



SAFETY protection equipment

INSTRUCTIONS FOR USE AND MAINTENANCE
FOR FULL-FACE GAS MASKS
OF THE SGE SERIES

INSTRUCTIONS FOR USE AND MAINTENANCE OF FULL-FACE GAS MASKS OF THE SGE SERIES

1. INTRODUCTION

These instructions refer to the SGE series full-face gas masks in the following variants shown in Table 1.

DESCRIPTION	SIZE	CODE
SGE 150	Small/Medium	033980
SGE 150	Medium/Large	033970
SGE 150 with SPEECH DIAPHRAGM	Small/Medium	033976
SGE 150 with SPEECH DIAPHRAGM	Medium/Large	033975
SGE 400/3	Small/Medium	033982
SGE 400/3	Medium/Large	033994
SGE 400/3 with SPEECH DIAPHRAGM	Small/Medium	033996
SGE 400/3 with SPEECH DIAPHRAGM	Medium/Large	033995
SGE 400/3 BB	Small/Medium	033983
SGE 400/3 BB	Medium/Large	033992
SGE 400/3 BB with SPEECH DIAPHRAGM	Small/Medium	033986
SGE 400/3 BB with SPEECH DIAPHRAGM	Medium/Large	033985

Table 1: Description and codes of SGE series gas masks

SGE full-face masks must be used and operated in accordance with the instructions for use below with regard to use, limitations and maintenance. The use of the SGE masks assumes knowledge of and compliance with this instruction manual. Improper use, use of unsuitable spare parts or poor maintenance represent a danger to the health and safety of the user and invalidate the warranty, exempting the manufacturer from any liability.

It is essential to highlight that personal protective equipment (PPE) for the protection of the respiratory tract must always be used by specialised personnel, under the supervision of a person fully aware of the limits of application of such devices and the laws in force in the country in which they are located.

SGE full face masks have been shown to meet the health and safety and certification requirements of the European Regulation 2016/425. They are CE marked and tested according to the requirements of EN 136:1998.



In case of loss of these instructions or if necessary further copies can be downloaded from <http://mestelsafety.com/protection-equipment/products/gas-masks>

It is also possible to request them from the manufacturer:

MESTEL SAFETY SRL, Via Arvigo 2, 16010 Sant'Olcese (GE), IT. Tel +39 0107082011. E-mail:

infoitaly@oceanreefgroup.com Website: www.mestelsafety.com

Mestel Safety Srl, while taking all possible care in the drafting of this manual, assumes no responsibility for misunderstandings arising from different interpretations of the text, printing errors or incompleteness.

Mestel Safety Srl assumes the responsibilities provided for in the general conditions of the sales contract. No liability is assumed when:

- The periodic checks described in this manual have not been carried out
- Checks and/or maintenance and cleaning have not been carried out properly
- SGE masks are not used properly according to their intended use
- The instructions in this instruction manual have not been observed and applied, thus causing damage to the product.

Mestel Safety Srl is ISO9001:2015 certified (https://diving.oceanreefgroup.com/support/#ISO_CC).

2. DESCRIPTION

SGE masks produced by Mestel Safety are all classified according to the standard EN136:1998 in Class 3. In detail:

SGE 150 (with and without Speech Diaphragm)

Full-face gas mask for different applications (defence, industrial) with features in common with SGE 400 and SGE 400/3 versions, including:

- Silicone face seal particularly suitable for prolonged use (successfully tested for 5 consecutive days, without removal)
- 1 standardised front threaded fitting for filter connection (standard EN148-1 or 40 mm DIN3183)
- Polycarbonate ballistic viewer
- Lightness in terms of weight: 530 grams (size S/M) and 590 grams (size M/L)
- Wide field of vision
- Easy maintenance

SGE 400/3 (with and without Speech Diaphragm)

SGE 400 mask is designed for both military and civil defence purposes. Its main features are:

- Silicone face seal particularly suitable for prolonged use (successfully tested for 5 consecutive days, without removal)
- 3 standard threaded fittings for filter connection (standard EN148-1 or 40 mm DIN3183)
- Polycarbonate ballistic visor treated with a special coating resistant to chemical attack
- Lightness in terms of weight
- Wide field of vision
- Easy maintenance
- Connection with water bottle adapter (drinking device)
- Weight: 710 grams (size S/M) and 750 grams (size M/L)

SGE 400/3 BB Gas Mask

Identical to SGE 400/3, but with butyl rubber face gasket to meet CBRN requirements.
Weight: 650 grams (size S/M) and 690 grams (size M/L)

Table 2 compares the different models of SGE masks and the availability of any accessories that can be integrated on request.

