



Mitra Makmur Jaya
Your Irrigation Solution

irritec[®]
don't wait for rain

**AUTOMATION AND
FERTIGATION CATALOG**



*«We want to simplify the life of those caring for plants, for work and for passion.
We work so that every drop is used wisely, reducing the ecological footprint and
resource waste to a minimum.»*



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AUTOMATION - PROGRAMMERS

Commander EVO® CONTROLLERS

Commander EVO® controllers meet the irrigation needs of the most demanding crops for farms of any size. The Commander EVO® controllers combine the management

of pH and EC with a more professional management of irrigation cycles.

What is more, they are equipped with radio remote control to be managed by a software program accessible via the Internet. All of this makes Irritec® Commander EVO® controllers for agriculture the best solution for every requirement.



for extensive crops



for large farms



for crops in soilless

Characteristics	COMMANDER EVO® BASIC	COMMANDER EVO® PLUS	COMMANDER EVO® GOLD
Suitable for	farms with extensive crops	large farms with extensive crops	large farms with crops in soilless
Valves	up to 208 valves divided in 64 independent blocks	up to 216 valves divided in 64 independent blocks	up to 216 valves divided in 64 independent blocks
Valves with cable	112 + 96 radio	120 + 96 radio	120 + 96 radio
Irrigation programs with multiple starts	20 (4 valves at time) Irrigation precision in seconds	20 (4 valves at time) Irrigation precision in seconds	20 (4 valves at time) Irrigation precision in seconds
Type of irrigation	per: time / demand / temperature / sun radiation	per: time / demand / temperature / sun radiation	per: time / demand / temperature / sun radiation
Communication	GSM, SMS e Radio	GSM, SMS e Radio	GSM, SMS e Radio
Interface PC	NO	YES, easy to use	YES, easy to use
Pump	diesel or electric	5, diesel or electric	5, diesel or electric
Fertilizers	2 per tempo / volume (paralleli o sequenziali)	6 per time / volume / proportional to the flow rate (parallel or sequential)	4 per EC / time / volume / proportional to the flow rate (parallel or sequential) Control pH ad objective (acid/ base)
Pre irrigation	NO	YES	YES
Alarms	YES	YES	YES
Programmable mixers	YES (ON/OFF)	YES (ON/OFF)	YES (ON/OFF)
Backwash management	10 filters	10 filters	10 filters
Wash according to	time / pressure difference	time / volume / pressure difference	time / volume / pressure difference
Possibility to set a different time for each filter	YES	YES	YES
Enlargeable with modules for 16 zone (+96)	YES	YES	YES
Radio Connection	YES	YES	YES
Supply	230 VAC, 12VDC, batteries	230 VAC, 12VDC, batteries	230 VAC
Outputs	24 vac, 12 vdc, 9/12 vdc latch	24 vac, 12 vdc, 9/12 vdc latch	24 volt
Digital inputs	1 water meter 1 differential manometer 5 configurable	1 water meter 6 fertilizer meters 1 differential manometer 10 configurable	1 water meter 4 fertilizer meters 1 differential manometer 10 configurable
Analogue inputs	NO	pH, EC, temperature, sun radiation	pH, EC, temperature, sun radiation
Language	English, Spanish, Italian e German	English, Spanish, Italian e German	English, Spanish, Italian e German



AUTOMATION - PROGRAMMERS

Commander EVO BASIC

ICCEB - COMMANDER EVO BASIC

The new Commander EVO BASIC is a compact, financially accessible and easy to use equipment. Characterised by an advanced programmer for the price of basic equipment.

The Commander EVO BASIC manages irrigation valves using any type of solenoid or via radio, electrical or diesel pumping units, differentiated fertilisation, filter washing, alarm detection, GSM, PC, SMS communication, etc.

Irrigation:

- Time and volume
- Precise irrigation in seconds
- 16 valves + 96 expansions via cable + 96 radio
- 20 sequential or 4 simultaneous programs
- 64 blocks/combinations of valves
- Start timed irrigation or as required (sensor)
- Electrical or diesel pump
- 4 languages (Italian, English, Spanish, German)

Fertilisation:

- 2 fertilisers per time or volume, parallel or sequential mode
- Programmable pre-irrigation
- Alarms
- 1 programmable mixer

Management of a maximum of 10 filters accord to time and differential manometer. Different times for each filter.

Modular:

- Enlargeable in modules of 16 or 24 external outputs (+96)
- Radio transmission module connection (96 valves)

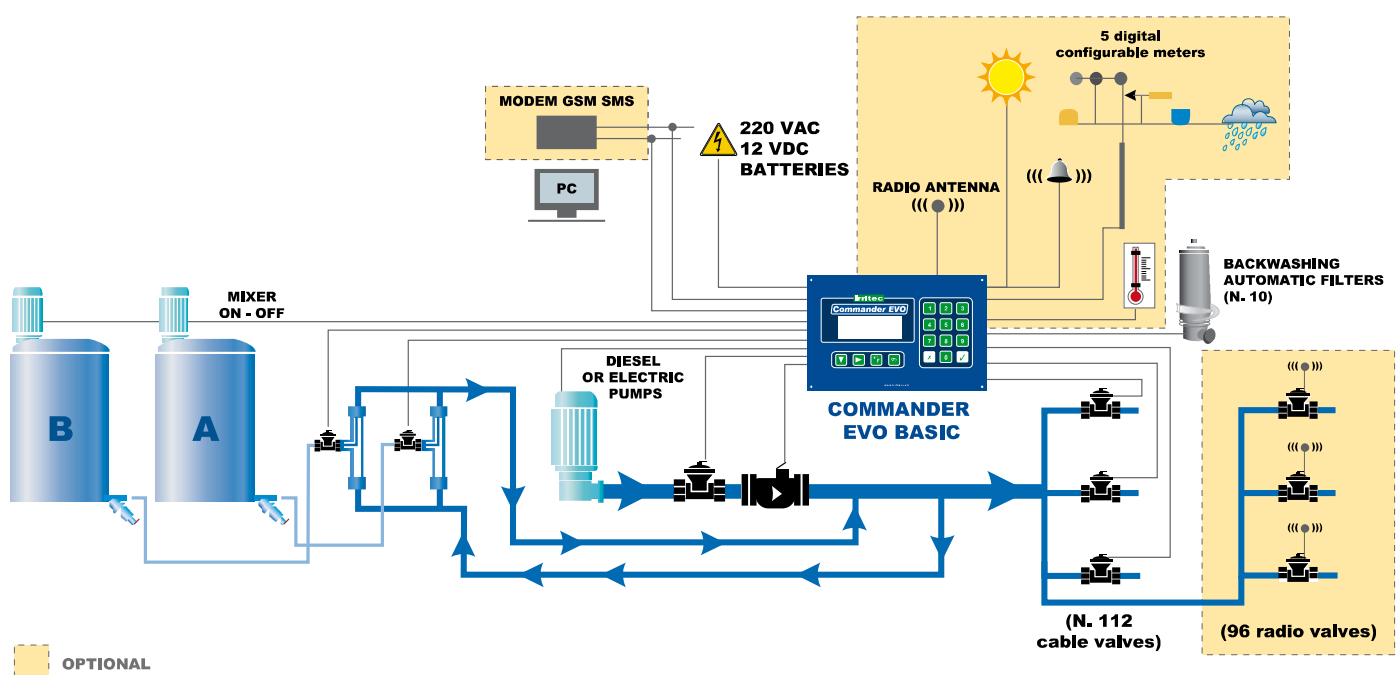


Electrical characteristics

- Power supply: 220VAC
12VDC
9VDC (batteries)
- Outputs: 16 (-1 latch version)
- Digital inputs: 1 differential manometer
1 water meter
2 fertiliser meters
5 configurable meters
- Communication: SMS, PC, GSM

Field of application

Controller to manage open field irrigation systems; specialist vegetable plots and orchards. Professional irrigation.





AUTOMATION - PROGRAMMERS

Commander EVO PLUS

ICCEP - COMMANDER EVO PLUS

The Commander EVO PLUS programmers meet fertigation needs for the most demanding crops on small and medium sized farms. Up to 206 valves in 64 independent blocks with 20 irrigation programs having multiple starts, cyclic irrigation and at high frequency, irrigation and fertilisation according to time and volume, proportional fertilisation, reading of pH and EC values, 4 auxiliary pumps, diesel unit control, PC, GSM, SMS and radio communication, all with an intuitive and easy to use interface.

Irrigation:

- Time and volume
- Precise irrigation in seconds
- 24 valves + 96 expansions via cable + 96 radio
- Up to 64 blocks/combinations of valves
- 20 consecutive sequential or 4 simultaneous programs
- Irrigation starts according to hour, request, temperature and sun radiation
- Diesel pump or 5 electric pumps
- 4 languages (Italian, English, Spanish, German)

Fertilisation:

- 6 fertilisers per time, volume and proportional to flow rate, parallel or sequential mode
- pH and EC monitoring only
- Programmable pre-irrigation
- Alarms
- 1 ON/OFF programmable mixer

Management of a maximum of 10 filters accord to time, volume and differential manometer. Different cleaning times for each filter.

Modular:

- Enlargeable in modules of 16 or 24 external outputs (+96)
- Radio transmission module connection (+96)

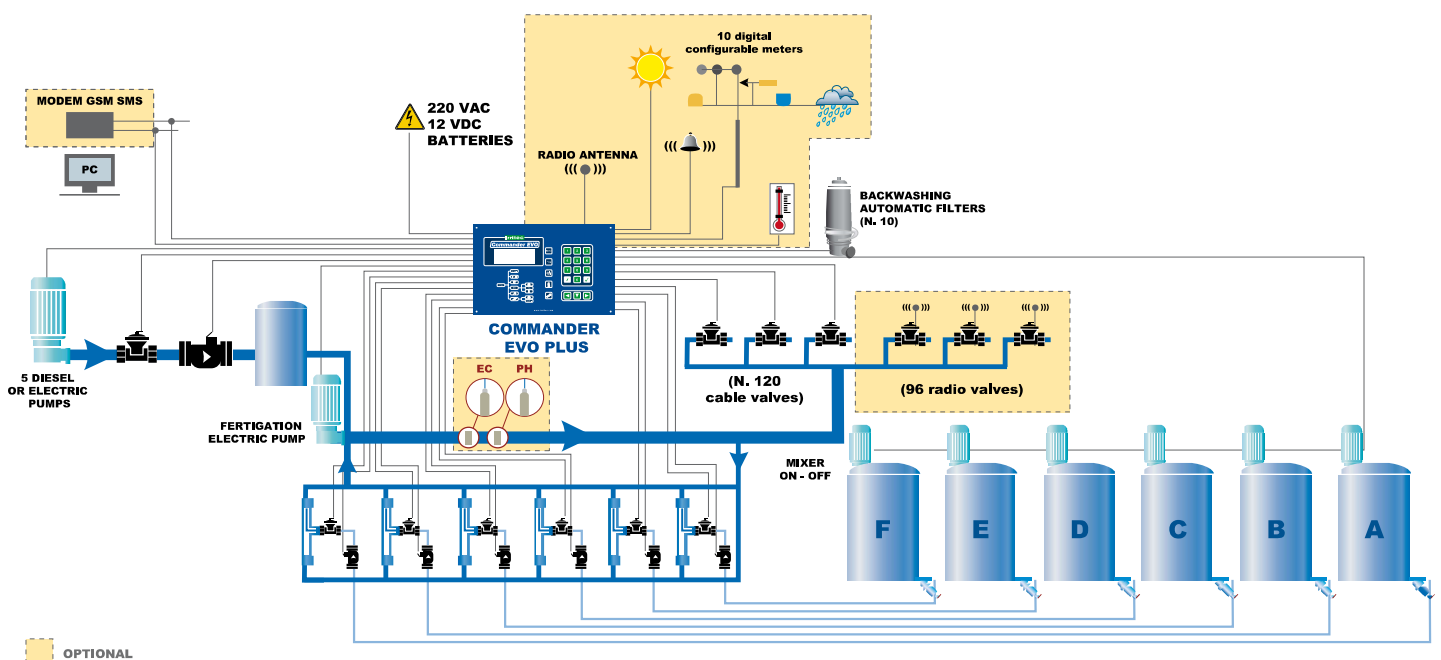


Electrical characteristics

- Power supply: 220VAC
12VDC
9VDC (batteries)
- Outputs: 24 (-1 latch version)
- Digital inputs: 1 water meter
6 fertiliser meters
1 differential manometer
10 configurable meters
- Analogue inputs: pH, EC, Temp, Rad.
- Communication: PC, GPRS

Field of application

Controller to manage open field and greenhouse irrigation systems (no soilless).
Professional irrigation.



