

**Powder fire extinguishing module**  
**MPFE(b)-15-I-GE-UZ**  
**TU 4854-002-73334499-2004**

**SureFIRE**  
EXTINGUISHER



**“Буран<sup>®</sup>-15И”**

**DESIGN, OPERATION & MAINTENANCE**  
**MANUAL**  
**Buran-15I**

MPFE(b)-15.00.00.000RE



## 1. DESIGNATION

1.1. Powder extinguishing module «Buran-15!» (hereinafter referred to as “Module”) has been used in automatic and autonomous fire extinguishing plants designed for suppression of Class A, B, C, E fires. At extinguishing fires on electrical equipment under tension the parameter of voltage is not considered.

Modules are main elements of automatic powder fire extinguishing plants installed in industrial, warehouse, domestic and other rooms of various kinds.

Modules are not designed for extinguishing fires involving alkali and alkali-earth metals and other materials that can combust without air admission.

1.2. Modules have been designed for use in a temperature operation range from -50°C to +50°C and relative humidity of up to 98%.

1.3. Modules belong to the category of stationary fire extinguishing means containing no ozone depleting substances.

## 2. BASIC CHARACTERISTICS

Parameter	Value
1. Module capacity, l	15,5±0,5
2. Mass of fire extinguishing powder Vekson-ABC70 TU 2149-238-10968286-2011, kg	14,5±0,5
3. Overall dimensions, mm:	
• diameter	300
• height	422±5
4. Module mass	23,0±1,0
5. Response speed, sec., not more than	10
6. Duration of powder outflow sec., not more than	1
7. Mass of powder remainder after operation, %, not more than	10
8. Module fire extinguishing capacity:	
• at extinguishing Class A fires: maximum protected area, m <sup>2</sup> , not more than	48
maximum protected volume, m <sup>3</sup> , not more than	96
• at extinguishing Class B fires: maximum protected area, m <sup>2</sup> , not more than	42
maximum protected volume, m <sup>3</sup> , not more than	84
• maximum rank of seat of Class B fire	233B
9. Characteristics of electrical actuator circuit*:	
• activation current, Amp	0,4;0,7
• maximum activation current, Amp	10
• time of current operation, sec, not less than	0,1
• circuit resistance, Ohm	от 1,2 до 4,0
• guaranteed non-activation current, Amp	0,17
10. Service life, years	10

Note:

\*) Voltage on the actuator terminal should not be more than 28,5 V.

## 3. SUPPLY

3.1. Supply of module includes the following:

- assembled module unit with bracket – 1; - bolts M6 - 4;

#### 4. DESIGN and OPERATION PRINCIPLE

4.1. A schematic of Buran-15l module is shown in Fig 1. Module represents a hermetically sealed capacity consisting of a steel welded casing 1 filled with extinguishing powder 2. The casing has two orifices that have been welded into the casing perpendicular to each other - one is for incorporating a gas generator 3 and second is for incorporating a membrane unit 6.

The membrane is tightly pressured to the casing by a nozzle-sprayer 5. On the upper part of the casing there is a bracket 7 with bolts 9 for fastening the module.

4.2. Actuation of module occurs when voltage from a fire detection and activation panel is applied to an electric activator of the gas generator. The gas generator operates causing combustion of a gas-generating compound. The generated gases accumulate in the casing increasing pressure and aerating the extinguishing powder. When the pressure inside the casing exceeds its rated value the membrane ruptures and the powder discharges through the nozzle-sprayer into a protected volume.

