



DOSATAK

USER MANUAL

EN

You have just purchased the DOSATAK® water powered dosing pump. Congratulations on your choice. The DOSATAK® is the result of technical experience since 1997. DOSATAK® is the solution you need to dose liquids in a precise and reliable way, without the necessity of electric power.

Some periodic care will ensure the proper functioning and durability of your DOSATAK®. Keep this manual in an easy-to-remember place for future reference. This document does not constitute a contractual commitment, it is for information only. Kobra Indústria e Tecnologia Ltda. reserves the right to modify its equipment at any time.

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WARRANTY

Kobra Indústria e Tecnologia Ltda. guarantees the replacement of any part considered factory defective for a period of twelve months from the date identified on the purchase receipt.

For replacement under warranty, the equipment or the isolated part must be sent with purchase receipt to the manufacturer, Kobra Indústria e Tecnologia Ltda., or to an authorized distributor. The defect verification will be checked by the technical services of the manufacturer or distributor.

The equipment must be rinsed to remove any chemical residue and sent to the manufacturer or distributor and will be returned free of charge after the repair, if it is covered by the warranty.

Any adjustments in the equipment done by the company should not grant an extension of the warranty time.

This warranty does not cover defects found as a result of improper installation of the equipment, the use of improper tools, an installation defect or maintenance, natural disasters, or defects caused by corrosion due to particles or liquids found inside or near the equipment. For dosage of aggressive products, we advise you to consult your local supplier before in order to confirm the compatibility with the dosing system.

The warranty does not cover the rings (abrasion parts) nor the damages caused by water impurities such as sand, for instance.

A filter (75 microns or less) must be installed before the water entry in the equipment, in order for the warranty to be valid.

Kobra Indústria e Tecnologia Ltda. does not take responsibility if the equipment is used in conditions that do not comply with the instructions in the user manual.

There are no expressed or implied warranties regarding other products or accessories used with the equipments of KOBRA INDÚSTRIA E TECNOLOGIA LTDA.

THE MANUFACTURER WILL NOT BE RESPONSIBLE IF DOSATAK® IS USED IN CONDITIONS THAT DO NOT CORRESPOND TO THE OPERATING MODES DESCRIBED IN THIS MANUAL.

READ THIS MANUAL CAREFULLY BEFORE PUTTING DOSATAK® INTO OPERATION.

IMPORTANT!

- The serial number is inscribed on the body of your DOSATAK®.
- Please, register this data in the reserved section below. This data should be informed in case of needing to contact or need any information along with your local supplier.
- Save the equipment's purchase receipt. It will be required for using the warranty.

Serial number: _____

Purchase Date: _____

City: _____

Local Supplier Name: _____

Purchase Receipt Number: _____

SAFETY PRECAUTIONS

During the installation, utilization and maintenance of DOSATAK®, follow the safety considerations below:

- Use suitable tools, wear protective clothing and safety glasses while handling the equipment to ensure a safe operation;
- 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 DOSATAK®. Be extremely careful in the presence of hazardous substances such as: corrosives, toxins, solvents, acids, caustic, flammables, etc.;
- For the dosage of the mentioned products above, confirm the compatibility with the equipment by consulting your local supplier or Customer Service;
- Do not use metal tools or utensils;
- Strictly follow the recommendations of the chemical manufacturer;
- Ensure that the flow rate and water pressure are in accordance with DOSATAK®'s characteristics;
- Air intake, impurity or chemical damage in one of the joints can interrupt the proper functioning of the dosage;
- Replace the DOSATAK® suction hose as soon as it shows deterioration caused by the concentration of the dosed product.

SOLID PARTICLES IN WATER

- It is highly recommended that you install a filter (75 microns or less) before DOSATAK®. If this is not installed, there is a possibility of damage to the of DOSATAK® and warranty loss.

Water Hammer - Excessive Flow

- For installations subjected to water hammer, it is necessary to install an anti-ram device (pressure-flow control system);
- For automatic installations, slow opening and closing solenoid valves are preferable;

- When a DOSATAK® serves several sectors, operate the solenoid valves simultaneously (closing one sector and opening another at the same time).

Installation Location

- The location of DOSATAK® and concentrate solution container should be accessible but should never present a risk of environmental pollution or contamination;
- It is recommended that all water lines be labelled with a warning about the injected solution: “WARNING! UNDRINKABLE WATER”.

Maintenance

- The DOSATAK® must be rinsed with clean water whenever the dosed product is replaced and before each handling, in order to avoid any contact with hazardous substances. Suck 1 liter of clean water for washing the suction set (~1L = 0.264 US gallons);
- An annual maintenance will ensure the long lasting life of the equipment. Replace the dosing rings and suction hose of the product regularly.

