MSA
The Safety Company

Operating Manual

PremAire Mask-Hood

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D4088225/00

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Germany

Contents

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1 Safety Regulations

1.1 Correct Use

The PremAire Mask-Hood with positive pressure connection serves as a full face mask-hood combination (EN 136 cl 3) for use with self-contained compressed air breathing apparatus (SCBA) according to EN 137 cl.1 or with emergency escape breathing apparatus according to EN 402.

To ensure accordance with the standards, the apparatus and the mask-hood must have been tested in combination.

The PremAire Mask-Hood is not a complete respiratory protective device by itself.

It is imperative that this operating manual be read and observed when using the product. In particular, the safety instructions, as well as the information for the use and operation of the product, must be carefully read and observed. Furthermore, the national regulations applicable in the user's country must be taken into account for a safe use.

⚠ WARNING

This product is supporting life and health. Inappropriate use, maintenance or servicing may affect the function of the device and thereby seriously compromise the user's life.

Before use the product operability must be verified. The product must not be used if the function test is unsuccessful, it is damaged, a competent servicing/ maintenance has not been made, genuine MSA spare parts have not been used.

Alternative use, or use outside this specification will be considered as non-compliance. This also applies especially to unauthorised alterations to the product and to commissioning work that has not been carried out by MSA or authorised persons.

1.2 Liability Information

MSA accepts no liability in cases where the product has been used inappropriately or not as intended. The selection and use of the product are the exclusive responsibility of the individual operator.

Product liability claims, warranties also as guarantees made by MSA with respect to the product are voided, if it is not used, serviced or maintained in accordance with the instructions in this manual.

1.3 Product Warranty

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2 Description

The PremAire Mask-Hood consists of a positive pressure full-face mask (3S type) with a M45x3 threaded connection (according to EN 148-3) for the LGDV, a hood and an easy-to-handle harness. The harness is located on the outside of the hood for better reach.

The hood covers the head and neck area and offers an additional seal. A tension ring inside the hood keeps the hood open when folded for easy donning.

The inhaled air flows from the LGDV via the connector of the mask-hood past the inhalation valve to the inside of the lens (thus keeping the lens largely fog-free) and then through the check valves into the nose cup. The exhaled air coming out of the exhalation valve flushes the hood and then streams out of the neck sealing area to the ambient atmosphere. This flushing provides a slight positive pressure inside the hood, depending on how tight the neck strap is closed.

The face blank is made of a special soft rubber compound and assures a snug, comfortable fit and a tight seal.

The LGDV AutoMaXX ASE is permanently connected to the mask-hood to enable a quick start in an escape situation.

The mask-hood is in accordance with EN 136, Cl. 3.

Fig. 1 Overview mask-hood

1	*Lens frame*	*7*	*Adjustable head strap*
2	*Lens*	*8*	*Hood*
3	*Nose cup with check valves*	*9*	*Tension ring*
4	*Connector with inhalation valve*	*10*	*Head plate*
5	*Neck string with stopper*	*11*	*Hood rim*
6	*Buckle*		

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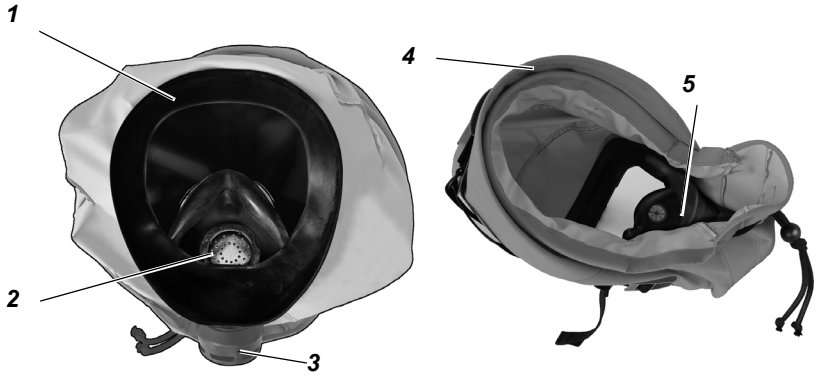

