

4 - Way Cassette Type

MMU-UP0071HP-UL

MMU-UP0091HP-UL

MMU-UP0121HP-UL

MMU-UP0151HP-UL

MMU-UP0181HP-UL

MMU-UP0241HP-UL

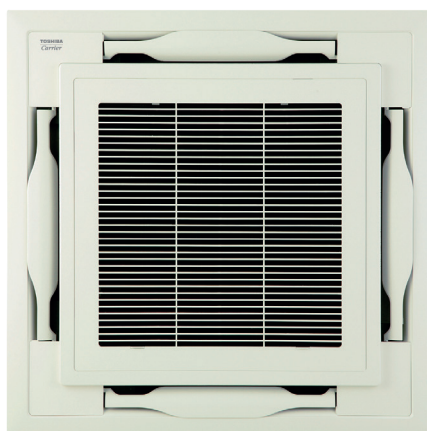
MMU-UP0301HP-UL

MMU-UP0361HP-UL

MMU-UP0421HP-UL

MMU-UP0481HP-UL

MMU-UP0541HP-UL



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1. Specifications

Model name			MMU-	UP0071HP-UL	UP0091HP-UL	UP0121HP-UL	UP0151HP-UL	UP0181HP-UL
Power supply			1 ph 60Hz 230V (208 / 230V)					
Cooling capacity (*1)			kBtu/h	7.5	9.5	12.0	15.4	18.0
Sensible cooling capacity			kBtu/h	5.8	7.1	8.6	12.0	12.8
Heating capacity (*1)			kBtu/h	8.5	10.5	13.5	17.0	20.0
Power consumption			(kW)	0.021	0.021	0.023	0.026	0.026
FCU dimension	Main unit	Height (in)		10.1	10.1	10.1	10.1	10.1
		Width (in)		33.1	33.1	33.1	33.1	33.1
		Depth (in)		33.1	33.1	33.1	33.1	33.1
Total weight	Main unit	(lbs)		45	45	45	51	51
Heat exchanger			Finned tube					
Soundproof / Heat-insulation material			Polyethylene foam					
Fan			Turbo fan					
Air flow volume	Indoor unit (H/M/L)	(cfm)		470 / 430 / 400	470 / 430 / 400	550 / 480 / 440	550 / 480 / 440	550 / 480 / 440
Sound pressure	Indoor unit (H/M/L)	dB(A)		32.5 / 30.5 / 29	32.5 / 30.5 / 29	35 / 33 / 31	35 / 33 / 31	35 / 33 / 31
Motor output			(W)	60	60	60	60	60
Flare Connections	Gas side	(in)		3/8	3/8	3/8	1/2	1/2
	Liquid side	(in)		1/4	1/4	1/4	1/4	1/4
	Drain pipe	(in)		VP25 (Polyvinyl Chloride Tube: External Dia. 1-1/4 Internal Dia. 1)				
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

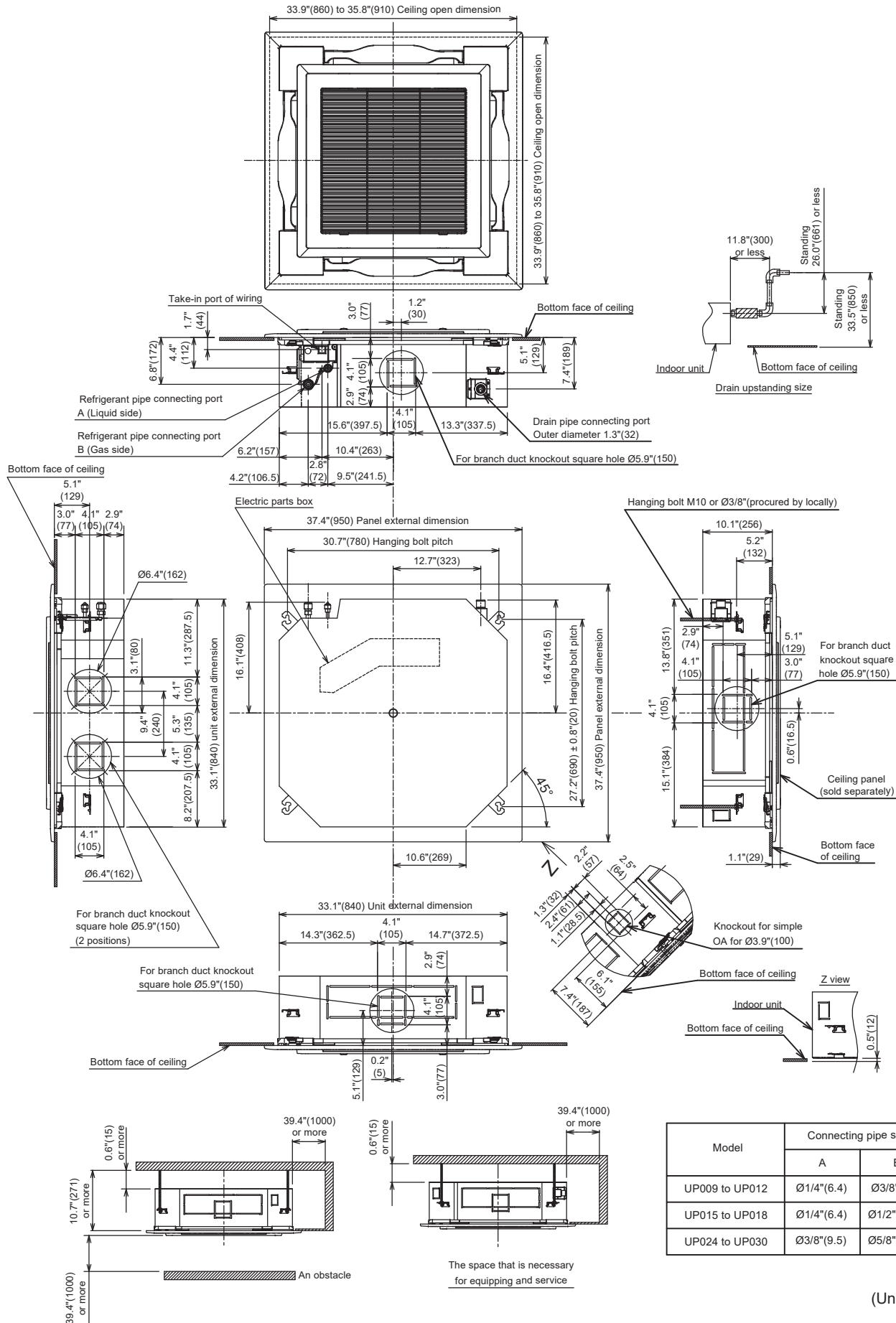
Model name		MMU-	UP0241HP-UL	UP0301HP-UL	UP0361HP-UL	UP0421HP-UL	UP0481HP-UL	UP0541HP-UL
Power supply			1 ph 60Hz 230V (208 / 230V)					
Cooling capacity (*1)		kBtu/h	24.0	30.0	36.0	42.0	48.0	54.0
Sensible cooling capacity		kBtu/h	16.5	20.6	24.7	29.4	33.6	37.8
Heating capacity (*1)		kBtu/h	27.0	34.0	40.0	47.5	54.0	60.0
Power consumption		(kW)	0.036	0.043	0.088	0.112	0.112	0.112
FCU dimension	Main unit	Height (in)	10.1	10.1	12.6	12.6	12.6	12.6
		Width (in)	33.1	33.1	33.1	33.1	33.1	33.1
		Depth (in)	33.1	33.1	33.1	33.1	33.1	33.1
Total weight	Main unit	(lbs)	51	51	60	60	60	60
Heat exchangere			Finned tube					
Soundproof / Heat-insulation material			Polyethylene foam					
Fan			Turbo fan					
Air flow volume	Indoor unit (H/M/L)	(cfm)	670 / 540 / 490	730 / 630 / 510	1160 / 840 / 630	1250 / 840 / 670	1250 / 840 / 670	1250 / 890 / 720
Sound pressure	Indoor unit (H/M/L)	dB(A)	38 / 33 / 31	41 / 36.5 / 34	46 / 40.5 / 36.5	48.5 / 40.5 / 37.5	48.5 / 40.5 / 37.5	48.5 / 40.5 / 37.5
Motor output		(W)	60	60	150	150	150	150
Flare Connections	Gas side	(in)	5/8	5/8	5/8	5/8	5/8	5/8
	Liquid side	(in)	3/8	3/8	3/8	3/8	3/8	3/8
	Drain pipe	(in)	VP25 (Polyvinyl Chloride Tube: External Dia. 1-1/4 Internal Dia. 1)					
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

