

INSTRUCTION MANUAL

Doc. no MN4003E Rev. A - Mar 2012

Nova Blast Helmet

IMPORTANT WARNING FOR SAFER BLAST CLEANING

1. Use protective equipment: Abrasive-resistant clothing, safety shoes, leather gloves, ear protection, CE-approved air-fed helmet. Air for helmet must be supplied by a breathing air compressor or through a helmet air filter.
2. Check for possible silicosis hazards. Avoid dust.
3. Do not blast with damaged or worn equipment.
4. Point nozzle only at area being cleaned.
5. Use only proper dry and well-screened abrasives specifically intended blasting.
6. Keep unprotected workers out of the blast area.
7. Before blasting:
 - Check fittings and hose for wear.
 - Safety-wire couplings together.
 - Check helmet filters and air supply.
 - Check pop-up valve for alignment.
 - Test remote controls.
 - Make sure blast machine is adequately grounded.
8. Do not weld on blast machine, this voids approval.
9. Do not substitute Airblast parts or modified equipment in any way.



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CE
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INTRODUCTION

The NOVA COMPRESSED AIRLINE BREATHING HELMET EN271 is specifically designed for use during Abrasive Blasting.

The NOVA has been designed for use in atmospheres NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH, and from which a user can escape without the aid of the breathing helmet, or that do not exceed concentrations allowed by Government regulations and recommendations.

The NOVA is tested and approved to EN 271:1995 and AS/NZS 1716:2003 to provide respiratory protection in abrasive blasting applications and is CE approved.

The cape is designed to protect the wearer's upper body from rebounding abrasive.

The NOVA provides an assigned Protection Factor at APF 1000.

Due to the high noise levels during abrasive blasting hearing protection must always be worn.

COMPONENT CONCEPT

The NOVA COMPRESSED AIRLINE BREATHING HELMET consists of two main components: HELMET ASSEMBLY and BREATHING TUBE ASSEMBLY illustrated in Fig. 1.1. All two components must be present and properly assembled to constitute a complete EN271 approved Compressed Airline Breathing Helmet.

