Manufacturer: JSC «POZHTECHNIKA» Belarus,
210602, Vitebsk, M. Gorky Str., 145, ptc01.com

ПОЖТЕХНИКА

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OPERATING MANUAL PBAK.634234.013 RE

CARBON DIOXIDE CO2 FIRE EXTINGUISHER INEI

Manufacturer´s warranty	The service life of fire extinguisher	Refilling period – every
4 YEARS	20 YEARS	5 YEARS

ONE FREE REFILING OF FIRE EXTINGUISHER INEI DURING THE WARRANTY PERIOD

This operating manual presents information on the design and functions of carbon dioxide CO2 fire extinguisher INEI and as a reference guide for cases of its intended usage.

A sample identification code to order the fire extinguisher filled with 3kg of CO2 and intended for fires of class B, C, and E under the brand name INEI: Carbon Dioxide CO2 OU-3-BCE INEI Fire Extinguisher, or OU-3-BCE-OM2 INEI (increased corrosion resistance version).

1. INTENDED USE

Carbon dioxide CO2 fire extinguishers INEI 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 B (Flammable Liquid), class C (Flammable Gas) and class E (Electrical Equipment up to 1000 V for OU-1, OU-2 and up to 10000 V for OU-3, OU-5).

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	OU-1	OU-2	OU-3	OU-5
1. Operating pressure(design) in the fire extinguisher cylinder at 20±2°C, MPa (kgf/cm^2)	5,8 (58)			
2. Firefighting agent stream duration, s, no less than	6	6	8	8
3. Firefighting agent stream length, m, no less than	2	2	3	3
4. Firefighting agent (carbon dioxide CO2) weight, kg	$1^{-0,05}$	$2^{-0,1}$	$3^{-0,15}$	$5^{+0,25}$
5. Class B fire extinguishing capacity, no less than	13B	21B	34B	55B
6. Weight of the fire extinguisher in running order, kg	5,4 ±0,6	8,4 ±0,9	12,8 ±1,4	19,6 ±2,2
7. Date of the next recharging, years, no more than*	5			
8. Operating temperature range, °C	-40 ... +50			
9. Dimensions, mm, not more than: height cylinder diameter	 435 115	 590 115	 560 145	 800 145
10. Service life, years, no less than	20			
*Note - fire extinguishers used to equip vehicles shall be recharged at least once every two years.				

3. DELIVERY SET

3.1 The delivery set of the fire extinguishers includes:

- fire extinguisher – 1 pc.;
- operating manual – 1 pc.;
- discharge horn discharge pipe (for OU-1, OU-2, OU-3) – 1 pc.;
- spray hose with discharge horn (for OU-5) – 1 pc.;

The wall bracket is not included in the delivery set, it must be ordered additionely.

3.2 ATTENTION! Before extinguisher being put into service the spray hose for OU-5(discharge horn with discharge pipe for OU-1, OU-2, and OU-3) must be screwed into the outlet of the Lock and Release Device (hereinafter referred to as the LRD) to a maximum number of turns of the threaded connection up to the stop, using a spanner wrench of the appropriate size.

3.3 Transport brackets KTH are used to place fire extinguishers on the vehicles. Transport bracket identification codes and types of extinguishers to use specified in Table 2.

Table 2 - Transport brackets KTH

Transport bracket ID	KTH-1+	KTH-3	KTH-4+
Extinguisher to use	OU-1	OU-2	OU-3

ATTENTION! Transport brackets are not the part of the delivery set and should be ordered separately.

4. DESIGN

4.1 Fire extinguisher design is shown in the Figure 1.

The fire extinguisher consists of a cylinder 4 with a LRD 1 and an syphon tube 5 in its W19.2 neck threads. The M16x1.5 threaded lock and release device outlet of OU-1, OU-2, OU-3 fire extinguishers is connected to a sprayer, which consists of a discharge horn 2 with discharge pipe 3, while OU-5 consists of a flexible spray hose 3 and a discharge horn 2.

4.2 The Manufacturer reserves the right to make product design changes that have no impact on its basic technical characteristics.