After Sales Service

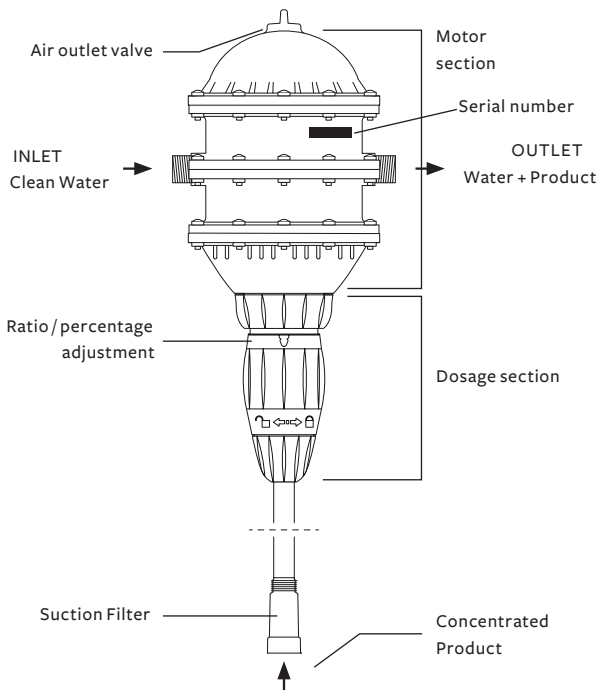
- This DOSATAK® has been tested before being packaged;
- Repair parts available locally;
- Do not hesitate to contact your local supplier or KOBRA if you have any questions;
- If your equipment needs to be repaired, check with your dealer about the availability of DOSATAK® maintenance for use during repairs;
- To ensure dosage accuracy, the regular replacement of the dosing part rings is the sole responsibility of the user.

KNOWING THE DOSATAK®

Precise and simple

Installed in the water circuit, DOSATAK® uses water pressure as its only driving force.

Once triggered, the equipment takes in the concentrated product, administrating it at the adjusted percentage/proportion and, subsequently, mixing it with the water. The water with the product is then sent to the network. The dosage of the injected product is always proportional to the water volume that passes through DOSATAK®, regardless of flow and pressure variations within the specified limits.



TECHNICAL SHEET

Adjustable dosing range	a) 1:5000-1:1000 b) 1:1000-1:200 c) 1:256-1:64 d) 1:100-1:20
Waterflow range*	4.5 L - 2,500 L/h (0.075L/min – 41.66 L/min) (2/3 US Pint / min – 11 US GPM)
Operating pressure	0.21 - 5.5 bar (3 – 80 PSI)
Concentrated suction	a) (0.0005 Fl. Oz/min – 0.011 US GPM) b) (0.0025 Fl. Oz/min – 0.055 US GPM) c) (0.0101 Fl. Oz/min – 0.176 US GPM) d) (0.0253 Fl. Oz/min – 0.550 US GPM)
Approximately volume per cycle	0.475 L (0.125 US Gallons)
Operating temperature range	(41°F – 104°F) $\frac{3}{4}$ "
Inlet /outlet	External thread M: BSP - NPT

* For other fluids than water, please contact your retailer or the Customer Service.

VOLUME

	PRODUCT	PACKAGE + PRODUCT
DIAMETER	8.46" (21.5cm)	8.66" (22cm)
HEIGHT	16.92" (43cm)	8.66" (22cm)
LENGHT	8.66" (22cm)	16.92" (43cm)
WEIGHT	5.51lbs (2,50kg)	6.61lbs (3kg)

PACKAGING COMPOSITION

1 DOSATAK®

1 wall support

1 product suction hose (6,56ft. / 2m)

