

Concealed Duct Standard Type

MMD-UP0051BHP-E

MMD-UP0071BHP-E / TR

MMD-UP0091BHP-E / TR

MMD-UP0121BHP-E / TR

MMD-UP0151BHP-E / TR

MMD-UP0181BHP-E / TR

MMD-UP0241BHP-E / TR

MMD-UP0271BHP-E / TR

MMD-UP0301BHP-E / TR

MMD-UP0361BHP-E / TR

MMD-UP0481BHP-E / TR

MMD-UP0561BHP-E / TR



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1. Specifications

Concealed Duct Standard Type

MMD -			UP0051BHP-E	UP0071BHP-E / TR	UP0091BHP-E / TR	UP0121BHP-E / TR	UP0151BHP-E / TR	UP0181BHP-E / TR	
Power supply			1 ph 230V (220-240V) ~ 50 Hz & 1 ph 220V (208-230V) ~ 60 Hz						
Cooling capacity (*1)			(kW)	1.7	2.2	2.8	3.6	4.5	5.6
Heating capacity (*1)			(kW)	1.9	2.5	3.2	4.0	5.0	6.3
Running current			(A)	0.35		0.38		0.70	
Power consumption			(kW)	0.055		0.060		0.110	
Starting current			(A)	0.55		0.58		1.10	
FCU dimension		Height	(mm)	275					
		Width	(mm)	700					
		Depth	(mm)	750					
Total weight			(kg)	23					
Heat exchanger			Finned tube						
Soundproof / Heat-insulation material			Polyethylene foam						
Fan			Centrifugal fan (Sirocco fan)						
Air flow volume	Indoor unit (H/M/L)	(m3/h)	540 / 450 / 360			570 / 480 / 390		920 / 660 / 540	
Sound pressure	Indoor unit (H/M/L)	dB(A)	29 / 26 / 23			30 / 26 / 23		33 / 29 / 25	
Motor output			(W)	150					
Static pressure factory set (Max)			(Pa)	30 (150)					
Conecting pipe	Gas side	(mm)	Ø 9.5				Ø 12.7		
	Liquid side	(mm)	Ø 6.35						
	Drain pipe	(mm)	25 (Polyvinyl chloride tube)						
Operating Range for SMMS-u	Cooling	(°C)	5 ~ 46 - 52 (*2)						
	Heating	(°C)	-10 ~ 46						

(*1) Rated testing conditions Cooling : Indoor air temperature 27 °C DB/ 19°C WB, Outdoor 35 °C DB

Heating : Indoor air temperature 20 °C DB, Outdoor 7°C DB / 6°C WB

(*2) 46-52 °C is also available but temporary operate

Concealed Duct Standard Type

Model name			MMD -	UP0241BHP-E / TR	UP0271BHP-E / TR	UP0301BHP-E / TR	UP0361BHP-E / TR	UP0481BHP-E / TR	UP0561BHP-E / TR
Power supply				1 ph 230V (220-240V) ~ 50 Hz & 1 ph 220V (208-230V) ~ 60 Hz					
Cooling capacity (*1)		(kW)	7.1	8.0	9.0	11.2	14.0	16.0	
Heating capacity (*1)		(kW)	8.0	9.0	10.0	12.5	16.0	18.0	
Running current		(A)	0.80		0.95	1.29	1.70		
Power consumption		(kW)	0.135		0.160	0.220	0.290		
Starting current		(A)	1.20		1.35	2.09	2.50		
FCU dimension	Height	(mm)	275			275			
	Width	(mm)	1000			1400			
	Depth	(mm)	750			750			
Total weight		(kg)	30			40			
Heat exchanger				Finned tube					
Soundproof / Heat-insulation material				Foamed polystyrene, Polyethylene					
Fan				Turbo fan					
Air flow volume	Indoor unit (H/M/L)	(m3/h)	1320 / 1090 / 870		1450 / 1200 / 960	1920 / 1620 / 1380	2350 / 1920 / 1500		
Sound pressure	Indoor unit (H/M/L)	dB(A)	33 / 30 / 27		36 / 31 / 27	36 / 34 / 31	40 / 36 / 33		
Motor output		(W)	150			250			
Static pressure factory set (Max)		(Pa)	40 (150)			50 (150)			
Conecting pipe	Gas side	(mm)	Ø 15.9						
	Liquid side	(mm)	Ø 9.5						
	Drain pipe	(mm)	25 (Polyvinyl chloride tube)						
Operating Range for SMMS-u	Cooling	(°C)	5 ~ 46 - 52 (*2)						
	Heating	(°C)	-10 ~ 46						

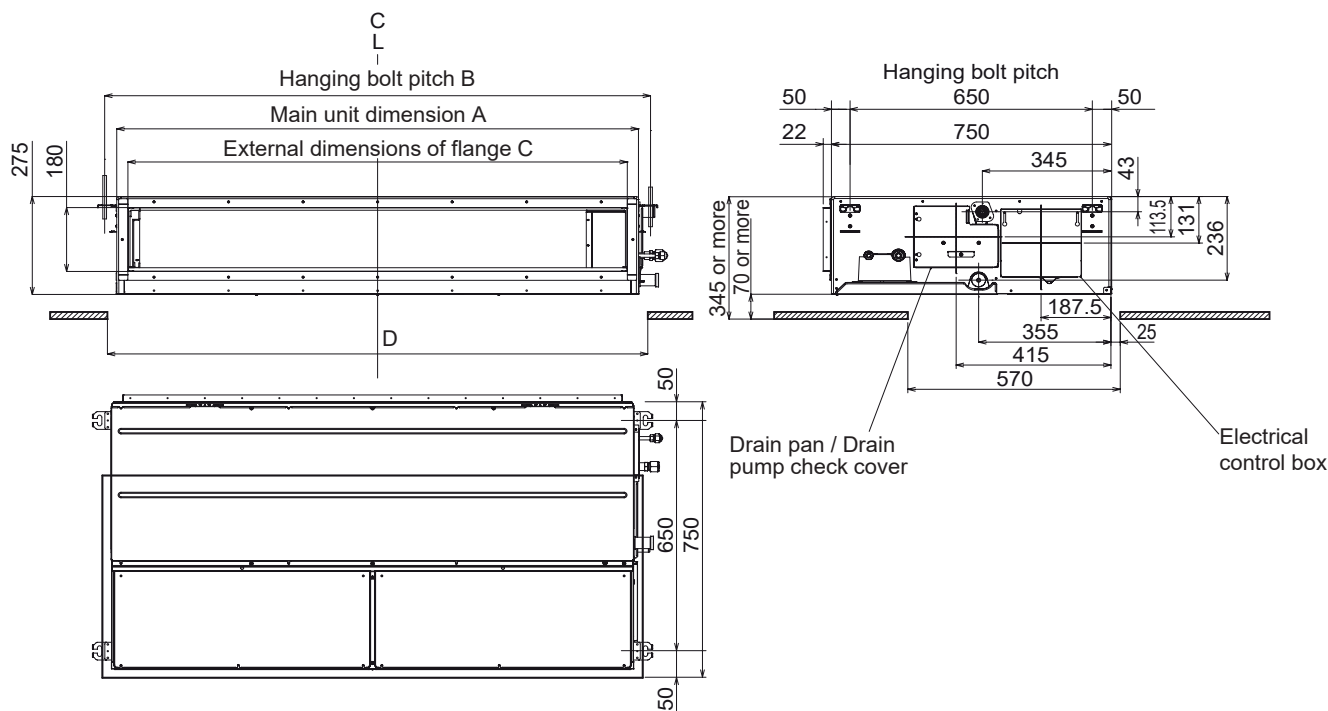
(*1) Rated testing conditions Cooling : Indoor air tempreature 27 °C DB/ 19°C WB, Outdoor 35 °C DB

Heating : Indoor air tempreature 20 °C DB, Outdoor 7°C DB / 6°C WB

(*2) 46-52 °C is also availabel but temporary oparate

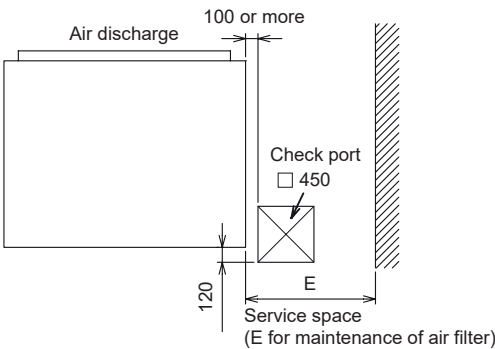
2. Dimensions

MMD-UP__*1BHP-E (*005 / 007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)
MMD-UP__*1BHP-TR (*007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)

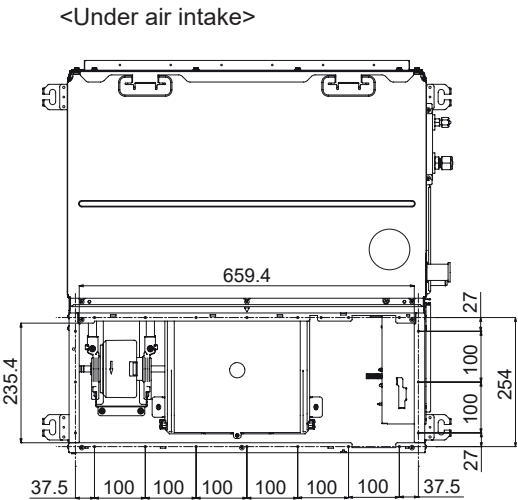


Dimension

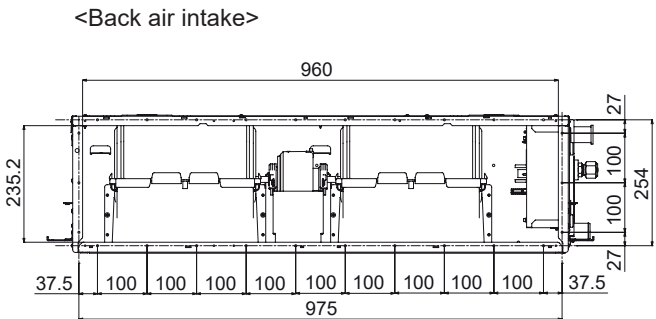
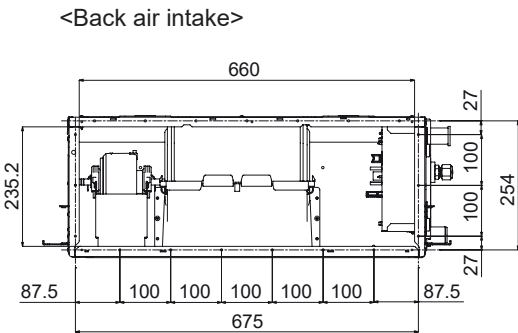
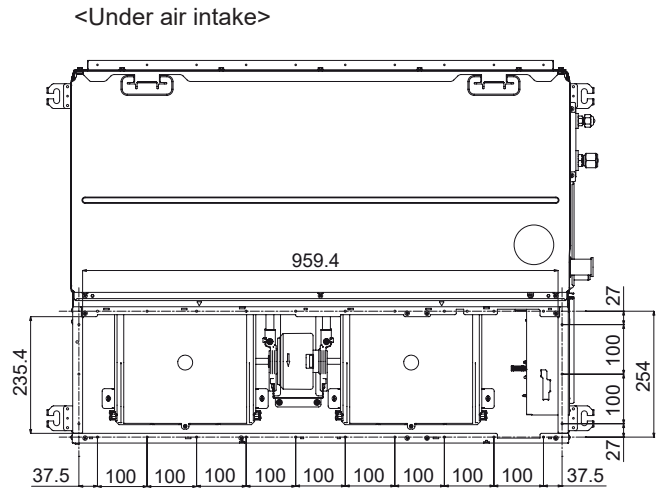
	A	B	C	D	E
UP005 ~ 018 type	700	765	640	750	700
UP024 ~ 030 type	1000	1065	940	1050	500
UP036 ~ 056 type	1400	1465	1340	1450	700



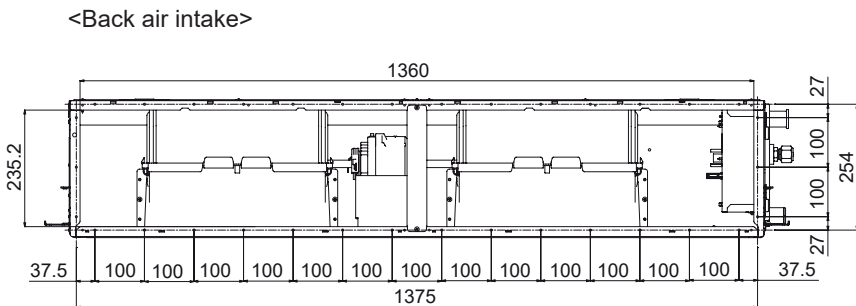
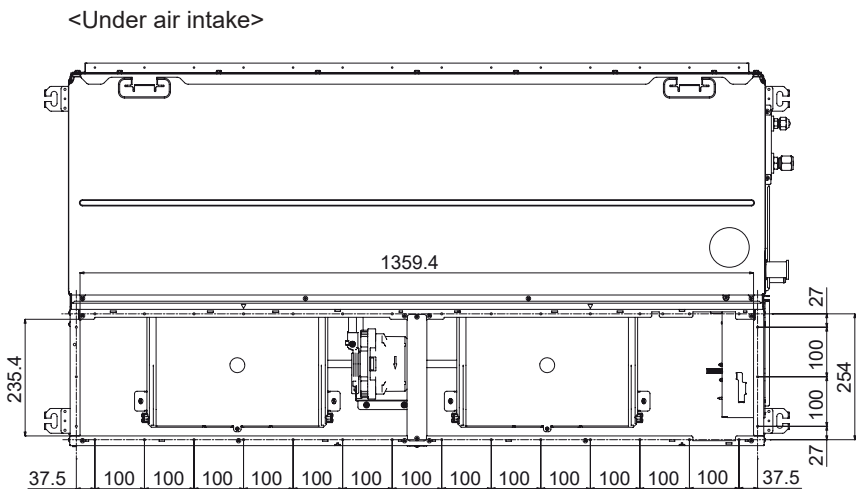
For duct design MMD-UP0051* to 0181 type