	SGE 150	SGE 400/3	SGE 400/3 BB
Threaded fittings	1 (front)	2 (side) + 1 (front)	2 (side) + 1 (front)
Facial seal	Silicone	Silicone	Butyl rubber
Treatment of the visor	No	Yes	Yes
Additional Lower Door	No	Yes	Yes
Drinking device	No	Yes	Yes
Connection to the microphone	Yes after side door replacement	Yes after side door replacement	Yes after side door replacement
Resistance to mustard gases	No	Visor only	Yes

Table 2: Comparison between the different models of gas masks of the SGE series including the availability of some accessories

All materials used in the SGE series full-face masks that come into contact with the user's skin are not known to have allergenic or harmful effects on health.

2.1 VISOR

The main part of the rigid and transparent visor (which transmits more than 90% of visible UV light) consists of a large round surface in front of the eyes, and is back in the structure, thus keeping the overall dimensions to a minimum and allowing the use of the optical lens support. The material used is polycarbonate treated with a special anti-scratch coating (except SGE150), which makes the polycarbonate resistant not only to mechanical action, but also to aggressive chemicals.
The use of this headset has some advantages such as:

- Overall weight of the mask substantially reduced
- Unrestricted field of view, because much of the SGE mask is transparent
- Full-face protection guaranteed by the impact and cut-resistant structure
- Convenient mask fit to the face even when wearing time increases
- Easy identification of the person wearing the mask thanks to the total transparency of the visor, thus helping to normalise conditions and maintain discipline
- Elimination of any sense of discomfort due to the limitation of the visual field and, therefore, maximum reaction speed and considerable increase in the portability of the protective medium.

2.2 FACE SEAL

The face seal mounted on the SGE150 and SGE400/3 versions is made of silicone. This hypoallergenic material allows perfect comfort while wearing the mask together with excellent mechanical performance and tear resistance. The SGE400/3 BB mask face seal is made of butyl rubber to improve protection against toxic gases thanks to the low gas permeability of this material. The bellows structure of the face seal allows a perfect seal, a very high degree of comfort even after prolonged use and comfortable adaptation to all facial shapes.

2.3 FITTING FOR FILTERS

All SGE masks have a central threaded fitting for the application of standard filters (UNI EN 148-1). The fitting is contained in a single unit which also includes 1 exhalation membrane and the inhalation membrane. The shape of the inner ring allows perfect ventilation of the entire face, preventing fogging even at low temperatures. Consequently, thanks to the special design of the mask, anti-fog treatment is not necessary. In the SGE 400/3 and 400/3 BB masks there are two other threaded fittings on the side doors for the filter housing (maximum one filter connected at a time) in the most comfortable position.

2.4 ORINASAL PART

The design of this component is critical to the effectiveness and comfort of the mask. Since it comes into direct contact with particularly sensitive areas of the face, the correct choice of shape and material was fundamental. The orinasal part is made of soft silicone rubber, specially designed to be used in contact with the human body for prolonged periods of time without causing irritation or allergic reactions of any kind. The shape is designed to provide optimal comfort and efficiency.

2.5 STRAP (HARNESS)

The rigid body of the SGE goggle allows the buckle-adjustable 6-arm strap to evenly distribute the stress around the edges of the goggle, so that it does not need to be overtightened.

3. INTENDED USE (APPLICATION)

The SGE series full-face gas masks are Category III Personal Protective Equipment, as defined in Annex I of the European Regulation 2016/425. They cover the eyes, mouth, chin and nose, providing an adequate seal on the face of the wearer and ensuring optimal protection against a potentially polluted atmosphere (from toxic, bacteriological and/or dangerous substances) in which the wearer is immersed, even when the latter moves and/or speaks. The intended use is for the protection of the respiratory tract and eyes. The mask provides a physical barrier to prevent the direct penetration of pathogens, microorganisms, particles, fumes, chemicals, etc., and allows breathing in a contaminated environment thanks to the use of appropriate filters (gas, dust and combined). In fact, SGE masks are suitable for protection against highly harmful fine dust, organic, inorganic gases and vapours, acids and combinations of gases and dust, viral and bacteriological agents.

