

Under Ceiling Type

MMC-UP0181HP-UL

MMC-UP0241HP-UL

MMC-UP0301HP-UL

MMC-UP0361HP-UL

MMC-UP0481HP-UL



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1. Specifications

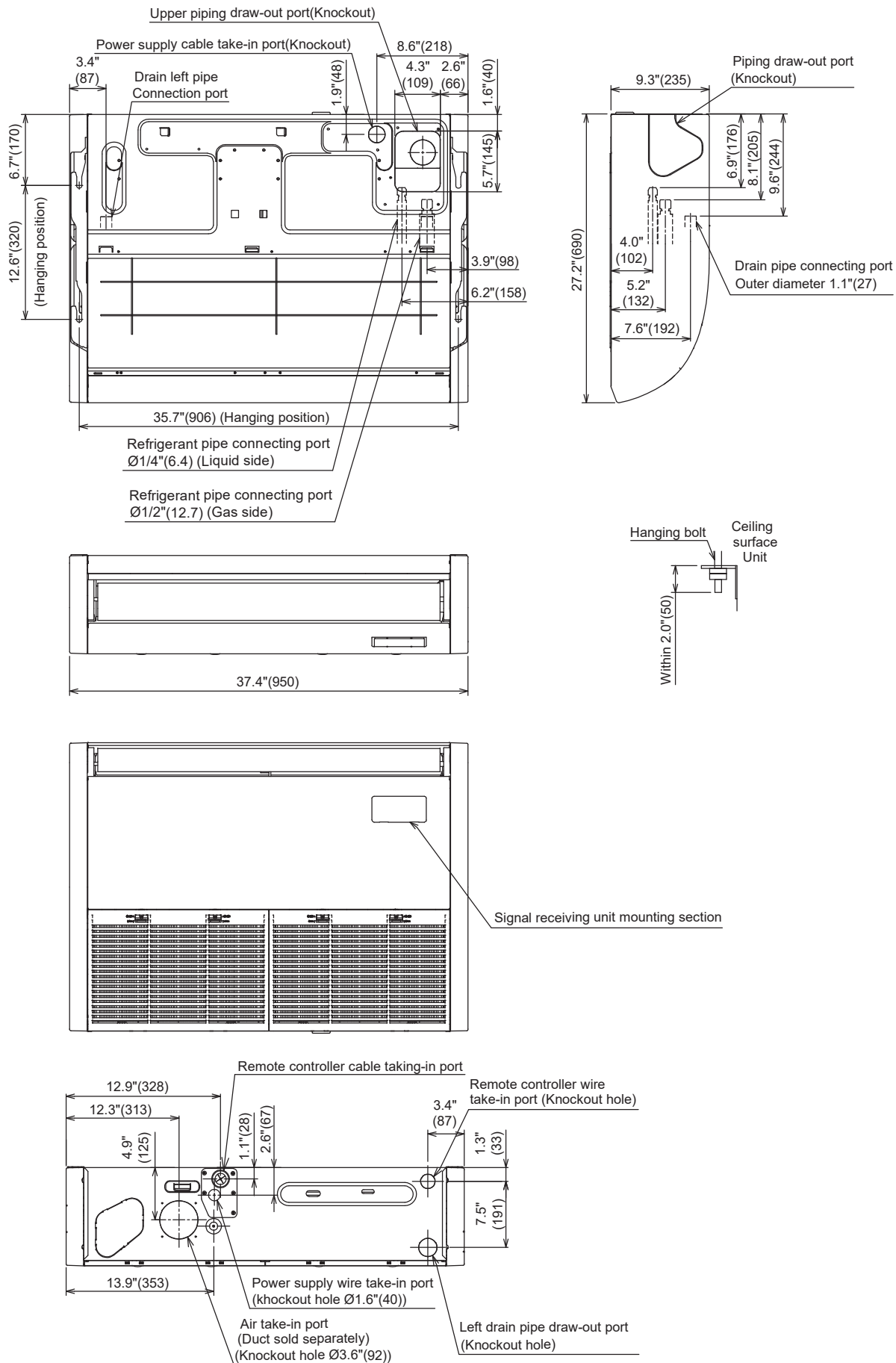
Model name			MMC-	UP0181HP-UL	UP0241HP-UL	UP0301HP-UL	UP0361HP-UL	UP0481HP-UL
Power supply			1 ph 60Hz 220V 230V (208 / 230V)					
Cooling capacity (*1)			kBtu/h	18.0	24.0	30.0	36.0	48.0
Sensible cooling capacity			kBtu/h	13.5	18.0	22.5	27.0	36.0
Heating capacity (*1)			kBtu/h	20.0	27.0	34.0	40.0	54.0
Power consumption			(kW)	0.034	0.067	0.067	0.083	0.083
FCU dimension	Main unit	Height	(in)	9.3	9.3	9.3	9.3	9.3
		Width	(in)	37.5	50.0	50.0	62.5	62.5
		Depth	(in)	27.2	27.2	27.2	27.2	27.2
Total weight	Main unit		(lbs)	58	69	69	89	89
Heat exchanger			Finned tube					
Soundproof / Heat-insulation material			Polyethylene foam					
Fan			Centrifugal fan					
Air flow volume	Indoor unit (H/M/L)	(cfm)		565 / 425 / 320	845 / 600 / 440	845 / 600 / 440	1095 / 795 / 600	1095 / 900 / 706
Sound pressure	Indoor unit (H/M/L)	dB(A)		38 / 35 / 32	43 / 36 / 33	43 / 36 / 33	44 / 38 / 32	44 / 41 / 35
Motor output			(W)	94	94	94	139	139
Flare Connections	Gas side	(in)		1/2	5/8	5/8	5/8	5/8
	Liquid side	(in)		1/4	3/8	3/8	3/8	3/8
	Drain pipe	(in)		20 (Polyvinyl chloride tube)				
Operating Range for SMMS-I, SMMS-e	Cooling	(°F)		41 ~ 109				
	Heating	(°F)		14 ~ 109				

(*1) Rated testing conditions Cooling : Indoor air temperature 80°F Dry Bulb / 67°F Wet Bulb, Outdoor 95°F Dry Bulb

