

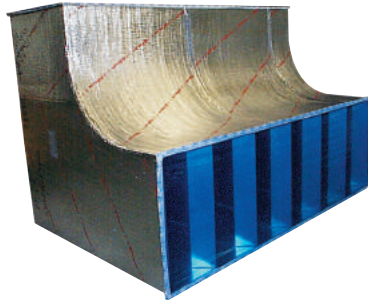
ANOS10 Rectangular Type Sound Attenuator

■ Features

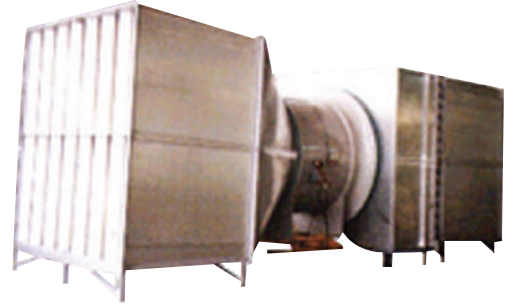
ANOS10 is useful in reducing the noise transmission through the HVAC system and by adjusting air way gap between the splitters inside; the noise problem can be resolved. In general, it offers excellent sound attenuation in 500~8000Hz.



Splitter Type



Elbow Type

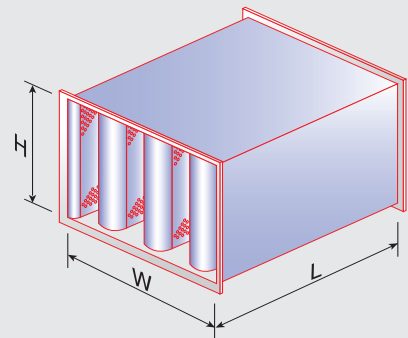


In-Line Type

■ Model Denotation method



- ① Splitter Shape
- ② Absorption Material Protection Method
- ③ Sound Attenuator Shape
- ④ Splitter Thickness / Air Way Area Ratio Type(S, L, M Type)
- ⑤ Sound Attenuator Width(mm)
- ⑥ Sound Attenuator Height(mm)
- ⑦ Sound Attenuator Length(mm)



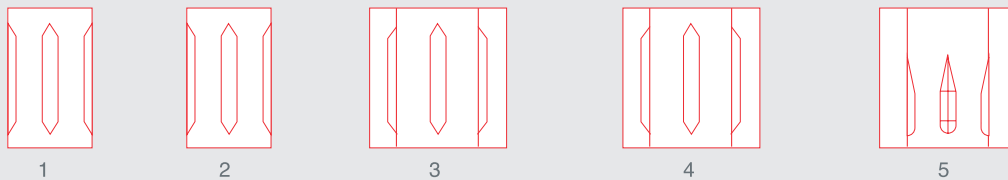
■ Splitter Shape



■ Absorption Material Protection Method

- G : GLASS WOOL + GLASS CLOTH
- P : GLASS WOOL + GLASS CLOTH + PERFORATED PLATE
- F : GLASS WOOL + GLASS CLOTH + PE FILM + PERFORATED PLATE

■ Sound Attenuator Shape

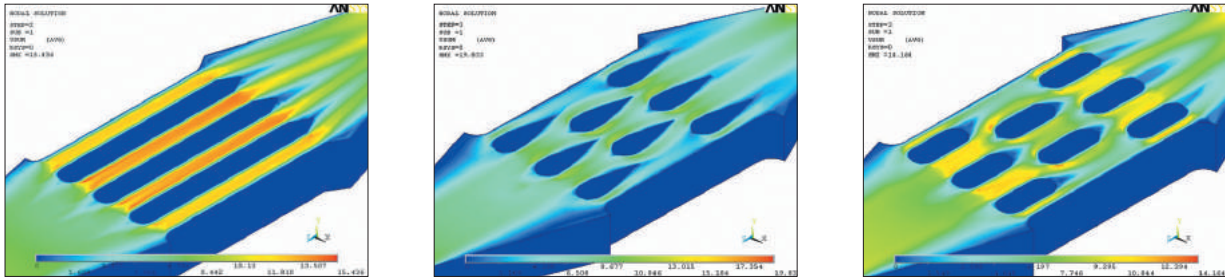


■ Splitter Thickness / Air Way Area

- S Type : Large pressure loss and self noise and large amount of noise attenuation thru all of the frequency band.
- L Type : Small pressure loss and self noise and large amount of noise attenuation for middle/high frequency band.
- M Type : Middum amount of pressure loss and self noise and large amount of noise attenuation for 250Hz/500Hz.

