



# OptimAir® 6A PAPR with OptiFilter® Cartridges

## Features

- Can be used with an entire family of filters and combination cartridges for protection against particulates, toxic gases and vapors
- Belt-mounted motor/blower delivers high air flows
- Available with full- or half-mask facepieces, or hood
- Facepieces and high-efficiency particulate air (HEPA) filters are interchangeable with many other MSA respirators
- Requires only two filters
- Rechargeable, nickel-cadmium battery pack is sealed and water-resistant for ease of decontamination

## Description

The OptimAir 6A Powered Air-Purifying Respirator (PAPR) provides respiratory protection by filtering contaminants from ambient air and providing air flow to either a facepiece or hood (with HEPA filters only) at a rate equal to or exceeding standards set by the National Institute for Occupational Safety and Health (NIOSH).

To provide a broad range of applications, the OptimAir 6A PAPR is compatible with MSA's line of OptiFilter Cartridges, which includes HEPA filters and combination cartridges. Depending on respiratory protection needs, the PAPR can be equipped with a wide variety of different car-

tridges to provide protection against particulates, toxic gases and vapors, or a combination of these hazards. Recommended uses include hazardous materials clean-up, asbestos and lead paint abatement, chemical processing, foundry, smelter and coke oven applications, and nuclear facilities work.

In operation, a battery-powered motor/blower pulls air through two cartridges and delivers a continuous flow of purified air to the wearer. The OptimAir 6A PAPR is designed to provide air flow in excess of the NIOSH required minimum flow rate. Air pressure in the facepiece or hood is higher than the surrounding atmosphere, so that in the event of a small leak in the facepiece/hood seal, air will flow from inside the facepiece or hood to the outside. This positive facepiece pressure is maintained, even under high work rates. The constant flow of air also provides a cooling effect to the wearer's face.



For improved worker efficiency, the OptimAir 6A PAPR (when equipped with a tight-fitting facepiece) permits fast battery changeovers, even in contaminated atmospheres. To change batteries, the user simply removes the old pack and replaces it with a fully charged one. During changeovers, the respirator functions as a negative-pressure device, thereby providing continuous protection.

Major components of the OptimAir 6A PAPR include:

**Motor/Blower Assembly:**

The belt-mounted motor/blower assembly includes a highly efficient 4.6-volt motor, which has a long service life. The motor/blower assembly features threaded connectors for quick and easy attachment of OptiFilter Cartridges.

**Battery Pack:**

The sealed battery pack that powers the motor/blower has four F-sized 1.2-volt rechargeable NiCad batteries, a circuit breaker (no fuses to replace), resistor, recessed transmission terminals for added protection and a water-resistant on/off switch. The battery pack is designed to sustain a charge for an entire eight-hour shift under most operating conditions.

Each OptimAir 6A PAPR is supplied with a battery charger that provides a full charge in about 16 hours. As optional equipment, MSA also offers a dual-rate charger that provides faster charging and over-charge protection. See page 6 for ordering information.

**Breathing Tube:**

A 30-inch corrugated breathing tube (or a 19-inch version when used with a hood) connects the motor/blower assembly to the facepiece. A coupling nut allows for easy detachment and cleaning of the tube, while a threaded connector on the motor/blower assembly further simplifies removal and cleaning.

**Waist Belt:**

A polyurethane-coated nylon support belt is the standard belt with the OptimAir 6A PAPR. In addition, MSA offers a clear PVC support belt. Both belts are easy to decontaminate. If decontamination is not a factor, users may opt for an uncoated nylon web belt. Optional shoulder support strap may be used with any of these PAPR belts.

MSA also offers a comfort/support belt for the OptimAir 6A PAPR. This wider belt provides greater comfort by evenly distributing the weight of the motor/blower and battery pack

The Type HE Sparkfoe OptiFilter Cartridges are also HEPA filters. They feature a louvered cover that makes them resistant to sparks or molten metal.

For applications involving toxic gases and vapors, or toxic gases, vapors and particulates, combination cartridges are available. Combination cartridges differ from HEPA filters in that they contain a sorbent material that removes specific gases and vapors from the air. These cartridges simply merge the capabilities of the HEPA filter and chemical cartridge into one unit.

