

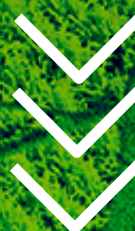
NetBeat™ DIGITAL FARMING

The first irrigation
system with a brain

Product Catalog



MONITOR
ANALYZE
CONTROL



2020
v1.1

 **NETAFIM™**
GROW MORE WITH LESS

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ABOUT NETAFIM

Netafim is the global leader in precision irrigation for a sustainable future. With 33 subsidiaries and 17 manufacturing plants worldwide, Netafim delivers innovative, tailor-made irrigation and fertigation solutions to millions of farmers, allowing smallholders to large-scale agricultural producers, in over 110 countries, to grow more with less.

Founded in 1965, Netafim pioneered the drip revolution, creating a paradigm shift toward precision irrigation. Today, specializing in end-to-end solutions from the water source to the root zone, Netafim delivers turnkey irrigation and greenhouse projects, supported by engineering, project management and financing services.

Netafim is also leading the way in digital farming, integrating real-time monitoring, analysis and automated control into one state-of-the-art system. In 2017, Orbia, a global leader in specialty products and innovative solutions acquired 80% of Netafim, Kibbutz Hatzerim holds the remaining 20%.

See how Netafim's solutions are changing the economics of agriculture and helping the world grow more with less at www.netafim.com



NetBeat™

The only irrigation and fertigation management & control system that combines:



SENSING
& MONITORING



ANALYSIS &
DECISION
SUPPORT



AUTOMATION
& CONTROL

ALL IN ONE CLOSED-LOOP PLATFORM



5 Reasons why NetBeat™

is the biggest innovation in irrigation
since the invention of drip...



ALL IN ONE

NetBeat™ is the first irrigation and fertigation management system to integrate real-time monitoring, smart analysis, and control - in one closed-loop, mobile platform.



DYNAMIC CROP MODELS™

NetBeat™ integrates Dynamic Crop Models™ that follows your crop stages and gives real-time irrigation and fertigation recommendations.



USER-FRIENDLY INTERFACE

NetBeat™ interface was developed with real farmers in mind. It is designed to be simple, friendly and cover all bases.



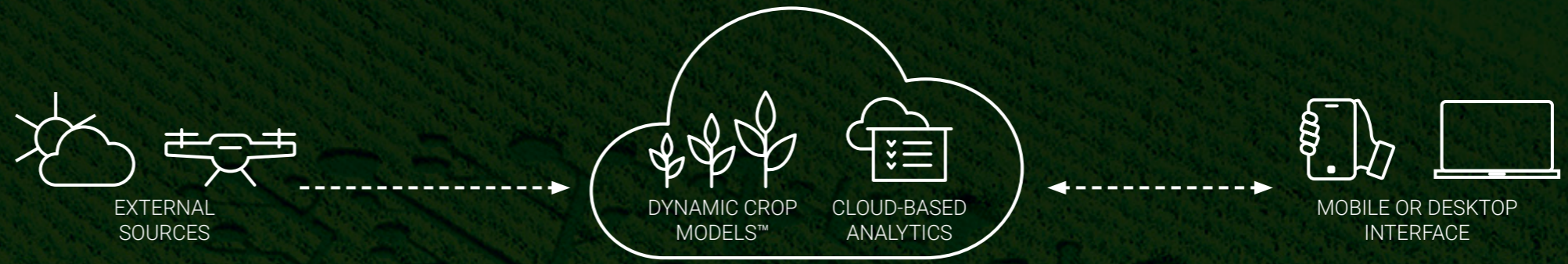
CLOUD TECHNOLOGY

Cloud-based software enables remote support and upgrade SW and remote access, support and updates.

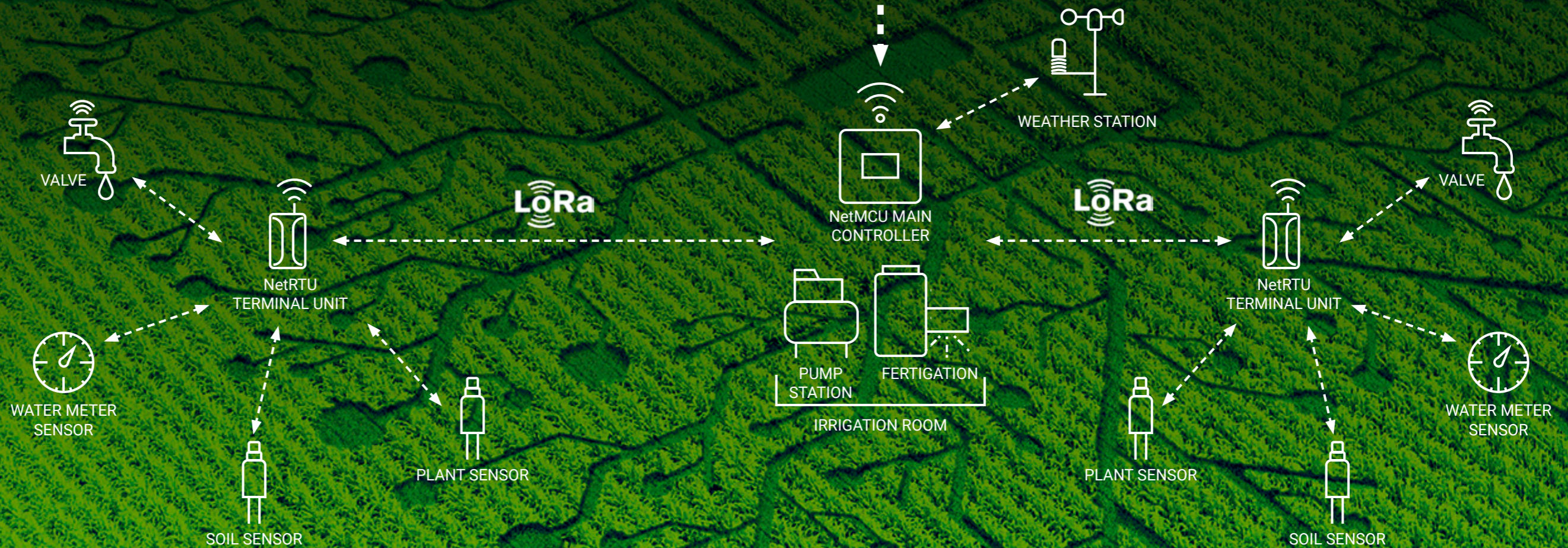


SMART IRRIGATION FOR EVERYONE

From corporate farms to small holders, NetBeat™ has a solution to fit the needs, budget and skills of all farmers. It is also modular so you can upgrade as you grow.



NetBeat™ is suitable for all farm size applications utilizing a controllable irrigation system (sprinklers/drip).



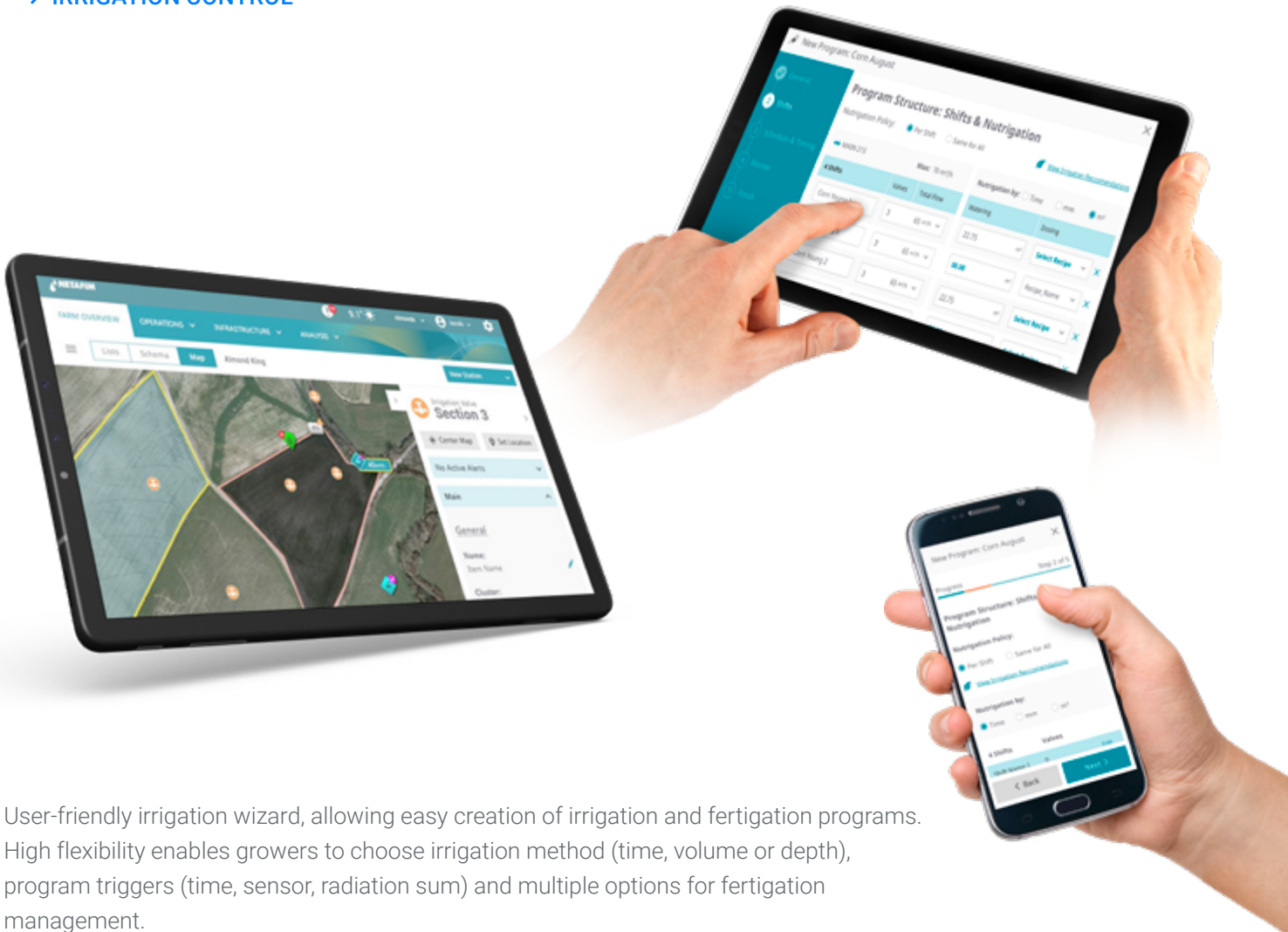
/ Interface

→ DASHBOARD



Smart Dashboard which quickly provides actionable information about irrigations, alerts, sensor data, climate data and reports. Every user can configure the dashboard to fit his needs.

→ IRRIGATION CONTROL



User-friendly irrigation wizard, allowing easy creation of irrigation and fertigation programs. High flexibility enables growers to choose irrigation method (time, volume or depth), program triggers (time, sensor, radiation sum) and multiple options for fertigation management.

→ MONITORING AND ANALYSIS



Monitor and analyze field data and hydraulic system data everywhere.

→ DYNAMIC CROP MODELS



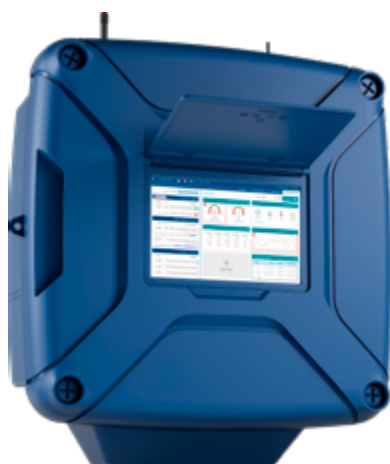
A decision support engine that provides smart irrigation and fertigation recommendations, 100% tailored to a specific crop and field.

/ Hardware

NetMCU

MAIN CONTROL UNIT

The main control unit of the NetBeat™ system controls - directly or remotely - valves, pumps, filters and other hydraulic components, and it collects field data. The NetMCU communicates with all remote field devices and with the cloud. It is the center of the NetBeat™ nervous system.



Orchards



Greenhouse

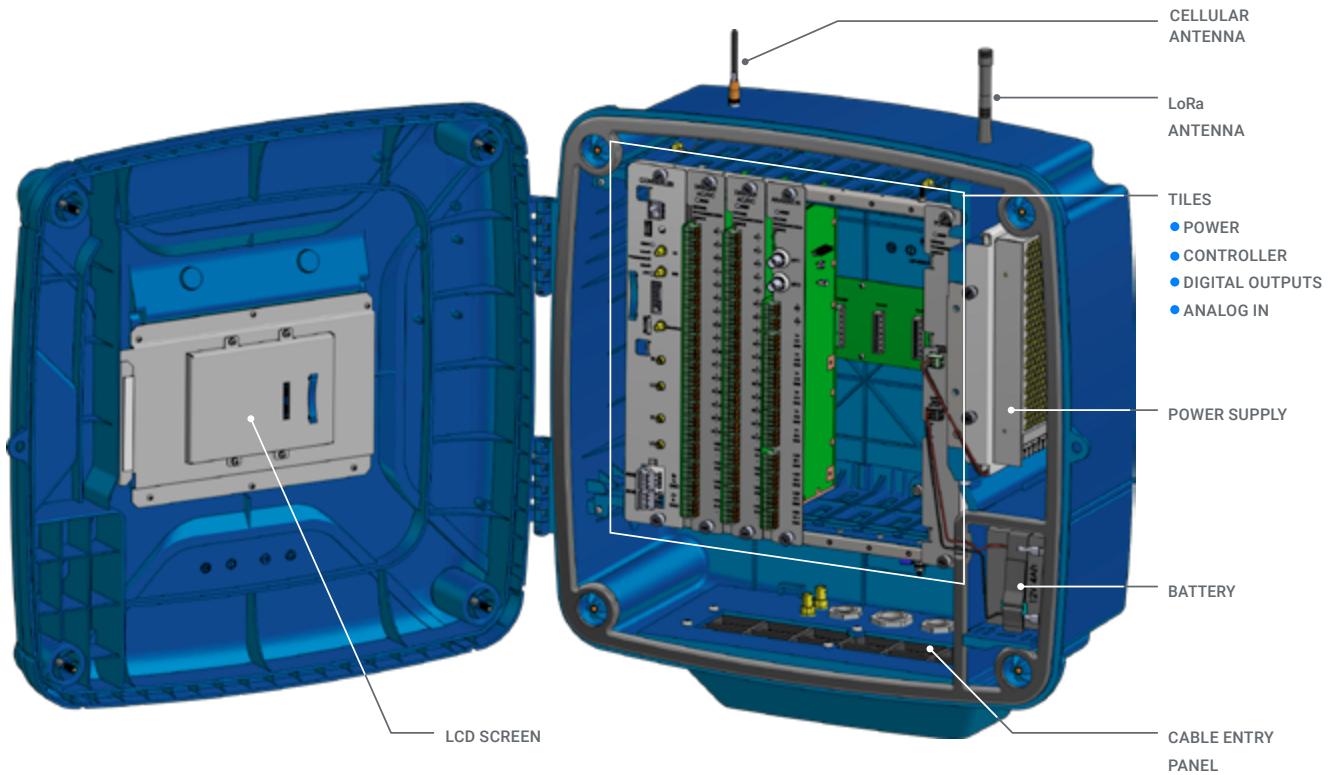


Field Crops

Benefits & Features

- ✓ Modular controller for agriculture and horticultural use
- ✓ Fits all farm sizes and complexities
- ✓ Manage all components of irrigation room (irrigation plan, fertigation, pressure sensors, valves) up to the field
- ✓ Controls single and multiple main lines
- ✓ Collects data from a wide range of sensors e.g. flow, pressure, soil moisture, plant and weather station
- ✓ Activates local and remote devices such as pumps, main valves, field valves, filters etc.
- ✓ Crop alerts
- ✓ Hydraulic system alerts
- ✓ Works online or offline
- ✓ Enables remote over-the-air update and maintenance
- ✓ User-friendly interface
- ✓ Easy expansion when required
- ✓ Compatible with RadioNet™ and SingleNet™ remote devices
- ✓ Advanced communications options (Wi-Fi, Bluetooth, Cellular, Ethernet, LoRa RF, RS-232, RS-485) for communication with the cloud and the controlled units

→ GENERAL DESCRIPTION



→ MOUNTING OPTIONS

THE NetMCU CAN BE MOUNTED IN 3 WAYS:

- ✓ Standalone - order Aluminum stand for NetMCU standalone
- ✓ On the wall - order Aluminum wall mount for NetMCU
- ✓ On FertiKit™