For duct design MMD-UP0241* to 0301 type

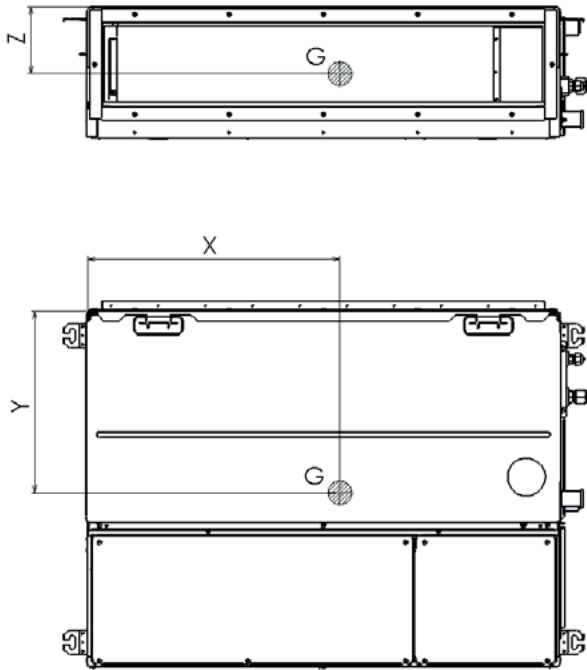


For duct design MMD-UP0361* to 0561 type



3. Center of gravity

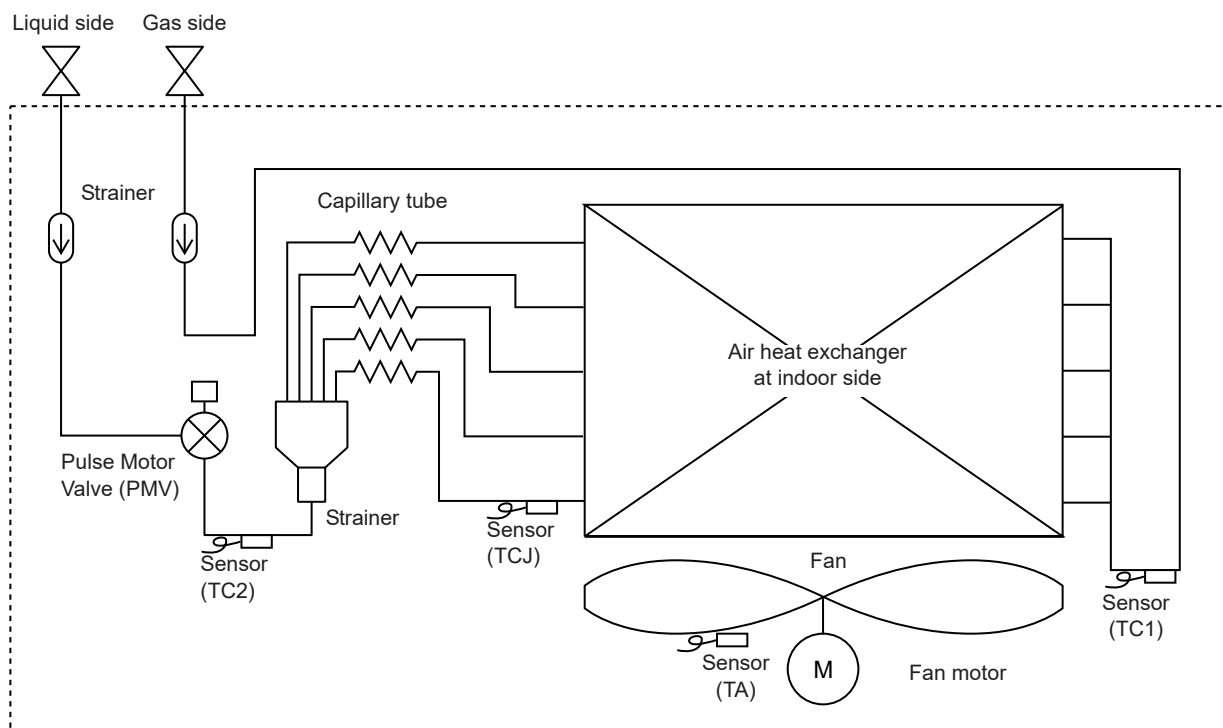
Model name	X (mm)	Y (mm)	Z (mm)	Total weight (kg)
MMD-UP0051BHP-E	348	385	142	23
MMD-UP0071BHP-E / TR				
MMD-UP0091BHP-E / TR				
MMD-UP0121BHP-E / TR				
MMD-UP0151BHP-E / TR				
MMD-UP0181BHP-E / TR				
MMD-UP0241BHP-E / TR	535	385	142	30
MMD-UP0271BHP-E / TR				
MMD-UP0301BHP-E / TR				
MMD-UP0361BHP-E / TR	744	385	142	40
MMD-UP0481BHP-E / TR				
MMD-UP0561BHP-E / TR				



4. Piping diagram

MMD-UP__*1BHP-E (*005 / 007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)

MMD-UP__*1BHP-TR (*007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)

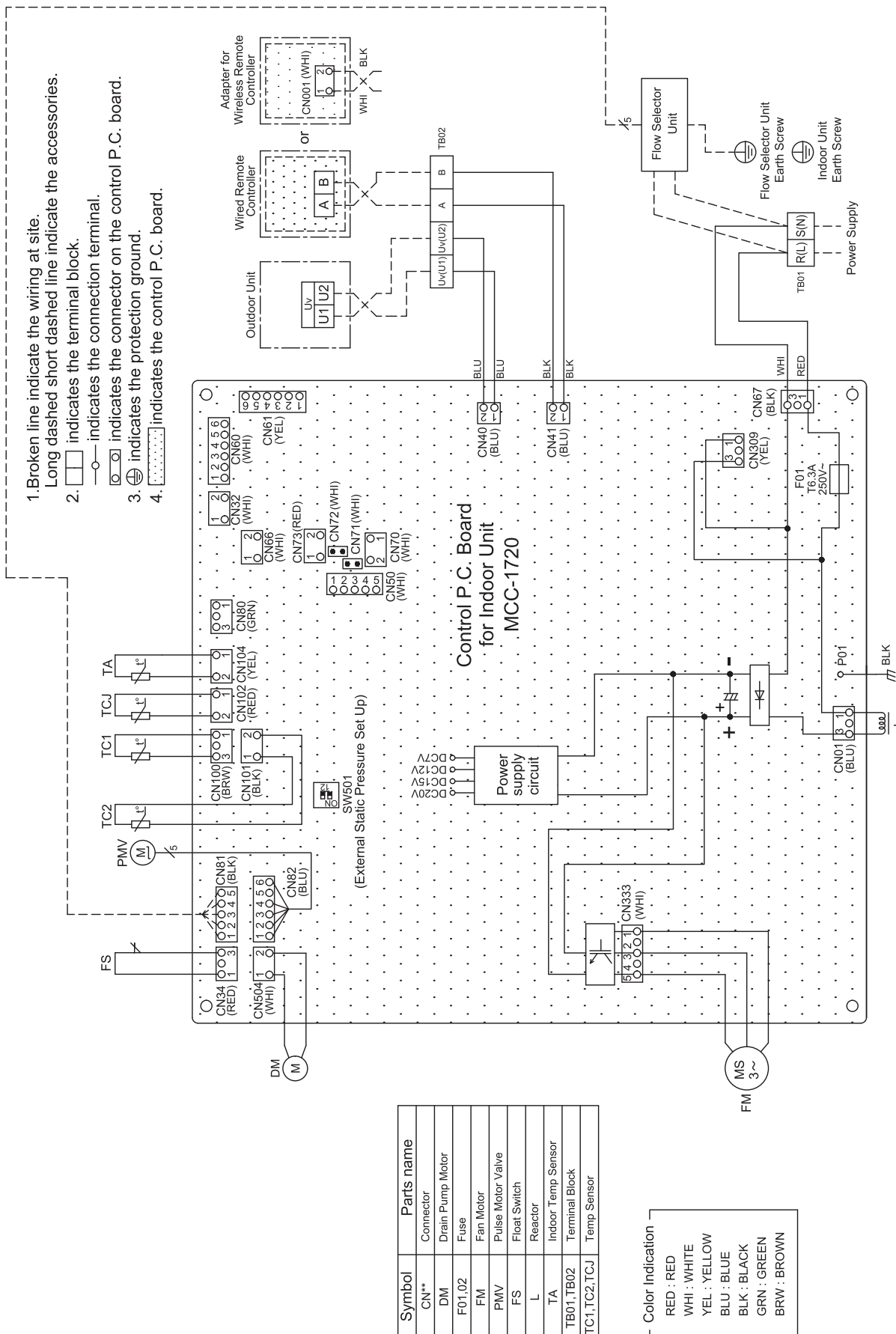


Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN082 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls sub cool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. sensor	1. TA	(Connector 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-UP__*1BHP-E (*005 / 007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)

MMD-UP__*1BHP-TR (*007 / 009 / 012 / 015 / 018 / 024 / 027 / 030 / 036 / 048 / 056)



6. Electrical characteristics

50 Hz

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min.	Max.	kW	FLA	MCA	MOCP
Concealed Duct Type	MMD-UP0051BHP-E	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0071BHP-E / TR	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0091BHP-E / TR	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0121BHP-E / TR	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0151BHP-E / TR	230-1-50	198	264	0.150	1.24	1.55	15
	MMD-UP0181BHP-E / TR	230-1-50	198	264	0.150	1.24	1.55	15
	MMD-UP0241BHP-E / TR	230-1-50	198	264	0.150	1.58	1.98	15
	MMD-UP0271BHP-E / TR	230-1-50	198	264	0.150	1.58	1.98	15
	MMD-UP0301BHP-E / TR	230-1-50	198	264	0.150	1.78	2.23	15
	MMD-UP0361BHP-E / TR	230-1-50	198	264	0.250	2.19	2.74	15
	MMD-UP0481BHP-E / TR	230-1-50	198	264	0.250	2.66	3.33	15
	MMD-UP0561BHP-E / TR	230-1-50	198	264	0.250	2.66	3.33	15

MCA : Minimum Circuit Amps

FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps)

kW : Fan Motor Rated Output (kW)

60 Hz

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min.	Max.	kW	FLA	MCA	MOCP
Concealed Duct Type	MMD-UP0051BHP-E	220-1-60	198	242	0.150	0.75	0.94	15
	MMD-UP0071BHP-E / TR	220-1-60	198	242	0.150	0.75	0.94	15
	MMD-UP0091BHP-E / TR	220-1-60	198	242	0.150	0.75	0.94	15
	MMD-UP0121BHP-E / TR	220-1-60	198	242	0.150	0.75	0.94	15
	MMD-UP0151BHP-E / TR	220-1-60	198	242	0.150	1.24	1.55	15
	MMD-UP0181BHP-E / TR	220-1-60	198	242	0.150	1.24	1.55	15
	MMD-UP0241BHP-E / TR	220-1-60	198	242	0.150	1.58	1.98	15
	MMD-UP0271BHP-E / TR	220-1-60	198	242	0.150	1.58	1.98	15
	MMD-UP0301BHP-E / TR	220-1-60	198	242	0.150	1.78	2.23	15
	MMD-UP0361BHP-E / TR	220-1-60	198	242	0.250	2.19	2.74	15
	MMD-UP0481BHP-E / TR	220-1-60	198	242	0.250	2.66	3.33	15
	MMD-UP0561BHP-E / TR	220-1-60	198	242	0.250	2.66	3.33	15

MCA : Minimum Circuit Amps

FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps)

kW : Fan Motor Rated Output (kW)

• Wiring size

Must be independent from the outdoor unit power supply.

Model	Item	Power supply wiring	
		Wire size	
All models of indoor units		2.0 mm ² (AWG#14) Max. 20 m	3.5 mm ² (AWG#12) Max. 50 m

NOTE:

The above connecting lengths stated in the table, indicate the length from the isolator to the outdoor unit. When the power supply of the indoor units are connected in parallel, it is assumed that no more than a 2% voltage drop will occur. If the connecting length is to exceed the stated lengths, select a suitable wire in accordance with the local wiring standards.