Fig. 2 Inside of mask-hood

1	*Face blank*	*4*	*Tension ring*
2	*Speech diaphragm*	*5*	*Nosecup with valves*
3	*Exhalation valve*		

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2.1 Marking/Certification

Marking

The mask-hood is marked as shown in Fig. 3:

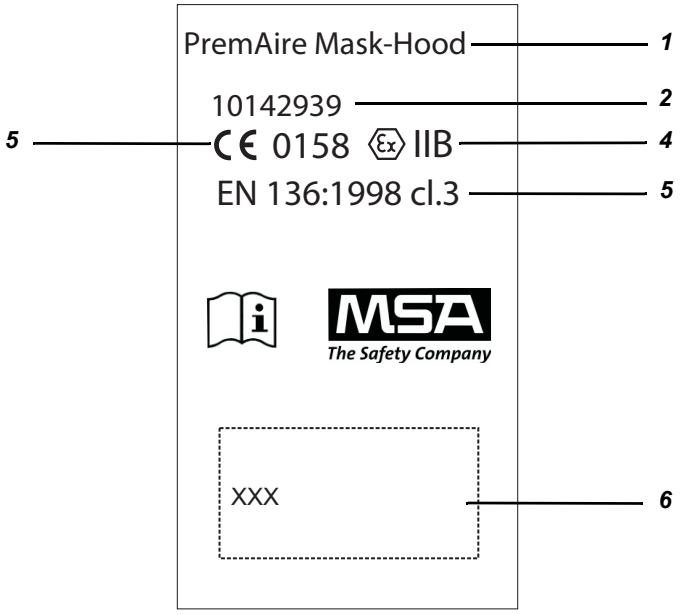

Fig. 3 Marking

1 Name
2 Part Number
3 CE-marking with notified body number (DEKRA EXAM)
4 ATEX classification
5 EN standard, class
6 Serial production number

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Certification

Directive 89/686/EC (PPE)	: CE	EN 136 cl3 0158
Directive 94/9/EC (ATEX)	: BVS 05 ATEX H 027 X	
	Ex	I M1 II 2 G IIB T6 -40 °C ≤ Ta ≤ +60 °C II 1 D

3 Use

WARNING

Maintaining a tight mask seal is critical for the user's safety.
Facial hair or deep scars in the sealing area can affect the tight fit of the face-piece.

3.1 Donning

WARNING

In order to guarantee a proper fit for those wearing glasses, the PremAire Mask-Hood spectacle kit **must** be worn since ordinary glasses cannot be worn under the mask-hood.

WARNING

For donning an escape device different procedures can apply. See the operating manual of the escape device for details.

(1) Make sure that the head straps of the harness and the neck string with stopper are fully extended and that the hood is folded to open as shown.

(2) Grip the mask-hood by the connector.

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(3) To ensure quick donning, slip the mask-hood over the face from back of the head.

(4) Make sure that chin and nose are properly covered by the mask.

(5) Pull firmly on the head straps on both sides to tighten as shown.

(6) Pull on the neck string to pull out the hood rim.

(7) Pull firmly on the neck string until a tight fit at the neck is achieved.

(8) Secure neck string with the stopper.

▷ This ensures an additional neck seal of the hood.

During use head straps and neck string can be readjusted to ensure a consistent proper fit of the mask-hood.

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3.2 Leak Test with a Ready to Use SCBA

WARNING

For leak testing an escape device, different procedures can apply. See the operating manual of the escape device for details.

In order to check the mask tightness a leak test must be performed before each use:

The lung governed demand valve (LGDV) has to be connected tightly to a ready to use SCBA with the unpressurised medium pressure line.

WARNING

If the LGDV is connected to the mask-hood to test the tightness, no breathing air is available.

To get ambient air, disconnect the LGDV by pushing both buttons.

To activate the LGDV pressurise the breathing apparatus and inhale once forcefully or push the flush button to start the supply of breathable air.

(1) Connect the LGDV to the connector.
(2) Test tightness by inhaling.
    ▷ "When inhaling there must be negative pressure, no inflowing air should be noticeable.
(3) If necessary retighten the straps.
(4) Pressurise the SCBA.
(5) To activate the LGDV, inhale once forcefully or push the flush button.