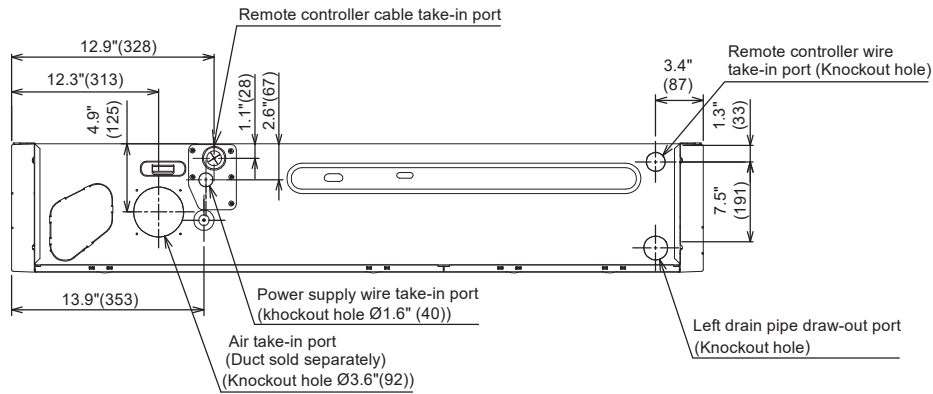
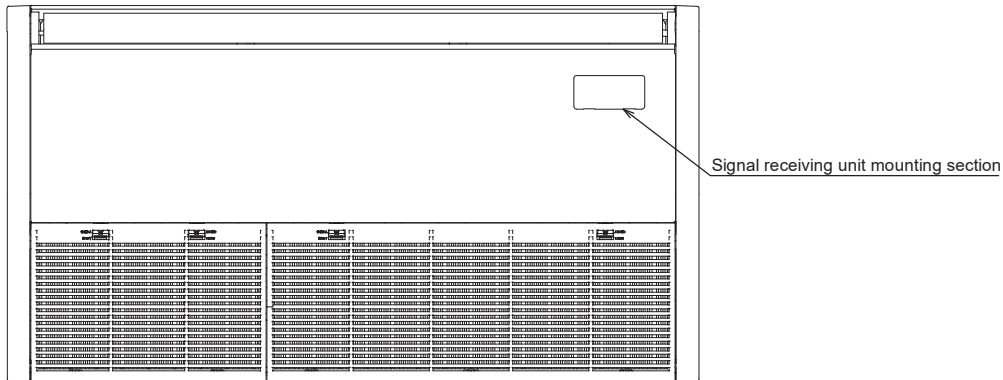
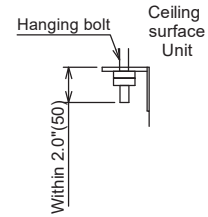
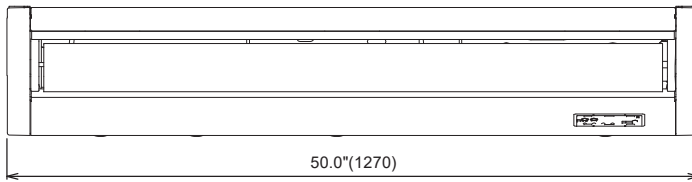
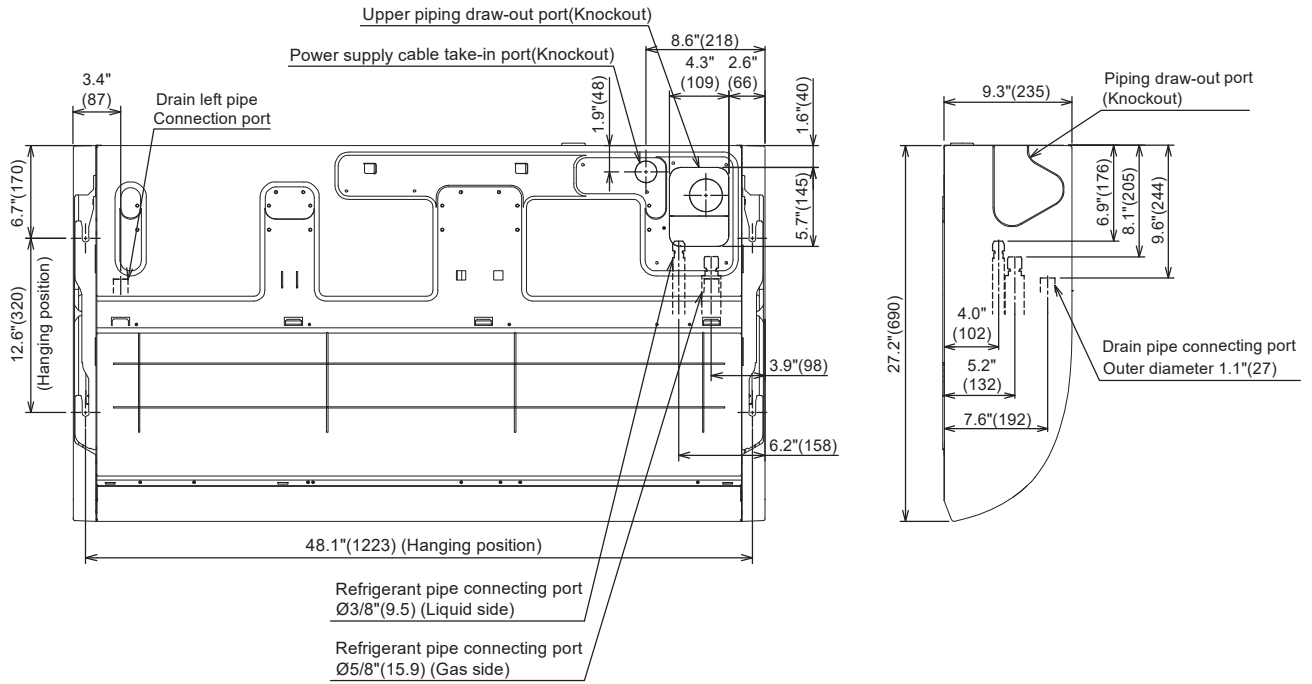
Heating : Indoor air temperature 70°F Dry Bulb, Outdoor 47°F Dry Bulb / 43°F Wet Bulb