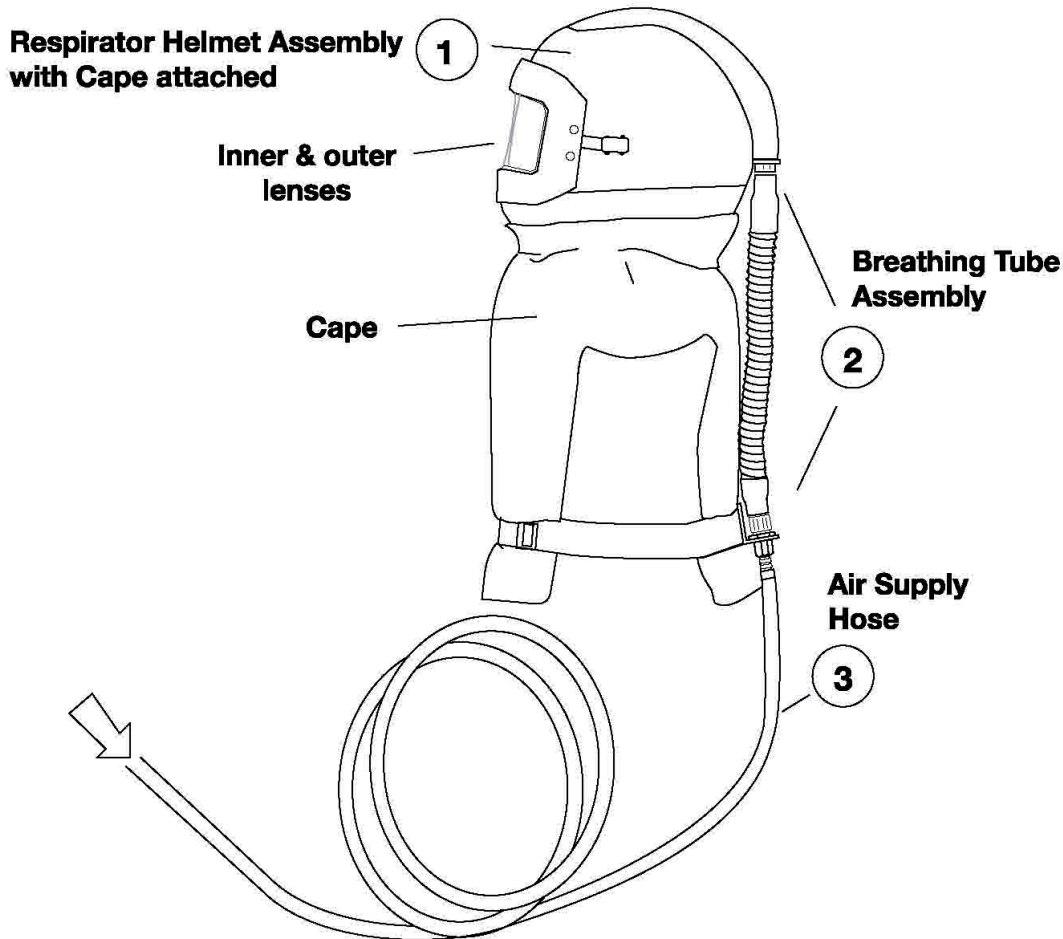


Fig. 1.1

! WARNING !

FAILURE TO USE APPROVED NOVA PARTS
and components voids the approval of the entire helmet assembly.

! WARNING !

Do not use this helmet until you have been trained in the helmet use, maintenance and limitations by a qualified individual (appointed by your employer) who has extensive knowledge of the NOVA.

Before using this helmet ensure your employer has determined that airborne contaminant concentrations do not exceed those allowed by Government regulations and recommendations for a compressed air line breathing helmet. It is required that the employer measures and monitors airborne contaminant levels in the work area. The NOVA is not designed for use in flammable atmospheres.

DO NOT WEAR this helmet if any of the following conditions exist:

- Atmosphere is immediately dangerous to your life or health
- You CAN NOT escape without the aid of the helmet
- Atmosphere contains less than 19.5% oxygen
- Work area is poorly ventilated
- Contaminants are in excess of regulations or recommendations
- Radiation exists in the work area, or materials are Radioactive

Do not modify or alter this helmet. Use only approved NOVA components and replacement parts. The use of non approved parts voids the EN 271 approval of the entire helmet assembly.

Inspect all components of the helmet daily for signs of damage or wear and tear that may reduce the level of protection originally provided.

Do not use abrasives containing silica, lead, arsenic or sharp glass particles - use of abrasives containing these elements could result in serious injury or death.

DO NOT wear this helmet until you have passed a complete physical examination including a lung X-ray conducted by qualified medical personnel.

Improper use of this helmet may cause injury or death. Improper use may also cause life threatening delayed lung diseases such as silicosis, pneumoconiosis or asbestosis.

This helmet, when properly fitted and used, significantly reduces but does not completely eliminate the breathing of contaminants by the helmet wearer.

BE CERTAIN your employer has determined that the breathing air source provides at least EN 12021 breathable air. The helmet must be supplied with clean filtered breathing air at all times.

DO NOT connect the helmet's air supply hose to nitrogen, toxic gases, inert gases, oxygen, oxygen enriched or other unbreathable non EN 12021 air sources. Check the air source before using the helmet. This helmet is not designed for use with mobile air supply systems i.e. cylinders. Failure to connect the supply hose to the proper air source could result in serious injury or death.

DO NOT use this helmet in poorly ventilated areas or confined spaces.

Ensure the area is well ventilated and that the contaminant concentrations are below these recommended for this helmet. Follow all procedures for confined space entry, operation and exit as defined in applicable regulations and standards.

LEAVE WORK AREA IMMEDIATELY IF:

- Any helmet components become damaged
- Airflow stops or slows down (as shown in Fig. 2.1 and 2.2 on page 4) breathing becomes difficult
- You become dizzy, nauseous, too hot, too cold or ill
- Vision is impaired

DO NOT wear this helmet if the ambient usage temperature is below -10°C or above +60°C. Moisture content of breathable air should be controlled when the helmet is to be used in temperatures below 4°C to avoid freezing the helmet.

OPERATION

Air quality

This helmet must be supplied with clean breathable air, to EN 12021 or better, at all times. The NOVA does not purify air or filter contaminants. Breathable air must be supplied to the point of attachment of the approved Airblast air supply hose.

Supplied breathing air must at least meet the requirements for EN 12021.

Air source

Locate the air source in a clean air environment, always use a filter on the inlet of your air source. Do not park vehicles beside your air inlet as this will cause carbon monoxide to be drawn into your air supply.