AUTOMATION - PROGRAMMERS

Commander EVO GOLD

ICCEG - COMMANDER EVO GOLD

The new Commander EVO GOLD combines the power of the Commander EVO PLUS with fertigation control to achieve pH and EC objectives in a compact and easy to use device. There are multiple fertilisation possibilities according to time, volume, proportional volume, pH and EC objectives, irrigation requests for thresholds, probes for radiation and ambient temperature, dosage of 4 fertilisers plus an acid with individual meters, PC, GSM, SMS and radio communication, making the Commander EVO GOLD a suitable device for greenhouses, hydroponic crops and farms where precise and controlled application of the nutrients is required.

Irrigation:

- Time and volume
- pH and EC control
- 24 valves + 96 expansions via cable + 96 radio
- Up to 64 blocks/combinations of valves
- 20 sequential programs
- Irrigation starts according to hour, request, temperature and sun radiation
- 5 electric pumps
- 4 languages (Italian, English, Spanish, German)
- Analogue inputs: pH, EC, temperature, solar radiation

Fertilisation:

- 4 fertilisers according to EC, time, volume and proportional to flow rate, parallel or sequential mode.
- target pH control and acid or base injection.
- Programmable pre-irrigation
- Alarms
- ON/OFF programmable mixer

Management of a maximum of 10 filters according to time, volume and differential manometer. Different cleaning times for each filter.

Modular:

- Enlargeable in modules of 16 or 24 external outputs (+96)
- Radio transmission module connection (+96)

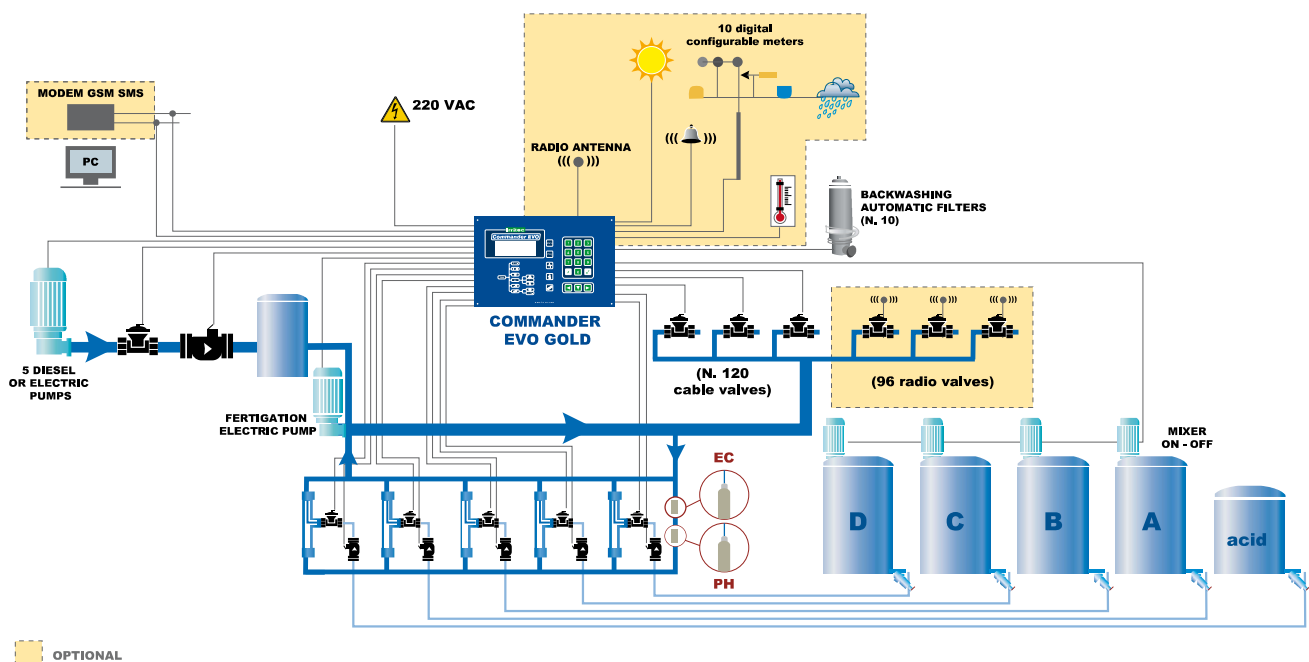


Electrical characteristics

- Power supply: 220VAC
- Outputs: 24
- Digital inputs: 1 water meter
4 fertiliser meters
1 differential manometer
10 configurable meters
- Analogue inputs: pH, EC, Temp, Rad.
- Communication: PC, GPRS

Field of application

Controller to manage open field and greenhouse irrigation systems with planting in soil or soilless. Advanced management of irrigation and fertiliser distribution.



AUTOMATION - PROGRAMMERS

ACCESSORIES

(IC) CEE

Programmer expansion module for Commander EVO Basic/Plus/Gold



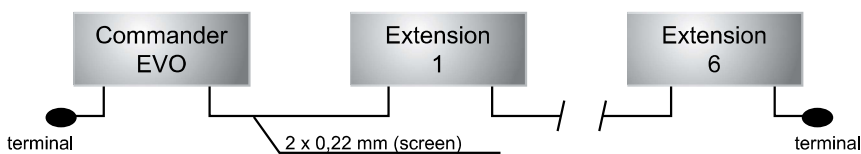
Characteristics

- outputs 24 Vac, 12 Vdc and 9 Vdc latch
- 24 - 16 zones
- connection with cable RS-485

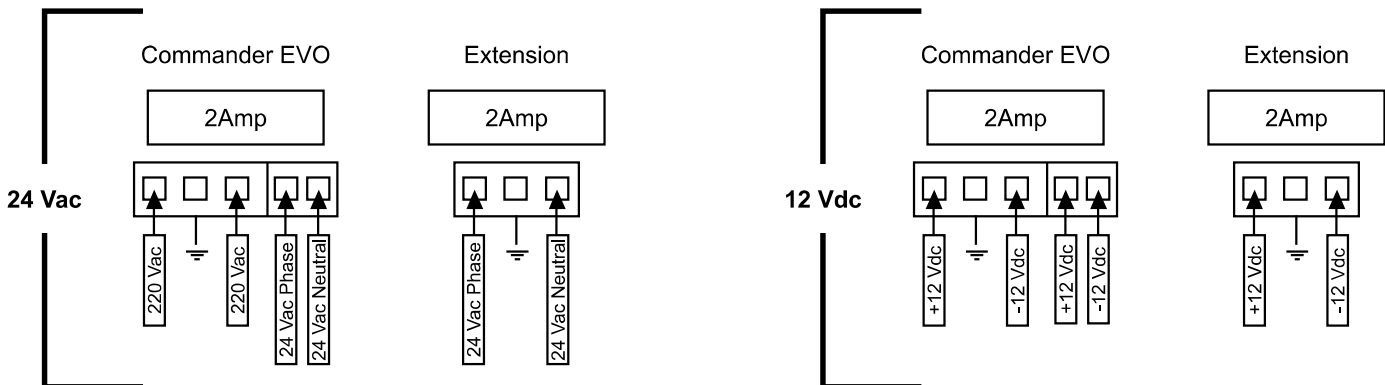
All the Commander EVO series programmers have the possibility of being increased to add another 96 outputs. This increase is obtained by connecting the programmer to the accessory extension units with 16 or 24 outputs.

Connection between the Commander EVO programmer and the various accessory modules is very simple.

The connection diagram is as follows:

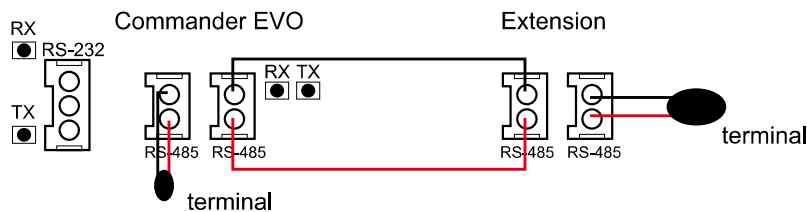


There are two types of extension units based on the 12 Vdc or 24 Vac power supply. The connection details are as follows:

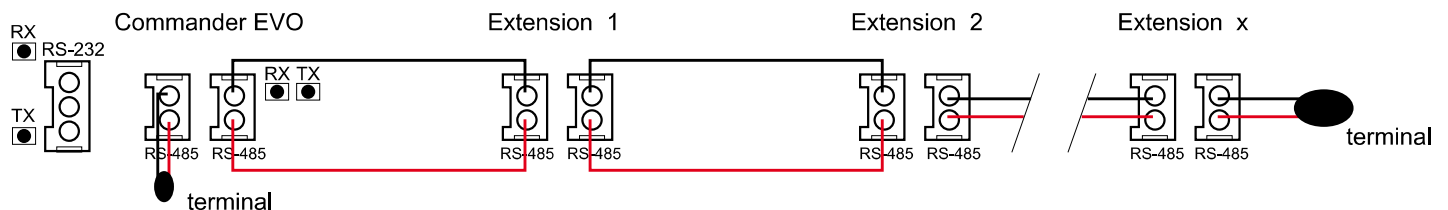


Note: It is highly important not to invert the poles in these connections.

Interfacing between the Commander EVO programmer and an extension unit is implemented as illustrated in the following diagram:



If the Commander EVO programmer must manage multiple extension units, their installation is similar to that previously explained. Simply, connect the other extension modules after the first.



See the COMMANDER EVO instruction manual

AUTOMATION - PROGRAMMERS

ACCESSORIES

(IC) MOD

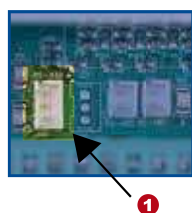
modem for Commander EVO programmer



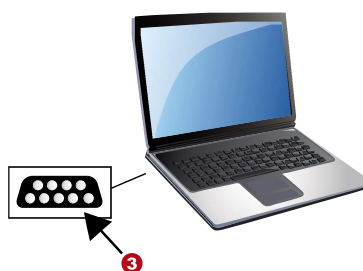
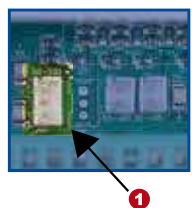
Characteristics

- GPRS/Internet
- international sim card with annual contract
- 220 VAC power supply

MODEM – CONTROLLER CONNECTION



COMPUTER - CONTROLLER CONNECTION



1 = RS-232 serial connector on the “Commander Evo” controller Connect the connection cable for the modem or computer here.
Only one connection can take place at a time.

