MINIMIZE DUST

Protect heavy mobile equipment operators and engines in high-debris work environments

THE SY-KLONE EFFECT

- Dirty air in.
- Debris ejected, dust filtered out.
- Clean air for workers and engines.

THE PROTECTIVE POWER OF CLEAN AIR

MAXIMIZE PROTECTION

ENGINE PRECLEANERS
Extend Engine Filter Life, Lower Cost of Ownership

NON-POWERED

Series 9000®
Ejective Precleaner

- Removes dust, mixed debris, and snow
- Nine sizes allow optimal balance of efficiency and restriction for a wide range of airflows

POWERED

XLR Powered Precleaner®
eXtra Low Restriction Precleaning with High-Efficiency Filtration

Airflow up to 350 CFM (9.91 m³/min)

- Improve engine performance and extend engine filter life
- Sustained, clean airflow in extreme environments
- 99.99% of dust removed prior to engine intake

Vortex® MAX
High-Airflow Powered Engine Precleaning with High-Efficiency Filtration

Airflow up to 900 CFM (25.48 m³/min)

- Higher airflow system for larger machines
- Improve engine performance and extend engine filter life
- Small footprint, multiple installation configurations

CAB AIR QUALITY SYSTEMS
Improve Air Quality, Reduce Occupational Exposure

1. FRESH AIR SYSTEM

RESPA® CF2
Powered Precleaner/Filter/Pressurizer

- Standard and extended length
- Multiple filter options to suit your working environment

2. MONITOR

RESPA Advisor®
Pressure Monitor

RESPA Advisor®+
Touchscreen Pressure + CO_2 Monitor

- ISO 23875 compliant

3. RECIRCULATION SYSTEM

RESPA® CFX2
Powered Recirculation Filtration

- Plumbs into HVAC plenum

RESPA® PFX
In-Cab Powered Purification Filtration

- No plumbing required

RESPA® FFX2
Non-Powered Recirculation Filtration

- Plumbs into HVAC plenum

HIGH-EFFICIENCY FILTRATION
Minimize Exposure, Maximize Protection

PARTICULATE FILTERS

MERV 16 / F9
High-Efficiency RESPA Filters

- General-use filter with long filter life
- ≥95% Efficient at 0.3-1.0 micron

EPA
Higher-Efficiency RESPA Filters

- ISO 23875 compliant
- ≥99% Efficient at 0.3 micron

HEPA
Highest-Efficiency RESPA Filters

- For specialized application or when required by regulation
- ≥99.99% Efficient at 0.3 micron

Engine
High-Efficiency Engine Filters

- For XLR and Vortex MAX

ODOR AND GAS FILTERS

Odor + HEPA

- For non-toxic odors with HEPA particulate filtration

ABEK Gas + HEPA

- General-purpose gas filter with HEPA particulate filtration

Ammonia + HEPA

- Ammonia gas filter with HEPA particulate filtration

SY-KLONE INTERNATIONAL®

THE DIFFERENCE

IS IN THE DOME

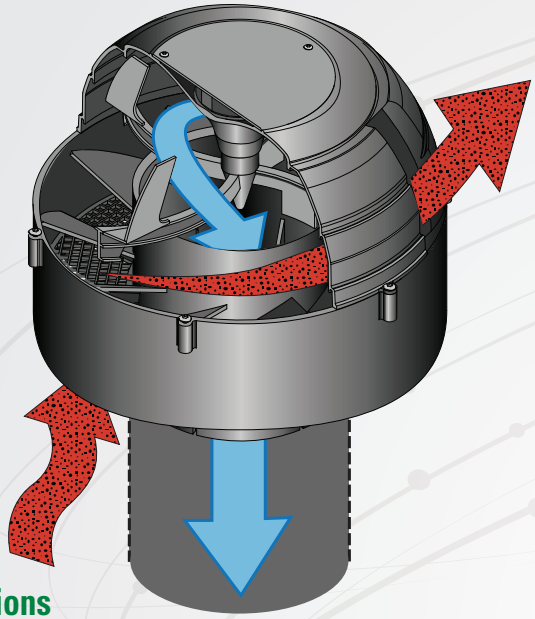
Extend air filter life with the engine precleaner trusted by OEMs

Engine filter life is directly related to the amount of debris ingested through an engine's air intake. Installing a Sy-Klone Series 9000 Air Precleaner as the first stage of an engine air intake system prevents the majority of heavier-than-air particles from entering the system. This results in longer engine air filter life, more efficient engine performance, and decreased maintenance expenses.

