



# Operating instructions

**POWER Cold Fogger**

(Type: TW1)

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Subject to changes resulting from technical progress.

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### Conversions:

No conversions and changes are allowed due to safety reasons. This will invalidate the operating licence of the device. The supplier documentation is part of the operating manual and must be kept with it and observed.

### PLEASE NOTE

**We expressly draw attention to compliance with the generally valid health and safety regulations.**

**Please observe all the directions and precautions as described in the operating instructions.**

**This device may only be operated by trained specialist personnel.**

**The device is guaranteed subject to compliance with these operating instructions. The guarantee will generally cease to exist if the user violates the described procedures.**

## 1 INTRODUCTION

You have opted to buy a cold fogger from our company. We congratulate you on your decision, because you have chosen a cost-effective, extremely rapid and highly effective method. We wish you success in using our device. Please get in touch with PFALZ TEC should you encounter any problems, we will gladly assist you with any concerns you may have.

## 2 Conditions of use

### 2.1 Intended use of the device

The cold fogger can be used for a variety of applications:

- Disinfection of areas such as greenhouses, storehouses, silos, stables, sanitary facilities, production sites and much more
- Plant protection in greenhouses, foil tents,
- Pest control in stables and other spaces
- Air humidification in greenhouses
- Dust suppression in production facilities
- Drug administration via the air in cattle sheds

### 2.2 Agents

The following are suitable for fogger application:

- Plant protection products
- Plant care products such as leaf shines
- Plant fortifiers such as leaf fertilizer
- Water for air humidification and dust suppression
- Disinfectant\* as a ready-to-use solution mixed with water \* (hydrogen peroxide 3%, peracetic acid 1%)
- Pesticides
- Means of promoting animal health
- Storage treatment agents such as "Keimstop"
- Auxiliary material for fog to improve fog quality



Use of other agents or a mixture of different ones can lead to unforeseen chemical reactions causing damage to the device. Warranty claims can not be invoked in such a case.

No agents may be used that contain flammable components in explosion-hazardous administrations or that may form potentially explosive mixtures during fogging. No other chemically aggressive or toxic substances such as solvents or dyes may be used.

No general chemical resistance can be ensured for substance mixtures despite the high quality standards. Pfalz Tec does not accept any warranty claims for agents that have not been approved in advance by writing. Application solutions should only be mixed in external containers. If this is done in the system container, then the water portion must always be filled first. Pumps as a moving part are subject to a warranty of 6 months.

### **There are special models for different acids and solvents.**

The agents can have very different properties, they can be water soluble/insoluble powders, can be liquid or oily. The agents are prepared with a small amount of water and auxiliary fog materials to form a fog infusion. The infusion of the substances can be viscous, but must not contain any solids above 0.3 mm. The information provided by the agent manufacturers must be observed and they should be contacted if anything remains unclear. Consultation with the manufacturer is especially necessary in the case of disinfectants containing acids due to low dilution. It is always worthwhile carrying out a test fogging before a large-scale application.

## **2.3 Responsibilities**

The operations manager is responsible for complying with health and safety and proper use of the rapid cold fogging device. All users and staff must be adequately trained in all aspects of fogging. This must be documented in writing. Always keep the operating instructions of the device at the ready.

## **2.4 Use in rooms**

Attention should be paid to the following points for proper functioning:

- The room to be fogged must be sealed off so that the fog cannot escape undesirably and lead to damages.
- The room must have sufficient ventilation.
- Technical equipment that may be attacked by the fog, such as control technology, lighting or heating technology, must be protected.
- Additional ventilation for even distribution of the fog is necessary for certain room sizes
- The fixtures and fittings in the room must be laid out in such a way, that the fog stream can flow unhindered into the room over 3-5 m, otherwise undesirable highly concentrated deposits may result.
- The device must be kept frost-free during operation and storage.

## **2.5 General safety information**

Observe the following when using the cold fogger:

- All employees and temporary staff must be instructed on record about the safety conditions that have to be observed.
- The cold fogger can only be used in a technically flawless condition.
- If damage is found before or during operation, stop using the system immediately. All measures must be taken to prevent further damage to systems and equipment or damage to plants and animals, the environment and persons. The compressed air connection may only be connected or disconnected when there is no pressure and flow
- The sockets used for supplying electric power must be in a perfect and inspected condition. The rated voltage must match that of the device, it must be able to supply at least 10 A of current.
- All parts of the building, technical equipment, storage goods and the like found in the room to be treated must be checked to see whether they are compatible with regards to the agent that will be used!
- Modern disinfectants often contain acids. The general provisions about handling acids must be observed. The compatibility of the acids with the materials used in the device must also be checked.
- The applicable Technical Rules for Hazardous Substances (TRGS), valid occupational safety guidelines and the Hazardous Substances Ordinance must also be observed.
- The permitted ambient temperature for the device must not be any less than 5°C
- The rapid cold fogger can only be moved when the container is completely empty

- Standing in front of the fogger when it is in operation is prohibited.
- You must only enter the area that is undergoing treatment (through to when ventilation is complete) with the personal protective equipment that is suitable for the fogging agent used. The highest protection of the airways is of paramount importance!

-see GBG 11

- Face protection or eye wear in accordance with EN 166
- Full-face mask in accordance with EN 136
- Standard overalls for toxic substances
- Universal protective gloves Directive 13-3/2

- Just because fog is no longer visible doesn't mean that the threat of danger has gone. .
- Substances hazardous to the environment must be stored safely until they are used and disposed of in an environmentally friendly manner in accordance with the applicable regulations.
- It must be ensured that no authorized access can be obtained into the area that is treated.

## 2.6 Risks when misusing the rapid cold fogging method

### Work safety

Insufficient professional training of employees can lead to improper use and to damages to persons, the environment, crops and materials. Nebulised substances penetrate into the lungs through the airways faster than in any other form without the use of sufficient personal protective equipment. Disregarding personal protective measures (gas mask, protective overalls, gloves) when entering areas where the fogger is used, for example, can damage health - even if fog is no longer visible!

### Use of agents

Undesirable results may arise if agents are used for the procedure that are not permitted or no communication

has been initiated with the manufacturer about the proper application.

Combustible materials (liquids and dusts) must not be nebulised because there is a risk of explosion.

The improper use of agents that can be classified as hazardous substances may lead to damages. Agents containing acids, bases or solvents may damage the device.