1 suction filter

1 user manual

3 Phillips screws S8

3 nylon bushings S8

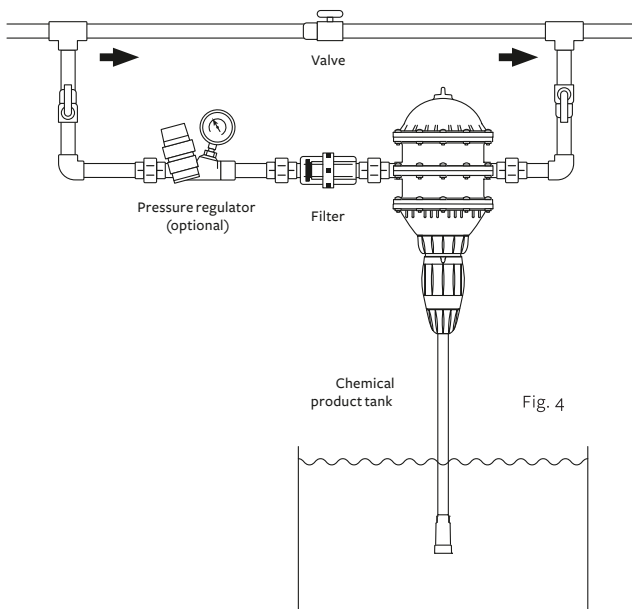
CHECKLIST BEFORE INSTALLING DOSATAK®

- When connecting the DOSATAK® either to the public water supply or to its own water source, you must comply with the safety regulations. KOBRA recommends the installation of a non-return valve before DOSATAK®, to avoid contamination of the water supply;
- Check the flow arrows direction on DOSATAK® before installing it;
- In cases where the water installation is higher than the DOSATAK® itself, there is a possible risk of water and concentrate flowing back through DOSATAK®. To prevent that, installing a non-return valve downstream is recommended;
- It is recommended that you should place an anti-siphon valve on the outlet of the dosing pump in installations in which there is a risk of siphoning;
- Do not install the DOSATAK® above an acid recipient or corrosive product. Keep this kind of material away and protected;
- DOSATAK® must be installed away from freezing temperatures and sources of excessive heat;
- Do not install the DOSATAK® on the suction side of the supply pump (risk of siphoning);
- If the flow rate is higher than the DOSATAK® limits, see EXCESSIVE FLOW (Pg. 14).

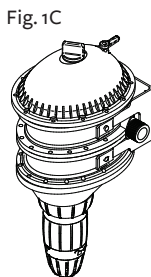
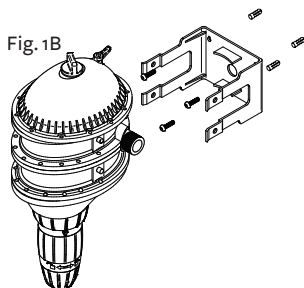
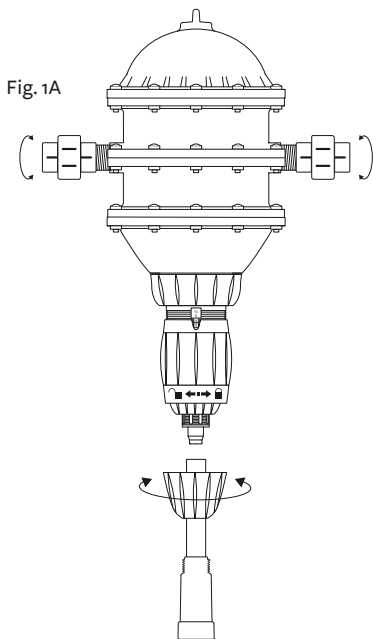
INSTALLING DOSATAK®

For the warranty and longevity of the DOSATAK® to be valid, a filter must be installed before the DOSATAK®.

Installing the DOSATAK® on a by-pass enables clean water to be supplied, even without operating the DOSATAK® and also the DOSATAK® to be easily dismantled.



INSTALLATION STEPS ON THE IMAGES:



1. Connect a threadable union to the inlet and another to the DOSATAK® outlet. This will aid you in future maintenance; (1A)
2. Attach the DOSATAK® support to the wall; (1B)
3. Fit the DOSATAK® to its support; (1C)

4. Remove the last threaded nut in the dosing assembly; (1A)
5. Pass the hose through the nut hole;
6. Connect the hose into dosage set;
7. Screw the nut on the dosing set;
8. Insert the suction filter.

FOR THE FIXATION OF THE EQUIPMENT SUPPORT, THE USE OF A DRILL AND PHILLIPS SCREWDRIVER WILL BE NEEDED.

The DOSATAK® is delivered with a 6.56ft (2m) suction hose enabling its use with a recipient of large capacity. This hose must be equipped with its suction filter (already included in the equipment). The instructions for fitting the hose are to be found in the specific chapter.

Fit the hose, equipped with its filter, and immerse it in the solution to be injected.

Assure that the water flows in the indicated directions of the arrow on the equipment.

Attach the DOSATAK® on its support by squeezing it from the bottom.

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

ATTENTION! The strainer must be suspended at least 10cm [4"] above the bottom of the tank to avoid sucking up the insoluble particles that may damage the injection assembly (Fig.2).

Do not let the filter touch the bottom of the solution container.

Under no circumstance should the solution level be above the water inlet of the DOSATAK® (to avoid siphoning situations (forced entry of water into the dosing range) (Fig.3)

DOSATAK® must only be connected to the main water line on a by-pass (Fig.4)

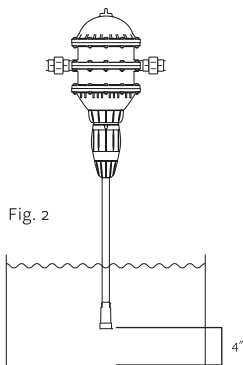


Fig. 2

CORRECT installation

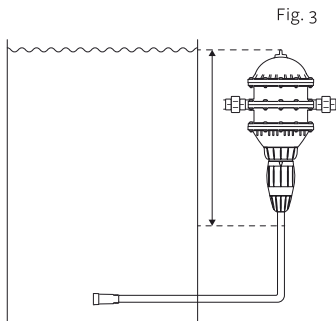


Fig. 3

INCORRECT installation

EXCESSIVE FLOW (indicative purposes)

If your DOSATAK® clicks more than 44 times, which is 22 cycles every 15 seconds, you are close to the superior flow limit. If you need more flow, you must install another DOSATAK® in parallel in order to increase its capacity..

