

# MMD-AP\_SPH1 SLIM DUCT



Whether installed in a ceiling void or in a false ceiling, Toshiba Slim Duct offers the ultimate technology, with exceptional energy savings, high performance and easy installation.

CAPACITY      SOUND PRESSURE LEVEL

**0.6 HP < 3 HP**      **24dB(A)**

**OUTDOOR UNITS**

Side Blow & Mini SMMS-e      SMMS-e      SHRM-e

**LOCAL CONTROLS**

TCB-AX32E2      RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

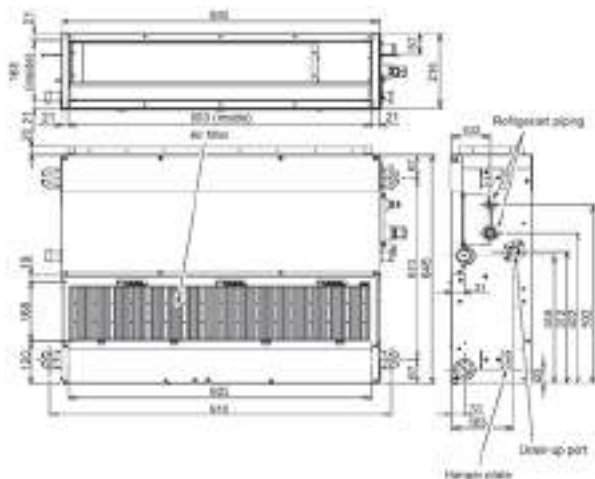
## Features

Model name	MMD-	AP0054SPH1-E	AP0074SPH1-E	AP0094SPH1-E	AP0124SPH1-E	AP0154SPH1-E	AP0184SPH1-E	AP0244SPH1-E	AP0274SPH1-E					
Capacity code	HP	0.5	0.8	1	1.3	1.5	2	2.5	3					
Cooling Capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8					
Heating capacity	kW	1.9	2.5	3.2	4	5	6.3	8	9					
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	H/L	0.039 / 0.030	0.039 / 0.032	0.039 / 0.32	0.043 / 0.035	0.045 / 0.036	0.054 - 0.043	0.105 / -					
	Starting current	A	0.51	0.51	0.51	0.54	0.56	0.68	1.13					
Appearance	Zinc hot dipping steel plate													
Outer dimensions	HxLxP	mm 210x845x645						210x1140x645						
Total weight	kg	21	21	21	21	22	22	29	29					
Heat exchanger	Finned tube													
Soundproof / Heat-insulating material	Polyethylene foam + Polyurethane foam													
Fan unit	Fan	Centrifugal fan												
	Standard air flow (High/Mid./Low)	m³/h	435/400/370		540/470/400		600/520/450		690/600/520		780/680/580		1080/1000/900	
	Motor output	W	60											
External static pressure		Pa	6 (Factory default) -16-31-46			5 (Factory default) -15-30-45		4 (Factory default) -14-29-44		2-12-22-42 (Factory default)				
	Air filter pressure loss	Pa	4			5		6		8				
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	
Sound power level (High)	dB(A)	48		51		53		54		55		64		
Air filter	Long life filter													
Controller	Infrared or wired remote controller													
Connecting pipe	Gas pipe	inch	3/8"		3/8"		1/2"		1/2"		5/8"		5/8"	
	Liquid pipe	inch	1/4"		1/4"		1/4"		1/4"		3/8"		3/8"	
	Drain pipe (Outside dia.)	mm	25 (Polyvinyl chloride tube: External dia.32 Internal dia.25)											

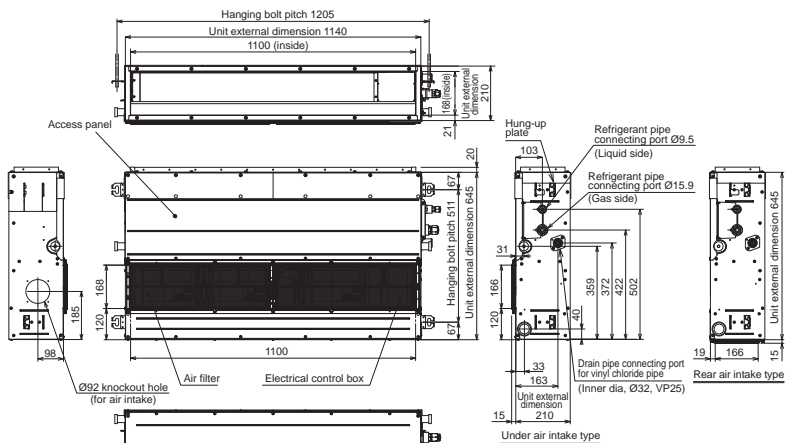
## Drawings

Unit: mm

MMD-AP0054SPH1-E to MMD-AP0184SPH1-E



MMD-AP0244SPH1-E & AP0274SPH1-E

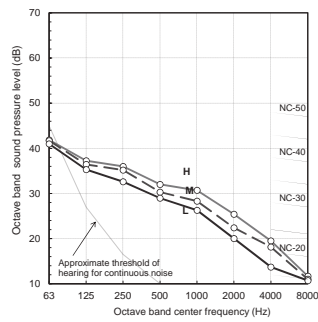


### Sound pressure levels

Unit: dB(A)

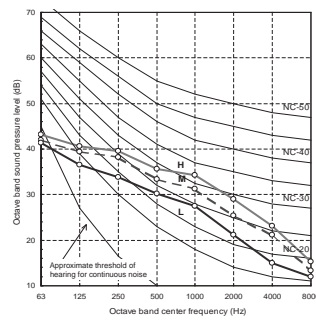
**MMD-AP0056SPSH1-E**

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



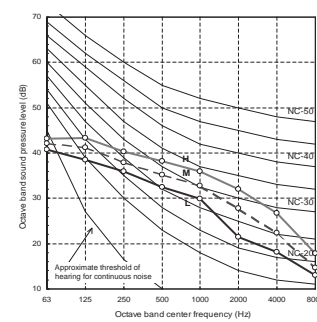
**MMD-AP0074SPH1-E**

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



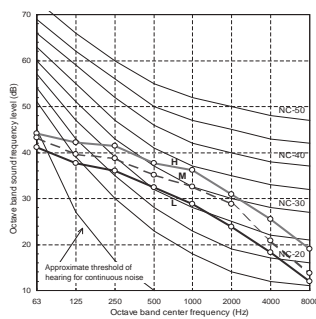
**MMD-AP0124SPH1-E**

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



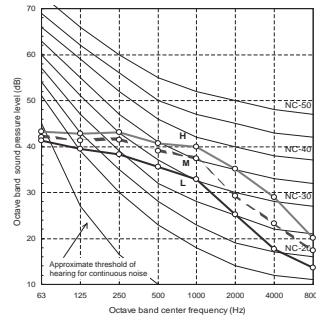
**MMD-AP0154SPH1-E**

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



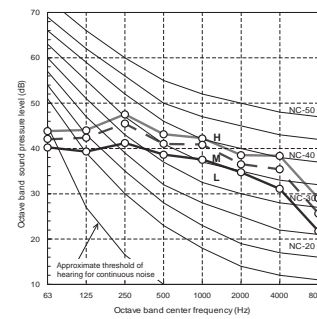
**MMD-AP0184SPH1-E**

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



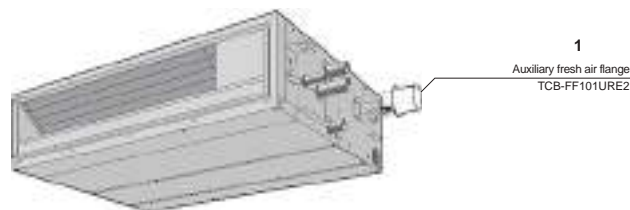
**MMD-AP0244SPH1-E**

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



### Accessories

No	Parts name	Model name	Applied model	Remarks
1	Auxiliary fresh air flange	TCB-FF101URE2	MMD-AP__4SPH1-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)

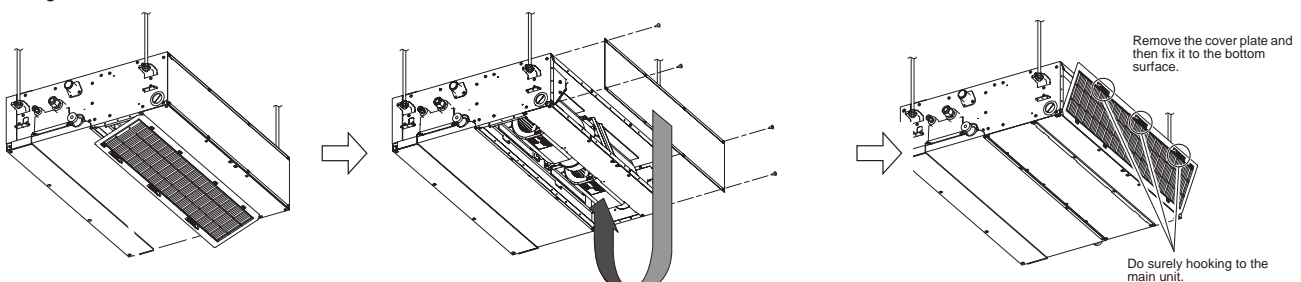


### Slim duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	•	•	•	•	•

### Installation flexibility

#### Change from under air intake to back air intake



# MMD-AP\_HP HIGH STATIC PRESSURE DUCT



This is Toshiba's most powerful ducted unit delivering air flows up to 4,800 m<sup>3</sup>/h with an external static pressure up to 250 Pa.

CAPACITY



2 HP < 10 HP

SOUND PRESSURE LEVEL



37dB(A)