2. Dimension

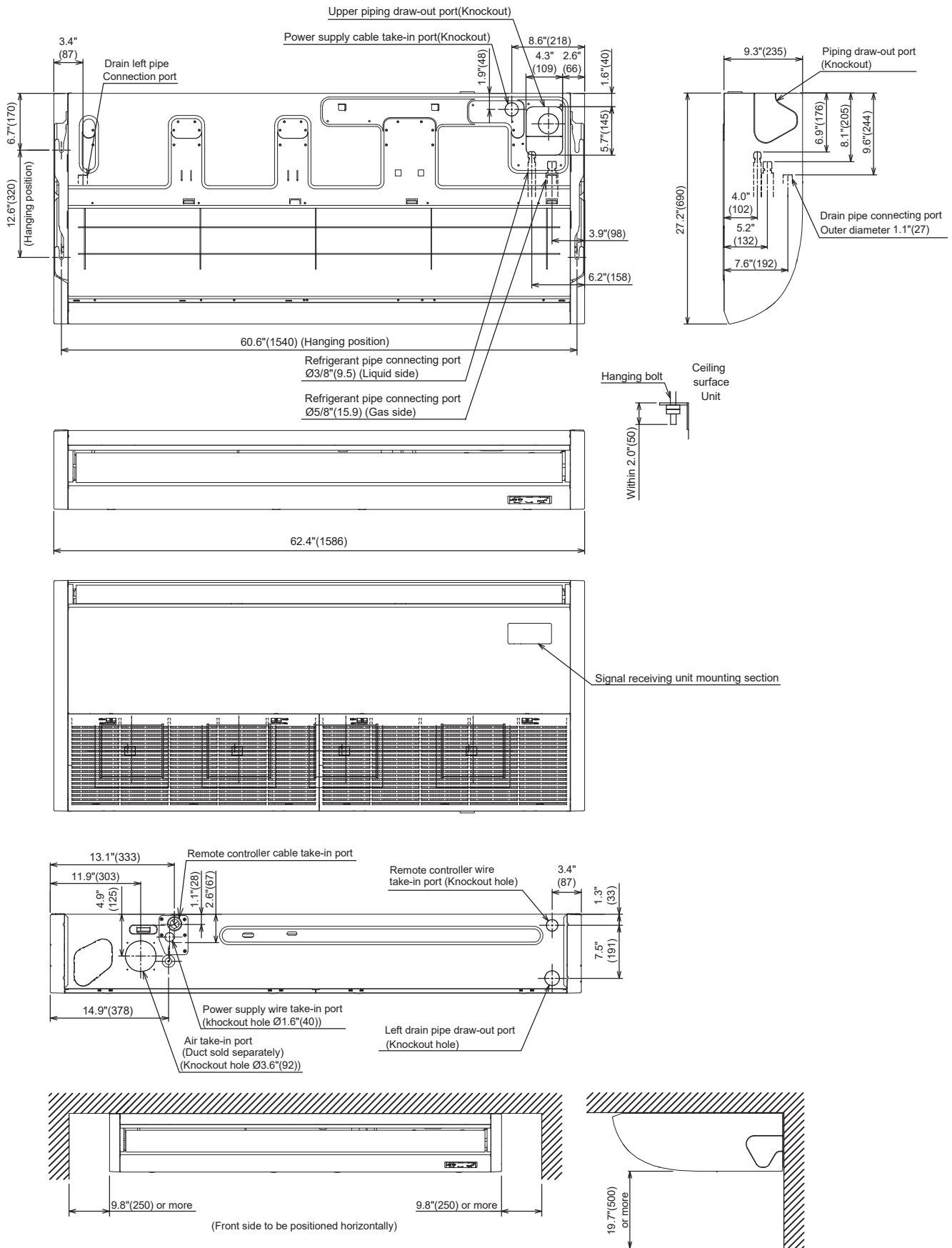
MMC-UP0181HP-UL



MMC-UP*__1HP-UL (*024 / 030)



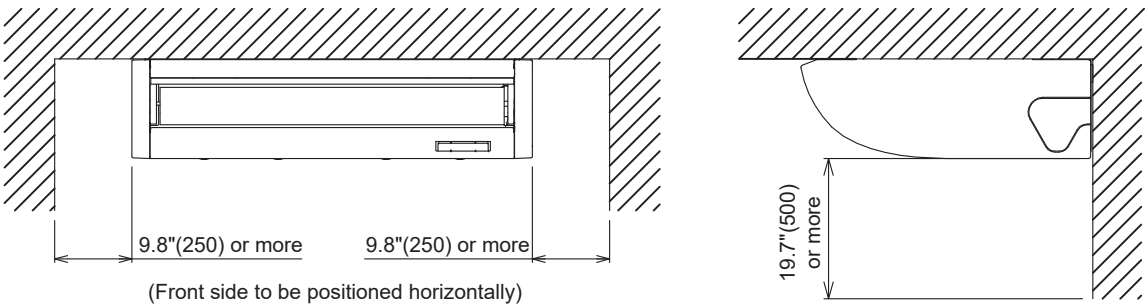
MMC-UP*__1HP-UL (*036 / 048)



Space required for installation and servicing

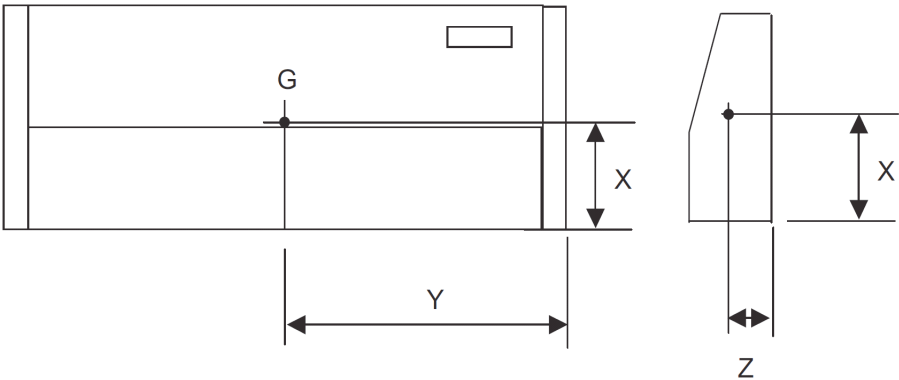
Space required for installation and servicing

MMC-UP*__1HP-UL (*018 / 024 / 030 / 036 / 048)



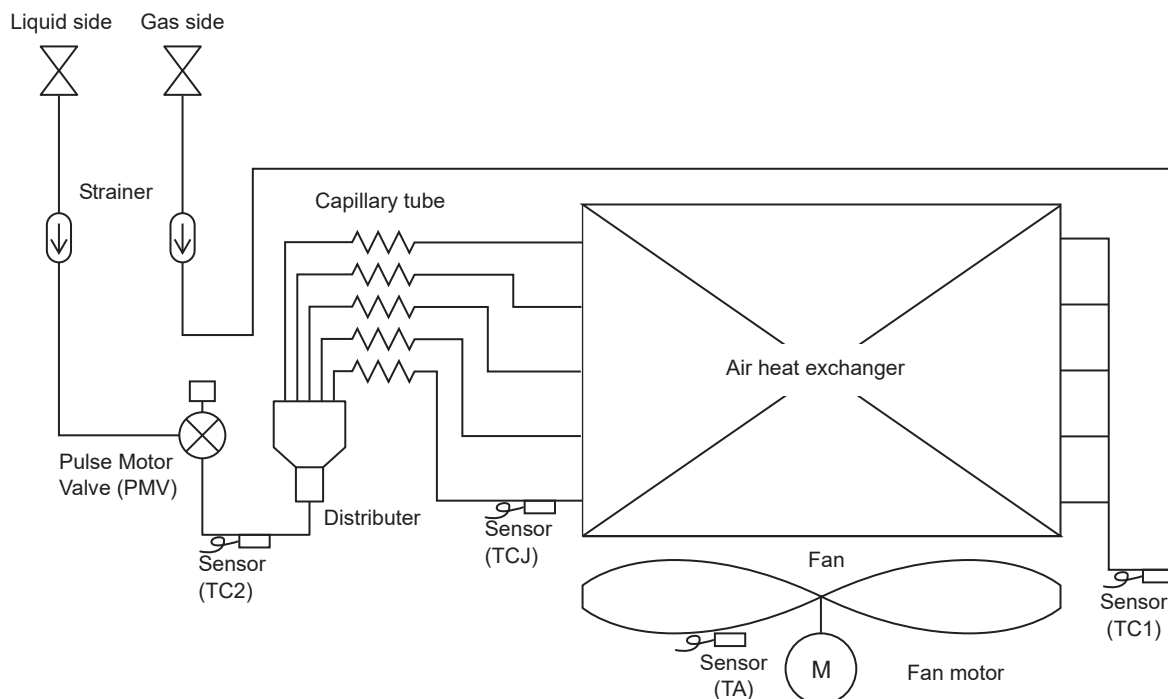
3. Center of gravity

Model name	X (in)	Y (in)	Z (in)	Total weight (lbs)
MMC-UP0181HP-UL	14.8	19	3.9	58
MMC-UP0241HP-UL	14.8	24.4	3.9	69
MMC-UP0301HP-UL				
MMC-UP0361HP-UL	14.8	30	3.9	89
MMC-UP0481HP-UL				