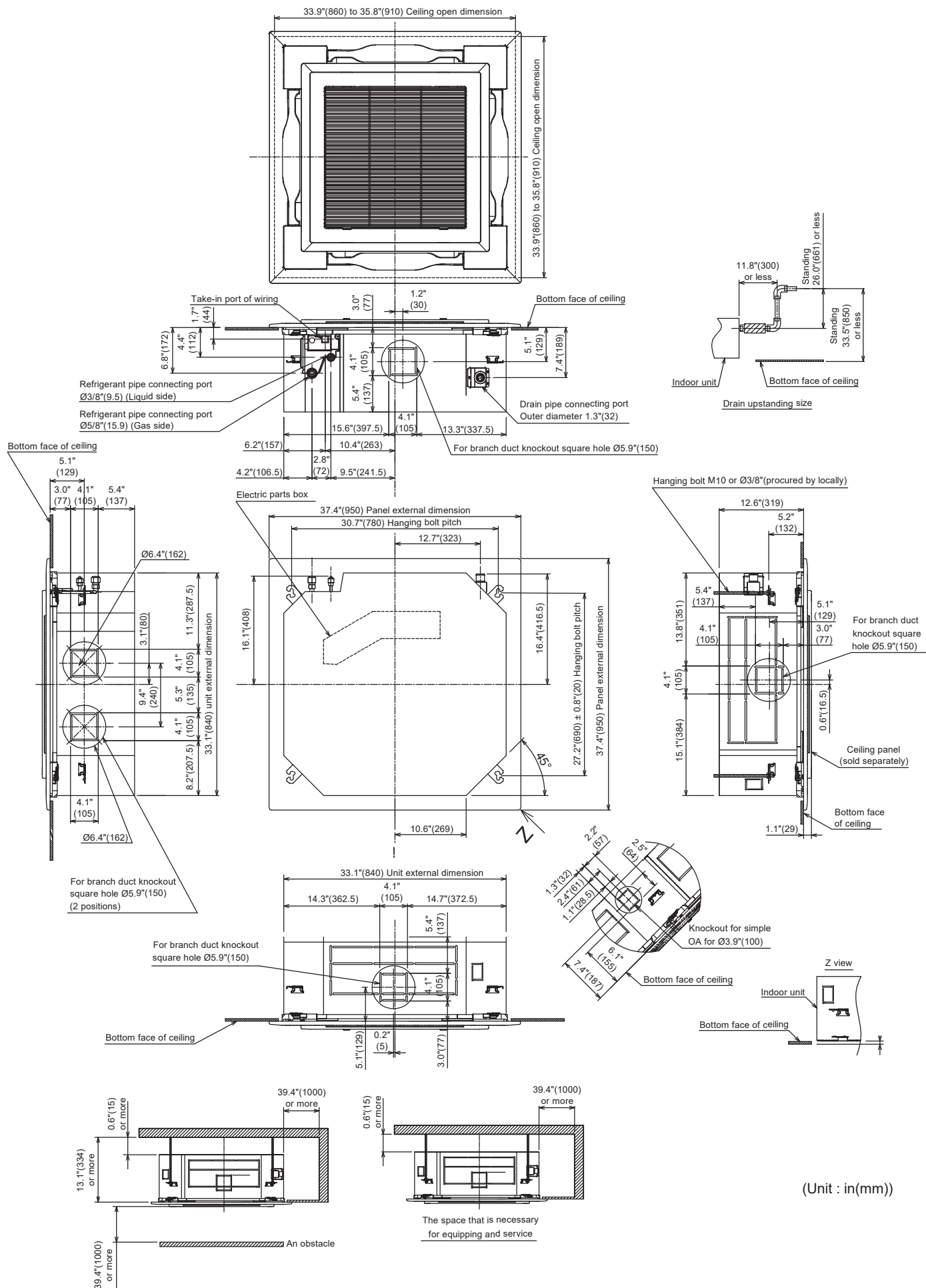
Heating : Indoor air temperature 70°F Dry Bulb, Outdoor 47°F Dry Bulb / 43°F Wet Bulb

2. Dimension

MMU-UP*__1HP-UL (*007 / 009 / 012 / 015 / 018 / 024 / 030)

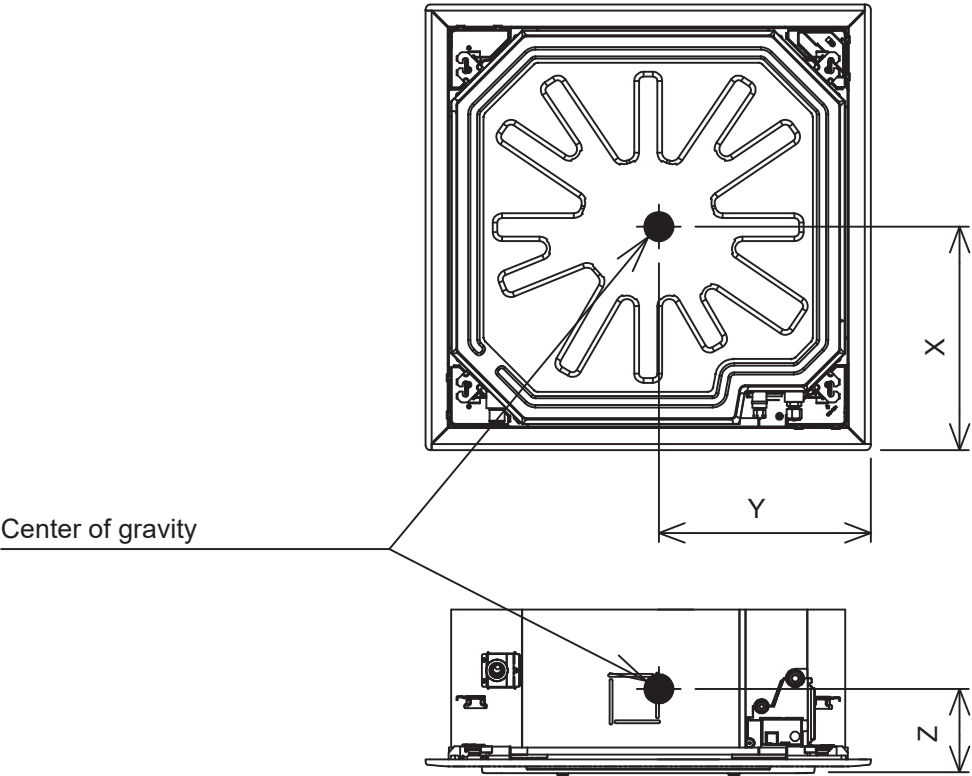


MMU-UP*__1HP-UL (*036 / 042 / 048 / 054)



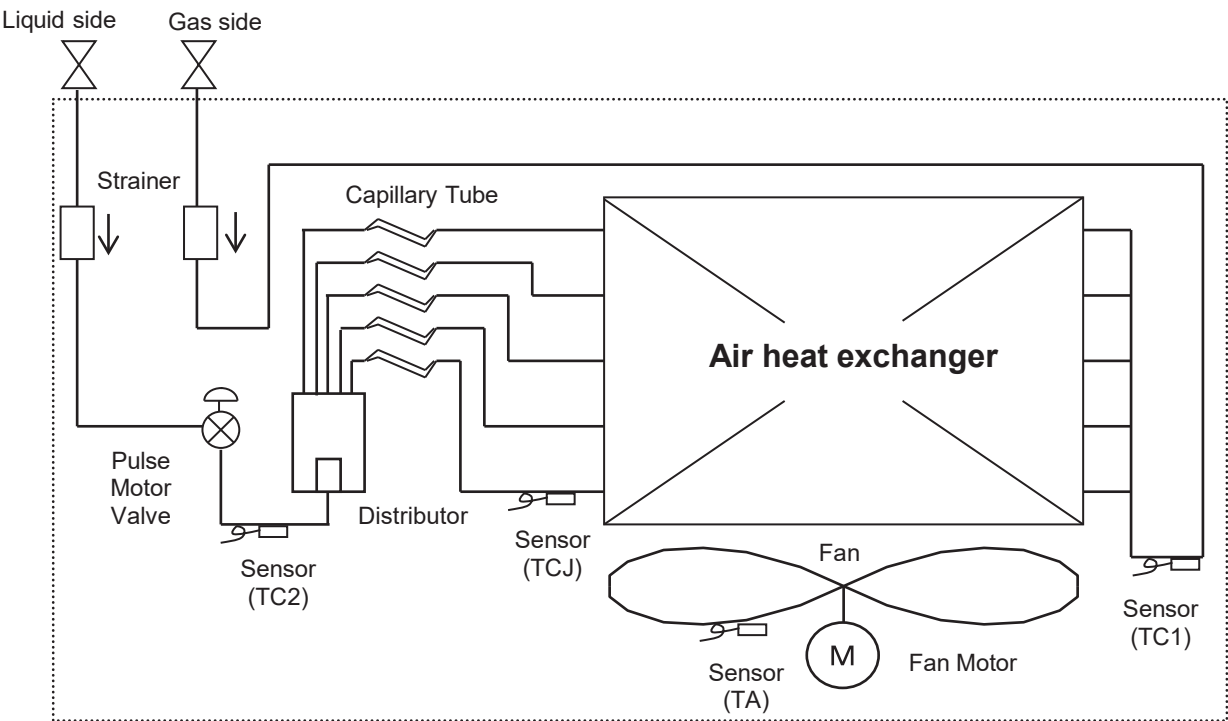
3. Center of gravity

Model name	X (in)	Y (in)	Z (in)	Total weight	
				Main unit (lbs)	Ceiling panel (lbs)
MMU-UP0071HP-UL	18.5	17.9	6.1	45	9
MMU-UP0091HP-UL					
MMU-UP0121HP-UL					
MMU-UP0151HP-UL	18.5	17.9	6.1	51	
MMU-UP0181HP-UL					
MMU-UP0241HP-UL					
MMU-UP0301HP-UL					
MMU-UP0361HP-UL	18.5	17.7	7.2	60	
MMU-UP0421HP-UL					
MMU-UP0481HP-UL					
MMU-UP0541HP-UL					