INSTALLATION FOR OPERATION THROUGH GRAVITY

NOTE: A head height of 6.89 ft. (0.21 bar / 2.1m) is enough for DOSATAK® to start functioning.

* Industry test with free outlet.

According to required installation type and water flow provide for hydraulic head over 2.1m (6.89ft.) (taking into account pressure loss from the components of the installation such as filter, hose lengths, check-valves, etc.).

When installing it to the public water supply line, you must respect the rules and regulations in force in the country where it is being installed.

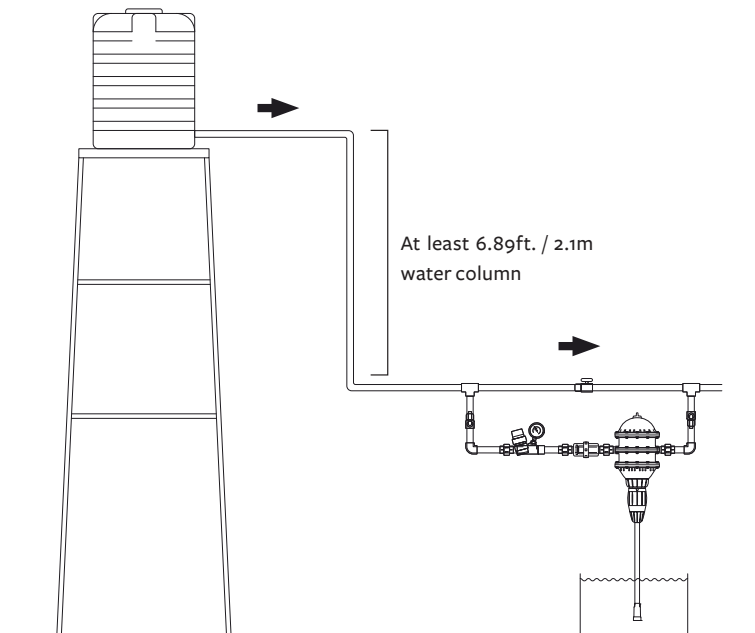


Fig. 5

FUNCTIONING DOSATAK®

RECOMMENDATIONS

- 1 - When dosing powder products soluble in water, we recommend the periodic dismantling of the entire dosage section. See: MAINTENANCE OF THE DOSAGE SET (Pg. 19) Thoroughly rinse all the elements of the dosage section with water and re-assemble them after having previously lubricated the seal with a silicone lubricant, in the case of difficulty when re-fitting;
- 2 - Before putting the DOSATAK® into operation after a period of non use, remove the dosage set, its rings and suction filter and soak it into warm water (<math><40^{\circ}\text{C}</math> / 104°F) for some hours. This helps to dissolve any deposits in the dosage set.

INTERNATIONAL CONVERSIONS

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

a) 1:5000-1:1000

PERCENTAGE	RATIO
0.02%	1:5000
0.04%	1:2500
0.06%	1:1666
0.08%	1:1250
0.1%	1:1000

b) 1:1000-1:200

PERCENTAGE	RATIO
0.1%	1:1000
0.2%	1:500
0.3%	1:330
0.4%	1:250
0.5%	1:200

c) 1:256-1:64

PERCENTAGE	RATIO
0.4%	1:256
0.8%	1:128
1.2%	1:85
1.6%	1:64

d) 1:100-1:20

PERCENTAGE	RATIO
1%	1:100
2%	1:50
3%	1:33
4%	1:25
5%	1:20

USING FOR THE FIRST TIME

- Partially open the water inlet valve;
- Slightly unscrew the valve on the top of the DOSATAK® lid (Fig.6);
- Shut the top valve when a constant flow of water is coming out from around it (without bubbles of air);
- Gently open the water inlet and the DOSATAK® will automatically start working;
- Operate the DOSATAK® until the product soon-to-be injected is drawn up into the dosing section (the product is visible through the plastic suction hose);
- The DOSATAK® makes a characteristic "tak-tak" noise when working.

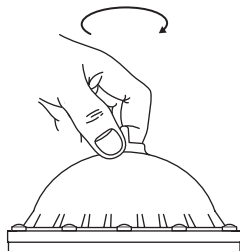


Fig. 6

NOTE: The time required to eliminate the air in the suction hose depends on the water flow-rate, the ratio setting and the length of the suction hose.

To bleed the air from the suction hose reduce to zero pressure and set the injection rate at maximum. Once the DOSATAK® is free of air, adjust to the required injection rate (see: ADJUSTING THE INJECTION RATE (Pg.18)).

ON/OFF

- The DOSATAK® is fitted with the function on/off (Fig.7);
- In ON position, the DOSATAK® works and the concentrate is drawn up;
- In OFF position, the DOSATAK® is stopped and does not draw the product and allow water to go through the equipment.

