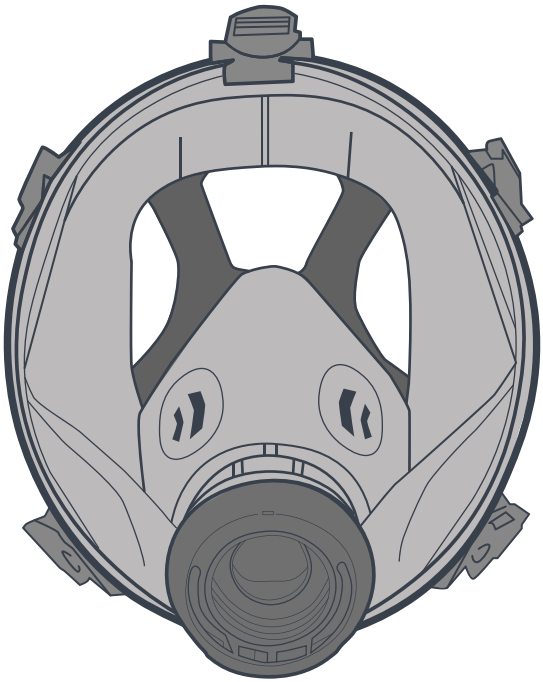
MIRA SAFETY

CM-101



Panoramic masks (EN)

RD111022

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1 GENERAL INFORMATION

Technical alterations of this equipment are not allowed.

The use of the MIRA Safety CM-I01 mask requiresknowledge and observance of the instructions in this manual. Do NOT alter any part of this equipment.

1.1. MIRA Safety masks have been specifically designed for the use described in this manual.

1.2. Repair and replacement of spare parts must be carried out by trained personnel, using original MIRA Safety approved parts.

1.3. Periodic mask testing should be carried out by technical services or other trained personnel qualified for this purpose.

1.4. The MIRA Safety standard warranty indicates the full extent of MIRA Safety. MIRA Safety will not accept liability for any damages caused by:

a) Testing conducted outside of the scope the mask's intended application.

b) Testing and maintenance improperly carried out by persons other than those qualified to do so by MIRA Safety.

c) Improper use of the mask.

1.5. MIRA Safety will not accept liability for any damages caused by the failure to abide by any of the aforementioned provisions.

1.6. For anything not been mentioned above, the general conditions of MIRA Safety's warranty apply. MIRA Safety will provide further information about the warranty upon written request.

2 APPLICABLE STANDARDS, FIELD OF APPLICATION, CAUTIONS AND WARNINGS

The goal of the CM-I01 mask is to protect the user's ability to breathe in environments with no breathable air. The specific function of the mask is to isolate the user's respiratory system from the non-breathable air in the environment.

The CM-I01 mask is a category III PPE according to European Regulation (UE) 425/2016, and it conforms to the requirements of the EN 136:98 class 3, for special use. The CM-I01 is equipped with a single 40mm NATO threaded filter port according to the EN 1-148 standard. This mask is not suitable for use in potentially explosive atmospheres. For further questions about the proper use of this product, please contact MIRA Safety customer support.

Testing according to the relevant standards, certification and authorization tfor the CE marking have been performed by notified body Italcert, Viale Sarca, 336 , 20126 Milano, Italy.

The "CE 0426" marking on the visor indicates compliance with the essential health and safety requirements in 425/2016 Regulation and Annex VIII and identifies the notified body that assessed conformity with the requirements, talcert, Viale Sarca, 336, 20126 Milano, Italy (n. 0426).

