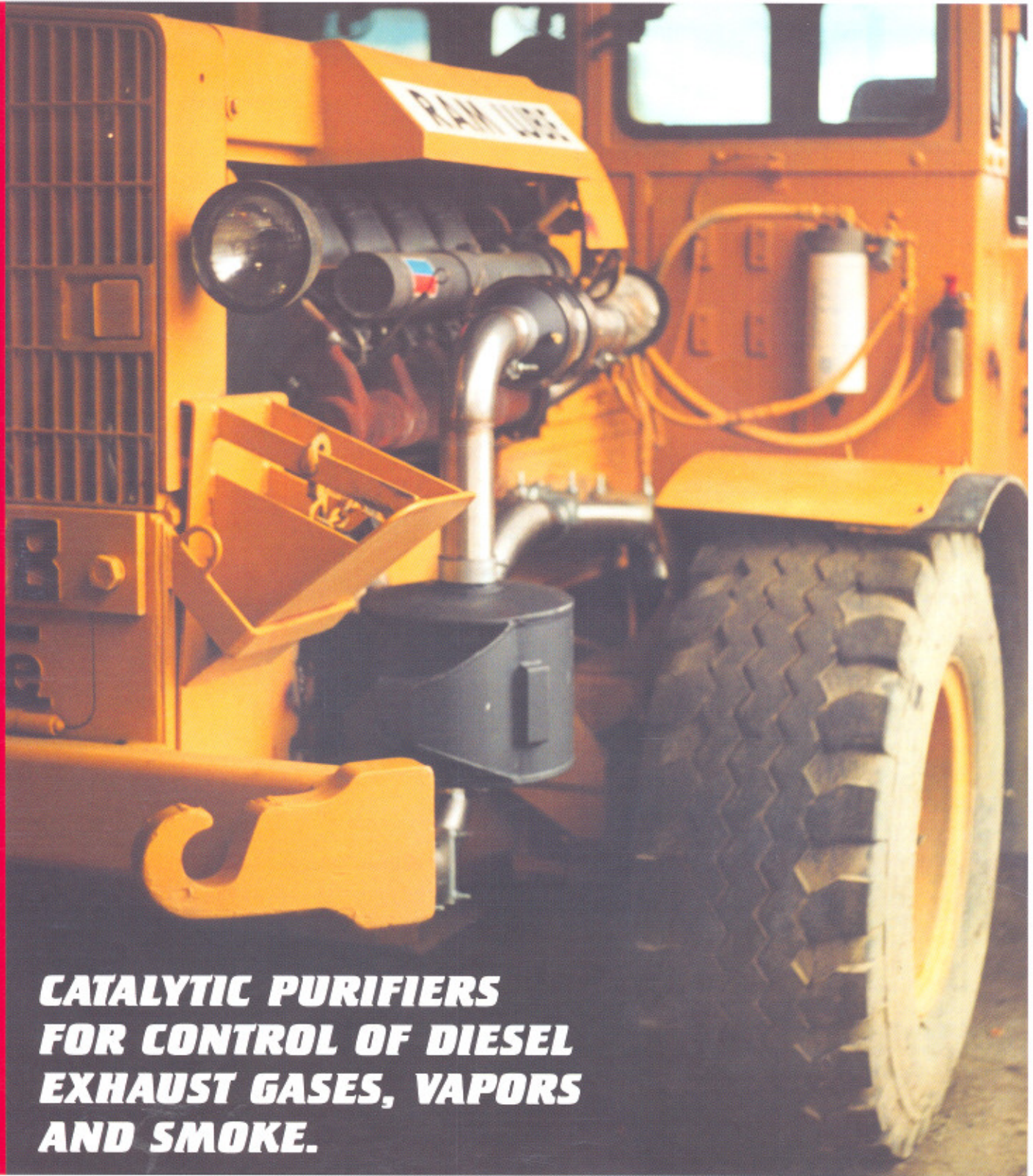


Dieselytic SX™ Exhaust Gas Purifiers are permitted as part of the exhaust system of U.S. Bureau of Mines schedule 24 approved diesel equipment.



**CATALYTIC PURIFIERS  
FOR CONTROL OF DIESEL  
EXHAUST GASES, VAPORS  
AND SMOKE.**





## THE HAZARDS OF DIESEL EXHAUST:

The diesel engine consumes fuel and oxygen in order to produce the torque necessary to power mining, tunneling and construction equipment. During engine operation a number of harmful pollutants are produced in various quantities in the combustion chambers of every diesel engine. Diesel exhaust typically contains the following harmful pollutants:

- A) Hydrocarbons (HC) - {Aliphatic, Polyaromatic and Aldehyde}
- B) Carbon Monoxide (CO)
- C) Nitrogen Oxides (NOx) - {Nitric Oxide and Nitrogen Dioxide}
- D) Sulphur Oxides (SOx)
- E) Particulate Matter (PM) - {Carbon and Soluble Organic Fraction}

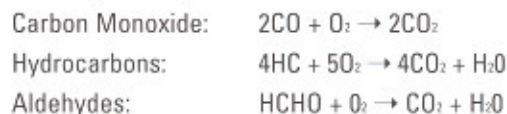
The potential hazards which affect humans vary greatly amongst these harmful pollutants. Hydrocarbons (HC) will irritate the eyes, nose and throat. Carbon Monoxide (CO) will cause headaches, drowsiness, loss of consciousness and possibly death.