Minimize Dust, Maximize Engine Protection

- Extends engine air filter life, which increases uptime
- Handles wide variety of mixed debris, including mud, snow, rain, leaves, sawdust, chaff, and dust
- Unlike many of its competitors, Series 9000 works well at high altitudes and in snow
- Lowers cost per operating hour by reducing parts, labor, and downtime by reducing filter changes and downtime
- Easy to install - adaption kits and parts to fit a variety of machines
- Rugged, engineered polymer construction gives the strength of steel (without the corrosion) at the cost of plastic; the opaque material reduces glare, minimizing visual safety concerns

Series 9000® EJECTIVE ENGINE AIR PRECLEANER



How it Works: The "Sy-Klone Effect"

1. Dirty air enters the underside of the dome through screened louvers, which prevents clogging by blocking large debris from entering the unit
2. Curved blades direct air through the system, creating a "Sy-Klone", pushing dirt and debris against the sidewalls of the dome
3. Strakes move heavier-than-air debris towards the ejection slot, where dirt and dust are ejected into the outside environment
4. Clean air, free from dirt and debris, continues to swirl down into the engine air inlet pipe

Product Specifications

Mounting: Mounts on all vertical and horizontal air cleaner housings, on all machines, replacing those with rain caps, tube body systems or internal precleaners

Construction: Engineered polymer is rugged and gives the strength of metal with the weight of plastic

Bearings: Patented, sealed bearing cavity protects bearings from debris and moisture, preventing corrosion. Grease concentration of 20% instead of the typically-used 10-15% concentration allows the Series 9000 to operate in extreme cold weather, down to -40½°F

Maintenance: Self-cleaning and routine maintenance-free, as no debris is trapped within the precleaner

Model Number	Airflow Range in CFM *(m^3/min)*	Minimum Hood Clearance in inches *(mm)*	Precleaner Outlet ID in inches *(mm)*
9000	10-50 *(0.28-1.42)*	2 *(50.8)*	2.015 *(51.18)*
9000R	50-120 *(1.42-3.40)*	3 *(76.2)*	3.021 *(76.73)*
9001	100-275 *(2.83-7.79)*	4 *(101.6)*	4.031 *(102.38)*
9001R	275-350 *(7.79-9.91)*	4 *(101.6)*	4.031 *(102.38)*
9005	350-500 *(9.91-14.16)*	5 *(127.0)*	5.03 *(127.29)*
9002	500-650 *(14.16-18.41)*	6 *(152.4)*	6.04 *(153.74)*
9002R	650-800 *(18.41-22.65)*	6 *(152.4)*	6.04 *(153.74)*
9003	800-1150 *(22.65-32.56)*	*8 (203.2)*	8.064 *(204.77)*
9004	1150-1400 *(32.56-39.64)*	*8 (203.2)*	8.064 *(204.77)*

CFM = Cubic Feet per Minute. m^3/m = meters cubed per minute. Select model based on the CFM (m^3/min) airflow requirements, not air inlet size. Use adaptation to fit; see Sy-Klone.com for options.

MINIMIZE DUST

MAXIMIZE PROTECTION

Extend engine filter life and reduce unplanned maintenance costs

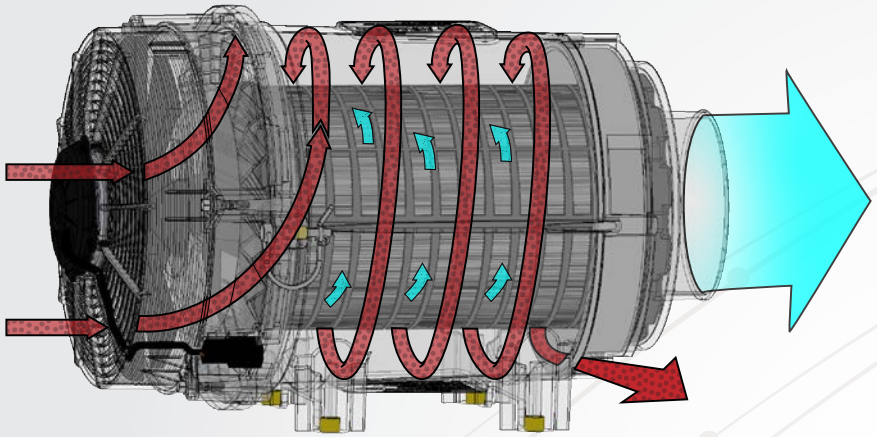
Reduce Total Cost of Ownership, Improve Productivity