For a correct choice and use of the filters, check the instruction manual provided with them which contains the indications and limitations of use.

The SGE series full-face gas masks are intended only for the fields of use described in this instruction manual.

SGE full-face masks are used in the chemical industry, intensive treatments with pesticides, protection from fire fumes, treatment and disposal of asbestos and contaminated materials, protection from viral and bacteriological agents, first aid teams (fire brigade, police, etc.).

If certain dangerous situations require, in addition to the protection of the respiratory organs, also other protective equipment, an assessment of their compatibility with the mask must be carried out. It is essential that additional protective measures do not jeopardise the full effectiveness of the respiratory protective device.

The validity period is 10 years from the production batch indicated on the product at the MI1 filter box where the marking is also affixed.

4. CERTIFICATIONS AND MARKING

The full-face masks of the SGE series are Personal Protective Equipment that fall into category III with regard to the European Regulation 2016/425 and subsequent amendments. SGE masks have been certified using the harmonised standard EN136:1998, followed for the design of the PPE in accordance with health and safety requirements. Standard threaded fittings comply with EN 148-1.

The conformity tests of SGE full-face masks according to the harmonised standard EN136:1998 and the certification with consequent authorisation to CE marking were carried out by the Notified Body ITALCERT SrL, Viale Sarca 336, 20126 Milan (IT)

The SGE Series Full-Face Masks Declaration of Conformity is [available at: http://mestelsafety.com/protection-equipment/products/gas-masks/#conformitydeclaration](http://mestelsafety.com/protection-equipment/products/gas-masks/#conformitydeclaration)

4.1 MARKING

The CE marking indicates that SGE masks comply with the essential health and safety requirements of Regulation 2016/425 and with the harmonised standard EN136:1998. It is affixed to the MI1 filter box.



Where:

- SGEXXX indicates the template of the mask
- EN136:1998 indicates the European reference standard used for design and certification
- CL3 indicates the class according to EN136 to which the device belongs
- CE is the mark that indicates compliance with the health and safety requirements of the European Regulation 2016/425 and compliance with the EN136:1998 standard.
- The number 0426 identifies the notified body ITALCERT SrL, Viale Sarca 336, 20126 Milan (IT) in charge of the control pursuant to Module D of the European Regulation 2016/425.
- Mestel Safety is the name of the manufacturer

4.2 COMPONENT MARKING

Table 3 lists the components capable of compromising safety by ageing, distinguished by their code.

COMPONENT	CODE	MARKING	DATE OF MANUFACTURE
Inhalation valve	001371	Not required	Not required
Expiration valve	006516	Not required	Date label
Fitting	006750	Date label	Not required
Face seal	000749 000752 000793	Date label and size	Date label
Head harness	009003	Date label and logo	Date label
Visor	006601 006600	Date label	Not required
Clamping band	006799	Date label	Not required
Orinasal	000753	Date label	Date label
Speech diaphragm support with membrane	006532+ 006570+ 006516	Date label on the underlying membrane	Date label

Table 3: List of distinctive components for product safety

4.3 IDENTIFICATION OF PPE

The production batch is identified with a date label (XX/YY, or month/year) affixed to the MI1 component, on the opposite side of the marking. Together with it, the name of the manufacturer, i.e. Mestel Safety, is also explicitly indicated.



5. INSTRUCTIONS FOR USE

For the correct use of the SGE masks, these instructions for use must be observed together with the rules and provisions of the competent authorities in the field of health and safety.

The inhaled air through the inhalation valves reaches the inside of the mask and circulates in it avoiding fogging. The air used is expelled outside through the exhalation valve. The particular shape of the orinasal part and the area at the mouth reduce the dead volume inside the mask preventing the deposition of CO₂ present in the exhaled air.

5.1 CHECK AT FIRST USE

Before each use, carefully check the mask to verify its proper functioning, performing the following checking operations:

1. Read these instructions that must accompany the mask. If not present, contact Mestel Safety immediately
2. At first use, once the mask has been removed from the packaging, check that there are no signs of damage, breakage and/or deficiencies. If they are present, contact Mestel Safety immediately
3. Check that the face seal is intact, not deformed and that it fits the profile of the face
4. Check that the exhalation and inhalation valves are intact, not deformed, clean and free to move
5. Check that the visor is intact and clean. Remove the protective film.
6. Check the harness and functionality of all arms.

Damaged and/or malfunctioning parts must be replaced before use, if necessary the entire mask.

