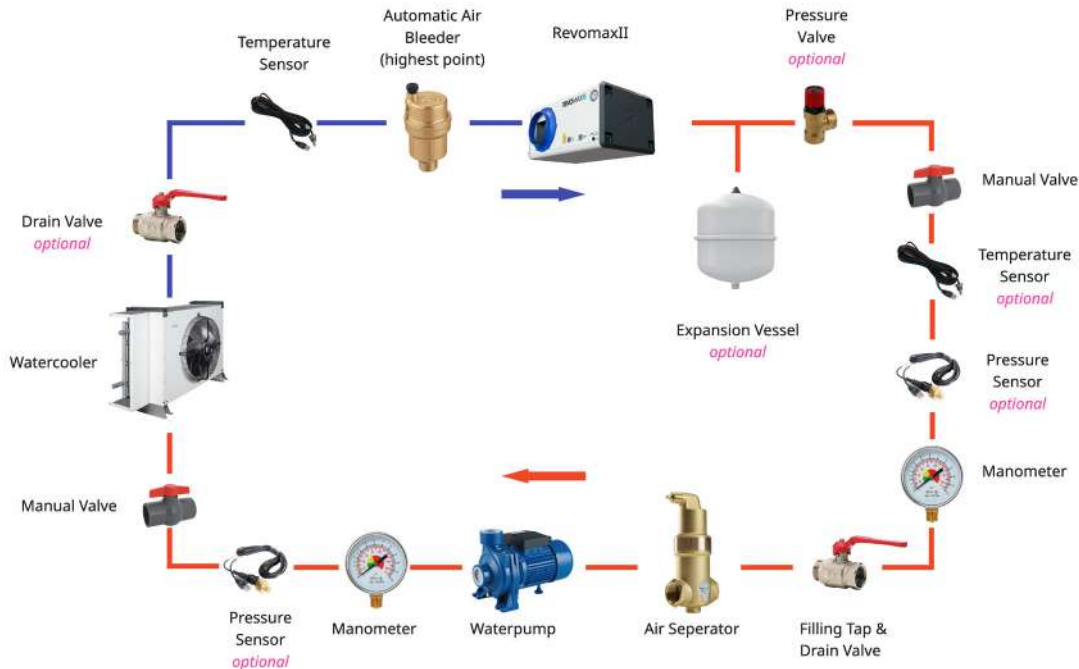
The complete loop now should look like the schematic below, you'll find all the elements in their logical locations. Make sure to install all hardware, sensors, and other components in these exact positions unless stated otherwise.

The following items are optional but recommended:

- Pressure Valve – Releases excess pressure and prevents the loop from building up too much pressure.
- Expansion Vessel – Collects and regulates excess pressure.
- Drain Valve – Allows the water/glycol mix to be drained from the system when needed. Should be installed at the lowest point of the loop.

The following items are mandatory when installing a closed loop with advanced control:

- Temperature Sensor – A second temperature sensor is required when using the advanced control setup.
- Pressure Sensors – Detect current water pressure drops and warns the user to take action to prevent possible damage to the system.



6. CONTROL SETUP

6.1 CONNECTION BOARD

Remove the front panel to connect the supplied Smart Remote Controller and sensors. Lead the sensors to the growth area and place on crop level, outside the range of a direct lighting source. The connection board is accessible behind the front panel.

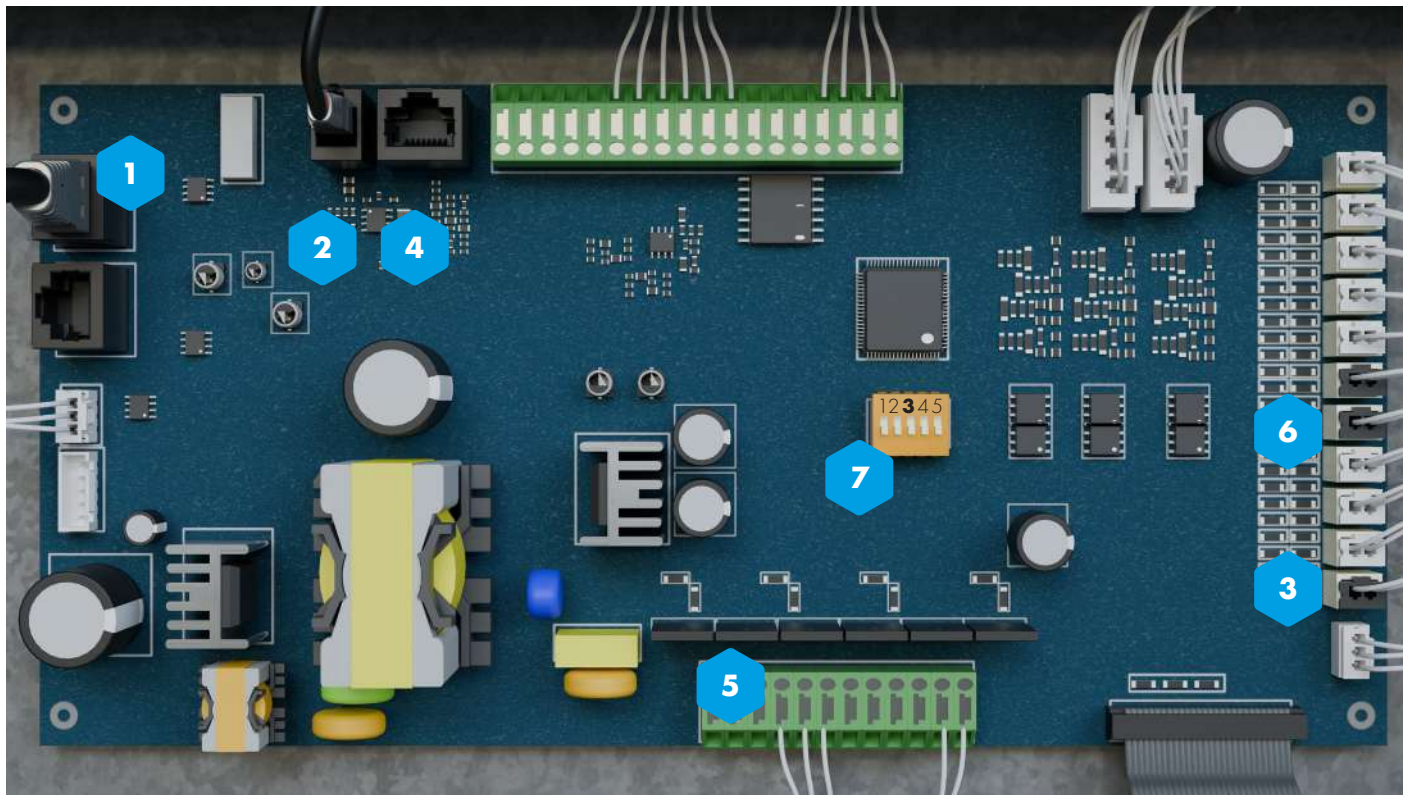
Connect the following cables to the corresponding connection ports:

