



# User Manual MICRO-MATIC®

For veterinary use only

0,05ml/0,05ml – 0,05ml/0,1ml – 0,1ml/0,1ml



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## TABLE OF CONTENTS

1.Transport and Storage .....	3
2.General information .....	3
3.Contents of the packaging .....	3
4.Calibration of the MICRO-MATIC® .....	3
5.Make the MICRO-MATIC® ready for use.....	4
6.Cleaning and Maintenance of the MICRO-MATIC® .....	5
7.Disinfection .....	6
8.Dismounting / changing the piston gaskets / cleaning the valves.....	6

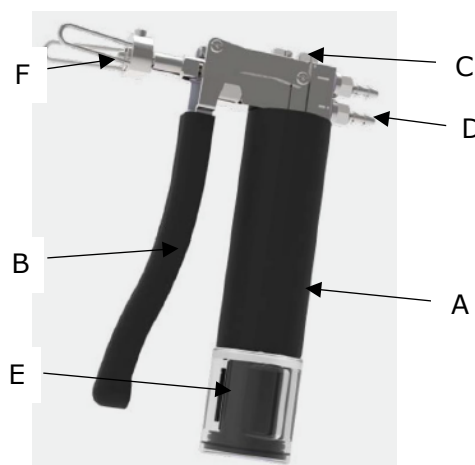
## 1. Transport and Storage

Protect the product against external forces during transport (e.g. impact, stroke). Check the MICRO-MATIC® on transport damages before use. Transport and/or store the MICRO-MATIC® in its original packaging. Store the MICRO-MATIC® protected against sunlight. Do not store the MICRO-MATIC® at wet or moist conditions (e.g. directly after using or cleaning).

## 2. General information

The MICRO-MATIC® was developed for fixed dosed injection of smallest dosages with up to two different fish drugs. It is available in three different fixed dosage combinations: 0.05ml/0.05ml, 0.05ml/0.1ml, 0.1ml/0.1ml. The syringe consists of the following parts:

- A) Handle
- B) Lever
- C) Venting screws
- D) Tubing attachments
- E) Mechanical counter
- F) Front part with Luer Lock attachment



The ergonomic user-friendly design as well as all high-strength materials which were used during production assure a fatigue-free use as well as an extremely long service life of your MICRO-MATIC®.

It is essential that the syringe is cleaned and disinfected after each use. Please follow the manufacturers' recommendations with any cleaning or disinfectant solutions used.

## 3. Contents of the packaging

- a) MICRO-MATIC® syringe
- b) Needle Guard
- c) Spare part set (gaskets, springs, valves, screws)

## 4. Calibration of the MICRO-MATIC®

The MICRO-MATIC® syringe is fixed dosed. To adapt the syringe to environmental factors (e.g. temperature or altitude) and the viscosity of the administered product you can calibrate the dosing quantity within approx.  $\pm 10\%$  (see under point 5). This step needs to be taken only once, provided that the syringe is used inside the same environment and with the same product for the entire period of use.

The calibration needs to take place before using the syringe for the first time. It can be done with clean fresh water or vaccine.

## 5. Make the MICRO-MATIC® ready for use

### I. MOUNT THE TUBES

1. Fix the tubes onto the tubing attachments (for tubes with inner diameter 3 mm).
2. Put the vaccine bag on a higher situated place than the syringe to guarantee movement / suction of the vaccine, but not higher than 0.8 m above the syringe.

