

Slim Duct Type

MMD-AP0054SPH-E
MMD-AP0074SPH-E
MMD-AP0094SPH-E
MMD-AP0124SPH-E
MMD-AP0154SPH-E
MMD-AP0184SPH-E
MMD-AP0244SPH-E
MMD-AP0274SPH-E



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1. Specifications



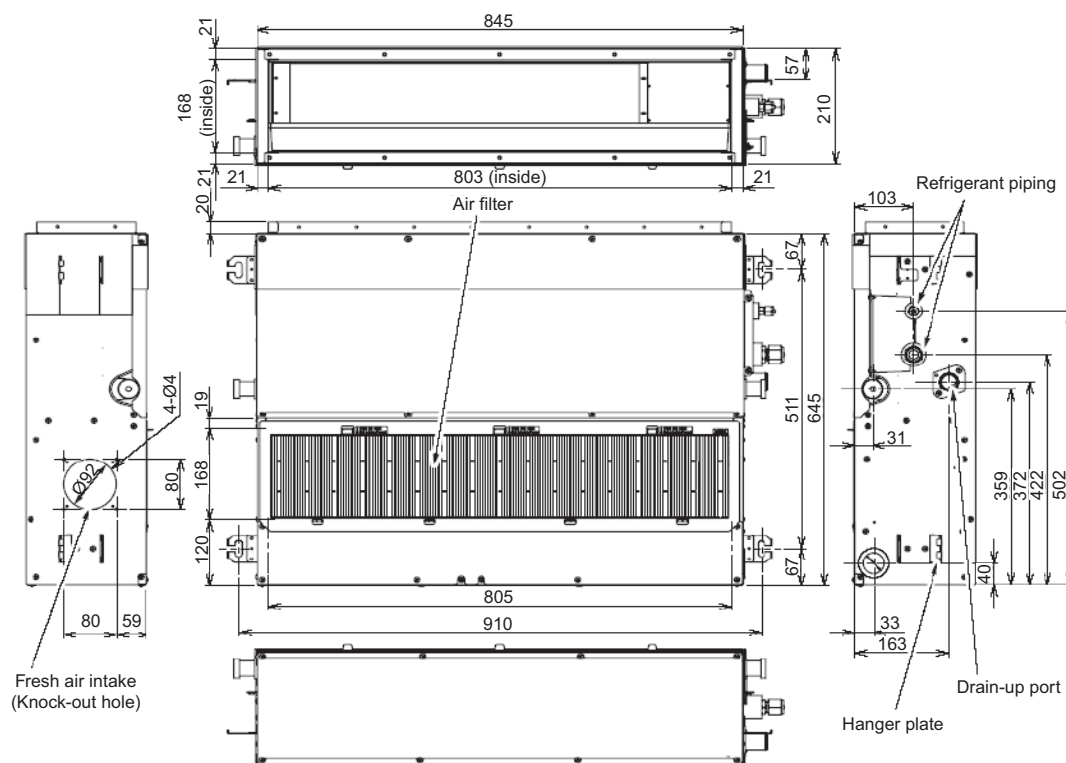
Model name			MMD-	AP0054SPH-E	AP0074SPH-E	AP0094SPH-E	AP0124SPH-E	AP0154SPH-E	AP0184SPH-E	AP0244SPH-E	AP0274SPH-E	
Cooling/Heating capacity (*1)			kW	1.7/1.9	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	
Electrical characteristics	Power supply			1 phase 50 Hz 220-240 V								
	Running current	50 Hz	A	0.29	0.29	0.29	0.31	0.32	0.39	0.75		
	Power consumption		kW	0.039	0.039 / 0.037	0.039 / 0.037	0.043 / 0.041	0.045 / 0.043	0.054 / 0.052	0.105		
	Starting current		A	0.51	0.51 / 0.47	0.51 / 0.47	0.54 / 0.53	0.56 / 0.54	0.68 / 0.65	1.13		
Appearance				Zinc hot dipping steel plate								
Outer dimension	Height		mm	210							210	
	Width		mm	845							1140	
	Depth		mm	645							645	
Total weight			kg	22	22	22	22	23	23	29	29	
Heat exchanger				Finned tube								
Soundproof / Heat-insulating material				Polyethylene foam + Polyurethane foam								
Font unit	Fan			Centrifugal fan								
	Standard air flow (High/Mid./Low)		m³/h	490/470/400	540/470/400		600/520/450	690/600/520	780/680/580	1080/1000/900		
	Motor output		W	60							120	
External static pressure			Pa	6 (Factory default) -16-31-46 4steps			5 (Factory default) -15-30-45 4steps		4 (Factory default) -14-29-44 4steps	2-12-22-42 (Factory default) 4steps		
	Air filter pressure loss		Pa	4			5		6	8		
Air filter				Standard filter supplied (Long life filter)								
Controller				Remote controller								
Connecting pipe	Gas pipe		mm	Φ9.5				Φ12.7		Φ15.9		
	Liquid pipe		mm	Φ6.4							Φ9.5	
	Drain pipe (Outside dia.)		mm	25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)								
Sound pressure level (High/Mid./Low)	Under air intake		dB(A)	35/33/30	36/33/30		38/35/32	39/36/33	40/38/36	49/47/44		
	Back air intake		dB(A)	27/26/24	28/26/24		29/27/25	32/30/28	33/31/29	38/36/33		

Note

(*1) Rated conditions Cooling : Indoor 27 degC Dry Bulb / 19 degC Wet Bulb, Outdoor 35 degC Dry Bulb.
 Heating : Indoor 20 degC Dry Bulb, Outdoor 7 degC Dry Bulb / 6 degC Wet Bulb.
 Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

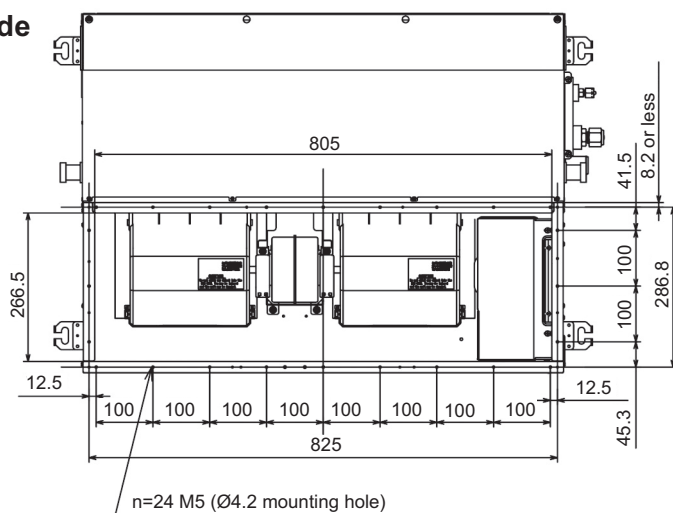
2. Dimensions

MMD-AP0054SPH-E, AP0074SPH-E, AP0094SPH-E, AP0124SPH-E, AP0154SPH-E, AP0184SPH-E

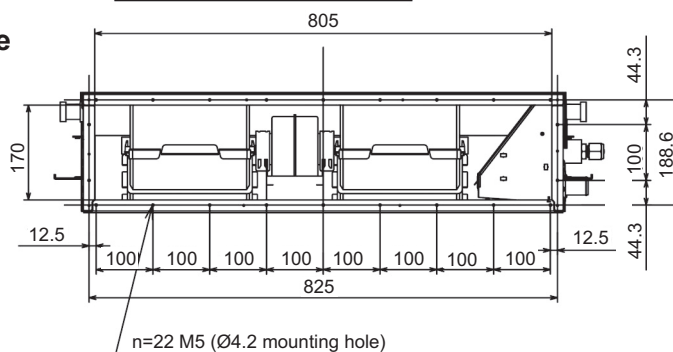


Air intake connecting flange (Field supply)

Underside

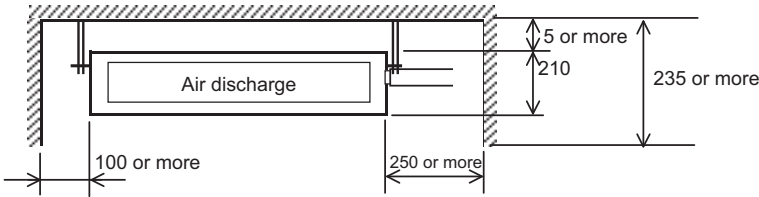


Rearside

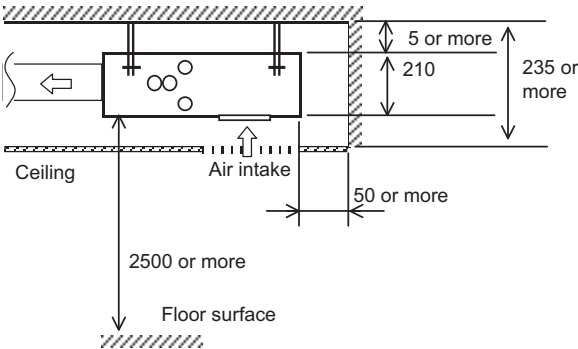


Installation space

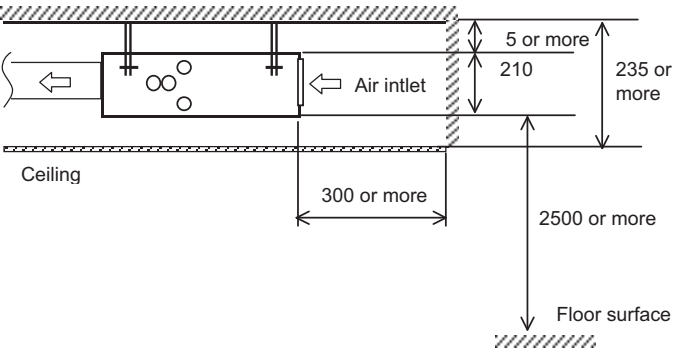
(length:mm)



Under air intake

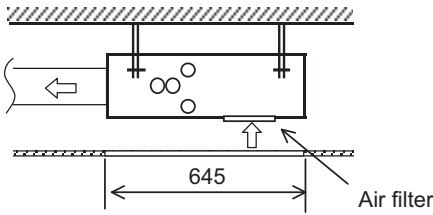
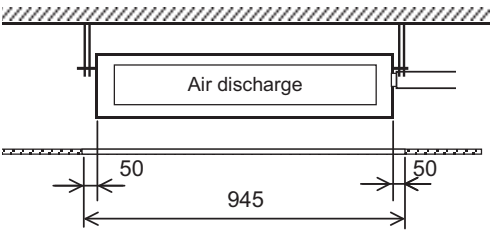


Rear air intake

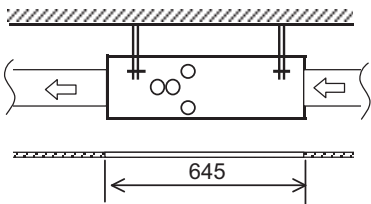
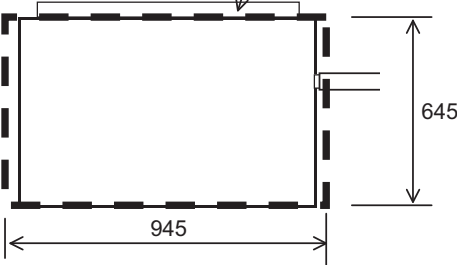


Service space

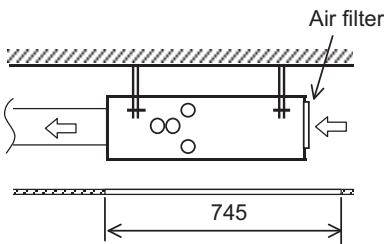
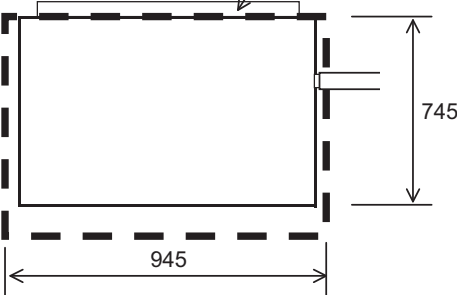
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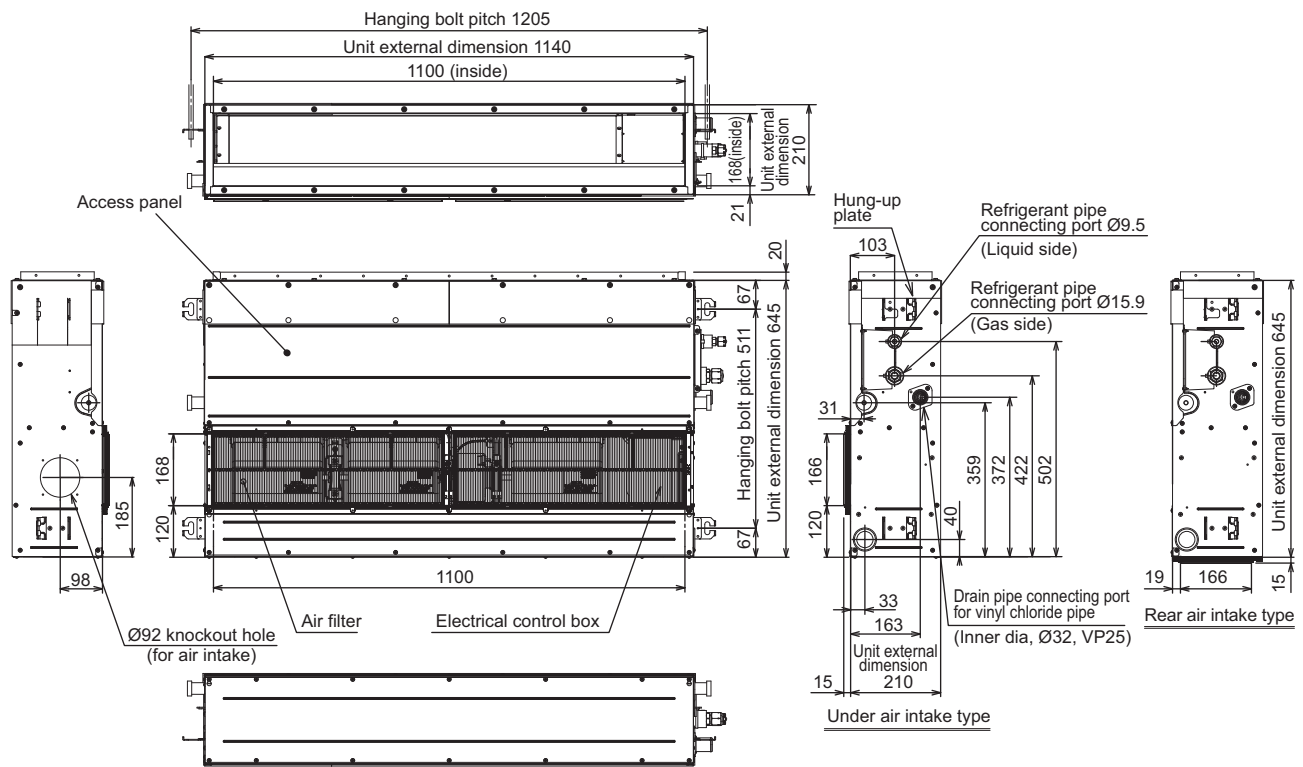
Service door (Ceiling opening)