WARNING

If the leak test fails the mask-hood must not be used.

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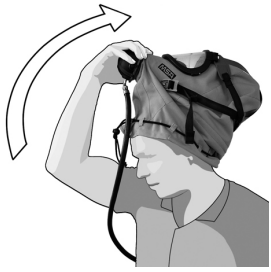
3.3 Removing

(1) Open the neck string.

(2) Loosen the head straps: Press the buckles forwards to open the harness.



(3) Grip the mask-hood by the LGDV and pull mask-hood off backwards.

4 Cleaning, Disinfection

The cleaning and disinfection of the mask-hood is performed in accordance with the cleaning intervals → chapter 5.2.

WARNING

Do not use cleaning products containing hydrocarbons or solvents (e.g. nitro-thinner).

Cleaned parts must not be dried in radiant heat (sun, radiators).
When using a drying cabinet, the temperature must not exceed +60°C.

Perform a tightness test after every cleaning, disinfection and maintenance or after every exchange of parts.

The colour might fade after a number of washing cycles; this does not signify a loss of function.

4.1 Cleaning/Disinfection with a Washing Machine

Follow the washing agent's user instructions on this CD/DVD.

- After cleaning, check the two cylinder screws for the lens ring. Retighten the screws hand-tight if necessary.

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4.2 Cleaning and Disinfection by Hand

The mask-hood can be cleaned and disinfected in a sink using the following liquid cleaning and disinfectant agent:

Incidin® Rapid

WARNING

- Wear suitable protective gloves!
- Use disinfectant safely.
- Follow the instructions in the operating manual and the safety data sheet fort the disinfectant Incidin® Rapid.
- Make certain to use the correct dosage of the disinfectant.
- Follow the instructions in the operating manual for the mask-hood. Perform a functional check, visual check and leak test.
- Check the valves and valve seats for detergent residue.

(1) Remove inhalation and exhalation valve discs.
   ▷ For removing the inhalation valve disc it is necessary to unscrew the adapter on the connector (use the tool for Push-to-connect adapter (→ chapter 7.3), torque 5 Nm)

(2) Unbutton the nose cup.

(3) Unscrew the speaking diaphragm with the special tool (→ chapter 7.3).

(4) Prepare disinfectant by diluting with water (max. 30° C) with the desired concentration.

Incidin® Rapid			
	Concentration %	**Concentration ml/l**	**Contact time (h)**
Standard disinfection	1.5	15	0,5
	2.0	20	0,25
against HIV	1.0	10	1
TBC-prophylaxis	3.0	30	1

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(5) Immerge mask-hoods completely into the solution and look for a consistent wetting during the total residence.
   ▷ Effective against bacteria (inclusive MRSA) and yeasts. Limited virucidal (inclusive HIV, HBV, HCV) as well as effective against Adeno- and Rotavirus.
(6) Subsequently rinse all components intensively (approximately 3 minutes) with clear, lukewarm, running water and afterward submerge for a 12 minutes lasting washing.
(7) Dry mask-hood and components at max. 60 °C.
(8) Remove detergent residue.
(9) Reassemble mask-hood in reverse order.
(10) Perform a tightness test (see chapter 5.5).

4.3 Preparations for Use

After cleaning, disinfection and testing the mask-hood must be carefully folded to ensure quick donning:

(1) Place the mask-hood on a desk with the lens facing downwards.
(2) Grab the tension ring with both hands and press it inwards.
(3) Make sure that the lower part of the hood is folded correctly:
   ▷ The hood part between tension ring and hood rim must be folded inwards.
   ▷ The hood rim must lie flat on the inner side of the tension ring; this forms a wide opening to ease donning.
(4) Fully extend head straps and neck string.
(5) When packing the mask-hood in a container (optional) or an escape bag make sure that the hood is folded flat and that the head plate is kinked as little as possible.

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5 Maintenance

5.1 Maintenance Instructions

This product should be regularly checked and serviced by trained specialists. Inspection and service records must be maintained. Always use original parts from MSA.

