

EPURA System

SELF-CLEANING FILTRATION

*Never change
air filters again!*

Self-Cleaning Head

Uses low-frequency sound waves to eject dust particles without damaging the filter.

High Quality Filter

Unique cartridge and moisture resistant media tailored for the Epura system, ensuring mining-worthy filtration.

Air Intake

The point of entry for dirty air and ejection of accumulated dust.

Operator Interface

Allows monitoring of the system pressure status, measuring pressure differential across the filter and initiating cleaning at a set restriction limit.



Discover the groundbreaking technology that outperforms traditional systems even in the dustiest environments. The Epura system ensures a constant, high-quality air supply without the need for regular filter changes.

Enhance engine performance and reduce emissions, all while maintaining a safer, healthier workspace.

Applications: Cabins and Engines



Loaders



Dozers



Excavators



Key Benefits & Features

Fuel efficiency & performance

Maintains air volume for optimal power, fuel economy (up to 10% improvement), and emissions.

Self-cleaning system using low-frequency sound waves

Eliminate the hassle of frequent filter changes, preventing work interruptions, and reducing maintenance costs.

Comprehensive protection

Installed upstream from the OEM filter, it adds protection for your engine without affecting the warranty.





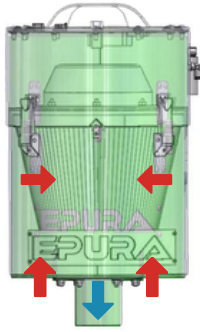
BENEFITS & FEATURES

More Features

- Measures pressure differential across the filter and initiates cleaning at a set restriction limit.
- Activated charcoal filtration option available.
- Replaces and eliminates the need for existing pre-cleaners.
- Can be installed directly on the filter box housing.
- Offers fast ROI and simple installation.

How it Works

1. Install upstream of the original air filter.



A

Dirty air enters filter, 97% cleaner air to OEM filter.

2. Pressure differential is monitored. When set limit is reached operator is warned.



B

When engine is off or at idle, operator sends signal to clean.

3. Patented infrasound cleaning cycle is initiated.

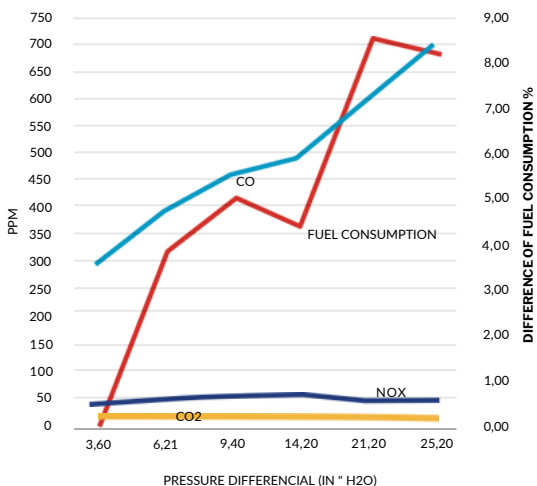


C

Dust is ejected at the base of the unit.

Filter Restriction vs Fuel Consumption

1. As dust restricts air flow the pressure differential increases.



2. Reduced air for combustion multiplies inefficiencies.

- Increased fuel consumption
- Increased CO emissions and unburnt fuel in exhaust
- Power rating is decreased
- Increased DPF & air system maintenance
- Inefficiencies multiply as equipment loses power while also increasing fuel consumption
- Dust often infiltrates during air filter maintenance
 - Frequent filter changes leads to an increased exposure to introduction of dust beyond the filters.
 - Instances of “dusted” engines still occurs in most fleets

3. Condition persists until filter is replaced or cleaned.

- Filter is replaced and cycle begins again until it is replaced
- In high dust environments, full dust load is sometimes achieved in 50–150 hours of engine operation or less
- The efficiency of the air filter systems is dependent on the proper functioning of the existing pre-cleaner
 - Cyclone tube assemblies are often restrictive and difficult to service, Epura replaces all pre-cleaners from the intake



BENEFITS & FEATURES



How it Saves Money

Filter Savings



All associated costs with the air filter portion of the PM are eliminated **by eliminating the need to replace the filters.**



Filter cost and inventory, labour time and production availability may all be factored

