Manufacturer: JSC «POZHTECHNIKA» Belarus,
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OPERATING MANUAL PBAK.634233.028 RE

PORTABLE POWDER FIRE EXTINGUISHER MIG E

Manufacturer´s warranty	The service life of fire extinguisher	Refilling period – every
4 YEARS	**15 YEARS**	**5 YEARS**

This operating manual presents information on the design and functions of powder portable fire extinguishers «MIG E» and as a reference guide for cases of its intended usage. MIG E fire extinguisher is produced in a version with increased corrosion resistance.

A sample identification code to order the fire extinguisher: Powder Portable Fire Extinguisher OP-4-ABCE MIG E.

1. INTENDED USE

1.1 Portable powder fire extinguishers MIG E are designed for installation in agencies and units of emergency situations, as safety equipment for companies and institutions of national economy, vehicles, and in domestic environments as primary fire protection equipment for fires of class A (solid combustible materials), class B (Flammable Liquid), class C (Flammable Gas) and class E (Electrical Equipment up to 1000 V for OP-6, OP-9, OP-12, and up to 20000 V for OP-4, OP-5).

1.2 The fire extinguishers are not designed for alkali and alkaline earth metal fires that can burn with no airflow.

2. TECHNICAL CHARACTERISTICS

2.1 Technical characteristics are presented in Table 1.

Table 1 – Technical Characteristics

Parameter name /Value	OP-4	OP-5	OP-6	OP-9	OP-12
1. Firefighting agent (powder) weight, kg	4±0,2	5+0,25	6+0,3	9±0,45	12±0,6
2. Firefighting agent stream length, m, no less than	3,0			4,0	
3. Firefighting agent stream duration, s, no less than	10	10	12	15	15
4. Fire extinguishing capacity: class A class B	 3A 89B	 3A 144B	 4A 144B	 4A 183B	 6A 233B
5. Operating pressure, (at 20±2°C) MPa	1,5±0,1				
6. Operating and storage temperature range, °C	- 50 ... + 50				
7. Date of the next recharging, years, no more than*	5				
8. Service life, years	15				
9. The weight of the fire extinguisher in running order, kg	5,9±0,7	7,6±0,8	8,8±1	11,4±1,3	15,7±1,7
10. Dimensions, mm, not more than: - heigh - cylinder diameter -diameter of the cylinder in places of fixture of the fixing elements of brackets	 460 150 147	 520 150 147	 585 150 147	 590 185 180	 740 185 180
*Note - fire extinguishers used to equip vehicles shall be recharged at least every two years.(p.9.3)					

3 DELIVERY SET

3.1 The delivery set is specified in Table 2.

Table 2 – Delivery set

Item name	OP-6 - OP-12	Quantity
Fire extinguisher	+	1
Flexible hose	+	1
Operating Manual	+	1

The bracket is not included in the delivery set. It must be ordered separately. By agreement with the customer, the fire extinguisher OP-12 MIG E can be equipped with a trolley.

3.2 If the fire extinguishers delivered disassembled it is required to connect the sprayer (flexible hose) to the fire extinguisher's valve.

4. DESIGN

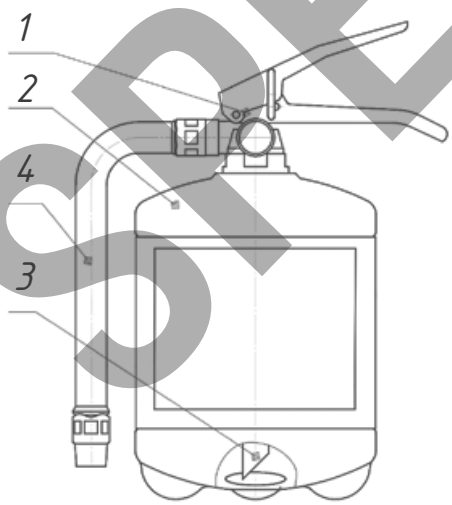
4.1 Design of the fire extinguisher is shown in Figure 1.

A fire extinguisher consists of body 2 with the valve 1 and siphon tube 3, which is screwed in the neck of the body. Sprayer 4 is connected to the outlet of the valve.