With the OptimAir 6A PAPR, two cartridges are used to maximize filter/sorbent capacity, thus providing longer life in the easy-to-wear package.

**Facepieces/Hoods:**  
To accommodate the wide range of users and respiratory protection needs,

OptimAir 6A PAPRs are available with four types of tight-fitting facepieces or a loose-fitting Tyvek hood. These include:

*Ultravue® Facepiece*—A full facepiece design, the Ultravue Facepiece is available in three sizes and in a choice of silicone and Hycar™ rubber. Ultravue facepieces have a scratch-resistant polycarbonate lens that provides a wide field of vision. Optional lens covers provide even greater scratch resistance (see page 6). For welding applications, an optional welder's adapter integrates with the Ultravue Facepiece for added eye protection.



Particulate, combination, and Sparkfoe® OptiFilter cartridges.

module. The belt is made of nylon and features easily adjustable Velcro closures. Optional belts are listed on page 6.

**OptiFilter Cartridges:**

The OptimAir 6A PAPR is designed for use with a wide range of OptiFilter Cartridges, which include combination cartridges and the OptiFilter XL Cartridge.

The Type HE OptiFilter XL Cartridges are HEPA filters designed for use in atmospheres containing dusts, fumes and mists.

The Ultravue Facepiece features an inhalation check valve and an exhalation valve that work together to help prevent exhaled air from entering the breathing tube and contaminating the motor/blower assembly. The facepiece's speaking diaphragm helps provide intelligible short-range voice communications, while the optional ESP Communications System (see Data Sheet 01-02-21) provides crystal-clear voice amplification.

**Comfo® Facepiece**—A half-mask device, this facepiece can be used whenever eye protection is not required. The mask, available in three sizes and in a choice of silicone or Hycar rubber, features a cradle headband that fits over the crown of the wearer's head. Easy to adjust, the headband helps provide a more secure, comfortable fit.

Attached to the headband is a “floating” aluminum yoke. In addition to being durable, the yoke helps hold the respirator securely with even pressure applied to the respirator's sealing surface, thereby improving the face-to-facepiece seal.

**Welder's Comfo Facepiece**—Offering many of the same features as the Comfo Facepiece, the Welder's Comfo Facepiece allows the PAPR's breathing tube to fit under a welder's helmet and shield. Additionally, it positions the breathing tube over the wearer's back to eliminate the possibility of worker interference. This position also protects the tube from sparks and other flying debris.

**Tyvek Hood**—The Tyvek hood is designed primarily for workers with beards and other physical features that might interfere with the facial seal of a tight-fitting facepiece. It is available in either shoulder- or waist-length versions. Both feature a knit collar for comfort. The hood has a high-performance air distribution system that helps keep the hood lens fog-free. Its disposable outer cover eliminates the inconvenience and expense of cleaning. For added protection, the hood can

accommodate a hardhat whenever head protection is required. When a hardhat is not worn, a Simple Hood Suspension System securely holds the hood.

## ⚠ WARNING

Do not use chemical or combination cartridges with the Tyvek hood version of the OptimAir 6A PAPR. Use only Type HE OptiFilter XL Cartridges or optional Type HE Sparkfoe filters. Use of chemical or combination cartridges will result in inadequate air flow and reduced protection.

## ⚠ WARNING

An appropriate cartridge change-out schedule must be developed by a qualified professional, unless the cartridge/canister utilizes an end-of-service-life indicator. The change-out schedule must take into account all factors that may influence respiratory protection including specific work practices and other conditions unique to the workers' environment. If using against substances having poor warning properties, there is no secondary means of knowing when to replace the cartridges/canister. In such cases, take appropriate additional precautions to prevent overexposure, which may include a more conservative change-out schedule or using an air-supplied respirator or SCBA. Failure to follow this warning can result in serious personal injury or death. As a reference, below is a partial list of substances having poor warning properties:

Acrolein	Hydrogen cyanide	Nitric acid	Phosphorus trichloride
Aniline	Hydrogen selenide	Nitro compounds	Stibine
Arsine	Methanol	Nitrogen oxides	Sulfur chloride
Bromine	Methyl bromide	Nitroglycerin	Urethane or other diisocyanate-containing paints
Carbon monoxide	Methyl chloride	Nitromethane	Vinyl chloride
Diisocyanates	Methylene chloride	Phosgene	
Dimethyl sulfate	Nickel carbonyl	Phosphine	

## Limitations

The OptimAir 6A PAPR is NIOSH-approved for respiratory protection as described in Filter/Cartridge Selection Guide for OptimAir 6A PAPRs (pg. 5).

