

AIMWELL AYO WX HFM AROUND-NECK HALF-FACE MASK PAPR SYSTEMS



PRACTICAL AND FLEXIBLE

Innovation at heart

Powered respirators don't have to be bulky and heavy to provide good protection.

Aimwell, who specialized in respirator design and manufacture, had this belief on day one. Understanding the pain points of the popular powered respirator style comprising a Headtop, a long hose, and a heavy belt-mounted power module with many mining and construction workers, we invented the Around-neck modular PAPR series AYO WX.

Expertise and Strength

With a background in ResMed medical respiratory product design and manufacture, Aimwell has exceptional ability in miniaturization, advanced sensorless BLDC motor and control algorithm for our blowers, and a proprietary motor and respirator manufacturing know-how and capability. This results in our products' world-class performance and quality while being exceptional value for money.

Practical and Flexible Solutions

Our around-neck products can only be possible with our world-leading breath-responsive flow control technology and the innovative modular design, which evenly distributes the respirators around the neck. As a result, our products are highly mobile, with no hose, no belt, and no integrated headtop, but are compatible with most related PPEs, such as hardhats, goggles, and earmuffs, making them versatile in much wider applications, especially works that require high exertion and in confined spaces.

Our Mission

We strive to help workers breathe safer and better through continuous innovation in product design and manufacturing while providing uncompromising customer service.

Aimwell AYO WX HFM Around-neck Half-Face Mask PAPR P3 Systems

Introducing a highly practical and flexible series of Half Face Mask Powered Respirator Systems.

Key common features:

- The highest class PAPR P3 breathing protection > 2000 protection factor
- World-leading breath-responsive flow control technology – effective and comfortable.
- Strong airflow over 200 L/min (particulate) – support for strenuous work.
- Superb fit factor over 2000 (clean-shaven).
- Innovative Loose-fitting face seal Add-on – beard compatible and no need for fit testing.
- Patented Around-neck innovation – no hose, no belt, no hassles.
- Patented Push-fit & Twist-release connector for fast and easy connection.
- Low profile, lightweight, and well-balanced support.
- Low flow alarm, low battery alarm, and flow capacity check.
- Long battery life up to 16 hours and battery replaceable.
- Modular design for great flexibility and parts sharing.
- Easy to select and replace required modules.
- Very easy to clean and maintain.
- Compatible with most related PPEs, such as hard hats, goggles, and earmuffs.
- Small mask is available for female workers.



Applications: Respiratory Protection of silica dust, asbestos, welding fume, metalliferous dust, powder coating dust, coal dust, sawdust, and toxic gases in:

Mining

Construction

Manufacturing

Oil & Gas

Farming

Recycling

An Ideal upgrade from non-powered half-face mask respirators for:

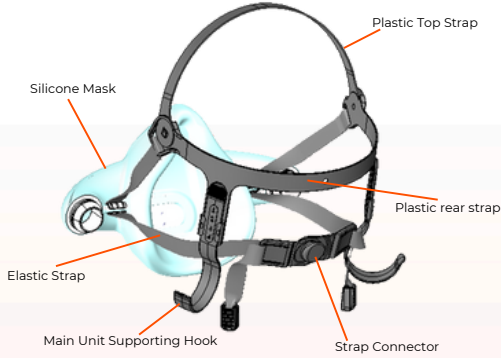
- Enhanced protection, comfort, and WHS compliance.
- Especially for workers with facial hair or organizations that prefer not to conduct fit testing.