### OUTDOOR UNITS COMPATIBILITY



Side Blow & Mini SMMS-e



SMMS-e

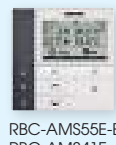


SHRM-e

### LOCAL CONTROLS



TCB-AX32E2



RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

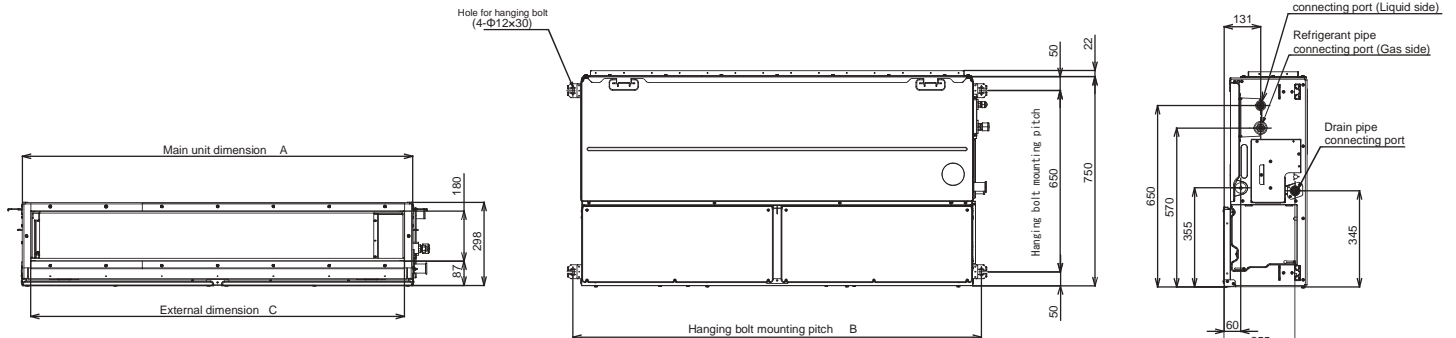
## Features

Model name	MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E	AP0726HP-E	AP0966HP-E
Capacity code		2	2.5	3	4	5	6	8	10
Cooling capacity	kW	5.6	7.1	8	11.2	14	16	22.4	28
Heating capacity	kW	6.3	8	9	12.5	16	18	25	31.5
Electrical characteristics	Power supply	1 phase 50Hz 230V(220V-240V) / 1 phase 60Hz 220V							
	Running current (50/60Hz)	A	0.52/0.54	0.70/0.73	1.17/1.22	1.34/1.40	1.68/1.75	2.8/2.93	3.75/3.92
	Power consumption	kW	0.085 / 0.033	0.115 / 0.045	0.198 / 0.077	0.230 / 0.084	0.290 / 0.102	0.540 / 0.169	0.790 / 0.311
	Starting current (50/60Hz)	A	0.78/0.81	1.05/1.10	1.75/1.83	2.01/2.10	2.51/2.63	7.8/8.15	7.8/8.15
Appearance		Zinc hot dipping steel plate							
Dimensions	HxLxP	mm	298x1000x750			298x1400x750		448x1400x900	
Total weight	kg		34			43		97	
Heat exchanger		Finned tube							
Soundproof / Heat-insulating material		Polyethylene foam							
Fan unit	Fan	Centrifugal fan							
	Standard air flow (Med./Low)	m <sup>3</sup> /h	800 (660/550)	1,200 (970/800)	1,920 (1560/1340)	2,100 (1740/1420)	2,400 (2040/1660)	3 800 (3 200/2 500)	4 800 (4 200/3 500)
	Motor output	W	250			350		250	
	Factory setting	Pa				100		150	
	External static pressure	Pa	50-75-125-150-175-200 (7 steps)						50-83-117-150-183-217-250 (7 steps)
Sound pressure level (High/Med./Low)	dB(A)	37 (32/30)	38 (34/31)	41 (37/34)	42 (40/35)	45 (42/37)	44/40/36	46/42/38	
Sound power level (High/Med./Low)	dB(A)	60 (54/50)	60 (55/51)	62 (57/53)	65 (62/54)	68 (64/56)	79	81	
Controller		Infrared or wired remote controller							
Air filter		Sold separately (TCB-LK801D-E)			Sold separately (TCB-LK1401D-E)			Sold separately (TCB-LK2801DP-E)	
Drain pump		Included						Sold separately (TCB-DP40DPE)	
Connecting pipe	Gas side	inch	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	7/8"
	Liquid side	inch	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"
	Drain port	mm	25 (Polyvinyl chloride tube)						

## Drawings

Unit: mm

### MMD-AP0186HP1-E to MMD-AP0566HP1-E



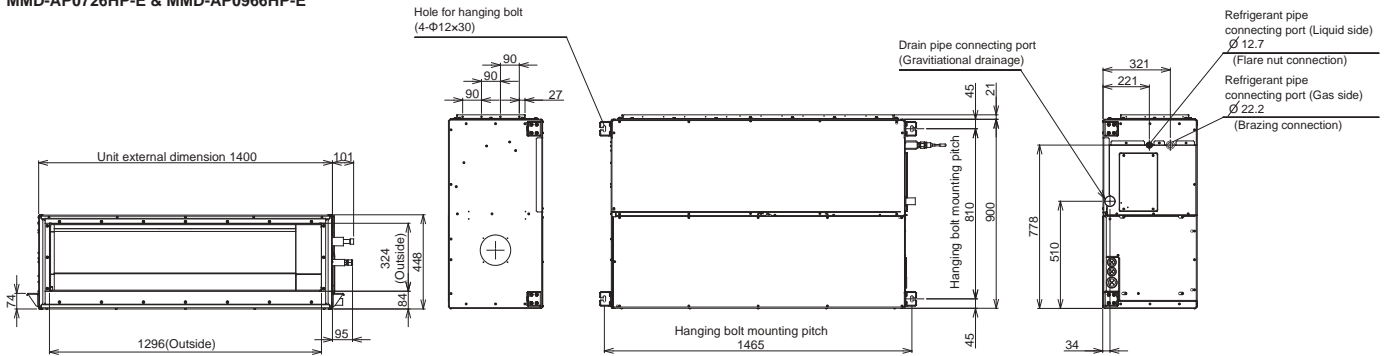
	A	B	C	D
MMD-AP0186-0276HP-E	1000	1065	940	500
MMD-AP0366-0566HP-E	1400	1465	1340	700

## HIGH STATIC PRESSURE DUCT

### Drawings

Unit: mm

#### MMD-AP0726HP-E & MMD-AP0966HP-E

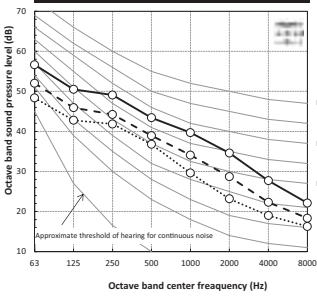


### Sound pressure levels

Unit: dB(A)

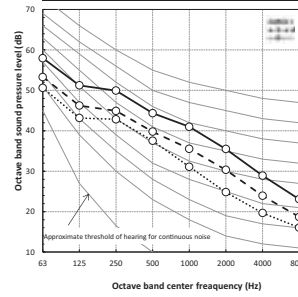
#### MMD-AP0186HP1-E

External static pressure 150Pa				
Fan tap	H	M	L	
Sound pressure (dBA)	41.0	36.0	33.0	



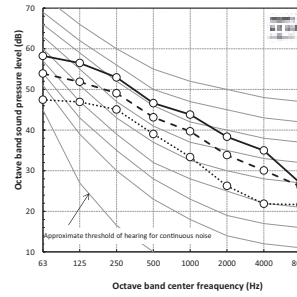
#### MMD-AP0246HP1-E, MMD-AP0276HP1-E

External static pressure 150Pa				
Fan tap	H	M	L	
Sound pressure (dBA)	42.0	37.0	34.0	



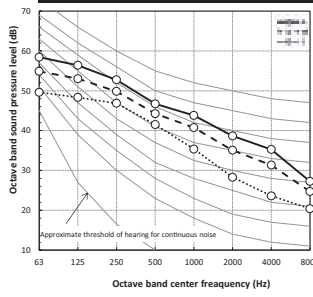
#### MMD-AP0366HP1-E

External static pressure 150Pa				
Fan tap	H	M	L	
Sound pressure (dBA)	45.0	41.0	36.0	



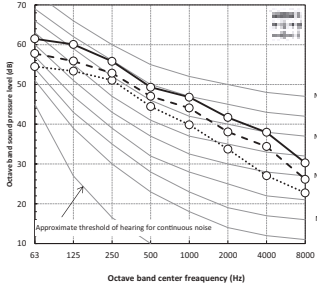
#### MMD-AP0486HP1-E

External static pressure 150Pa				
Fan tap	H	M	L	
Sound pressure (dBA)	45.0	42.0	38.0	

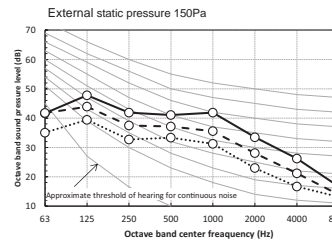


#### MMD-AP0566HP1-E

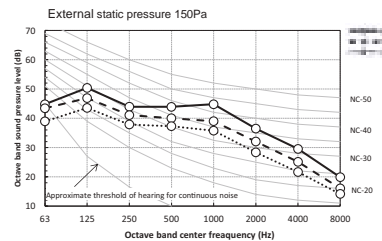
External static pressure 150Pa				
Fan tap	H	M	L	
Sound pressure (dBA)	48.0	45.0	42.0	



#### MMD-AP0726HP-E



#### MMD-AP0966HP-E



### Accessories

Type	Model name	Applied model	Appearance	Remarks
Spigot shaped flange	TCB-SF80C6BE	MMD-AP0186/0246/0276HP1-E		263x994x175mm / Spigot diameter 200mm
	TCB-SF160C6BE	MMD-AP0366/0486/0566HP1-E		263x1394x175mm / Spigot diameter 200mm
Long life filter kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP1-E		Flange shaped Mount chassis directly Upside down mounting possible Left and right removable
	TCB-LK1401D-E	MMD-AP0366/0486/0566HP1-E		
	TCB-LK2801DP-E	MMD-AP0726/0966HP-E		
Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP0186/0246/0276/0366/0486/0566HP1-E		
Drain pump kit	TCB-DP40DPE	MMD-AP0726/0966HP-E		

### HSP duct connectors

	CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control		Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
Up to 6HP	•	•	•	•	•	•
8 & 10HP	•	TCB-PCUC2E pcb needed	•	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

MMC-AP\_HP  
UNDER CEILING



The simple, yet elegant design helps to create a pleasant and relaxing environment, quickly conditioning the room air to the desired temperature.

CAPACITY      SOUND PRESSURE LEVEL

1.7 HP > 6 HP      28 dB(A)

**OUTDOOR UNITS COMPATIBILITY**

Side Blow & Mini SMMS-e      SMMS-e      SHRM-e

**LOCAL CONTROLS**

RBC-AX33CE      TCB-AX32E2      RBC-AMS55E-ES(EN)  
RBC-AMS41E      RBC-AMT32E      RBC-ASC11E

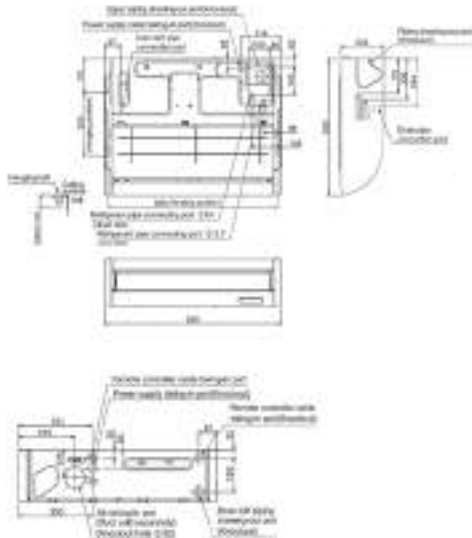
Features

Model name	MMC-	AP0158HP-E	AP0188HP-E	AP0248HP-E	AP0278HP-E	AP0368HP-E	AP0488HP-E	AP0568HP-E	
Capacity code	HP	1.7	2	2.5	3	4	5	6	
Cooling capacity	kW	4.55	5.6	7.1	8	11.2	14	16	
Heating capacity	kW	5	6.3	8	9	12.5	16	18	
Electrical characteristics	Power supply	kW							1 phase 50Hz 230V (220-240V) / 1 phase 60Hz 220V
	Running current (50/60 Hz)	A	0.36/0.37	0.37/0.38	0.65/0.67	0.65/0.67	0.77/0.80	0.77/0.80	0.99/1.02
	Power consumption H/L	kW	0.033/0.014	0.034/0.014	0.067/0.018	0.067/0.018	0.083/0.024	0.083/0.031	0.111/0.035
	Starting current (50/60 Hz)	A	0.54/0.55	0.55/0.57	0.97/1.00	0.97/1.00	1.16/1.20	1.16/1.20	1.49/1.53
Appearance		Pure White (Munsell N9.1)							
Dimensions	HxLxP	mm	235x950x690		235x1270x690		235x1586x690		
Total weight	kg		23		29		35		
Heat exchanger		Finned tube							
Soundproof/Heat-insulating material		Polyethylene foam							
Fan unit		Centrifugal fan (Sirocco fan)							
Standard air flow	High	m <sup>3</sup> /h	840	960	1440	1440	1860	1860	2040
	Mid.	m <sup>3</sup> /h	690	720	1020	1020	1350	1530	1650
	Low	m <sup>3</sup> /h	540	540	750	750	1020	1200	1260
Motor output	W	94							
Sound pressure level (High/Mid/Low)	dBA	36/34/28	37/35/28	41/36/29	41/36/29	44/38/32	44/41/35	46/42/36	
Sound power level (High)	dBA	51	52	56	56	59	59	61	
Air filter		Long life filter							
Controller		Infrared or wired remote controller							
Connecting pipe	Gas side	inch	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid side	inch	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
	Drain port	mm	20 (Polyvinyl chloride tube)						