The OptimAir 6A PAPR does not supply oxygen. Therefore, it must not be used in atmospheres immediately dangerous to life and health, or in atmospheres containing less than 19.5 percent oxygen. The respirator may be used in temperatures between 0° F and 120° F (-17.7° C to 48.8° C); however, if used in temperatures below 40° F (4.4° C), the fully-charged battery will not operate for a full eight hours.

The OptimAir 6A PAPR may be worn under flame-retardant garments, provided that the filter orifices are exposed to the atmosphere and that air flow is not blocked in any way by the garment.

## Approvals and Standards

The OptimAir 6A Powered Air-Purifying Respirator with Ultravue, Comfo, Comfo Elite, or Comfo Welder's Facepieces or Tyvek Hood has approvals from the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA). Filters and cartridges are covered by separate approval. Cartridges must be replaced whenever air flow drops below 4 cubic feet per minute (115 lpm) with tight-fitting facepieces or 6 cubic feet per minute (170 lpm) with the Tyvek hood, or when the user smells or tastes the contaminant.

## Ordering Information



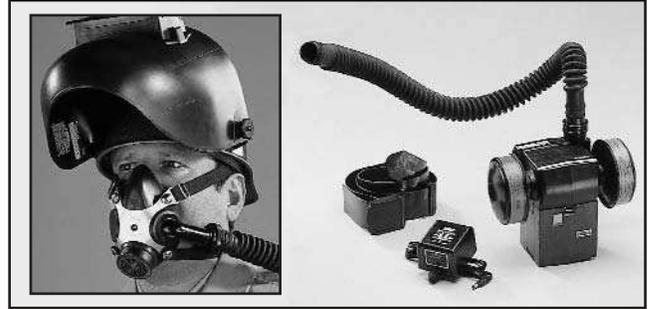
### OptimAir 6A PAPR with Ultravue Facepiece

#### Part No. Description

494236 Complete unit with medium black Hycar Ultravue Facepiece, motor/blower, battery, belt, and battery charger

#### Ultravue Facepieces

Description	Black Hycar		Black Silicone	
	Rubber	Rubber	Rubber	Rubber
Small	471218		480251	
Medium	457126		480247	
Large	471230		480255	



### OptimAir 6A PAPR with Comfo Welder's Facepiece

#### Part No. Description

800767 Complete unit with medium black Hycar Comfo Welder's Half-Mask Facepiece, motor/blower, battery, belt, and battery charger

#### Comfo Welder's Facepieces

Description	Black Hycar		Black Silicone	
	Rubber	Rubber	Rubber	Rubber
Small	484204		484203	
Medium	484198		484197	
Large	484210		484209	



### OptimAir 6A PAPR with Comfo Facepiece

#### Part No. Description

800749 Complete unit with medium black Hycar Comfo Half-Mask Facepiece, motor/blower, battery, belt, and battery charger

#### Comfo Facepieces

Description	Black Hycar		Black Silicone	
	Rubber	Rubber	Rubber	Rubber
Small	480127		480130	
Medium	480122		480125	
Large	480132		480135	



### OptimAir 6A PAPR Kit Less Facepiece

#### Part No. Description

10023039 Includes motor/blower, battery, belt, and battery charger. Order tight-fitting facepiece separately from table below:

#### Facepieces for OptimAir 6A

Description	Black Hycar			Black Silicone		
	Small	Medium	Large	Small	Medium	Large
Ultravue	484204	484203	471230	480251	480247	480255
Comfo	484198	484197	480132	480130	480125	480135
Comfo Welder's	484210	484209	484210	484206	484200	484212
Ultra Elite	493064	493020	493108	493072	493028	493116



