



# RESPA®-CF Vortex HyperFLOW™

NEW Product Family of Air Quality Systems  
for Cabs and Other Enclosures

[www.lsmtechnologies.com.au](http://www.lsmtechnologies.com.au)

**SY-KLONE**  
INTERNATIONAL

## Begin with a Fresh Air Sytem:



## RESPA®-CF Vortex HYPER Flow™

- Powered precleaner/filtration /pressuriser
- Advanced, low-restriction MERV 16 filtration.
- Debris is ejected out of the system
- Includes Electronic Pressure Monitor System
- Monitor can connect to remote telemetry system

## Improve it with a Recirculated Air System:



## RESPA®-CFX

- Powered inline precleaner/pressuriser
- Advanced MERV 16 filtration.

## Not ready for Power? Choose upgradeable, low-restriction filtration:



Fresh  
Air System



## RESPA®-FF

- Includes Pressure Monitor
- Advanced MERV 16 filtration



## RESPA®-FFX

- Recirculation System
- Inline MERV 16 filtration



Our most advanced Cab Air Quality System delivers a  
**POWERED PRECLEANER/FILTER/PRESSURISER**  
in one compact, customisable unit!

**NSF**

Registered to  
ISO 9001:2008

# The Benefits of RESPA®-CF Vortex HyperFLOW™ Technology:

Keep Money in Your Pockets and Operators in Your Cabs!

## INCREASE UPTIME and REDUCE COSTS:

**Affordable:** This cost-effective system extends HVAC system maintenance intervals. Dramatic filter life extension saves on filter and labor costs.

## MAINTAIN CAB PRESSURISATION:

**Powered precleaning** allows cabs/enclosures to sustain positive pressurization, keeping particulate out.

## MEET REGULATORY REQUIREMENTS UNDER ALARA (As Low As Reasonably Achievable):

RESPA-CF can be a cost effective solution to help **meet Permissible Exposure Limits (PEL)** and protect operators. The RESPA-CF **reduces exposure to all forms of respirable particulate** including diesel particulate matter (DPM), asbestos, and respirable crystalline silica (RCS).

## OPERATOR COMFORT:

Cab stays cleaner, more comfortable, keeping operators happier, healthier, and more productive.

Our High Standards Meet THEIR Standards Too!

**Sy-Klone's Electronic Pressure Monitor System meets or exceeds compliance for pressure monitoring device for:**

- CE Compliant (EU)
- Canadian OSHA
- EN15695 (EU Ag Sprayer Cab Category 3-4 Cabs)
- MSHA (USA) underground mining applications
- AIOH (Australian Institute of Occupational Hygienists)
- Health Safety Executive (UK-AG7,CN8, CN11) Recommended Device



***"Installing Sy-Klone's RESPA® System and Pressure Monitor was less than the cost of one MSHA fine, and now we are back in compliance!"***

## Creating the Vortex

1. Particulate-laden air enters the precleaner inlet.
2. The fan creates a VORTEX, a tornado-like spinning motion, whipping the air and particulate to the outside wall as it approaches the fan blades.

## Creating the Hyper spin

3. Spinning air HYPER-accelerates as it passes through louvers, further enhancing centrifugal forces powerful enough to affect particle separation down to 5 µ.

## Creating the continuous Flow

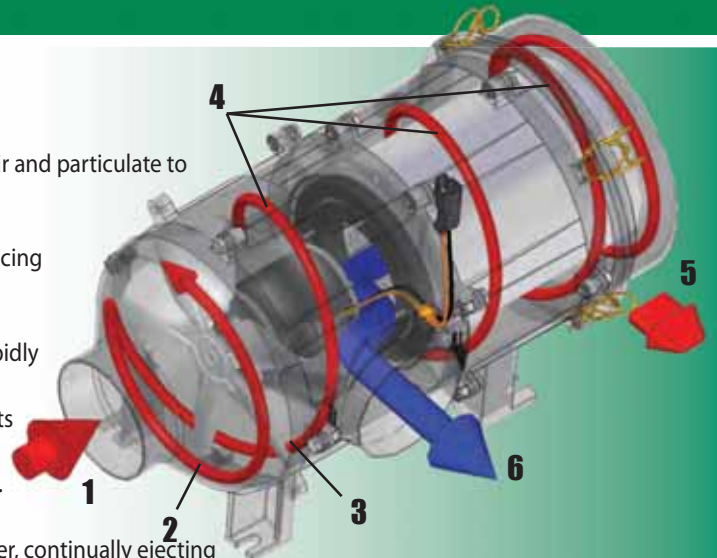
4. Particulate is spun against the outside wall of the device and propelled rapidly around the filter to the rear of the device in one continuous FLOW of air.
5. Particulate is ejected back into the environment through two ejection ports located at the rear of the device.
6. Precleaned air passes through the filter. Filtered air continues to the outlet.