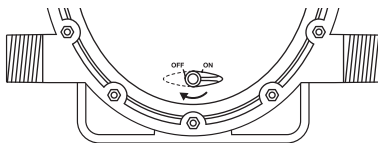


Fig. 7

FITTING THE SUCTION HOSE

- If it is the first time using the DOSATAK®, please imperative-ly refer to SAFETY PRECAUTIONS(Pg. 16);
- Unscrew the nut (Fig. 8) at the bottom of the injection as-sembly and put it onto the hose;
- Push the hose onto the barbed fitting as far as it will go and screw up the nut by hand.

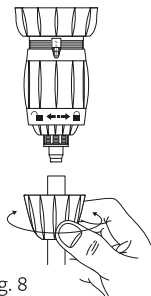


Fig. 8

FITTING THE SUCTION FILTER

1. Remove the last nut from the suction filter;
2. Pass the hose through the filter nut (Fig. 9);
3. Connect the hose to the filter;
4. Screw the nut to the suction filter.

Fig.9



ADJUSTING THE INJECTION RATE (with pressure off)

IMPORTANT! Do not use tools or metallic utensils.

Adjustments must be made when there is no pressure in the DOSA-TAK®

1. Close the water inlet valve and let pressure drop to zero;
2. Unscrew the lock ring (with the lockers drawings) (Fig.10);
3. Screw or unscrew the adjusting nut in order to line up the 2 sides of the eye - let is aligned with the desired ratio on the scale (Fig. 11);
4. Tighten the lock ring (Fig.12).
 - The DOSATAK® dosage adjustment is the sole responsibility of the user.
 - We recommend that you check periodically whether the concentrate prod-uct is being drawn by DOSATAK®.
 - At the end of its use, assure the system pressure is down to zero (recom - mended).

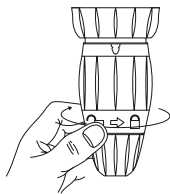


Fig.10

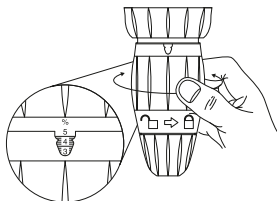


Fig.11

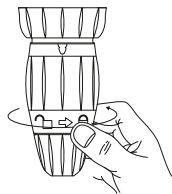


Fig.12

DRAINING THE DOSATAK® (in case of freezing temperature, dismantle from the installation to protect the equipment from freezing)

- Turn off the water supply and let the pressure drop to zero;
- Remove the injection set;
- Disconnect the water inlet and outlet fittings;
- Remove the main pump body from the assembled support and empty any remaining water;
- The DOSATAK® can only be reassembled after cleaning the sealing rings.

MAINTENANCE OF THE DOSAGE SET

CHANGING SEALING RINGS IN THE INJECTION SET (with pressure off)

Frequency: At least once per year

IMPORTANT! Do not use tools or metallic utensils.

RECCOMENDATION: Before dismantling any part of the injection set, it is advisable that you operate the DOSATAK®, Injecting clean water to rinse through the injection system. This minimizes the risk of contact with concentrated solutions in the injection set. During any handling, wear protective eyewear and gloves.

METHOD FOR REMOVING SEALING RING

- Between finger and thumb, pinch the component and the sealing ring; push towards one side to remove the ring (Fig. 13);
- Force the ring a little tighter in order to grip the part of the seal that is exposed and pull it out of its groove (Fig. 14);
- Clean the seal seating without any tools, only with a clean cloth;
- Refitting is done by hand;
- It is very important that the sealing ring is not twisted once in place as this would impair its efficiency.

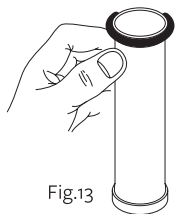


Fig.13

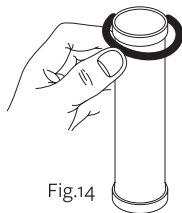


Fig.14

CHANGING THE DOSING SEALING RINGS

- Change the seals at least once per year;
- Wear protective eyewear and gloves;
- Rinse the DOSATAK® and the injection areas by injecting clean warm water;
- Close the water supply and allow the pressure to drop to zero;
- Remove the suction hose of the product;
- Take apart the injection set;
- Push downwards to remove it;
- Change all the sealing rings of the suction set, the dosing sealing ring, the suction valve sealing ring, the suction valve and its sealing rings;
- Reassemble in the reverse order by hand.

(1:5000 - 1:1000 | 0.02 - 0.1%) ARD00201

(1:1000 - 1:200 | 0.1 - 0.5%) ARD0105

(1:256 - 1:64 | 0.4 - 1.6%) ARD0416V

(1:100 - 1:20 | 1 - 5%) AR372705



A225



A111



A223



A227



A205



A211



CLEANING AND RE-ASSEMBLING THE SUCTION VALVE

- Close the water supply and drop pressure to zero;
- Unscrew the nut and pull downwards to remove the suction hose (Fig.15);
- Unscrew and take off the suction valve retaining nut (Fig.16), pull out the valve set, dismantle the valve and thoroughly rinse the separate components in warm and clean water ($< 40^{\circ}\text{C} / < 107,6^{\circ}\text{F}$);
- Re-assemble the components in the order and the plan position (Fig. 17 and 18).