Service door (Ceiling opening)

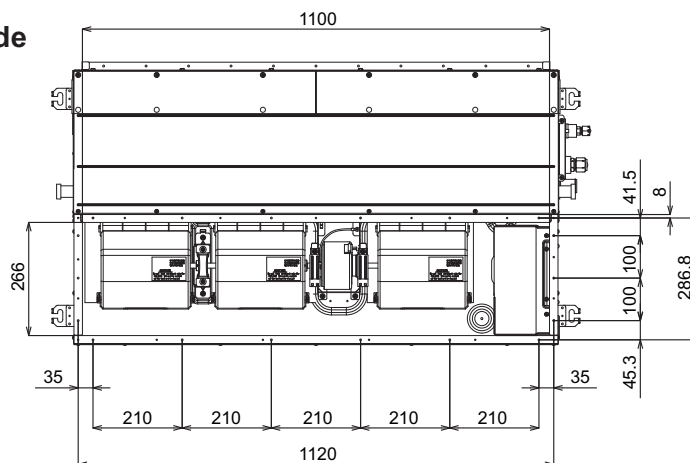


MMD-AP0244SPH-E, AP0274SPH-E

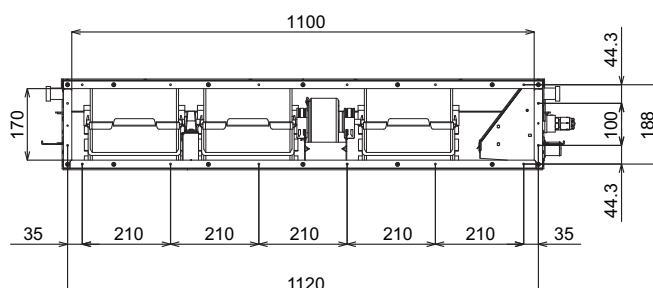


Air intake connecting flange (Field supply)

Underside

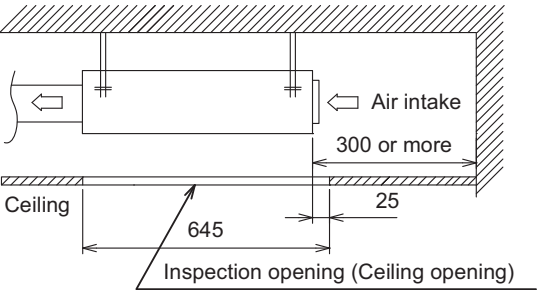
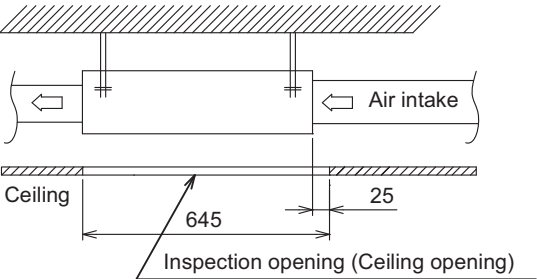
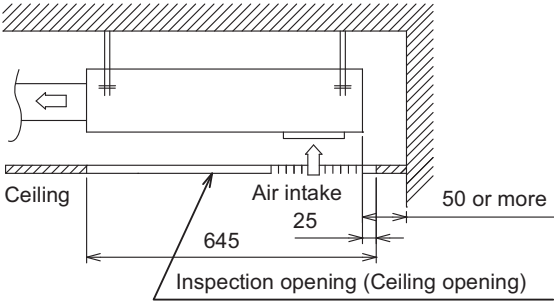
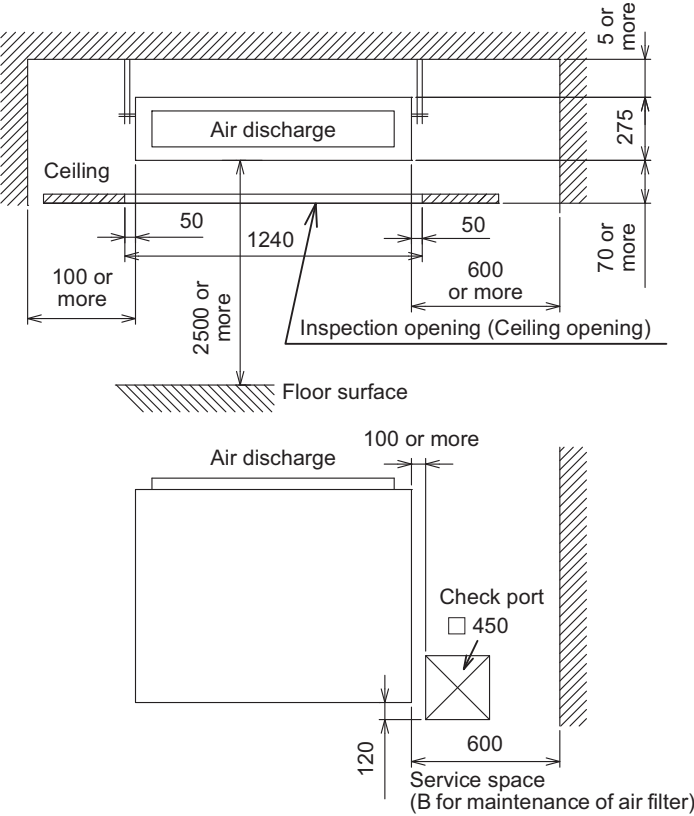


Rearside



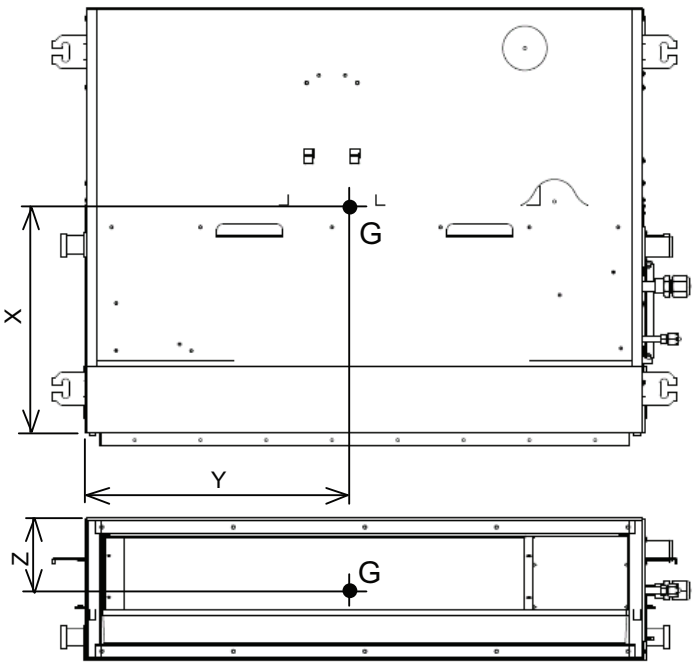
Installation and service space

(length:mm)

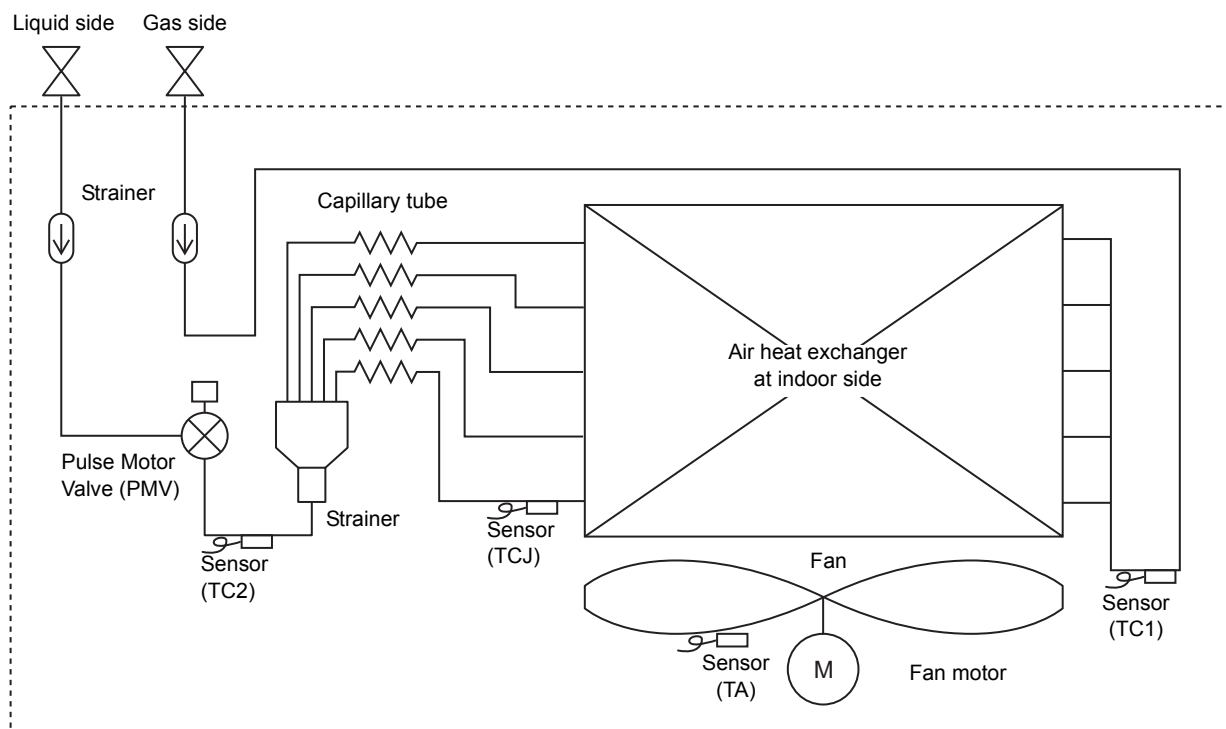


3. Center of gravity

Model name	X (mm)	Y (mm)	Z (mm)	Total weight(kg)
MMD-AP0054SPH-E	315	470	110	22
MMD-AP0074SPH-E				
MMD-AP0094SPH-E				
MMD-AP0124SPH-E				
MMD-AP0154SPH-E	320	460	110	23
MMD-AP0184SPH-E				
MMD-AP0244SPH-E	320	620	95	28
MMD-AP0274SPH-E				



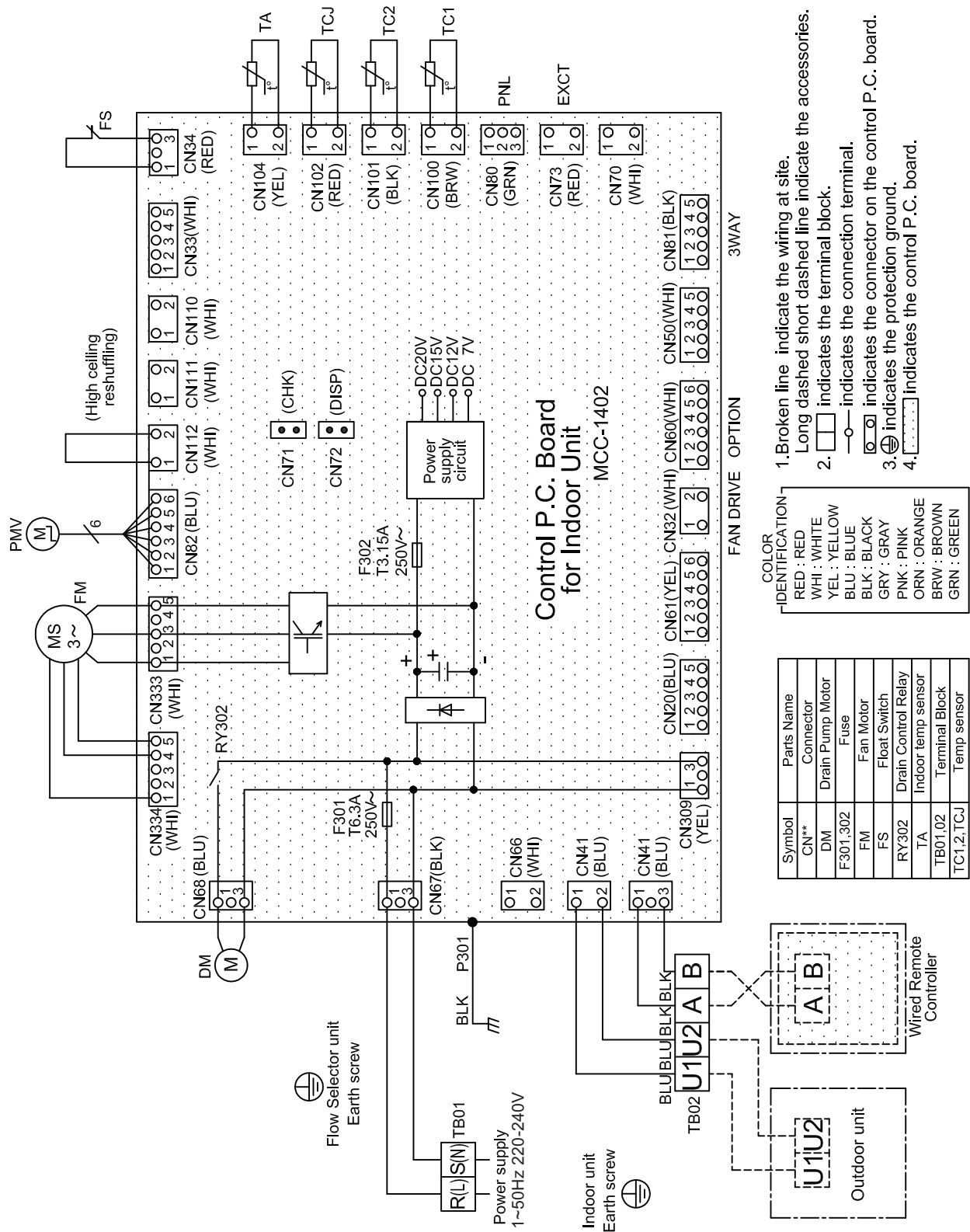
4. Piping diagram



Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN082 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls sub cool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. sensor	1. TA	(Connector CN104 (2P): Yellow) 1) Detects indoor suction temperature
	2. TC1	(Connector CN100 (3P): Brown) 1) Controls PMV super heat in cooling operation
	3. TC2	(Connector CN101 (2P): Black) 1) Controls PMV sub cool in heating operation
	4. TCJ	(Connector CN102 (2P): Red) 1) Controls PMV super heat in cooling operation