The CM-I01 mask visor conforms with STANAG 2920 (ed. 3) : 2015 Measurement of V50 (Ballistic test, FSP= caliber 22 type 1) and EN 166:2001 (personal eye-protection) optical class I.
Users must strictly follow the instructions for the use of filters and respiratory equipment as well as the safety standards and regulations issued by the competent authority.
Respiratory protective devices must be used by personnel in good health and trained in the use of this kind of equipment. Users must be beardless and without sideburns or moustaches as these interfere with the facepiece seal, preventing an adequately tight seal on the face. Users of the CM-I01 mask must ensure that the oxygen concentration where the mask will be used is greater than 18%, the temperature range is between 0°C and 50°C and the concentration of contaminants in the atmosphere does not exceed the permissible exposure limits indicated in the manufacturer's instructions for the filters and self-contained breathing apparatus used with the mask. In case of contact with lubricants, oil by-products, solvents, oxidizing agents, acetates, hydrogen peroxide, acids or strong bases, wash and clean the mask as soon as possible in accordance with paragraph 7.2.
European Standard EN 136 defines the maximum allowable penetration for a full-face mask, donned is correctly and used in compliance with all of the warning and limitations described in this manual, of 0.05% through the filtering device.
The mask's nominal protection factor (NPF), defined as 100 divided by the maximum inward leakage maximum percentage is 2000.

2.1 SPECIFIC USAGE

When hazards potentially present in the workplace call for respiratory protection and the use of protective equipment, the compatibility of the equipment with the CM-I01 must be carefully tested. These additional protection measures must not jeopardize the full effectiveness of the respiratory protective equipment.
Hazards potentially present in the workplace may include the following:

— Liquid or gaseous substances that are harmful in contact with skin
— Toxic substances that are irritating to skin
— Radiation
— Mechanical stress
— Explosions
— Oxygen-enriched atmosphere

Technical services are at your disposal for any assistance, explanation, advice, or information you might need.

3 MARKING (TYPE AND MODEL)

Masks are CE marked as provide in the European Regulation 425/2016 the tested samples met the requirements of EN 136:98. The different models of mask can be easily identified by the following identification marks.

MODEL	THREADED CONNECTOR	EXHALATION VALVE	DISTINCTIVE COLOR OF VISOR FRAME AND GRILLE	FACE PIECE MATERIAL
CM-I01 BLACK	EN 148-1	Negative pressure	Black	Thermoplastic
CM-I01 RED	EN 148-1	Negative pressure	Red	Thermoplastic
CM-I01 ORANGE	EN 148-1	Negative pressure	Orange	Thermoplastic
CM-I01 OLIVE GREEN	EN 148-1	Negative pressure	Olive Green	Thermoplastic
CM-I01 WHITE	EN 148-1	Negative pressure	White	Thermoplastic
CM-I01 AQUAMARINE	EN 148-1	Negative pressure	Teal	Thermoplastic

WHOLE MASK

CE 0426 = CE marking and identification number of the notified body carrying out production control (on the visor frame)

EN 136:1998 = Relevant Norm (on the visor frame)

CL 3 = Class of the mask (“Cl3” on the visor frame)

EXHALATION VALVE

Production date, on the valve

HARDNESS

Production date on the central zone

Identifying code on the central zone

INNER HALFMASK

Production date inside the halfmask

Identifying code inside the halfmask

FACEPIECE

Production date inside the facepiece

Identifying code inside the facepiece

GRID OF THE THREADED CONNECTOR

Name of the mask in the lower

VISOR FRAME

The products Declaration of Conformity is available on the web site www.mirasafety.com in the specific section.

4 OPERATING PRINCIPLES

The air inhaled through the inhalation valve in the connecting piece is fed into the mask and flows in the inner side of the visor thus preventing misting. The air enters the inner mask through the septa of the half mask and after use by operator, is exhaled through the exhalation valve.

5 MASK COMPONENTS

The CM-I01 mask is made up by the components represented and indicated in figures 6 ,5 ,4 ,3 ,2 ,1, and 7.

6 DONNING AND TIGHTNESS TEST

The CM-I01 mask is available in medium size which fits well most faces. For the wearing with the rubber harness, follow the instruction below:

6.1 Using the head harness buckle seat adjustment, loosen the five-harness buckle.

6.2 Unfold the two buckles of the neck harness.

6.3 Place the mask in front of the face holding it by the neck harness. Rest the chin in the special hollow of the mask and pass the harness over the head.

6.4 Check that the pentagonal area where the arms of the harness meet is positioned in the nape of the neck. If it is too far away, lengthen the front buckle (or shorten it if it is too low) and adapt the tension of the other harness arms to the new position.