1. Smart Remote Controller
2. RH Humidity & Light sensor - to be placed in the grow area. Detects optimal settings for humidity and night/day cycle.
3. Room temperature sensor - to be placed in the grow area. Do not position the sensor a direct light source.
4. Compressor start sensor
5. Solenoid Valve (magnetic valve)
6. Water leak sensor
7. Dipswitch 3



Frontpanel

Connection board



RevomaxII connection board

Testing & Discharge Water

When used in a closed loop setup with a cooler the system can be tested with dipswitch nr 3. When dipswitch 3 is turned on, the pump starts pumping and the valve opens without having the system fully booted up. Use this mode to discharge water, test for leaks or to vent the system from air. For more information check chapter 5.3.

Note: the system needs to be fully installed and connected for the test to work. Use dipswitch 3 for testing and discharge purposes only. When the system is in normal operation make sure to turn off dipswitch 3.

6.2 SELECT POWER CABLE

Applies to: Open Tap, Basic controlled closed Loop, Inverter controlled closed Loop

All Revomax II units must be connected to a 3-phase 400 volt power supply. Alternatively, the 6000, 10000 and 15000S model can also be powered by a standard 1-phase 230v domestic power supply.

Always use at least the specified cable diameter for connecting the power supply to the RevomaxII. In the specification overview in chapter one you can find the specification for your model.

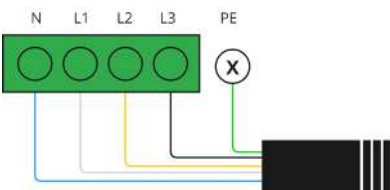
Ask assistance from a certified electronic engineer when connecting a 400v 3-phase system.

**NOTE: always use a dedicated MCB and RCD type B for the Revomax II.
Do not combine with other devices on the same circuit.**

6.3 CONNECT POWER CABLE

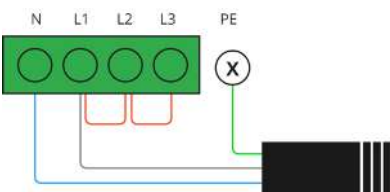
Applies to: Open Tap, Basic controlled closed Loop, Inverter controlled closed Loop

Find the pass-through on the bottom right of the front panel. Lead the open-end power cable through and lead it to the power connection board that is behind the frontpanel. Connect the power cable to the connection board using the schematic below. Do not forget to connect the PE ground connector.



400v: all models

Connect the cable in following schematic. Make sure to use the grounding PE cable for safety. Local rules and code apply.



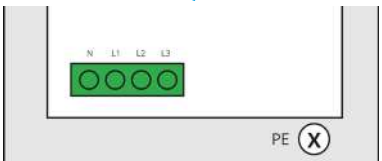
230v: 6000, 10000, 15000S model only

Connect the cable in following schematic. Make sure to use the grounding PE cable for safety. Local rules and code apply.

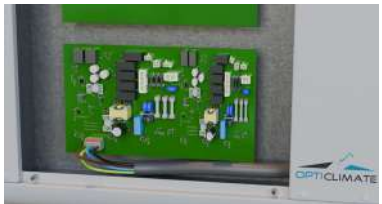


Frontpanel

Power cable



Power Connection Board



Power Connection Board



400v open-end powercable

6.4 SMART REMOTE CONTROLLER

Applies to: Open Tap, Basic controlled closed Loop, Inverter controlled closed Loop

For open tap installations, this is the final step for the control hardware. After this chapter, skip to chapter 8.

Use the supplied controller cable (USB to UTP) to connect the Smart Remote Controller (USB connector) on port 1 (UTP connector) on the control board in the Revomax unit (chapter 4.1). After powering up the Smart Remote Controller (use the supplied power adapter) and RevomaxII, the unit will first initialize, this can take a few minutes. All valves and sensors are automatically tested during startup. The remote controller cannot be operated during this initializing phase. You will see several screens pop-up and close again, this is normal.

Check the RevomaxII user manual for daily operation and configuration of the Smart Remote Controller.



6.5 BASIC CONTROLLED - CLOSED LOOP

Applies to: Basic Closed Loop

The water based elements of the basic closed loop system are now installed and need to be connected to it's central control hardware. For the advanced control setup, skip to chapter 6.7

The basic setup is controlled by a SmartBox 6/3 and controls the water pump and water cooler via a power outlet. You already selected and connected power, and the Smart Remote Controller. For reference we'll recap these steps and add some final steps.

1. Select correct cable and install an MCD and RCD-B

Check the required cable diameter in the specifications and install the power cable, MCD and RCD-B as described in chapter 6.2. Ask a certified elektrician to install these elements.

