

Super Digital Inverter R410A

Light Commercial System

Indoor Units

4-way Cassette Type

RAV-SM182UTP-UL

RAV-SM242UTP-UL

RAV-SM302UTP-UL

RAV-SM362UTP-UL

RAV-SM422UTP-UL

RAV-SM482UTP-UL

Under Ceiling Type

RAV-SM182CTP-UL

RAV-SM242CTP-UL

RAV-SM302CTP-UL

RAV-SM362CTP-UL

RAV-SM422CTP-UL

RAV-SM482CTP-UL

Standard Duct Type

RAV-SM122BTP-UL

RAV-SM182BTP-UL

RAV-SM242BTP-UL

RAV-SM302BTP-UL

RAV-SM362BTP-UL

RAV-SM422BTP-UL

RAV-SM482BTP-UL

High-wall Type

RAV-SM122KRTP-UL

RAV-SM182KRTP-UL

RAV-SM242KRTP-UL

RAV-SM302KRTP-UL

RAV-SM362KRTP-UL

Outdoor Units

RAV-SP122AT2P-UL

RAV-SP182AT2P-UL

RAV-SP242AT2P-UL

RAV-SP302AT2P-UL

RAV-SP362AT2P-UL

RAV-SP422AT2P-UL

RAV-SP482AT2P-UL

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1. Line up

Outdoor unit

Model name	RAV-SP122AT2P-UL	RAV-SP242AT2P-UL	RAV-SP302AT2P-UL
	RAV-SP182AT2P-UL		RAV-SP362AT2P-UL
			RAV-SP422AT2P-UL
			RAV-SP482AT2P-UL
Appearance			

Indoor unit

Capacity range (k)		Btu / h						
4-way Cassette	 RAV-SMxx2UTP-UL	-	18	24	30	36	42	48
Under Ceiling	 RAV-SMxx2CTP-UL	-	18	24	30	36	42	48
Standard Duct	 RAV-SMxx2BTP-UL	12	18	24	30	36	42	48
High-wall	 RAV-SMxx2KRTP-UL	12	18	24	30	36	-	-

2. Indoor Units

2-1. 4-way Cassette Type

2-1-1. Specifications

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Appendix

2-1-1. Specifications

4-way Cassette Type

Model name	Indoor unit		RAV -	SM182UTP-UL	SM242UTP-UL	SM302UTP-UL	SM362UTP-UL	SM422UTP-UL	SM482UTP-UL
	Outdoor unit		RAV -	SP182AT2P-UL	SP242AT2P-UL	SP302AT2P-UL	SP362AT2P-UL	SP422AT2P-UL	SP482AT2P-UL
Cooling	Capacity		Btu/h	18,000	24,000	30,000	36,000	42,000	48,000
	SEER			24.3	22.5	22.7	23.2	22.1	21.5
	EER			13.7	12.0	13.9	13.0	11.7	10.3
Heating	Capacity		Btu/h	20,000	27,000	34,000	40,000	47,000	54,000
	HSPF			12.3	10.7	11.8	11.9	11.1	10.6
	COP			13.9	13.2	13.8	13.3	12.0	11.0
Power supply				1 Phase 208V/230V 60 Hz					
Indoor unit									
Outer dimension	Main unit	Height	In	10.1		12.6			
		Width	In	33.1		33.1			
		Depth	In	33.1		33.1			
	Panel	Height	In	1.2					
		Width	In	37.4					
		Depth	In	37.4					
Total weight	Main unit		lbs.	46		55			
	Panel		lbs.	10					
Air flow volume	Indoor unit (H/M/L)		CFM	670 / 540 / 470	730 / 630 / 510	1150 / 840 / 630	1200 / 850 / 650	1250 / 870 / 650	1300 / 1080 / 880
Sound Pressure Level (H/M/L)			dB(A)	38 / 33 / 31	41 / 37 / 34	43 / 38 / 34	45 / 39 / 35	46 / 40 / 36	48 / 44 / 41
Fan motor output			w	60		130			
Drain tube size (outside diameter)			In	1.3" (VP25)					
Outdoor unit									
Air flow volume	Cooling / Heating		CFM	1590 / 1590	2300 / 2220	3570 / 2870	3570 / 3100	3570 / 3290	4540 / 4060
Sound Pressure Level (High) Cooling / Heating			dB(A)	48 / 52	52 / 54	54 / 54	54 / 54	54 / 54	60 / 60
Outer dimension	Height	In	21.7	35.0	52.8				
	Width	In	30.7	35.4	35.4				
	Depth	In	11.4	12.6	12.6				
Total weight	Main unit	lbs.	99	141	218			234	
Pipe	Min. legth		ft.	16'5"					
	Max. total length		ft.	164'1"		246'1"			
Flare Connections	Gas side	In	1 / 2"	5 / 8"					
	Liquid side	In	1 / 4"	3 / 8"					
Operating Range	Cooling		(°F)	5 to 115					
	Cooling with Wind buffels		(°F)	5 to 115		-13 to 115			
	Heating		(°F)	-13 to 59					

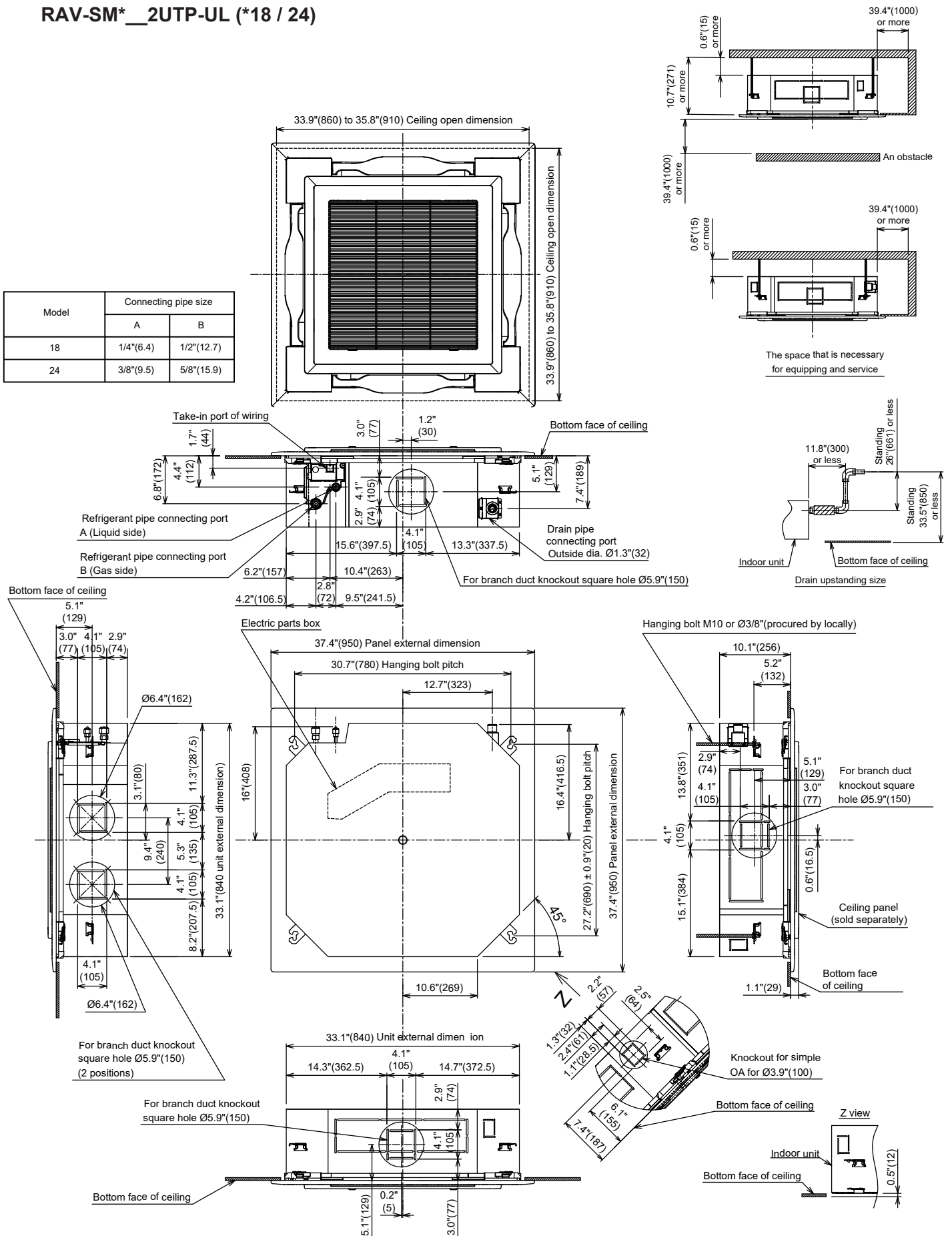
Rated conditions Cooling : Indoor air temperature 80°F (27°C) DB / 67°F (19°C) WB, Outdoor air temperature 95°F (35°C) DB

Heating : Indoor air temperature 70°F (21°C) DB, Outdoor air temperature 47°F (8°C) DB/43°F (6°C) WB

2-1-2. Dimension

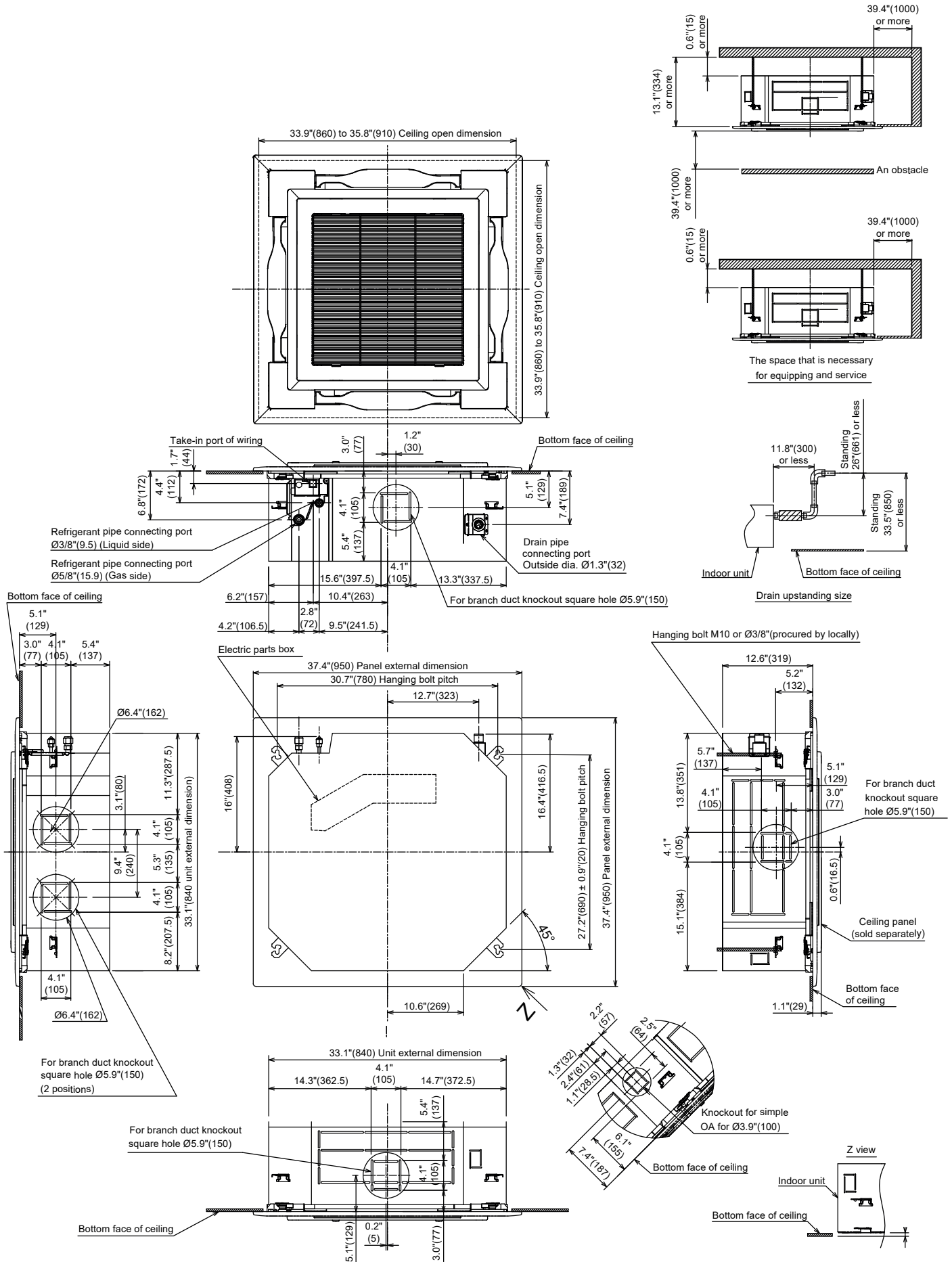
RAV-SM*_2UTP-UL (*18 / 24)

Model	Connecting pipe size	
	A	B
18	1/4"(6.4)	1/2"(12.7)
24	3/8"(9.5)	5/8"(15.9)



Unit : in(mm)

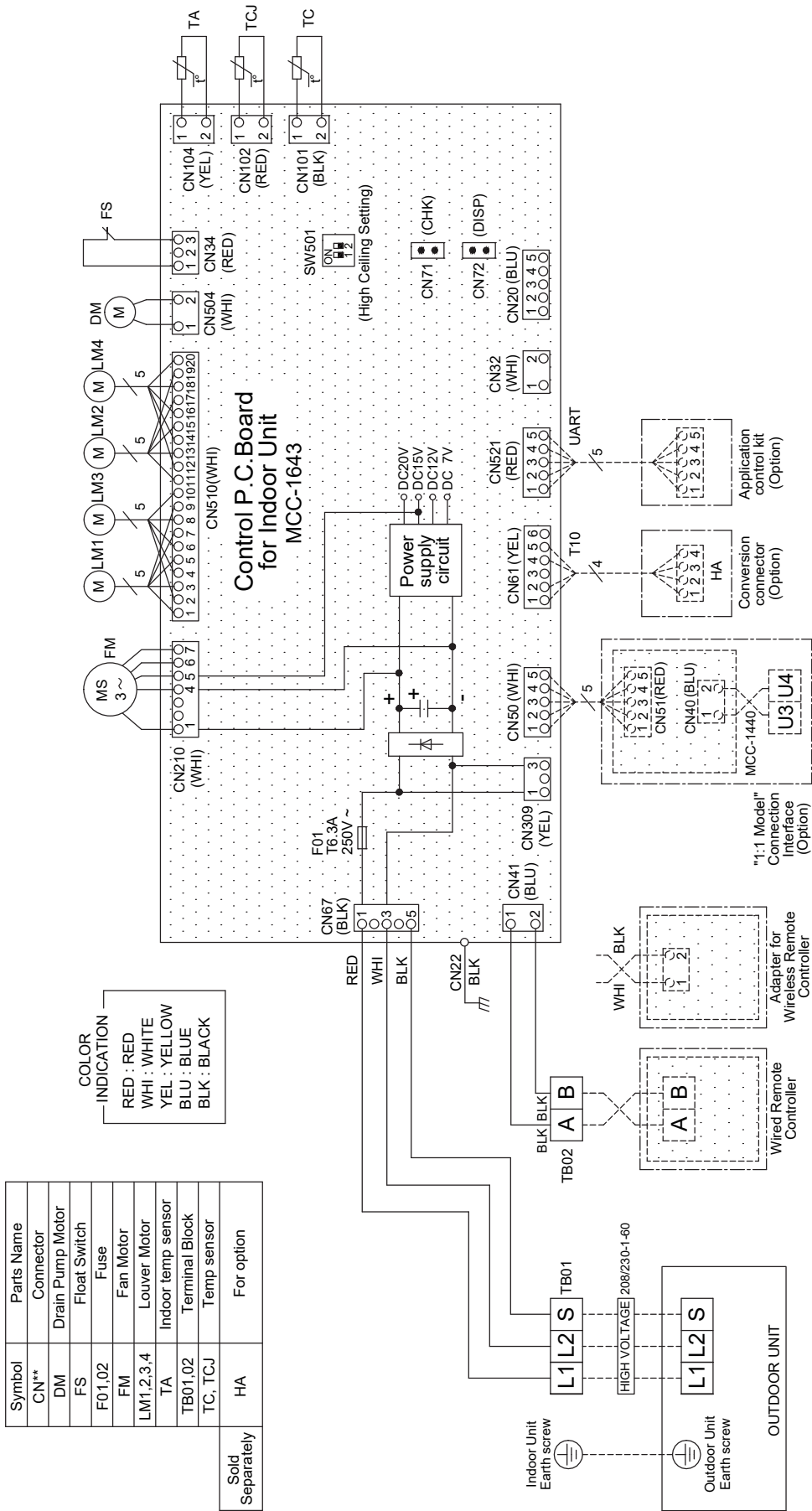
RAV-SM*_2UTP-UL (*30 / 36 / 42 / 48)



Unit : in(mm)

2-1-3. Wiring Diagrams

RAV-SM*_2UTP-UL (*18 / 24 / 30 / 36 / 42 / 48)



2-1-4. Sensible Capacity Table

Product models : RAV-SM_2UTP-UL : RAV-SP_2AT2P-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
18	50	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	54	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	57	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	61	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	64	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	68	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	70	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	73	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	77	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	81	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	84	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	88	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	91	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	95	14780	13570	16340	14440	17460	15350	18000	15300	18540	15300	19620	15160	20520	14810
	99	14350	13180	15870	14020	16950	14900	17480	14860	18000	14860	19050	14720	19920	14380
	102	14010	12860	15490	13690	16550	14550	17060	14500	17580	14500	18600	14370	19450	14040
24	50	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	54	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	57	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	61	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	64	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	68	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	70	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	73	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	77	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	81	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	84	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	88	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	91	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	95	19700	17020	21790	18130	23280	19260	24000	19200	24720	19200	26160	19020	27360	18580
	99	19130	16530	21160	17600	22600	18700	23300	18640	24000	18640	25400	18470	26570	18040
	102	18680	16130	20660	17190	22070	18260	22750	18200	23430	18200	24800	18030	25940	17610
30	50	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	54	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	57	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	61	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	64	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	68	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	70	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	73	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	77	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	81	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	84	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	88	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	91	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	95	24630	20480	27240	21810	29100	23170	30000	23100	30900	23100	32700	22890	34200	22360
	99	23920	19890	26450	21180	28260	22500	29130	22430	30000	22430	31750	22230	33210	21710
	102	23350	19420	25820	20680	27590	21970	28440	21900	29290	21900	31000	21700	32420	21200
36	50	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	54	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	57	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	61	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	64	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	68	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	70	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	73	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	77	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	81	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	84	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	88	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	91	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	95	29560	23940	32690	25500	34920	27080	36000	27000	37080	27000	39240	26750	41040	26130
	99	28700	23250	31740	24760	33910	26290	34960	26220	36000	26220	38100	25970	39850	25370
	102	28020	22700	30990	24170	33100	25670	34130	25600	35150	25600	37200	25360	38910	24770

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Product models : RAV-SM__2UTP-UL : RAV-SP__2AT2P-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
42	50	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	54	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	57	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	61	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	64	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	68	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	70	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	73	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	77	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	81	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	84	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	88	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	91	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	95	35750	27800	37400	28560	39770	29730	42000	30660	42720	30750	45420	30350	47290	29220
	99	34710	26990	36320	27730	38620	28870	40780	29770	41480	29860	44100	29470	45920	28370
	102	33890	26350	35460	27070	37700	28180	39820	29070	40500	29150	43060	28770	44830	27700
48	50	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	54	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	57	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	61	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	64	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	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
	77	40850	30460	42740	31290	45450	32580	48000	33600	48820	33690	51910	33260	54050	32020
	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	39665	29577	41501	30383	44132	31635	46608	32626	47404	32713	50405	32295	52483	31091
	102	38726	28876	40518	29663	43087	30886	45504	31853	46281	31938	49211	31530	51239	30355

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Heating capacity table

Product model : RAV-SM_2UTP-UL : RAV-SP_2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
18	59	57	24528	1495	24274	1538	24125	1591	23981	1663	23838	1745
	50	48	22266	1417	22035	1458	21900	1508	21769	1576	21639	1654
	47	43	20334	1353	20124	1392	20000	1440	19880	1505	19762	1579
	41	39	18961	1310	18765	1348	18650	1395	18538	1458	18428	1530
	36	34	17004	1247	16828	1283	16725	1327	16625	1387	16526	1455
	32	31	13268	1105	13131	1137	13050	1176	12972	1229	12895	1290
	23	22	13268	1105	13131	1137	13050	1176	12972	1229	12895	1290
	19	18	12480	1077	12351	1108	12275	1146	12202	1198	12129	1257
	14	13	11438	1027	11320	1057	11250	1093	11183	1143	11116	1199
	5	4	9633	970	9534	999	9475	1033	9418	1080	9362	1133
	1	0	7270	891	7204	919	7140	949	7112	993	7052	1042
	-3	-4	5686	836	5638	862	5580	890	5564	931	5510	977
	-13	-13	3046	743	3028	767	2980	792	2984	828	2940	869
24	59	57	33113	2128	32770	2189	32569	2265	32374	2367	32181	2484
	50	48	30059	2017	29748	2075	29565	2147	29388	2244	29213	2354
	47	43	27451	1926	27167	1982	27000	2050	26838	2143	26679	2248
	41	39	25598	1866	25333	1920	25178	1986	25027	2076	24878	2178
	36	34	22956	1775	22718	1826	22579	1889	22444	1975	22310	2072
	32	31	17912	1573	17726	1619	17618	1674	17512	1750	17408	1836
	23	22	17912	1573	17726	1619	17618	1674	17512	1750	17408	1836
	19	18	16848	1533	16674	1577	16571	1631	16472	1705	16374	1789
	14	13	15441	1462	15281	1505	15188	1556	15097	1627	15007	1707
	5	4	13005	1382	12870	1422	12791	1470	12715	1537	12639	1613
	1	0	9815	1269	9725	1308	9639	1352	9601	1413	9520	1483
	-3	-4	7676	1190	7611	1227	7533	1267	7511	1326	7439	1391
	-13	-13	4112	1057	4088	1092	4023	1127	4028	1179	3969	1237
30	59	57	41697	2564	41266	2638	41013	2729	40767	2852	40525	2992
	50	48	37852	2430	37460	2500	37230	2586	37007	2704	36787	2836
	47	43	34568	2321	34210	2388	34000	2470	33797	2582	33595	2709
	41	39	32234	2248	31901	2313	31705	2392	31515	2501	31328	2624
	36	34	28907	2138	28608	2200	28433	2276	28262	2379	28094	2496
	32	31	22555	1895	22322	1950	22185	2017	22052	2109	21921	2212
	23	22	22555	1895	22322	1950	22185	2017	22052	2109	21921	2212
	19	18	21216	1847	20997	1900	20868	1966	20743	2055	20619	2156
	14	13	19444	1762	19243	1813	19125	1875	19011	1960	18897	2056
	5	4	16376	1665	16207	1713	16108	1772	16011	1852	15916	1943
	1	0	12359	1529	12247	1576	12138	1628	12090	1703	11988	1787
	-3	-4	9666	1433	9585	1478	9486	1527	9459	1597	9367	1676
	-13	-13	5178	1274	5148	1315	5066	1358	5073	1420	4998	1491
36	59	57	49056	3124	48548	3215	48250	3325	47961	3476	47676	3647
	50	48	44531	2961	44071	3047	43800	3152	43538	3295	43279	3457
	47	43	40668	2828	40247	2910	40000	3010	39761	3146	39524	3301
	41	39	37923	2739	37531	2819	37300	2915	37077	3048	36856	3197
	36	34	34009	2606	33657	2681	33450	2774	33250	2899	33052	3042
	32	31	26536	2310	26261	2377	26100	2458	25944	2570	25789	2696
	23	22	26536	2310	26261	2377	26100	2458	25944	2570	25789	2696
	19	18	24960	2251	24702	2316	24550	2395	24403	2504	24258	2627
	14	13	22876	2147	22639	2209	22500	2285	22365	2389	22232	2506
	5	4	19266	2029	19067	2087	18950	2159	18837	2257	18725	2368
	1	0	14540	1863	14408	1921	14280	1984	14224	2075	14104	2178
	-3	-4	11372	1747	11276	1801	11160	1861	11128	1946	11020	2042
	-13	-13	6092	1553	6056	1603	5960	1655	5968	1731	5880	1817

