



Общество с ограниченной ответственностью

**Системы Пожаротушения**



**Generator of fire extinguishing aerosol  
GOA-II-0,020-080-004  
TU 4854-008-69229785-2011**

**«Doping-2.02»**

**«Doping-2.02e»**

**«Doping-2.02t»**

**TECHNICAL PASPORT  
&  
OPERATION MANUAL**

ЭПИН. 030020.000 ПС



Saint-Petersburg

## 1. PURPOSE

1.1. Generator of fire extinguishing aerosol «Doping-2.02», «Doping-2.02e», «Doping-2.02t» (further «generator») with circle outflow of aerosol is meant for extinguishing in conditionally pressurized volumes fires and combustions of the following Classes:

- A 2 — solid combustible materials ignitions not accompanying with smoldering;
- B — volatile flammable and combustible liquids ignitions;
- C — gases ignition;
- — fires of electrical equipment being under voltage of up to 1000 V.

1.2. Generator can operate in an ambient temperature range from  $-60^{\circ}\text{C}$  to  $+95^{\circ}\text{C}$  (it is permitted to rise repeatedly the ambient temperature up to  $+125^{\circ}\text{C}$  for the duration of not more than 8 hours).

Predominant fields of application are small engine compartments and other spaces on various transport means such as public transport, river and sea vessels, railway locomotives, cable vaults, electrical boxes, saves, safe vaults etc.

1.3. The generators cover the class of fixed extinguishers having zero ozone depleting potential.

## 2. TECHNICAL CHARACTERISTICS

Parameter, units	Value
1	2
1. Mass of aerosol forming compound (AFC), kg	0,020±0,002
2. Extinguishing application density, $\text{g}/\text{m}^3$ : Class B/Class A2 (GOST R53284)	0,080 0,060
3. Maximum protected volume, Class B /Class A2; $\text{m}^3$	0,2
4. Delay of aerosol discharge, sec. (not exceed)	5,0
5. Discharge time , sec. (not exceed)	4,0±1,5
6. Overall dimensions, mm (not exceed): - height - diameter	38 65
7. Mass of generator	0,14±0,014
8. Distance (m) from the aerosol generator discharge outlet to the point where the temperature does not exceed: 400°C 200°C 75°C	not fixed 0,011 0,040

11. Specification of electrical ignition device:

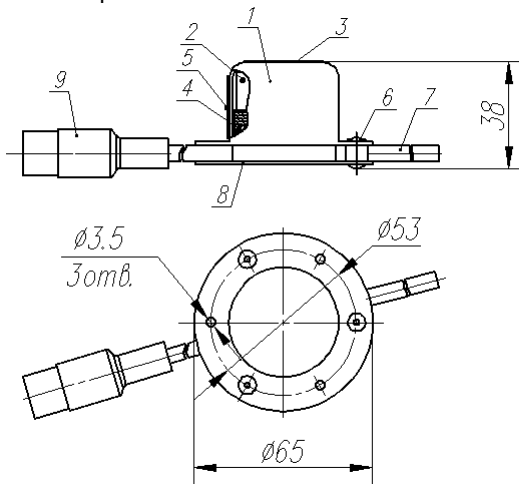
- current of guarantee actuation, A (not less)
- resistance of fuse head, Ohm
- safe test current, A (not exceed)
- voltage, V
- temperature of actuation from thermo sensitive cord, °C,  
not less than

0,7  
1,5±0,3  
0,2  
5÷30  
170

### 3. DELIVERY SET

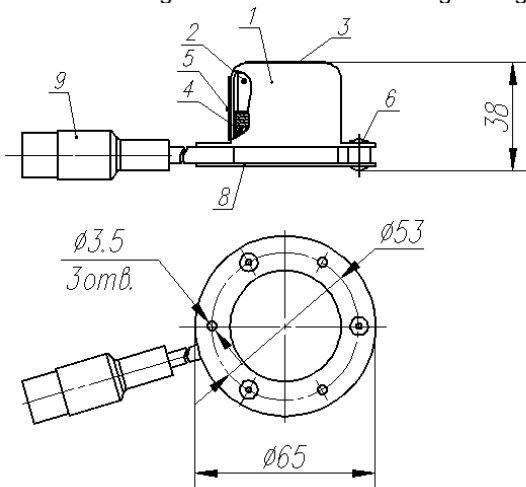
3.1. The delivery set includes:

- assembled generator..... 1 pc;
- technical passport and operation manual..... 1 pc per a batch of 10 pc.



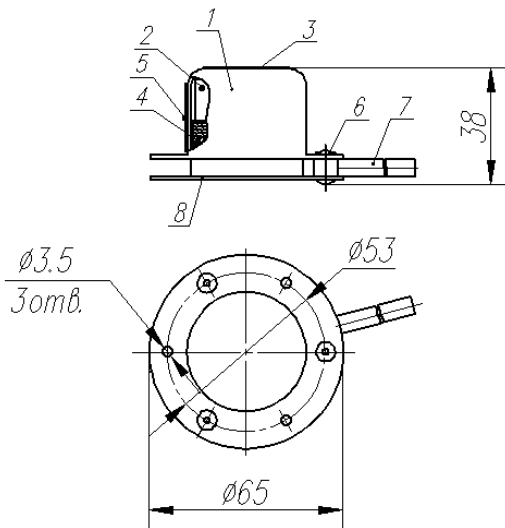
1. Canister
2. Compound charge
3. Label "Attention"
4. Coolant
5. Label
6. Clincher
7. Thermo sensitive cord
8. Cover
9. Electrical igniter