4. Piping diagram

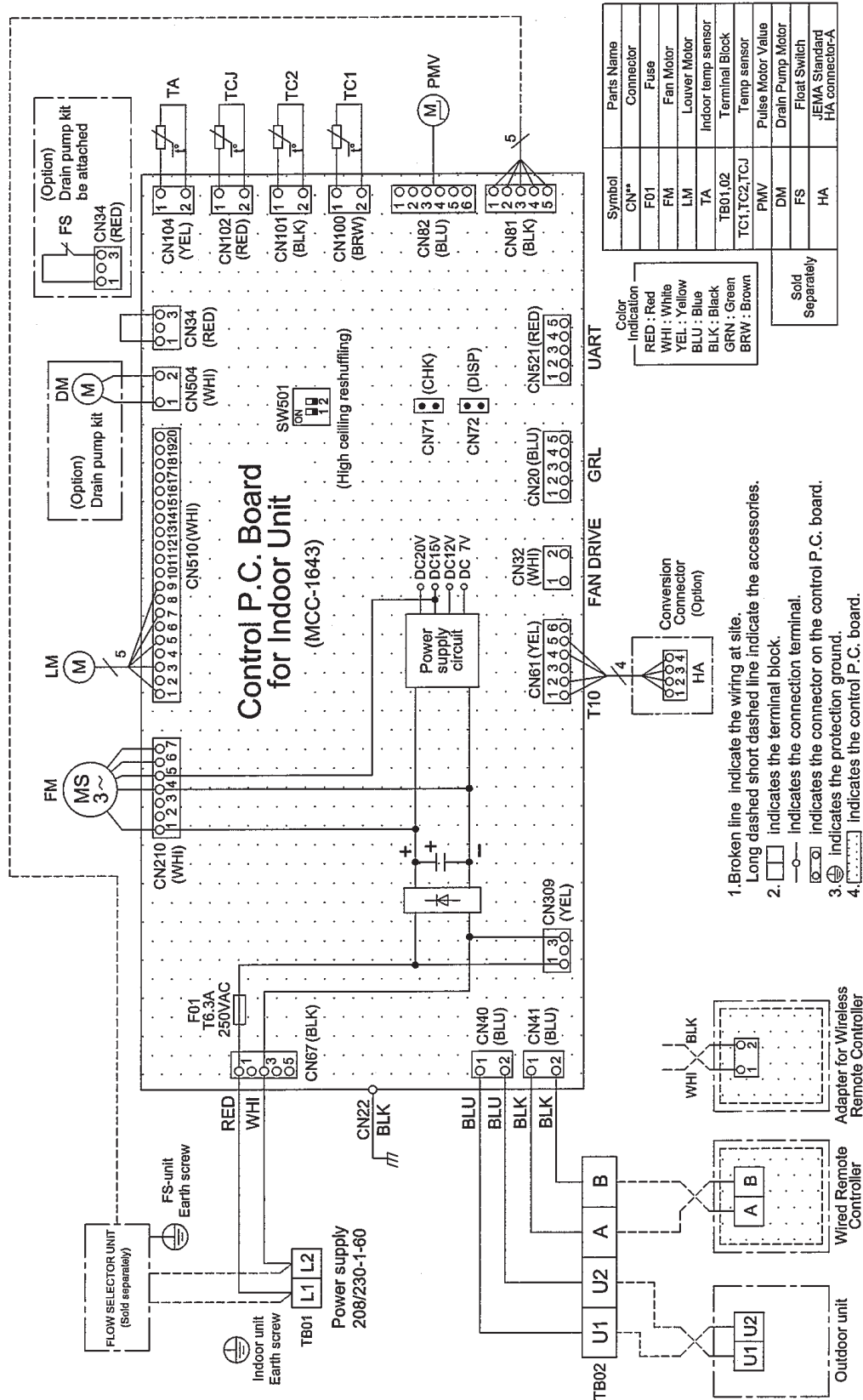
MMC-UP*__1HP-UL (*018 / 024 / 030 / 036 / 048)



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

MMC-UP*__1HP-UL (*018 / 024 / 030 / 036 / 048)



6. Electrical current chracteristics

Indoor unit power supply

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range (V)		FLA	MCA	MOCP
			Min.	Max.	A	A	A
Ceiling Type	MMC-UP0181HP-UL	208/230-1-60	187	253	0.42	0.53	15
	MMC-UP0241HP-UL	208/230-1-60	187	253	0.75	0.93	15
	MMC-UP0301HP-UL	208/230-1-60	187	253	0.75	0.93	15
	MMC-UP0361HP-UL	208/230-1-60	187	253	0.89	1.11	15
	MMC-UP0481HP-UL	208/230-1-60	187	253	0.89	1.11	15

MCA : Minimum Circuit (Amps)

FLA : Full load (Amps)

MOCP : Maximum Overcurrent Protection (Amps)

7. Sensible capacity table

Ceiling type (MMC-UP*__1HP-UL)

unit size	outdoor air temp. °FDB	Indoor air temp.													
		59 ° FWB		61 ° FWB		64 ° FWB		67 ° FWB		68 ° FWB		72 ° FWB		75 ° FWB	
		71 ° FDB		73 ° FDB		77 ° FDB		80 ° FDB		82 ° FDB		86 ° FDB		90 ° FDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	41	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	45	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	50	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	54	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	57	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	61	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	64	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	68	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	70	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	73	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	77	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	81	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	84	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	88	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	91	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	95	15320	12240	16030	12580	17040	13090	18000	13500	18310	13540	19470	13370	20270	12870
	99	14880	11890	15570	12220	16550	12710	17480	13110	17780	13150	18910	12980	19680	12500
	102	14520	11600	15200	11930	16150	12410	17060	12800	17360	12840	18460	12670	19220	12200
	106	14130	11290	14780	11600	15710	12070	16600	12450	16880	12480	17950	12330	18690	11870
	109	13740	10980	14380	11280	15280	11740	16150	12110	16420	12150	17460	11990	18180	11540
024	41	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	45	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	50	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	54	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	57	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
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	64	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	68	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	70	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	73	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	77	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	81	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	84	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	88	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	91	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	95	20430	16320	21370	16760	22730	17450	24000	18000	24410	18050	25960	17820	27020	17150
	99	19840	15850	20750	16270	22070	16940	23300	17480	23700	17530	25210	17300	26240	16650
	102	19370	15470	20260	15890	21550	16540	22750	17060	23140	17110	24610	16890	25610	16260
	106	18840	15050	19700	15450	20960	16090	22130	16600	22510	16640	23940	16430	24910	15810
	109	18330	14640	19170	15030	20390	15650	21530	16150	21900	16190	23290	15980	24240	15380
030	41	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	45	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	50	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	54	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	57	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	61	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	64	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
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	77	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	81	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
	84	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
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	95	24630	19950	27240	21250	29100	22570	30000	22500	30900	22500	32700	22290	34200	21780
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	106	22710	18390	25120	19590	26830	20810	27660	20750	28490	20750	30150	20550	31530	20080
	109	22090	17900	24430	19060	26100	20250	26910	20180	27720	20180	29330	19990	30680	19540

TC: Total Capacity [Btu/h]

SHC: Sensible Heat Capacity [Btu/h]

