



DOSATRON®

WATER POWERED DOSING TECHNOLOGY

fertigation and chemigation



The objectives of fertigation are to control water quantities and added nutrients necessary for optimum growth of crops.

Dosatron offers a constant injection ratio and uniform and proportional injection, adding flexibility to simple or automated systems, so that the producer can very easily take action whenever he considers it necessary.

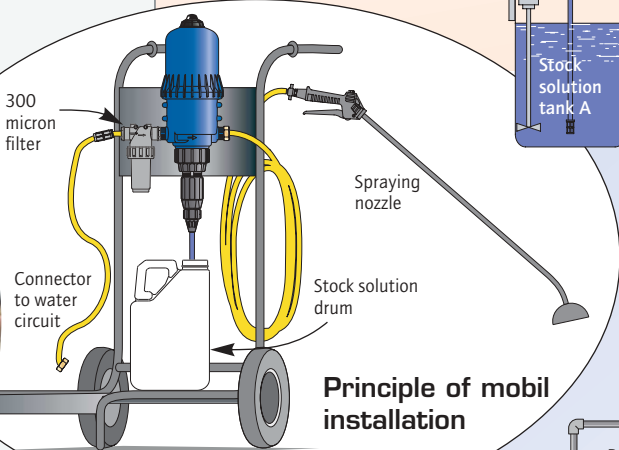
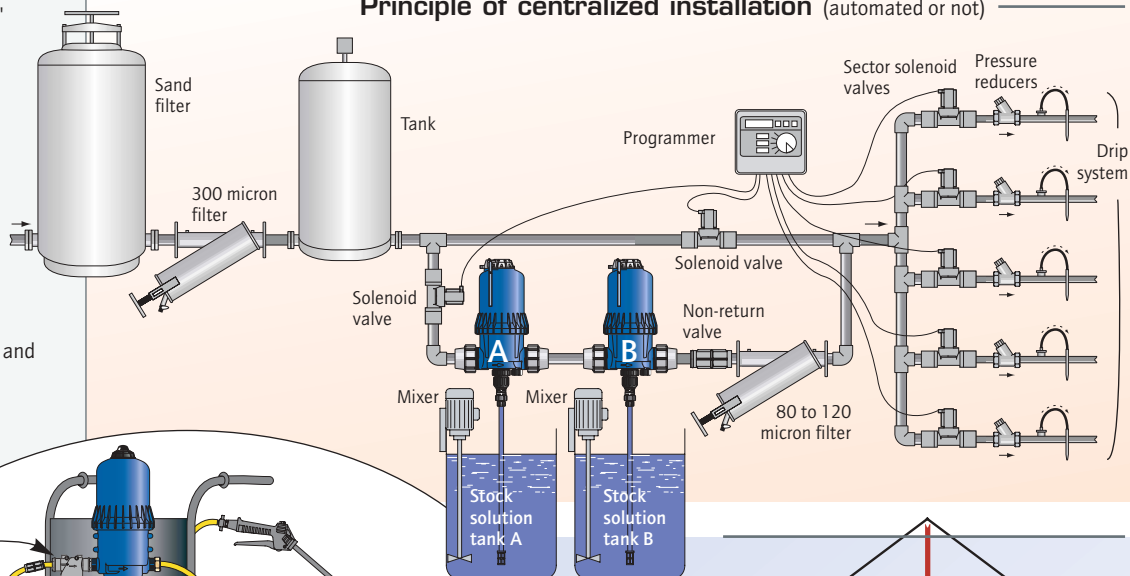
**Water
powered
volumetric
proportional
dosing**

Advantages of the fertigation

- Significantly better agronomic efficiency by simultaneous supply of water and minerals.
- Small but numerous applications of nutrients to best satisfy the different needs of crops.
- Limitation of "leaching" due to small but frequent additions of nutrients.
- Application of nutrient solutions through the irrigation system, providing homogenous distribution in the different parcels.
- Thus, minerals reach the heart of the root system, and crop needs can be satisfied immediately at all stages.
- Savings of water, products and labor.
- Automation possibilities.