5. Wiring diagram

MMD-AP0054SPH-E, AP0074SPH-E, AP0094SPH-E, AP0124SPH-E, AP0154SPH-E, AP0184SPH-E
AP0244SPH-E, AP0274SPH-E



6. Electrical characteristics

1. 50 Hz

Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
		Min	Max	kW	FLA	MCA	MOCP
MMD-AP0054SPH-E	230-1-50	198	264	0.060	0.35	0.44	15
MMD-AP0074SPH-E	230-1-50	198	264	0.060	0.35	0.44	15
MMD-AP0094SPH-E	230-1-50	198	264	0.060	0.35	0.44	15
MMD-AP0124SPH-E	230-1-50	198	264	0.060	0.37	0.47	15
MMD-AP0154SPH-E	230-1-50	198	264	0.060	0.38	0.48	15
MMD-AP0184SPH-E	230-1-50	198	264	0.060	0.47	0.59	15
MMD-AP0244SPH-E	230-1-50	198	264	0.120	0.86	1.08	15
MMD-AP0274SPH-E	230-1-50	198	264	0.120	0.86	1.08	15

MCA : Minimum Circuit Amps

FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps) kW : Fan motor Rated Output(kW)

7. Sensible capacity table

Slim Duct Type (MMD-AP__4SPH-E)

Unit size	Outdoor air temp. °CDB	Indoor air temp.													
		14.0°CWB		16.0°CWB		18.0°CWB		19.0°CWB		20.0°CWB		22.0°CWB		24.0°CWB	
		20°CDB		23°CDB		26°CDB		27°CDB		28°CDB		30°CDB		32°CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
005	10.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	12.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	14.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	16.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	18.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	20.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	21.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	23.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	25.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	27.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	29.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	31.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	33.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	35.0	1.4	1.2	1.5	1.3	1.6	1.4	1.7	1.4	1.8	1.4	1.9	1.4	1.9	1.4
	37.0	1.4	1.2	1.5	1.3	1.6	1.4	1.6	1.4	1.7	1.4	1.8	1.3	1.9	1.3
	39.0	1.3	1.2	1.5	1.2	1.6	1.3	1.6	1.3	1.6	1.3	1.7	1.3	1.8	1.3
007	10.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	12.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	14.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	16.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	18.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	20.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	21.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	23.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	25.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	27.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	29.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	31.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	33.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	35.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7
	39.0	1.7	1.5	1.9	1.6	2.0	1.7	2.1	1.7	2.1	1.7	2.3	1.7	2.4	1.6
009	10.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	12.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	14.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	16.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	18.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	20.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	21.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	23.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	25.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	27.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	29.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	31.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	33.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	35.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	37.0	2.2	1.8	2.5	1.9	2.6	2.0	2.7	2.0	2.8	2.0	3.0	2.0	3.1	2.0
	39.0	2.2	1.8	2.4	1.9	2.6	2.0	2.6	2.0	2.7	2.0	2.9	2.0	3.0	1.9

TC : Total capacity [kW]

SHC : Sensible capacity [kW]

Slim Duct Type (MMD-AP__4SPH-E)

Unit size	Outdoor air temp. °CDB	Indoor air temp.													
		14.0°CWB		16.0°CWB		18.0°CWB		19.0°CWB		20.0°CWB		22.0°CWB		24.0°CWB	
		20°CDB		23°CDB		26°CDB		27°CDB		28°CDB		30°CDB		32°CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
015	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3
	10.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	12.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	14.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	16.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	18.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	20.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	21.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	23.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	25.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	27.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	29.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	31.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	33.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	35.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	37.0	3.6	2.7	4.0	2.9	4.2	3.1	4.4	3.1	4.5	3.1	4.7	3.1	5.0	3.0
	39.0	3.5	2.7	3.8	2.8	4.1	3.0	4.2	3.0	4.4	3.0	4.6	3.0	4.8	2.9
018	10.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	12.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	14.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	16.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	18.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	20.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	21.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	23.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	25.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	27.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	29.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	31.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	33.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	35.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	37.0	4.5	3.3	4.9	3.6	5.3	3.8	5.4	3.8	5.6	3.8	5.9	3.7	6.2	3.7
	39.0	4.3	3.3	4.8	3.5	5.1	3.7	5.3	3.7	5.4	3.7	5.7	3.6	6.0	3.6

TC : Total capacity [kW]

SHC : Sensible capacity [kW]

Slim Duct Type (MMD-AP__4SPH-E)

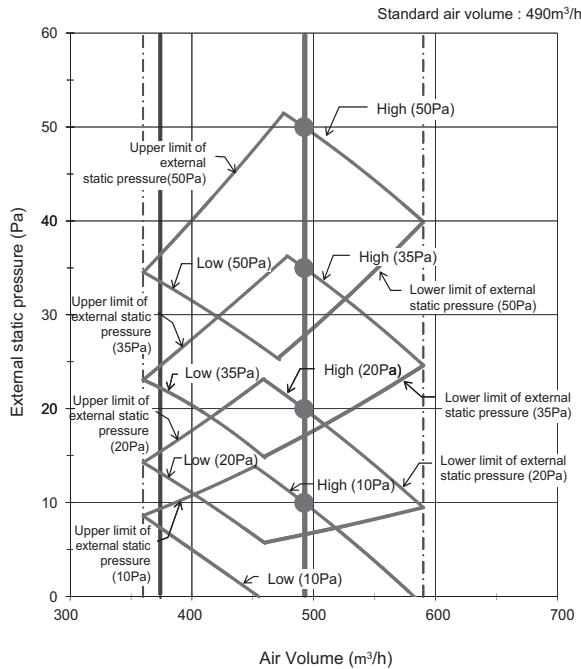
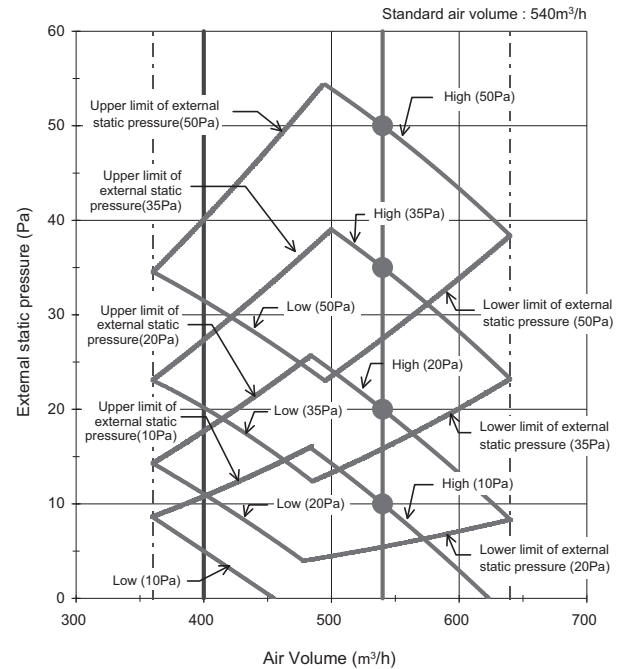
Unit size	Outdoor air temp. °CDB	Indoor air temp.													
		14.0°CWB		16.0°CWB		18.0°CWB		19.0°CWB		20.0°CWB		22.0°CWB		24.0°CWB	
		20°CDB		23°CDB		26°CDB		27°CDB		28°CDB		30°CDB		32°CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
024	10.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	12.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	14.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	16.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	18.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	20.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	21.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	23.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	25.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	27.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	29.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	31.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	33.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	35.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	37.0	5.6	4.1	6.2	4.4	6.7	4.7	6.9	4.6	7.1	4.6	7.5	4.6	7.8	4.5
	39.0	5.5	4.0	6.1	4.3	6.5	4.5	6.7	4.5	6.9	4.5	7.3	4.5	7.6	4.4
027	10.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	12.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	14.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	16.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	18.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	20.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	21.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	23.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	25.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	27.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	29.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	31.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	33.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	35.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	37.0	6.4	4.6	7.0	4.9	7.5	5.2	7.7	5.2	8.0	5.2	8.4	5.2	8.8	5.1
	39.0	6.2	4.5	6.8	4.8	7.3	5.1	7.5	5.1	7.8	5.1	8.2	5.0	8.6	4.9

TC : Total capacity [kW]

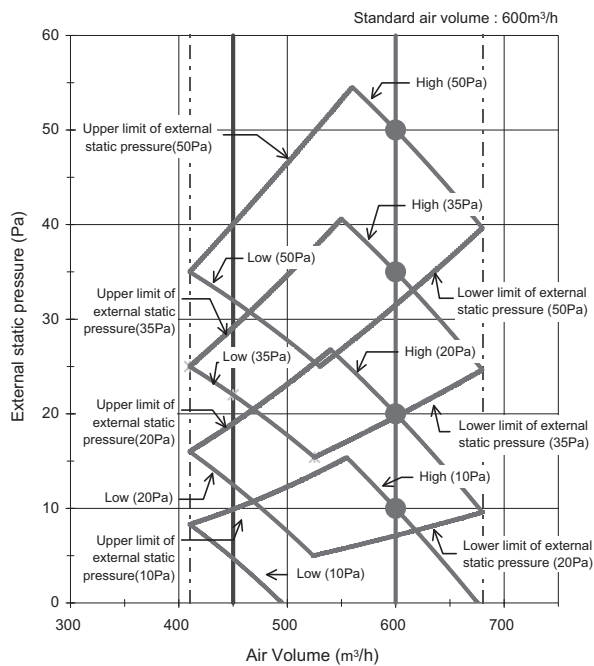
SHC : Sensible capacity [kW]