4.3. Normal mode of the module operation is a standby mode for starting up.

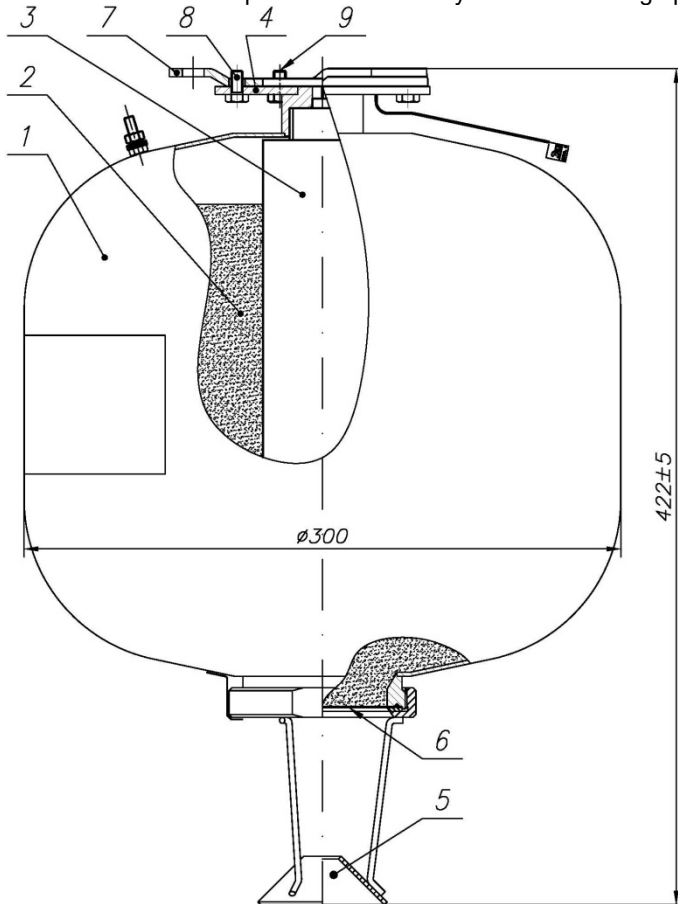


Fig 1. Module Buran-15l arrangement

## 5. SAFETY MEASURES

5.1 Only those who have read the entire manual, learned safety instructions and comply with their requirements can install and maintain the modules.

5.2. The discharged extinguishing powder doesn't produce detrimental effects on men's clothes or property and can be simply vacuumed, brushed, mopped or washed off. During a clean-up procedure the respiratory protection means such as a respirator or a gauze mask, gloves, protective goggles and overalls are recommended. In case of powder particles getting into eyes, the eyes shall be washed with a large amount of water.

5.3. Disassembling, repair and re-charge of the modules can be conducted by the manufacturer/supplier only.

5.4. The following IS NOT permitted:

- Installation of module in close proximity (not less than 2 m) to the heating elements;
- Connection of module to any power source prior to its installation;
- Use of module after any impacts that have resulted in the deformation of module's casing and its seal failure;
- Use of module with any damages to its casing, membrane or wiring;
- Conducting of maintenance or service of module that is being connected to the active power source;
- Conducting any tests without an endorsement by the manufacturer/supplier.

5.5. The elements of the building structure that the module is mounted to should withstand a static load of not less than 130 kg.

## 6. PREPARATION for RUNNING and INSTALLATION on OBJECT

6.1. Unpack module and check for completeness of the supply and for absence of defects of casing, membrane, nozzle-sprayer as well as for integrity of lead seals.

Module is installed inside the protected premises and mounted on the ceiling or solid construction elements by the instrumentality of bolts, screws etc. The mounting elements shall also withstand a static load in vertical direction of not less than 130 kg. The module's axis shall not deviate from Y-axis by more than 10°. The layout of the openings for the bracket fastening is shown in Fig. 2.

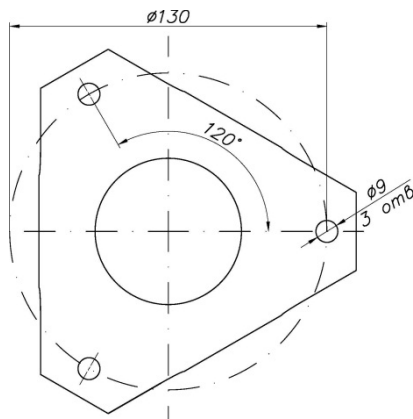


Fig.2 Layout of the openings for the module bracket fastening.

6.2. Joint the module holder 4 (Fig. 1) to the bracket 7 in such a way that the heads of the bolts 9 came into the broader parts of module holder channels. Then turn the module around its axis to stop. The bolts herewith come to the narrow parts of the channels and hold the module suspended. Fix the module against its rotation relative to the bracket by the bolt 8. Tighten up the bolts 9.

6.3. Modules should be grounded during operation.

6.4. In case of protecting one object by several modules they should be placed evenly at area or volume according to the requirements of p. 8 part 2 of this manual.