2. Install the correct power cable using

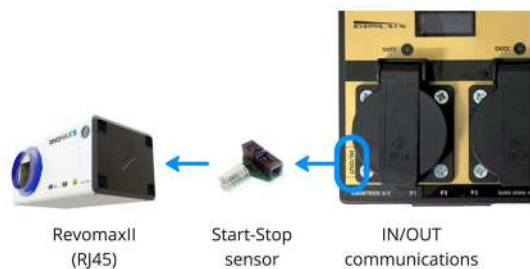
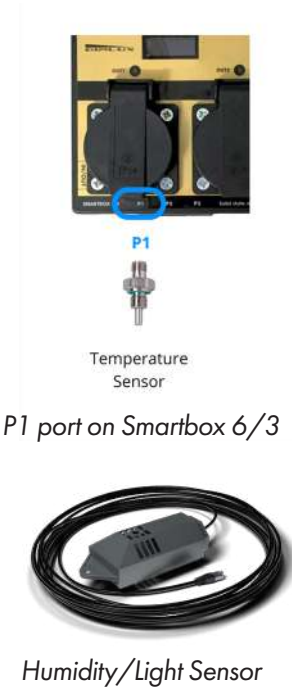
Use the pass-through to install the open-end power cable to the connection board as described in chapter 6.3. Ask a certified elektrician to install these elements.

3. Install and connect sensors

Connect the temperature sensor, the one installed in front of the RevomaxII to the P1 port on the SmartBox 6/3. The port is located in the bottom-left of the Smartbox 6/3.

Also connect the humidity/light sensor to the RevomaxII on position 2 as described in chapter 6.1. Route the humidity/light sensor to the growing area and hang half-way between the plant canopy and the fixtures for optimal readings.

Last part of this step is the compressor start stop sensor. Connect it to position 4 of the connection board (chapter 6.1). Now lead the communication cable to the Smartbox 6/3 and connect it to the in/out port.

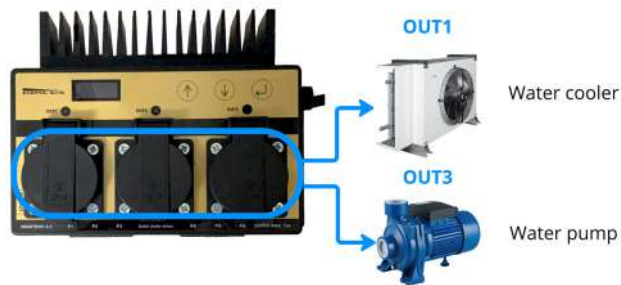


4. Communication cable to Smart Remote Controller

Connect the Smart Remote Controller with the supplied UTP-USB cable as described in chapter 6.4.

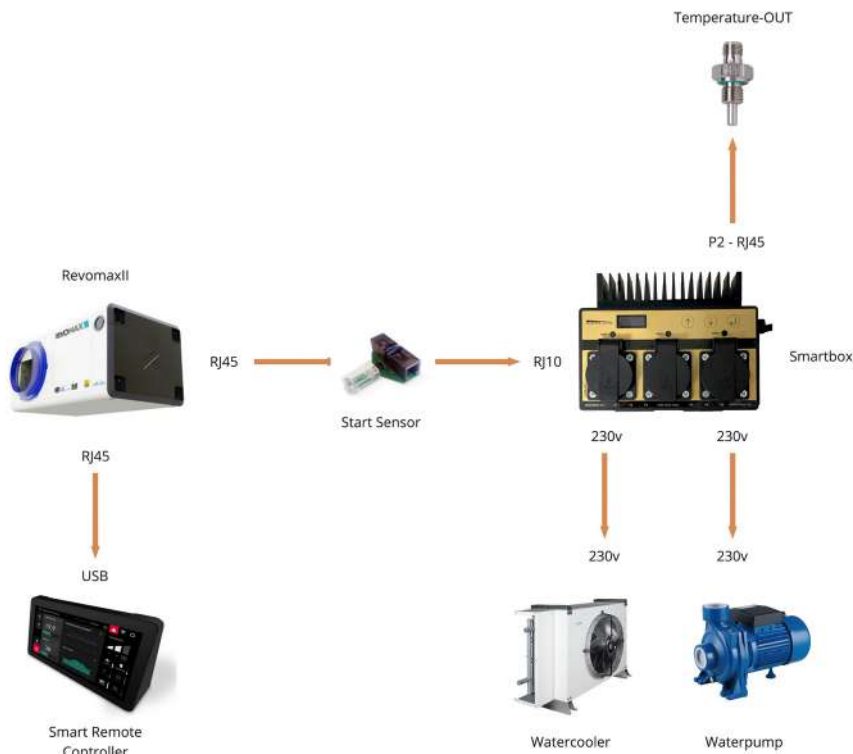
5. Connect the water cooler and water pump to the SmartBox 6/3

The last step is to connect the water cooler to the smart 230v power connector port OUT-1 and the water pump to the smart 230v port OUT-3. It is important you use these specific ports as they are pre-configured.



Complete control schematic

The complete control schematic now must look like this.



Basic control setup

6.6 BASIC CONTROLLED - CLOSED LOOP - FIRST USE

Before we can start using the system we first need to check some basic settings. In 6 steps we'll guide you through all steps to get your RevomaxII operational.

1. Check essential settings

A few settings need to be checked. First make sure the system is in water cooler mode. Navigate to MENU > SETTINGS > OPTICLIMATE SETTINGS > S.06 and make sure it is set to ON.

The second setting is the internal pressure, which is in the same menu under S.64. Make sure it is set to 23 bar.

2. First Run

First use chapter 7 to fill the loop. Now we need to force the RevomaxII into cooling mode. Use heaters and/or fixtures to heat the room to around 25 degrees Celcius and is stable. Now set the RevomaxII to 16 degrees Celcius to force it into cooling mode. The pump and fan should be activated automatically.

3. Water pressure and internal valve

The water pressure must be at least 0.5 bar during operation. Add mode water/glycol if the threshold is not met. Now check the internal valve which must be open. Navigate to: MENU > SETTINGS > OUTPUTS > Q.05 (water valve). The bar must be filled out to 1600 steps.



Water valve control

4. Delta Temperature

On the SmartBox 6/3, check the reference temperature which must be set to 32 degrees Celcius. Click UP, ENTER, ENTER and use the UP/DOWN keys to change the temperature if needed.

