MAXAIR® CAPR® HELMETS
Instructions For Use

REF 2081-03

P/N 03531001, 03531021, 01031269, 2590-05

REF 2084-03

P/N 03531001, 03531021, 01031269, 2590-05

REF 2083-03

P/N 03531001, 03531148, 01031269, 2590-05

Symbol Definitions

Warning, Caution, or Note

REF Catalog Number

P/N NIOSH Number

WARNING

Read and understand the User's Instructions Manual (UIM, P/N 03521015. Failure to follow the User's Instructions Manual may be hazardous to the user's health.

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call MAXAIR Systems customer service at 1-800-443-3842.

Intended Use

MAXAIR CAPR Helmets provide the primary re-usable component of all CAPR System Configurations.

Each Helmet provides the structure for attaching the different MAXAIR face and head covers.

Each Helmet consists of a Motor, Blower (Fan), micro-computer motor-airflow Controller, Headband-Liner, Helmet-Battery Power Cord, and a SnapOn-SnapOff Cage for motor-blower protection during shipping and for Hood Outfits.

The 2081-03 Helmet includes a standard pad Headband-Liner.

The 2084-03 is the same as the 2081-03 with special mounting adapters.

The 2083-03 Helmet includes a large pad Headband-Liner, and is the CAPR Helmet exclusively used for Hard Hat configurations.

Specifications

Listings are approximate and may vary between units due to tolerances and fluctuations.

PROPERTY	SPECIFICATIONS
Complete Device Classification	PAPR, Loose Fitting
89/686/EEC Complete Device Category	III
93/42/EEC Complete Device Class	I
EMC Classification (IEC 60601-1-2: 2007; EN 60601-1-2:2007)	Class B for Emissions; Immunity for Not Life-Supporting Equipment
Recommended System Temperatue Limits: Storage Use/Handling Charging	 -20 to 40°C, 80% max Rel. Humidity 0°C to 54°C, 80% max Rel. Humidity 0°C to 45°C, 80% max. Rel. Humidity
Effective vs natuaral field of vision	97%
Overlapped vs natual Field of vision	99%
Maximum Inward Leakage	2% @ Minimum Airflow 175 LPM
Fit Factor	Minimum 500
Maximum allowable Percent Leakage: Dioctyle-Phthalate Test	0.03% @ 107 LPM
Minimum allowable NaCl efficiency	99.97% @ 125 lpm
Maximum Breathing Resistance	5 mbar
Minimum Airflow	170 LPM
Battery	Lithium-Ion
Noise Level	75 dBA limit (typically ≤ 62)
Total Mass/ Total Mass on Head	1.25 kg/ 0.75Kg

Materials

The primary component makeup of CAPR Helmets consists of -

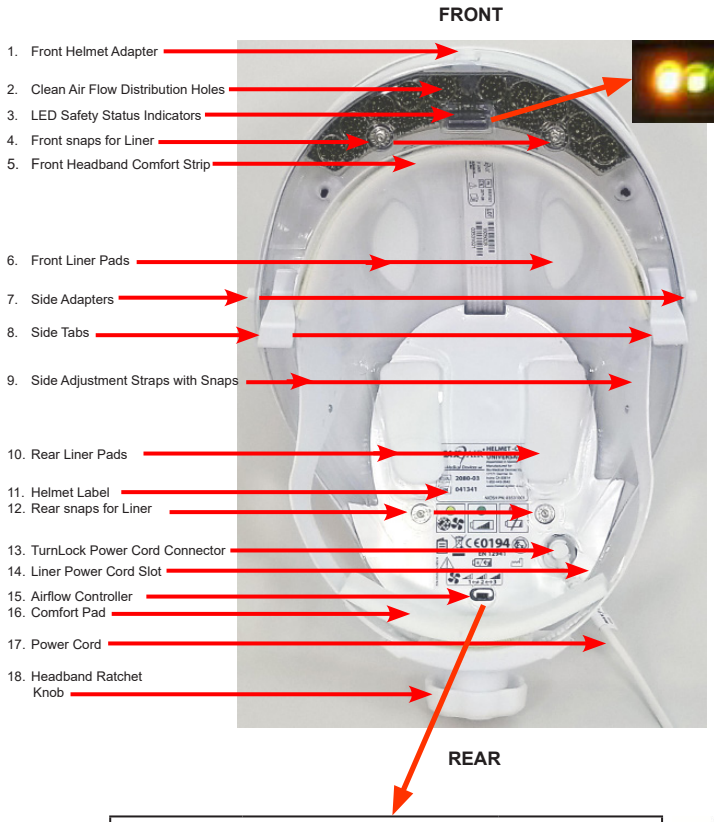
polycarbonate	nylon	polyurethane
polyester	polyethelene	PVC
Nickle	Nickle plated Brass	Nickle/Iron alloy