Aimwell AYO WX HFM PAPR Systems Overview

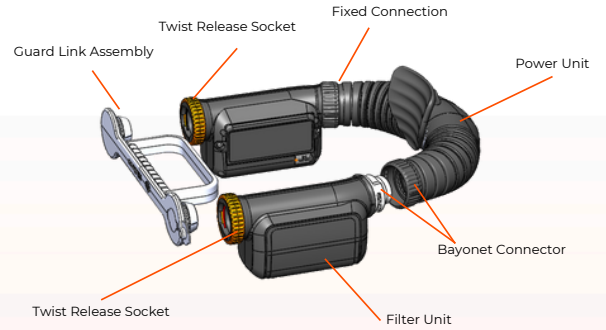
PATENTED STRUCTURE: Push-fit & Twist-release Connection connects Mask Assembly and Main Unit



Mask Assembly



Main Unit





AYO WX HFM Standard Half-Face Mask Assembly

		
Small Item no. AP031	Medium Item no. AP030	Large Item no. AP032

AYO WX HFM-SP Speech-Enhanced Half-Face Mask Assembly

		
Small Item no. AP136	Medium Item no. AP135	Large Item no. AP137

AYO WX HFM-W Welding Half-Face Mask Assembly

	
Medium Item no. AP093	Large Item no. AP095

AYO WX PAPR P3 Main Unit

		
P-Standard Item no. AP035	P-Boost Item no. AP102	Gas Item no. AP104

Steps to Select and Configure Your System

1. Select the System type: HFM Standard, HFM-SP, or HFM-W.
2. Select a Filter: Particulate or Gas
3. Select a Power Unit: P-Standard, P-Boost, or Gas.
4. Select the mask size: Small, Medium, and Large.

Note: *Welding masks come only in Medium and Large*

Introducing AYO WX HFM Standard Half-Face Mask PAPR System

AYO WX HFM Standard – a standard half-face mask PAPR system within AYO WX around-neck modular PAPR series, comprising 3 system:

- AYO WX HFM Standard Half-Face Mask PAPR System P-Standard
- AYO WX HFM Standard Half-Face Mask PAPR System P-Boost
- AYO WX HFM Standard Half-Face Mask PAPR System Gas

With the highest class PAPR P3 breathing protection, this series is configured and optimized for asbestos, silica dust, metalliferous dust, powder coating, coal dust, sawdust, and toxic gas protection.

This state-of-the-art and patented powered half mask series represents the best PAPR technology in the world.



System Name	Size	Item Code
AYO WX HFM Standard Half-Face Mask PAPR System P-Standard	Medium	AP043
	Small	AP044
	Large	AP045
AYO WX HFM Standard Half-Face Mask PAPR System P-Boost	Medium	AP105
	Small	AP106
	Large	AP107
AYO WX HFM Standard Half-Face Mask PAPR System Gas	Medium	AP108
	Small	AP109
	Large	AP110

Low Profile and Secure Mask Assembly

- The clear silicone mask is light weight just around 120g
- Innovative oval shaped exhalation valve provides low exhalation resistance for comfort.
- The mask has two air arms to connect with the Main Unit optimised for compactness.
- The head harness has two unique hooks for well-balanced support of the Main Unit.

World-leading Breath-responsive Flow Control

- Generates over 200 L/min peak flow during each hard inhalation, great for high-exertion work.
- Reduce flow while maintaining positive pressure during each exhalation to save battery energy and lower the motor noise.
- Fast breath response to maintain positive pressure during hard breathing thanks to Aimwell's proprietary low inertia blower and advanced control algorithm.
- Up to 16 hours of battery run time per full charge.

Easy yet Sophisticated Controls

- An On/off button to wake up the unit from Sleep mode.
- 3 LEDs for Battery charge or Flow Capacity indication.
- Filter blocked audible and LED alarm.
- Low battery audible alarm.
- ECO and BOOST mode selection (BOOST model only).
- Auto breath detection – no need to press any buttons after waking up the unit, air flow will be generated automatically soon after your first breath; no need to press any buttons after mask off, the blower will stop automatically a few second after that.
- A Test button to perform Flow Capacity health check when the Guard Link is connected and properly set.
- Onboard battery charging control with fast blinking LED indicating over 95% charge with recharging time less than 3.5 hours.
- Auto turn-off to Sleep mode after in Idle for 10 minutes or pressure the On/Off button for 5 seconds.

