Instruction Manual
HM 170.52  Smoke generator

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HM 170.52 Smoke generator

Table of Contents

1 Description ......................................................... 1
2 Configuration ....................................................... 2
3 Operation .......................................................... 3
   3.1 Important notes for achieving good results ..................... 4
4 Safety instructions .................................................. 5
5 Technical specifications ............................................. 6
   5.1 Supply unit ..................................................... 6
   5.2 Vaporiser ....................................................... 6
The HM170.52 smoke generator is used to visualise air flows. A dense mist consisting of droplets serves as smoke. The fine droplets provide a thick, long-lasting smoke which is highly visible and reflective. The droplet mist is produced by vaporising a special, glycol-based fog liquid and emitting the vapor through a nozzle. The generated smoke is non-toxic, non-corrosive and fragrance-free. The condensate and precipitate are water-soluble and non-corrosive, and can be removed easily with a moist cloth.

The smoke generator consists of a supply unit and manual element with a vaporiser. Both units are connected together via a supply hose.

The supply unit contains a tank and feed pump for the fog liquid. At a medium intensity of smoke generation, the tank allows continuous operation for more than 1 hour. The supply unit also contains the heating transformer for the vaporizer and electrical control components such as the main switch, mains connection, fuse and thermostat.

The manual element contains the vaporizer with a regulating valve and a lance with a screw connection for the interchangeable nozzles.

To adapt the device to different air speeds, two angled nozzles with different diameters are included in the scope of delivery.
HM 170.52 Smoke generator

2 Configuration

1 Supply unit
2 Supply hose
3 Filling hole for fog liquid
4 Mains cable
5 Mains switch
6 Fuse, 3.15A
7 Filling-level indicator
8 Nozzle, angled
9 Lance
10 Manual element with vaporiser
11 Regulating valve
3 Operation

- Attach the required nozzle to the lance. Opening width: 8 mm.
  
  Large nozzle: Low air speed.
  Small nozzle: High air speed.
- Fill the tank with fog liquid.
- Connect the device to the mains.
- Close the regulating valve on the vaporiser.
- Turn on the mains switch and wait for about 20 seconds, during which period the vaporiser is pre-heated. The temperature is limited by means of a thermostat.
- Open the regulating valve slightly.
  **ATTENTION:** Some unvaporised fog liquid may emerge first.
  After a brief period, the nozzle begins to emit smoke.
- The intensity of smoke generation can be adjusted within a certain range by means of the regulating valve.
- To turn off the device, first close the regulating valve and wait until the remaining liquid has been vaporised. After that, the device can be turned off. This prevents an uncontrolled emission of liquid and smoke when the device is turned on again.
3.1 Important notes for achieving good results

Poor vaporisation
- Drops at the opening of the nozzle:
  The device is not yet warm enough: It requires at least 1 minute of pre-heating with smoke.
  Too much fog liquid: The regulating valve has been opened too far.
- Smoke is emitted irregularly, abruptly and dwindles partially:
  Not enough fog liquid: The tank is empty, the regulating valve has been opened too far.

To achieve a good, compact jet of smoke, its speed of emission from the nozzle should be matched with the air speed.
- Smoke speed too low:
  Thin, poorly visible smoke jet.
- Smoke speed too high:
  Frayed, divergent smoke jet.

The smoke speed is adjusted via the nozzle and the regulating valve. At very low air speeds, use of a larger nozzle might improve results.
Safety instructions

The following instructions must be observed on all accounts to ensure safe operation.

**ATTENTION!** To ensure proper operation, only use the fog liquid recommended by G.U.N.T. The boiling range of this fog liquid is matched precisely with the device. Use of a different liquid may cause the device to overheat, lead to a formation of deposits in the vaporiser, or prevent thorough vaporisation of the liquid.

**ATTENTION!** Never use oils, water or kerosene.

**ATTENTION!** Only use clean fog liquid. Dirt can clog the valves and vaporiser!

**DANGER!** Danger of burning
The nozzle becomes very hot (up to 250°C). Do not touch it during operation. Avoid contact with plastic.

**ATTENTION!** Never leave the device unattended in the energised state.
HM 170.52 Smoke generator

5 Technical specifications

5.1 Supply unit

Length x width x height:
330 x 160 x 140 mm

Weight:
10 kg

Tank capacity for fog liquid:
750 ml

Consumption of fog liquid on a medium setting:
10 ml/min

Power consumption:
500 W

Power supply:
230 V/50 Hz

5.2 Vaporiser

Length x width x height without lance:
190 x 90 x 130 mm

Lance tube:
Ø14 x 180 mm

Interchangeable nozzles, angled:
Ø2 x 0.25 mm
Ø3 x 0.50 mm

Nozzle connection: Cutting ring M6 x 0.75

Length of supply hose:
1600 mm

Power supply for heater:
24 V

Heating time:
<20 sec

Thermostat:
270 °C

Weight:
1 kg