

Nederman

MCP Air Purification Tower

Ambient air filtration solutions



Facility-wide, ambient clean air solutions



Facility wide ambient filtration systems

The Nederman MCP Air Purification Tower (APT) is continuous duty filtration solution designed to protect workers from airborne hazards in fabrication environments. As a stand-alone (where local legislation allows) or complementary solution, the APT captures dust and fume suspended in the air, filters and returns clean air in favorable air-flow patterns to maintain clean air.

Because the APT does not require overhead duct, it offers a convenient and economical solution for many welding or nuisance dust applications when source capture using extraction arms or local hoods may not be practical or sufficient to achieve compliance.

Ambient air solutions can be applied as a single unit for small operations or strategically arranged in an array to protect large, complex production areas. The design and technology included within the APT makes the product easy to use, operate and maintain making it a great addition to a wide range of factories.



Ambient applications

Where source capture may not be practical or is insufficient to meet air-quality standards, ambient filtration can be a great way to achieve air quality goals.

- Welding on large fabrications that require a large degree of movement.
- Additional layer of air filtration to complement source capture or on-torch fume extraction.
- Areas where overhead obstructions such as cranes prevent duct from being used.
- Frequent relocation of source extraction arms that negatively impact productivity.
- General ventilation or nuisance dust that needs to be filtered.



Benefits of proper weld fume extraction

Investing in proper extraction for welders, robots or other thermally generated fume is an essential component of a clean, safe, healthy and sustainable operation. As one of the world's largest providers of industrial air pollution control equipment, Nederman is your total solution provider for fume and dust applications. Whether the application is small or large, simple or complex, manual or automated, Nederman assess each customer's unique needs and provides solutions that effectively and efficiently protect your workers and factory.

Worker Health and Safety. Exposure to weld fume proven to cause respiratory diseases including cancer. Controlling weld fume reduces this risk for welders and everyone working in the facility.

Productivity. Improved air quality is proven to enhance cognitive ability and reduce absenteeism which drives productivity gains with your work force.

Regulatory Compliance. Exceeding permissible exposure limits (PEL) for materials found in weld fume can open the organization up to fines or increase insurance rates. Nederman can review local regulation and recommend a path to compliance.

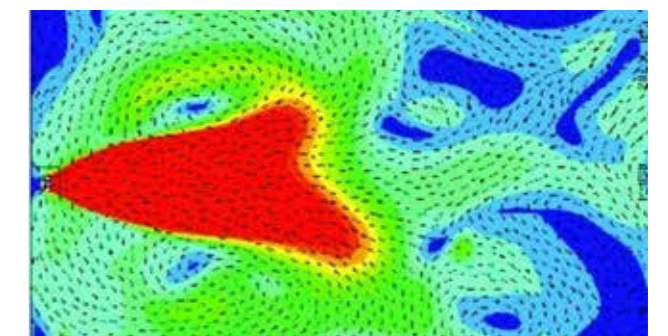
Welder recruiting. Welder shortages are expected to get worse. Clean, safe workplaces attract help your business stand apart and attract the best welders.

Optimised airflow design

The MCP APT was designed using Computational Fluid Dynamics (CFD) software to evaluate the flow, velocity and geometry required to create an optimal recirculation pattern that effectively entrains fume and returns clean air to the workspace.



Developed airflow pattern that returns clean air and helps capture fume and contaminants.



Computational Fluid Dynamics (CFD) plot illustrating the air velocity and the developed airflow patterns resulting from the APT.

Free-standing, high-performance filtration configured for your needs



Designed to perform

The MCP-12S-APT is equipped with features that provide reliable and effective fume extraction and make the system easy to use, maintain and operate.

Low sound level
Enclosed fan with sound attenuation keeps operational sound levels at 72 dBA.

High capacity & efficient fan
Heavy duty, high efficiency fan delivers robust airflow for effective operation.

Durable construction
Heavy gauge steel construction with galvanized coating.

Flexible inlet placement
Dirty air inlets can be adjusted vertically to match operational needs.