Pressure indicator on the valve is equipped with a filtering element, which ensures the isolation of the extinguishing agent (FEM) from the indicator.

Fire extinguishers are filled with dry nitrogen with water vapour content not exceeding 0.006% of masses.

4.2 The manufacturer reserves the right to make changes to the design of the product without affecting its basic specifications.



OP-4, OP-5, OP-6,
OP-9, OP-12

Figure 1
(does not define the design of the product)

1 – valve, 2 – body,
3 – siphon tube,
4 – sprayer(flexible hose)

5. OPERATING PRINCIPLE

5.1 When the user removes the pin and presses onto the valve top handle, the valve is opened and the pressurized fire extinguishing agent (powder) goes through the syphon tube, the valve, and the sprayer (nozzle) onto the center of ignition. To stop the agent stream, valve top handle should be returned to its initial position.

6. FIRE EXTINGUISHING PROCEDURE

6.1 Outdoor fires must be extinguished on the windward side.

6.2 Firefighting agent stream should be directed to the flame base. Operrate with a flexible hose in such a way that the powder coating of the entire burning surface is provided and the greatest concentration of powder in the combustion zone is created.

6.3 Extinguishing of the fires of all electrical systems up to 1000 V shall be done at a distance not less than 1 meter between the extinguisher discharge nozzle and the live parts.

7. SAFETY MEASURES

7.1 Persons working with a firefighting agent when charging fire extinguishers must comply with the safety and personal hygiene requirements set out in the technical normative legal acts for extinguishing agents.

7.2 Premises used for works on the charging with firefighting agent should be equipped with forced-air and exhaust ventilation in accordance with GOST 12.4.021, lighting according to SNB 2.04.05-98 and heating according to SNB 4.02.01-03.

7.3 Do not use extinguishers to extinguish equipment which can cause its malfunction if the powder hits (computers, electronic equipment, etc.).

7.4 Fire extinguishers may be used to extinguish electrical fires at 1000 V from the distance of at least 1 m.

7.5 DO NOT:

- use fire extinguishers if they have dents, bulges and cracks on the fire extinguisher cylinder or the lock and release device, or when the structural integrity of the LRD or the cylinder is compromised or with an inoperable pressure indicator;
- perform any maintenance when the fire extinguisher cylinder is pressurized;
- hit the fire extinguisher;
- direct the firefighting agent stream towards people standing nearby;
- carry the fire extinguisher using a flexible hose.

8. OPERATION PROCEDURE

8.1 Fire extinguisher activation procedure described on the label.

8.2 Fire extinguisher users must be familiar with the rules of operation and use of fire extinguishers.

8.3 Operating temperature range is specified in the Table 1.

8.4 Placement and operation of fire extinguishers on facilities must be carried out strictly in accordance with the requirements of TCP 295-2011, GOST-R 59641-2021, GOST 12.4.009, “Rules for industrial safety of hazardous production facilities using equipment operating under excessive pressure” (RF), “Rules for ensuring industrial safety equipment operating under excessive pressure ”(RB) and the instructions of this manual.

8.5 Fire extinguishers must be located on the protected facility in such a way that ensures they are protected from direct sunlight, heat flow, mechanical

impact and other adverse factors – vibrations, corrosive media, excess moisture, etc.

8.6 Fire extinguishers must be clearly visible and easily accessible in case of a fire.

8.7 Fire extinguishers must not be installed in locations where temperatures are beyond the temperature range specified on the fire extinguisher.

8.8 A maintenance log card shall be created for each fire extinguisher installed at the facility (commissioned), with the corresponding entry made therein.

Each fire extinguisher shall be assigned a serial number, which is to be marked on the extinguisher itself. A corresponding entry regarding the commissioning of the extinguisher shall be made in the Fire Protection Systems Operation Logbook of the facility.

8.9 Fire extinguishers must undergo regular maintenance inspections.

8.10 Regular inspection is necessary to check the condition of fire extinguishers, to control installation locations and that the fire extinguishers are properly secured, that they can be easily approached, and that operating instructions for fire extinguishers positioned correctly and legible.