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

Product model : RAV-SM__2UTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
42	59	57	57640	4079	57044	4197	56694	4342	56355	4538	56019	4761
	50	48	52324	3867	51783	3978	51465	4115	51157	4302	50853	4513
	47	43	47785	3693	47291	3799	47000	3930	46719	4108	46441	4310
	41	39	44559	3577	44098	3680	43828	3807	43565	3979	43306	4175
	36	34	39960	3403	39547	3501	39304	3621	39069	3785	38836	3971
	32	31	31180	3016	30857	3103	30668	3210	30484	3355	30303	3520
	23	22	31180	3016	30857	3103	30668	3210	30484	3355	30303	3520
	19	18	29328	2939	29025	3024	28846	3128	28674	3269	28503	3430
	14	13	26879	2803	26601	2884	26438	2984	26279	3119	26123	3272
	5	4	22638	2649	22404	2725	22266	2819	22133	2947	22001	3091
	1	0	17085	2433	16929	2508	16779	2591	16713	2710	16572	2843
	-3	-4	13362	2281	13249	2352	13113	2430	13075	2541	12949	2667
	-13	-13	7158	2027	7116	2093	7003	2160	7012	2260	6909	2372
48	59	57	66225	5117	65540	5265	65138	5446	64748	5693	64363	5973
	50	48	60117	4850	59496	4991	59130	5162	58776	5396	58427	5661
	47	43	54902	4632	54334	4766	54000	4930	53677	5153	53358	5407
	41	39	51196	4487	50666	4616	50355	4775	50054	4992	49756	5237
	36	34	45912	4268	45437	4392	45158	4543	44887	4749	44620	4982
	32	31	35823	3783	35453	3893	35235	4027	35024	4209	34816	4416
	23	22	35823	3783	35453	3893	35235	4027	35024	4209	34816	4416
	19	18	33696	3686	33347	3793	33143	3923	32944	4101	32748	4303
	14	13	30882	3517	30563	3618	30375	3743	30193	3912	30014	4104
	5	4	26010	3323	25741	3419	25583	3536	25429	3696	25278	3878
	1	0	19629	3052	19451	3146	19278	3250	19202	3399	19040	3567
	-3	-4	15352	2861	15223	2951	15066	3048	15023	3188	14877	3345
	-13	-13	8224	2543	8176	2625	8046	2710	8057	2835	7938	2975

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

2-1-5. Part Load Performance

Indoor : RAV-SM182UTP-UL
Outdoor : RAV-SP182AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 4000	200	3000	150
RATING	Btu/h 18000	1310	20000	1440
MAXIMUM	Btu/h 19100	1800	21400	2180

Q : Capacity (Btu/h)
P : Power consumption (W)

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	21470	1030	19320	920	17170	800	15030	690	12880	580	10730	470	8590	360	6440	240	4770	160	4770	160
70(21)	21230	1050	19110	930	16990	820	14860	700	12740	590	10620	480	8490	360	6370	250	4720	160	4720	160
72(22)	21000	1070	18900	950	16800	830	14700	720	12600	600	10500	490	8400	370	6300	250	4670	160	4670	160
73(23)	20770	1080	18690	970	16620	850	14540	730	12460	610	10390	490	8310	380	6230	260	4620	170	4620	170
75(24)	20540	1100	18490	980	16430	860	14380	740	12320	620	10270	500	8220	380	6160	260	4560	170	4560	170
77(25)	20310	1120	18280	1000	16250	880	14220	760	12190	630	10160	510	8120	390	6090	270	4510	170	4510	170
79(26)	20080	1140	18070	1020	16060	890	14060	770	12050	640	10040	520	8030	400	6020	270	4460	170	4460	170
81(27)	19850	1160	17860	1030	15880	910	13890	780	11910	650	9920	530	7940	400	5950	280	4410	180	4410	180
82(28)	19620	1180	17660	1050	15690	920	13730	790	11770	660	9810	540	7850	410	5890	280	4360	180	4360	180
84(29)	19390	1200	17450	1070	15510	940	13570	810	11630	680	9690	550	7750	410	5820	280	4310	180	4310	180
86(30)	19160	1220	17240	1080	15320	950	13410	820	11490	690	9580	550	7660	420	5750	290	4260	190	4260	190
88(31)	18920	1230	17030	1100	15140	970	13250	830	11350	700	9460	560	7570	430	5680	290	4210	190	4210	190
90(32)	18690	1250	16820	1120	14950	980	13090	840	11220	710	9350	570	7480	430	5610	300	4150	190	4150	190
91(33)	18460	1270	16620	1130	14770	1000	12920	860	11080	720	9230	580	7380	440	5540	300	4100	190	4100	190
93(34)	18230	1290	16410	1150	14580	1010	12760	870	10940	730	9120	590	7290	450	5470	310	4050	200	4050	200
95(35)	18000	1310	16200	1170	14400	1020	12600	880	10800	740	9000	600	7200	450	5400	310	4000	200	4000	200
97(36)	17770	1330	15990	1180	14220	1040	12440	890	10660	750	8880	600	7110	460	5330	320	3950	200	3950	200
99(37)	17540	1350	15780	1200	14030	1050	12280	910	10520	760	8770	610	7020	470	5260	320	3900	210	3900	210
100(38)	17310	1370	15580	1220	13850	1070	12110	920	10380	770	8650	620	6920	470	5190	320	3850	210	3850	210
102(39)	17080	1390	15370	1230	13660	1080	11950	930	10250	780	8540	630	6830	480	5120	330	3790	210	3790	210
104(40)	16850	1400	15160	1250	13480	1100	11790	950	10110	790	8420	640	6740	490	5050	330	3740	210	3740	210
106(41)	16610	1420	14950	1270	13290	1110	11630	960	9970	800	8310	650	6650	490	4980	340	3690	220	3690	220
108(42)	16380	1440	14740	1280	13110	1130	11470	970	9830	810	8190	660	6550	500	4910	340	3640	220	3640	220
109(43)	16130	1450	14510	1290	12900	1130	11290	980	9680	820	8060	660	6450	500	4840	340	3580	220	3580	220
111(44)	15860	1450	14270	1290	12690	1130	11100	980	9510	820	7930	660	6340	500	4760	340	3520	220	3520	220
113(45)	14910	1120	13420	1000	11930	880	10440	760	8950	630	7460	510	5970	390	4470	270	3310	170	3310	170
115(46)	14640	1120	13180	1000	11710	880	10250	760	8790	630	7320	510	5860	390	4390	270	3250	170	3250	170

Heating																				
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	6510	680	5860	610	5210	540	4560	470	3910	400	3250	320	2600	250	1950	180	1300	110	980	70
-11(-24)	6840	700	6150	620	5470	550	4790	480	4100	400	3420	330	2740	260	2050	180	1370	110	1030	70
-9(-23)	7170	710	6450	630	5730	560	5020	480	4300	410	3580	330	2870	260	2150	190	1430	110	1070	70
-8(-22)	7500	720	6750	640	6000	570	5250	490	4500	410	3750	340	3000	260	2250	190	1500	110	1120	70
-6(-21)	7820	730	7040	650	6260	570	5480	500	4690	420	3910	340	3130	270	2350	190	1560	110	1170	80
-4(-20)	8150	740	7340	660	6520	580	5710	500	4890	430	4080	350	3260	270	2450	190	1630	120	1220	80
-2(-19)	8440	760	7600	680	6750	600	5910	520	5070	440	4220	360	3380	280	2530	200	1690	120	1270	80
0(-18)	8730	780	7860	700	6990	620	6110	530	5240	450	4370	370	3490	290	2620	200	1750	120	1310	80
1(-17)	9020	800	8120	720	7220	630	6320	550	5410	460	4510	380	3610	290	2710	210	1800	130	1350	80
3(-16)	9310	820	8380	730	7450	650	6520	560	5590	480	4660	390	3720	300	2790	220	1860	130	1400	90
5(-15)	9600	840	8640	750	7680	660	6720	580	5760	490	4800	400	3840	310	2880	220	1920	130	1440	90
7(-14)	10100	850	9090	760	8080	670	7070	580	6060	490	5050	400	4040	310	3030	220	2020	130	1510	90
9(-13)	10600	860	9540	770	8480	680	7420	590	6360	500	5300	410	4240	320	3180	220	2120	130	1590	90
10(-12)	11100	870	9990	770	8880	680	7770	590	6660	500	5550	410	4440	320	3330	230	2220	140	1660	90
12(-11)	11590	870	10430	780	9280	690	8120	600	6960	500	5800	410	4640	320	3480	230	2320	140	1740	90
14(-10)	12090	880	10880	790	9670	690	8460	600	7260	510	6050	420	4840	320	3630	230	2420	140	1810	90
16(-9)	12590	890	11330	790	10070	700	8810	610	7550	510	6300	420	5040	330	3780	230	2520	140	1890	90
18(-8)	13090	900	11780	800	10470	710	9160	610	7850	520	6540	420	5240	330	3930	230	2620	140	1960	90
19(-7)	13590	900	12230	810	10870	710	9510	620	8150	520	6790	430	5430	330	4080	240	2720	140	2040	90
21(-6)	13690	940	12320	840	10950	740	9580	650	8210	550	6840	450	5480	350	4110	250	2740	150	2050	100
23(-5)	13790	990	12410	880	11030	780	9650	670	8270	570	6890	470	5520	360	4140	260	2760	150	2070	100
25(-4)	13890	1030	12500	920	11110	810	9720	700	8330	590	6940	490	5560	380	4170	270	2780	160	2080	110
27(-3)	13990	1070	12590	960	11190	840	9790	730	8390	620	6990	510	5600	390	4200	280	2800	170	2100	110
28(-2)	14090	1110	12680	990	11270	880	9860	760	8450	640	7050	520	5640	410	4230	290	2820	170	2110	120
30(-1)	14190	1150	12770	1030	11350	910	9930	790	8510	670	7100	540	5680	420	4260	300	2840	180	2130	120
32(0)	14290	1190	12860	1070	11430	940	10000	810	8570	690	7150	560	5720	440	4290	310	2860	190	2140	120
34(1)	14390	1230	12950	1100	11510	970	10070	840	8640	710	7200	580	5760	450	4320	320	2880	190	2160	130
36(2)	14490	1270	13040	1140	11590	1010	10140	870	8700	740	7250	600	5800	470	4350	330	2900	200	2170	130
37(3)	14730	1290	13260	1160	11780	1020	10310	880	8840	750	7370	610	5890	470	4420	340	2950	200	2210	130
39(4)	14970	1310	13470	1170	11970	1030	10480	890	8980	760	7480	620	5990	480	4490	340	2990	210	2250	140
41(5)	15200	1330	13680	1190	12160	1050	10640	910	9120	770	7600	630	6080	490	4560	350	3040	210	2280	140
43(6)	19480	1420	17540	1270	15590	1120	13640	970	11690	820	9740	670	7790	520	5850	370	3900	220	2920	150
45(7)	20000	1440	18000	1290	16000	1140	14000	980	12000	830	10000	680	8000	530	6000	380	4000	230	3000	150
46(8)	20520	1460	18460	1310	16410	1150	14360	1000	12310	850	10260	690	8210	540	6150	380	4100	230	3080	150
48(9)	21030	1480	18930	1330	16830	1170	14720	1020	12620	860	10520	700	8410	550	6310	390	4210	230	3150	150
50(10)	21550	1510	19390	1350	17240	1190	15080	1030	12930	870	10770	710	8620	550	6460	400	4310	240	3230	160
52(11)	22060	1530	19860	1370	17650	1210	15450	1050	13240	880	11030	720	8830	560	6620	400	4410	240	3310	160
54(12)	22580	1550	20320	1390	18060	1220	15810	1060	13550	900	11290	730	9030	570	6770	410	4520	240	3390	160
55(13)	23100	1570	20790	1410	18480	1240	16170	1080	13860	910	11550	740	9240	580	6930	410	4620	250	3460	160
57(14)	23610	1600	21250	1430	18890	1260	16530	1090	14170	920	11810	760	9450	590	7080	420	4720	250	3540	170
59(15)	24130	1620	21720	1450	19300	1280	16890	1110	14480	940	12060	770	9650	590	7240	420	4830	250	3620	170

Indoor : **RAV-SM242UTP-UL**
Outdoor : **RAV-SP242AT2P-UL**

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h	6500	300	5100
RATING	Btu/h	24000	2000	27000
MAXIMUM	Btu/h	27300	2440	38500

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	28620	1570	25760	1390	22900	1200	20030	1020	17170	840	14310	650	11450	470	8590	290	7750	240	7750	240
70(21)	28310	1600	25480	1410	22650	1230	19820	1040	16990	850	14160	670	11320	480	8490	290	7670	240	7670	240
72(22)	28000	1630	25200	1440	22400	1250	19600	1060	16800	870	14000	680	11200	490	8400	300	7580	240	7580	240
73(23)	27700	1660	24930	1460	22160	1270	19390	1080	16620	880	13850	690	11080	500	8310	300	7500	250	7500	250
75(24)	27390	1680	24650	1490	21910	1290	19170	1100	16430	900	13690	700	10960	510	8220	310	7420	250	7420	250
77(25)	27080	1710	24370	1510	21660	1310	18960	1110	16250	910	13540	710	10830	510	8120	320	7330	260	7330	260
79(26)	26770	1740	24090	1540	21420	1340	18740	1130	16060	930	13390	730	10710	520	8030	320	7250	260	7250	260
81(27)	26460	1770	23820	1560	21170	1360	18520	1150	15880	950	13230	740	10590	530	7940	330	7170	270	7170	270
82(28)	26160	1800	23540	1590	20920	1380	18310	1170	15690	960	13080	750	10460	540	7850	330	7080	270	7080	270
84(29)	25850	1830	23260	1610	20680	1400	18090	1190	15510	980	12920	760	10340	550	7750	340	7000	270	7000	270
86(30)	25540	1860	22990	1640	20430	1420	17880	1210	15320	990	12770	770	10220	560	7660	340	6920	280	6920	280
88(31)	25230	1890	22710	1670	20190	1450	17660	1230	15140	1010	12620	790	10090	570	7570	350	6830	280	6830	280
90(32)	24920	1910	22430	1690	19940	1470	17450	1240	14950	1020	12460	800	9970	580	7480	350	6750	290	6750	290
91(33)	24620	1940	22150	1720	19690	1490	17230	1260	14770	1040	12310	810	9850	580	7380	360	6670	290	6670	290
93(34)	24310	1970	21880	1740	19450	1510	17020	1280	14580	1050	12150	820	9720	590	7290	360	6580	300	6580	300
95(35)	24000	2000	21600	1770	19200	1530	16800	1300	14400	1070	12000	830	9600	600	7200	370	6500	300	6500	300
97(36)	23690	2030	21320	1790	18950	1560	16580	1320	14220	1080	11850	850	9480	610	7110	370	6420	300	6420	300
99(37)	23380	2060	21050	1820	18710	1580	16370	1340	14030	1100	11690	860	9350	620	7020	380	6330	310	6330	310
100(38)	23080	2090	20770	1840	18460	1600	16150	1360	13850	1110	11540	870	9230	630	6920	380	6250	310	6250	310
102(39)	22770	2110	20490	1870	18210	1620	15940	1380	13660	1130	11380	880	9110	640	6830	390	6170	320	6170	320
104(40)	22460	2140	20210	1890	17970	1640	15720	1390	13480	1140	11230	890	8980	640	6740	390	6080	320	6080	320
106(41)	22150	2170	19940	1920	17720	1670	15510	1410	13290	1160	11080	910	8860	650	6650	400	6000	330	6000	330
108(42)	21840	2200	19660	1940	17480	1690	15290	1430	13110	1170	10920	920	8740	660	6550	400	5920	330	5920	330
109(43)	21540	2230	19380	1970	17230	1710	15080	1450	12920	1190	10770	930	8610	670	6460	410	5830	330	5830	330
111(44)	21230	2260	19110	1990	16980	1730	14860	1470	12740	1210	10610	940	8490	680	6370	420	5750	340	5750	340
113(45)	20790	2260	18710	2000	16630	1730	14550	1470	12470	1210	10400	940	8320	680	6240	420	5630	340	5630	340
115(46)	20340	2260	18310	2000	16280	1730	14240	1470	12210	1210	10170	940	8140	680	6100	420	5510	340	5510	340

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	8680	850	7810	760	6950	660	6080	570	5210	480	4340	390	3470	300	2600	210	1740	110	1640	100
-11(-24)	9150	860	8230	770	7320	670	6400	580	5490	490	4570	390	3660	300	2740	210	1830	110	1730	100
-9(-23)	9610	870	8650	770	7690	680	6730	590	5770	490	4810	400	3840	300	2880	210	1920	120	1820	110
-8(-22)	10080	880	9070	780	8060	690	7050	590	6050	500	5040	400	4030	310	3020	210	2020	120	1900	110
-6(-21)	10540	890	9490	790	8430	700	7380	600	6320	500	5270	410	4220	310	3160	220	2110	120	1990	110
-4(-20)	11010	900	9900	800	8800	700	7700	610	6600	510	5500	410	4400	320	3300	220	2200	120	2080	110
-2(-19)	11350	920	10210	820	9080	720	7940	620	6810	520	5670	420	4540	320	3400	220	2270	120	2140	110
0(-18)	11690	930	10520	830	9350	730	8180	630	7010	530	5850	430	4680	330	3510	230	2340	120	2210	110
1(-17)	12030	950	10830	850	9630	740	8420	640	7220	540	6020	440	4810	330	3610	230	2410	130	2270	120
3(-16)	12380	970	11140	860	9900	760	8660	650	7430	550	6190	440	4950	340	3710	230	2480	130	2340	120
5(-15)	12720	980	11450	880	10170	770	8900	660	7630	560	6360	450	5090	340	3820	240	2540	130	2400	120
7(-14)	13420	1000	12080	890	10740	780	9390	670	8050	570	6710	460	5370	350	4030	240	2680	130	2530	120
9(-13)	14120	1010	12710	900	11300	790	9890	680	8470	570	7060	460	5650	350	4240	240	2820	140	2670	120
10(-12)	14830	1030	13340	910	11860	800	10380	690	8900	580	7410	470	5930	360	4450	250	2970	140	2800	130
12(-11)	15530	1040	13980	930	12420	820	10870	700	9320	590	7760	480	6210	360	4660	250	3110	140	2930	130
14(-10)	16230	1060	14610	940	12990	830	11360	710	9740	600	8120	480	6490	370	4870	260	3250	140	3070	130
16(-9)	16940	1070	15240	950	13550	840	11860	720	10160	610	8470	490	6770	380	5080	260	3390	140	3200	130
18(-8)	17640	1080	15880	970	14110	850	12350	730	10580	620	8820	500	7060	380	5290	260	3530	150	3330	130
19(-7)	18340	1100	16510	980	14670	860	12840	740	11010	620	9170	500	7340	390	5500	270	3670	150	3460	130
21(-6)	18480	1180	16630	1050	14780	920	12930	800	11090	670	9240	540	7390	410	5540	290	3700	160	3490	140
23(-5)	18610	1260	16750	1120	14890	990	13030	850	11170	710	9310	580	7450	440	5580	300	3720	170	3520	150
25(-4)	18750	1340	16880	1190	15000	1050	13130	900	11250	760	9380	610	7500	470	5630	320	3750	180	3540	160
27(-3)	18890	1420	17000	1260	15110	1110	13220	960	11330	800	9440	650	7550	500	5670	340	3780	190	3570	170
28(-2)	19020	1500	17120	1330	15220	1170	13320	1010	11410	850	9510	690	7610	520	5710	360	3800	200	3590	180
30(-1)	19160	1580	17240	1410	15330	1230	13410	1060	11490	890	9580	720	7660	550	5750	380	3830	210	3620	190
32(0)	19290	1660	17360	1480	15430	1300	13510	1120	11580	940	9650	760	7720	580	5790	400	3860	220	3640	200
34(1)	19430	1730	17490	1550	15540	1360	13600	1170	11660	980	9710	800	7770	610	5830	420	3890	230	3670	210
36(2)	19570	1810	17610	1620	15650	1420	13700	1220	11740	1030	9780	830	7830	640	5870	440	3910	240	3700	220
37(3)	19890	1840	17900	1640	15910	1440	13920	1240	11930	1040	9940	840	7950	640	5970	450	3980	250	3760	220
39(4)	20210	1860	18190	1660	16160	1460	14140	1260	12120	1060	10100	850	8080	650	6060	450	4040	250	3820	230
41(5)	20530	1890	18470	1680	16420	1480	14370	1270	12320	1070	10260	870	8210	660	6160	460	4110	250	3880	230
43(6)	26300	2020	23670	1800	21040	1580	18410	1360	15780	1140	13150	930	10520	710	7890	490	5260	270	4970	250
45(7)	27000	2050	24300	1830	21600	1610	18900	1380	16200	1160	13500	940	10800	720	8100	500	5400	270	5100	250
46(8)	27700	2080	24930	1860	22160	1630	19390	1410	16620	1180	13850	950	11080	730	8310	500	5540	280	5230	250
48(9)	28390	2110	25550	1880	22710	1660	19880	1430	17040	1200	14200	970	11360	740	8520	510	5680	280	5360	260
50(10)	29090	2150	26180	1910	23270	1680	20360	1450	17450	1220	14550	980	11640	750	8730	520	5820	290	5490	260
52(11)	29790	2180	26810	1940	23830	1710	20850	1470	17870	1230	14890	1000	11910	760	8940	530	5960	290	5630	270
54(12)	30480	2210	27440	1970	24390	1730	21340	1490	18290	1250	15240	1010	12190	770	9150	540	6100	300	5760	270
55(13)	31180	2240	28060	2000	24940	1760	21830	1510	18710	1270	15590	1030	12470	790	9350	540	6240	300	5890	270
57(14)	31880	2270	28690	2030	25500	1780	22310	1530	19130	1290	15940	1040	12750	800	9560	550	6380	300	6020	280
59(15)	32570	2300	29320	2050	26060	1810	22800	1560	19540	1310	16290	1060	13030	810	9770	560	6510	310	6150	280

Indoor : RAV-SM302UTP-UL
Outdoor : RAV-SP302AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	640	8100	460
RATING	Btu/h	30000	2160	34000	2470
MAXIMUM	Btu/h	38500	3230	40900	2930

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	35780	1700	32200	1530	28620	1360	25040	1190	21470	1020	17890	850	14310	680	10730	510	10610	500	10610	500
70(21)	35390	1730	31850	1550	28310	1380	24770	1210	21230	1040	17700	860	14160	690	10620	520	10500	510	10500	510
72(22)	35010	1760	31500	1580	28000	1410	24500	1230	21000	1050	17500	880	14000	700	10500	530	10380	520	10380	520
73(23)	34620	1790	31160	1610	27700	1430	24230	1250	20770	1070	17310	890	13850	710	10390	540	10270	530	10270	530
75(24)	34240	1820	30810	1640	27390	1460	23960	1270	20540	1090	17120	910	13690	730	10270	550	10160	540	10160	540
77(25)	33850	1850	30470	1670	27080	1480	23700	1290	20310	1110	16930	920	13540	740	10160	550	10040	550	10040	550
79(26)	33470	1880	30120	1690	26770	1500	23430	1320	20080	1130	16730	940	13390	750	10040	560	9930	560	9930	560
81(27)	33080	1910	29770	1720	26460	1530	23160	1340	19850	1150	16540	960	13230	760	9920	570	9810	570	9810	570
82(28)	32700	1940	29430	1750	26160	1550	22890	1360	19620	1170	16350	970	13080	780	9810	580	9700	580	9700	580
84(29)	32310	1970	29080	1780	25850	1580	22620	1380	19390	1180	16160	990	12920	790	9690	590	9590	580	9590	580
86(30)	31930	2010	28730	1800	25540	1600	22350	1400	19160	1200	15960	1000	12770	800	9580	600	9470	590	9470	590
88(31)	31540	2040	28390	1830	25230	1630	22080	1420	18920	1220	15770	1020	12620	810	9460	610	9360	600	9360	600
90(32)	31160	2070	28040	1860	24920	1650	21810	1450	18690	1240	15580	1030	12460	830	9350	620	9240	610	9240	610
91(33)	30770	2100	27690	1890	24620	1680	21540	1470	18460	1260	15390	1050	12310	840	9230	630	9130	620	9130	620
93(34)	30390	2130	27350	1920	24310	1700	21270	1490	18230	1280	15190	1060	12150	850	9120	640	9010	630	9010	630
95(35)	30000	2160	27000	1940	24000	1730	21000	1510	18000	1300	15000	1080	12000	860	9000	650	8900	640	8900	640
97(36)	29620	2190	26650	1970	23690	1750	20730	1530	17770	1310	14810	1090	11850	880	8880	660	8790	650	8790	650
99(37)	29230	2220	26310	2000	23380	1780	20460	1550	17540	1330	14620	1110	11690	890	8770	670	8670	660	8670	660
100(38)	28850	2250	25960	2030	23080	1800	20190	1580	17310	1350	14420	1130	11540	900	8650	680	8560	670	8560	670
102(39)	28460	2280	25610	2060	22770	1830	19920	1600	17080	1370	14230	1140	11380	910	8540	680	8440	680	8440	680
104(40)	28080	2310	25270	2080	22460	1850	19650	1620	16850	1390	14040	1160	11230	930	8420	690	8330	690	8330	690
106(41)	27690	2350	24920	2110	22150	1880	19380	1640	16610	1410	13850	1170	11080	940	8310	700	8210	700	8210	700
108(42)	27310	2380	24570	2140	21840	1900	19110	1660	16380	1430	13650	1190	10920	950	8190	710	8100	700	8100	700
109(43)	26920	2410	24230	2170	21540	1930	18840	1680	16150	1440	13460	1200	10770	960	8080	720	7990	710	7990	710
111(44)	26540	2440	23880	2190	21230	1950	18570	1710	15920	1460	13270	1220	10610	970	7960	730	7870	720	7870	720
113(45)	26150	2470	23540	2220	20920	1980	18310	1730	15690	1480	13080	1230	10460	990	7850	740	7760	730	7760	730
115(46)	25770	2500	23190	2250	20610	2000	18040	1750	15460	1500	12880	1250	10310	1000	7730	750	7640	740	7640	740