Ceiling type (MMC-UP*__1HP-UL)

unit size	outdoor air temp. °FDB	Indoor air temp.													
		59 °FWB		61 °FWB		64 °FWB		67 °FWB		68 °FWB		72 °FWB		75 °FWB	
		71 °FDB		73 °FDB		77 °FDB		80 °FDB		82 °FDB		86 °FDB		90 °FDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
036	41	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	45	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	50	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	54	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	57	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	61	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
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	70	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	73	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	77	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	81	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	84	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	88	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	91	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	95	30640	24480	32060	25150	34090	26180	36000	27000	36620	27080	38930	26730	40540	25730
	99	29750	23770	31130	24420	33100	25420	34960	26220	35560	26290	37800	25950	39360	24980
	102	29050	23210	30390	23840	32320	24820	34130	25600	34720	25670	36910	25340	38430	24390
	106	28250	22570	29560	23190	31430	24140	33190	24890	33760	24970	35890	24650	37380	23720
	109	27480	21960	28760	22560	30580	23480	32290	24220	32850	24290	34920	23980	36360	23080
048	41	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	45	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	50	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	54	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	57	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
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	64	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	68	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	70	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	73	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	77	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	81	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	84	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	88	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	91	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	95	40850	32640	42740	33530	45450	34900	48000	36000	48820	36100	51910	35640	54050	34310
	99	39670	31690	41500	32560	44130	33890	46610	34960	47400	35050	50400	34610	52480	33320
	102	38730	30940	40520	31790	43090	33090	45500	34130	46280	34220	49210	33790	51240	32530
	106	37660	30090	39410	30910	41900	32180	44260	33190	45010	33280	47860	32860	49830	31630
	109	36640	29280	38340	30080	40770	31310	43060	32290	43790	32380	46560	31970	48480	30780

TC: Total Capacity [Btu/h]

SHC: Sensible Heat Capacity [Btu/h]

Heating capacity table

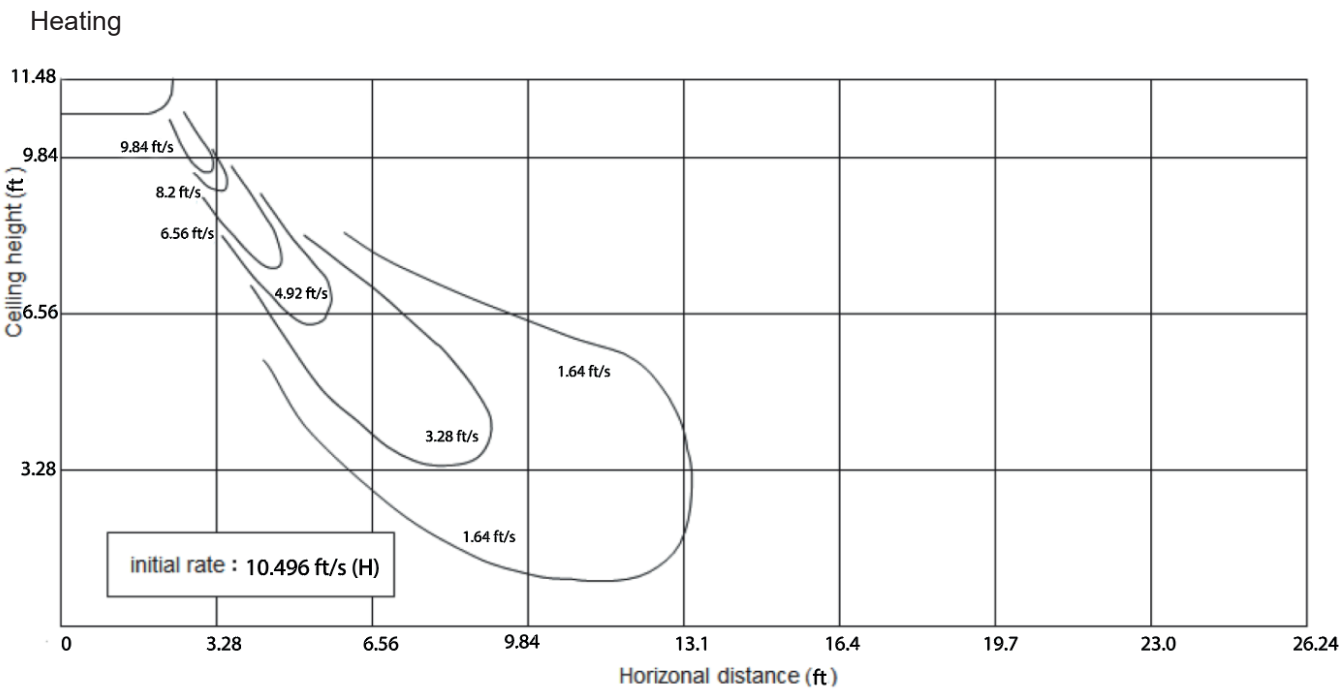
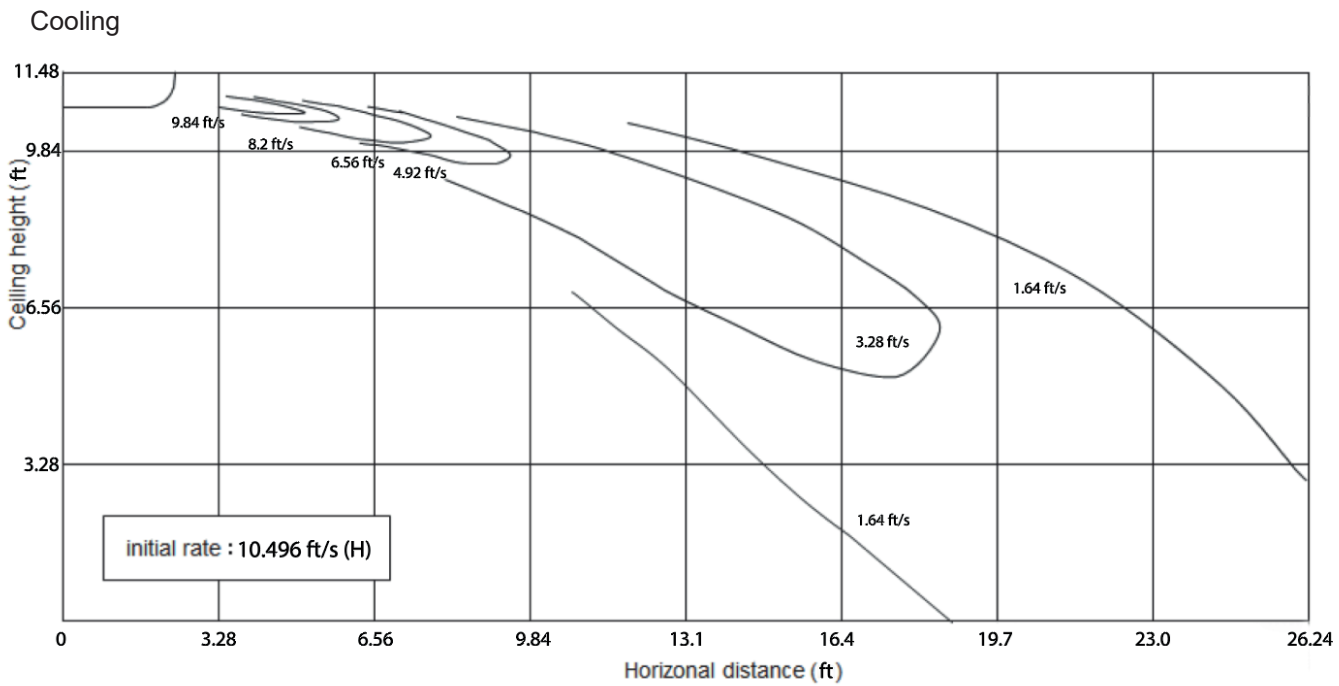
	Indoor air temp. °FDB					
Fahrenheit(°F)	62	65	68	70	72	75
Celsius(°C)	16.7	18.3	20	21.1	22.2	23.9
	Total capacity (TC) (kBtu/h)					
MMC-UP0181HP-UL	20.9	20.6	20.2	20.0	19.7	19.3
MMC-UP0241HP-UL	28.2	27.8	27.3	27.0	26.6	26.1
MMC-UP0301HP-UL	35.5	35.0	34.4	34.0	33.6	32.9
MMC-UP0361HP-UL	41.8	41.2	40.5	40.0	39.5	38.6
MMC-UP0481HP-UL	56.4	55.6	54.7	54.0	53.3	52.2

Notes: 1. These capacity tables can be used when selecting a VRF indoor unit. The actual capacity of the VRF system depends on factors such as the selected model of outdoor units, outdoor air temperature and piping length. Please confirm that the corrected capacity of the VRF system satisfies the required heat load.