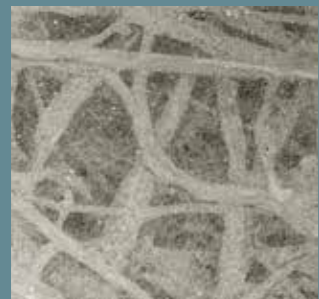
Single side access
All essential maintenance can be performed from a single side saving floorspace.

Adjustable nozzles
The clean air header features 60 individually adjustable nozzles that allow for maximum flexibility in creating high speed airflow patterns.

Squirgle filter design
Our patented design enhances filter efficiency by expanding the filter area, prolonging its lifespan, ensuring a superior clean air seal, and simplifying maintenance procedures.

Advanced system controls
Integrated controller that operates the fan and filter cleaning. Enclosure features perimeter LED lights that alert user of status. Remote / start stop signals and timers are available to automate operation.

High capacity, mobile dust bin
Large volume dust bin offers increased maintenance intervals that is convenient to service.



Advanced filter technology

The APT includes Nederman's proprietary Nanofiber filter media which features a thin layer of synthetic fibers on the filter surface. The technology enhances system performance by efficiently capturing sub-micron particles on the surface offering the following operational benefits:

- Energy efficiency
- Lower emissions
- Reduced noise level
- Extended filter life

Two base APT models

The Air Purification Tower is available in two different versions that cover simple, single tower and large-scale multi-unit applications. Nederman's technical sales team will collect the information about your process and facility and configure a solution that meets your needs. Each model is also available with a Variable Frequency Drive (VFD) to provide further airflow control, reduce noise level and minimise energy consumption.

Low

A compact version intended for low ceilings with a fixed outlet orientation and individually adjusted nozzles.



High

The clean air outlet header can be rotated 360° to create optimal air flow patterns with individually adjustable nozzles. Header can also be raised to adjust for high bay ceilings.



Adjustable outlet header that can be rotated and raised to adapt to facility needs.

Technical data

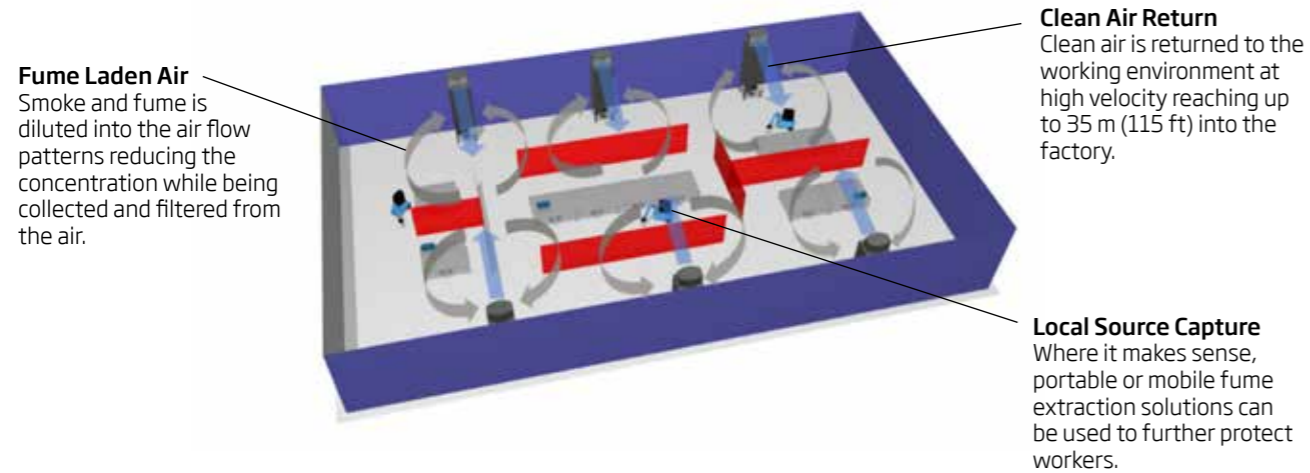
APT Model	Filter Quantity	Filter Area		Maximum Airflow		Fan Motor Size		Power Supply	Approximate Dimensions						Dust Bin Size										
		m ²	ft ²	m ³ /min	ft ³ /min	kW	HP		Height **		Width		Depth		l	gal									
									cm	in	cm	in	cm	in											
Low	12	158	1700	10 000	5900	10	13,4	400 V / 3 PH / 50Hz	443	174	138	54	137	54	50	13,2									
Low with VFD																									
High																									
High with VFD																									