## Self-cleaning Filter:

Vortex HyperFLOW hyper accelerates particulate-laden airflow around the filter, continually ejecting particulate out of the filter housing. Vibration causes the filter to continuously drop particulate which is immediately ejected from the filter housing. Unlike any previous technology, the entire filter housing remains essentially particulate-free.

## Harnessing the Pressure Surge:

The RESPA-CF with Sy-Klone's unique MERV 16 filter harnesses the pressure surge that occurs whenever the door of the cab is slammed closed. The RESPA-CF is designed to act as a pressure release valve that converts vibrations and pressure fluctuations into filter cleaning events by allowing the filter to flex, thereby releasing arrested particulate back into the filter housing to be ejected, thus lowering filter restriction and extending filter life.

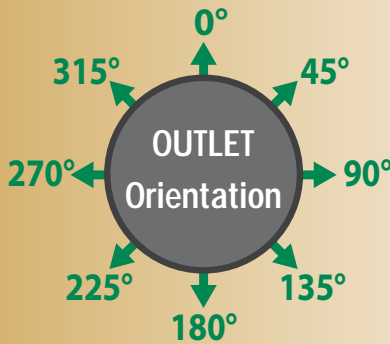




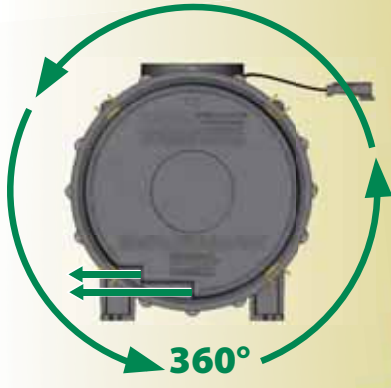
# Assemble it the way you want it with our **REVOLUTION in a BOX!**