- Higher-airflow system (900 CFM, 25.48 m^3/min) for larger machines protects the engine with sustained clean air, regardless of operating state, even at idle
- High-efficiency filtration arrests smaller particles, extending life of engine and after-treatment systems
- Minimize downtime and maintenance costs
- Maximize primary engine filter life
- Easy to install, including vertical and horizontal mounting options

Protect Heavy Mobile Equipment and Machinery in High-Debris Work Environments, Including:

- Mining
- Demolition
- Construction
- Quarries / aggregate
- Concrete processing
- Waste and recycling, landfills, and transfer stations
- Agricultural and harvesting
- Forestry and timber
- Other high-debris job sites

VORTEX® MAX POWERED ENGINE AIR PRECLEANER



How it Works: The "Sy-Klone Effect"

1. Dirty air enters the precleaner housing through the inlet end.
2. The debris-laden air is directed into a rotation – a "Vortex" – pushing the debris to the outside walls through centrifugal force. The debris rotates towards the outlet end.
3. Debris is ejected through the ejection port, and the fine dust that remains passes through Sy-Klone's self-cleaning filter.
4. After passing through the high-efficiency filter, clean air is passed downstream to the engine and engine air filter through the outlet end.

The separation and ejection of debris, and high-efficiency filtering, all of which precleans air, is The Sy-Klone Effect.

Part Number	Description
VMAX0001	12-Volt Vortex MAX with Rain Cap
VMAX0002	24-Volt Vortex MAX with Rain Cap
VMAX0005	12-Volt Vortex MAX with Heavy-Debris Screen
VMAX0006	24-Volt Vortex MAX with Heavy-Debris Screen
EF800	Vortex MAX Replacement Filter

Product Specifications

Airflow range: 0-900 CFM (0-25.48 m^3/min)

Mounting: Vertical or horizontal (Mounting plates available separately)

Voltage: 12V and 24V options available

Power requirement: 10.5 amps constant at 12V; 8 amps constant at 24V

Product dimensions and weight: HxWxL; Weight

With rain cap: 13.3" x 14.3" x 24.1" (337 mm x 364 mm x 611 mm); 17 lbs. (7.7 Kg)

Without rain cap: 13.2" x 14.3" x 21.5" (336 mm x 364 mm x 546 mm); 15.5 lbs. (7.0 Kg)

With heavy-debris screen: 14.5" x 14.5" x 26.2" (368 mm x 369 mm x 665 mm); 21.8 lbs. (9.8 Kg)

MINIMIZE DUST, DEBRIS, MAINTENANCE COSTS, PREMATURE FILTER CHANGES, AND DOWNTIME

MINIMIZE DUST

MAXIMIZE PROTECTION

Extend engine filter life and reduce unplanned maintenance costs

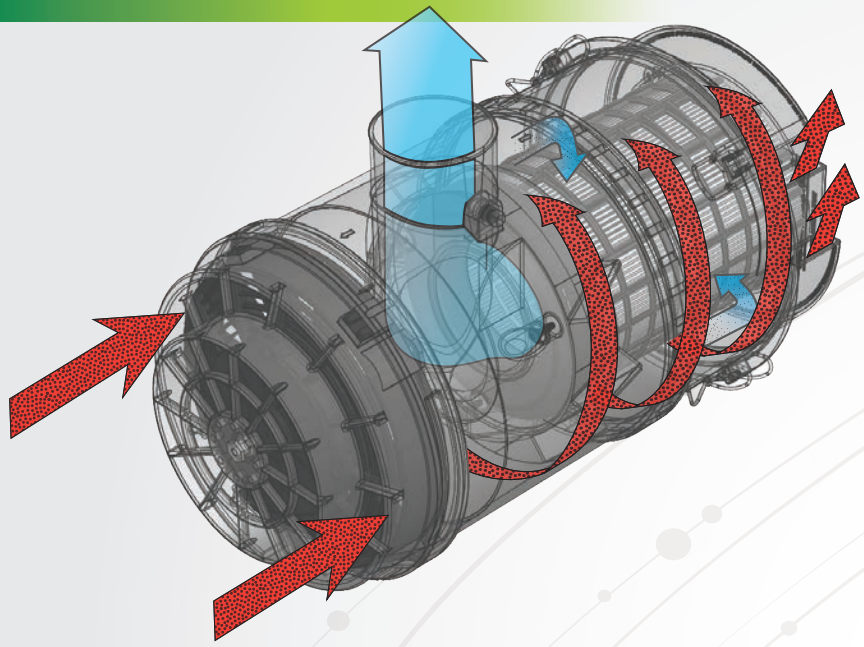
Reduce Total Cost of Ownership, Improve Productivity