→ SPECIFICATIONS

POWER SUPPLY	MAIN POWER (100 TO 250 VAC 50/60HZ)
	10-15 VDC (BATTERY & SOLAR PANEL)
TOUCH SCREEN	OPTIONAL

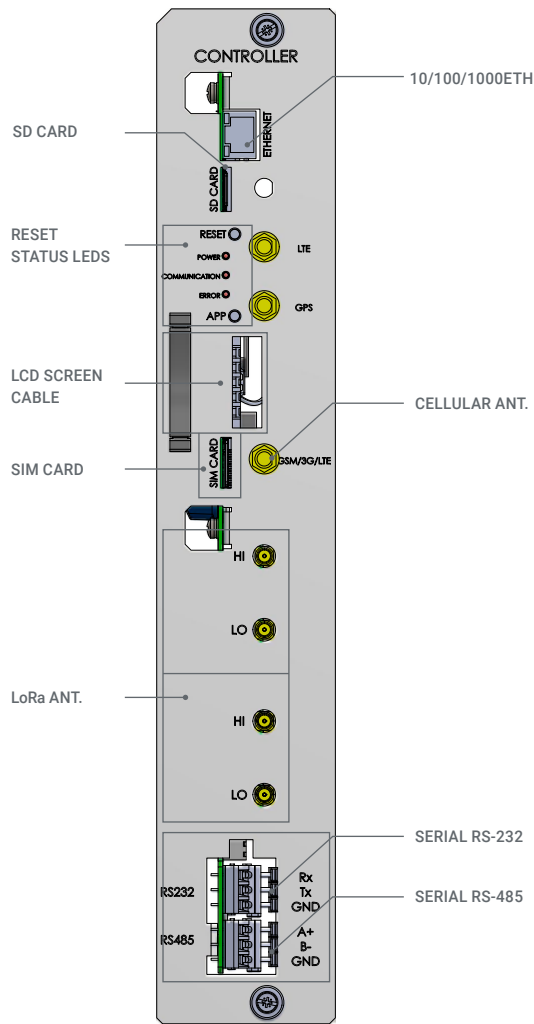
OPERATION TEMPERATURE	WITH TOUCH SCREEN: -20°C - 55°C / -4°F - 131°F
	WITHOUT TOUCH SCREEN: -20°C - 65°C / -4°F - 149°F
DIMENSIONS	635 X 573 X 252 MM (25 X 22 9/16 X 10")

→ EASY EXPANSION

- ✓ Integrates 2 types of tiles, (Analog input (A/I) tile and digital output (D/O) tile)
- ✓ Up to 6 tiles per NetMCU, on top of the control and power tiles

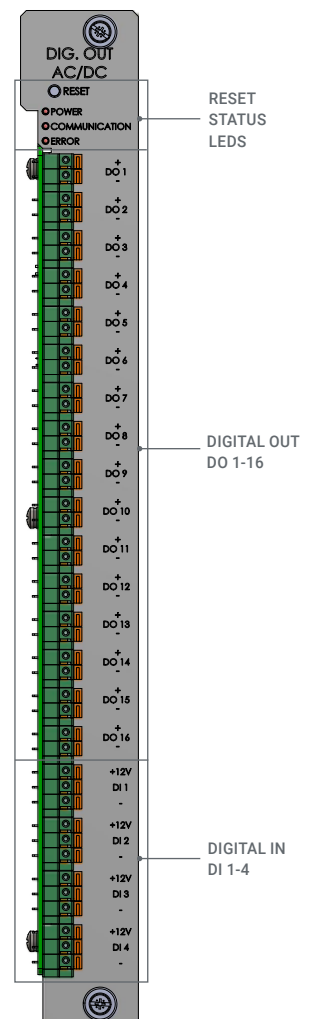
→ COMMUNICATION AND CONTROL TILE

Comes with the NetMCU, no need to order it



→ DIGITAL OUTPUT/ DIGITAL INPUT TILE

- ✔ Serves mainly for controlling valves, pumps, dosing systems, etc.
- ✔ The right number of tiles needs to be ordered according to the elements that need be controlled directly from the NetMCU



PARAMETER	RATING
NUMBER OF OUTPUTS	16
OUTPUT VOLTAGE	24 DC/ AC/ DC LATCH
MAX OUTPUT CURRENT PER CH.	1500mA
FREQUENCY	50/60HZ
DIGITAL INPUTS	
NUMBER OF INPUTS	4
SIGNAL VOLTAGE "0"	<0.8V
SIGNAL VOLTAGE "1"	>2.1V
SUPPLY VOLTAGE OUTPUT	12V

→ **ANALOG INPUT TILE**

- ✓ Serves mainly for external data input into the system
- ✓ The right number of tiles needs to be ordered according to the elements that need to be measured directly by the NetMCU

ANALOG CHANNELS

PARAMETER	RATING
NUMBER OF ANALOG INPUTS	6
ANALOG CHANNEL TYPE	0-20mA 0-10V
TEMPERATURE SENSORS TYPE	PT100/1000/10000
MAXIMUM OUTPUT CURRENT	120mA
SUPPLY OUTPUT VOLTAGE	3.3 – 12VDC

DIGITAL INPUTS

PARAMETER	RATING		
NUMBER OF INPUTS	4		
MAXIMUM / NOMINAL INPUT VOLTAGE	12V		
SIGNAL VOLTAGE "0"	<0.8V		
SIGNAL VOLTAGE "1"	>2.1V		
SUPPLY VOLTAGE OUTPUT	12V	SUPPLY VOLTAGE OUTPUT	12V

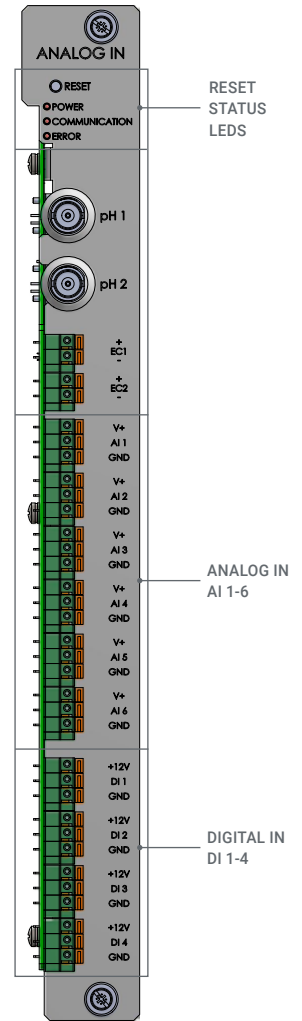
EC CHANNEL

NUMBER OF INPUTS	2
------------------	---

pH CHANNEL

NUMBER OF INPUTS	2
------------------	---

* Future option - currently using external ECPH transducer



→ **CATALOG NUMBERS**

The bare NetMCU incorporates the power tile and the control tile only.

When ordering a NetMCU:

- ✓ Select and order the required DO/AI tiles according to the hydraulic component and sensors to be operated
- ✓ Order the antenna kit
- ✓ Select and order the required accessories for mounting the NetMCU

NetMCU DESCRIPTION	CATALOG NUMBERS
WITH DISPLAY, 220V	74700-000018
WITHOUT DISPLAY, 220V	74700-000019
WITH DISPLAY, 110V	74700-000020
WITHOUT DISPLAY, 110V	74700-000021

NetMCU TILES

DESCRIPTION	CATALOG NUMBERS
AC/DC/DC LATCH TILE	74720-000001
ANALOG IN TILE	74720-000002

NetMCU LORA ANTENNA KIT

DESCRIPTION	CATALOG NUMBERS
433 MHZ, 10M	74740-000125
868 MHZ, 10M	74740-000130
915 MHZ, 10M	74740-000135

NetMCU ACCESSORIES

DESCRIPTION	CATALOG NUMBERS
ALUMINUM STAND FOR NETMCU STANDALONE	74740-000200
ALUMINUM WALL MOUNT FOR NETMCU	74740-000201
ALUMINUM STAND FOR NETMCU ON FERTIKIT	45000-008768

/ Hardware

RF Remote Field Units

NetRTU

REMOTE TERMINAL UNIT

Transmits field data and activates remote system components such as field valves. Can also be used as a repeater to extend communication range.



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Field Crops

Benefits & Features

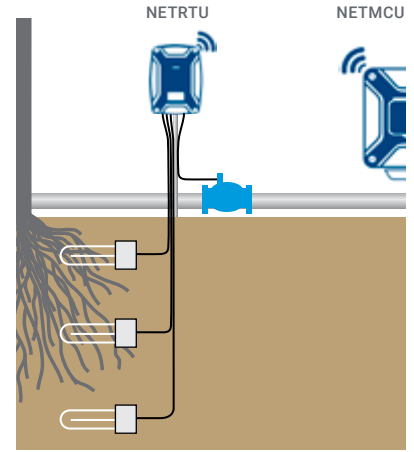
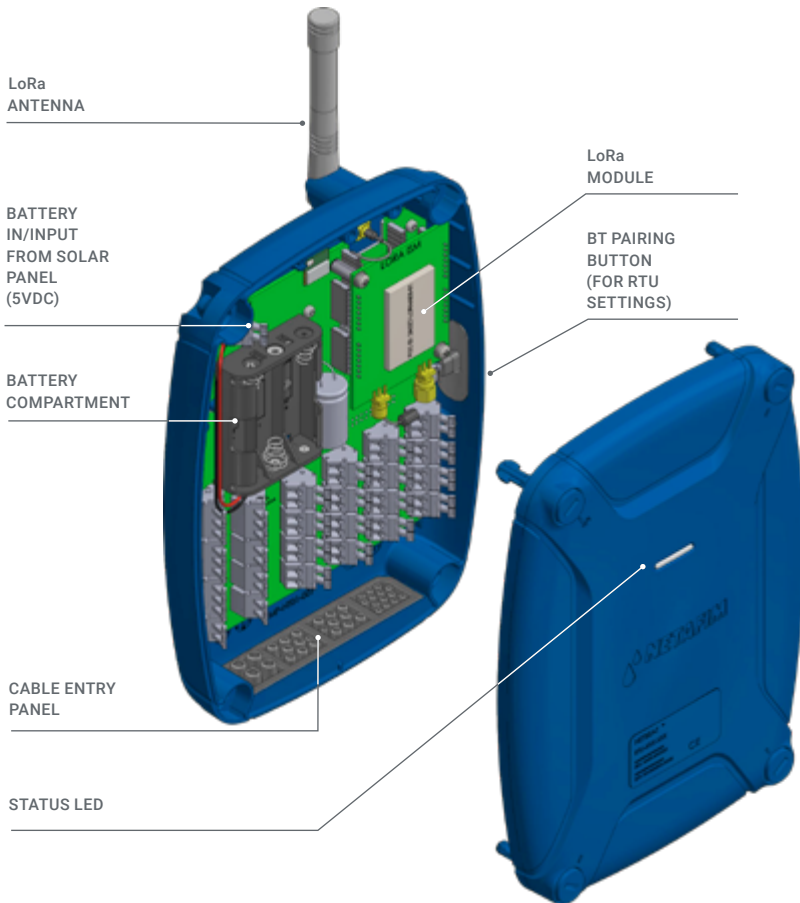
- ✓ Enables remote control of field devices
- ✓ Measures field parameters e.g. flow, pressure, soil moisture and plant sensor
- ✓ Managed by the NetMCU via radio using (LoRa) low power radio
- ✓ **Communication of up to 10km** with a clean line of sight (with repeaters)
- ✓ Various mounting options - on a wall, a pole or a rod
- ✓ Different energy supply solutions (see next page)



Specifications & Recommendations

- **Power:** Solar Panel (recommended) or battery operated - 3 x L92 (1.5V@1.2AH)
- **Inputs and outputs:**
 - 8 or 16 digital output (DC latch)
 - 2 digital inputs (water meter, switches)
 - 3 Analog inputs (pressure sensor, plant and soil sensors, etc.)
 - RS 232 and SDI-12 serial ports
- **LED indicator:** Bluetooth operation status
- **Enclosure:** Robust UV stabilised enclosure rated to IP65
- **Operation temperature:** -20°C - 65°C / -4°F - 149°F
- **Dimensions:** 215 x 160 x 40 mm / 8.5 x 1½ x 6"

→ GENERAL DESCRIPTION



→ CATALOG NUMBERS

NetRTU DESCRIPTION	CATALOG NUMBER
RF433, 8DO	74710-000011
RF915, 8DO	74710-000012
RF868, 8DO	74710-000013
RF433, 16DO	74710-000007
RF915, 16DO	74710-000009
RF868, 16DO	74710-000010

NetRTU LoRa REMOTE ANTENNA KIT

DESCRIPTION	CATALOG NUMBER
433 MHZ, 5M	74740-000140
868 MHZ, 5M	74740-000145
915 MHZ, 5M	74740-000150

The NetRTU includes the LoRa antenna
For remote antenna order the kit.

NetRTU LoRa ANTENNA SPARE PARTS

DESCRIPTION	CATALOG NUMBER
NETBEAT LORA ANTENNA 433 MHZ	74740-000108
NETBEAT LORA ANTENNA 868 MHZ	74740-000109
NETBEAT LORA ANTENNA 915 MHZ	74740-000110
NETBEAT LORA ANTENNA CABLE 10M (33FT) FOR NETMCU	74740-000111
NETBEAT LORA ANTENNA CABLE 5M (15FT) FOR NETRTU	74740-000114
NETBEAT ANTENNA HOLDER	74740-000120

NetRTU ACCESSORIES

DESCRIPTION	CATALOG NUMBER
ROD FOR NETRTU 1.8M (6FT)	74740-000100
NETBEAT LORA ANTENNA CABLE 5M (15FT) FOR NETRTU	74740-000114

NetRTU SPARE PARTS

DESCRIPTION	CATALOG NUMBER
NETRTU CARD	74740-000343
NETRTU EMPTY BOX	74740-000113
NETBEAT EXTENSION CABLE FOR SM150T, 25M (82FT)	74740-000300
NETBEAT CABLE FOR SM150T 4 WIRES, 5M (15FT)	74740-000310



Legacy Hardware

Field remote units
compatible with NetBeat™

rNet™

REAL TIME MONITORING SYSTEM

Legacy field monitoring system compatible with both NetBeat™ and NMC controllers.