## CUSTOM CONFIGURATIONS

Set the OUTLET ORIENTATION to suit YOUR installation



Ejection Port  
Orientation

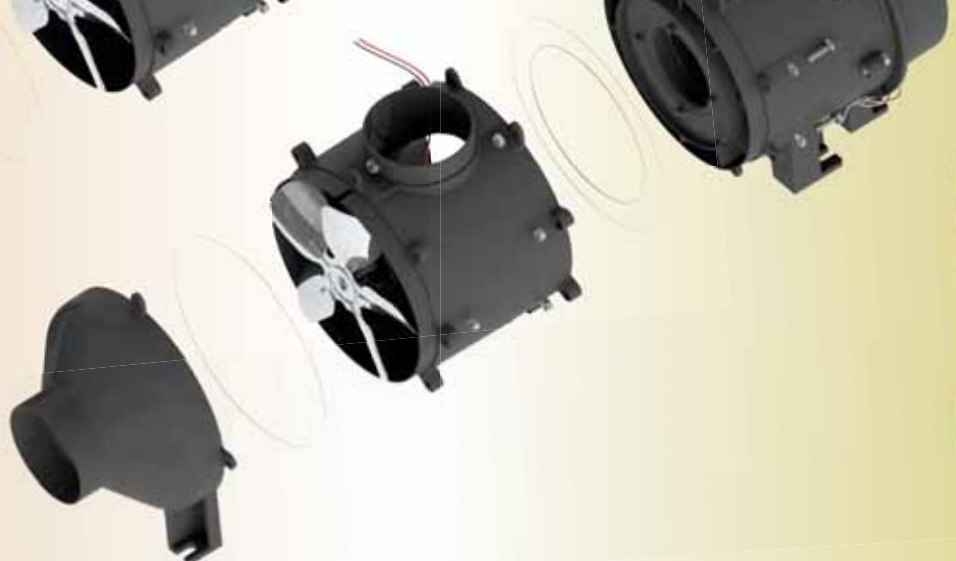


Low Restriction  
Self-Cleaning  
MERV 16 Filtration



Use the Finger-Guard Screen  
with or without the Rain Cap  
Inlet adaptation

OR



Use the Ducted Inlet adaptation





# REVOLUTIONARY Applications

## OF PATENTED RESPA TECHNOLOGY



Clean room for engine rebuilding



Landfill Heavy Equipment Cab



Heavy Equipment Cab



Heavy Equipment Cab

### PARTIAL LISTING OF INDUSTRIES:

**Agriculture- all forms • Waste – landfill, Transfer station- Recycling Facilities- Lift Stations • Mining- All mining (except where an explosion proof motor is required) • Construction • Demolition • Nuclear Decommissioning • Radioactive Clean up • Stevedoring • Military • Cell Phone Towers • Power Generation • Utilities • Trucking • Law Enforcement • Forestry • Fire Fighting**

### PARTIAL LIST OF APPLICATIONS

#### All enclosed operator cabs in all environments

- Heavy equipment cabs
- Stationary equipment cabs
- Cranes
- Drills
- Pipe laying machines

#### Environmentally controlled spaces:

- Electronic control rooms
- Portable field offices
- Military Portable command posts
- Crusher cabins
- Clean rooms for engine rebuilding
- Dyno rooms
- Cell tower control rooms
- Crew quarters in mining applications

#### Power Generation and Distribution

- Ventilated electric boxes
- Electronic cabinets
- Electronic control Rooms
- Computer Server Cabinets

#### Miscellaneous

- After Burner Coolers for Tier IV engine applications
- Alternator cooling
- Bill Boards



Control Room

# Pressure Monitor System - Features

It is important to maintain positive pressure inside an operator's cab. Cab pressurisation helps prevent dust and harmful particulate from entering a sealed cab. The Sy-Klone Cab Pressure Monitor System is easy to operate and provides a continuous pressure reading on a digital display, which will alert the operator whenever the enclosed cab's air pressure drops below the pre-set pressure. This Pressure Monitor System is recommended for use with Sy-Klone's family of RESPA® Cab Air Quality Systems.

**The unit operates when the power is switched on.**

**LED Alarm:** The lighted indicator illuminates whenever the cab pressure drops below the preset minimum threshold for more than 10 seconds. This feature cannot be disabled. The 10 second delay allows for normal door opening and closing without setting off the alarm.

**Numeric Display:** This indicates the realtime pressure in the cab.

**Low Pressure Signal Alarm:** This feature is internal in all units. It can be activated or deactivated during set up. If this feature is activated, the alarm will sound when the cab pressure drops below the set pressure level for 10 seconds. It self-resets when the cab pressure returns to normal or when an off/on power cycle is completed.

**Silence Alarm Button:** Sometimes it is necessary to open a window or door for more than 10 seconds. This will set off the alarm. The alarm signal can be silenced by pushing the silence button. (Note: the light will remain on until pressure is restored.) The alarm mode is self-resetting when the cab pressure normalizes or with an off/on power cycle. The alarm is again armed and will sound after a 10 second pressure drop.

**Quick Connect Fitting:** The included air line attaches here.

**Electrical Wiring:** Connects to any convenient DC voltage connection between 9VDC and 36 VDC, so this unit can be installed on a 12V or 24V system.

**Low Voltage Pressure Signal Port:** The unit includes a 0 to 5 volt output signal that can stream realtime pressure information to an on-board computer. The 1/8" mono plug signal port puts out a low power voltage signal that varies with the pressure reading (see technical specifications for details).

Either available as part of the RESPA Revolution in a Box or separately.