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	12200	1060	10980	940	9760	830	8540	720	7320	600	6100	490	4880	380	3660	270	2910	200	2910	200
-11(-24)	12840	1120	11550	1000	10270	880	8990	760	7700	640	6420	520	5130	400	3850	280	3060	210	3060	210
-9(-23)	13480	1180	12130	1050	10780	920	9430	800	8090	670	6740	550	5390	420	4040	300	3210	220	3210	220
-8(-22)	14120	1240	12710	1100	11290	970	9880	840	8470	710	7060	580	5650	440	4240	310	3360	230	3360	230
-6(-21)	14760	1290	13280	1160	11810	1020	10330	880	8850	740	7380	600	5900	460	4430	330	3520	240	3520	240
-4(-20)	15400	1350	13860	1210	12320	1070	10780	920	9240	780	7700	630	6160	490	4620	340	3670	250	3670	250
-2(-19)	15950	1370	14360	1230	12760	1080	11170	930	9570	790	7980	640	6380	490	4790	350	3800	260	3800	260
0(-18)	16510	1390	14860	1240	13210	1090	11560	950	9900	800	8250	650	6600	500	4950	350	3930	260	3930	260
1(-17)	17060	1410	15360	1260	13650	1110	11940	960	10240	810	8530	660	6820	510	5120	360	4060	260	4060	260
3(-16)	17620	1430	15850	1270	14090	1120	12330	970	10570	820	8810	660	7050	510	5280	360	4200	270	4200	270
5(-15)	18170	1450	16350	1290	14540	1140	12720	980	10900	830	9090	670	7270	520	5450	360	4330	270	4330	270
7(-14)	18710	1450	16840	1290	14970	1140	13100	980	11230	830	9350	670	7480	520	5610	370	4460	270	4460	270
9(-13)	19250	1450	17320	1300	15400	1140	13470	990	11550	830	9620	680	7700	520	5770	370	4590	270	4590	270
10(-12)	19790	1450	17810	1300	15830	1140	13850	990	11870	830	9890	680	7910	520	5940	370	4710	270	4710	270
12(-11)	20330	1460	18290	1300	16260	1150	14230	990	12200	830	10160	680	8130	520	6100	370	4840	270	4840	270
14(-10)	20870	1460	18780	1300	16690	1150	14610	990	12520	840	10430	680	8350	520	6260	370	4970	270	4970	270
16(-9)	21400	1460	19260	1310	17120	1150	14980	990	12840	840	10700	680	8560	530	6420	370	5100	270	5100	270
18(-8)	21940	1470	19750	1310	17550	1150	15360	1000	13170	840	10970	680	8780	530	6580	370	5230	270	5230	270
19(-7)	22480	1470	20230	1310	17990	1160	15740	1000	13490	840	11240	680	8990	530	6740	370	5360	270	5360	270
21(-6)	22720	1550	20450	1380	18180	1220	15900	1050	13630	890	11360	720	9090	560	6820	390	5410	290	5410	290
23(-5)	22960	1630	20660	1450	18370	1280	16070	1110	13780	930	11480	760	9180	580	6890	410	5470	300	5470	300
25(-4)	23200	1710	20880	1530	18560	1340	16240	1160	13920	980	11600	800	9280	610	6960	430	5530	320	5530	320
27(-3)	23440	1790	21100	1600	18750	1410	16410	1210	14060	1020	11720	830	9380	640	7030	450	5580	330	5580	330
28(-2)	23680	1870	21310	1670	18940	1470	16580	1270	14210	1070	11840	870	9470	670	7100	470	5640	350	5640	350
30(-1)	23920	1950	21530	1740	19140	1530	16740	1320	14350	1120	11960	910	9570	700	7180	490	5700	360	5700	360
32(0)	24160	2030	21740	1810	19330	1590	16910	1380	14500	1160	12080	940	9660	730	7250	510	5760	380	5760	380
34(1)	24400	2110	21960	1880	19520	1660	17080	1430	14640	1210	12200	980	9760	760	7320	530	5810	390	5810	390
36(2)	24640	2190	22170	1950	19710	1720	17250	1490	14780	1250	12320	1020	9860	780	7390	550	5870	410	5870	410
37(3)	25040	2220	22540	1980	20030	1740	17530	1510	15020	1270	12520	1030	10020	800	7510	560	5970	410	5970	410
39(4)	25440	2240	22900	2000	20360	1770	17810	1530	15270	1290	12720	1050	10180	810	7630	570	6060	420	6060	420
41(5)	25850	2270	23260	2030	20680	1790	18090	1550	15510	1300	12920	1060	10340	820	7750	570	6160	420	6160	420
43(6)	33120	2430	29810	2170	26500	1910	23190	1650	19870	1390	16560	1130	13250	870	9940	610	7890	450	7890	450
45(7)	34000	2470	30600	2210	27200	1940	23800	1680	20400	1410	17000	1150	13600	890	10200	620	8100	460	8100	460
46(8)	34880	2510	31390	2240	27900	1970	24410	1700	20930	1440	17440	1170	13950	900	10460	630	8310	470	8310	470
48(9)	35750	2550	32180	2270	28600	2000	25030	1730	21450	1460	17880	1190	14300	910	10730	640	8520	470	8520	470
50(10)	36630	2580	32970	2310	29310	2030	25640	1760	21980	1480	18320	1200	14650	930	10990	650	8730	480	8730	480
52(11)	37510	2620	33760	2340	30010	2060	26260	1780	22510	1500	18750	1220	15000	940	11250	660	8940	490	8940	490
54(12)	38390	2660	34550	2380	30710	2090	26870	1810	23030	1520	19190	1240	15350	960	11520	670	9150	500	9150	500
55(13)	39260	2700	35340	2410	31410	2120	27490	1830	23560	1550	19630	1260	15710	970	11780	680	9350	500	9350	500
57(14)	40140	2740	36130	2450	32110	2150	28100	1860	24090	1570	20070	1280	16060	980	12040	690	9560	510	9560	510
59(15)	41020	2780	36920	2480	32820	2180	28710	1890	24610	1590	20510	1290	16410	1000	12310	700	9770	520	9770	520

Indoor : RAV-SM362UTP-UL
Outdoor : RAV-SP362AT2P-UL

Operation range	Cooling				Heating			
		Q	P		Q	P		
MINIMUM	Btu/h	8900	640		8100	460		
RATING	Btu/h	36000	2770		40000	3010		
MAXIMUM	Btu/h	41000	3770		44300	3475		

Q : Capacity (Btu/h)

P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	42930	2170	38640	1950	34340	1730	30050	1510	25760	1290	21470	1060	17170	840	12880	620	10610	500	10610	500
70(21)	42470	2210	38220	1990	33970	1760	29730	1540	25480	1310	21230	1080	16990	860	12740	630	10500	510	10500	510
72(22)	42010	2250	37810	2020	33600	1790	29400	1560	25200	1330	21000	1100	16800	870	12600	640	10380	520	10380	520
73(23)	41540	2290	37390	2060	33240	1820	29080	1590	24930	1360	20770	1120	16620	890	12460	650	10270	530	10270	530
75(24)	41080	2330	36970	2090	32870	1860	28760	1620	24650	1380	20540	1140	16430	900	12320	660	10160	540	10160	540
77(25)	40620	2370	36560	2130	32500	1890	28430	1650	24370	1400	20310	1160	16250	920	12190	680	10040	550	10040	550
79(26)	40160	2410	36140	2170	32130	1920	28110	1670	24090	1430	20080	1180	16060	930	12050	690	9930	560	9930	560
81(27)	39700	2450	35730	2200	31760	1950	27790	1700	23820	1450	19850	1200	15880	950	11910	700	9810	570	9810	570
82(28)	39230	2490	35310	2240	31390	1980	27460	1730	23540	1470	19620	1220	15690	960	11770	710	9700	580	9700	580
84(29)	38770	2530	34890	2270	31020	2010	27140	1760	23260	1500	19390	1240	15510	980	11630	720	9590	580	9590	580
86(30)	38310	2570	34480	2310	30650	2050	26820	1780	22990	1520	19160	1260	15320	1000	11490	730	9470	590	9470	590
88(31)	37850	2610	34060	2340	30280	2080	26490	1810	22710	1540	18920	1280	15140	1010	11350	740	9360	600	9360	600
90(32)	37390	2650	33650	2380	29910	2110	26170	1840	22430	1570	18690	1300	14950	1030	11220	760	9240	610	9240	610
91(33)	36920	2690	33230	2420	29540	2140	25850	1870	22150	1590	18460	1320	14770	1040	11080	770	9130	620	9130	620
93(34)	36460	2730	32820	2450	29170	2170	25520	1890	21880	1610	18230	1340	14580	1060	10940	780	9010	630	9010	630
95(35)	36000	2770	32400	2490	28800	2200	25200	1920	21600	1640	18000	1360	14400	1070	10800	790	8900	640	8900	640
97(36)	35540	2810	31980	2520	28430	2240	24880	1950	21320	1660	17770	1370	14220	1090	10660	800	8790	650	8790	650
99(37)	35080	2850	31570	2560	28060	2270	24550	1980	21050	1690	17540	1390	14030	1100	10520	810	8670	660	8670	660
100(38)	34610	2890	31150	2590	27690	2300	24230	2000	20770	1710	17310	1410	13850	1120	10380	820	8560	670	8560	670
102(39)	34150	2930	30740	2630	27320	2330	23910	2030	20490	1730	17080	1430	13660	1130	10250	830	8440	680	8440	680
104(40)	33690	2970	30320	2670	26950	2360	23580	2060	20210	1760	16850	1450	13480	1150	10110	850	8330	690	8330	690
106(41)	33230	3010	29910	2700	26580	2390	23260	2090	19940	1780	16610	1470	13290	1160	9970	860	8210	700	8210	700
108(42)	32770	3050	29490	2740	26210	2430	22940	2110	19660	1800	16380	1490	13110	1180	9830	870	8100	700	8100	700
109(43)	32300	3090	29070	2770	25840	2460	22610	2140	19380	1830	16150	1510	12920	1200	9690	880	7990	710	7990	710
111(44)	31840	3130	28660	2810	25470	2490	22290	2170	19110	1850	15920	1530	12740	1210	9550	890	7870	720	7870	720
113(45)	31380	3170	28240	2840	25100	2520	21970	2200	18830	1870	15690	1550	12550	1230	9410	900	7760	730	7760	730
115(46)	30920	3210	27830	2880	24730	2550	21640	2220	18550	1900	15460	1570	12370	1240	9280	910	7640	740	7640	740

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	14590	1690	13130	1510	11670	1330	10210	1150	8750	970	7290	790	5840	610	4380	430	2950	260	2950	260
-11(-24)	15250	1710	13720	1530	12200	1350	10670	1170	9150	990	7620	800	6100	620	4570	440	3090	260	3090	260
-9(-23)	15910	1730	14320	1550	12730	1360	11140	1180	9550	1000	7960	810	6360	630	4770	440	3220	260	3220	260
-8(-22)	16570	1750	14910	1560	13260	1380	11600	1190	9940	1010	8290	820	6630	630	4970	450	3360	270	3360	270
-6(-21)	17230	1770	15510	1580	13790	1390	12060	1210	10340	1020	8620	830	6890	640	5170	450	3490	270	3490	270
-4(-20)	17890	1790	16100	1600	14310	1410	12520	1220	10740	1030	8950	840	7160	650	5370	460	3620	270	3620	270
-2(-19)	18250	1800	16430	1610	14600	1420	12780	1230	10950	1040	9130	840	7300	650	5480	460	3700	280	3700	280
0(-18)	18610	1810	16750	1620	14890	1430	13030	1230	11160	1040	9300	850	7440	660	5580	460	3770	280	3770	280
1(-17)	18970	1820	17070	1630	15170	1440	13280	1240	11380	1050	9480	860	7590	660	5690	470	3840	280	3840	280
3(-16)	19320	1840	17390	1640	15460	1450	13530	1250	11590	1060	9660	860	7730	670	5800	470	3910	280	3910	280
5(-15)	19680	1850	17710	1650	15750	1460	13780	1260	11810	1060	9840	870	7870	670	5900	470	3990	280	3990	280
7(-14)	20450	1870	18410	1670	16360	1470	14320	1270	12270	1070	10230	870	8180	680	6140	480	4140	290	4140	290
9(-13)	21220	1880	19100	1680	16980	1480	14860	1280	12730	1080	10610	880	8490	680	6370	480	4300	290	4300	290
10(-12)	21990	1900	19790	1700	17590	1490	15390	1290	13200	1090	11000	890	8800	690	6600	490	4450	290	4450	290
12(-11)	22760	1910	20490	1710	18210	1510	15930	1300	13660	1100	11380	900	9110	690	6830	490	4610	290	4610	290
14(-10)	23530	1930	21180	1720	18830	1520	16470	1310	14120	1110	11770	900	9410	700	7060	490	4770	290	4770	290
16(-9)	24300	1950	21870	1740	19440	1530	17010	1330	14580	1120	12150	910	9720	710	7290	500	4920	300	4920	300
18(-8)	25070	1960	22570	1750	20060	1550	17550	1340	15040	1130	12540	920	10030	710	7520	500	5080	300	5080	300
19(-7)	25840	1980	23260	1770	20680	1560	18090	1350	15510	1140	12920	930	10340	720	7750	510	5230	300	5230	300
21(-6)	26190	2050	23570	1840	20950	1620	18340	1400	15720	1180	13100	960	10480	750	7860	530	5300	310	5300	310
23(-5)	26540	2130	23890	1900	21230	1680	18580	1450	15930	1230	13270	1000	10620	770	7960	550	5370	330	5370	330
25(-4)	26890	2210	24200	1970	21510	1740	18820	1500	16130	1270	13450	1030	10760	800	8070	570	5450	340	5450	340
27(-3)	27240	2280	24520	2040	21790	1800	19070	1560	16340	1310	13620	1070	10900	830	8170	590	5520	350	5520	350
28(-2)	27590	2360	24830	2110	22070	1860	19310	1610	16550	1360	13790	1110	11040	860	8280	600	5590	360	5590	360
30(-1)	27940	2440	25140	2180	22350	1920	19560	1660	16760	1400	13970	1140	11180	880	8380	620	5660	370	5660	370
32(0)	28290	2510	25460	2240	22630	1980	19800	1710	16970	1440	14140	1180	11310	910	8490	640	5730	380	5730	380
34(1)	28640	2590	25770	2310	22910	2040	20050	1760	17180	1490	14320	1210	11450	940	8590	660	5800	400	5800	400
36(2)	28990	2660	26090	2380	23190	2100	20290	1810	17390	1530	14490	1250	11590	970	8700	680	5870	410	5870	410
37(3)	29460	2700	26510	2410	23570	2130	20620	1840	17680	1550	14730	1270	11780	980	8840	690	5970	410	5970	410
39(4)	29940	2740	26940	2440	23950	2150	20950	1860	17960	1570	14970	1280	11970	990	8980	700	6060	420	6060	420
41(5)	30410	2770	27370	2480	24330	2180	21290	1890	18250	1590	15200	1300	12160	1000	9120	710	6160	420	6160	420
43(6)	30870	2960	35070	2650	31170	2330	27280	2020	23380	1700	19480	1390	15590	1070	11690	760	7890	450	7890	450
45(7)	40000	3010	36000	2690	32000	2370	28000	2050	24000	1730	20000	1410	16000	1090	12000	770	8100	460	8100	460
46(8)	41030	3060	36930	2730	32830	2410	28720	2080	24620	1760	20520	1430	16410	1110	12310	780	8310	470	8310	470
48(9)	42060	3100	37860	2770	33650	2440	29450	2110	25240	1780	21030	1450	16830	1130	12620	800	8520	470	8520	470
50(10)	43100	3150	38790	2820	34480	2480	30170	2150	25860	1810	21550	1480	17240	1140	12930	810	8730	480	8730	480
52(11)	44130	3200	39720	2860	35300	2520	30890	2180	26480	1840	22060	1500	17650	1160	13240	820	8940	490	8940	490
54(12)	45160	3240	40650	2900	36130	2550	31610	2210	27100	1870	22580	1520	18060	1180	13550	830	9150	500	9150	500
55(13)	46190	3290	41570	2940	36950	2590	32340	2240	27720	1890	23100	1540	18480	1190	13860	840	9350	500	9350	500
57(14)	47230	3340	42500	2980	37780	2630	33060	2270	28340	1920	23610	1560	18890	1210	14170	860	9560	510	9560	510
59(15)	48260	3380	43430	3020	38610	2660	33780	2300	28950	1950	24130	1590	19300	1230	14480	870	9770	520	9770	520

Indoor : RAV-SM422UTP-UL
Outdoor : RAV-SP422AT2P-UL

Operation range	Cooling		Heating		
	Q	P	Q	P	
MINIMUM	Btu/h	8900	660	8100	480
RATING	Btu/h	42000	3590	47000	3930
MAXIMUM	Btu/h	47800	5070	61400	4560

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	50090	2820	45080	2530	40070	2230	35060	1940	30050	1650	25040	1360	20030	1070	15030	780	10610	520	10610	520
70(21)	49550	2870	44590	2570	39640	2280	34680	1980	29730	1680	24770	1380	19820	1090	14860	790	10500	530	10500	530
72(22)	49010	2920	44110	2620	39210	2320	34300	2010	29400	1710	24500	1410	19600	1110	14700	800	10380	540	10380	540
73(23)	48470	2970	43620	2660	38770	2360	33930	2050	29080	1740	24230	1430	19390	1130	14540	820	10270	550	10270	550
75(24)	47930	3020	43140	2710	38340	2400	33550	2080	28760	1770	23960	1460	19170	1140	14380	830	10160	560	10160	560
77(25)	47390	3080	42650	2760	37910	2440	33170	2120	28430	1800	23700	1480	18960	1160	14220	850	10040	570	10040	570
79(26)	46850	3130	42170	2800	37480	2480	32800	2160	28110	1830	23430	1510	18740	1180	14060	860	9930	570	9930	570
81(27)	46310	3180	41680	2850	37050	2520	32420	2190	27790	1860	23160	1530	18520	1200	13890	870	9810	580	9810	580
82(28)	45770	3230	41200	2900	36620	2560	32040	2230	27460	1890	22890	1560	18310	1220	13730	890	9700	590	9700	590
84(29)	45230	3280	40710	2940	36190	2600	31660	2260	27140	1920	22620	1580	18090	1240	13570	900	9590	600	9590	600
86(30)	44700	3330	40230	2990	35760	2640	31290	2300	26820	1950	22350	1610	17880	1260	13410	920	9470	610	9470	610
88(31)	44160	3380	39740	3030	35320	2680	30910	2330	26490	1980	22080	1630	17660	1280	13250	930	9360	620	9360	620
90(32)	43620	3440	39260	3080	34890	2720	30530	2370	26170	2010	21810	1660	17450	1300	13090	950	9240	630	9240	630
91(33)	43080	3490	38770	3130	34460	2760	30150	2400	25850	2040	21540	1680	17230	1320	12920	960	9130	640	9130	640
93(34)	42540	3540	38290	3170	34030	2810	29780	2440	25520	2070	21270	1710	17020	1340	12760	970	9010	650	9010	650
95(35)	42000	3590	37800	3220	33600	2850	29400	2470	25200	2100	21000	1730	16800	1360	12600	990	8900	660	8900	660
97(36)	41460	3640	37310	3260	33170	2890	29020	2510	24880	2130	20730	1760	16580	1380	12440	1000	8790	670	8790	670
99(37)	40920	3690	36830	3310	32740	2930	28650	2550	24550	2160	20460	1780	16370	1400	12280	1020	8670	680	8670	680
100(38)	40380	3740	36340	3360	32310	2970	28270	2580	24230	2190	20190	1810	16150	1420	12110	1030	8560	690	8560	690
102(39)	39840	3800	35860	3400	31880	3010	27890	2620	23910	2220	19920	1830	15940	1440	11950	1040	8440	700	8440	700
104(40)	39310	3850	35370	3450	31440	3050	27510	2650	23580	2250	19650	1860	15720	1460	11790	1060	8330	710	8330	710
106(41)	38770	3900	34890	3490	31010	3090	27140	2690	23260	2280	19380	1880	15510	1480	11630	1070	8210	720	8210	720
108(42)	38230	3950	34400	3540	30580	3130	26760	2720	22940	2310	19110	1900	15290	1500	11470	1090	8100	730	8100	730
109(43)	37690	4000	33920	3590	30150	3170	26380	2760	22610	2340	18840	1930	15080	1520	11310	1100	7990	740	7990	740
111(44)	37150	4050	33430	3630	29720	3210	26000	2790	22290	2370	18570	1950	14860	1530	11140	1110	7870	750	7870	750
113(45)	36610	4100	32950	3680	29290	3250	25630	2830	21970	2400	18310	1980	14640	1550	10980	1130	7760	750	7760	750
115(46)	36070	4160	32460	3730	28860	3300	25250	2860	21640	2430	18040	2000	14430	1570	10820	1140	7640	760	7640	760

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	15070	1680	13560	1500	12060	1330	10550	1150	9040	970	7530	790	6030	610	4520	430	3010	250	2600	210
-11(-24)	15890	1720	14300	1540	12710	1350	11120	1170	9530	990	7940	810	6350	620	4770	440	3180	260	2740	210
-9(-23)	16700	1750	15030	1570	13360	1380	11690	1190	10020	1010	8350	820	6680	640	5010	450	3340	270	2880	210
-8(-22)	17520	1790	15770	1600	14020	1410	12270	1220	10510	1030	8760	840	7010	650	5260	460	3500	270	3020	220
-6(-21)	18340	1820	16510	1630	14670	1440	12840	1240	11000	1050	9170	860	7340	660	5500	470	3670	280	3160	220
-4(-20)	19160	1860	17240	1660	15330	1460	13410	1270	11490	1070	9580	870	7660	680	5750	480	3830	280	3300	230
-2(-19)	19580	1880	17630	1680	15670	1480	13710	1280	11750	1080	9790	880	7830	680	5880	480	3920	290	3380	230
0(-18)	20010	1910	18010	1700	16010	1500	14010	1300	12010	1100	10000	890	8000	690	6000	490	4000	290	3450	230
1(-17)	20430	1930	18390	1720	16350	1520	14300	1320	12260	1110	10220	910	8170	700	6130	500	4090	290	3520	240
3(-16)	20860	1950	18770	1750	16690	1540	14600	1330	12520	1120	10430	920	8340	710	6260	500	4170	300	3600	240
5(-15)	21290	1980	19160	1770	17030	1560	14900	1350	12770	1140	10640	930	8510	720	6390	510	4260	300	3670	240
7(-14)	22360	2010	20120	1800	17890	1590	15650	1370	13410	1160	11180	940	8940	730	6710	520	4470	300	3850	250
9(-13)	23430	2050	21090	1830	18740	1610	16400	1400	14060	1180	11720	960	9370	740	7030	530	4690	310	4040	250
10(-12)	24500	2080	22050	1860	19600	1640	17150	1420	14700	1200	12250	980	9800	760	7350	540	4900	320	4220	250
12(-11)	25570	2120	23020	1890	20460	1670	17900	1440	15340	1220	12790	990	10230	770	7670	550	5110	320	4410	260
14(-10)	26650	2150	23980	1920	21320	1700	18650	1470	15990	1240	13320	1010	10660	780	7990	550	5330	330	4590	260
16(-9)	27720	2190	24950	1960	22170	1720	19400	1490	16630	1260	13860	1030	11090	800	8320	560	5540	330	4780	270
18(-8)	28790	2220	25910	1990	23030	1750	20150	1520	17270	1280	14400	1040	11520	810	8640	570	5760	340	4960	270
19(-7)	29860	2260	26880	2020	23890	1780	20900	1540	17920	1300	14930	1060	11940	820	8960	580	5970	340	5150	280
21(-6)	30330	2390	27300	2140	24260	1890	21230	1630	18200	1380	15160	1120	12130	870	9100	620	6070	360	5230	290
23(-5)	30790	2530	27710	2260	24640	1990	21560	1720	18480	1460	15400	1190	12320	920	9240	650	6160	380	5310	310
25(-4)	31260	2660	28130	2380	25010	2100	21880	1820	18760	1530	15630	1250	12500	970	9380	690	6250	400	5390	330
27(-3)	31730	2800	28550	2500	25380	2210	22210	1910	19040	1610	15860	1310	12690	1020	9520	720	6350	420	5470	340
28(-2)	32190	2940	28970	2620	25750	2310	22540	2000	19320	1690	16100	1380	12880	1070	9660	760	6440	440	5550	360
30(-1)	32660	3070	29390	2750	26130	2420	22860	2090	19600	1770	16330	1440	13060	1120	9800	790	6530	470	5630	380
32(0)	33130	3210	29810	2870	26500	2530	23190	2190	19880	1850	16560	1510	13250	1170	9940	830	6630	490	5710	390
34(1)	33590	3340	30230	2990	26870	2630	23510	2280	20160	1920	16800	1570	13440	1220	10080	860	6720	510	5790	410
36(2)	34060	3480	30650	3110	27250	2740	23840	2370	20430	2000	17030	1630	13620	1260	10220	900	6810	530	5870	420
37(3)	34620	3520	31150	3150	27690	2780	24230	2400	20770	2030	17310	1660	13850	1280	10380	910	6920	530	5970	430
39(4)	35170	3570	31660	3190	28140	2810	24620	2440	21100	2060	17590	1680	14070	1300	10550	920	7030	540	6060	440
41(5)	35730	3620	32160	3230	28590	2850	25010	2470	21440	2080	17870	1700	14290	1320	10720	930	7150	550	6160	440
43(6)	45790	3870	41210	3460	36630	3050	32050	2640	27470	2230	22890	1820	18310	1410	13740	1000	9160	590	7890	470
45(7)	47000	3930	42300	3510	37600	3100	32900	2680	28200	2260	23500	1850	18800	1430	14100	1010	9400	600	8100	480
46(8)	48210	3990	43390	3570	38570	3140	33750	2720	28930	2300	24110	1870	19290	1450	14460	1030	9640	600	8310	490
48(9)	49430	4050	44480	3620	39540	3190	34600	2760	29660	2330	24710	1900	19770	1470	14830	1040	9890	610	8520	490
50(10)	50640	4110	45570	3680	40510	3240	35450	2800	30380	2370	25320	1930	20260	1500	15190	1060	10130	620	8730	500
52(11)	51850	4170	46670	3730	41480	3290	36300	2850	31110	2400	25930	1960	20740	1520	15560	1070	10370	630	8940	510
54(12)	53060	4230	47760	3790	42450	3340	37150	2890	31840	2440	26530	1990	21230	1540	15920	1090	10610	640	9150	520
55(13)	54280	4300	48850	3840	43420	3380	37990	2930	32570	2470	27140	2020	21710	1560	16280	1110	10860	650	9350	520
57(14)	55490	4360	49940	3890	44390	3430	38840	2970	33290	2510	27750	2050	22200	1580	16650	1120	11100	660	9560	530
59(15)	56700	4420	51030	3950	45360	3480	39690	3010	34020	2540	28350	2070	22680	1610	17010	1140	11340	670	9770	540