4. Piping diagram

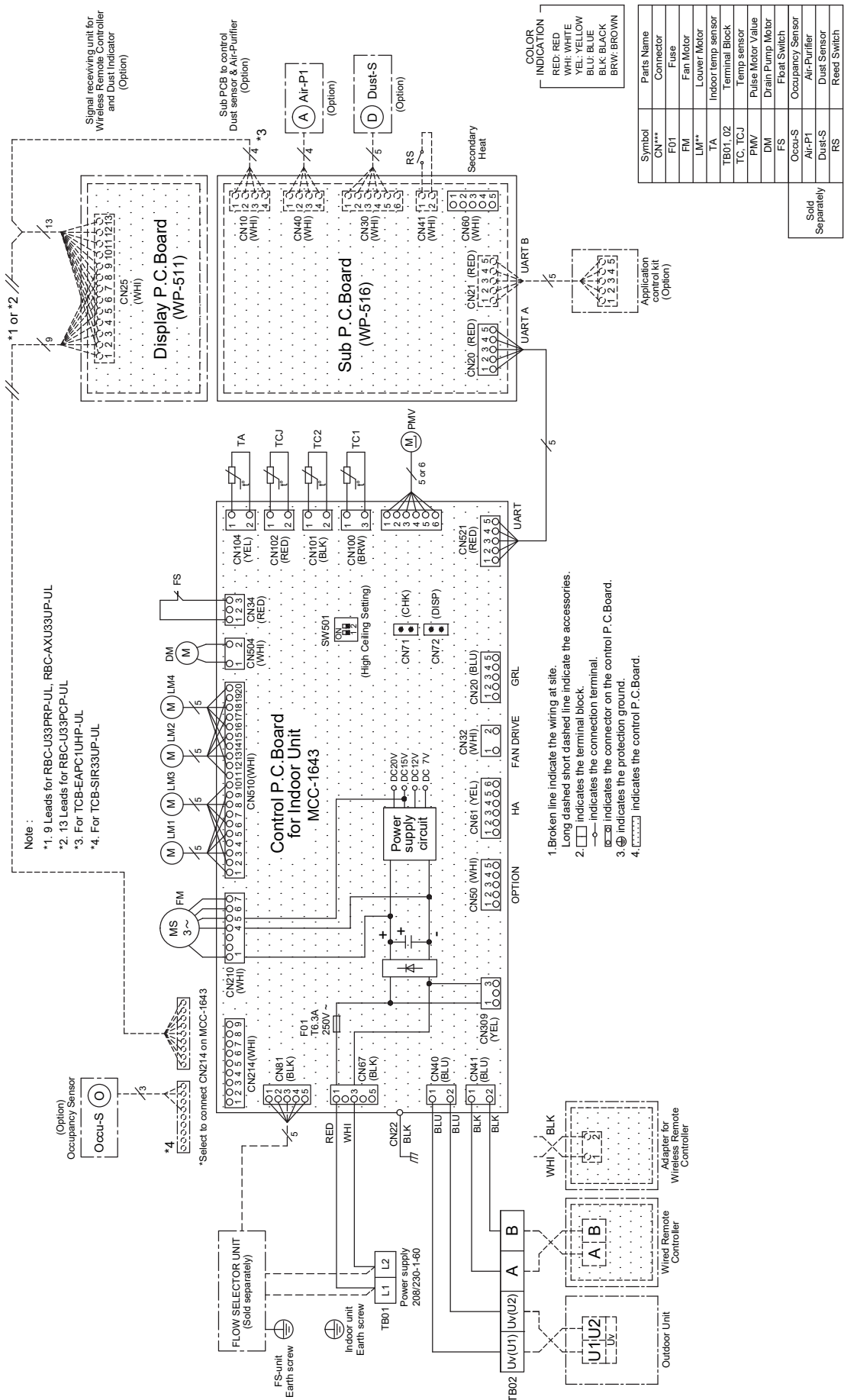
MMU-UP*__1HP-UL (*007 / 009 / 012 / 015 / 018 / 024 / 030 / 036 / 042 / 048 / 054)



Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN082 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls under 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 under cool in heating operation
	4. TCJ	(Connector CN102 (2P): Red) 1) Controls PMV super heat in cooling operation

5. Wiring diagram

MMU-UP*__1HP-UL (*007 / 009 / 012 / 015 / 018 / 024 / 030 / 036 / 042 / 048 / 054)



6. Electrical current characteristic

Indoor unit power supply

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range (V)		FLA	MCA	MOCP
			Min.	Max.	A	A	A
4-Way Cassette Type	MMU-UP0071HP-UL	208/230-1-60	187	253	0.63	0.79	15
	MMU-UP0091HP-UL	208/230-1-60	187	253	0.63	0.79	15
	MMU-UP0121HP-UL	208/230-1-60	187	253	0.63	0.79	15
	MMU-UP0151HP-UL	208/230-1-60	187	253	0.80	1.00	15
	MMU-UP0181HP-UL	208/230-1-60	187	253	0.80	1.00	15
	MMU-UP0241HP-UL	208/230-1-60	187	253	0.87	1.09	15
	MMU-UP0301HP-UL	208/230-1-60	187	253	0.87	1.09	15
	MMU-UP0361HP-UL	208/230-1-60	187	253	1.15	1.44	15
	MMU-UP0421HP-UL	208/230-1-60	187	253	1.15	1.44	15
	MMU-UP0481HP-UL	208/230-1-60	187	253	1.15	1.44	15
	MMU-UP0541HP-UL	208/230-1-60	187	253	1.15	1.44	15

MCA : Minimum Circuit (Amps)

FLA : Full load (Amps)

MOCP : Maximum Overcurrent Protection (Amps)

7. Sensible capacity table

4-way cassette type (MMU-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
007	41	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	45	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	50	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	54	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	57	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	61	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	64	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	68	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	70	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	73	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	77	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	81	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	84	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	88	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	91	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	95	6160	5140	6810	5480	7280	5820	7500	5800	7730	5800	8180	5750	8550	5610
	99	5980	4990	6610	5320	7070	5650	7280	5630	7510	5630	7940	5580	8300	5450
	102	5840	4870	6460	5200	6900	5520	7110	5500	7330	5500	7750	5450	8110	5320
	106	5680	4740	6280	5050	6710	5370	6920	5350	7130	5350	7540	5300	7880	5170
109	5530	4610	6110	4920	6530	5220	6730	5200	6930	5200	7340	5160	7670	5030	
009	41	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	45	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	50	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	54	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	57	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	61	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	64	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	68	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	70	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	73	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	77	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	81	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	84	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	88	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	91	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	95	7800	6300	8630	6710	9220	7130	9500	7100	9790	7100	10360	7040	10830	6870
	99	7570	6120	8380	6520	8950	6920	9220	6890	9510	6890	10060	6840	10520	6670
	102	7390	5970	8180	6360	8740	6760	9010	6730	9280	6730	9820	6670	10270	6510
	106	7190	5810	7960	6190	8500	6570	8760	6550	9030	6550	9550	6490	9990	6330
109	7000	5650	7740	6020	8270	6400	8520	6370	8780	6370	9290	6310	9710	6160	
012	41	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	45	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	50	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	54	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	57	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	61	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	64	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	68	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	70	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	73	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	77	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	81	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	84	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	88	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	91	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	95	9850	7620	10900	8120	11640	8630	12000	8600	12360	8600	13080	8520	13680	8320
	99	9560	7400	10580	7880	11300	8380	11650	8350	12000	8350	12700	8270	13280	8080
	102	9340	7220	10330	7700	11030	8180	11380	8150	11720	8150	12400	8080	12970	7890
	106	9080	7030	10050	7490	10730	7960	11060	7930	11400	7930	12060	7860	12610	7670
109	8840	6840	9780	7280	10440	7740	10760	7710	11090	7710	11730	7640	12270	7460	

TC: Total Capacity [Btu/h]

SHC: Sensible Heat Capacity [Btu/h]

4 way cassette Type (MMU-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
015	41	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	45	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	50	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	54	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	57	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	61	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	64	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	68	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	70	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	73	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	77	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	81	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	84	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	88	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	91	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	95	12640	10640	13980	11330	14940	12040	15400	12000	15860	12000	16790	11890	17560	11620
	99	12270	10330	13570	11000	14510	11690	14950	11650	15400	11650	16300	11550	17050	11280
	102	11980	10090	13250	10740	14160	11410	14600	11380	15040	11380	15920	11270	16650	11020
	106	11650	9810	12890	10450	13770	11100	14200	11060	14620	11060	15480	10960	16190	10710
	109	11340	9540	12540	10160	13400	10800	13810	10760	14230	10760	15060	10670	15750	10420
018	41	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	45	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	50	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	54	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	57	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	61	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	64	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	68	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	70	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	73	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	77	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	81	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	84	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	88	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	91	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	95	15320	11600	16030	11920	17040	12410	18000	12800	18310	12840	19470	12670	20270	12200
	99	14880	11260	15570	11570	16550	12050	17480	12430	17780	12470	18910	12300	19680	11850
	102	14520	11000	15200	11300	16150	11760	17060	12130	17360	12170	18460	12010	19220	11570
	106	14130	10700	14780	10990	15710	11440	16600	11800	16880	11840	17950	11680	18690	11250
	109	13740	10410	14380	10690	15280	11130	16150	11480	16420	11520	17460	11360	18180	10940
024	41	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	45	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	50	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	54	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	57	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	61	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	64	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
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	70	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	73	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	77	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	81	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	84	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	88	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	91	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	95	20430	14960	21370	15370	22730	16000	24000	16500	24410	16550	25960	16340	27020	15720
	99	19838	14526	20750	14924	22071	15536	23304	16022	23702	16070	25207	15866	26236	15264
	102	19368	14182	20259	14571	21548	15168	22752	15642	23141	15689	24610	15490	25615	14903
	106	18840	13790	19700	14170	20960	14750	22130	15210	22510	15260	23940	15070	24910	14490
	109	18330	13420	19170	13790	20390	14350	21530	14800	21900	14850	23290	14660	24240	14100
030	41	25530	18670	26720	19190	28410	19970	30000	20600	30510	20650	32450	20400	33780	19630
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	50	25530	18670	26720	19190	28410	19970	30000	20600	30510	20650	32450	20400	33780	19630
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	70	25530	18670	26720	19190	28410	19970	30000	20600	30510	20650	32450	20400	33780	19630
	73	25530	18670	26720	19										

