

**GEBRAUCHSAWEISUNG
INSTRUCTION**

**FM-HYDRA
SCHLAUCHSYSTEM[®]
TUBE SYSTEM[®]**

**Das flexible Nebel-Leitsystem
für den**

SAFEX[®] FlowMarker[®]

**The flexible fog ducting system
for the**

SAFEX[®] FlowMarker[®]

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FM HYDRA TUBE SYSTEM[®]

This user guide is a supplement to the instruction manual of the SAFEX[®] FlowMarker[®] fog device, when used together with the FM-HYDRA[®]-TUBE SYSTEM. In this respect the original instruction manual of the SAFEX[®] FlowMarker[®] is a necessary part of this manual, without it the system cannot be used safe and functional.

The SAFEX[®] FM-HYDRA TUBE SYSTEM[®] is a new development that extends the previous SAFEX[®] FlowMarker[®] fog machine in its functions.

The previous device was designed to bring out a low-pulse, thermally neutral fog precisely with the unit at the examination site by pointing the applicator tube to the appropriate place. Now the FM-HYDRA TUBE SYSTEM[®] allows to place the device anywhere and to conduct the fog with a highly flexible, up to 5 m long hose*) to "or" in the application site. In this way, static applications can now be realized with permanent fog application.

(With acceptance of a reduction in the volume of the fog conducting hoses with a length up to 10 m can also be used, which are available as optional accessories.)*

Another advantage of the new FM-HYDRA TUBE SYSTEM[®] is that the system is a compatible supplement to all existing SAFEX[®] FlowMarker[®], it doesn't need be purchased anew.

The FM-HYDRA TUBE SYSTEM[®] comes in a new, larger transport case, which is also prepared to receive the original FlowMarker device and its complete accessories.

(If the FlowMarker[®] is purchase as a complete package with the FM-HYDRA TUBE SYSTEM[®], it is included along with all accessories in the case already.)*

SAFEX[®] FM-HYDRA[®] SYSTEM COMPONENTS:

(Please check immediately upon receipt, whether the following components are part of the delivery.

Transport case, containing:

- 1 x FM-HYDRA[®] Tube Attachment (3-piece, with spiral cable and plug)
- 1 x FM-HYDRA[®] Ducting Hose, 3 m length
- 5 x Condensate Collecting Rings type KR 2, large
- 5 x Condensate Collecting Rings type KR 3, small
- 3 x Spare-O-Ring sealing's, different diameters
- 1 x Instruction manual FM-HYDRA-TUBE SYSTEM[®]
- 1 x FlowMarker[®]-Battery, 12 V
- 1 x FlowMarker[®]-Battery Loading Clip
- 1 x FlowMarker[®]-Fogfluid Aerosol Can,

INSTRUCTIONS FOR USE:

Preparing devise for use:

- ➔ First please check the delivered components for **completeness and integrity**.
- ➔ Then make FlowMarker[®] ready according to the instruction manual: Provide unit with fog fluid and insert sufficiently charged battery.
- ➔ Unscrew **the original fog application tube** of the FlowMarker[®] unit, if present, and store it in the transportation case. If fluid residues adhere at the units nozzle remove them with a soft clean paper towel.

- Now **provide the FM-HYDRA® Tube Attachment with a big condensate ring** which is inserted from the larger (threaded) opening in the attachment up to the stop.

The lock ring at the tube attachment around the big opening is **fixing the hexagonal blower housing**. It should, however not fix it with great force. The blower housing must rotate somewhat on the cylindrical part of the attachment.

- Then screw on the so prepared **FM-HYDRA® Tube Attachment** with the threaded hole **onto the nozzle thread of the FlowMarkers®**.

Ensure that the spiral cable and the control knob of the attachment are not damaged.

- Once the tube attachment is completely screwed on, the hexagonal blower housing can be **aligned by turning so** that the black control knob is pointing upwards respectively is placed at the same »level« like the handle of the device.

- Is the attachment aligned, it can be made ready for use by **plugging in the spiral cable with its plug into the battery charging jack on the back of the FlowMarker®**. At the same time also the **black rotary knob** (fan controller) up on the hexagonal housing should be **turned anti-clockwise until it stops** at level 0 (blower inactive) in order not to consume unnecessarily battery power at this time.

