



Operating Manual

Facepiece G1 AirElite



Order No.: 10186449/00



The Safety Company

MSA Europe GmbH
Schlüsselstrasse 12
8645 Rapperswil-Jona
Switzerland
info.ch@MSAsafety.com
www.MSAsafety.com

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1 Safety Regulations

1.1 Correct Use

The full face mask Facepiece G1 AirElite - hereafter called mask - is not a complete respiratory protective device by itself, but serves as facepiece [EN 136 CL3] for use with MSA's closed-circuit respiratory protective device AirElite.

When using the closed-circuit respiratory protective device AirElite, the operating manual for the AirElite must be read and observed.



WARNING!

According to the European directive 89/656/EC it has to be verified before first use of the mask that a correct size has been chosen (proper tight fit), that the mask can be worn in combination with other protective equipment (for example a protective jacket), that it is a correct choice for the conditions at the particular place of use and that it fulfils the ergonomic requirements.



WARNING!

Read this manual carefully before using the device. The device will perform as designed only if it is used and maintained in accordance with the manufacturer's instructions. Otherwise, it could fail to perform as designed and persons who rely on this device for their safety could sustain serious personal injury or death.

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.

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.

Changes and modifications not expressly approved by the manufacturer will void the user's authority to operate the equipment.

1.3 Safety and Precautionary Measures

- The device may be used in explosive atmospheres according to the class stated in the ATEX certification, see chapter 2.3.
- The ATEX class of any other equipment used together with this device has to be regarded as well. The lowest class sets the limit.
- If the device is used in an explosive atmosphere, dissipative clothes and footwear must be used in conjunction with dissipative grounds. When used in explosive atmospheres there must be direct contact between the head harness and the head. Do not use head coverings (e.g. fire hoods) under the head harness.
- If the device is used in an explosive atmosphere, the neck strap has to be correctly attached to the mask with carabiner hooks, see chapter 2.3. (The rubber neck strap has to be attached to the metal rings of the harness, the textile neck strap has to be attached to the lens ring with carabiner hooks.)
- Use and storage of the mask with Kevlar (textile) harness in a vicinity that generates strong electrostatic charges in explosive atmospheres is not allowed.

2 Description

The inhalation air flows from the component housing to the nose cup of the mask.
The exhalation air follows the same route however in the opposite direction. This does not flush the eye-area. Any misting of the lens is remedied by using the lens wiper.
The face blank is made of a special soft rubber compound and assures a snug, comfortable fit and a tight seal. The mask and the nose cup are available in 3 sizes (small, medium, large).
The mask is available with different head harnesses.

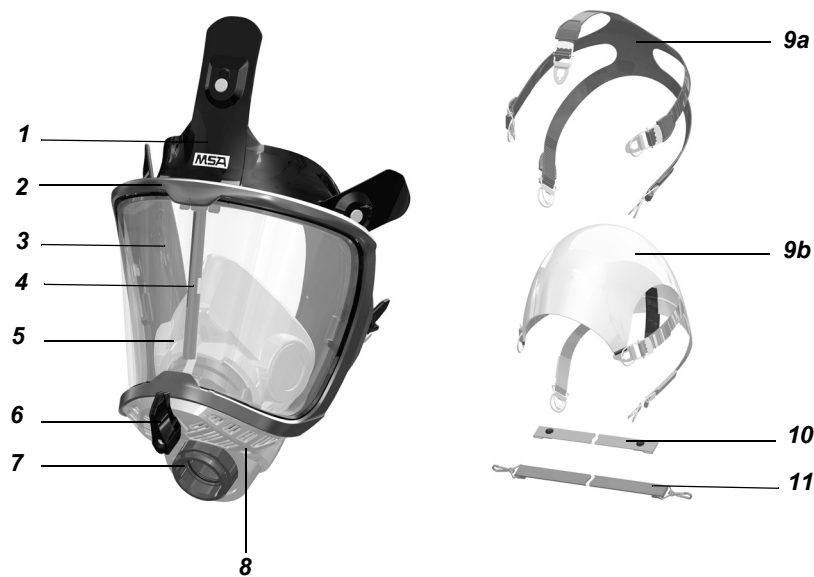


Fig. 1 Overview Facepiece G1 AirElite (not true to size)

- | | |
|-------------------------|------------------------|
| 1 Face blank | 7 Component housing |
| 2 Lens ring | 8 Cover |
| 3 Lens | 9a Rubber head harness |
| 4 Lens wiper (complete) | 9b Kevlar head harness |
| 5 Nose cup | 10 Rubber neck strap |
| 6 Wiper lever | 11 Textile neck strap |

2.1 **Harness Versions**

The mask is available with different head harnesses; Kevlar (4-point) or rubber (5-point).
The rubber head straps are numbered to indicate the correct tightening sequence.