Total bypass installations

Principle of centralized installation (automated or not)

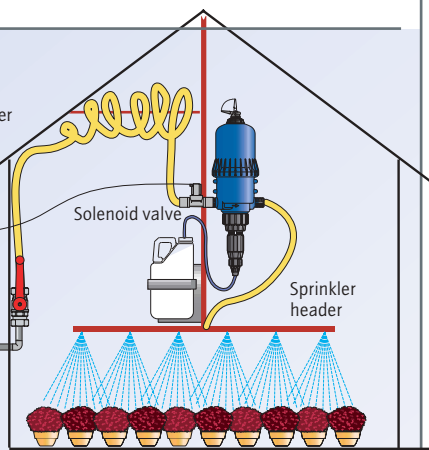
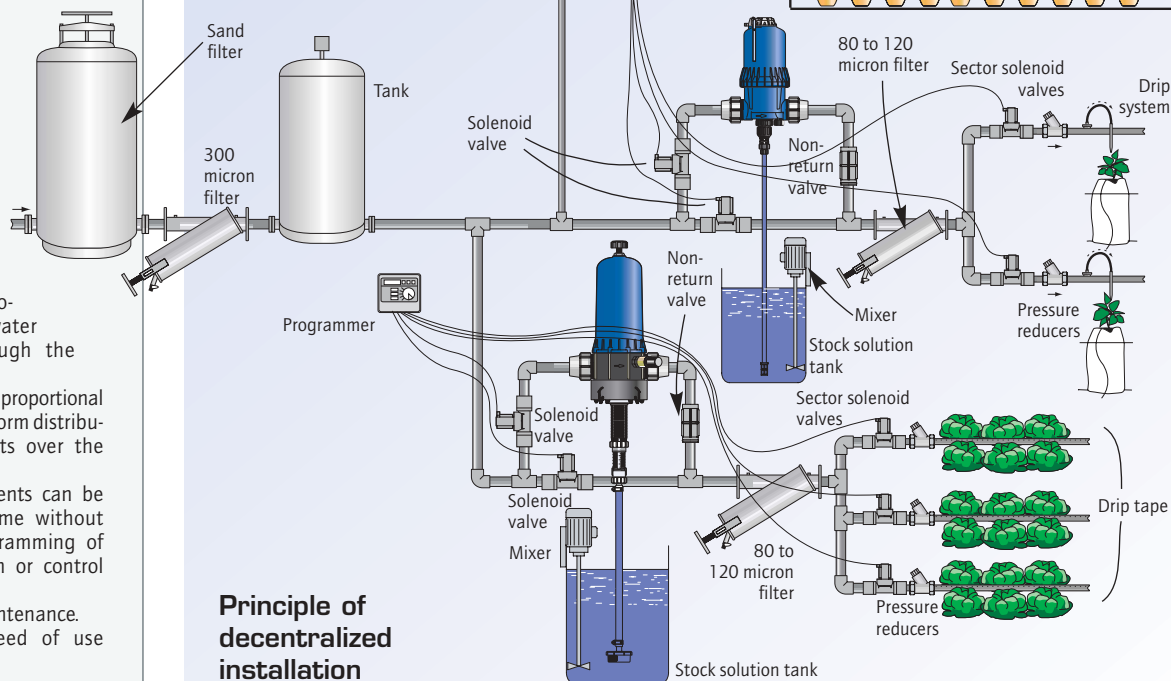


Principle of mobil installation

Advantages of Dosatron

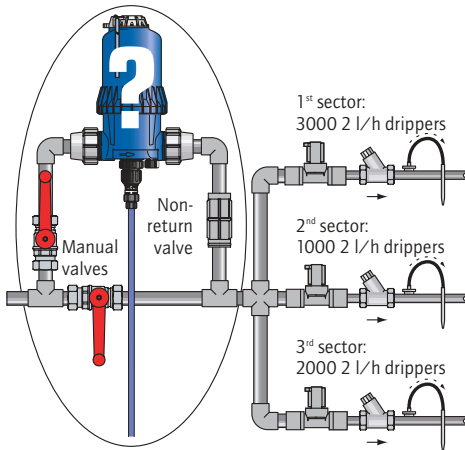
- Hydraulic, no electricity required.
- Precise: Dosing proportional to the water flow passing through the Dosatron.
- Unlike other systems, proportional dosing provides uniform distribution of the products over the entire sector(s).
- Dosing and treatments can be changed at any time without changing the programming of the entire irrigation or control system.
- Ease of use and maintenance.
- Flexibility and speed of use (fixed or mobile).

