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CE Conformity Statement

This Dosatron is in compliance with the European Directive 2006/42/CE. This declaration is only valid for countries of the European Community (CE).

English

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Congratulations on your purchase of this Dosatron Diaphragm chemical dispenser. The development of this model is the result of over 30 years experience. Our engineers have placed the DOSATRON series at the forefront of technical development in the field of water powered metering pumps.

The choice of materials used in manufacture was most meticulous in order to resist chemical attack from the great majority of injectable products on the market. This DOSATRON will, as time goes by, prove itself to be a most faithful ally.

A little care and attention, regularly spent, will guarantee you an operation in which the word breakdown has no place.

**THEREFORE, PLEASE, READ THIS MANUAL CAREFULLY
BEFORE PUTTING THE DOSATRON INTO OPERATION.**

Important !

The complete model reference and the serial number of your DOSATRON is stamped **on the pump body**.

Please record this number in the space below and refer to it when you call your distributor for information, parts, and service.

Ref. N°

Serial N°

Purchase Date

.....

SPECIFICATIONS

Water flow range*: **1 US GPH - 11 US GPM** [3.8 l/h - 2.5 m³/h]

Operating pressure: **1.5 - 85 PSI** [0.1 - 6 bar]

Fixed injection rate: **1 : 128** [0.8 %]

Concentrated additive injection: **0.016 - 11.26 US Fl. oz/min** [0.03 l/h - 20 l/h]

Maximum operating water temperature: **104°F** [40°C]

Minimum operating water temperature: **41°F** [5°C]

Inlet /outlet connections: **3/4" M: BSP-NPT ø 20 x 27 mm**

Maximum viscosity of concentrate: 400 cPs at **68°F** [20°C]

OTHER INTEGRATED FUNCTIONS

Internal motor filter: **no**

Built-in By-Pass: **yes**

Built-in airbleeder: **yes**

Built-in anti-siphon device: **no**

MOTOR

Motor: **diaphragm**

Hydraulic motor capacity (1 cycle, for every 2 clicks): about **0.118 US Gallons** [0.45 l]

UNIT SIZE

Diameter: **6"** [15.2 cm]

Total height: **13 1/4"** [33.6 cm]

Width: **7 1/8"** [18 cm]

Weight: **± 5 lbs** [1.7 cm]

Shipping contents: 1 Dosatron - 1 Wall support bracket + strap - 1 transparent suction tube of concentrated additive 69" [175 cm long], Ø 3 3/16" id x 4 3/4" od [8 x 12 mm] - 1 strainer - 1 owner's manual - **Package size:** 15"3/4 x 6"9/10 x 6"9/10 [40 x 17.5 x 17.5 cm] - **Package weight:** ± 5 US lbs [2kg]

***For operating unit with other fluids than water, please contact us.**



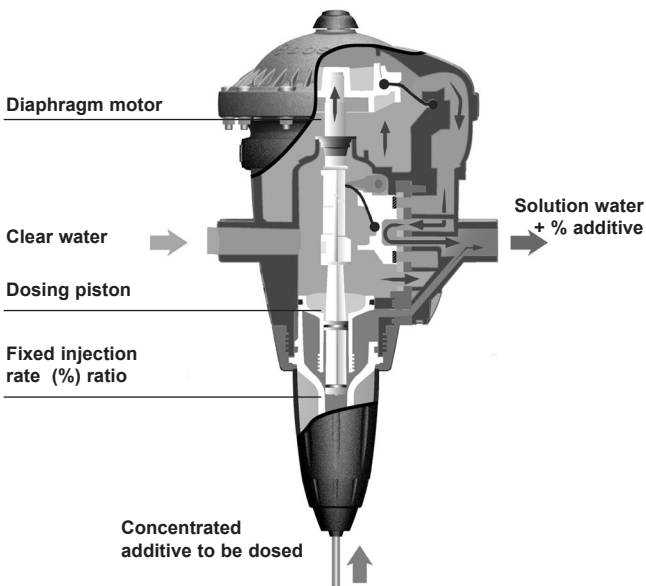
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Precise, simple and reliable

Installed directly in the water supply line, the DOSATRON operates by using water pressure as the power source. The water activates the DOSATRON, which takes up the required percentage of concentrate. Inside the DOSATRON, the concentrate is mixed with the water. 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.