Lead-free electronic components

Regulatory

NIOSH

Common Helmet and Headband-Liner Characteristics



Air Flow Switch Position		
Low	Med	High
Air Flow in Liters Per Minute		
190	215	240

LED SAFETY STATUS INDICATORS

- Five LED Safety Status IndicatorVs located at Helmet underside front are always visible in the user's peripheral vision to alert the user of safe air-flow and battery charge remaining operating conditions. They provide early warning to the user when the Helmet is no longer able to maintain adequate airflow and/or Battery charge to provide adequate or continuing protection for the user.
- There is one yellow, three green, and one red LED. On start-up, all LED's come on briefly (LED test) before proceeding to normal operation. During normal operation, the LEDs continuously indicate the status of the Airflow and Battery charge level.
- Airflow is proper if the Yellow LED is off. A continuously lit or flickering Yellow LED indicates low or marginal airflow. If the Yellow LED is lit, check the Filter Cartridge for excess particulate/dirt build-up and damage, and replace if necessary.
- The Battery charge level is indicated by the three Green and one Red LEDs. The approximate charge level is continuously indicated by the changing LEDs.

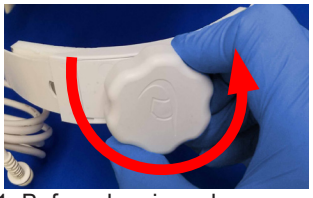
STATE	DESCRIPTION	YELLOW	GREEN 3	GREEN 2	GREEN 1	RED
1	Charge OK, 75% to 100%; Airflow OK		✓	✓	✓	
2	Charge OK, 50% to 75%; Airflow OK			✓	✓	
3	Charge OK, 25% to 50%; Airflow OK				✓	
4	Charge LOW, 0% to 25%; Airflow OK					✓
5	Airflow LOW; Charge LOW	✓				✓
6	Airflow LOW; Charge OK, 75% to 100%	✓	✓	✓	✓	
7	Airflow LOW; Charge OK,50% to 75%	✓		✓	✓	
8	Airflow LOW; Charge OK, 0% to 50%	✓			✓	

NOTE
The flow levels, in liters per minute, are only approximate.

Assemble and Disassemble

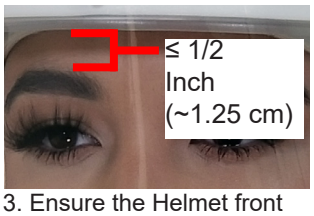
No assembly/disassembly is required for MAXAIR Helmets. Assembly/disassembly of items for use with MAXAIR Helmets is covered in those items' User instructions.

Don



1. Before donning, always loosen the ratchet knob counterclockwise for ease in placing over the head.

2. Place the Helmet down on the head and tighten the ratchet knob clockwise as tight as comfortable to secure it for all activities.



3. Ensure the Helmet front Headband bottom is about 1/2 inch above the eyebrows so that the Safety LEDs are always clearly visible.

Doff

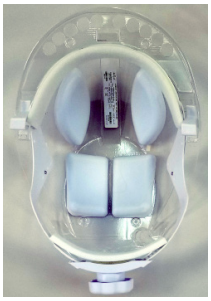
3. To doff a MAXAIR Helmet reverse steps 1-2 in the Don procedure.

NOTE
Donning and Doffing the Helmet with attached items including options and Face/Head/Body covers are covered in those items' User Instructions.