Particulate Matter contains numerous hydrocarbon compounds which are known to be cancer causing. Sulphur Oxides (SOx) are respiratory irritants. Nitrogen Oxides (NO) and Nitrogen Dioxide (NO<sub>2</sub>) can damage the lungs, heart, liver and kidneys.

## REDUCING THE RISK OF DIESEL EXHAUST:

The DIESELYTIC SX™ Catalytic Exhaust Gas Purifier will effectively reduce dangerous concentrations of harmful Carbon Monoxide (CO), Hydrocarbon (HC) and Particulate Matter (PM) exhaust pollutants. The harmful pollutants are catalytically burned (oxidized) to form harmless carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). The end result is a safe and healthy working environment for humans.

The major catalytic oxidation reactions which occur are:



## PRODUCT FEATURES:

### 1) HIGH EFFICIENCY "TORTUOUS" FLOWPATH CATALYTIC CORE

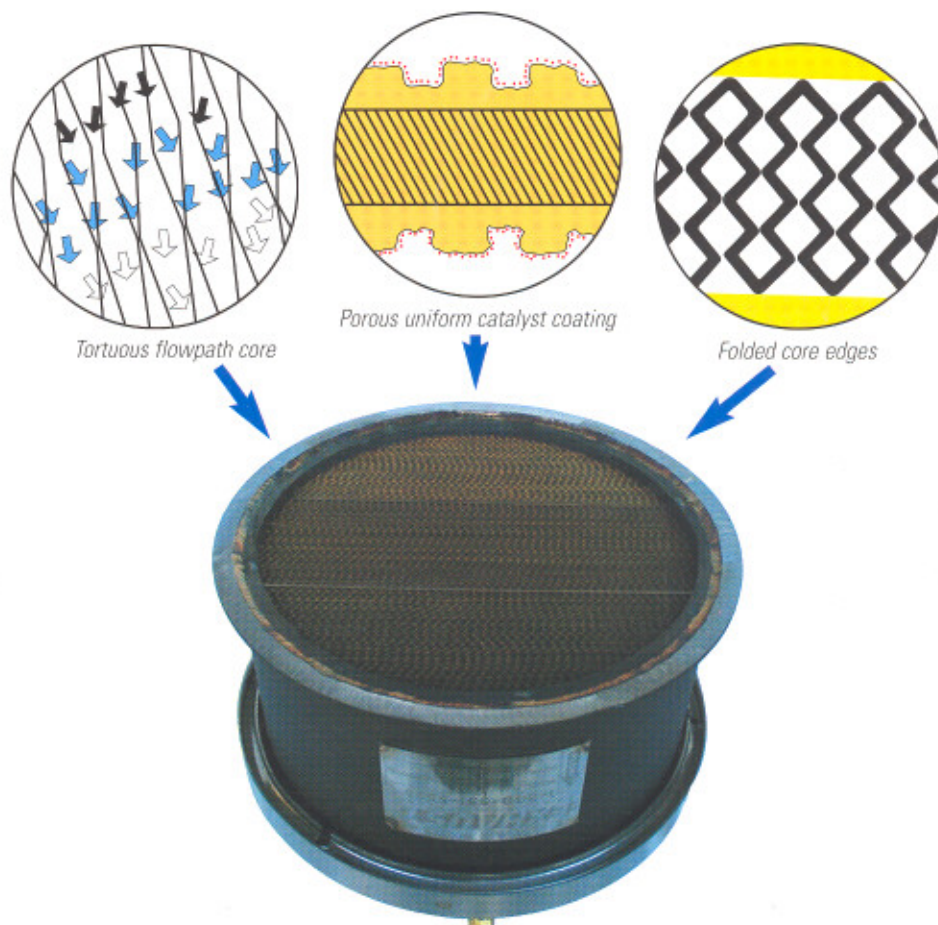
The DIESELYTIC SX™ Exhaust Gas Purifier features a unique "tortuous" flowpath catalytic core. The "tortuous" flowpath catalytic core incorporates a curved, mixed flow cell design which takes advantage of the physical properties of diesel particulate matter. The collision of particulate matter with the catalytic core surface is vigorously **promoted** and **concentrated** to provide maximum reductions of soluble organic particulate. In comparison, straight flowpath purifier designs allow a percentage of soluble organic particulate to flow through the catalytic core without contacting the catalytic surface. By promoting particulate to catalytic core contact the "tortuous" flowpath core design is superior in reducing soluble organic particulates.