4 way cassette Type (MMU-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	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	45	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	50	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	54	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	57	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	61	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	64	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	68	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	70	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	73	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	77	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	81	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	84	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
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	95	30640	22390	32060	23010	34090	23950	36000	24700	36620	24770	38930	24450	40540	23540
	99	29750	21740	31130	22340	33100	23260	34960	23980	35560	24050	37800	23740	39360	22860
	102	29050	21230	30390	21810	32320	22700	34130	23420	34720	23480	36910	23180	38430	22320
	106	28250	20640	29560	21220	31430	22080	33190	22770	33760	22840	35890	22540	37380	21700
	109	27480	20080	28760	20640	30580	21480	32290	22160	32850	22220	34920	21930	36360	21120
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	50	35750	26660	37400	27380	39770	28500	42000	29400	42720	29480	45420	29100	47290	28020
	54	35750	26660	37400	27380	39770	28500	42000	29400	42720	29480	45420	29100	47290	28020
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	77	35750	26660	37400	27380	39770	28500	42000	29400	42720	29480	45420	29100	47290	28020
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	95	35750	26660	37400	27380	39770	28500	42000	29400	42720	29480	45420	29100	47290	28020
99	34710	25890	36320	26590	38620	27670	40780	28550	41480	28630	44100	28260	45920	27210	
102	33890	25270	35460	25960	37700	27020	39820	27870	40500	27950	43060	27590	44830	26560	
106	32960	24580	34480	25240	36670	26280	38720	27110	39390	27180	41880	26830	43600	25830	
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	68	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	70	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	73	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
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	81	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	84	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	88	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	91	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	95	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
99	39670	29580	41500	30380	44130	31640	46610	32630	47400	32710	50400	32300	52480	31090	
102	38730	28880	40520	29660	43090	30890	45500	31850	46280	31940	49210	31530	51240	30350	
106	37660	28080	39410	28850	41900	30040	44260	30980	45010	31060	47860	30670	49830	29520	
109	36640	27320	38340	28070	40770	29220	43060	30140	43790	30220	46560	29830	48480	28720	
054	41	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
	45	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
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	61	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
	64	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
	68	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
	70	45960	34270	48090	35210	51130	36650	54000	37800	54920	37900	58400	37420	60800	36020
	73	45960	34270	48											

Heating capacity table

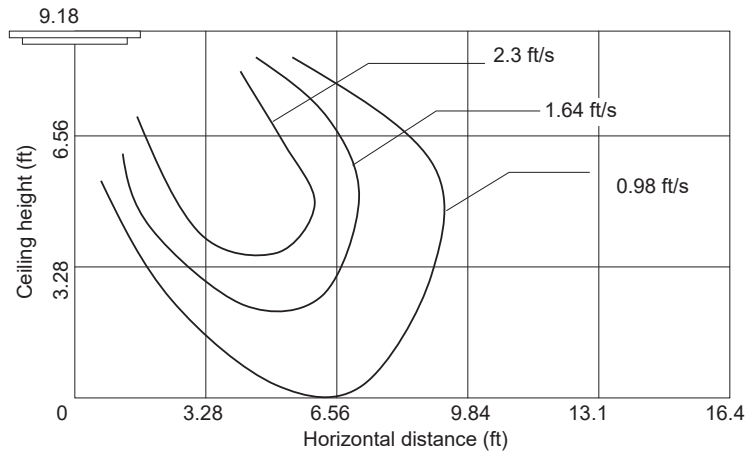
	Indoor air temp. °FDB					
Fahrenheit (°F)	62	65	68	70	72	75
Celsius (°C)	16.7	18.3	20	21.1	22.2	23.9
	Total capacity (TC) (kBtu/h)					
MMU-UP0071HP-UL	8.9	8.8	8.6	8.5	8.4	8.2
MMU-UP0091HP-UL	11.0	10.8	10.6	10.5	10.4	10.1
MMU-UP0121HP-UL	14.1	13.9	13.7	13.5	13.3	13.0
MMU-UP0151HP-UL	17.8	17.5	17.2	17.0	16.8	16.4
MMU-UP0181HP-UL	20.9	20.6	20.2	20.0	19.7	19.3
MMU-UP0241HP-UL	28.2	27.8	27.3	27.0	26.6	26.1
MMU-UP0301HP-UL	35.5	35.0	34.4	34.0	33.6	32.9
MMU-UP0361HP-UL	41.8	41.2	40.5	40.0	39.5	38.6
MMU-UP0421HP-UL	49.6	48.9	48.1	47.5	46.9	45.9
MMU-UP0481HP-UL	56.4	55.6	54.7	54.0	53.3	52.2
MMU-UP0541HP-UL	62.7	61.8	60.7	60.0	59.2	58.0

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.

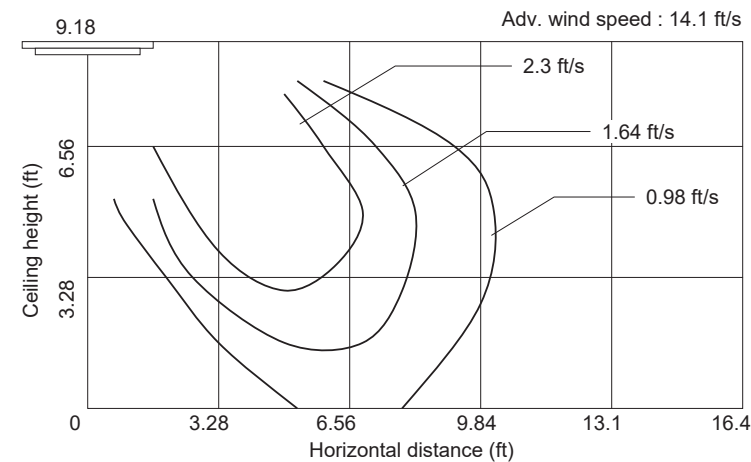
Notes: 2. This is the capacity table of rated heating test condition of Outdoor 47°F Dry Bulb / 43°F Wet Bulb.

8. Air throw distance chart

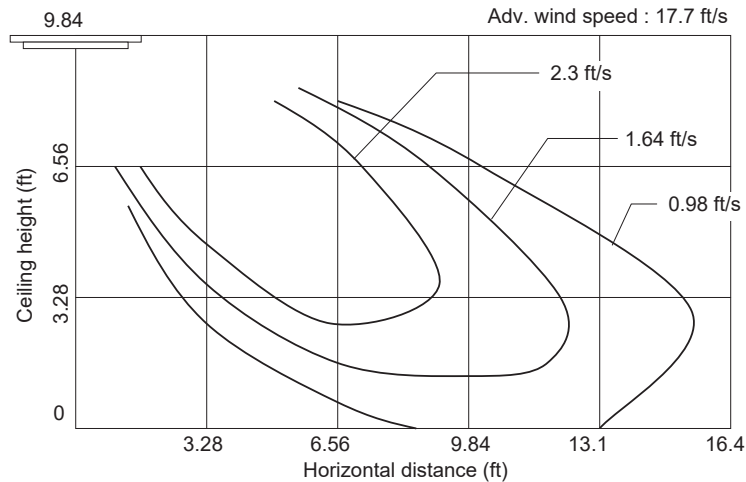
MMU-UP*__1HPUL (*007 / 009)



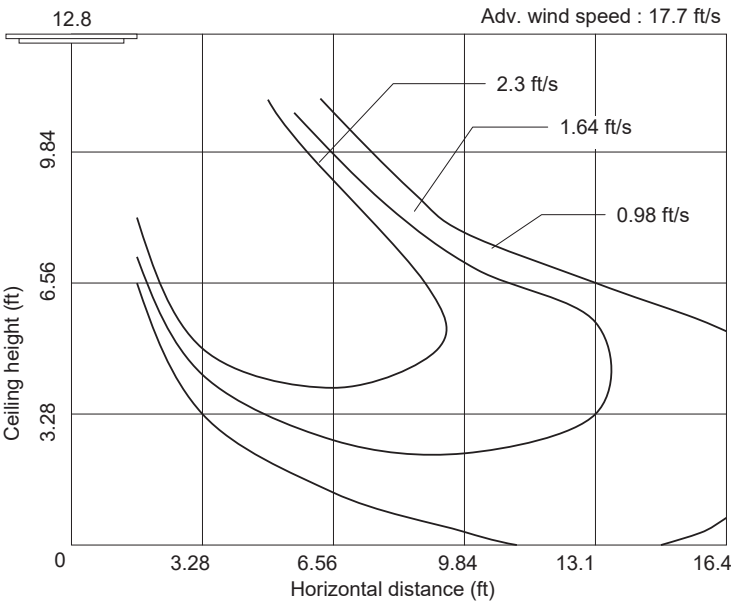
MMU-UP*__1HP-UL (*012 / 015 / 018)