### II. PRIME THE SYRINGE

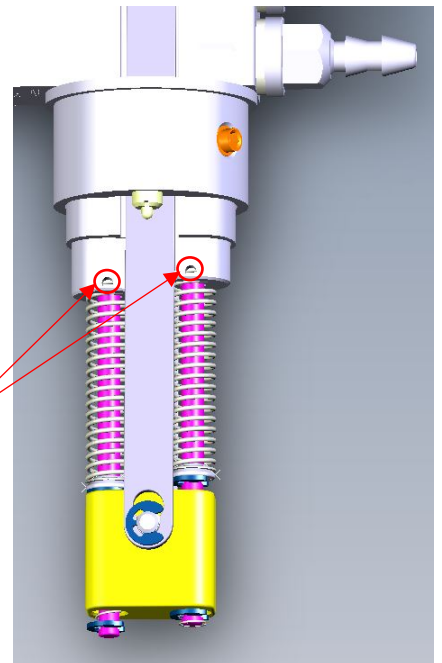
1. Fix the first tube onto the tubing attachment.
2. Push lever.
3. Unscrew venting screw (C).
4. Squeeze the water or vaccine bag respectively the tube and push the vaccine into the piston bay.
5. Leave the air venting screws open until the water or vaccine spills out of the opening of the venting screw.
6. Lock the venting screw firmly.
7. Activate the lever and check if the drug comes out at the front (Luer Lock).
8. Proceed the same way with the second tube.

### III. FIT THE NEEDLE

1. Insert needle onto Luer-Lock fitting and secure the needle clockwise.
2. Remove protective cover (if using single use needles).
3. Fix needle guard onto Luer-Lock attachment to avoid self-injection.

### IV. CALIBRATION

1. Only necessary when using the syringe for the first time.
2. Start with the first tube while blocking the second.
3. Measure / weigh the product outcome per stroke with a tube / precision scale.
4. If the preconfigured dosing matches your requirements, no further action is required.  
If any adjustment is necessary, please proceed with the next step.
5. Turn handle clockwise and take it off.
6. Take a pointed object and stick it into the above marked holes on the calibration screws. Start turning the screws clockwise or counter-clockwise to decrease or increase the calibrated dosing.
7. Measure / weigh the new product outcome and repeat above steps until you have the desired dosing.
8. Proceed the same way with the second tube.



### V. APPLICATION

1. Push the lever and release it for absorbing the drug and applying the dose.
2. If the syringe does not absorb, the valves will have to be cleaned or changed.
3. If there are air bubbles in the tube, the priming procedure (II.) has to be repeated until no more air bubbles can be seen in the tube.



It is recommended to lubricate all gaskets prior to / after each day of use!

## **6. Cleaning and Maintenance of the MICRO-MATIC®**

For internal and external cleaning, a mixture of common detergent (pH-value  $\leq 5$ ) and clean, warm and demineralized water should be used. Additionally or as an alternative to the detergent, Isopropanol with max. 70% concentration can be added to the mixture for disinfection purposes.

For external cleaning wash and flush the device carefully with the described mixture. For internal cleaning it is recommended to completely disassemble the syringe and to clean all parts with the described mixture.

After finishing the above described cleaning procedure it is important to flush the syringe with clean, warm and demineralized water to get all remains out of the syringe. Externally, the syringe should also be flushed only with clean, warm water.

Dry the device after cleaning with a clean cloth and pump it dry.

