



ENGINEERED SOUND ATTENUATOR

**BUILT FOR PRECISION,
ENGINEERED FOR PERFORMANCE**



www.naffcoflow.com

ABOUT US



Introduction

NAFFCO Flow Control provides a complete solution for Fire Rated Cladding, along with customized system design and supply for the unique projects.

Since its inception, NAFFCO Flow Control has been continuously striving through its research and development to find out the ever changing needs of the market and cater to the same. The product portfolio offers a wide, unique and exclusive range of innovative, efficient and eco-friendly products.

Establishing the cladding division was the right move into a high demanding market for Aluminium Composite Panel and Rockwool Sandwich Panel.

Mission

To empower customer to secure life, environment, property and business by delivering high quality and innovative protection solutions and knowledge using world class manufacturing.

Vision

To be the world's number one provider of innovative solutions in protecting life, environment and property.

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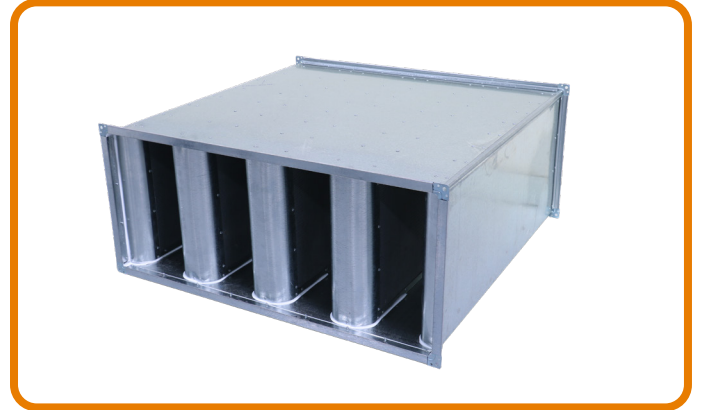
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NAFFCO Sound Attenuator

01 NFC SA 3000 SERIES

NAFFCO FZCO manufactures square, rectangular, cylindrical, and cross-talk sound attenuators, which are used in commercial, industrial and residential buildings to reduce HVAC equipment noise transmitted through the ducted or un-ducted system achieving desired noise criteria in the occupied space.

We design attenuators to achieve desired noise criteria in the occupied space or to reduce environmental noise for generator rooms, to meet project requirements without compromising attenuator performance.



NAFFCO Sound Attenuators are tested and certified by AMCA / Intertek USA for ASTM Standard E477-20, entitled "Standard Test Method for Laboratory Measurements of Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers".

CONSTRUCTION DETAILS

- * Casing: 0.7/0.9mm thick Galvanized Steel.
- * Baffle: 0.7mm thick Galvanized Perforated Steel.
- * Insulation/Acoustic Material: Rock Wool of 48 Kg/m³ density covered with Black Glass Tissue on the acoustic media to avoid erosion of the material at high velocity.
- * Connection: 30mm Slide on Flange on both ends.



NAFFCO FZCO certifies that the silencer **NFC SA 3000 Series** as shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 1011 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to dynamic insertion loss, airflow generated noise, and pressure drop.

NAFFCO Sound Attenuator

02 Engineering Performance Data

Attenuator Size: 600x600x1200mm

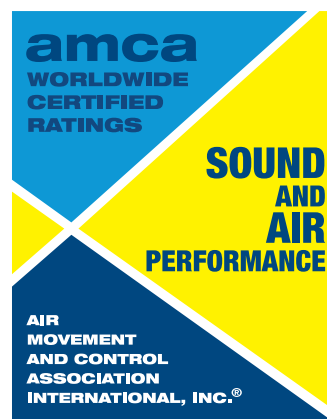
Foward Flow

Foward Flow	Insertion Loss in dB									
Dimension	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(W X H X L) in mm	(FPM)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
600 x 600 x 1200mm	0	0	1	4	11	21	26	21	14	11
	500	0.03	1	5	11	21	25	21	15	11
	1000	0.14	0	4	11	20	25	21	15	11
	1500	0.3	0	4	11	20	24	21	15	11
	2000	0.53	0	4	10	19	24	21	15	11
	Regenerated Noise Level, in dB									
	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
	(FPM)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
	500	0.03	58	45	32	27	25	18	17	22
	1000	0.14	60	50	42	41	40	35	27	22
	1500	0.3	67	59	50	49	49	47	43	34
	2000	0.53	75	67	60	56	55	55	53	46