Installation

PRECAUTIONS

1 - GENERAL REMARKS

- When connecting a DOSATRON either to the public water supply or to its own water source, you must respect the regulations in force concerning protection of the source i.e. backflow prevention, etc.

- When connecting the DOSATRON to the water supply, ensure that the water flows in the direction of the arrows on the unit.

- In a case where the water installation is higher than the DOSATRON itself, there is a possible risk of water and concentrate flowing back through the DOSATRON. In this case, installing a non-return valve downstream is recommended.

- It is recommended that you should place an anti-siphon valve on the downstream side of the dosing pump in installations in which there is a risk of siphoning.

- Do not install the DOSATRON just above an acid container, (risk of acid fumes attacking the DOSATRON) and protect it from possible contact with corrosive products.

- Protect the DOSATRON from freezing temperatures by draining it and store it away from sources of excessive heat.

- Do not install the DOSATRON on the suction side of the supply pump (risk of siphoning).

⚠ WARNING ! Use no tool or metallic utensils.

- During any intervention the operator must stay in front of the DOSATRON and wear protective eyewear and gloves.

- It is the responsibility of the owner/operator to replace the injection seals annually to ensure precise injection.

The setting of the Dosatron's dosing rate is the sole responsibility of the user. The user has to respect the recommendations given by the manufacturer of the chemical product.

⚠ AVERTISSEMENT

When installing, operating, and maintaining the DOSATRON water powered metering pump, keep safety considerations foremost. Use proper tools, protective clothings, and eye protection when working on the equipment and install the equipment with a view toward ensuring safe operation.

PRECAUTIONS (cont...)

1 - GENERAL REMARKS (cont...)

Follow the instructions in this manual and take additional safety measures appropriate to the liquid being pumped and the temperature of the water that powers the DOSATRON. Be extremely careful in the presence of hazardous substances (e.g. corrosives, toxins, solvents, acids, caustic, flammables, etc.).

- Before applying any aggressive chemicals, please consult your distributor to confirm compatibility with the dosing pump.

- When installing the DOSATRON on a hot water system (60°C/140°F max.), a dosing unit with "T"-option is required. High temperature increases the risk and the dangerousness of the substances mentioned above. It is strongly recommended to identify and label the dosing unit and the complete hot water installation as such, and to respect the corresponding regulations in force.

WARNING !

The personnel being responsible for installation, use and maintenance of this material must be perfectly familiar with the contents of this manual.

It is the responsibility of the owner/operator to check that the flow and pressure of the installation do not exceed the DOSATRON

characteristics.

- Adjustment must be made when there is no pressure in the Dosatron.

- Turn off the water supply and allow the pressure to drop to zero.

- It is the responsibility of the owner/operator of the DOSATRON, to determine the correct amount of solution and injection ratio to obtain the desired result.

- An air inlet, an impurity or a chemical attack on seal can interrupt the dosing function. It is recommended to periodically check that the solution is being correctly drawn up into the DOSATRON.

- Change the suction tube as soon as it seems damaged by the chemical.

- Relieve the pressure after use (advised).

- Rinsing of the DOSATRON is required :

. when changing chemicals,

. before handling the DOSATRON, to avoid any contact with the chemical.

- All assembly should be done without tools, hand tighten only.

2 - WATER WITH HIGH PARTICLE CONTENT

- A (ex.: 50 microns - 300 mesh depending on your water quality) water filter **must be installed** upstream from the DOSATRON (see accessories), if a filter is not installed abrasive substances



will cause the DOSATRON to deteriorate prematurely.

3 - WATER-HAMMER / EXCESSIVE FLOW

- For installations subject to water hammer a protection device such as a check valve or union ball check must be fitted (pressure/flow control system).
- For automatic installations, slow opening and closing solenoid valves are preferable.
- In an installation where a DOSATRON serves several sectors, the closing of one sector and the opening of another sector must be done at the same time (simultaneous operation of the solenoid valves).



4 - INSTALLATION LOCATION

- The location of the DOSATRON and concentrate container should be accessible, but should never present a risk of pollution or contamination.
- It is recommended to label all water lines with a warning about the injected solution i.e.