### 2) HIGH QUALITY CATALYTIC COATING

The DIESELYTIC SX™ Exhaust Gas Purifier core is coated with high quality precious metals and superior grade washcoats. The high quality, uniform core coating provides high efficiency removal (oxidation) of harmful pollutants by up to 90%+. The quality of the catalytic coating is particularly evident in low temperature performance during engine cold start or in case of light duty vehicles. In addition, the high quality coating ensures a long and reliable operating life even in the most adverse conditions.

### 3) LOW EXHAUST GAS BACKPRESSURE

The DIESELYTIC SX™ core is made up of high strength, ultra thin metallic walls which reduce exhaust backpressure



restriction to a minimum. Even under high load/speed engine operating conditions, the operating efficiency of the engine will not be affected.

### 4) SUPERIOR PHYSICAL STRENGTH

The DIESELYTIC SX™ Exhaust Gas Purifier incorporates several design features which result in excellent stability and reliability under extremely high temperatures and severe vibration. Thick foil retainer

rings and folded catalytic edges improve overall structural rigidity.

### 5) LOW MAINTENANCE AND EASY INSTALLATION

The catalytic core design will minimize the formation of accumulated particulate matter. The compact and efficient design of the DIESELYTIC SX™ Exhaust Gas Purifier allow for easy installation and service with minimal equipment downtime.



## SELECTING THE REQUIRED PURIFIER STYLE:

The "Dieselytic SX" Exhaust Gas Purifier Is Available In Three Basic Configurations:

### A) CLAMPED STYLE (SX-F)

The clamped style DIESELYTIC SX™ Exhaust Gas Purifier incorporates quick-release V-Band clamps with gaskets to enable the inlet and outlet cones to be removed from the catalytic core. This design allows for quick removal of the catalytic core without dismantling the vehicle exhaust system. Only two locknuts require loosening thereby keeping equipment downtime to a minimum.

### B) PLAIN STYLE (SX-P)

The plain style DIESELYTIC SX™ is a unitary one-piece design with no flanges, gaskets or clamps. The catalytic core of the "DIESELYTIC SX™" Purifier is welded directly to the inlet and outlet cones. This design is the most economically priced

OEM exhaust components such as the exhaust muffler, exhaust flexpipe or exhaust pipe. The custom purifier kits allow for a quick, high quality installation with minimal downtime and maximum exhaust gas purifier performance.

## SELECTING THE CORRECT PURIFIER SIZE

In order to correctly select the proper DIESELYTIC SX™ Purifier the following information is usually required:

- The make and model of the particular diesel engine and/or equipment.
- The displacement of the diesel engine in cubic inches (CID) or litres (L).
- The maximum horsepower rating and maximum engine speed of the diesel engine.
- Is the diesel engine a four stroke or two stroke, turbocharged or turbocharged/aftercooled?

## HOW TO ORDER YOUR "DIESELYTIC SX" EXHAUST GAS PURIFIER:

### STEP #1:

From the application and sizing data chart determine the correct purifier model for your particular engine. Contact the sales office at 1-800-551-5525 if you have any difficulty.

### STEP #2:

Select the exhaust purifier configuration (clamped or plain style) which best suits your particular requirements.

### STEP #3

Determine the outside diameter (O.D.) of the engine exhaust pipe. We offer a large variety of inlet/outlet cone diameters to suit your particular requirements. We can also provide inlet/outlet cone terminations in metric tube, National pipe thread and ASA flange. In addition, we stock custom purifier kits for a wide variety of engines and equipment applications.

### STEP #4

Call your local representative or our sales office for information, pricing and availability. Most of our DIESELYTIC SX™ Exhaust Gas Purifiers and custom purifier kits are in stock and can be shipped same day.



Examples of various DIESELYTIC SX™ exhaust gas purifier models and configurations. Clockwise from top left: 3SX-1.5P, 4SX-2.0" P and 5SX-3.0" P Plain Style configuration purifiers, 5SX-3.0" F and 8SX-4.0" F Clamp Style configuration purifiers. Foreground: 6SX-3" F Clamp Style configuration purifier with 6SS-F add-on muffler.

and shares the unique catalytic core features of the clamped style configurations.

### C) SPECIAL OPTIONS

- ADD-ON PURIFIER MUFFLERS (SS-F)**  
Add-on purifier mufflers are available to integrate with the DIESELYTIC SX™ Exhaust Gas Purifier. Request literature copy #1102 for additional information.
- CUSTOM PURIFIER KITS**  
Custom Purifier kits are available for a wide variety of diesel powered equipment. The custom purifier kits are usually designed as a direct fit replacement for

- For custom purifier kits please advise the equipment make and model, chassis serial number and OEM part number of the exhaust muffler.