2 = RS-232 modem serial port. Connect the connection cable of the controller here from connector 1

OR

3 = RS-232 computer serial port. Connect the connection cable of the controller here from connector 1.

N.B.: If the computer does not have a RS-232 serial port, you need to use an adaptor



(IJ) TS5

pH/EC transmitter for Commander EVO programmer

Characteristics

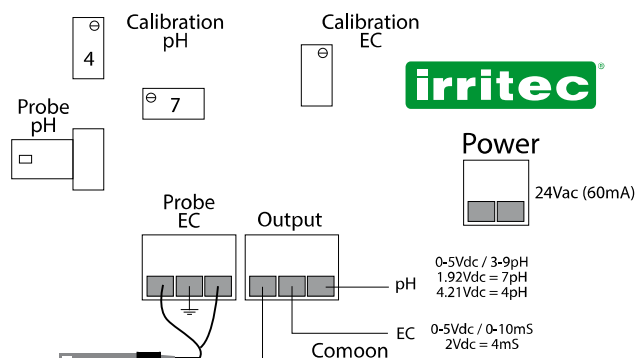
- 24 vac power supply
- 0/5 volt outputs

pH electrode - calibration on two points with solution pH 7.0 and pH 4.0

EC electrode - calibration on two points, 0 and EC 1.4 mS

If you want to connect the probes to the analogue signal, follow the instructions described in the graph alongside.

TRANSMITTER PH/EC





AUTOMATION - PROGRAMMERS

ACCESSORIES

(IJ) SS5

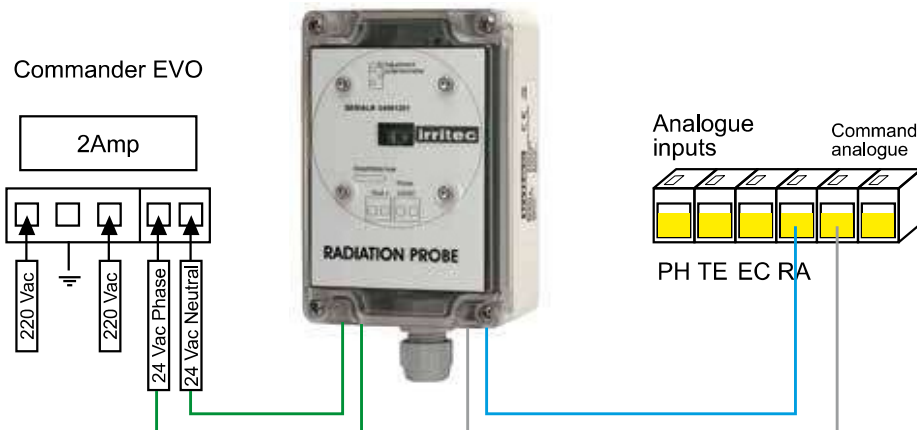
solar radiation sensor



Characteristics

- 24 vac power supply
- 4/20mA volt outputs

With the sun radiation sensor, Commander EVO can recognise instantaneous and accumulated sunlight, by setting the choice on the programmer.



Range: 0 - 1275 W/h
Precision: 10 W/h
Output signal: 4/20 mA

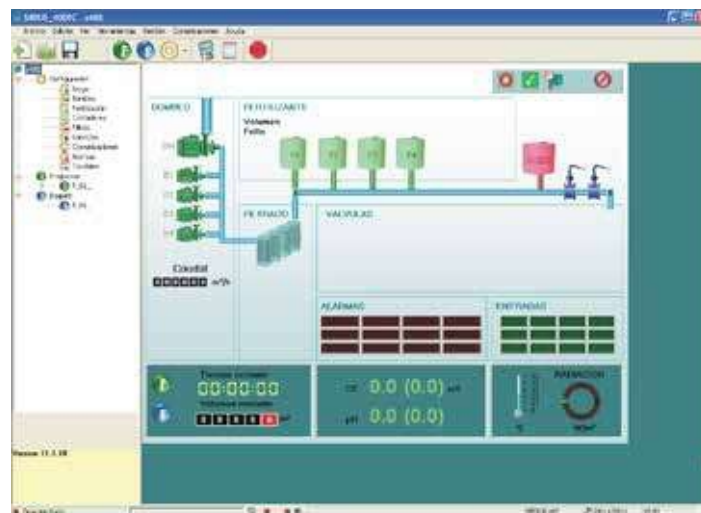
(IJ) SON

pH/EC electrodes for Commander EVO programmer



(IC) SCE

software for Commander EVO programmer plus USB / RS-232 cable



AUTOMATION - RADIO SYSTEM

(IC) CER - EVO RADIO SYSTEM

Professional wireless irrigation control system.

The compact and autonomous **ICCERRIC** radio receiver activates 2 valves using latch solenoids.

Receiver characteristics:

- Power supply with lithium batteries and 9 volt batteries
- Programmable safety disconnection system
- Radio receiver indication
- Electronically isolated outputs with led lighting
- Indications of overall status and outputs with led lighting
- Output independent activation

The **iccrtra** radio transmitter enables management of up to 16 sectors plug a main valve or a pump extendible up to 352 sectors via radio transmission at 27.3 mega hz.

The **ICCRTRA** radio transmitter can be connected to the valve outputs of any irrigation programmer, converting the 24 volt signal into a coded digital signal and transmits it to the field receiver limited to 16 analogue outputs up to 96 if connected to any controller in the Commander EVO series.

Transmitter characteristics:

- 220 VAC power supply

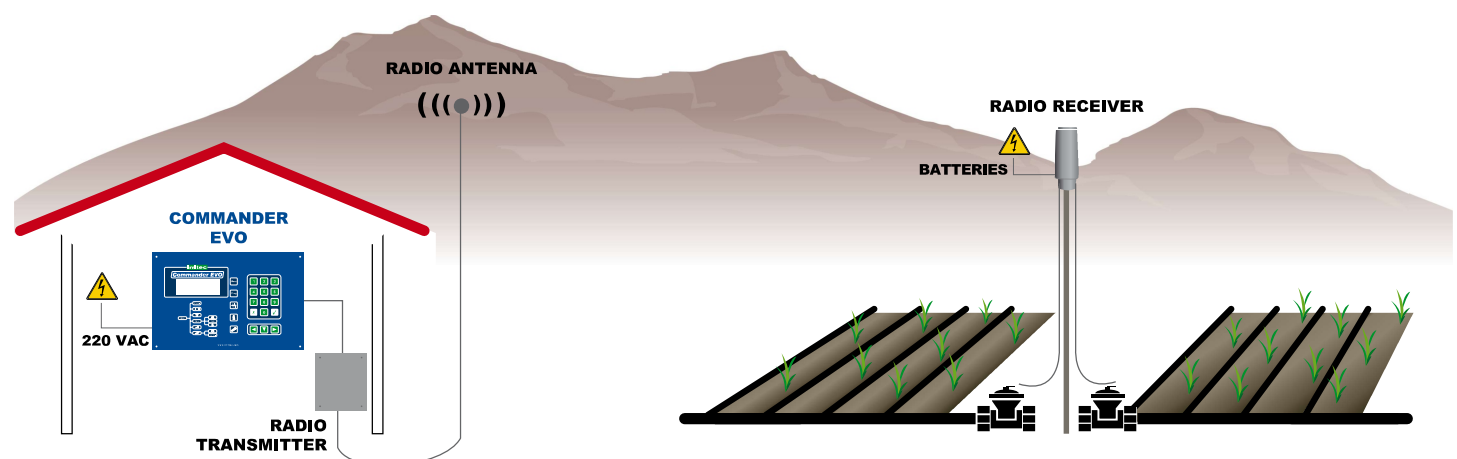
Price list ref.	Description
ICCERTRA	Radio transmitter
ICCERRIC	Radio receiver - 2 zones
ICCERKIC	Antenna and cable
ICCERBAT	3.6 V lithium replacement battery



ICCERRIC



ICCERTRA





AUTOMATION - FILTER WASHING

PROGRAMMERS

(IC) CEF

Filters backwash programmer Commander Evo Filter with incorporated differential pressure switch



Power supply	Description
220 VAC	8 outputs - 24 VAC
batteries	8 outputs - 12 VDC latch

- independent parameters for each filter
- wash to time or volume
- flow sensor
- time and working calendar window
- integrated pressure differential with instantaneous reading on the display
- backwash operations log



(IC) PCL

Programmer for filter backwashing with integrated pressure differential + pressure support

Power supply	Description
batteries	2 outputs - 12 VDC latch
batteries	3 outputs - 12 VDC latch
batteries	4 outputs - 12 VDC latch

- wash to time
- incorporated pressure differential
- alarm led anomalies



(IC) 1-10

Filter backwash programmer mod. FILTRON with integrated differential pressure switch and 220VAC power supply

Power supply	Description
220 VAC	2 - 4 - 6 - 8 - 10 outputs
batteries	2 - 4 - 6 - 8 - 10 outputs, latch

- wash to time
- incorporated pressure differential
- alarm led anomalies



FILTER WASHING KIT

(IF) KPB

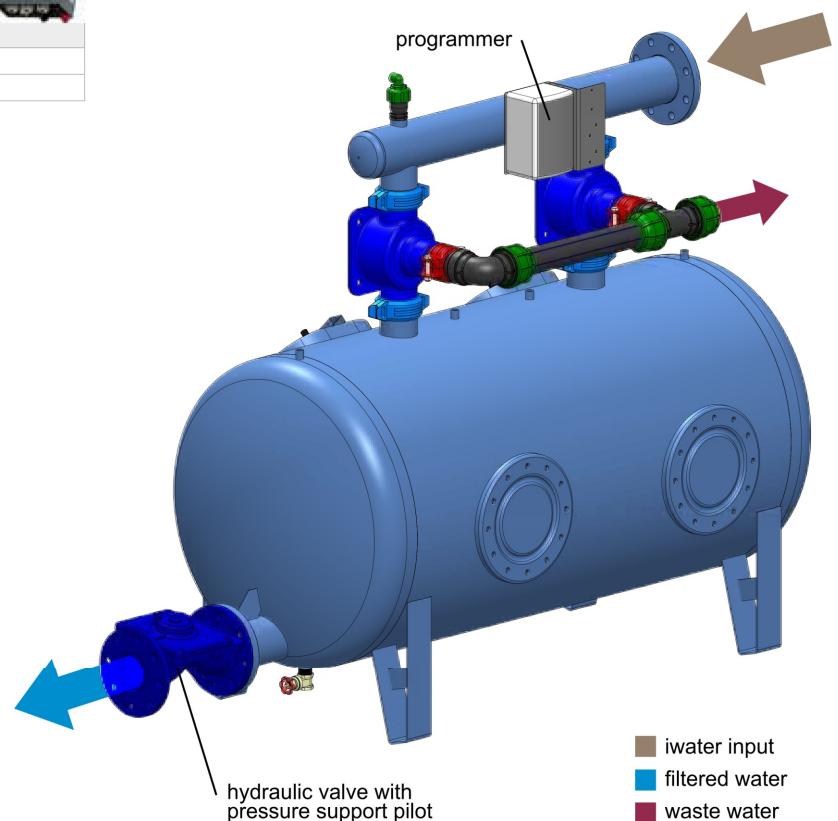
backwash automation kit with battery-operated PCL programmer kit, solenoids, pressure differential switch and support bracket and connection micropipes

(IF) KFB

backwash automation kit with battery-operated FILTRON programmer kit, solenoids, pressure differential switch and support bracket and connection micropipes

(IF) KCB

backwash automation kit with battery-operated COMMANDER EVO FILTER programmer kit, solenoids, pressure differential switch and support bracket and connection micropipes



FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

FERTIGATION SYSTEMS

IRRITEC® fertigation systems combine practicality and reliability with a modern injection system of nutrient solutions. The management of the fertilizer is regulated by simple fertigation recipes that can be set according to the agronomical/nutritional needs of the crops. The correct hydraulic management, which is essential to convey the adequate nutrients to plants, is guaranteed by years of experience in the measuring of machinery, equipment and by reliable and certified material.