Note: The above values are based on AMCA / Intertek Test Result, in actual applications result may vary. Sound Attenuator selection is based on software calculation for different sizes and as per the customer requirement



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NAFFCO Sound Attenuator

03 Engineering Performance Data

Attenuator Size: 600x600x1200mm

Reverse Flow

Reverse Flow	Insertion Loss in dB									
Dimension	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(W X H X L) in mm	(FPM)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
600 x 600 x 1200mm	0	0	1	5	11	21	26	21	14	11
	500	0.03	1	5	22	22	26	21	15	10
	1000	0.14	1	6	13	23	27	22	15	9
	1500	0.3	1	6	13	23	27	22	14	9
	Regenerated Noise Level, in dB									
	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
	(FPM)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
	500	0.03	58	42	33	25	24	16	17	22
	1000	0.14	59	48	46	44	41	37	28	22
	1500	0.3	65	55	53	52	50	49	43	33

Note: The above values are based on AMCA / Intertek Test Result, in actual applications result may vary. Sound Attenuator selection is based on software calculation for different sizes and as per the customer requirement

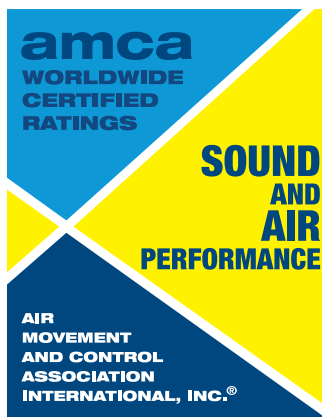
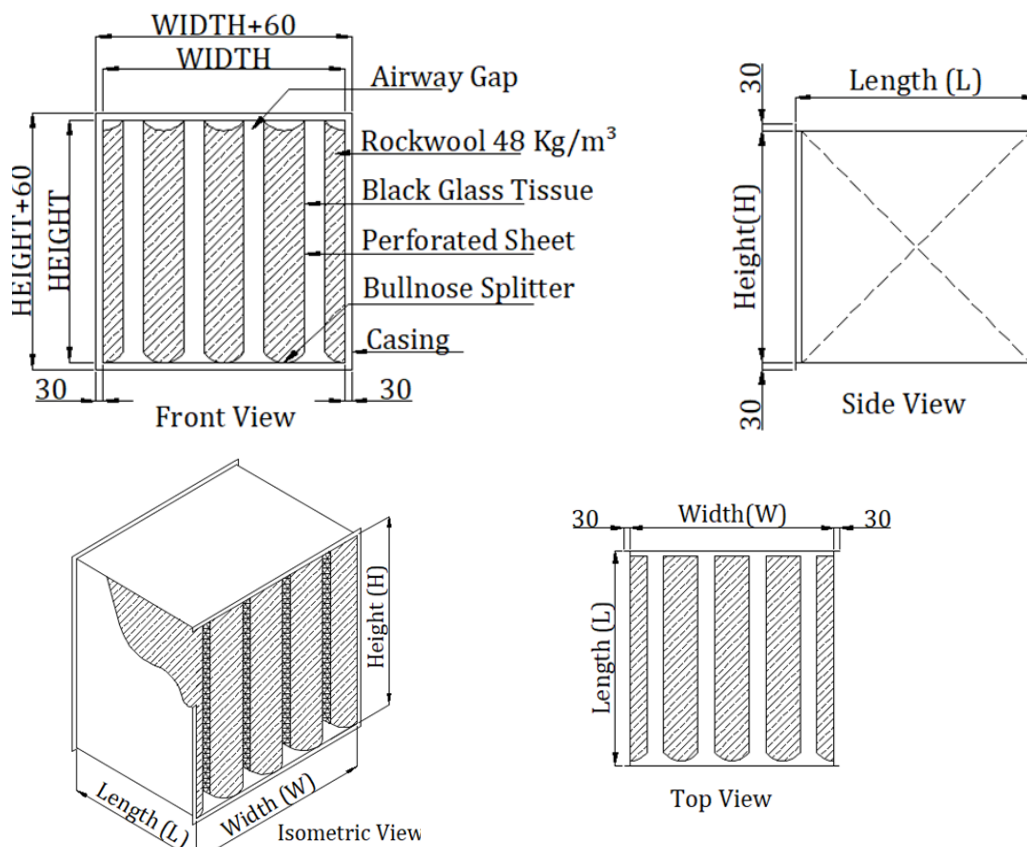


