

SDPF Diesel Particulate Filter System

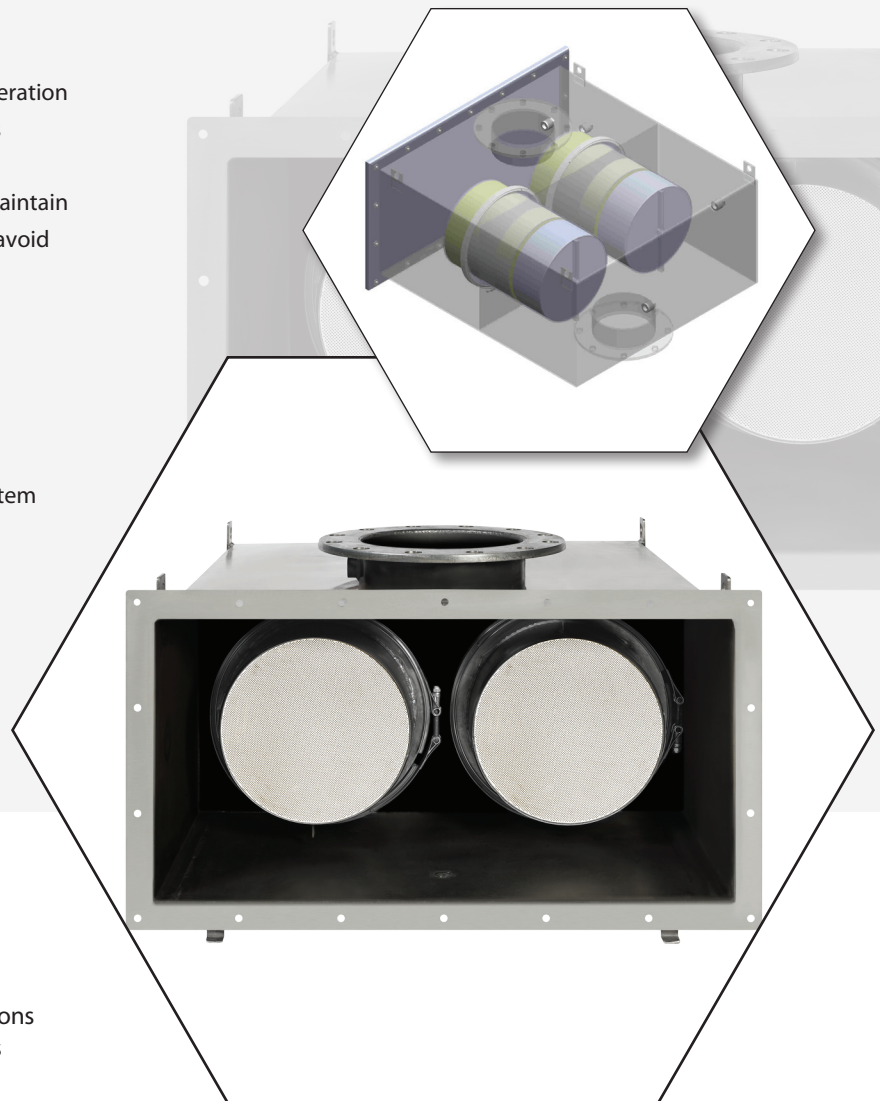
Johnson Matthey's SDPF Diesel Particulate Filter optimizes engine performance with advanced filtration and exhaust gas regeneration.

