

*Module of powder fire extinguishing*  
*MPFE(d)-8-ST-1-GE-UHL2,5*  
*TU 4854-006-52459334-2001*

**SureFIRE**  
EXTINGUISHER



**«Buran-8STT»**

(for transport use)

**TECHNICAL PASPORT and OPERATION  
MANUAL**

*МПП(р)-8-06.00.000РЭ*

## 1. PURPOSE

1.1. Module of powder fire extinguishing "Buran-8STT", further "module", is intended for localization and extinguishing fires and ignitions of the following Classes:

- A — burning of solid flammable materials;
- B — burning of flammable liquids;
- C — burning of flammable gasses;
- and burning of electrical equipment under tension with the voltage parameter of 1000V. Modules are not intended for extinguishing fires of alkali and alkali-earth metals and other materials that can combust without air admission.

1.2. Climatic regime of the module is UHL 2.1 due to GOST 15150 for the ambient temperature from minus 50°C up to plus 95°C.

1.3. The predominant application sphere for modules is mobile complete plants of version group M26 and M31 due to GOST 30631 (engine and luggage compartments of heavy haulers and road building machines, diesel and diesel-electric engine compartments of railway locomotives as well as other transport means and trailers). Modules can also be used for fire protection of various stationary objects (workrooms, store houses, industrial buildings etc.).

1.4. Module is considered to be the main element of fire extinguishing systems.

1.5. Module belongs to the class of stationary fire-extinguishers not containing ozone depletion substances.

## 2. BASIC TECHNICAL CHARACTERISTICS

Table 1

Parameters, units	Value
1. Canister capacity, l	7,8± 0,5
2. Mass of fire extinguishing dry chemical powder VEKSON-ABC70 TU 2149-238-10968286-2011, kg	7,0 ± 0,5
3. Overall dimensions of the canister, mm	look picture 1
4. Module fire extinguishing capability	look table 2
5. Duration of powder release, sec.	not more than 5
6. Processing speed, sec.	not more than 10
7. Residual mass of powder after system discharge, %	not more than 10
8. Electrical parameters of the module starting device circuit*:	
• activation current, A	0,4-0,5-0,7
• circuit resistance, Ohm	3,0 - 6,5
• guaranteed non-activation current, A	not more than 0,05
• maximum activation current, A	4,0
• time of electrical pulse, sec	not less than 0,1
9. Module mass, kg	13 ± 0,5
10. Service life, years	not less than 10
11. Periodicity of quality tests for fire-extinguishing powder	
• for modules used on transport means	5 years
• for modules installed on stationary objects	not required

Note:

\*) Voltage at the output terminals of the starting device should be in the range of 1,2÷28,5 V.

by means of conducting the so called "cold" tests of modules. The check shall be conducted by organizations having permission for such works from the manufacturer. It is permitted to check modules for their further operation by means of a random inspection of operability of not less than three modules from one batch. The tests are conducted in accordance with the methods contained in the technical requirements for modules. The tests validation gives the right to prolong lifetime for next 5 years if the results are positive. If the results are negative then the module should be changed.

In cases if modules are installed on stationary objects they doesn't need the check of fire extinguishing powder quality during all the service life.

## 9. STORAGE and TRANSPORTATION

9.1. The climatic conditions of storage and transportation for modules should be in accordance to GOST 15150-69.

9.2. Modules should be stored and transported in the manufacturer package with assuring conditions preventing modules from mechanical damages, direct sunbeams, moisture and hostile environment.

9.3. Modules can be transported by any transport means at various distances. The transportation of packed modules by air should be carried out in hermetic compartments of aircraft with observing the requirements of Class 9 dangerous goods transportation, packing instruction 962.

9.4. It is allowed to store the modules in covered, not heated storage rooms at temperature from - 50°C up to + 50°C.

## 10. WARRANTY

10.1. The manufacturer guarantees the correspondence of the module characteristics to the technical requirements TU 4854-006-52459334-2001 on condition that the users strictly observe the regulations for the transportation, storage and operation according to this manual.