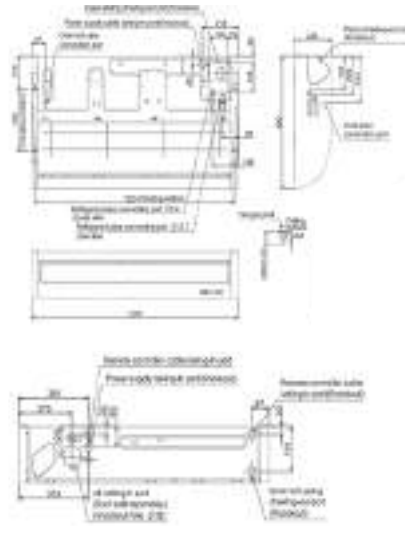
Unit: mm

Drawings

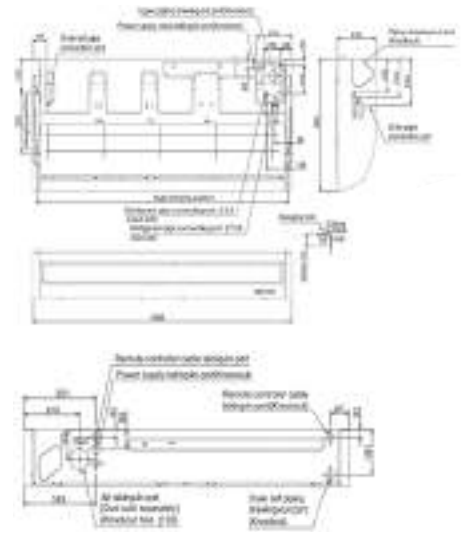
MMC-AP0158HP-E, MMC-AP0188HP-E



MMC-AP0248HP-E, MMC-AP0278HP-E



MMC-AP0368HP-E to MMC-AP0568HP-E

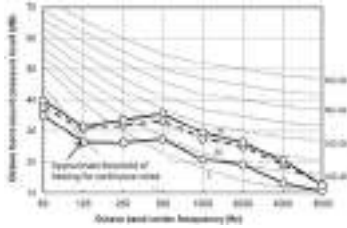


### Sound pressure levels

Unit: dB(A)

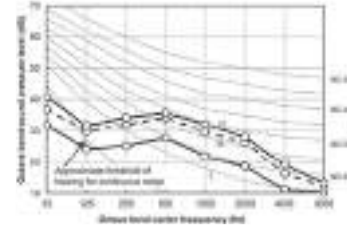
MMC-AP0158HP-E

Fan tap	H	M	L
Sound pressure level (dB(A))	36.0	34.0	28.0



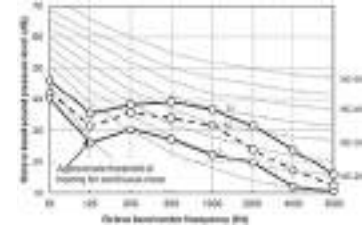
MMC-AP0188HP-E

Fan tap	H	M	L
Sound pressure level (dB(A))	37.0	35.0	28.0



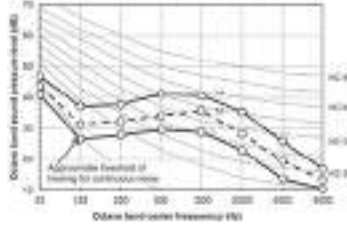
MMC-AP0248HP-E, AP0278HP-E

Fan tap	H	M	L
Sound pressure level (dB(A))	41.0	36.0	29.0



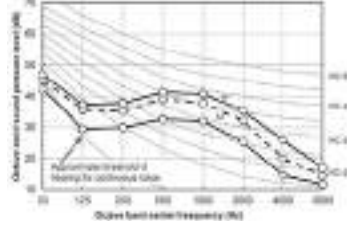
MMC-AP0368HP-E

Fan tap	H	M	L
Sound pressure level (dB(A))	44.0	38.0	32.0



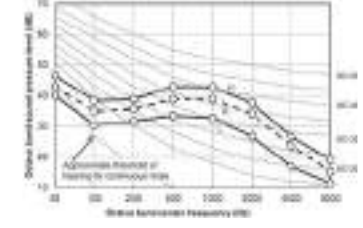
MMC-AP0488HP-E

Fan tap	H	M	L
Sound pressure level (dB(A))	44.0	41.0	35.0



MMC-AP0568HP-E

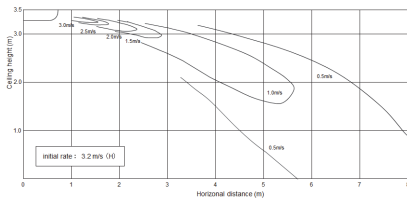
Fan tap	H	M	L
Sound pressure level (dB(A))	46.0	42.0	36.0



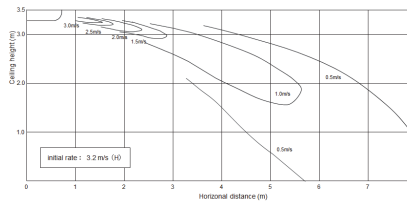
### Air diffusion

Unit: m/s

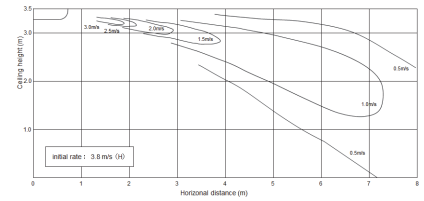
MMC-AP0158HP-E  
Cooling



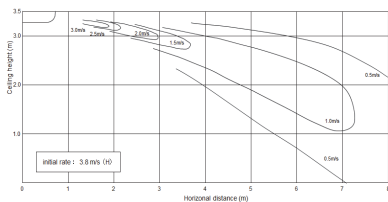
MMC-AP0188HP-E  
Cooling



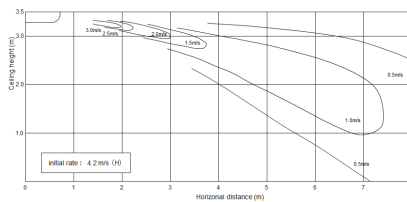
MMC-AP0248HP-E, AP0278HP-E  
Cooling



MMC-AP0368HP-E, AP0488HP-E  
Cooling

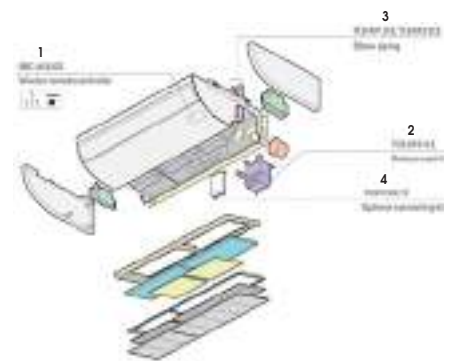


MMC-AP0568HP-E  
Cooling



### Accessories

No	Part name	Model name	Applied model	Feature	Remark
1	Wireless Remote Controller kit	RBC-AX33CE	MMC-AP0158 to 0568HP-E	-	
2	Drain pump kit	TCB-DP31CE	MMC-AP0158 to 0568HP-E	Antibacterial glass is built into drain pump kit	
3	Elbow piping kit	TCB-KP13CE	MMC-AP0158 to 0188HP-E	It is necessary for installation of drain pump kit	Use with TCB-DP31CE
		TCB-KP23CE	MMC-AP0248 to 0568HP-E		
4	Option connecting kit	TCB-PCUC2E	MMC-AP0158 to 0568HP-E	For external I/O signal without local relay preparation	



### Ceiling connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	TCB-PCUC2E pcb needed	•	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



# MML-AP\_NH1 BI-FLOW CONSOLE



Innovative and compact unit to be installed on the floor and in low wall applications, fits perfectly under the window sills or in a low ceiling attic.

**CAPACITY**  
↑  
0.8 HP < 2 HP

**SOUND PRESSURE LEVEL**  
🔊  
26dB(A)

**OUTDOOR UNITS**

Side Blow & Mini SMMS-e    SMMS-e    SHRM-e

**LOCAL CONTROLS**

IR control (included)    RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

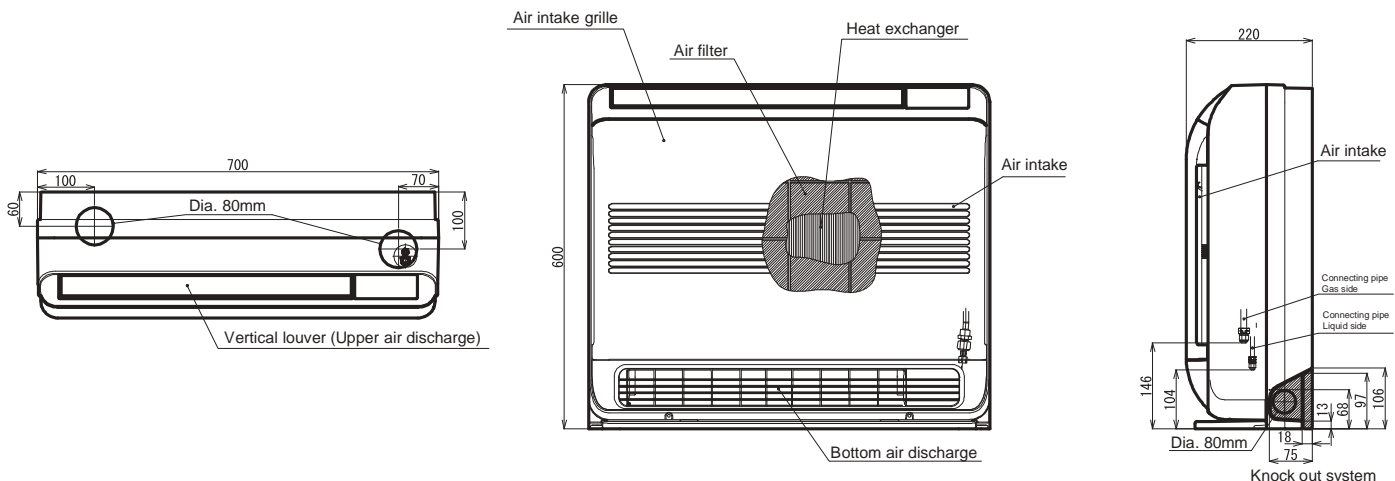
## Features

Model name	MML-	AP0074NH1-E	AP0094NH1-E	AP0124NH1-E	AP0154NH1-E	AP0184NH1-E		
Capacity code	HP	0.8	1	1.3	1.5	2		
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6		
Heating capacity	kW	2.5	3.2	4	5	6.3		
Electrical characteristics	Power supply	1 phase 50Hz 220-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)						
	Running current	50 Hz	A	0.20	0.20	0.23	0.29	0.42
		60 Hz	A	0.17	0.17	0.19	0.25	0.36
	Power consumption	H/L	kW	0.021/0.010	0.021/0.010	0.025/0.012	0.034/0.015	0.052/0.017
Starting current	A	0.26 / 0.22	0.26 / 0.22	0.30 / 0.25	0.38 / 0.33	0.55 / 0.47		
Appearance	Air intake grille and side panel	Moon white (Munsell : 2.5GY 9.0/0.5)						
	Discharge grille	Moon white (Munsell : 2.5GY 9.0/0.5)						
	Bottom surface	Moon white (Munsell : 2.5GY 9.0/0.5)						
Dimensions	HxLxP	mm						
Weight	kg	17						
Heat exchanger		Finned tube						
Soundproof / Heat-insulating material		Foamed polystyrene. Polyethylene						
Fan		Turbo fan						
Motor output	(W)	41						
Air flow	High	(m³/h)	510	510	552	624	726	
	Mid.	(m³/h)	366	366	408	468	528	
	Low	(m³/h)	282	282	324	384	426	
Sound pressure level (High/Mid./Low)	dB(A)	38 / 32 / 26	38 / 32 / 26	40 / 34 / 29	43 / 37 / 31	47 / 40 / 34		
Sound power level (High)	dB(A)	53	53	55	58	62		
Air filter		Standard filter attached						
Controller		Infrared (remote delivered with indoor unit) or wired remote controller						
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"	1/2"	
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"	
	Drain port (Nominal dia.)	mm	16 (Polypropylene tube)					