6.5 Then, pull the harness buckle in this order "Nucal", "Temporal" and "Frontal". The neck and temporal straps of the harness should be adjusted in pairs and with two hands if possible. Finally, pull the front harness. The harness should be adjusted in such a way that a uniform pressure from the sealing edge of the mask is felt on the face.

6.6 After putting on the mask and before use, carry out a leak test. Close the mouthpiece with the palm of your hand and inhale so that the mask adheres to the face. There should be no noticeable air infiltration anywhere on the mask. The leak test must be repeated 2-3 times. The mask can only be used after passing the leak test.

6.7 To remove the mask, loosen the harnesses in the same order used in the donning procedure. Push the buckles forward with your thumb. Remove the mask from the chin and then remove it from the head.

WARNING

IF THE TIGHTNESS TEST DESCRIBED IN PARAGRAPH 6.6 IS NOT PASSED, REPEAT IT UNTIL THE TIGHTNESS IS ACHIEVED.
THE USE OF THE MASK THAT DOES NOT HAVE A SUFFICIENT SEAL CAN CAUSE SERIOUS DAMAGE TO THE USER'S HEALTH.

7 MAINTENANCE, CLEANING, AND DISINFECTION

To maintain the efficiency of the CM-I01 mask, the user will need to conduct periodic maintenance, cleaning, and disinfection, following the table below.

7.1 CHECKS AND PERIODIC MAINTENANCE

OPERATION TO CARRIED OUT	BEFORE RELEASE FOR USE	PRIOR EACH USE	AFTER USE	EVERY 6 MONTHS	EVERY YEAR	EVERY 2 YEAR	EVERY 6 YEAR
Cleaning and disinfection			x		x (1)		
Visual inspection: ◆ Presence of scratches or cracks on the visor ◆ Visible signs of overheating (2)		x	x		x		
◆ Cuts or cracks on the rubber ◆ Presence and integrity of the gasket on the threaded connector ◆ Presence and integrity of the inhalation and exhalation valves ◆ Hand pull the head harness and check integrity							
Static seal test in negative pressure (3) and in positive pressure by the user	x	x					
Negative pressure test with test equipment by the user					x (1)	x	
Replacement of inhalation gasket, head harness and other gaskets							x
Replacement of inhalation and exhalation valves							x
Check of the thread of the connector with plug gage							x

Legend:

(1) Even in absence of use, unless it has been stored in airtight package.

(2) Only if exposed to heat sources.

(3) This test involves checking that there are no noticeable leakages in the mask after donning it.

7.2 CLEANING

The mask must be cleaned every time it is used. Lack of cleaning, besides hygienic problems, can also jeopardize the correct functioning of the device. Washing can be performed in a traditional way by dipping in water, or by ultrasonic washing. In both cases, depending on the need to perform a deep cleaning of the mask due to its conditions, it can be disassembled, and all the components can be cleaned separately. Using different equipment can damage the correct functioning of the masks. Traditional washing can be performed with tepid water and a mild detergent 5% dilution in water. In any case, never use solvents!

After cleaning it thoroughly, rinse under running water and hang up to dry in open air, avoid in any case exposure to direct solar radiation, or in special cupboards. During drying pay attention not to expose the mask to direct contact with hot parts or with hot air (warmer than 45°C) or to direct solar radiation in order to avoid damages to rubber parts. Check that after cleaning operations no traces of detergent are left otherwise repeat rinsing and drying. If the mask has been disassembled for washing, a negative pressure test with test equipment must be performed. If the mask has been exposed to chemicals particularly toxic, biological, or radioactive agents, maintenance must be performed by specialized personnel.

7.3 DISINFECTION

Mask disinfection is necessary when it is worn by different users to prevent hygienic or sanitary problems. Disinfection can be performed in a container after cleaning. Keep in mind that detergent and disinfecting agent neutralize each other when used at the same time, therefore baths must be kept separate washing carefully the container among the two. Disinfection can be performed with detergent supplied by D.P.I. s.r.l. 5% diluted in water. At the end rinse in running water and dry with the same precautions as of paragraph 7.2.

