



DOSATRON®

WATER POWERED DOSING TECHNOLOGY



medication through drinking water



Proportional dosing of additives into drinking water

For a long time now, drinking water treatment has proved its worth in terms of flexibility, speed and efficiency. The current development of legislation and constant improvement of treatment solubility are indicative of regained interest in the technique.

The advantages of medication through drinking water

- In general, sick animals or animals under stress continue to drink to compensate for hyperthermia and dehydration.
- Compared to the feed, drinking water guarantees quick action and the assimilation of treatment before irreversible lesions appear, also minimizing the spread of infection.
- It offers flexibility and continuous implementation (adjustment of the dose, changes and association of treatment possible under veterinary control).
- Treatment is more homogeneous and the proportions more regular than with treatment by feed.
- There are fewer risks of contamination and/or antibiotic residue on slaughter.
- There is no interference between treatment and other additives in the feed.

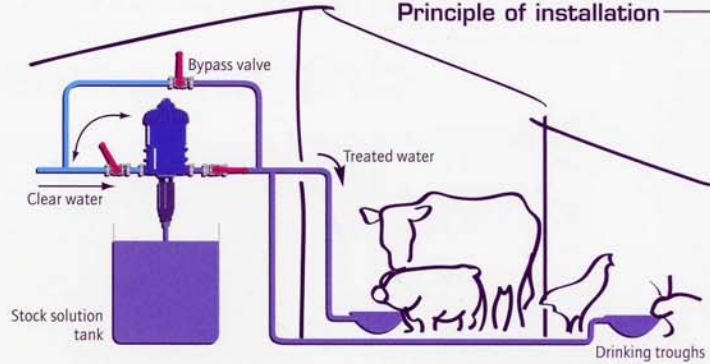


Dosatron advantages

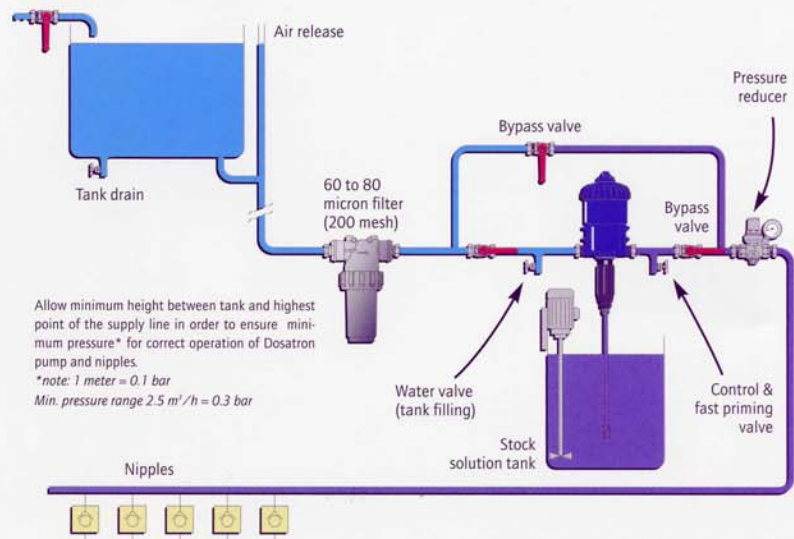
- Fast to implement in case of emergency.
- Doses and treatment can be modified at any time.
- Limitation of sedimentation, deposits and contamination (rising temperature) in the tanks (improved hygiene conditions).
- Dosatron also allows the sanitation of water pipes and drinking troughs.
- It is compact and facilitates the preparation of the treatment.
- Possibility of using mobile Dosatron medication units (mounted on a cart).
- Limits risks by simplifying powder handling compared to gravity medication tanks: moisture, weight, transport.
- No problems of filling medication tanks, sometimes several times per day (un-adapted tank size).
- Less dosing errors when preparing the treatment.
- Avoiding the risk of over-dilution of the treatment in the medication tank (operated with float valve) or non-supply of water after medication.
- Self-priming.
- Precise dosing, regardless of variations in flow or pressure, which may occur in the main line.
- Fits easily into existing watering systems.
- More than 30 years' experience in live-stock and over 1 million dosing pumps sold worldwide.