Now, on the Smart Remote Controller navigate to: MENU > SETTINGS > ALL SENSORS

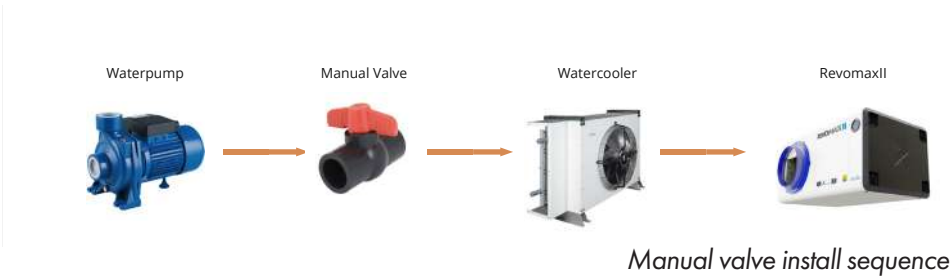
Set target temperatures I:11 to 32 degrees Celcius and I:08 to 37 degrees Celcius. This means the delta (difference) is 5 degrees, which is optimal. Control the delta temperature by changing the water flow.



Water temperature control

- When the delta is too LOW (less than 5 degrees): CLOSE the valve, there is too much flow
- When the delta is too HIGH (more than 5 degrees): OPEN the valve, there is too little flow

Adjust in small increments and wait for the system to respond. This can take a few minutes. After all temperatures are stable for a few hours, adjust the room temperature to the desired temperature.



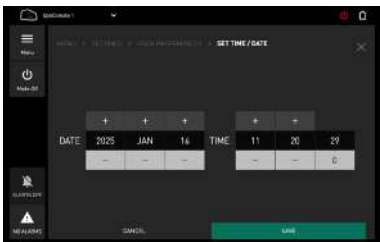
Manual valve install sequence

5. Base settings

To make sure the system responds correctly to operating settings like the timer, we need to set the time and date. On the Smart Remote Controller, navigate to: MENU > SETTINGS > USER PREFERENCES . SET TIME/DATE

Also set the target temperature and humidity for both day and night. From the main menu click on the respective value and use the + and - icons to adjust. Click the sun and moon icons to switch settings for day and night.

The user manual goes further in depth and addresses more options and features.



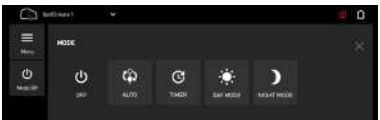
Time and date menu



Set target values

6. Operating mode

Easiest way of controlling the day/night cycle is to set the operating mode to 'AUTO' which uses the humidity/light sensor to determine if it is day or night. Alternatively you can also set a specific timer or have it run indefinitely in one of the two phases of the cycle. The user manual goes further in depth on these settings. On the main menu click the button below the menu to access this menu.



Operating mode menu

6.7 INVERTER CONTROLLED - CLOSED LOOP

For systems above 15 kWatts of cooling power, you can install inverters for more precise control over the temperature and a more stable climate overall in your growing area. The advanced setup automates the water flow control and seamlessly and continuously adjusts the pump and the watercooler fan.

When using the advanced setup with inverters, contact your dealer or our professionals at Airlux Technologies for additional support and system design.

The advanced control method differ in a few key area's. Follow these steps.

1. Select correct cable and install an MCD and RCD-B

Check the required cable diameter in the specifications and install the power cable, MCD and RCD-B as described in chapter 6.2. Ask a certified elektrician to install these elements.

2. Install the correct power cable using

Use the pass-through to install the open-end power cable to the connection board as described in chapter 6.3. Ask a certified elektrician to install these elements.

3. Install and connect sensors

In the advanced control setup make sure to have installed the second temperature sensor as instructed in chapter 5.2. Connect the first sensor, the one installed in front of the RevomaxII to the P1 port on the SmartBox 8/0. The port is located in the bottom-left of the Smartbox 8/0. The second temperature sensor goes to P2.



Temperature sensors install sequence

Also connect the humidity/light sensor to the RevomaxII on position 2 as described in chapter 6.1. Route the humidity/light sensor to the growing area and hang half-way between the plant canopy and the fixtures for optimal readings.

Last part of this step is the compressor start stop sensor. Connect it to position 4 of the connection board (chapter 6.1). Now lead the communication cable to the Smartbox 8/0 and connect it to the in/out port.

4. Pressure sensors

In the advanced setup we also install two pressure sensors on the positions as described in chapter 5.2. Connect the first one (pressure low - in front of the water pump) on P5 and the second one (pressure high) after the water pump) to P6. The pressure sensors can sense a drop in pressure and can automatically shut down the system to prevent damage.



Pressuresensors install sequence

4. Communication cable to Smart Remote Controller

Connect the Smart Remote Controller with the supplied UTP-USB cable as described in chapter 6.4.



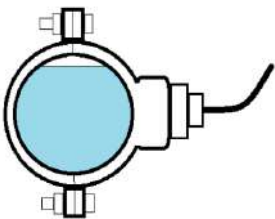
Inverter



SmartBox 8/0



Tapsaddle



Tapsaddle sideview



Pressure Sensor

5. Connecting Smartbox 8/0 to Inverters

The system contains two inverters a 400V 3-phase version for the water pump (inverter 1) and a 230V 1-phase version for the water cooler (inverter 2) . Both must be connected using the supplied **BLUE** interlink cable that is labeled on both sides. The cable end labeled **VFD** must be connected to the inverter, the cable end labeled **Smartport** must be connected to the SmartBox.

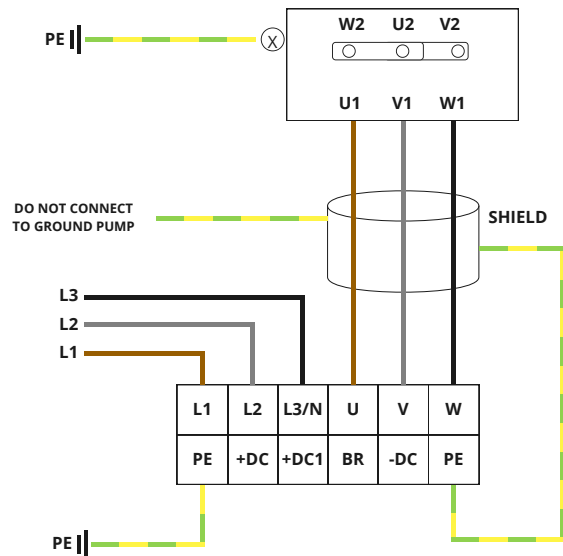


Connect the 230V water cooler inverter to P3 on the Smartbox and the 400V water pump inverter to P4 on the Smartbox

6. Connecting Inverter 1 to water pump

The inverter must be connected to the pump with a custom power cable setup. Pumps must be connected with a 3-phase inverter. Make sure to order a 3-phase pump in this situation. Connect the power cable in the correct manner, as stated below.