## Drawings

Unit: mm

All models

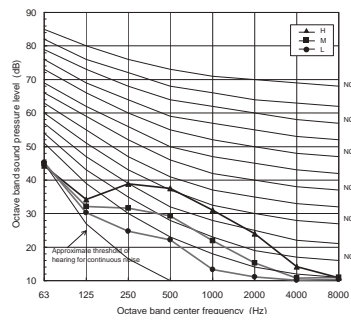


### Sound pressure levels

Unit: dB(A)

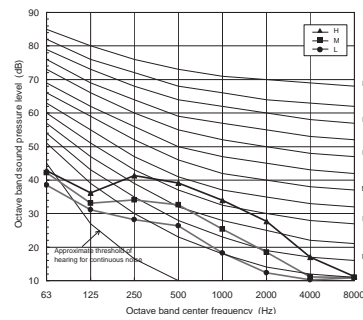
**MML-AP0074NH1-E/AP0094NH1-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	38	32	26



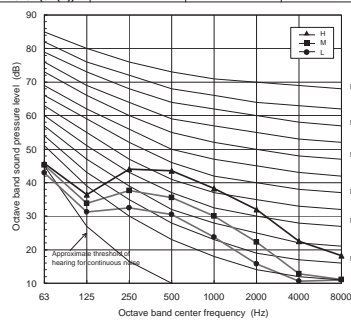
**MML-AP0124NH1-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	40	34	29



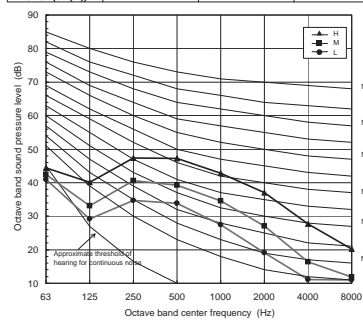
**MML-AP0154NH1-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	43	37	31



**MML-AP0184NH1-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	47	40	34

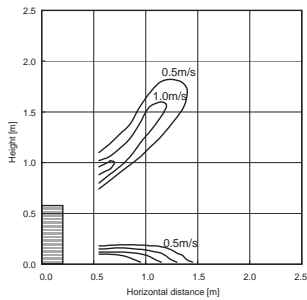


### Air diffusion

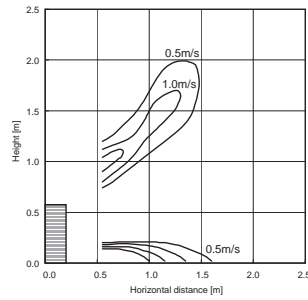
Unit: m/s

**MML-AP0074NH1-E, AP0094NH1-E**

**Cooling - Upper & Lower**

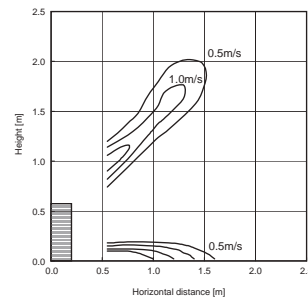


**Heating - Upper & Lower**

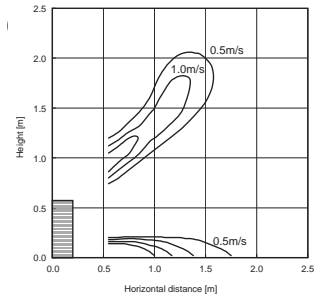


**MML-AP0124NH1-E**

**Cooling - Upper & Lower**

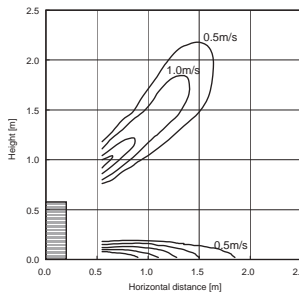


**Heating - Upper & Lower**

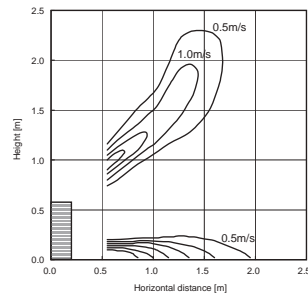


**MML-AP0154NH1-E**

**Cooling - Upper & Lower**

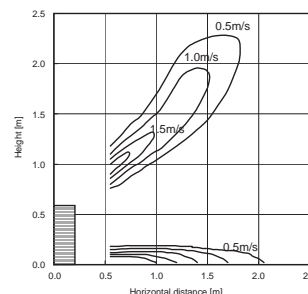


**Heating - Upper & Lower**

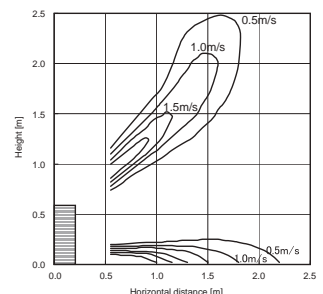


**MML-AP0184NH1-E**

**Cooling - Upper & Lower**



**Heating - Upper & Lower**



### Bi-flow console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	•	•	-	-	•







The simple design of this unit represents the perfect choice, for refurbishment projects, where the available space is limited, or where neither the walls nor ceiling are able to house the unit.

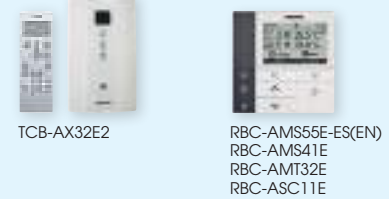
CAPACITY      SOUND PRESSURE LEVEL

**0.8 HP < 2.5 HP**      **35dB(A)**

OUTDOOR UNITS COMPATIBILITY



LOCAL CONTROLS



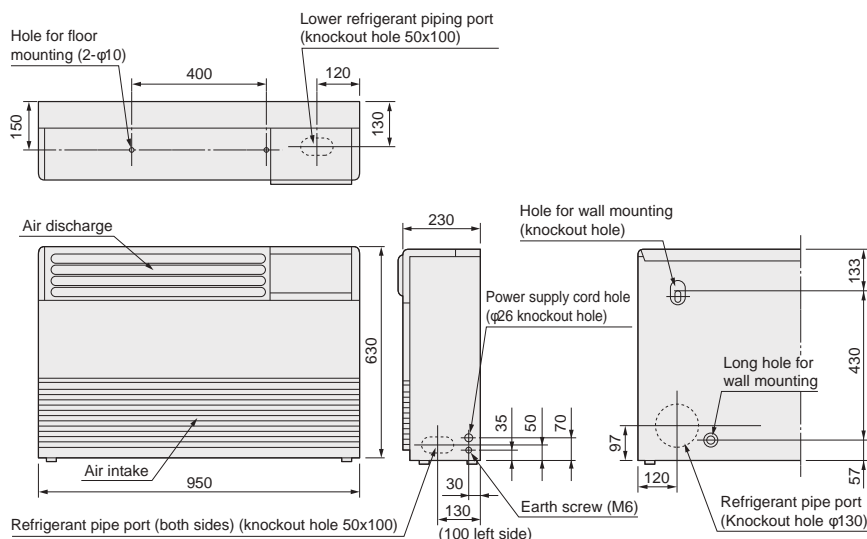
Features

Model name	MML-	AP0074H1-E	AP0094H1-E	AP0124H1-E	AP0154H1-E	AP0184H1-E	AP0244H1-E	
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Heating capacity	kW	2.5	3.2	4	5	6.3	8	
Electrical characteristics	Power supply	1 phase 50Hz 220-240V / 1 phase 60Hz 220V (Separate power supply for indoor units is required.)						
	Running current	50 Hz	A	0.26		0.43		0.47
		60 Hz	A	0.25		0.44		0.53
	Power consumption	H/L	kW	0.056 / 0.044		0.092 / 0.069		0.102 / 0.076
	Power factor		%	94 / 96		93 / 95		94 / 97
	Starting current	A	0.60		0.80		1.10	
Appearance		Silky shade (Munsell : 1Y8.5/0.5)						
Outer dimensions	HxLxP	mm						
		630x950x230						
Total weight	kg	37						
Heat exchanger		Finned tube						
Soundproof/Heat-insulating material		Non-flammable insulation						
Fan unit	Fan	Centrifugal fan						
	Standard air flow (High/Mid./Low)	m³/h	480 / 420 / 360		900 / 780 / 650		1,080 / 930 / 780	
	Motor output	W	45		70		70	
Sound pressure level (High/Mid./Low)	dB(A)	39 / 37 / 35		45 / 41 / 38		49 / 44 / 39		
Sound power level (High)	dB(A)	54		60		64		
Air filter		Standard filter						
Controller		Infrared or wired remote controller						
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
	Drain port (Nominal dia.)	mm	20 (Polyvinyl chloride tube)					

Drawings

Unit: mm

All models

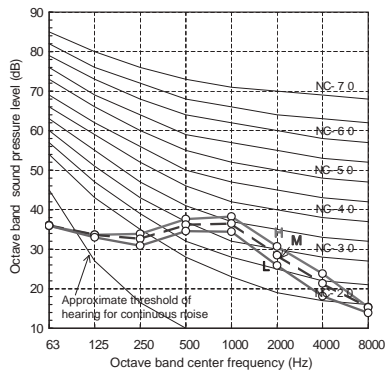


Sound pressure levels

Unit: dB(A)

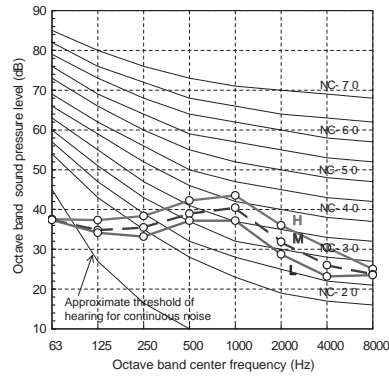
MML-AP0074H1-E, AP0094H1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	39	37	35



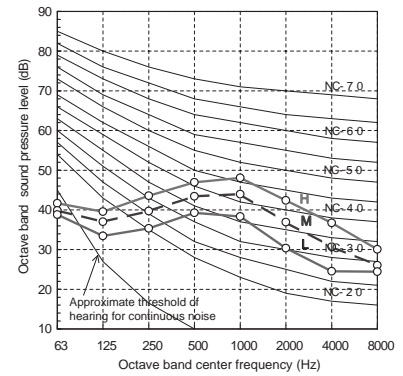
MML-AP0124H1-E, AP0154H1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	45	41	38



MML-AP0184H1-E, AP0244H1-E

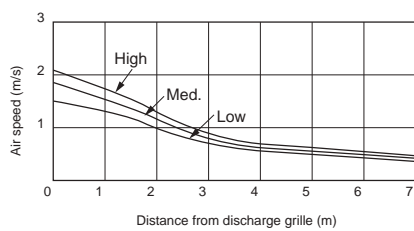
Fan tap	H	M	L
Sound pressure level (dB(A))	49	44	39



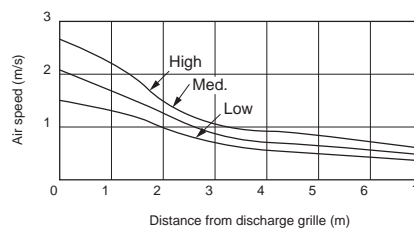
Air diffusion

Unit: m/s

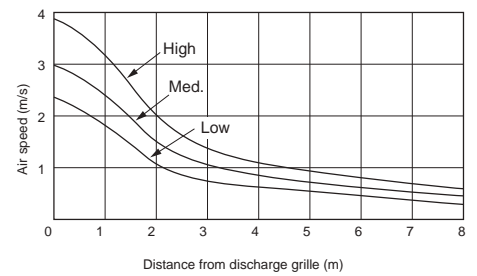
MML-AP0074H1-E, AP0094H1-E



MML-AP0124H1-E, AP0154H1-E



MML-AP0184H1-E, AP0244H1-E



Console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	•	•	•	•	•

↑ IDU

# MML-AP\_BH1 CONCEALED CONSOLE

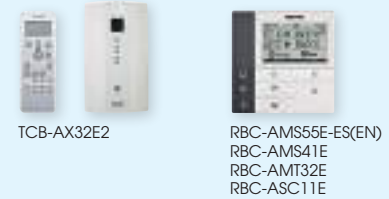


This slim unit is designed to easily fit into a compact space and to perfectly integrate itself behind a decorative panel. This is the ideal unobtrusive solution that blends into any interior