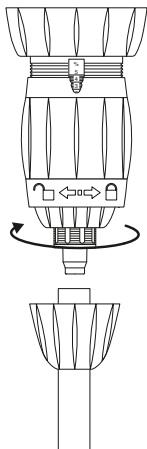


Fig. 15

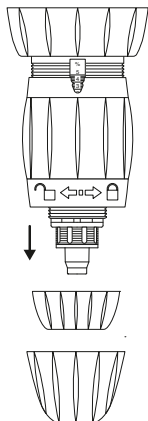


Fig. 16

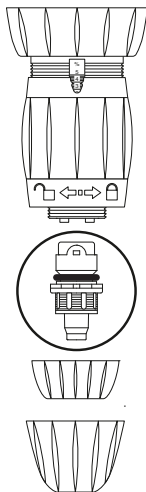


Fig. 17



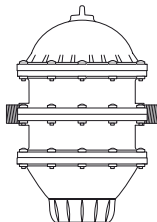
Fig. 18

DOSATAK® MODELS

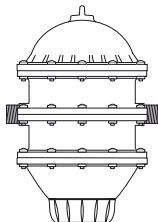
MOTOR SECTION

DOSATAK® models are in accordance with the products that are to be dosed, so their colors differ based on application.

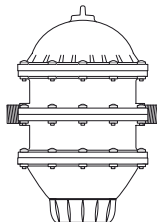
Yellow
Body:
Animal Husbandry



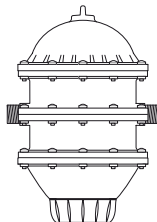
Green
Body:
Irrigation



Gray
Body:
Sanitation

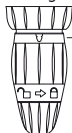


Black
Body:
Industrial



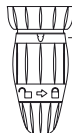
DOSAGE SECTION

1:5000 - 1:1000 | 0.02 - 0.1%



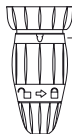
Yellow Eye - Animal Husbandry
Green Eye - Irrigation
Grey Eye - Sanitation
Red Eye - Industrial

1:100 - 1:20 | 1 - 5%



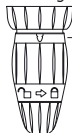
Yellow Eye - Animal Husbandry
Green Eye - Irrigation
Grey Eye - Sanitation
Red Eye - Industrial

1:1000 - 1:200 | 0.1 - 0.5%



Yellow Eye - Animal Husbandry
Green Eye - Irrigation
Grey Eye - Sanitation
Red Eye - Industrial

1:256 - 1:64 | 0.4 - 1.6%



Yellow Eye - Animal Husbandry
Green Eye - Irrigation
Grey Eye - Sanitation
Red Eye - Industrial

TROUBLESHOOTING

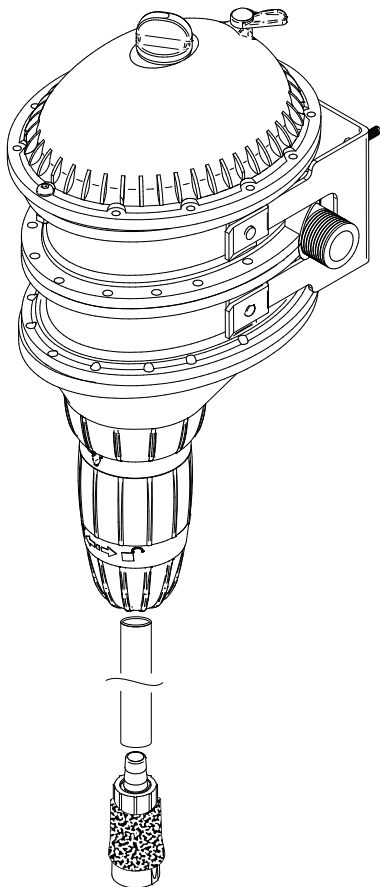
SYMPTOM	CAUSE	SOLUTION
MOTOR		
DOSATAK® does not start or it stops	Water is not flowing in the right direction through DOSATAK®.	Turn the dosing section in the correct direction, following the flow arrows on DOSATAK's® body.
	The dosing section is working, but at an extremely low flow.	Observe the unit for over 3 minutes. If it does not click after this space of time, check other causes.
	Water flow or pressure do not meet or exceed the unit specifications.	Assure your water installation meets the DOSATAK® water flow and pressure specifications.
	The DOSATAK® is on OFF mode.	Switch DOSATAK® to ON.
	Motor stalled.	1 - Switch "ON" and "OFF" several times, then switch "ON"; 2 - Return unit to your service local distributor.
	Air presence in the DOSATAK®.	Release air by using the top valve.
	Maximum flow exceeded.	Reduce flow and restart the unit.
	Weariness: worn actuator blade spring.	Take DOSATAK® to your local distributor.