 **IMPORTANT ! Not For Human Consumption.**

5 - MAINTENANCE

- Rinse the injection areas after using the DOSATRON. To do this, insert suction tube into a container of clean water and inject about 1 liter [0.264 US Gallons].
- Routine maintenance once a

year will add to the life of your DOSATRON. Replace the injection seals as well as the suction hose annually to ensure proper injection.

6 - SERVICE

- This DOSATRON was tested prior to packaging.
- Complete maintenance and seal kits are available.
- Call your DOSATRON distributor for service or parts.

INSTALLING THE DOSATRON

ASSEMBLY SHOULD BE CARRIED OUT CAREFULLY WITH ADAPTED TOOLS.

The DOSATRON is delivered with :

- a wall support bracket (**Fig. 1-A**)
- and a strap (**Fig. 1-B**),

- a suction tube with a strainer.

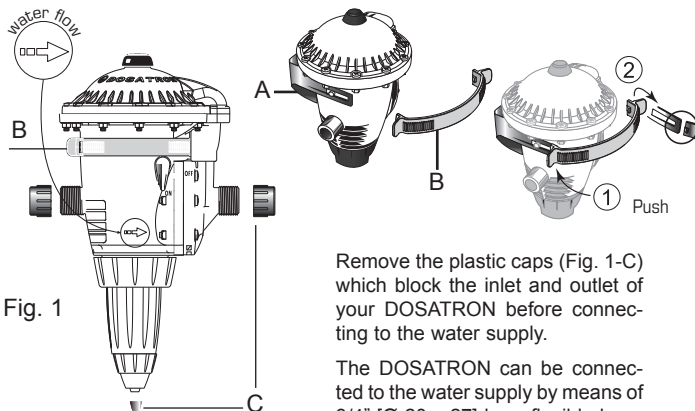
The bracket enables the DOSATRON to be fixed to a wall.

- Choose the direction of your flow (arrow).

Snap the DOSATRON into the bracket by fitting the two arms of the bracket around the DOSATRON.

Fix the strap on the bracket by fitting the two lugs on the strap into the holes in the arms of the bracket.

Make certain that the water flows in the direction of the arrows on the motor body.



Remove the plastic caps (Fig. 1-C) which block the inlet and outlet of your DOSATRON before connecting to the water supply.

The DOSATRON can be connected to the water supply by means of 3/4" [Ø 20 x 27] bore flexible hose and hose tail fittings with hose clips.

The DOSATRON is delivered with a suction tube (cut it to the needed length). The tube must be fitted with its strainer and weights.

The instructions for fitting the tube are to be found in the specific chapter.

NOTE : The maximum suction height is 13 vertical feet [4 meters].

Fit the tube, equipped with its strainer and its weight, and immerse it in the solution to be injected.

**IMPORTANT ! - Do not put the suction tube strainer on the bottom of the stock solution container. The strainer must be suspended at least [4"] 10 cm above the bottom of the tank to avoid sucking up the insoluble particles that may damage the injection assembly (Fig.2).
- Do not put the strainer on the ground.**

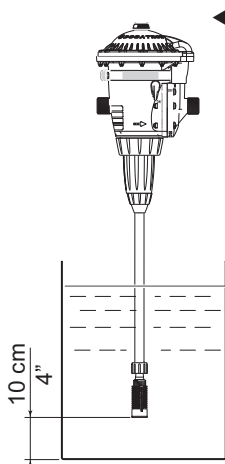


Fig. 2

WHAT YOU MUST NOT DO ▼

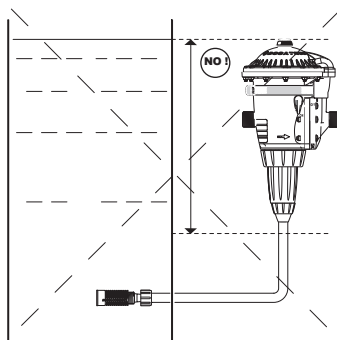


Fig. 3

Under no circumstance should the solution level be above the water inlet of the DOSATRON (to avoid siphoning situations).