Features	SET	PRO
Suitable for	Hydroponic	Hydroponic
Dosage	from 2 to 4 fertilizers	from 2 to 4 fertilizers
Mode	pH and EC set injection	proportional injection to the flow rate and pH and EC set injection
Fertilization	8 different fertigation programs for various sectors	8 different fertigation programs for various sectors
Independent irrigation programs	20	20
Valves	216 (120 with cable+96 radio) divided in 64 blocks (max. 4)	216 (120 with cable+96 radio) divided in 64 blocks (max. 4)
Backwash management	10 automatic filters, a time and/or press. diff.	10 automatic filters, a time and/or press. diff.
Pump control or master valve	5 pumps 1 master valve	5 pumps 1 master valve
Inputs	1 rain sensor and 5 emergency sensors	1 rain sensor and 5 emergency sensors
Management of mixers	YES	YES
Self learning system	YES	YES
Communication	GSM, SMS and radio	GSM, SMS and radio
Interface PC	YES, Easy to use	YES, Easy to use
Language	English, Spanish, Italian e German	English, Spanish, Italian e German



Features	DosaBox® Junior AUTOMATIC	DosaBox® Junior	FERTICLICK®
Suitable for	extensive crops in the open field	extensive crops in the open field	extensive crops in the open field
Dosage	3 fertilizers	2 fertilizers	1 fertilizer
Mode	proportional injection (with pulse meter) from 0,1% to 1%	volumetric injection	injection proportional to the flow rate
Injection pump	injection pump with impeller and S.S. seals 304 - 220 volt AC (20lt/min at 56 mt-80lt/min at 36 mt)	injection motor pump	12VDC injection motor pump or by pass Venturi
Electric switch	ON/OFF and automatic pump control	-	-
Characteristics	<ul style="list-style-type: none"> • display and probes - pH and EC • control free discharge probe-holders with automatic flow control valve • connections (IN 1" male OUT 1" female) • inlet filter (5 mc/h a screen 120 mesh) • non return valve • alarms for insufficient flow-rate • mixers outlet 	<ul style="list-style-type: none"> • pH / EC control • stainless steel frame 	<ul style="list-style-type: none"> • reed contact for water meter • stainless steel frame





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS



IJSHK

ADVANCED FERTILISER DOSAGE SYSTEM

The Shaker Set is a unit for “target fertigation” designed by Irritec to offer a precise and reliable system capable of guaranteeing optimal development of the crops both in the ground and above the ground. The easy programming and the advanced functions of the Commander EVO programmer allow complete management of the irrigation system and ensure correct contribution of nutrients based on pH and EC values set by the user.

Precise and prompt response

The Shaker Set allows injection of up to 4 set fertilisers plus an acid for pH correction. Operation is simple: the required pH and conductivity values, and the percentages of fertiliser solution are entered (e.g. pH 6.0, EC 2 mS, 5% fert. A, 10% fert. B, 10% fert. C, 5% fert. D). The machine, using the information from the built-in pH and conductivity sensors, will inject the quantities of acid and fertilisers necessary to maintain water constant at the values set by the user. The availability of multiple fertigation recipes, one for each irrigation block, and the integrated self-learning system, allows the preparation of specific fertigation solutions for each section of the crop in minimal time.





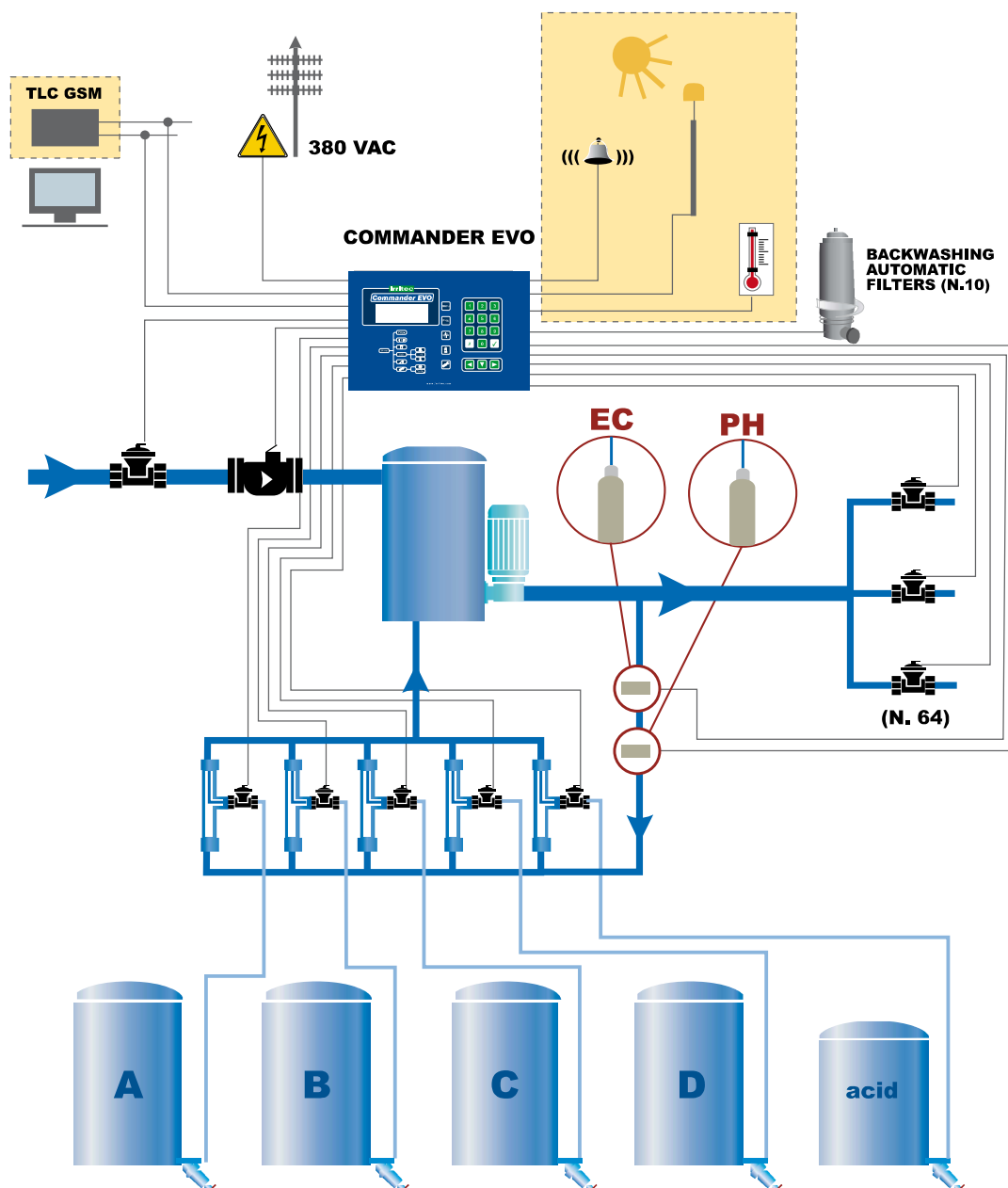
FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

Main functions:

- Dosage of two to four fertilisers with set modality
- Injection of correction acid
- Multiple fertigation recipes (one for each irrigation block)
- 20 independent irrigation programs
- Command by external sensors
- Backwash management of 10 automatic filters, timed or caused by differential pressure switch
- Pump or master valve command
- Inputs for rain sensor and analogue and digital sensors
- Stirrer management
- Can be interfaced with PC via software (optional)

Configuration

- 100 l mixing canister
- Up to 4 Venturi, high intake injectors with 500 l/h for fertilisers
- Up to 1 Venturi, high intake injector with 350 l/h for the acid
- Specific solenoid valves for use of acid and fertilisers
- Compact, stainless steel structure: 80 (L.) x 120 (h) x 80 (D.)
- Commander EVO GOLD Programmer
- Integrated electric pump
- Conductivity probe
- pH electrode
- Power supply: (3 P+N+E) VAC 50 Hz



 **OPTIONAL**



FERTIGATION - AUTOMATIC DOSAGE SYSTEMS



IJSHP

ADVANCED FERTILISER DOSAGE SYSTEM

The Shaker Pro is a unit for “target but also proportional fertigation” designed by Irritec to offer a precise and reliable system capable of guaranteeing optimal development of the crops both in the ground and above the ground. The easy programming and advanced functions of the Commander EVO programmer allow complete management of the irrigation system and ensures correct contribution of nutrients based on the pH and EC values set by the user or based on the required percentage values.

Precise and prompt response

The Shaker Pro allows injection of up to 4 set and proportional fertilisers plus a correction acid. Simple to operate. For set management, the required pH and conductivity values, and the percentages of fertiliser solution are entered (e.g. pH 6.0, EC 2 mS, 5% fert. A, 10% fert. B, 10% fert. C, 5% fert. D). The machine, using the information from the built-in pH and conductivity sensors, will inject the correct quantities of acid and fertilisers necessary to maintain water constant at the values set by the user. For proportional management, the values are set of the pH and the percentages of injection of each fertiliser (e.g. pH 6.0 0.5% fert. A, 0.5% fert. B, 0.3% fert. C, 0.2% fert. D). The machine, combining the information received from the main water meter and the fertiliser injection meters, as well as from the pH probe, will maintain the solution injected at the values set by the user. The availability of multiple fertigation recipes, one for each irrigation block, and the integrated self-learning system, allows the preparation of specific fertigation solutions for each section of the crop in minimal time.