### Procedure

Failure to observe the work steps in the operating instructions may lead to unforeseen escaping of fog which can lead to damages. Any equipment found in the room may be attacked if sufficient protection is not in place. Air is fed into the rooms during fogging, which must escape somewhere. Air must be allowed to escape and this must be taken into account in all occupational health and safety considerations. Openings within the area to be treated that are not considered may lead to undesirable wetting and thus damages to equipment, living beings or the environment - even in other rooms or outdoors.

If any objects are applied with fog at a distance that is deemed too close, then this can lead to highly concentrated deposits with subsequent damage.

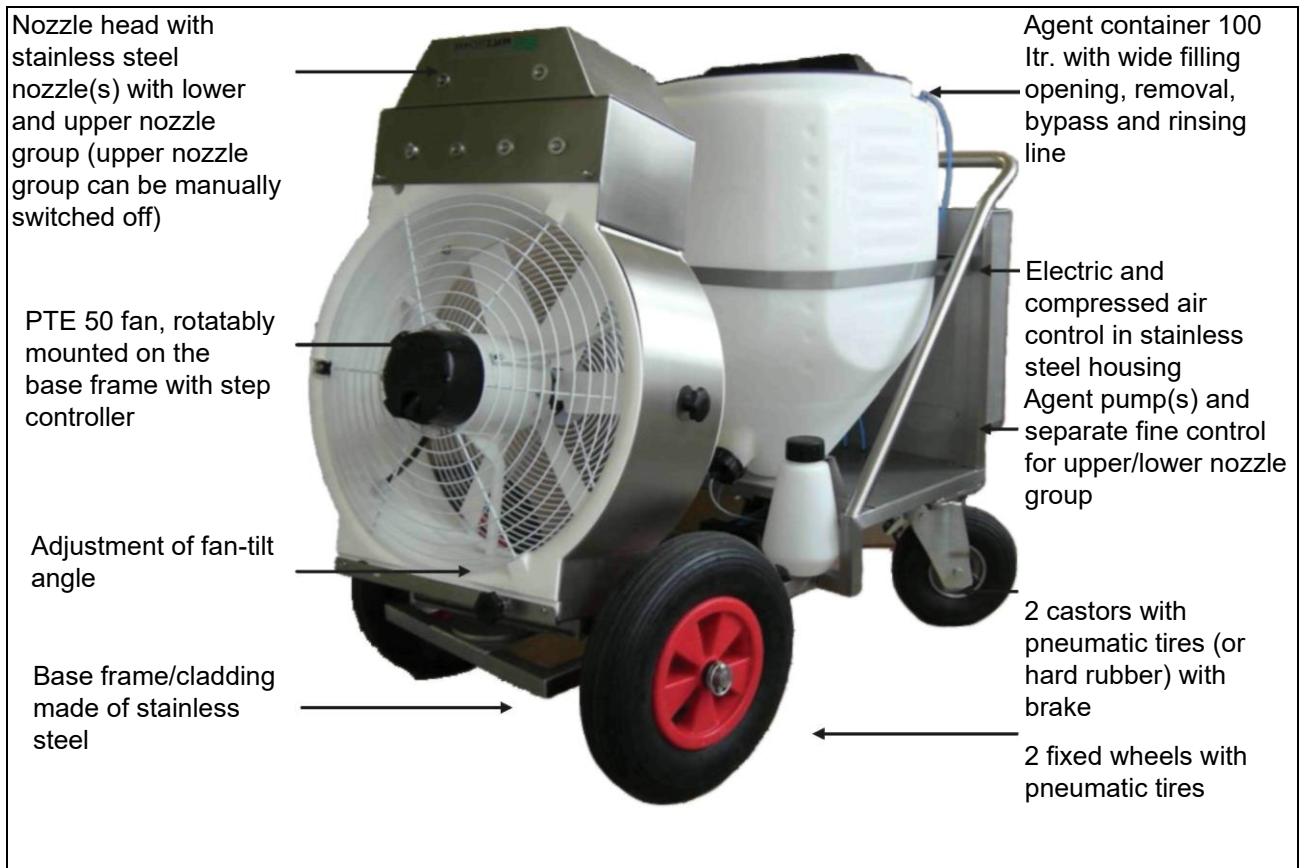
### 3 Technical components of the cold fogger

The cold fogging method of PFALZ TEC is based on the atomization of liquid agents into the finest droplets, which form a dense and homogeneous fog, depending on the agents used, which remains stable and effective for very long periods.

The device must be connected to a compressed air supply so that fog can be produced, with the respective requirement depending on the operational performance of the nozzle.

You can find details about the compressor and compressed air supply in Section 4.

#### 3.1 General design



#### 3.2 Rollers / brakes

##### Locking the brake

Position the rollers as such, that the brakes (as shown) can be easily reached. Lock the brake by pushing down the pedal.



##### Releasing the brake

Release the brake again by raising the pedal.



### 3.3 Performance parameters of the equipment and nozzles

Cold fogger designations

POWER (type TW1 ) = High performance fogger with fan on carrier frame

W06 = Nozzle type

Device type	Room size up to 3 m in height	Usual treatment time	Operational capacity of agent* 1. Very fine fog 2. Very coarse fog	Compressed air requirement	
				at 3 bar	at 6 bar
TW1	up to 2,500 m <sup>2</sup>	approx. 15 min/1,000 m <sup>2</sup>	3.6 - 24 ltr/hrs	400 l/min	800 l/min

\*... Specifications when using pure water at 20°C without additives

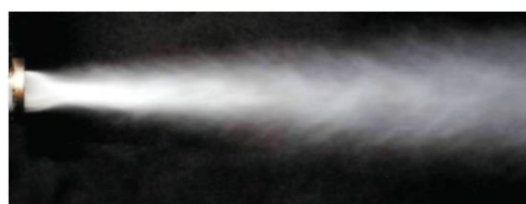
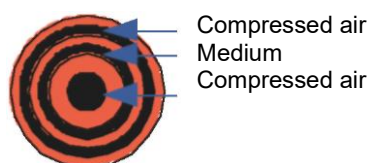
#### Notes on the versions:

Type	Container	Nozzle type	Capacity regulation on the nozzle head	Explanation
TW1				Fogger with fan on carrier frame
	B100			100 litre container
		W06		Fog nozzle, 0.06 l/min (up to 0.4 l/min for disinfection*)

\*... Depending on the fog properties of the agents and additives used, modifications in the sense of technical advancement are reserved.