Indoor : RAV-SM482UTP-UL
Outdoor : RAV-SP482AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	660	8100	480
RATING	Btu/h	48000	4680	54000	4930
MAXIMUM	Btu/h	54600	5710	64800	5330

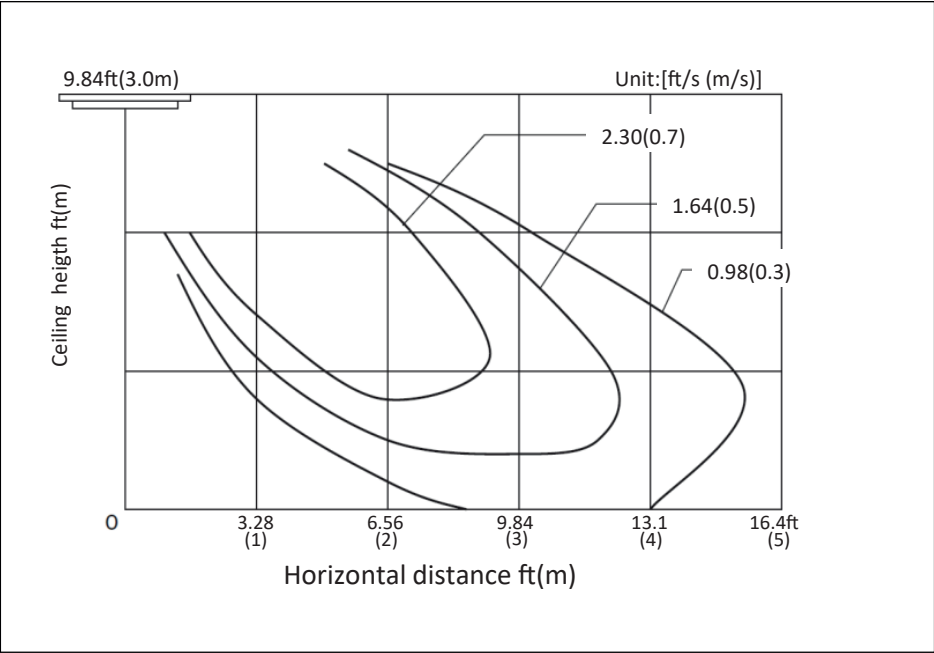
Q : Capacity (Btu/h)
P : Power consumption (W)

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	57240	3670	51520	3290	45790	2900	40070	2510	34340	2120	28620	1740	22900	1350	17170	960	11450	570	10610	520
70(21)	56620	3740	50960	3350	45300	2950	39640	2560	33970	2160	28310	1770	22650	1370	16990	980	11320	590	10500	530
72(22)	56010	3810	50410	3410	44810	3000	39210	2600	33600	2200	28000	1800	22400	1400	16800	1000	11200	600	10380	540
73(23)	55390	3880	49850	3470	44310	3060	38770	2650	33240	2240	27700	1830	22160	1420	16620	1010	11080	610	10270	550
75(24)	54780	3940	49300	3530	43820	3110	38340	2700	32870	2280	27390	1860	21910	1450	16430	1030	10960	620	10160	560
77(25)	54160	4010	48740	3590	43330	3160	37910	2740	32500	2320	27080	1900	21660	1470	16250	1050	10830	630	10040	570
79(26)	53540	4080	48190	3650	42840	3220	37480	2790	32130	2360	26770	1930	21420	1500	16060	1070	10710	640	9930	570
81(27)	52930	4140	47640	3710	42340	3270	37050	2830	31760	2400	26460	1960	21170	1520	15880	1080	10590	650	9810	580
82(28)	52310	4210	47080	3770	41850	3320	36620	2880	31390	2430	26160	1990	20920	1550	15690	1100	10460	660	9700	590
84(29)	51700	4280	46530	3830	41360	3380	36190	2920	31020	2470	25850	2020	20680	1570	15510	1120	10340	670	9590	600
86(30)	51080	4340	45970	3890	40860	3430	35760	2970	30650	2510	25540	2050	20430	1600	15320	1140	10220	680	9470	610
88(31)	50460	4410	45420	3950	40370	3480	35320	3020	30280	2550	25230	2090	20190	1620	15140	1160	10090	690	9360	620
90(32)	49850	4480	44860	4010	39880	3530	34890	3060	29910	2590	24920	2120	19940	1650	14950	1170	9970	700	9240	630
91(33)	49230	4550	44310	4070	39390	3590	34460	3110	29540	2630	24620	2150	19690	1670	14770	1190	9850	710	9130	640
93(34)	48620	4610	43750	4130	38890	3640	34030	3150	29170	2670	24310	2180	19450	1690	14580	1210	9720	720	9010	650
95(35)	48000	4680	43200	4190	38400	3690	33600	3200	28800	2710	24000	2210	19200	1720	14400	1230	9600	730	8900	660
97(36)	47380	4750	42650	4250	37910	3750	33170	3250	28430	2740	23690	2240	18950	1740	14220	1240	9480	740	8790	670
99(37)	46770	4810	42090	4310	37410	3800	32740	3290	28060	2780	23380	2280	18710	1770	14030	1260	9350	750	8670	680
100(38)	46150	4880	41540	4370	36920	3850	32310	3340	27690	2820	23080	2310	18460	1790	13850	1280	9230	760	8560	690
102(39)	45540	4950	40980	4430	36430	3900	31880	3380	27320	2860	22770	2340	18210	1820	13660	1300	9110	770	8440	700
104(40)	44920	5020	40430	4490	35940	3960	31440	3430	26950	2900	22460	2370	17970	1840	13480	1310	8980	780	8330	710
106(41)	44300	5080	39870	4550	35440	4010	31010	3470	26580	2940	22150	2400	17720	1870	13290	1330	8860	790	8210	720
108(42)	43690	5150	39320	4610	34950	4060	30580	3520	26210	2980	21840	2430	17480	1890	13110	1350	8740	810	8100	730
109(43)	43070	5220	38760	4670	34460	4120	30150	3570	25840	3020	21540	2470	17230	1920	12920	1370	8610	820	7990	740
111(44)	35640	4850	32080	4340	28510	3830	24950	3310	21380	2800	17820	2290	14260	1780	10690	1270	7130	760	6610	680
113(45)	33970	4850	30580	4340	27180	3830	23780	3310	20380	2800	16990	2290	13590	1780	10190	1270	6790	760	6300	680
115(46)	32310	4850	29070	4340	25840	3830	22610	3310	19380	2800	16150	2290	12920	1780	9690	1270	6460	760	5990	680

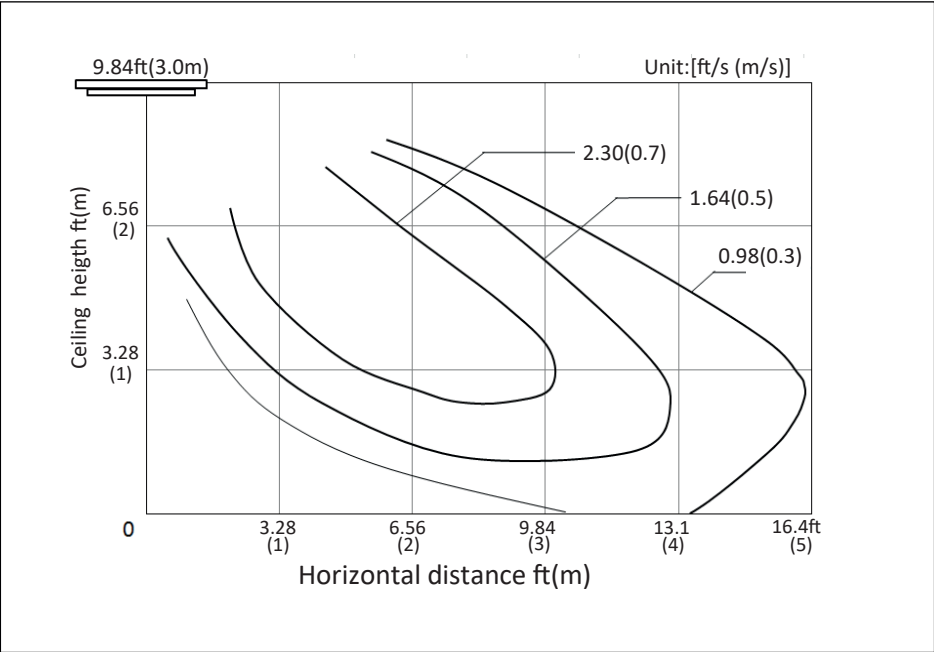
Heating																				
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	19570	4690	17610	4190	15650	3690	13700	3190	11740	2700	9780	2200	7830	1700	5870	1200	3910	710	2930	460
-11(-24)	20050	4650	18050	4160	16040	3660	14040	3170	12030	2680	10030	2180	8020	1690	6020	1190	4010	700	3010	450
-9(-23)	20540	4620	18490	4130	16430	3640	14380	3140	12330	2650	10270	2160	8220	1670	6160	1180	4110	690	3080	450
-8(-22)	21030	4580	18930	4090	16830	3610	14720	3120	12620	2630	10520	2150	8410	1660	6310	1180	4210	690	3150	450
-6(-21)	21520	4540	19370	4060	17220	3580	15070	3100	12910	2610	10760	2130	8610	1650	6460	1170	4300	680	3230	440
-4(-20)	22010	4510	19810	4030	17610	3550	15410	3070	13210	2590	11010	2110	8800	1640	6600	1160	4400	680	3300	440
-2(-19)	22500	4060	20250	3630	18000	3200	15750	2770	13500	2340	11250	1900	9000	1470	6750	1040	4500	610	3380	400
0(-18)	22990	3610	20690	3230	18390	2850	16090	2460	13790	2080	11490	1690	9200	1310	6900	930	4600	540	3450	350
1(-17)	23480	3170	21130	2830	18780	2490	16430	2160	14090	1820	11740	1490	9390	1150	7040	810	4700	480	3520	310
3(-16)	23970	2720	21570	2430	19170	2140	16780	1850	14380	1560	11980	1280	9590	990	7190	700	4790	410	3600	260
5(-15)	24460	2270	22010	2030	19570	1790	17120	1550	14670	1310	12230	1070	9780	820	7340	580	4890	340	3670	220
7(-14)	25310	2350	22780	2100	20250	1850	17720	1600	15190	1350	12660	1100	10130	850	7590	600	5060	350	3800	230
9(-13)	26170	2430	23550	2170	20940	1910	18320	1660	15700	1400	13090	1140	10470	880	7850	620	5230	370	3930	240
10(-12)	27030	2510	24330	2240	21620	1980	18920	1710	16220	1440	13510	1180	10810	910	8110	640	5410	380	4050	240
12(-11)	27890	2590	25100	2310	22310	2040	19520	1760	16730	1490	13940	1210	11150	940	8370	660	5580	390	4180	250
14(-10)	28740	2670	25870	2380	23000	2100	20120	1820	17250	1530	14370	1250	11500	970	8620	680	5750	400	4310	260
16(-9)	29600	2740	26640	2450	23680	2160	20720	1870	17760	1580	14800	1290	11840	1000	8880	700	5920	410	4440	270
18(-8)	30240	2820	27220	2520	24190	2220	21170	1920	18140	1620	15120	1320	12100	1020	9070	720	6050	420	4540	270
19(-7)	31320	2900	28180	2590	25050	2290	21920	1980	18790	1670	15660	1360	12530	1050	9390	740	6260	440	4700	280
21(-6)	32180	3060	28970	2740	25750	2410	22530	2090	19310	1760	16090	1440	12870	1110	9660	790	6440	460	4830	300
23(-5)	33050	3230	29750	2880	26440	2540	23140	2200	19830	1860	16530	1510	13220	1170	9920	830	6610	490	4960	310
25(-4)	33920	3390	30530	3030	27140	2670	23740	2310	20350	1950	16960	1590	13570	1230	10180	870	6780	510	5090	330
27(-3)	34790	3550	31310	3170	27830	2800	24350	2420	20870	2040	17390	1670	13920	1290	10440	910	6960	530	5220	350
28(-2)	35660	3710	32090	3320	28530	2920	24960	2530	21390	2140	17830	1740	14260	1350	10700	950	7130	560	5350	360
30(-1)	36530	3880	32870	3460	29220	3050	25570	2640	21920	2230	18260	1820	14610	1410	10960	990	7310	580	5480	380
32(0)	37390	4040	33650	3610	29920	3180	26180	2750	22440	2320	18700	1890	14960	1470	11220	1040	7480	610	5610	390
34(1)	38260	4200	34440	3750	30610	3310	26780	2860	22960	2420	19130	1970	15300	1520	11480	1080	7650	630	5740	410
36(2)	39130	4360	35220	3900	31300	3440	27390	2970	23480	2510	19570	2050	15650	1580	11740	1120	7830	660	5870	420
37(3)	39770	4420	35790	3950	31820	3480	27840	3010	23860	2540	19890	2070	15910	1600	11930	1130	7950	670	5970	430
39(4)	40410	4480	36370	4000	32330	3530	28290	3050	24250	2580	20210	2100	16160	1630	12120	1150	8080	670	6060	440
41(5)	41050	4540	36950	4060	32840	3570	28740	3090	24630	2610	20530	2130	16420	1650	12320	1160	8210	680	6160	440
43(6)	52610	4850	47350	4340	42090	3820	36820	3310	31560	2790	26300	2280	21040	1760	15780	1250	10520	730	7890	470
45(7)	54000	4930	48600	4410	43200	3880	37800	3360	32400	2840	27000	2310	21600	1790	16200	1270	10800	740	8100	480
46(8)	55390	5010	49850	4470	44310	3940	38780	3410	33240	2880	27700	2350	22160	1820	16620	1280	11080	750	8310	490
48(9)	56790	5080	51110	4540	45430	4000	39750	3460	34070	2920	28390	2380	22710	1840	17040	1300	11360	760	8520	490
50(10)	58180	5160	52360	4610	46540	4060	40730	3520	34910	2970	29090	2420	23270	1870	17450	1320	11640	780	8730	500
52(11)	59570	5240	53620	4680	47660	4120	41700	3570	35740	3010	29790	2460	23830	1900	17870	1340	11910	790	8940	510
54(12)	60970	5310	54870	4750	48770	4180	42680	3620	36580	3060	30480	2490	24390	1930	18290	1360	12190	800	9150	520
55(13)	62360	5390	56130	4820	49890	4240	43650	3670	37420	3100	31180	2530	24940	1960	18710	1380	12470	810	9350	520
57(14)	63750	5460	57380	4880	51000	4300	44630	3720	38250	3140	31880	2560	25500	1980	19130	1400	12750	820	9560	530
59(15)	65150	5540	58630	4950	52120	4360	45600	3780	39090	3190	32570	2600	26060	2010	19540	1420	13030	830	9770	540

2-1-6. Air Throw Distance Chart

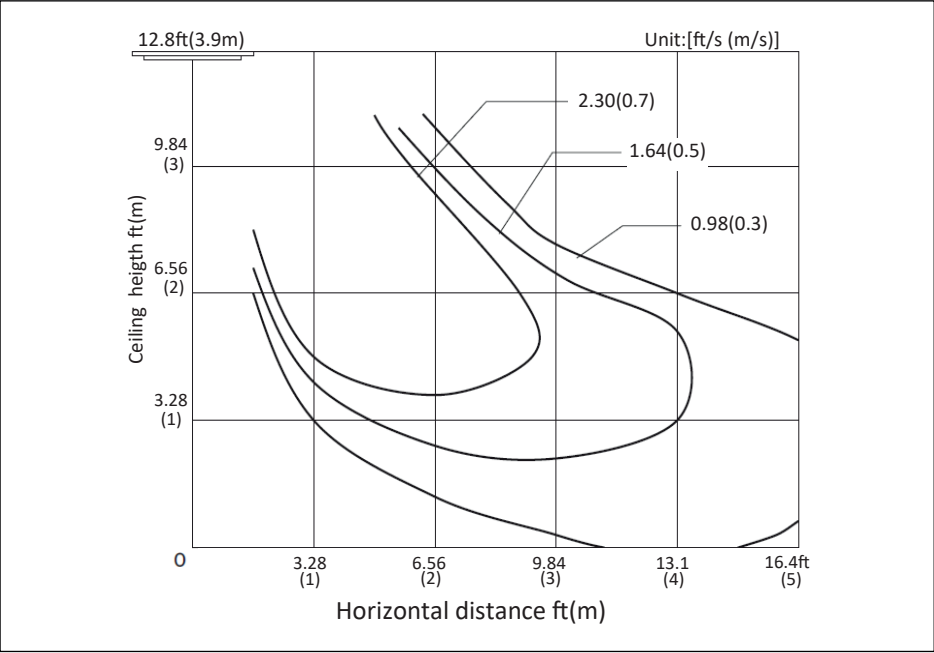
RAV-SM182UTP-UL



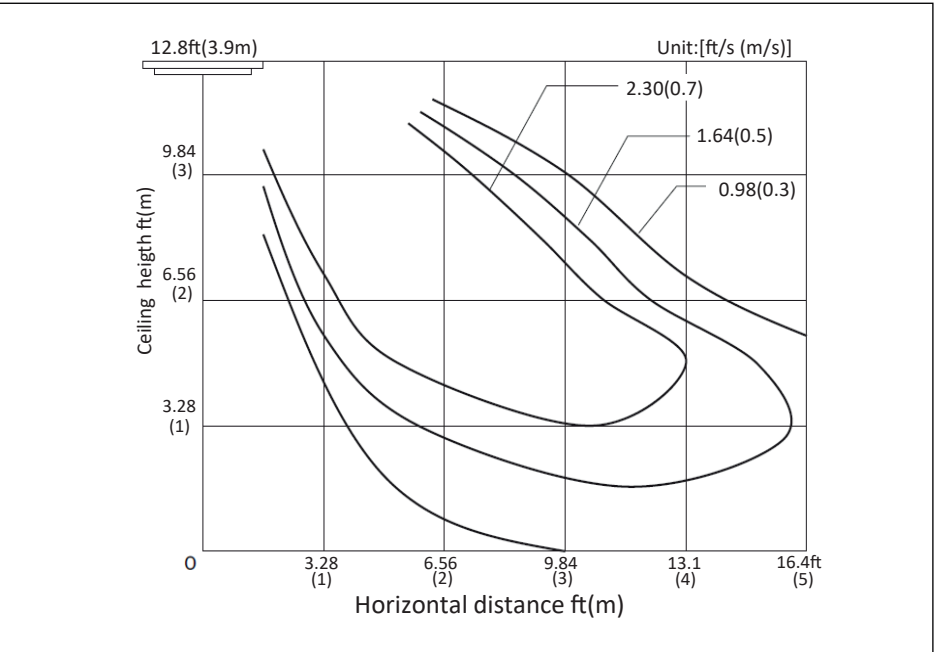
RAV-SM242UTP-UL



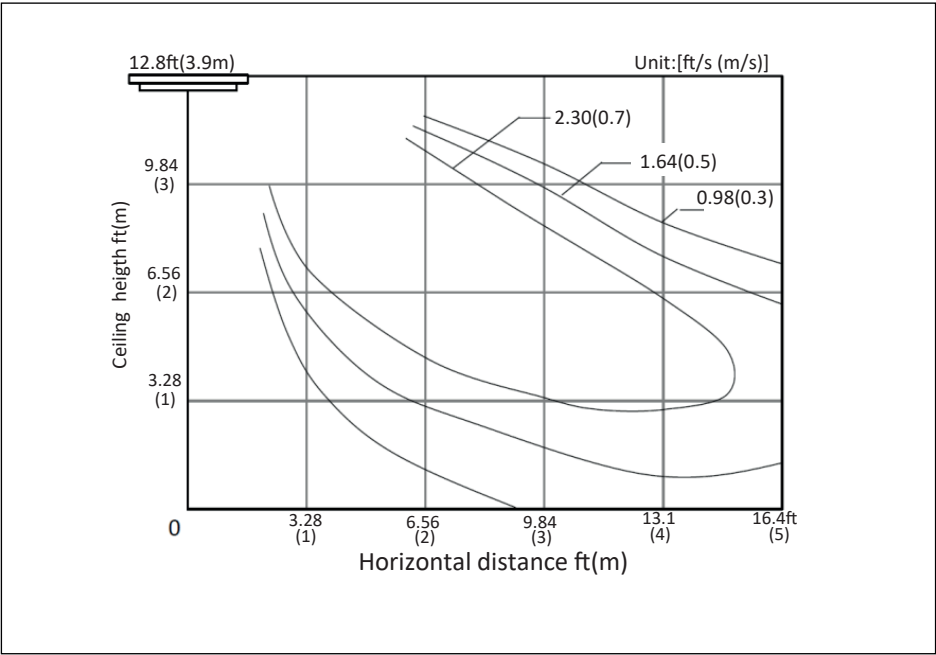
RAV-SM302UTP-UL



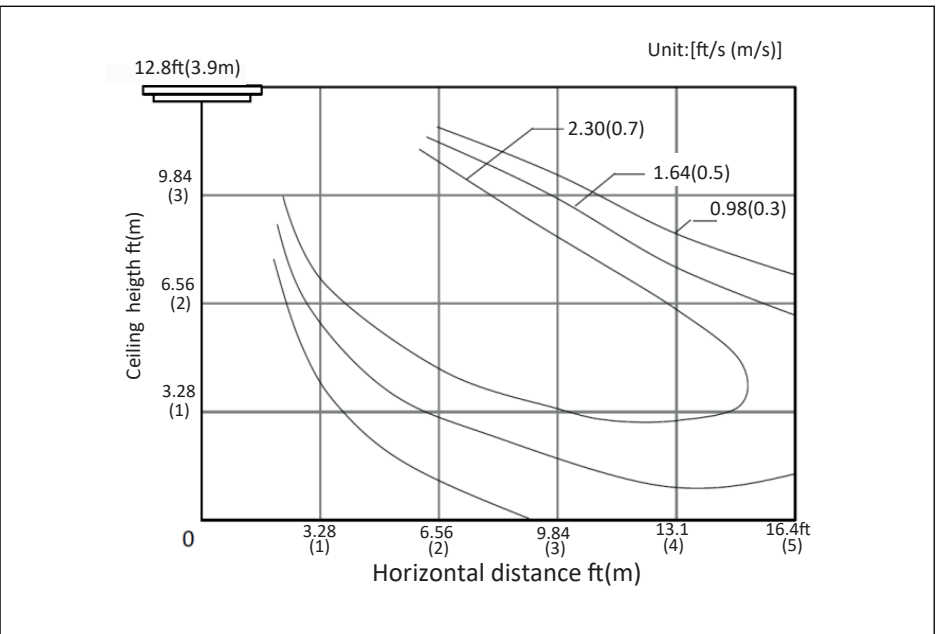
RAV-SM362UTP-UL



RAV-SM422UTP-UL



RAV-SM482UTP-UL

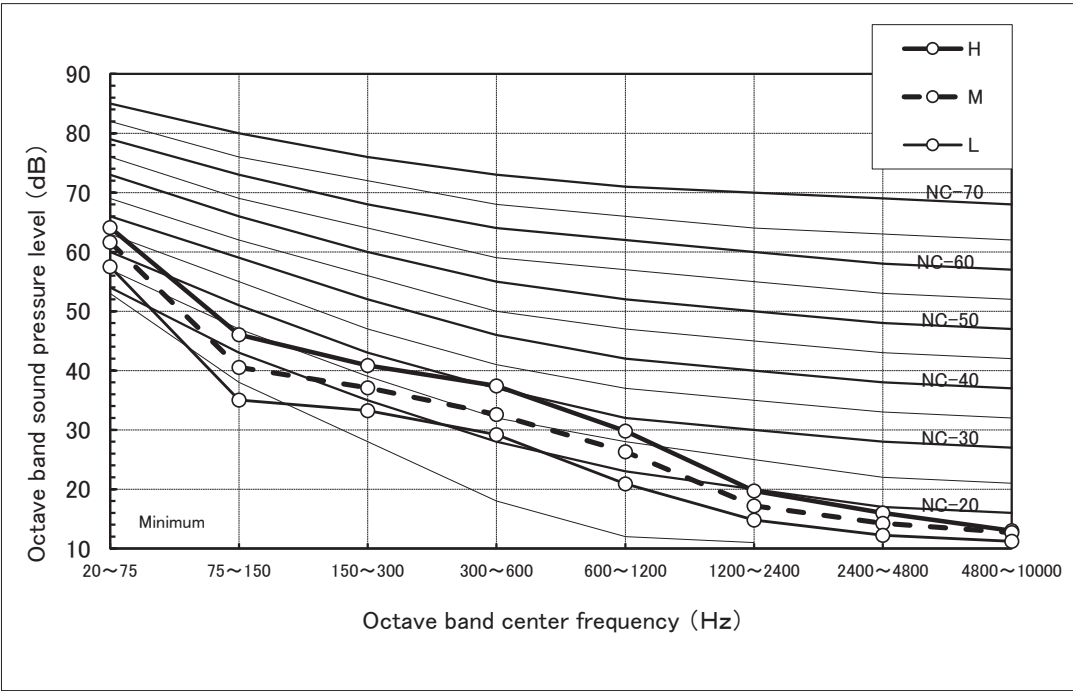


2-1-7. Sound characteristics (NC curve)