WARNING

FOR CLEANING AND DISINFECTION, DON'T USE SOLVENTS (LIKE ACETONE AND ALCOHOL) OR ABRASIVE SUBSTANCES. FOLLOW ONLY THE PROCEDURE DESCRIBED IN THE TWO PREVIOUS POINTS AND USE ONLY THE INDICATED DETERGENT AND DISINFECTANTS. DETERGENTS, DOSAGES, AND EXPOSURE TIMES OTHER THAN THOSE INDICATED, COULD DAMAGE THE MASK. THE DETERGENTS NOT DILUTED CAN CAUSE DAMAGES TO THE USER'S HEALTH. THEN USE WITH CARE WEARING GLASSES AND GLOVES.

8 NEGATIVE PRESSURE TEST WITH TEST EQUIPMENT

In the event the mask has been disassembled to be cleaned or to have some component parts replaced, a tightness test must be carried out. Before carrying out the tightness test, make a visual check. Check valves, housing, and rubber gasket, to make sure they are clean. Defective parts must be replaced. Mask which failed the tightness test cannot be used.

8.1 NEGATIVE PRESSURE TEST OF MASK AND EXHALATION VALVES

The mask and exhalation valves pass the tightness test when, with the exhalation valve previously damped, after a 10 mbar (1000 Pa) negative pressure is created inside the mask, the pressure change is not more than 1 mbar (100 Pa) per minute. If the test is positive, remove the mask from the dummy head and dry it if necessary. The mask can be used only after passing the tightness test.

9 TRANSPORT, STORAGE, AND DISPOSAL

The masks must be stored in place at a temperature not higher than 50°C, protected from cold and humidity, the rays of sun, intense heat, corrosive substances which can damage its rubber, shocks, risk of falling, dust, and dirt. The thermoplastic parts must not be submitted to prolonged tensions and pressures to avoid distortion. The masks must be stored in their cases or in special cupboards.

The CM-I01 mask is considered a special waste and falls into code CER150203 and must be disposed of appropriately, considering that their main component materials are:

— Rubber and silicon
— Plastics
— metal (low quantity)

Precautions in compliance with the provisions of the law must be adopted according to their possible level of contamination, based on their conditions of use, at the time of disposal as in this case they fall within the CER150202 code.

For transport, use the original packaging.

10 SPECIFIC MAINTENANCE INSTRUCTIONS AND REPLACEMENT OF SPARE PARTS

When the mask is disassembled to be cleaned and disinfected, it must be reassembled following the same procedure of spare parts replacement unless differently indicated. Make sure that all component parts are correctly assembled, paying attention to not damage all component parts during these operations.

10.1 REPLACEMENT OF INNER MASK (FIGURE 3)

Remove the inner mask from the threaded connector. Take the new inner mask and insert it into the groove of the threaded connector. Centered it with the alignment between marks in the upper part of the inner mask and the pin of the threaded connector.

10.2 REPLACEMENT OF THREADED CONNECTOR (FIGURE 4)

Remove the half mask from threaded connector body as described in paragraph 10.1. Remove the grid by moving the tooth top through the insertion of a tool (e.g., a screwdriver of maximum width 4mm and maximum thickness 1mm or equivalent) in the slot of the grid positioned just above the threaded connector and moving the tool downwards so that the end inside the grid goes upwards disengaging the looking tooth; then release from the threaded connector body the grid by releasing the tooth lock. Remove the threaded connector body turning its counterclockwise. Replace OR57X2 on the threaded connector body. Insert the new threaded connector body and turn it clockwise. Replace the half mask as described in paragraph 10.1. Finally apply the grid until you hear the other click of the two teeth.

10.3 REPLACEMENT OF VISOR (FIGURE 5)

Loosen the screw on the bottom side of the frame. Remove the frame, then remove the facepiece. Remove the threaded connector body and the inner mask as described in paragraph 10.1 and 10.2. Replace the facepiece on the visor. For correct positioning, use the line on the top and on the bottom side of the facepiece and the visor. Put on the frame in place all around the facepiece: first, the “T” at the top must be placed, secondly put in place the bottom of the frame and complete the assembly pulling lateral tie rods. Finally tighten the screw. Replace the threaded connector body and the half mask as described in paragraph 10.1 and 10.2. Apply the grid until you hear the two teeth click.