8. Fan characteristics

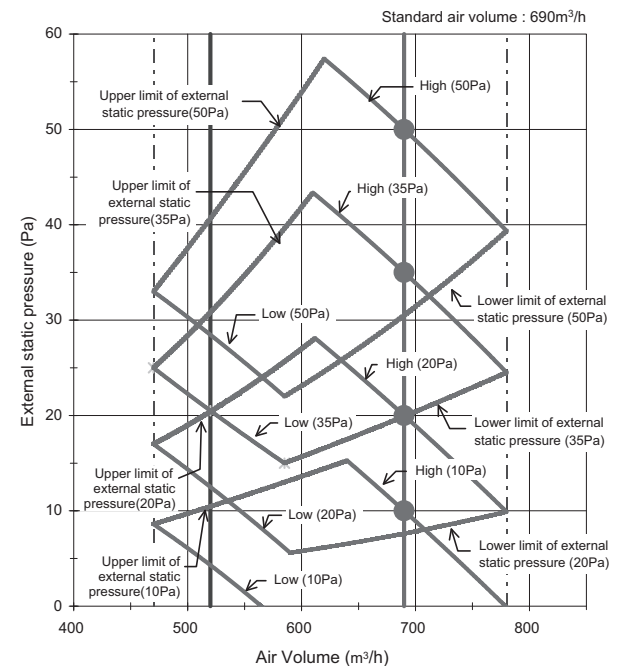
MMD-AP0054SPH-E

MMD-AP0074SPH-E
MMD-AP0094SPH-E

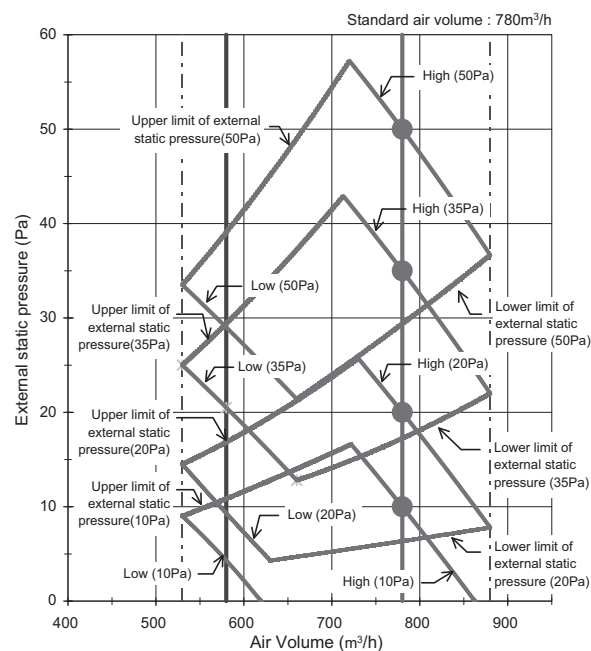
MMD-AP0124SPH-E



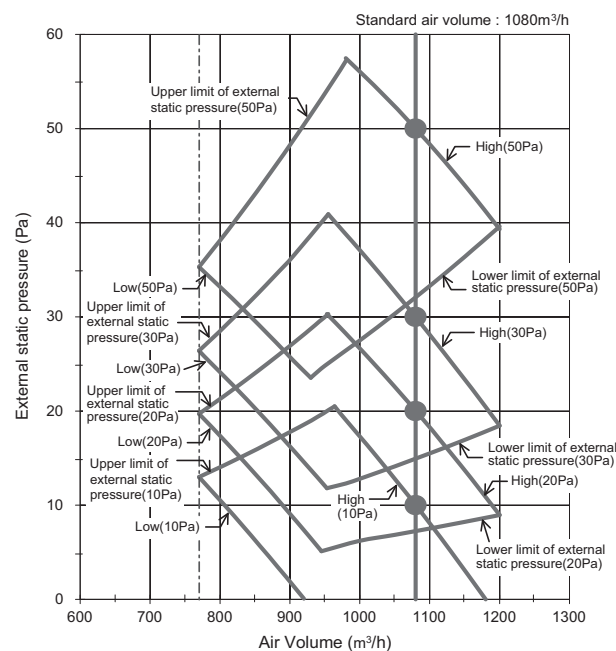
MMD-AP0154SPH-E



MMD-AP0184SPH-E

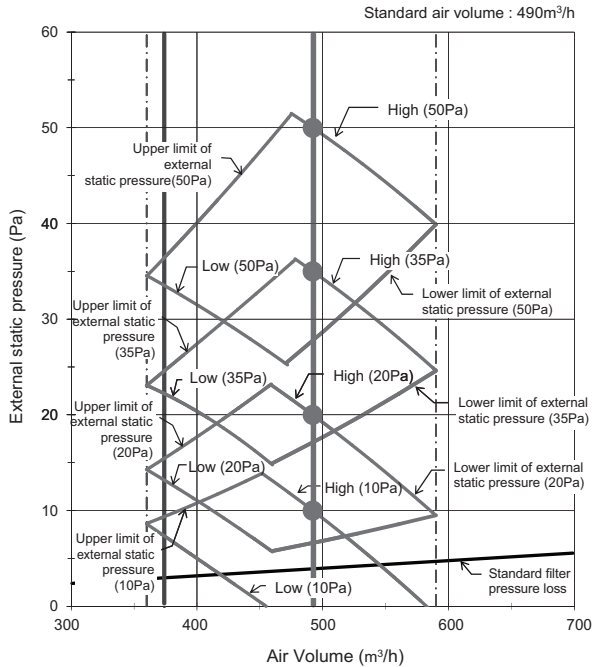


MMD-AP0244SPH-E
MMD-AP0274SPH-E



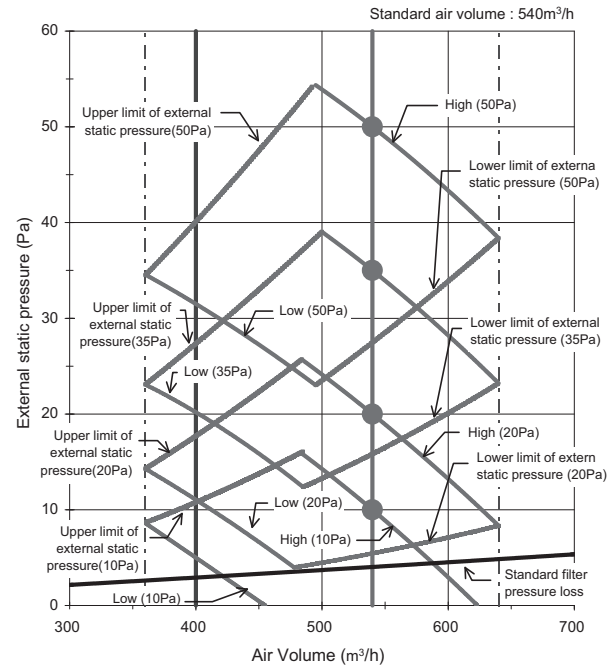
(Filter attached)

MMD-AP0054SPH-E

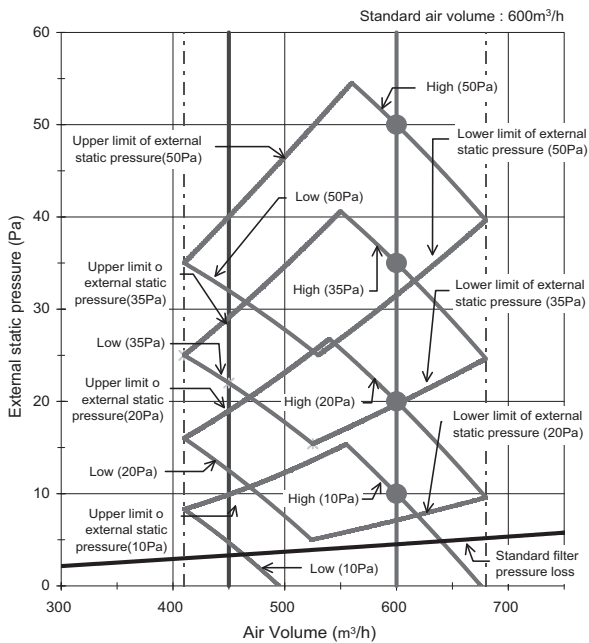


MMD-AP0074SPH-E

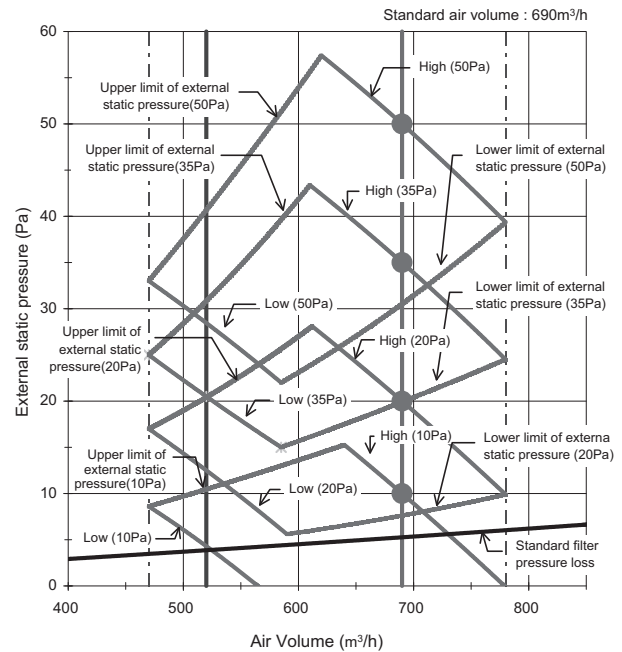
MMD-AP0094SPH-E



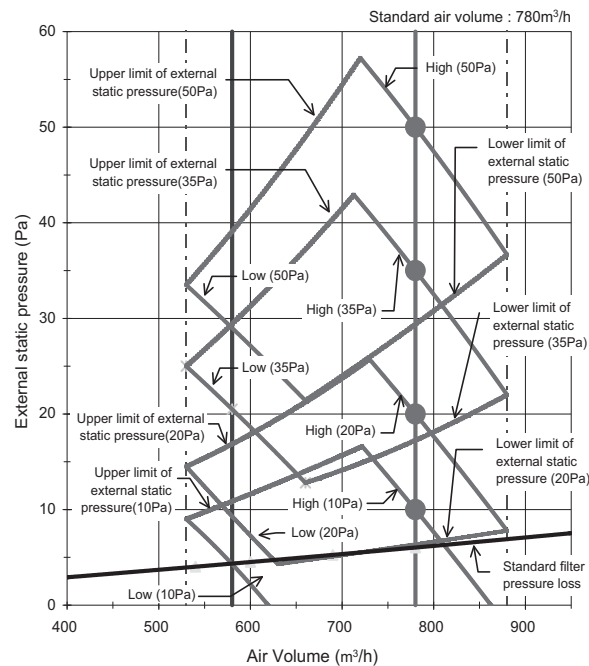
MMD-AP0124SPH-E



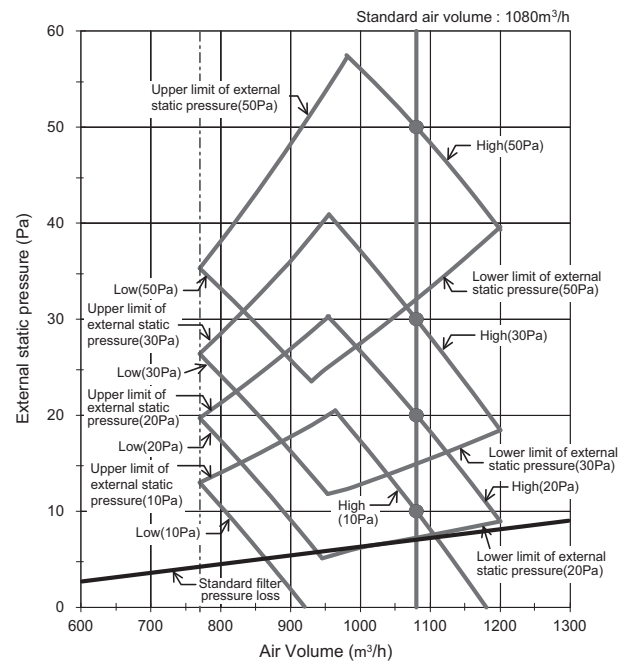
MMD-AP0154SPH-E



MMD-AP0184SPH-E



MMD-AP0244SPH-E
MMD-AP0274SPH-E

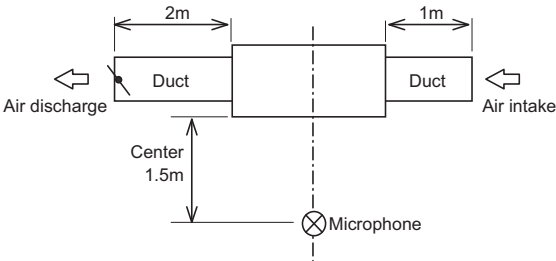


9. Sound data

Sound pressure spectrum

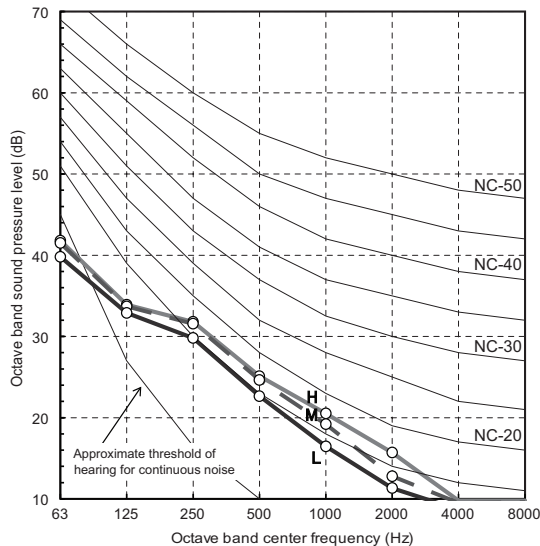
MMD-AP0054SPH-E

Measuring location
Rear air intake



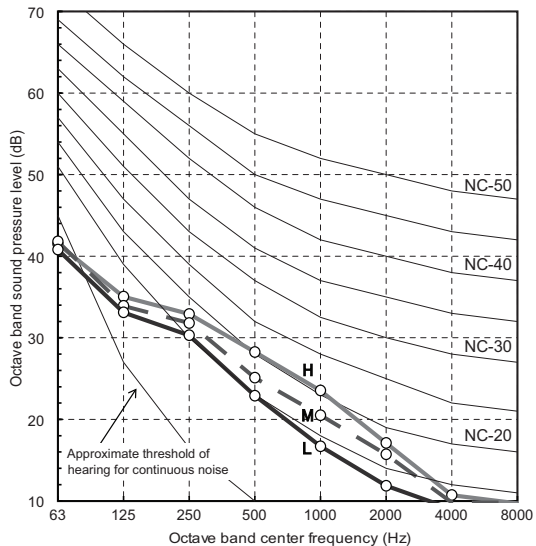
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	27	26	24



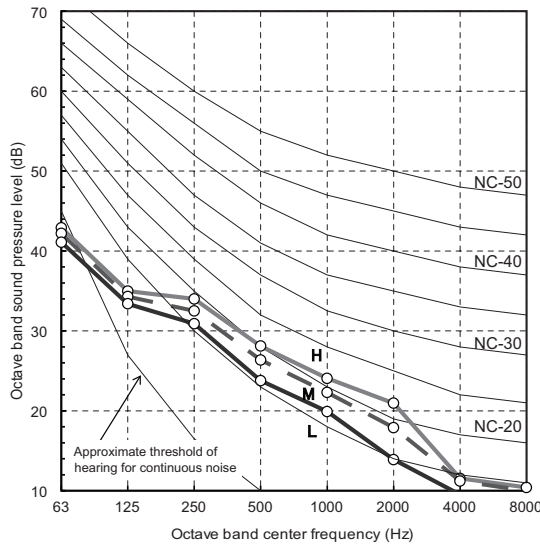
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	28	27	25



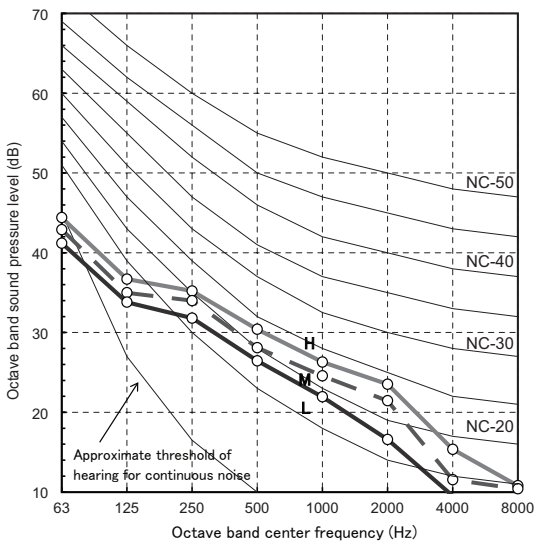
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	29	28	26



External static pressure 50Pa

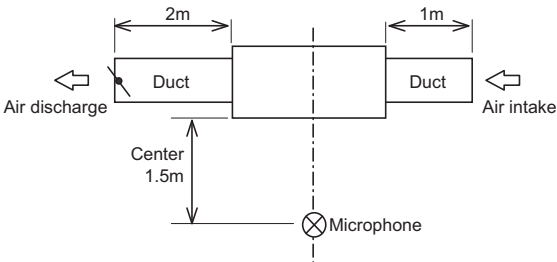
Fan tap	H	M	L
Sound pressure level (dB(A))	31	29	27