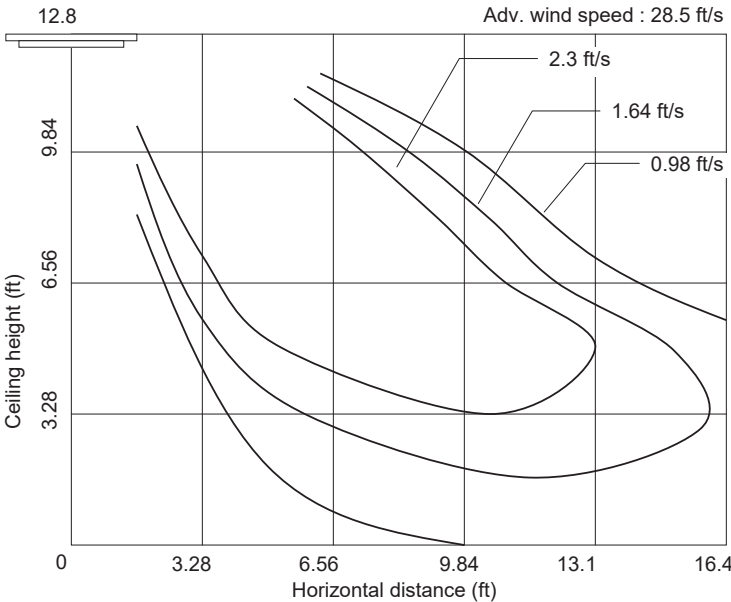
MMU-UP*__1HP-UL (*024 / 030)



MMU-UP0361HP-UL

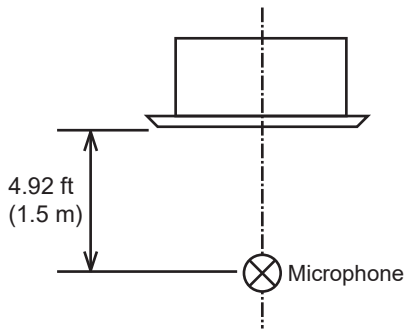


MMU-UP*__1HP-UL (*042 / 048 / 054)



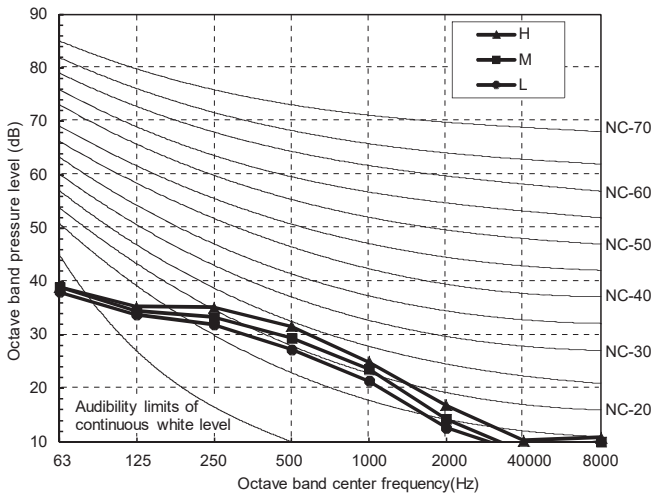
9. Sound data

Sound pressure spectrum



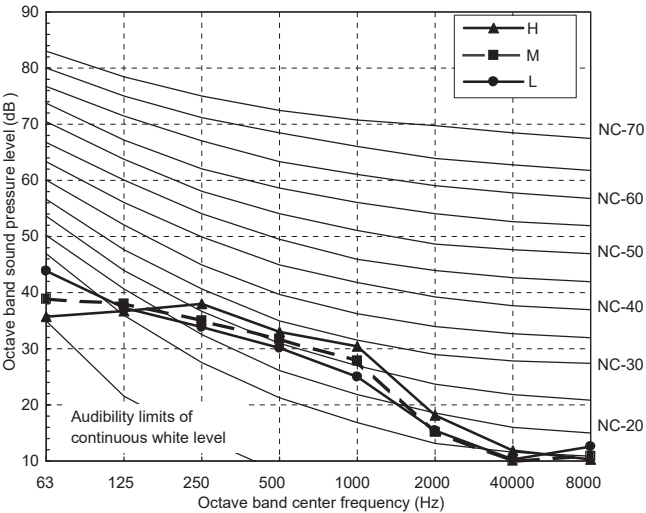
MMU-UP0071HP-UL / UP0091HP-UL

Sound pressure level (dB (A))	H - M - L
	32.5 - 30.5 - 29



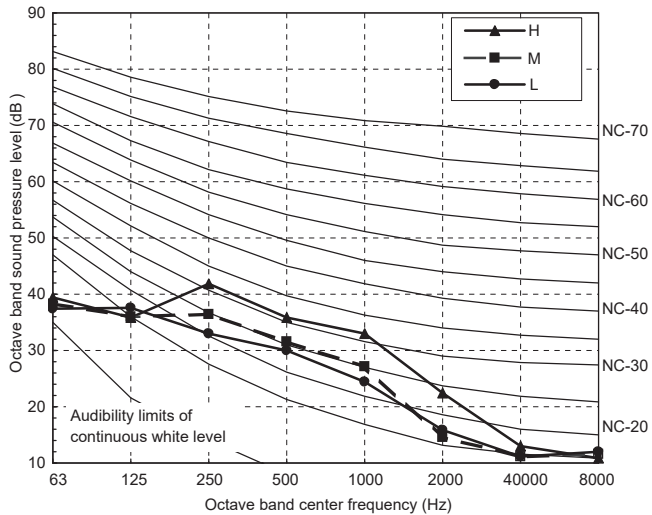
MMU-UP0121HP-UL / UP0151HP-UL / UP0181HP-UL

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



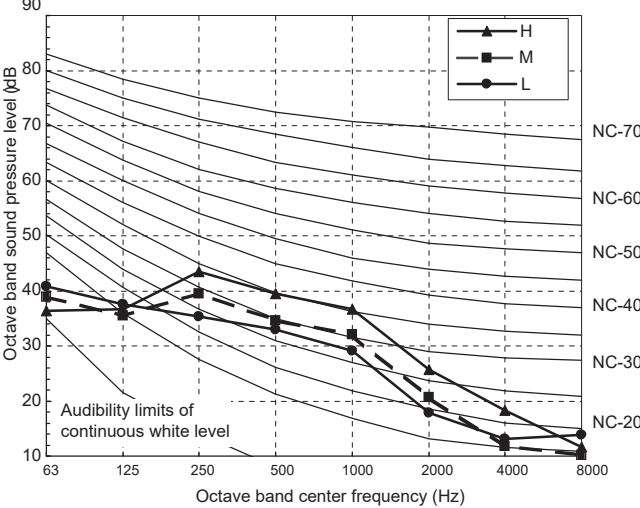
MMU-UP0241HP-UL

Sound pressure level (dB (A))	H - M - L
	38 - 33 - 31

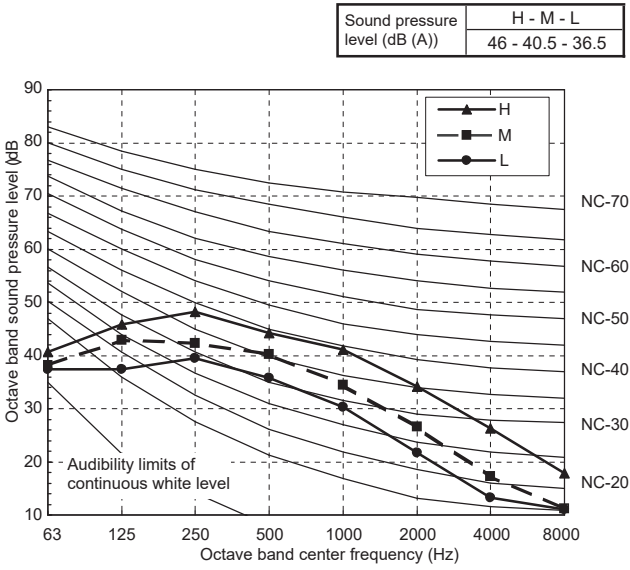


MMU-UP0301HP-UL

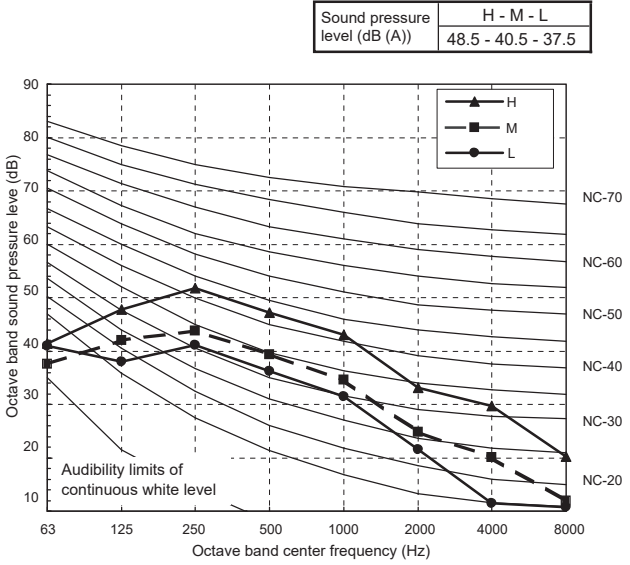
Sound pressure level (dB (A))	H - M - L
	41 - 36.5 - 34