Repairs and maintenance must be carried out only by authorised service centres or by MSA. Changes to devices or components are not permitted and will result in loss of approval.

MSA is liable only for maintenance and repairs carried out by MSA.

MSA recommends the following maintenance intervals. If necessary considering the usage, tasks may be at even shorter intervals than indicated.

Observe national laws and regulations!

If in any doubt, ask your local MSA contact person.

5.2 Maintenance Intervals

Work to be Performed	Maximal Intervals					
	Before use	After Use	6-monthly	Two years	Four years	Six years
Cleaning and Disinfection*)		X		X*)		
Visual, Functional and Tightness Check **)		X	X**)			
Replacement of the exhalation valve disc					X	
Replacement of the Speech Diaphragm						X
User check	X					

*) For a 2-year interval cleaned and disinfected mask-hoods have to be stored airtight. Otherwise mask-hoods should be cleaned and disinfected at least semi-annually. After each cleaning and disinfection the mask-hood must be checked.

**) For airtightly packed face pieces, which are not exposed to increased climatic and mechanical stress (for example transport on vehicles), this interval can be extended to 2 years.

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5.3 Replacing the Exhalation Valve

The year of manufacture is located on the valve disc.

In case of a leak remove the exhalation valve disc and replace it with a new one as follows:

(1) Remove the exhalation valve cover.
(2) Carefully remove the valve cap and spring.
(3) Pull off valve disc with guide pin.
(4) Replace valve disc with pin and reassemble in reverse order.
(5) Perform a tightness test (→ chapter 5.5).

5.4 Replacing the Speech Diaphragm

The year of manufacture is located on the speech diaphragm.

(1) Remove the nose cup.
(2) Remove the screw ring with special tool (→ chapter 7.3).
(3) Remove the speech diaphragm.
(4) Assemble the new speech diaphragm on the connector; ensure that the black sealing on the diaphragm faces the connector.
(5) Attach the threaded ring with special tool.
(6) Perform a tightness test (→ chapter 5.5).

5.5 Tightness Test

The testing of the mask-hood for tightness is performed using an applicable (e.g. MSA) testing device in accordance with the relevant operating manual.

(1) Fit mask-hood tight onto the test instrument (→ chapter 7.3).
(2) Generate a negative pressure of 10 mbar.
(3) Measure the pressure change after 1 min.
   ▷ The mask-hood including the exhalation valve meets the requirements if for a moistened exhalation valve and a negative pressure generated inside the mask-hood the pressure change does not exceed 1 mbar in a minute.
   ▷ Leaking mask-hoods must not be used.

Opening Pressure Test of the exhalation valve

The opening pressure of the exhalation valve has to be at least 4.2 mbar, otherwise the mask-hood must not be used.

5.6 Visual Test and Function Test

Visual Test

(1) Inspect the mask-hood for possible damages like deformations, stickings or cracks.
   ▷ The hood, valve discs, especially exhalation valve discs, are crucial functional elements of the mask-hood.
(2) Defective or damaged parts have to be replaced immediately.

Functional Test

After assembling the mask-hood, its movable parts, especially the valve discs, have to be checked for unrestricted mobility.

6 Safekeeping and Storage

WARNING

In order to avoid damage or deformation of the mask-hood keep no additional loose objects in the mask-hood bag or container.

MSA rubber products are protected by an anti-ageing agent that can become visible as a light coating. This coating is harmless and can be removed.

A long life of rubber goods is ensured by storing them in a cool, dry place protected from ultraviolet radiation.