Use suitable aftercoolers / dryers with filters and carbon monoxide alarms to assure clean breathable air is supplied at all times.

The air should be regularly sampled to ensure that it meets EN 12021 requirements.

Air supply hose and fittings

Approved air supply hoses must be used between the point of attachment and the helmet breathing air connection at the wearer's belt. Quick disconnect fittings must be used to connect the hose lengths together. The hose sections must be within the approved length and the amount of sections must be within the number specified in the breathing air pressure table (see below). The breathing air supply hose has a working pressure of 7 bar.

Breathing air pressure

The air pressure must be continually monitored at the point of attachment while the air is flowing to the helmet. Air pressure must be read from a reliable pressure gauge whilst the helmet has air flowing through it.

! WARNING ! Failure to supply the helmet with the minimum required pressure at the point of attachment for the length of air supply hose used could result in contaminants, being inhaled as the pressure in the helmet may become negative due to peak inhalation flow when working at very high work rates.

Breathing air pressure table

This table lists air pressure ranges needed to provide the ASTRO with the volume of air that falls within the required range of 170-250 ltr/min according to the EN 271 approval.

Table 1.1

1. Air Source	2. Breathing Tube Assembly	3. Air Supply Hose	4. Supply Hose Length (mtr.)	5. Max. Number of Sections	6. Pressure Range (bar)
Portable or Stationary Compressor	Flow Control Valve	2527000	10	1	1.50
			20	1	1.55
			30	2	1.75
			40	2	1.90
			50	3	2.00
			60	3	2.10

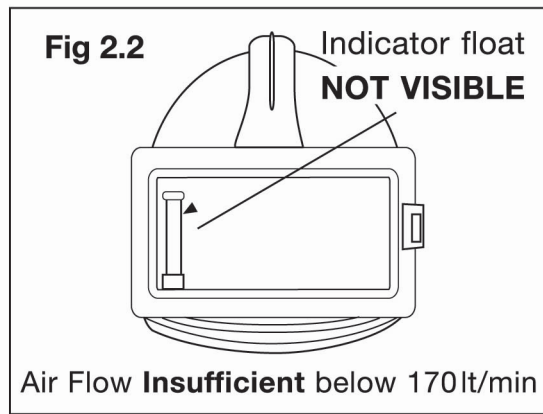
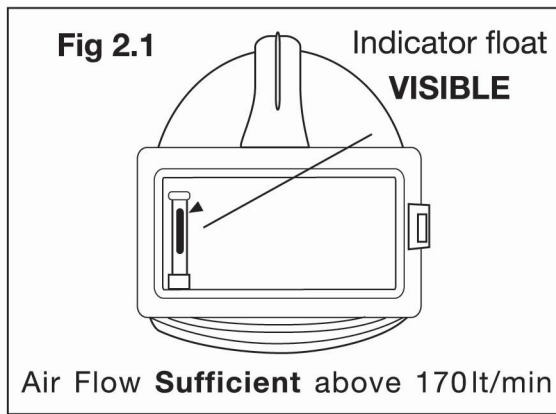
Set the air pressure at the point of attachment to the pressure setting specified in column 6 for your breathing tube assembly, hose length and amount of hose sections. Make sure the air is flowing through your helmet and the flow control valve is in the MIN (closed) position when setting the pressure. Fig. 3.2 on page 4.

! WARNING !

DO NOT SET THE AIR PRESSURE WITH THE FLOW CONTROL VALVE IN THE MAX. POSITION (OPEN), AS THIS INCREASES NOISE LEVELS.

ALWAYS WEAR EARPLUGS WHEN WEARING THIS HELMET.

LOW FLOW INDICATOR



! WARNING !

Do not wear the helmet if the indicator float is not visible as airflow is below 170 ltrs./min. (Fig. 2.2).

AIR FLOW CONTROL VALVE

Air flowing into the helmet is controlled by using the Flow Control Valve as shown below.