MMU-UP0361HP-UL

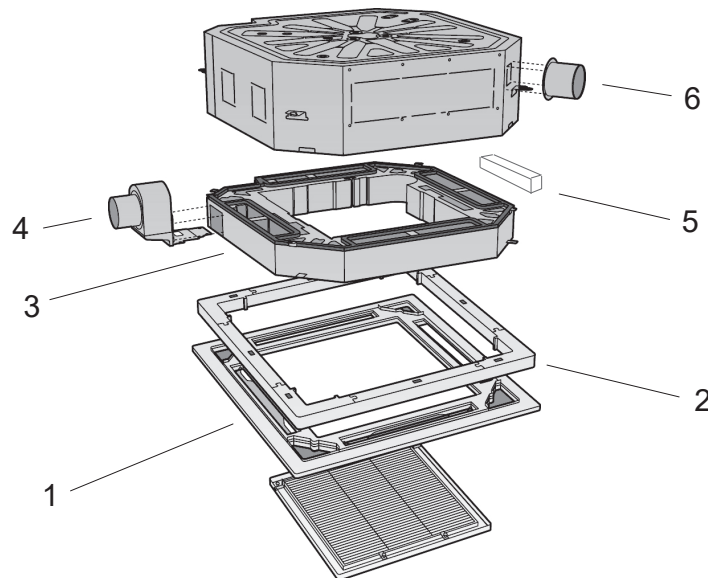


MMU-UP0421HP-UL / UP0481HP-UL / AP0541HP-UL



10. Accessories

Optional parts for 4-Way Cassette type



Optional parts list

No	Type	Model name	Qty/unit	Notes
1	Ceiling Panel	RBC-U32PGP-UL	1	White (2.5GY9.0/0.5)
2	Spacer for height adjustment	TCB-SP1602UUL	1	50 mm
3	Fresh-air chamber	TCB-GFC1602UUL	1	Use with TCB-GB1602UUL
4	Fresh-air inlet box	TCB-GB1602UUL	1	Connection=Dia.100 mm
5	Air-discharge direction kit	TCB-BC1602UUL	1	6-direction patterns
6	Auxiliary fresh air flange	TCB-FF101URUL	1	Connection=Dia.100 mm

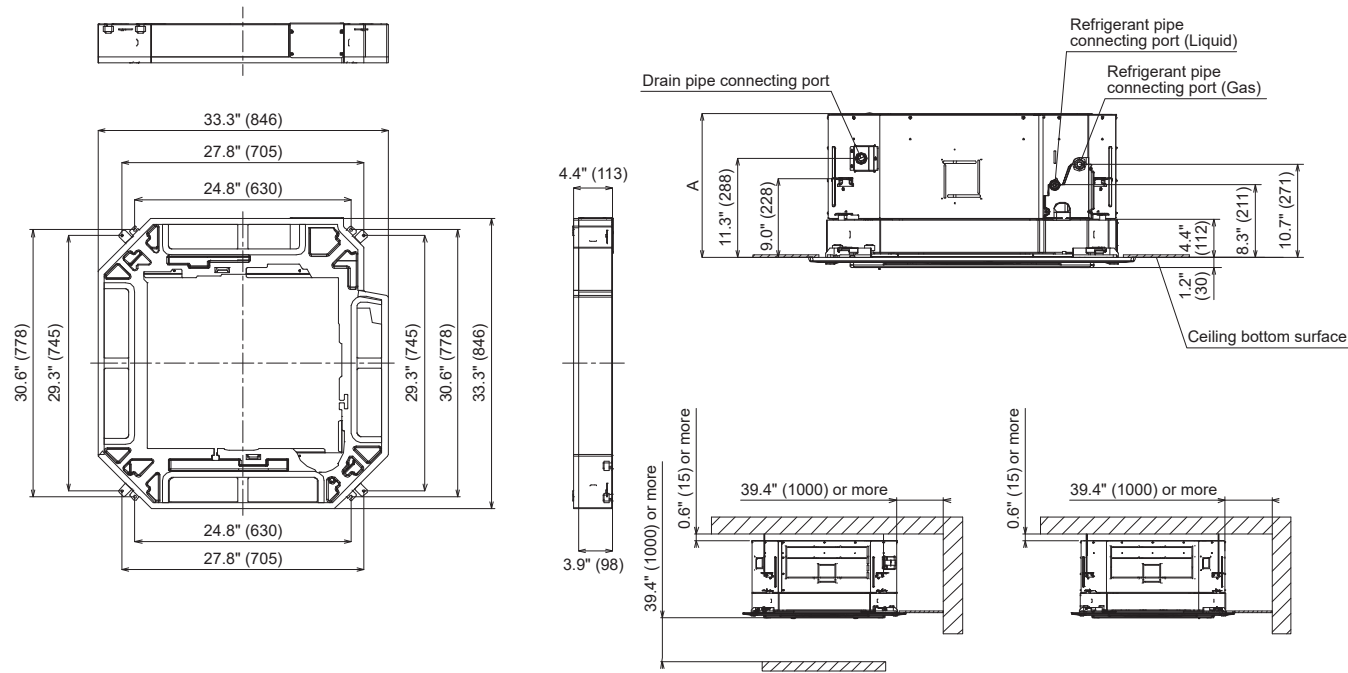
Combination pattern

			Ceiling Panel RBC-U32PGP-UL	Wireless remote control kit RBC-AX31U(W)-UL	Spacer for height adjustment TCB-SP1602UUL	Fresh-air chamber TCB-GFC1602UUL	Fresh-air inlet box + Fresh-air chamber TCB-GB1602UUL + TCB-GFC1602UUL	Air-discharge direction kit TCB-BC1602UUL	Auxiliary fresh air flange TCB-FF101URUL
Panel	Ceiling Panel	RBC-U32PGP-UL	OK	OK	OK	OK	OK	OK	OK
	Wireless remote control kit	RBC-AX31(W)-UL	OK	OK	OK	OK	OK	OK	OK
Optional parts	Spacer for height adjustment	TCB-SP1602UUL	OK	OK	OK	OK	—	OK	OK
	Fresh-air chamber	TCB-GFC1602UUL	OK	OK	OK	OK	—	OK	OK
	Fresh-air inlet box + Fresh-air chamber	TCB-GB1602UUL + TCB-GFC1602UUL	OK	OK	—	—	OK	OK	OK
	Air-discharge direction kit	TCB-BC1602UUL	OK	OK	OK	OK	OK	OK	OK
	Auxiliary fresh air flange	TCB-FF101URUL	OK	OK	OK	OK	OK	OK	OK

Appendix

1. Fresh-air chamber (TCB-GFC1602UUL)

Unit: in (mm)



Space required for installation

	A
007 to 030 type	14.0" (356)
036 to 054 type	16.5" (419)

2. Fresh-air inlet box (TCB-GB1602UUL)

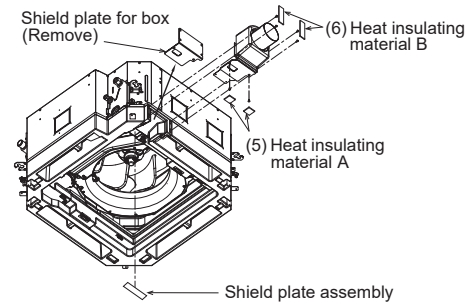
Accessories

(The following parts are included.)

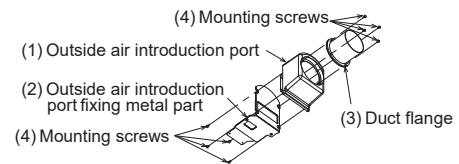
No.	Name	Qty	Remark
(1)	Outside air introduction port	1	
(2)	Outside air introduction port fixing metal part	1	
(3)	Duct flange Ø3.9" (100 mm)	1	
(4)	Mounting screws 0.16" × 0.4" (4 × 10 mm)	16	
(5)	Heat insulating material A	2	
(6)	Heat insulating material B	2	
(7)	Wind shield	1	
(8)	Installation manual	1	
(9)	Wire	1	

Installation

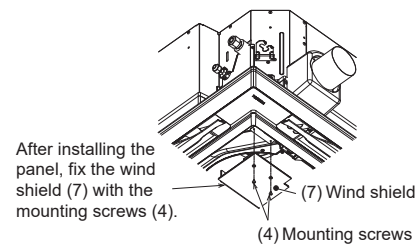
(Fig. 1)



(Fig. 2)

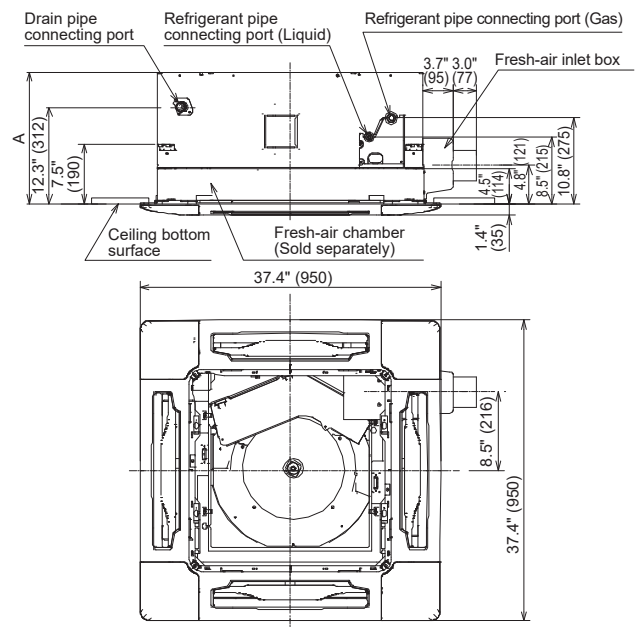
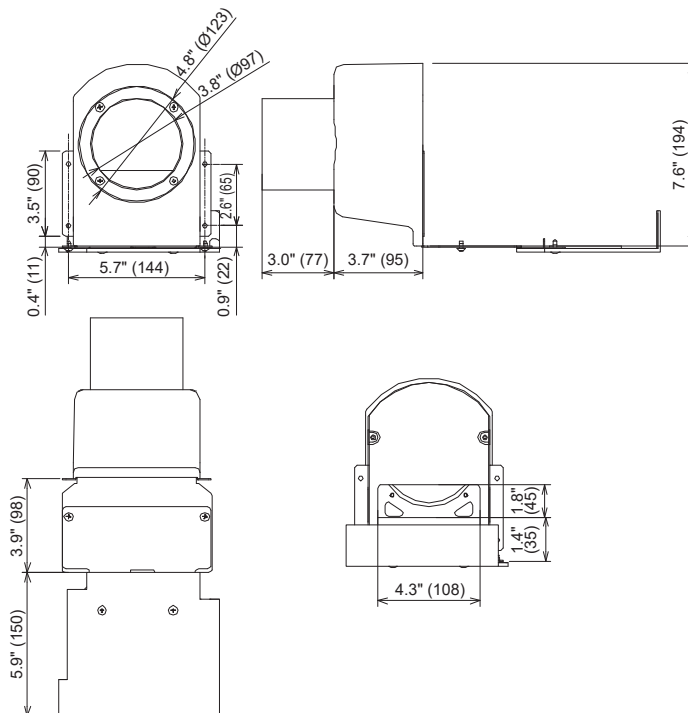


(Fig. 3)



Dimension

Unit: in (mm)



	A
007 to 030 type	14.1" (358)
036 to 054 type	16.6" (421)

NOTE

This inlet box shall be used with the fresh-air chamber.