RAV-SM182UTP-UL

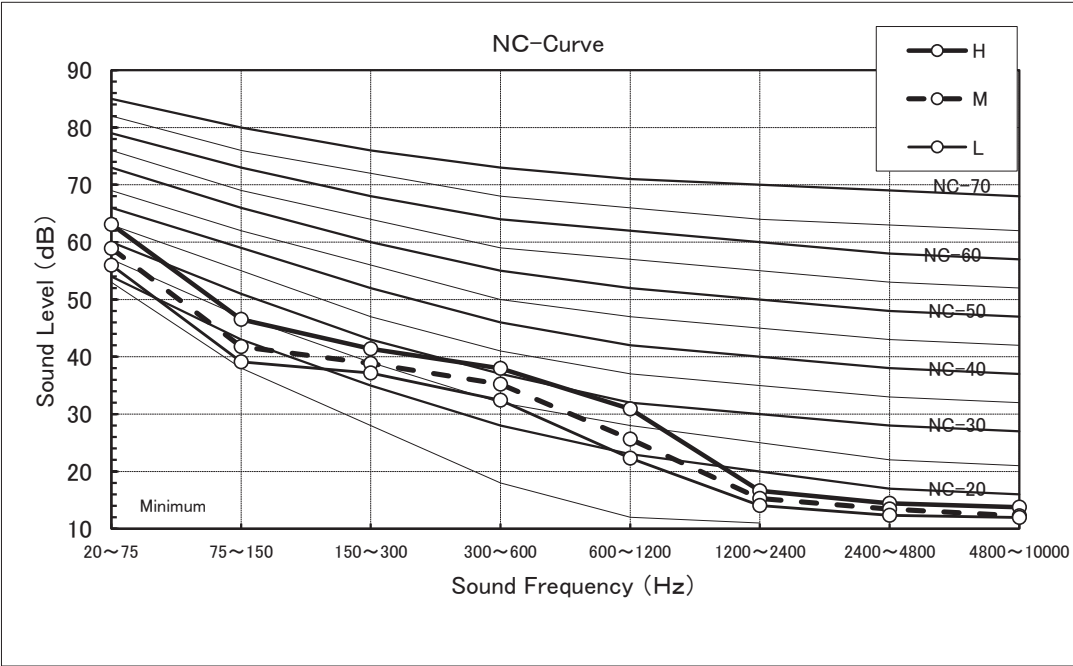
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	38	33	31



Heating

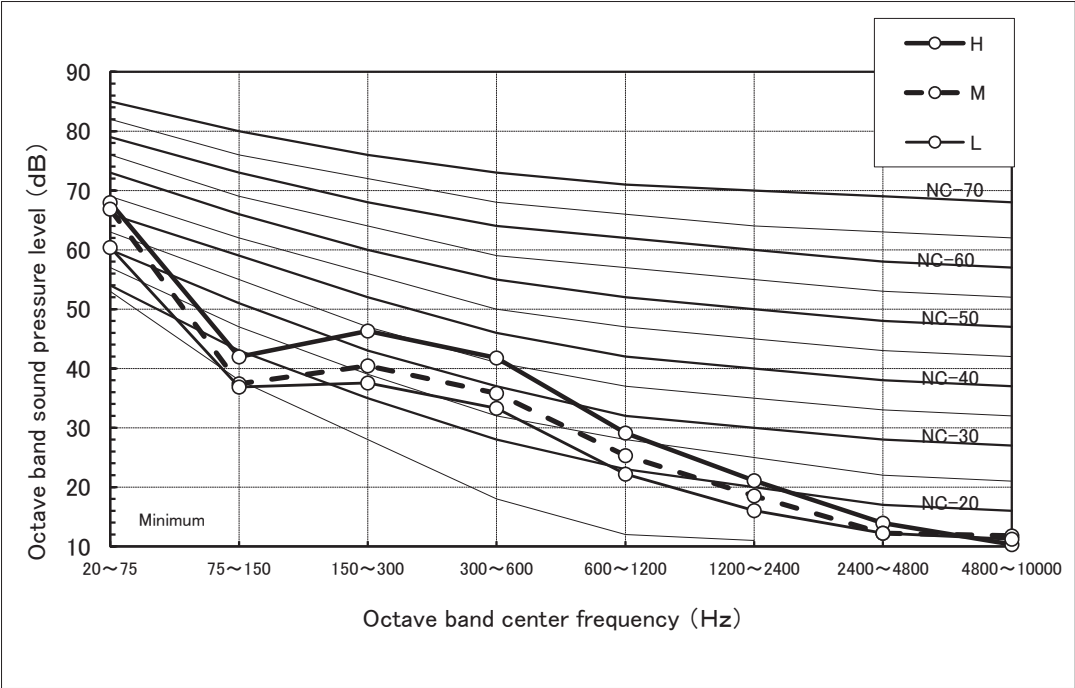
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	38	33	31



RAV-SM242UTP-UL

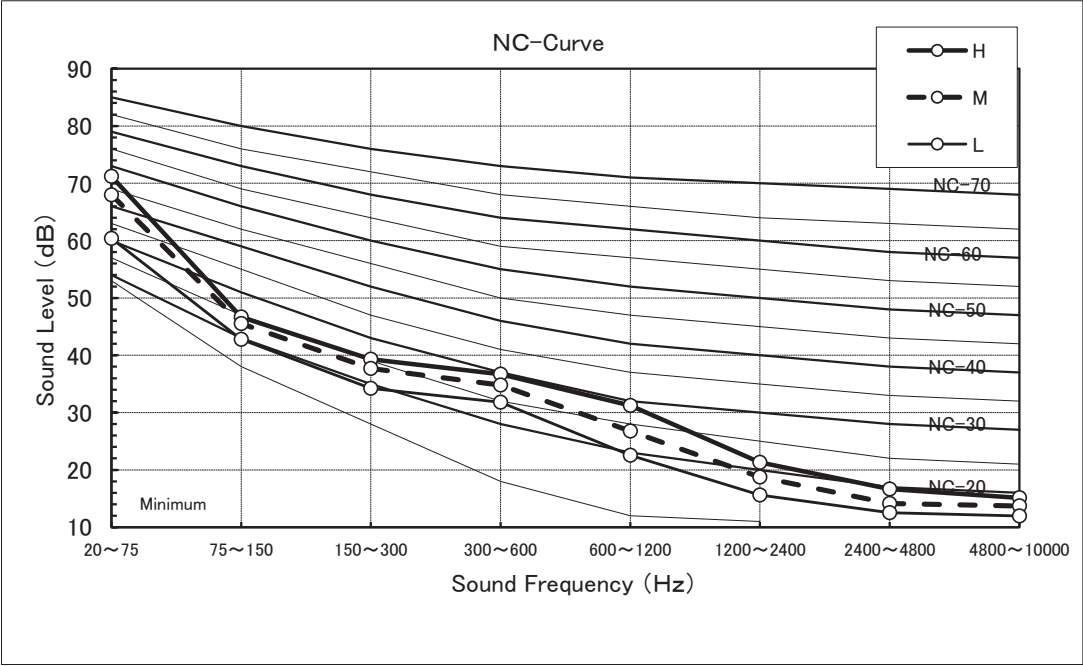
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	41	37	34



Heating

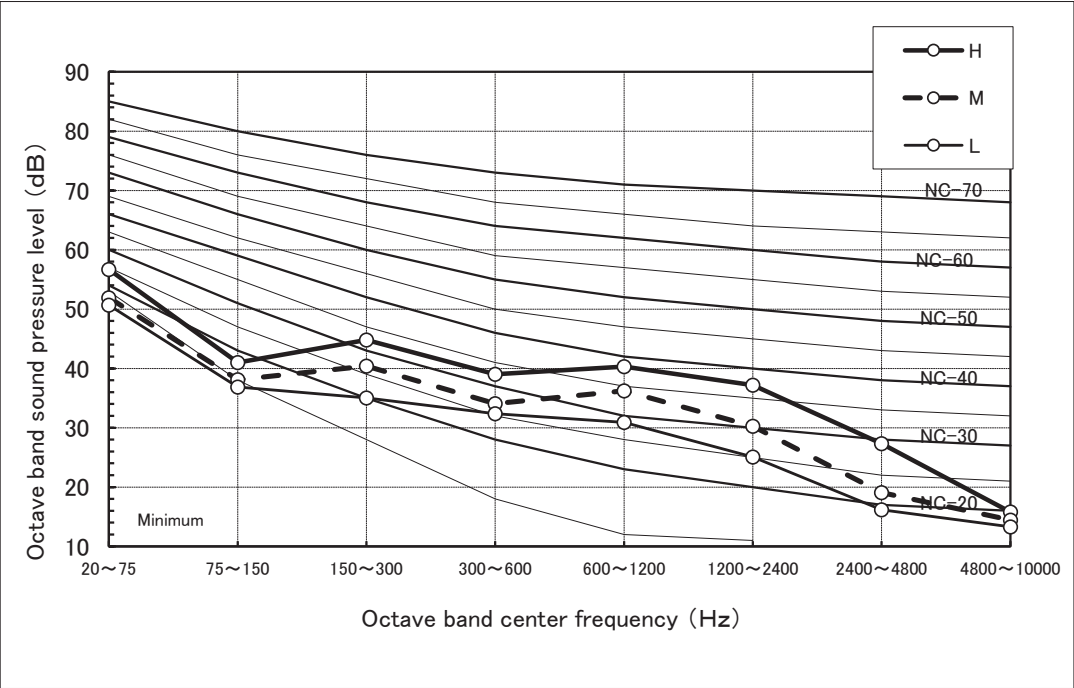
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	41	37	34



RAV-SM302UTP-UL

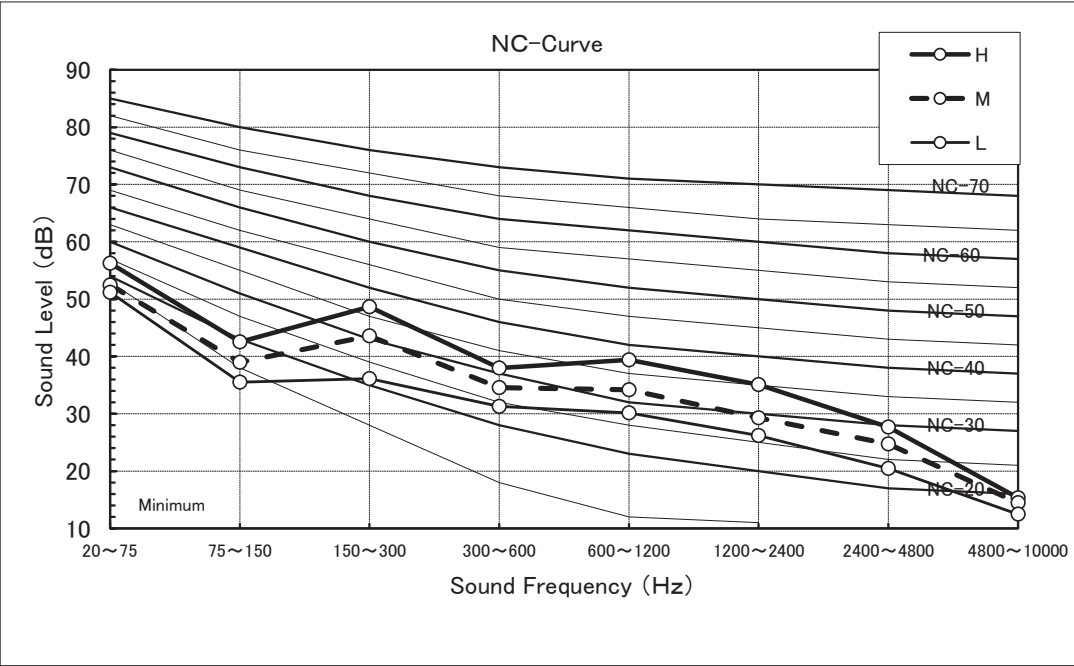
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	43	38	34



Heating

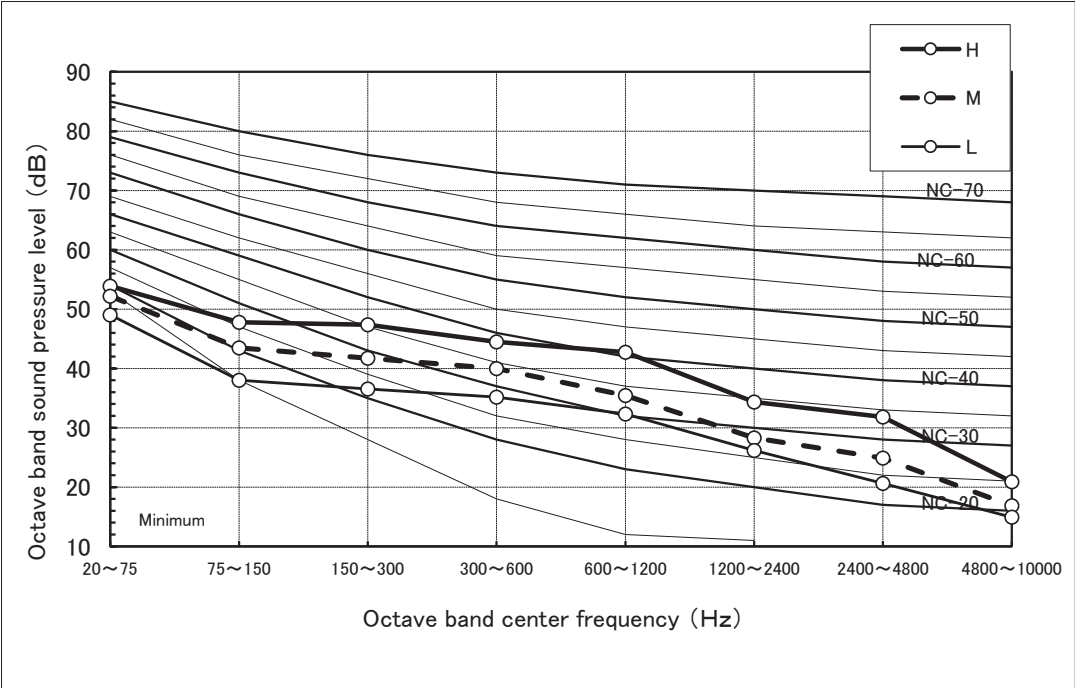
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	43	38	34



RAV-SM362UTP-UL

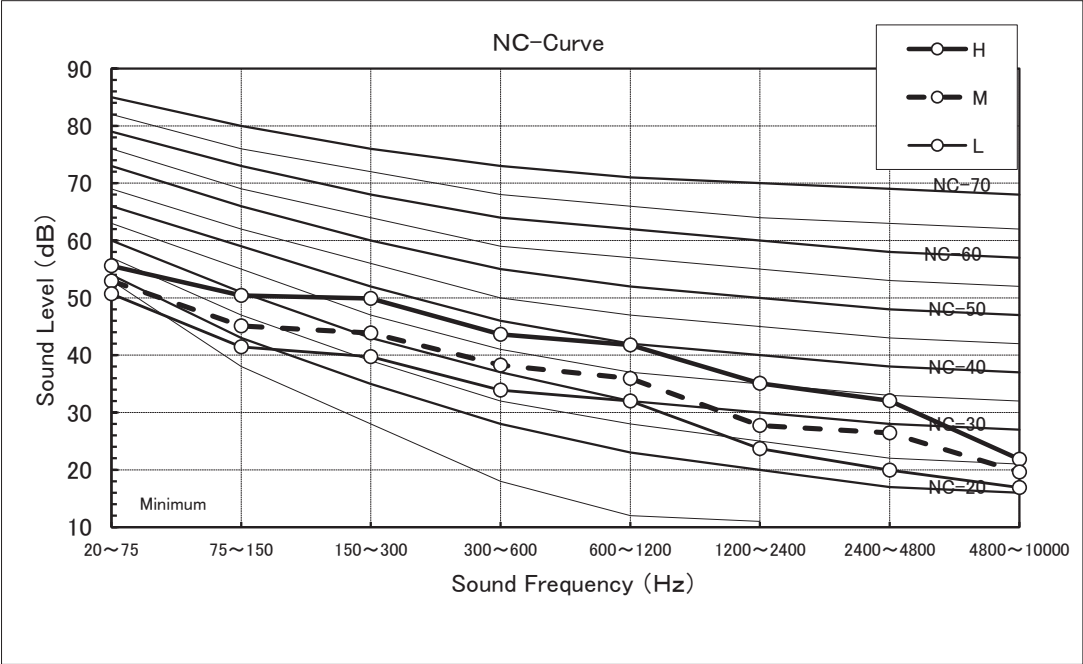
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	45	39	35



Heating

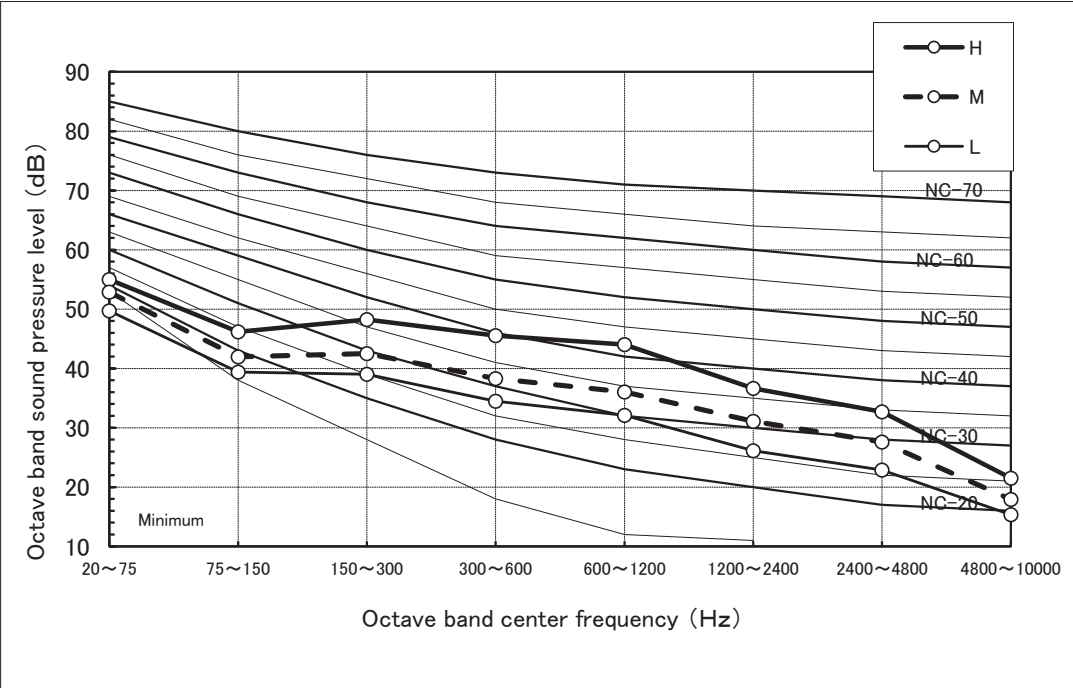
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	45	39	35



RAV-SM422UTP-UL

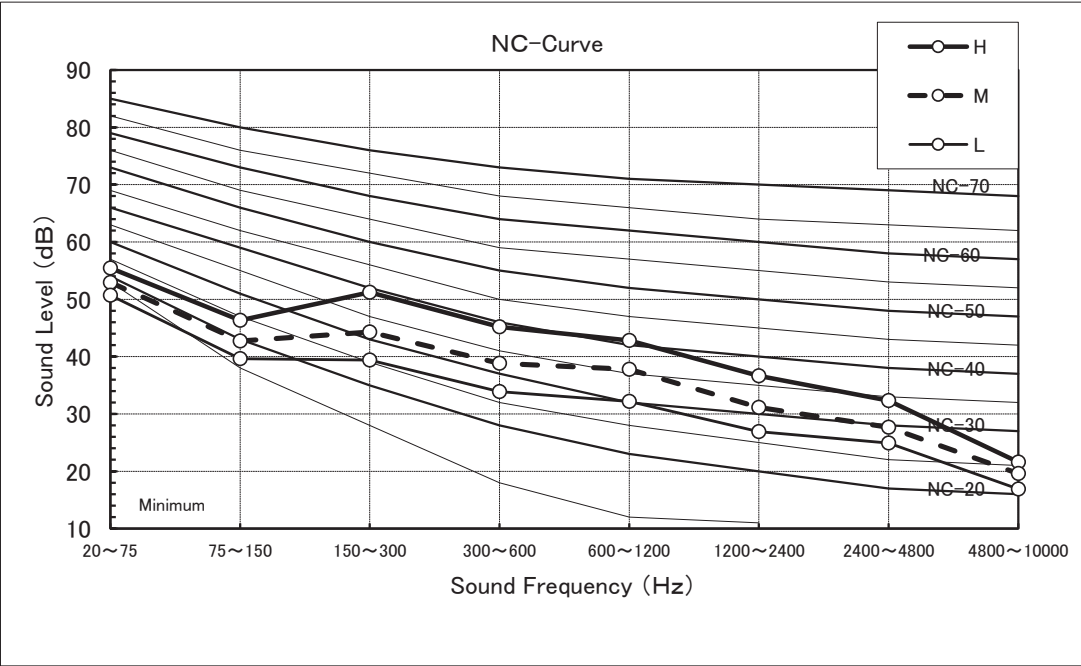
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	46	40	36



