

# STRATUS™

DIESEL PARTICULATE FILTERS



## *Stratus SMF®-AR*

Reduces Soot and  
Fine Particulate by  
More than 99%



**T.F. HUDGINS**  
INCORPORATED  
[stratusdpf.com](http://stratusdpf.com)

# **Stratus SMF®-AR Exhaust-gas Aftertreatment Systems**

## **REDUCING DIESEL POLLUTANT EMISSIONS**

Diesel engines are powerful, long-lasting and offer low fuel consumption. These are the reasons why they are found on small- and large-scale mining and construction sites, usually in continuous service. However, when fuel is combusted in a diesel engine, the process produces pollutants, such as soot particles, that represent a significant health hazard. The smaller these soot particles are, the easier it is for them to pass through our lungs and into our blood stream and vital organs.

In order to cut the pollutant emissions of mining equipment, T.F. Hudgins offers Stratus™ modular diesel particulate filter systems. These economical and environmentally sound solutions have proven themselves many times over.

## **SMF®—SINTERED METAL FILTER**

The centerpiece of Stratus SMF®-AR exhaust treatment systems is the Sintered Metal Filter (SMF®), which has set new standards for performance worldwide. This filter reduces the emissions of soot particles and fine particulate matter down to the limit of detection, with a filter efficiency of over 99%.

## **DURABLE, RELIABLE AND LOW ON MAINTENANCE**

The SMF® and the systems based on it are exceptionally reliable in operation, require little maintenance and offer a long service life. Stratus systems have proven their effectiveness over many years in more than 250,000 cars, buses, trucks and heavy equipment.

The advantages of SMF® technology result from its unique design and sintered metal construction. Exhaust backpressure is minimized by maintaining an unrestricted inflow of gas into the filter pockets from outside. What's more, the ash-holding capacity of the SMF® is considerably higher compared to a conventional wall-flow (honeycomb) filter. This significantly increases the service hours before a filter requires cleaning, even with older machinery and stationary engine applications that suffer from particularly high oil consumption. The costs of service and maintenance, as well as associated downtime costs, fall accordingly.

With their modular construction, Sintered Metal Filters can be adapted to suit different applications. They may be installed as original equipment (OE) or retrofitted to mobile machinery and stationary applications.

## **—Flexible Solutions for Mining Applications—**

### **SMF® ADVANTAGES AT A GLANCE**

- Reduction of soot particles and fine particulate matter by more than 99%
- Suitable for OE and retrofitting applications
- Proven system already installed in more than 20,000 construction vehicles
- High ash-holding capacity and low exhaust backpressures
- Low-maintenance and economical
- Reliable with long service life
- Easy DIY cleaning

*SMF®—Sintered Metal Filter: 100% soot-free*



## SERVICING AND MAINTENANCE

### ***AUTOMATIC MONITORING AND MAINTENANCE INDICATOR***

The SMF®-AR Service Unit monitors the filter automatically by measuring the backpressure and temperature of the exhaust gases. This information is displayed by the “Service Check” display module, making the status of the filter immediately visible at all times. The service unit is included with all SMF®-AR systems and maintains filter functions at optimum efficiency.



### ***The Stratus Service Unit Complies With LRV/VERT Specifications***

#### ***MAINTENANCE***

In addition to stopping soot particles, SMF®-AR filter systems remove all other solid particulate matter from the exhaust gases, including ash and additives from engine oils. These residues must be removed from the filter at specific intervals by routine cleaning.

#### ***BENEFITS***

- Constant monitoring of exhaust backpressure and temperature
- Overload detection for the particulate filter
- Automatic indication that the filter needs to be cleaned
- Lower maintenance costs



#### ***Automatic monitoring with the electronic Service Check***

#### ***CLEANING INTERVALS***

The high ash-holding capacity of the SMF®-AR system allows significantly longer service intervals than a conventional wall-flow (honeycomb) filter. Experience shows that many machines can operate for longer than 2,000 hours before the first service procedure is necessary. This keeps both operating and downtime costs to a minimum.



# Stratus Exhaust-gas Aftertreatment Systems

## DIY FILTER CLEANING

When an SMF®-AR filter requires cleaning, you or your local dealer can take care of it.

## SMF® FILTER MODULES

Sintered Metal Filter modules are simple to clean with the aid of a commercially available high-pressure cleaner (the residue must be collected in an oil separator).

1. Dismount filter module
2. Remove SMF® filter from casing
3. Clean SMF® filter with high-pressure washer

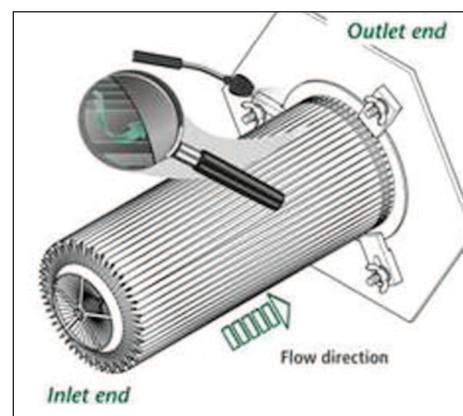
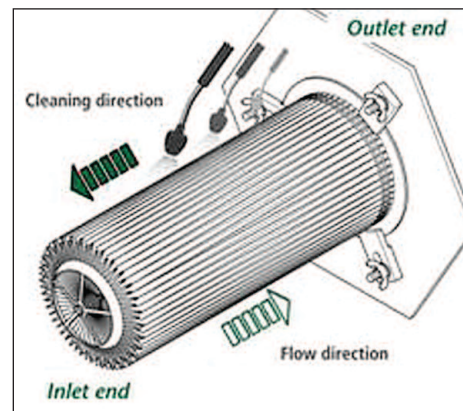
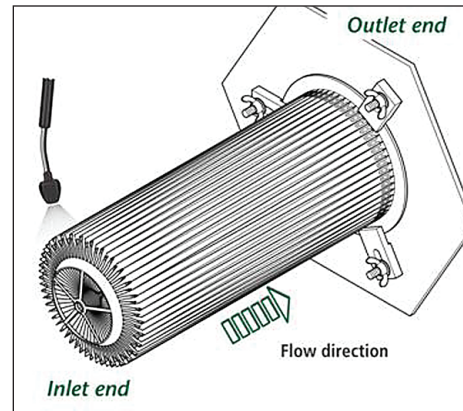
## NOTE:

*Observe all applicable health, safety and environmental protection laws, directives and legal requirements.*

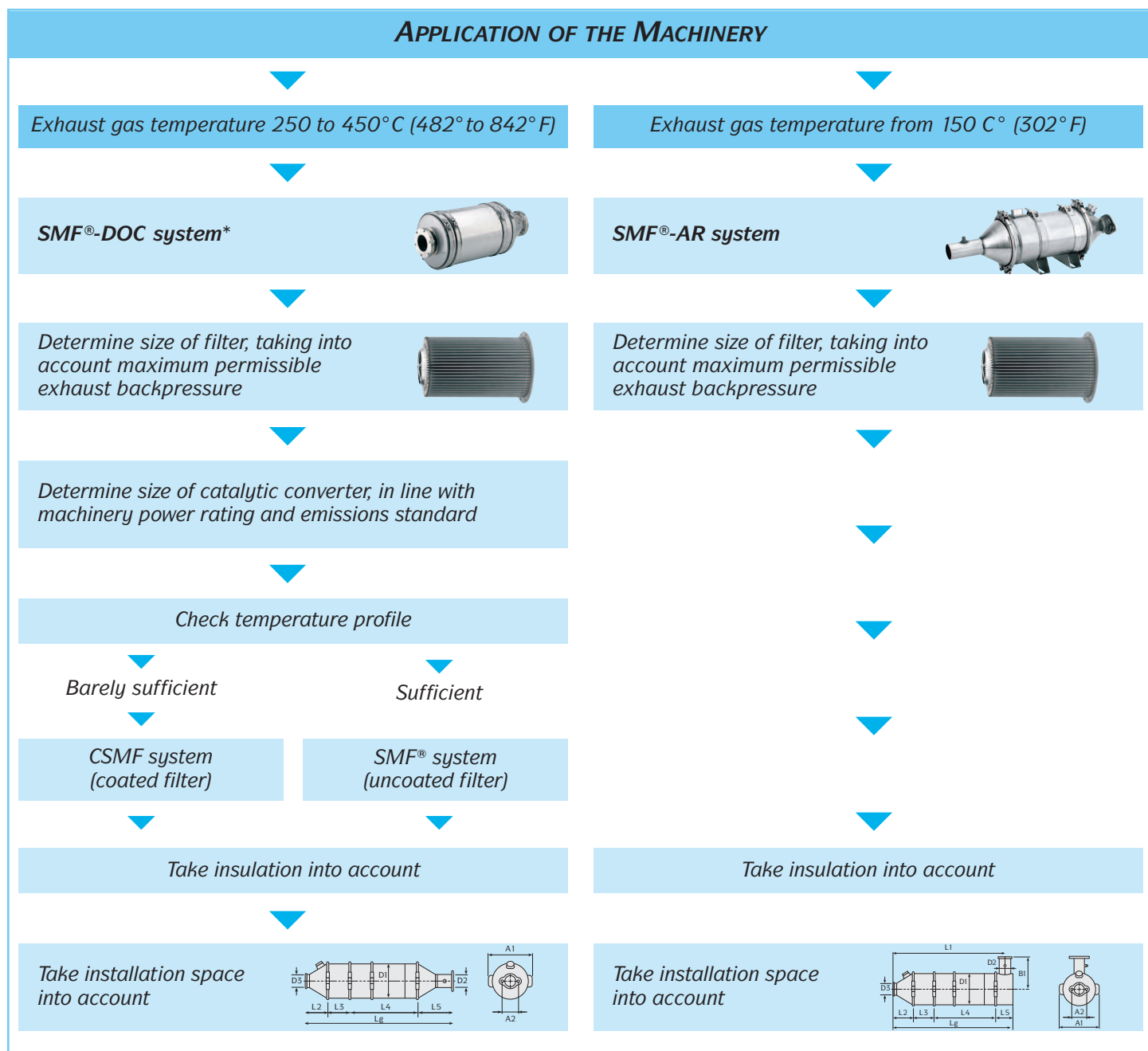
## CERTIFICATION

Stratus diesel particulate filters for mobile machinery and stationery applications:

- are certified and approved in accordance with Switzerland's VERT test method
- are included on the Swiss BAFU filter list and as such satisfy the tough specifications laid down by the national AIR Quality Control Regulations (LRV)
- are approved by the US Mine Safety and Health Administration (MSHA)
- satisfy Germany's Technical Rules on Hazard Substances (TRGS) 554 – Diesel Engine Emissions



The following procedures must be followed when installing an exhaust-gas aftertreatment system for mobile equipment and stationary applications:



\*Consult factory for details

All application specifications, installation guidelines and maintenance manuals provided by T. F. Hudgins, Incorporated, must be complied with.

# SMF<sup>®</sup>-AR System

Due to greatly differing application profiles with exhaust-gas temperatures that are frequently too low, mobile equipment and stationary applications are usually fitted with active systems, such as the SMF<sup>®</sup>-AR (Sintered Metal Filter with thermoelectric self-regeneration) system. With this system, the particulate filter can be regenerated at almost any engine operating point, irrespective of exhaust-gas temperature. The heat necessary to burn off the particulate matter is generated by the SMF<sup>®</sup>-AR system itself.