7. Sensible capacity table

Concealed Duct Standard Type (MMD-UP__1BHP-E / TR)

unit size	outdoor air temp. °CDB	Indoor air temp.													
		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °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	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	12	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	14	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	16	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	18	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	20	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	21	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	23	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	25	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	27	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	29	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	31	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
	33	1.41	1.23	1.51	1.29	1.65	1.38	1.70	1.39	1.73	1.39	1.84	1.38	1.91	1.32
007	10	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	12	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	14	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	16	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	18	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	20	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	21	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	23	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	25	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	27	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	29	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	31	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
	33	1.82	1.59	1.96	1.68	2.14	1.79	2.20	1.80	2.24	1.81	2.38	1.78	2.48	1.72
009	10	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	12	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	14	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	16	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	18	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	20	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	21	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	23	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	25	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	27	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	29	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	31	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
	33	2.32	2.03	2.49	2.14	2.72	2.29	2.80	2.30	2.85	2.31	3.03	2.28	3.15	2.19
012	10	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	12	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	14	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	16	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	18	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	20	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	21	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	23	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	25	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	27	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	29	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	31	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	33	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
012	35	2.98	2.38	3.21	2.52	3.50	2.69	3.60	2.70	3.66	2.71	3.89	2.67	4.05	2.57
	37	2.89	2.31	3.12	2.45	3.40	2.61	3.50	2.62	3.55	2.63	3.78	2.59	3.93	2.50
	39	2.83	2.26	3.04	2.39	3.32	2.55	3.41	2.56	3.47	2.57	3.69	2.53	3.84	2.44

TC : Total capacity [kW] SHC : Sensible capacity [kW]

Concealed Duct Standard Type (MMD-UP__1BHP-E / TR)

unit size	outdoor air temp. °CDB	Indoor air temp.													
		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °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
015	10	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	12	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	14	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	16	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	18	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	20	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	21	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	23	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	25	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	27	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	29	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	31	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	33	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	35	3.73	3.34	4.01	3.52	4.37	3.76	4.50	3.78	4.58	3.79	4.87	3.74	5.07	3.60
	37	3.62	3.24	3.89	3.42	4.24	3.65	4.37	3.67	4.45	3.68	4.73	3.63	4.92	3.50
	39	3.54	3.17	3.80	3.34	4.14	3.56	4.27	3.58	4.34	3.59	4.62	3.55	4.81	3.41
018	10	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	12	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	14	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	16	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	18	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	20	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	21	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	23	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	25	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	27	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	29	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	31	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	33	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	35	4.64	3.95	4.99	4.18	5.44	4.46	5.60	4.48	5.70	4.50	6.06	4.44	6.31	4.27
	37	4.51	3.84	4.85	4.06	5.28	4.33	5.44	4.35	5.53	4.37	5.88	4.31	6.13	4.15
	39	4.40	3.74	4.73	3.96	5.16	4.23	5.31	4.25	5.40	4.27	5.74	4.21	5.98	4.05
024	10	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	12	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	14	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	16	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	18	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	20	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	21	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	23	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	25	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	27	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	29	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	31	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	33	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	35	5.89	5.27	6.32	5.55	6.90	5.93	7.10	5.96	7.22	5.98	7.68	5.90	7.99	5.68
	37	5.72	5.12	6.14	5.39	6.70	5.76	6.89	5.79	7.01	5.81	7.46	5.73	7.76	5.52
	39	5.58	5.00	5.99	5.26	6.54	5.62	6.73	5.65	6.84	5.67	7.28	5.59	7.57	5.38
027	10	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	12	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	14	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	16	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	18	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	20	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	21	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	23	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	25	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	27	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	29	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	31	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	33	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	35	6.63	5.65	7.12	5.96	7.77	6.36	8.00	6.40	8.14	6.42	8.65	6.33	9.01	6.10
	37	6.44	5.49	6.91	5.79	7.54	6.18	7.77	6.21	7.90	6.23	8.40	6.15	8.75	5.92
	39	6.29	5.36	6.75	5.65	7.37	6.03	7.58	6.07	7.72	6.09	8.20	6.00	8.54	5.78

TC : Total capacity [kW] SHC : Sensible capacity [kW]

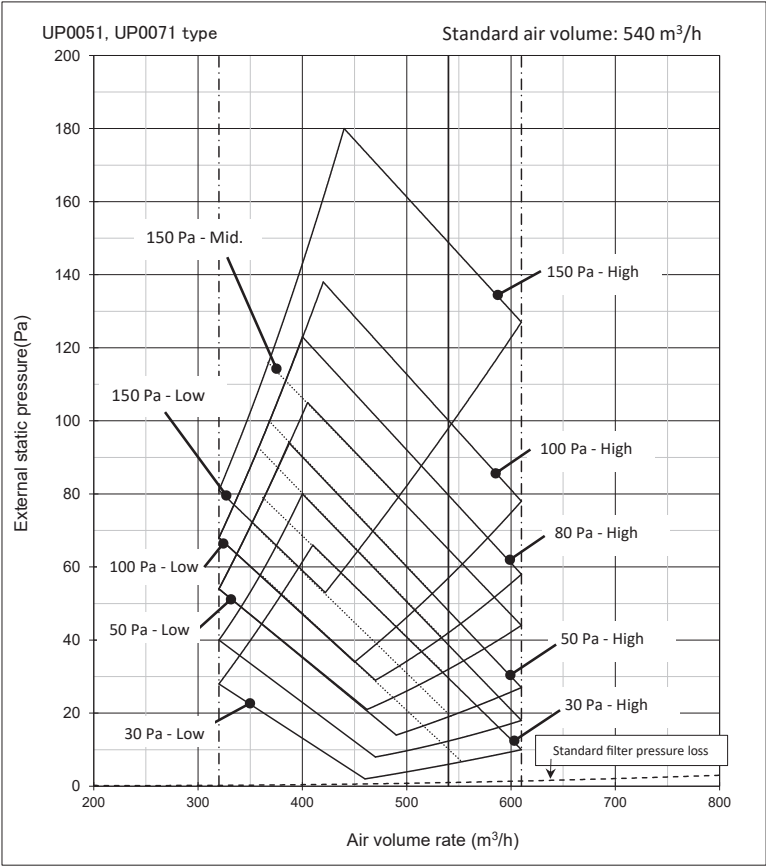
Concealed Duct Standard Type (MMD-UP__1BHP-E / TR)

unit size	outdoor air temp. °CDB	Indoor air temp.													
		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB	
		20 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		30 °CDB		32 °CDB	
030		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	12	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	14	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	16	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	18	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	20	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	21	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	23	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	25	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	27	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	29	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	31	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
	33	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86
35	7.46	6.36	8.01	6.70	8.75	7.17	9.00	7.20	9.15	7.22	9.73	7.13	10.13	6.86	
37	7.24	6.18	7.78	6.51	8.50	6.96	8.74	6.99	8.88	7.01	9.45	6.92	9.84	6.66	
39	7.07	6.03	7.59	6.35	8.30	6.80	8.53	6.83	8.67	6.84	9.22	6.76	9.60	6.50	
036	10	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	12	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	14	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	16	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	18	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	20	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	21	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	23	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	25	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	27	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	29	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	31	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	33	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
	35	9.28	7.81	9.97	8.24	10.88	8.80	11.20	8.85	11.39	8.87	12.11	8.76	12.61	8.43
37	9.01	7.58	9.68	8.00	10.56	8.54	10.88	8.59	11.06	8.61	11.76	8.51	12.24	8.19	
39	8.80	7.40	9.45	7.81	10.31	8.34	10.62	8.39	10.80	8.41	11.48	8.30	11.95	7.99	
048	10	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	12	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	14	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	16	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	18	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	20	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	21	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	23	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	25	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	27	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	29	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	31	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	33	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
	35	11.61	9.65	12.47	10.17	13.61	10.87	14.00	10.92	14.24	10.95	15.14	10.81	15.76	10.40
37	11.27	9.37	12.11	9.88	13.22	10.55	13.59	10.60	13.83	10.63	14.70	10.50	15.30	10.10	
39	11.01	9.15	11.82	9.64	12.90	10.30	13.27	10.35	13.50	10.38	14.35	10.25	14.94	9.86	
056	10	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	12	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	14	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	16	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	18	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	20	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	21	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	23	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	25	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	27	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	29	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	31	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	33	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
	35	13.26	10.45	14.25	11.03	15.55	11.78	16.00	11.84	16.27	11.87	17.30	11.72	18.02	11.29
37	12.88	10.15	13.84	10.71	15.10	11.44	15.54	11.50	15.80	11.53	16.80	11.38	17.50	10.96	
39	12.57	9.91	13.51	10.46	14.74	11.17	15.17	11.22	15.42	11.25	16.40	11.11	17.08	10.70	

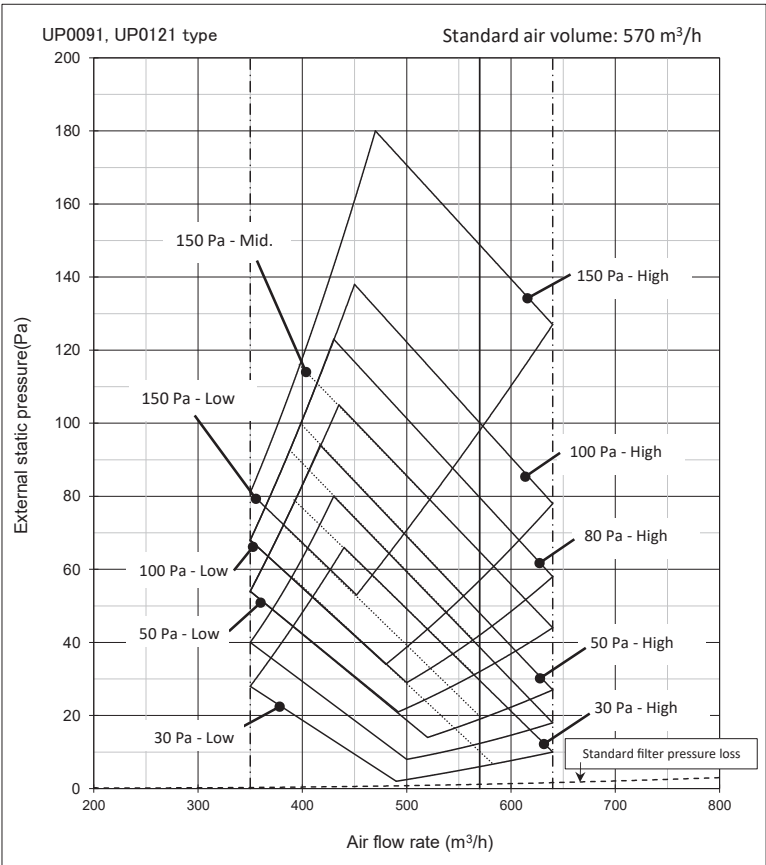
TC : Total capacity [kW] SHC : Sensible capacity [kW]