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Field Crops

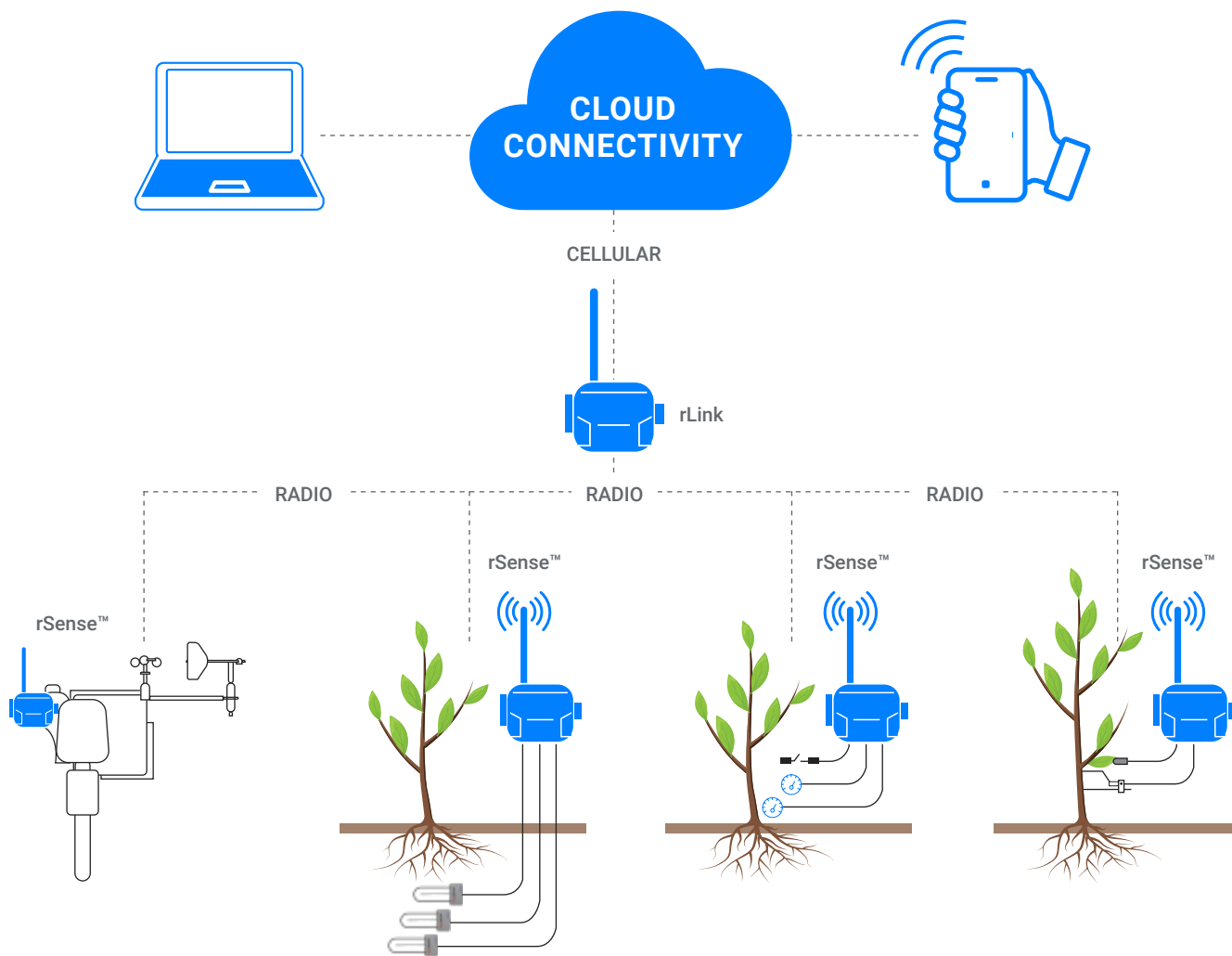
Benefits & Features

- ✓ State-of-the-art RF system with frequency hopping technology + cellular communication
- ✓ Strong application CPU enables smart, rapid and reliable monitoring
- ✓ Low energy consumption for long time intensive working
- ✓ Each rSense™ has 1 digital Input & 3 analogue inputs



→ GENERAL LAYOUT

rNet™ Monitoring system-Compatible with NetBeat™ platform



→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBER
R-LINK BASE-DIR-315	74390-001000
R-LINK BASE-DIR-865	74390-001200
R-LINK BASE-DIR-915	74390-001250
R-LINK BASE-DIR-433	74390-001280
R-LINK BASE-DIR-450	74390-001290
R-LINK ROUTER-315	74390-001300
R-LINK-ROUTER-433	74390-001305
R-LINK-ROUTER-450-3M	74390-001310
R-LINK ROUTER-865	74390-001400
R-LINK ROUTER-915	74390-001450
R-SENSE-433-AA-3M	74390-002415
R-SENSE-433-AA-6M	74390-002417
R-SENSE-315-AA	74390-002485
R-SENSE-315-AA-3M	74390-002490
R-SENSE-315-AA-6M	74390-002495
R-SENSE-433	74390-002510

DESCRIPTION	CATALOG NUMBER
R-SENSE-450-AA	74390-002519
R-SENSE-450-AA-3M	74390-002520
R-SENSE-450-AA-6M	74390-002522
R-MSENSE-DFM-450-3M-WITH SOLAR PANEL	74390-002530
R-MSENSE-DFM-450-3M-W/O SOLAR PANEL	74390-002531
R-MSENSE-DFM-915-3M-WITH SOLAR PANEL	74390-002540
R-MSENSE-DFM-315-WITH SOLAR PANEL	74390-002541
R-MSENSE-DFM-865-3M-WITH SOLAR PANEL	74390-002542
R-MSENSE-DFM-915-3M-W/O SOLAR PANEL	74390-002543
R-MSENSE-DFM-865-3M-W/O SOLAR PANEL	74390-002544
R-MSENSE-DFM-315-W/O SOLAR PANEL	74390-002545
R-SENSE-865-AA-3M	74390-002607
R-SENSE-865-AA-6M	74390-002610
R-SENSE-915	74390-002650
R-SENSE-915-AA-3M	74390-002655
R-SENSE-915-AA-6M	74390-002660

RadioNet™

ADVANCED RF VALVE CONTROL

A unified wireless monitoring and control system. Featuring an advanced and modular design, RadioNet™ is comprised of remote terminal units (RTUs), radio frequency (RF) communications, and software to enable long-distance wireless monitoring and control. The user-friendly system ensures reliable and flexible control over RTUs to increase productivity with minimal interruptions at the highest level of scalability. Adaptable to NMC Pro and fully compatible for NetBeat™ MCU.



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Field Crops

Benefits & Features

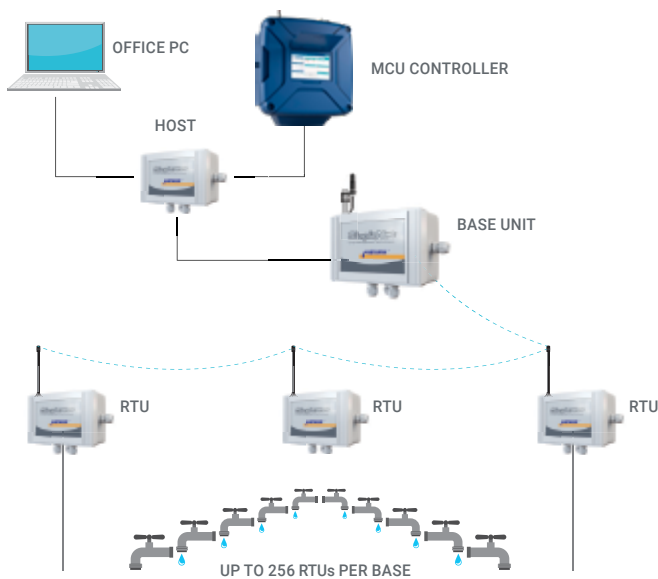
- ✓ **Compatible with both NetBeat™ system and legacy generation controllers**
- ✓ Advanced and modular design that easily integrates into existing systems and ensures network stability
- ✓ Flexible and versatile to enable system expansion as the enterprise expands
- ✓ Repeater technology to avoid infringing objects while covering great distances
- ✓ Long-distance signal capabilities
- ✓ Control of up to 2,000 valves at one time to provide maximum control and reliability for large-scale projects



Functionality

- Wireless network - optimized seamless wireless network enabling exceptional system architecture with enhanced throughput in virtually any environment
- Modular and scalable - four modular expansion slots enabling virtually unlimited monitoring and control configuration to strengthen performance
- Built-in survey mode - optimal long-term operation with instant spectrum analysis by recording charting frequency interruptions across the entire network from the initial unit installation
- Extended coverage - remote unit operability as a store & forward (S&F) data repeater to increase geographical coverage by up to 3 miles (5km) between every two units, and by a total of 43 miles (70km) with all repeaters
- Easy integration - versatility and easy connectivity (using Modbus protocol) to a wide range of controllers making it a cost-efficient tool for future growth
- Energy efficient - low-power consumption design that typically is in sleep mode (reporting and controlling only when needed) to ensure extended battery life; units can be powered by rechargeable batteries and a solar cell
- Diagnostic reliability - embedded advanced features such as immediate assessment of a frequency failure and remote alerts and diagnostics in the event of service failure
- Secure communications protocol - increased data security operation with multiple layers of encryption and time-based data authentication
- Reliability in extreme conditions - remote unit temperature range of -13°F-185°F (-25°C-85°C)

→ TYPICAL INSTALLATION



→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBERS
R-NET HOST COMPLETE UNIT RS485/232	74330-012000
R-NET BASE STATION	74330-012100
R-NET CENTER UNIT (HOST+BASE+BATT+PS)	74360-007600
R-NET REMOTE UNIT RTU (1DO, 2DI)	74330-012200
R-NET RTU 2XDO 2XDI	74330-012195
R-NET EXPANSION CARD 2 X DO/2 X DI	74330-013140
R-NET MONOPOL.ANT.430-470 10M GROUND.486	74330-005120
R-NET MONOPOL.ANT.430-470 3M GROUNDED484	74330-005020
R-NET MONOPOL.ANT.430-470 6M GROUNDED485	74330-005060

SingleNet™

A 2-wire cable power and communications system. Easily operated and monitored over an RTU network, the SingleNet interface communicates with all controllers. Fast and simple to install, SingleNet is a reliable system that requires minimum maintenance ensuring long-term usage. For all Netafim NMC Legacy controllers and fully compatible with NetBeat™ MCU.



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Field Crops

Benefits & Features

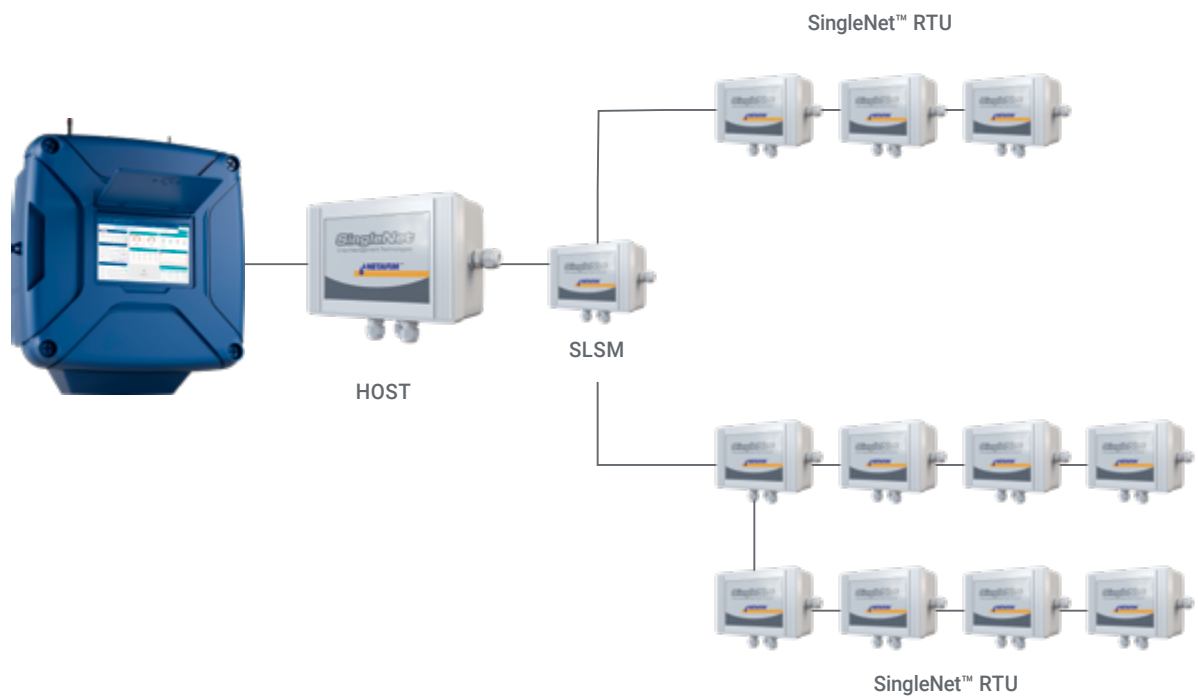
- ✓ Compatible with both NetBeat™ system and legacy generation controllers
- ✓ Advanced control over valve operations
- ✓ Lower cable and installation costs
- ✓ Greater reliability and peace of mind



Specifications & Recommendations

- Powered by 12VDC
- Total cable length of up to 10km
- Control of up to 128 remote terminal units (RTUs)
- 2 digital outputs + 2 digital inputs (water meter) per RTU
- Auto valve shutdown upon communication or power failure
- PC connection for easy setup and monitoring
- Optional plug-in lighting suppression module

→ TYPICAL INSTALLATION



→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBERS
SINGLENET SERIAL INTERFACE UN.RS232/485	00035-001750
SINGLENET HOST IN BRACKET FOR NMC PRO	74340-001960
SINGLENET RTU 2 LATCH OUT & 2D.IN	74340-014900
SINGLENET RTU 4 LATCH OUT & 4D.IN	74340-015000
SINGLENET RTU 6 LATCH OUT & 6D. IN	74340-015100
SINGLENET RTU 2 LATCH OUT & 2D. IN+PLSM	74340-015400
SINGLENET RTU 4 LATCH OUT & 4D. IN+PLSM	74340-015500
SINGLENET RTU 6 LATCH OUT & 6D. IN+PLSM	74340-015600
SINGLENET CABLE 1X3X16 GAUGE PE ISOLATION	77100-005870
SINGLENET PLSM LINE SUPPRESSION FOR RTU	00035-008200
SINGLENET SLSM LINE SUPPRESSION MODULE	00035-008300
GROUND KIT FOR SINGLENET PLSM	77100-005880

Solar Panels for NetRTU



Orchards



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Field Crops

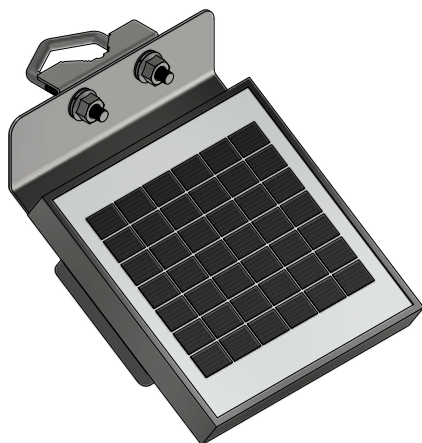
Benefits & Features

- ✓ Easy installation
- ✓ Rugged, weather-proof

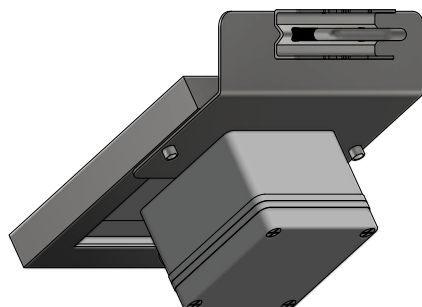
→ SOLAR PANEL KIT FOR NetRTU

- ✓ 2 Cell Lithium Battery
- ✓ Nominal Capacity: 2500mAh

FRONT VIEW



BACK VIEW



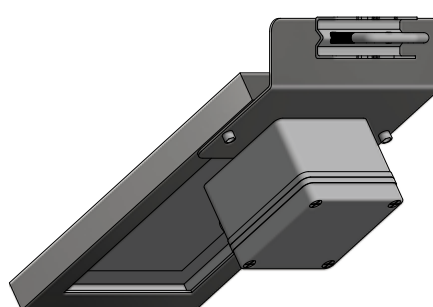
→ SOLAR PANEL KIT FOR NetRTU AS REPEATER

- ✓ 3 Cell Lithium Battery
- ✓ Nominal Capacity: 2500mAh

FRONT VIEW



BACK VIEW



→ TECHNICAL SPECIFICATIONS

		SOLAR PANEL KIT FOR NetRTU™	SOLAR PANEL KIT FOR NetRTU™ AS REPEATER
POWER	MAXIMUM POWER	3W	5W
VOLTAGE	SOLAR PANEL VOLTAGE	9V	18V
	OUTPUT VOLTAGE	5V	5V
	CHARGING VOLTAGE	7.2 VDC, 3.6/CELL	10.8 VDC, 3.6/CELL
CURRENT	CURRENT CONSUMPTION	<20mA	
TEMPERATURE	OPERATING TEMPERATURE RANGE	CHARGING: 0°C~45°C DISCHARGING: -20°C~60°C	
	STORAGE TEMPERATURE RANGE	-5°~35°C	

→ PART LIST

#	DESCRIPTION	QUANTITY
A	SOLAR PANEL	1
B	CABLE 2*20AWG, 6M	1
C	U-SHAPE CLAMP	1
D	CLAMP ADAPTER	1
E	M8 NUT	2
F	M8 WASHERS	2
G	M8 SPRING WASHERS	2

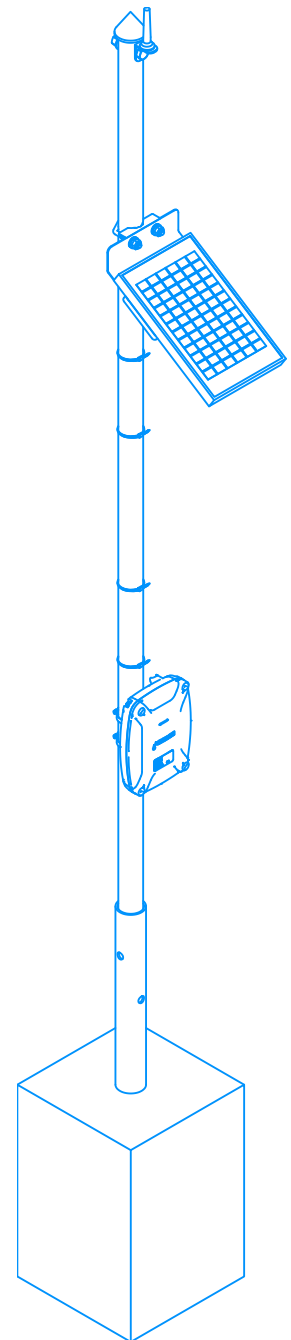
→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBER
SOLAR PANEL KIT FOR NETRTU	74740-000350
SOLAR PANEL KIT FOR NETRTU AS REPEATER	74740-000352

→ ENERGY SOLUTION FOR NetMCU

In places with no access to electricity, the NetMCU can be operated in small to medium farms, running valves on DC-latch using the dedicated solar panel fitting a wide variety of climate types. Consult your customer service.