The compact and modular design of the SMF<sup>®</sup>-AR system enables it to be used in many different applications. Pipes and brackets can be modified as required to match different machines and vehicles. As a rule, SMF<sup>®</sup>-AR systems replace the original silencer.

## FUNCTIONAL DESCRIPTION

The SMF<sup>®</sup>-AR system filters exhaust gases until an optimum quantity of soot for regeneration has been collected in the filter. The system makes use of the positive active properties of a fuel additive that lowers the soot's ignition temperature and increases its burn-off speed.

## APPLICATION EXAMPLES FOR SMF<sup>®</sup>-AR

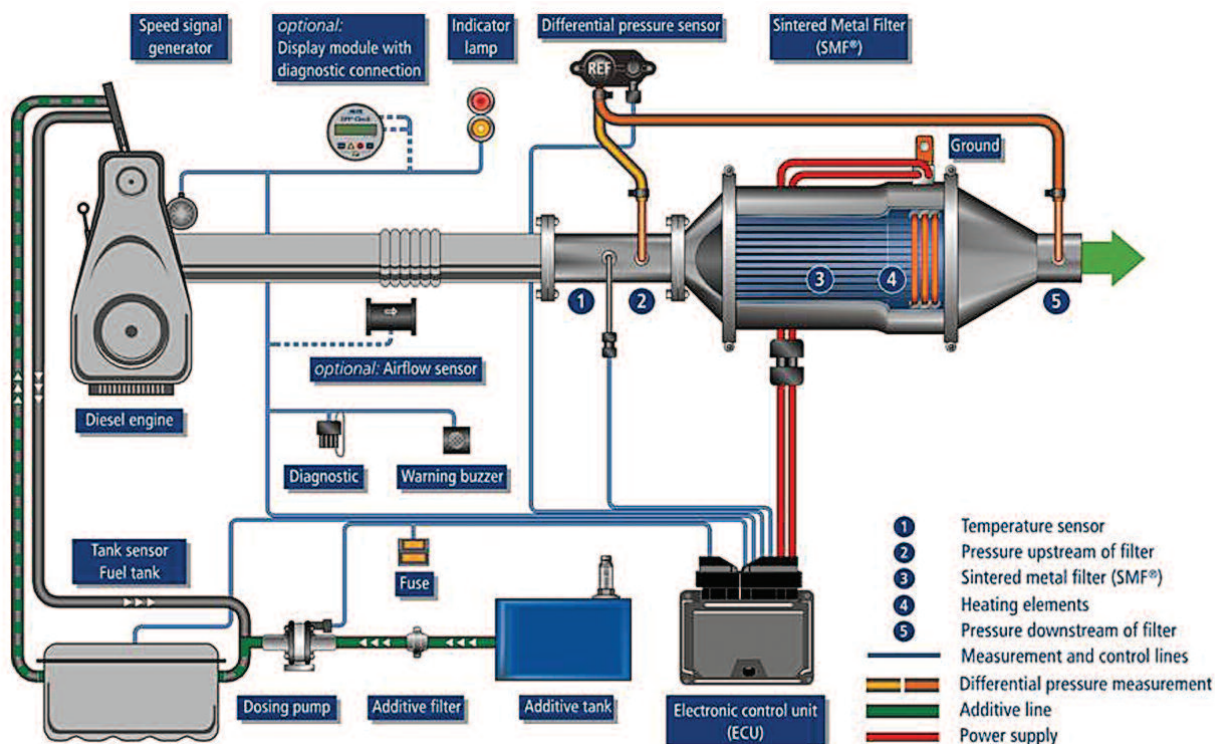
The SMF<sup>®</sup>-AR is used on construction machinery and mining equipment, such as forklifts, scalers, bolters, prime movers, trucks and power generating sets.



*SMF<sup>®</sup>-AR systems with heating elements that encircle the filter*

The soot trapped in the filter can, therefore, be burned off automatically in a regeneration process when the exhaust gas has a temperature of around 400°C (750° F). If however, the necessary temperature is not reached — which is frequently the case in the low-load range — the system's active, thermoelectric regeneration function cuts in.

## Functional Principle SMF<sup>®</sup>-AR



### **TECHNICAL DESCRIPTION: AIR MASS FLOW METER (AMFM) OR EXHAUST FLOW SENSOR (EFS)**

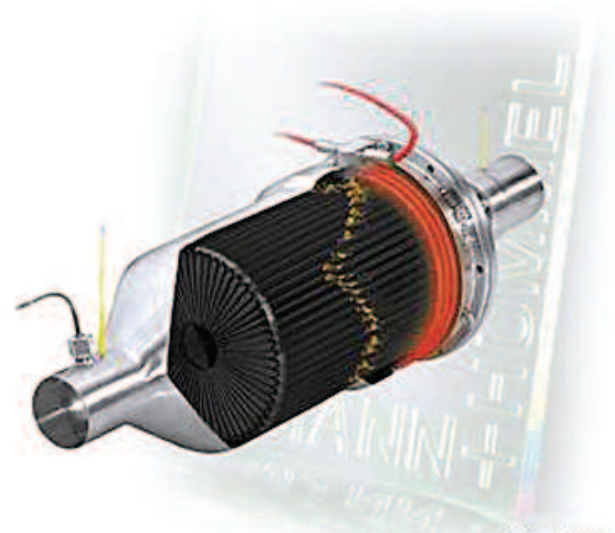
The AMFM (Air Mass Flow Meter) method forwards the intake air mass flow measured to the ECU. The EFS (Exhaust Flow Sensor) method uses the pressure difference in a Venturi nozzle to measure the exhaust-gas volumetric flow or mass flow that flows through this nozzle.

The pressure sensor communicates with the ECU via the CAN bus. With the aid of a temperature sensor, the exhaust gas volumetric flow is converted to a mass flow. The mass flow is used to control the electric heater.