MMD-AP0074SPH-E
MMD-AP0094SPH-E

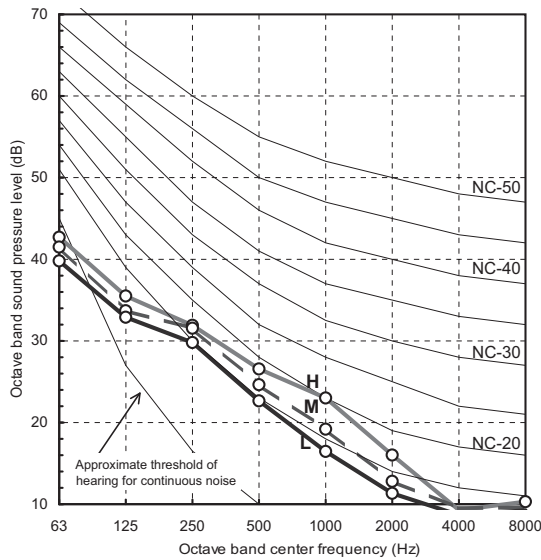
Measuring location

Rear air intake



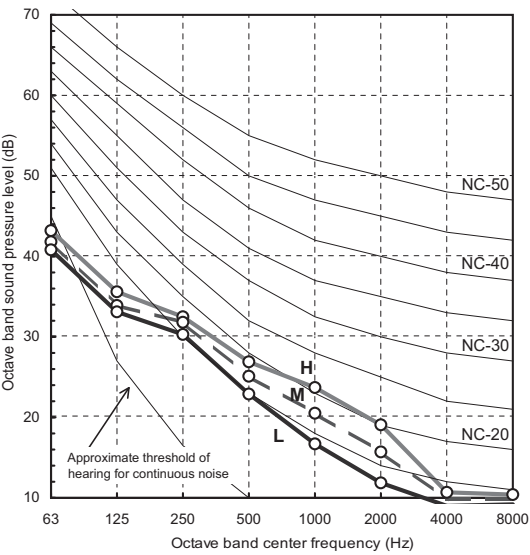
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	28	26	24



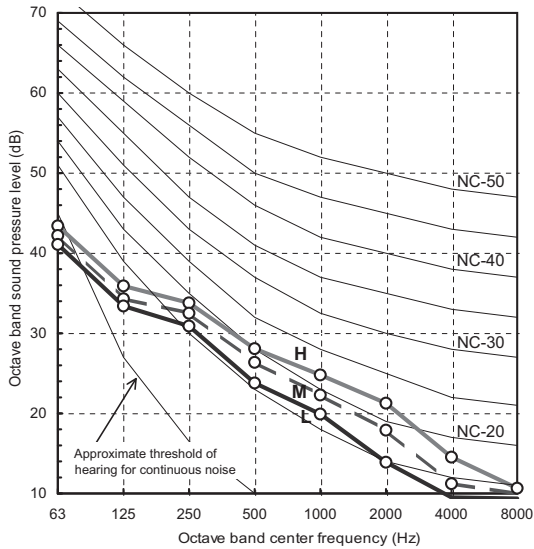
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	29	27	25



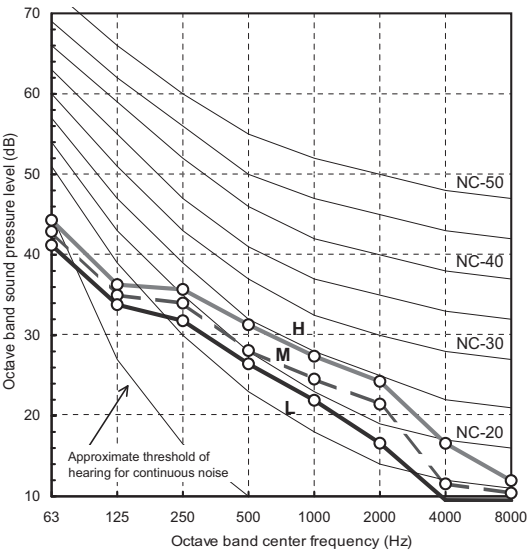
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	30	28	26



External static pressure 50Pa

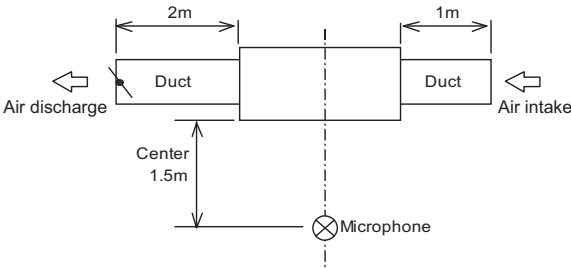
Fan tap	H	M	L
Sound pressure level (dB(A))	32	29	27



MMD-AP0124SPH-E

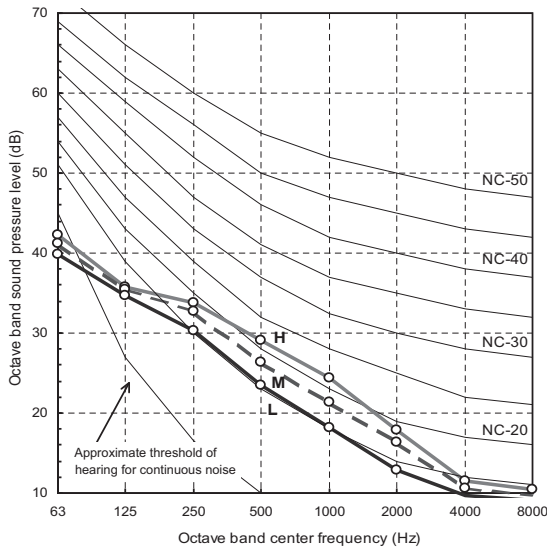
Measuring location

Rear air intake



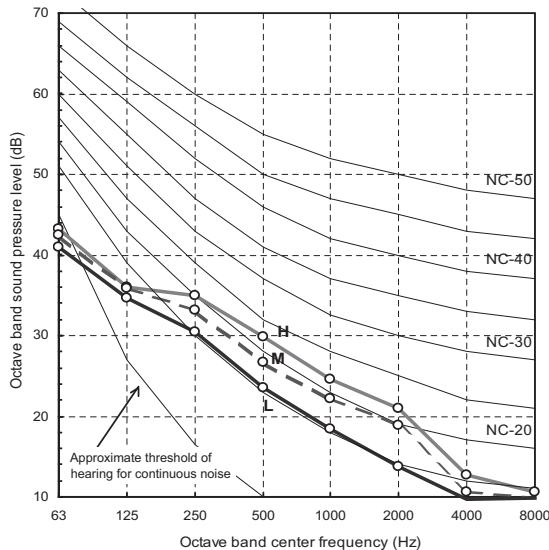
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	29	27	25



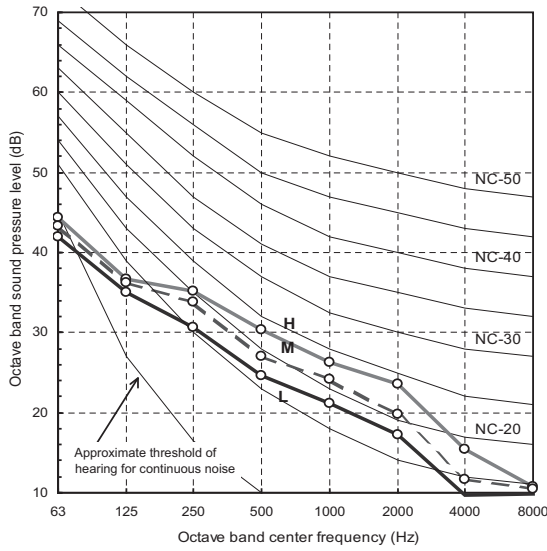
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	30	28	26



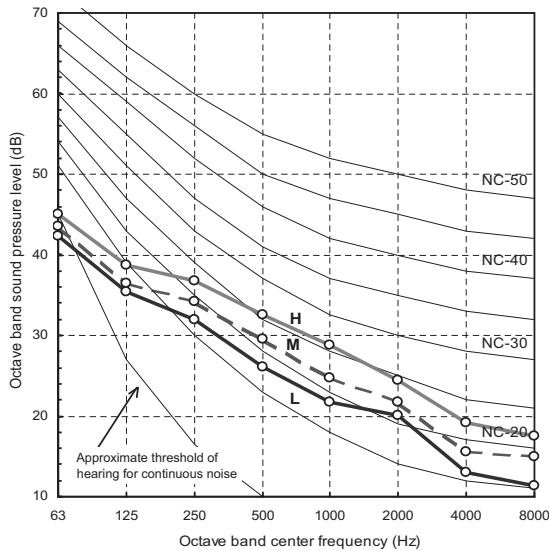
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	31	29	27



External static pressure 50Pa

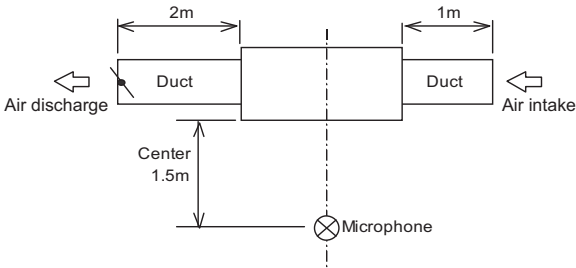
Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	28



MMD-AP0154SPH-E

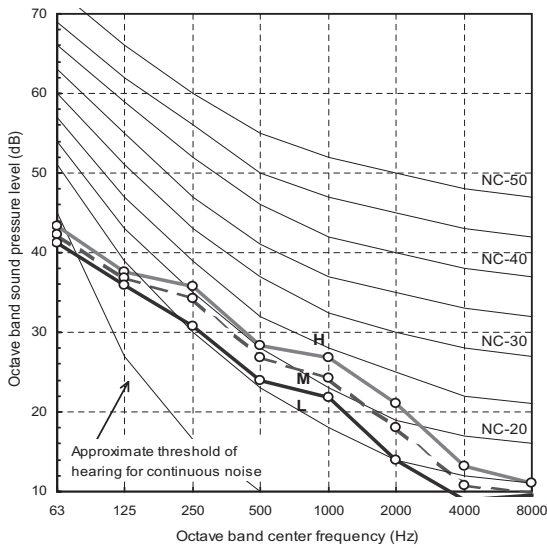
Measuring location

Rear air intake



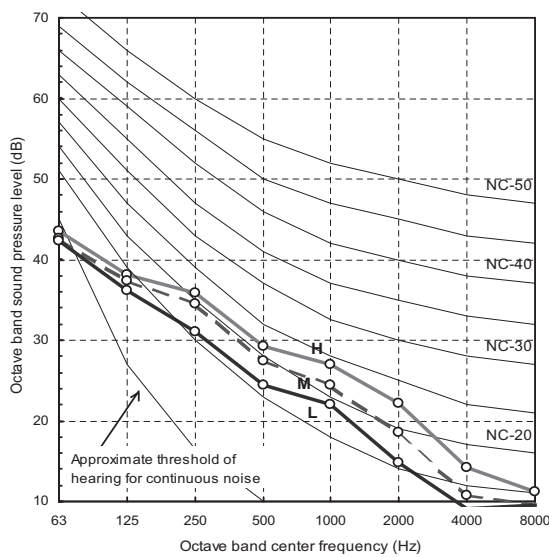
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	28



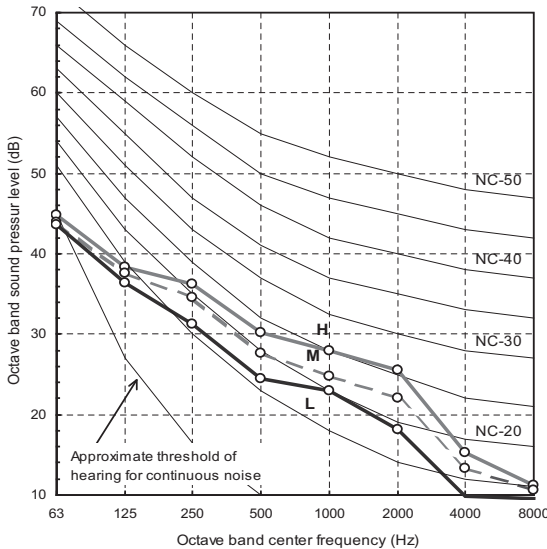
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	33	31	29



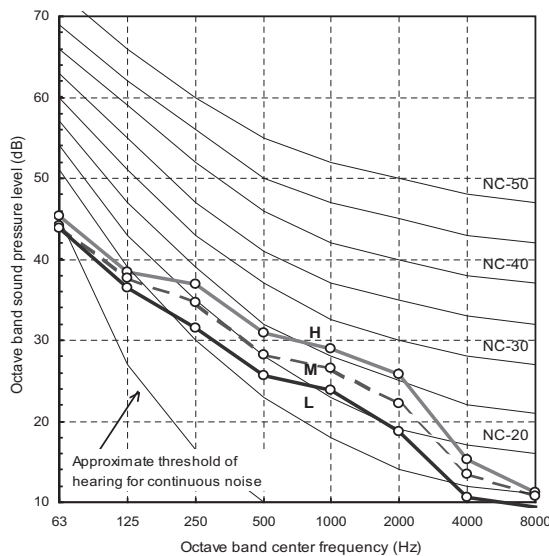
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	34	32	30



External static pressure 50Pa

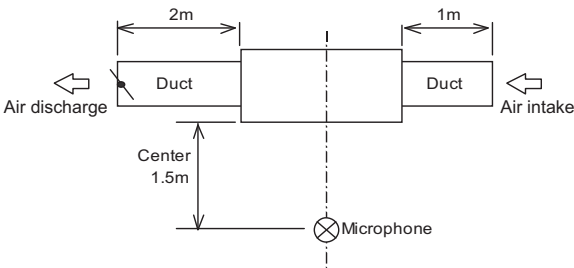
Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	31



MMD-AP0184SPH-E

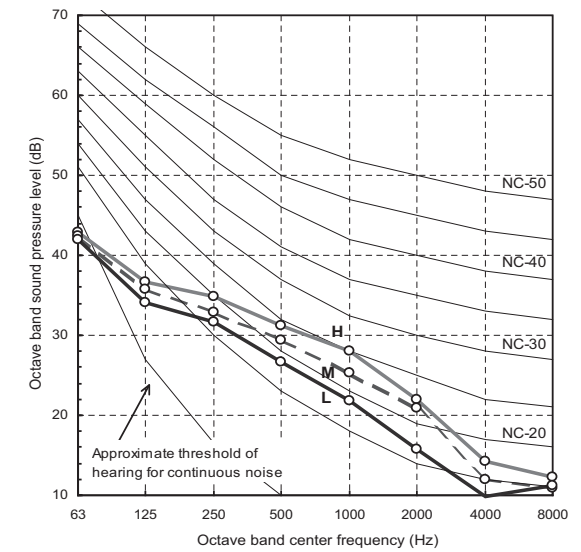
Measuring location

Rear air intake



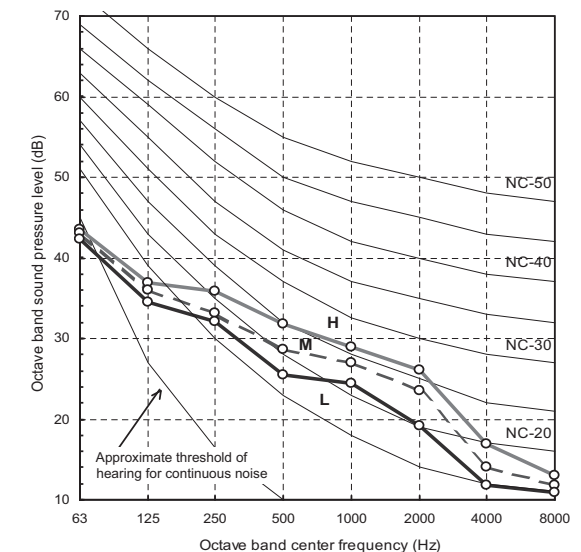
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	33	31	29