8. Fan static characteristics

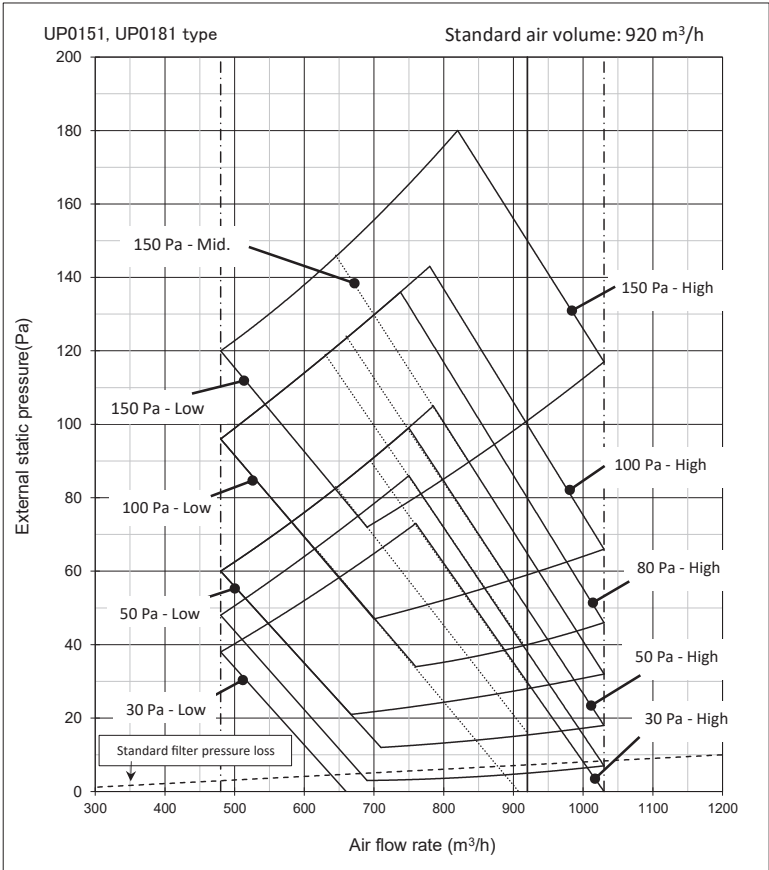
MMD-UP0051BHP* / MMD-UP0071BHP*



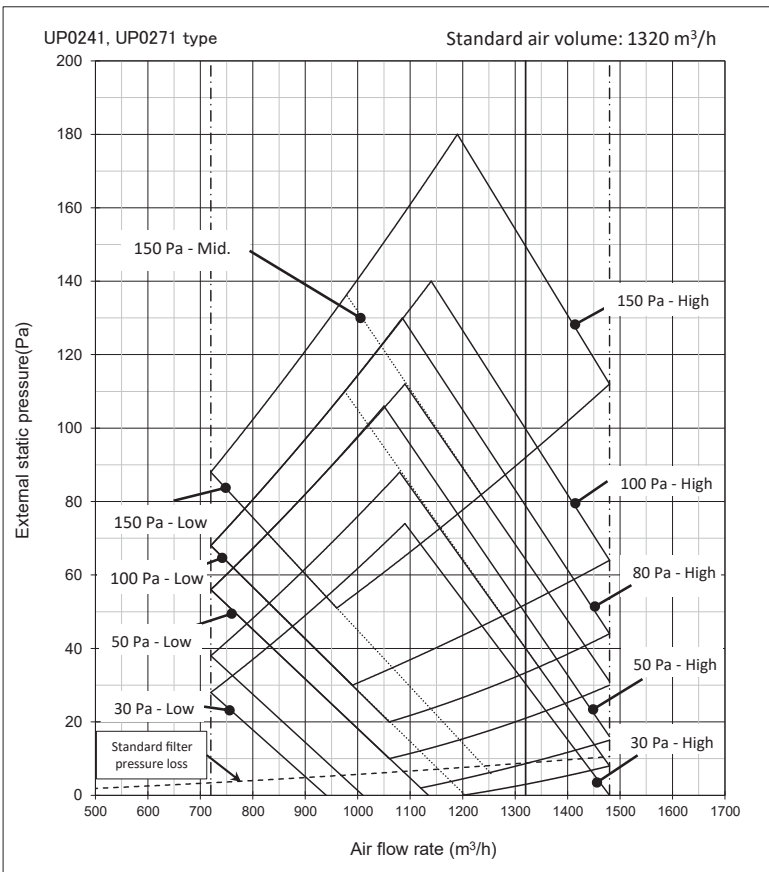
MMD-UP0091BHP* / MMD-UP0121BHP*



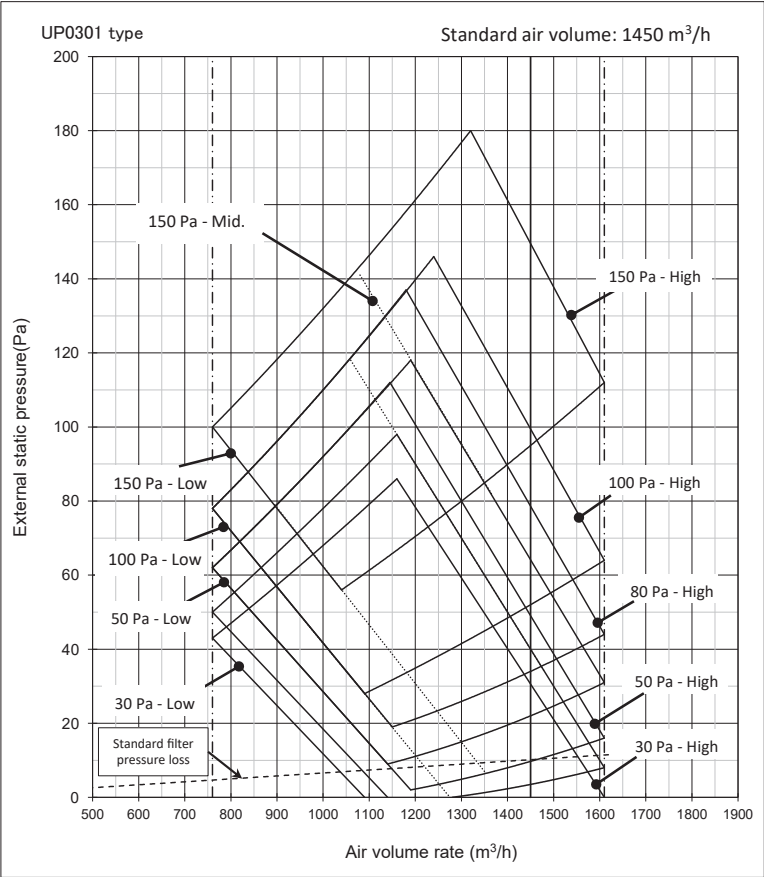
MMD-UP0151BHP* / MMD-UP0181BHP*



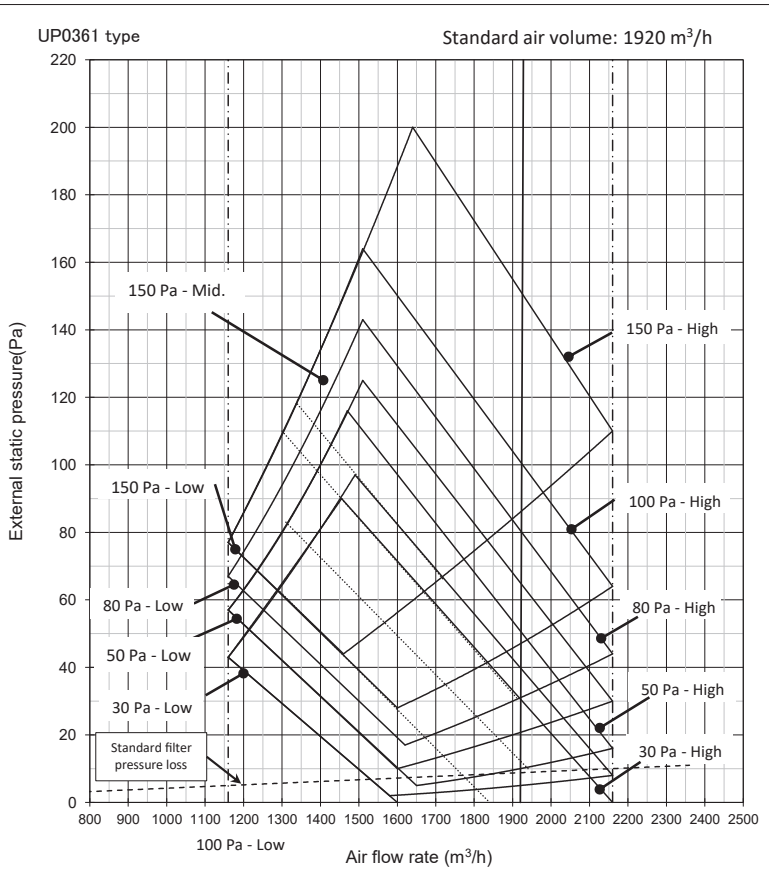
MMD-UP241BHP* / MMD-UP0271BHP*



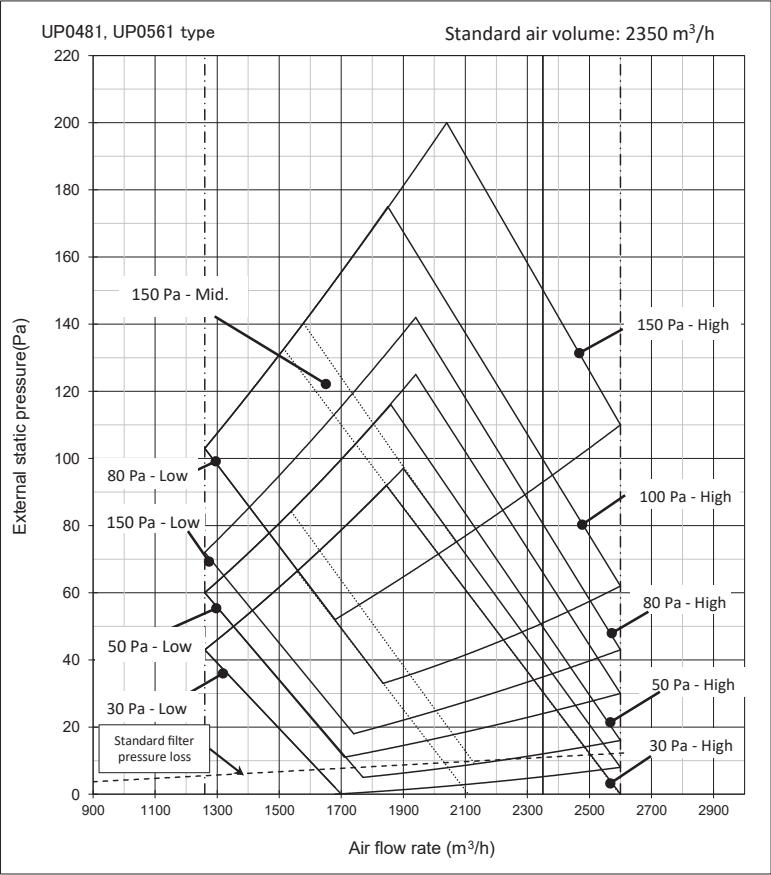
MMD-UP301BHP*



MMD-UP361BHP*

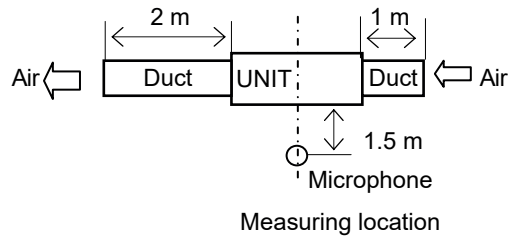


MMD-UP0481BHP* / MMD-UP0561BHP*

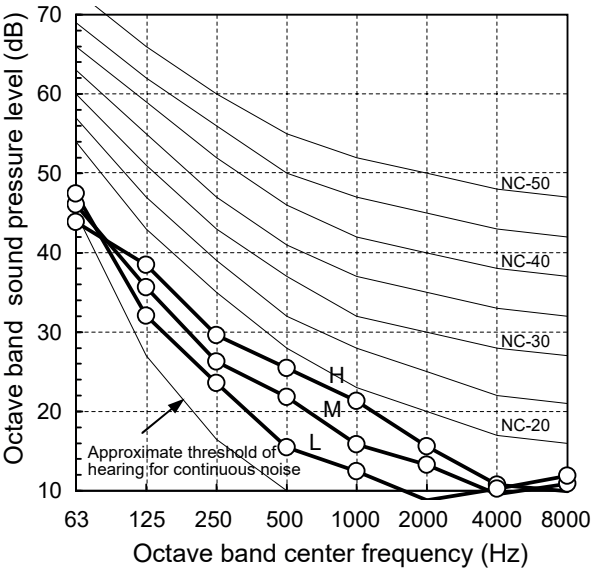


9. Sound characteristics (NC Curve)

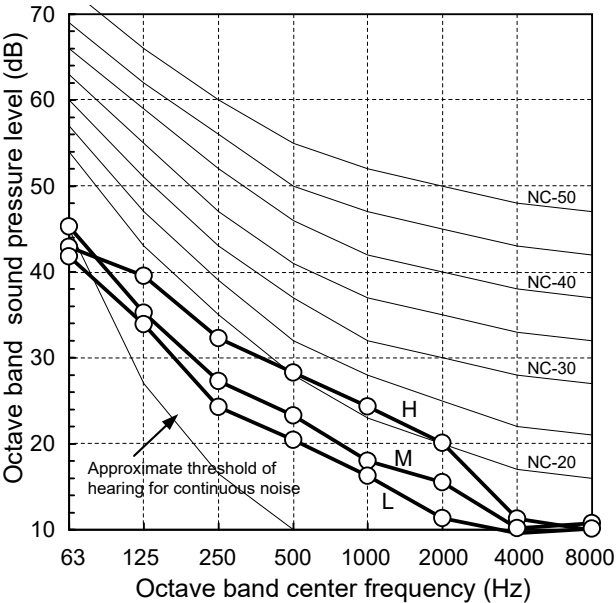
MMD-UP0051BHP* / MMD-UP0071BHP*



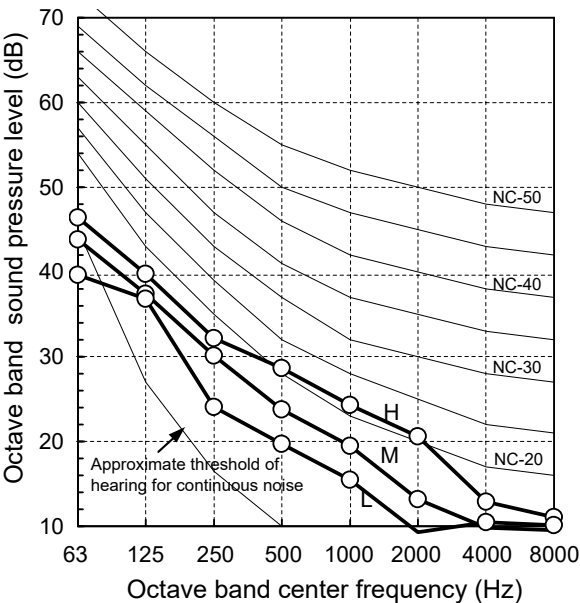
External static pressure 30 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	29	26	23



External static pressure 40 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	31	27	25

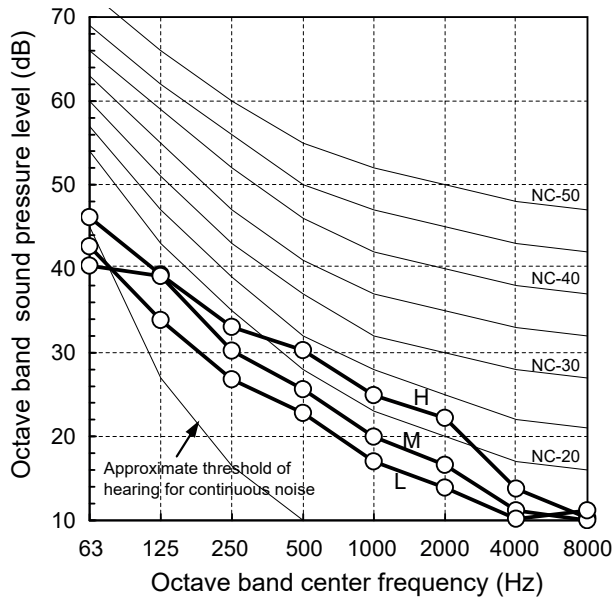


External static pressure 50 Pa			
FAN tap	H	M	L
Sound pressure level (dB(A))	32	27	25



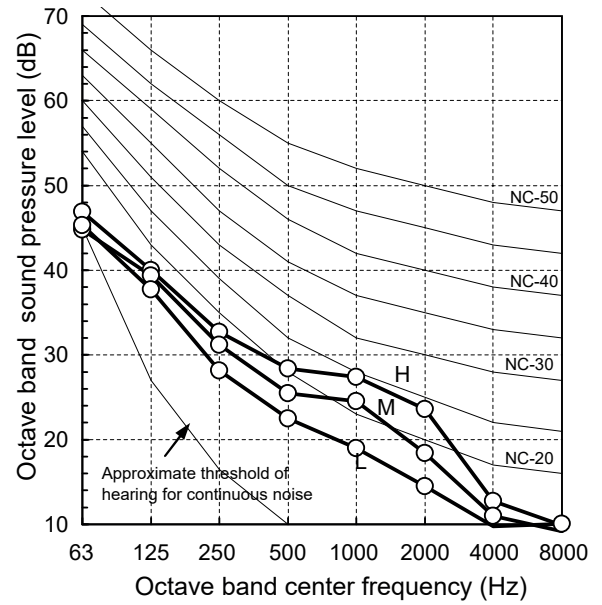
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	33	29	26



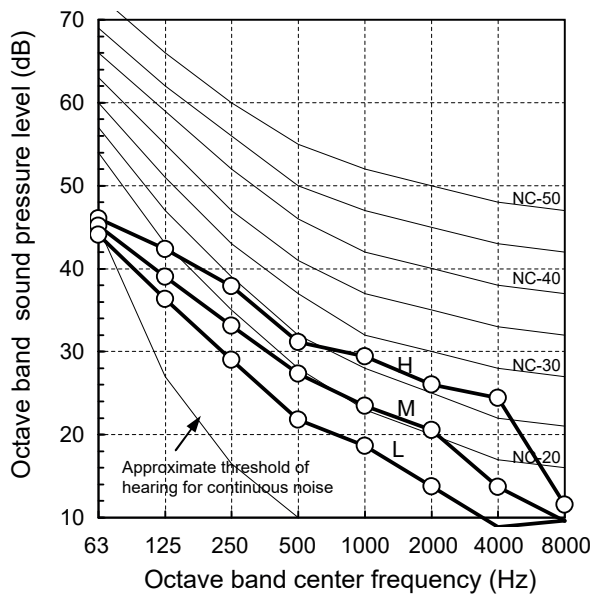
External static pressure 80 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	33	30	27