- Use a shielded cable in all cases
- Connect ground from pump separately, not with the same cable the pump is powered
- Keep distance between pump and inverter as short as possible, mount indoors

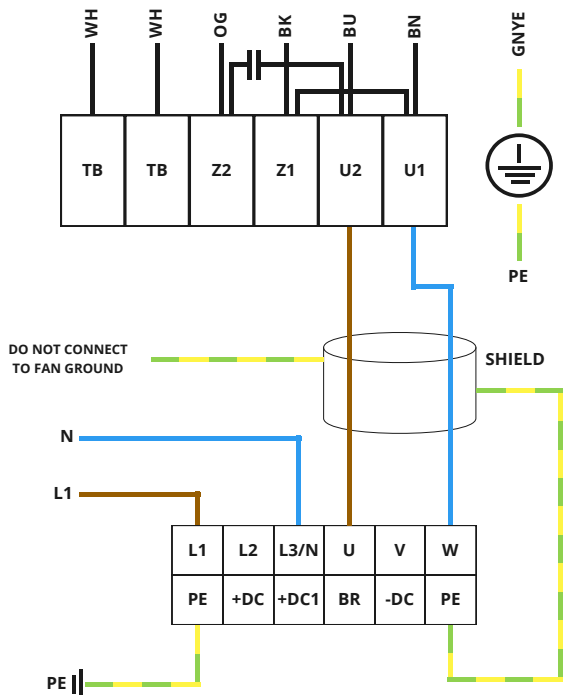


Power schematic inverter to pump

7. Connecting Inverter 2 to water cooler fan

The inverters must be connected to the watercooler(fan) with a custom power cable setup. Coolerfan must be connected to a single-phase inverter. Make sure to connect the power cable in the correct manner, as stated below.

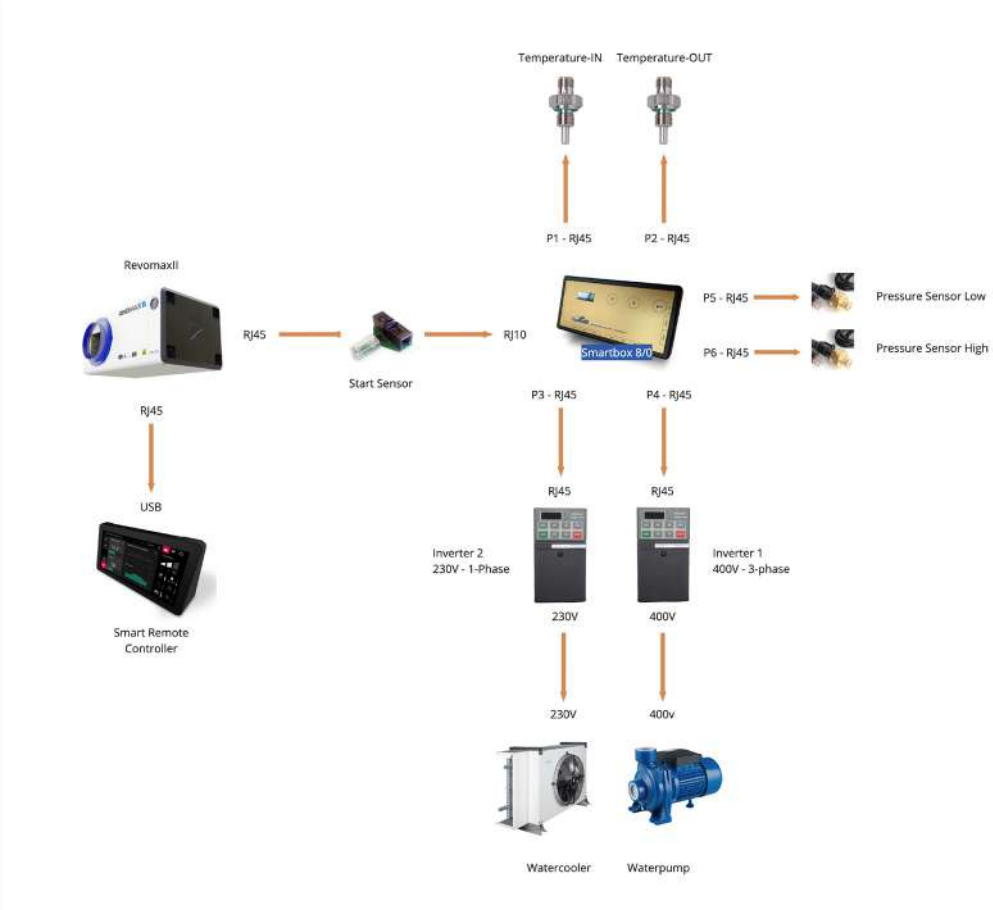
- Use a shielded cable in all cases
- Connect ground from pump separately, not with the same cable the pump is powered
- Keep distance between pump and inverter as short as possible, mount indoors



Power schematic inverter to watercooler fan

Advanced control schematic

The complete control setup must look like the schematic below.



6.8 INVERTER CONTROLLED - CLOSED LOOP - FIRST USE

The first use sequence of the inverter controlled setup is the same as the sequence for the basic controlled option (chapter 6.4). Follow the same steps with the exception that the delta temperature is automated. Just skip that step.

7. FILLING THE LOOP

7.1 GLYCOL

The RevomaxII closed loop systems are compatible with a water-glycol mix. When the system is used in areas that have below zero degrees Celcius temperatures regularly (Winter-time), a Water-Glycol Mix is mandatory to prevent the system from freezing up and corrosion.

For each potential degree Celcius below zero, you need 1% of glycol in your mix. For example, in the Netherlands temperatures rarely, if ever, reach below -15 degrees Celcius. So a safe mix and a bit of headroom a 20% mix is advised.