INSTALLATION HINTS

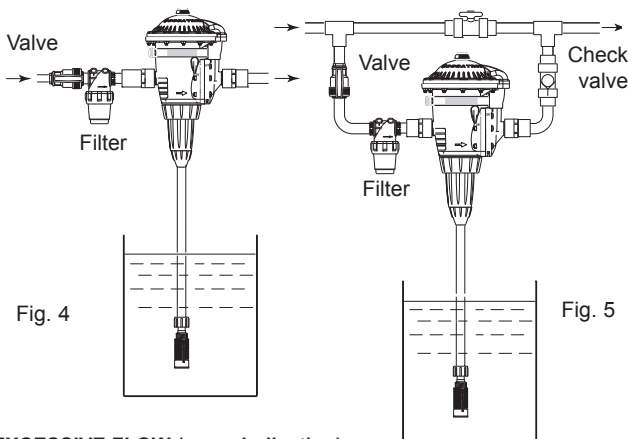
The DOSATRON can be connected to the main water line **directly (Fig.4)**; or on a **bypass (Fig. 5)**, which is recommended.

Installing the DOSATRON on a bypass enables clean water to be supplied without operating the DOSATRON and the DOSATRON to be easily dismantled.

To prolong the working life of the DOSATRON it is advisable to install a filter (ex.: 200 mesh - 80 microns depending on your water quality) upstream.

A filter is recommended to prevent the downstream installation from getting clogged.

When connecting an installation to the public water supply, you must respect the rules and regulations in force in the country.



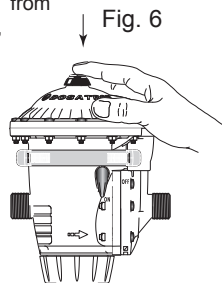
EXCESSIVE FLOW (as an indication)

If your DOSATRON clicks more than **40 times**, that is **20 cycles in 15 seconds***, you are close to the maximum flow limit. If you need more flow, you must install a DOSATRON with a larger maximum flow capacity.

Putting the DOSATRON into order

USING FOR THE FIRST TIME

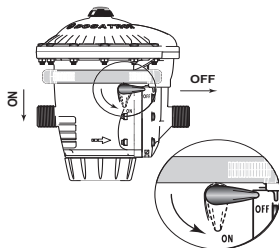
- Partially open the water inlet valve.
- Press the bleed button on the top of the DOSATRON (**Fig. 6**).
- When a constant flow of water is seen coming from around the bleed button (no more "spitting" of air), release the button.
- Open the water inlet valve slowly, the DOSATRON is self-priming.
- Operate the DOSATRON until the product to be injected is drawn up into the injection stem (the product is visible through the plastic tube).
- The DOSATRON makes a characteristic "click-clack" noise when working.



NOTE: The time required to prime the suction tube depends on the water flow-rate, the ratio setting and the length of the suction tube.

INTEGRATED BY-PASS

- By-pass in **ON**, the DOSATRON works and the concentrate is drawn up.
- By-pass in **OFF**, the DOSATRON is stopped and does not draw up the product. (Water will still flow through).



Maintenance

RECOMMENDATIONS

1 - When using soluble products to be made up into solutions, we recommend the periodic dismantling of the entire dosing part (see: § CHANGING SEALS IN THE INJECTION ASSEMBLY).

Thoroughly rinsing all the elements of the dosing part with water and re-assembling.

2 - Before putting the DOSATRON into operation after a non-use period, remove the dosing part into lukewarm water < 40° C [104° F] during some minutes. This helps to dissolve any deposits.

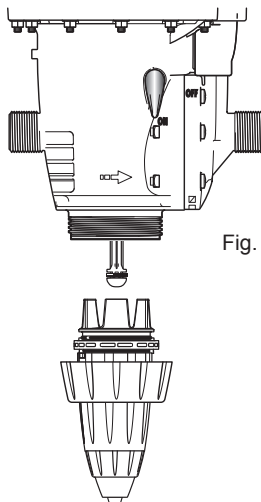


Fig. 7

HOW TO DRAIN THE DOSATRON (in case of freezing temperature)

- Wear protective eyewear and gloves.
- Turn off the water supply and let the pressure drop to zero.
- Remove the injection assembly and let the water flow out (**Fig. 7**).
- Disconnect the water inlet and outlet fittings.
- Remove the lower pump body from the mounting bracket and empty any remaining water.
- The DOSATRON can now be reassembled, having first cleaned the seal.

INTERNATIONAL CONVERSIONS

Principle : Setting at 1% \Rightarrow 1/100 = 1 part of concentrate for 100 parts of water.