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04 Construction Drawing:

Model: NFC SA 3000 SERIES



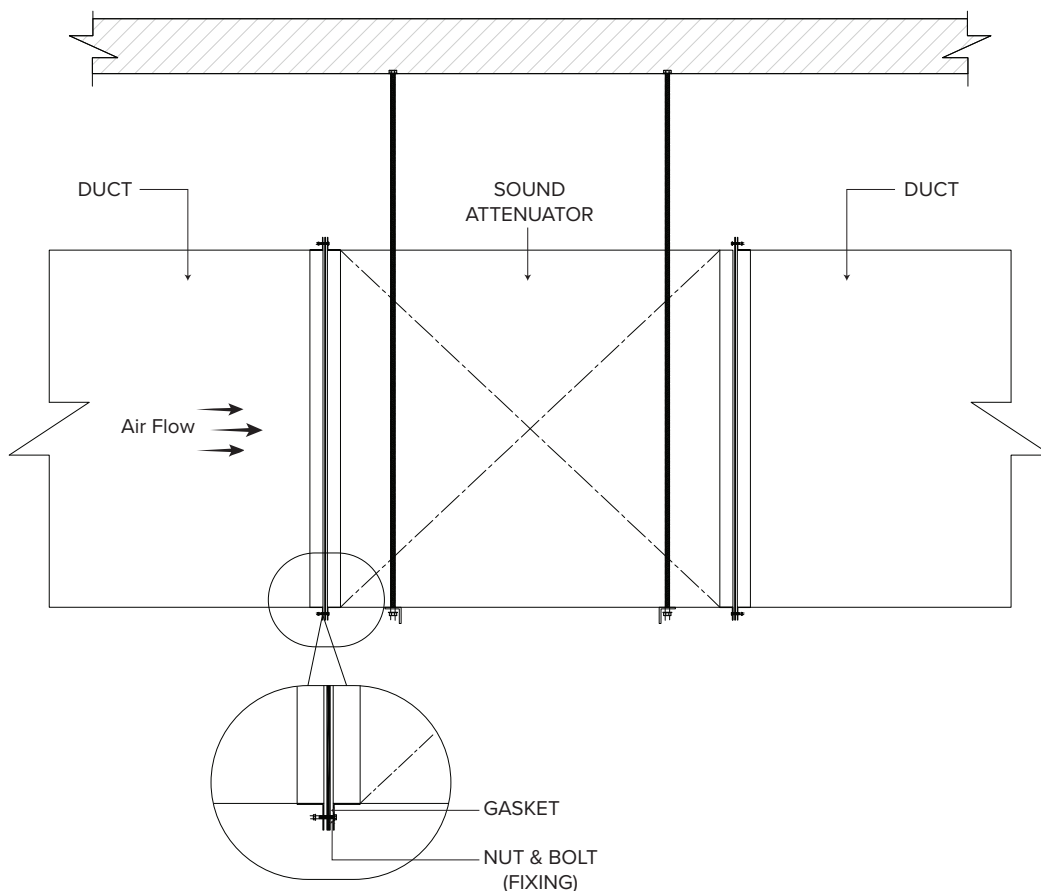
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05 Installation / Assembly Drawing:



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06 Features:

- » Sound Attenuator is in accordance with ASTM E477 [Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers.
- » Sound Attenuators are aerodynamically designed with bullnose splitters at the inlet for square and rectangular types. The standard construction is suitable to withstand a maximum pressure of 2000 Pa.
- » Square and Rectangular type sound attenuators are designed for handling maximum air capacities at minimum pressure drop.
- » The turbulence of the airflow is minimized due to the bullnose design of the splitter at the air inlet & Solid curved splitter face minimizes noise generation at the air inlet.
- » Acoustic infill media is of superior quality, non-combustible, and has fungi-resistant characteristics.
- » These sound attenuators are maintenance-free.