SYMPTOM	CAUSE	SOLUTION
The DOSATAK® does not start at minimum flow anymore.	Weariness: The valve sealing rings are worn or dirty.	Clean or replace them (also clean or replace all injection sealing rings).
INJECTION		
Water flowing back into concentrate container.	The dosing ring or suction valve ring(s) is (are) dirty, worn or missing.	Clean or replace it. Check if it has been properly reassembled.
No suction of concentrated product.	The motor has stopped.	See MOTOR SECTION.
	Air presence in the suction hose.	Check the tightness between nut and suction hose.
	Blocked suction hose or clogged strainer.	Clean or replace it.
	Suction valve sealing ring is worn, miss assembled or dirty.	Clean or replace it.
	Plunger sealing ring is miss assembled, worn or dirty.	Clean or replace it.
	The body of the dosing jacket is scratched	Replace it.
Under dosing.	Suctioning air	1. Check the tightness of the nuts in the injection set. 2. Check suction hose.
	The suction piston sealing ring is worn or dirty.	Clean or replace it.
	Maximum flow rate exceeded (cavitation).	Reduce flow.

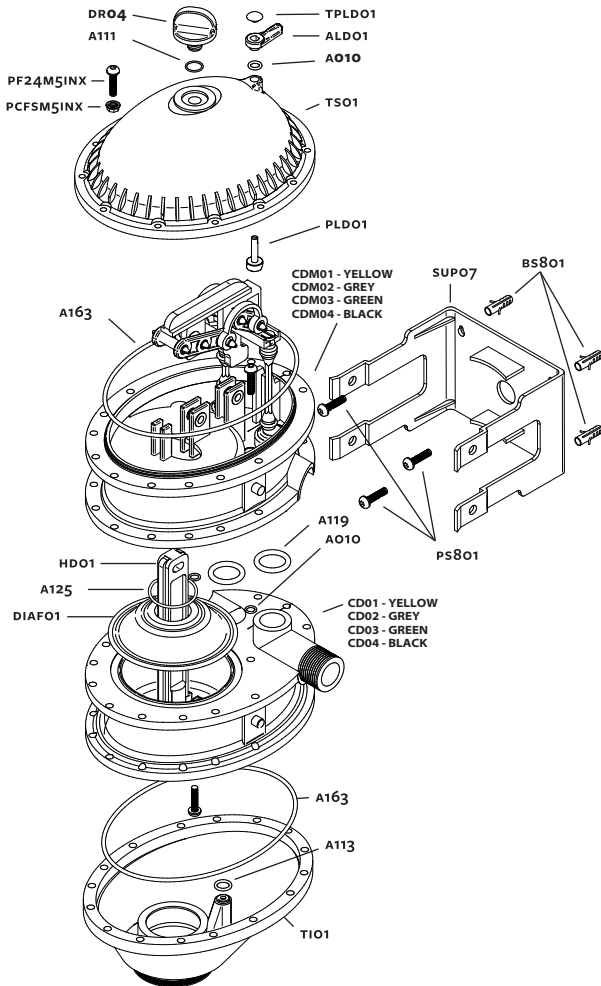
SYMPTOM	CAUSE	SOLUTION
	The plunger dosing ring is worn.	Replace it.
	The body of the dosing jacket is scratched.	Replace it.
Bigger dosage	Siphoning.	Check your installation. Amend it and install the necessary anti-siphoning devices.

LEAKS

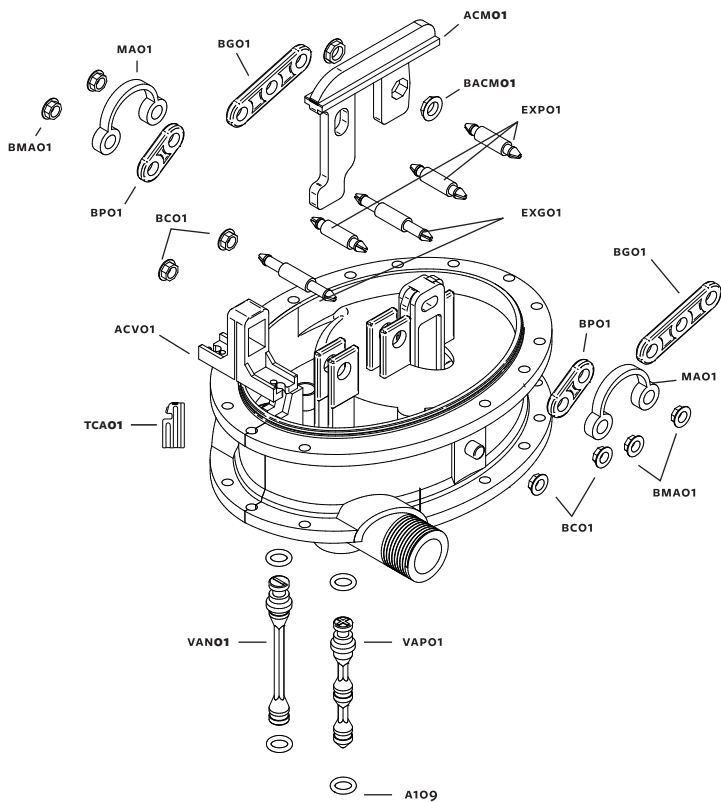
Between the lids (upper and lower) and the body.	Screws not tightened.	Re-screw the screws. Avoid opening the top cap.
	The sealing rings are damaged, misplaced or missing.	Clean or replace the seals.
On the key ON/OFF	The sealing rings are damaged, misplaced or missing.	Clean or replace the seals.
On the injection set	The sealing rings are damaged, misplaced or missing.	Clean or replace the seals.