10.4 REPLACEMENT OF EXHALATION VALVE (FIGURE 6)

Remove the half mask from the threaded connector body. Remove the exhalation valve seat from the threaded connector body by moving the tooth at the top through the insertion of a tool (e.g., a screwdriver) in the slot of the exhalation valve seat positioned just above the exhalation valve and turning the tool clockwise disengaging the locking tooth; then release it from the threaded connector body. Grasp the exhalation valve and pull outward to release it and then remove it. Insert the stem mounting the new valve in the center hole of the exhalation valve seat and pull it from the outside until it clicks. Push the exhalation valve seat on the threaded connector body until it stops and then turn it counterclockwise until you hear the click. Replace the half mask as described in paragraphs 10.1.

10.5 REPLACEMENT CM-101 INHALATION VALVE (FIGURE 7)

Remove the half mask and the threaded connector body as described in paragraphs 10.1 and 10.2. Remove the inhalation valve seat from the threaded connector body pushing the lateral locks through a tool until they click. Replace the inhalation valve by matching the two holes of inhalation valve with the two pins of inhalation valve seat. Replace it in the threaded connector body by sliding the lateral pins until the double click. Replace the half mask and the threaded connector body as described in paragraphs 10.1 and 10.2.

11 11 REFERENCE NUMBERS FOR ORDERS, SPARE PARTS, ACCESSORIES FIGURE, FIGURES

FIGURE 1

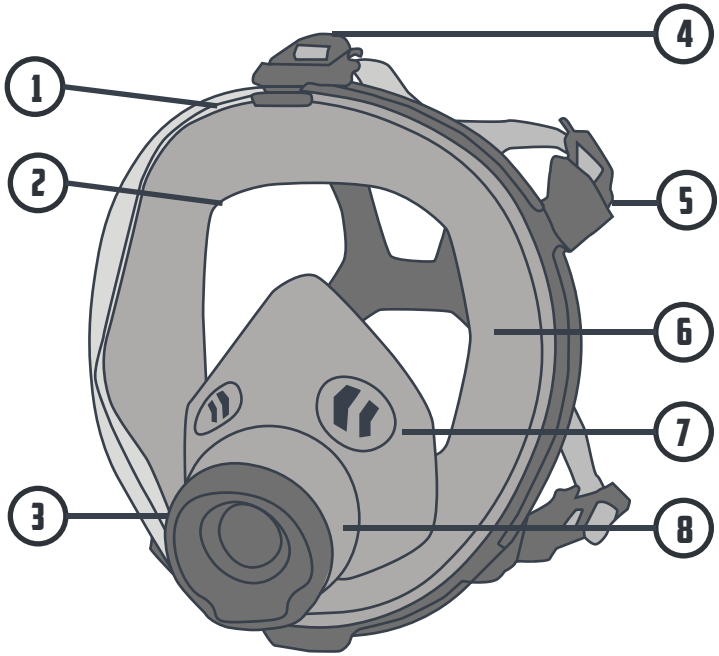


FIGURE 1 MASK CM-101

	MASK CM-101
1	Visorframe
2	Visor Viewer
3	Grill
4	Head Harness Buckle
5	Head Harness Buckle Seat
6	Face Piece
7	Inner Mask
8	Threaded Connector Body