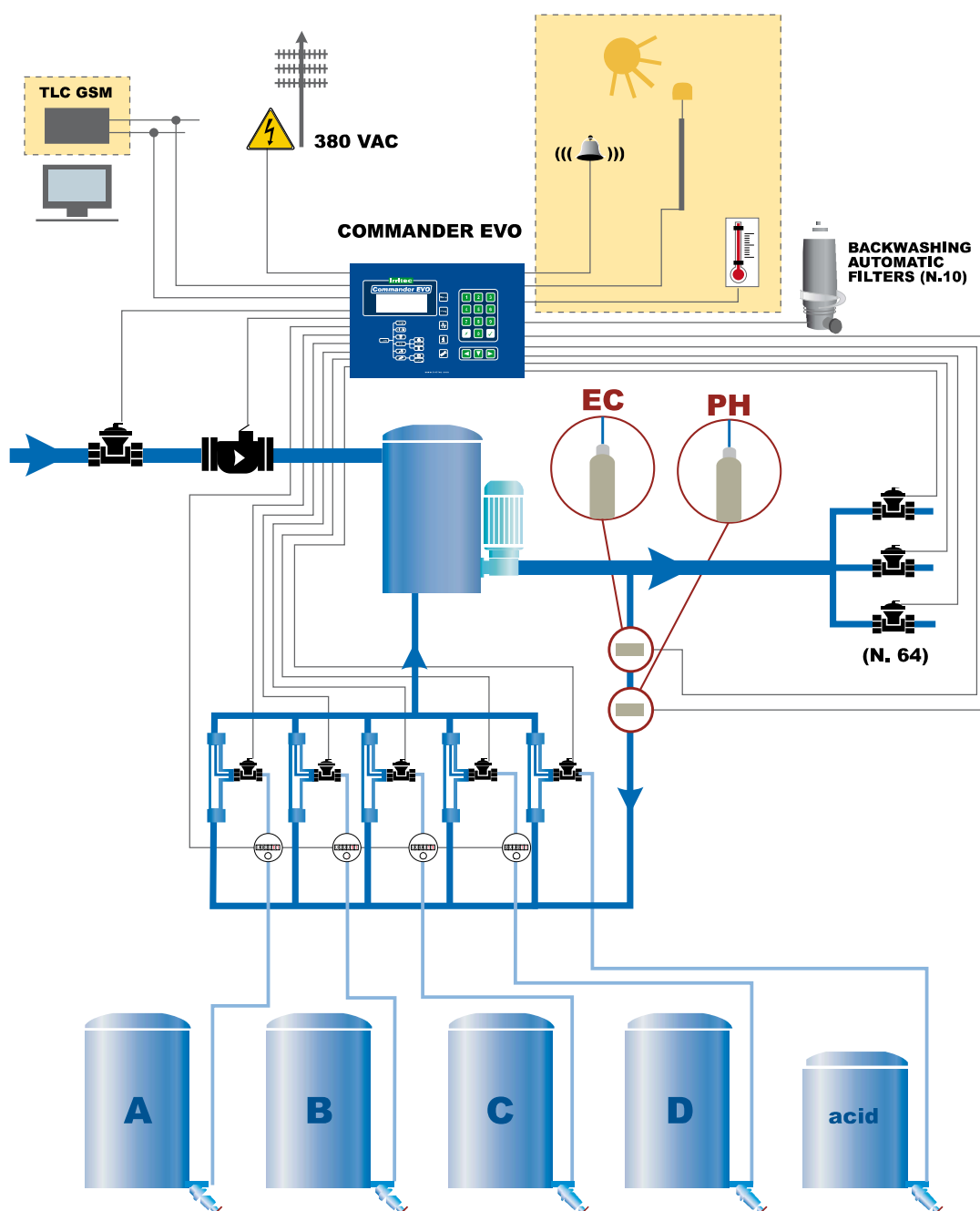
FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

Main functions:

- Dosage of two to four fertilisers with set modality, or with proportional modality
- Injection of correction acid
- Multiple fertigation recipes (one for each irrigation block)
- 20 independent irrigation programs
- Command by external sensors (humidity and temperature probes)
- Backwash management of 10 automatic filters, timed or caused by differential pressure switch
- Pump or master valve command
- Inputs for rain sensor and analogue and digital sensors
- Stirrer management
- Can be interfaced with PC via software (optional)

Configuration

- 100 l mixing canister
- Up to 4 Venturi, high intake injectors with 500 l/h for fertilisers
- Up to 1 Venturi, high intake injector with 350 l/h for the acid
- Specific solenoid valves for use of acid and fertilisers
- Up to 4 fertiliser meters
- Compact, stainless steel structure: 80 (L.) x 120 (h) x 80 (D.)
- Commander EVO GOLD Programmer
- Integrated electric pump
- Conductivity probe
- pH electrode
- Power supply: (3 P+N+E) VAC 50 Hz



 **OPTIONAL**



FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

DOSAPRO[™]

IJDSP

A SIMPLE, COMPACT AND ECONOMIC SOLUTION FOR FERTILISER AND ACID* INJECTION

Irritec has designed this proportional fertigation unit as a system which, through an accurate and user-friendly programmer, can make fertiliser dosage and management of the irrigation system more efficient for any farm wishing to move towards an automated system in a simple way with limited costs.

Reliable and easy to use

The Dosa Pro allows proportional injection of 6 fertiliser solutions. Operation is simple: set the desired fertiliser percentage for each of the 6 solutions (e.g. 1% solution A and 2% solution B; ...). The machine, using the information from the water meter (not included) and the fertiliser meters, will inject the quantities of fertilisers necessary to produce a precise and homogeneous fertigation solution.



**optional*





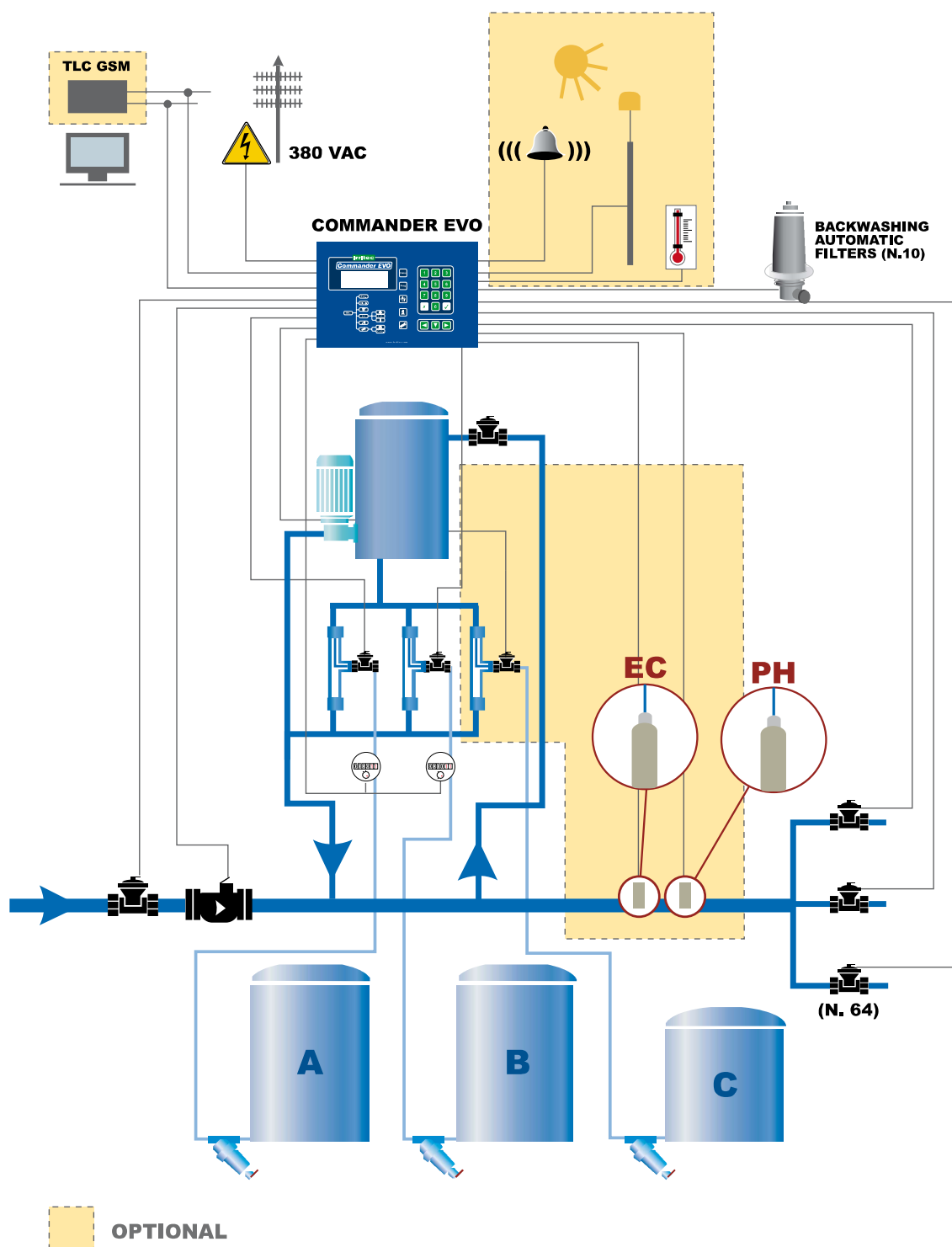
FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

Main functions:

- Proportional dosage of 6 nutrient solutions
- 20 independent irrigation programs
- 20 consecutive sequential or 4 simultaneous programs
- Backwash management of 10 automatic filters, caused by differential pressure switch or timed
- 5 pumps or master valve command
- Inputs for rain sensor and emergency sensors (pressure, flow, etc.)
- Can be interfaced with PC via software (optional).

Configuration

- 60 l mixing canister
- 2 meters with impulse emitter specifically for fertilisers
- High intake Venturi 500 l/h
- Compact, stainless steel structure: 80 (L.) x 120 (h) x 80 (D)
- Commander EVO Plus Programmer
- Electric pump
- pH and EC display, optional
- Power supply: (3 P+N+E) VAC 50 Hz





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS



IJDBX **VOLUMETRIC FERTIGATION KIT**

The DosaBox is a valuable tool for any business which needs an economical and simple method to get started with fertigation. The fertigation unit, manually operated but easily automatised, is an important first step towards a modern and effective management of crop nutrition.

Simple and efficient

DosaBox is a modular unit which allows volumetric dosing of 2 to 4 fertilisers; the intake speed of each substance can be regulated. Flowmeters and pH and EC monitors enable constant monitoring of the characteristics of the irrigation water used, and can be modified by manual adjustment of the injection of the individual aspiration channels. DosaBox pre-mixes the fertilisers to obtain a homogeneous nutrient solution, and does not cause pressure loss on the main line.