### 3.4 Nozzle design

The patented 3-ring fogging nozzle, e.g. W06 is structured as follows:



3-ring fogging nozzle: Outlet openings

3-ring fogging nozzle: Image of fog outlet

The nozzle is largely resistant to blockages, since the liquid is discharged through a separate annular gap and not from a hole. If smaller residues happen to get stuck, then the fogging process can still be completed without any problems. The liquid is automatically sucked in. This safety feature ensures that no liquid can escape in the event of a compressed air failure.

### 3.5 PTE50 fan

Air flow: 7,760 m<sup>3</sup>/h                      Power consumption: 390 W approx.  
RPM: 1,400 U/min                      Trajectory range: 55 m

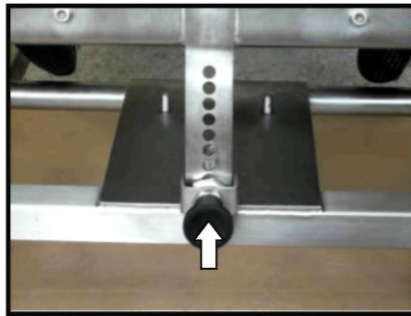
- Two-sided grid according to the CE standards
- Adjustable in 3 steps

#### ***Setting of the fan tilt angle***

Pull out knob. Bring the fan into the desired position.  
Push the knob back into the appropriate hole position.

#### ***Speed control***

The fan speed can be changed in 5 different steps using the step controller

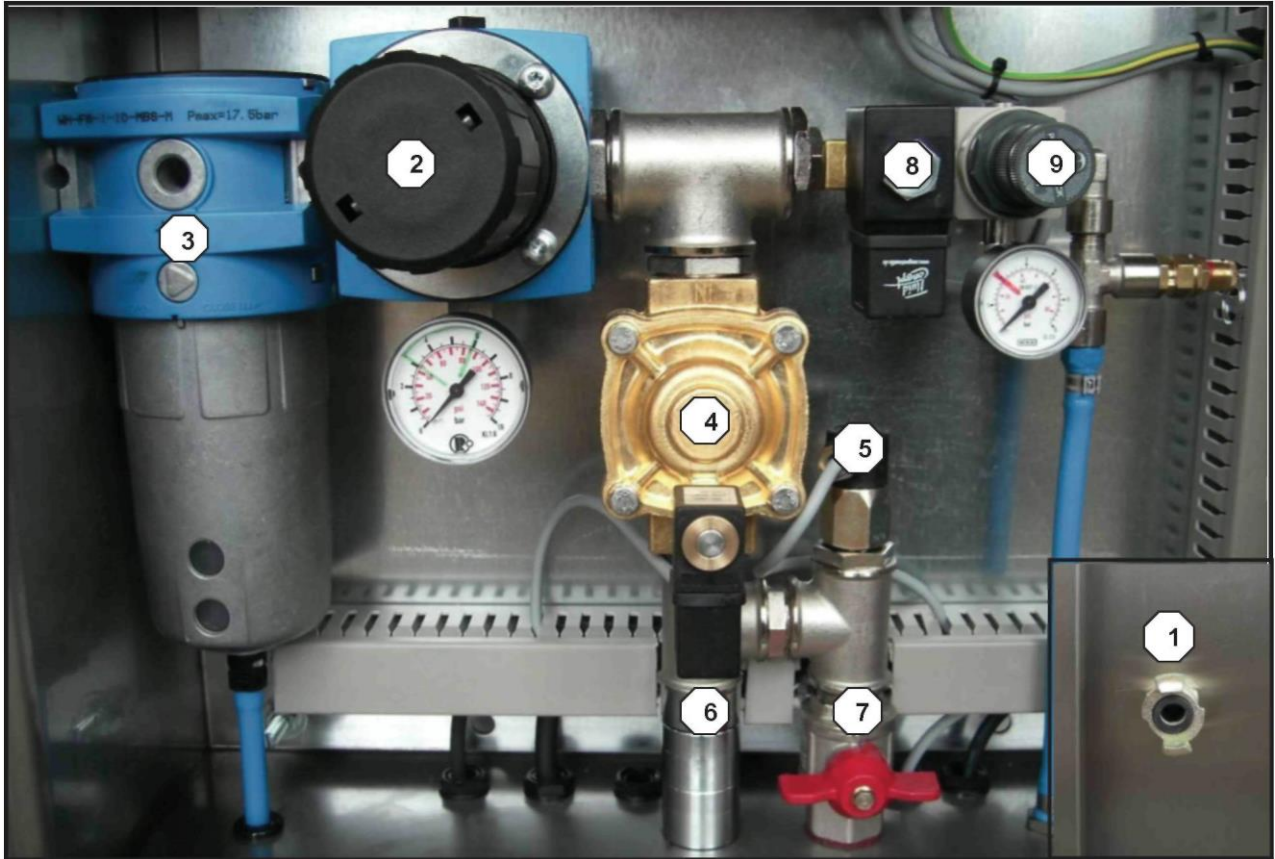


### 3.6 Other technical data

- Device air pressure                      3 - 6 bar
- Amount of compressed air required                      depending on number of nozzles and nozzle type; see point 3.3
- Wide nozzle outlet ring, agent                      0.5 - 1 mm (min. 15 mm<sup>2</sup>)
- Amount remaining in the container                      max. 50 ml
- Nominal width of fittings                      3/4"-1"
- Compressed air connection                      compressor-/ claw coupling
- H × W × D:                      120 × 75 × 130 cm
- Mains cable with plug                      3 m
- Voltage                      230V AC, 50 Hz
- Weight                      approx. 70 kg

### 3.7 Compressed air control system

Depending on the device options selected, the control box contains various equipment elements. The compressed air supply is established via the compressed air quick coupling or a Geka coupling.



- 1 Compressor/claw coupling compressed air connection
- 2 Pressure regulator with manometer 0-10 bar for compressed air (observe nominal pressure of nozzle - see nameplate)
  - Pull out the black turning handle approx. 3 mm until you hear a slight click.
  - Adjust pressure range
  - Push the black turning handle approx. 3 mm until you hear a slight click. (locking)
- 3 Integrated compressed air filter with automatic drainage, drips during operation
- 4 Solenoid valve to activate the device
- 5 Pressure switch monitoring
- 6/7 Compressed air supply lower/upper nozzle group (upper can be turned off manually)  
*IMPORTANT: The manual shut-off of the compressed air via the red ball valve must not be carried out during operation. The ball valve for the agent line (see point 3.9 Media line, component 4) of the upper nozzle group must also be in the same position (open / closed) as the corresponding ball valve of the compressed air line.*
- 8/9 Solenoid valve and pressure regulator for automatic container flushing

10



The device can be optionally equipped with separable compressed air lines. These allow for the manual flushing / cleaning of the lines up to the nozzles.