DESCRIPTION	CATALOG NUMBER
SOLAR PANEL KIT FOR NETMCU	74740-000351



/ Dosing

→ HIGHLIGHTS

- ✓ Covers greenhouse and open-field applications of all sizes
- ✓ Works with a wide range of pressures
- ✓ Offers perfect EC and pH control
- ✓ Integrates with Netafim or third-party controllers
- ✓ Operates in manual or automated fashion
- ✓ Lowers water, fertilizer and energy usage

→ PRODUCTS

Netafim's dosing offering provides a full solution for 3 segments:

GREENHOUSES

- ✓ NetaJet™ 4G - most advanced dosing system with the highest nutrification precision in minimum time
- ✓ NetaFlex™ 3G - homogeneous dosing system for soilless media applications, enable reaching EC targets in minimum time. Open tank mixing system for soilless media application enables reaching EC target in minimum time
- ✓ Nutrisolve™ - Fertilizer-dissolving system

NET HOUSES, FIELD CROPS AND ORCHARDS

- ✓ FertiKit™ 3G - field-proven, fully configurable dosing system

FIELD CROPS AND ORCHARDS

- ✓ FertiOne™ - single-channel injection system for electricity-fitted sites
- ✓ FertiOne™ HF
- ✓ PBS
- ✓ Nutrisolve™



NetaJet™ 4G

INDUSTRY'S MOST ADVANCED AND ACCURATE DOSING SYSTEM

NetaJet™ 4G realizes Netafim's "grow more with less" concept. Based on nutrigration technology, the dosing system controls the amount of water and fertilizer used, optimizing resource utilization for each specific land type and crop.

COMING SOON

New NetaJet™ fully integrated with NetBeat™



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Easy to install and maintain system
- ✓ In-house developed offering
- ✓ Versatile flow capacity
- ✓ Covers all applications from greenhouse in soil to very intensive soilless media
- ✓ Requires minimal investment with rapid ROI

Highlights

- Extremely accurate and reliable, prevents water and fertilizer waste while reducing environmental pollution
- Ensures very precise and homogeneous nutrient dosing for greenhouse crops
- Modular CE-compliant dosing system that easily integrates with multiple Netafim and third-party monitoring and control systems
- Always injects a uniform quantity of nutrients while performing perfect EC and pH control
- Can accommodate a wide variety of dosing channels for fertilizer and concentrated/diluted acid
- Accommodates a variety of system pumps, peripherals and accessories to meet a vast range of applications and infrastructure constraints



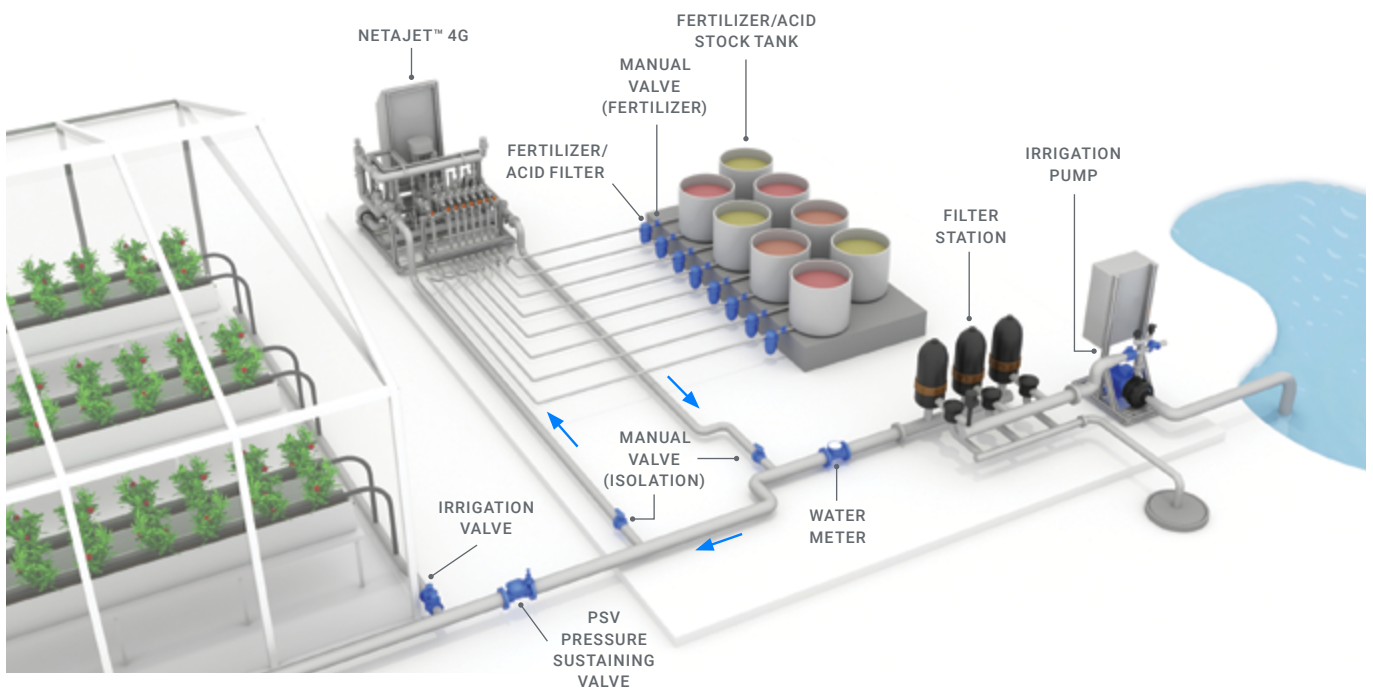
→ **ADVANTAGES**

- ✓ Equipped with unique innovative analog dosing channels for very accurate and reliable EC/pH control
- ✓ Provides fast and accurate fertilizer and acid control
- ✓ State-of-the-art technology with unique static mixing chamber
- ✓ Very short control cycle
- ✓ Efficient water, fertilizer and energy consumption
- ✓ Guaranteed EC and pH control
- ✓ Near maintenance-free Venturi operations - no moving parts
- ✓ Highly accurate dosing channels
- ✓ Fast and efficient nutrification recipe adjustments
- ✓ Multi-lingual capabilities
- ✓ Extensive field experience with more than 15 years of projects around the world
- ✓ Made by Netafim

→ **FEATURES & FUNCTIONALITY**

- ✓ High precision
- ✓ Smooth and stable hydraulic operation
- ✓ No fluctuations
- ✓ Fast EC/pH set-point reaching
- ✓ Short stabilization time
- ✓ Enables short nutrification cycles
- ✓ No risk of cavitation damage to the booster

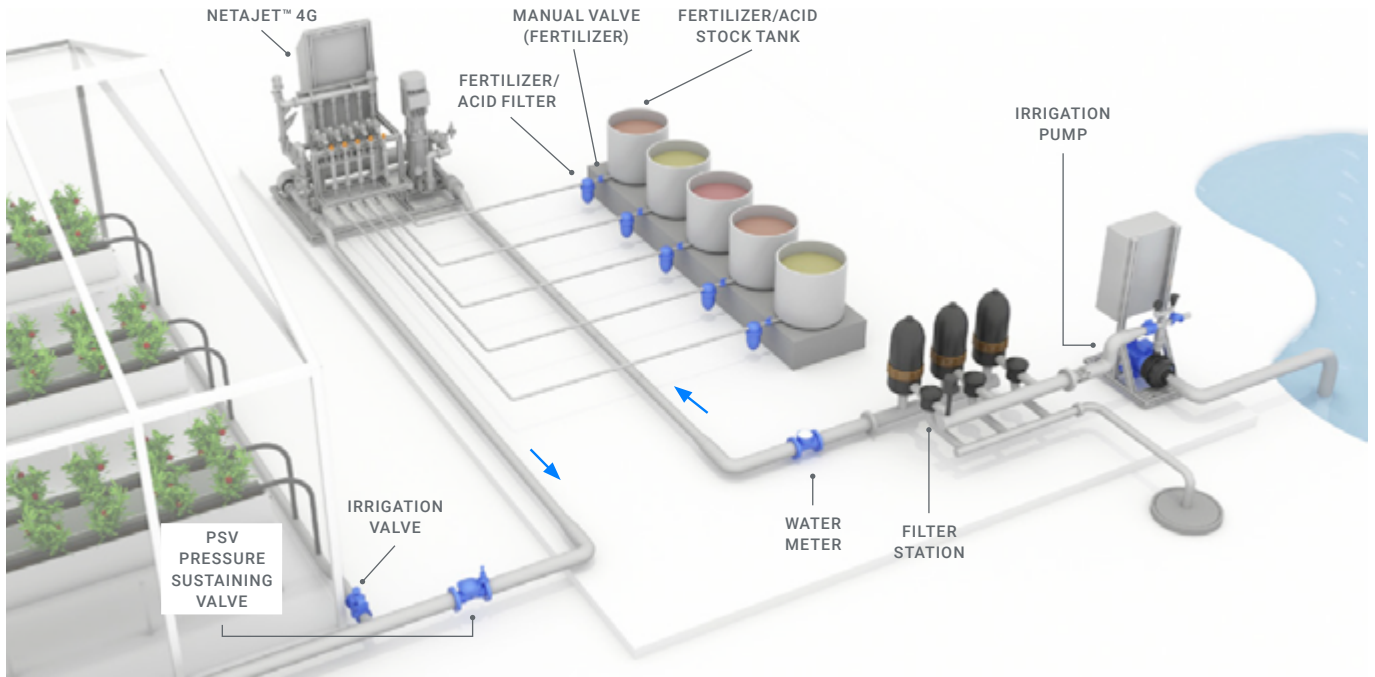
→ **BP PL, OCTA, HIGH-FLOW MODES - BYPASS SYSTEMS FOR PRESSURIZED LINE WATER SOURCE**



MODE	SUITABLE FOR MAIN LINE		DOSING CHANNELS
	FLOW RATE	PRESSURE RANGE	
BP PL	20 - 120 M ³ /H (90 - 500 GPM)	STANDARD 2.5 - 5.8 BAR (36.5 - 84.0 PSI)	UP TO 5 X 50 - 600 L/HR (13 - 158 GPH)
OCTA		HIGH PRESSURE 5.8 - 7.5 BAR (84.0 - 108.5 PSI)	UP TO 8 X 50 - 600 L/HR (13 - 158 GPH)
HF	80 - 400 M ³ /H (350 - 1760 GPM)		UP TO 5 X 50 - 1000 L/HR (13 - 265 GPH)

*Flow limitation depends on the fertilizer injection rate and the size of the Venturis.

→ **IL PL MODE - INLINE SYSTEM FOR PRESSURIZED LINE WATER SOURCE**



MODE	SUITABLE FOR MAIN LINE		DOSING CHANNELS
	FLOW RATE	PRESSURE RANGE	
IL PL	UP TO 20 M ³ /H (90 GPM)	STANDARD 2.5 - 5.8 BAR (36.5 - 84.0 PSI) HIGH PRESSURE 5.8 - 7.5 BAR (84.0 - 108.5 PSI)	UP TO 5 X 50 - 400 L/HR (13 - 105 GPH)

→ **ANALOG DOSING CHANNEL**

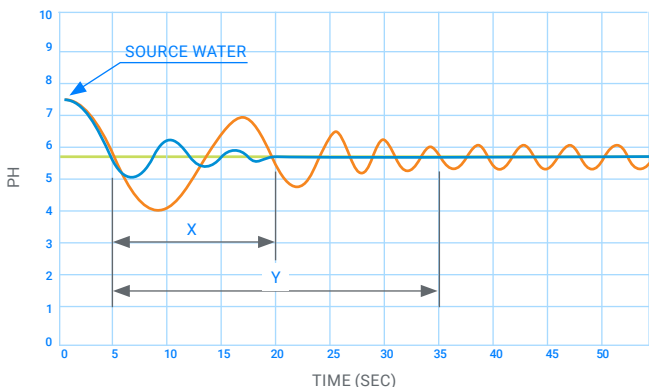
- ✓ NetaJet™ 4G is the first fertilizer dosing system equipped with Netafim's unique innovative analog dosing channel, the long-time awaited solution for very accurate and reliable EC/pH control for nutrition of high-value greenhouse crops
- ✓ The analog dosing channel is equipped with a servo motor with a continuous variable opening from 0 to 100%. This unique feature allows unprecedented precise and seamless nutrition

→ **COMPONENTS**

- ✓ HydroMix static mixing chamber
- ✓ Compensation channel with a pressure regulator
- ✓ Factory installed PRV at the inlet and a PSV at the outlet
- ✓ Selectable analog dosing channels
- ✓ Dual EC/pH monitoring and control
- ✓ Quick-action dosing valves
- ✓ Wide range of integrated accessories and peripherals
- ✓ High-quality components and PVC piping
- ✓ Aluminum, corrosion-resistant frame with adjustable legs

→ **PERFORMANCE**

DIGITAL (ON/OFF) VS. ANALOG DOSING CHANNEL



- Analog (continuous-variable) dosing channel
- Digital (pulsating) dosing channel
- pH set point

STABILIZATION TIME

- X** = Analog (continuous-variable) dosing channel
- Y** = Digital (pulsating) dosing channel

NetaFlex™ 3G

STATE-OF-THE-ART OPEN TANK MIXING SYSTEM

Featuring a state-of-the-art open tank mixing system, Netaflex™ 3G provides a very high level of dosing precision and uniformity for greenhouse crops. A modular CE-compliant dosing system, NetaFlex™ 3G easily integrates with multiple Netafim and third-party controllers and monitoring systems. NetaFlex™ always injects a uniform quantity of nutrients and perfect EC and pH control.