### **ACTIVE, THERMOELECTRIC REGENERATION**

The control unit triggers (active) regeneration by means of heating elements that encircle the filter. The soot that has built up in the filter is ignited by the energy radiated by the heating elements. After the initial ignition of the soot layer, the regeneration process runs automatically until completed, that is, all the soot has been burned off. This occurs at regular intervals. The control unit not only triggers ignition of the soot, but also doses the optimum amount of additive, monitors the filter load and, with the help of sensors, calculates the best timing for regeneration. In addition, a self-learning driving-cycle recognition functionality generally ensures that a regeneration cycle that has already started is not interrupted when the engine is switched off.



*Soot ignition following initial ignition*

Thanks to the high soot-holding capacity of the SMF®-AR system, there isn't just one single ideal moment for regeneration; instead, regeneration takes place within a wide time slot. Terminating regeneration by switching off the engine therefore poses no problem to reliable, safe operation of the SMF®-AR system.

A further advantage of the SMF®-AR is its high ash-holding capacity, which allows for long service and cleaning intervals.

### **SMF®-AR ADVANTAGES AT A GLANCE**

- Suitable for OE and retrofitting applications
- Reduction of soot particles and fine particulate matter by more than 99%
- Particularly suitable for low-temperature applications
- Fully automatic, active regeneration
- Robust and suitable for use in mining machinery
- Reliable operation
- Low maintenance
- Long service life
- NO<sub>2</sub>-neutral regeneration
- Use of fuels with high sulphur content, as well as other "special" fuels (e.g. kerosene) on request



## TECHNICAL DATA AND REQUIREMENTS

### Maximum safe temperature operation for SMF<sup>®</sup>:

650°C/1202°F exhaust-gas temperature

**Filter material:** high-temperature resistant chrome-nickel steel

**Filter housing material:** 1,4301

**Ash-holding capacity:** max. 50 g/l filter volume

**Filtration efficiency rate:** (number concentration in range from 20 – 300 nm) > 99%

**Filtration efficiency rate:** (in relation to soot mass) > 97%

**Length of regeneration period:** 3-7 minutes

### Maximum power consumption of heater:

1.2m<sup>2</sup>– 3.8m<sup>2</sup>: 1 kW with 12-V on-board supply system

5.4m<sup>2</sup>– 8.1m<sup>2</sup>: 2.2 kW with 24-V on-board supply system

**Minimum size alternator:** 80 Ah

**Particulate load before regeneration:** 20 – 30 g/m<sup>2</sup>

### Surface temperature during regeneration

**without insulation:** Max. 800°C/1,472°F (peak)

### Surface temperature during regeneration

**with insulation:** Max. 300°C/572°F

**Additive consumption:** 1 liter/2000 liters diesel

(depending on volume of particulates emitted by engine)

**Additive contents:** organometallic iron compound

## APPLICATION AND OPERATING CONDITIONS

The following application and operating conditions must be complied with in order to ensure the modular SMF<sup>®</sup>-AR systems function optimally.

- Engine fulfills Stage II, Stage IIIA or B in Europe, Tiers II, III and IV in the USA
- Diesel fuel in compliance with DIN EN 590
- Exhaust-gas temperatures from 150°C/302°F for regeneration
- Crucial factors when selecting the additive tank (sizes available: 2l, 3l and 5l), the installation space available and the maintenance interval desired
- Tank size in line with the average consumption figure and annual mileage covered or number of operating hours
- Strain-free, vibration-isolated installation and secure, gas-tight connection to the existing exhaust system
- System never mounted on the engine-gearbox unit
- Only components approved and released by the system supplier are fitted

Proper connection of the system pipework ensures the exhaust backpressure is low. T. F. Hudgins, offers insulating components for all its system to reduce their surface temperature. The systems are operated in conjunction with the Stratus Service Unit (included in the delivery scope).

In order to ensure the systems operate as intended, T. F. Hudgins, and its authorized partners offer a temperature-measurement service and one-on-one application consulting.

Make sure that personnel are protected against (accidental) contact with hot components!



## SIZING THE FILTER

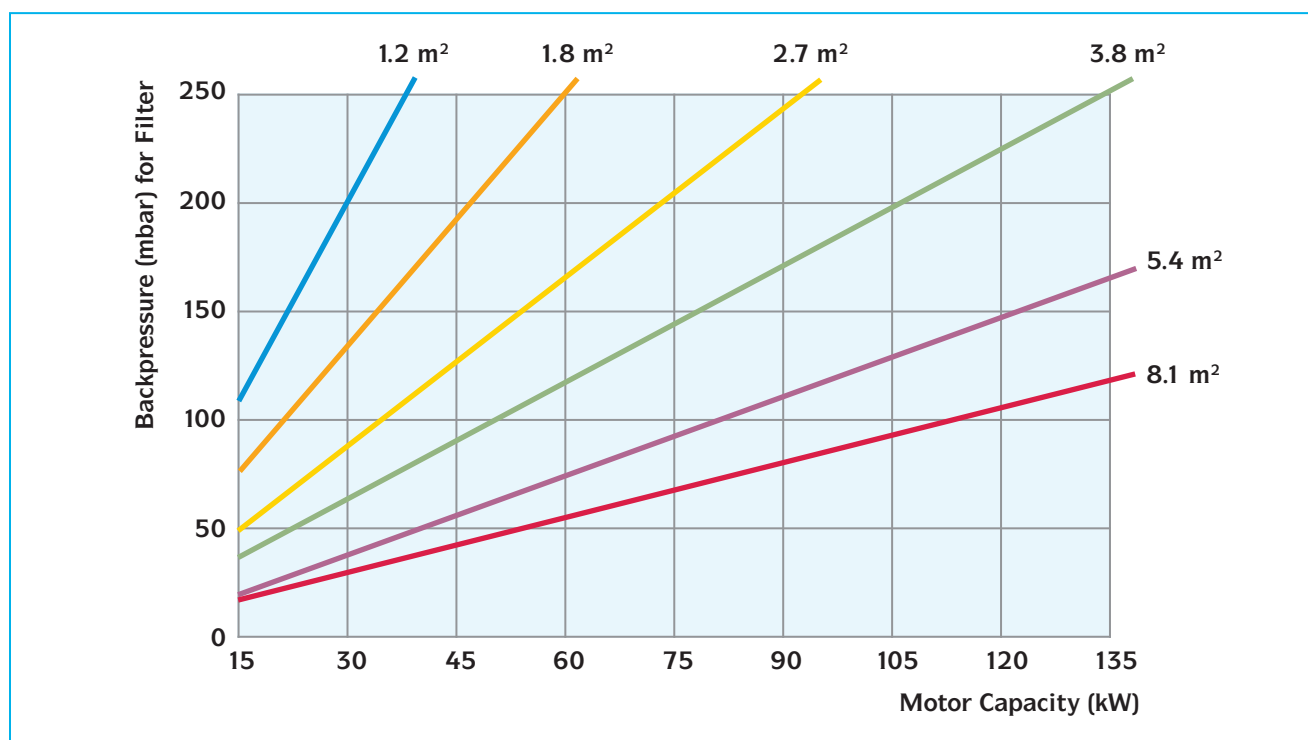
Stratus offers SMF®-AR systems with filter surface areas ranging from 1.2m<sup>2</sup> to 8.1m<sup>2</sup>

