

Honeywell North® PA500 Series Powered Air-Purifying Respirator (PAPR)

The Honeywell North® Primair™ 500 (PA500) Series PAPR is a new, particulate-only light-weight powered air-purifying respirator, engineered around three core pillars: comfort, ease-of-use and efficiency. The PA500 PAPR was designed to be compact, low-profile, comfortable and lightweight – perfect for use in particulate-only environments.

Protection Type

The Honeywell North Primair 500 Series (PA510EU / PA510CEU) powered filtering respiratory protective device (hereinafter RPD) is ideally suited for applications where non-powered air purifying devices are not practical for use or a higher protection factor is required, but only where the atmospheres are not immediately dangerous to life and health (IDLH). Used in conjunction with approved Honeywell North particle filter and approved Honeywell North respiratory interfaces, the Primair 500 RPD provides respiratory protection only against particles (solid and liquid).

Certifications

The RPD provides protection against particles. Use this RPD only with the approved HONEYWELL NORTH filter type P R SL certified in accordance with EN 12941:1998 + A1:2003 + A2:2008 for the flow of 220 l/min.

Major Components

Blower

The PA500 series blower (PA510EU / PA510CEU) is the heart of the PAPR. It draws contaminated air through the filter cartridge and pushes a continuous flow of clean air to the user. Every system is programmed and calibrated at the factory to provide a steady and measured flow of air, even as the filter becomes saturated with particulates. The blower also includes an intelligent alarm system that alerts the user when the battery charge or airflow level is low. The system uses both audible and visual notifications to effectively and clearly communicate alarm status. Note - Only the PA510CEU blower unit, which is standard in all kits, contains a BLE radio. The PA510EU does not include this feature and therefore does not transmit data, nor is it compatible with SafetySuite or mobile gateways.

Battery and Charger

The PA510EU / PA510CEU blower is powered by a rechargeable lithium-ion battery pack. The PA520H battery pack can power the PAPR system for an entire 8-hour work shift*. It slides and locks into the blower unit, greatly reducing the risk that it will fall and break. The PA520H battery pack also features an on-board, state-of-charge display, which allows the user to evaluate the amount of remaining charge in the pack, without installing it into the blower. The PA524EU/PA524UK smart-charger system can re-charge a fully depleted battery in approximately 3.5 hours. In addition to charging, it continuously monitors the health of the battery pack and can alert the user to a potential problem via an LED display panel.

*Typical expectations based on laboratory testing. Actual battery run time and battery service life is dependent on many factors including working environment, charging conditions, filter cartridge type and headpiece type.

Belt Assembly

The PA500 series belt assemblies have been designed with all-day comfort in mind. The ergonomic shape and choice of materials help distribute the weight of the PAPR evenly on the worker's body and keep it from slipping. The optional comfort pad can be snapped on, providing even more cushioning support.

Breathing Tubes

The PA500 Series breathing tubes feature simple, twist and lock connectors, and are constructed of a light-weight and highly flexible hose material to facilitate freedom of movement.

Filters

The PA500 Series PAPR is approved for use with the PA5P HEPA filter cartridge. The cartridge securely installs into the blower with a simple ¼-turn twist and lock system.

Ordering Information

A complete approved powered air purifying respirator includes a blower, battery pack, battery charger, belt, flow meter, breathing tube, filter cartridge and headpiece. To simplify the ordering process, the major components of the PA500 Series PAPR can be purchased as a kit. Unless otherwise noted, breathing tubes, filter, filter covers, and headpieces are sold separately.

1. Select Your PA500 Series Connected PAPR Blower Assembly	
PA501EU	Assembly includes connected blower, battery, battery charger, comfort pad, P3 starter kit, filter cover, flow meter, and nylon belt
PA501DEU	Assembly includes connected blower, battery, battery charger, comfort pad, P3 starter kit, filter cover, flow meter, and decontaminable PVC belt
PA501WEU	Assembly includes connected blower, battery, battery charger, comfort pad, P3 starter kit, filter cover, flow meter, and welding belt
2. Select Your Hood of Facepiece	
A114110	Primair VL
PA111EU	Primair Plus
PA121EU	Primair Plus Coated
PA810EU	Welding Helmet (without hard hat)
PA811EU	Welding Helmet with Hard Hat
CC8558939-PA	Gridel hood
3. Select Your Breathing Tube	
PA031	Straight Breathing Tube for Primair Hoods, short, 86 cm (2.8 ft)
PA031L	Straight Breathing Tube for Primair Hoods, long, 100 cm (3.3 ft)
PA036	Straight Breathing Tube for PA800 Series, very long, 119 cm (3.9 ft)
4. Select Your Filter	
PA5P	PA500 P3 HEPA* Filter (Box of 5)
PA5PR	PA500 Prefilter (box of 10)
5. Select Your Accessories	
PA55A1	PA500 Comfort Pad
PA51A1	PA500 Filter Cover for PA5P
PA551	PA500 Standard Belt
PA551D	PA500 Decon Belt
PA551W	PA500 Welding Belt
PA561	PA500 Back Pack
PA520H	PA500 High-Capacity Battery
PA524EU	PA500 EU Charger Kit
PA524UK	PA500 UK Charger Kit