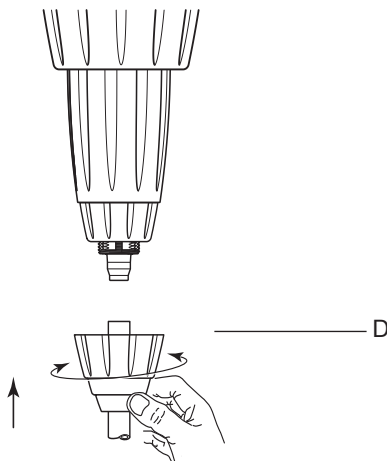
Ex. : Setting at 2% \Rightarrow 2/100 = 2 parts of concentrate for 100 parts of water.
Ratio \Rightarrow 1/128 = 1 part of concentrate for 128 parts of water
(1 US Fl.oz/gallon).

FITTING THE SUCTION TUBE

If the DOSATRON has already been used, please refer to § **PRECAUTIONS**.

- Unscrew the suction hose retainer (**Fig. 8-D**) at the bottom of the injection assembly, and thread it onto the suction hose.
- Push the tube on to the clip tube insert as far as it will go and screw up the nut by hand.

Fig. 8



CHANGING SEALS IN THE INJECTION ASSEMBLY

(with pressure off)

Frequency : At least once per year.

IMPORTANT ! Use no tools or metallic utensils, for changing the injection seals.

ADVICE: Before dismantling any part of the injection assembly it is advisable to operate the DOSATRON, injecting clean water so as to rinse through the injection system. In this way, risks of contact with concentrated solutions in the injection assembly are minimized.

During any such intervention, wear protective eyewear and gloves !

METHOD OF REMOVING SEAL

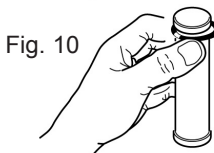
Fig. 9: Between finger and thumb, pinch the component and the seal ; push towards one side to deform the seal.

Fig. 10: Increase the deformation to grip the part of the seal thus exposed and pull it out of its groove.

Clean the seal seating without any tools.

Refitting is done by hand.

It is very important that the seal is not twisted once in place as this would impair its efficiency.



CHANGING SEALS IN THE INJECTION ASSEMBLY

- Wear protective eyewear and gloves.
- Rinse the DOSATRON and the injection areas by injecting clean tepid water.
- Turn off the water supply and allow the pressure to drop to zero.
- Take off the suction tube.
- Take apart the injection assembly.
- Rinse the different parts with clean water.
- Change out the isolation body (Fig. 11-E), the seals (Fig. 11-F/G/H) and the suction valve assembly (Fig. 11-I).
- Reassemble in the reverse order by hand.

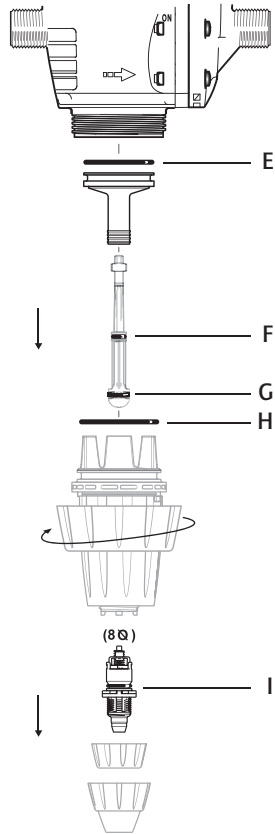
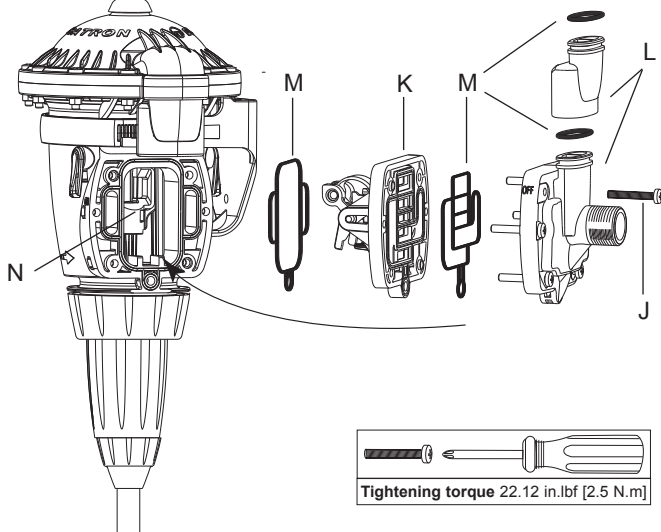