Add the correct amount of glycol to the system first, then water until static pressure is 1.5 bar (The installed manometer, not the manometer on the RevomaxII unit). In the case the system is already filled with water, drain double the amount of calculated glycol of water first, then add the glycol and re-fill the water until pressurized at 1.5 bar again.

NOTE: on the market you can obtain pure glycol or pre-mixed water-glycol. Make sure to use the correct type. Airlux Technologies strongly recommend PROPYLENE glycol, not ETHYLENE.

7.2 FILLING THE LOOP

Note: when the temperature at the cooler location is below zero Celcius, do not fill the system. This can lead to permanent damage to the cooler.

Steps

1. Check all water connections before filling the loop.
2. Connect water supply to the filling tap
3. Open the air bleeder that is installed on the highest point of the installation
4. Open the water supply and start filling the loop, wait for pressure to build to 1 bar and for all excess air to escape.
5. Make sure the RevomaxII is powered but not turned on. Start the pump with dipswitch 3. (chapter 6.1), Run the RevomaxII for two hours and check for leaks. Check the manometer during the testrun and make sure pressure never drops below 0.5 bar.
6. Disable dipswitch 3 and drain the loop. Collect the water to determine the amount of glycol that needs to be added.
7. Re-fill the loop with the water-glycol mix with a submersible pump
8. Activate the pump again with dipswitch 3 and make sure the system builds up pressure to 1.5 bar on the manometer that is located before the pump.
9. Close the filling tap and remove any water sources and submersive pump. Your system is now filled up correctly.



Propylene Glycol



Manometer - Check Pressure in Bar

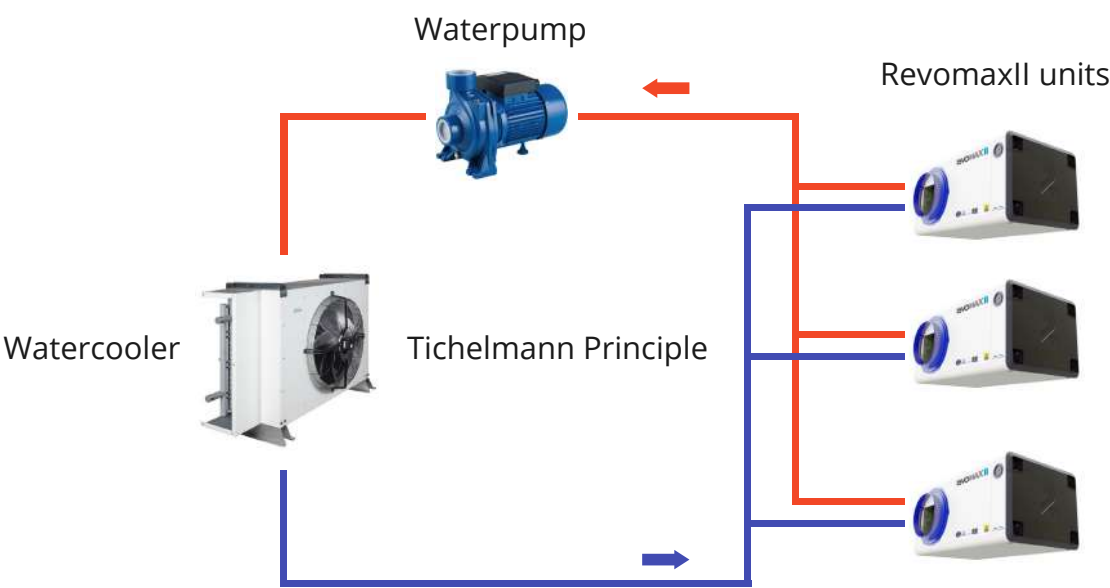


Submersible Pump

8. SPECIALS

8.1 MULTIPLE REVOMAXII UNITS, SINGLE COOLER

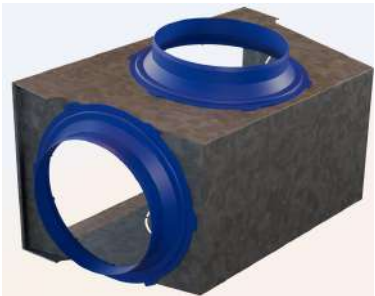
For efficiency purposes you are able to install multiple RevomaxII units on a single cooler in a single closed loop. As long as the watercooler has sufficient cooling capacity to cool the combined heated water generated by the RevomaxII units. All install instructions from chapter 6.2 or 6.3 still apply. Only add extra piping and the second and/or third RevomaxII Unit. The setup must be built with identical models to work properly.



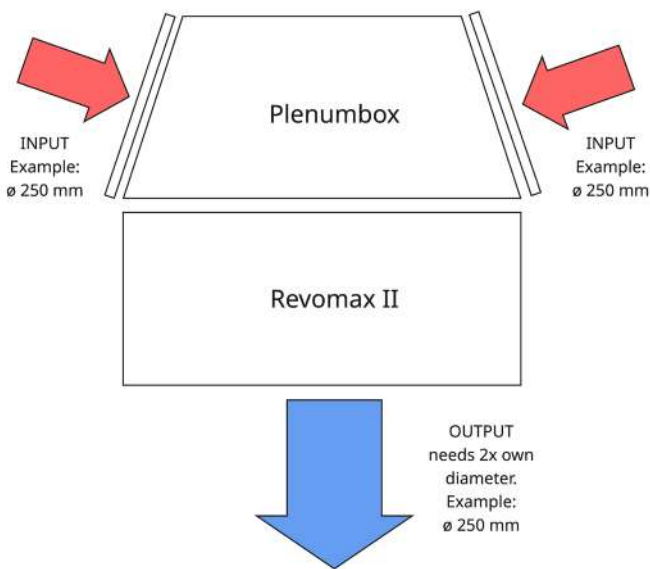
8.2 CONNECTING A PLENUMBOX

When the RevomaxII unit is placed outside of the growing area, you need a PlenumBox to connect the unit to an air hose system. It is important that the incoming air flow is at least twice the diameter of the output of the air distribution. This is important to ensure proper air pressure inside the unit.