10.2. The warranty period – 24 months from the module's production date.

10.3. Service life – 10 years.

10.4. In case of the destruction of the seal on the module's body the manufacturer does not except claims on the warranty obligations.

## 11. Notice of acceptance

Module of powder fire extinguishing «Buran-8STT» corresponds with the technical specifications TU 4854-006-52459334-2001 and is available for operation.

Date of issuing  
Stamp

and

Signature

MANUFACTURER:

«Epotos® - K»

29, Rudnitsky str. Kirovo-Tchepetsk town,  
Kirovsky region, 613046,

Under the exclusive agreement with  
"POJTEHEXPORT" Ltd.

127411, Moscow, Utchinskaya str., 6  
Tel/Fax: (495) 789-64-14

[www.epotos.com](http://www.epotos.com) [pojtehexport@mail.ru](mailto:pojtehexport@mail.ru)

6. Knee band 25 GOST 8946.
7. T pipe 25 GOST 8948.
8. Sprayers 15 G1.

Fig. 3 Options of the leading pipeline installation diagrams.

### 7. PREPARATION for WORK

7.1. Take the module out of the package and check it visually to be proved in absence of defects of casing, membrane, nozzle-sprayer as well as in integrity of lead seals. Check the delivery set.

7.2. Install the module on an intended place and fix it.

7.3. Take the transport cap out of the thread hole for an electrical actuator and screw the electrical actuator into the hole tightening it to home (tightening torque 8 H·m). Lock in the connector cable part of the triggering circuit with the module electrical connector. Check the integrity of the entire circuit with the help of the control panel or by means of the resistance measurement with the help of a multimeter.

The connection of the module to the electric circuit of the starting up system is implemented after its hard fixation on an object and finish of the balancing and commissioning of the fire control system. The scheme of the connection is shown in Fig. 4.

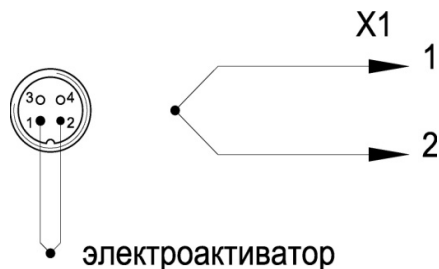


Fig. 4 Line coupling of module «Buran-8STT» to starting circuit.

7.4. During the designing of the electrical starting lines one should foresee measures for exclusion of extraneous currents induction that can provoke the modules' false operation.

7.5. At service the modules should be earthed.

**Attention!** Safe test current should be not more than 0,05 A.

### 8. MAINTENANCE

8.1. The module does not need special maintenance. Once per a month the module mounted on a protected object is subject to a visual check. One should check the absence of apparent external damages (cracks, through holes and dimples on the module's canister and membrane) as well as the absence of the triggering circuit wires breaks, external damages of isolation and junctions. Also one should check the module fixation reliability and in case of necessity the tightening of attaching bolts should be done.

8.2. Once per a year the module mounted on a protected object is subject to demounting, overturning and shaking manually 5-10 times for the purpose of the elimination of possible powder caking. If during overturning and shaking one can't hear the powder shift inside the module such a module should be overcharged.

8.3. The canister of the module should be cleaned periodically from dust and dirt by moistened cloth with paying a special attention to the cleanliness of the nozzle-sprayer.