GENERAL DIAGRAM OF THE MOTOR ASSEMBLY



DETAILED DIAGRAM OF THE MOTOR ASSEMBLY



GENERAL DIAGRAM OF THE DOSING SECTION

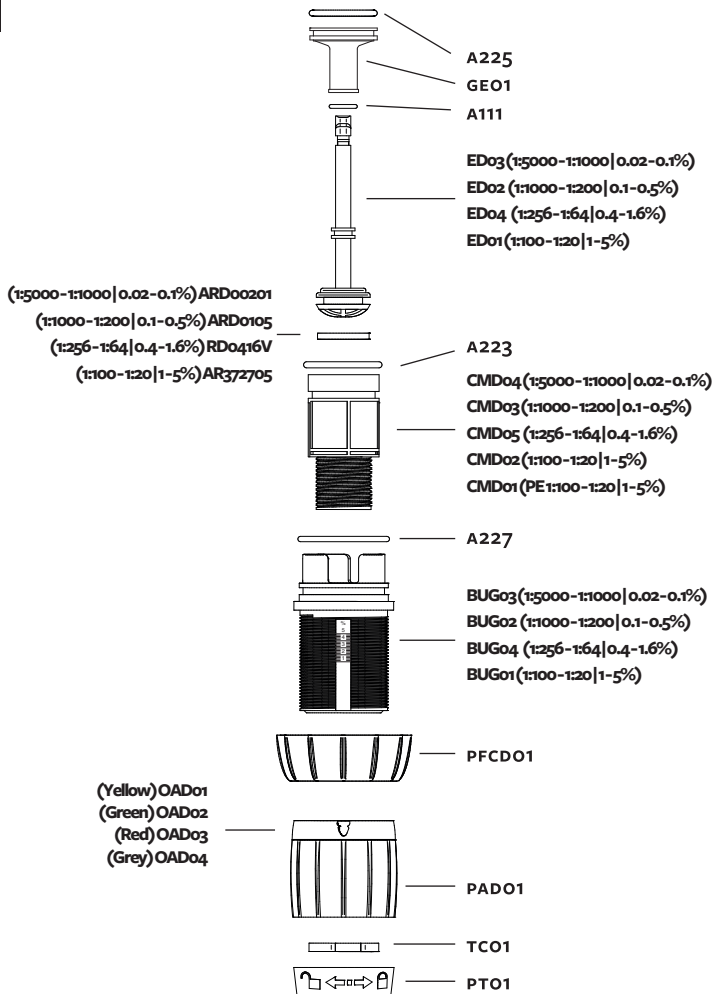
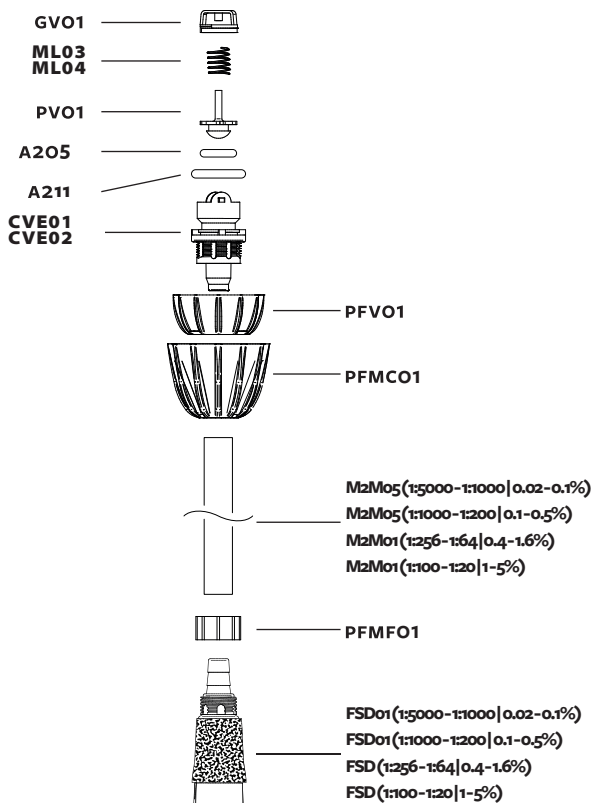


DIAGRAM OF THE SUCTION VALVE



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