### OUTDOOR UNITS COMPATIBILITY



### LOCAL CONTROLS



**CAPACITY**  
↑  
0.8 HP < 2.5 HP

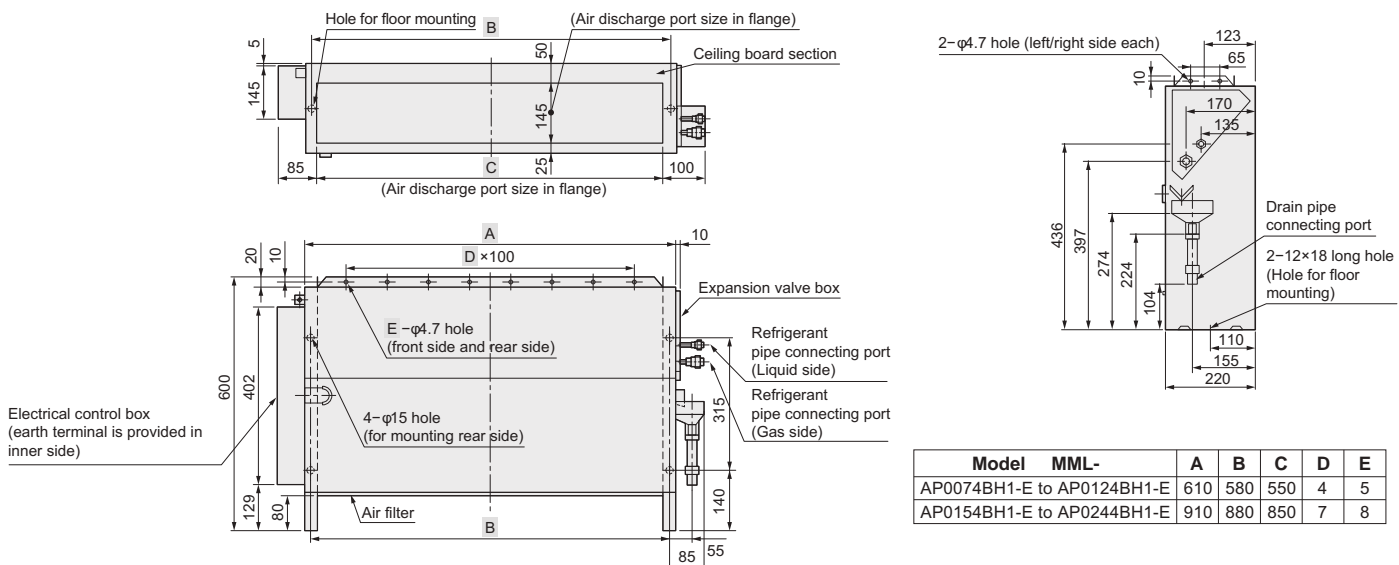
**SOUND PRESSURE LEVEL**  
🔊  
32dB(A)

### Features

Model name	MML-	AP0074BH1-E	AP0094BH1-E	AP0124BH1-E	AP0154BH1-E	AP0184BH1-E	AP0244BH1-E	
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	
Cooling capacity	kW	2.2	2.8	3.8	4.5	5.6	7.1	
Heating capacity	kW	2.5	3.2	4	5	6.3	8	
Power supply		1 phase 50Hz 200-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)						
Electrical characteristics	Running current	50 Hz A	0.25		0.45		0.46	
		60 Hz	0.27		0.46		0.51	
	Power consumption H/L	50 Hz kW	0.056/0.039		0.090/0.062		0.095/0.067	
		60 Hz	0.058/0.041		0.096/0.068		0.110/0.071	
	Power factor	50 Hz	97		87		90	
	60 Hz	98		95		98		
Starting current	A		0.60		0.80		1.00	
Appearance		Zinc hot dipping steel plate						
Dimensions	HxLxP	mm	600x745x220			600x1075x220		
Weight	kg		21			29		
Heat exchanger		Finned tube						
Soundproof/Heat-insulating material		Non-flammable insulation						
Fan unit	Fan	Centrifugal fan						
	Standard air flow (High/Mid./Low)	m³/h	460 / 400 / 300			740 / 600 / 490		950 / 790 / 640
	Motor output	W	19			70		
	Static pressure	Pa	0					
Air filter		Standard filter						
Controller		Infrared or wired remote controller						
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
	Drain port (Nominal dia.)	mm	20 (One side of male screw)					
Sound pressure level (High/Mid./Low)	dB(A)	36 / 34 / 32			42 / 37 / 33			
Sound power level (High)	dB(A)	54			60			

### Drawings

Unit: mm

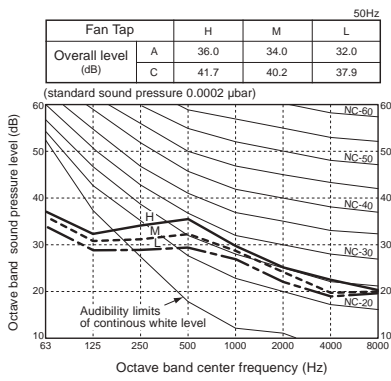


Model	MML-	A	B	C	D	E
AP0074BH1-E to AP0124BH1-E		610	580	550	4	5
AP0154BH1-E to AP0244BH1-E		910	880	850	7	8

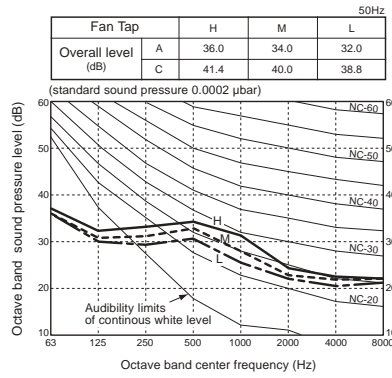
**Sound pressure levels**

Unit: dB(A)

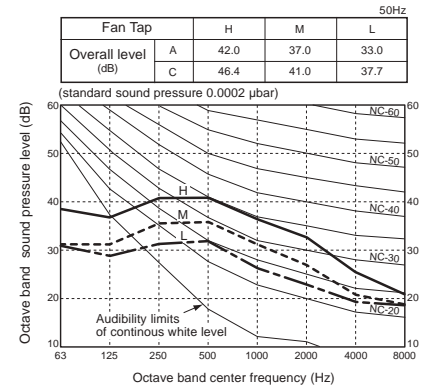
**MML-AP0074BH1-E to MML-AP0124BH1-E**



**MML-AP0154BH1-E & MML-AP0184BH1-E**



**MML-AP0244BH1-E**



**Concealed chassis embedded connectors**

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	•	•	•	•	•

# MMF-AP\_H1 FLOOR STANDING

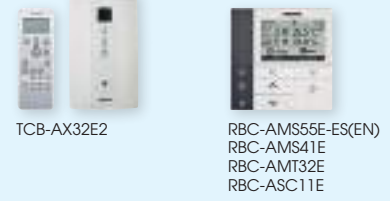


This system is particularly suitable to air condition large rooms like shops or showrooms or with low ceilings like restaurants or lofts.

### OUTDOOR UNITS COMPATIBILITY



### LOCAL CONTROLS



**CAPACITY**  
↑  
1.7 HP < 6 HP

**SOUND PRESSURE LEVEL**  
🔊  
37dB(A)

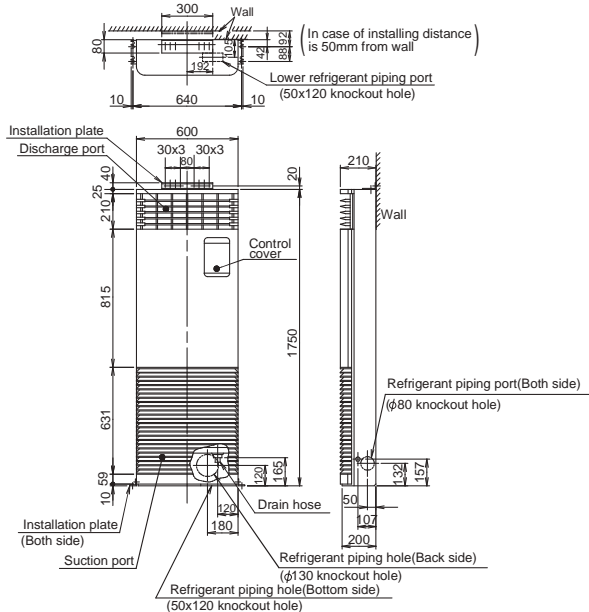
### Features

Model name	MMF-	AP0156H1-E	AP0186H1-E	AP0246H1-E	AP0276H1-E	AP0366H1-E	AP0486H1-E	AP0566H1-E
Capacity code		1.7	2	2.5	3	4	5	6
Cooling capacity	kW	4.5	4.6	7.1	8	11.2	14	16
Heating capacity	kW	5	6.3	8	9	12.5	16	18
Power supply		1 phase 50Hz 220-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)						
Electrical characteristics	Running current	50 Hz 60 Hz	A	0.38 0.40	0.60 0.63	0.90 0.94	1.10 1.15	
	Power consumption H/L	kW		0.055/0.026	0.089/0.034	0.135/0.052	0.160/0.074	
	Starting current	50 Hz 60 Hz	A	0.53 0.56	0.84 0.88	1.26 1.32	1.54 1.61	
	Appearance			Silky shade (Munsell: 1Y 8.5 / 8.0)				
Dimensions	HxLxP	mm	1750x600x210				1750x600x390	
Weight	kg		46		47		62	
Heat exchanger			Finned tube					
Soundproof/Heat-insulating material			Non-flammable insulation					
Fan unit	Fan		Centrifugal fan					
	Standard air flow (High/Mid./Low)	m³/h	900 / 780 / 660		1.200 / 990 / 840		1.920/1.620/1380	2.160 / 1.730 / 1.560
	Motor	W	62		62		109	
Air filter			Standard filter					
Controller			Infrared or wired remote controller					
Connecting pipe	Gas side	inch	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
	Liquid side	inch	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"
	Drain port (Nominal dia.)	mm	20 (One side of male screw)					
Sound pressure level (High/Mid./Low)	dB(A)		46 / 42 / 37		49 / 45 / 39		51 / 46 / 41	54 / 49 / 44
Sound power level (High)	dB(A)		64		67		69	72