- Intended for indoor installation and use
- System is CE marked
- Nanofiber filter efficiency is EN 60335-2-69 Class M & ASHRAE 52.2 MERV 14

** 645 to 745 cm (adjustable) with extending duct

Engineered clean air solutions

The Air Purification Tower is a powerful tool to create an engineered, complete solution specific to your process and application. Nederman's technical sales engineers assess your complete process and develop solutions using modern design tools that allow you to see how the complete system will fit within your process and assure health, safety and compliance for your production environment. The following image illustrates an APT application for a full facility with multiple towers used in conjunction with source capture filters to create a complete clean air solution.



Ambient filtration compliments source capture to maximise safety

To meet the stringent air quality standards and Permissible Exposure Limits (PELs), the Air Purification Tower is often paired with on-torch or mobile fume extraction products. This is a common approach for large parts or where interior welds may be present. Source capture provides direct worker protection with the APT complimenting through general air cleaning. Nederman has the most complete line of fume extraction solutions in the world and works with fabricators to tailor a solution to their specific needs.



Fume Eliminator

The Fume Eliminator (FE) is a portable on-torch fume extractor intended for light duty, single welder applications. It features a large and ergonomic carrying handle, making it easy to transport and adjustable airflow to match torch requirements. The FE860 model features airflow monitoring alerts and automatic start/stop for enhanced safety and productivity.



FilterCart Advanced+

FilterCart+ designed for light to intermittent duty fume applications with a small footprint and lightweight construction making it easy to move and locate inside welding booths. Loaded with technology and features that monitor performance and make it easy to own and operate.



Nederman *myAir*™ service & support

Maintaining fume and dust extraction systems are essential to keep workers safe, reduce fire risks and improved sustainability. To help manufacturers better manage these systems, Nederman has developed the myAir service platform for the Air Purification Tower and our complete line of filtration products.

The myAir service platform includes a range of services including traditional on-site inspection and maintenance services, as well as a connected, digital monitoring service called Nederman Insight. With this comprehensive platform customers can proactively address filter-related issues and improve their overall operational efficiency.



The global leader in complete dust collection solutions

For over 80 years, Nederman has developed products and solutions to reduce the strain on the environment and protect people from the harmful effects of indoor air pollution including dust, smoke, oil mist and gases. We have extensive experience in creating safe working environments, handling combustible dusts, managing turn-key projects and servicing dust collectors. Our innovative, smart solutions including Insight have further strengthened our ability to deliver clean air to our customers throughout the world.



Worldwide presence

Nederman has a strong global presence in both sales and production. We have our own sales companies in 30 countries and distributors in more than 30 countries. Production is performed in 12 countries on five continents. In many countries, we also have a well-established service organization. By offering advanced service with high availability, Nederman helps customers to secure continuous, optimized production.



Nederman

The Clean Air Company

Our Promise - Contributing to a Sustainable Future

Clean air is a cornerstone of sustainable production. Our customers want to boost profitability by making their operations as efficient as possible. They want to meet high environmental standards and keep employees safe from fumes and dust. Nederman can help them on all counts. That's how we create value.

The Clean Air Company - Vision 2025

Nederman celebrates its 80th anniversary in 2024. From the very beginning, the business idea was clean air. Today, the environment and sustainability are more relevant than ever and the demands are increasing to contribute actively to more efficient production and reduced emissions in industry. The next generation of solutions for clean industrial airflows is under development. Nederman is at the forefront of this development.

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