Fig. 11

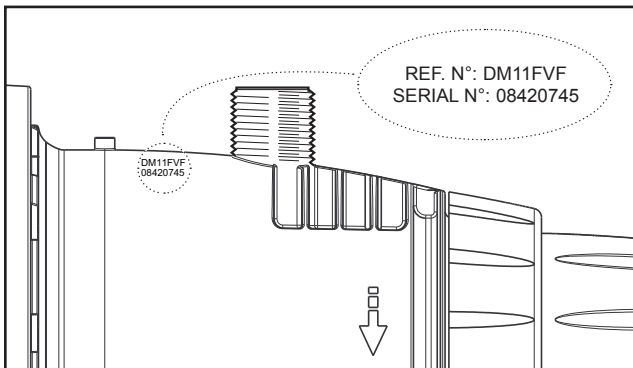
CHANGING SEALS IN THE INJECTION ASSEMBLY

- Wear protective eyewear and gloves.
- Rinse the DOSATRON and the injection areas by injecting clean lukewarm water.
- Turn off the water supply and allow the pressure to drop to zero.
- Take the DOSATRON out of the installation.
- Unscrew the six screws (Fig. 12-J) and dismantle the actuator assembly (Fig. 12-K) and transfer parts (Fig. 12-L).
- Change out the seals (Fig. 12-M).
- Reassemble in the inverse order by hand by respecting the upward position of the plunger rod and the actuator as show on Fig.12-N.

Fig. 12



Reference Designation



REF. :..... Serial N° :.....	
EXAMPLE	DM11F AF II
Type of DOSATRON	
Dosing seals :	
AF = PH 7-14	
VF = PH 1-7	
Other extensions (consult us)	

Troubleshooting

SYMPTOM	CAUSE	SOLUTION
Motor		
DOSATRON does not start or stops.	Water not flowing in the right direction through the DOSATRON.	Install the unit the other way around.
	Unit is working, but at extreme low flow (at minimum flow, 1 click every 2 minutes!).	Observe the unit for over 2 min. If it does not click after 2 min, check other "causes".
	Waterflow or -pressure do not meet or exceed the unit specifications.	Make certain your water installation meets the DOSATRON waterflow and pressure specifications.
	Unit is in bypass mode.	Switch 'ON' your DOSATRON.
	Motor stalled.	Return unit to your service center for repair.
	Air has not been bled from unit.	Bleed air from unit by bleed button.
	Maximum flow exceeded.	Reduce flow, restart unit.
DOSATRON does not start at low flow anymore.	Wear : worn actuator blade spring.	Change the actuator assembly.
	Wear : worn isolation body or seal.	Change the isolation body and isolation seal on the plunger (recommended complete injection seal kit).
Injection		
Water flowing back into concentrate container.	Dirty, worn, or missing check valve parts.	Clean or replace it. Check it has been properly re-assembled.
No suction of concentrate.	The motor has stopped.	See motor section.

SYMPTOM	CAUSE	SOLUTION
Injection		
No suction of concentrate.	Air leak (inlet) in the suction tube.	Check the tightness between nut and suction hose.
	Blocked suction tube or clogged strainer.	Clean or replace it.
	Missing or worn suction check valve o-ring.	Clean or replace it.
	Missing or worn plunger seal.	Clean or replace it.
	Worn injection stem.	Replace it.
Under dosing.	Suction of air	1. Check the tightness of the nuts in the injection area 2. Check suction tube
	Dirty or worn check valve seal.	Clean or replace it.
	Maximum flow exceeded (cavitation).	Reduce flow.
	Worn plunger seal.	Replace it.
	Worn injection stem.	Replace it.
Overdosing.	Siphoning.	Check your installation. Change it and install the necessary anti-siphoning devices.
Leaks		
From the topcap, actuator assembly or transfer parts.	Screws untightened.	Rescrew the screws. It is not recommended to open the topcap.
	Dirty, worn or missing seals.	Clean or replace the seals.
From the bypass.	Dirty, worn or missing seals.	Clean or replace the seals.
From the injection part.	Dirty, worn or missing seals.	Clean or replace the seals.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY IF THE DOSATRON IS USED IN CONDITIONS THAT DO NOT CORRESPOND TO THE OPERATING INSTRUCTIONS AS INDICATED IN THIS MANUAL