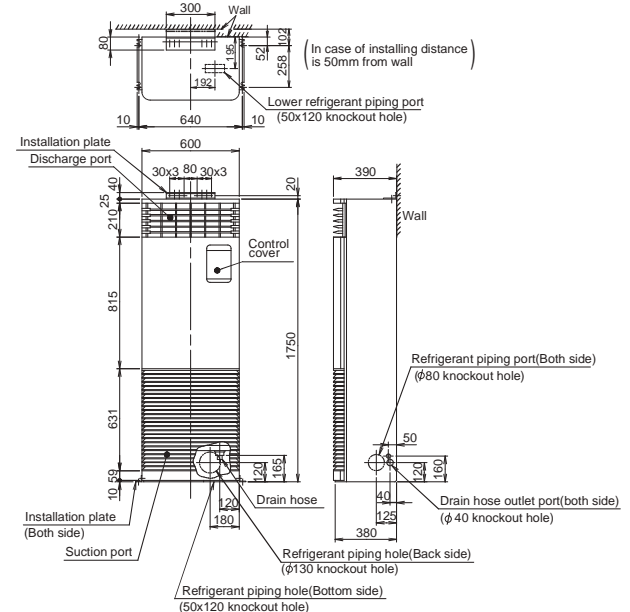
### Drawings

Unit: mm

MMF-AP0156H1-E to MMF-AP0276H1-E

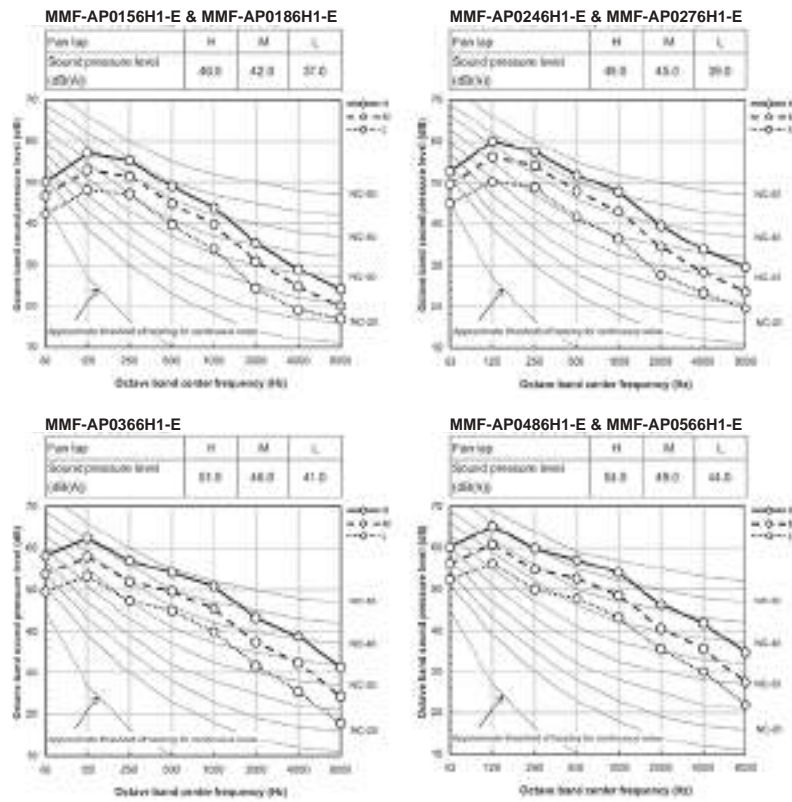


MMF-AP0366H1-E to MMF-AP0566H1-E



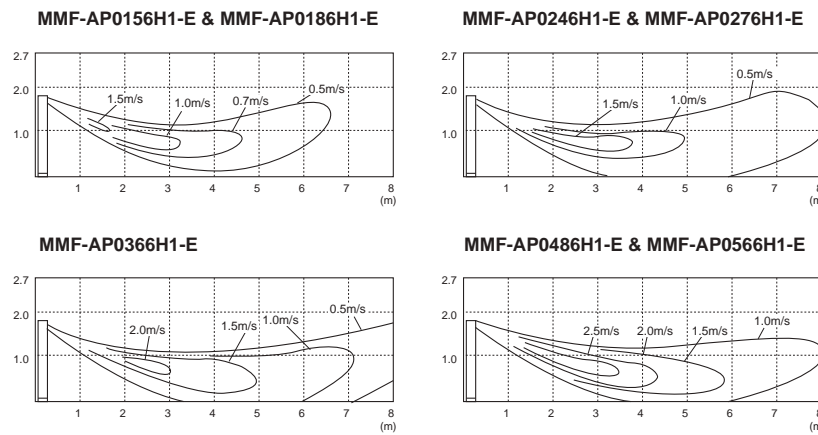
Sound pressure levels

Unit: dB(A)



Air diffusion

Unit: m/s



Floor standing embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	TCB-PCUC2E pcb needed	•	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



MMK-AP\_HP  
HIGH-WALL



Particularly compact, this high-wall is perfect for limited spaces, such as offices or small shops.

OUTDOOR UNITS COMPATIBILITY



Side Blow & Mini SMMS-e

SMMS-e

SHRM-e

LOCAL CONTROLS



IR control (included)

RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

CAPACITY



0.6 HP < 2.5 HP

SOUND PRESSURE LEVEL



25dB(A)

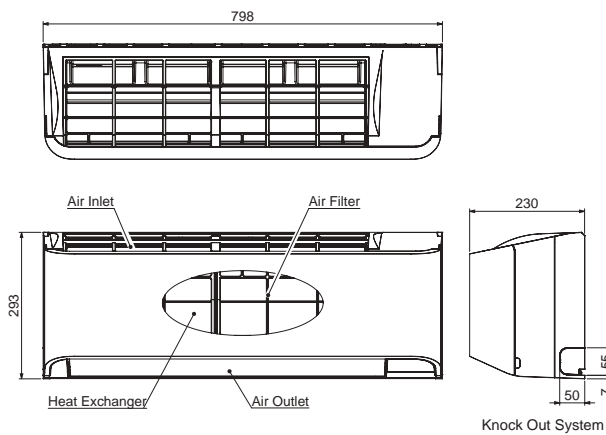
Features

Model name	Standard application	MMK-AP0057HP-E	MMK-AP0077HP-E	MMK-AP0097HP-E	MMK-AP0127HP-E	MMK-AP0157HP-E	MMK-AP0187HP-E	MMK-AP0247HP-E	
	Low noise applications	MMK-AP0057HP-E1	MMK-AP0077HP-E1	MMK-AP0097HP-E1	MMK-AP0127HP-E1	MMK-AP0157HP-E1	MMK-AP0187HP-E1	MMK-AP0247HP-E1	
Capacity code		0.6	0.8	1	1.25	1.7	2	2.5	
Cooling capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1	
Heating capacity	kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0	
Electrical characteristics	Power supply	1 phase / 50Hz / 230V(220V-240V). 1 phase / 60 Hz / 220V (separate power supply for indoor units is required.)							
	Running current	A	0.14	0.15	0.16	0.17	0.25	0.28	0.40
	Power consumption	kW	0.013	0.015	0.016	0.017	0.028	0.032	0.05
	Starting current	A	0.19	0.20	0.21	0.22	0.35	0.38	0.50
Dimensions	HxLxP	mm 293x798x230					mm 320x1050x250		
Weight	kg	11					16		
Air flow (H / M+ / M / L+ / L)	m <sup>3</sup> /h	455/370/270	480/385/270	510/395/270	540/410/270	840/770/690 /620/550	900/810/720 /640/550	1200/1050/900 /750/600	
Sound pressure level (H / M+ / M / L+ / L)	dB(A)	33/29/25	35/30/25	36/31/25	37/32/25	40/38/36/34/32	41/39/37/35/32	45/42/39/36/33	
Sound Power Level (H)	dB(A)	48	50	51	52	55	56	60	
Heat exchanger		Finned tube							
Soundproof/Heat-insulating material		Non-flammable insulation							
Fan		Cross flow fan							
Controller (Packed with unit)		WH-TA09NE infrared remote							
Connecting pipe	Gas side	inch 1/2"	inch 1/2"	inch 1/2"	inch 1/2"	inch 1/2"	inch 1/2"	inch 5/8"	
	Liquid side	inch 1/4"	inch 1/4"	inch 1/4"	inch 1/4"	inch 1/4"	inch 1/4"	inch 3/8"	
Drain port diameter	mm	16 (Polyvinyl chloride tube)							

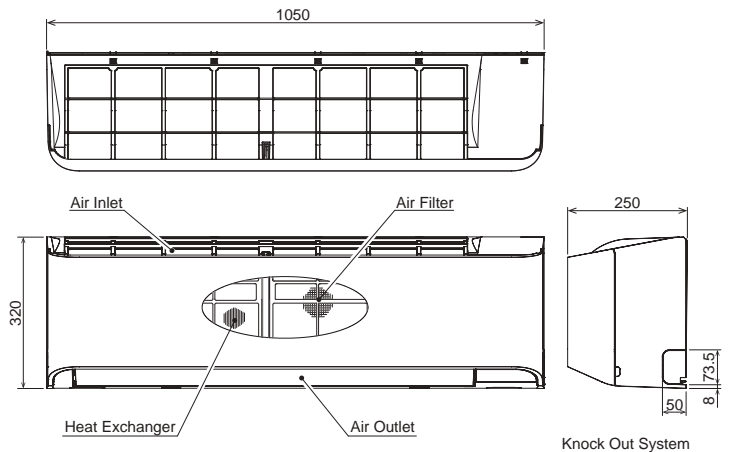
Drawings

Unit: mm

MMK-AP0057HP-E(1) to MMK-AP0127HP-E(1)



MMK-AP0157HP-E(1) to MMK-AP0247HP-E(1)

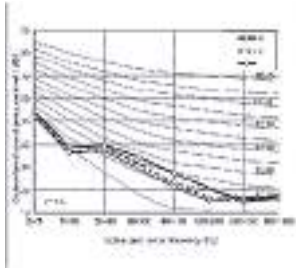


### Sound pressure levels

Unit: dB(A)

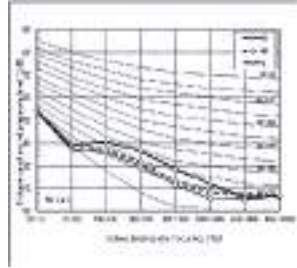
MMK-AP0057HP-E (0.6HP)

Sound pressure level(dB(A))	HH-H-L
	35-31-28



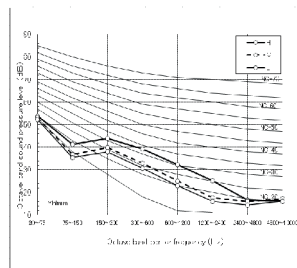
MMK-AP0077HP-E (0.8HP)

Sound pressure level(dB(A))	HH-H-L
	37-32-28



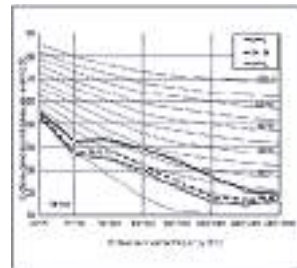
MMK-AP0097HP-E (1.0HP)

Sound pressure level(dB(A))	HH-H-L
	41-36-33



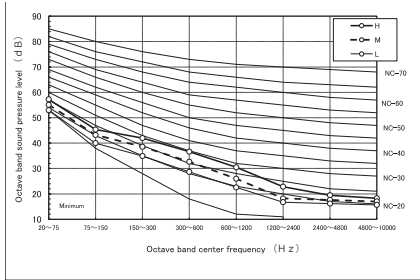
MMK-AP0127HP-E (1.25HP)

Sound pressure level(dB(A))	HH-H-L
	46-39-34



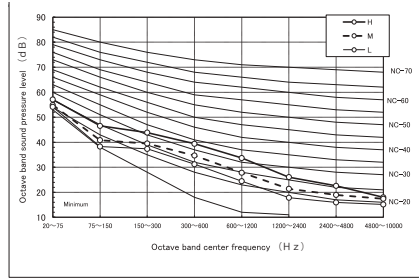
MMK-AP0157HP-E/E1

Cooling		Specification (d B)		
Fan tap		H	M	L
Sound pressure level (dB(A))		40	36	32



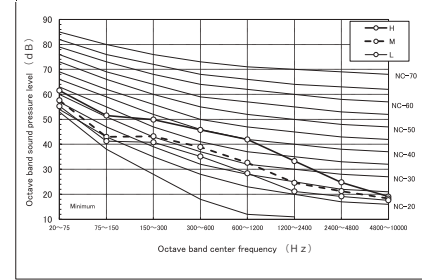
MMK-AP0187HP-E/E1

Cooling		Specification (d B)		
Fan tap		H	M	L
Sound pressure level (dB(A))		41	37	32



MMK-AP0247HP-E/E1

Cooling		Specification (d B)		
Fan tap		H	M	L
Sound pressure level (dB(A))		45	39	33