LINERS

2081-03, 2084-03

2083-03



LENS MOUNT ADAPTERS, FRONT AND SIDES

2081-03, 2083-03

Front

Sides

2084-03

Front

Sides

NOTE

Refer to the Helmet Liner User Instructions for Dis-assembly and Assembly of the Liner from/to the Helmet.

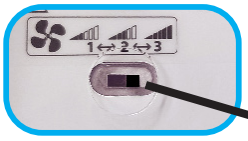
Air Flow

- Air Diffusers Assist in Low Noise Oprearion, ≤ 62dB
- Evenly dispersed air for Comfort and Anti-Lens-Fogging

Front Comfort Strip (Disposable)

User Selectable Air Flow Level

- Set Air-Flow Range to meet activity, comfort level
- Computer controlled constancy

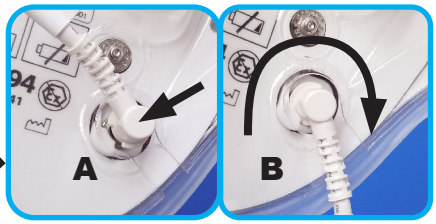


Rear Comfort Pad (Cleanable)

Easy grasp-and-turn Ratchet Knob to adjust head circumference and secure helmet-to-head

Turnlock Safety Power Cord Connector

- Provides safe connection
- Easy connect/disconnect
- Allows Helmet to be removed if in standby



Assemble Power Cord to Helmet

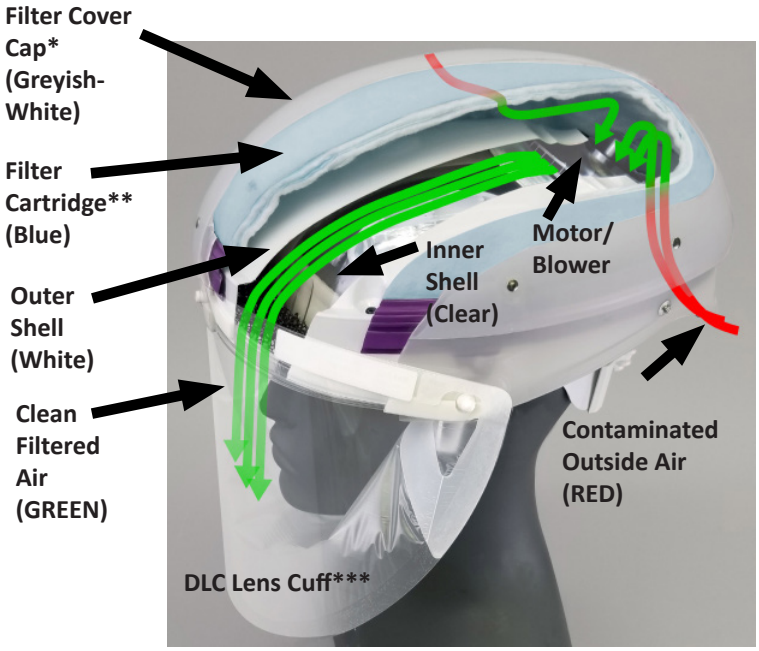
Match the cord connector notch to the extended portion of the helmet turn lock connector (A). When aligned, simply push the cord connector fully into the helmet connector (A). Then, turn the cord connector approximately one hundred eighty degrees (B), so the cord is exiting out from under and backward of the helmet.

Dis-Assemble Power Cord from Helmet

Turn the power cord connector so the cord is pointing in the eleven o'clock position (A). The cord connector notch should be realigned with the extended portion of the helmet turn lock connector. When aligned, simply pull the cord connector straight up and out of the helmet turn lock connector.

Key Operational Features

Air Flow Pathway - 2081-03, 2083-03 Cuff and Shroud Configurations



* For Hard Hat configurations, the Hard Hat would replace the Filter Cover Cap as shown.

** For Hood configurations, the Hood Filter, the HLF (Heavy Loading Filter), and optionally the HFR-FCC (High Fluid Resistance Filter Cover Cap) would replace the Filter Cover Cap and Filter Cartridge as shown.

*** The DLC Lens Cuff is integral to Shroud and Single Hood configurations; the Cuff is not used in Double Hood Confgurations.

Air Flow Pathway - 2084-03 with PR Hood