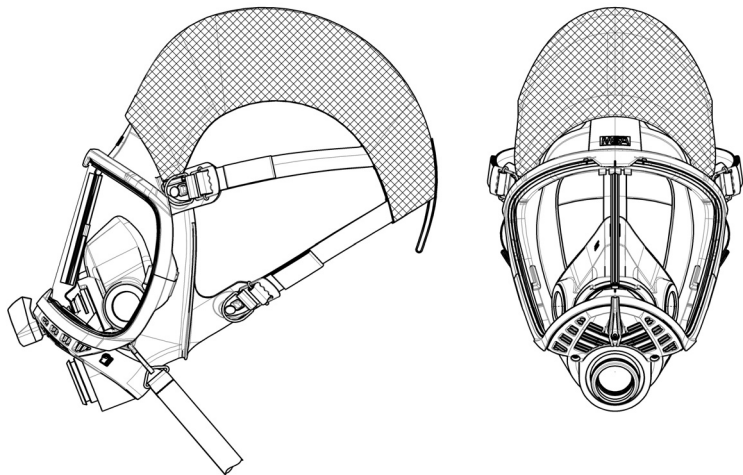


Fig. 2 *Kevlar harness*

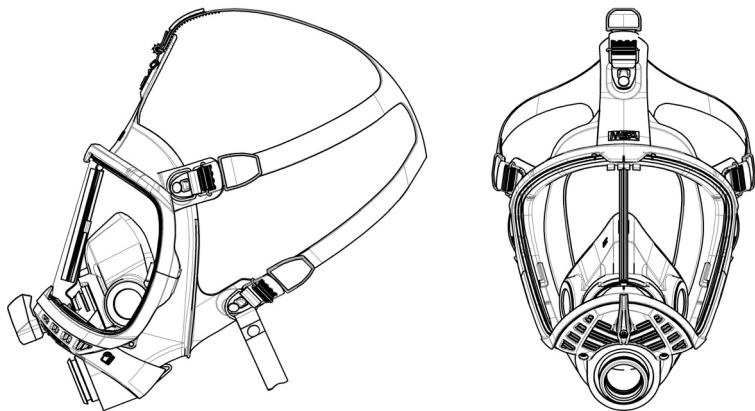


Fig. 3 *Rubber harness*

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2.2 Marking

The mask is marked on the outer face blank as shown in Fig. 4:

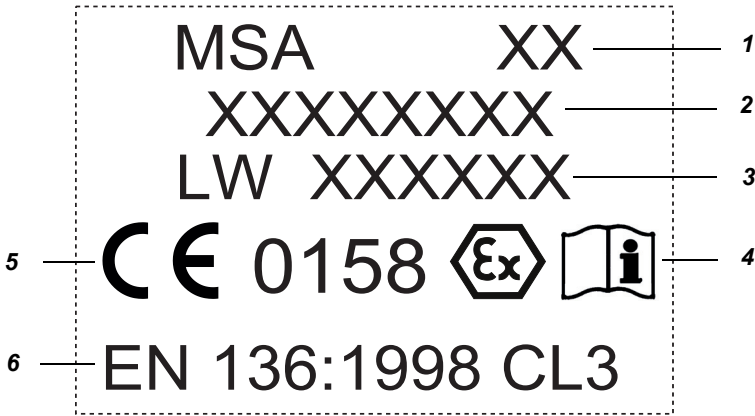



Fig. 4 Marking of mask body

- 1 Mask type
- 2 Part number/ATO code
- 3 Marking (month, year, serial number)
- 4 For applicable ATEX classification, see operating manual.
- 5 CE-marking with notified body number
- 6 EN standard, class

2.3 Certification

The masks comply with the following directives, standards or standardized documents:

Approvals	
	0158
EN 136: 1998, class 3	
DEKRA	DEKRA EXAM GmbH, Dinnendahlstr. 9, 44809 Bochum, Germany, Notified Body number: 0158

Atex Categories

The lowest ATEX class of a part sets the limit for the complete device.

Facepiece G1 AirElite		
Harness	Rubber	I M1 II 1G IIC II 1D
	Kevlar (Textile)	
Neck strap	Rubber	I M1 II 1G IIC II 1D
	Textile	I M1 II 1G IIB II 2G IIC II 1D
Lens	PC-HC 3 mm	I M1 II 1G IIB II 2G IIC II 1D

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3 Use

The mask is carried using the neck strap in front of the chest. To ensure protection from dirt and debris, ensure the mask opening is towards the user's body.



To reduce fogging of the lens, be sure to put anti-fogging agent on the lens before using the mask.



WARNING!