The scale icon of the powder scattering configuration where fire extinguishing has stable results is shown in Fig. 3.

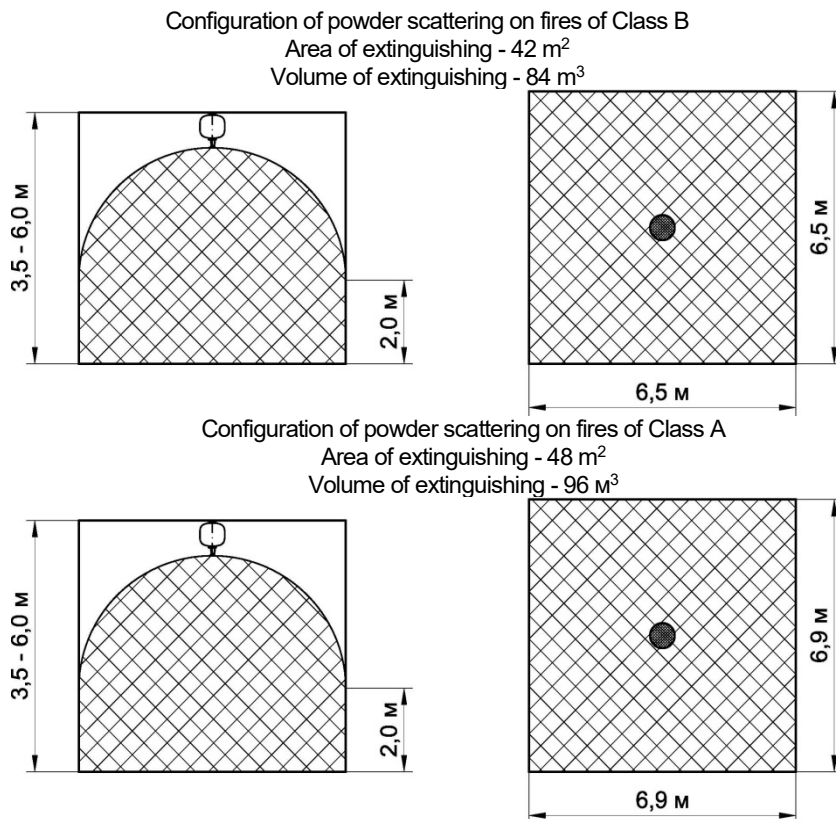


Fig. 3. Scale icon of the powder scattering configuration.

## 7. MAINTENANCE

7.1. Module doesn't need special maintenance.

7.2. Once per three months one should check by external examination the absence of compression marks, cracks and through holes on the casing, nozzle-sprayer and membrane. With such defects the module must be replaced.

7.3. The module casing should be periodically cleaned from dust and dirt by damped rags.

7.4. One needn't to check the fire extinguishing powder during the whole service life.

7.5. The recharge of modules can be done only by certified organizations or manufacturer.

## **8. STORAGE AND TRANSPORTATION**

8.1. Modules shall be stored and transported in their original packaging. Conditions shall be provided to prevent mechanical damage of the Module and the impact of the direct sunlight, moisture and aggressive atmospheres.

The storage of modules is permitted in covered, non heated rooms with temperature from - 50°C up to + 50°C.

8.2. The transportation of packed modules should be carried out in closed transport means.

8.3. 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. WARRANTY**

9.1. The manufacturer guarantees the compliance of the module's technical characteristics to the parameters in Section 2, provided the conditions of transportation, storage and operation are complied with this manual.

9.2. Warranty period – 24 months from the module's sale date.

9.3. Module's service life – 10 years from the sale date.

9.4. In case of lead seals damages the manufacture doesn't take claims concerning the warranty.

9.5. The manufacturer leaves the right to introduce the design changes and replace the extinguishing powder with a powder of a different trademark with a purpose of improving the performance characteristics of the module.

## **10. NOTICE of ACCEPTANCE**

Fire extinguishing module «Buran -15I», serial № \_\_\_\_\_ corresponds with technical specifications TU 4854-002-73334499-2004 and are adopted as ready for operation.

Date of manufacture

Inspector's stamp and signature

## **11. NOTICE OF COMMISSIONING, MAINTENANCE OR REPAIRS**

Date	Type of works	Executor (company, person)	Signature, stamp

MANUFACTURER:  
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