### 3.8 Electric control system

#### **Electric distributor with control system**

System control is carried out manually via the "Fogging on" switch. The operating conditions (mains, fogging process, fault) and possible errors (filling level empty, no compressed air present) are displayed as a result. The fan can be controlled in 3 steps via the rotary switch.

**Manual operation:** Starts an immediate fogging operation and should only be used for residual draining of the container or to manually flush the lines and the container. Please be aware that there is always liquid in the container in this operating mode, since monitoring or shut-off of the pumps is deactivated and can lead to dry running.



#### **Countdown Timer (manufacturing option)**



[ <b>PROG</b> ]	Selection of the setting mode and individual formats
[ + ] / [ - ]	In the setting mode: Increase/decrease the flashing point
[ <b>RESET</b> ]	Reset to start time
[ <b>START/STOP</b> ]	Start and stop of the countdown timer

#### **Setting of the operating time**

- Briefly press the [ **PROG** ] button. The hour point flashes in the display.
- Set the hour format to the desired value using the [ + ] or [ - ] buttons. .
- If the [ + ] or [ - ] buttons are pressed continuously, the flashing format moves up or down.
- When the [ **PROG** ] button is pressed again, the format for the minutes flashes as previously described.
- When the [ **PROG** ] button is pressed again, the second format flashes.
- When the [ **PROG** ] button is pressed again, the display changes into the setting mode.
- **Please note:** When the output is active, the [ **PROG** ] button is deactivated and the setting mode can not be selected.

#### **Starting and stopping the countdown timer**

- Start using the [ **START/STOP** ] button, the indicator in the display counts down at one second intervals.
- The [ **START/STOP** ] button stops the run time and the time in the display is paused.
- The [ **START/STOP** ] input has the same function as the [ **START/STOP** ] button.
- Two beep signals sound upon reaching 00:00:00, the display adjusts to the set value.

- Please note: If the timer is switched to a time of 00:00:00 with the [ START/STOP ] button, the bell symbol flashes in the display and the relay remains active until the [ START/STOP ] button is pressed again.

### Resetting the countdown timer

Once the run time is stopped with the [ START/STOP ] button, the [ RESET ] button is used to reset to the set time.

### Reset

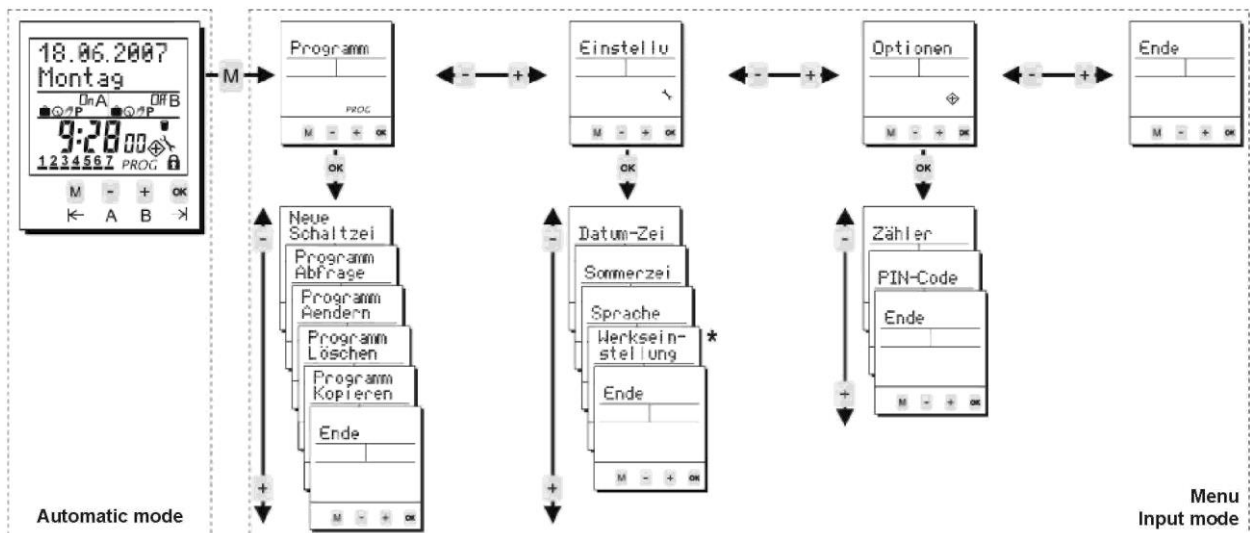
Press all 3 buttons at the same time for around 4 seconds.

### Data retention in case of power failure











In the event of a power failure, the sequence is stopped and the active relay drops out. Display ---. After restoration, the last time setting before the power failure is displayed, the timer must be restarted.

### Weekly Timer (manufacturing option)



### Functional overview




### Symbol explanation

-  Channel switched on / programming ON
-  Channel switched off/ programming OFF
-  For the current date the "holiday" / "permanent by date" setting is activated.
-  Current switching state is based on the programmed standard switching time.
-  Current switching state is based on a manual switch-over of the program and is changed by the saved program at the next switching time.
-  Current switching state is based on a manual switch-over and remains until it is reset manually (7).
-  Weekdays Monday ... Sunday; the underscores indicate which weekdays are activated in the programming mode.
-  Current switching state is based on a switching time with pulse function
-  Is displayed with "Delete program".
-  The timer is locked; to unlock the device the PIN has to be entered (12).


## Button function

-  1. Change from automatic mode into input mode.
-  2. Back function (go back a level).



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-  1. Input mode: Choice between different options.
- 2. Input mode: To adjust the flashing format.

---

-  1. Automatic mode: Switch the channel ON or OFF until the next programming step occurs.
- 2. Automatic mode: Pushing the button longer than 3 sec. = permanent switching status (7).

---

-  1. Press for longer than 1 second to activate the timer (without mains voltage).
-  2. Confirm the selection or programming (one level lower).

## Operating notes

Power reserve (without mains): Press the **[OK]** button for one second, the display switches on.

*f*  
You are always taken a step / level back in the programming with the **[M]** button.

*f*  
Having completed an entry, **[End]** appears. Confirm **[End]** with **[OK]** to change back into the automatic mode.

*f*  
At the end of some inputs, you can choose between **[End]** or **[Next]** with the **[-][+]** buttons. Confirming **[Next]** with the **[OK]** button will accept the data and switch you back to the start of the input.