When used in explosive atmospheres there must be direct contact between the head harness and the head. Do not use head coverings (e.g. fire hoods) under the head harness.



WARNING!

Ensure that the top of the mask seal **only** lies on the user's forehead. Hair or spectacle side arms should not be between the mask's seal and the user's skin. The mask could otherwise leak. This danger also exists for instance for mask wearers with beards or deep scars in the sealing area.



WARNING!

In order to guarantee a proper fit for those wearing glasses, the Facepiece G1 AirElite spectacle kit **must** be worn since ordinary glasses **cannot** be worn under the mask.

3.1 Donning



- (1) Spread the harness with both hands.



- (2) Position the chin into the chin cup.



- (3) Pull the head straps over your head.
 - a) Ensure that the harness is sitting correctly and is not twisted.



- (4) Tighten the straps in order as shown firmly and evenly. When tightening the head straps, ensure that the correct sequence is followed (Pos. 1 - 3).

3.2 Leak Check

In order to check the mask-to-face tightness, a leak check must be performed before each use.



- (1) Seal the inlet (component housing) with the palm of your hand.
- (2) Test the tightness by inhaling and exhaling.
Whilst doing so:
 - a) when inhaling there must be negative pressure, no inflowing air should be noticeable.
 - b) when exhaling there must be overpressure, no breathable air should escape over the sealing edge.
- (3) If necessary, retighten the straps.
 - a) If the leak check fails, re-do the mask.
If the leak check still fails, the mask must not be used.

3.3 Removing the Mask



- (1) Loosen the head harness by pulling the buckles forward using your fingers.



- (2) Grip the mask by the cover and pull off backward over your head.

4 Cleaning, Disinfection

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



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



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 (chapter 5.6) after every cleaning, disinfection and maintenance or after every exchange of parts.

- (1) Clean mask using lukewarm water and mild cleaning detergent (pH neutral soap solution) and thoroughly rinse with clear, lukewarm running water.
- (2) Disinfect mask if necessary.
- (3) Dry mask.
- (4) Perform a tightness test (→ chapter 5.6).

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 authorized 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^{*)}	X^{*)}		
Visual, Functional and Tightness Check ^{**)}		X	X^{**)}			
Replacement of the Speech Diaphragm						X
Replacement of the O-ring for component housing				X		
User check	X					

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

^{**)} For airtightly packed facepieces, which are not exposed to increased climatic and mechanical stress [for example transport on vehicles], this interval can be extended to 2 years.

5.3 Replacing the Lens Wiper

- (1) Remove the nose cup and U-clip.
- (2) Unscrew the wiper lever and cover and remove both.
- (3) Pull out the wiper shaft and remove the wiper arm.
- (4) Position the new wiper arm (with the rubber blade facing the lens) in the gap.
- (5) Push the wiper shaft through the hole in the wiper arm.
- (6) Mount U-clip (position wiper arm on the side).
- (7) Mount the cover and tighten with screws.
- (8) Mount the nose cup.
- (9) Mount the wiper lever on the wiper shaft.
 - a) Ensure the long part of the wiper lever is pointing upside to ensure the right position.
 - b) Tighten the wiper lever with a screw.
 - c) Secure the screw with Loctite 243.
- (10) Perform a tightness test (→ chapter 5.6).

5.4 Replacing the Lens



WARNING!

The replacement of the lens is solely to be carried out by authorised workshops or by MSA customer service.

5.5 Replacing the Speech Diaphragm

- (1) Unbutton the nose cup.
- (2) Unscrew the threaded socket from the mask inside with the special tool.
- (3) Remove the O-ring and the speech diaphragm.
- (4) Insert the new speech diaphragm:
 - a) Place the speech diaphragm into the component housing with the yellow side visible.
 - b) Reinsert the O-ring.
- (5) Screw in the threaded socket with the special tool (Torque: 5 Nm).
- (6) Perform a tightness test (→ chapter 5.6).

5.6 Tightness Test of the Mask



The testing of the masks for tightness is performed using an applicable MSA test device (i. e. SmartCHECK) in accordance with the relevant operating manual.

- (1) Fit mask tight onto the test device.
- (2) Test mask according to test device operating manual.

The testing of the mask for tightness is performed using the MSA mask leak testing instrument in combination with the MSA mask leak testing adapter with plug connector in accordance with the relevant operating manual.

The mask meets the requirements if with overpressure and underpressure of 10 mbar generated inside the mask, the pressure change does not exceed 1 mbar in a minute.

Leaking masks must not be used.

5.7 Visual Test and Function Test

Visual Test

- (1) Inspect the mask for possible damages like for example deformations, stickings or cracks.
- (2) Inspect the lens for cracks, scratches, and a tight seal with the mask rubber.
- (3) Defective or damaged parts have to be replaced immediately.