8.11 Inspections and condition assessments of fire extinguishers shall be carried out by licensed organizations or certified individual contractors authorized to perform such work under applicable law. These inspections must be conducted at least once a year.

8.12 Inspections shall include a visual check and verification for any leakage of the propellant gas. All findings and actions taken must be documented in the fire protection system maintenance log.

Fire extinguishers must be decommissioned and sent to specialized organizations for maintenance (repairs, recharging) in case any of the following irregularities have been found: dents, chips or deep cracks on the cylinder or the lock and release device of the fire extinguisher; considerable damage done to protective and paint-and-lacquer coating; absence of clear and understandable labeling; absence of stamps for fire extinguishing cylinder reexamination; absence of a seal or pin; unsatisfactory condition of the firefighting agent sprayer: signs of mechanical damage, corrosion, welding burr or other factors preventing firefighting agent from being released from the fire extinguisher freely; any firefighting agent leak.

Expelling gas leakage from the extinguisher can be controlled by the position of the arrow of the pressure indicator, which should be in the green sector of the scale.

8.13 In facilities of high fire risk (A-class rooms) or in case fire extinguishers are subject to such adverse factors as positive or negative temperatures approaching limit values (more than +45 °C or less than -45 °C), air humidity over 90% (at 25 °C), corrosive media, vibrations, etc., fire extinguishers must be inspected and checked for firefighting agent leaks at least once every 6 months.

9. RECHARGING

9.1 Fire extinguishers must be recharged after they have been completely or

partially used, in case visual inspection revealed any irregularities (see paragraph 8.12), or if the leakage of the expelling gas was detected.

9.2 Fire extinguishers must be recharged at least once every 5 years after manufacturing date.

9.3 Fire extinguishers installed in vehicles outside the driver's cabin or the passenger compartment and subject to adverse climatic and (or) physical conditions must be recharged at least once a year; other fire extinguishers installed in vehicles must be recharged at least once every two years.

9.4 The fire extinguishers must be charged with the powder specified in clause 13. The fire extinguishing powder used for works according to the requirements of the Register must be approved by the Register and be safe for humans.

9.5 Fire extinguishers should be charged with dry nitrogen, the dew point of which is not higher than minus 50 °C.

9.6 At least once every five years, testing — including hydraulic tests — of the extinguisher body and its components shall be carried out.

9.7 An appropriate entry regarding the recharging of the fire extinguisher shall be made in the Fire Protection Systems Operation Logbook of the facility.

WARNING! Fire extinguishers must be repaired and recharged only in specialized organizations with all necessary licenses and permits and only in accordance with the technical documentation of the manufacturer.

10. TRANSPORTATION AND STORAGE

10.1 The conditions for transportation and storage of fire extinguishers must comply with the conditions of their operation and the requirements of GOST 15150. Fire extinguishers packed in accordance with the requirements of technical specifications and design documentation can be transported by all types of transport in accordance with the rules approved in the prescribed manner.

10.2 Fire extinguishers must be protected during transportation and storage against mechanical damage, temperatures above 50 °C, direct sunlight, atmospheric precipitation, moisture and corrosive media.

11. SAMPLE MAINTENANCE DOCUMENTATION

11.1 Table 3 (recommended) — Fire Extinguisher Maintenance Log Card Format

1. Serial number assigned to the extinguisher		6. Manufacturer's serial number	
2. Date of placement of the extinguisher at the protected site		7. Date of manufacture	
3. Location of the extinguisher installation		8. Date of next scheduled recharge	
4. Type and model of the extinguisher		9. Service life of the extinguisher	
5. Manufacturer of the extinguisher		10. Responsible person and signature	

11.2 Table 4 (recommended) — Fire Protection Systems Operation Logbook Format for Maintenance and Servicing of Fire Extinguishers

Serial number and model of the extinguisher		Date of extinguisher recharge	
Date of testing, recharging, or repair; organization performing the maintenance or repair		Brand (concentration) of the extinguishing agent used	
		Inspection results after recharging	
Results of inspection and pressure testing		Date of next scheduled recharge	
Date of next scheduled test		Position, surname, initials, and signature of the responsible person	