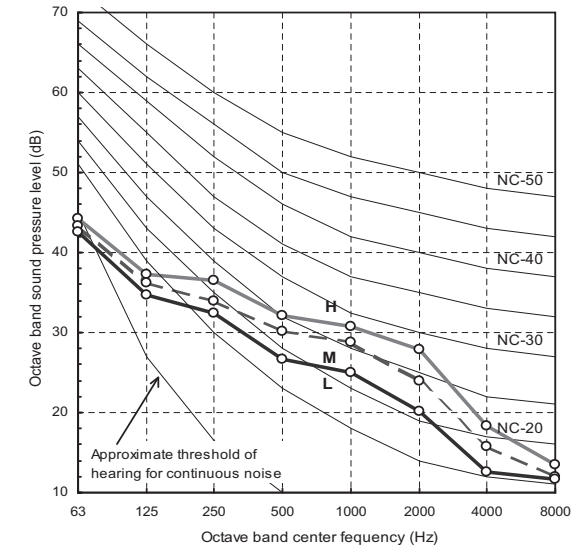
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	34	32	30



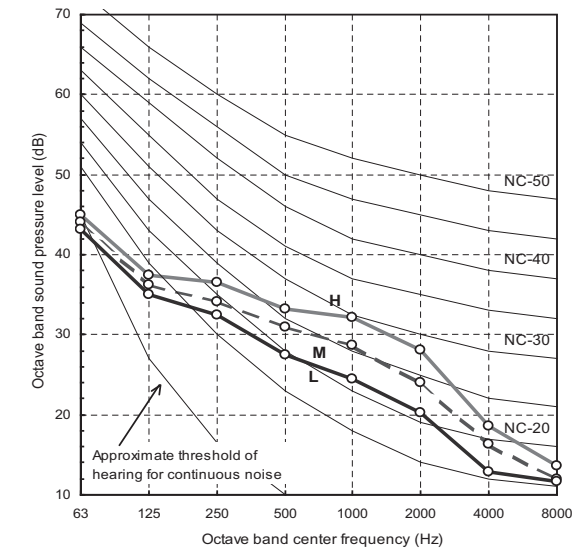
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	31



External static pressure 50Pa

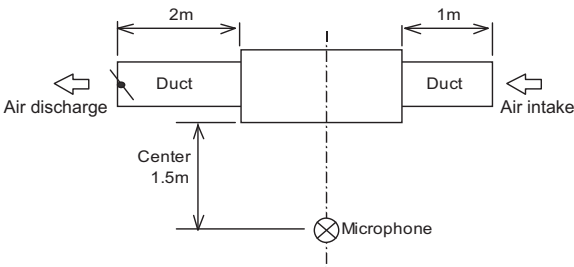
Fan tap	H	M	L
Sound pressure level (dB(A))	36	34	32



MMD-AP0244SPH-E
MMD-AP0274SPH-E

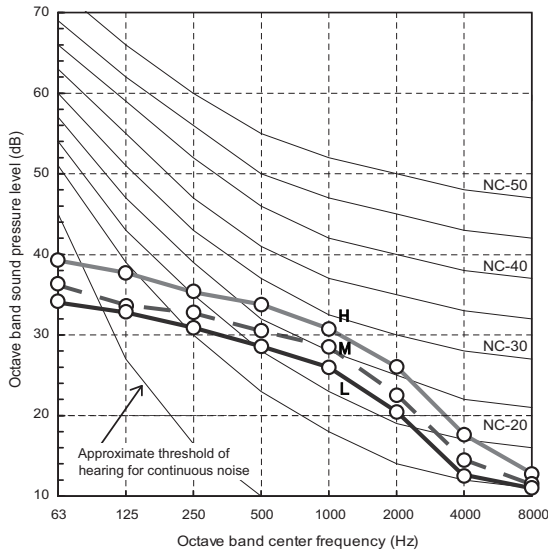
Measuring location

Rear air intake



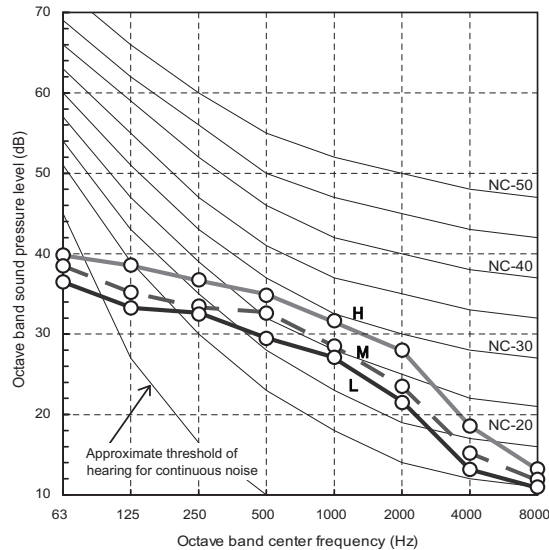
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	35	32	30



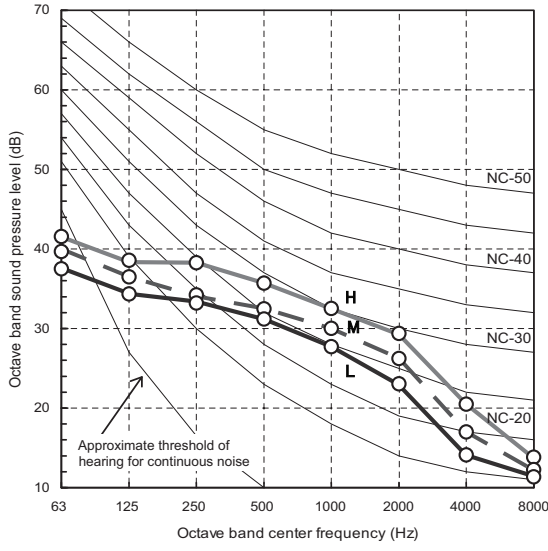
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	31



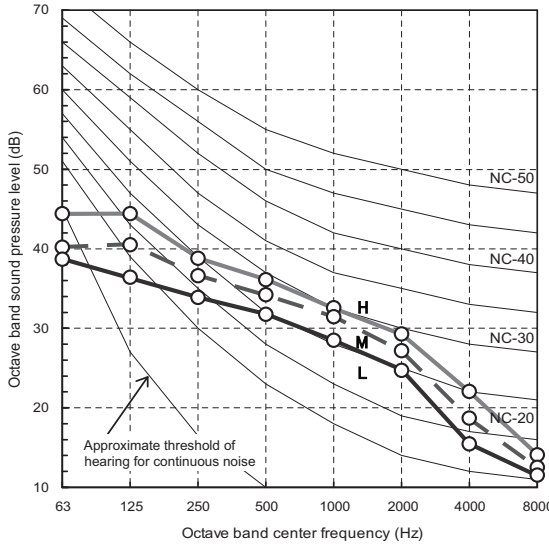
External static pressure 30Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	37	34	32



External static pressure 50Pa

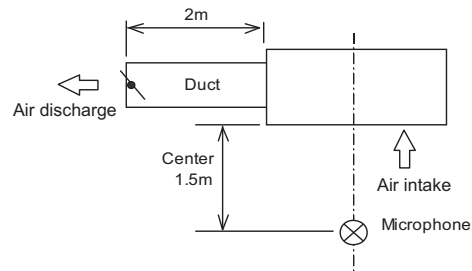
Fan tap	H	M	L
Sound pressure level (dB(A))	38	36	33



MMD-AP0054SPH-E

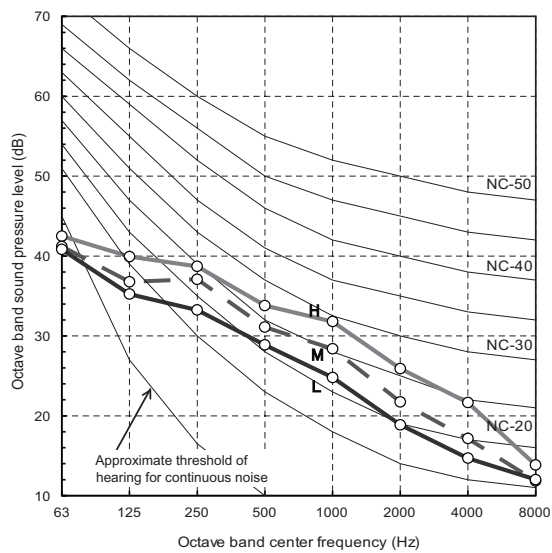
Measuring location

Under air intake



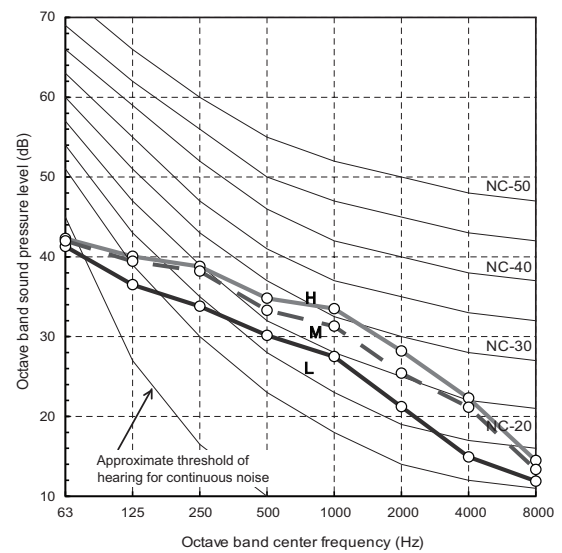
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	30



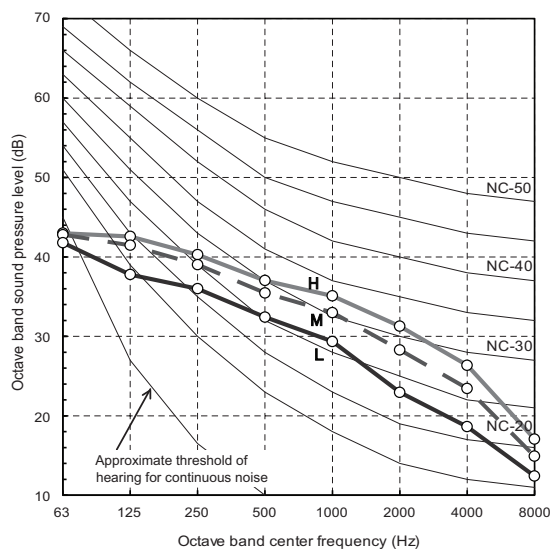
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	36	34	31



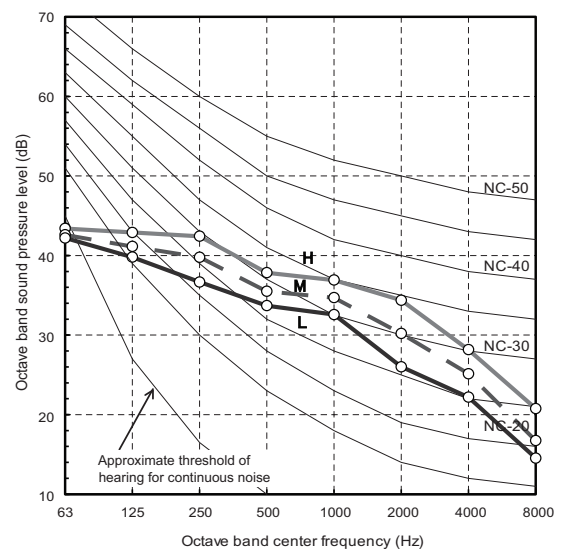
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	38	36	33



External static pressure 50Pa

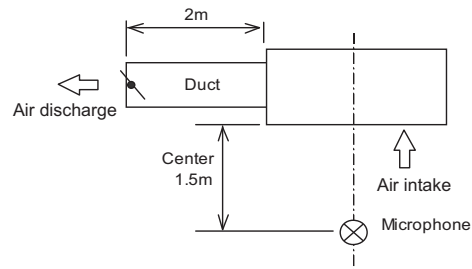
Fan tap	H	M	L
Sound pressure level (dB(A))	40	37	35



MMD-AP0074SPH-E
MMD-AP0094SPH-E

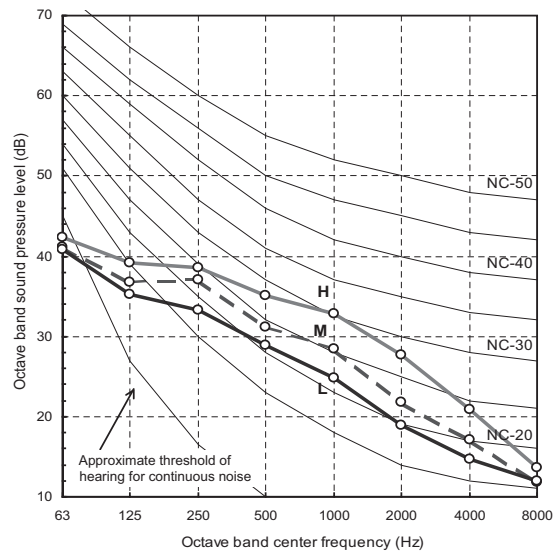
Measuring location

Under air intake



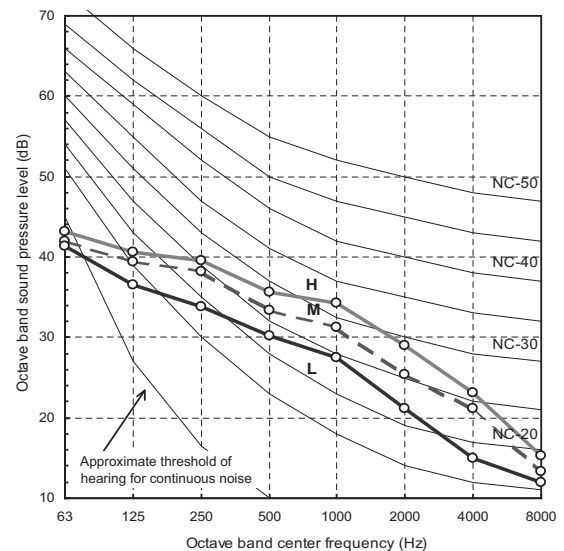
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	30