Principle of decentralized installation (automated or not)



How to choose your Dosatron

The choice of the Dosatron essentially depends on the required irrigation flow.
Example



1. Calculation of the required irrigation flow

Minimum irrigation flow:
Multiply the number of drippers (or sprinklers or nozzles) in the smallest sector by their unit flow:

$$1\ 000 \times 2\ \text{l/h} = 2\ 000\ \text{l/h} = 2\ \text{m}^3/\text{h}$$

Maximum irrigation flow:
Multiply the total number of drippers in all sectors by their unit flow:

$$3\ 000 + 1\ 000 + 2\ 000 = 6\ 000 \times 2\ \text{l/h} = 12\ 000\ \text{l/h} = 12\ \text{m}^3/\text{h}$$

2. Choice of the Dosatron

Its minimum flow

Its minimum flow capacity must be equal to or less than the required irrigation flow in the smallest sector.

E.g.: Sector 2: 2 m³/h

Possibilities:

D 45: 100 l/h to 4.5 m³/h
D 8 R: 500 l/h to 8 m³/h
D 20 S: 1 m³/h to 20 m³/h

Its maximum flow

Possibilities:

1° For simultaneous fertigation of all sectors:
Maximum required irrigation flow,

namely $\geq 12\ \text{m}^3/\text{h}$:
the required Dosatron is the D 20 S, up to 20 m³/h

2° For fertigation, one sector at a time:
Required irrigation flow in the largest sector,

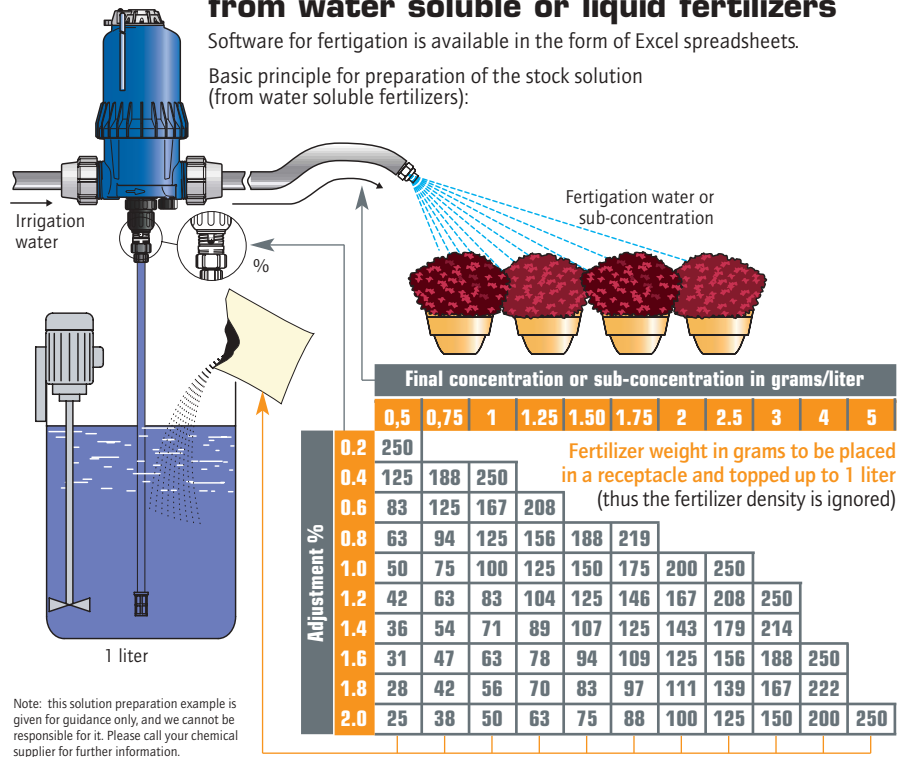
namely $3\ 000 \times 2\ \text{l/h} = 6\ 000\ \text{l/h}$, namely $\geq 6\ \text{m}^3/\text{h}$:
the required Dosatron in the D8R up to 8 m³/h

Note: it is preferable to choose a Dosatron with a maximum flow capacity higher than the required irrigation flow in order to optimize its life.

Software for preparation of the stock solution from water soluble or liquid fertilizers

Software for fertigation is available in the form of Excel spreadsheets.

Basic principle for preparation of the stock solution (from water soluble fertilizers):



Note: this solution preparation example is given for guidance only, and we cannot be responsible for it. Please call your chemical supplier for further information.

Recommendations:

- Standards and regulations in force in the country must be respected during installation and use on the drinking water network.
- The installation must comprise a disconnecter or a non-return valve upstream the injection system to prevent from any pollution of the water source.
- Install a 300-micron filter upstream the Dosatron, depending on the water quality.

Note: the built-in filter in some models is no more than a final safety device, and it must never be used to replace the filter upstream.

