

# **Disinfection with Huwa-San in the vapour phase – cold fogging**

### **Fogging equipment**

Equipment needs to be approved based on certain criteria and can be endorsed by Roam Technology.

### **Precautions before start**

During the process, hydrogen peroxide in the vapor phase is used. This means that the vapor is penetrating through cracks and holes. Therefore, during the process NO PEOPLE are allowed in the room. In surrounding rooms, people shall be protected in such a way that no vapor can penetrate through to other rooms. The surrounding rooms need to be monitored with Dräger-tubes (Hydrogen Peroxide 0.1/a).

- The fire alarm indicators should be switched off by means of a cap protecting it or by disabling the system centrally if possible;
- Ventilation systems that are continuously providing fresh air do not need to be sealed. If the air is re-circulated, both the out- and inlet of the air system need to be sealed or disabled;
- In rooms with overpressure, the inlet of fresh air should be disabled.

### **Preparation of the equipment**

- The concentration of peroxide in the air is measured using peroxide measuring equipment.

*It is important that the sensor is pointed down in a way that no drops of liquid can fall on the surface.*

- The monitoring unit is located outside the room and is connected to a computer. Specific software is used to measure the hydrogen peroxide concentration in the room.
- Install the fogging unit in the middle of the room
- Connect both units via radio signal to the data logger located outside of the room, which is connected to a computer.
- Prior to disinfection, clean all surfaces. Damp areas should be dried and cupboard doors and drawers should be opened. Textile that needs to be washed needs to be brought outside the room.
- When the relative humidity (RH) goes above 95%, the machine needs to be turned off until the RH is lower than 90%.
- Peroxide concentration needs to be minimum 100 ppm during at least one hour (the machine is designed to perform >100 ppm during one hour in order for the disinfection process to be indicated as being successful).
- Once the disinfection process is completed we need to let the peroxide concentration drop to 25 ppm. If this value is reached, the room can be entered using the gas mask and the windows can be opened for extra ventilation.
- The room can only be released when the measured peroxide concentration is lower the 1 ppm.



### **Measuring the H<sub>2</sub>O<sub>2</sub> concentration**

Apart from the electronic Dräger equipment, in the so called shell (surrounding spaces), Dräger gas detection tubes type 8101041 DS PRB hydrogen peroxide 0.1/A are used in combination with a hand pump. With this equipment, up to 3 ppm hydrogen peroxide can be measured. It is important that in case of exposure of operators or patients, the MAC value of 1 ppm over 8 hours or 3 ppm over 15 min is not exceeded.

In order to monitor the homogeneous spreading of the gas, potassium iodid/starch detection sticks are used with a detection limit of 1000 ppm (Merckoquant Peroxide test 1.10337.0001).

Measurements are done in real life which prevents over- or underdosing.