To help you choose the right size filter, the diagram below shows the exhaust backpressure generated by each size of filter (not taking the inlet and outlet modules into account).



SMF®-AR Sintered Metal Filter: 100% soot-free

Filter Surface areas\* from 1.2 m<sup>2</sup> to 8.1 m<sup>2</sup>



\*Refers to a filter module with a maximum temperature upstream of the DPF® of 200°C/392°F

\*Backpressure of the individual filter units

## EXAMPLE CALCULATION

For an engine with a power output of 75 kW and a maximum permissible exhaust backpressure of 150 mbar (as specified by the engine manufacturer), a filter with a surface area of 3.8 m<sup>2</sup> can be installed. In this simplified example, it should be noted that the backpressure flow of

the inlet and outlet modules is disregarded. Radial modules tend to result in a slightly higher backpressure. Further technical data is required if the filter is to be dimensioned more precisely (Request Inquiry Form).

## INSTALLATION SPACE CONSIDERATIONS FOR SMF<sup>®</sup>-AR SYSTEMS

After determining the size of the filter, the next step is to see how much space is available for installing it.

As a rule, the filter system replaces the original silencer. Alternatively, the DPF system can be installed upstream of the silencer.

When selecting the installation position, make sure that there is sufficient clearance between the filter and other components and that the filter can be removed easily for servicing and maintenance work.

The filter unit can be installed horizontally or vertically. The matching inlet and outlet modules must be selected in line with the amount of installation space available in the machine (AXIAL-AXIAL, AXIAL-RADIAL, RADIAL-AXIAL, RADIAL-RADIAL).

To secure the filter, system mounts must be used.

### DIMENSIONAL TABLES

The tables below show all relevant dimensions for installation. Dimensions are stated in millimeters (mm). This section describes and illustrates the different versions of filter systems with a surface area of 1.2m<sup>2</sup> to 8.1m<sup>2</sup>.

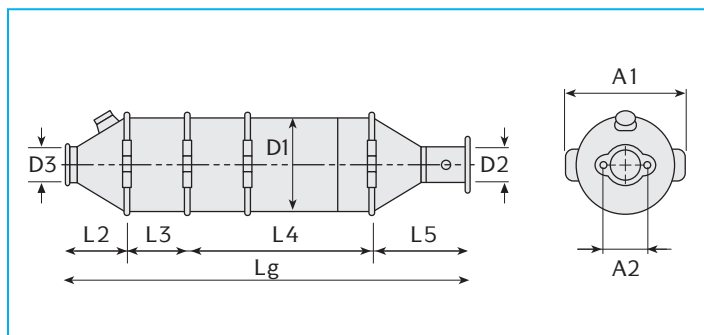
The dimension tables contain the data of the:

- Inlet module
- SMF<sup>®</sup>-AR
- Outlet module

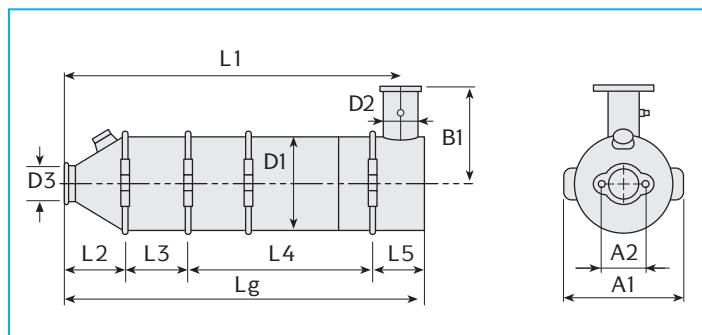
### SCOPE OF DELIVERY

The item numbers listed describe fully assembled filter units with inlet and outlet module, regeneration unit, system clamp, gasket set, wire mesh set and service unit. In addition, all relevant technical documentation, such as the installation guidelines and maintenance manual, as well as software, are included in the scope of delivery.

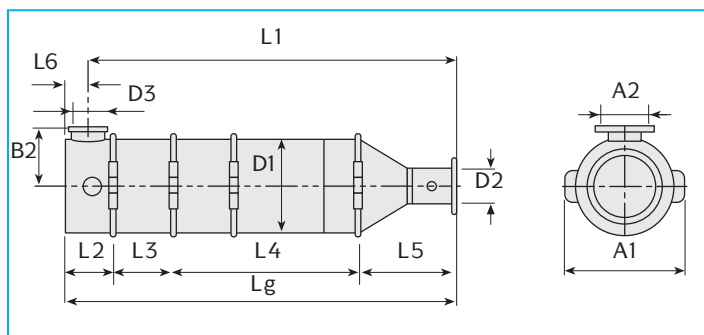
The mounting brackets, additive, dosing pump, air mass flow meter/EFS, transformer, insulation set and tank must be ordered separately (see individual components on page 13).



