

CASE STUDY



CASE STUDY – UPGRADE NON-POWERED RESPIRATOR TO AIMWELL™ AYO™ WX HFM P-BOOST

OVERVIEW

For daily strenuous work in dusty and hazardous environments, such as those with silica dust and asbestos, non-powered respirators cannot provide adequate protection.

A PAPR is more suitable here; however, its typical high cost and poor mobility have been hindering its use.

This case study, in contrast, identifies Aimwell™ AYO™ WX HFM P-Boost System as an upgrade to non-powered respirators with a cost saving, plus additional benefits coming with it, such as beard compatibility, eliminating fit testing, and enhancing productivity.

OBJECTIVES

Identify a PAPR meeting the following requirements:

- Better protection than non-powered respirators.
- Costs less than a typical non-powered respirator.
- No hose, no belt, not top-heavy, not front-heavy.
- Compatible with facial hairs/beards.
- No need for fit testing.



AT A GLANCE

Challenges

- Non-powered respirators cannot provide adequate protection during high-exertion work: respirators lose seal due to movement, sweating, and facial shifts.
- Non-powered respirators are hard to breathe during high-exertion work.
- High cost and poor mobility of typical PAPRs.
- Non-powered respirators require fit testing.
- Non-powered respirators cannot be used for workers with beards.

BENEFITS OF AIMWELL™ AYO™ WX HFM P-BOOST

- Effective protection from silica dust and asbestos.
- Cost savings.
- Eliminated Fit Testing.
- Compliance with facial hair.
- Enhanced productivity.

COMPARISON

- 3M 6200 with 2135 P2/P3 particulate filter
- Aimwell™ AYO™ WX HFM P-Boost Half-Face Mask PAPR System



3M 6200 with 2135 P2/P3 particulate filter



AYO™ WX HFM P-Boost PAPR System



AYO™ WX P3 Main Filter



AYO™ WX Pleated Pre-filter

PROTECTION

Product	Standard	Nominal Protection Factor (NPF)/ Applied Protection Factor (APF)	
	AS/NZS1716:2012 EN 12942:2023 EN12941:2023	Clean-shaven (Fit Test)	Facial Hairs (Beards)
3M 6200	P2	50/10	0
AYO™ WX HFM P-Boost	PAPR P3/TM3/TH3	2000/50	500/50

- Total Inward Leakage: AYO™ WX HFM P-Boost is 160 times better than 3M 6200.
- APF (Clean-shaven): AYO™ WX HFM P-Boost is at least 4 times better than 3M 6200.
- Sensitivity to leaks during high exertion: 3M 6200 very high, AYO WX HFM P-Boost very low.
- Facial hair compatibility: AYO™ WX HFM P-Boost can still maintain high protection, while 3M 6200 provides no protection.
- Fit Test: 3M 6200 requires, while AYO™ WX HFM P-Boost does not.

COST

Product	Initial Cost (RRP) (AUD)	Fit Test Cost (AUD)	Days to Replace	12 Months Filter Cost (AUD)	12 Months Total Cost (AUD)
3M 6200 Mask	\$45.00				
3M 2135 P2/P3 Particulate filter (pair)	\$25.00		5	\$1,175.00	
3M 6200/2135 System	\$70.00	\$100.00			\$1,345.00
Aimwell™ AYO™ WX P3 Main Filter	\$26.40		60	\$79.30	
Aimwell™ AYO™ WX Pleated Pre-filter	\$3.10		2	\$371.30	
Aimwell™ AYO™ WX HFM Half-Face Mask PAPR System	\$738.60				\$1,1839.20

- Result: After one year, Aimwell™ AYO™ WX HFM P-Boost has less total cost than 3M 6200.

MOBILITY/WEARABILITY

Around-neck structure allows the Aimwell™ AYO™ WX:

- No hose
- No belt
- Not top-heavy (no heavy parts on top of the head)
- Not front-heavy (no heavy parts on the mask)

RESULT

- Easy to don and doff
- Well-supported Main Unit
- Worn like a non-powered respirator
- Can work in confined spaces

BENEFITS OF USING AIMWELL™ AYO™ WX HFM P-BOOST PAPR

- Enhanced protection against silica dust and asbestos.
- Much better effective protection during high-exertion work than non-powered respirators.
- 100% Compliance: can work with beards and still achieve very high protection.
- Costs less in a year than a non-powered respirator if used daily in high-dust worksites.
- Eliminated Fit Testing: saved hours of administrative tasks and fit testing costs.
- Enhanced productivity: less breathing effort and more comfortable to breathe for high-exertion work and long hours.