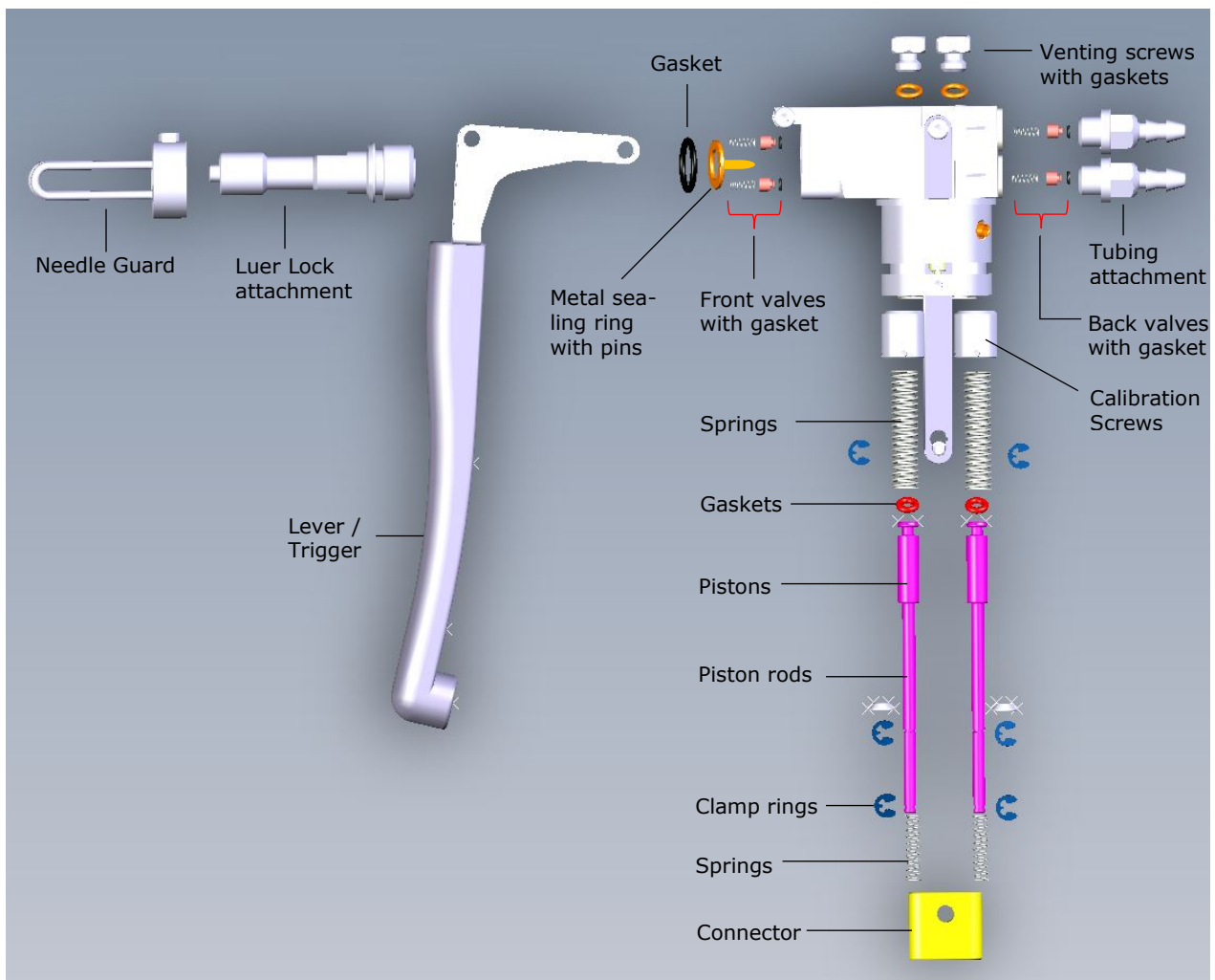
## 7. Disinfection

It is recommended to disinfect the MICRO-MATIC® and the needle after each use. For this, take off the handle and put the remaining parts of the syringe into a container with water. Boil the syringe without handle / mechanical counter for up to 20 minutes! Ideally, the syringe is being boiled in a disassembled condition. At least the venting screws must be screwed out. After boiling, remove the syringe from the container, wrap cloth around it and pump it dry. Lubricate all gaskets and o-rings.

⚠ Handle must not be boiled for disinfection!

## 8. Dismounting / changing the piston gaskets / cleaning the valves

### I. DISMOUNTING



### II. CHANGING PISTON GASKETS

1. Remove the handle by turning counter-clockwise.
2. Release calibration screws by turning counter-clockwise.
3. Remove clamp rings at the connecting (blue) part between the two pistons rods.
4. Pull piston rods downwards and remove the whole unit (piston, piston rods, connector, springs) from the syringe.
5. Remove old gaskets from the piston and replace with new gaskets from the spare part set.
6. Reassemble in reverse order.

### III. CLEANING THE VALVES

#### 1. Front valves

- Remove Luer-Lock attachment by turning counter-clockwise.
- Remove sealing ring.
- Take valves out by pulling gently.
- Clean and reassemble in reverse order.

#### 2. Back valves

- Remove tubing attachments by turning counter-clockwise.
- Take valves out by pulling gently.
- Clean and reassemble in reverse order.