COMING SOON

New NetaFlex™ fully integrated with NetBeat™



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Easy to install and maintain system
- ✓ In-house developed offering
- ✓ Covers all applications from greenhouse in soil to very intensive soilless media
- ✓ Requires minimal investment with rapid ROI



Highlights

- Modular nutrigation system
- Wide range of soil/substrate applications
- Built around a standard platform
- Minimal investment requirement
- Efficient water, fertilizer and energy consumption
- Very large range of irrigation water capacities
- Quantitative or proportional nutrigation capabilities
- Guaranteed EC and pH control
- Near maintenance-free Venturi operations - no moving parts
- Highly accurate dosing channels
- Fast and efficient nutrigation recipe adjustments
- Easy integration into existing irrigation systems, Netafim's NMC, and third-party controllers
- Multilingual system

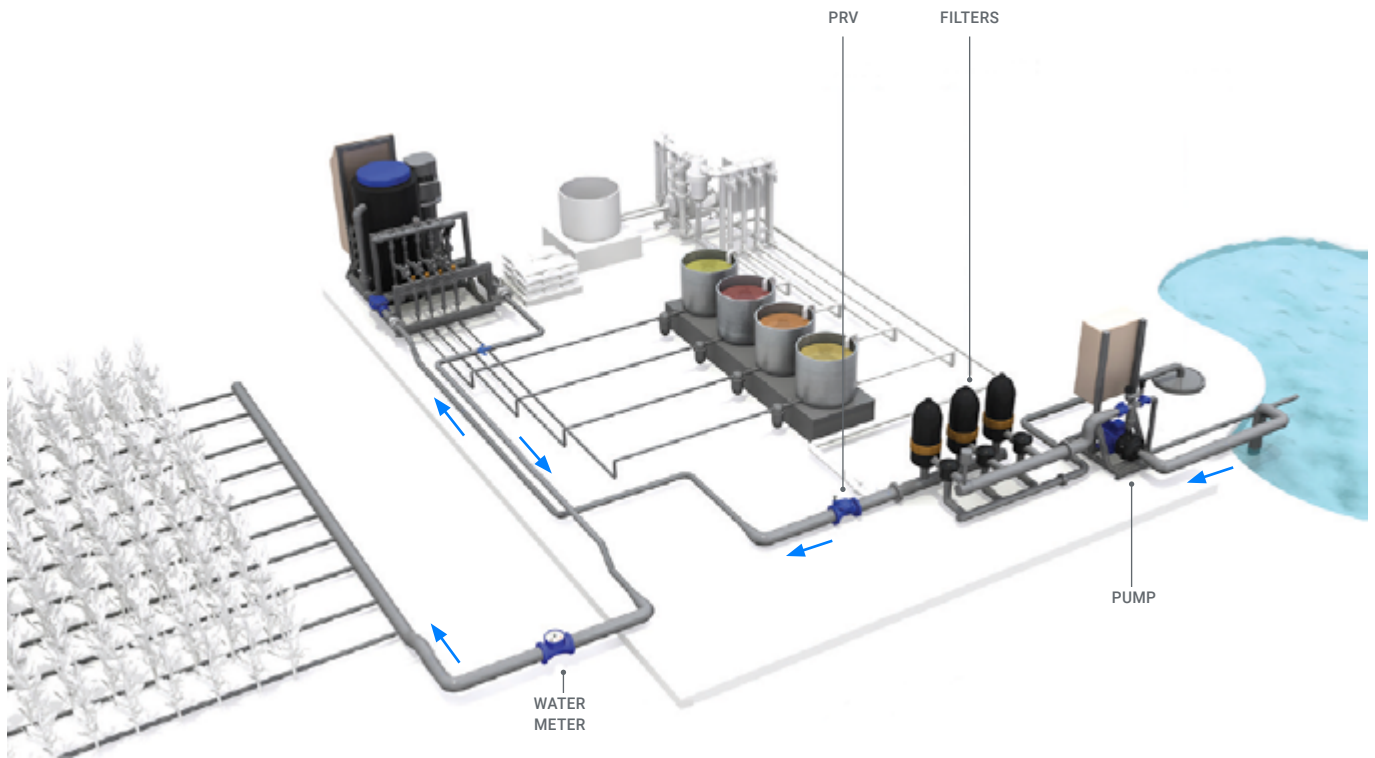
→ **CAPABILITIES**

- ✓ Versatile flow capacity: from 0.1Ha to 10Ha
- ✓ Up to 6* highly accurate 50-600 l/hr (13-156 gal/hr) fertilizer/acid dosing channels

FEATURES	STANDARD	OPTIONAL
CONTROLLER	NMC - PRO ACCORDING TO CUSTOMER NEED	OTHER CONTROLLERS IN THE MARKET
EC/PH CONTROL	SINGLE MEASUREMENT	DUAL MEASUREMENT
FLOW RATE	3-64 M ³ /HOUR (13 - 270 GPM)	
DOSING CHANNEL	UP TO 6 X 50-600 L/HOUR (13-156 GPH)	CONCENTRATED ACID CHANNEL X 50 L/HOUR (13 GPH)
SYSTEM PRESSURE	2.0- 4.5 BAR (29 - 65 PSI)	UP TO 5.5 BAR (80 PSI)

* For applications requiring over 6 dosing channels, please contact Netafim

→ **NetaFlex™ HYDRAULIC LAYOUT**



FertiKit™ 3G

COST-EFFECTIVE DOSING SYSTEM

A fully-configurable, cost-effective fertilizer/acid dosing unit system that carries out precise nutrification. Operating in four modes depending on site conditions, FertiKit™ 3G optimizes the available water flow rate and pressure usage of the main irrigation line to ensure high efficiency at a low investment. Bringing together over a decade of technological know-how and experience, FertiKit™ 3G maintains a proven track record under the most stringent environmental conditions.



Orchards



Greenhouse



Field Crops

Benefits & Features

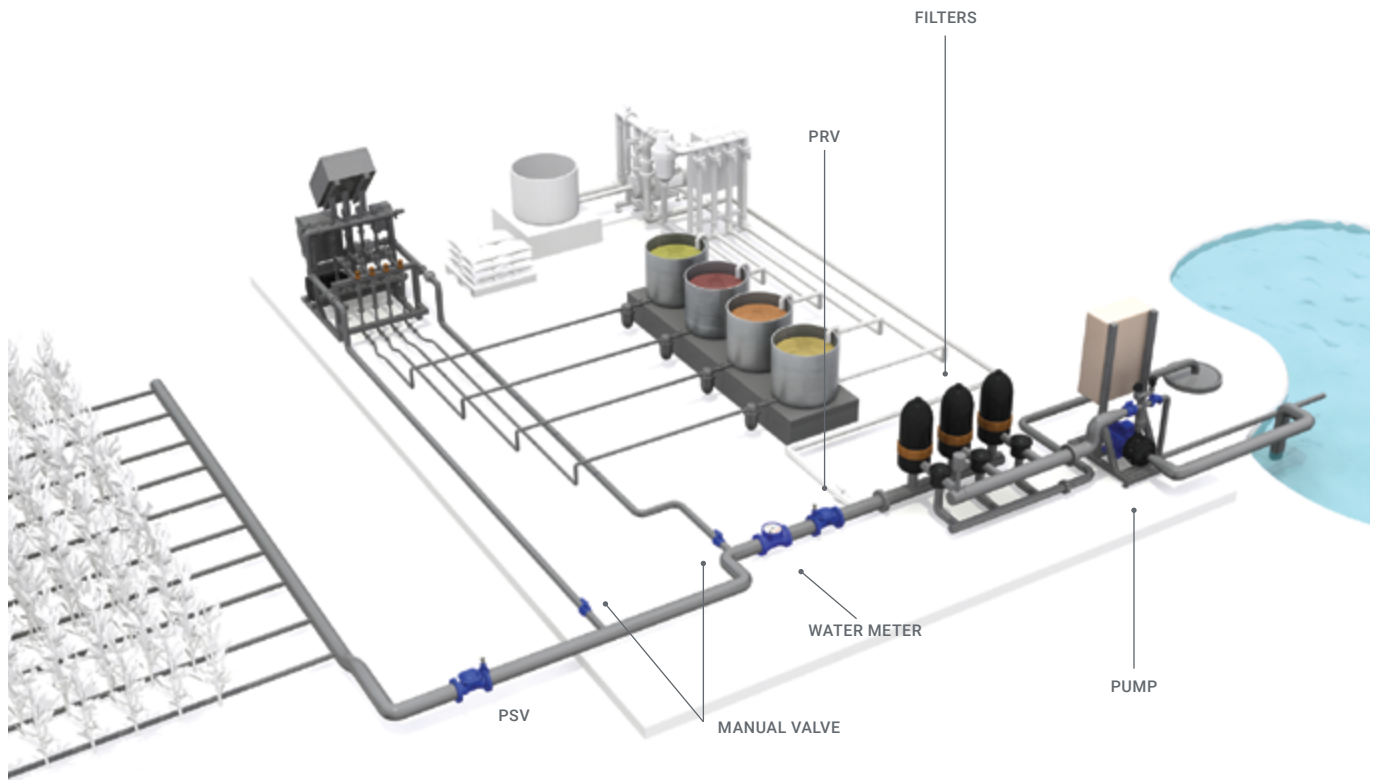
- ✓ Easy to install and maintain system
- ✓ In-house developed offering
- ✓ Broad application coverage, including field crops, orchards and others
- ✓ Highly profitable price/performance ratio
- ✓ FertiKit™ offering includes 8 models (PL, MS, PD, ST, SP, PB, IL & MX) enables perfect solution to match any hydraulics conditions

Highlights

- Modular nutrification system
- Wide range of soil/substrate applications
- Built around a standard platform
- Minimal investment requirement
- Efficient water, fertilizer and energy consumption
- Unrivaled range of irrigation water capacities
- Quantitative or proportional nutrification capabilities
- Guaranteed EC and pH control
- Near maintenance-free Venturi operations - no moving parts
- Highly accurate dosing channels
- Fast and efficient nutrification recipe adjustments
- Manual or fully automated operations
- Easy integration into existing irrigation systems, Netafim's NMC, and third-party controllers



→ TYPICAL INSTALLATION FOR FertiKit™ PL MODEL



→ COMPONENTS

- ✓ Quick-action dosing valves
- ✓ Wide range of integrated accessories and peripherals
- ✓ High-quality components and PVC piping
- ✓ Aluminum, corrosion-resistant frame with adjustable legs

→ CAPABILITIES

- ✓ Versatile flow capacity: from 0.1Ha (nursery) to 400Ha (suitable for sugarcane plantations, and all other field crops and orchards)
- ✓ Up to 6* highly accurate 50-1,000 l/hour (13-265 GPH) fertilizer/acid dosing channels

FEATURES	STANDARD	OPTIONAL
CONTROLLER	MCU, LEGACY NMC CONTROLLERS	OTHER CONTROLLERS IN THE MARKET OR MANUAL SYSTEM WITHOUT CONTROLLER
EC/PH CONTROL	SINGLE MEASUREMENT	NONE
FLOW RATE	20 - 700 M ³ /HOUR (85 - 3000 GPM)	
DOSING CHANNEL	UP TO 6 X 50-1000 L/HOUR (13-250 GPH)	CONCENTRATED ACID CHANNEL X 50 L/HOUR (13 GPH)
SYSTEM PRESSURE	2.5- 6.5 BAR (36 - 94 PSI)	UP TO 12 BAR (174 PSI)

* For applications requiring over 6 dosing channels, please contact Netafim

FertiOne™

SINGLE-CHANNEL, COST-EFFECTIVE FERTILIZER INJECTION SOLUTION

A single-channel fertilizer injection solution for open-field sites fitted with electricity. The plug-and-play, fully configurable, and user-friendly FertiOne ensures high efficiency with minimal investment, making it extremely cost-effective nutrification.

Available with NMC Junior!

COMING SOON
FertiOne™ fully integrated with NetBeat™



Orchards



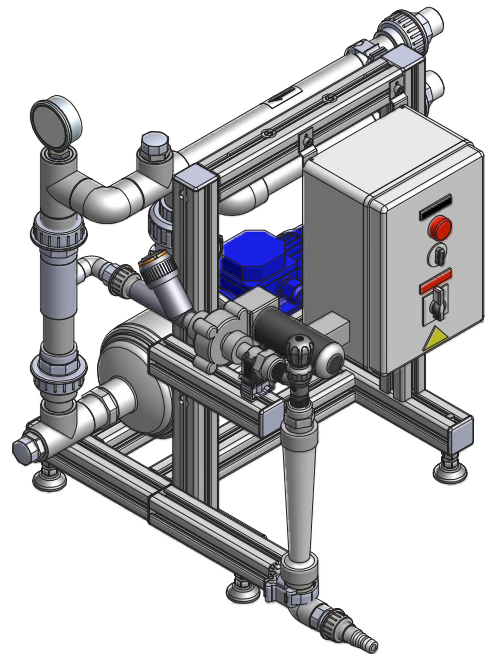
Greenhouse



Field Crops

Benefits & Features

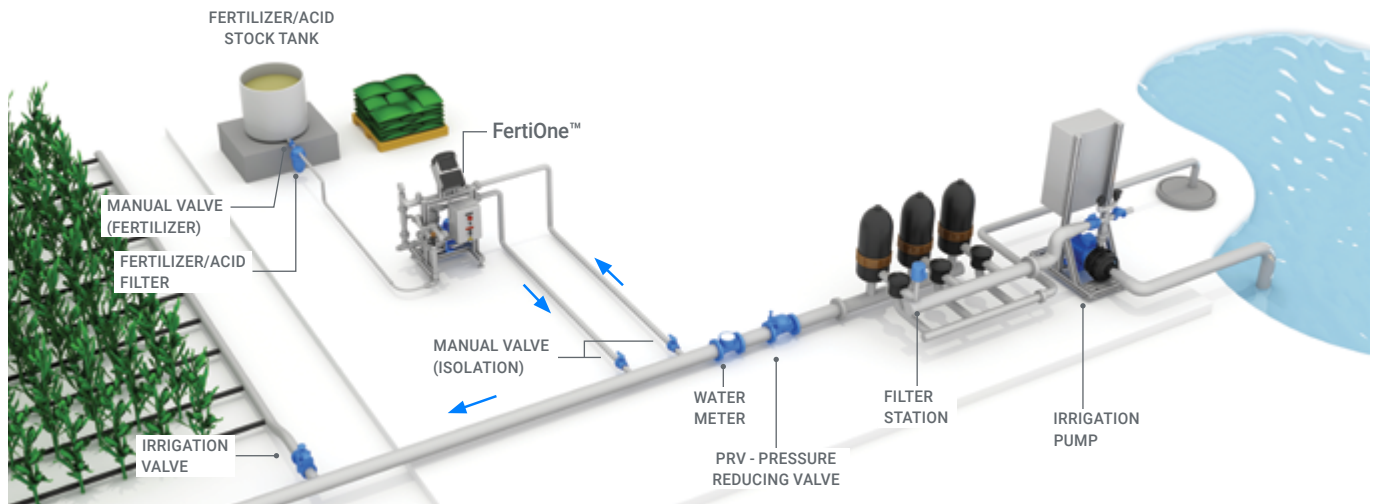
- ✓ Easy installation and maintenance
- ✓ Broad application coverage, including field crops and orchards
- ✓ Highly profitable price/performance ratio
- ✓ Integrated with NetBeat™ One , NMC- Legacy controllers & 3rd party controllers



Highlights

- Modular nutrification system
- Standard platform
- Minimal required investment
- Efficient water, fertilizer and energy consumption
- Wide range of irrigated water capacities
- Quantitative or proportional nutrification capabilities
- Near maintenance-free Venturi operations - no moving parts
- Highly accurate dosing channel
- Manual or fully automated operations
- Easy integration into existing irrigation systems
- High-quality components and PVC piping
- Aluminum, corrosion-resistant frame with adjustable legs

→ TYPICAL INSTALLATION



→ CAPABILITIES

- ✔ Ensures an accurate mixture across a wide range of flow capacities
- ✔ Accommodates 0.1ha (nursery) to 400ha (plantation) plots

FEATURE	STANDARD	OPTIONAL
NetMCU, NetBeat™ One		
CONTROLLER	MANUAL (W/O CONTROLLER)/NMC-JUNIOR /MINIAG, ACCORDING TO CUSTOMER NEED	OTHER CONTROLLERS ON THE MARKET
SUCTION FLOW RATE	100 - 1,000 L/H (0.44 - 4.4 GPM)	
DOSING CHANNEL	MANUAL/ELECTRIC	ELECTRIC WITH FERTILIZER METER
SYSTEM PRESSURE	2-7.5 BAR (29-109 PSI), ACCORDING TO THE SELECTED DOSING BOOSTER	

NutriSolve

Fertilizer-dissolving system offers better fertilizer mixing with less labor. Intended for farmers who currently dissolve and dilute solid fertilizers with water to obtain the desired concentration.