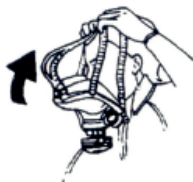
5.2 DONNING/DOFFING

The correct wearing procedure of the mask involves placing the mask on the head so as to have a perfect fit to the face, resting the chin in the lower part of the face seal, keeping open with the hands the two lower arms of the belt. Next, the mask should be adjusted on the face, making sure that no air remains trapped between the face seal and the forehead. Finally, complete the wear, adjusting the strap arms, as shown in Figure 1, starting from the sides, then those at the bottom and, finally, the two at the top. Do not pull the arms excessively or too tightly.

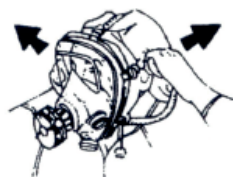
(1) Loosen all the straps
(1) Allungare tutti i cinghiaggi



(2) Wear the mask
(2) Indossare la maschera



(3) Adjust the side straps
(3) Regolare i cinghiaggi laterali



(4) Correct position of the spider
(4) Posizione corretta del cinturino



(5) Adjust the lower straps
(5) Regolare i cinghiaggi inferiori



(6) Adjust the top straps
(6) Regolare i cinghiaggi superiori

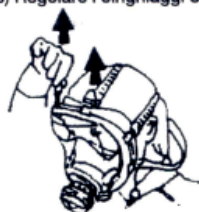


Figure 1: Method of wearing the SGE mask

Once the mask has been worn, carry out the negative pressure test (leak test), closing the filter holder with the palm of your hand and inhaling deeply. The mask is worn correctly when it collapses towards the face, remaining in this position for the duration of the inhalation. No air infiltration should be perceived inside the mask.

This check is essential to verify that the face seal is sealed and that the mask is mounted correctly. Otherwise, better adjust the mask on the face and the harness on the head, repeating the leak check until the result is positive. In this case it is possible to face a contaminated environment, otherwise do not enter it.

At the end of the work, before removing the mask, move away from the contaminated area. Once the safety zone is reached, the mask is easily removable by loosening the lower straps and pulling it out of the chin upwards.

5.3 FILTER INSTALLATION

The choice of filter depends on the type of contaminant. To use it correctly, refer to the instructions provided with it. Once the expiration date has been checked, the filter is screwed to the connector making sure that the gasket at the bottom of the hole runs flat.

After a successful leak test and filter control, it is possible to enter a contaminated area.

The filter must be replaced when the user begins to perceive the smell or taste of the dangerous substance or in case of irritation. Dust filters should be replaced when respiratory resistance becomes too high.

6. WARNINGS AND LIMITATIONS FOR USE

- The packaging suitable for the transport of SGE full-face masks is the condition of sale.
- The SGE series masks are Personal Protective Equipment that do not provide oxygen, therefore they can be used in combination with a filter in environments where the concentration of O₂ is greater than 17% vol/vol. This limit may vary according to national regulations.
- SGE masks combined with filtration devices must not be used in confined spaces (e.g. tanks, tunnels, etc.) due to lack of oxygen or the presence of substances that can create air voids, such as CO₂. In this case, the use of breathing apparatuses is recommended.
- In the following cases:
 - Damage to certain parts of the mask
 - Difficult breathing
 - Dizziness and/or feeling dizzy
 - Perception of the taste and/or smell of contaminants
 - Irritation due to contaminants

it is necessary to leave the work area immediately, checking the integrity of the mask and replacing damaged parts only when you have reached a safe environment.

- Do not modify or alter the SGE series full-face masks in any way.
- Repairs and replacements can be carried out using original Mestel Safety spare parts and must be followed by a pneumatic leak test at Mestel Safety Technical Support (Telephone: +39 010 7082023; e-mail: customerservice@oceanreefgroup.com).
- Since the reference standard EN136 does not verify resistance to chemical permeation, in the presence of particularly aggressive chemicals, impermeability to these pollutants is not guaranteed, therefore the use of SGE 150 masks is prohibited.
- The SGE series full-face masks must be used by experienced and qualified personnel. If not in use, they should be stored in a container away from contaminated areas.
- Beard, long sideburns and glasses temples can compromise the mask's hold on the face. In such cases the user will be responsible for any damage caused by these improper uses.