- Mid-airflow system (350 CFM, 9.91 m^3/min) for mid-size machines protects the engine with sustained clean air, regardless of operating state, even at idle *(For higher airflow, see Sy-Klone's Vortex® MAX Powered Precleaner)*
- High-efficiency filtration arrests smaller particles, extending life of engine and after-treatment systems
- Minimize downtime and maintenance costs
- Maximize primary engine filter life
- Easy to install, including vertical and horizontal mounting options

Protect Heavy Mobile Equipment and Machinery in High-Debris Work Environments, Including:

- Mining
- Demolition
- Construction
- Quarries / aggregate
- Concrete processing
- Waste and recycling, landfills, and transfer stations
- Agricultural and harvesting
- Forestry and timber
- Other high-debris job sites

XLR POWERED PRECLEANER®



How it Works: The "Sy-Klone Effect"

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2. The debris-laden air is directed into a rotation – a "Vortex" – pushing the debris to the outside walls through centrifugal force. The debris rotates towards the outlet end.
3. Debris is ejected through the ejection port, and the fine dust that remains passes through Sy-Klone's self-cleaning filter.
4. After passing through the high-efficiency filter, clean air is passed downstream to the engine and engine air filter through the outlet end.

The separation and ejection of debris, and high-efficiency filtering, all of which precleans air, is The Sy-Klone Effect.

Product Options

Voltage: 12V or 24V options available

System size (filter capacity): Standard or Extended Length

Intake Configuration: Rain cap or Heavy-Debris screen

Product Specifications

Airflow range: 350 CFM (9.91 m^3/min)

Mounting: Vertical or horizontal (Mounting plates available separately)

Voltage: 12V and 24V options available

Power requirement: 10.5 amps constant at 12V; 8 amps constant at 24V

Product dimensions and weight: HxWxL; Weight

With rain cap: 13.3" x 14.3" x 24.1" (337 mm x 364 mm x 611 mm); 17 lbs. (7.7 Kg)

Without rain cap: 13.2" x 14.3" x 21.5" (336 mm x 364 mm x 546 mm); 15.5 lbs. (7.0 Kg)

With heavy-debris screen: 14.5" x 14.5" x 26.2" (368 mm x 369 mm x 665 mm); 21.8 lbs. (9.8 Kg)

XLR = Extra Low Restriction
99.99% Efficient on ISO Fine Test

SY-KLONE® INTERNATIONAL

CLEAN AIR FOR WORKERS

Reduce machine operator exposure to harmful respirable dust, toxins, odors, and gases

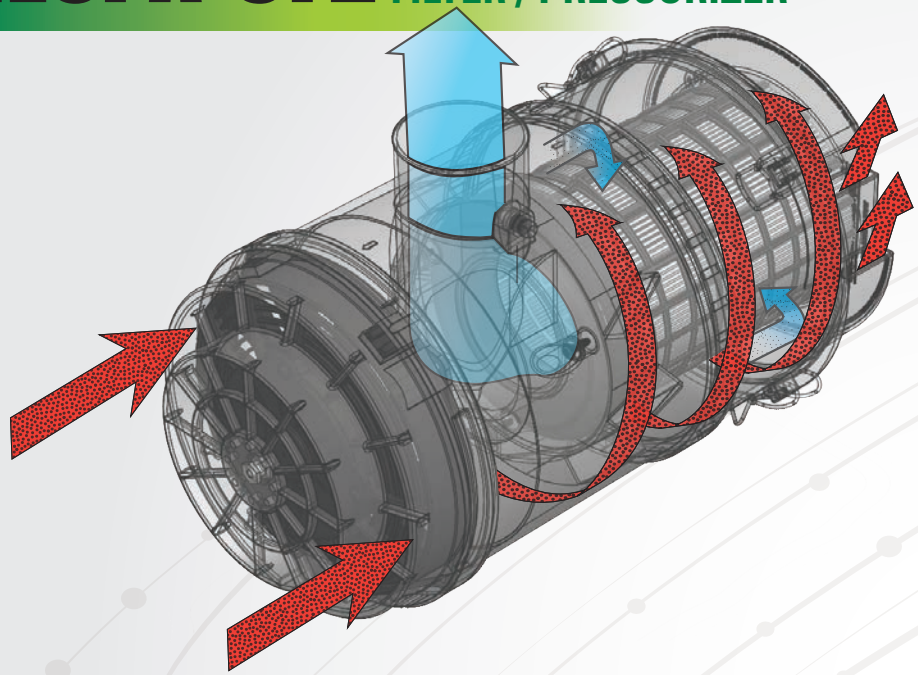
Protect Operators and Improve Air Quality