(The proper power connection will be indicated by the blue light-emitting diode already)

The device is now ready for use and it can be decided whether the system should be used with the hose or instead with the optional as accessory available **FM-HYDRA®** - application tube.

● USE WITH HOSE:

The **FM-HYDRA® Ducting Hose** has a **black plug-in adapter** with three O-rings at one end. It is recommended that these O-rings occasionally made slipable with pure petroleum jelly or another neutral fatty cream.

The plug adapter has to be pushed **in the smaller front opening** of the **FM-HYDRA® Tube Attachment until it stops**. Thus the hose is connected water- and fog tight with the attachment, but at the same time flexible and rotatable.

Is now the **fog production enabled***) at the **FlowMarker®**-unit and **is the fan started by turning the control knob to the right**, the fog will escape after a few seconds at the other end of the hose in the usual form.

With the fan controller the flow rate can be adjusted and so regulated in a limited range the amount of fog.

For a proper function is required to **operate the fan always - at least during the fog generation - at least with low output**. A fog generation **without blower air intake** leads to **incomplete formation of fog with strong condensation** in device and hose.

Note: Lighting up the blue LED on the blower casing indicates only the power supply, but not the activity of the fan!

Also should - especially when using long tubing and after intense fog generation - the hose staked out of the device and hung up so, that can possibly formed condensate can drain.

If necessary, the hoses should be cleaned corresponding to the MAINTENANCE chapter.

When using a 5 m long hose the blower capacity needs to be set slightly higher. However, with a prolonged tube, such as a 10 m long hose, the system comes to its limits.

(Older FlowMarker® devices only have a »momentary switch« function to release the fog, the push button must therefore be held as long as fog is to be generated. Older FlowMarker® devices, however, which are equipped with a wireless remote control function already have a »switching function«. This is the opportunity through a touch of a button to turn on the fog until the button is pressed again and so the fog is turned off.*

● USE WITH FM-HYDRA[®] APPLICATION TUBE:

Instead of a fog ducting hose the optional **FM HYDRA[®] Application Tube** can be used. It will be pushed in the same way as the hose with the plug adaptor from the front into the small opening of tube attachment.

Here the fog performance should also be set with the adjustment knob according to the requirements. The spreading of the fog is virtually the same as with the previous "classic" application tube; only the consistency of the fog is controlled instead with the black setting ring now via the adjustment knob.

Also this application tube can be fitted at the front end with a small condensate collection ring.

MAINTENANCE:

Due to the additional energy consumption of the blower, it is more often necessary to charge the battery. It is therefore advantageous to have a **charged battery** available so that a current work needs not to be canceled because of an empty battery.

Particular during prolonged fog generation, the effectiveness of the condensate collecting ring inside the tube attachment should be checked periodically or replaced if necessary.

If there is an annoying amount of **fluid condensate** in the hoses, it can be easily rinsed with tap water. It should then be hung out to dry after this procedure, at best so that the remaining water can be phased out down.

The same applies in principle to the new **FM-HYDRA[®] Application Tube**; it can be fitted at the front with a **small condensate** ring too.

The fan housing of the tube attachment is sealed with **two O-rings** against the tube attachment. With frequent retrofitting of the devices, it is recommended that these rings are also easily creamed with vaseline; otherwise they can wear out or break.

The **attached replacement O-rings** serve in such cases as replacement parts. To replace the O-rings, the threaded lock ring is to loosen, the fan housing to withdrawn from the aluminum part and the corresponding O-ring from the groove to exchange. Then the case is pushed back again and carefully secured with the threaded lock ring.

SPARE PARTS AND ACCESSORIES:

- **FM HYDRA[®]-Ducting hose 5 m**
- **FM HYDRA[®]-Ducting hose, Special length 10 m**
- **FM HYDRA[®]-Ducting hose, customized length**
- **FM HYDRA[®]-Fog-Application Tube with Condensate Collecting Ring Discharge tube**
- **FM Condensate Collecting Rings type KR 2, large, Pack of 10**
- **FM Condensate Collecting Rings type KR 3, small, Pack of 10**
- **Spare-Battery 12 V**
- **FlowMarker[®]- Fog Fluid, refill aerosol can**
- **FM-HYDRA[®] O-Ring-Kit for Housing [2 pcs. 42 x 1 + 38 x 1]**
- **FM-HYDRA[®] O-Ring-Kit for plug-in connector [9 pcs. 16 x 2]**