8.4. Once per five years the quality of the fire extinguishing powder should be checked

Table 2

Modification	Height of module installation, m	Class A fires		Class B fires	
		Area, m <sup>2</sup>	Volume, m <sup>3</sup>	Area, m <sup>2</sup>	Volume, m <sup>3</sup>
Buran-8STT	2,0±0,5	6	12	6	12

### 3. DELIVERY SET

3.1. The delivery set includes:

- module - 1 pc;
- electrical actuator EA-0,4 – 1 pc;

### 4. DESIGN and PRICIPAL of OPERATION

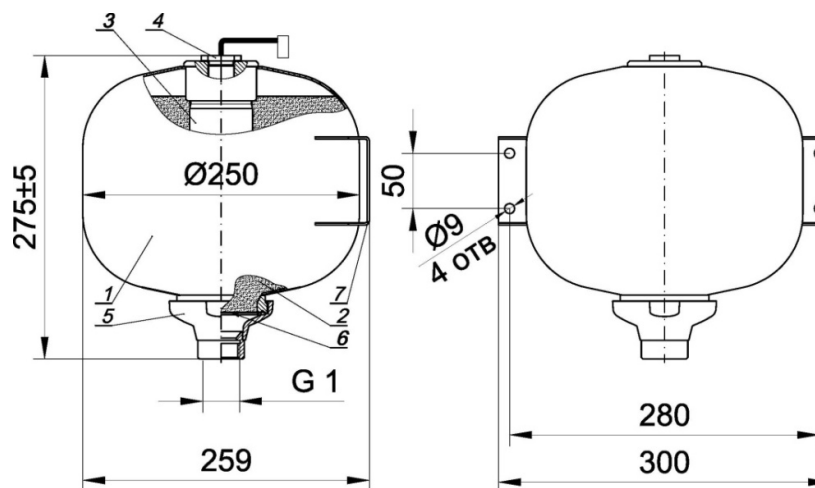


Fig.1 Design of module «Buran-8STT».

4.1. Module (Fig. 1) corresponds a hermetic structure consisting of a welded steel canister 1 filled with fire extinguishing powder 2, a gas-generating element 3, an electrical actuator 4, a nozzle-sprayer 5 and a distractible grooved membrane 6. The distractible membrane is tightly pressed to the canister by the nozzle-sprayer. There is a thread G 1 on the outlet port of the nozzle-sprayer for fixing a sprayer. The sprayer can be connected to the canister through a leading tube. The electrical actuator can be equipped with a connector of various types.

The module is mounted on a protected object by the bracket 7.

4.2. Module in the standby mode has no overpressure inside the canister. Module starts up when an electrical pulse is delivered into the igniter circuit from a control device of the fire extinguishing system.

4.3. After an electrical pulse has been delivered onto the igniter a gas generating element starts up and an intensive gas emission occurs. That leads to the increase of pressure inside the module canister, destruction of the membrane on the grooves and the powder discharge into the protected space.

## 5. SAFETY MEASURES

5.1. The personnel admitted for modules operation should learn this passport and operation manual, instructional inscriptions on the canister (labels) and observe their requirements.

5.2. It is prohibited to:

- Connect a module to any power source prior to its installation on an object;
- Produce any works with a module connected to alive but not inactive electric start circuit;
- Subject module to impacts leading to the canister deformation that can be a cause of losing its pressure during operation;
- Operate a module with the canister and membrane damages;
- Place shielding objects between a module and protected area;
- Store and install a module near heating devices on the distance of not less than 2 m and in places not protected from direct sunbeams;
- Conduct any tests of modules without the manufacturer's agreement and permission.

5.3. The connection of a module with control devices of electric starting systems should be done after hard fixation of the module on an object and finishing of commissioning of the whole system.

5.4. During the removal of the discharged fire extinguishing powder after a normal or false operation one should observe precaution measures ensuring non-ingress of powder into eyes and respiratory organs. It is recommended to collect the removed powder into plastic bags or some other waterproof tanks. Further utilization of collected powder should be made by operating or specialized companies according to regulations "Utilization and regeneration of fire extinguishing powders" issued by VNIPO in 1998. During cleaning it is recommended to use means of protection for breathing organs (respirator, gauze bandage), protective glasses, rubber gloves and protective clothing. In case of the powder particles ingress into eyes, it is necessary to immediately wash eyes by a large quantity of water.