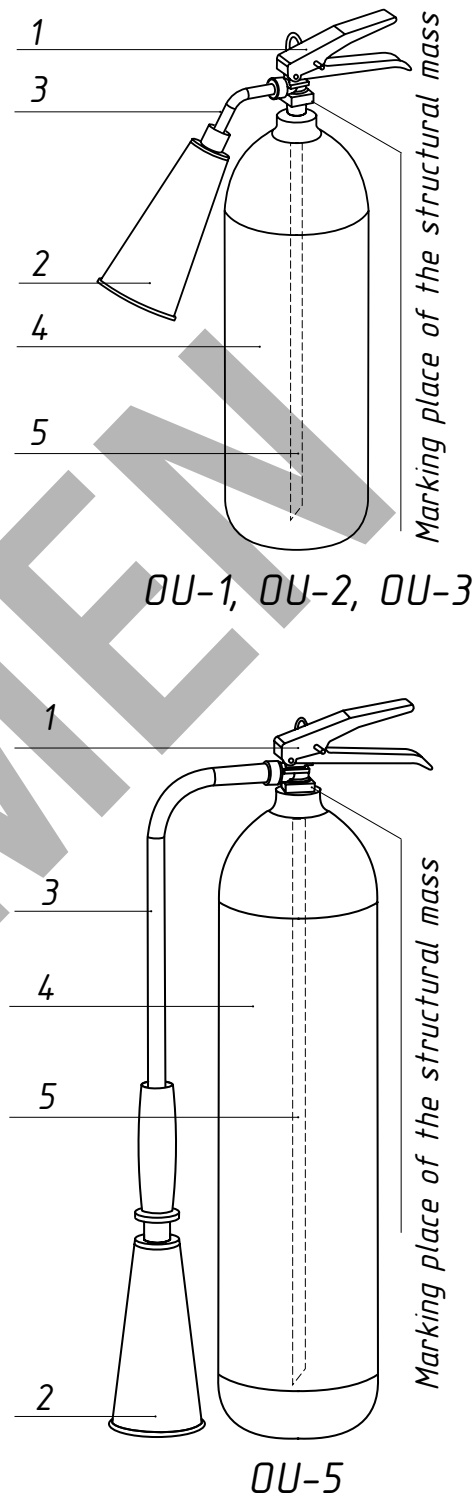

Figure 1
1 – lock and release device,
2 – discharge horn,
3 – discharge pipe with discharge horn(flexible hose),
4 – fire extinguisher cylinder,
5 – syphon tube.

5. OPERATING PRINCIPLE

5.1 When the user removes the pin and presses onto the LRD top handle, the LRD valve is opened and the pressurized fire extinguishing agent (carbon dioxide CO2) goes through the syphon tube, the LRD, and the sprayer onto the center of ignition. To stop the agent stream, LRD 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 must be sent to the base of the flame.

6.3 The fire extinguisher must not be turned more than 30 ° from the vertical axis.

6.4 Extinguishing of the fires of all electrical systems up to 1000 V using fire extinguishers OU-1, and OU-2 shall be done at a distance not less than 1 meter between the extinguisher discharge horn and the live parts.

6.5 Extinguishing of the fires of all electrical systems up to 10000 V using fire extinguishers OU-3, and OU-5 shall be done at a distance not less than 2 meters between the extinguisher discharge horn and the live parts.

7. SAFETY MEASURES

7.1 Never touch the discharge horn when extinguishing a fire as you may get a cold burn.

7.2 Firefighting agent stream may cause static electricity on the discharge horn.

7.3 After using fire extinguisher indoors, the room shall be ventilated since carbon dioxide in concentrations more than 5% (92 g/m3) has a detrimental effect on the human body: it reduces the volume of oxygen in the air and can cause oxygen deficiency and suffocation.

7.4 Fire extinguishers OU-1, OU-2 may be used to extinguish electrical fires at 1000 V from the distance of at least 1 m.

7.5 Fire extinguishers OU-3, OU-5 may be used to extinguish electrical fires at 10000V from the distance of at least 2 m.

7.6 Actuating range of the LRD safety device membrane is 20,5 MPa to 22 MPa.

7.7 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;
- 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 12.4.009, GOST-R 59641-2021 “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; firefighting agent leak is more than 50 g per year.

Volume of the firefighting agent leaks is defined as difference between the real weight of the fire extinguisher and the sum of its structural mass (without sprayer) marked on the LRD and the weight of the firefighting agent charge (lower weight limit is used; if M_{FFA}= 3-0,15 kg then the lower limit is set as 2.85 kg) marked on the fire extinguisher label.

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 40°C or less than 30°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 full or partial use, if there are any remarks identified during an external inspection (see paragraph 8.12) and if the charge leakage exceeds 50 g per year.

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 Water vapor content in the carbon dioxide must be no more than 0.006% by weight.

9.5 Carbon dioxide used as extinguishing agent must not be lower than the first grade and have the necessary accompanying documentation. The fire extinguishing agent used for works according to the requirements of the Register must be approved by the Register and be safe for humans.

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.

9.8 When contacting branded fire extinguisher service centers, the consumer receives one free recharge during the warranty period (except for the OU-1 and OU-2 models).

10. TRANSPORTATION AND STORAGE

10.1 Transportation and storage procedure must correspond to operating conditions and 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

Fire Extinguisher	The Authority issuing the certificate
	Pozhtest Certification Authority for the Federal State Institution All-Russian Scientific Research Institute for Fire Fighting Defense in the Ministry of Emergency Situations of Russia, Balashikha
	Certificate of Conformity (valid until 18.01.2026)
OU-1, OU-2, OU-3, OU-5	№ EAEU RU C-BY.ЧС13.В.00058/21

Table 6 – Russian Maritime Registry of Shipping Type Approval Certificate

Fire Extinguisher	The Authority issuing the certificate: Russian Maritime Registry of Shipping, Osipovichi
	Type Approval Certificate (valid until 26.08.2025)
OU-5	STO № 20.00066.125

13. CERTIFICATE OF ACCEPTANCE

Carbon dioxide fire extinguishers INEI comply with the technical specifications of TU RB 300376711.017-2003, TR EAEU 043/2017, are marked with an acceptance stamp and are recognized as fit for use. The month and year of manufacture are indicated on the label located at the top of the case.

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 RB 300376711.017-2003, TR EAEU 043/2017, provided that the user complies with the operation, transportation, and storage rules.

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.634234.013МС

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 carbon dioxide fire extinguisher** : **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 РБ 300376711.017-2003 (am.12); General arrangement drawings: ПБАК.634234.013 СБ, ПБАК.634234.042 СБ, ПБАК.635164.056 СБ; Operation manual: ПБАК.634234.013 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, 3.1.1Chapter 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: **20.00066.125**

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**