12. CERTIFICATION INFORMATION

12.1 Certification information is specified in Table 5 and Table 6.

Table 5 – Certification information

Extinguisher	The Authority issuing the certificate
	Russian Maritime Registry of Shipping, Osipovichi Type Approval Certificate (valid until 26.08.2025)
OP-5-ABCE MIG E OP-6-ABCE MIG E OP-9-ABCE MIG E OP-12-ABCE MIG E	STO № 20.00064.125

Table 6 – Certification information

Extinguisher	The Authority issuing the certificate
	OS “Pozhtest” FGU VNIIPO EMERCOM of Russia, Balashikha Certificate of conformity (valid until 19.02.2029)
OP-4-ABCE MIG E OP-5-ABCE MIG E OP-6-ABCE MIG E OP-9-ABCE MIG E OP-12-ABCE MIG E	№ EAEU RU C-BY.ЧС13.В.00876/24

13. CERTIFICATE OF ACCEPTANCE

Fire extinguishers correspond to TU BY 300376711.041-2013 and TR EAEU 043/2017 requirements, are marked with an acceptance stamp and are recognized as good for operation. The month and year of manufacture are indicated on the label located at the top of the case.

Firefighting agent: VEKSON-ABC50 EN615

Fire extinguisher Number:

Release date:

Date of sale_____ Stamp of acceptance_____

14. MANUFACTURER WARRANTY

14.1 Fire extinguisher warranty period shall be 36 months after selling date but no more than 48 months after manufacturing date.

14.2 The Manufacturer guarantees that any faults found by the consumer during the warranty period shall be corrected no later than one month after the Manufacturer is notified of said fault.

14.3 The manufacturer guarantees the compliance of the fire extinguisher with TU BY 300376711.041-2013 and TR EAEU 043/2017, provided that the consumer observes the rules of operation, transportation and storage.

14.4 The Manufacturer shall not be liable in the following case:

- non-compliance with rules of operation by the extinguisher owner;
- factory seal is missing;
- presence of mechanical damages;
- decorative and protective coverings damages;

14.5 Expiry of the Fire extinguisher recharge date is not a warranty case.

15. RECYCLING

15.1 At the end of their service life, fire extinguishers must be recycled.

15.2 Recycling of fire extinguishers is carried out by specialized organizations with all necessary licenses and permits.

MANUFACTURER'S CERTIFICATE (MC)
OF PRODUCT COMPLIANCE WITH THE RS REQUIREMENTS

ПБАК.634233.028МС

Place of survey: **Vitebsk, Republic of Belarus**

Manufacturer: **JSC «Pozhtechnika»**

This is to certify that the products listed below have been manufactured, surveyed and tested in accordance with rules of Russian Maritime Register of Shipping.

Product: **Portable dry powder air pressured fire extinguishers: see item 13**

Test information: **test report №.УОТК00000000_____ (Acceptance testing of products)**

Serial№: **see item 13**
Date of Manufacture: **see item 13**

Technical specification: **ТУ BY 300376711.041-2005 (am.2); General arrangement drawings: ПБАК.634233.028 СБ, ПБАК.635164.056 СБ; Operation manual: ПБАК.634233.028 РЭ; Testing program – were approved by RS letter №125-318-2-176534 of 22.07.2020**

The product complies: **P.5.1.9 of Part VI of Rules for the Classification and Construction of Sea-Going Ships (2020); s.4.3 of Part IV of Rules for the Technical Supervision During Construction of Ships and Manufacture of Materials and Products for Ships (2020); ps.2.1, 3.1.1 Chapter 4 of International Code for Fire Safety Systems (Resolution MSC.98(73)); Improved Guidelines for Marine Portable Fire Extinguishers (Resolution A.951(23)); Technical Regulation Concerning the Safety of Sea Transport Items**

Type Approval Certificate: **20.00064.125**

Validity Type Approval Certificate: **26.08.2020 – 26.08.2025**

RS brand: **not required**

The items is labeled with a conformity mark:

This Certificate is issued on the basis of the Manufacturer's quality control system certificate **№ 23.44.01.00057.125 (01.11.2023-23.10.2025)**

On behalf of Manufactured: **see item 13**