Patented Around-neck Main Unit Structure

- An easily detachable and selectable Filter Unit located on the left side of the face with one end linking to the mask and the other end linking to the Power Unit.
- A selectable Power Unit having a flexible and soft tube-like blower section at the back of the neck for great comfort and a streamlined battery-installed control section at the right side of the face linking to the mask.
- A Guard Link protects the Main unit when not in use or during clearing. It also facilitates Flow Capacity Testing.
- Patented Push-fit & Twist-release connection allows quick connection and disconnection with the mask assembly.
- Battery is replaceable.
- Weight just under 550g (with particulate filter and battery)



Options for Power Units

- Particulate Standard Power Unit: the low-cost entry-level option with ECO mode only, suitable for most light to moderate exertion work.
- Particulate Boost Power Unit: the higher flow option with ECO mode and BOOST mode selectable, with BOOST mode generates about twice about of air of the ECO mode, suitable for most heavy exertion work.
- GAS Power Unit: optimised for working with WX gas filter, where the air flow is controlled not overly consuming the gas cartridge but at the same time still being able to produce over 170 L/min flow.



Filter Options and Replacement

- Particulate Filter Unit: contains a P3 Main Filter and pleated pre-filters. The low-cost pre-filters protect the Main Filter from clogging by larger than 5µm particles thus making the running cost low.
- Gas Filter Unit: contains a gas cartridge A1B1E1K1 and a P3 HEPA filter to form a combined filter.
- The particulate filters can be replaced by hand: the prefilter can be replaced immediately when the Sliding Door is removed; By opening the cases, the Main Filter can be replaced.
- The combined filters can be replaced by releasing the sliding button and opening the cases.


Easy and Low Maintenance

- Mask assembly can be flush washed with tap water for a quick cleaning or immersed in water with a cleaning solution for a thorough cleaning.
- The Bellow part of the Main Unit can be flush washed when the Guard Link is connected. All plastic casings can be wiped clean using a damp cloth.
- Lubricate the Push-fit plugs of the mask monthly with a thin layer of Vaseline or silicone lubricant.
- Aimwell brushless DC motor can run over 10 years maintenance-free.




Filter Unit

	Item Code	Item Name
	AP034	AYO WX PAPR P3 Particulate Filter Unit
	AP120	AYO WX PAPR P3 Combined Filter Unit (A1B1E1K1P3)

Power Units

	Item Code	Item Name
	AP033	AYO WX PAPR P3 Power Unit P-Standard
	AP101	AYO WX PAPR P3 Power Unit P-Boost
	AP103	AYO WX PAPR P3 Power Unit Gas

Main Filters

	Item Code	Item Name
	AP036	AYO WX PAPR P3 Main Filter - Standard (Pack of 3)
	AP047	AYO WX PAPR P3 Main Filter - Long Life (Pack of 3)
	AP121	AYO WX Gas Cartridge - A1B1E1K1
	AP123	AYO WX PAPR HEPA Filter For Gas

Pre Filters

	Item Code	Item Name
	AP028	AYO WX Pleated Pre-Filter (Pack of 10)
	AP049	AYO WX Anti-odour Pre-Filter (Pack of 10)

Loose-fitting Face Seal Add-on for Bearded Workers

- Easy attached to all WX half-face masks.
- Compatible with most beards.
- No need to perform fit testing.
- Suitable for most light to moderate exertion work.

Introducing AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System

AYO WX HFM-SP – a speech-enhanced half-face mask PAPR system within AYO WX around-neck modular PAPR series, comprising 3 models:

- AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System P-Standard
- AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System P-Boost
- AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System Gas

AYO WX HFM-SP system is essentially the same as the WX HFM system, here are the similarities, differences, and additional features:

- The Main Unit and its options are identical to WX HFM system
- The mask assembly is also the same as in WX HFM except the Standard Exhalation Valve assembly is replaced by the Speech-enhanced Exhalation Valve Assembly.
- It is better suited for works requiring better speech clarity or using a 2-way radio while wearing the respirator.