Fuel Savings

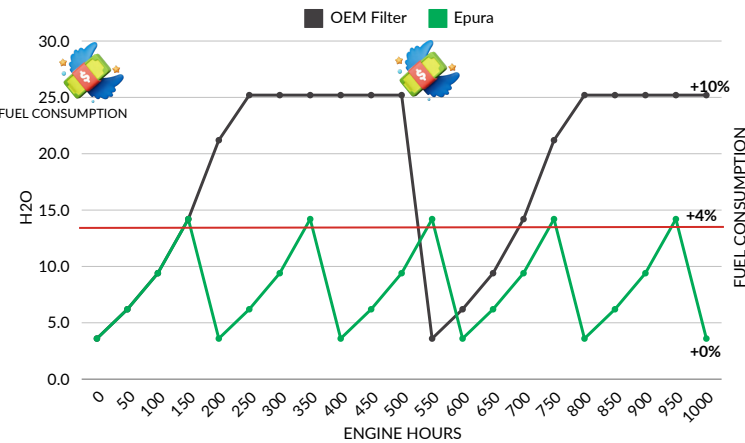


Controlling pressure differential reduces the amount of time the equipment operates in high fuel consumption and low power band.

- Up to **10% fuel efficiency**
- Maintains **optimal power** from the engine 80-90% of the time vs 20-50% with regular filters

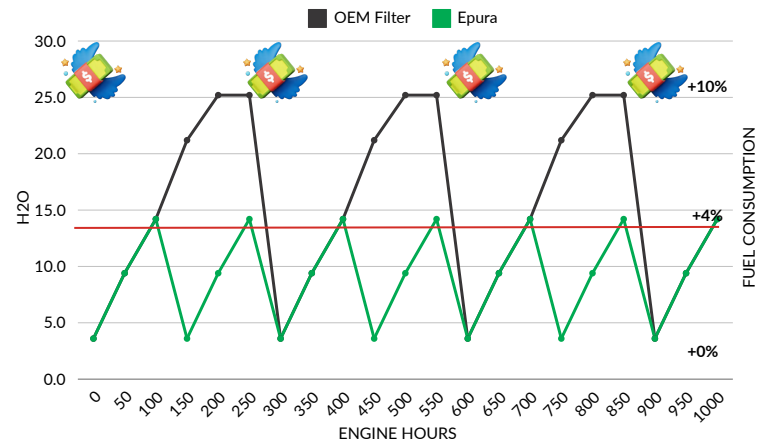
Air Filter Restriction vs Fuel Consumption

PM @500 HRS



Air Filter Restriction vs Fuel Consumption

PM @250 HRS



Annual Savings

Equipment: Komatsu WA 900
 Epura: EPU-G5-D15 (Dual 10") PM
 Cost: \$550 @ 250 HRS
 Fuel Efficiency: 5%
 Emissions Reductions: 2%



\$ 27,993
Litres per year

\$ 7,395
Gallons per year

105
Total GHG's saved

\$ 62,460
Total saving per year

6.2
ROI in months





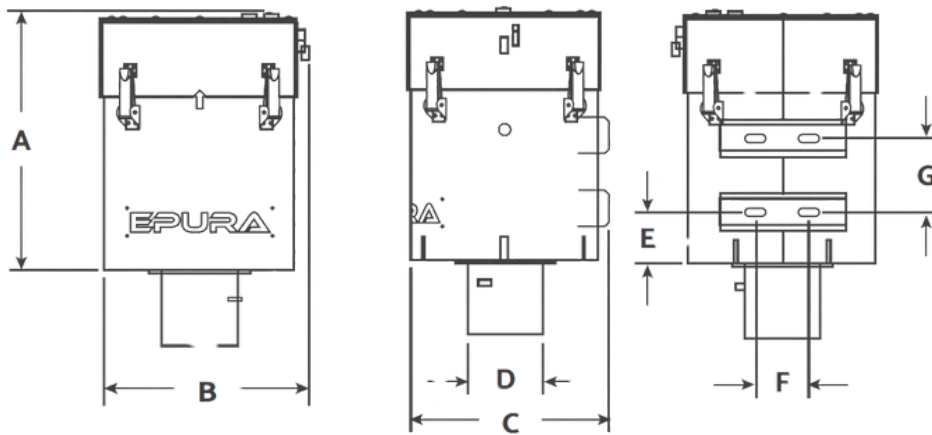
SPECIFICATIONS

EPURA ENGINE Air filtration system for diesel engines.