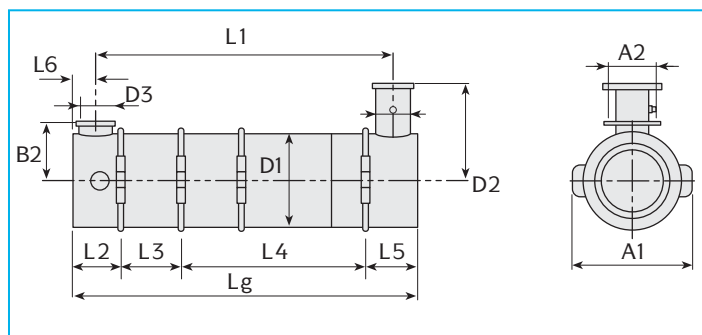
AXIAL-AXIAL



AXIAL-RADIAL



RADIAL-AXIAL



RADIAL-RADIAL

## 1.2-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

*Dimension Table for 1.2-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74307	SMF <sup>®</sup> -AR 1.2m <sup>2</sup>	AX-AX	487	–	106	192	189	–	220	80	–	–	Ø 158	Ø 55	Ø 55
74308	SMF <sup>®</sup> -AR 1.2m <sup>2</sup>	AX-RAD	390	360	106	192	92	–	220	80	184	–	Ø 158	Ø 40	Ø 55
74309	SMF <sup>®</sup> -AR 1.2m <sup>2</sup>	RAD-AX	473	428	92	192	189	45	220	80	–	100	Ø 158	Ø 55	Ø 55
74310	SMF <sup>®</sup> -AR 1.2m <sup>2</sup>	RAD-RAD	367	301	92	192	92	45	220	80	184	100	Ø 158	Ø 40	Ø 55

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.

## 1.8-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

*Dimension Table for 1.8-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74311	SMF <sup>®</sup> -AR 1.8m <sup>2</sup>	AX-AX	567	–	106	272	189	–	220	80	–	–	Ø 158	Ø 55	Ø 55
74312	SMF <sup>®</sup> -AR 1.8m <sup>2</sup>	AX-RAD	470	424	106	272	92	–	220	80	184	–	Ø 158	Ø 55	Ø 55
74313	SMF <sup>®</sup> -AR 1.8m <sup>2</sup>	RAD-AX	553	508	92	272	189	45	220	80	–	100	Ø 158	Ø 55	Ø 55
74314	SMF <sup>®</sup> -AR 1.8m <sup>2</sup>	RAD-RAD	456	366	92	272	92	45	220	80	184	100	Ø 158	Ø 55	Ø 55

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.

## 2.7-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

*Dimension Table for 2.7-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74315	SMF <sup>®</sup> -AR 2.7m <sup>2</sup>	AX-AX	699	–	106	404	189	–	220	80	–	–	Ø 158	Ø 55	Ø 55
74316	SMF <sup>®</sup> -AR 2.7m <sup>2</sup>	AX-RAD	602	557	106	404	92	–	220	80	184	–	Ø 158	Ø 55	Ø 55
74317	SMF <sup>®</sup> -AR 2.7m <sup>2</sup>	RAD-AX	685	640	92	404	189	45	220	80	–	100	Ø 158	Ø 55	Ø 55
74318	SMF <sup>®</sup> -AR 2.7m <sup>2</sup>	RAD-RAD	588	498	92	404	92	45	220	80	184	100	Ø 158	Ø 55	Ø 55

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.



## 3.8-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

*Dimension Table for 3.8-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74319	SMF <sup>®</sup> -AR 3.8m <sup>2</sup>	AX-AX	755	–	135	405	215	–	266	100	–	–	Ø208	Ø70	Ø70
74320	SMF <sup>®</sup> -AR 3.8m <sup>2</sup>	AX-RAD	663	598	135	405	113	–	266	100	216	–	Ø208	Ø70	Ø70
74321	SMF <sup>®</sup> -AR 3.8m <sup>2</sup>	RAD-AX	731	643	111	405	215	55	266	100	–	127	Ø208	Ø70	Ø70
74322	SMF <sup>®</sup> -AR 3.8m <sup>2</sup>	RAD-RAD	629	519	111	405	113	55	266	100	216	127	Ø208	Ø70	Ø70

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.

## 5.4-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

*Dimension Table for 5.4-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74323	SMF <sup>®</sup> -AR 5.4m <sup>2</sup>	AX-AX	728	–	211	306	211	–	Ø325	Ø159	–	–	Ø319	Ø129	Ø129
74324	SMF <sup>®</sup> -AR 5.4m <sup>2</sup>	AX-RAD	706	605	211	306	189	–	Ø325	Ø159	192	–	Ø319	Ø129	Ø129
74325	SMF <sup>®</sup> -AR 5.4m <sup>2</sup>	RAD-AX	709	604	192	306	211	105	Ø325	Ø159	–	192	Ø319	Ø129	Ø129
74326	SMF <sup>®</sup> -AR 5.4m <sup>2</sup>	RAD-RAD	687	480	192	306	189	105	Ø325	Ø159	192	192	Ø319	Ø129	Ø129

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.