5.5. The discharged fire extinguishing powder doesn't produce detrimental effects on clothes and property and is easily removed by a vacuum cleaner.

5.6. The disassembling, repair and recharge of modules is allowed to be conducted by persons acquainted with the module construction and principle of operation and admitted for unassisted work at specialized plants licensed for work with such a type of equipment.

## 6. INSTALLATION

6.1. Module is installed inside the protected compartments and mounted on the wall or solid vertical construction elements. The mounting elements shall withstand a static load in vertical direction of not less than 60 kg and dynamic load during operation of not less than  $95 \text{ kgm}^2\text{sek}^{-2}$ . The layout of the openings for the bracket fastening is shown in Fig. 1.

6.2. Placement and fastening of modules in the compartments of transport means should be fulfilled with the concurrence of the development center or enterprise operating this type of transport means. In case of protecting one object by several modules they should be placed evenly at area or volume.

6.3. The scale icon of the powder scattering configuration where fire extinguishing has stable results is shown in Fig. 2.

6.4. The assemblage of the leading pipeline should be conducted in accordance with the project documentation for the protected object. The leading pipeline consists of standard sanitaryware formed components and tubes. The number of the sprayers can be up to 4 pc and they should be fixed evenly in the pipeline with the length of not more than 6 m. The fitting of all the thread connections should be done with use of FUM tape (TU 6-05-1388-86). The sprayers should be directed into the side of the protected object and fixed by a nut lock 5 Fig 3.

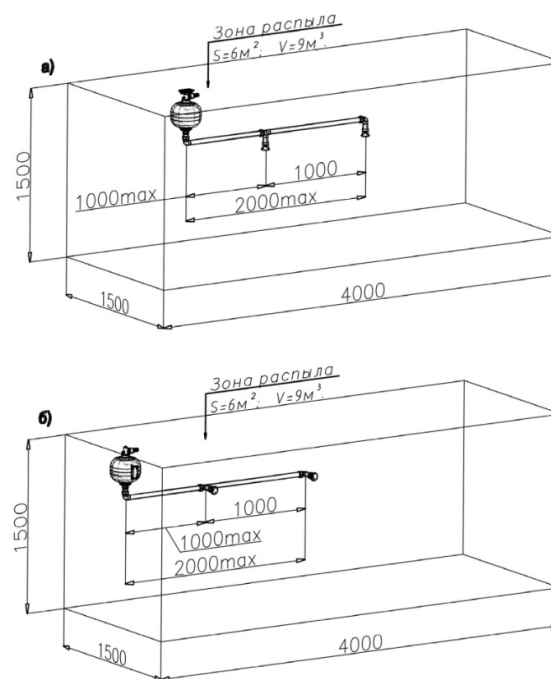
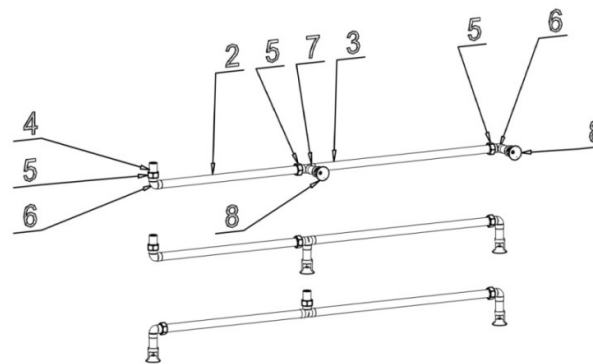


Fig. 2 Fire extinguishing zone for module «Buran-8STT».



1. Module MPFE(d)-8STT «Buran-8STT».
2. Pipe 25 GOST 3262.
3. Pipe 25 GOST 3262.
4. Pipe connector 25 GOST 8969 (L=100mm).
5. Nut lock 25 GOST 8968.