ogniochron	**SERVICE MANUAL** **Technical inspection and maintenance activities for portable carbon dioxide extinguishers** **GSx**	**I S - 2** Rev. 10 Date of rev. 01.2018

The manual is in compliance with PN-EN regarding fire extinguishers, with project of the standard PN-EN 12367 „Portable fire extinguishers – maintenance" and proposals included in international standard ISO 11602 – 2 elaborated by the Technical Commission ISO/TC 21 „ Technical means and devices for fire protection of sub-commission SC 2 „Portable extinguishers".
The manual has been also made according to requirements of Minister for Interior and Administration dated 7th June 2010 (Journal of Laws No. 109, pos. 719) regarding fire protection of buildings, other constructional buildings and grounds.

INSPECTION, MAINTENANCE, REPAIR, DSPOSAL

The manual includes all technical and administrative actions, including supervision activities, for the purposes of maintaining the device in a condition or bringing it back to a condition, in which it can fulfill all required functions. The purpose of these operations is „bringing back to the standard condition", for which the extinguisher has obtained the certificate in CNBOP in Józefów or MPA Dresden.
The scope of activities for bringing the extinguisher in condition of readiness includes:

1. **Check** - performed by owners, users:
   - check if the extinguisher is placed in appropriate place;
   - is not obstructed and easily accessible;
   - its operation manual label is legible;
   - is not damaged in a visible way;
   - its seal and gauges are intact;
   - it is of appropriate type and filling volume;
   - if the fire extinguisher has been qualified for maintenance activities, it must be replaced by an extinguisher of the same type, appropriated for the same fire group and with the same fire rating.

The frequency of control performed by the user should not be lesser than once a quarter.

Before inspection and maintaining the fire extinguishers, the personnel must be trained and authorized for above-works. Trainings and Authorization can be done by Producer or it's Authorized Partner.

2. Inspection - maintaining the extinguisher in good technical condition, performed by a well trained and authorized service personnel.

No.	Component	Requirements	Frequency of action
1	Cylinder	- check general technical condition of cylinder; - production date and permanent marking; - condition of paint layer (in case of corrosion the extinguisher should be scrapped); - condition and legibility of the label.	According to manual of the manufacturer, but not less frequently than every 12 months
2	Valve	- check external components (condition of levers, body etc.); - check the seal; - check the bursting disc condition.	According to manual of the manufacturer, but not less frequently than every 12 months
3	Hose	- check technical condition (cracks of external layer, condition of terminals and clamps); - check the patency; - check the completion according to the issued certificate.	According to manual of the manufacturer, but not less frequently than every 12 months
4	Extinguishing agent	- weigh entire extinguisher to check the amount of extinguishing agent (comparing with documentation).	According to manual of the manufacturer, but not less frequently than evety 12 months

3. Repair – when fundamental components of fire extinguisher have been damaged or if the validity of extinguishing agent has expired, performed by an authorized maintenance technician.

No.	Component	Requirements	Frequency
1	Cylinder	- check general condition of cylinder; - date of production and permanent marking, incl. UDT inspection; - condition of paint layer (in case of significant corrosion scrap the extinguisher); - condition and legibility of the label; - pump the carbon dioxide to another container; - The research cylinder dry thoroughly; - fill with carbon dioxide in amount in compliance with certificate for a specific type of fire extinguisher. - perform UDT inspection (internal and external inspection, pressure test every 10 years);	Every 5 years
2	Valve	- remove the valve out of the cylinder; - remove the dip tube and check its patency; - check condition of the spring, in case of corrosion replace with a new one; - clean thoroughly, if necessary – clean and dry the valve body; - replace rubber seals on the piston; - check condition of body surface for mechanical damages or cracks; - check condition of the fuse;	Every 5 years or in case of premature wear or damage

		- check condition of the thread; - assemble the valve acc. to documentation.	
3	Hose	- check technical condition (cracks of external layer, condition of terminals and clamps) and in case of damage – replace with a new one; - control the patency; - check the completeness according to issued certificate.	Every 5 years or in case of damage
4	Extinguishing agent	- force through the carbon dioxide.	Every 5 years or in case of premature wear

4 . Disposal – disposal of a fire extinguisher that cannot be longer maintained

No.	Component	Control requirements	Frequency
1	Cylinder	Disposal should be performed in case of : - indentation of pressure part of cylinder; - corrosion on significant part of cylinder; - bad condition of thread connections; - negative results of UDT inspection; - insufficient weight of the container.	
2.	Valve	- in case of mechanical damages or lack of spare parts.	

3	Hose	- cracks on external layer; - damages of terminals or clamps.	

5. The statement of work performed:

Before inspection and maintaining the fire extinguishers, the personnel must be trained and authorized for above-works. Trainings and Authorization can be done by Producer or it's Authorized Partner.

After performed inspection, maintenance or repair activities, the authorized service plant should issue a certification of performing of above mentioned works. The evidence of performing of these works is an information on the service label that should include:

- type of service activity (inspection, maintenance, repair);
- name and address of the service plant performing maintenance;
- data of a competent person;
- date (year and month) of performed service activity;
- date (year and month) of the next inspection.

6. List of the most important regulations and standards:

- Order of the Minister of Interior and Administration dated 7th June 2010 (Journal of Laws No. 109 pos. 719);
- Standards PN-EN regarding fire extinguishers;
- Draft of the standard PN-EN 12367 portable extinguishers – maintenance.

ATTENTION! For maintenance works use tools accepted by KZWM OGNIOCHRON S.A.

An inspection of the compliance sites of the maintenance locations is carried out by the manufacturer to assess the conformity of the equipment required for proper maintenance and repair of the fire extinguishers and to assess the conformity of the maintenance service with the requirements specified by the manufacturer. After conformity check, the manufacturer issues a certificate of conformity to the maintenance site.

During the examination, maintenance and repair use only original spare parts and extinguishing agents used by manufacturers for fire extinguishers production.

Technical condition of the fire extinguisher after repair examination must exactly match the pattern, for which manufacturers have received attest or certificate. For not complying with this rule, criminal sanctions will be used, according to the Fire prevention act.