## OptimAir 6A PAPR with Tyvek Hood

### Part No. Description

491301 Complete unit with Tyvek Hood, two Type HE OptiFilter XL Cartridges motor/blower, battery, belt, and battery charger

### Tyvek Hoods

#### Part No. Description

486485 Tyvek hood, complete with suspension and exhalation valve

488721 Tyvek Hood Shell, less suspension and exhalation valve

## ⚠ WARNING

Do not use chemical or combination cartridges with the Tyvek hood version of the OptimAir 6A PAPR. Use only Type HE OptiFilter XL Cartridges or optional Type HE Sparkfoe® filters. Use of chemical or combination cartridges will result in inadequate air flow and reduced protection.

## OptiFilter XL/OptiFilter® Cartridges for OptimAir® 6A PAPR

### Ordering Information

MSA Purifying Element	Purifying Protection Code	Color Respiratory Hazards	Part No.	in Box	No. NIOSH Approval	
OptiFilter XL	HE	Particulate filter (99.97% filter efficiency level) effective against all particulate aerosols.	496080	50	TC-21C-512	TC-21C-513
Type HE			496081	6	(Ultravue)	(Comfo Style)
						TC-21C-516
Optional Type HE Sparkfoe	HE		491009	50		
			491010	6		
OptiFilter GMA-HE	OV/HE	Approved for not more than 1,000 ppm organic vapors; particulate filter (99.97% filter efficiency level) effective against all particulate aerosols. <sup>1,2,3,4,5</sup>	800376	6	TC-23C-1263 (Ultravue)	TC-23C-1257 (Comfo Style)
OptiFilter GMC-HE	OV/AG/HE	Approved for not more than 1,000 ppm organic vapors; chloride, chlorine dioxide, hydrogen chloride, sulfur dioxide, and escape only from hydrogen sulfide; particulate filter (99.97% filter efficiency level) effective against all particulate aerosols. <sup>1,2,3,4,5</sup>	494217	6	TC-23C-1056 (Ultravue)	TC-23C-1252 (Comfo Style)
OptiFilter GMD-HE	AM/MA/HE	Approved for ammonia and methylamine; particulate filter (99.97% filter efficiency level) effective against all particulate aerosols. <sup>1,2,4,5</sup>	494219	6	TC-23C-1058 (Ultravue)	TC-23C-1254 (Comfo Style)

### Notes

- Cannot be used w/PreFilter/Cover Assembly P/N 497098.
- Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life or health.
- Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with the sorbent material in the cartridge.
- Cannot be used on PAPRs equipped with Tyvek Hood.
- 99.97 percent efficient against 0.3 micron DOP.

## ⚠ WARNING

THE USER MUST FOLLOW ALL LIMITATIONS SPECIFIED. FAILURE TO DO SO CAN RESULT IN SERIOUS PERSONAL INJURY.

## Replacement Components



## Accessories

### Support Belts for PAPRs

A polyurethane-coated nylon support belt is the standard belt with the OptimAir 6A PAPR. In addition, MSA offers a clear PVC support belt. Both belts are easy to decontaminate. If decontamination is not a factor, users may opt for an uncoated nylon web belt. Optional shoulder support strap may be used with any of these PAPR belts. MSA also offers a comfort/support belt for the OptimAir 6A PAPR. This wider belt provides greater comfort by evenly distributing the weight of the motor/blower and battery pack module. The belt is made of nylon and feature easily adjustable Velcro closures.

Part No.	Description
492827	Polyurethane-coated Nylon Support Belt
473902	PVC Support Belt
9961	Web Support Belt, uncoated
803903	Shoulder Support Strap
10002088	Small PAPR Comfort/Support Belt, 30"-34"
10002089	Medium PAPR Comfort/Support Belt, 34"-38"
10002090	Large PAPR Comfort/Support Belt, 38"-42"
10002091	Extra-Large Comfort/Support Belt, 42"-48"

### Replacement Components (See page 6)

Part No.	Description
486264	Breathing Tube Assembly for Tight-fitting Facepieces, standard size, 30-inch length
492197	Breathing Tube Assembly for Tight-fitting Facepieces, optional size, 36-inch length
491980	Breathing Tube Assembly for Tyvek Hood

### Dual-Rate Battery Chargers

The OptimAir 6A Dual-Rate Battery Chargers charge a battery in less than eight hours. After batteries reach full charge, the chargers automatically switch to a trickle-charge rate to prevent overcharging the battery.

