

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™, which specialises in respirator design and manufacture, had this belief on Day One.

Traditional powered respirators involving a helmet-visor assembly, a belt-mounted heavy and bulky power unit at the waist, and a long hose linking the power unit to the helmet, have the following pain points:

- difficult to don and doff,
- poor mobility,
- impractical and inflexible to different work needs,
- difficult to perform high-exertion work,
- awkward to work in confined spaces,
- hard to clean, maintain and handle,
- prohibiting costs.

To provide a better alternative for workers, Aimwell created a revolutionary Around-neck modular PAPR series AYO™ WX.

Our Mission

We strive to help workers breathe safer and better through continuous innovation in product design and manufacture, while providing uncompromised 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.

- AYO™ WX HFM **Standard** Dual-Fitting Half-Face Mask PAPR Systems
- AYO™ WX HFM-SP **Speech-Enhanced** Dual-Fitting Half-Face Mask PAPR Systems
- AYO™ WX HFM-W **Welding** Dual-Fitting Half-Face Mask PAPR Systems

Key features:

- Multiple certified Best In-Class Protection – PAPR P3/TM3/TH3.
- Patented Around-neck innovation offers unprecedented mobility and flexibility: no hose, no belt, not top-heavy, not face-heavy.
- Patented Push-fit & Twist-release connection for fast and easy donning and doffing.
- Positive pressure ensured by world-leading Breath-responsive flow control technology with over 220 L/min powerful peak flow.
- The world-only Dual-Fitting half-face mask PAPRs offer a game-changing practicality: the same PAPR can be used as either loose-fitting or tight-fitting.
- The tight-fitting provides 4 times better protection than the loose-fitting.
- Innovative Face Seal Add-ons for covering longer beards.

Practical and Flexible Solutions

Our patented around-neck PAPR structure evenly distributes the respirator around the neck. As a result, our products are highly mobile, with no hose, no belt, and are not top-heavy and face-heavy, while being compatible with most related PPEs, making them practical and flexible to use in wide applications, especially for work with high exertion, substantial body movement, and in confined spaces.

Furthermore, considering a large number of workers having facial hair or beards, which make non-powered respirators and tight-fitting powered respirators non-compliant, we introduced the world's first and only dual-fitting PAPR. This means the same PAPR can be used as either a loose-fitting or tight-fitting respirator, achieving unprecedented practicality.

Expertise and Strength

With a background in medical respiratory product design and manufacture, Aimwell™ has exceptional ability in:

- product miniaturization,
- advanced sensorless BLDC motor-based blower design and control technology,
- breath-responsive flow control technology,
- Aimwell's proprietary micro-blower and powered respirator manufacturing process and know-how,
- ISO 9001-compliant volume production capability,
- a broad network of quality suppliers.

This results in our products being low-profile, state-of-the-art, world-class performance and quality, while being exceptional value for money.



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

Key Benefits:

- The loose-fitting respirator systems are specifically designed for workers with facial hair without the need for fit testing, but still provide 10 times better protection (TH3) than well-fitted (clean-shaven) P3 non-powered respirators.
- Increasing productivity for work involving high exertion, substantial body movement, and in confined spaces.
- Ensuring protection and WHS compliance economically.

Aimwell™ AYO™ WX HFM PAPR Systems Overview

PATENTED STRUCTURE: Push-fit & Twist-release Connection connects Mask Assembly and 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-Boost P3/TM3 Item no. AP102	Gas TM3A1B1E1K1 Item no. AP104

Steps to Select and Configure Your System

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

Note: Welding masks come only in Medium and Large.

Introducing AYO™ WX HFM Standard Dual-Fitting Half-Face Mask PAPR Systems

AYO™ WX HFM PAPR – a standard dual-fitting half-face mask PAPR series, comprising 2 models:

- AYO™ WX HFM **P-Boost** Standard Dual-Fitting Half-Face Mask PAPR System
- AYO™ WX HFM **Gas** Standard Half-Face Mask PAPR System

With the highest in-class breathing protection PAPR P3/TM3/TH3, this series is configured and optimized for asbestos, silica dust, metalliferous dust, powder coating, coal dust, sawdust, and toxic gas protection.

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



Low Profile and Secure Mask Assembly

- The clear silicone mask is lightweight, just around 150g.
- The innovative oval-shaped exhalation valve offers low exhalation resistance for enhanced comfort.
- The mask has two air arms to connect with the Main Unit, optimised for compactness.
- The head harness has two unique hooks, providing well-balanced support for the Main Unit.