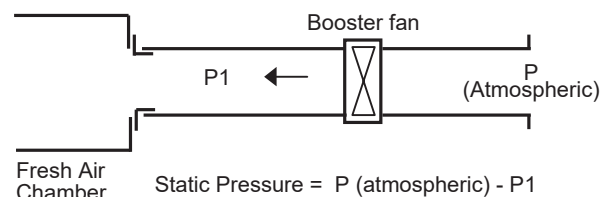
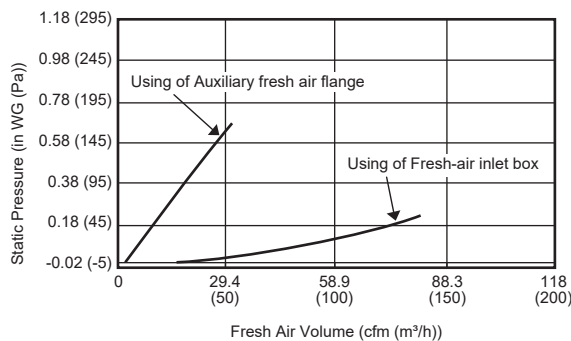
3. Fresh Air Intake

Usage

Fresh air is taken by using Fresh-air chamber and Fresh-air inlet box. And also is subsidiarily taken by using Auxiliary fresh air flange through the knock-out hole of the indoor unit body.

Caution

1. Be sure to provide air return.
2. The fresh air shall be treated by heat reclaim ventilator or the like.
3. Recommended treated air temperature is 54 °F to 86 °F.
4. Be sure to decide the fresh air volume so that mixed suction air with fresh air keep operating temperature.
Provide an air filter in fresh air way to prevent sucking dust.
5. Be sure to insulate the fresh air duct.
In order to accelerate starting up in heating mode, implement pre-heating operation by cutting off Fresh Air Intake.
6. The operating sound might increase when fresh air intake.



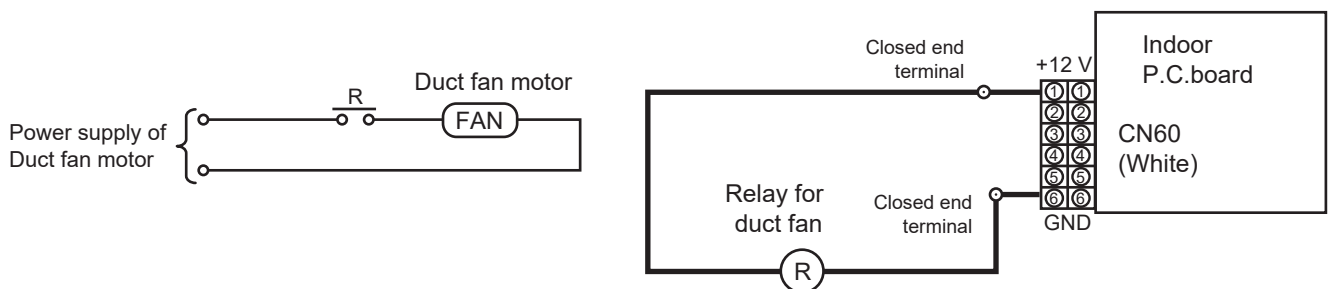
Characteristics between air volume of branching duct and static pressure

Following fresh air intake ratio is available by using the booster fan.

1. Fresh-air inlet box with Fresh-air chamber
Up to 88 cfm and 10% of rated air volume
2. Auxiliary fresh air flange through the knock-out hole of the indoor unit body
Up to 24 cfm

Inter - lock circuit

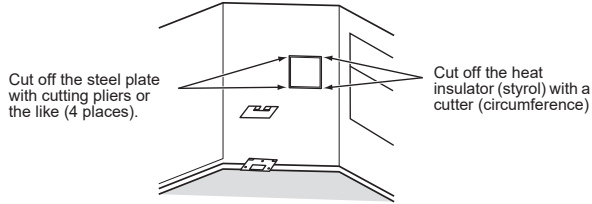
1. Connect the driving relay of the duct fan (DC 12 V) between 1 and 6 on the indoor P.C.board.
Part indicated with a bold line is the connecting circuit.
After installation, implement a test run to check that the duct fan of the indoor unit start / stop simultaneously.
(Implement the test run following to the installation manual of the indoor unit.)



4. Auxiliary fresh air flange (TCB-FF101URUL)

Installation

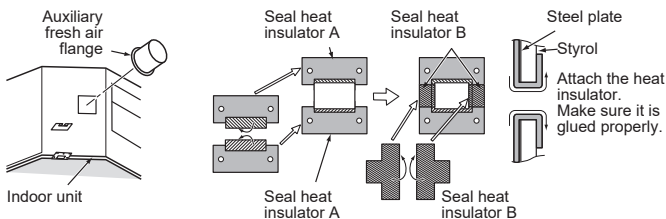
- Using the knockout of the indoor unit main body, as a marker, cut off the flange with the heat insulator (styrol) with cutting pliers or cutter.



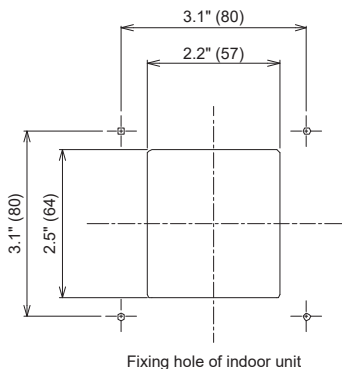
NOTE

When cutting off the styrol inside, be careful not to insert the cutter blade deeper than 1.2" (30mm). (Damage to the drain pan inside can cause water leakage.) Wear safety globes to carry out these works. Do not attempt with bare hands.

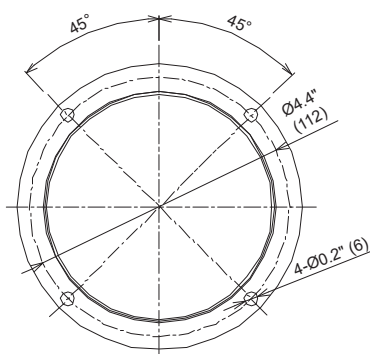
- A gap between the styrol and steel plate may cause a trouble such as condensation. Be sure to attach the attached heat insulator A first with it aligned to the screw hole, and then attach B, according to the right figure.
- Install the auxiliary fresh air flange to the indoor unit main body with attached 4 fixing screws.



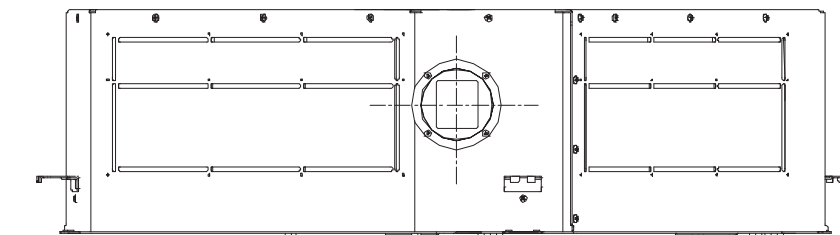
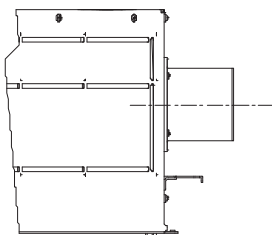
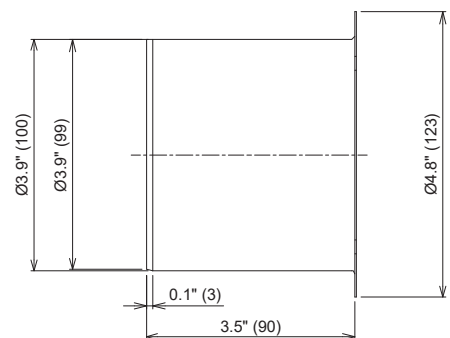
Dimension



Fixing hole of indoor unit



Unit : in (mm)