Part No.	Description
486614	Single-Unit Dual-Rate Battery Charger

### Optional Spectacle Kit



For use by workers who must wear corrective lenses, the spectacle kit can be easily inserted into an Ultravue Facepiece. The kit includes a wire support, rubber guide and one pair of metal frame spectacles.

Part No.	Description
454819	Prescription Eyeglass Kit for Ultravue Facepiece (S-7 shape, 44 mm lens)

### Nosecup



Molded from a soft compound that is resistant to facial oils, the optional nosecup helps reduce the possibility of lens fogging. The nosecup is particularly effective under conditions of high humidity and/or low temperatures by inhibiting the contact of moist exhalation with the facepiece lens.

Part No.	Description
813138	Small Nosecup
813139	Medium Nosecup
813140	Large Nosecup

### Shoulder Strap



Spreads the weight of the unit between the waist and the shoulder.

Part No.	Description
803903	Shoulder Strap

### MSA Confidence Plus™ Germicidal Cleaner



Mix with warm water for a germicidal cleaner that is effective against various micro-

organisms including immunodeficiency virus Type 1 (HIV-1) (associated with AIDS). EPA approved for use on safety equipment.

Part No.	Description
10009971	MSA Confidence Plus Germicidal Cleaner in 32 oz. bottle

### PAPR Protective Cover



Protects PAPR from water (such as in asbestos decontamination showers) or particulate contamination.

Part No.	Description
808494	Protective Cover, pkg. of 5

## Accessories

### Flow Check Meter



The MSA Flow Check Meter allows users of MSA PAPRs to quickly and conveniently verify that their unit is providing the required air flow. When the Flow Check Meter is attached to an operating PAPR, the indicator ball is read to verify flow.

Part No.	Description
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487995	Flow Check Meter
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489999	Adapter for Flow Check Meter for use with Tyvek Hood
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### V-Gard Slotted Cap



V-Gard Cap for Tyvek Hood.

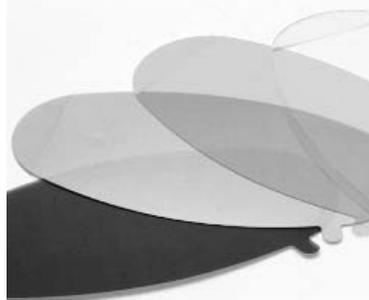
Part No.	Description
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482647	V-Gard Slotted Cap with Velcro for Tyvek Hood
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**Note:** This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



### Lens Covers



MSA offers an assortment of facepiece accessories that provide added lens durability or shading for special applications.

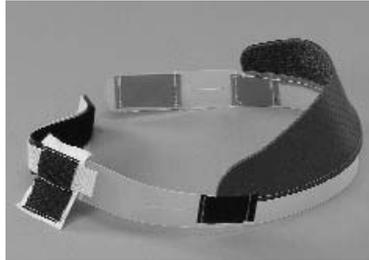
Lens covers, either smoke-tinted or clear, provide a convenient way to add a layer of protection against scratches.

Part No.	Description
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480326	Ultravue Tinted Lens Covers (25 per package)
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456975	Ultravue Clear Lens Covers (25 per package)
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### Simple Hood Suspension



Replacement suspension for Tyvek Hood.

Part No.	Description
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482614	Simple Hood Suspension
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### Welder's Adapter



For eye protection in welding applications where a PAPR is required, a welder's adapter can be easily installed over the Ultravue lens. (See Data Sheet 05-00-04.)

Part No.	Description
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472859	Clip-on Welder's Adapter, for Ultravue Facepiece, complete with cover lens, less filter plate
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