World-leading Breath-responsive Flow Control

- Generates over 220 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 Amwell's proprietary low-inertia blower and advanced control algorithm.
- Up to 16 hours of battery runtime per full charge.

Easy yet Sophisticated Controls

- 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 toggle (BOOST model only), where in BOOST, twice the amount of air will be generated than in ECO.
- Auto breath detection – no need to press any buttons after waking up the unit, your breath will automatically start the blower soon after your first breath; no need to press any buttons after Mask Off, the blower will stop automatically in a few seconds.
- Test button to perform the Flow Capacity health check when the Guard Link is connected and properly set.
- Onboard battery charging: 3.5 hours charging time from a flat battery to 95% charge, indicated with a fast-blinking LED.
- Auto turn-off to Sleep mode after being Idle for 10 minutes or press 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 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 cleaning. It also facilitates Flow Capacity Testing.
- Patented Push-fit & Twist-release connection allows quick donning and doffing with the mask assembly.
- The battery is replaceable.
- Weight just around 550g (with the particulate filter and battery fitted).



Power Units

- **Power Unit P-Boost:** optimised for WX main filter for particulate protection with peak flow over 220L/min, suitable for most high-exertion work.
- **Power Unit Gas:** optimised for WX gas filter, where the air flow is controlled to not overly consume the gas cartridge, but at the same time still being able to produce over 140 L/min peak flow.

Filter Units and Filter Replacement

- **Particulate Filter Unit:** contains a P3/TM3 Main Filter and pleated pre-filters. The low-cost pre-filters protect the Main Filter from clogging by particles larger than 5µm, thus making the running cost low.
- **Gas Filter Unit:** contains a gas cartridge A1B1E1K1 and a TM3 HEPA filter to form a combined filter.
- The **particulate filter replacement:** 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 flushed with tap water for a quick cleaning or immersed in water with a cleaning solution for thorough cleaning.
- The Bellow part of the Main Unit can be flushed 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 for over 10 years maintenance-free.

Filter Unit

	Item Code	Item Name
	AP034	AYO™ WX Particulate Filter Unit – P3/TM3
	AP120	AYO™ WX Combined Filter Unit - TM3A1B1E1K1

Power Units

	Item Code	Item Name
	AP101	AYO™ WX Power Unit P-Boost
	AP103	AYO™ WX Power Unit Gas

Main Filters

	Item Code	Item Name
	AP036	AYO™ WX P3 Main Filter - Standard (Pack of 3)
	AP047	AYO™ WX P3/TM3 Main Filter – Long Life (Pack of 3)
	AP121	AYO™ WX Gas Cartridge – A1B1E1K1
	AP123	AYO™ WX TM3 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 to attach to all WX half-face masks.
- Compatible with most beards.
- Washable and reusable.

Introducing AYO™ WX HFM-SP Speech-Enhanced Dual-Fitting Half-Face Mask PAPR Systems

AYO™ WX HFM-SP PAPR – a speech-enhanced half-face mask PAPR series, comprising 2 models:

- AYO™ WX HFM-SP **P-Boost** Speech-Enhanced Dual-Fitting Half-Face Mask PAPR System
- AYO™ WX HFM-SP **Gas** Speech-Enhanced Half-Face Mask PAPR System

AYO™ WX HFM-SP PAPR system is essentially the same as the WX HFM PAPR system.

Here are the similarities, differences, and additional features:

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



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

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

AYO™ WX HFM-W PAPR – a dedicated welding dual-fitting half-face mask PAPR series, comprising 2 models:

- AYO™ WX HFM-W **P-Boost** Welding Dual-Fitting Half-Face Mask PAPR System
- AYO™ WX HFM-W **Gas** Welding Half-Face Mask PAPR System

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

AYO™ WX HFM-W PAPR series is essentially the same as the AYO™ WX HFM PAPR series, and the key difference is that, unlike the WX HFM standard half-face mask optimized for compactness, the WX HFM-W 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 remaining part of the WX HFM-W is the same as the WX HFM.