Installations

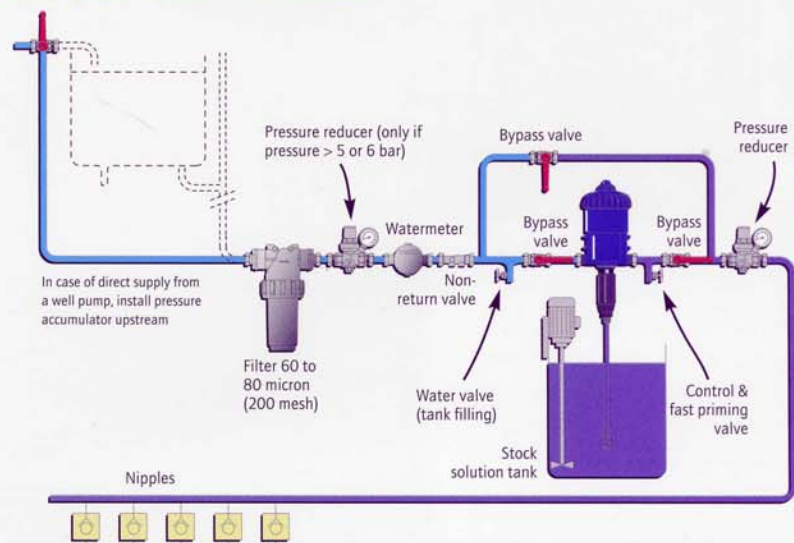
Principle of installation



Gravity tank installation

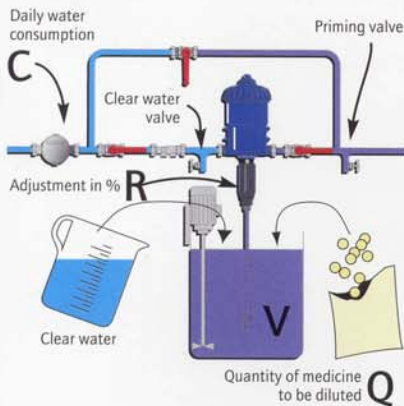


Main Water Network Installation



Medication calculation based on posology

Method



Quantity of medicine "Q" to be prepared for 1 day

N: Number of animals to be treated (e.g.: 20,000 broilers)

P: Average body weight in kg (e.g.: 1 kg)

Po: Medicine posology in mg/ml per kg of body weight (e.g.: 10 mg/kg)

Cm: Medicine active ingredient concentration (in %) (e.g.: 10%)

$$Q = N \times P \times P_o \times 100 / C_m \text{ (in \%)}$$

$$Q = 20\,000 \times 1 \text{ kg} \times 10 \text{ mg} \times (100 / 10)$$

$$Q = 2\,000\,000 \text{ mg} = 2 \text{ kg}$$

Volume of stock solution "V" for 1 day

C: Daily water consumption in liters (e.g.: 3,000 l)*

R: Dosatron adjustment in % (e.g.: 3%)

V: Volume of stock solution (medicine+ water) for 1 day (in liters)

$$V = C \times R \text{ (in \%)} / 100$$

$$V = 3\,000 \times 3 / 100$$

$$V = 90 \text{ liters}$$

Conclusion

1. Prepare 2 kg of medicine (Q)
2. Mix medicine with tepid water, up to 90 liters (V). (Check the solubility limits)**
3. Adjust the Dosatron at 3%

Calculation software for medication

Medication calculation software is available in Excel spreadsheet form. Typical software presentation:

DOSATRON POUFLRY WATER MEDICATION

Number of birds to be medicated: 15 000

Average body weight per bird (in g): 1 000

Water consumption per day (in liter): 2 000

DOSATRON %: 3,00

1500 g or ml of XXXXX

STOCK SOLUTION TO PREPARE FOR 1 DAY MEDICATION	
Water + XXXXX (in Liters)	60,00
Stock solution concentration (in g/l)	25,00

NAME OF THE MEDICINE	XXXXX
Posology (in mg/kg or ml/kg of body weight)	10
Concentration of active ingredient (in %)	10
Solubility limit of the medicine (in g/l)	50
Quantity of XXXXX for 1 day medication (in g or ml)	1 500,00

* Respect veterinary recommendations.
** You can improve the solubility into the stock solution by increasing the Dosatron % or using a medicine compatible solvent.
*** After each medication, always flush Dosatron & the mixing tank injecting clear water and let it work 24 hours.

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* Estimated daily water consumption

3 methods for establishing your consumption:

1. Consumption statistics based on age/weight (relatively inaccurate).
2. Check of water meter over 24-hour period before medication
3. Use Dosatron, for instance at 1% (injecting water) and check injected water volume for period of 24 h. This gives the exact stock solution volume (water + medicine) to be prepared for one day's treatment.

** Solubility (acid-base classification)

Weak Acids***

Amoxicillin / Ampicillin / Quinolons / Flumequine / Sulfadimerazine / Sulfadimethoxin / Sulfadiazine / Vitamin C / Aspirin

Weak bases***

Colistine (strong base) / Erythromycin / Neomycin / Spiramycin / TMP / Macrolids / Oxytetracyclin / Bromhexin / Tiamutin

***These are just given as an indication. Please refer to recent local legislation on authorized medicines.

Acid medication is more soluble in alkaline water. Alkaline medication is more soluble in acid water. Note : systematically consult the pharmaceutical laboratories to establish the solubility of the medicine and if necessary the compatible solubilizing agents.

