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Gas Mask User Manual



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User Manual

Full Face Gas Mask

The product is manufactured in accordance with the requirements of the following standards:

GB2890-1995 *General Technical Specifications for Filter-type Protective Mask*

EN136-1998 Respiratory protective devices- Full face masks- Requirements, testing, marking. Class: Class 3 Full face masks for special use

1 Overview

HL-BSM1F full face mask can prevent the respiratory system and face from being harmed by hazardous gas and particles. The full face mask shall be used together with gas, particle or combined canister to form filter-type respirator. The used canister must be threaded canister that meets EN148-1.

2 Service restriction

- 2.1 The filter unit **shall not** be used under the condition that the environment and pollutant are indefinite. If there is any doubt, isolated type respirator that can work independently without air must be used.
- 2.2 When there is oxygen-deficient environment or a lot of gas that can be replaced by oxygen (such as carbon dioxide), then the filter unit **shall not** be used in a confined space (such as water storage tank, tunnel).
- 2.3 The filter unit can be used only when the oxygen content in air is 18~23vol.%.
- 2.4 Single-gas canister cannot prevent particles, and particle canister cannot prevent gas or vapor. If there is any doubt about the prevented object, combined canister shall be used.
- 2.5 The standard filter unit cannot prevent such gas as carbon monoxide, carbon dioxide and nitrogen.
- 2.6 The particle canister used to prevent radioactive substance, microorganism (virus,

bacterium, fungus and spore) or enzyme shall be disposable.

2.7 If the mustache, hair or spectacle frame of the user affects the tightness of the mask, it cannot be guaranteed that the product could provide enough protection. Special spectacle frame can be provided for use.

2.8 When the breathing apparatus is used in the air with explosion danger, the use must meet the relevant use requirements for such area.

2.9 The weight of the canister used together with the full face mask shall not exceed 500g. HL-BSM1F only can be used together with one canister.

2.10 If the user starts to smell out the peculiar smell, taste abnormal taste or feel irritating, the gas canister shall be replaced immediately. If the prevented harmful gas has no obvious sign for identification, then special regulations shall be established for the use time and proper use of the canister.

2.11 Particle canister shall be replaced as soon as possible when the respiratory resistance increases.

3 Selection of respiratory protective equipment with canister

The canister selected according to EN shall meet the requirements of the following standards:

EN141 Respiratory protective devices- Gas filters and combined filters– Requirements, testing, marking

EN143 Respiratory protective devices- Particle filters– Requirements, testing, marking

4 Inspection before use

- Inspect the status and completeness of the mask
- Inspect the completeness of silicon rubber
- Inspect the status and completeness of helmet
- Inspect the status and cleanliness of viewing window
- Proper canister shall be selected according to the use occasion. The model and class of the canister shall be clearly indicated on the canister label.

- Inspect the storage life of the canister
- Inspect the status and completeness of the canister. In case that the canister suffers from serious extrusion or collision, then the canister shall be replaced (because that the canister may have been damaged).

5 Wear, adjust and use

- 5.1 Make the canister tightly screwed into the interface on the mask (figure 1).
- 5.2 Loosen the helmet (figure 2).
- 5.3 When the mask is worn, the chin end of the mask shall be firstly put on the face, and then make the helmet worn on head (figure 3).
- 5.4 Uniformly adjust to tighten up the helmet, making the central strip attach to the middle position at the back of head (figure 4).
- 5.5 Inspect the air tightness of the mask: cover the opening position of the canister with hand; inhale and if you feel that the mask closely attaches to face, then the surface tightness is good. If the mask fails to closely attach to your face, then inspect or replace the exhalation valve plate, or forbid the use.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5

5.6 After use, the mask must be maintained according to the requirements in table 1.

6 Maintenance and storage

6.1 Function and air tightness test

If parts are (viewing window, valve membrane or sound transmission membrane) replaced, a proper test device must be used for function and air tightness test. Such test also shall be carried out for the mask that is to be stored for a long time and not used, and the test shall be carried out once a year.

Inspect whether the appearance of the mask is good; whether the elasticity of the helmet is good; whether the viewing window and sealing strip are damaged; whether the seal ring of the valve membrane or sound transmission membrane is under good conditions and whether its position is proper. The damaged parts must be repaired.

6.2 Replace the silicon rubber

If the silicon rubber part is aged or damaged, the air tightness of the full face mask will be affected, so it shall be replaced in time.

- Screw off the clamp screws at the two sides of the viewing window (figure 6);
- Dismantle the upper clamp and lower clamp (figure 7);
- Dismantle the silicon rubber (figure 8); replace it with a new silicon rubber, and then install the clamp and screw up the clamp screws and nuts.
- Perform air tightness test (5.5)

6.3 Replace the headband

- Make each band pulled out from the headband buckle (figure 9);
- Replace the new headband; make it thread through the buckle in order; and inspect whether the tightening force is proper.

6.4 Replace the exhalation valve membrane

- Screw off the two screws on the outer housing of the base body (figure 10);
- Take out the exhalation valve membrane that shall be replaced, and make the new exhalation valve membrane carefully installed (figure 11); and then fix the outer housing of the base body with screws; inspect whether the air tightness of the mask is normal when inspiration.

6.5 Replace the inhalation valve membrane

- Make the inhalation valve seat taken out from the inhalation port; replace the

inhalation valve membrane; install the new one and inspect the air tightness (figure 12).

6.6 Replace the mouth-nose mask and valve plate of mouth-nose mask

- Make the mouth-nose mask taken down from the base body inside the mask (figure 13);
- Make the valve plate on the mouth-nose mask taken down (figure 14); inspect the mouth-nose mask and the valve plate; and they shall be replaced if there is any aging or damage phenomenon; and install them in the way that is reverse to the demounting method.



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14

6.8 Mask cleaning

- Disassemble the canister, exhalation valve, inhalation valve and mouth-nose mask.
- The mask and parts shall be cleaned with warm water and neutral detergent, and the tough stains can be cleaned away with brush (except for viewing window).
- Do not use solvent (such as acetone, turpentine), hot water or bleaching agent (perborate, percarbonate).

6.9 Disinfection

- After the cleaning, the mask shall be disinfected with disinfecting solvent, and dry the mask. Finally, reinstall the mask.

6.10 Storage

- Make the mask carefully cleaned and disinfected and under stand-by condition. The mask shall be stored in a dry and cool place and avoid direct sunlight, grease or oil.
- The unused mask that is properly stored could be under good conditions for a long term. The storage life of mask parts shall not exceed 12 years. Function test shall be carried out before the mask is used. Refer to table 1.

Table 1

Parts	Work contents	Time interval		
		Before use	After use	Each year
Full mask, the whole set	Cleaning	■	■	■
	Disinfection	■	■	■
	Function and air tightness test		■	■
	Replace: viewing window, helmet, snap ring, mouth-nose mask and other parts		■	
Inhalation and exhalation valve membrane	Inspection	■	■	■
	Replacement	■	■	
	Inspect the air tightness of exhalation valve membrane	■		
Sound transmission membrane	Inspection	■	■	■