7. CLEANING, DECONTAMINATION, MAINTENANCE AND STORAGE

7.1 MAINTENANCE

SGE masks are maintained in perfect efficiency if periodically subjected to the periodic maintenance, cleaning and decontamination programme shown in Table 5, where the main activities of periodic checks, cleaning and maintenance during the life and use of the SGE masks are listed.

ACTIVITIES	FIRST USE	BEFORE EACH USE	AFTER EACH USE	MONTHLY	EVERY 5 YEARS
Cleaning			X		
Disinfection			X		
General and visual inspection	X	X		X	
Replacing inhalation valves (orinasal part)					X
Leakage test		X			

Table 5: Periodic maintenance schedule

The replacement of some components may affect the seal, therefore in an immediately following phase it is necessary to perform a total control check of the mask at our Technical Assistance service (Telephone: +39 010 7082023; e-mail: customerservice@oceanreefgroup.com), including pneumatic leakage test. Since the SGE series full-face masks are designed for low maintenance, the spare parts available are limited to the components listed in Table 6.

Before using the mask and/or monthly, a general check of the mask must be carried out, verifying that:

1. All parts are intact
2. There are no signs of wear and/or obvious damage
3. The face seal, orinasal part, strap and inhalation valves have no signs of cuts or tears

If one of these defects is found, the mask cannot be used until the damaged parts have been replaced. It is possible to replace the strap or the inhalation valves by requesting them from Mestel Safety.

Replacing the **2 MI5 inhalation valves** on the orinasal part involves removing the existing ones by removing the pin from the hole. Each new valve must be housed in the hole on the orinasal part, with the pin facing outwards from the orinasal part and the planar part inside. Check that, once assembled, each valve is properly inserted and in the correct position, with the surface free to move and that it has no impediments.

SPARE PARTS	QUANTITY	CODE
Belting	1	009003
Buckles	6	000902
Close filter cap	1	006515
Inhalation valves (MI5)	2	001371

Table 6: Spare parts list

Replacing the **strap and buckles** involves removing the existing one by pulling the straps through the buckles.

After replacing the spare parts, Mestel Safety recommends to carry out a pneumatic leak test with dedicated equipment, for which it is necessary to contact Mestel Safety's technical assistance service (Telephone: +39 010 7082023; e-mail: customerservice@oceanreefgroup.com). This service can also help in the event of difficulties in replacing spare parts.

Mestel Safety does not assume any responsibility for the malfunction of the mask due to replacements with spare parts that are not original or not carried out correctly or without having verified the air-tightness of the mask after replacement.

7.2 CLEANING AND DECONTAMINATION

Masks that are used regularly must be cleaned and disinfected as often as necessary to ensure adequate protection and proper operation for the user.

Any cleaning and decontamination must take place in a safe area following some precautions:

- Pay attention to the possible deposit of contaminants on the mask
- Do not use abrasive substances and/or solvents for cleaning the visor
- Remove the filter before cleaning and decontaminating the mask
- Wash the mask under running water to remove most contaminants
- For a more thorough cleaning, immerse the mask in hot water at a temperature not exceeding 40°C with neutral soap for 5-10 minutes. After thorough washing, rinse thoroughly under running water.
- If decontamination is required, immerse the mask for 5-10 minutes in a 5% vol/vol diluted ethanol solution. Then rinse thoroughly under running water to remove all residues.
- At the end of cleaning/disinfection, dry the visor with a non-abrasive cloth and complete the drying of the mask in the air, avoiding exposure to direct sunlight and at temperatures above 50°C.

7.3 STORAGE

It is recommended to store the masks, without filter, at room temperature between -10 and +50 °C. Avoid direct sunlight. Keep the storage environment clean, dry and well ventilated, away from extreme humidity conditions, dust, pollutants, etc.

It is also advisable to avoid tension and/or pressure on the product, storing the SGE masks in order to avoid their deformation by compression in their original packaging, in special cabinets or in the storage bag available as an accessory (code: 008696).

Mestel Safety recommends not to use the new masks, even in the original packaging, if they are older than 10 years. In this case, a general check can be requested from the technical assistance service of Mestel Safety (Telephone: +39 010 7082023; e-mail: customerservice@oceanreefgroup.com).



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la versione del manuale in Italiano.



Encuadre el código QR para descargar
la versión del manual en Español.



Cadrage du code QR pour télécharger
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Scannen Sie den QR-Code zum
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NOTES:



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<http://www.mestelsafety.com/protection-equipment/>