## Specifications

**Operating Pressure Range:** 0 to 0.8 Inches H<sub>2</sub>O (0 to 200 Pa)

**Display Resolution:** 0.01 Inches H<sub>2</sub>O (1 Pa)

**DC Input Voltage** (self-resetting fuse): Minimum: 9V, Maximum: 36V

**Current Consumption:** Less than 30 mA

**Operating Temperature Range:** -40 F to 140 F (-40 C to 60 C)

**Low Voltage Pressure Output Signal:** 0V @ 0 Inches H<sub>2</sub>O (0 Pa)

5V @ 0.8 Inches H<sub>2</sub>O (200 Pa)

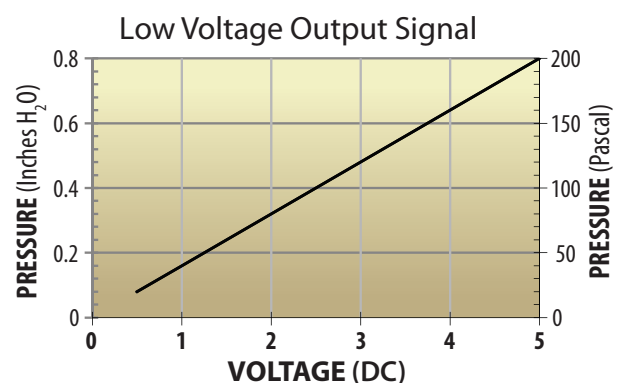
20 mA

**Enclosure Dimensions:** 3.50 x 2.52 x 1.39 inches (88.9 x 64 x 35.2 mm)

**Mounting Plate Dimensions:** 4.52 x 2.52 x 0.11 inches (114.8 x 64 x 2.8 mm)

**Weight:** 0.2 oz. (175 g)

**Air Tube:** 3/16 inches OD; 6 foot length (1.8 m)



This low voltage output signal chart can be used to calibrate real-time pressure data when sent to a computer or telemetric system. A more detailed version of the chart is available on [www.sy-klone.com](http://www.sy-klone.com).

# RESPA®-CF Vortex HYPER Flow™



**RESPA®-CF Vortex HyperFLOW™**  
was awarded the **Agricultural Engineering Top 50 Products of the year** by the **American Society of Agricultural and Biological Engineers.**



## Specifications:

**Mounting:** Vertical or horizontal.

**Filter Options:** MERV 16

**Precleaning Efficiency:** ≥90% @ 5 μ in normal operating range.

**Operating Parameters:**

Ideal operation range: 0-130 C.F.M (0-3.68119 m³/m)

Extended operation range: up to 250 C.F.M. (7.07921 m³/m)

Operation temperature: -40° C to +85° C continuous; +100° C short exposure.

**Dimensions:** With Rain Cap installed, approximately 19.1" x 10.1" x 10.3" (48.51 x 25.65 x 26.16 cm); weighs 9.8 lbs. (4.45 kg) with rain cap

**Construction:** Glass-filled injection molded polypropylene exterior; metal fan blade; 288W initial start-up, 144W constant; available 12V or 24V DC motor with sealed housing and sealed ball bearings (CF).

**Cab Pressurisation:** Maintains designed cab pressurization over extended operating periods even when A/C is off, resulting in dramatically increased operator comfort.

## Specifications:

**Mounting:** Vertical or horizontal orientation.

**Filter Options:** MERV 16

**Performance:** Efficiency is based on selected filtration package.

Operation range ideal: 0-130 C.F.M (0-3.68119 m³/m)

Operation range extended: up to 250 C.F.M. (7.07921 m³/m)

Operating temperature: -40° C to +85° C continuous; +100° C short exposure

**Dimensions:** With ducted inlet, approximately 18.9" x 9.9" x 10.3" (48.01 x 25.15 x 26.16 cm); weighs 8.9 lbs. (4.03 kg)

**Construction:** Glass-filled injection molded polypropylene exterior; metal fan blade; 288W initial start-up, 144W constant; available 12V or 24V DC motor with sealed housing and sealed ball bearings.

**Cab Pressurization:** Designed to promote cab pressurization over extended operating periods when used in conjunction with the RESPA®-CF Vortex HyperFLOW™ even when A/C is off, resulting in dramatically increased operator comfort.

# RESPA®-CFX



## Non-Powered Filtration



**RESPA®-FF**  
Fresh Air System  
Upgradeable

## RESPA®-FFX

Recirculated Air System  
Upgradeable



**L | S | M**  
**TECHNOLOGIES**  
...on the move!

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