Fig.1. Generator of fire extinguishing aerosol «Doping-2.02»



1. Canister
2. Compound charge
3. Label "Attention"
4. Coolant
5. Label
6. Clincher
8. Cover
9. Electrical igniter

Fig.2. Generator of fire extinguishing aerosol «Doping-2.02e»



1. Canister
2. Compound charge
3. Label "Attention"
4. Coolant
5. Label
6. Clincher
7. Thermo sensitive cord
8. Cover

Fig.3. Generator of fire extinguishing aerosol «Doping-2.02t»

#### 4. INSTALLATION

4.1. Generators are installed in the protected objects (rooms, transport means and so on) and fixed on horizontal upper parts of the objects' construction. The fastening of generators is performed with the help of three tapping screws or bolts with nuts and washers (not included into the set). For installation one should drill 3 holes with the diameter of 6 mm for a plastic dowel on the depth of 30 mm or 3 holes of  $\varnothing 3,5$  mm for bolts.

4.2. The placement of generators should be done with taking into account fire –hazardous zones which are for combustible liquids and solid materials are not less than 50 mm from the exhaust gap of the generator and not less than 2 mm from the generator's canister.

5.1.2. Before connecting a generator to the starting circuit one should check the absence of the voltage in the circuit.

#### 5. DESIGN and PRINCIPLE of OPERATION

5.1. The generator's design is shown in fig. 1, fig. 2 and fig. 3.

5.1.1. "Doping-2.02" consists of a metal canister 1, around which a label 5 is glued, a cover 8 that is fixed with the canister by three clinchers 6. There is a gap between the canister and the cover for outflow of extinguishing aerosol. Inside the canister there is an aerosol forming compound charge 2, a coolant 4, a thermo sensitive cord 7 and an electrical igniter 9.

The difference between "Doping-2.02" and "Doping-2.02e" is in the absence of a thermo sensitive cord in "Doping-2.02e". The difference between "Doping-2.02" and "Doping-2.02t" is in the absence of an electrical igniter in "Doping-2.02t".

5.2. The principle of generators' operation:

5.2.1. Start from the electrical igniter:

The generator starts when an appropriate power signal is received by the igniter 9. The igniter initiates the burning of aerosol forming compound charge.

5.2.2. Start from the thermo sensitive cord:

The generator starts when the ambient temperature around it increases higher than 170 °C or a fire touches with the thermo sensitive cord. The inflamed cord initiates the burning of aerosol forming compound charge.

5.2.3. The consequently generated aerosol goes through the coolant and then flows out of the canister through the gap into the protected volume and extinguishes a fire.

## 6. HEALTH AND SAFETY REQUIREMENTS

6.1. The personnel involved in installation and service of the generators shall read this manual and follow its requirements.

6.2. Upon actuation of the generator no people should be present in a zone of aerosol flow with the temperature higher than 75 °C. People must leave the room and return only after the room ventilated. If presence of personnel is necessary during the ventilation, the respiratory protective mask should be worn.

6.3. Fire extinguishing aerosol presents only a low toxicity hazard when used at fire extinguishing concentration under normal conditions. In case of contact with eyes it may cause irritation and swelling of the mucous. In this case, rinse immediately with plenty of water. The aerosol is not classified as dangerous for the environment.

6.4. Particulate matter of fire extinguishing aerosol that has accumulated on the open surfaces following the generator's discharge can be removed by vacuuming, brushing off, washing off or wet cleaning. Personal protection equipment such respirator or gauze bandage should be worn during cleaning. In case of eyes contact, rinse your eyes with plenty of water.

6.5. The following is not allowed:

- \* placing generators near heating devices (in the zone with the temperature higher than 50 °C);
- \* connecting generators to a power source prior to their installation;
- \* carrying any work near the generator placed in a standby mode;
- \* carrying any hot work such as welding, smocking and using open flame within the distance of 25 meters from the generator.

## 7. MAINTENANCE

7.1 Generator doesn't need any special maintenance.

7.2 Once a month a generator shall be placed in a standby mode and subjected to a visual inspection to check for any visible external failures, mechanical damage, reliability of fastening and integrity of the ignition device's electrical circuit.

**Attention! The test current while checking the integrity of electrical circuit should be less than 0.17 A.**

7.3. Generators with faults that cannot be easily rectified should be rejected and returned to the manufacturer.

## 8. STORAGE AND TRANSPORTATION

8.1. The generators should always be stored and transported in original packing. This will provide protection from mechanical damage, direct sunlight, moisture and aggressive environments.

8.2. The generators are not under pressure. They can be transported by any transport at any distance in accordance with general existing rules of cargo transportation.

## 9. WARRANTY

9.1. The manufacturer guarantees the compliance to the Technical Specifications provided the conditions of transportation, storage and operation are strictly complied to by users.

9.2. The specified service life of generators is 10 years with the storage time being not more than 8 years.

9.3. Warranty period is 2 years from the date of purchase of the generator.

## 10. NOTICE of ACCEPTANCE

This notice certifies that the generators supplied have left EPOTOS in full working order.

The generators "Doping -2.02", "Doping-2.02e", "Doping-2.02t" covered by this notice are listed here:

- Goods were inspected and packed on:
- Inspector's stamp and signature

Date of issuing

Signature



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