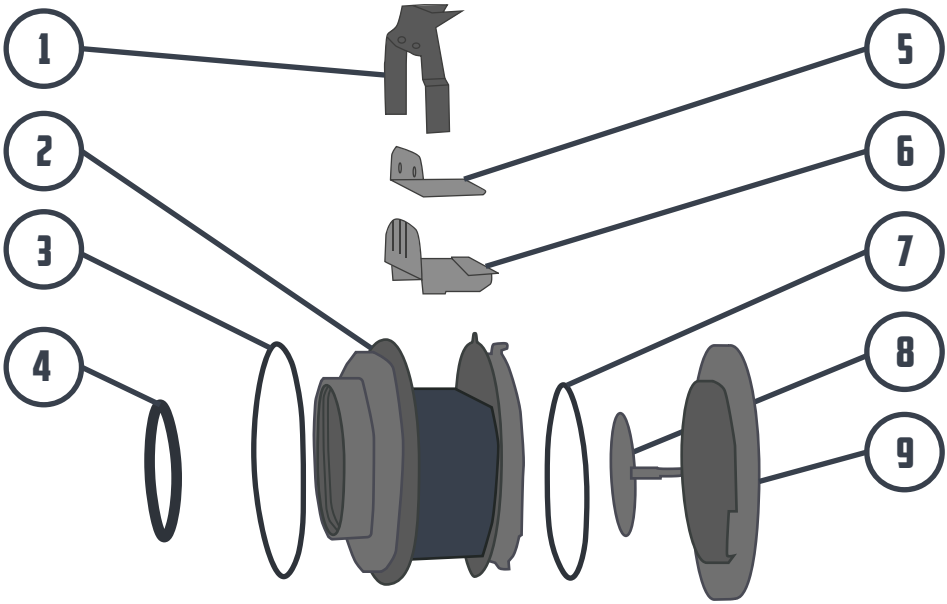


FIGURE 2 ASSEMBLY NOZZLE CM-101

MIRA Safety CM-I01

ASSEMBLY

1	Inhalation Valve
2	Nozzle body
3	Or2200
4	Threaded Connector Body Gasket
5	Inhalation valve
6	Inhalation Valve Base
7	Or 57x2
8	Exhalation Valve
9	Exhalation Valve Seat



FIGURE 3 INNER MASK

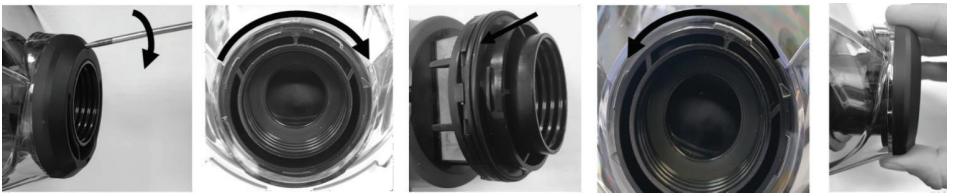


FIGURE 4 THREADED CONNECTOR BODY

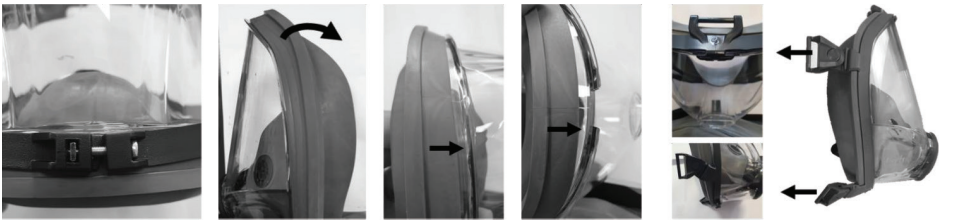


FIGURE 5 VIEWER, VISOR

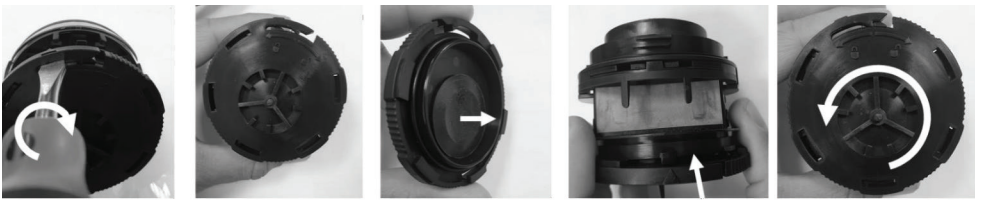


FIGURE 6 EXHALATION VALVE, EXPIRATION VALVE

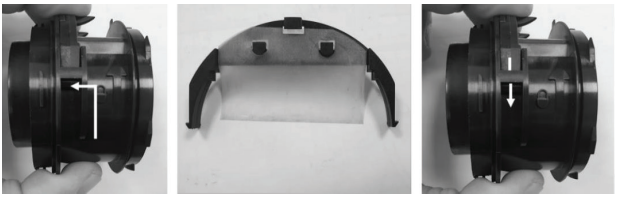


FIGURE 7 INHALATION VALVE CM-101, INHALATION VALVE

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