*f*  
Selecting **[End]** during the input will switch the clock into the automatic mode without transferring any data.

## Channel ON OFF / Permanent P

### Channel ON OFF

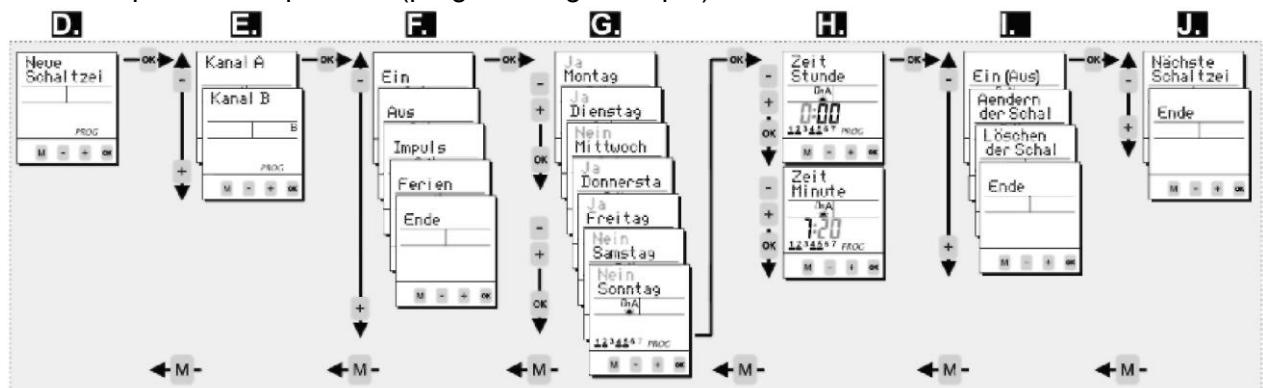
Pressing the **[A][B]** buttons (**[-][+]** buttons) allows you to manually switch channels. This manual switching is illustrated by the hand symbol and remains valid until the next programmed switching

### Permanent switching P

Permanent switching by 3 sec. press on the corresponding channel button **[A][B]**. Channel is continuously on or permanently off. Switching status remains until a new manual switch-over (3 sec. press) is obtained.

### Programming switching time

See next point for step A to C (programming example)



### Example of a programming for normal switching times (standard)

- A. Press **[OK]** button for one second. The display indicator appears (automatic mode).
- B. Press **[M]** button. You are now one level lower in the input mode.
- C. Confirm the [program] with the **[OK]** button.

- D. Confirm the **[new switching time]** with the **[OK]** button.
- E. Select the desired channel with the **[-][+]** buttons and confirm with **[OK]**.
- F. For a normal activation time or deactivation time, select the menu point **[On]** or **[Off]** using the **[-][+]** buttons and confirm your selection with **[OK]**.
- G. You have to choose, whether "Yes" or "No" is selected for each day of the week in this level using the **[-][+]** buttons. Confirm each of your selections with **[OK]**.
- H. Time setting: Hours **[-][+]** and then **[OK]**. Minutes **[-][+]** and then **[OK]**.
- I. Confirmation prompt: If the flashing switching time overview is correct, then confirm this prompt with the **[OK]** button. Other options can be selected (modify/delete/exit) with the **[-][+]** buttons.
- J. If you want to continue the programming, confirm **[Next switching time]** with **[OK]**. If you want to end the programming, switch to the end point using **[-][+]** and confirm this with **[OK]**.

### Pulse

*Program -> New switching time -> Channel A/B -> ...*

The pulse function allows you to program an activation time with a fixed switching period. The clock turns off again after the programmed pulse duration (pulse of up to 59:59 mm:ss). The programming is undertaken corresponding to a normal standard switching time (see point 8/9) with the following differences:

- Select the impulse function (9F).
- Specify the activation period (pulse minute / pulse second).
- Specify the weekdays of your pulse switching time
- Specify the activation time (time hour / time minute)

Confirmation prompt: Confirm the flashing pulse switching time

### Holiday setting

*Program -> New switching time -> Channel A/B -> Holiday -> ...*

A holiday time can be entered per channel. You have the option of permanently switching off the system for a period (day by day) (**holiday OFF**) or permanently leaving it on (**holiday ON**).<sup>f</sup>

The holiday switching time is edited in accordance with the switching time programming in point (8/9).<sup>f</sup>

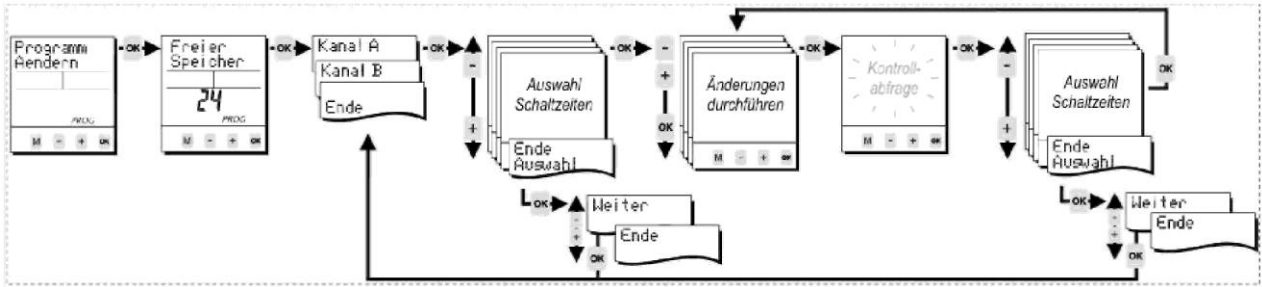
The **Holiday** selection is no longer offered in the **New switching time** menu, if the holiday program is already being used. The holiday program can then be edited via the **Change program** (13) menu or the **Delete program** (12) menu.

### Other settings

Menu point	Main menu	Applications
Program query	Program	Switching times query / memory space query
Copy program	Program	Copy of the switching times from one channel to another. The channel is not overwritten here, but rather filled with additional switching times. Holiday switching times are not copied!
Delete program	Program	Deleting of switching time(s). You have the option of deleting all channels, one channel or individual switching times.
Date	Settings	Date and time settings
Summer time	Settings	Summer time settings
Language	Settings	Language selection
Meter	Options	Display of the operating hours and switching pulses per channel and for the switching timer as a whole
PIN code	Options	You can lock the timer with a 4-digit PIN code. You can edit, activate or deactivate this code. Please get in touch with our customer service if you have forgotten this.
Reset function	Press all 4 front buttons at the same time for 2 seconds. The timer is reset. Switching times are not deleted! Date and time are deleted -> Otherwise, just as initial commissioning (2).	