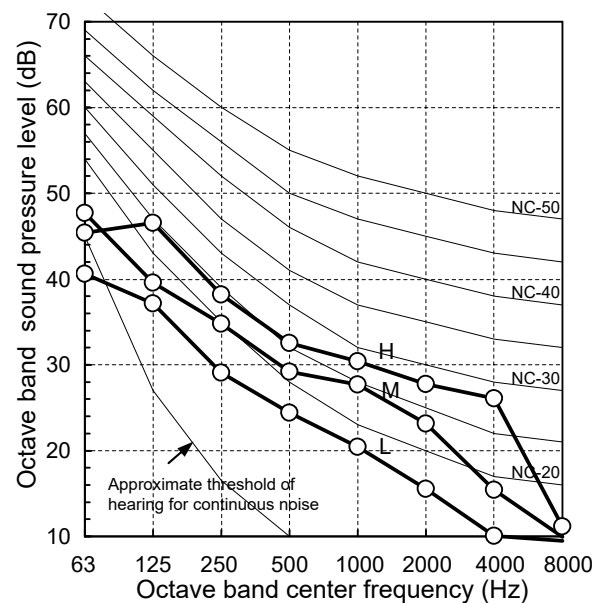
External static pressure 100 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	31	27

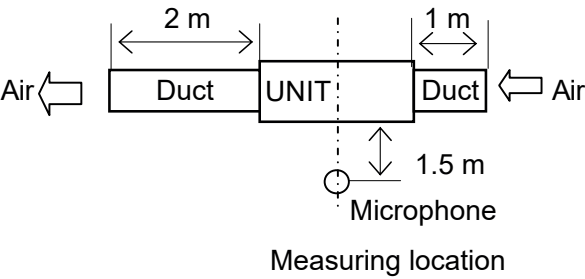


External static pressure 120 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	37	33	28

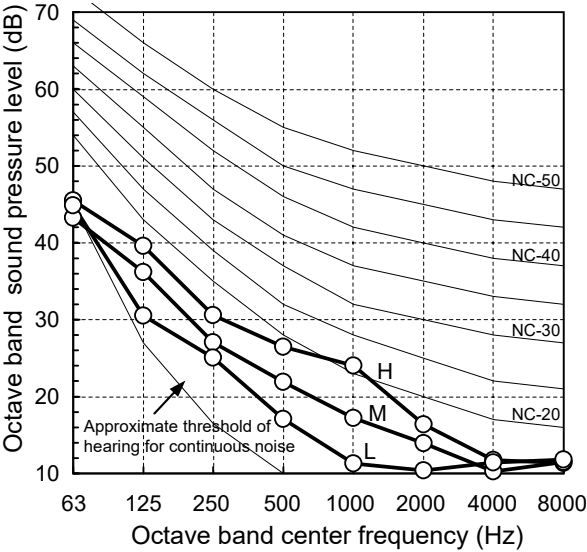


MMD-UP0091BHP* / MMD-UP0121BHP*



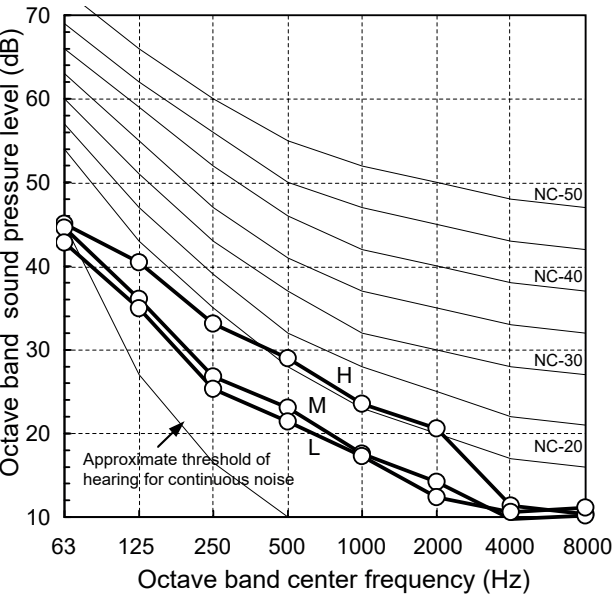
External static pressure 30 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	30	26	23



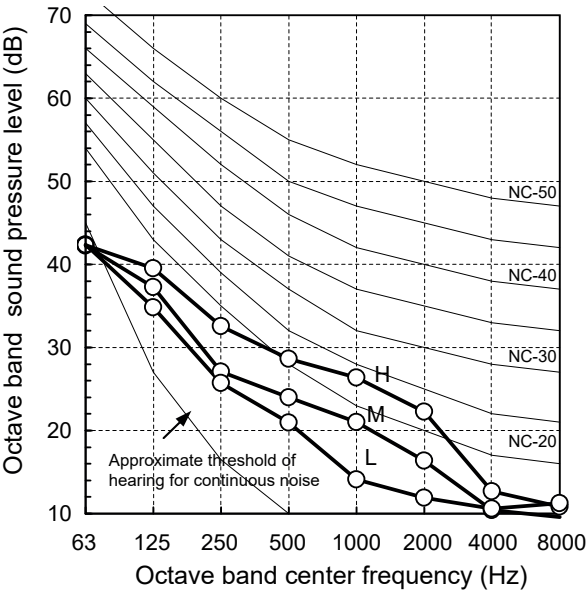
External static pressure 40 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	31	27	25



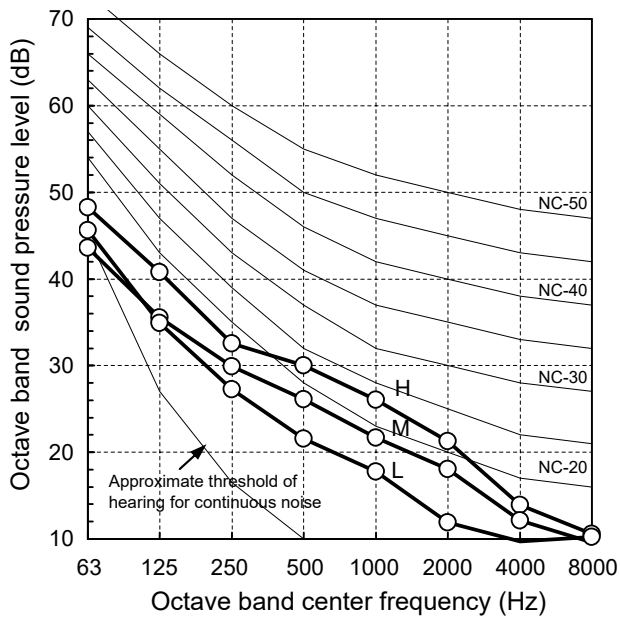
External static pressure 50 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	32	28	25



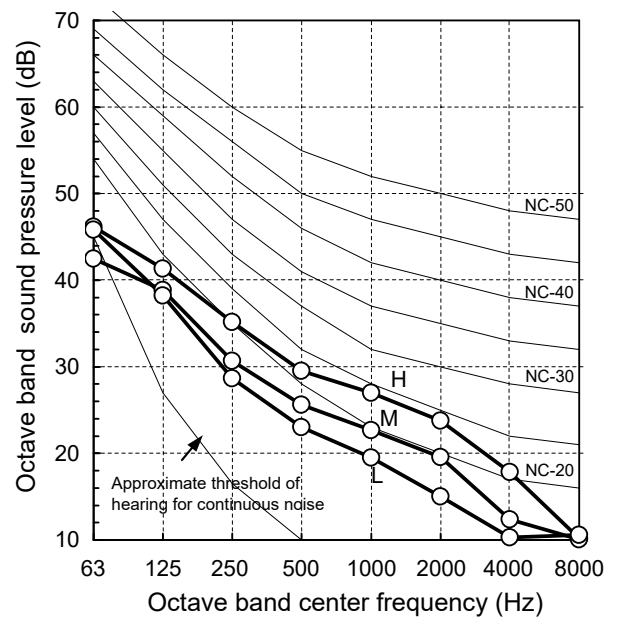
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	33	29	26



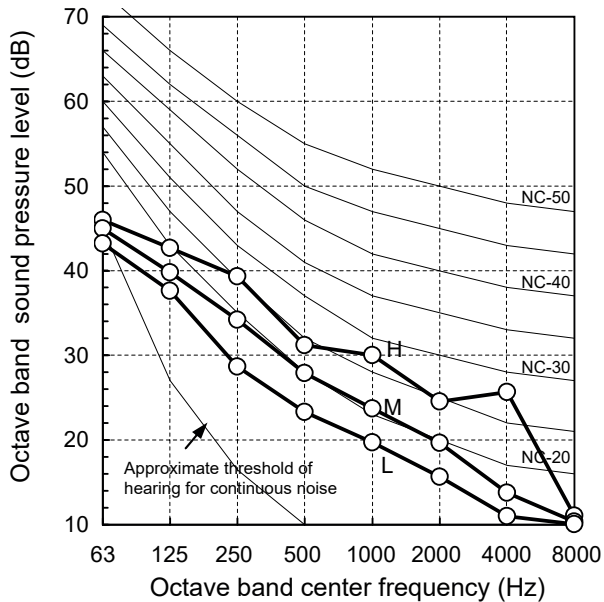
External static pressure 80 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	34	30	28



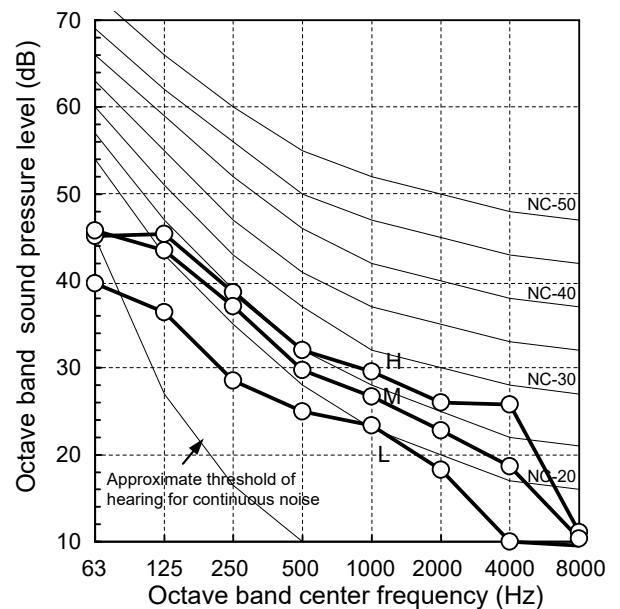
External static pressure 100 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	31	28

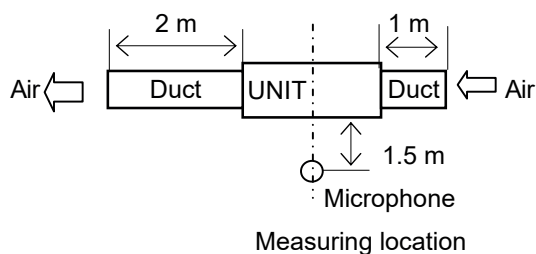


External static pressure 120 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	37	34	29

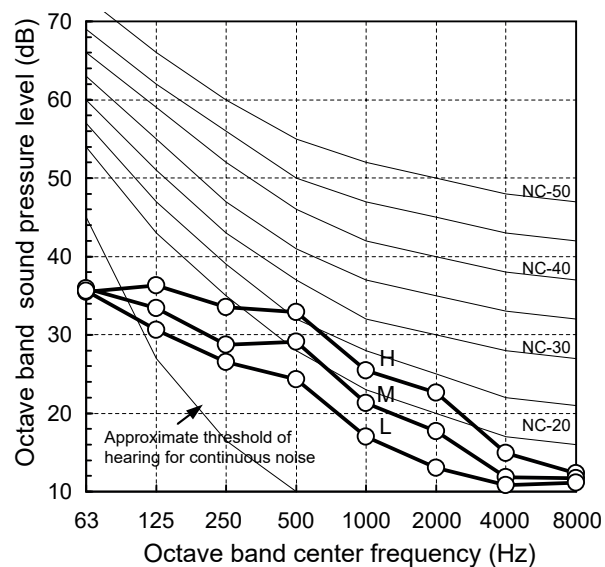


MMD-UP0151BHP* / MMD-UP0181BHP*



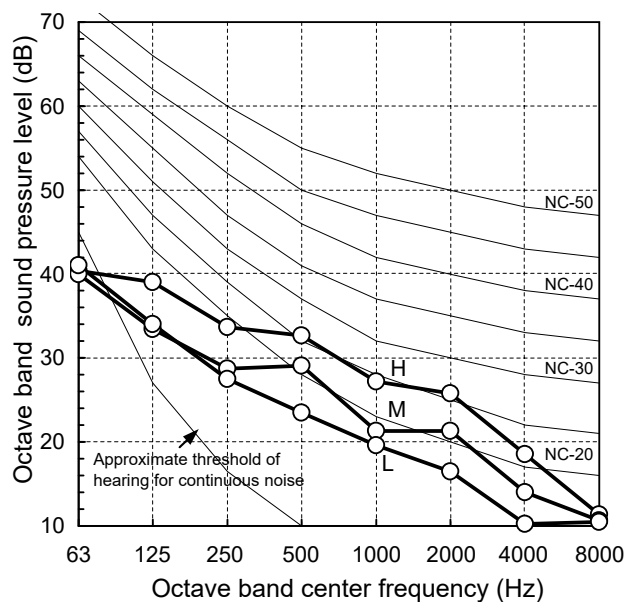
External static pressure 30 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	33	29	25