7 Ordering Information

7.1 Exploded View

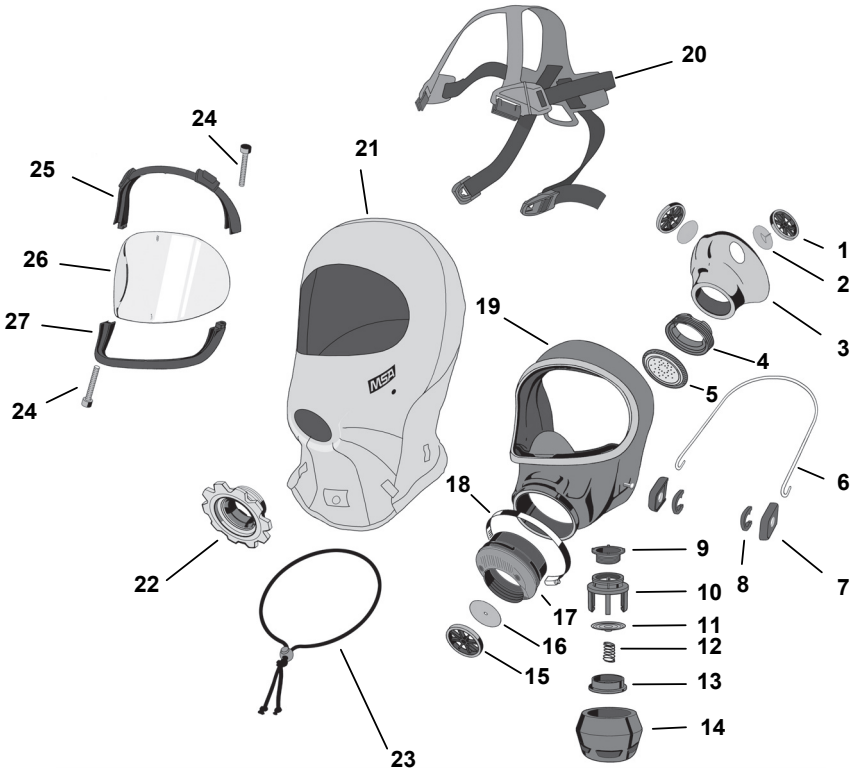

Fig. 4 Mask-hood exploded view

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1	*Nosecup valve seat*	*15*	*Inhalation valve seat*
2	*Nosecup valve disc*	*16*	*Inhalation valve disc*
3	*Nosecup (without valves)*	*17*	*Cover*
4	*Threaded ring*	*18*	*Clamp*
5	*Speech diaphragm*	*19*	*Face blank*
6	*Tension ring*	*20*	*Head harness*
7	*Tension ring wire holder*	*21*	*Hood*
8	*Tension ring wire holder clip*	*22*	*Connector*
9	*Threaded ring for exhalation valve with slide ring*	*23*	*Neck string with stopper*
10	*Exhalation valve socket*	*24*	*Cylinder screw for lens ring*
11	*Exhalation valve disc with guide pin*	*25*	*Lens frame*
12	*Exhalation valve spring*	*26*	*Lens*
13	*Exhalation valve cap*	*27*	*Lens frame*
14	*Exhalation valve cover/Protective housing*		

7.2 Ordering Information Mask-Hood

Description	Article No.
PremAire Mask-Hood	10142939

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7.3 Accessories

Description	Article No.
3 S spectacles (plastic frame)	D2055954
3 S spectacles (metal frame)	D2055811
Special tool (for replacing exhalation valve and speech diaphragm)	D2055038
Carrying Container	10026179
Tool for Push-to-connect adapter	10035756
3S Test cap for exhalation valve	D4074895
Sealing adapter, mask leak test, AutoMaXX-AS	10035659
Adapter, mask leak test, AutoMaXX-AS	10035720

7.4 Spare Parts

Description	Article No.
Nosecup, without valves (rubber)	D2055025-SP
Speech diaphragm (package of 2)	D2055708
Nosecup valve seat	10096173
Nosecup valve disc (package of 20)	10104309-SP
Threaded ring (exhalation valve)	D2055011-SP
Inhalation valve disc (package of 20)	D2056722
Inhalation valve seat (package of 5)	D2055748
Exhalation valve, assembly:	10031131
Protective housing	D4080396-SP
Slide ring (pack of 4)	10096058
Exhalation valve disc (package of 10, without guide pin)	D2055749
Guide pin	D4080394
Exhalation valve spring	10095813
Exhalation valve cap	10031132
Threaded ring	D5135041-SP
Valve socket	D4080389-SP

For local MSA contacts please go to our web site ***www.MSAsafety.com*** .