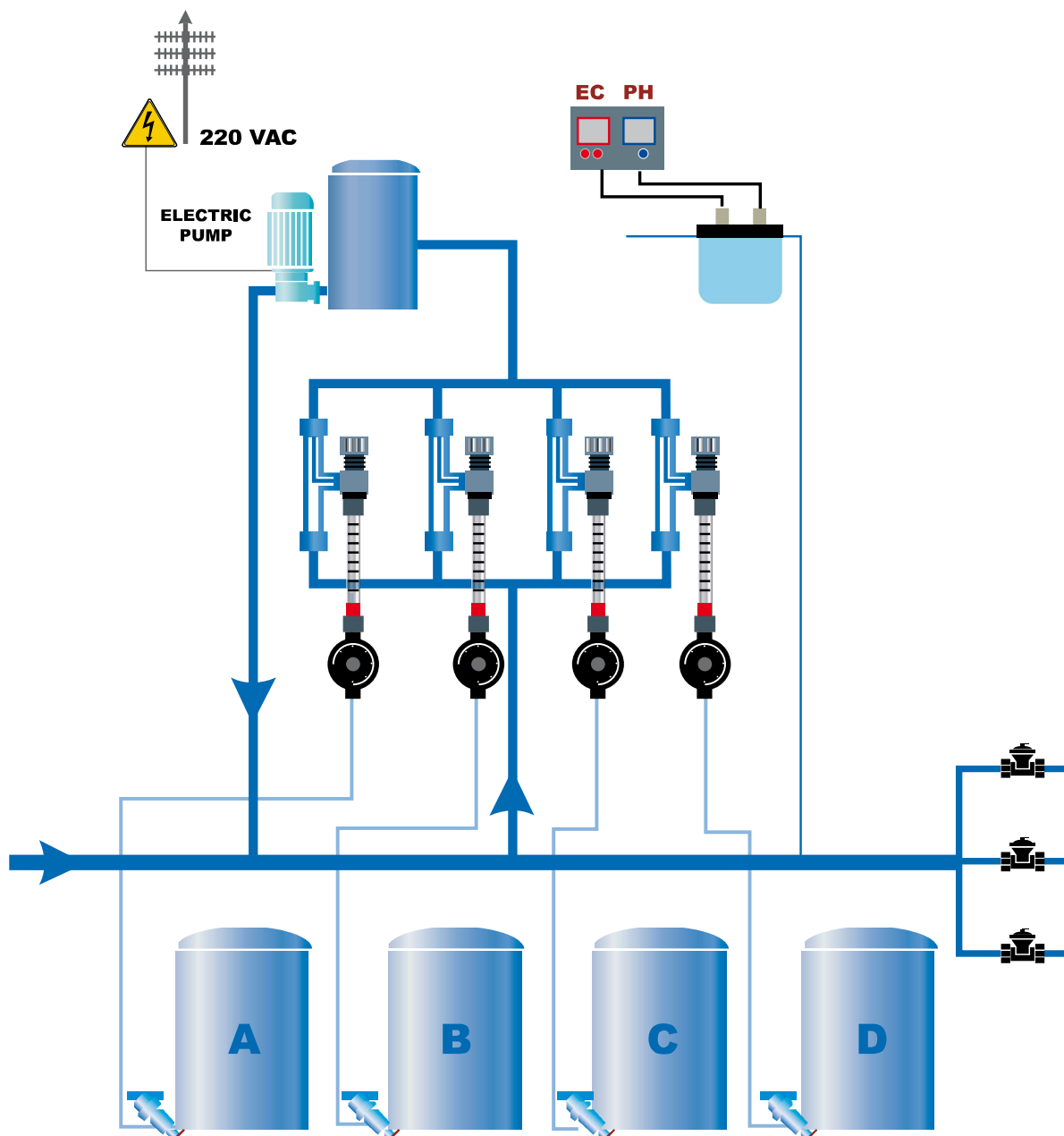




FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

Characteristics:

- From 2 to 4 fertiliser aspiration channels, each 500 l/h
- Volume supplied from 10 to 500 l (at intervals of 10 l) for each channel
- Electric pump 1.2 Kw with rotor in stainless steel
- Pre-mixing tank
- Constant control of the tank level (level valve + sensor)
- Continuous monitoring of the pH and EC
- Easily automated
- Power supply: (3 P+N+E) VAC 50 Hz





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS



IJDBJC

VOLUMETRIC AND PROPORTIONAL FERTIGATION KIT

The automatic DosaBox™ junior is a valuable tool for any business which needs an economical and simple method to get started with fertigation.

This manually operated fertigation unit, equipped with a device to make its proportional management of nutrient injection automatic, offers the user the possibility of optimal results with minimum effort.

Simplicity and precision

The automatic DosaBox™ junior is a modular device that allows dosing of 3 fertilisers in volumetric and proportional mode.

pH and EC monitors enable constant monitoring of the characteristics of the irrigation water used, and can be modified by semi-automatic adjustment of the injection of the individual aspiration channels.

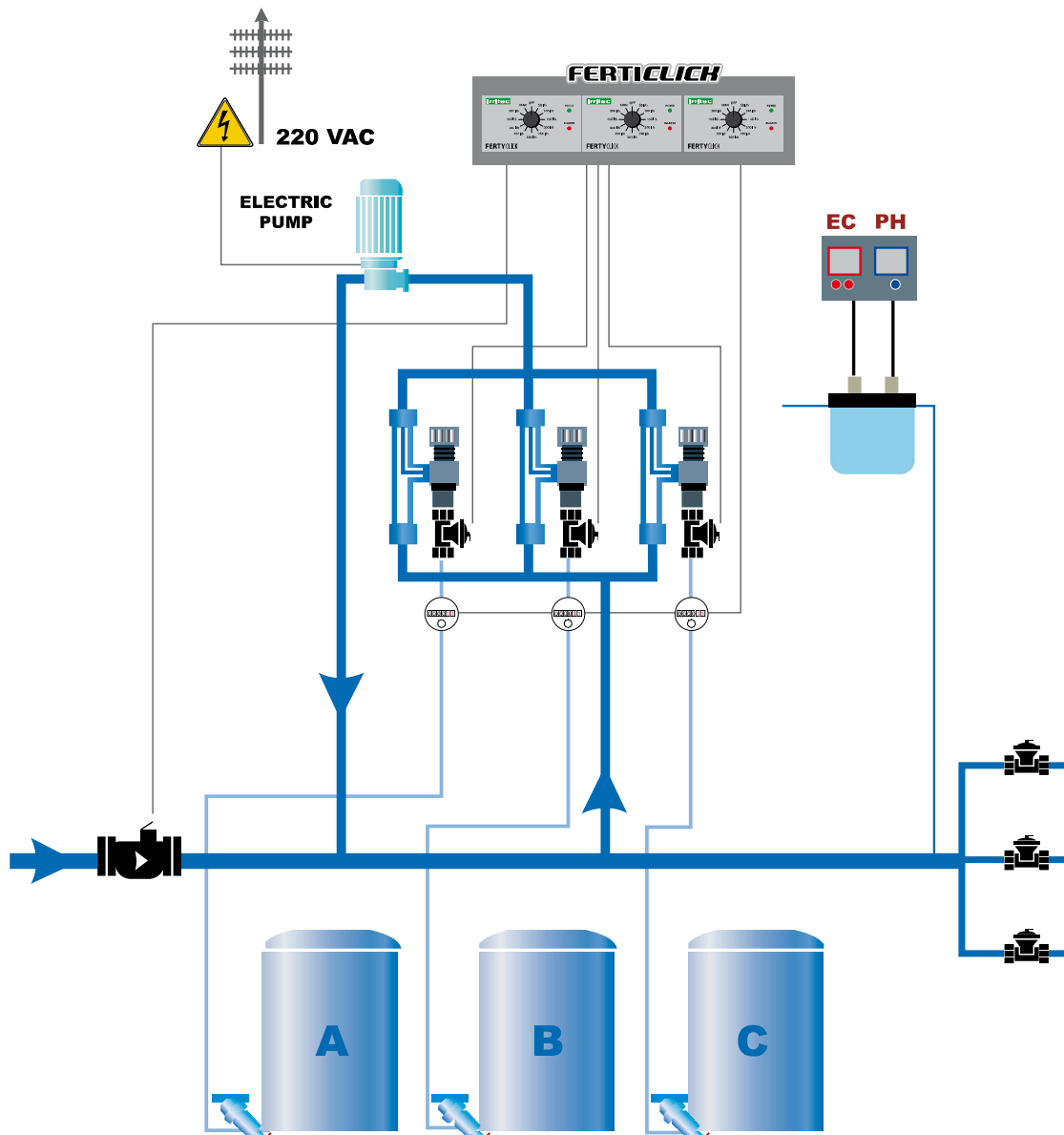




FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

Characteristics:

- 3 aspiration channels (max 500 l/h)
- 3 fertiliser meters (10 impulses /litre)
- Injection pump with rotor and seals in stainless steel 304-220 volt AC (20l/min at 56 m-80l/min at 36 m)
- Electrical ON/OFF switch and pump automatic command
- Display and pH and EC probes
- Outflow control probes support with automatic flow control valve
- Connections (IN 1" male OUT 1" female)
- Inbound filter (5 m3/h with 120 mesh)
- Check valve
- Dimensions:
 - Height 75 cm
 - Width 66 cm
 - Depth 27 cm
- Stainless steel support structure
- Dosage: proportional (with impulse emitting meter) from 0. 1% to 1%
- Insufficient flow rate alarms





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS



IJDBJB

VOLUMETRIC FERTIGATION KIT WITH MOTOR PUMP

DosaBox Junior is a valuable tool for any business lacking in electricity which needs an economical and simple method to get started with fertigation. The fertigation unit, manually operated but easily automatised, is an important first step towards a modern and effective management of crop nutrition.

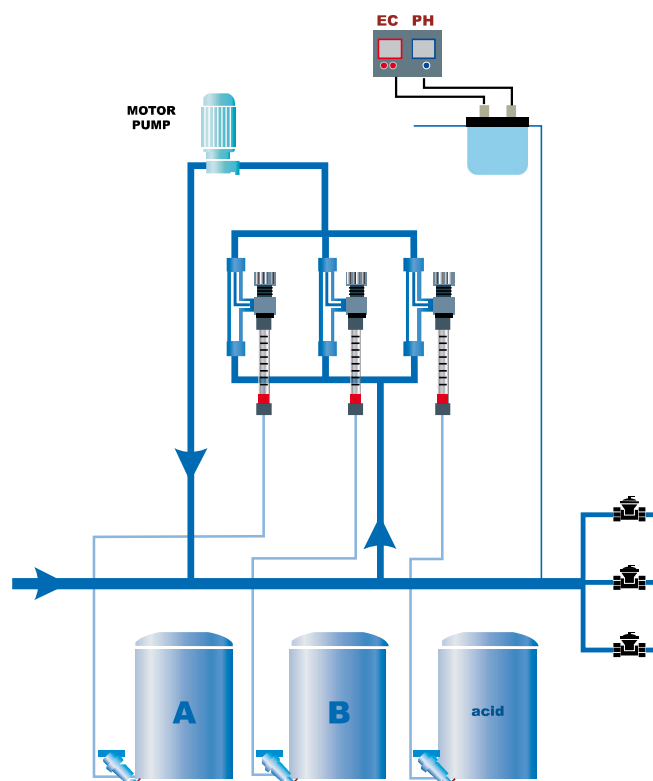
Simple and efficient

DosaBox Junior is a device which allows dosing of 2 fertilisers in volumetric mode and adjustment of the intake speed of each of the nutrients used. Flowmeters and pH and EC monitors enable constant monitoring of the characteristics of the irrigation water used, and can be modified by manual adjustment of the injection of the individual aspiration channels. DosaBox Junior injects fertilisers and, thanks to the motor pump installed, does not cause load loss on the main line.



Characteristics:

- 2 fertiliser aspiration channels, each 500 l/h
- Volume supplied from 10 to 500 l (at intervals of 10 l) for each channel
- Two-stroke motor pump 3m head
- Continuous monitoring of the pH and EC
- Easily automated





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

ACCESSORIES



(IJ) 12582

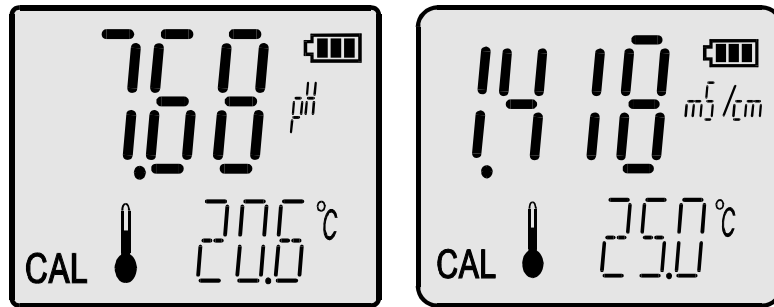
pH/EC panel indicator

with digital display of parameters and integrated electrodes.