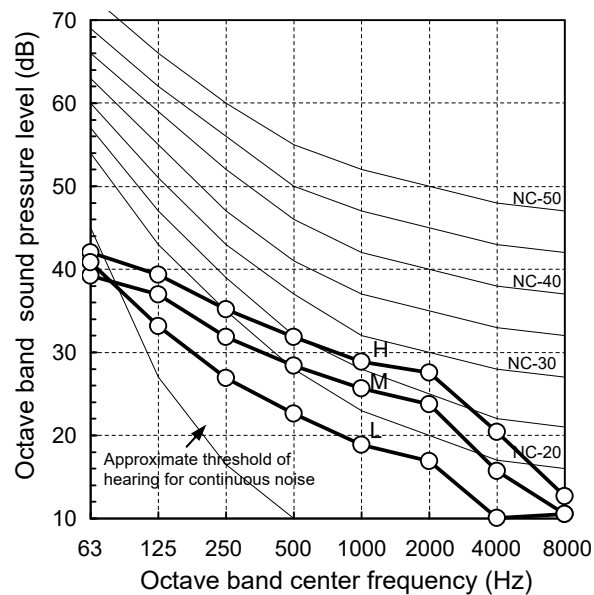
External static pressure 40 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	34	30	26



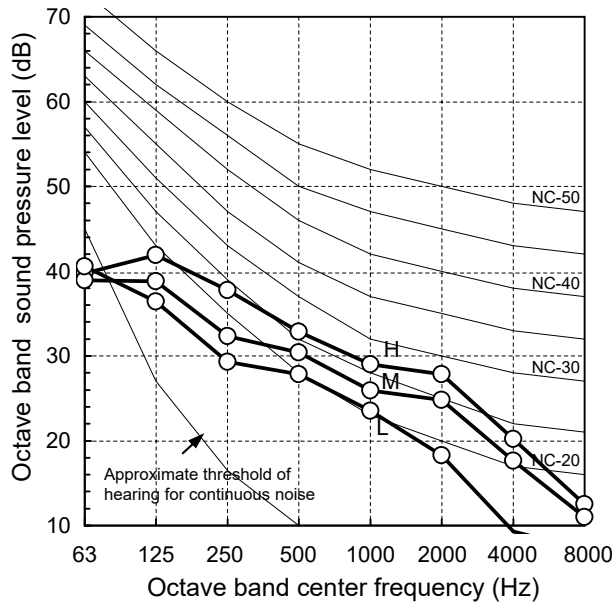
External static pressure 50 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	35	31	26



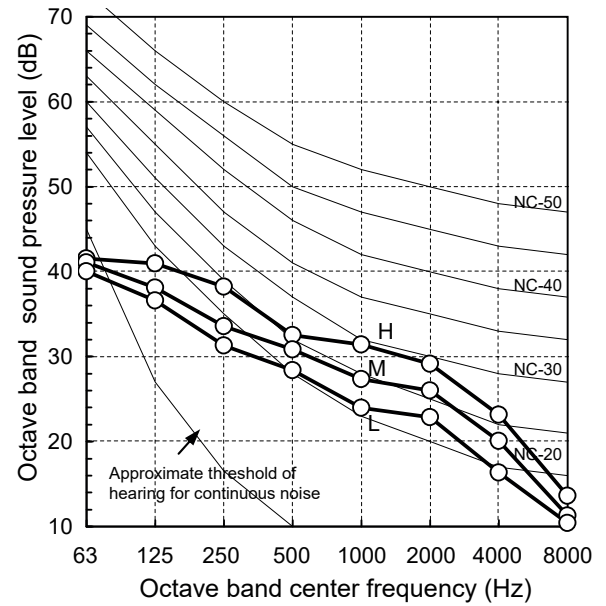
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	32	29



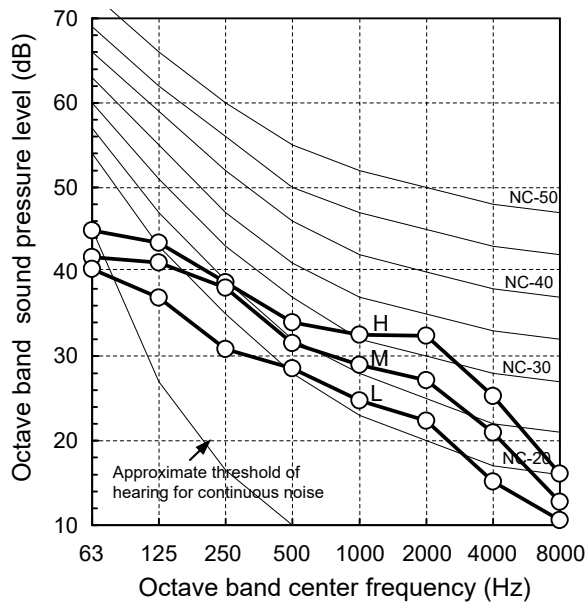
External static pressure 80 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	37	33	31



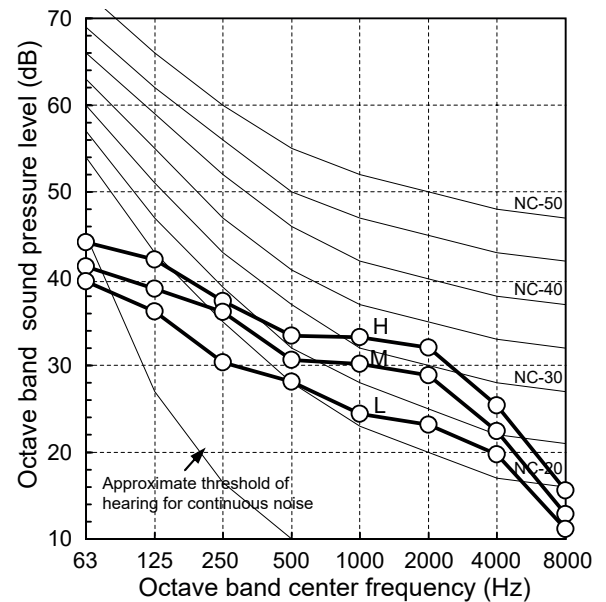
External static pressure 100 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	38	35	31

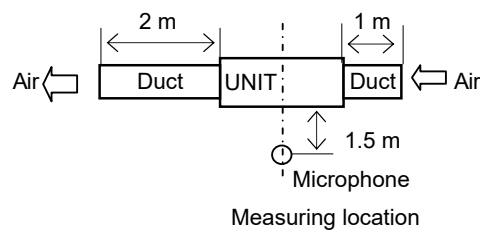


External static pressure 120 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	39	35	31

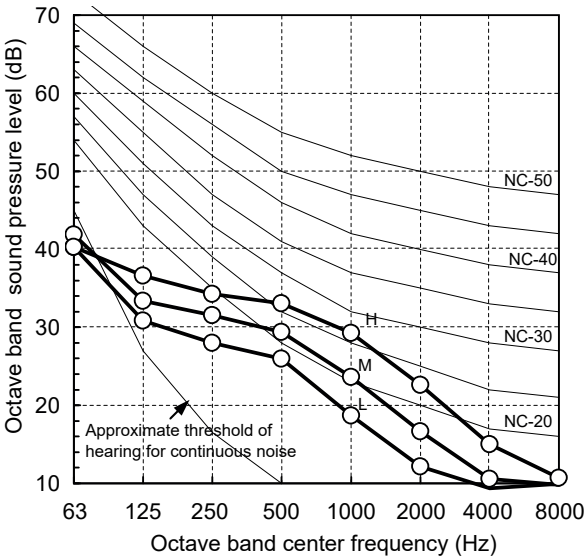


MMD-UP0241BHP* / MMD-UP0271BHP*



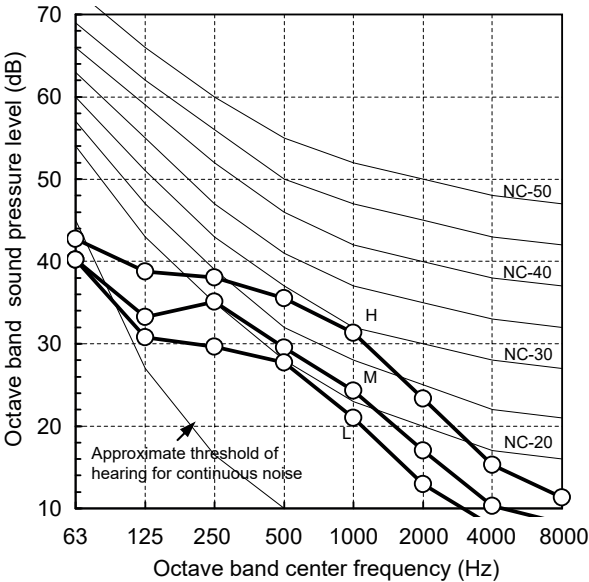
External static pressure 30 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	33	29	27



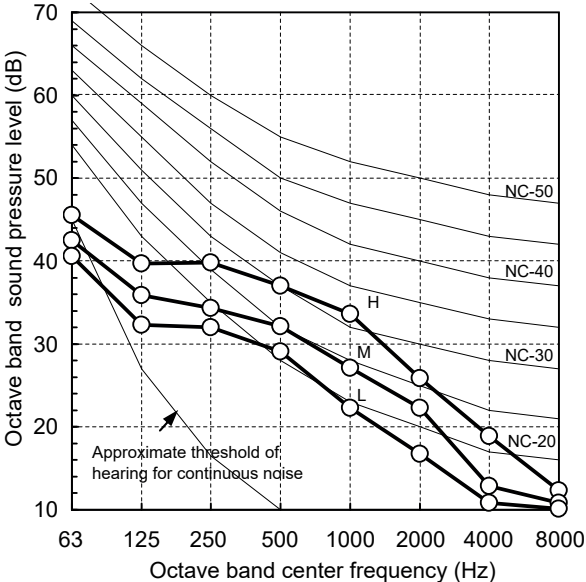
External static pressure 40 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	30	27



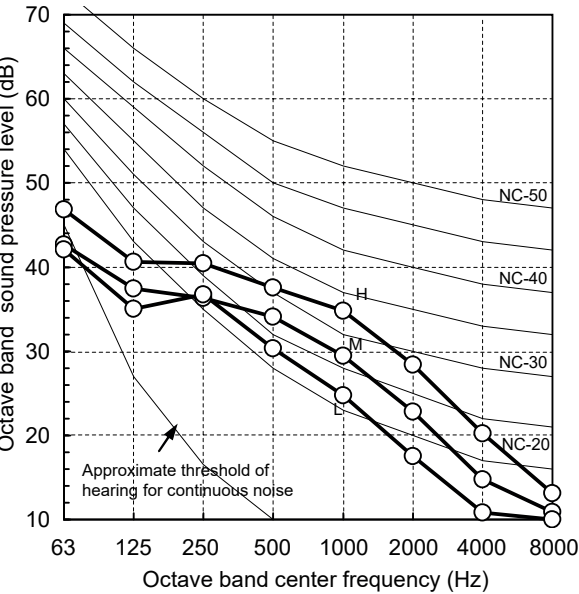
External static pressure 50 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	38	33	29



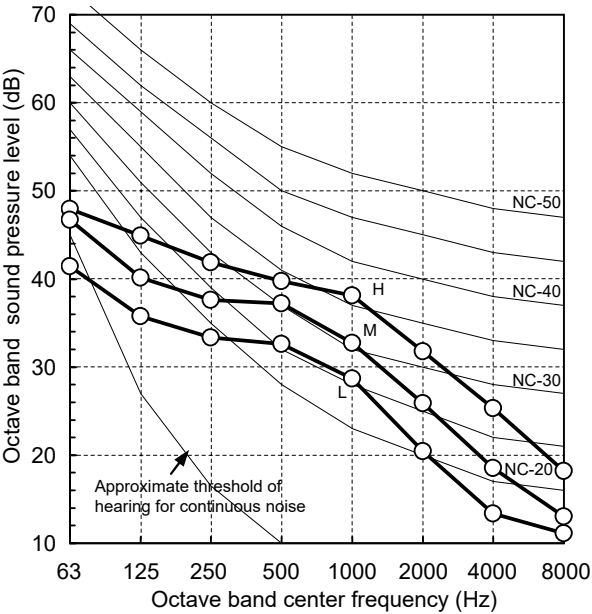
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	39	35	32



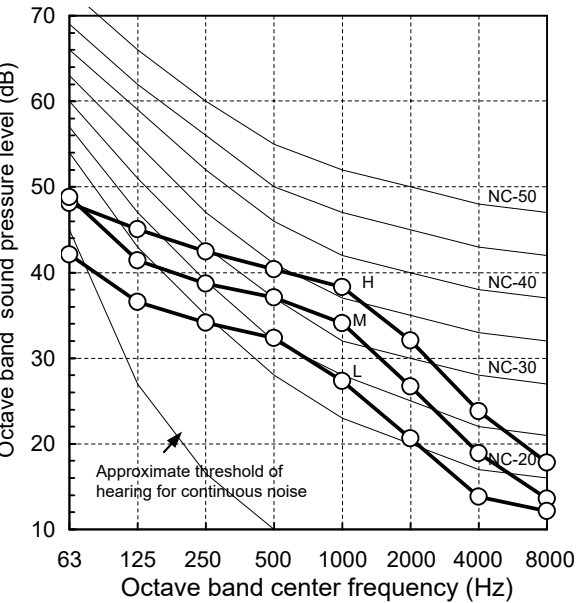
External static pressure 80 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	42	38	33



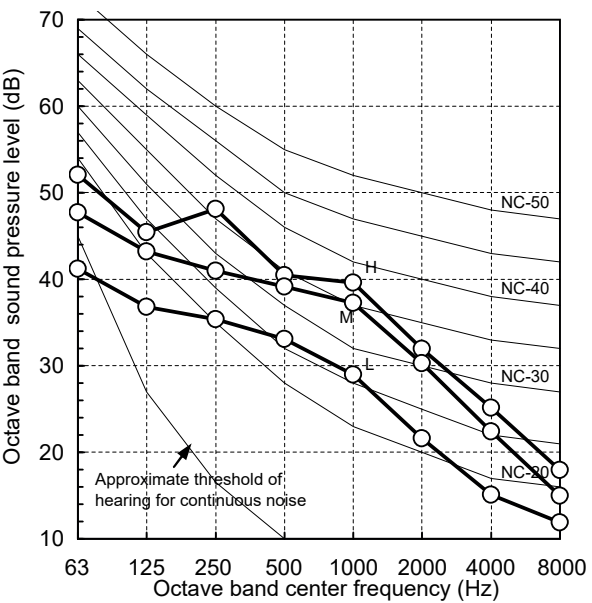
External static pressure 100 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	42	39	33