System Name	Size	Item Code
AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System P-Standard	Medium	AP140
	Small	AP141
	Large	AP142
AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System P-Boost	Medium	AP143
	Small	AP144
	Large	AP145
AYO WX HFM-SP Speech-Enhanced Half-Face Mask PAPR System Gas	Medium	AP146
	Small	AP147
	Large	AP148

Introducing AYO WX HFM-W Welding Half-Face Mask PAPR System

AYO WX HFM-W – a dedicated welding half-face mask PAPR system within AYO WX around-neck modular PAPR series, comprising 3 models:

- AYO WX HFM-W Welding Half-Face Mask PAPR System P-Standard
- AYO WX HFM-W Welding Half-Face Mask PAPR System P-Boost
- AYO WX HFM-W Welding Half-Face Mask PAPR System Gas

This series is configured and optimized for welding fume protection.



System Name	Size	Item Code
AYO WX HFM-W Welding Half-Face Mask PAPR System P-Standard	Medium	AP111
	Large	AP112
AYO WX HFM-W Welding Half-Face Mask PAPR System P-Boost	Medium	AP113
	Large	AP114
AYO WX HFM-W Welding Half-Face Mask PAPR System Gas	Medium	AP115
	Large	AP116




The Main Unit and its options are identical to the AYO WX HFM Standard System, the key difference is that, unlike the standard half-face mask optimized for compactness, the Welding Half Face Mask is optimized to fit under common welding helmets. The air arms of the silicone body are made closer to the face and are also longer. The exhalation valve assembly and the special air plug are the same as in the standard half-face mask.

Different from popular integrated welding helmet + headtop + PAPR systems, which are only loose-fitting P2 protection, heavy, and bulky, with nuisance long hoses, troublesome belt-mounting, and prohibiting cost, the AYO WX Welding series provides the highest P3 protection, allows to use under a common welding helmet, offers lightweight, low-profile, and low-cost, yet generates powerful flow when needed to create positive air pressure inside the mask for your best protection, thanks to our world-leading smart breath-responsive flow control technology.

Featured Accessories

	Item Code	Item Name
	AP138	AYO WX HFM Exhalation Module
	AP139	AYO WX Speech-Enhanced HFM Exhalation Module
	AP037	AYO WX Removable Battery Pack
	AP041	AYO WX Fit Testing Adaptor

	Item Code	Item Name
	AP131	AYO WX HFM Loose-Fitting Face Seal (Pack of 3)



AYO WX HFM-SP with HFM Loose-Fitting Face Seal

Technical Specifications:

 CMI ProdCert PC10112 AS/NZS 1716:2012	Respiratory Protection	AS/NZS 1716:2012 PAPR-P3 (P3 filter filtration efficiency)
	EMC	<ul style="list-style-type: none"> CISPR 11: 2017+A1:2020 EN IEC 61326-1:2021 EN IEC 61326-2-2:2021 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021 47 CFR FCC part 15, Subpart B ANSI C63.4:2014
	Safety	AS/NZS 61558, EN 61558, UL 62368
	CMI Certification	AS/NZS 1716:2012 Lic: PC10112
Operation Conditions	Altitude	Up to 3000m
	Temperature	-10°C to 45°C (14°F to 113°F)
	Humidity	Up to 95% (non-condensing)
Battery Run Time	Particulate	Typically, 8 - 16 hours depending on the actual workload and dust concentration.
Peak Flow	Particulate	Over 200 l/min
	Gas	Over 160 l/min
Manufacturer Minimum Flow Condition	Particulate	120 l/min
	Gas	95 l/min
Weight (Power Unit)		430g
AC Charge Adaptor	Input	100 ~ 240VAC, 47~60 Hz
	Output	13.8VDC, 1A
	DC Jack plug	1.1mm pin, 3.0mm barrel
Battery Charging Conditions	Charge Temperature	0°C - 35°C
	Charge Time	3.5 hours = 95% charge 4.0 hours = 100% charge



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<https://aimwellbreathing.com/shop-industrial-respirator/>

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CONTACT US

Suite 205, 56 Delhi Road,
 Macquarie Park NSW 2113

info@aimwellbreathing.com

(02) 7251 8689

(02) 7229 4732