

AIMWELL™ AYO™ WX FFM AROUND-NECK FULL-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 FFM Around-neck Full-Face Mask PAPR P3 Systems

Introducing a highly practical and flexible series of Full Face Mask Powered Respirator Systems:

- AYO™ WX FFM-LF Loose-Fitting Full-Face Mask PAPR System
- AYO™ WX FFM-DS Double-Seal Full-Face Mask PAPR Systems

Key common 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 Interchangeable loose-fitting and tight-fitting full-face mask.
- Innovative Face Seal Kit Add-on for covering longer beards.
- Superb fit factor with WX FFM-DS double-seal full-face mask, typically over 2000 (Power-off mode with clean-shaven).
- The tight-fitting WX FFM-DS PAPR provides 4 times better protection than the loose-fitting counterpart.



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 only Interchangeable loose-fitting and tight-fitting full-face mask. This means users can easily configure the full-face mask to either loose-fitting or tight-fitting, thus 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.

- Low-flow alarm, low-battery alarm, and flow capacity check.
- Ample battery capacity with up to 16 hours of run time.
- Battery replaceable.
- Low profile, lightweight, and great wearability - worn similarly to a non-powered respirator.
- Modular design with great flexibility for module selection, replacement and sharing.
- Compatible with most helmets and earmuffs.
- Very easy to operate, clean, and maintain.
- Built-in speech diaphragm.
- Tailored two-way radio-enabled wireless speaker Add-On.
- Shower Kit Add-On for decontamination showers.



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 FFM PAPP Systems Overview

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



- 1. Front Module Assembly
- 2. Inner Mask Assembly
- 3. Lens & Cushion Assembly
- 4. Head Strap Assembly
- 5. Fit Adjust Toggles
- 6. Push-Fit Plug



AYO™ WX FFM Full-Face Mask Assemblies

<p>AYO™ WX FFM-LF Loose-Fitting - ML Item no. AP134</p>	<p>AYO™ WX FFM-DS Double-Seal - ML Item no. AP096</p>

AYO™ WX PAPP P3 Main Unit

<p>P-Boost P3/TM3 Item no. AP102</p>	<p>Gas TM3A1B1E1K1 Item no. AP104</p>

Steps to Select and Configure Your System

1. Select the System type: FFM-LF, or FFM-DS.
2. Select Main Unit: P-Boost, or Gas

Note: AYO™ WX FFM comes in ML size only.

System Name	Item Code
AYO™ WX FFM-LF P-Boost Loose-Fitting Full-Face Mask PAPR System	API29

With the highest in-class PAPR P3/TH3 breathing protection, this series is designed for workers with beards without fit testing.

They are suitable for light to moderate workloads in a wide range of applications, including protection from asbestos, silica dust, metalliferous dust, powder coating, coal dust, sawdust, and toxic gases, as well as face and eye protection.



Low Profile and Secure Mask Assembly

- The exceptionally clear full-face mask is lightweight, just around 450g.
- While compatible with most beards, the loose-fitting silicone full-face seal provides a better seal than traditional elastic fabric or neoprene seal.
- Pleasant airflow across the face, feeling cooler in hot conditions.
- Easily replaceable face seal add-on complements the silicone full-face cushion, reducing leaks from beards, and prevents dust from accumulating within beards.
- Suitable for most light to moderate exertion work or applications requiring a minimum protection factor of 500 (TH3) without fit testing.
- Innovative built-in speech-enhanced exhalation valve provides low exhalation resistance for comfort and better speech clarity over many other full-face masks on the market.
- The face shield has two air arms connected to the Main Unit located around the neck.
- The head harness has a unique clamping band, 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 Aimwell's proprietary low-inertia blower and advanced control algorithm.
- Up to 16 hours of battery run time per full charge.



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 Power Unit having a flexible and soft tube-like blower section at the back of the neck with 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 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)

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 alarms.
- Low battery audible alarm.
- ECO and BOOST toggle, 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, 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 in a few seconds.
- A Test button to perform a 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 in Idle for 10 minutes or press the On/Off button for 5 seconds.

Power Unit P-Boost

Optimised for WX main filter for particulate protection with peak flow over 220L/min, suitable for most high-exertion work.

	Item Code	Item Name
	AP101	AYO™ WX PAPER P3 Power Unit P-Boost

Filter Unit 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 5um, thus making the running cost low.
- **Filter replacement:** 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.