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■ Analysis Of Velocity Distribution Per Splitter Type



■ Sound Attenuator Calculation Sheet

Model	AHU-01(S)	Air Flow	20900 CMH(m³/h)	DUCT SIZE	1400 X 600	Static Efficiency	90%	} INFORMATION OF EQUIPMENT & PROJECT
Project	Project Name			Service	Office	Quantity	1 SET	
Location	-	Static Pressure	107 mmAq	Diffuser Type	SQUARE	Duct Airflow Velocity	6.9 m/sec	

		OCTAVE BAND CENTER FREQUENCY(Hz)									
		63	125	250	500	1000	2000	4000			
1. Fan Total Sound Power Level (PWL)	CODE 2	AIR FOIL									
1) Specific Sound Power Level (Kw)		45.0	45.0	43.0	39.0	34.0	28.0	24.0			
2) Sound Level by Air Flow & Static Pressure (Mw)		53.4	53.4	53.4	53.4	53.4	53.4	53.4			
3) Correction Factor by Efficiency (C)		0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4) Blade Frequency Increments (BFI)		0.0	0.0	3.0	0.0	0.0	0.0	0.0			
(Total)		98.4	98.4	99.4	92.4	87.4	81.4	77.4			
2. Attenuation of System		Total Sound Power Level : 94.7dB(A)									
1) Unlined Rectangular Sheet Metal Ducts											
a.Rectangular Duct		Width	Hight	P/A	Length						
Duct - 1		1.40	0.60	4.76	10	3.0	3.0	3.0	3.0	3.0	3.0
Duct - 2		0.0	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0
b.Circular Duct											
2) Insertion Loss of Elbow											
a.Square Elbow		Q'TY	0	Width	1.40	0.0	0.0	0.0	0.0	0.0	0.0
b.Round Elbow		Q'TY	0	Width	0.00	0.0	0.0	0.0	0.0	0.0	0.0
c.Lined Elbow											
3) Chamber Attenuation (Non-Sound-Absorbing)		Q'TY	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
4) Chamber Attenuation (Sound-Absorbing)		Q'TY		Inlet	3 mmAq	Outlet	0.0				
5) Duct Branch Sound Power Division		Inlet	0.8	NRC	0.8						
6) Duct End Reflection Loss		Air Volume	780	m²/h		14.3	14.3	14.3	14.3	14.3	14.3
7) The Other Attenuation		Q'TY		N.D	0.25	16.0	11.0	6.0	2.0	1.0	0.0
(Total) : 1)+2)+3)+4)+5)+6)+7)											
3. Sound Power Level in Room (PWL)	(Sum1 - Sum2)	Code 6									
4. Noise Criteria in Room(SPL)		65.1	70.1	76.1	73.0	69.1	64.1	60.1			
5. Correction by Diffuser Sound Pressure (-10log ne+10log ni) ne=0.23 ni=0.7		4.8	4.8	4.8	4.8	4.8	4.8	4.8			
6. Attenuation to Room Absorption (Kr)		Width	5	α	0.01						
		Length	5	α	0.01						
		Hight	4.0	α (Ave)	0.01	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9
		Area(m²)	130	Room Constan	1.31						
7. Allowable Sound Power Level at Outlet (PWL) : (4+5+6)		63.9	55.9	49.9	44.9	40.9	38.9	37.9			
8. Generated Noise at Outlet (PWL)	*Sound Power Level (Before Atten.) : 74.4 dB(A)										
9. Allowable Sound Power Level in Room (PWL)		63.9	55.9	49.9	44.9	40.9	38.9	37.9			
10. Additional Attenuation Required (3-9)											
11. Sound Attenuator		Model	Width	Hight	Length	*Air Velocity (Pass through Atten.) : 8.1 m/s					
(Insertion Loss)		5	1800	800	1500	7	8	14	23	31	33
Pressure Drop 3 mmAq		7	1800	800	1800	7	11	16	26	37	20
		9	1800	800	2100	8	11	19	30	43	24

} SELF GENERATED NOISE DATA

} NATURAL ATTENUATION DATA (Noise attenuation by Duct, Elbow, Chamber and Distribution etc.)

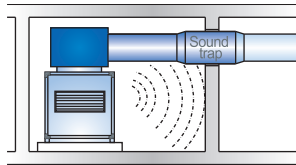
} Selection of standard noise level on room

} Radiation Coefficient (Considering the area and absorption ratio of room)

} SELECTION OF SOUND ATTENUATOR SIZE (Considering required attenuation, velocity and static pressure drop etc.)