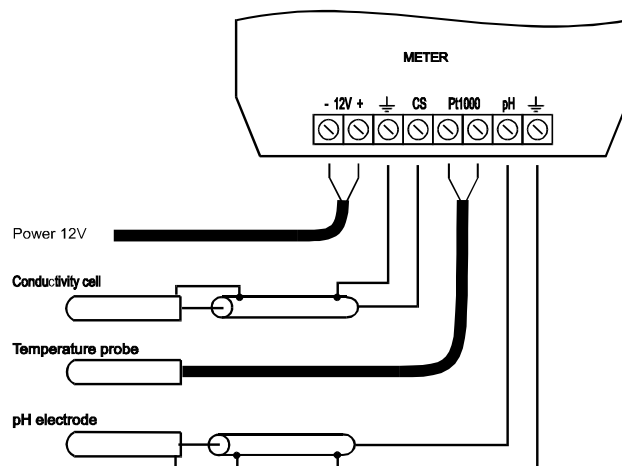
pH calibration is carried out with buffer solutions with known titre:

pH 4.00, 7.00 and 9.00; you can calibrate from one to three solutions.

EC calibration is carried out on a point with buffer solutions with known titre: 1.41mS or 12.90mS



CONNECTION DIAGRAM



Description of the connector strips:

- | | |
|--------|---|
| -12V | • power supply - Negative |
| +12V | • power supply - Positive |
| ⏏ | • braided cable conductivity cell |
| CS | • central wire conductivity cell |
| Pt1000 | • two cables of the temperature probe (interchangeable) |
| pH | • central wire pH electrode |
| ⏏ | • braided cable pH electrode |



FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

FERTICLICK[®]

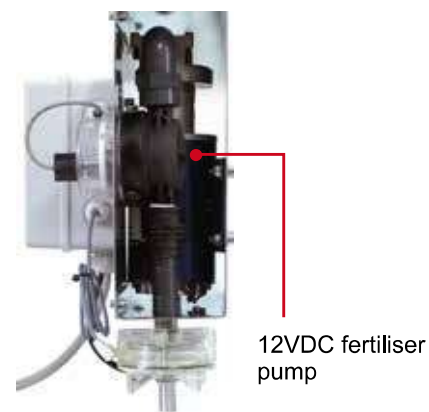
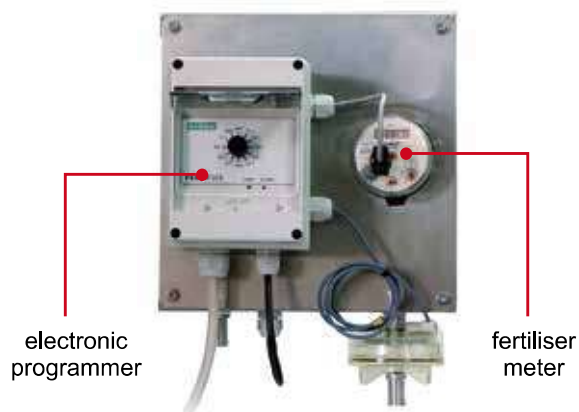
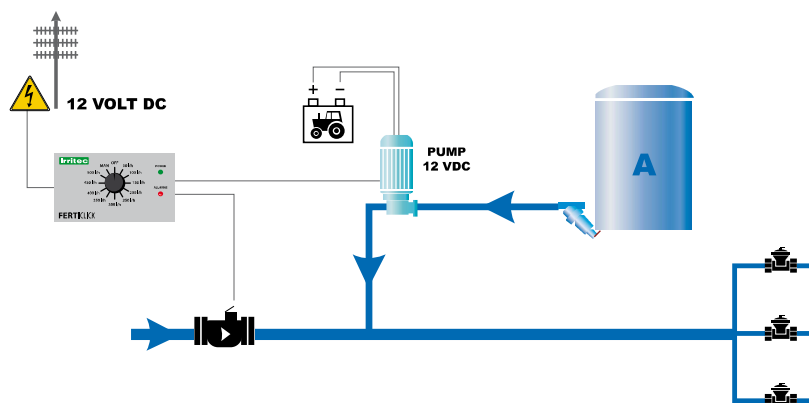
IJFTK - PUMP

The Fertidlick Pump system is an accurate system for simple proportional or volumetric fertigation of fertiliser. It is composed of an easily programmable electronic board, a 12 volt gear pump and a volumetric meter (10 impulses/ litres).

Automatic proportional dosage system 12 VDC.

Characteristics:

- 1 fertiliser with volumetric and proportional dosage at medium flow rate injection 500 l/h at 4 bar
- Insufficient flow rate alarm
- Power supply: 12 VDC
- Outputs: 12 VDC





FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

FERTICLICK[®]

IJBPC - BY PASS

The Ferticlick Bypass is an accurate system for simple, proportional or volumetric fertigation. It is composed of: an easily programmed electronic board, a Venturi bypass, a volumetric meter (10 impulses/litre) and a common solenoid valve.

Simple programming

Simply set the adjustment section to the percentage or volume desired. In order for the machine to work as a percentage, you need an impulse emitting meter - 100 or 1000 l per impulse - installed on the main line. On the contrary, injection is volumetric from 50 to 350 l/h. The Ferticlick control unit has two leds: the green one confirms operation, the red insufficient, useful flow rate to reach the percentage set.

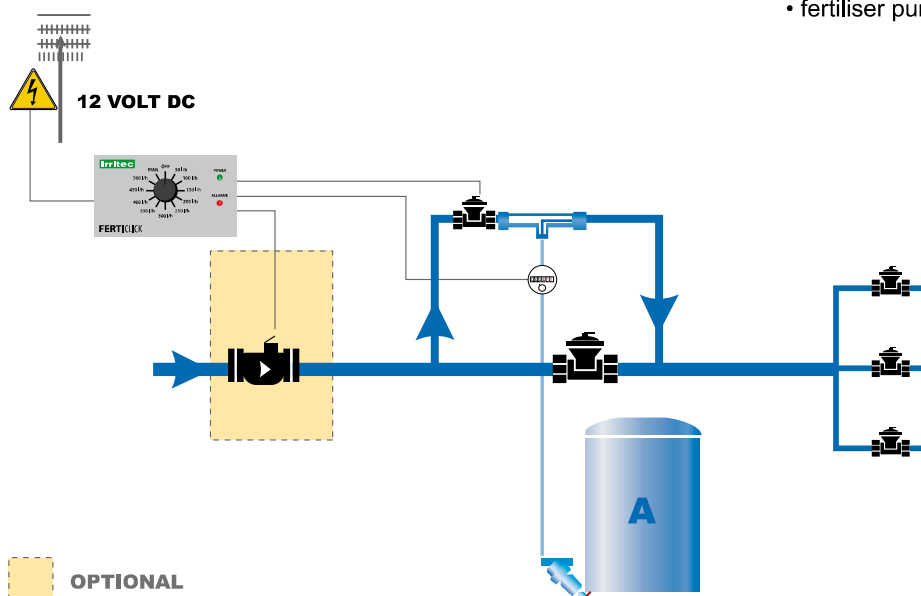


Specifications:

- intake 80 - 350 litres/h
- minimum supply flow rate 130 litres/h

Electrical specifications:

- 12/24 volt DC power supply
- fertiliser meter input
- fertiliser valve output
- fertiliser pump output



FERTIGATION - AUTOMATIC DOSAGE SYSTEMS

IIIDSM - DOSMATIC PUMPS

The hydraulically operated MiniDos and SuperDos volumetric dosing systems have been designed to introduce liquid concentrates into the water supply network in the absence of electricity by exploiting the flow of fluids as an energy source.

MiniDos and SuperDos are equipped with a patented internal mixing chamber that allows a homogeneous mixing, while keeping corrosive chemicals away from the fundamental internal components.

Characteristics:

- MiniDos and SuperDos are available in various models to meet the requirements of the most demanding applications.
- MiniDos and SuperDos are made with a composite material superior to PVDF for chemical compatibility and the mixing with aggressive chemicals.
- The SuperDos 30 and 45 models are supplied with the integrated on/off switch to stop the supply but not the system.
- Separate internal mixing chamber that avoids direct contact of chemicals with the engine piston, for a longer life cycle and uniform mixing.
- Operating pressure according to the highest industry standards to minimize damage due to pressure peaks.
- The MiniDos and SuperDos volume dispensers are equipped with interchangeable intake groups that can be adjusted during operation.



General Specifications

	MiniDos	SuperDos
Housing	Proprietary composite material	Proprietary composite material
Dosage	+/- 10%	+/- 5%
Repeatability	+/-3%	+/-3%
Max fluid temperature	38°C	38°C
Max. fluid temperature	1°C	1°C
Max vertical suction of concentrate	3,6 m	3,6 m
Available sealing material *	Aflas - Viton - EPDM	Aflas - Viton - EPDM - Kalrez

* Contact your local representative for information on specific chemical properties

Technical data

Model	M / M attacks	Model number	Operating pressure (bar)	Water flow-rate (l/h)	Dilution %	Proportion
MiniDos 2,5 %	3/4"	112603GB	0.5 - 9.6	7 - 2,700	0.5 - 2.5	1:200 - 1:40
MiniDos 5 %	3/4"	112605GB	0.5 - 9.6	7 - 2,700	1.0 - 5.0	1:100 - 1:20
MiniDos 10 %	3/4"	112607GB	0.5 - 4.5	16 - 2,200	2.0 - 10.0	1:50 - 1:10
SuperDos 15 2.5%	1"	113702GB	0.2 - 4.1	10 - 3,400	0.2 - 2.5	1:500 - 1:40
SuperDos 20 2.5%	1"	113705GB	0.4 - 6.9	11 - 4,500	0.2 - 2.5	1:500 - 1:40
SuperDos 30 2.5%	1"	113709GB	0.4 - 6.9	34 - 6,800	0.2 - 2.5	1:500 - 1:40
SuperDos 30 5%	1"	113710GB	0.4 - 6.9	34 - 6,800	0.4 - 5.0	1:250 - 1:20
SuperDos 45 2.5%	1 1/4"	113712GB	0.4 - 6.9	57 - 10,000	0.2 - 2.5	1:500 - 1:40
SuperDos 45 5%	1 1/4"	113715GB	0.4 - 5.5	57 - 10,000	0.4 - 5.0	1:250 - 1:20

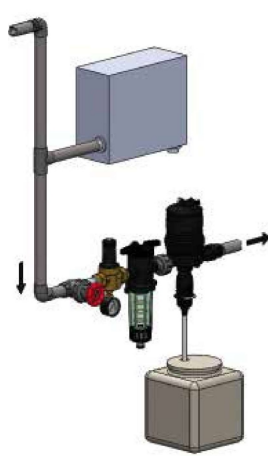


FERTIGATION - INJECTION SYSTEMS

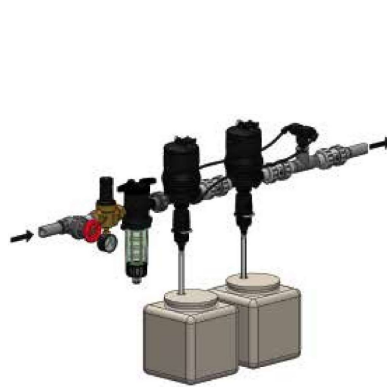
BASIC INSTALLATION



linear installation



installation of
the supply tank



linear double-sided
installation



derivation
installation





FERTIGATION - INJECTION SYSTEMS

VENTURI

IJIVP - VENTURI

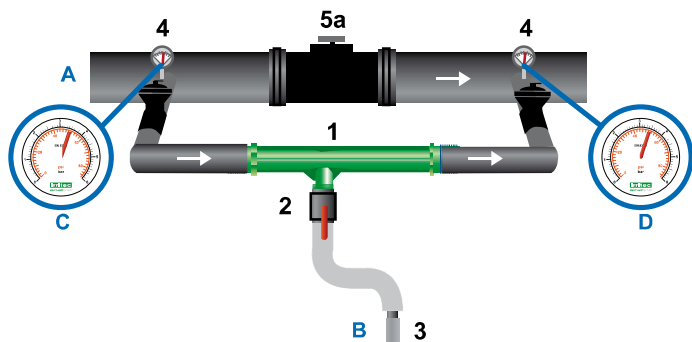
The new venturi injectors, with the renewed technical design, widen Irritec range for the in line injection of fertilizers.