Orchards



Greenhouse

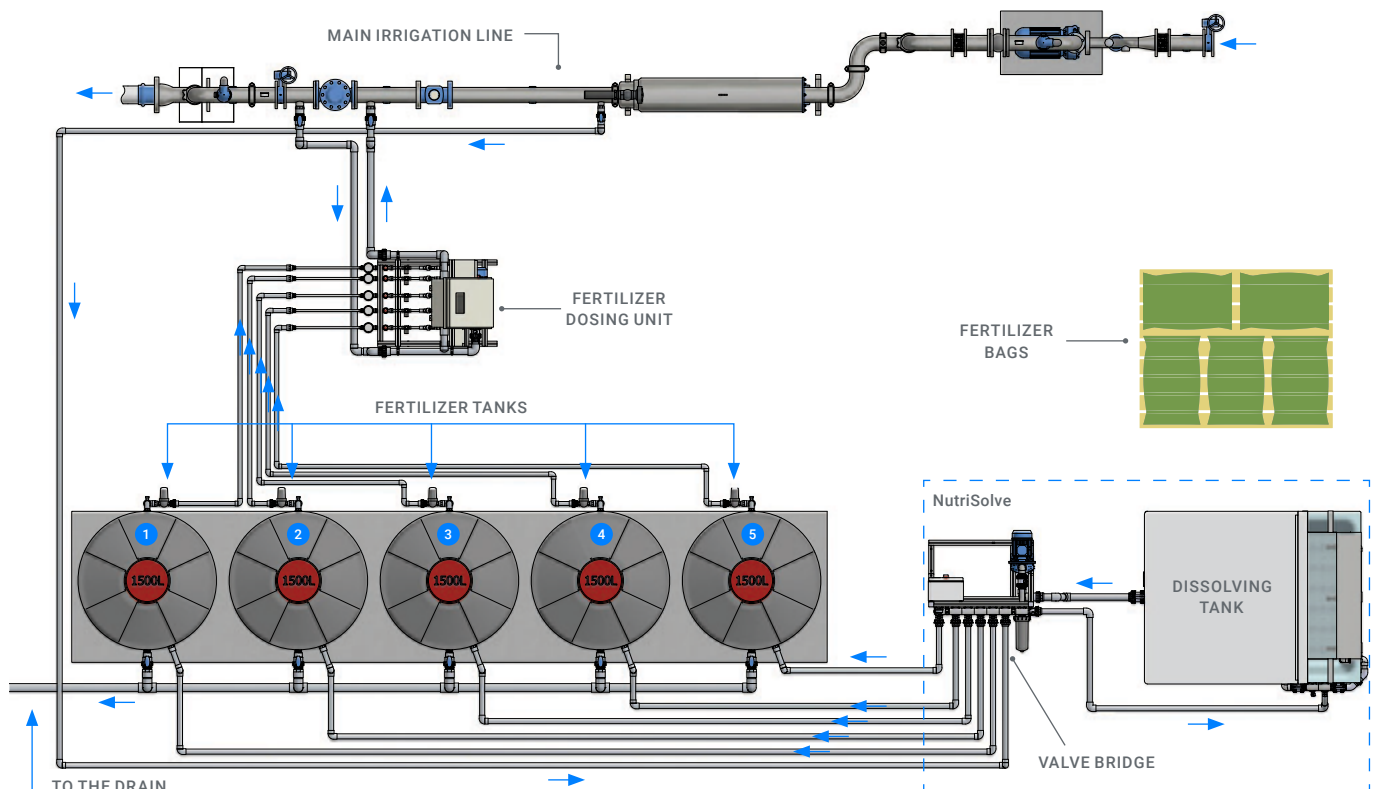


Field Crops

Benefits & Features

- ✓ Designed to optimally mix solid fertilizers with water, using minimum time and labor
- ✓ The system operates on the principle of hydraulic mixing, using only water pressure
- ✓ The mixing process can be operated either manually or automatically
- ✓ 1600-liter fertilizer-mixing tank without moving parts
- ✓ Maintenance is very simple and easy - only the filter needs to be cleaned once a day or as many times as necessary, based on the fertilizer used

→ SCHEMATIC SYSTEM VIEW



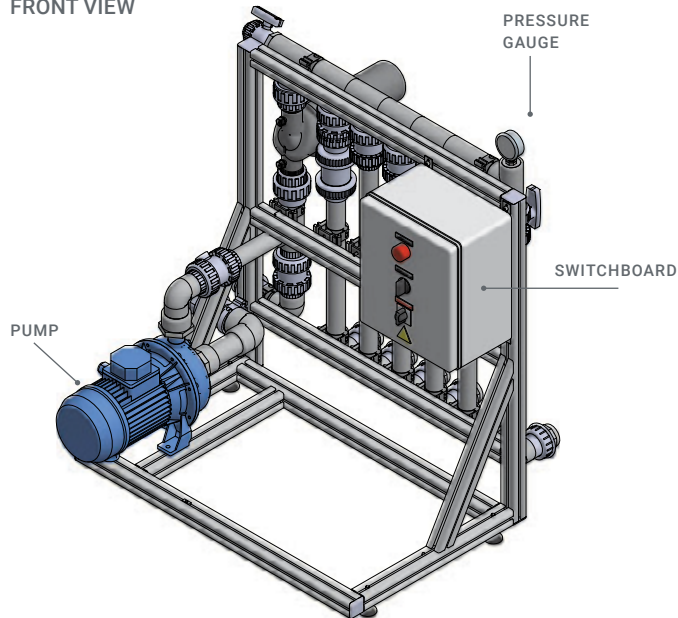
→ MAIN PARTS

NutriSolve is supplied in 2 separate packages

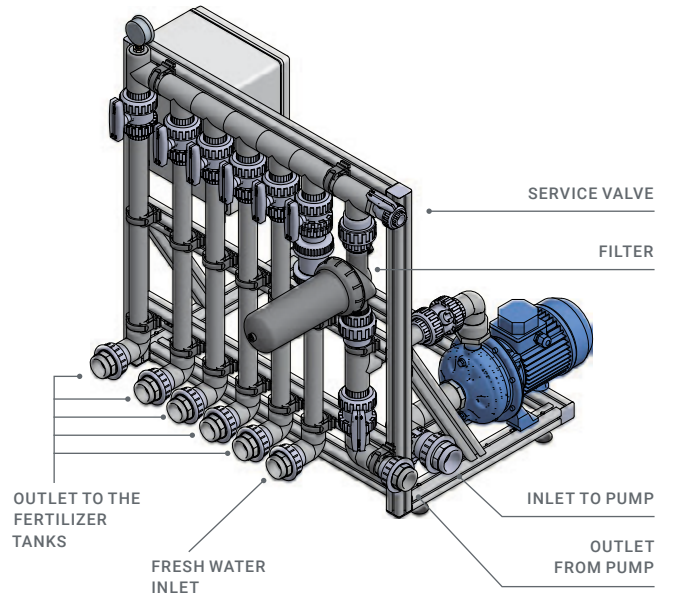
- ✓ Valve bridge
- ✓ Dissolving tank

VALVE BRIDGE

FRONT VIEW

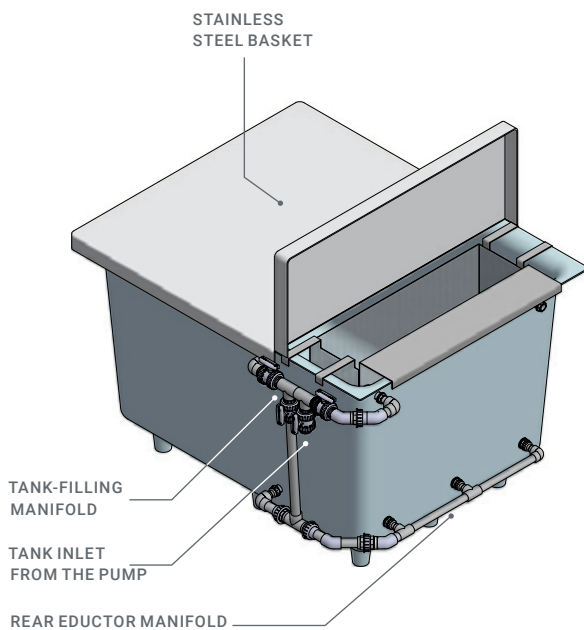


BACK VIEW

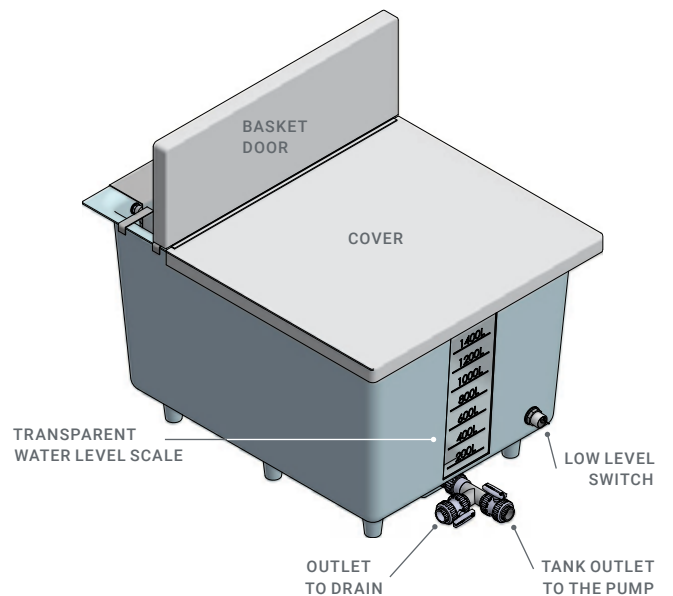


DISSOLVING TANK

FRONT VIEW



BACK VIEW



PBS

COMPACT, USER-FRIENDLY PRESSURE BOOSTING SYSTEM

A CE-compliant, comprehensive, user-friendly pressure boosting system for poultry house and greenhouse cooling, as well as for open-field, and other irrigation applications. Available with a wide variety of pumps according to required flow-rate, PBS always ensures the desired water line pressure based on real-time in-field requirements. Designed with an aluminum frame that houses a pump and several modular components, the compact, cost-effective PBS significantly reduces installation time and cost.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Faster installation time
- ✓ Lower capital expenses
- ✓ Pressure sensor
- ✓ Pressure increase to range of 30-65 meters - as per model
- ✓ Flow rate range: From 3m³/hr up to 100m³/hr
- ✓ **Pressure control options (starting trigger):**
 - Pressure switch
 - VFD (Variable-frequency drive)
 - Irrigation controller command (AC or DC)
 - Manual start



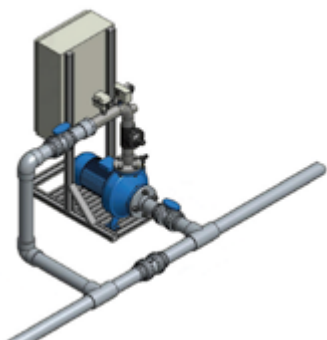
Highlights

- Real-time pressure boosting support system
- Multi-pressure, multi-flow rate coverage
- Plug-and-play installation
- Cost-effective solution

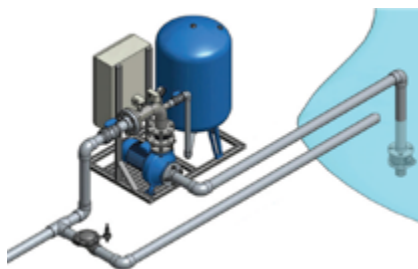
→ COMPONENTS

- ✓ PBS is available in several models, each equipped with a pump covering a specific range of pressures and flow rates. The comprehensive PBS system is comprised of several modular components that fit on an aluminum frame:
 - ✓ Expansion tank (up to 200 liters)
 - Pressostat
 - Thermostat
 - Pressure gauge
 - ✓ Electric switchboard with two optional float switches for high- and low level internal-tank protection (can receive command from AC and DC irrigation controller)
 - ✓ Optional filter, float switch, air valve and pressure release valve

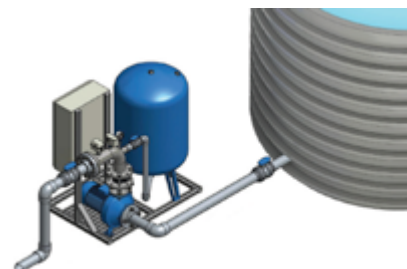
→ WATER SOURCES



WATER SOURCE:
MAINLINE/MUNICIPAL LINE

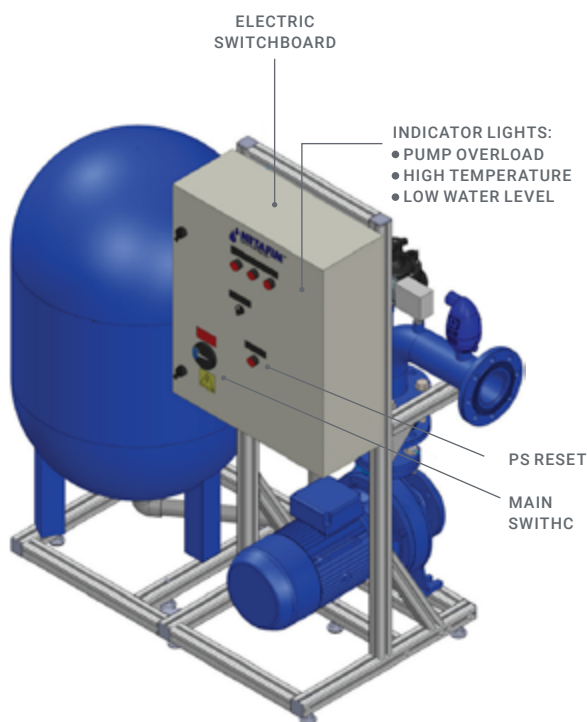
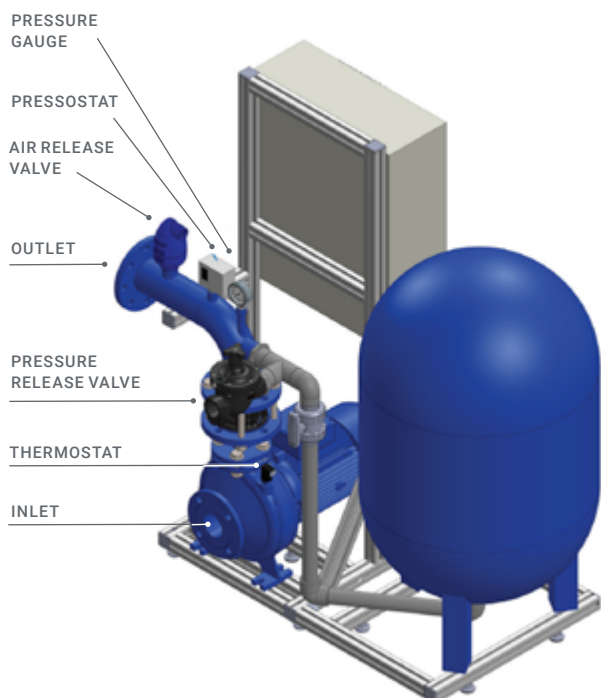


WATER SOURCE:
RESERVOIR



WATER SOURCE:
WATER TANK

→ PBS VIEWS



/ Monitoring

Davis™ Weather Station (Vantage™ PRO2)

MODULAR, CLOUD-BASED WEATHER STATION

Provides real-time weather monitoring. Effective under the most demanding conditions. The station is fully integrated with NetBeat™ enabling viewing and storing of data on any device - anytime, anywhere. It can be directly wired to the NetMCU, or by cloud connection.



Orchards



Greenhouse



Field Crops

Highlights & Benefits





- ✓ Rugged and flexible
- ✓ Dependable data transmission
- ✓ Simple installation
- ✓ High accuracy

→ DATA COVERAGE

- ✓ Air temperature
- ✓ Relative humidity
- ✓ Radiation
- ✓ Wind speed
- ✓ Wind direction
- ✓ Rain gauge
- ✓ Daily rain counter
- ✓ ET calculation (evapotranspiration)



→ ORDER DETAILS

CATEGORY	ITEM #	ITEM NAME	ITEM DESCRIPTION	ITEM IMAGE	CATALOG NUMBER
FULL PACKAGE	1	DAVIS WEATHER S. NB CONNECT FULL PACK	Everything you need in order to connect a station directly to netmcu: station, the envoy, and the connection from the envoy		74730-000050
	2	DAVIS WEATHER S. CLOUD CONNECT FULL PACK	Everything you need in order to connect a station to the cloud: the station and the vantage connect		33010-012040
SUBSCRIPTION	3	DAVIS WEATHER S. ACTIVATION FEE	An activation fee for using davis' cloud service. Included in item #2 (cloud). Not needed for item #1 (direct)		33010-012020
	4	DAVIS WEATHER S. YEARLY SUBSCRIPTION	Yearly subscription to davis' cloud service. 1 Year included in item #2 (cloud). Not needed for item #1 (direct)		33010-012030
PARTS	5	DAVIS WEATHER STATION ONLY	Davis weather station (sensor suite) with all the relevant sensors. https://www.davisinstruments.com/product/vantage-pro2-groweather-cabled-integrated-sensor-suite/		33010-012000
	6	DAVIS WEATHER S. CLOUD CONNECTION BOX	"Vantage connect" – supplies solar power and connects the station to the cloud. Needs to be orderED with items #3 and #4 in order to connect a standalone station to the cloud. Included in item #2. Not needed when connecting directly to NetMCU https://www.davisinstruments.com/product/vantage-connect-for-wireless-systems		33010-012010
	7	DAVIS WEATHER NB 232 TRANSMITTER (ENVOY)	Receives, converts and manages the signal from the Sensor Suite (weather station). Needed as a part of connecting the station to the NetMCU. Included in item #1 https://www.davisinstruments.com/product/cabled-weather-envoy-3		33010-012200
	8	DAVIS SERIAL CONNECTOR FROM WLINK	The WeatherLink Serial Data Logger provides the connection between your controller and the Envoy while providing many 10s of days of data logging, Included in item #1 https://www.davisinstruments.com/product/weatherlink-windows-serial-port		33010-012210

NetaCap™ Profile Probe

MULTILEVEL SOIL MOISTURE AND TEMPERATURE SENSOR

A multilevel soil moisture and temperature sensor that is fully integrated with NetBeat™ crop management software. The easy-to-install probe delivers a complete data package to improve irrigation planning and strategic decision-making.