07 Optional Constructions:

- » Flanges: Mild Steel angles with red oxide or zinc coating.
- » Casing: Up to 3mm thickness.
- » Casing and Splitter Material: Stainless Steel (304/316L)
- » Round, Cross Talk



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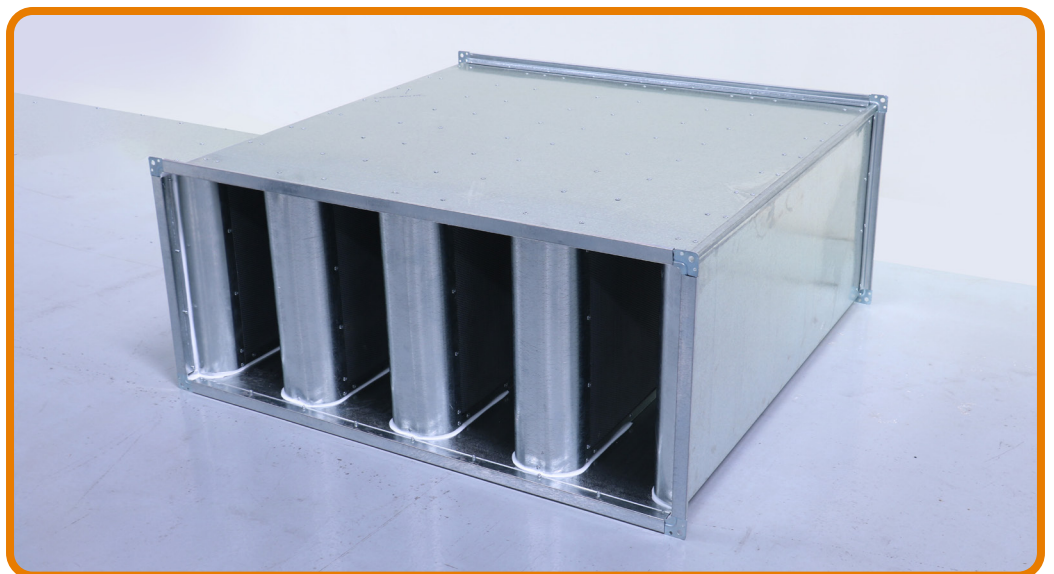
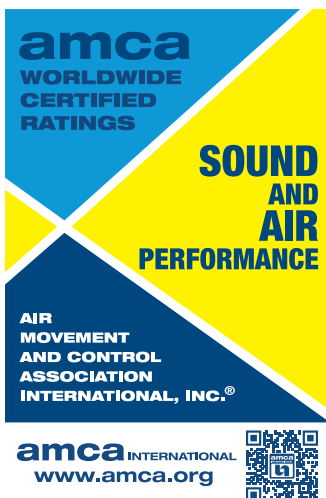
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08 Dissipative Silencers:

Dissipative silencer performance is primarily a function of silencer length; airflow constriction; number, thickness, and shape of splitters or center bodies; and type and density of absorptive media. The absorptive media allows dissipative silencers to provide significant insertion loss performance over a wide frequency range. Insertion loss performance does not necessarily increase linearly with silencer length; for a given length, silencer designs can produce varying insertion loss and pressure drop data. Even at the same pressure drop and length, silencers can be configured to provide varying insertion loss performance across the frequency spectrum.

09 Insertion Loss:

It is the reduction in the sound power level at the receiver after the silencer is installed ("inserted") in the system. Insertion loss is measured as a function of frequency and is commonly published in full octave bands ranging from 63 to 8000 Hz. When no airflow passes through it.



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10 Dynamic Insertion Loss:

It is the difference in sound levels at a given point before and after the installation of noise reduction equipment while underflow. A silencer's insertion loss varies depending on whether the sound is traveling in the same or opposite direction as the airflow. Silencer performance changes with absolute duct velocity. However, airflow velocity generally does not significantly affect silencers giving a pressure drop of 0.35 in. of water or less, including system effects.

11 Pressure Drop:

Pressure drop is measured across the silencer at a given velocity. Good flow conditions are required for accurate measurements at both the inlet and discharge of the silencer. The measuring points are usually 2.5 to 5 duct diameters upstream and downstream of the silencer to avoid turbulent flow areas near the silencer and to allow for any static pressure regain. For nonideal installations, with duct elbows or transitions closer than 2.5 to 5 duct diameters, the total system effect will be larger than the laboratory test data.

12 Airflow generated self-noise:

It is the sound power generated on the receiving side by the silencer when quiet air flows through it. This represents the noise floor, or the lowest level achievable regardless of high insertion loss values. A silencer's self-generated noise is a function of frequency and internal geometry and is referenced to specific velocities and airflow direction (forward or reverse). The airflow-generated sound power of the silencer is logarithmically proportional to the silencer's cross-sectional area. Self-noise generally does not vary with silencer length.



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In line with NAFFCO Flow Control policy for continuous product development,
NAFFCO Flow Control has the right to change specifications without prior notice.