Different from popular integrated **welding helmet + PAPR systems**, which are heavy, and bulky, with nuisance long hoses, heavy belt-mounted power unit, and high cost, the AYO™ WX Welding series provides the highest in-class P3/TM3/TH3 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 the 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
	AP131	AYO™ WX HFM Loose-Fitting Face Seal (Pack of 3)
	AP151	AYO™ TALK-MIC
	AP156	Main Unit Connector Dust Sleeve
IMAGE COMING SOON	AP167	AYO™ WX Shower Kit
IMAGE COMING SOON	AP168	AYO™ WX Leak Detector Kit



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

Technical Specifications (Complete AYO WX Series):

Compliance	Respiratory Protection Standards	AYO WX FFM-LF P-Boost Loose-Fitting Full-Face Mask PAPR System	EN 12941:2023 TH3P MS AS/NZS 1716:2012 PAPR-P3
		AYO WX HFM P-Boost Dual-Fitting Standard Half-Face Mask PAPR System	EN 12941:2023 TH3P MS EN 12942: 2023 TM3P MS
		AYO WX HFM-W P-Boost Dual-Fitting Welding Half-Face Mask PAPR System	AS/NZS 1716:2012 PAPR-P3
		AYO WX FFM-DS P-Boost Double-Seal Full-Face Mask PAPR System	AS/NZS 1716:2012 PAPR-P3 EN 12942: 2023 TM3P MS
		AYO WX FFM-DS Gas Double-Seal Full-Face Mask PAPR System	EN 12942: 2023 TM3A1P MS EN 12942: 2023 TM3A1B1E1K1P MS
		AYO WX HFM Gas Tight-Fitting Standard Half-Face Mask PAPR System	"MS" indicates the product has passed all the mechanical strength tests per EN12941:2023 and EN12942:2023.
		AYO WX HFM-W Gas Tight-Fitting Welding Half-Face Mask PAPR System	
	Eye/Face Protection	AYO WX FFM-LF, AYO WX FFM-DS	AS/NZS 1337.1:2010 (Plus Medium Impact and flame impingement Protection) ISO 16321-1:2021 High-speed impact resistance, impact level D
	Respiratory Protection Certification	Australia	CMI ProdCert, Lic: PC10112
		CE Mark	CE 2384 Module B+D In Compliance with EU PPE Regulations 2016/425
		 Refer to https://aimwellbreathing.com/aimwell-ayo-wx-certificates/ for the certificate and Declaration of Conformity (DoC)	
	EMC	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	
Filter Options		Main Filter - Long Life P3, TM3P	Pack of 3, use up to 6 months
		Pre-filter	Pack of 10, replaced when blocked or dirty
		Pre-filter – Anti-odour	Pack of 10, replaced when blocked or odour present
		Gas cartridge A1B1E1K1	Pack of 1, use up to 6 months
		Gas cartridge A1	
		HEPA filter for the Gas cartridge TM3P	Pack of 3, Use up to 6 months
Operation Conditions		Altitude	Up to 5000m
		Temperature	-10°C to 50°C (14°F to 122°F)
		Humidity	Up to 95% (non-condensing)
Storage Condition		Temperature and Humidity	Short period < 1 month -5°C to 45°C 23°F to 113°F), 65±20%RH
			Within 3 months -5°C to 35°C (23°F to 95°F), 65±20%RH
			Long period > 3 months 0°C to 35°C (32°F to 95°F), 65±20%RH

Technical Specifications (Complete AYO WX Series):

Battery Run Time	Particulate	Minimum 4 hours, typically 16 hours for Eco State, 8 hours for Boost State
	Gas	Minimum 4 hours, typically 9 hours
Battery Charging	Within the unit with an external charger provided, 0°C to 35°C	3.5 hours to 95% (fast flashing LED)
		4 hours full charge (Constant LED)
Battery Life		Typical 3 years, replaceable
Peak Flow	Particulate	Over 220 l/min
	Gas	Over 130 l/min
Manufacturer Minimum Flow Condition	Particulate	115 l/min
	Gas	95 l/min
Alarms	Filter-Blocked Alarm	2 beeps per second, flashing Red LED
	Low Battery Alarm	3 beeps per second
Flow Capacity Check	Peak flow check	3 levels
Noise Level	Leq – high exertion	Up to 71dB
	Leq - typical	< 65dB
Weight	Power Unit - Particulate	437g
	Power Unit - Gas	429g
Service life	Motor/Blower	10 years
AC Charge Adaptor	Input	100 ~ 240VAC, 47~60 Hz
	Output	13.8VDC, 1A
	DC Jack plug	1.1mm pin, 3.0mm barrel



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