COMING SOON

New NetaCap™ fully integrated with NetBeat™



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Wide variety of available lengths for different soils and crops
- ✓ High accuracy and reliability
- ✓ Cost-efficient, high-level instrument
- ✓ State-of-the-art, proven technology
- ✓ Easy to install
- ✓ Ideal for all root zones with any soil type

Functionality

- Temperature compensation
- Soil moisture and temperature data measurements at different depths
- Ambient condition measurement by a temperature sensor at the top of the probe

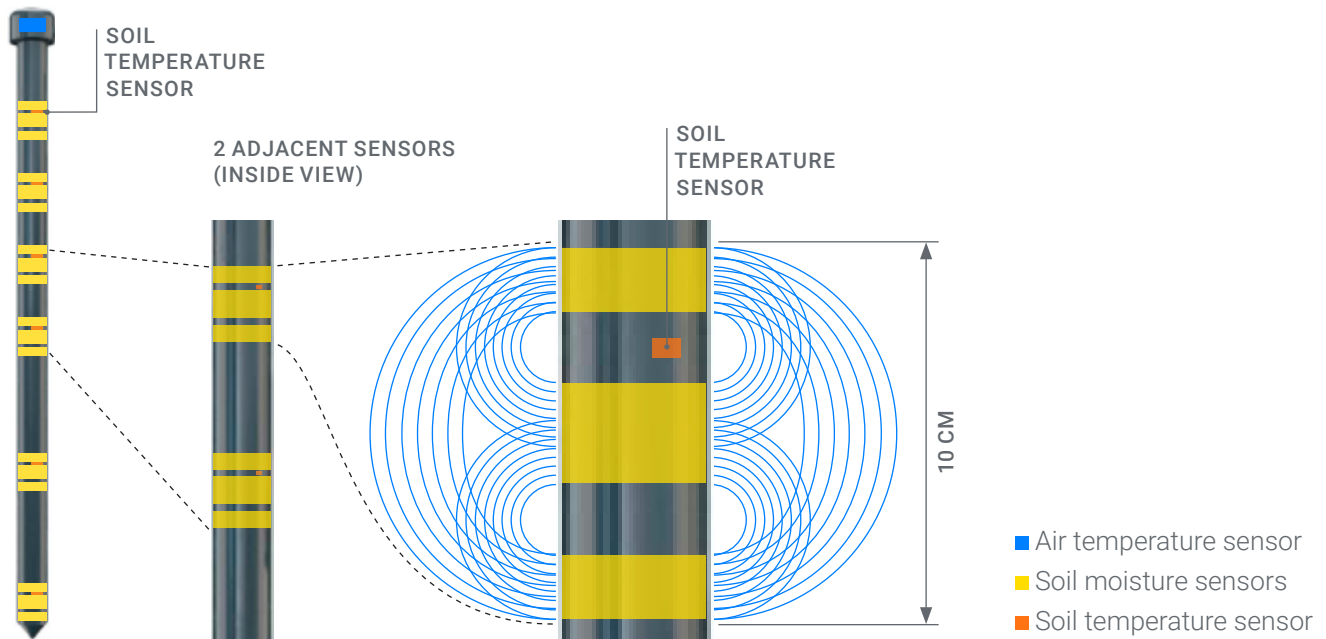
→ DATA CABLE

Resin cable casted into the probe so that no moisture can penetrate the probe. The cable is a 10mm low-loss twisted eight-core multistrand polycoated CAT-5 cable with low noise rejection. Cable length varies according to probe length.



→ DESCRIPTION

TYPICAL SENSOR DEPLOYMENT ALONG THE PROBE:



See the table below for sensor locations for the entire probe collection.

→ SENSOR LOCATION ALONG THE PROBE

SENSOR DEPTH	PROBE LENGTH							
	BAG PROBE*		WIRE PROBE					
	20CM	30CM	40CM	60CM	80CM	120CM	150CM	180CM
10CM	✓	✓	✓	✓	✓		✓	
20CM	✓	✓	✓	✓	✓	✓		
30CM		✓	✓	✓	✓		✓	✓
40CM			✓	✓	✓	✓		
50CM				✓				
60CM				✓	✓	✓	✓	✓
70CM								
80CM					✓	✓		
90CM							✓	✓
100CM						✓		
110CM								
120CM						✓	✓	✓
130CM								
140CM								
150CM							✓	✓
160CM								
170CM								
180CM								✓

*Bag probes are probes without the extended cap, meaning they can be fully submerged in the substrate. They are often used in soilless media in greenhouses, inserted either vertically or horizontally.

→ TECHNICAL SPECIFICATIONS

EQUIPMENT TYPE	ELECTRONIC CAPACITANCE CONTINUOUS LOGGING PROBE BASED ON CAPACITANCE TECHNOLOGY (FDR)
SOIL MOISTURE RANGE	0-100% SOIL MOISTURE PROBE READING
SOIL TEMPERATURE RANGE AND ACCURACY	<ul style="list-style-type: none"> SOIL TEMPERATURE PROBE READING RESOLUTION: 0.0625°C [0.035°F] SOIL TEMPERATURE PROBE READING ACCURACY WITHIN 0.4°C [0.22°F] IN RANGE -15°C TO 64°C [5°F TO 147°F] GENERAL TEMPERATURE RANGE THAT CAN BE USED -15°C TO 64°C [5°F TO 147°F]
INFLUENCE OF SALINITY	LESS THAN 1% OVER STANDARD OPERATING RANGE.
BODY MATERIAL	UV STABILIZED PVC (POLYVINYL CHLORIDE) PLASTIC
COMMUNICATION	TTL/RS232
CABLE LENGTH	5 M [16.4 FT], EXTENDABLE UP TO 25 M [82 FT]
PROTECTION	IP68 (EXCLUDING CABLE END)
ENVIRONMENT	-15°C TO 64°C [5°F TO 147°F] AIR TEMPERATURE, 0 TO 90% RELATIVE AIR HUMIDITY

→ NetaCap™ GRAPH



The example graph presents 6 soil moisture readings from all sensors in an 80 cm probe (the temperature reading can also be presented). We can see the top layers (up to 40 cm) responding to irrigation events, meaning most of the effective root zone is being irrigated, while the deeper layers are not responding to irrigation events. This indicates a conservative irrigation regime where water is not being wasted by leaching below the root zone to the groundwater.

→ CATALOG NUMBERS

NetBeat™ NetRTU COMPATIBLE

DESCRIPTION	CATALOG NUMBER
MOISTURE BAG PROBE 2/20CM NB-NETACAP EN	74390-000005
MOISTURE BAG PROBE 3/30CM NB-NETACAP EN	74390-000003
MOISTURE PROBE 4/40CM NB-NETACAP EN	74390-000006
MOISTURE PROBE 6/60CM NB-NETACAP EN	74390-000008
MOISTURE PROBE 6/120CM NB-NETACAP EN	74730-000021
MOISTURE PROBE 6/150CM NB-NETACAP EN	74730-000022
MOISTURE PROBE 6/180CM NB-NETACAP EN	74730-000023
MOISTURE PROBE 6/80CM NB-NETACAP EN	74730-000011

rSense™ COMPATIBLE

DESCRIPTION	CATALOG NUMBER
MOISTURE BAG PROBE 2/20CM RSENSE-NETACAP EN	74390-000001
MOISTURE BAG PROBE 3/30CM RSENSE-NETACAP EN	74390-000002
MOISTURE PROBE 4/40CM RSENSE-NETACAP EN	74390-000004
MOISTURE PROBE 6/120CM RSENSE-NETACAP EN	74390-002681
MOISTURE PROBE 6/150CM RSENSE-NETACAP EN	74390-002683
MOISTURE PROBE 6/180CM RSENSE-NETACAP EN	74390-002682
MOISTURE PROBE 6/60CM RSENSE-NETACAP EN	74390-000007
MOISTURE PROBE 6/80CM RSENSE-NETACAP EN	74390-002680

Soil Moisture Sensor (SM150T)

DELTA-T DEVICES MULTIFUNCTIONAL, HIGHLY ACCURATE SOIL MOISTURE CONTENT SENSOR

A soil moisture sensor measures soil moisture content. Its sealed plastic body is attached to two sensing rods that are inserted directly into the soil. The sensor is pre-calibrated for most soils.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Cost-efficient, research-grade sensor
- ✓ Low salinity sensitivity
- ✓ Excellent stability
- ✓ Easy installation at depth in augured holes
- ✓ Rugged, weather-proof

→ TECHNICAL SPECIFICATIONS

VOLUMETRIC WATER CONTENT	
ACCURACY	±3% VOL OVER 0 TO 70% VOL AND 0-60°C [32-140°F]
MEASUREMENT RANGE	0 TO 100% VOL
SALINITY ERROR	±5% VOL OVER 100 TO 1000 MS.M-1 AND 0-60% VOL
TEMPERATURE	SM150T MUST BE FULLY BURIED TO ACCURATELY MEASURE SOIL TEMP.
SENSOR ACCURACY	±0.5°C [±32.9°F] VOL OVER 0-40°C [±32-104°F] NOT INCLUDING RTU OR CABLING ERROR
CABLE EXTENSION	CABLE 25M [82FT] FOR SOIL MOISTURE SENSOR (AVAILABLE SEPARATELY)
OPERATING RANGE	-20 TO +60°C [-4 TO +140°F]
ENVIRONMENT	IP68
SAMPLE VOLUME	55 X 70 MM [2.16 X 2.75"] DIAMETER
DIMENSIONS	143 X 40 MM [5.63 X 1.57"] DIAMETER

Functionality

- Waterproof connector to IP68
- Good electrical immunity



→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBER
SOIL MOISTURE SENSOR SM150T	74730-00010
CABLE FOR SOIL MOISTURE SENSOR, 25M	74740-000310

Tensiometer

IRRIGATOR RSU-V TENSIO METER SOIL MOISTURE MEASUREMENT TOOL (SOIL WATER TENSION)

Measures the water tension in the soil. Higher tension means less available water for the plant. Variety of sensors to fit different profile depths and soil types.



Orchards



Greenhouse



Field Crops

- The Irrigator tensiometer is a proven and reliable tool that provides users with accurate information on soil moisture status, regardless of soil type, and is fully integrated with NetBeat platform
- Measuring soil water tension in centibars (cb) or kilopascals (kPa), the tool determines the amount of energy that a plant's root system uses to draw water from the soil
- The understanding of soil moisture allows users to make better irrigation decisions that lead to improved yields and quality, while reducing water, fertilizer and energy costs
- The tool is available in standard lengths of 30cm, 60cm and 90cm (12", 24", 36") based on the crop's rooting depth. It is available for regular soils (most soils) and sandy soils



Benefits & Features

- ✓ High accuracy
- ✓ Cost-efficient and reliable irrigation scheduling
- ✓ Unaffected by salinity with no need for site calibration, thereby offering measurement of true soil water potential
- ✓ Available in several models for sandy and other soil types, with standard lengths of 30cm, 60cm, 90cm (12", 24", 36") based on crop's rooting depth
- ✓ Fully integrated with NetBeat

Functionality

- Low-cost voltage output/input transducer
- RoHS-compliant
- Voltage output signal read by NetBeat, enabling real-time data transmission to the grower
- Temperature compensated

→ TECHNICAL SPECIFICATIONS

OUTPUT VOLTAGE	0.5-4.5V, 2.5MA
ACCURACY	±2% OF FULL SCALE
OPERATING TEMPERATURE	0°-66°C [32°-150°F]
CONNECTION	6.3 MM [1/4"] NPT BRASS
SUPPLY VOLTAGE	5VDC [±0.5 VDC]
SUPPLY CURRENT	10MA
RANGE	0-94 CB (KPA)

CERAMIC TIP

WEIGHT	61.22GM [2.16OZ]
DIMENSIONS	25MM H X 25MM W X 30MM D [1" H X 1" W X 1.88" D]

→ TENSIO METER GRAPH



The Tensiometer measures soil water tension. This value represents the energy a plant's root system uses to draw water from the soil. It gives a vivid picture of what is happening in the root system, and shows the soil moisture depletion rate.

- ✔ The higher the value is, the drier the soil. Different crops will have different values, corresponding to water deficiency and water stress
- ✔ A drop on this graph normally indicates irrigation or rain. When the graph goes up – the water is being consumed or depleted

→ CATALOG NUMBERS

DESCRIPTION	LENGTH	CATALOG NUMBERS
TENSIO METER FOR RSENSE, MOST SOILS - IRR	30CM (12")	74390-007910
TENSIO METER FOR RSENSE, MOST SOILS - IRR	60CM (24")	74390-007920
TENSIO METER FOR RSENSE, MOST SOILS - IRR	90CM (36")	74390-007930
TENSIO METER FOR RSENSE, SANDY SOILS - IRR	30CM (12")	74390-007940
TENSIO METER FOR RSENSE, SANDY SOILS - IRR	60CM (24")	74390-007950
TENSIO METER FOR RSENSE, SANDY SOILS - IRR	90CM (36")	74390-007960
TENSIO METER FOR RTU, MOST SOILS - IRR	30CM (12")	74730-000001
TENSIO METER FOR RTU, MOST SOILS - IRR	60CM (24")	74730-000002
TENSIO METER FOR RTU, MOST SOILS - IRR	90CM (36")	74730-000003
TENSIO METER FOR RTU, SANDY SOILS - IRR	30CM (12")	74730-000004
TENSIO METER FOR RTU, SANDY SOILS - IRR	60CM (24")	74730-000005
TENSIO METER FOR RTU, SANDY SOILS - IRR	90CM (36")	74730-000006

Dendrometer Stalk Diameter (DD-S2)

The stalk diameter sensors provide continuous information about water stress and growth in small plants and branches.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ This is a highly precise sensor for continuous measurements of diameter changes in the stem of small plants, mainly row crops
- ✓ Suitable for indoor and outdoor conditions
- ✓ Fast and toolless installation
- ✓ The dendrometer is the sensor part of a measuring system. It is compatible with NetBeat™, NetRTU and NetMCU and with rSense systems to deliver information to the MCU computer and the cloud

→ TECHNICAL SPECIFICATIONS

USE AREA	FOR MEASURING DIAMETER GROWTH OF PLANTS
SUITABLE FOR PLANT SIZE	DIAMETER 0-5CM (>5 CM ON REQUEST) SUITABLE FOR SMALL PLANTS SUCH AS COTTON AND SOYBEANS
RANGE OF THE SENSOR	11MM
RESOLUTION	3.6 MICROMETER
ACCURACY	1%
TEMPERATURE COEFFICIENT OF THE SENSOR	<0.2 MM / °C IN THE WHOLE RANGE
LINEARITY	<1%
ENVIRONMENT	OUTDOOR CONDITION: -25 TO +70°C AIR TEMPERATURE, 0 TO 100% RELATIVE AIR HUMIDITY
MATERIAL	STAINLESS STEEL AND ALUMINUM
CABLE LENGTH	5M, EXTENDABLE UP TO 25M

→ DENDROMETER GRAPH



The sensor measures continuous changes in stem/tree diameter.
Two parameters of this measurement are important:

- ✓ **MDS (maximum daily shrinkage)** – the difference between the daily maximum value (early morning) and the daily minimum value (afternoon), the daily contraction, is the MDS. The higher the MDS is, the higher the water stress level. The MDS value that indicates water stress varies between different crops and varieties.
- ✓ **Growth** – difference between one daily peak to another.
 - Positive growth indicates a vegetative process in the plant (basically, that it is growing).
 - No growth – can either be normal, or indicate a problem, depending on what is expected in the relevant stage in the season.
 - Negative growth is typically an indicator of severe water stress.