Limited warranty

DOSATRON INTERNATIONAL S.A.S. will provide for replacement of all parts shown to be defective in material or workmanship during a period of twelve months from the date of purchase by the original purchaser. To obtain warranty replacement of a part, the DOSATRON must be returned with original proof of purchase receipt to the manufacturer or authorized distributor and thereafter recognized as defective after examination by the technical services of the manufacturer or distributor. The DOSATRON must be flushed of any chemical and sent to the manufacturer or distributor prepaid, but will be returned free of charge once repairs are made if found to be covered by the warranty. Any repairs made under warranty will not extend the initial warranty period. This warranty only covers circumstances where the part has failed due to defects caused by the manufacturing process. This warranty is invalid if the defects are found to be due to the product's misuse, inappropriate use of tools, lack of maintenance or defective installation or environmental accidents or corrosion by foreign bodies and liquids found within or in proximity to the DOSATRON. Before using any aggressive chemicals, please consult your distributor to confirm compatibility with the

DOSATRON.

The seals and "o-rings" are not covered under warranty, nor is damage to the DOSATRON caused by water impurities. A filter is recommended to prolong the life of your DOSATRON and protect downstream equipment. DOSATRON INTERNATIONAL S.A.S. declines any responsibility if the DOSATRON is not used in compliance with the operating instructions and tolerances as indicated in this owner's manual.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. But any implied warranty or merchantability or fitness for a particular purpose applicable to this product is limited in duration to the time period of this written warranty or any implied warranty.

There is no warranty express or implied relating in any way to products used in conjunction with DOSATRON INTERNATIONAL S.A.S. products.

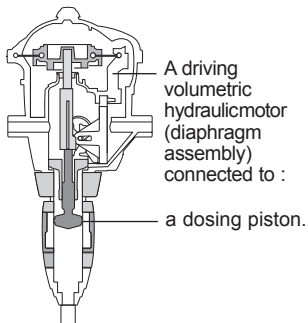
The manufacturer or authorized distributor shall not be liable for incidental or consequential damage, such as any economic loss, resulting from breach of this written warranty or any implied warranty.

There are no warranties, express or implied, which extend beyond those described above.

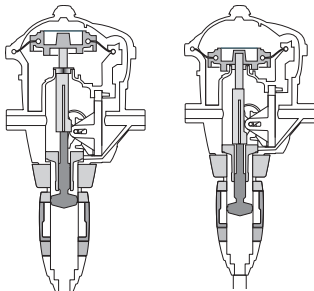
KNOW YOUR FLOW

A SIMPLE METHOD

THE DOSATRON IS COMPOSED OF :



In its up and down movement, you can hear the motor assembly click :



2 clicks = 1 motor cycle
= The stroke volume.

Once in the up position.

Once in the down position.

The speed of the motor is proportional to the flow of water passing through the system.

■ Calculation of water flow in GPM =

$$\frac{\text{Number of clicks in 15 seconds}}{2} \times 4 \times 0.45 \div 3.8$$

Annotations for the GPM calculation:
 - 2: 2 clicks = 1 cycle
 - 4: Calculation for 1 minute
 - 0.45: Stroke volume in litres
 - 3.8: Conversion from litres to gallons

■ Calculation of water flow in l/h =

$$\frac{\text{Number of clicks in 15 seconds}}{2} \times 4 \times 60 \div 0.45$$

Annotations for the l/h calculation:
 - 2: 2 clicks = 1 cycle
 - 4: Calculation for 1 minute
 - 60: Calculation for 1 hour
 - 0.45: Stroke volume in litres

NOTA : This method of calculation cannot replace a flow meter.
It is given only as an approximative guide.



A large rectangular frame containing 20 horizontal dotted lines, intended for handwriting practice.





A large rectangular frame containing 20 horizontal dotted lines, intended for handwriting practice.





DOSATRON®

WATER POWERED DOSING TECHNOLOGY



NT / DM11F / 11/11

CUSTOMER SERVICE - SERVICE CLIENTÈLE

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