## 8.1-M<sup>2</sup> SMF<sup>®</sup>-AR SYSTEMS

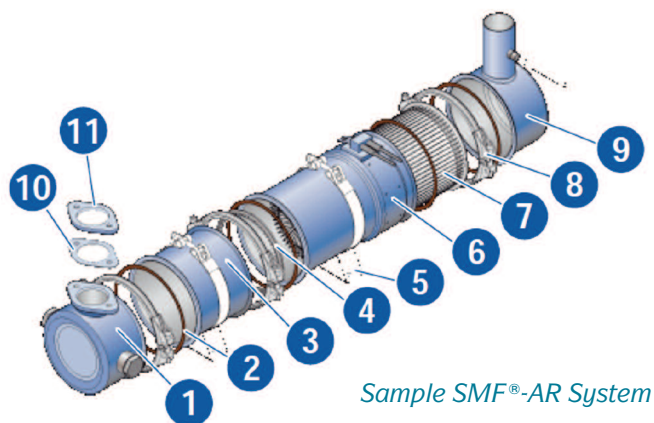
*Dimension Table for 8.1-M<sup>2</sup> SMF<sup>®</sup>-AR System*

Item No.*1	System	Configuration	Lg	L1	L2	L3	L4	L5	A1	A2	B1	B2	Ø D1	Ø D2	Ø D3
74327	SMF <sup>®</sup> -AR 8.1m <sup>2</sup>	AX-AX	883	–	211	441	211	–	Ø325	Ø159	–	–	Ø319	Ø129	Ø129
74328	SMF <sup>®</sup> -AR 8.1m <sup>2</sup>	AX-RAD	842	740	211	441	189	–	Ø325	Ø159	192	–	Ø319	Ø129	Ø129
74329	SMF <sup>®</sup> -AR 8.1m <sup>2</sup>	RAD-AX	844	739	192	441	211	105	Ø325	Ø159	–	192	Ø319	Ø129	Ø129
74330	SMF <sup>®</sup> -AR 8.1m <sup>2</sup>	RAD-RAD	823	616	192	441	189	105	Ø325	Ø159	192	192	Ø319	Ø129	Ø129

\*Scope of delivery does not include the system mounting brackets, additive, air mass flow meter or EFS, voltage transformer, dosing pump, additive tank and insulation (if necessary).  
 Comment: The specified dimensions (in mm) are subject to tolerances. Precise dimensions on request.

## INDIVIDUAL COMPONENTS

The table below contains data for the individual components of an SMF®-AR system.



- ❶ Inlet Module
- ❷ System Gasket
- ❸ Middle Module
- ❹ Wire Mesh
- ❺ System Mount
- ❻ Heating Cabinet
- ❼ SMF® Filter
- ❽ System Clamp
- ❾ Outlet Module
- ❿ Flange Gasket
- ⓫ Flange

Additive tank, incl. Venting Valve
2 liter
3 liter
5 liter

SMF®-AR System	Weight kg/lb
SMF® 1.2m <sup>2</sup>	9/19.8
SMF® 1.8m <sup>2</sup>	11/24.25
SMF® 2.7m <sup>2</sup>	15/33
SMF® 3.8m <sup>2</sup>	20/44
SMF® 5.4m <sup>2</sup>	35/77.16
SMF® 8.1m <sup>2</sup>	45/99.2

System m <sup>2</sup>	Configuration	Inlet Module	System Gasket	Middle Module	Wire Mesh	System Mount	Heating Cabinet	SMF® Filter	System Clamp	Outlet Module	Flange Gasket	Flange	Regeneration Unit	Insulation Set
SMF® 1.2m <sup>2</sup>	AX-AX	73551	73686	–	–	74364	74337	73991	74343	73784	73769	74365	74346	73997
	AX-RAD	73551	73686	–	–	74364	74337	73991	74343	73736	73769	74365	74346	73998
	RAD-AX	73553	73686	–	–	74364	74337	73991	74343	73784	73769	74365	74346	74000
	RAD-RAD	73553	73686	–	–	74364	74337	73991	74343	74336	73769	74365	74346	73999
SMF® 1.8m <sup>2</sup>	AX-AX	73551	73686	74341	73711	74364	74337	73586	74343	73552	73769	74365	74346	73772
	AX-RAD	73551	73686	74341	73711	74364	74337	73586	74343	73554	73769	74365	74346	73687
	RAD-AX	73553	73686	74341	73711	74364	74337	73586	74343	73552	73769	74365	74346	73762
	RAD-RAD	73553	73686	74341	73711	74364	74337	73586	74343	73554	73769	74365	74346	73688
SMF® 2.7m <sup>2</sup>	AX-AX	73551	73686	73512	73711	74364	74338	73557	74343	73552	73769	74365	74346	73586
	AX-RAD	73551	73686	73512	73711	74364	74338	73557	74343	73554	73769	74365	74346	73689
	RAD-AX	73553	73686	73512	73711	74364	74338	73557	74343	73552	73769	74365	74346	73587
	RAD-RAD	73553	73686	73512	73711	74364	74338	73557	74343	73554	73769	74365	74346	73593
SMF® 3.8m <sup>2</sup>	AX-AX	73576	73707	73722	74232	73697	74339	73558	74344	73557	73708	74366	74346	73693
	AX-RAD	73576	73707	73722	74232	73697	74339	73558	74344	73692	73708	74366	74346	73694
	RAD-AX	73691	73707	73722	74232	73697	74339	73558	74344	73557	73708	74366	74346	73696
	RAD-RAD	73691	73707	73722	74232	73697	74339	73558	74344	73692	73708	74366	74346	73695
SMF® 5.4m <sup>2</sup>	AX-AX	73523	73757	73699	73700	73669	73703	73702	73759	73615	73667	74367	74346	74371
	AX-RAD	73523	73757	73699	73700	73669	73703	73702	73759	73614	73667	74367	74346	74357
	RAD-AX	73524	73757	73699	73700	73669	73703	73702	73759	73615	73667	74367	74346	74358
	RAD-RAD	73524	73757	73699	73700	73669	73703	73702	73759	73614	73667	74367	74346	74359
SMF® 8.1m <sup>2</sup>	AX-AX	73523	73757	73699	73700	73669	73705	73704	73759	73615	73667	74367	74346	74360
	AX-RAD	73523	73757	73699	73700	73669	73705	73704	73759	73614	73667	74367	74346	74361
	RAD-AX	73524	73757	73699	73700	73669	73705	73704	73759	73615	73667	74367	74346	74362
	RAD-RAD	73524	73757	73699	73700	73669	73705	73704	73759	73614	73667	74367	74346	74363

A 130-100 mm reducing flange can be used for the SMF® 5.4 m<sup>2</sup> and 8.1 m<sup>2</sup> systems.