Notes: 2. This is the capacity table of rated heating test condition of Outdoor 47°F Dry Bulb / 43°F Wet Bulb.

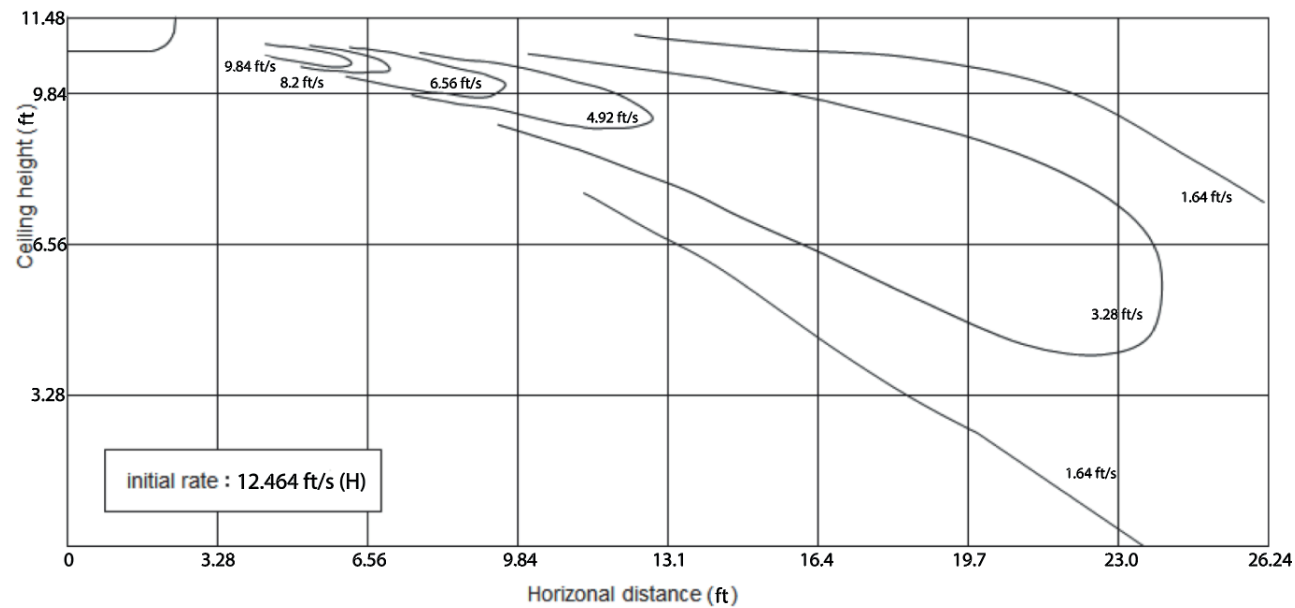
8. Air throw distance chart

MMC-UP0181HP-UL

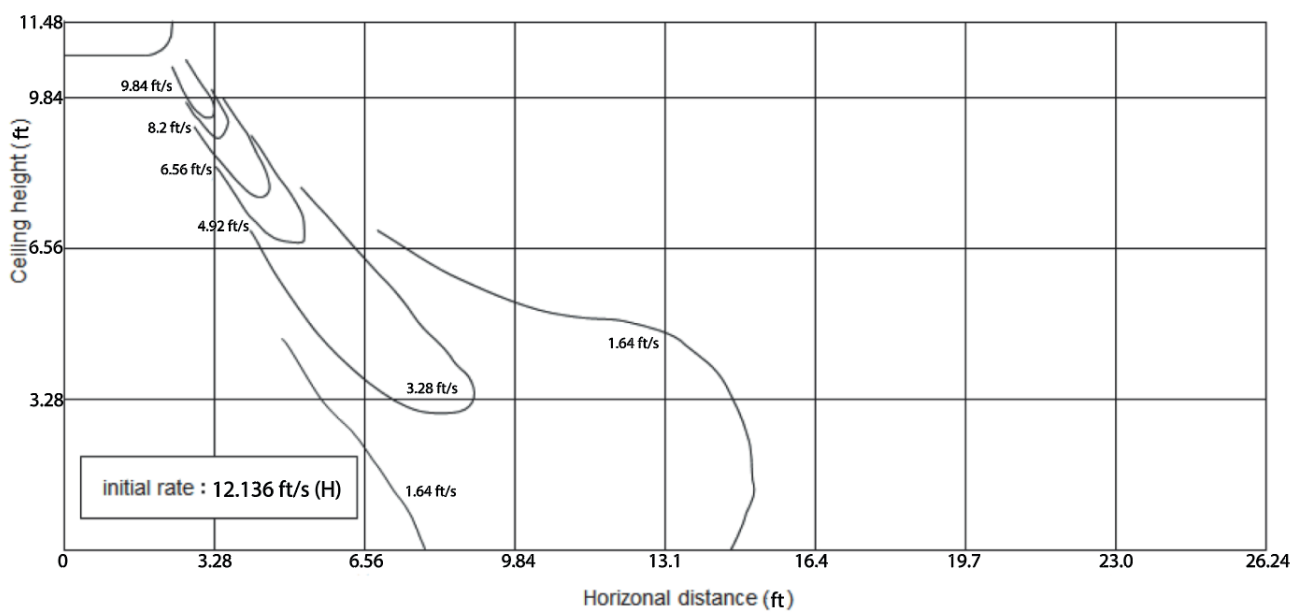


MMC-UP0241HP-UL / UP0301HP-UL

Cooling

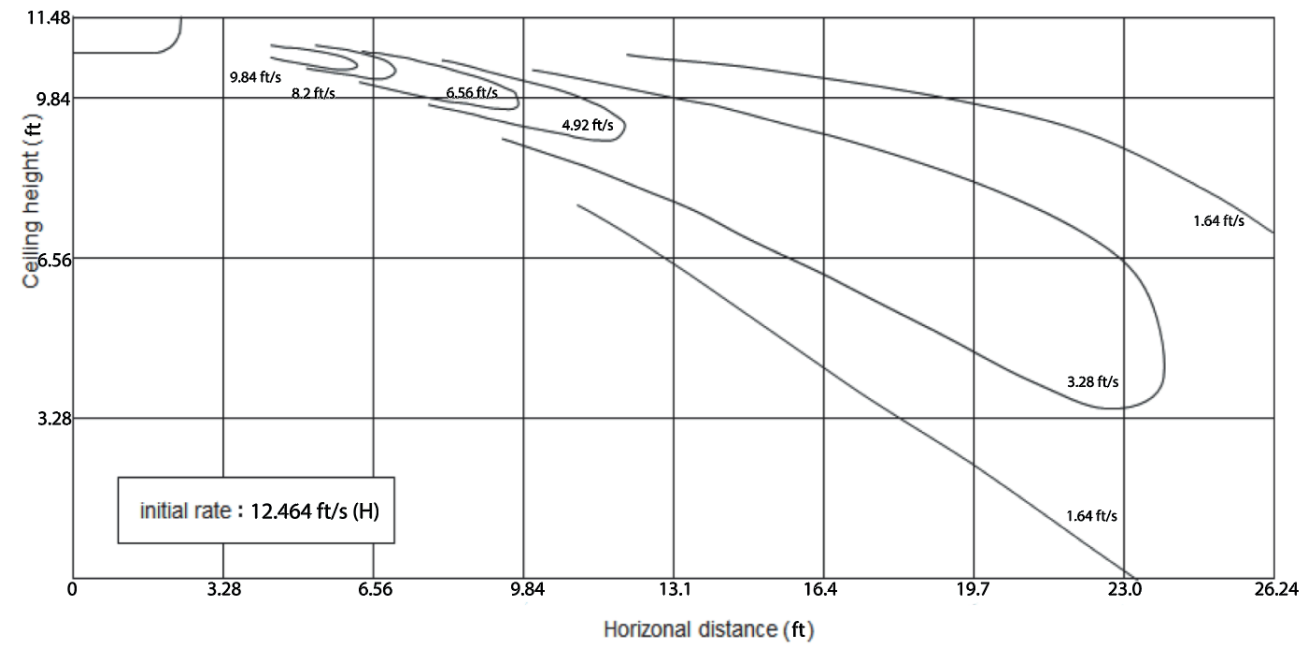


Heating

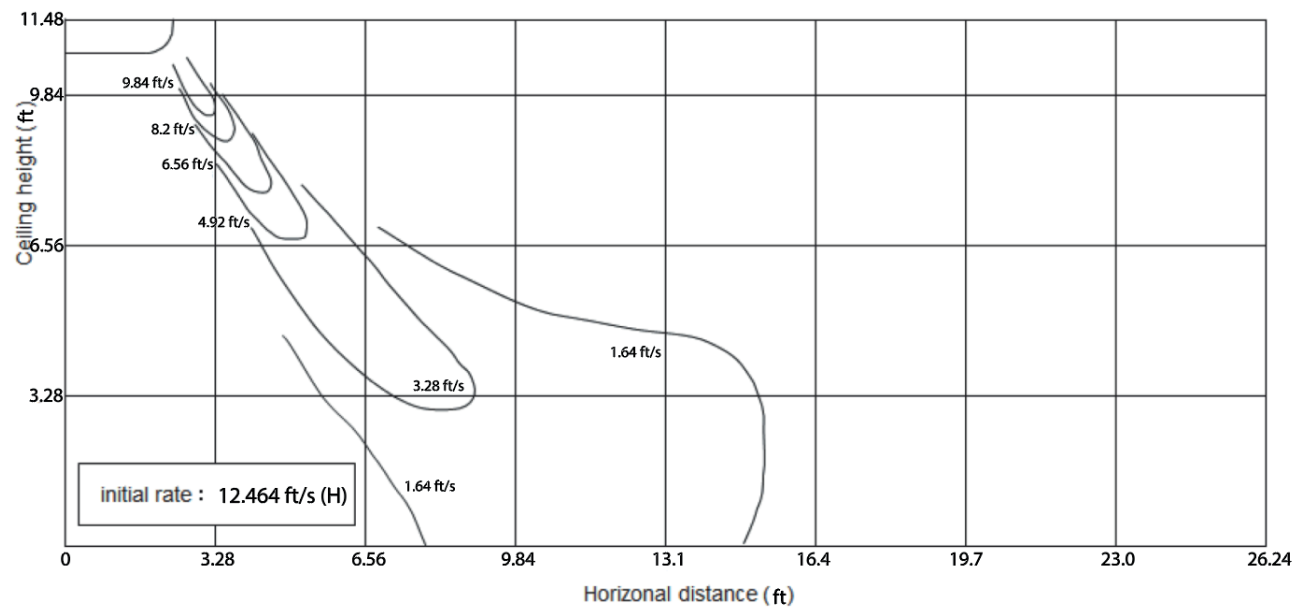


MMC-UP0361HP-UL / AP0481HP-UL

Cooling

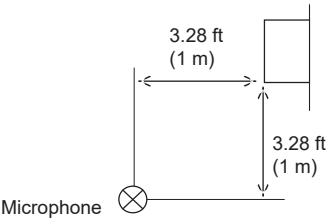


Heating



