



Recycling and Cost Savings

WHITE PAPER

PADM Medical

Address: Unit A - 1595 Buffalo Place Winnipeg, MB R3T 1L9

P: +1 855 500 PADM (7236) **E:** info@padmmedical.com **W:** www.padmmedical.com

Backstory: What is Precision AIR

Precision AIR is a reusable elastomeric half-mask respirator designed specifically for medical environments with easy clean surfaces. As costs rise and oceans begin washing up single-use PPE that have lifespans of over 450 years on shores¹, PADM Medical's innovative respirator meets the global need for lower cost reusable respirators.

Precision ADM Medical Inc. (PADM Medical) developed the Precision AIR reusable elastomeric respirator after a call from the Canadian Government to manufacturers, and produced it with healthcare provider feedback in mind. Precision AIR has successfully been implemented in Canadian hospital systems.

Precision AIR is a reusable respirator mask with disposable filters and was commercialized by PADM Medical. This respirator offers organizations an innovative, sustainable product that lowers personal protection costs.



Environmental and Cost Savings Overview

- In one shift, a healthcare provider may use between 4 and 10 disposable N95 masks.
- Precision AIR – which has a Health Canada approved process for disinfection – can be reused 60 times, and filters/caps are changed per the manufacturer's IFU² (at least every 8 hours).
- One study³ found that “the cost [of elastomeric masks] was, conservatively, 10 times less per month than purchasing disposable N95s, and the cost benefit increases the longer they are needed.”
- PADM Medical has created an interactive cost and environment savings calculator to visualize how much facilities could be saving by deploying Precision AIR: <https://padmmedical.com/precisionair/>

Outcomes

PADM Medical continues to gather data from hospitals and third party partners in sustainability and recycling on the cost savings of their innovative and sustainable products. LifeCycle Revive⁴ – an Ontario, Canada-based third party partner – provides options for recycling the Precision AIR respirator directly in hospitals. PADM Medical is working with their clients and hospitals who have begun using Precision AIR in order to deploy turnkey recycling programs.

Recommendation

The comfort, breathability, communication, and environmental cost are impacted positively from the implementation of Precision AIR as the respirator of choice for organizations. A single Precision AIR respirator and 60 filters is equivalent to 120-300 disposable N95 masks. The Government of Canada has proposed an initiative to move towards creating zero plastic waste⁵, and a recyclable, re-usable elastomeric respirator meets this initiative.

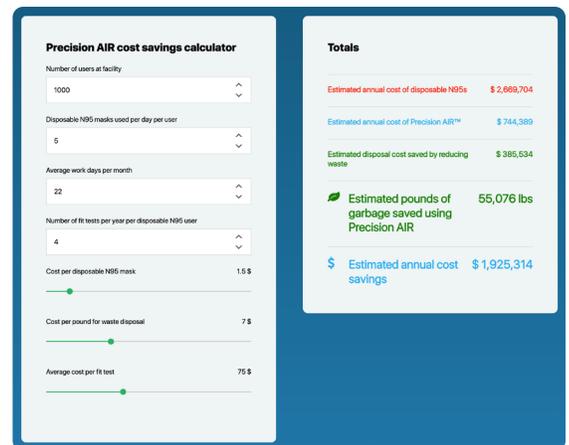


Precision AIR reusable elastomeric half-mask respirator

Water and Sewer Usage Consumption

One important consideration of making the switch from disposable respirators to reusable elastomeric respirators is costs and environmental impact of the reprocessing procedure. Water usage during the cleaning and disinfecting processes depend on the capacity and efficiency of the reprocessing equipment.

From internal data collection, one respirator is estimated to require 1.9 gallons of water per cycle. Over the usage life of the respirator, this equates to 114 gallons of water. Based on local water and sewer costs⁶, this equates to just under \$0.04 CAD per cycle per respirator or just over \$2.00 CAD for 60 uses.



Precision AIR cost and environment savings calculator



References:

1. ["Tons of Single-Use PPE Has Been Discarded Into the Ocean"](#). Green Matters (2020).
2. Manufacturer "IFU 20053-IFU-FILTER REV 03".
3. Chalikonda, S. Waltenbaugh, H., Angelilli, S., Dumont, T, Kvasaager, C., Servello, N., Singh, A., Diaz-Garcia, R. (2020). [Implementation of an Elastomeric Mask Program as a Strategy to Eliminate Disposable N95 Mask Use and Resterilization: Results from a Large Academic Medical Center](#), Journal of the American College of Surgeons, 231, (3), 333-338, ISSN 1072-7515.
4. [LifeCycle Revive](#)
5. Government of Canada "[Zero plastic waste initiative](#)" (2021).
6. Water and Waste Department - City of Winnipeg. (2021). [MyUtilityBill](#).

Resources:

- CDC. (2021a). [Elastomeric Half Mask Respirator Resources](#).
- CDC. (2021b). [What are Air-Purifying Respirators?](#)
- CDC. (2021). [Elastomeric Respirators for U.S. Healthcare Delivery – YouTube](#)

For more information, please visit www.padmmedical.com

PADM Medical™ and Precision AIR™ are trademarks of Precision ADM Inc.

PADM Medical

Address: Unit A - 1595 Buffalo Place Winnipeg, MB R3T 1L9

P: +1 855 500 PADM (7236) **E:** info@padmmedical.com **W:** www.padmmedical.com