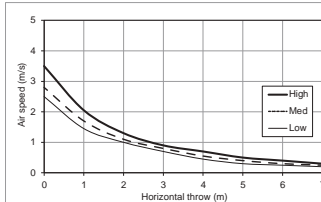


### Air diffusion

Unit: m/s

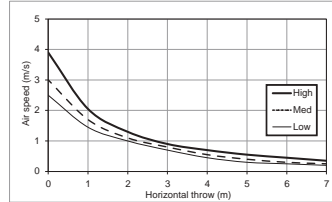
MMK-AP0057HP-E/E1

High wind : 3.8m/s  
Med wind : 2.8m/s  
Low wind : 2.5m/s



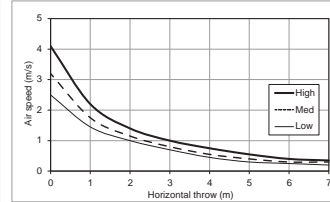
MMK-AP0077HP-E/E1

High wind : 3.9m/s  
Med wind : 3.0m/s  
Low wind : 2.5m/s



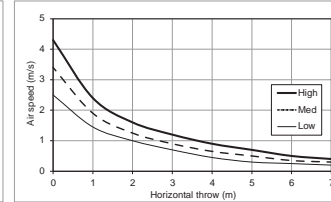
MMK-AP0097HP-E/E1

High wind : 4.1m/s  
Med wind : 3.2m/s  
Low wind : 2.5m/s



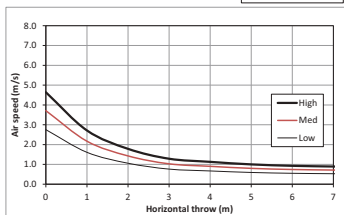
MMK-AP0127HP-E/E1

High wind : 4.3m/s  
Med wind : 3.4m/s  
Low wind : 2.5m/s



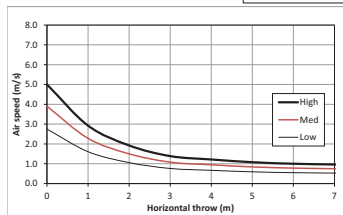
MMK-AP0157HP-E/E1

High wind : 4.6 m/s  
Med wind : 3.7 m/s  
Low wind : 2.8 m/s



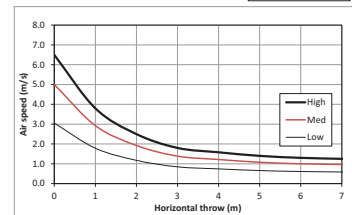
MMK-AP0187HP-E/E1

High wind : 5.0 m/s  
Med wind : 3.9 m/s  
Low wind : 2.8 m/s



MMK-AP0247HP-E/E1

High wind : 6.5 m/s  
Med wind : 5.0 m/s  
Low wind : 3.1 m/s



### Accessories

Type	Model name	Applied model	Appearance	Remarks
PMV Kit	RBM-PMV0303E	0.6 to 1.25HP high-wall		Needed for low noise application high wall
	RBM-PMV0903E	1.7 to 3.0HP high-wall		

### Floor standing embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
•	•	•	-	-	•



# VN-M-HE AIR-TO-AIR HEAT EXCHANGER



Toshiba's VN model uses exhaust air to pre-condition the incoming air, thus reducing the cooling or heating load on the system. This allows the overall capacity size of the system to be reduced.

AIR FLOW



150m<sup>3</sup>/h > 2,000m<sup>3</sup>/h

SOUND PRESSURE LEVEL



20dB(A)

### OUTDOOR UNITS



Side Blow & Mini SMMS-e



SMMS-e



SHRM-e

### LOCAL CONTROLS



NRC-01HE RBC-AMT32E

## Features

Item	Fan speed	VN-M150HE	VN-M250HE	VN-M350HE	VN-M500HE	VN-M650HE	VN-M800HE	VN-M1000HE1	VN-M1500HE1	VN-M2000HE1	
Air volume (m <sup>3</sup> /h)	Extra high	150	250	350	500	650	800	1000	1500	2000	
	High	150	250	350	500	650	800	1000	1500	2000	
	Low	110	155	210	390	520	700	700	1200	1400	
Power consumption (W)	Extra high	68-78	123-138	165-182	214-238	262-290	360-383	390	640	780	
	High	59-67	99-111	135-145	176-192	240-258	339-353	340	570	680	
	Low	42-47	52-59	82-88	128-142	178-191	286-300	190	320	380	
External static pressure (Pa)	Extra high	82-102	80-98	114-125	134-150	91-107	142-158	105	140	105	
	High	52-78	34-65	56-83	69-99	58-82	102-132	80	110	80	
	Low	47-64	28-40	65-94	62-92	61-96	76-112	70	80	70	
Sound pressure level (dB(A))	Extra high	26-28	29/5/30	34-35	32.5-34	34-36	37-38.5	38.0	41.0	41.5	
	High	24-25.5	25-27	30-32	29/5/31	33-34	35.5-37	37.0	40.0	40.5	
	Low	20-22	21-22	27-29	26-29	31-32.5	33.5-35	33.0	36.0	36.5	
Sound power level (dB(A))	Extra high	41.0-43.0	44.5-45.0	49.0-50.0	47.5-49.0	49.0-51.0	52.0-53.5	53.0	56.0	56.5	
	High	81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5	
	Low	83	81.5	79.5	78	76.5	77.5	77.0	79.0	77.5	
Temperature exchange efficiency (%)	Extra high	74.5	70	65	72	69.5	71	68.5	71.0	68.5	
	High	74.5	70	65	72	69.5	71	68.5	71.0	68.5	
	Low	76	74	71.5	73.5	71.5	71.5	71.5	73.5	72.0	
	For heating	Extra high	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5
		High	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5
		Low	71	69	67	66.5	64	65.5	64.5	67.0	65.5
For cooling	Extra high	81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5	
	High	81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5	
	Low	83	81.5	79.5	78	76.5	77.5	77.0	79.0	77.5	
Enthalpy exchange efficiency (%)	Extra high	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5	
	High	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5	
	Low	71	69	67	66.5	64	65.5	64.5	67.0	65.5	
Power supply (V)		220-240V- 50Hz									
Dimensions (LxWxH) (mm)		900 x 900 x 290			1140 x 1140 x 350			1189 x 1189 x 400		1189 x 1189 x 810	
Weight (kg)		36	36	38	53	53	70	70	126	126	
Duct diameter (mm)		100	150		200		250		Inside: 250	Outside: 283x730	
Filtration efficiency grade (%)		82									
Operating range	Around unit	-10°C-40°C 80%RH or less									
	Outdoor Air (OA)	-15°C(*1)-43°C 80%RH or less									
	Return Air (RA)	5°C-40°C 80%RH or less									

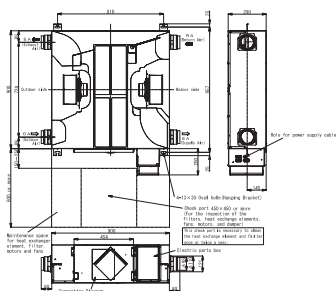
\* Air volume can be changed over to high (Extra high) mode or low mode at both heat exchange and normal ventilation modes.  
 \* Sound pressure level is measured 1.5 m below the center of the unit, and the value which was measured at the acoustic room.  
 \* Sound pressure levels usually become higher than above values by the influence of actual installation condition such as reflected sound and peripheral noise.

\* Sound power level is the value of casing.  
 \*1) When the temperature of the outdoor air is below -10°C, the unit runs cold operation mode (intermittent operation of the ventilation for air supply). The unit cannot be used at -15°C or less. The ventilator for air supply stops, and the ventilator for air exhaust also can be stopped by the setting.

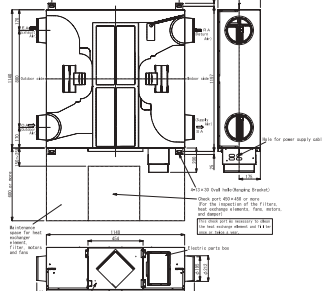
## Drawings

Unit: mm

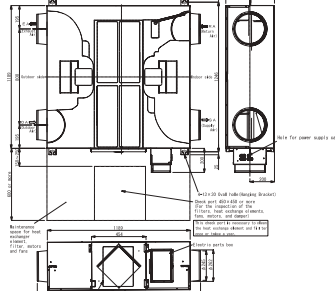
VN-M150HE to VN-M350HE



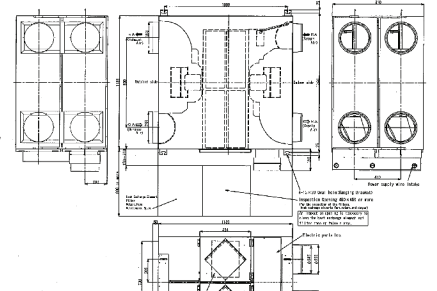
VN-M500HE & VN-M650HE\*



VN-M800HE & VN-M1000HE1



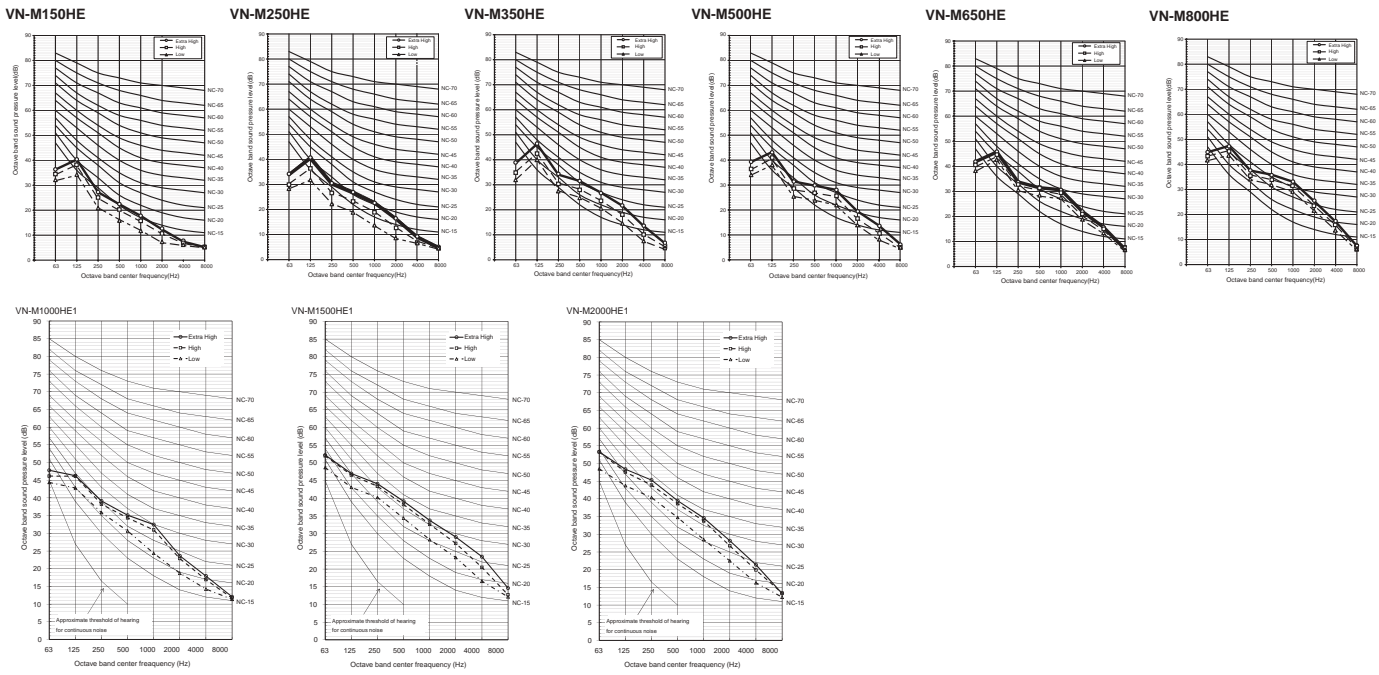
VN-M1500HE1 & VN-M2000HE1



## AIR-TO-AIR HEAT EXCHANGER

### Sound pressure levels

Unit: dB(A)