Available in the sizes $\frac{3}{4}$ " - 1" - 1½" - 2", built with materials of high mechanical and chemical resistance, they assure the regular distribution of fertilizers in the irrigation system. Precise and efficient, they need a small pressure difference to assure a high aspiration performance. Irritec finds the correct equilibrium between technique and practicality in the simplicity of the physical principle, designing a secure and efficient injector.

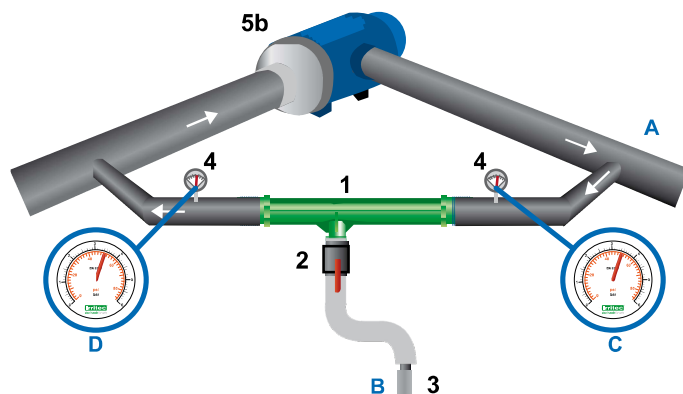


Installation

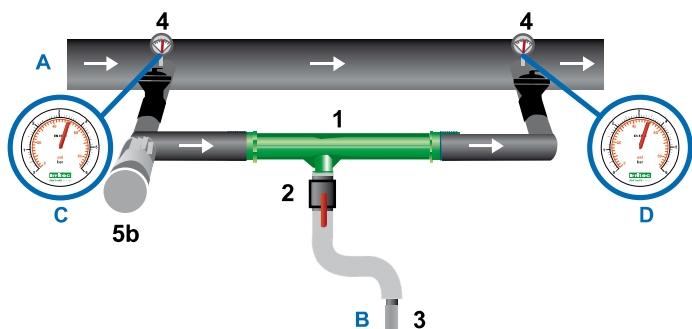
by pass with pressure regulator



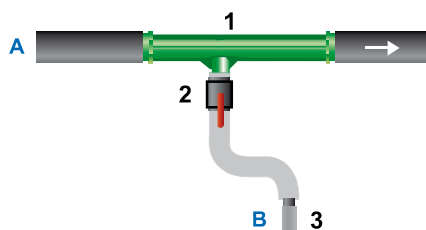
by pass with suction pump



by pass with pressurized pump



on line



- 1 INJECTOR
- 2 METERING VALVE
- 3 FILTER
- 4 ELECTRIC PUMP
- 5 PRESSURE GAUGE
- 6 PRESSURE REDUCTION DEVICE

- A INLET PRESSURE
- B OUTLET PRESSURE
- C INLET FLOW RATE
- D SUCTION FLOW RATE

→ FLOW RATE




FERTIGATION - INJECTION SYSTEMS



Inlet pressure bar	INJECTOR 3/4"			INJECTOR 1"			INJECTOR 1 1/2"			INJECTOR 2"		
	Outlet pressure bar	Inlet flow rate lt/min	Aspiration flow rate lt/h	Outlet pressure bar	Inlet flow rate lt/min	Aspiration flow rate lt/h	Outlet pressure bar	Inlet flow rate lt/min	Aspiration flow rate lt/h	Outlet pressure bar	Inlet flow rate lt/min	Aspiration flow rate lt/h
0,35	0,00	13	90	0,00	26	360	0,00	54	590	0,00	160	2130
	0,10	11	63	0,10	23	198	0,10	45	294	0,10	140	1570
	0,20	10	27	0,20	21	84	0,20	43	200	0,20	122	505
	0,28	-	ns	0,28	-	ns	0,28	-	ns	0,28	113	175
	0,30	-	ns	0,30	-	ns	0,30	-	ns	0,30	-	ns
0,70	0,00	17	96	0,00	36	372	0,00	74	720	0,00	200	2220
	0,40	14	54	0,40	31	144	0,40	64	450	0,40	190	2200
	0,50	14	21	0,50	31	90	0,50	58	108	0,50	162	522
	0,60	-	ns	0,60	-	ns	0,60	-	ns	0,60	160	10
1,00	0,00	19	90	0,00	40	354	0,00	83	720	0,00	230	2040
	0,40	19	90	0,40	39	270	0,40	74	483	0,40	225	2040
	0,70	16	30	0,70	37	108	0,70	70	180	0,70	195	600
	0,84	-	ns	0,84	-	ns	0,84	-	ns	0,84	-	ns
1,40	0,00	22	90	0,00	47	336	0,00	93	720	0,00	256	1980
	0,35	22	90	0,35	47	336	0,35	90	642	0,35	256	1980
	0,70	22	90	0,70	46	264	0,70	86	440	0,70	238	1386
	1,00	19	40	1,00	45	126	1,00	83	204	1,00	226	642
2,10	0,00	26	90	0,00	56	312	0,00	110	700	0,00	330	1980
	0,35	26	90	0,35	56	312	0,35	110	700	0,35	310	1980
	0,70	26	90	0,70	56	312	0,70	110	678	0,70	314	1980
	1,00	26	90	1,00	56	312	1,00	108	600	1,00	307	1740
	1,40	25	63	1,40	54	204	1,40	104	390	1,40	300	1080
3,10	1,70	23	18	1,70	53	36	1,70	99	70	1,70	290	270
	0,00	32	90	0,00	66	300	0,00	131	700	0,00	358	1950
	1,35	32	90	1,35	66	300	1,35	131	700	1,35	358	1950
	1,70	32	90	1,70	66	300	1,70	131	700	1,70	357	1950
	1,00	32	90	1,00	66	300	1,00	131	700	1,00	357	1950
	1,70	32	90	1,70	66	300	1,70	130	630	1,70	353	1650
	2,00	31	83	2,00	66	282	2,00	127	504	2,00	344	1314
4,10	2,40	29	39	2,40	65	123	2,40	124	213	2,40	337	534
	0,00	37	90	0,00	77	300	0,00	134	700	0,00	450	1950
	2,00	37	90	2,00	77	300	2,00	134	700	2,00	440	1950
	2,40	37	90	2,40	77	300	2,40	134	612	2,40	394	1740
	3,00	36	66	3,00	76	230	3,00	132	324	3,00	386	1050
5,50	3,24	35	36	3,24	-	ns	3,24	132	168	3,24	380	500
	0,00	42	90	0,00	90	300	0,00	159	720	0,00	460	1950
	2,06	42	90	2,06	90	300	2,06	159	720	2,06	460	1950
	3,10	42	90	3,10	90	300	3,10	158	708	3,10	460	1884
	4,10	41	70	4,10	90	255	4,10	156	378	4,10	445	1104
6,90	4,48	40	32	4,48	89	84	4,48	154	132	4,48	440	276
	0,00	47	90	0,00	95	300	0,00	178	720	0,00	530	1950
	2,75	47	90	2,75	95	300	2,75	178	720	2,75	530	1950
	4,50	47	90	4,50	95	300	4,50	177	660	4,50	530	1950
	5,20	46	81	5,20	94	234	5,20	175	384	5,20	510	1308
	5,44	46	57	5,44	94	147	5,44	174	240	5,44	510	888

NS: no suction

CERTIFICATIONS

	Brand	Standard	Description	Organization	Certificate n°
System	 	UNI EN ISO 9001:2015	Quality management system	IIP / CISQ	964
		UNI EN ISO 14001:2015	Environmental management system	IIP / CISQ	174
		UE 952/2013	Authorized Economic Operator	Italian Customs Agency	IT AEOF 16 1155

	Paese	Brand	Standard	Description	Organization	Certificate n°
Product	ITALY	 	UNI 9561:2006	Connecto™ +Ultra	IIP	1430
			ISO 9261:2004	Dripline Mono™ - Rootguard Mono™ - Tandem™ - Rootguard Tandem™	IIP	1441 - 1442
				Dripline Multibar™ C- Rootguard Multibar™ C	IIP	1441 - 1442
				Dripline D5™	IIP	1442
				Dripline Junior™	IIP	1441 - 1442
				Dripline P1®	IIP	1442
	GERMANY		DLG SIGNUM TEST	Dripline Mono™ 2,1lph	DLG	5509
				Dripline Multibar™ 1,6lph	DLG	5508
				Dripline P1® 1,1lph	DLG	5506
				Dripline Tape 0,9lph	DLG	5507
	SOUTH AFRICA		SANS 14236:2003	Connecto™ +Ultra	SABS	8357/13262
				Connecto™ +Ultra	JASWIC	1624/1
	SWITZERLAND		TPW 157	Connecto™ +Ultra	SVGW	1103-K 298
	AUSTRALIA		AS/NZS 4129:2008	Connecto™ +Ultra	SAI GLOBAL	WMKA21524
	ENGLAND		BS 6920-2.1:2000	Connecto™ +Ultra	WRAS	1712054
	ISRAEL		IS 5283	Connecto™	SII	36526
	RUSSIA		-	Sanitary certificate	GOST	3258336
			Various	Connecto™ - Connecto™ Plus - Threaded fittings	GOST	1119040
				Plastic accessories	GOST	1260161
				Dripline Multibar™ - P1® - P1® Rootguard - Rootguard - i-Tape	GOST	0998860
	POLAND		Various	Connecto™ PN10 - Connecto™ +Ultra PN16 - Clamp saddles	ITB	AT-15-7862/2016
			-	Sanitary certificate	-	HK.W.0091.01.2015
	HUNGARY		Various	Connecto™ PN10 - Connecto™ +Ultra PN16 - Clamp saddles	EMI	A 705/2009
	UKRAINE	-	-	Sanitary certificate	-	58960
		-	Various	All	-	UA1.170.0087539-12



This image shows a full page of blank handwriting practice paper. It features multiple sets of horizontal lines, each set consisting of three dashed lines to define the height of capital letters and a solid baseline. The entire page is otherwise empty, providing space for writing practice.

[illegible]



This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



CONTACT US !



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