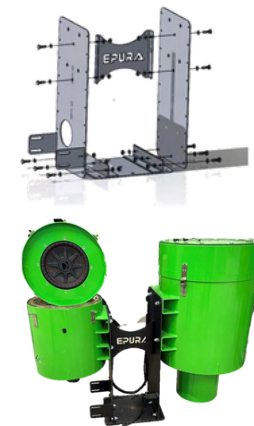


System Sizes

Model	A mm (in)	B mm (in)	C mm (in)	D mm (in)	E mm (in)	F mm (in)	G mm (in)
EPU-G5-M08	422 (16-5/8)	302 (11-7/8)	324 (12-3/4)	102 (4)	64 (2-1/2)	95 (3-3/4)	127 (5)
EPU-G5-M10	523 (20-5/8)	391 (15-3/8)	410 (16-1/8)	152 (6)	105 (4-1/8)	108 (4-1/4)	152 (6)
EPU-G5-M12	572 (22-1/2)	443 (17-7/16)	464 (18-1/4)	203 (8)	111 (4-3/8)	152 (6)	203 (8)
EPU-G5-M15	650 (25-1/2)	527 (20-3/4)	546 (21-1/2)	254 (10)	149 (5-7/8)	203 (8)	203 (8)



Dual Bracket (Option)



Technical Data Chart

Model	Motor power in kW (hp)	Displacement in litres (cu. in.)	Flow in m ³ /h (CFM)	Tension (Volt)	Intensity (Ampere)
EPU-G5-M08	< 98 (131)	< 4 (245)	< 375 (220)	12 Vcc 24 Vcc	10 A (During cleaning)
EPU-G5-M10	< 180 (249)	< 8 (488)	< 700 (523)		
EPU-G5-M12	<270 (375)	<12 (732)	<1360 (800)		
EPU-G5-M15	360 (500)	< 18 (1100)	< 1550 (1160)		

*For larger engine, systems can be installed in parallel.

**For informational purposes only, these data may vary depending on the application and dust load.





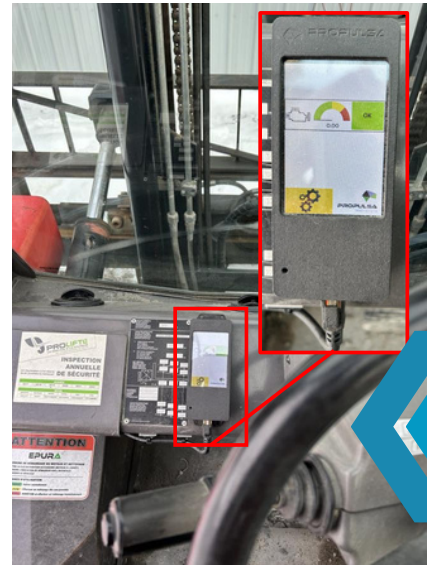
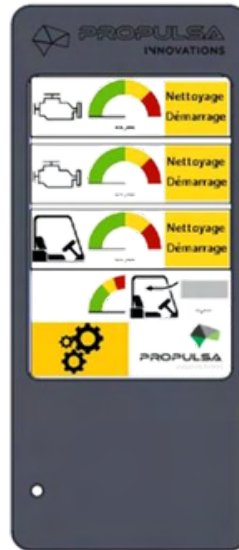
INSTALLATION

EPURA ENGINE Air filtration system for diesel engines.



Cabin Controller

- Securely mount controller to dash where accessible to operator.
 - Displays the pressure differential for each Engine Epura
 - Displays pressure differential for the Cabin Epura
 - Displays cabin pressure
 - Touchscreen to initiate cleanings
 - Settings menu available



Replaces Existing Pre-Cleaners

Centrifugal or Cap Style

- Just remove and plumb to the Epura Inlet.
 - Elbows and piping must not restrict the air flow



Cyclone Tube Assembly

- Cyclone tube box can be removed.
 - Plenum can be fabricated to adapt a single or double Epura to the filter box.





CASE STUDY

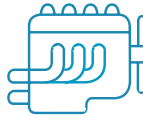
RioTinto

Results

Rio Tinto Saguenay-Lac-Saint-Jean has seen impressive benefits from Epura systems, including significant reduction in maintenance expenses for its vehicles and a return on investment in just 10 weeks.



- More than \$21,000/year/vehicle in savings related to engine filter changes (filters and labour)
- More than \$38,000/year/vehicle in savings related to cabin filter changes



- More than \$2,500 in savings on assorted expenses related to premature wear
- More than \$3,600/year/vehicle in savings on engine oil



- More than \$60,000 in savings on expenses related to time lost to maintenance
- Vehicles require no filter maintenance



- Lower fuel use and fewer pollutant emissions for each vehicle
- Complies with existing health and safety standards



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DFM - Precision Fuel Flow Meters
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*More fuel savings
Cut more emissions*