Medication procedure

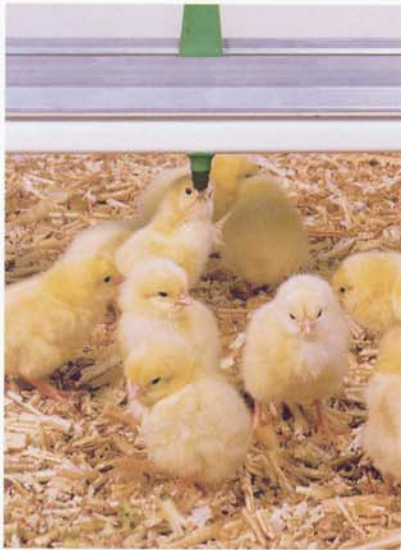
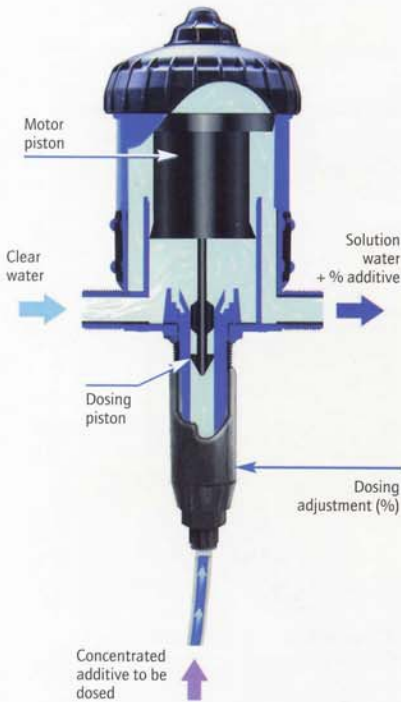
1. Dilute the treatment with tepid water (20 to 30°C), adding powder to water (and not the other way around).
2. If necessary, first add a compatible solubilizing agent. Alternative: Increase Dosatron ratio to get a higher dilution rate in the stock solution.
3. Use a plastic dilution tank with an electric mixer or a stirrer (preferably out of plastic) and wait 30 to 45 min. before treating.
4. Open the bypass valve feeding the Dosatron and close the bypass valve on the main pipe.
5. Use the priming valve located downstream of the Dosatron to prime the Dosatron quickly. Close once priming is done and medication may begin (the strainer on the suction hose must be a few centimeters above the bottom of the tank).
6. After treatment, systematically rinse out the tank with water and let the Dosatron run and inject clear water for 24 h.
7. Then close the Dosatron bypass valves while opening the main pipe valve.



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Efficiency without electricity

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*

Selection criteria

1. Maximum flow rate in l/h, depending on number of animals
2. Maximum dosing rate : the higher the percentage the better the treatment solubility will be

* **WARNING :** Before using any aggressive chemicals, please consult your distributor to confirm compatibility with your Dosatron. Special materials and seals are available.



D 25 RE 2

flow range: 10 à 2500 l/h
operating pressure: 0.3 à 6 bar
dosage: 0.2 à 2 %
concentrate additive injection: 0.02 à 50 l/h



D 25 RE 5

flow range: 10 à 2500 l/h
operating pressure: 0.3 à 6 bar
dosage: 1 à 5 %
concentrate additive injection: 0.1 à 125 l/h



D 25 RE 10

flow range: 10 à 2000 l/h
operating pressure: 0.3 à 4 bar
dosage: 3 à 10 %
concentrate additive injection: 0.3 à 200 l/h



D 45 RE 3*

flow range: 100 à 4500 l/h
operating pressure: 0.5 à 5 bar
dosage: 0.5 à 3 %
concentrate additive injection: 0.5 à 135 l/h

*recommended for buildings housing more than 50,000 layers



D 8 R*

flow range: 500 à 8000 l/h
operating pressure: 0.15 à 8 bar
dosage: 0.2 à 2 %
concentrate additive injection: 1 à 160 l/h

*recommended for buildings housing more than 50,000 layers

Other Dosatron applications

- Vaccination
- Supplementation
- Disinfecting watering systems
- Disinfection of vehicles and personnel
- Odor control / disinfection (via fog systems)
- Disinfection of hatcheries
- Acidification
- Water treatment
- ..

From a pure or pre-diluted product, the Dosatron prepares instantly and homogenizes the solution. It injects the product continuously and proportionally to the water flow. It is able to dose a wide variety of liquid or soluble products. Hydraulic and proportional by mechanical construction, it avoids any over or under-dosing error. It is precise and constant throughout the operational duration (excellent repeatability). Non-electric and self-priming, it is ideally suited to mobile units (on a cart).

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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