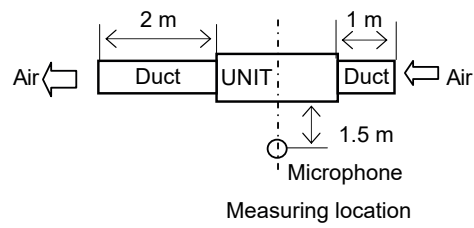


External static pressure 120 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	44	41	34

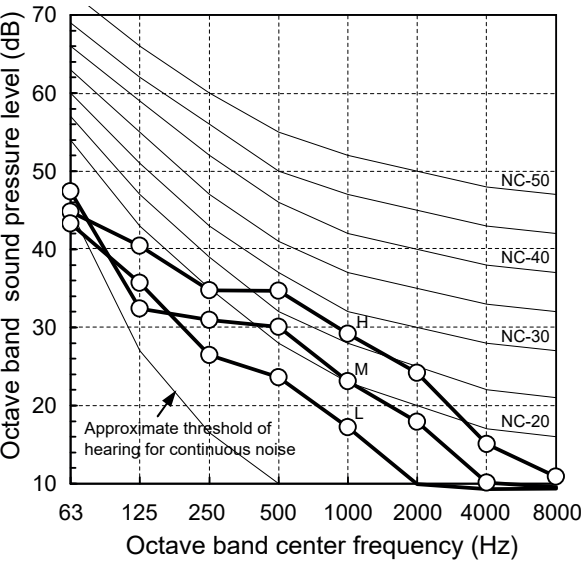


MMD-UP0301BHP*



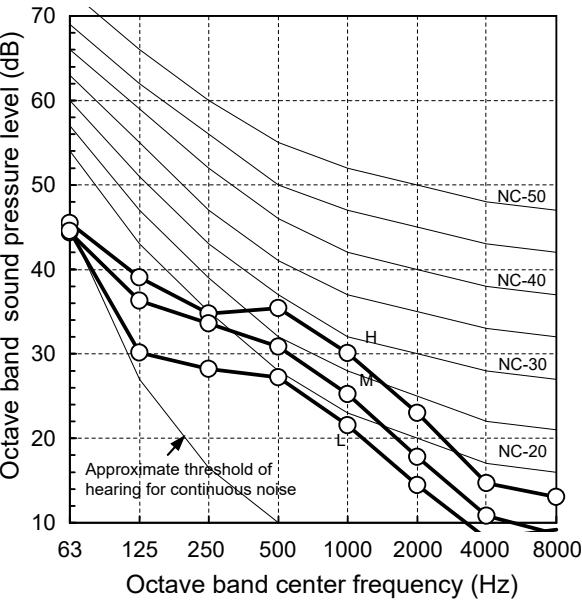
External static pressure 30 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	31	27



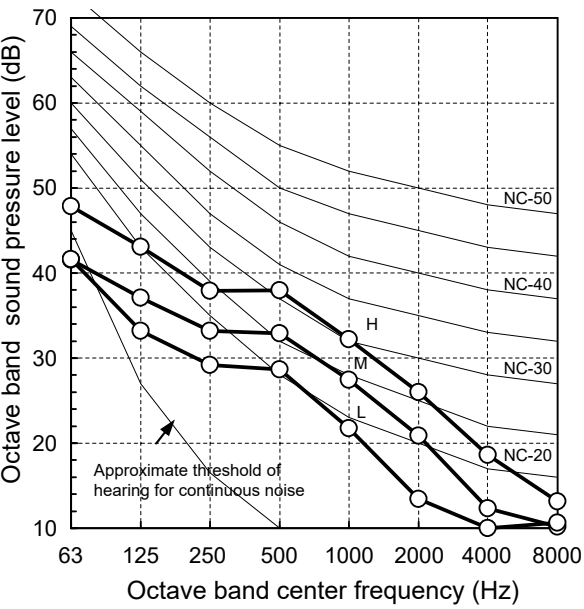
External static pressure 40 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	36	31	27



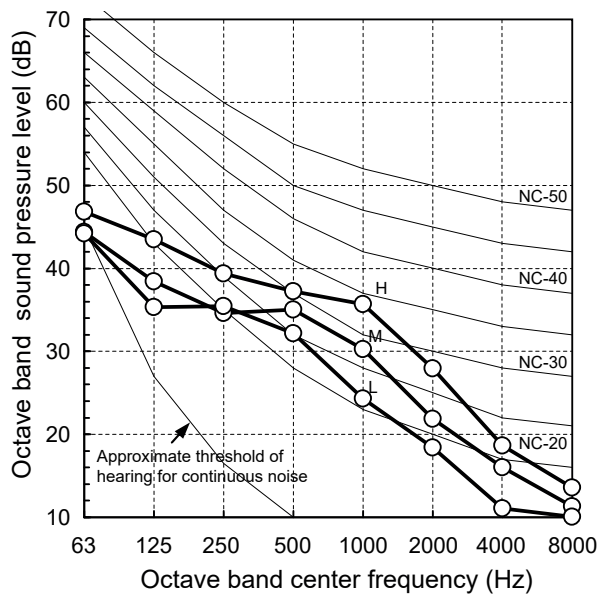
External static pressure 50 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	39	33	29



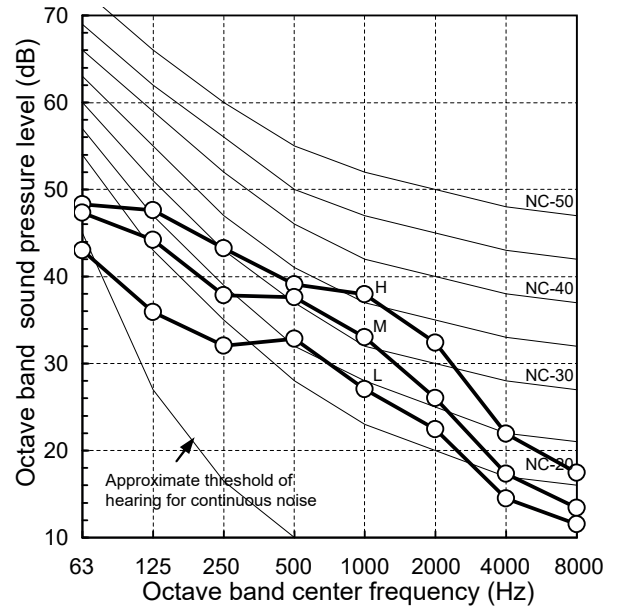
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	40	36	33



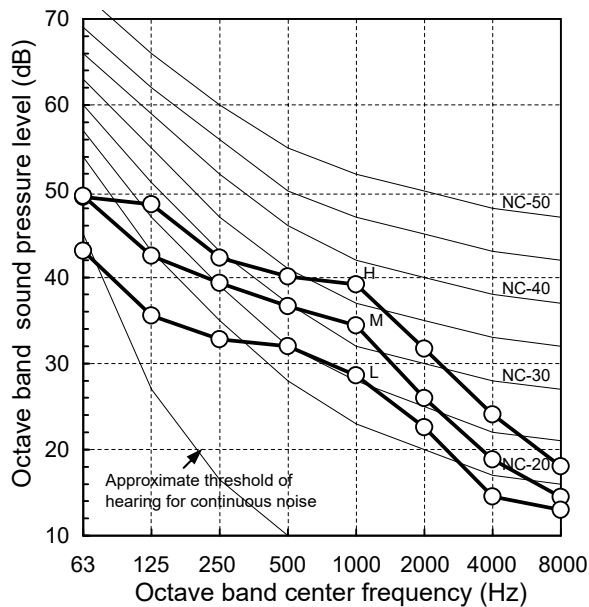
External static pressure 80 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	42	39	33



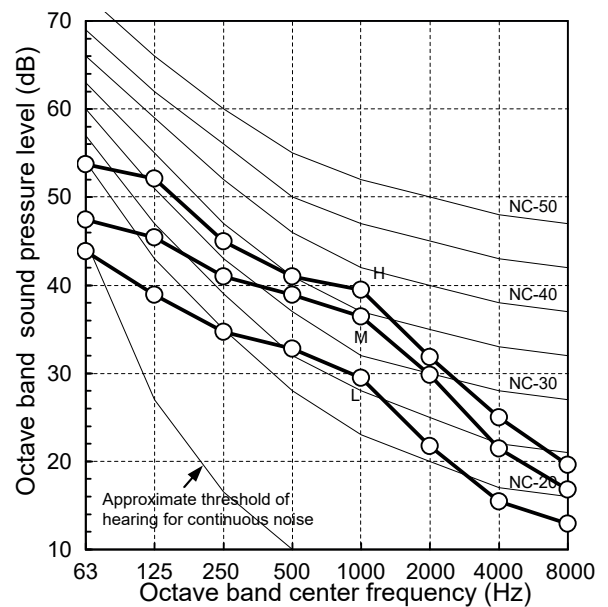
External static pressure 100 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	43	39	34

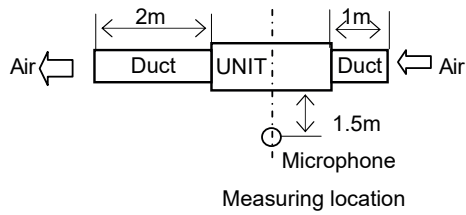


External static pressure 120 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	44	41	35

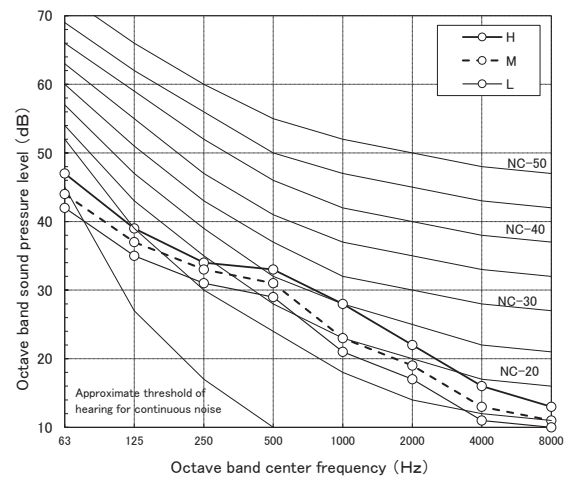


MMD-UP0361BHP*



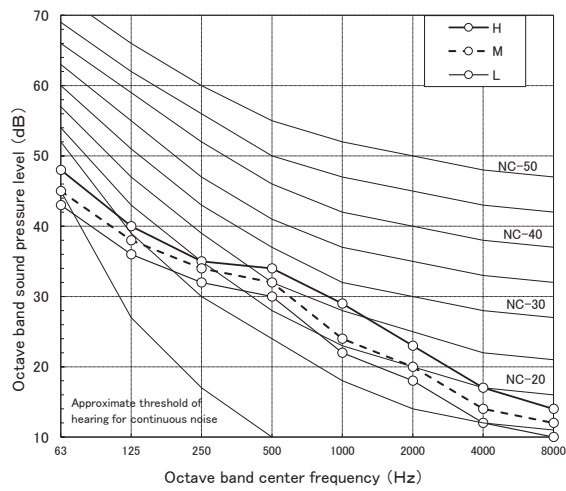
External static pressure 30 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	34	32	31