### Change program

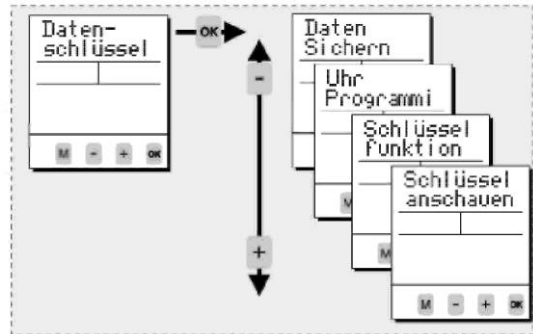
*Program -> Change program -> ...*



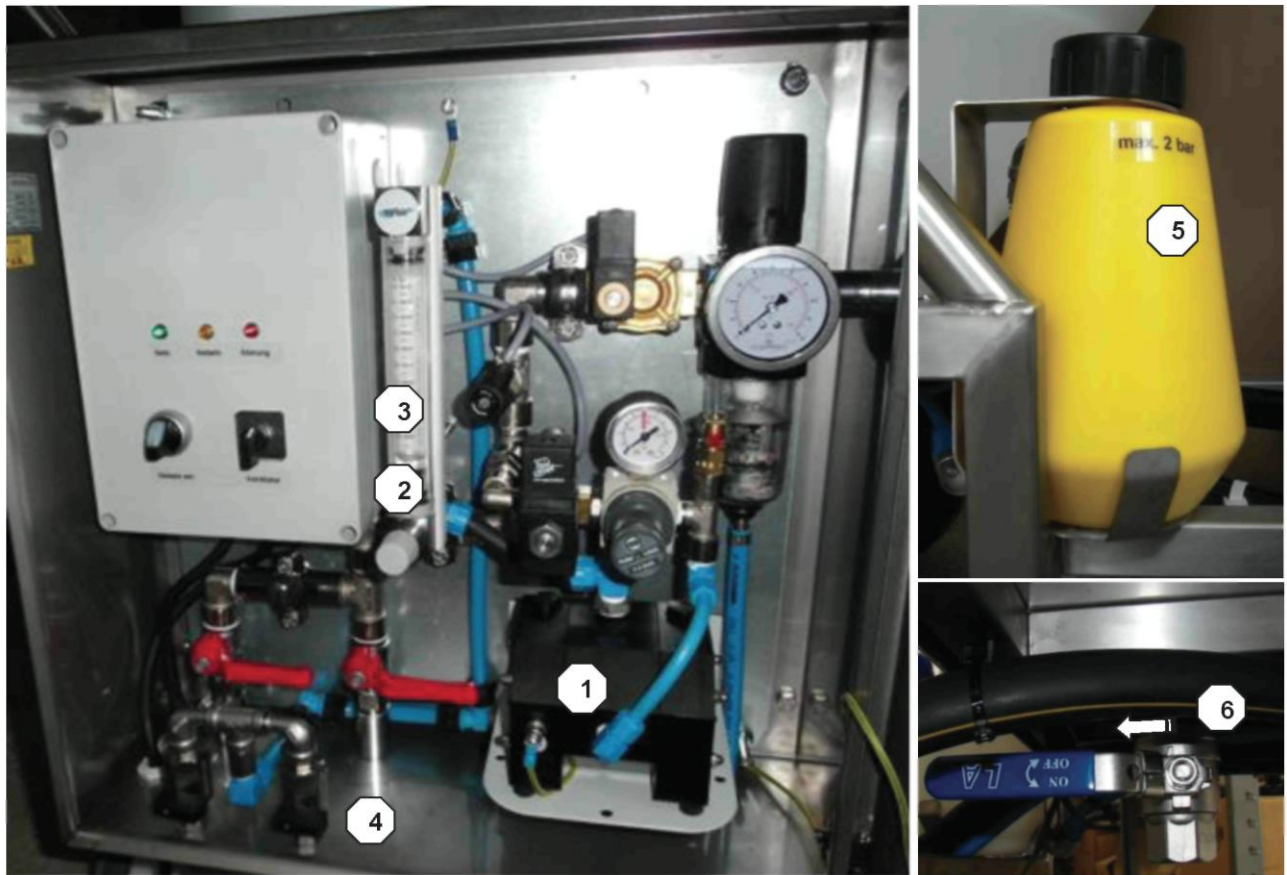
### Data key

The following options are available when connecting the data key:

- Backup data: Backup of the clock data on the data key. Existing data backup is overwritten. (With the same clock type). *f*
- Programming the clock: Backup of the data from the data key onto the clock. All saved switching times on the clock are overwritten. *f*
- Key function: Plays back the switching times saved on the key. The internal programming is suppressed.
- View key: Query of the switching times / memory space saved on the key.