*Refer to the back cover for additional details.*



4SX-753 P Bobcat



5SX-1845 P Case

Examples of two DIESELYTIC SX™ custom purifier kits. Upper right: 4SX-753 P custom flexpipe purifier for Bobcat model 753, 763, 773, S175 skid steer loaders. Lower left: 5SX-1845 P purifier muffler for Case model 1840 and 1845C skid steer loaders.



# DIESELYTIC SX™ PURIFIER APPLICATION AND SIZING DATA

## Purifier Configurations:

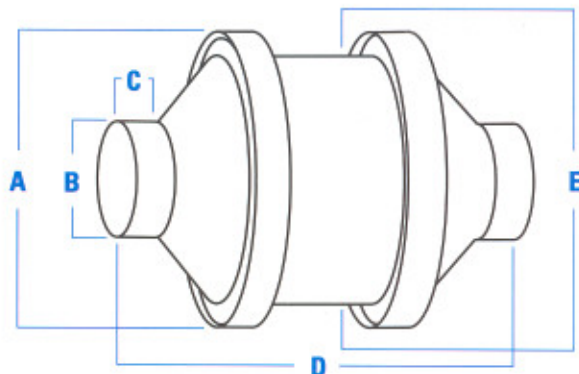
Clamp style configuration (SX-F)

Plain style configuration (SX-P)

## Purifier Sizing Note:

For naturally aspirated 4 cycle diesel engines operating at a maximum engine speed of 2100 rpm, size exhaust gas purifier model according to engine displacement (CID).

For 2 cycle turbocharged, turbocharged/aftercooled and hi-speed diesel engines size exhaust gas purifier model according to maximum exhaust flow. (ACFM or m<sup>3</sup>/min)\*



Model	Engine Displacement		Exhaust Flow @ 2100rpm - 900°F		Purifier Dimensions**				
	C.I.D.	LITRES	ACFM	m <sup>3</sup> /min	A	B*** I.D.	C	D	E
3SX	0-75	0-1.25	100	2.9	2.6" (66)	1.5" (38)	.75" (19)	7.5" (191)	2.6" (66)
4SX	75-150	1.25-2.5	200	5.7	4.6" (117)	2.0" (51) 2.5" (64)	1.0" (25.4)	9.0" (229)	3.6" (91)
5SX	150-250	2.5-4.1	320	9.1	5.6" (142)	2.0" (51) 2.5" (64) 3.0" (76)	1.0" (25.4)	9.5" (241)	4.6" (117)
6SX	250-400	4.1-6.5	500	14.2	6.6" (168)	2.5" (64) 3.0" (76) 3.5" (89) 4.0" (102)	1.0" (25.4)	10.5" (267)	5.6" (142)
7SX	400-600	6.5-9.8	750	21.2	7.6" (193)	3.0" (76) 3.5" (89) 4.0" (102)	1.0" (25.4)	11" (279)	6.6" (168)
8SX	600-800	9.8-13.1	1000	28.3	8.6" (218)	3.0" (76) 3.5" (89) 4.0" (102) 4.5" (114) 5.0" (127) 6.0" (152)	1.25 (32)	12.5" (318)	7.6" (193)
10SX	800-1200	13.1-19.7	1500	42.5	8.8" (224)	4.0" (102) 4.5" (114) 5.0" (127) 6.0" (152)	1.25 (32)	18" (457)	10.0" (254)
12SX	1200-1600	19.7-26.2	2100	59.5	8.8" (224)	4.0" (102) 4.5" (114) 5.0" (127) 6.0" (152)	1.25 (32)	18" (457)	11.6" (295)
14SX	1600-2000	26.2-32.8	2700	76.5	8.8" (224)	5.0" (127) 6.0" (152)	1.25 (32)	20.8" (528)	13.0" (330)
16SX	2000-3100	32.8-50.8	4200	119	8.8" (224)	5.0" (127) 6.0" (152)	1.25 (32)	20.8" (528)	15.0" (381)

## Notes:

\* Use these formulas to calculate exhaust gas flow (ACFM):

### Two cycle engines:

ACFM = CID x RPM x 2.56 x 1.4 (if turbocharged) x 1.3 (if intercooled)  
1728

### Four cycle engines:

ACFM = CID x RPM x 2.56 x 1.4 (if turbocharged) x 1.3 (if intercooled)  
1728 2

\*\* All data subject to change without notice. Other inlet/outlet variations available.

\*\*\* Other inlet/outlet I.D. sizes available. In addition we can supply O.D. standard tube sizes, metric I.D./O.D. tube sizes, National pipe thread, ASA flanges, custom flanges, etc...

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