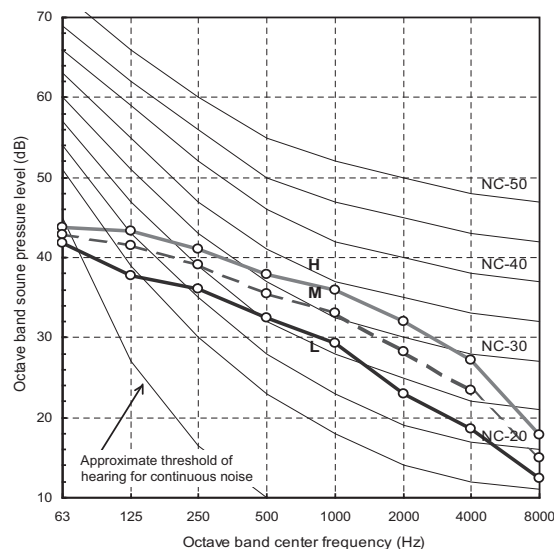
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	37	34	31



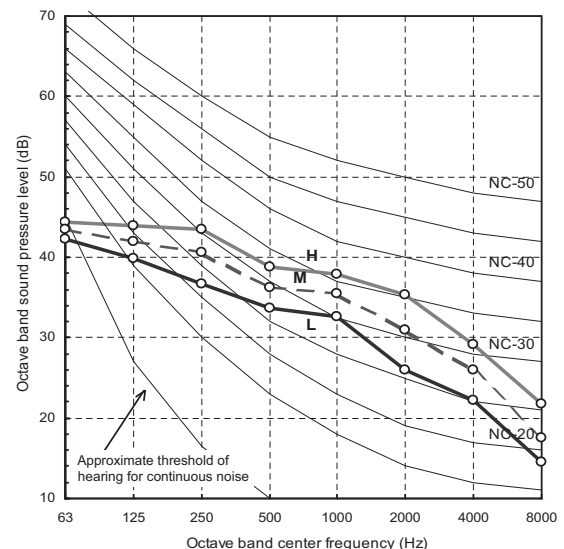
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



External static pressure 50Pa

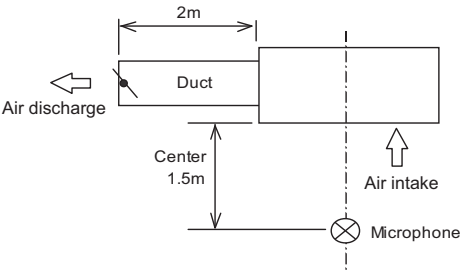
Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35



MMD-AP0124SPH-E

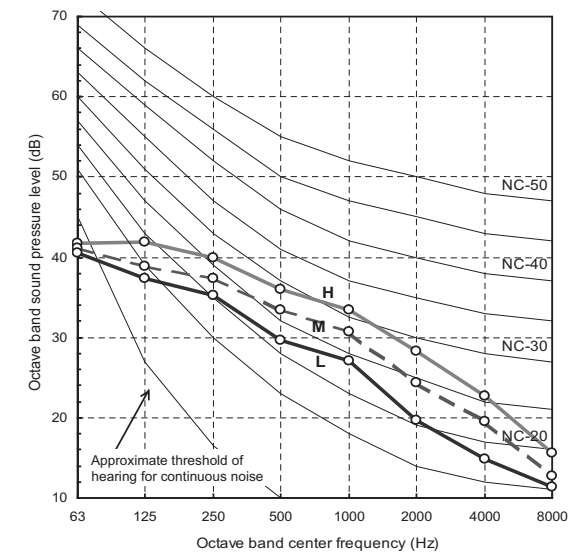
Measuring location

Under air intake



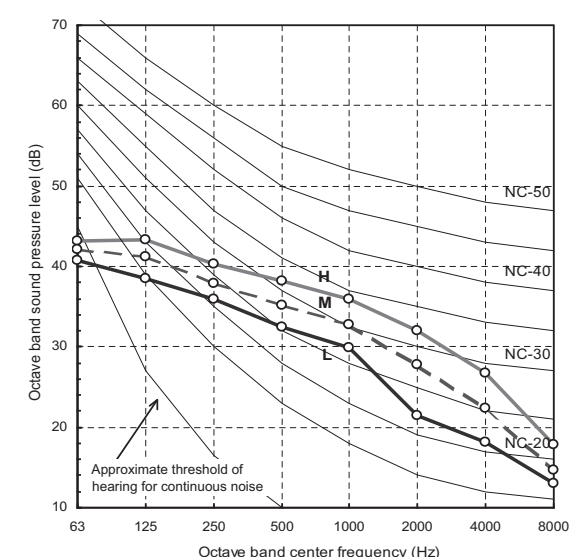
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	38	35	32



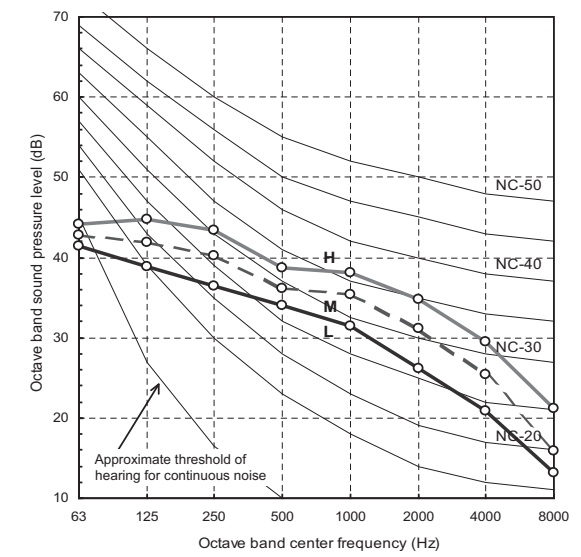
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



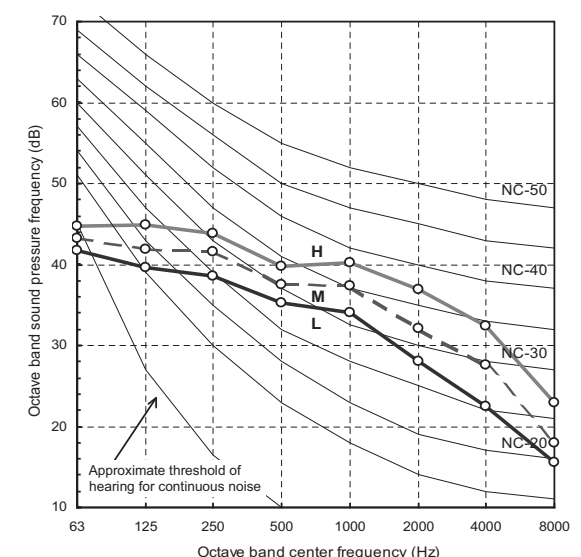
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35



External static pressure 50Pa

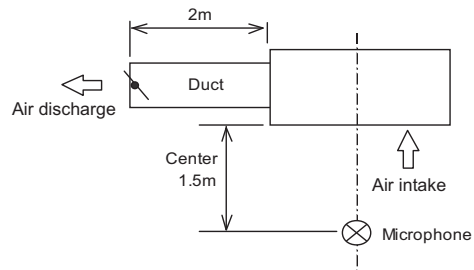
Fan tap	H	M	L
Sound pressure level (dB(A))	43	40	37



MMD-AP0154SPH-E

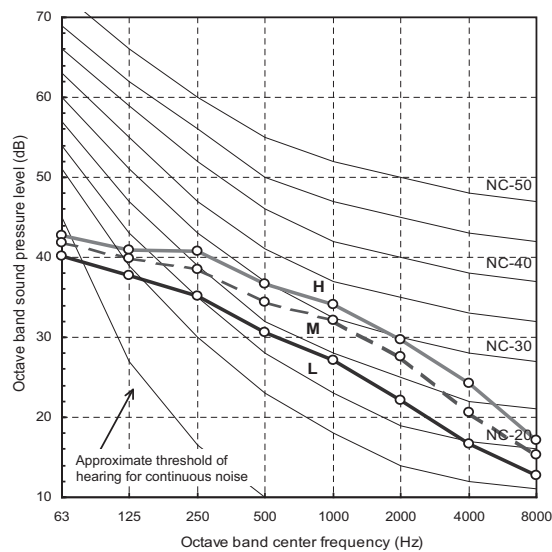
Measuring location

Under air intake



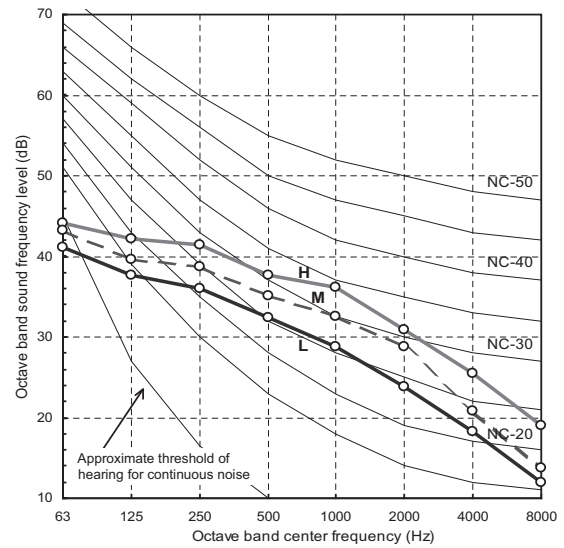
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



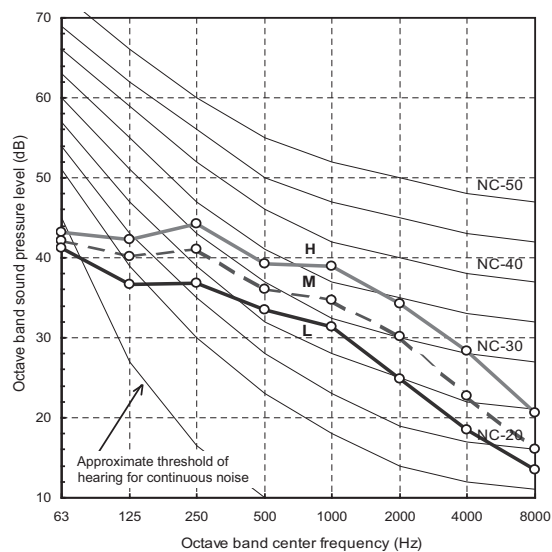
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	40	37	34



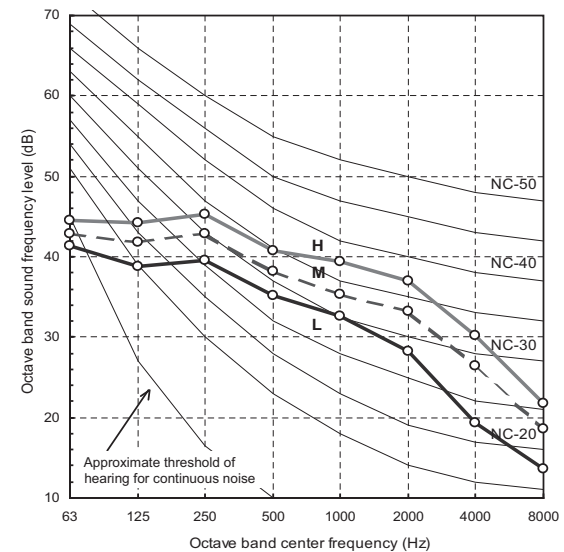
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35



External static pressure 50Pa

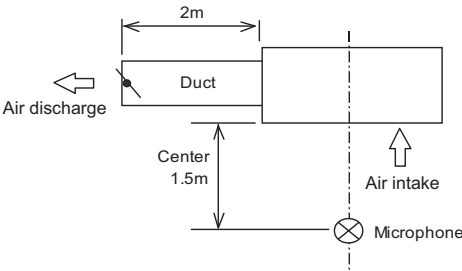
Fan tap	H	M	L
Sound pressure level (dB(A))	43	40	37



MMD-AP0184SPH-E

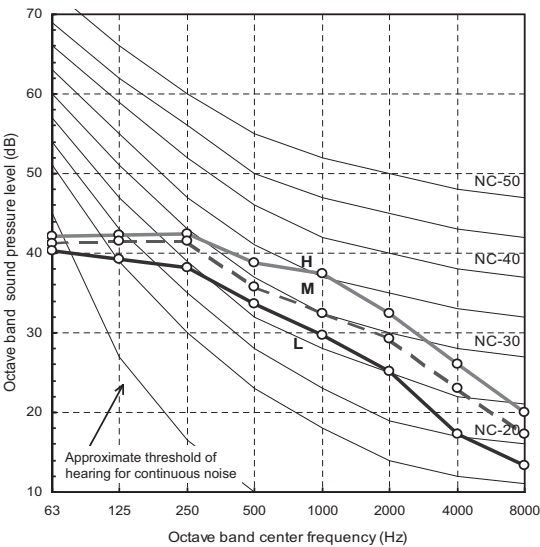
Measuring location

Under air intake



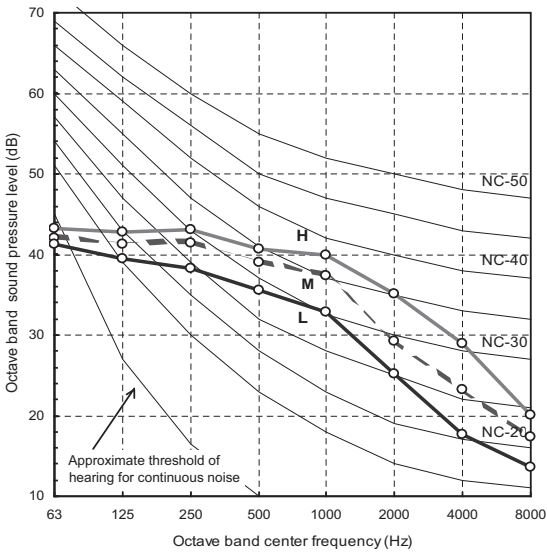
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	40	38	36