Benefits:

- >> For emergency backup and prime power generators
- >> Reduces PM by 85+%, HC by 70%, CO by 80%
- >> The SDPF system uses advanced hot exhaust gas filter regeneration that is simple and reliable, has no moving parts, and requires no supplemental heat or fuel
- >> The SDPF's hot exhaust gas regeneration method helps to maintain engine manufacturer's maintenance recommendations and avoid wet stacking concerns
- >> Compact, light-weight design with small footprint
- >> Multiple-filter design fits all engine sizes
- >> Quick installation, easy to service and maintain
- >> Compatible with ULSD (ultra-low sulfur diesel) or B20 biodiesel fuels
- >> Johnson Matthey's SootAlert™ Monitor ensures the SDPF system is always ready for full load engine operation
- >> Each SDPF system equipped with the SootAlert™ Monitor has data logging, back pressure alarm capability and can be remotely monitored through an internet connection
- >> Proven on more than 5,000,000 on-road cars & trucks, 200,000 retrofitted trucks & off-road vehicles and 400 stationary generators since 1980s.

Johnson Matthey SDPF Continuously Regenerating Technology

The **SDPF** Diesel Particulate Filter (DPF) is Johnson Matthey's patented technology for the reduction of PM and other emissions from diesel engines. The redesigned **SDPF** system regenerates easily by the heat of the exhaust gas, and with the companion **SootAlert™ Monitor**, your engine is assured of operational readiness whenever your emergency generator is called into action. In addition, the filters are easily accessible for cleaning or replacement.



Johnson Matthey
Stationary Emissions Control

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The **SDPF** system can be used on all types of stationary diesel engines used for generating power, including:

- >> Emergency back-up power
- >> Prime power
- >> Demand response power

This advanced passive regenerating DPF system not only reduces PM by 85+%; it also reduces HC by 70% and CO by 80%.

Engineering Innovation Makes the SDPF System Unique/Superior

Our low-profile **SDPF** system design is engineered for optimum efficiency and effectiveness. It is compact; easy to install; can accommodate multiple filters and the low height of the unit allows easier installation and access (in some cases, inside engine enclosures).

While other filter systems may use an external heating source, Johnson Matthey's **SDPF** system employs a DOC (Diesel Oxidation Catalyst) that is close-coupled to a non-catalyzed ceramic wall-flow soot filter. This allows for maximum catalyst and filter performance. The DOC converts NO into NO₂. The NO₂ then combusts the soot that is collected on the filter to regenerate the filter.

Compatible with All Typical Diesel Exhaust Temperatures

The operating temperature of the Johnson Matthey **SDPF** system is compatible with typical diesel exhaust temperatures, so no supplemental heat is required. The **SDPF** system employs passive regeneration to keep the filter clean during engine operation.

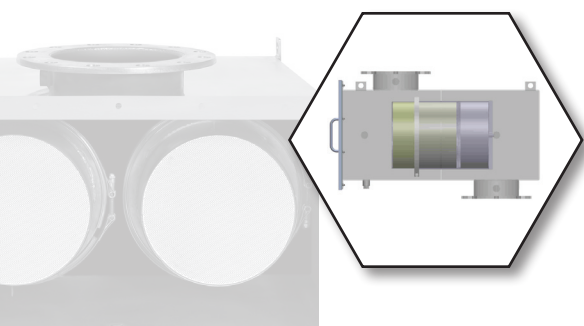


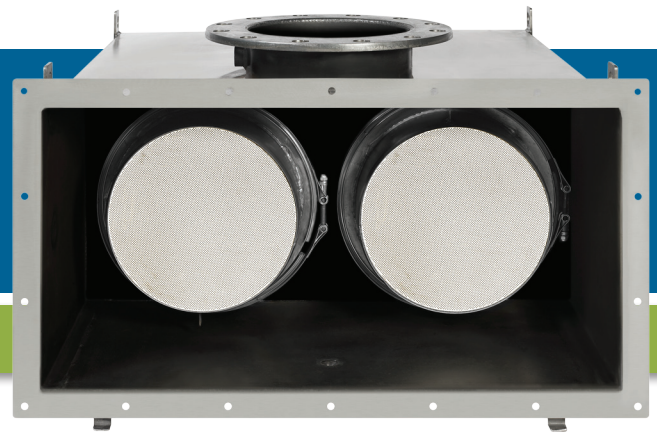
Value of Johnson Matthey SootAlert™ Monitor

Each time you run your engine, Johnson Matthey's unique SootAlert Monitor checks the time, pressure, and temperature of the **SDPF** system, and shows you a Green Light when the filter is clean, a Yellow Light when it has begun to accumulate soot, and a Red Light indicating that it is time to regenerate the diesel particulate Filters.