Heating

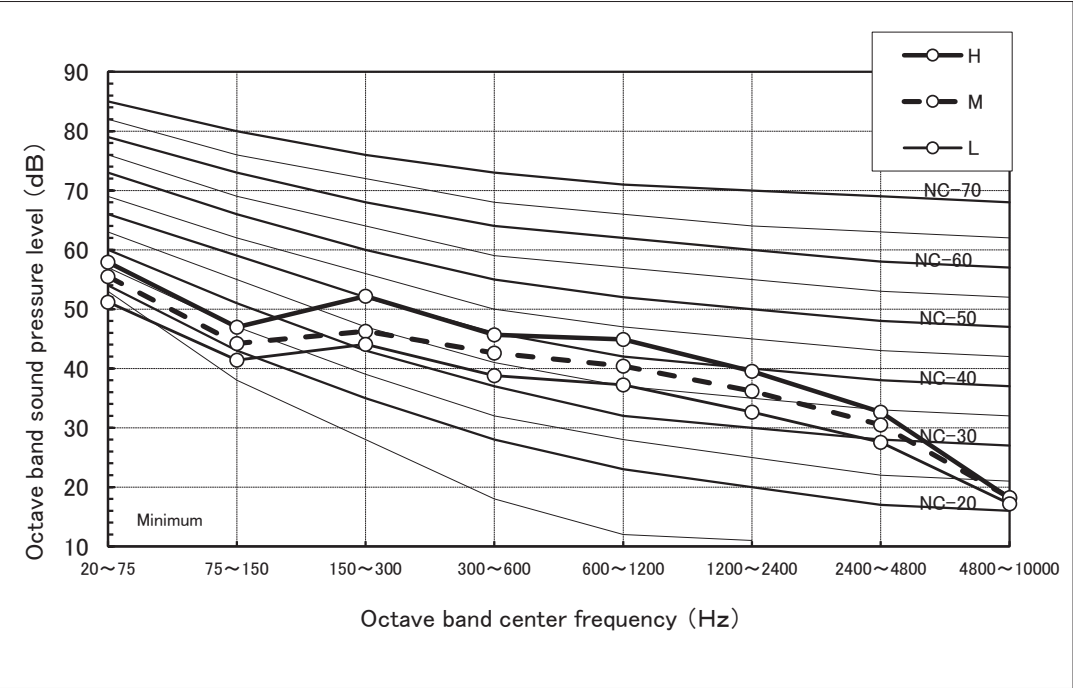
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	46	40	36



RAV-SM482UTP-UL

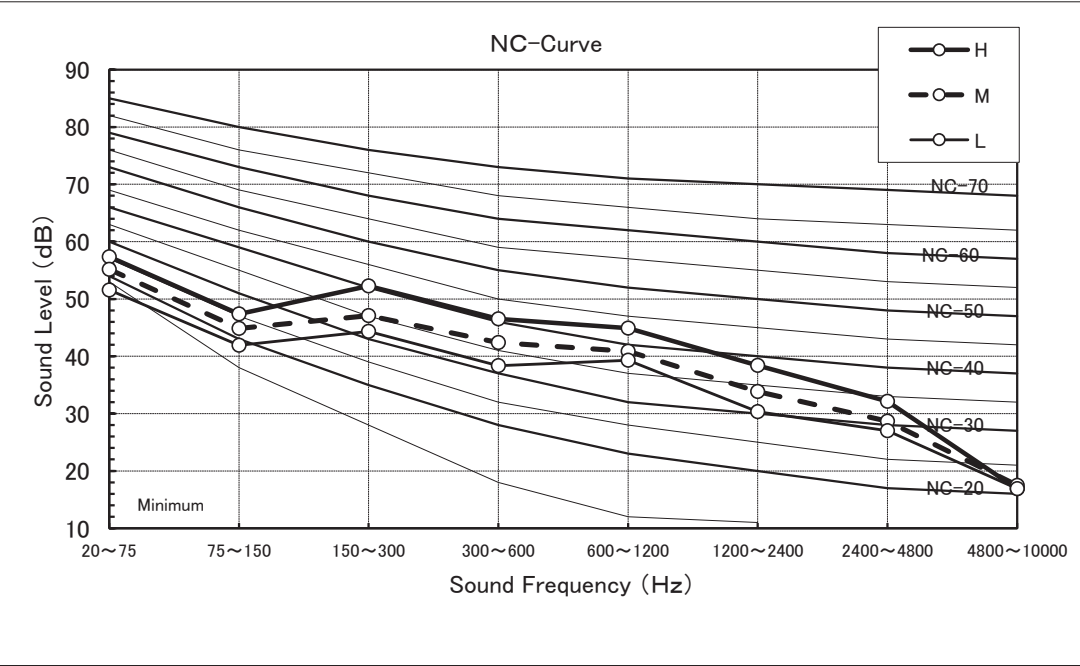
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	48	44	41



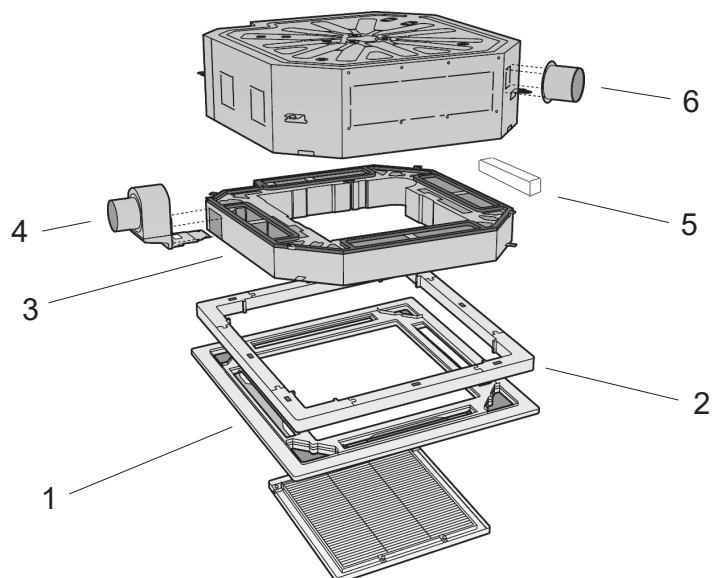
Heating

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	48	44	41



2-1-8. 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-AX32U(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
	Wireless remote control kit	RBC-AX32U(W)-UL	OK		OK	OK	OK	OK	OK
Optional parts	Spacer for height adjustment	TCB-SP1602UUL	OK	OK		OK	—	OK	OK
	Fresh-air chamber	TCB-GFC1602UUL	OK	OK	OK		—	OK	OK
	Fresh-air inlet box + Fresh-air chamber	TCB-GB1602UUL + TCB-GFC1602UUL	OK	OK	—	—		OK	OK
	Air-discharge direction kit	TCB-BC1602UUL	OK	OK	OK	OK	OK		OK
	Auxiliary fresh air flange	TCB-FF101URUL	OK	OK	OK	OK	OK	OK	

Appendix

Fresh air intake (Design guide)

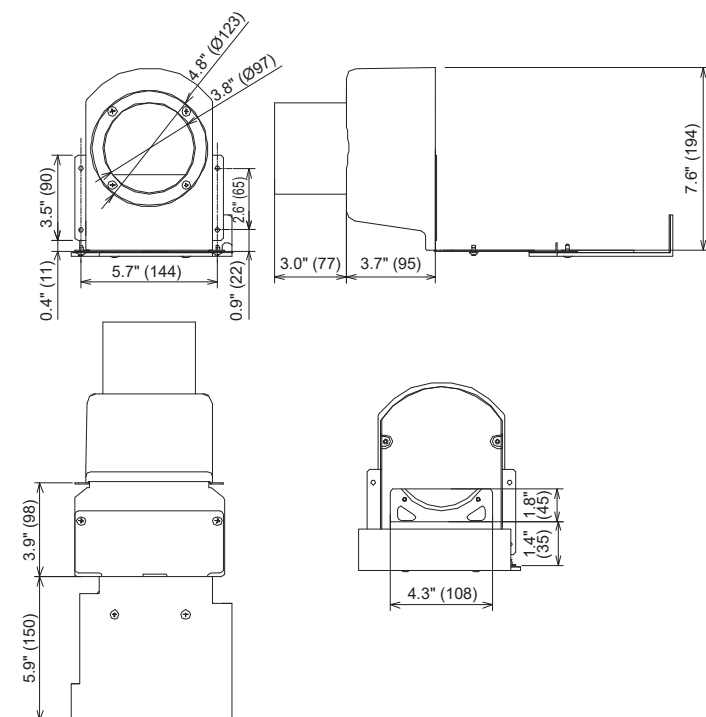
1. Fresh-air inlet box (TCB-GB1602UUL)

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	

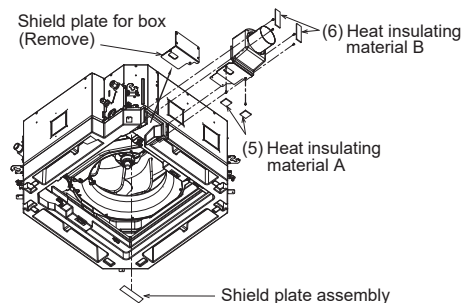
Dimension



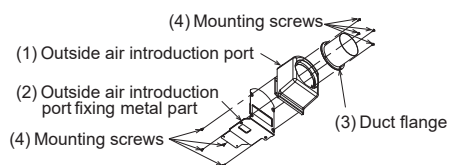
Model	A
18 to 24 type	14.1" (358)
30 to 48 type	16.6" (421)

Installation

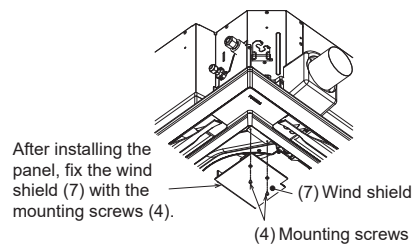
(Fig. 1)



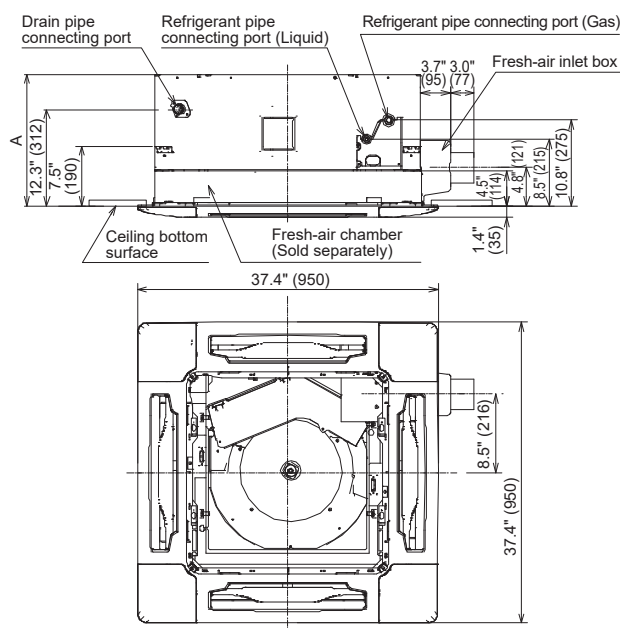
(Fig. 2)



(Fig. 3)



Unit: in (mm)



NOTE

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

2. Fresh Air Intake

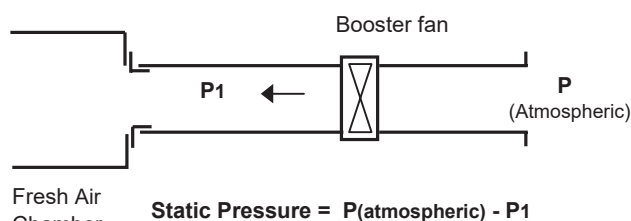
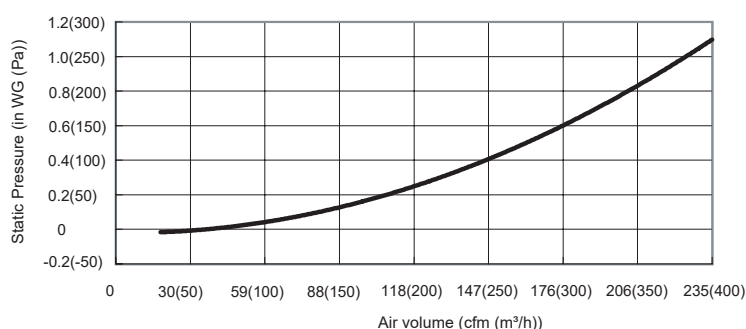
Usage

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.



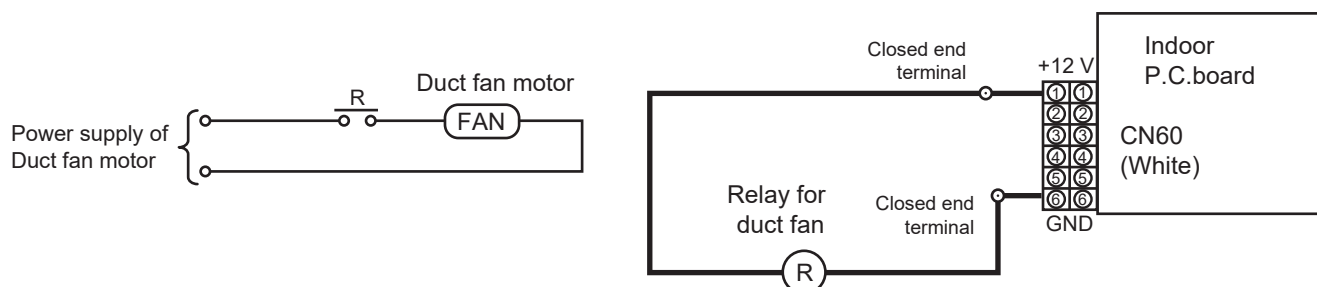
Characteristics between air volume of branching duct and static pressure

Up to 20% fresh air intake ratio is available by using the booster fan.

fresh air intake ratio = (fresh air volume) / (total air volume) X 100 %

Inter - lock circuit

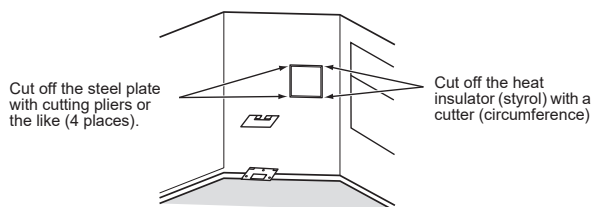
1. Connect the driving relay of the duct fan (DC 12 V) between 1 and 6 on the indoor P.C.board.
Part indicated with a bold line is the connecting circuit.
After installation, implement a test run to check that the duct fan of the indoor unit start / stop simultaneously.
(Implement the test run following to the installation manual of the indoor unit.)
Rated current of the relay for duct fan shall be up to 75 mA .



3. Auxiliary fresh air flange (TCB-FF101URUL)

Installation

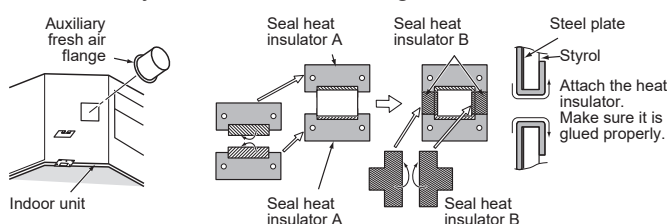
1. Using the knockout of the indoor unit main body, as a marker, cut off the flange with the heat insulator (styrol) with cutting pliers or cutter.



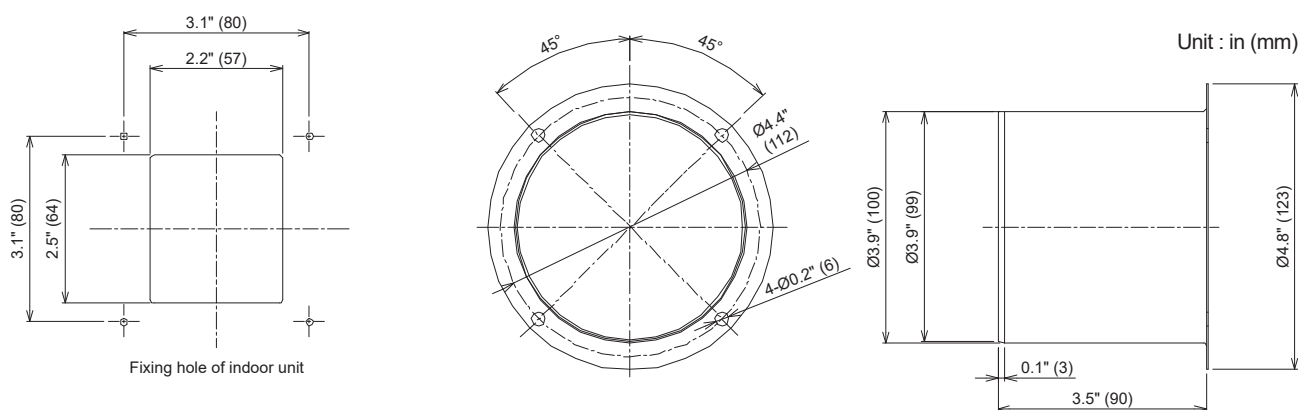
NOTE

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.

2. 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.
3. Install the auxiliary fresh air flange to the indoor unit main body with attached 4 fixing screws.



Dimension

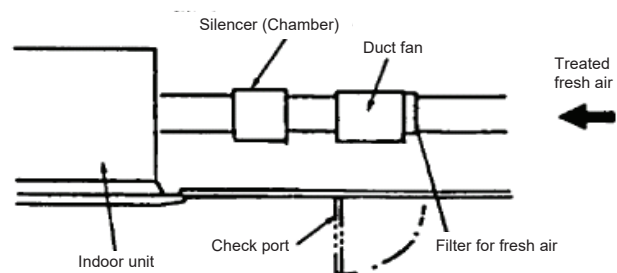


Installation status of indoor unit

Duct fan

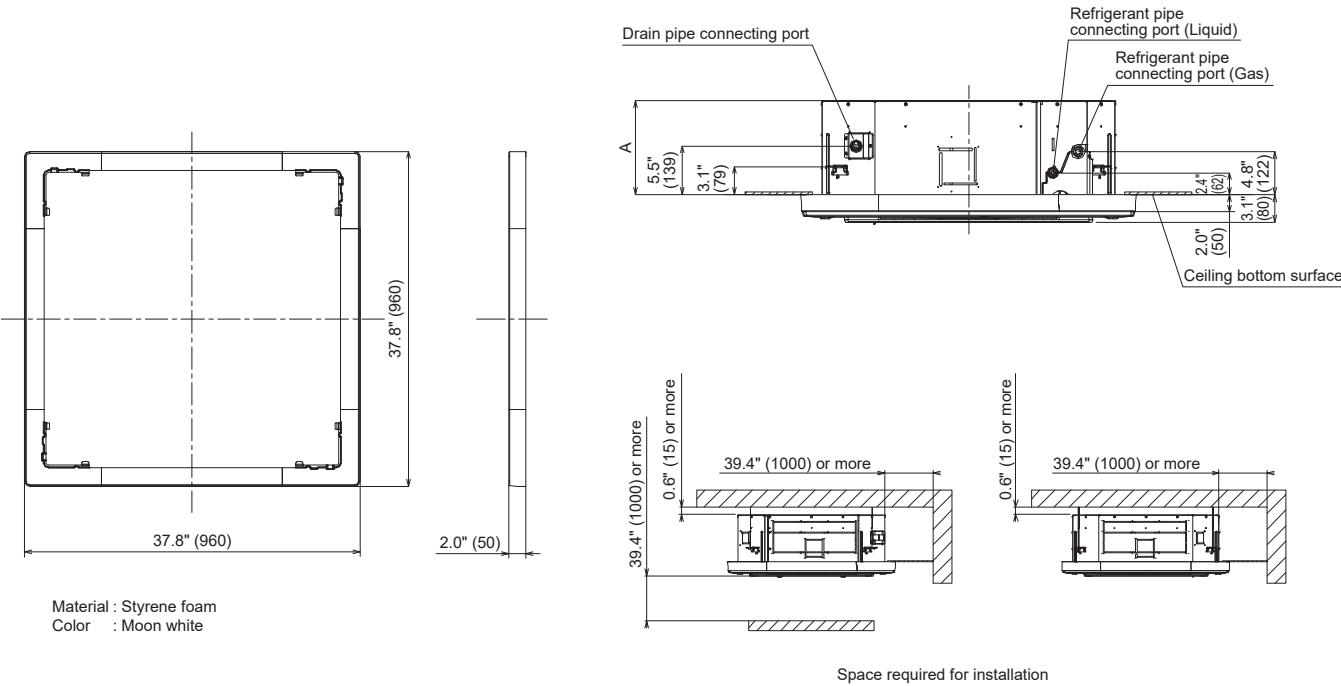
In order to take fresh air, provide the duct fan separately.

1. Install the filter for fresh air
2. Provide the check port beneath the duct fan for maintenance.
3. Connect the duct fan and the indoor unit with inter-lock wiring.
4. Provide the silencer to prevent the effect of noise.



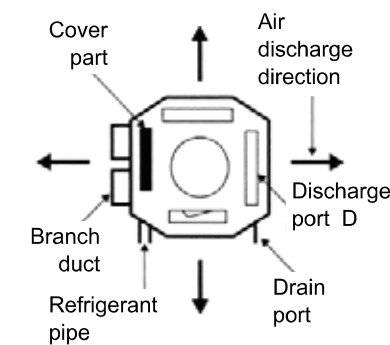
4. Spacer for height adjustment (TCB-SP1602UUL)

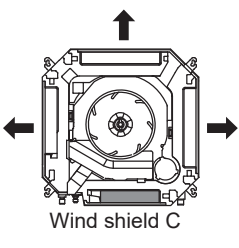
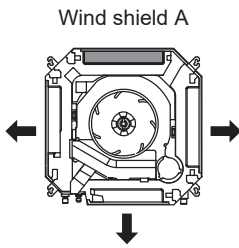
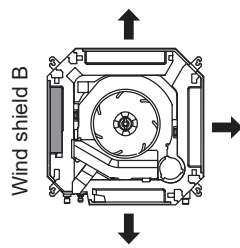
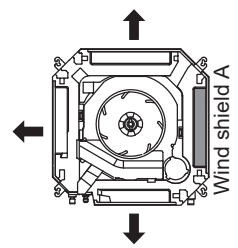
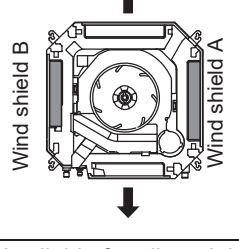
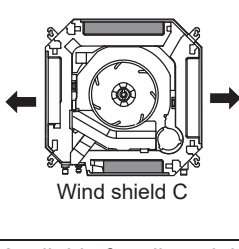
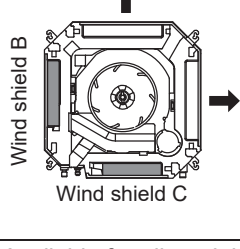
Unit: in (mm)



Model	A
18 to 24 type	8.1" (206)
30 to 48 type	0.6" (269)

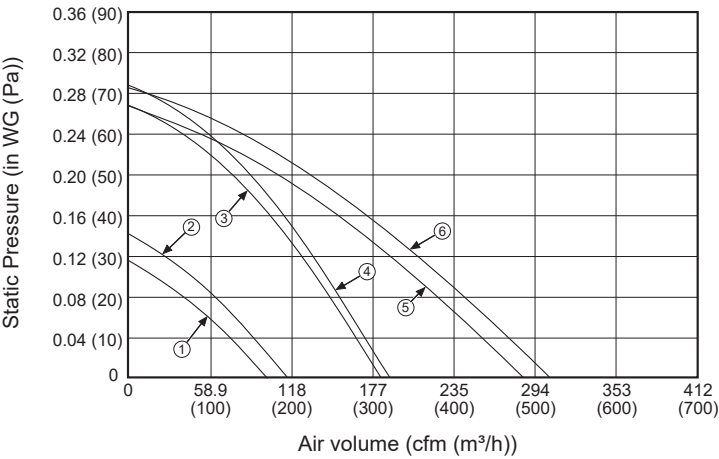
5. Air discharge direction kit (TCB-BC1602UUL)



Limited models only				
3-way air flow				
	Available for all models	Available for all models	Available only for 18 to 24 type	Available only for 30 to 48 type
2-way air flow				
	Available for all models	Available for all models	Available for all models	

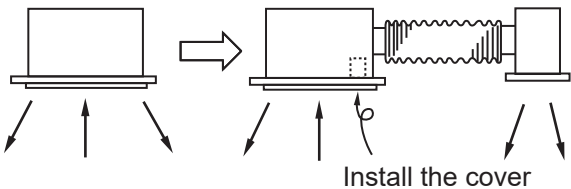
6. Branching duct

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.