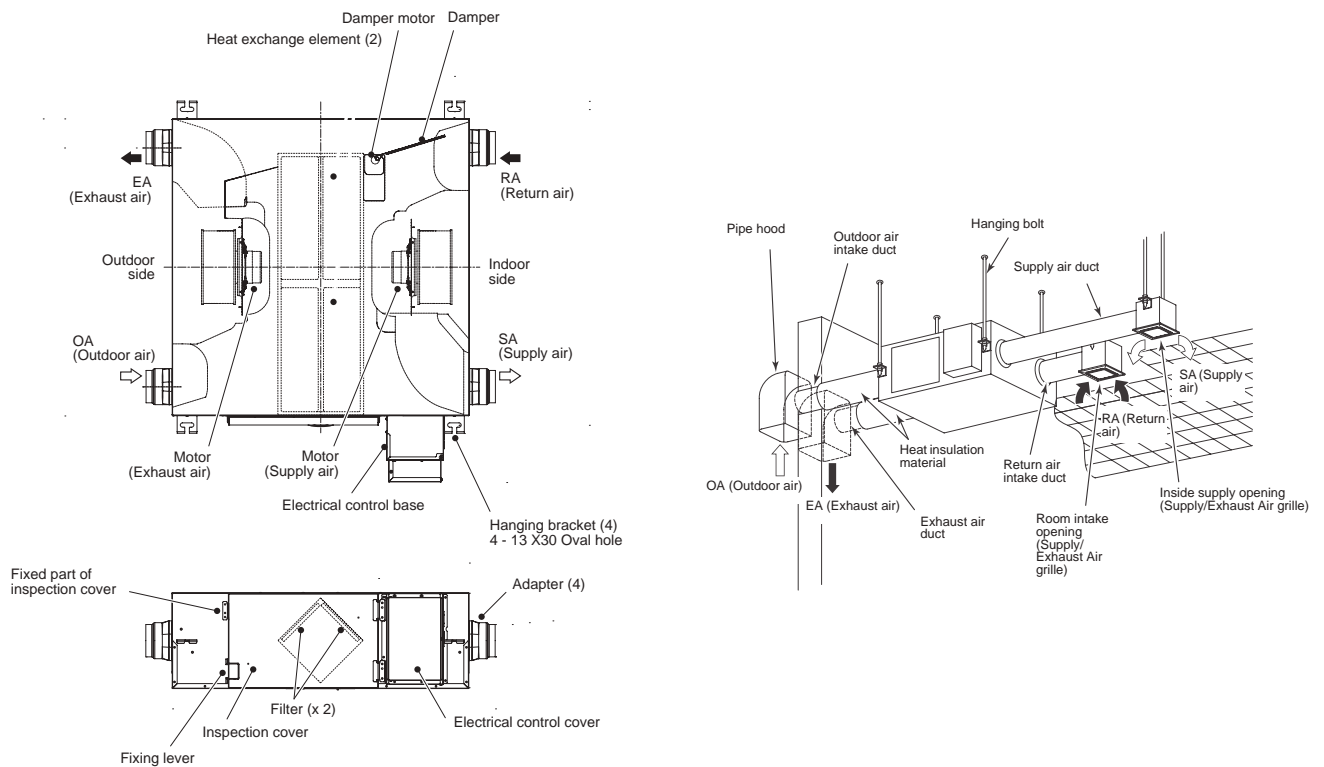


↑ IDU

### Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	All air-to-air heat exchangers dedicated remote control		Integrated functions : fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	All air-to-air heat exchangers On/Off additional PCB		On/off optionnal PCB for air-to-air heat exchanger

### Other information





MMD-VN(K) ventilation products are using exhaust air + DX coil to pre-condition the incoming air, thus reducing the cooling or heating load and the overall size of the required air conditioning system.

CAPACITY



4.1kW >10.9kW

AIR FLOW



Up to 500m<sup>3</sup>/h > 1,000m<sup>3</sup>/h

SOUND PRESSURE LEVEL



34dB(A)

OUTDOOR UNITS



MINI SMMS-e



SMMS-e



SHRM-e

LOCAL CONTROLS



NRC-01HE  
RBC-AMT32E

Features

Model name	MMD-	Without humidifier			With humidifier				
		VN502HEX1E	VN802HEX1E	VN1002HEX1E	VNK502HEX1E	VNK802HEX1E	VNK802HEX1E		
Cooling Capacity	kW	4.10(1.30)	6.56(2.06)	8.25(2.32)	4.10(1.30)	6.56(2.06)	8.25(2.32)		
Heating Capacity	kW	5.53(2.33)	8.61(3.61)	10.92(4.32)	5.53(2.33)	8.61(3.61)	10.92(4.32)		
Power supply		1 phase 50Hz 230V(220V-240V) / 1 phase 60Hz 220V(Separate power supply for indoor units is required.)			1 phase 50Hz 230V(220V-240V)				
Temperature exchange efficiency	Extra High	%	70.5	70.0	65.5	70.5	70	65.5	
	High	%	70.5	70.0	65.5	70.5	70	65.5	
	Low	%	71.5 / 72.0	72.5 / 73.0	67.5 / 68.0	71.5	72.5	67.5	
Enthalpy exchange efficiency	Cooling	Extra High	%	56.5	56.0	52.0	56.5	56.0	52.0
		High	%	56.5	56.0	52.0	56.5	56.0	52.0
		Low	%	57.5 / 58.0	59.0 / 59.5	54.0 / 55.0	57.5	59.0	54.5
	Heating	Extra High	%	68.5	70.0	66.0	68.5	70.0	66.0
		High	%	68.5	70.0	66.0	68.5	70.0	66.0
		Low	%	69.0 / 69.0	73.0 / 73.5	68.5 / 69.0	69.0	73.0	68.5
Power input (Heat exchange mode)	Extra High	kw	0.300 / 0.365	0.505 / 0.595	0.550 / 0.720	0.305	0.530	0.575	
	High	kw	0.280 / 0.350	0.465 / 0.555	0.545 / 0.665	0.285	0.485	0.565	
	Low	kw	0.235 / 0.250	0.335 / 0.390	0.485 / 0.530	0.240	0.350	0.520	
Running current	Extra High	A	1.30 / 1.65	2.25 / 2.77	2.46 / 3.38	1.33	2.37	2.56	
	High	A	1.21 / 1.62	2.07 / 2.59	2.43 / 3.11	1.24	2.14	2.51	
	Low	A	1.01 / 1.14	1.46 / 1.79	2.16 / 2.45	1.03	1.54	2.31	
Fan unit	Standard air flow	Extra High	m <sup>3</sup> /h	500	800	950	500	800	950
		High	m <sup>3</sup> /h	500	800	950	500	800	950
		Low	m <sup>3</sup> /h	440 / 410	640 / 600	820 / 800	440	640	820
	External static pressure	Extra High	Pa	120 / 200	120 / 190	135 / 195	95	105	110
		High	Pa	105 / 170	100 / 155	120 / 160	85	85	90
		Low	Pa	115 / 150	100 / 130	105 / 130	95	90	115
Air flow limit	Lower limit	m <sup>3</sup> /h	330	480	640	330	480	640	
	Upper limit	m <sup>3</sup> /h	600	960	1140	600	960	1140	
Humidifier	System		-	-	-	Permeable film humidifier			
	Amount		-	-	-	3.0	5.0	6.0	
	Feed water pressure		-	-	-	0.02-0.49			
Sound pressure	Extra High	dB	37.5 / 40	41 / 43	43 / 43.5	36.5	40	42	
	High	dB	36.5 / 38	40 / 42	42 / 42	35.5	39	41	
	Low	dB	34.5 / 36.5	38 / 37	40 / 40	33.5	38	39	
Sound power		dB	55	58	59	55	58	59	
Appearance			Zinc hot dipping steel plate			Zinc hot dipping steel plate			
Dimensions	HxWxD	mm	430x1140x1690	430x1189x1739	430x1189x1789	430x1140x1690	430x1189x1739	430x1189x1739	
Weight		kg	84	100	101	91	111	112	
Heat exchanger			Finned tube			Finned tube			
Heat-insulating material			Flexible urethane foam			Flexible urethane foam			
Air filter			Standard filter & High efficiency filter			Standard filter (Gravitational method 82%) & High efficiency filter (Colormetric method 65%)			
Controller			Remote controller (Separately sold parts)			Remote controller (Separately sold parts)			
Connecting piping	Gas side	mm	3/8"	1/2"	1/2"	3/8"	1/2"	1/2"	
	Liquid side	mm	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)			25 (Polyvinyl chloride tube)			
Water supply connection (Port size)			-	-	-	R1/2			
Operating range	Around unit		-10 - 40°C . RH ≤80%			-10 - 40°C . RH ≤80%			
	Outdoor Air (OA)		-15 - 43°C . RH ≤80%			-15 - 43°C . RH ≤80%			
	Return Air (RA)		5 - 40°C . RH ≤80%			5 - 40°C . RH ≤80%			

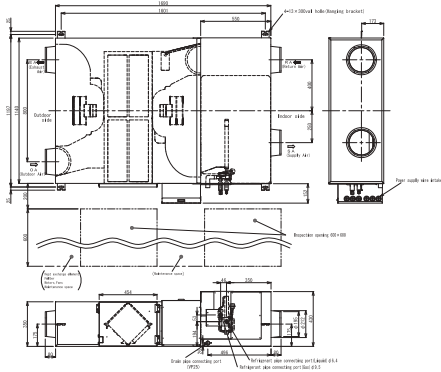
Cooling and heating capacities are based on the following conditions:  
 cooling capacities are based on: indoor temperature: 27°CDB/19°C WB, Outdoor temperature: 35°C DB  
 Heating capacities are based on: indoor temperature: 20°C DB, Outdoor temperature: 7 ° CDB/6°C WB.  
 The figures in ( ) indicate the heat reclaimed from the heat recovery ventilator.

AIR-TO-AIR HEAT EXCHANGER WITH DX COIL

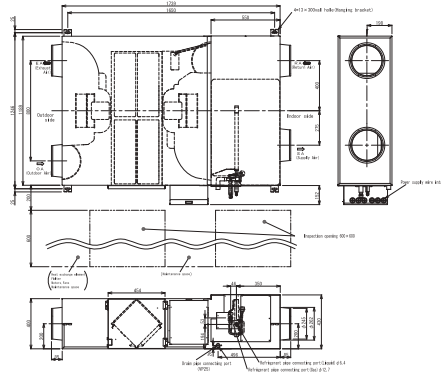
Drawings

Unit: mm

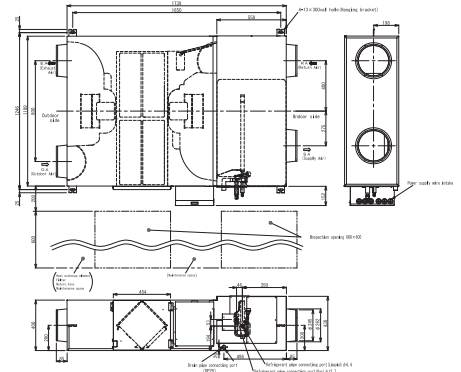
MMD-VN(K)502HEX1E



MMD-VN(K)802HEX1E



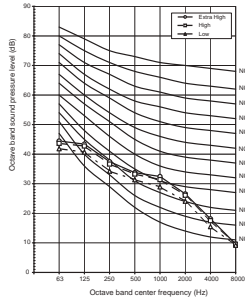
MMD-VN(K)1002HEX1E



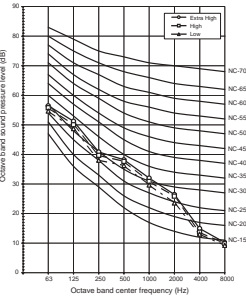
Sound pressure levels

Unit: dB(A)

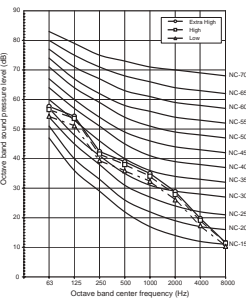
MMD-VN(K)502HEX1E



MMD-VN(K)802HEX1E



MMD-VN(K)1002HEX1E



Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	Dedicated remote controller for air-to-air heat exchanger		Integrated functions: fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	On/off optional PCB for air-to-air heat exchanger		
Condensates	TCB-DP31HEXE	Drain pump kit		

Air-to-air heat exchanger (with DX coil) embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
-	-	•	•	•	•

Other information