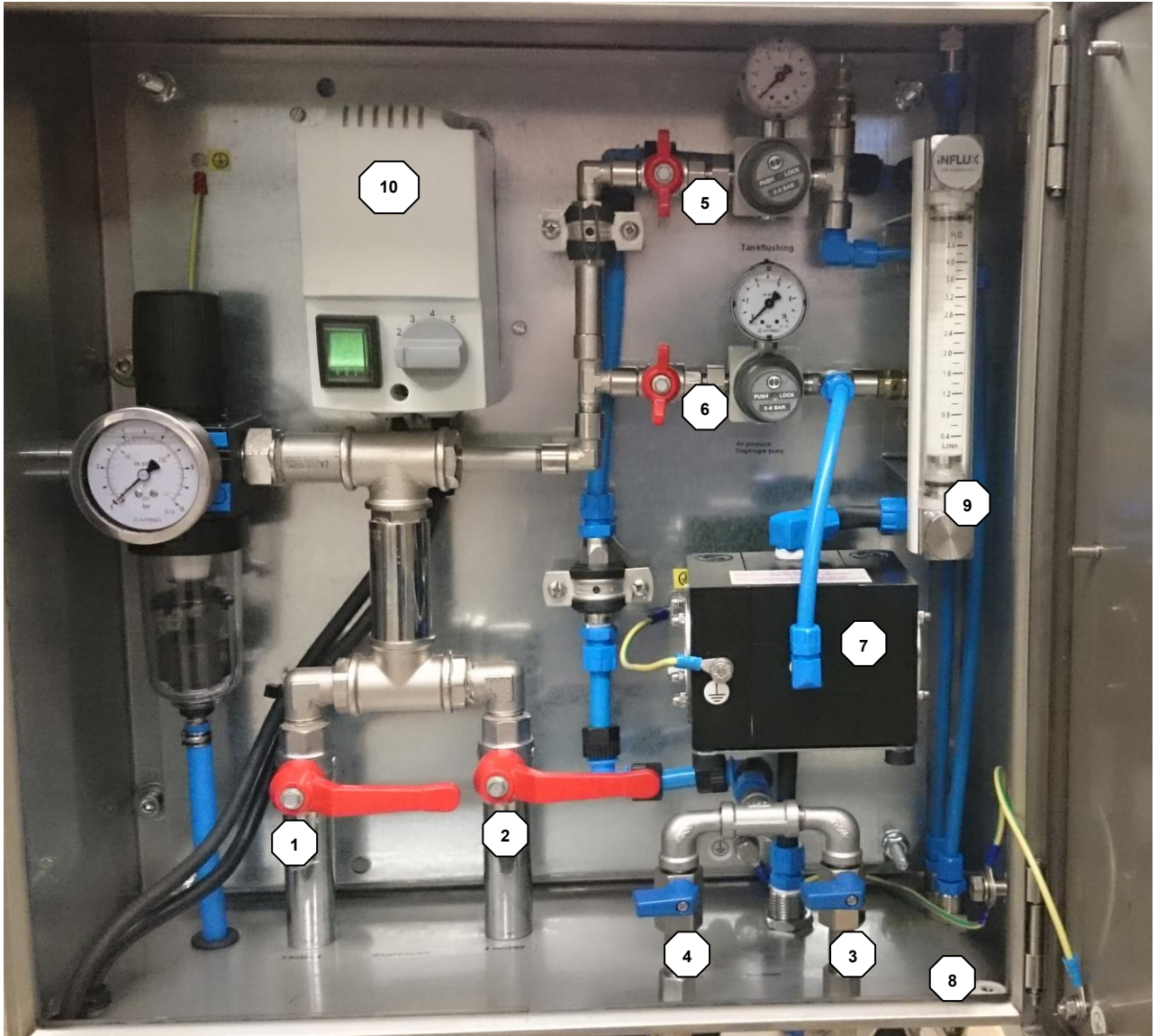


### 3.9 Media line



- 1 Agent pump (protect against dry running, to be observed in MANUAL mode) A pump is installed on the device per nozzle group.
- 2 Flow meter and fine control for the lower nozzle group (1-4xW06 nozzle)
- 3 **Optional** Flow meter and fine control for the upper nozzle group (1-3xW06 nozzle)
- 4 Ball valve agent supply upper nozzle group  
*IMPORTANT: The manual shut-off of the agents via the ball valve must not be carried out during operation. The red ball valve for the compressed air line (see point 3.7 Compressed air line, component 7) of the upper nozzle group must also be in the same position (open / closed) as the corresponding ball valve of the agent line.*
- 5 **Optional** Flushing container: Always fill completely with water and close tightly before commissioning the device. Please note: Container is pressurized during the flushing process.
- 6 Container drainage. To operate the ball valve or open the drain, pull back the safety runner.

### 3.10 Manual switching format



- 1 Compressed air main cock (compressed air supply "lower nozzle group (4xW12 nozzle)")
- 2 Compressed air for the "upper nozzle group (3xW12 nozzle)" **Caution:** always switch together with ball valve 3; agent supply "upper nozzle group (3xW12 nozzle)"
- 3 Agent supply "upper nozzle group (3xW12 nozzle)"
- 4 Agent supply "lower nozzle group (4xW12 nozzle)"
- 5 Compressed air cock for container flushing. **Caution: maximum 2 bar !** Rinsing container: Always fill completely with water and close tightly before commissioning the device. Please note: Container is pressurized during the flushing process.
- 6 Compressed air supply for compressed air pump (pressure and fine control),
- 7 Compressed air diaphragm pump
- 8 Housing ventilation, **Caution:** Always keep open, clean if contaminated
- 9 Mechanical flow meter. **Note:** The flow rate must always be controlled via the pressure regulator of the pump (point 6).
- 10 Speed controller for fan

## 4 Compressor and compressed air supply

Commercial compressed air units or compressors can be used to supply the fogger with compressed air. The compressor is technically adapted to the fogger by the fogging equipment supplier. The compressor must be situated outside of the fogging atmosphere so that the filter and the compressor are protected against fogging elements.

Pre-existing compressors can also be used. However, these are often not suitable for continuous operation. Therefore a consultation together with the fogger manufacturer is absolutely essential. If necessary, intervals must be observed.

### Cross sections for compressed air lines

The hose properties also play a significant role alongside the compressor performance when ensuring the necessary device pressure. The longer the hose, the larger the hose diameter must be in order to keep pressure losses to a minimum.

Nozzle	Hose length up to 8 m	Hose length 9 - 100 m
W06	1/2"	3/4"

Commercially available compressors are selected by the manufacturer based on the technical parameters, the local conditions and the type of fogger.

## 5 Initial commissioning work flow

### 5.1 Compressor

#### Do not set up compressors in the room to be fogged

- The compressor must be cool and dry, it requires sufficient air space for cooling (not tightly enclosed).
- Compressors generally require frost-free installation.
- Observe the rotational direction information on the compressor. Immediately switch off the compressor if the rotational direction is incorrect and have the rotational direction corrected by specialist personnel. The supplier can accept no warranty claims for damages to the compressor that are caused due to operation when the rotational direction is incorrect.
- If necessary, have the CEE socket (red with 5 poles) checked
- Use the compressed air connection with pressure regulator!
- Setting the pressure: 4 - 6 bar
- Adhere to the compressor's max. continuous running time  
Ensure sufficient cross sections for the compressed air line and concealed pressure regulators or control valves

### 5.2 Setting parameters on the fogger

#### Calibration of operational capacity of agent

The operational capacity of the agent has a significant influence on the fineness of the fog. The setting is infinitely variable on the fine control valve on the container.

**Please note:** Fog will no longer be discharged if the compressed air supply is too low (see Chap. 3.2).

#### Application with powder agents

- With a max. filling level in the container, slightly reduce the throughput volume on the fine control valve if necessary

#### Application with liquids

- With the smallest and max. filling level in the container, set the throughput volume on the fine control valve

### 5.3 Administering the agent

- The agent is primarily administered in accordance with the specifications of the manufacturer. Experiences from other applications can be transferred in part.
- The infusion intended for the room is atomized in one process.
- When using fogging additives, it should be checked as to whether these are compatible with the agent used.
- Mixing is carried out directly before application without any intermediate storage.