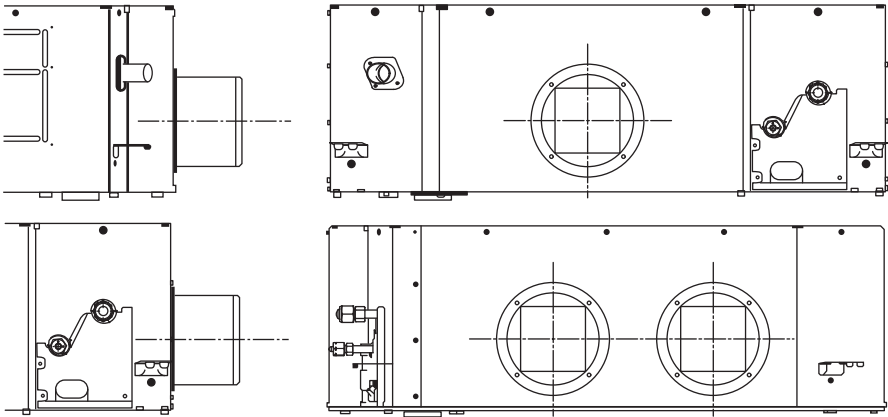
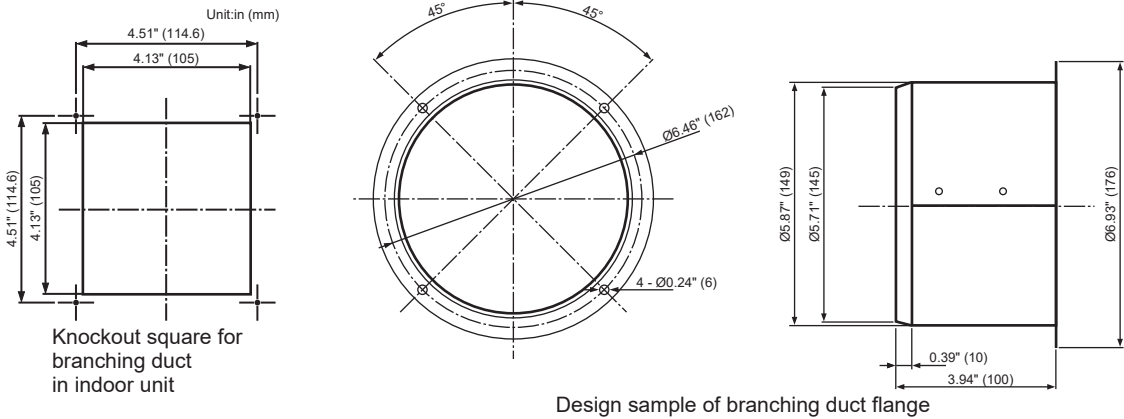
	Model
①	18, 24 type : 3 directions + 1 branch
②	30 type : 3 directions + 1 branch
③	36 type : 3 directions + 1 branch
④	42, 48 type : 3 directions + 1 branch
⑤	36 type : 3 directions + 2 branches
⑥	42, 48 type : 3 directions + 2 branches

Cover method



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

Dimension



2-2. Under Ceiling

2-2-1. Specifications

2-2-2. Dimension

2-2-3. Wiring Diagrams

2-2-4. Sensible Capacity Table

2-2-5. Part Load Performance

2-2-6. Air Throw Distance Chart

2-2-7. Sound Characteristics (NC Curve)

2-2-8. Accessories

2-2-1. Specifications

Under Ceiling type

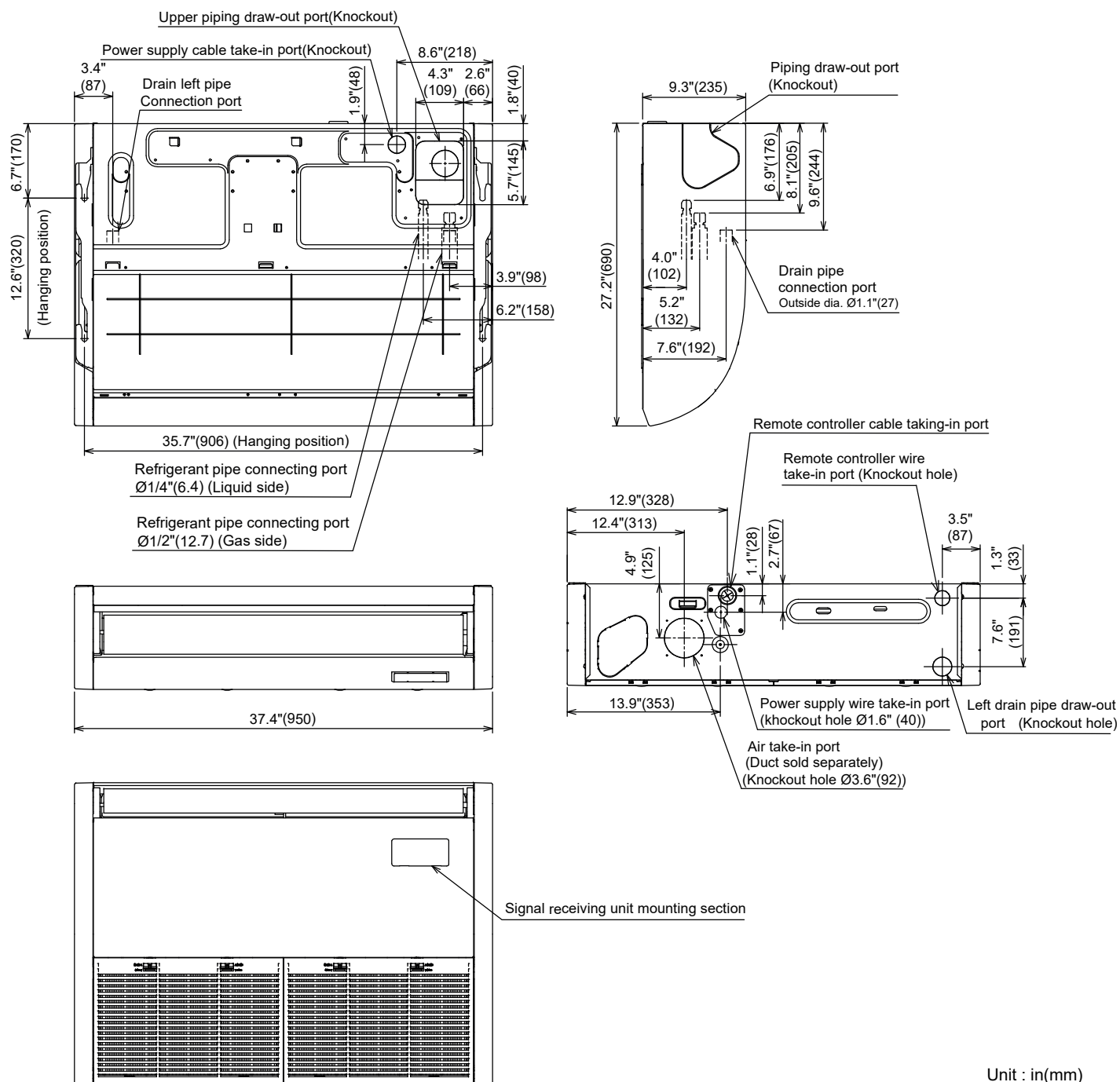
Model name	Indoor unit		RAV -	SM182CTP-UL	SM242CTP-UL	SM302CTP-UL	SM362CTP-UL	SM422CTP-UL	SM482CTP-UL
	Outdoor unit		RAV -	SP182AT2P-UL	SP242AT2P-UL	SP302AT2P-UL	SP362AT2P-UL	SP422AT2P-UL	SP482AT2P-UL
Cooling	Capacity		Btu/h	18,000	24,000	30,000	36,000	42,000	48,000
	SEER			22.9	22.0	21.0	21.6	19.2	18.4
	EER			11.5	12.7	12.5	12.1	9.8	8.8
Heating	Capacity		Btu/h	20,000	27,000	34,000	40,000	47,000	54,000
	HSPF			11.0	10.4	10.5	12.2	11.3	11.0
	COP			13.1	12.9	12.2	12.5	11.5	11.1
Power supply			1 Phase 208V/230V 60 Hz						
Indoor unit									
Outer dimension	Main unit	Height	In	9.3	9.3		9.3		
		Width	In	37.5	50.0		62.5		
		Depth	In	27.2	27.2		27.2		
Total weight	Main unit		lbs.	53	66		84		
Air flow volume	Indoor unit (H/M/L)		CFM	565 / 425 / 320	845 / 600 / 440	845 / 600 / 440	1095 / 795 / 600	1095 / 900 / 705	1250 / 1125 / 925
Sound Pressure Level (H/M/L)			dB(A)	37 / 35 / 32	41 / 36 / 29	43 / 36 / 33	44 / 38 / 32	44 / 41 / 35	47 / 45 / 41
Fan motor output			w	94			139		
Drain tube size (outside diameter)			In	1.1" (VP20)					
Outdoor unit									
Air flow volume	Cooling / Heating		CFM	1590 / 1590	2300 / 2220	3570 / 2870	3570 / 3100	3570 / 3290	4540 / 4060
Sound Pressure Level (High) Cooling / Heating			dB(A)	48 / 52	52 / 54	54 / 54	54 / 54	54 / 54	60 / 60
Outer dimension	Height		In	21.7	35.0	52.8			
	Width		In	30.7	35.4	35.4			
	Depth		In	11.4	12.6	12.6			
Total weight	Main unit		lbs.	99	141	218		234	
Pipe	Min. leghth		ft.	16'5"					
	Max. total length		ft.	164'1"			246'1"		
Flare Connections	Gas side		In	1 / 2"		5 / 8"			
	Liquid side		In	1 / 4"		3 / 8"			
Operating Range	Cooling		(°F)	5 to 115					
	Cooling with Wind buffels		(°F)	5 to 115			-13 to 115		
	Heating		(°F)	-13 to 59					

Rated conditions Cooling : Indoor air temperature 80°F (27°C) DB / 67°F (19°C) WB, Outdoor air temperature 95°F (35°C) DB

Heating : Indoor air temperature 70°F (21°C) DB, Outdoor air temperature 47°F (8°C) DB/43°F (6°C) WB

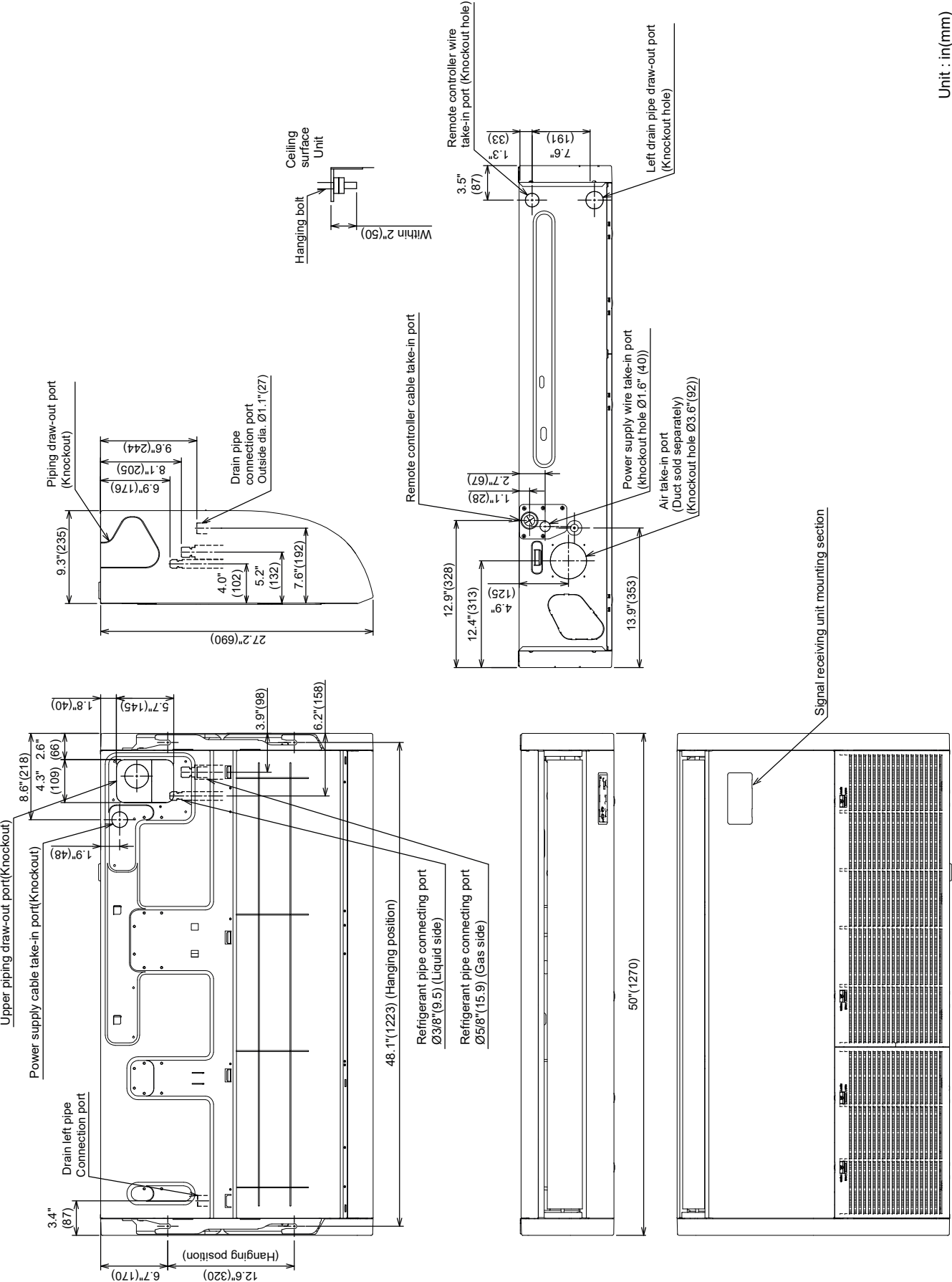
2-2-2. Dimension

RAV-SM182CTP-UL



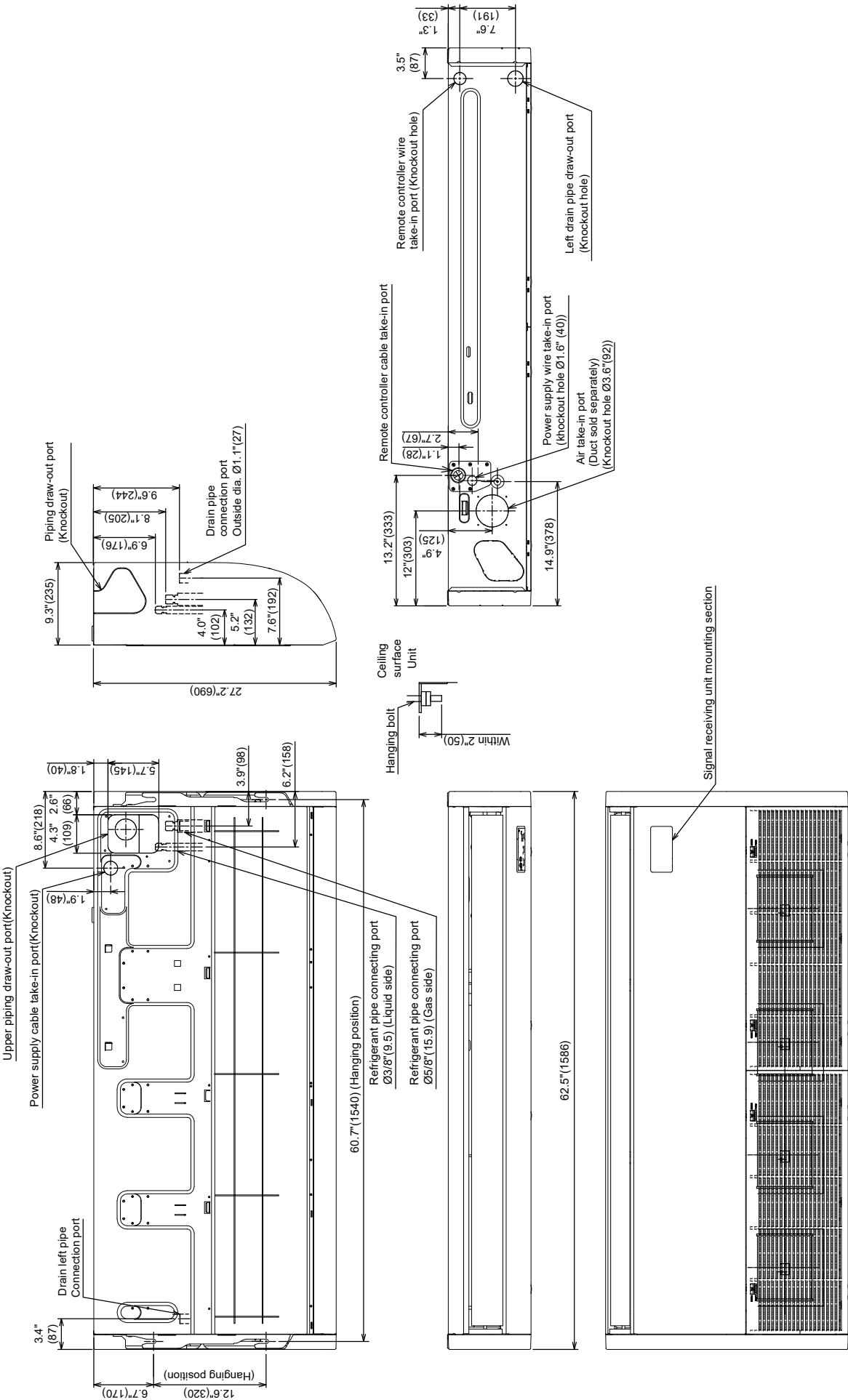
Unit : in(mm)

RAV-SM*_2CTP-UL (*24 / 30)



Unit : in(mm)

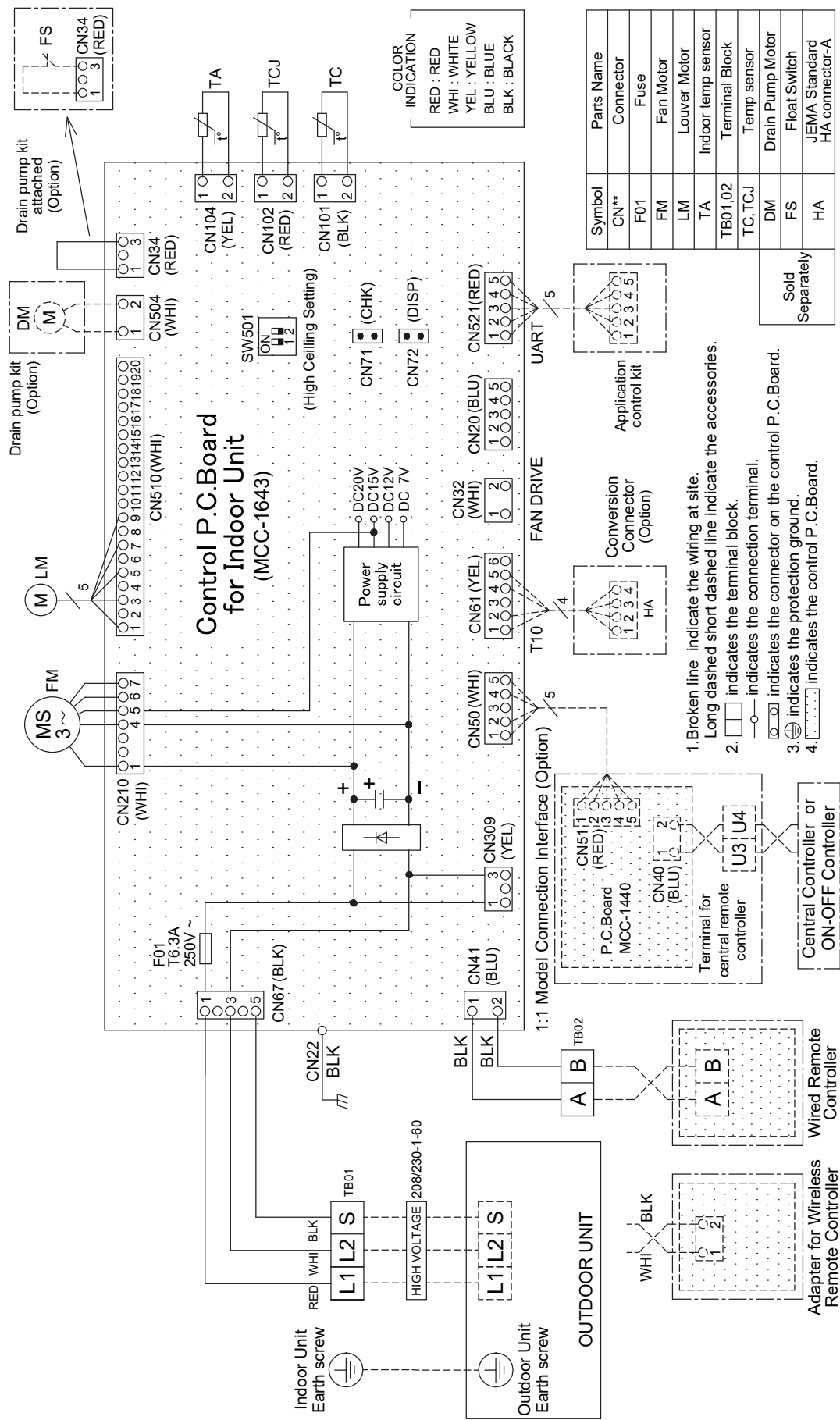
RAV-SM*___2CTP-UL (*36 / 42 / 48)



Unit : in(mm)

2-2-3. Wiring Diagrams

RAV-SM*_2CTP-UL (*18 / 24 / 30 / 36 / 42 / 48)



2-2-4. Sensible Capacity Table

Product models : RAV-SM__2CTP-UL : RAV-SP__2AT2P-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
18	50	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	54	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	57	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	61	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	64	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	68	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	70	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	73	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	77	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	81	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	84	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	88	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	91	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	95	14780	11750	16340	12510	17460	13290	18000	13250	18540	13250	19620	13130	20520	12820
	99	14350	11410	15870	12150	16950	12900	17480	12870	18000	12870	19050	12750	19920	12450
	102	14010	11140	15490	11860	16550	12600	17060	12560	17580	12560	18600	12450	19450	12150
24	50	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	54	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	57	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	61	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	64	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	68	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	70	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	73	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	77	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	81	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	84	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	88	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	91	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	95	19700	15280	21790	16280	23280	17290	24000	17240	24720	17240	26160	17080	27360	16680
	99	19130	14840	21160	15810	22600	16790	23300	16740	24000	16740	25400	16580	26570	16200
	102	18680	14490	20660	15430	22070	16390	22750	16340	23430	16340	24800	16190	25940	15810
30	50	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	54	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	57	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
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	64	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	68	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	70	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	73	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
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	84	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	88	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	91	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	95	24630	18620	27240	19830	29100	21060	30000	21000	30900	21000	32700	20810	34200	20320
	99	23920	18080	26450	19250	28260	20450	29130	20390	30000	20390	31750	20210	33210	19730
	102	23350	17650	25820	18800	27590	19960	28440	19910	29290	19910	31000	19730	32420	19260
36	50	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	54	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	57	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	61	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	64	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
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	70	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	73	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	77	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	81	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	84	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	88	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	91	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	95	29560	22070	32690	23510	34920	24960	36000	24890	37080	24890	39240	24660	41040	24090
	99	28700	21430	31740	22830	33910	24240	34960	24170	36000	24170	38100	23940	39850	23390
	102	28020	20920	30990	22290	33100	23660	34130	23600	35150	23600	37200	23380	38910	22840

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Product models : RAV-SM__2CTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp. °FDB	Indoor air temp.													
		59 °FWB 71 °FDB		61 °FWB 73 °FDB		64 °FWB 77 °FDB		67 °FWB 80 °FDB		68 °FWB 82 °FDB		72 °FWB 86 °FDB		75 °FWB 90 °FDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
42	50	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	54	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	57	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	61	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	64	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	68	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	70	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	73	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	77	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	81	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	84	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	88	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	91	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	95	35750	25390	37400	26080	39770	27150	42000	28000	42720	28080	45420	27720	47290	26680
	99	34710	24650	36320	25320	38620	26360	40780	27190	41480	27270	44100	26920	45920	25910
	102	33890	24070	35460	24720	37700	25740	39820	26540	40500	26620	43060	26280	44830	25290
48	50	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	54	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	57	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	61	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	64	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	68	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	70	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	73	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	77	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	81	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	84	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	88	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	91	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	95	40850	28390	42740	29170	45450	30360	48000	31319	48820	31410	51910	31000	54050	29850
	99	39665	27567	41501	28324	44132	29480	46608	30411	47404	30499	50405	30101	52483	28984
	102	38726	26914	40518	27653	43087	28781	45504	29691	46281	29777	49211	29388	51239	28298