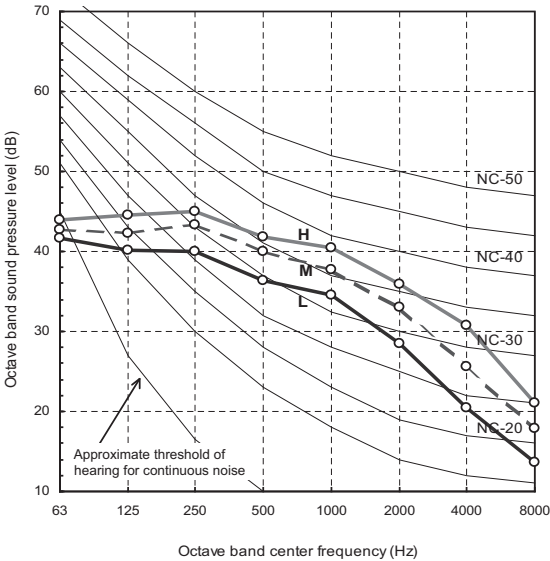
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	42	40	37



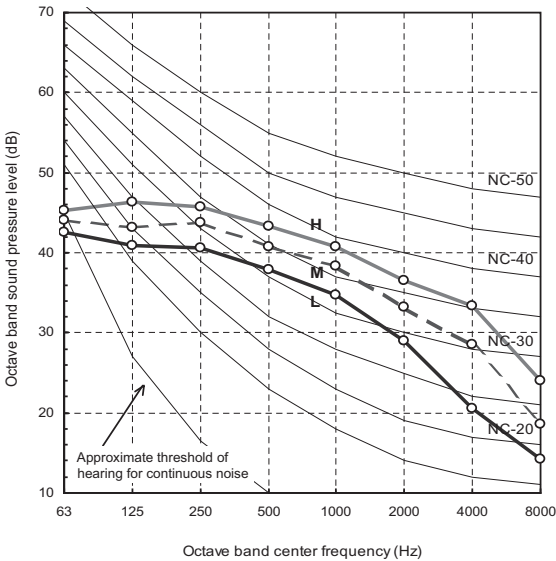
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	43	41	38



External static pressure 50Pa

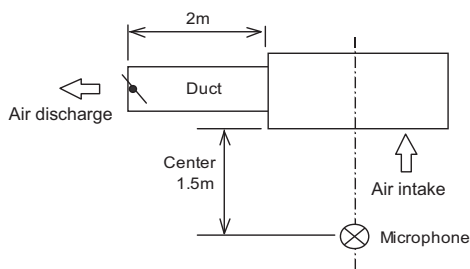
Fan tap	H	M	L
Sound pressure level (dB(A))	44	42	39



MMD-AP0244SPH-E
MMD-AP0274SPH-E

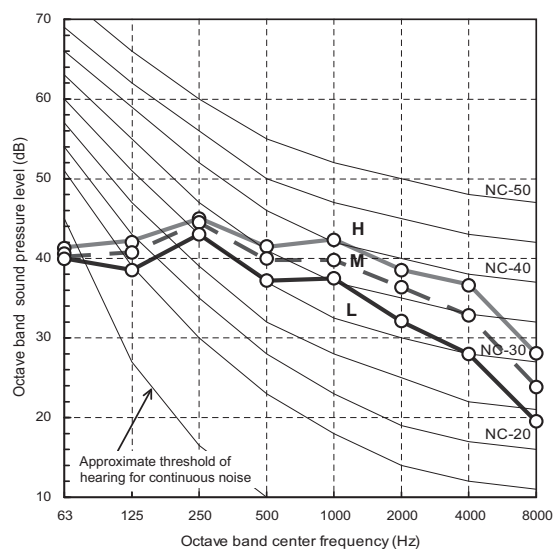
Measuring location

Under air intake



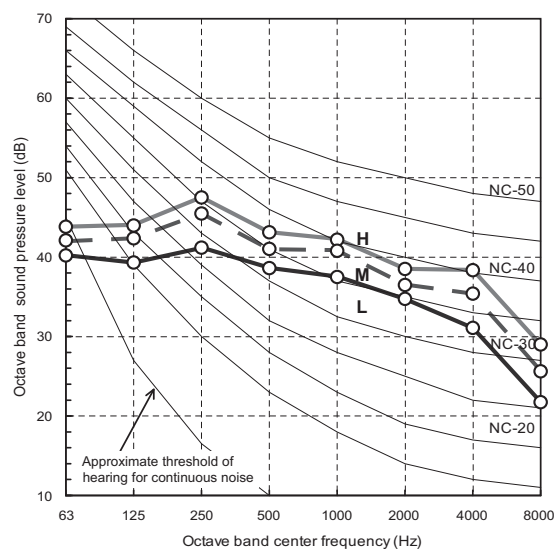
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	46	44	41



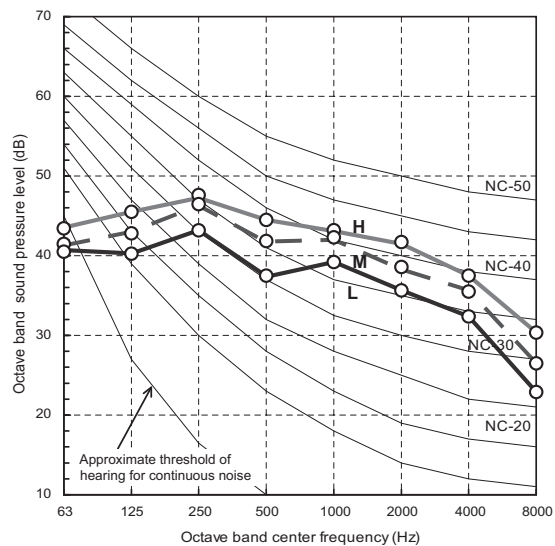
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	47	45	42



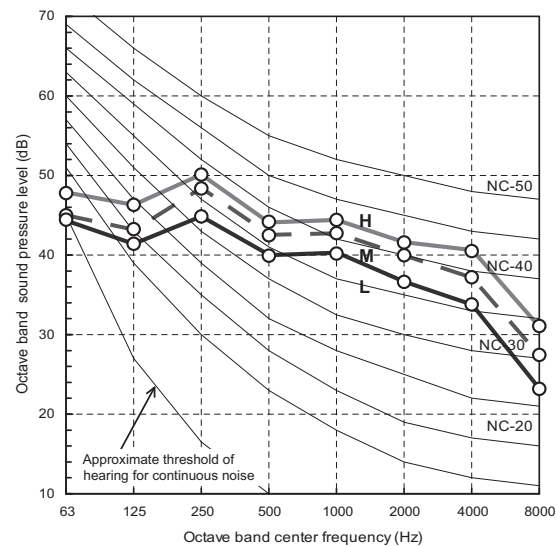
External static pressure 30Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	48	46	43



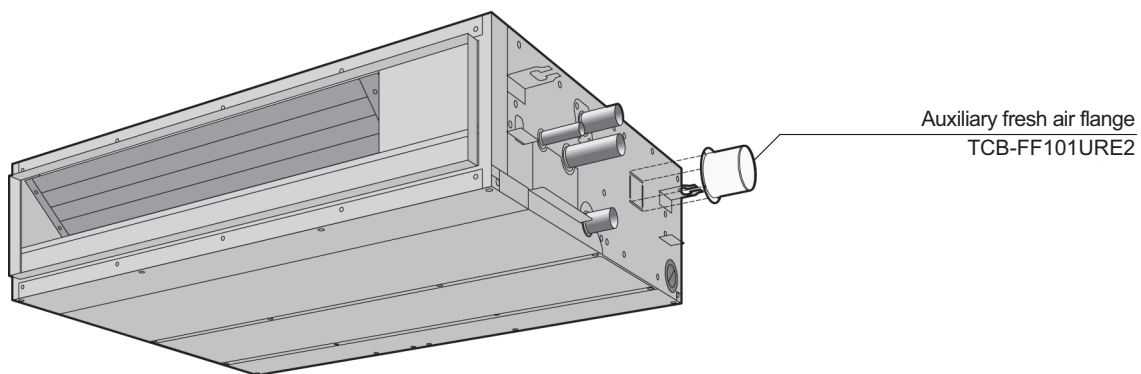
External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	49	47	44



10. Accessories

Parts name	Model name	Applied model	Note	Remarks
Auxiliary fresh air flange	TCB-FF101URE2	MMD-AP___4SPH-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	



11. Reference

11-1. Fresh air intake

Slim Duct Type (MMD-AP0074SPH-E, AP0094SPH-E, AP0124SPH-E)

Caution

The fresh air shall be conditioned by heat reclaim ventilator or similar.

Ensure the fresh air volume is determined so that mixed suction air and fresh air maintain the operating temperature.

*1. Recommended conditioned air temperature is 12 °C to 30 °C.

However, make a fresh air volume within 20 % of standard.

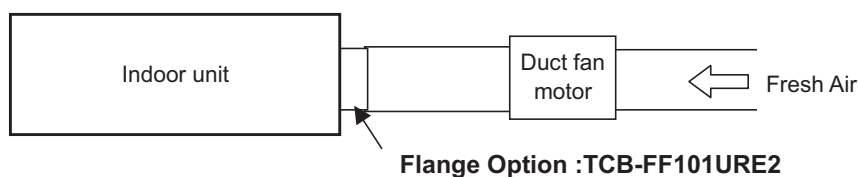
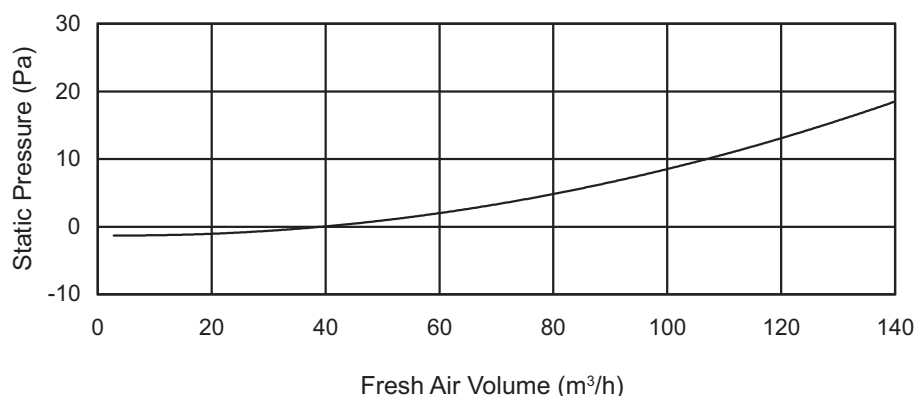
Model name	MMD-	AP0054SPH-E	AP0074SPH-E	AP0094SPH-E	AP0124SPH-E
Standard air flow	m ³ /h	490	540	540	600

Install a air filter within the fresh air duct.

(Fresh air does not pass through the filter of Indoor unit.)

Insulate the fresh air duct.

Electrically connect the fan of the Heat exchanger unit and the Indoor unit to a single isolator.



Inter - lock circuit

Connect the driving relay of the duct fan (DC 12 V) between 1 and 6 on the indoor P.C. board.

(Rated current of the relay for duct fan should be up to 75 mA.)

After installation, carry out a test run to check that the duct fan of the indoor unit start/stop simultaneously.

(Carry out the test run following the installation manual of the indoor unit.)

Slim Duct Type (MMD-AP0154SPH-E, AP0184SPH-E)**Caution**

The fresh air shall be conditioned by heat reclaim ventilator or similar.

Ensure the fresh air volume is determined so that mixed suction air and fresh air maintain the operating temperature.

*1. Recommended conditioned air temperature is 12 °C to 30 °C.

However, Make a fresh air volume within 20 % of standard.

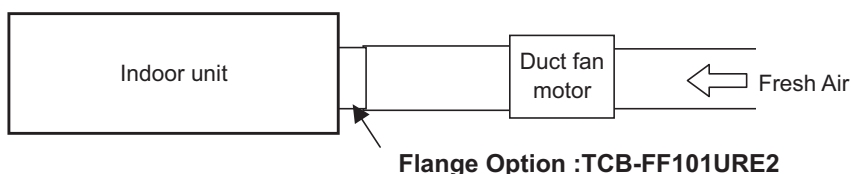
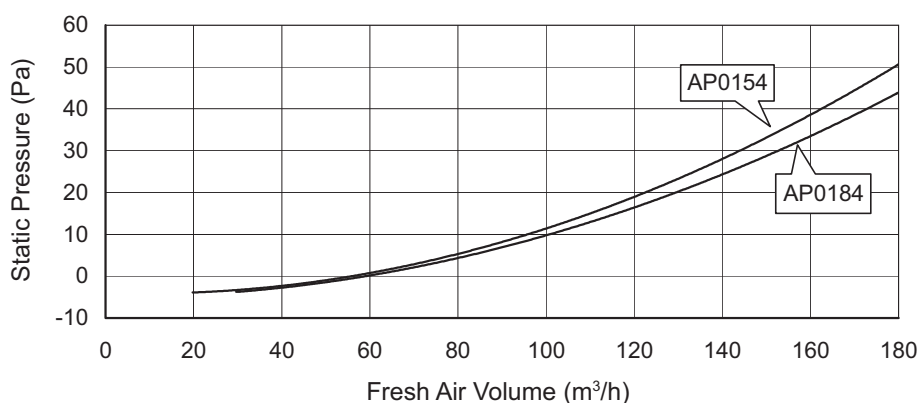
Model name	MMD-	AP0154SPH-E	AP0184SPH-E
Standard air flow	m ³ /h	690	780

Install a air filter within the fresh air duct.

(Fresh air does not pass through the filter of Indoor unit.)

Insulate the fresh air duct.

Electrically connect the fan of the Heat exchanger unit and the Indoor unit to a single isolator.

**Inter - lock circuit**

Connect the driving relay of the duct fan (DC 12 V) between 1 and 6 on the indoor P.C. board.

(Rated current of the relay for duct fan should be up to 75 mA.)

After installation, carry out a test run to check that the duct fan of the indoor unit start/stop simultaneously.

(Carry out the test run following the installation manual of the indoor unit.)

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting or typing. There are no margins, text, or other markings on the page.

A blank sheet of white paper with horizontal ruling lines.

[illegible]

Slim Duct Engineering Data Book

Model name:

MMD-AP___4SPH-E

September, 2013 First Edition

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