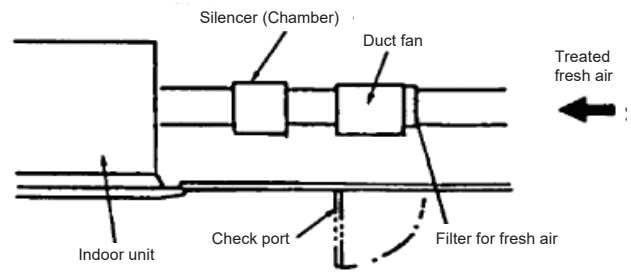


Installation status of indoor unit

Duct fan

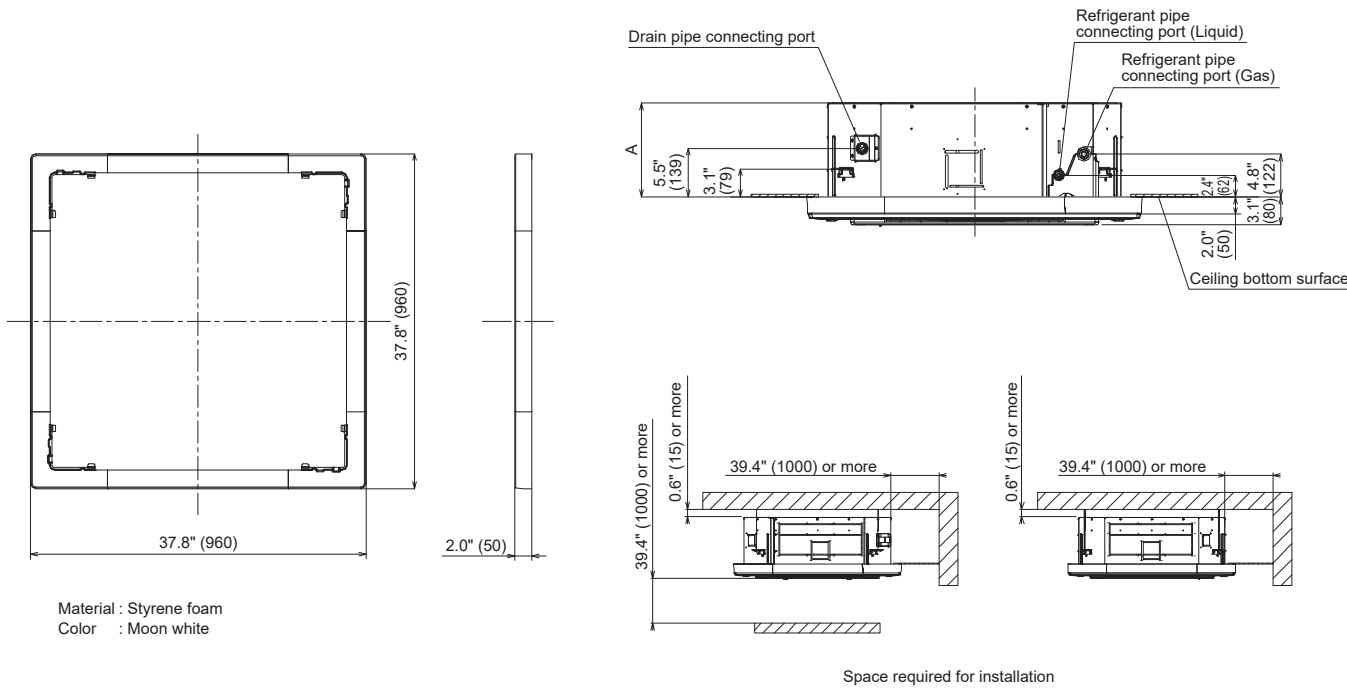
In order to take fresh air, provide the duct fan separately.

- Install the filter for fresh air
- Provide the check port beneath the duct fan for maintenance.
- Connect the duct fan and the indoor unit with interlock wiring.
- Provide the silencer to prevent the effect of noise.



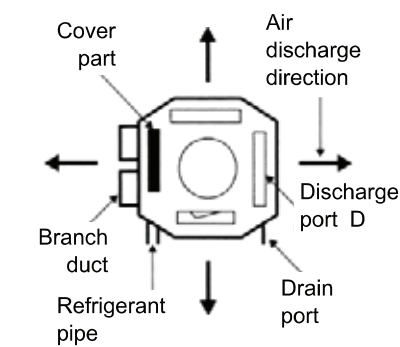
5. Spacer for height adjustment (TCB-SP1602UUL)

Unit: in (mm)



	A
007 to 030 type	8.1" (206)
036 to 054 type	10.6" (269)

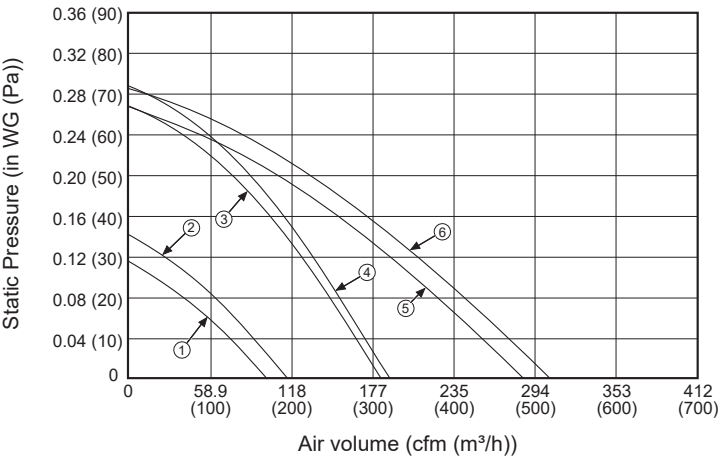
6. Air discharge direction kit (TCB-BC1602UUL)



Limited models only				
3-way air flow				
	Available for all models	Available for all models	Available only for 007 to 030 type	Available only for 036 to 054 type
2-way air flow				
	Available for all models	Available for all models	Available for all models	

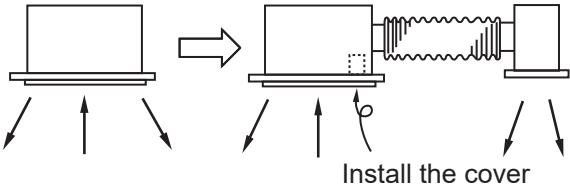
7. Branching duct

Characteristics between air volume of branching duct and static pressure
In case of connecting dia.= 5.91 inch (150 mm) branching duct, static pressure is as follows.



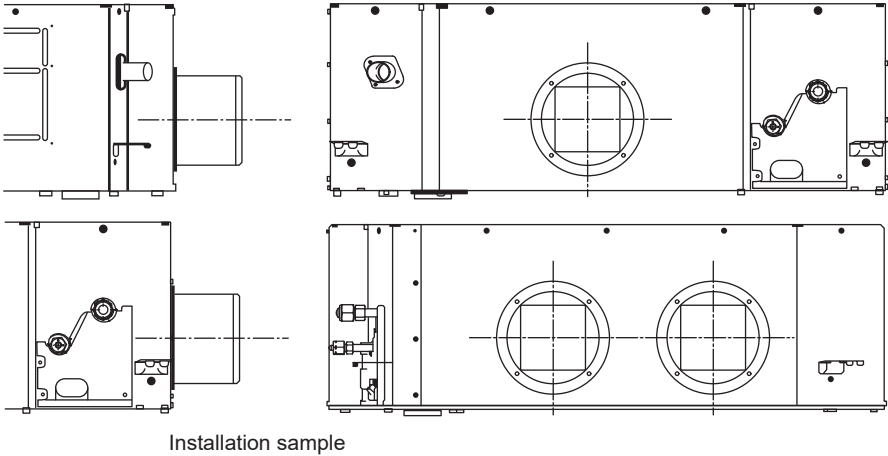
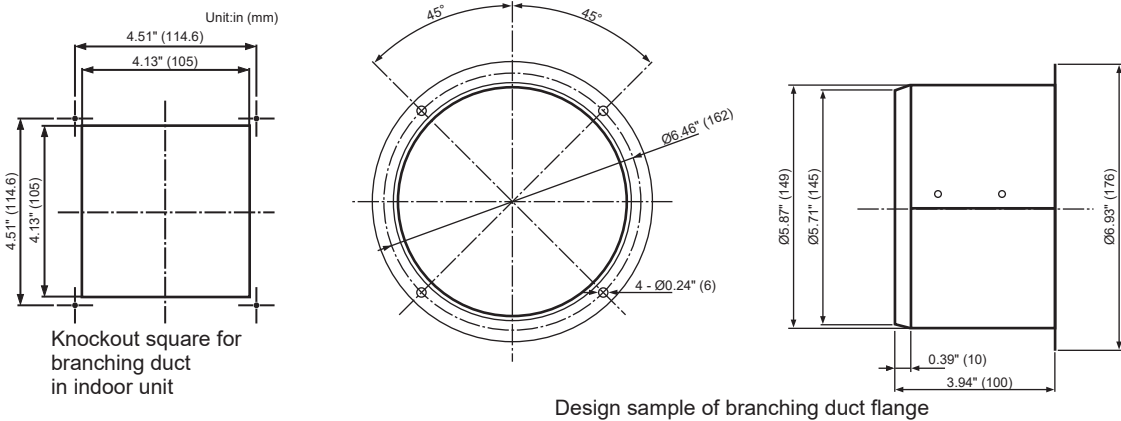
	Model
①	015, 018 type : 3 directions + 1 branch
②	024, 030 type : 3 directions + 1 branch
③	036 type : 3 directions + 1 branch
④	042, 48, 54 type : 3 directions + 1 branch
⑤	036 type : 3 directions + 2 branches
⑥	042, 48, 54 type : 3 directions + 2 branches

Cover method



Use air discharge direction kit (TCB-BC1602UUL) to cover the air discharge port.

Dimension



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