Functional Test

After assembling the mask the mobile parts, especially the lens wiper, have to be tested for unrestricted functionality and mobility.

- (1) Ensure the lens wiper has a tight fit with the lens and operates easily.

6 Safekeeping and Storage

NOTICE

For the safekeeping of the mask, use the mask container. In order to avoid deformation of the lens wiper during storage, place lens wiper into the centre position.

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

To ensure a long life of rubber components, follow ISO 2230 by storing them in a cool, dry place protected from ultraviolet radiation.

7 Ordering Information
7.1 Exploded View



Fig. 5 Facepiece G1 AirElite exploded view

1a	Rubber head harness	10	Speaking diaphragm
1b	Kevlar head harness	11	Component housing
2a	Harness buckle without D-ring	12	O-ring for mask connection
2b	Harness buckle with D-ring	13	Clamp
3	Screw for lens ring	14	Cover with screws
4a	Upper lens ring	15	Wiper lever with screw
4b	Lower lens ring	16	Wiper shaft with O-ring
5	Face blank	17	Lens wiper with U-clip
6	Button for head harness	18	Lens
7	Nose cup with blind plugs	19	Textile neck strap
8	Screw ring for speaking diaphragm	20	Rubber neck strap
9	O-ring for speaking diaphragm		

7.2 Spare Parts and Accessories

Description	Article No.
Component housing (3x)	10185282-SP
Clamp, component housing	10144222-SP
Cover with screws (3x)	10185283-SP
Nose cup with blind plugs S (3x)	10186873-SP
Nose cup with blind plugs M (3x)	10186874-SP
Nose cup with blind plugs L (3x)	10186875-SP
Wiper shaft with O-ring (3x)	10186373-SP
Lens wiper complete (3x)	10186876-SP
Wiper lever with screw (3x)	10185285-SP
O-ring 5 x 1.75, wiper shaft (10x)	10129259-SP
U-clip (5x)	10188312-SP
O-ring, mask connection, spare (10x)	10068495
3S, Ultra Elite head harness (10x)	10102911
Harness, 4 pt adjustable (Kevlar)	10144215-SP
Buckle D-ring (4x)	10149551-SP
Buckle	10144217-SP
Neck strap, assembly, textile, G1 Facepiece	10144220-SP
Neck strap, assembly, rubber, G1 Facepiece	10159699-SP
Lens, PC-HC 3 mm, G1 Facepiece	10176797-SP
Lens ring, upper	10144195-SP
Lens ring, lower	10144196-SP
Screw, lens ring (2x)	10144221-SP
Button, head harness, black (medium) (5x)	10144219-SP
Button, head harness, gray (large) (5x)	10144235-SP
Button, head harness, green (small) (5x)	10144234-SP
Speaking diaphragm	10144209-SP
RFID transponder rd 16 mm 13.56 MHz (10x)	10149728
O-ring 47, 29 x 2.62, Si, A70 Shore, green	10144232-SP
Screw ring, G1 full mask	10144213-SP
AE 4h adapter mask leak tester	10074842
AirElite mask seal plug, SC.com	10118702
Clear-Pilot	10032164

7.3 ATO Code

For this product, order numbers have been replaced by an ATO (Assemble To Order) code.

To order a mask according to EN136 PC with a medium sized face blank, a medium nose cup, rubber head harness, rubber neck strap and AirElite 4h connector piece, the ATO code would be

C-M-M-M-E-R-C:

The following table shows all possible configurations that can be ordered for the Facepiece G1 AirElite

A - Application	Face blank		D - Nose cup	E - Head harness	F - Neck strap	G - Regulator
	B - Size face blank	C - Face blank material				
C - G1 Mask AirElite (PC lens with Hardcoat "H" in 3 mm)	S/I - 10149577	Small Hycar	S - Small	4 - 4 PT Adjustable	0 - None	
			M - Medium	E - Rubber EU w/ buckles	C - Cloth	C-AirElite 4h
			L - Large		R - Rubber	
	M/I - 10149578	Medium Hycar	S - Small	4 - 4 PT Adjustable	0 - None	
			M - Medium	E - Rubber EU w/ buckles	C - Cloth	C-AirElite 4h
			L - Large		R - Rubber	
	L/I - 10149579	Large Hycar	S - Small	4 - 4 PT Adjustable	0 - None	
			M - Medium	E - Rubber EU w/ buckles	C - Cloth	C-AirElite 4h
			L - Large		R - Rubber	
			S - Small	4 - 4 PT Adjustable	0 - None	
			M - Medium	E - Rubber EU w/ buckles	C - Cloth	C-AirElite 4h
			L - Large		R - Rubber	