**Attention**

Particular attention should be paid to the thinning of acidic agents. Certain conditions must be observed in part or it may be the case that infusions cannot be mixed at all. Observe the work steps when filling as well as any possible chemical or thermal reactions.

Application solutions should only be mixed in external containers. If this is done in the system container, then the water portion must always be filled first. Pumps as a moving part are subject to a warranty of 6 months.

### Example of disinfection quantitative calculation

#### 1. Application guidelines for wet disinfection

Surface 1,000m<sup>2</sup> (all surfaces)

Quantity per area: 0.4 l/m<sup>2</sup> - 0.6 l/m<sup>2</sup>, concentrate. 2%,

#### 2. Determining amount of active substance

1,000 m<sup>2</sup> x 0.4 l/m<sup>2</sup> = 400 litres of which

400 litres x 0.02 = 8 litres of substance (A)

#### 2. Application in cold fog

Agent quantity (A) + dilution quantity 1:1 (query manufacturer)

8 l (A) + 8 l water = 16 l fog mix

Room air disinfection: 1 litre of fog mixture per 80 to 40 m<sup>3</sup> (in consultation with the manufacturer)

### 5.4 Work steps for commissioning

1. Provide the compressor in accordance with the requirements of the device (see Chap. 3.2)
2. Place the device on the ground and always apply the fog in a free, empty space, not on or over animals / plants / technical equipment.
3. Set up the device as such, that the nozzle fogs slightly upwards and the media hose in the container rests at the lowest point.
4. Determine the distance between the compressor and the fogger and lay out the hose ready with the corresponding required diameter (see Chap. 4)
5. Fill the container
6. Establish the power supply
7. Check the functions of the relay, make the necessary settings if necessary (see Chap. 3.8)
8. Plug in the compressed air hose to the coupling of the device and the compressor
9. Switch on the compressor

#### Please note:

- Always only use the purest of liquids, that do not contain any lumps, flakes or grains
- When operating with air resuspension and foaming agents, check the automatic shut-off, remaining foam in the container can deceive the sensor so that it does not shut off

## 6 Cleaning and maintenance

The **fogger** must be cleaned with water after each application, the electrical connection must be protected against water. The nozzle is rinsed with water by a short fogging process. In the case of blockages, a compressed air jet can be directed at the nozzle.

The compressed air filter in the device must be checked every 4 weeks. Depending on the application period and the contamination level of the compressed air and compressed air connections, it must be changed after 1 - 2 years. Pfalz Tec supplies all the original replacement parts.

Hose clamps must be carefully retightened after the first use or the first time significantly warmer ambient temperatures are experienced.

With regards to the **compressor**, the intake air filter must be checked at regular intervals, since even small amounts of contamination can reduce the supply performance and thus the fogging capabilities. It can also affect the service life of your compressed air system. The cooling fins on the compressor must be cleaned regularly.

## 7 Fault troubleshooting

The table shown below gives an overview of possible errors / problems when operating the device and the possible solutions thereof. Contact your dealer if you cannot find the error by yourself.

	Error / problem	Solution
<b>Fogger</b>		
Device does not switch on	There is no power	Check the sockets and connections for the compressor and fogger
	The agent container is empty	Fill the container
<b>Compressed air</b>		
There is not enough compressed air on the fogger / system	Compressor/pressure line supply quantity too low to be effective	Comparison of the air consumption of the nozzle head with the performance capability of the compressor / pressure line
	Compressed air distributor has too small of a diameter	Check compressed air distributor, replace if necessary
	Too many (angle)valves in the line, resulting in pressure losses	Reduce the number of valves / lay a new line
	Incorrect rotational direction of the compressor	Check rotational direction on the compressor and correct if necessary
	Pressure regulator in line is set too low	Check the setting of the pressure regulator and correct if necessary
	Oil filter contaminated	Clean/replace oil filter
	Suction filter contaminated	Clean/replace suction filter
	Hose has too low of a diameter for its length (pressure losses)	Look up causes for pressure losses in Chap. 4 of the operating manual, adjust the hose diameter to the necessary length and compressed air consumption of the fogger
	Kink in the hose	Check hose, correct if necessary
	Leakage in the pressure line	Check pressure line, repair if necessary

	Accumulated water in the compressed air hose in the outdoor area is frozen (e.g. if the hose is sagging)	Check hose and carefully heat up the affected area
<b>Automatic shut-off when container is empty</b>		
Device does not switch off automatically	Agent container is contaminated by deposits/residues from the agent on the inside	Clean the agent container, remove deposits if necessary
<b>Air resuspension (optional)</b>		
Air resuspension does not function	Tilt switch in the housing / control switch in the control housing for the air resuspension in the wrong setting	Set tilt switch in the control system to ON
	There is no power	Check sockets and connections
	Agent tank is not properly in line with the sensor	Check the position of the agent tank in the frame and correct if necessary
	Container is empty	Fill the container
Compressor switches on and off in case of air resuspension with start time delay	Compressor has no boiler (if no compressed air is consumed, the compressor automatically switches off until the compressed air is consumed)	Retrofit boiler or select the corresponding compressor

## **EC Declaration of Conformity**

Within the scope of

- the EC Machinery Directive 2006/42/EC, Annex II A, as well as its amending Directive 2009/125/EC
- the Low Voltage Directive 2006/125/EC and
- the EMC Directive 2004/108/EC

we declare that the product

**POWER Cold Fogger (type:  
TW)**

meets the aforementioned relevant provisions.

The following harmonised standards have been applied:

- EN 12100-1 (2004) Safety of machinery. Terminology
- EN 12100-2 (2004) Safety of machinery. Technical principles
- EN ISO 13857 (2008) Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs.
- EN 60204-1 (2007) Safety of machinery. Electrical equipment
- EN 61000-6-1 (2007) Electromagnetic compatibility (EMC). Generic standards. Interference immunity
- EN 61000-6-3:(2007) Electromagnetic compatibility (EMC). Generic standards. Emitted interference

German language operating instructions are available.

**Any constructional changes which impact on the technical data stated in operating instructions and the designated use, i.e. which significantly modify the installation, render this declaration null and void!**

Heinz Gerke,  
Managing Director  
Markersdorf, 30/09/2019