For example: when the output diameter is 250 mm, the plenumbox needs a minimum of two 250mm air intake hoses for proper cooling power. Note, when calculating air intake capacity, the actual double air intake cannot be calculated by diameter only. Always calculate the total surface of the hoses to actually find the correct diameters.



Plenum Box



9 CONNECTION KITS

Both the installation with and without watercooler require a basic installation package that is needed for installing the respective option. Without this package the system cannot be installed to a normal operating situation. All RevomaxII units come with the Smart Remote Controller.

9.1 WITHOUT WATERCOOLER

For basic operation on a continuous tap water installation acquire all needed piping as recommended in chapter 4.2. The tap-water leak prevention kit is optional.

SKU 1-7811 'tapwater leak-prevention kit'

- R-7962 waterleakage sensor
- A1-41 Solenoid (magnetic) valve
- A1-101 connectorset

9.2 WITH WATERCOOLER, BASIC CONTROLLED

For a closed loop with basic control installation acquire all needed piping as recommended in chapter 4.2. **One of the connection kits is mandatory to create a working setup.**

SKU 1-85805 'Water cooler kit - Basic Control - 5 mtr'

- 2-587 Smartbox 6/3 EU
- 1-7850 Start Sensor
- 2-557 Water temperature sensor G1/4" 5 mtr
- 2-360 Communication cable 5 mtr

SKU 1-85810 'Water cooler kit - Basic Control - 10 mtr'

- 2-587 Smartbox 6/3 EU
- 1-7850 Start Sensor
- 2-556 Water temperature sensor G1/4" 10 mtr
- 2-361 Communication cable 10 mtr

9.3 WITH WATERCOOLER, INVERTER CONTROLLED

For a closed loop with advanced control installation acquire all needed piping as recommended in chapter 4.2. **One of the connection kits is mandatory to create a working setup.**

SKU 1-85705 'Water cooler kit - Inverter Controlled - 5 mtr'

- 2-586 Smartbox 8/0 EU
- 1-7850 Start Sensor
- 2-557 Water temperature sensor G1/4" 5 mtr (2x)
- 2-559 Water pressure sensor G1/4" 5 mtr (2x)
- 1-861 Fan/Pump Inverter 1.5kW 1-phase
- 1-862 Fan/Pump Inverter 1.5kW 3-phase
- 1-578 Blue Interlink Cable VFD 5 mtr (2x)
- 2-360 Communication cable 5 mtr

SKU 1-85705 'Water cooler kit - Inverter Controlled - 10 mtr'

- 2-586 Smartbox 8/0 EU
- 1-7850 Start Sensor
- 2-556 Water temperature sensor G1/4" 10 mtr (2x)
- 2-558 Water pressure sensor G1/4" 10 mtr (2x)
- 1-861 Fan/Pump Inverter 1.5kW 1-phase
- 1-862 Fan/Pump Inverter 1.5kW 3-phase
- 1-579 Blue Interlink Cable VFD 10 mtr (2x)
- 2-361 Communication cable 10 mtr

9.4 AIRHOSES

Hoses are available in different materials, lengths and diameter sizes. There are two material variants:

1. LPDE foil

Economical option

2. Fabric - LVS

Prevents condensation, anti-bacterial and washable

Ask your dealer for available options, lengths and diameters or find us at airluxtechnologies.com.



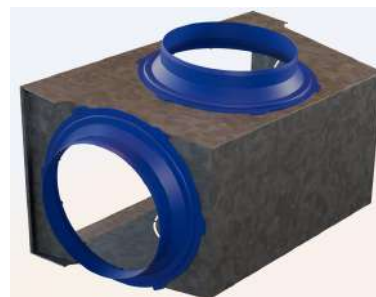
Smart Remote Controller (included)



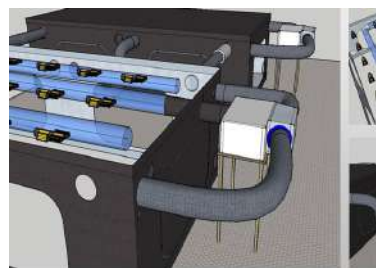
Solenoid (Magnetic) Valve



OptiClimate watercooler



Plenum Box



Example with Plenum Box

10 ACCESSOIRES COMPATIBILITY

The RevomaxII has endless possibilities and configurations. In the matrix below you can find what accessories are compatible with what setup. Make sure to order one of the available connection kits as described in chapter 9.

For specific needs ask your dealer or find us at airluxtechnologies.com.

OptiClimate RevomaxII - All accessories & compatibility

SKU	Peripheral	Config opt.1 Open Tap	Config opt. 2 Basic Contr.	Config opt. 3 Inverter Controlled
CABLES				
2-360	Revomax Communication cable 5 mtr		●	●
2-361	Revomax Communication cable 10 mtr		●	●
2-362	Revomax Communication cable 20 mtr		●	●
1-578	Interlink Inverter Cable Blue VFD 5 mtr			●
1-579	Interlink Inverter Cable Blue VFD 10 mtr			●
1-580	Interlink Inverter Cable Blue VFD 20 mtr			●
2-363	Interlink Extension Cable Black VFD 5 mtr		●	●
2-364	Interlink Extension Cable Black VFD 10 mtr		●	●
2-396	Interlink Extension Cable Black VFD 20 mtr		●	●
WATER COOLER ACCESSORIES				
A 1.8171	Waterpump 32kw P5S-120/4 - No Inverter 230V-Phase1 (basic ctrl)		●	
A 1.87171	Waterpump 32kw P5S-120/4T - Inverter 400V-Phase3 (advanced control)			●
2-587	Smartbox 6/3 EU		●	
2-586	SmartBox 8/0			●
1-592	Repeaterbox 8		●	●
2-557	Pressure Sensor 0-10 bar G1/4" thread Smartport 5 mtr			●
2-558	Pressure Sensor 0-10 bar G1/4" thread Smartport 10 mtr			●
1-861	Fan/Pump Inverter VFD 1.5KW, 200V~240V (1 phase)			●
1-862	Fan/Pump Inverter VFD 1.5kW, 380-480V (3 phase)			
1-7851	Temperature sensor Aluminium Revomax 5mt	●	●	●
1-7852	Temperature sensor Aluminium Revomax 10mt	●	●	●
1-7853	Humidity (RH) sensor + Lightcel 5m Revomax	●	●	●
1-7804	Smart Remote Controller SILVER Revomax	●	●	●
1-7803	Smart Remote Controller cable 7 mtr Revomax	●	●	●
INSTALLATION PARTS				
Various	Dustfilters - Various sizes and models	●	●	●
Various	Airhose distribution hoses, different sizes, LPDE or Textile	●	●	●
Various	Insulator Springs for 6000, 10000 and 15000	●	●	●
Various	Plenumboxes, different sizes	●	●	●