**High-Efficiency Particulate Air-Purifying, 99.97% minimum filter efficiency for all particulates.*

PA500 Technical Specifications

COMPONENT AND ATTRIBUTE	SPECIFICATION
Operating Conditions	
Temperature	+10°F (-12°C) to +118°F (+48°C) (Note: A low-battery alarm will be triggered if the internal temperature of the battery reaches 48°C)
Humidity	20 – 90% R.H. (non-condensing)
Altitude	Sea level to approx. 800m (2624 ft)
Ingress Protection	IP-54 Rating in use with battery, breathing tube, filter cartridge and cartridge
Explosive Environments	The PA500 series is not suitable for potentially explosive environments
Storage Conditions	
Temperature	Daily: -4°F (-20°C) to +95°F (+35°C) Ideal: 40°F (5°C) to 68°F (20°C)
Blower	
Housing Material	PC/ABS
Weight	1.17lbs (530g)
Air-Flow (loose-fit configurations)	7 CFM (197 lpm) Nominal – Default
Alarms	Audible and Visual (See user-instructions for details regarding alarm triggers and sequencing)
Motor Life	>10,000 hours (est.)
Noise Level	<75 dBA (average measured at the ear)
Battery Pack	
Materials	Housing: PC/ABS Latch: PC/ABS Gasket: Open-cell silicone foam
Weight	0.9lbs (410g)
Chemistry	Lithium-Ion
Capacity	10.9V, 5200mAh, 56Wh
Run-time	≥8hr (average)*
Safety	Short circuit/Overload/Over voltage/Over temperature protection
Service Life	Minimum 500 charge/discharge cycles while maintaining at least 70-80% of the original capacity*
Shipping	UN38.3 certified for air-transportation (Always consult a logistics professional for information regarding proper shipment of li-ion battery packs)

Battery Charger	
Time to full charge	<3.5 hours in ideal charging conditions with PA521 Smart Charger system (See user-instructions for further details)
Display	Real-time battery charge and health monitoring (See user-instructions for further details)
Power Input Requirements	Power Supply: AC 100-240V, 1.5A 50-60Hz
Breathing Tubes	
Length	PA031: 86cm (2.8 ft)
	PA031L: 100cm (3.3 ft)
	PA036: 119cm (3.9 ft)
Materials	Connections: ABS Corrugated Hose: Polyurethane O-Ringers: Buna-N, Silicone
Belt and Comfort Pad	
Materials	Straps: Woven Nylon Comfort Pad: Closed Cell Polyamide Foam Hardware: Acetal
Adjustment Range	28 – 60" (71-152cm) circumference
P3 Filter Cartridge	
Shell Material	PC/ABS
Particulate Filter Media	Hydrophobic, high efficiency particulate media ≥99.97% efficient

**Typical expectations based on laboratory testing. Actual battery run time and battery service life is dependent on many factors including working environment, charging conditions, filter cartridge type and headpiece type.*