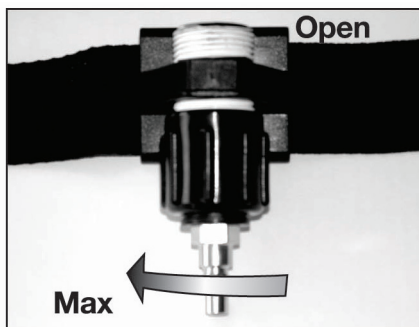


Fig. 3.1

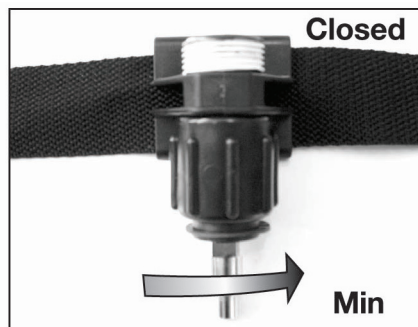


Fig. 3.2

LENSES

Always make sure that an approved NOVA inner lens is securely fitted into the window frame gasket. Fit an outer lens onto the tabs on the visor, fold the visor onto the helmet and secure it with the latch, making sure there are no gaps between the visor and the window frame gasket. Optional tear-off lenses can also be used with the outer lens. It is recommended to use 2-3 tear-off lenses and an outer lens for extra protection.

! WARNING !

Do not use the helmet without an inner lens in place.

SETTING UP

1. First screw the breathing hose onto the helmet.
2. Screw the loose running nut onto the flow control valve.
3. Take the quick disconnect fitting on the air supply hose and push onto the tail of the flow control valve.
4. Connect the Air Supply Hose Tail to the Airblast helmet air filter supplying EN 12021 grade air.

HELMET LININGS

The helmet lining consist of 3 main parts:

1. The Sidewings (2 parts, one left, one right)
2. The Head dome

The lining is supplied as a set available in sizes small, medium and large. Standard medium is fitted.

PUTTING THE HELMET ON

Hold the helmet in front of you, holding the inner bib collar open. Lift the helmet and place it on your head making sure the head harness fits securely.



FITTING THE CAPE AND BELT

1. Once the helmet is fitted comfortably on your head, straighten the cape down at the front and the back.
2. Place the flow control valve in the desired position and wrap the the belt around you.
3. Now bring both buckles together at the front and push them until you hear a click. Pull the tab to tension the belt to your requirements.

ADJUSTING THE AIRFLOW

Now the helmet is fully fitted and the belt tightened, adjust the airflow into the helmet with the Flow Control Valve adjustment barrel (see Fig 3.1 on page 4).

Again check the air pressure at the source to make sure it is still in accordance with Table 1.1 on page 3.

INSPECTION, CLEANING AND STORAGE

The NOVA Blast Helmet has a limited service life, therefore a regular inspection and replacement programme must be conducted. Certain parts such as ranges must be replaced frequently. All components of this helmet assembly should be inspected for damage or wear and tear before use. Replace worn or damaged parts immediately. **USE ONLY APPROVED NOVA PARTS.** Refer to the parts list for the correct part numbers.

! WARNING !

DO NOT CLEAN HELMET WITH VOLATILE CHEMICALS.

REMOVING THE CAPE

First remove the cape cover band to reveal the four press studs. The cape can then easily be removed by undoing the four press studs.

INSPECTING THE HELMET

Having removed the cape, wipe out the inside of the helmet with a soft cloth and mild detergent. Check the inside for cracks in the shell.

INNER LENS AND GASKET

Make sure the window frame gasket is securely fitted into the helmet with no cracks or tears in the seal. Check that the inner lens is correctly fitted into the gasket. When necessary replace lenses.

BREATHING TUBE ASSEMBLY:

Inspect the breathing tube for cracks, tears or excessive wear. Check that the fittings are secured into the cuffs tightly, not allowing any air leaks.

Replace the hose as soon as any signs of damage or excessive wear become evident. Do not remove the foam that is inside the breathing tube as this is a critical component.

! WARNING !

Air leaks will cause a drop in air flow through the helmet resulting in less protection from contaminants.

AIRBLAST AIR SUPPLY HOSE

The air supply hoses should be inspected for:

1. Cuts or tears
2. Cracks or signs of perishing
3. Blisters or weak points
4. Abrasive wear
5. Ferrules firmly crimped in place
6. Quick disconnect couplers do not move in the hose or are not worn, remove any dirt inside couplings with a duster gun.

USE ONLY HOSES APPROVED FOR USE WITH THIS HELMET.