- Patented, powered technology integrates precleaner, pressurizer, and high-efficiency filtration into a single, compact system
- Meet exposure reduction goals and health and safety initiatives, reduce exposure to harmful respirable particulate, odors, toxins, and gases with interchangeable filter offerings
- High-efficiency filtration arrests microscopic particles extending HVAC system maintenance intervals and filter life, reducing downtime and increasing productivity
- Achieve ISO 23875 Cab Air Quality Standard compliance

Protect Heavy Mobile Equipment Operators in High-debris Work Environments, including:

- Mining
- Demolition
- Construction
- Quarries / aggregate
- Concrete processing
- Waste and recycling, landfills, and transfer stations
- Agricultural and harvesting
- Forestry and timber
- Other high-debris job sites

RESPA® CF2 POWERED PRECLEANER FILTER / PRESSURIZER



How it Works: The "Sy-Klone Effect"

1. Dirty air enters the precleaner housing through the inlet end.
2. The debris-laden air is directed into a rotation – a "Sy-Klone" – pushing the debris to the outside walls through centrifugal force. The debris rotates towards the outlet end.
3. Debris is ejected through the ejection port, and the fine dust that remains passes through Sy-Klone's self-cleaning filter.
4. After passing through the high-efficiency filter, clean air is passed downstream to the HVAC system through the outlet end.

The separation and ejection of debris, and high-efficiency filtering, all of which precleans air, is The Sy-Klone Effect.

Product Specifications

Airflow range: Ideal operation range: 0 CFM to 130 CFM (0 m³/min to 3.68 m³/min)
Extended operation range: up to 250 CFM (7.08 m³/min)

Motor/Voltage: Compact Brushed Motor and Brushless Motor options, both in 12V or 24V

Mounting: Horizontal or Vertical with rain cap end up (Mounting plates available separately)

Standard-length, compact motor, 3-inch outlet product dimensions and weight: HxWxL; Weight
With rain cap: 18.9" x 10" x 11.3" (479 x 254 x 286 mm); 10.5 lbs. (4.8kg)

Extended-length, compact motor, 3-inch outlet product dimensions and weight: HxWxL; Weight
With rain cap: 23.9" x 10" x 11.3" (606 x 254 x 286 mm); 14.2 lbs. (6.4 kg)

INTERCHANGEABLE FILTER OPTIONS TO SUIT YOUR JOB SITE

PARTICULATE:
• HEPA • EPA • MERV 16

GAS + PARTICULATE:
• ODOR • ABEK GAS • AMMONIA

SY-KLONE® INTERNATIONAL

RESPA Advisor+ Cab Monitoring System

RESPA Advisor+ cab monitoring system provides visibility into the operator cab environment. With the RESPA Advisor+ cab monitoring system, see the unseen threats on an industrial job site, including unsafe levels of CO_2, loss of cab pressurization which could lead to harmful respirable particulates entering the cab, and loss of filter life caused by changing filters prematurely.

Cab Pressurization

Monitor reports cab pressurization levels in near real-time to provide machine operators indicator of cab environment

High Quality CO_2 Monitor

Not all CO_2 sensors are created equally. Sy-Klone sourced a high-quality sensor with precision accuracy to provide near real-time CO_2 data to alert operators when unsafe air quality conditions exist

Filter Life Tracking

Take the guess work out of filter life, with manual filter tracking to ensure optimal filter life and performance

Audible and Visual Alarms

Built-in alarm alerts the operator when pressurization or CO_2 levels go outside of the allowable threshold

Interactive, LCD Display

Full color, interactive LCD screen is easy to use and quick to learn, making it easy to integrate into the jobsite

Access Data for Better Insights into the Operator Cab Environment

- Data logging with download capability via Bluetooth
- Admin access for
- Smartphone App to access data

Ready for Jobsites Around the World

- Metric and Imperial units of measurement
- Symbol-based interface for ease of use for all users regardless of native language

Designed for Cab Environment

- Small size and dark color scheme blends into operator cab environment
- Matte surface texture eliminates glare and visual safety concern

EquipTech