Filter Unit

	Item Code	Item Name
	AP034	AYO™ WX Particulate Filter Unit - P3/TM3

Main Filters

	Item Code	Item Name
	AP036	AYO™ WX PAPER P3 Main Filter - Standard (Pack of 3)
	AP047	AYO™ WX P3/TM3 Main Filter - Long Life (Pack of 3)

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)

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.

Introducing AYO™ WX FFM-DS Double-Seal Full-Face Mask PAPR System

AYO™ WX FFM-DS – a double-seal tight-fitting full-face mask PAPR systems, within AYO™ WX around-neck modular PAPR series, comprising 3 systems:



System Name	Item Code
AYO™ WX FFM-DS P-Boost Double-Seal Full-Face Mask PAPR System	AP118
AYO™ WX FFM-DS Gas Double-Seal Full-Face Mask PAPR System	AP119

AYO™ WX FFM-DS systems are essentially built upon the AYO™ WX FFM-LF system. Here are the similarities, differences, and additional features:

- Certified to TM3 in addition to PAPR P3.
- The particulate Main Unit is identical to the AYO™ WX FFM-LF system.
- A gas Main Unit is available to provide a combined filtration for toxic gases.
- The face shield has the same structure as FFM-LF, except it also contains a novel inner mask assembly that provides an independent breathing seal, and combining the silicone full-face cushion, an innovative double-seal mask is created, which works as a tight-fitting mask and achieves better seal than traditional tight-fitting full-face mask PAPRs, which have only one independent seal.
- Provides a higher level of protection than its loose-fitting counterpart, especially when negative pressure occurs during peak heavy breathing moments.
- Suitable for most high-exertion work or applications requiring a minimum protection factor of 2000 (P3/TM3) with fit testing.

AYO™ WX FFM-DS P-Boost is suitable for protection from asbestos, silica dust, metalliferous dust, powder coating, coal dust, sawdust, as well as face and eye protection; while AYO™ WX FFM-DS Gas can, in addition, protect from toxic gases as well.

Power Unit Options

- **Power Unit P-Boost:** same as in AYO™ WX FFM-LF P-Boost.
- **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.

	Item Code	Item Name
	AP103	AYO™ WX Power Unit Gas

Filter Units and Filter Replacement

- **Particulate Filter Unit and filter replacement:** same as in AYO™ WX FFM-LF P-Boost.
- **Gas Filter Unit:** contains a gas cartridge A1B1E1K1 and a TM3 HEPA filter to form a combined filter.
- The combined filters can be replaced by releasing the sliding button and opening the cases.

Featured Accessories

	Item Code	Item Name
	API24	AYO™ WX FFM Loose-Fitting Kit
	API26	AYO™ WX FFM Loose-Fitting Face Seal (Pack of 3)



AYO™ WX FFM Loose-Fitting Face Seal

	Item Code	Item Name
	API32	AYO™ WX FFM DS-To-LF Changeover Kit
	API33	AYO™ WX FFM Inner Mask Assembly
	API100	AYO™ WX FFM Lens Protective Film (Pack of 10)
	API61	AYO™ WX FFM Lens Protective Film – Tinted (Pack of 10)
	API60	AYO™ WX FFM Cushion
	AP037	AYO™ WX Removable Battery Pack
	AP041	AYO™ WX Fit Testing Adaptor
	API51	AYO™ TALK-MIC
	API56	Main Unit Connector Dust Sleeve
IMAGE COMING SOON	API66	AYO™ WX FFM Spectacle Mounting Kit
IMAGE COMING SOON	API67	AYO™ WX Shower Kit
IMAGE COMING SOON	API68	AYO™ WX Leak Detector Kit

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 (TBA) AS/NZS 1716:2012 PAPR-P3
		AYO WX HFM-W P-Boost Dual-Fitting Welding Half-Face Mask PAPR System	
		AYO WX FFM-DS P-Boost Double-Seal Full-Face Mask PAPR System	
		AYO WX FFM-DS Gas Double-Seal Full-Face Mask PAPR System	EN 12942: 2023 TM3P MS (TBA) EN 12942: 2023 TM3A1B1E1K1P MS (TBA) AS/NZS 1716:2012 PAPR-P3
		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 (Low Impact and flame impingement Protection)
	Respiratory Protection Certification	Australia	CMI ProdCert, Lic: PC10112
		CE Mark	CE 2384 Module B+D
 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
	Main Filter – P3 Standard	Pack of 3, use up to 3 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
	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

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 140 l/min
Manufacturer Minimum Flow Condition	Particulate	120 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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