Additional Ordering Information

SKU	Description	QTY/CASE	PKG LENGTH	PKG WIDTH	PKG HEIGHT	PKG WEIGHT
PA700 PAPR ASSEMBLIES						
PA501EU	PA500 PAPR Standard Blower Kit	1	16.53" (42cm)	9.44" (21cm)	6.3" (16cm)	6.02LB (2.73KG)
PA501DEU	PA500 PAPR Decon Blower Kit	1	16.53" (42cm)	9.44" (21cm)	6.3" (16cm)	6.02LB (2.73KG)
PA501WEU	PA500 PAPR Welding Blower Kit	1	16.53" (42cm)	9.44" (21cm)	6.3" (16cm)	6.3LB (2.85KG)
BREATHING HOSES						
PA031	Straight Breathing Tube for Primair Hoods, short, 86 cm (2.8 ft)	10	19.0" (48.2cm)	9.5" (24.1cm)	9.5" (24.1cm)	3.5LB (1.6KG)
PA031L	Straight Breathing Tube for Primair Hoods, long, 100 cm (3.3 ft)	10	19.0" (48.2cm)	9.5" (24.1cm)	9.5" (24.1cm)	3.5LB (1.6KG)
PA036	Straight Breathing Tube for PA800 Series, very long, 119 cm (3.9 ft)	10	19.0" (48.2cm)	9.5" (24.1cm)	9.5" (24.1cm)	3.5LB (1.6KG)
FILTER CARTRIDGES						
PA5P	PA500 P3 HEPA* Filter (Box of 5)	20	5.9" (15cm)	5.9" (15cm)	6" (15.3cm)	1.48LB (0.67KG)
PA5PR	PA500 Prefilter (box of 10)	10	10.3" (26cm)	6.7" (17cm)	1.6" (4cm)	0.025LB (0.012KG)
ACCESSORIES						
PA55A1	PA500 Comfort Pad	10	13.8" (35cm)	7.2" (18.2cm)	0.4" (1cm)	0.07LB (0.03KG)
PA51A1	PA500 Filter Cover for PA5P	20	7.25" (18.4cm)	6.15" (15,6cm)	0.8" (2.1cm)	0.19 LB (0.086 KG)
PA551	PA500 Standard Belt	10	5.5" (14cm)	2.75" (7cm)	2.36" (6cm)	0.28LB (0.13KG)
PA551D	PA500 Decon Belt	10	5.5" (14cm)	2.75" (7cm)	2.36" (6cm)	0.28LB (0.13KG)
PA551W	PA500 Welding Belt	10	5.5" (14cm)	2.75" (7cm)	2.36" (6cm)	0.55LB (0.25KG)
PA561	PA500 Back Pack	5	12.6" (32cm)	12.2" (31cm)	2" (5cm)	0.33LB (0.15KG)

REPLACEMENT COMPONENTS						
PA510CEU	PA500 Series Blower (blower-only)	1	7.9" (20cm)	7.9" (20cm)	3.15" (8cm)	1.2LB (0.55KG)
PA520H	PA500 High-Capacity Battery	1	5.9" (15cm)	3.1" (7.9cm)	1.4" (3.6cm)	0.79LB (0.36KG)
PA524EU	PA500 EU Charger Kit	1	8" (20.1cm)	5.9" (15cm)	6.7" (17cm)	2.71LB (1.23KG)
PA524UK	PA500 UK Charger Kit	1	8" (20.1cm)	5.9" (15cm)	6.7" (17cm)	2.71LB (1.23KG)
PA081	Flow check	1	7" (18cm)	1.6" (4cm)	1.6" (4cm)	0.11LB (0.05KG)



Limited Warranty

HONEYWELL INDUSTRIAL SAFETY warrants the Honeywell North Primair 500 Series PAPR to the original owner to be free from defects in materials and workmanship for a period of one (1) year from the date of original shipment from Honeywell's factory. Honeywell's obligation under this warranty will be, at Honeywell's option, to repair or replace without charge the Honeywell North Primair 500 Series PAPR or any of its components found by Honeywell to have been defective during the warranty period, under the following terms:

- 1) The warranty claim is made (i) by the owner who purchased the Honeywell North Primair Series 500 PAPR new from Honeywell or an authorized Honeywell Distributor, and (ii) not more than three (3) months after the end of the warranty period.
- 2) The Honeywell North Primair 500 Series PAPR or component is found by Honeywell to have been defective in normal use and service during the warranty period of one (1) year from the date of purchase by the owner.
- 3) The Honeywell North Primair 500 Series PAPR or component is returned freight prepaid to Honeywell, either to its factory or to a Honeywell authorized service center and is thereafter returned to the owner freight collect.
- 4) This warranty does not apply (i) to any Honeywell North Primair 500 Series PAPR or component found by Honeywell to have become defective as a result of any accident, alteration, misuse, abuse, or servicing with parts not approved by Honeywell; (ii) to deterioration or aging of any component made of rubber or other elastomer since such components can be adversely affected by undue exposure to heat, sun, water, chemicals, ozone or other deteriorating elements; or (iii) facepiece lens, compressed-air cylinders and parts that become defective through normal use. The decision as to what constitutes normal use shall be made solely by HONEYWELL INDUSTRIAL SAFETY.
- 5) To maintain this warranty, the purchaser must perform maintenance and inspections as prescribed in the User's Instructions which shall include prompt replacement or repair of defective parts, and replacement of parts per the maintenance schedule as prescribed in the User's Instructions.

THE OWNER ASSUMES ALL OTHER RISKS, IF ANY, SUCH AS THE RISK OF ANY DIRECT, INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE ARISING OUT OF THE USE OF, OR INABILITY TO USE, THE PRODUCT.

SERVICING HONEYWELL RESPIRATORS WITH PARTS NOT APPROVED BY HONEYWELL WILL VOID THIS WARRANTY AND NIOSH APPROVAL FOR THE RESPIRATOR. THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED AND MAY NOT BE VARIED OR EXTENDED EXCEPT IN WRITING BY AN AUTHORIZED OFFICIAL OF HONEYWELL INDUSTRIAL SAFETY.