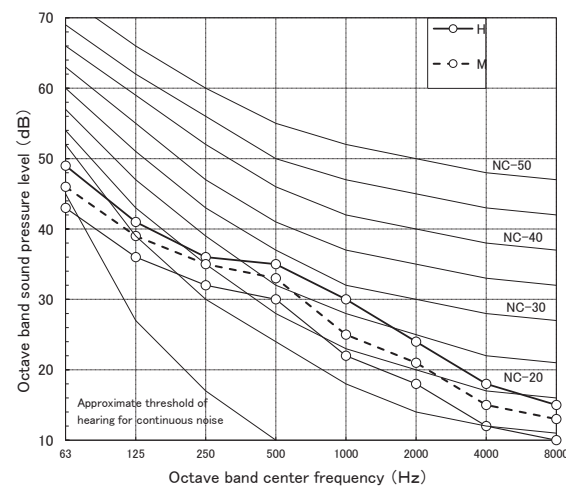
External static pressure 40 Pa

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



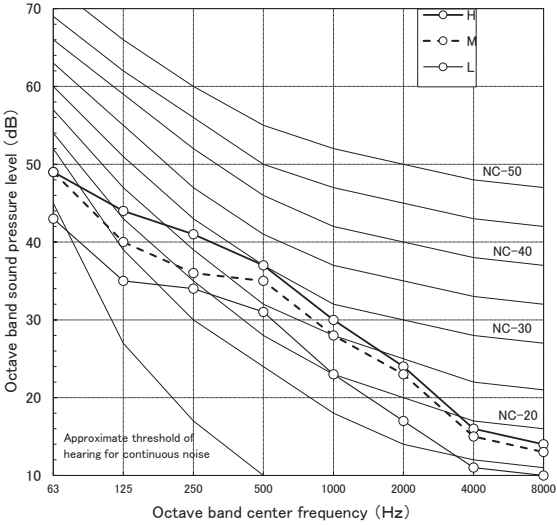
External static pressure 50 Pa

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



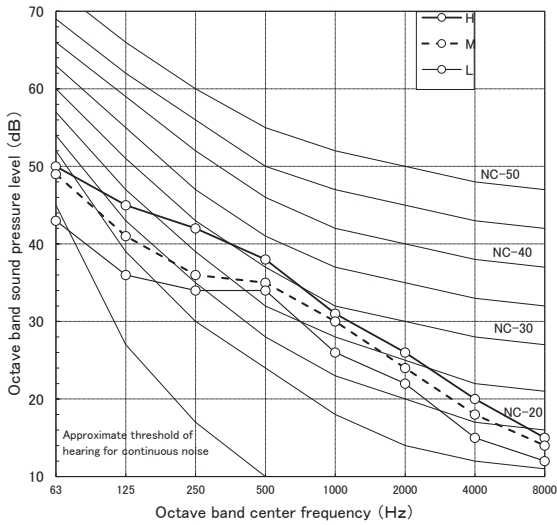
External static pressure 65 Pa

FAN tap	H	M	L
Sound pressure level (dB(A))	37	35	32



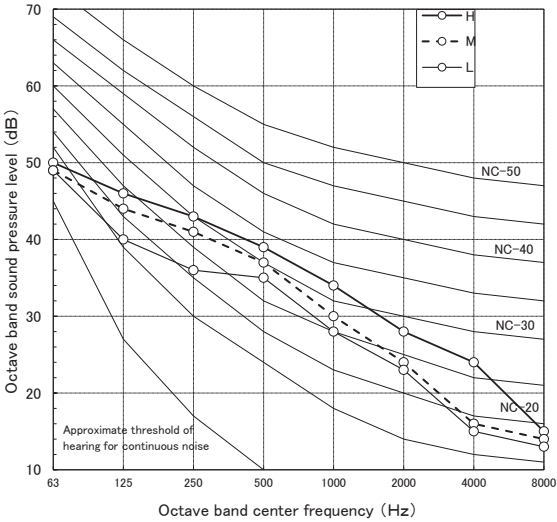
External static pressure 80 Pa

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



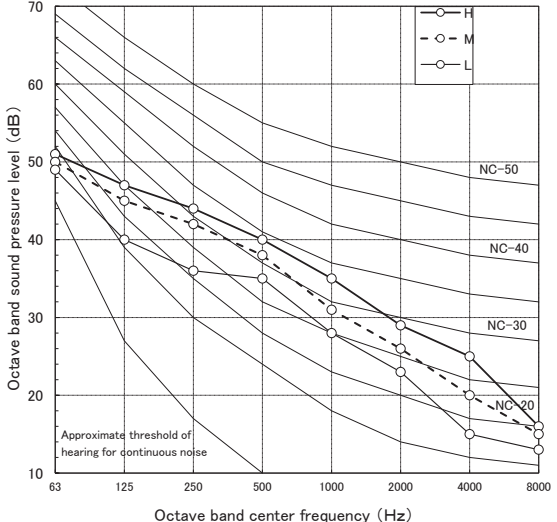
External static pressure 100 Pa

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

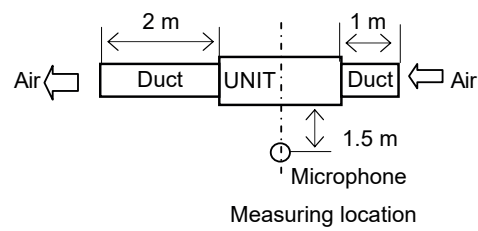


External static pressure 120 Pa

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

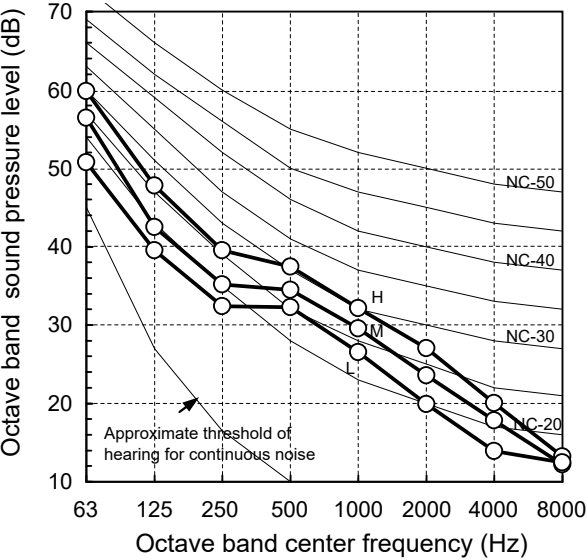


MMD-UP0481BHP* / MMD-UP0561BHP*



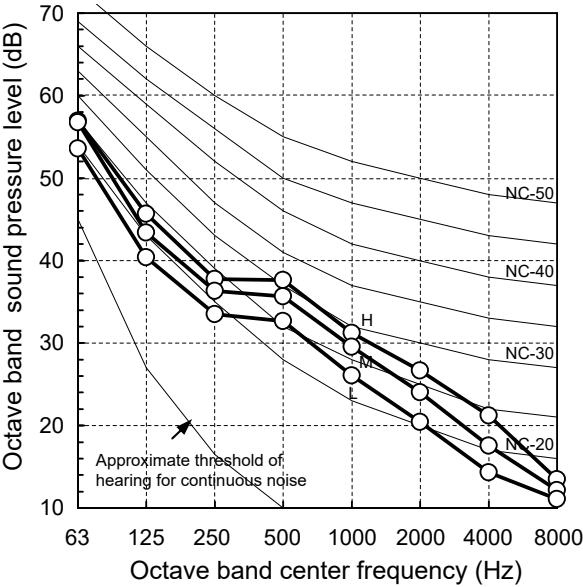
External static pressure 30 Pa

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



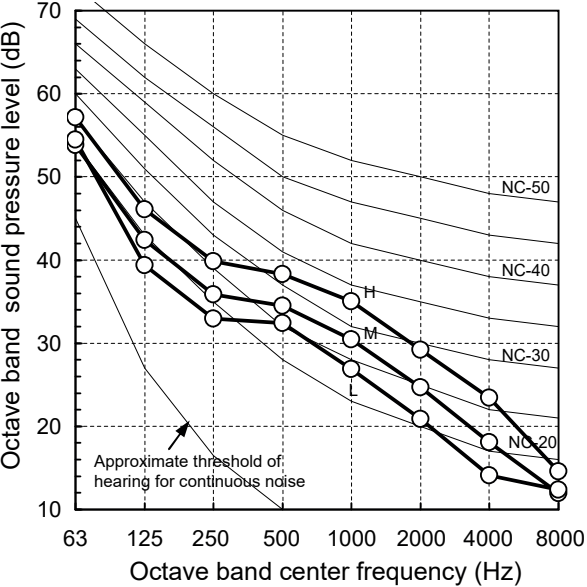
External static pressure 40 Pa

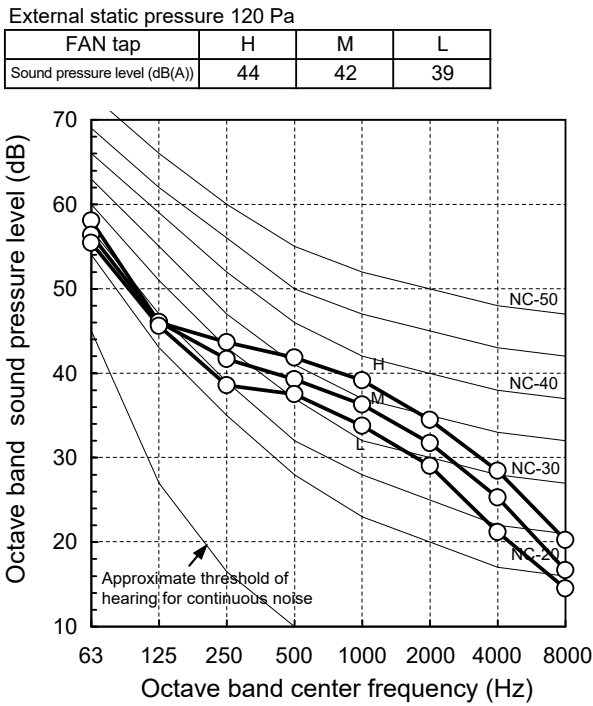
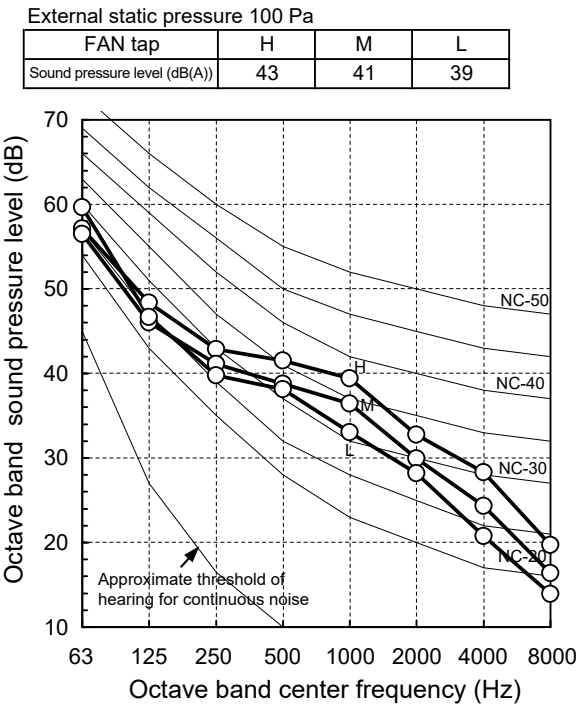
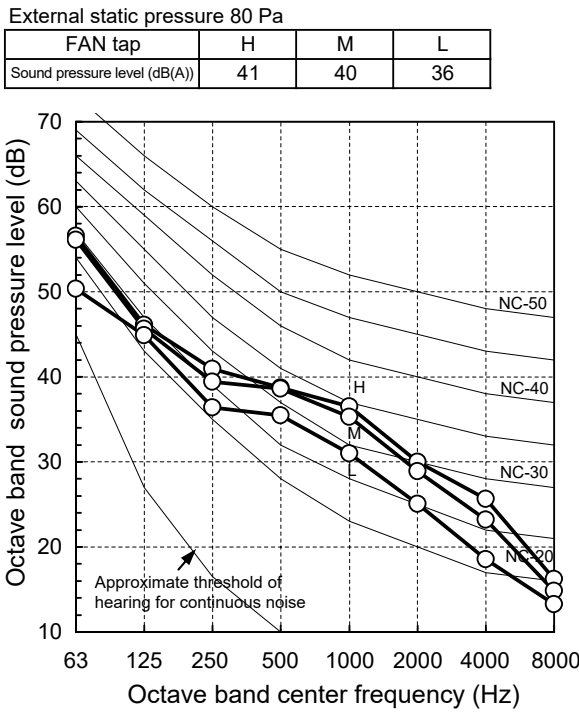
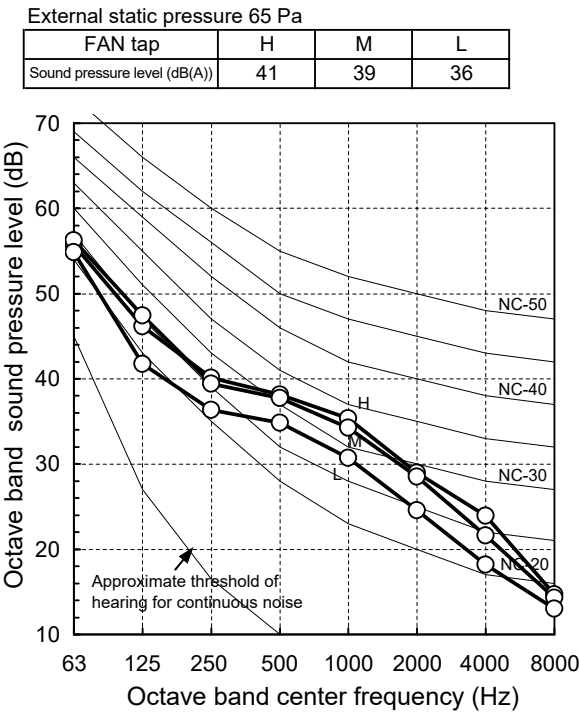
FAN tap	H	M	L
Sound pressure level (dB(A))	39	36	33



External static pressure 50 Pa

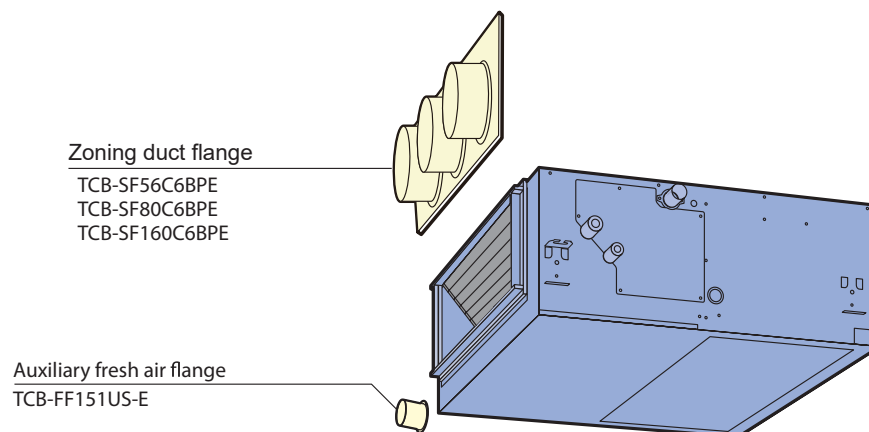
FAN tap	H	M	L
Sound pressure level (dB(A))	40	36	33





10. Accessories

Option Parts	Model Name	Applicable FCU
Spigot shaped flange	TCB-SF56C6BPE	MMD-UP0071 / 0091 / 0121 / 0151 / 0181BHP*
	TCB-SF80C6BPE	MMD-UP0241 / 0271 / 0301BHP*
	TCB-SF160C6BPE	MMD-UP0361 / 0481 / 0561BHP*
Auxiliary fresh air flange	TCB-FF151US-E	For Duct type



TOSHIBA CARRIER (THAILAND) CO.,LTD.

144/9 Moo 5, Bangkadi Industrial Park, Tivanon Road, Tambol Bangkadi,
Amphur Muang, Pathumthani 12000, Thailand

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