→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBER
DENDROMETER - STALK DIAMETER - ECOMATIK	74730-000090

Dendrometer Trunk Diameter (DR3)

The trunk diameter sensors provide continuous information about water stress and growth in trees.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ This is a highly precise sensor for continuous measurements of radius changes of tree trunks
- ✓ Suitable for indoor and outdoor conditions
- ✓ Fast installation
- ✓ The dendrometer is the sensor part of a measuring system. It should be connected to a data logger for continuous data recording. The dendrometer is compatible with NetBeat™, NetRTU and NetMCU and with rSense™ systems

→ TECHNICAL SPECIFICATIONS

NAME OF THE SENSOR	DENDROMETER - TRUNK DIAMETER - ECOMATIK
USE AREA	FOR MEASURING RADIUS GROWTH OF TREES
SUITABLE FOR PLANT SIZE	DIAMETER > 5CM
RANGE OF THE SENSOR	11MM
RESOLUTION	3.6MM
ACCURACY	1%
TEMPERATURE COEFFICIENT OF THE SENSOR	<0.2MM / °C IN THE WHOLE RANGE
LINEARITY	<1%
ENVIRONMENT	OUTDOOR CONDITION: -25 TO +70°C AIR TEMPERATURE, 0 TO 100% RELATIVE AIR HUMIDITY
WEIGHT OF THE SENSOR	13 G WITHOUT CABLE
POWER SUPPLY	5 VDC, POWER CONSUMPTION PRACTICALLY ZERO
MATERIAL	STAINLESS STEEL AND ALUMINUM
CABLE LENGTH	5M, EXTENDABLE UP TO 25M

→ DENDROMETER GRAPH



The sensor measures continuous changes in stem/tree diameter. Two parameters of this measurement are important:

- ✓ **MDS (maximum daily shrinkage)** – the difference between the daily maximum value (early morning) and the daily minimum value (afternoon), the daily contraction, is the MDS. The higher the MDS is, the higher the water stress level. The MDS value that indicates water stress varies between different crops and varieties
- ✓ **Growth** – difference between one daily peak to another
 - Positive growth indicates a vegetative process in the plant (basically, that it is growing)
 - No growth – can either be normal, or indicate a problem, depending on what is expected in the relevant stage in the season
 - Negative growth is typically an indicator of severe water stress

→ CATALOG NUMBERS

DESCRIPTION	CATALOG NUMBER
DENDROMETER - TRUNK DIAMETER - ECOMATIK	74730-000091

/ Bundles

NetBeat™ presents a tailor-made solution for different farm types.

Whether it's for your almond orchard, your blueberries farm or sugar cane field, we've got solutions to match your specific needs and optimize your results.

A unique NetBeat™ bundle solution for each crop and farm need:



ORCHARDS



GREENHOUSE



FIELD CROPS

Bundles

* This is a generic recommendation.

For a more personalized offering, regarding your specific farm needs , consult your local Netafim™ staff.



NetBeat™ FOR ORCHARDS

SMALL FARM (2-10 IRRIGATED BLOCKS)

IMAGE	DESCRIPTION	QUANTITY
	FertiKit™ 3 X 600 L/H	1
	MCU	1
	RTU	2
	SOIL MOISTURE PACKAGE	2* NETACAP / 4* DELTA T
	WATER METER	2

MEDIUM FARM (10-30 IRRIGATED BLOCKS)

IMAGE	DESCRIPTION	QUANTITY
	FertiKit™ 3 X 1000 L/H	1
	MCU	1
	RTU	4
	SOIL MOISTURE PACKAGE	4* NETACAP / 12* DELTA T
	WATER METER	2
	DAVIS WEATHER STATION	1



NetBeat™ FOR FIELD CROPS

SMALL FARM (2-10 IRRIGATED BLOCKS)

IMAGE	DESCRIPTION	QUANTITY
	FertiKit™ 3 X 600 L/H	1
	MCU	1
	RTU	2
	IRROMETER	6
	WATER METER	2

MEDIUM FARM (10-30 IRRIGATED BLOCKS)

IMAGE	DESCRIPTION	QUANTITY
	FertiKit™ 3 X 1000 L/H	1
	MCU	1
	RTU	3
	NetaCap™	3
	WATER METER	3
	DAVIS WEATHER STATION	1



NetBeat™ FOR GREENHOUSE (COMING SOON)

IMAGE	DESCRIPTION	QUANTITY
	NetaJet™ 5 X 1000 L/H	1
	MCU	1
	RTU	4
	DELTA T	8
	WATER METER	2

IMAGE	DESCRIPTION	QUANTITY
	NetaJet™ 5 X 1000 L/H	1
	MCU	1
	RTU	4
	DELTA T	8
	WATER METER	4
	DAVIS WEATHER STATION	1



Legacy

Monitoring & Control
HW Units

NMC-Pro Controller

ADVANCED, MULTIFUNCTIONAL, MODULAR & ROBUST IRRIGATION CONTROLLER

A state-of-the-art irrigation controller for mid-to-large-scale applications. A robust and user-friendly stand-alone controller that operates under all weather conditions, NMC-PRO is suitable for open field and greenhouse solutions.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Cost-effective, high-level controller
- ✓ Mobile and web remote control via NMC Air
- ✓ User-friendly, multilingual interface
- ✓ High resistance under all weather conditions
- ✓ Modular design

Functionality



- Up to 256 outputs for configuring valve irrigation/cooling/misting
- Up to 8 fertilizer dosing channels
- Up to 6 booster pumps
- Valve control via RF with RadioNet, or via 2-wire cable with SingleNet
- Irrigation strategy based on dosing program, water run time and irrigation program
- Irrigation start based on time, condition, VPD sum, or radiation sum
- Filter flush program start based on either time or delta pressure
- Cooling strategy based on time and actual temperature, as well as on relative humidity sensors
- Misting strategy start based on scheduled time; can also be used as a simple timer program

→ CATALOG NUMBERS

CATALOG NUMBERS	DESCRIPTION	REMARKS
74340-XXXXXX	NMC PRO - SMALL	NMC PRO -11 ANALOG INPUTS, 8 DIGITAL INPUTS, 24 OUTPUTS, RADIONET AND SINGLENET (OPTIONAL)
74340-XXXXXX	NMC PRO - MEDIUM	NMC PRO -11 ANALOG INPUTS, 8 DIGITAL INPUTS, 40 OUTPUTS, RADIONET AND SINGLENET (OPTIONAL)
74340-XXXXXX	NMC PRO - LARGE	NMC PRO - 11 ANALOG INPUTS, 8 DIGITAL INPUTS, 64 OUTPUTS, RADIONET AND SINGLENET (OPTIONAL)
74340-XXXXXX	NMC PRO - GIANT	NMC PRO -11 ANALOG INPUTS, 8 DIGITAL INPUTS, UP TO 256 OUTPUTS, RADIONET AND SINGLENET (OPTIONAL)

For specific SAP number please contact our pre-sales support: df.product.mng@netafim.com

NMC-Pro Climate Controller

ADVANCED MODULAR, MULTIFUNCTIONAL GREENHOUSE CONTROLLER

The NMC-PRO Climate is a multifunctional greenhouse controller covering diverse climatic conditions. The cost-effective controller is suitable for small-to-mid-range greenhouses.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Advanced climate control management
- ✓ Real-time climate control
- ✓ Control of up to 4 climate zones in a single controller
- ✓ Installation of up to 50 zones in a single network
- ✓ Easy integration with NMCnet software for carrying out climate control, operations and management, and with a graphic module for monitoring and analyzing controller performance
- ✓ Weather station data sharing with all controllers in the same network
- ✓ New temperature and humidity measuring box design, enabling longer durability

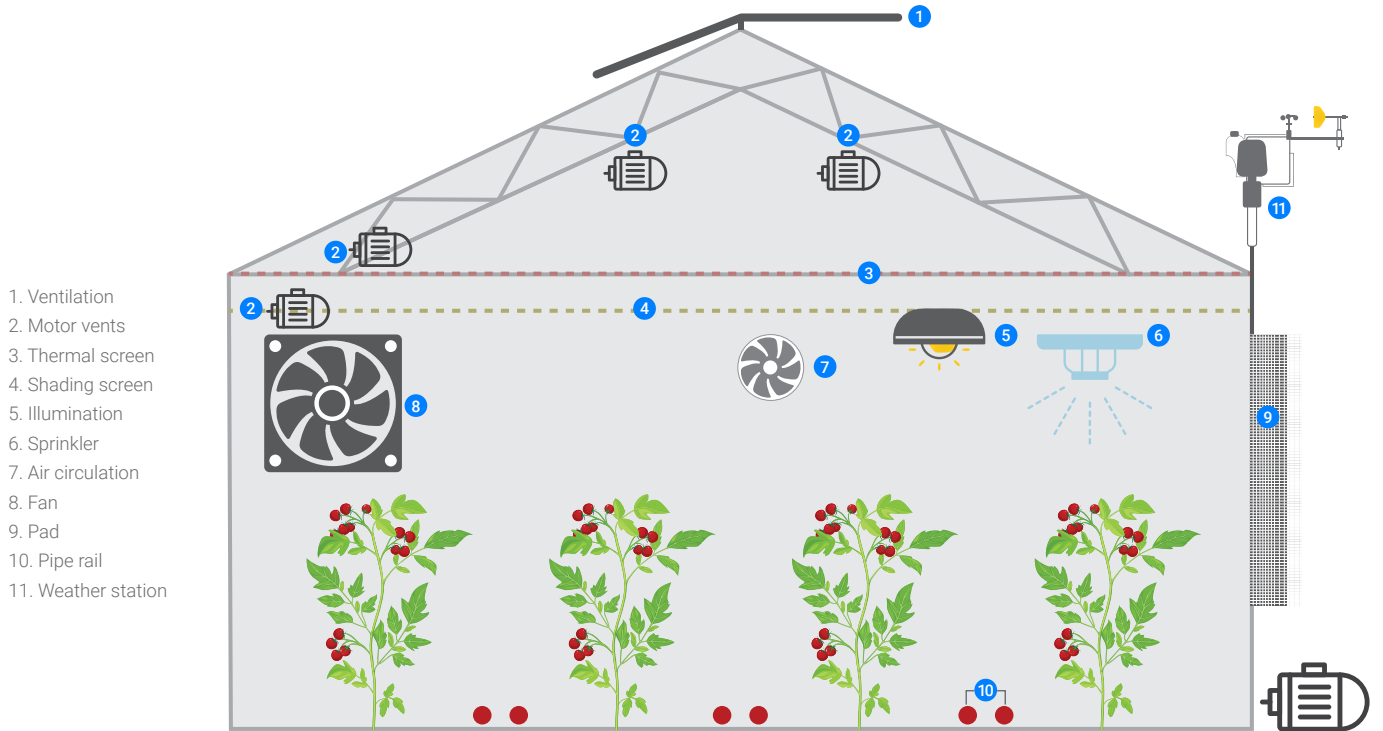


Functionality

The NMC-PRO Climate can control diverse modules and components in a greenhouse, including:

- Vents - top and side
- Screens - shading and energy
- Heating - ON/OFF heating and up to 5 water heating networks per zone; upgraded heating network algorithm enables high calculation accuracy, performance and energy efficiency
- Misting - up to 8 misting valves per zone with PID control by temperature, RH and VPD triggers
- Fan and pad - up to 8 fan stages per zone controlled by temperature, RH and/or time (integrated air inlet control)
- Air circulation - controlled by time and/or trigger, temperature and RH

→ MODULES



→ CATALOG NUMBERS

#	DESCRIPTION	REMARKS	CATALOG NUMBERS
1	NMC-PRO CLIMATE - 1 ZONE	NMC PRO CLIMATE - 11 ANALOG INPUTS, 8 DIGITAL INPUTS, 24 OUTPUTS	74340-XXXXXX
2	NMC-PRO CLIMATE - 2 ZONES	NMC PRO CLIMATE - 11 ANALOG INPUTS, 8 DIGITAL INPUTS, 40 OUTPUTS	74340-XXXXXX
3	NMC-PRO CLIMATE - 3-4 ZONES	NMC PRO CLIMATE - 22 ANALOG INPUTS, 8 DIGITAL INPUTS, 64 OUTPUTS	74340-XXXXXX
4	NMC-PRO CLIMATE - UP TO 4 ZONES	NMC PRO CLIMATE - 44 ANALOG INPUTS, 8 DIGITAL INPUTS, UP TO 256 OUTPUTS	74340-XXXXXX

For specific SAP number please contact our pre-sales support: df.product.mng@netafim.com

NMC-Pro DC Controller

ADVANCED, ROBUST CONTROLLER FOR FARMING AREAS WITHOUT ELECTRICAL POWER

An ideal solution for remote farms that have no electricity source. An advanced and robust stand-alone controller, the NMC-PRO DC is suitable for small-to-medium open field applications.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Cost-effective, advanced controller
- ✓ Mobile and web remote control via NMC Air
- ✓ Robust, stand-alone system
- ✓ User-friendly and multilingual interface
- ✓ Precise EC and pH monitoring and control

Functionality



- Up to 24 outputs for configuring valve irrigation
- Up to 6 booster pumps
- Up to 8 fertilizer dosing channels
- Valve control via RF with RadioNet™, or via mono cable with SingleNet™
- Irrigation strategy based on dosing program, water run time, and irrigation program
- Irrigation start based on time, condition, VPD sum, or radiation sum
- Filter flush program start based on either time or delta pressure
- Cooling strategy based on time and actual temperature, as well as on relative humidity sensors
- Misting strategy start based on scheduled time; can also be used as a simple timer program

NMC-Junior PRO Controller

COST-EFFECTIVE, MULTI-FUNCTIONAL CONTROLLER FOR SMALL-TO-MEDIUM-SCALE APPLICATIONS

A cost-effective, multifunctional irrigation controller for small-to-medium-scale applications. Designed for open field and greenhouse applications, NMC-Junior PRO has 15 outputs for flexible configuration.



Orchards



Greenhouse



Field Crops

Benefits & Features

- ✓ Cost effective
- ✓ Mobile and web remote control via NMC Air
- ✓ Precise EC and pH monitoring and control
- ✓ User-friendly and multilingual interface with large graphical display
- ✓ Integrated with FertiKit™ nutrigration system, or as a stand-alone product

Functionality



→ 15 FLEXIBLE OUTPUTS

- Up to 15 valves - irrigation/cooling/misting
- Up to 6 booster pumps
- Up to 1 main valve
- Up to 8 fertilizer dosing channels
- Up to 3 agitators
- Up to 15 backflush filter valves

→ INPUTS

- 6 digital inputs for water meter, fertilizer meter and delta pressure switch
- 5 analog inputs for EC, pH, 2 x temperature and relative humidity

→ Irrigation strategy is based on a dosing program, water run time program and irrigation program

→ Irrigation starts by either time, conditions, VPD sum, or radiation sum

→ Filter flush program starts by either time and/or delta pressure (ΔP)

→ Cooling strategy is based on time, actual temperature and relative humidity sensors

→ Misting strategy starts by scheduled time; this program can also be used as a simple timer program

→ CATALOG NUMBERS

NMC-JUNIOR PRO BASIC CONFIGURATIONS

STAND-ALONE

DESCRIPTION	CATALOG NUMBERS
NMC-JUN-PRO-IR-SB-115 CONTROLLER	74340-005145
NMC-JUN-PRO-IR-SB-230 CONTROLLER	74340-005135
NMC-JUN-PRO-IR-SB-115-485-PL-G CONTROLLER	74340-023950
NMC-JUN-PRO-IR-SB-230-485-PL CONTROLLER	74340-023940
NMC-JUN-PRO-IR-SB-KC-230 CONTROLLER	74340-005140
NMC-JUN-PRO-IR-DD-115V-PL-G CONTROLLER	74340-023960
NMC-JNKRCN-PRO-IR-SB-230-485-PL CONTROLLER	74340-023930
NMC-JUN-PRO-IR-SB-115-PL-G CONTROLLER	74340-089100
NMC-JUN-PRO-IR-SB-230 CONTROLLER	74340-089120
NMC-JUN-PRO-IR-DD-230-PL CONTROLLER	74340-089130
NMC-JUN-PRO-IR-SB-230-PL CONTROLLER	74340-089140
NMC-JUN-PRO-IR-SB-12V CONTROLLER	74340-089150
NMC-JUN-PRO-IR-DD-12V CONTROLLER	74340-089160
NMC-JUN-PRO-IR-SB-230-485 CONTROLLER	74340-089170
NMC-JUN-PRO-IR-DD-230-485-PL CONTROLLER	74340-089180

FOR FERTIKIT 3G

DESCRIPTION	CATALOG NUMBERS
NMC-JUNIOR-PRO-FOR-FERTIKIT 80W-230V	74340-010120
NMC-JUNIOR-PRO-FOR-FERTIKIT 80W-115V	74340-010110
NMC-JUNIOR-PRO-FERTIKIT 80W-115V D.DOOR	74340-010130
NMC-JUNIOR-PRO-FERTIKIT 80W-230V D.DOOR	74340-010135
NMC-JNKRCN-PRO-SB-CN-230-80W F/FERTIKIT	74340-010160

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