- For assemblies in parallel, a single stock solution tank should be used to supply the various Dosatrons.
- Never use an inlet T at the intake to draw in two different solutions.
- The motor is lubricated by water, never apply grease to the motor.

For protection against water hammer, it is recommended that:

- Slowly opening and closing solenoid valves should be used.
- If a Dosatron is used to supply several sectors, activate the solenoid valves simultaneously (close one sector and open another sector at the same time).
- Start irrigation first, and start fertilization (total bypass installation) only once the whole irrigation system is full of water (after a few minutes).

The level in the stock solution tank must never be higher than the Dosatron (risk of siphoning).

For acid dosing, it is preferable to move the acid drum away from the Dosatron and put a cover on the drum.

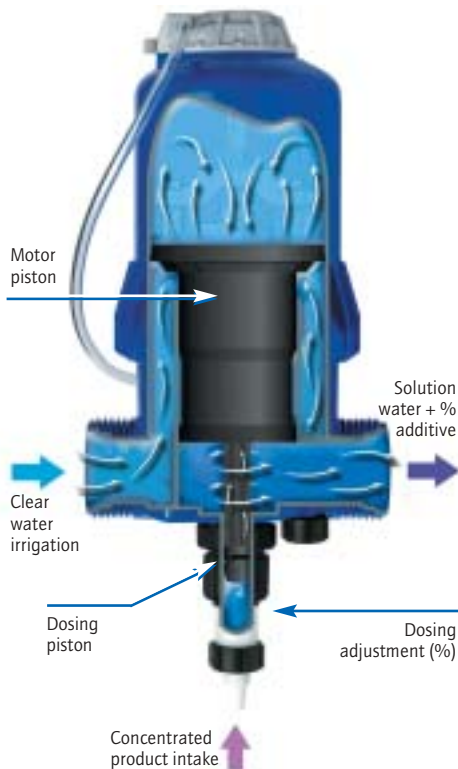
Note: If the weight of acid in the stock solution is more than 6% and up to 10%, choose a PVDF model (see option on page 4).



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Operating principle

Installed directly in the water supply line, the Dosatron operates by using the flow of water as the power source. The water activates the Dosatron, which takes up the required percentage of concentrate directly from the container and injects it into the water. Inside the Dosatron, the concentrate is mixed with the water, and the water pressure forces the solution downstream. The dose of concentrate will be directly proportional to the volume of water entering the Dosatron, regardless of variations in flow or pressure, which may occur in the main line.



Recommended models*



2.5
m³/h

Operating water flow:
10 l/h to 2.5 m³/h
ref. - injection rate:
DI 1500 - 0.07 to 2 %
DI 2 - 0.5 to 2 %
DI 16 - 0.2 to 1.6 %
DI 150 - 1 to 5 %



4.5
m³/h

Operating water flow:
100 l/h to 4.5 m³/h
ref. - injection rate:
D 45 RE 1.5 - 0.2 to 1.5 %
D 45 RE 3 - 0.5 to 3 %



8
m³/h

Operating water flow:
500 l/h to 8 m³/h
ref. - injection rate:
D 8 R - 0.2 to 2 %
D 8 R 150 - 1 to 5 %



20
m³/h

Operating water flow:
1 m³/h to 20 m³/h
ref. - injection rate:
D 20 S - 0.2 to 2 %



30
m³/h

Operating water flow:
10 m³/h to 30 m³/h
ref. - injection rate:
D 30 S - 0.25 to 1.25 %



60
m³/h

Operating water flow:
10 m³/h to 60 m³/h
ref. - injection rate:
D 60 S - 0.1 to 0.65 %

***WARNING:** Please call your dealer for dosing of corrosive products before use, in order to confirm compatibility with the Dosatron.

Vacuum breaker



The vacuum breaker at the outlet prevents the solution tank from uncontrolled suction when the irrigation network is not under pressure. It must be installed before the Dosatron is put into operation.

Pest-control option



*The PVDF option is needed for pest-control treatments, strong acids or chlorine based products.

Other Dosatron applications

- Pest-control *
- Maintenance of networks and irrigation systems
- Acidification*
- Soil disinfection
- Post-harvest treatment
- Conservation and disinfection of cut flowers
- ...

A wide range of dosing units combined with a broad choice of options (high flow, micro dosage, highly chemical resistant materials...) means that we can address all your needs.

CUSTOMER SERVICE - SERVICE CLIENTÈLE

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