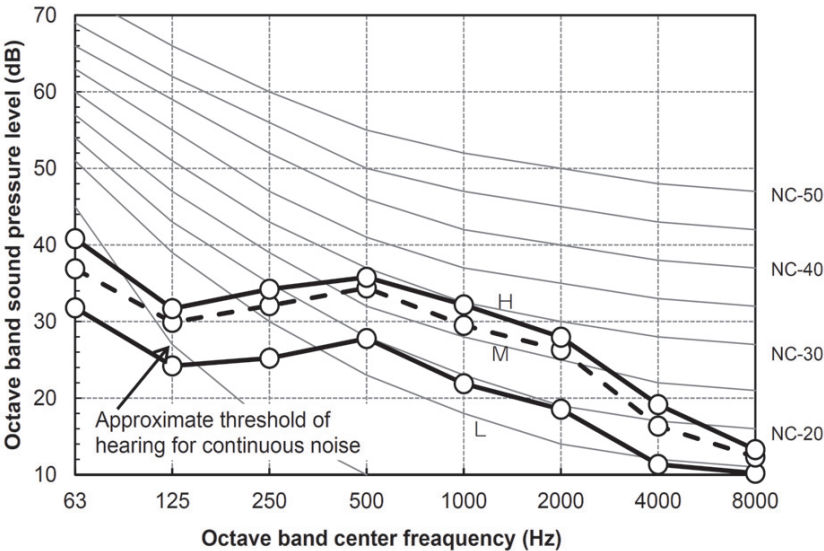
9. Sound data

Sound pressure spectrum



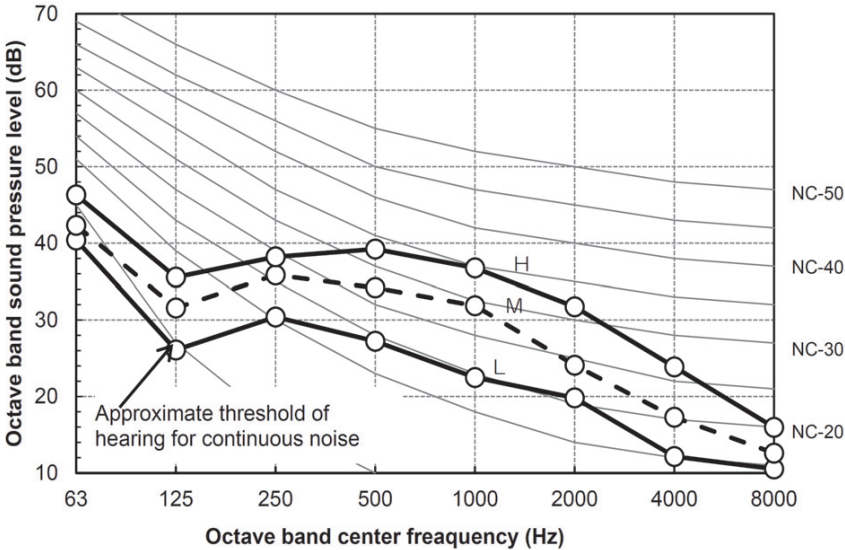
MMC-UP0181HP-UL

Fan tap	H	M	L
Sound pressure level (dB(A))	38.0	35.0	32.0



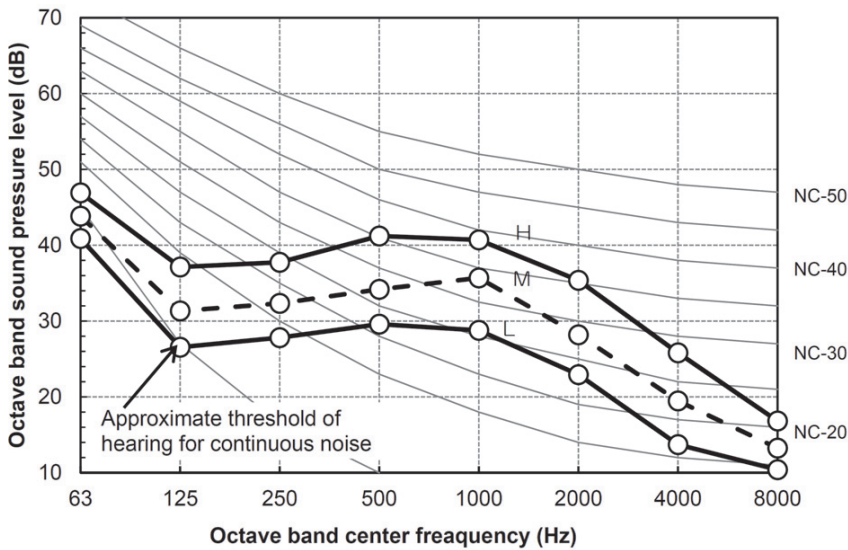
MMC-UP0241HP-UL / UP0301HP-UL

Fan tap	H	M	L
Sound pressure level (dB(A))	43.0	36.0	33.0



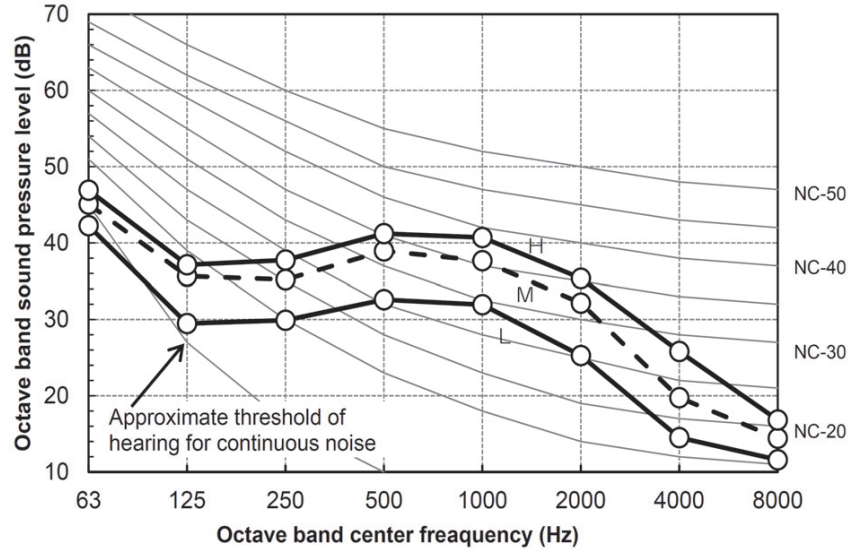
MMC-UP0361HP-UL

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



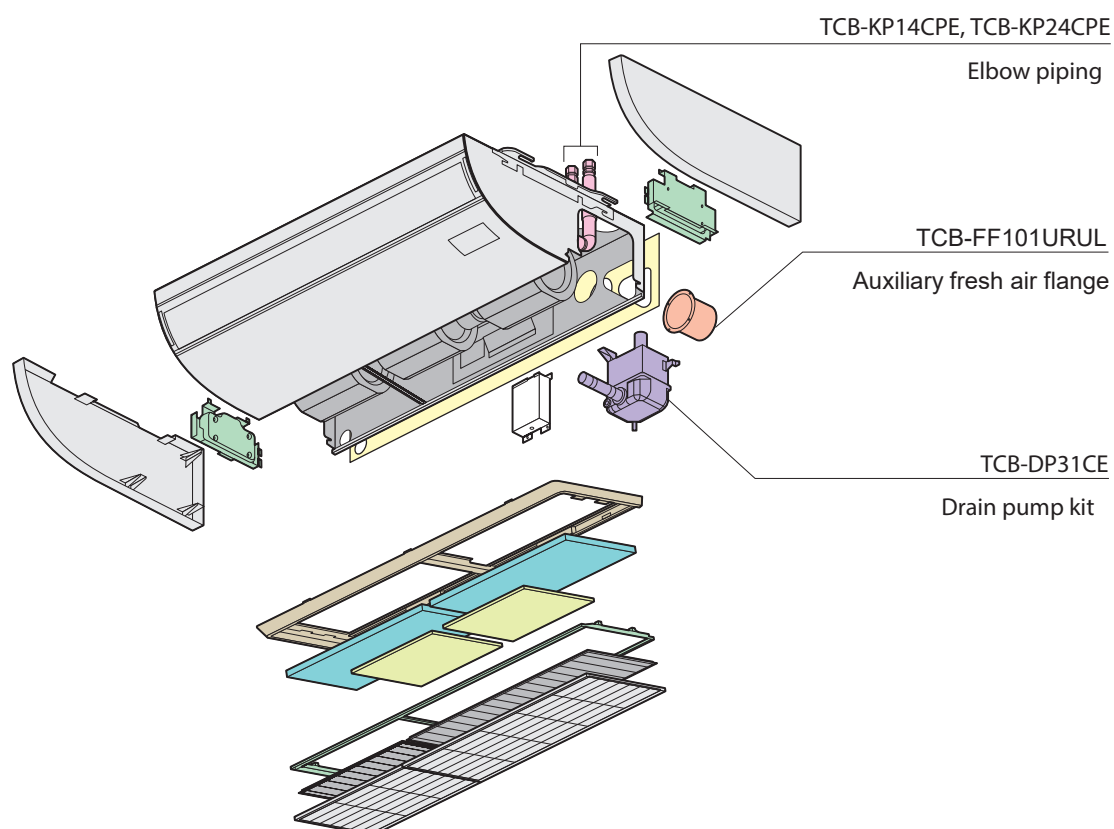
MMC-UP0481HP-UL

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



10. Accessories

Optional Parts	Model Name	Applicable FCU
Drain pump kit	TCB-DP31CE	Under ceiling type only
Elbow piping kit	TCB-KP14CP-UL TCB-KP24CP-UL	Under ceiling type only
Auxiliary fresh air flange	TCB-FF101URUL	Under ceiling and 4way cassette type
Wireless Remote Controller	RBC-AXU33CP-UL	Under ceiling type only



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