Extension guide

When expanding your system outside of the common one RevomaxII on one water cooler you need extra accessories to get everything connected. For example, for every extra RevomaxII to one water cooler, you need an extra start sensor and a communication cable. Another example: 3 RevomaxII systems to 2 water coolers need (on top of the connection kits) 2 repeaterboxes to expand control ports, 2 black interlink cables to connect the repeaterboxes to the Smartbox, an extra set of inverters and their respective blue interlink cables.

Contact your dealer or find us at airluxtechnologies.com when installing a system that is connected with more than one RevomaxII and/or water cooler.

11 TROUBLESHOOTING

Most common errors are easily resolved. For more advanced troubleshooting check our knowledgebase at <https://opticlimate.com/nl/knowledge-base/>

Error/Symptom RevomaxII does not turn on	Possible Cause RevomaxII is not properly powered	Check Are any LED's lighting up on the control board (chapter 4)	Solution Make sure the power supply is connected properly to all three phases (chapter 4)
		Check Is 230V connected to all three phases of the powerboard (chapter 4)	Solution Make sure the power supply is connected properly to all three phases (chapter 4)
	Possible Cause No valid firmware is installed	Check Does the remote controller show 'RevomaxII is missing firmware' message	Solution Execute the update proces from the remote controller
Error/Symptom OptiClimate communication is lost	Possible Cause No communication between the USB side of the communication cable, possible cable defect	Check Is the communication cable properly connected on the Smart Remote Controller (USB) Chapter 4	Solution Properly (re)connect the communication cable or replace the cable when still in error
Error/Symptom Connection lost with RevomaxII 'OptiClimate 1'	Possible Cause No communication between the UTP side of the communication cable, possible cable defect	Check Is the communication cable properly connected on the RevomaxII (UTP) Chapter 4	Solution Properly (re)connect the communication cable or replace the cable when still in error
	Possible Cause The powerconnection on the RevomaxII was lost	Check Is 230V connected to all three phases of the powerboard (chapter 4)	Solution Make sure the power supply is connected properly to all three phases (chapter 4)
Error/Symptom During update proces: Update file is corrupt (Smart remote controller)	Possible Cause The UDP (update) file cannot be read from the USB memorystick	Check Is the UDP file the same as you have received from our servicedesk	Solution Re-download the UDP you received from us to the USB memorystick and retry the update proces
	Possible Cause The USB drive was disconnected during the update proces	Check Is the USB drive firmly connected to the USB port on the Smart Remote Controller	Solution Retry the update proces
		Check Is the USB drive readable on a Windows PC	Solution Format the USB memorystick as FAT32 on a Windows PC re-download the UDP file and retry the update.
Error/Symptom Error while flashing firmware	Possible Cause During the update proces, the connection between the RevomaxII and Smart Remote Controller was lost	Check Was the powerconnection lost on the RevomaxII	Solution Re-boot the whole system (power-cycle) and retry the update proces.
		Check Was the communication lost during the update proces	Solution Re-connect and/or replace the communication cable and retry the update proces.

Error/Symptom The OptiClimate O is missing firmware	Possible Cause The update proces was interrupted	Check Was the power lost on the Smart Remote Controller during the update proces	Solution Make sure the power supply is connected to the Remote Controller and retry the update proces
		Check Was the power lost on the RevomaxII during the update proces	Solution Make sure the power supply is connected to the RevomaxII and retry the update proces
		Check Was the communication lost between the RevomaxII and Smart Remote Controller	Solution Re-connect and/or replace the communication cable and retry the update proces.
Error/Symptom Temperature reading remains on zero degrees and humidity on 50%. This does not change.	Possible Cause No communication between the RevomaxII and Smart Remote Controller, possible cable defect	Check Is the communication cable properly connected on the Smart Remote Controller (USB) Chapter 4	Solution Properly (re)connect the communication cable or replace the cable when still in error
		Check Is the communication cable properly connected on the RevomaxII (UTP) Chapter 4	Solution Properly (re)connect the communication cable or replace the cable when still in error
		Check Was the power lost on the Smart Remote Controller during the update proces	Solution Make sure the power supply is connected to the Remote Controller and retry the update proces
Error/Symptom The Smart Remote Controller does not respond and/or boots up when powered.	Possible Cause The Smart Remote Controller is disabled with hardware turn-off.	Check Press the physical on/off button on the right-hand side for 10 seconds	Solution The Smart Remote Controller shoould now activate and boot-up
	Possible Cause The power supply adapter is defect	Check Replace the power supply adapter	Solution The Smart Remote Controller shoould now activate and boot-up

10 WARRANTY

The Revomax II series and accessories are designed and manufactured with maximum care and craftsmanship. Airlux Technologies warrants the delivered goods to be free of defects for the duration of the applicable warranty period under normal use and conditions after the original purchase date. When the product shows any defects within this period that is not due to improper use, Airlux Technologies will replace or repair the defect product with a suitable replacement with at least the same functionality and specifications. Warranty of the replaced products will remain under warranty for the remaining period from the original product and purchase date. For service, the owner ships the unit to the closest Airlux Technologies service location, to be determined by the service desk. Airlux Technologies will require the original receipt to determine the warranty eligibility.

Contact your dealer for warranty information or find us at airluxtechnologies.com

By Phone: +31 20 776 6006

By e-mail: support@airluxtechnologies.com



Direct link:

<https://www.opticlimat.com/nl/knowledge-base/>

Scan the QR-code to go to our online knowledge base for the latest manuals and information