Johnson Matthey's **SDPF** system is sized for each engine application to allow for a minimum of 24 consecutive cold starts before filter regeneration is necessary (30 minutes per cold start) and 150 cold starts before cleaning ash from the filter is necessary. This means that an engine can be run once a month for a half-hour at idle or minimal load and not need to be regenerated for two years.

Regenerating the filters is easy—just run the engine under the recommended load until the SootAlert light turns from Red to Green, and the **SDPF** system is good for another 24 Cold Starts. This method also conforms to most engine manufacturers' recommendations to run the engine under load periodically to maintain engine longevity and avoid wet stacking.





Key Attributes for Johnson Matthey's Passive SDPF System

Product Design	Diesel Oxidation Catalyst (DOC) plus wall-flow ceramic filter
Filter Regeneration Technology	>> NO is converted to NO ₂ over the DOC >> NO ₂ combusts the soot, regenerating the filter
Heat Source for Regeneration	Engine exhaust
Converts CO, HC and meets RICE NESHAP CO levels	Yes
Regeneration method matches Engine OEM recommended maintenance and helps to avoid wet stacking of engine	Yes
Typical Regeneration Frequency for Standby Application	Annual
Proven Technology and In-Use Durability	In-use since the 1980s >> 5 million installed on on-road cars and trucks >> 200,000 installed on retrofitted trucks and off-road equipment >> 400 installed on stationary generators
Product Weight and Size	Lightweight, compact, small footprint, silencing built-in
Assured Filter Readiness for Operation	SootAlert™ monitor assures that the SDPF system is always ready for operation
Maintenance	Simple, no moving parts
External Heat Source Required	No
Dedicated Power Source Required	No
Total Cost of Ownership over 10 years, including purchase price and fuel	Lowest



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Johnson Matthey's SootAlert™ Monitor Specifications

Power Supply	<ul style="list-style-type: none"> >> Input voltage: 24VDC >> Permissible range: 20.4VDC to 28.8VDC with less than 10% ripple
Graphic Display Screen	<ul style="list-style-type: none"> >> LCD type: STN, LCD display >> Illumination backlight: white LED, software-controlled >> Display resolution: 128 x 64 pixels; Viewing area 2.4"
Keypad	<ul style="list-style-type: none"> >> Key type metal dome, sealed membrane switch; 20 keys
Removable Memory	<ul style="list-style-type: none"> >> Micro SD card: data logged at 5-min. intervals with up to 5 years of data storage capacity; export .csv files to Excel
Miscellaneous	<ul style="list-style-type: none"> >> Real-time clock functions (date and time) >> Battery replacement: coin-type 3V, lithium battery, CR2450
Weight/Dimensions	<ul style="list-style-type: none"> >> Weight: 2.27 kg (5.0 lbs.) >> Size: 240 x 223 x 150mm (9.52 x 8.85 x 5.95")
Environment	<ul style="list-style-type: none"> >> Operational temperature: 0 to 50°C (32 to 122°F) >> Storage temperature: -20 to 60°C (-4 to 140°F) >> Relative humidity: (RH) 10% to 95% (non-condensing)
Mounting Method	<ul style="list-style-type: none"> >> Panel mount IP65 rated enclosure

Proven Success

For 40 years, Johnson Matthey has been the global leader in the emissions control industry. When it comes to performance, Johnson Matthey's **SDPF** technology has proven to be the superior solution for mobile and stationary diesel engines. The leader—Johnson Matthey—continues to be the best choice for all engine emissions control applications.



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