STORAGE

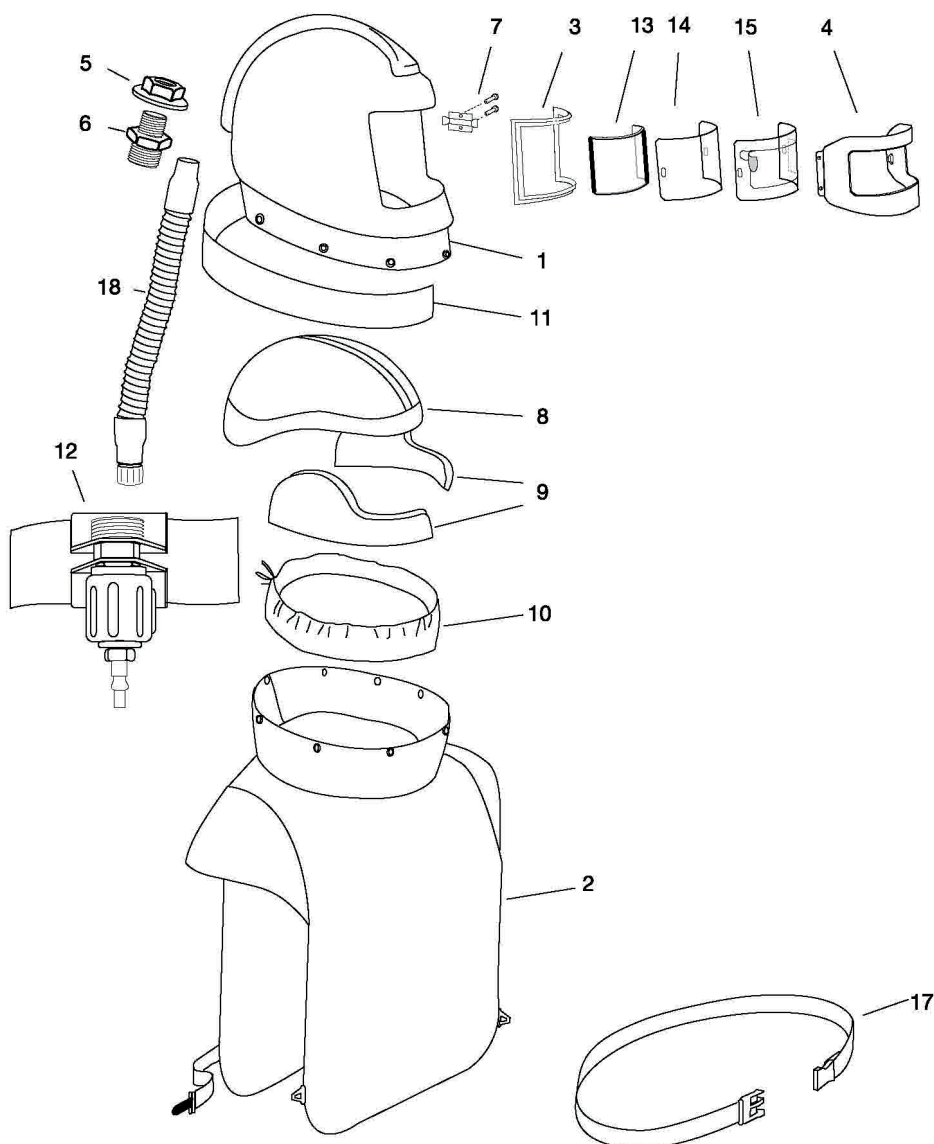
After the helmet components have been cleaned and inspected, place them in a plastic bag or an airtight container. Store all parts away from excessive heat, dust, cold, moisture or harmful chemicals. After use hang the helmet up by the hand strap, this will help keep the inside of the helmet free of contaminants.

NOVA BLAST HELMET

ITEM	PART NR	DESCRIPTION
01.	4700000	Nova Air Supplied Blast Helmet, complete

SPARE PARTS

ITEM	PART NR	DESCRIPTION
01.	4700100	Helmet shell
02.	4700500	Nylon cape c/w inner bib
03.	4702400	Window frame gasket
04.	4702500	Visor with hinge and screws
05/06.	4702700	Air inlet assy
07.	4702800	Visor latch and screws
08.	4701100	Polystyrene helmet liner
09.	4701700	Sidewings (medium)
10.	4701000	Inner bib
11.	4705100	Cape cover band
12.	4601600	Flow control valve and belt
13.	4703600	Inner lens (pack of 10)
14.	4703800	Outer lens (pack of 50)
15.	4703700	Tear-off lens (pack of 50)
17.	4601700	Belt with buckles
18.	4601400	Breathing air tube



NOTES

NOTES

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