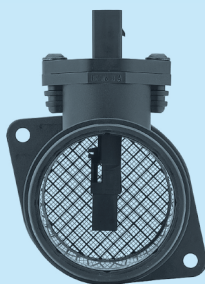
## SELECTING THE AIR MASS FLOW METER (AMFM) OR EXHAUST FLOW SENSOR (EFS)

### 1.2 m<sup>2</sup> – 8.1 m<sup>2</sup> Regeneration Unit

(Part of the complete system)

Item No. 74346

#### Air Mass Flow Meter (AMFM)



Item No.	AMFM inside Ø (mm)	AMFM Inlet outside Ø (mm)	AMFM Outlet outside Ø (mm)	Mass flow rate range (kg/h)		Rated power output (kW)
74352	50	60	60	65	430	15 - 25
74353	62	70	70	105	540	50 - 70
74354	71	80	80	170	795	75 - 85
74355	78	86	84	230	860	85 - 100
74068	82	92	92	250	1140	100 - 135

Note: All data stated must be checked against the actual mass flow values of the respective engine. System serviceability is guaranteed only if the engine's mass flow is within the measurement range of the air flow meter.

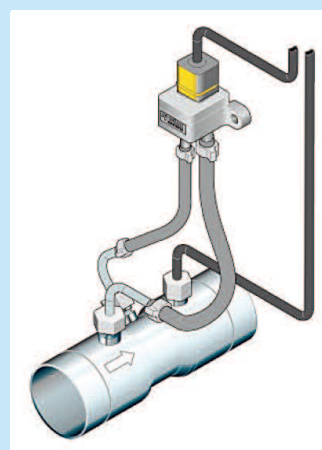
**Dosing Pump 12V**  
(Part of the complete system)  
Item No. 73682

**Dosing Pump 24V**  
(Part of the complete system)  
Item No. 73637

**Voltage Transformer for AMFM**  
Item No. 73720

#### Exhaust Flow Sensor (EFS)

Item No. 74351



#### Venturi Tube

Item No. Venture Tube	EFS outside Ø (mm)	Mass flow rate range (kg/h)	
74347	55	60	500
74348	60	75	600
74349	70	90	900
74350	105	220	1200

**Dosing Pump 12V**  
(Part of the complete system)  
Item No. 73682

**Dosing Pump 24V**  
(Part of the complete system)  
Item No. 73637

Engine Power (KW)	Vehicle Voltage (V)	Filter Size (m <sup>2</sup> )	Possible Mass Air Flow Meter Outer Diameter (mm)
15-25	12	1,2	60, 70
30-45	12	1,8	60, 70, 80
50-70	12	2,7	70, 80, 86, 92
75-85	12	3,8	80, 86, 92
85-100	24	5,4	80, 86, 92
100-135	24	8,1	92

In the case of 24-V system, a voltage transformer must be used in the powersupply circuit for the air mass flow meter!





## ***Extended Guarantee Applicable to Stratus System for Mobile Machinery and Stationary Applications***

T. F. Hudgins, Incorporated, grants a guarantee of 2 years or 2,000 operating hours, whichever occurs first, on the system it supplies, as long as the systems are used for the purpose and in the manner intended.

All Stratus products are built to a very high quality standard and are covered by the following extended guarantee conditions:

1. The vehicle/engine is in its standard, series-production configuration and has been serviced and maintained as specified by the manufacturer at the time the systems and components are fitted.
2. The systems and components have been fitted properly and in full by an authorized specialist workshop (see also installation certificate).
3. The installation certificate has been filled in full and returned.
4. The user manual and maintenance instructions have been complied with.

Any modifications to the system, to the components and/or to the system configuration, as well as the fitting of any components not approved by T. F. Hudgins, Incorporated, will immediately render all claims made under warranty or extended guarantee invalid.

In the event of a valid warranty or guarantee claim, T. F. Hudgins, Incorporated, will either remedy the defect or exchange the defective system or system components/assemblies originally supplied by T. F. Hudgins, Incorporated.

Warranty and guarantee claims must be made in writing to T. F. Hudgins, Incorporated, and include all the data that can be read out of the Stratus service unit that belongs to the system. To enable T. F. Hudgins, Incorporated, to analyze potentially damaged components with as little delay as possible and as conveniently as possible to the customer, we ask customers to contact us as quickly as possible, either by telephone or in writing, before they disassemble any system components. Our Terms and Conditions of Sales and Delivery can be found on our website at [www.stratusdpf.com](http://www.stratusdpf.com)

## **STRATUS DIESEL PARTICULATE FILTERS**

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**Diesel Exhaust Emissions Control With 99.7%  
Contaminant Removal**

### ***SMF<sup>®</sup>-AR***

Ideal for equipment with low exhaust gas temperatures and highly fluctuating duty cycles.

### ***SMF<sup>®</sup>-FBC***

Designed for equipment with sufficient exhaust gas temperature (10% @ 716° F) for regeneration and diesel engines up to 800 HP.

### ***SMF<sup>®</sup>-DOC***

Passive system combining an efficient, upstream diesel oxidation catalyst (DOC) with a sintered metal filter (SMF).

**STRATUS<sup>™</sup>**  
**DIESEL PARTICULATE FILTERS**

**713.682.3651**  
**[www.stratusdpf.com](http://www.stratusdpf.com)**



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