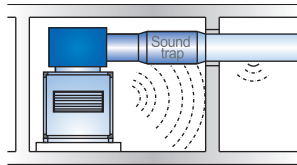
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Sound Trap Sound Attenuator Placement On Ahu Room



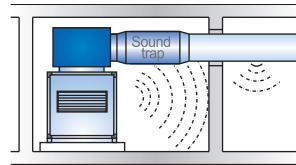
BEST

Controls ductborne noise and mechanical room noise that "breaks into" duct.



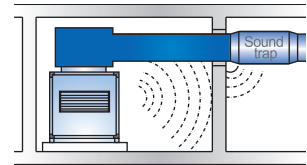
VERY GOOD

Practical alternate where fire damper is required at wall.



FAIR

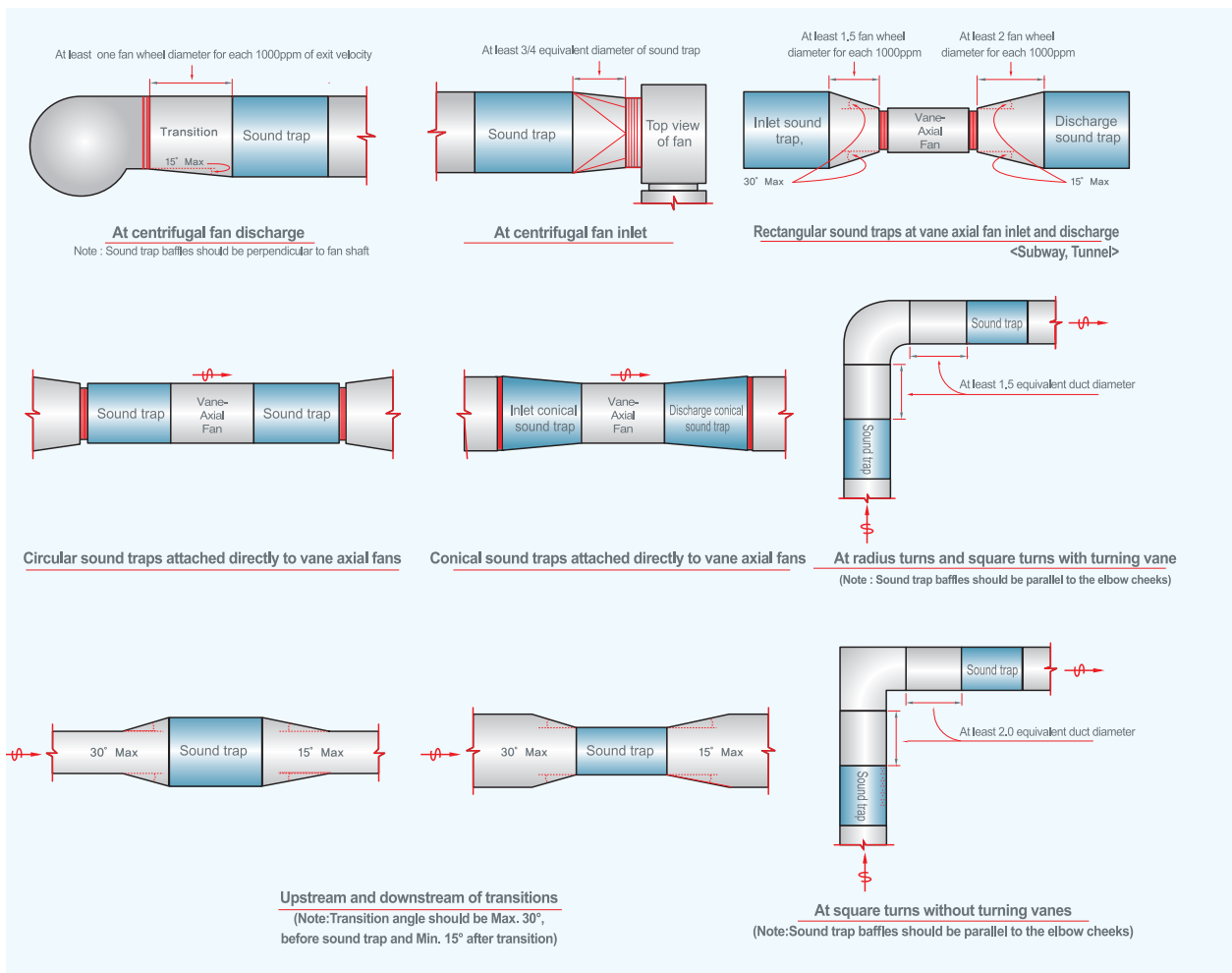
Mechanical room noise "breaks into" duct without reduction through sound trap.



POOR

All noise in duct "breaks out" over occupied space before being reduced by sound trap.

Guidelines for sound trap placement near fans and duct fittings



Installation features