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Heating capacity table

Product model : RAV-SM__2CTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
18	59	57	24528	1588	24274	1634	24125	1690	23981	1767	23838	1854
	50	48	22266	1505	22035	1549	21900	1602	21769	1675	21639	1757
	47	43	20334	1438	20124	1479	20000	1530	19880	1599	19762	1678
	41	39	18961	1392	18765	1433	18650	1482	18538	1549	18428	1625
	36	34	17004	1325	16828	1363	16725	1410	16625	1474	16526	1546
	32	31	13268	1174	13131	1208	13050	1250	12972	1306	12895	1370
	23	22	13268	1174	13131	1208	13050	1250	12972	1306	12895	1370
	19	18	12480	1144	12351	1177	12275	1218	12202	1273	12129	1335
	14	13	11438	1091	11320	1123	11250	1162	11183	1214	11116	1274
	5	4	9633	1031	9534	1061	9475	1097	9418	1147	9362	1204
	1	0	7270	947	7204	976	7140	1009	7112	1055	7052	1107
	-3	-4	5686	888	5638	916	5580	946	5564	989	5510	1038
	-13	-13	3046	789	3028	815	2980	841	2984	880	2940	923
24	59	57	33113	2180	32770	2243	32569	2320	32374	2425	32181	2544
	50	48	30059	2066	29748	2126	29565	2199	29388	2299	29213	2412
	47	43	27451	1973	27167	2030	27000	2100	26838	2195	26679	2303
	41	39	25598	1911	25333	1966	25178	2034	25027	2126	24878	2231
	36	34	22956	1818	22718	1871	22579	1935	22444	2023	22310	2122
	32	31	17912	1612	17726	1658	17618	1715	17512	1793	17408	1881
	23	22	17912	1612	17726	1658	17618	1715	17512	1793	17408	1881
	19	18	16848	1570	16674	1616	16571	1671	16472	1747	16374	1833
	14	13	15441	1498	15281	1541	15188	1594	15097	1666	15007	1748
	5	4	13005	1415	12870	1456	12791	1506	12715	1575	12639	1652
	1	0	9815	1300	9725	1340	9639	1385	9601	1448	9520	1519
	-3	-4	7676	1219	7611	1257	7533	1298	7511	1358	7439	1425
	-13	-13	4112	1083	4088	1118	4023	1154	4028	1208	3969	1267
30	59	57	41697	2896	41266	2980	41013	3082	40767	3222	40525	3380
	50	48	37852	2745	37460	2824	37230	2921	37007	3054	36787	3204
	47	43	34568	2621	34210	2697	34000	2790	33797	2916	33595	3060
	41	39	32234	2539	31901	2613	31705	2702	31515	2825	31328	2964
	36	34	28907	2416	28608	2485	28433	2571	28262	2687	28094	2819
	32	31	22555	2141	22322	2203	22185	2279	22052	2382	21921	2499
	23	22	22555	2141	22322	2203	22185	2279	22052	2382	21921	2499
	19	18	21216	2086	20997	2147	20868	2220	20743	2321	20619	2435
	14	13	19444	1990	19243	2048	19125	2118	19011	2214	18897	2323
	5	4	16376	1880	16207	1935	16108	2001	16011	2092	15916	2195
	1	0	12359	1727	12247	1780	12138	1839	12090	1924	11988	2019
	-3	-4	9666	1619	9585	1670	9486	1725	9459	1804	9367	1893
	-13	-13	5178	1439	5148	1486	5066	1534	5073	1605	4998	1684
36	59	57	49056	3321	48548	3418	48250	3535	47961	3695	47676	3877
	50	48	44531	3148	44071	3239	43800	3351	43538	3503	43279	3675
	47	43	40668	3007	40247	3094	40000	3200	39761	3345	39524	3509
	41	39	37923	2912	37531	2996	37300	3099	37077	3240	36856	3399
	36	34	34009	2771	33657	2851	33450	2949	33250	3082	33052	3234
	32	31	26536	2456	26261	2527	26100	2614	25944	2732	25789	2866
	23	22	26536	2456	26261	2527	26100	2614	25944	2732	25789	2866
	19	18	24960	2393	24702	2462	24550	2547	24403	2662	24258	2793
	14	13	22876	2283	22639	2349	22500	2429	22365	2539	22232	2664
	5	4	19266	2157	19067	2219	18950	2295	18837	2399	18725	2517
	1	0	14540	1981	14408	2042	14280	2110	14224	2206	14104	2315
	-3	-4	11372	1857	11276	1915	11160	1978	11128	2069	11020	2171
	-13	-13	6092	1651	6056	1704	5960	1759	5968	1840	5880	1931

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

Product model : RAV-SM__2CTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
42	59	57	57640	4256	57044	4379	56694	4529	56355	4735	56019	4967
	50	48	52324	4034	51783	4151	51465	4293	51157	4488	50853	4708
	47	43	47785	3852	47291	3964	47000	4100	46719	4286	46441	4496
	41	39	44559	3731	44098	3839	43828	3971	43565	4151	43306	4355
	36	34	39960	3550	39547	3652	39304	3778	39069	3949	38836	4143
	32	31	31180	3146	30857	3237	30668	3349	30484	3500	30303	3672
	23	22	31180	3146	30857	3237	30668	3349	30484	3500	30303	3672
	19	18	29328	3066	29025	3154	28846	3263	28674	3411	28503	3578
	14	13	26879	2924	26601	3009	26438	3113	26279	3254	26123	3413
	5	4	22638	2763	22404	2843	22266	2941	22133	3074	22001	3225
	1	0	17085	2538	16929	2616	16779	2703	16713	2827	16572	2966
	-3	-4	13362	2379	13249	2454	13113	2535	13075	2651	12949	2782
	-13	-13	7158	2115	7116	2183	7003	2254	7012	2358	6909	2474
48	59	57	66225	5055	65540	5201	65138	5380	64748	5624	64363	5900
	50	48	60117	4791	59496	4930	59130	5099	58776	5331	58427	5592
	47	43	54902	4576	54334	4708	54000	4870	53677	5091	53358	5341
	41	39	51196	4432	50666	4560	50355	4717	50054	4931	49756	5173
	36	34	45912	4216	45437	4338	45158	4488	44887	4691	44620	4921
	32	31	35823	3737	35453	3845	35235	3978	35024	4158	34816	4362
	23	22	35823	3737	35453	3845	35235	3978	35024	4158	34816	4362
	19	18	33696	3641	33347	3747	33143	3876	32944	4051	32748	4250
	14	13	30882	3474	30563	3574	30375	3697	30193	3865	30014	4055
	5	4	26010	3282	25741	3377	25583	3493	25429	3651	25278	3831
	1	0	19629	3015	19451	3108	19278	3211	19202	3358	19040	3523
	-3	-4	15352	2826	15223	2915	15066	3011	15023	3149	14877	3304
	-13	-13	8224	2512	8176	2593	8046	2677	8057	2801	7938	2939

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

2-2-5. Part load performance

Indoor : RAV-SM182CTP-UL
Outdoor : RAV-SP182AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 4000	190	3000	170
RATING	Btu/h 18000	1570	20000	1530
MAXIMUM	Btu/h 19100	1760	21400	1769

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling		Parts Load (%)																			
		100		90		80		70		60		50		40		30		20		10	
		Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
Outdoor Temperature DB °F(°C)																					
68(20)	21470	1230	19320	1090	17170	950	15030	810	12880	680	10730	540	8590	400	6440	260	4770	150	4770	150	
70(21)	21230	1250	19110	1110	16990	970	14860	830	12740	690	10620	550	8490	400	6370	260	4720	150	4720	150	
72(22)	21000	1280	18900	1130	16800	990	14700	840	12600	700	10500	560	8400	410	6300	270	4670	150	4670	150	
73(23)	20770	1300	18690	1150	16620	1010	14540	860	12460	710	10390	570	8310	420	6230	270	4620	160	4620	160	
75(24)	20540	1320	18490	1170	16430	1020	14380	870	12320	720	10270	580	8220	430	6160	280	4560	160	4560	160	
77(25)	20310	1340	18280	1190	16250	1040	14220	890	12190	740	10160	580	8120	430	6090	280	4510	160	4510	160	
79(26)	20080	1370	18070	1210	16060	1060	14060	900	12050	750	10040	590	8030	440	6020	290	4460	170	4460	170	
81(27)	19850	1390	17860	1230	15880	1080	13890	920	11910	760	9920	600	7940	450	5950	290	4410	170	4410	170	
82(28)	19620	1410	17660	1250	15690	1090	13730	930	11770	770	9810	610	7850	450	5890	300	4360	170	4360	170	
84(29)	19390	1430	17450	1270	15510	1110	13570	950	11630	790	9690	620	7750	460	5820	300	4310	170	4310	170	
86(30)	19160	1460	17240	1290	15320	1130	13410	960	11490	800	9580	630	7660	470	5750	300	4260	180	4260	180	
88(31)	18920	1480	17030	1310	15140	1150	13250	980	11350	810	9460	640	7570	480	5680	310	4210	180	4210	180	
90(32)	18690	1500	16820	1330	14950	1160	13090	990	11220	820	9350	650	7480	480	5610	310	4150	180	4150	180	
91(33)	18460	1520	16620	1350	14770	1180	12920	1010	11080	840	9230	660	7380	490	5540	320	4100	180	4100	180	
93(34)	18230	1550	16410	1370	14580	1200	12760	1020	10940	850	9120	670	7290	500	5470	320	4050	190	4050	190	
95(35)	18000	1570	16200	1390	14400	1220	12600	1040	10800	860	9000	680	7200	510	5400	330	4000	190	4000	190	
97(36)	17770	1590	15990	1410	14220	1230	12440	1050	10660	870	8880	690	7110	510	5330	330	3950	190	3950	190	
99(37)	17540	1620	15780	1430	14030	1250	12280	1070	10520	880	8770	700	7020	520	5260	340	3900	200	3900	200	
100(38)	17310	1640	15580	1450	13850	1270	12110	1080	10380	900	8650	710	6920	530	5190	340	3850	200	3850	200	
102(39)	17080	1660	15370	1470	13660	1280	11950	1100	10250	910	8540	720	6830	530	5120	350	3790	200	3790	200	
104(40)	16850	1680	15160	1490	13480	1300	11790	1110	10110	920	8420	730	6740	540	5050	350	3740	200	3740	200	
106(41)	16610	1710	14950	1510	13290	1320	11630	1130	9970	930	8310	740	6650	550	4980	360	3690	210	3690	210	
108(42)	16380	1730	14740	1530	13110	1340	11470	1140	9830	950	8190	750	6550	560	4910	360	3640	210	3640	210	
109(43)	16130	1740	14510	1540	12900	1340	11290	1150	9680	950	8060	760	6450	560	4840	360	3580	210	3580	210	
111(44)	15860	1740	14270	1540	12690	1340	11100	1150	9510	950	7930	760	6340	560	4760	360	3520	210	3520	210	
113(45)	14910	1350	13420	1200	11930	1040	10440	890	8950	740	7460	590	5970	430	4470	280	3310	160	3310	160	
115(46)	14640	1350	13180	1200	11710	1040	10250	890	8790	740	7320	590	5860	430	4390	280	3250	160	3250	160	

Heating		Parts Load (%)																			
Outdoor Temperature DB °F(°C)	100		90		80		70		60		50		40		30		20		10		
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
-13(-25)	7680	540	6910	480	6150	430	5380	370	4610	310	3840	260	3070	200	2300	140	1540	90	1150	60	
-11(-24)	7820	590	7040	530	6260	460	5480	400	4690	340	3910	280	3130	220	2350	160	1560	100	1170	70	
-9(-23)	7960	640	7170	570	6370	500	5570	440	4780	370	3980	300	3180	240	2390	170	1590	100	1190	70	
-8(-22)	8100	690	7290	610	6480	540	5670	470	4860	400	4050	330	3240	260	2430	180	1620	110	1220	80	
-6(-21)	8240	730	7420	660	6590	580	5770	500	4940	430	4120	350	3300	270	2470	200	1650	120	1240	80	
-4(-20)	8380	780	7540	700	6710	620	5870	540	5030	460	4190	370	3350	290	2510	210	1680	130	1260	90	
-2(-19)	8450	800	7610	720	6760	630	5920	550	5070	470	4230	380	3380	300	2540	210	1690	130	1270	90	
0(-18)	8520	820	7670	730	6820	650	5960	560	5110	470	4260	390	3410	300	2560	220	1700	130	1280	90	
1(-17)	8590	830	7730	750	6870	660	6010	570	5150	480	4300	400	3440	310	2580	220	1720	140	1290	90	
3(-16)	8660	850	7790	760	6930	670	6060	580	5200	490	4330	410	3460	320	2600	230	1730	140	1300	90	
5(-15)	8730	870	7860	780	6980	680	6110	590	5240	500	4370	410	3490	320	2620	230	1750	140	1310	100	
7(-14)	9280	880	8350	790	7420	690	6490	600	5570	510	4640	420	3710	330	2780	240	1860	140	1390	100	
9(-13)	9820	890	8840	800	7860	700	6880	610	5890	520	4910	420	3930	330	2950	240	1960	150	1470	100	
10(-12)	10370	900	9330	810	8290	710	7260	620	6220	520	5180	430	4150	340	3110	240	2070	150	1560	100	
12(-11)	10910	910	9820	820	8730	720	7640	630	6550	530	5460	440	4370	340	3270	240	2180	150	1640	100	
14(-10)	11460	920	10310	830	9170	730	8020	630	6880	540	5730	440	4580	340	3440	250	2290	150	1720	100	
16(-9)	12000	940	10800	840	9600	740	8400	640	7200	540	6000	450	4800	350	3600	250	2400	150	1800	100	
18(-8)	12550	950	11300	850	10040	750	8790	650	7530	550	6280	450	5020	350	3770	250	2510	150	1880	110	
19(-7)	13100	960	11790	860	10480	760	9170	660	7860	560	6550	460	5240	360	3930	260	2620	160	1960	110	
21(-6)	13250	1000	11930	900	10600	790	9280	690	7950	580	6630	480	5300	370	3980	270	2650	160	1990	110	
23(-5)	13410	1050	12070	940	10730	830	9380	720	8040	610	6700	500	5360	390	4020	280	2680	170	2010	120	
25(-4)	13560	1090	12210	980	10850	860	9490	750	8140	630	6780	520	5420	410	4070	290	2710	180	2030	120	
27(-3)	13720	1130	12350	1020	10970	900	9600	780	8230	660	6860	540	5490	420	4120	300	2740	190	2060	130	
28(-2)	13870	1180	12480	1060	11100	930	9710	810	8320	690	6940	560	5550	440	4160	320	2770	190	2080	130	
30(-1)	14030	1220	12620	1090	11220	970	9820	840	8420	710	7010	580	5610	460	4210	330	2810	200	2100	140	
32(0)	14180	1270	12760	1130	11350	1000	9930	870	8510	740	7090	600	5670	470	4250	340	2840	210	2130	140	
34(1)	14340	1310	12900	1170	11470	1040	10040	900	8600	760	7170	630	5740	490	4300	350	2870	210	2150	150	
36(2)	14490	1350	13040	1210	11590	1070	10140	930	8700	790	7250	650	5800	500	4350	360	2900	220	2170	150	
37(3)	14730	1370	13260	1230	11780	1090	10310	940	8840	800	7370	650	5890	510	4420	370	2950	220	2210	150	
39(4)	14970	1390	13470	1240	11970	1100	10480	950	8980	810	7480	660	5990	520	4490	370	2990	230	2250	150	
41(5)	15200	1410	13680	1260	12160	1110	10640	970	9120	820	7600	670	6080	520	4560	380	3040	230	2280	160	
43(6)	19480	1510	17540	1350	15590	1190	13640	1030	11690	880	9740	720	7790	560	5850	400	3900	250	2920	170	
45(7)	20000	1530	18000	1370	16000	1210	14000	1050	12000	890	10000	730	8000	570	6000	410	4000	250	3000	170	
46(8)	20520	1550	18460	1390	16410	1230	14360	1070	12310	900	10260	740	8210	580	6150	420	4100	250	3080	170	
48(9)	21030	1580	18930	1410	16830	1250	14720	1080	12620	920	10520	750	8410	590	6310	420	4210	260	3150	180	
50(10)	21550	1600	19390	1430	17240	1270	15080	1100	12930	930	10770	760	8620	600	6460	430	4310	260	3230	180	
52(11)	22060	1620	19860	1450	17650	1280	15450	1120	13240	950	11030	780	8830	610	6620	440	4410	270	3310	180	
54(12)	22580	1650	20320	1480	18060	1300	15810	1130	13550	960	11290	790	9030	610	6770	440	4520	270	3390	180	
55(13)	23100	1670	20790	1500	18480	1320	16170	1150	13860	970	11550	800	9240	620	6930	450	4620	270	3460	190	
57(14)	23610	1700	21250	1520	18890	1340	16530	1160	14170	990	11810	810	9450	630	7080	450	4720	280	3540	190	
59(15)	24130	1720	21720	1540	19300	1360	16890	1180	14480	1000	12060	820	9650	640	7240	460	4830	280	3620	190	

Indoor : RAV-SM242CTP-UL
Outdoor : RAV-SP242AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h	6500	300	5100
RATING	Btu/h	24000	1890	27000
MAXIMUM	Btu/h	27300	2390	38500

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	28620	1480	25760	1310	22900	1140	20030	970	17170	800	14310	630	11450	460	8590	290	7750	240	7750	240
70(21)	28310	1510	25480	1340	22650	1160	19820	990	16990	810	14160	640	11320	460	8490	290	7670	240	7670	240
72(22)	28000	1540	25200	1360	22400	1180	19600	1010	16800	830	14000	650	11200	470	8400	300	7580	240	7580	240
73(23)	27700	1560	24930	1380	22160	1200	19390	1020	16620	840	13850	660	11080	480	8310	300	7500	250	7500	250
75(24)	27390	1590	24650	1410	21910	1220	19170	1040	16430	860	13690	670	10960	490	8220	310	7420	250	7420	250
77(25)	27080	1620	24370	1430	21660	1250	18960	1060	16250	870	13540	690	10830	500	8120	310	7330	260	7330	260
79(26)	26770	1650	24090	1460	21420	1270	18740	1080	16060	890	13390	700	10710	510	8030	320	7250	260	7250	260
81(27)	26460	1670	23820	1480	21170	1290	18520	1090	15880	900	13230	710	10590	510	7940	320	7170	270	7170	270
82(28)	26160	1700	23540	1500	20920	1310	18310	1110	15690	920	13080	720	10460	520	7850	330	7080	270	7080	270
84(29)	25850	1730	23260	1530	20680	1330	18090	1130	15510	930	12920	730	10340	530	7750	330	7000	270	7000	270
86(30)	25540	1750	22990	1550	20430	1350	17880	1150	15320	940	12770	740	10220	540	7660	340	6920	280	6920	280
88(31)	25230	1780	22710	1580	20190	1370	17660	1160	15140	960	12620	750	10090	550	7570	340	6830	280	6830	280
90(32)	24920	1810	22430	1600	19940	1390	17450	1180	14950	970	12460	770	9970	560	7480	350	6750	290	6750	290
91(33)	24620	1840	22150	1620	19690	1410	17230	1200	14770	990	12310	780	9850	560	7380	350	6670	290	6670	290
93(34)	24310	1860	21880	1650	19450	1430	17020	1220	14580	1000	12150	790	9720	570	7290	360	6580	300	6580	300
95(35)	24000	1890	21600	1670	19200	1450	16800	1240	14400	1020	12000	800	9600	580	7200	360	6500	300	6500	300
97(36)	23690	1920	21320	1700	18950	1470	16580	1250	14220	1030	11850	810	9480	590	7110	370	6420	300	6420	300
99(37)	23380	1940	21050	1720	18710	1500	16370	1270	14030	1050	11690	820	9350	600	7020	370	6330	310	6330	310
100(38)	23080	1970	20770	1740	18460	1520	16150	1290	13850	1060	11540	830	9230	610	6920	380	6250	310	6250	310
102(39)	22770	2000	20490	1770	18210	1540	15940	1310	13660	1080	11380	850	9110	620	6830	380	6170	320	6170	320
104(40)	22460	2030	20210	1790	17970	1560	15720	1320	13480	1090	11230	860	8980	620	6740	390	6080	320	6080	320
106(41)	22150	2050	19940	1820	17720	1580	15510	1340	13290	1110	11080	870	8860	630	6650	390	6000	330	6000	330
108(42)	21840	2080	19660	1840	17480	1600	15290	1360	13110	1120	10920	880	8740	640	6550	400	5920	330	5920	330
109(43)	21540	2110	19380	1860	17230	1620	15080	1380	12920	1130	10770	890	8610	650	6460	410	5830	330	5830	330
111(44)	21230	2130	19110	1890	16980	1640	14860	1400	12740	1150	10610	900	8490	660	6370	410	5750	340	5750	340
113(45)	20790	2140	18710	1890	16630	1640	14550	1400	12470	1150	10400	900	8320	660	6240	410	5630	340	5630	340
115(46)	20340	2140	18310	1890	16280	1640	14240	1400	12210	1150	10170	900	8140	660	6100	410	5510	340	5510	340

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	8680	880	7810	780	6950	690	6080	590	5210	500	4340	400	3470	310	2600	210	1740	110	1640	100
-11(-24)	9150	890	8230	790	7320	700	6400	600	5490	500	4570	410	3660	310	2740	210	1830	120	1730	110
-9(-23)	9610	900	8650	800	7690	710	6730	610	5770	510	4810	410	3840	310	2880	220	1920	120	1820	110
-8(-22)	10080	910	9070	810	8060	710	7050	620	6050	520	5040	420	4030	320	3020	220	2020	120	1900	110
-6(-21)	10540	920	9490	820	8430	720	7380	620	6320	520	5270	420	4220	320	3160	220	2110	120	1990	110
-4(-20)	11010	940	9900	830	8800	730	7700	630	6600	530	5500	430	4400	330	3300	220	2200	120	2080	110
-2(-19)	11640	960	10480	850	9310	750	8150	650	6980	540	5820	440	4660	330	3490	230	2330	130	2200	110
0(-18)	12280	980	11050	870	9820	770	8590	660	7370	550	6140	450	4910	340	3680	230	2460	130	2320	120
1(-17)	12910	1000	11620	890	10330	780	9040	670	7750	570	6460	460	5170	350	3870	240	2580	130	2440	120
3(-16)	13550	1020	12190	910	10840	800	9480	690	8130	580	6770	470	5420	360	4060	240	2710	130	2560	120
5(-15)	14180	1040	12770	930	11350	810	9930	700	8510	590	7090	480	5670	360	4260	250	2840	140	2680	120
7(-14)	14700	1060	13230	940	11760	830	10290	710	8820	600	7350	480	5880	370	4410	250	2940	140	2780	130
9(-13)	15220	1080	13700	960	12180	840	10660	730	9130	610	7610	490	6090	380	4570	260	3040	140	2880	130
10(-12)	15740	1100	14170	980	12600	860	11020	740	9450	620	7870	500	6300	380	4720	260	3150	140	2970	130
12(-11)	16260	1120	14640	990	13010	870	11380	750	9760	630	8130	510	6510	390	4880	270	3250	150	3070	130
14(-10)	16780	1130	15100	1010	13430	890	11750	760	10070	640	8390	520	6710	390	5030	270	3360	150	3170	130
16(-9)	17300	1150	15570	1030	13840	900	12110	780	10380	650	8650	530	6920	400	5190	280	3460	150	3270	140
18(-8)	17820	1170	16040	1040	14260	920	12480	790	10690	660	8910	530	7130	410	5350	280	3560	150	3370	140
19(-7)	18340	1190	16510	1060	14670	930	12840	800	11010	670	9170	540	7340	410	5500	290	3670	160	3460	140
21(-6)	18480	1260	16630	1130	14780	990	12930	850	11090	710	9240	580	7390	440	5540	300	3700	170	3490	150
23(-5)	18610	1340	16750	1190	14890	1050	13030	900	11170	760	9310	610	7450	470	5580	320	3720	180	3520	160
25(-4)	18750	1410	16880	1260	15000	1110	13130	950	11250	800	9380	650	7500	490	5630	340	3750	190	3540	170
27(-3)	18890	1490	17000	1330	15110	1160	13220	1000	11330	840	9440	680	7550	520	5670	360	3780	190	3570	180
28(-2)	19020	1560	17120	1390	15220	1220	13320	1050	11410	880	9510	710	7610	540	5710	370	3800	200	3590	190
30(-1)	19160	1640	17240	1460	15330	1280	13410	1100	11490	920	9580	750	7660	570	5750	390	3830	210	3620	190
32(0)	19290	1710	17360	1520	15430	1340	13510	1150	11580	970	9650	780	7720	600	5790	410	3860	220	3640	200
34(1)	19430	1780	17490	1590	15540	1400	13600	1200	11660	1010	9710	820	7770	620	5830	430	3890	230	3670	210
36(2)	19570	1860	17610	1660	15650	1450	13700	1250	11740	1050	9780	850	7830	650	5870	450	3910	240	3700	220
37(3)	19890	1880	17900	1680	15910	1470	13920	1270	11930	1070	9940	860	7950	660	5970	450	3980	250	3760	220
39(4)	20210	1910	18190	1700	16160	1490	14140	1290	12120	1080	10100	870	8080	660	6060	460	4040	250	3820	230
41(5)	20530	1930	18470	1720	16420	1510	14370	1300	12320	1090	10260	880	8210	670	6160	460	4110	250	3880	230
43(6)	26300	2070	23670	1840	21040	1620	18410	1390	15780	1170	13150	940	10520	720	7890	500	5260	270	4970	250
45(7)	27000	2100	24300	1870	21600	1640	18900	1420	16200	1190	13500	960	10800	730	8100	500	5400	280	5100	250
46(8)	27700	2130	24930	1900	22160	1670	19390	1440	16620	1210	13850	970	11080	740	8310	510	5540	280	5230	250
48(9)	28390	2170	25550	1930	22710	1690	19880	1460	17040	1220	14200	990	11360	750	8520	520	5680	280	5360	260
50(10)	29090	2200	26180	1960	23270	1720	20360	1480	17450	1240	14550	1000	11640	770	8730	530	5820	290	5490	260
52(11)	29790	2230	26810	1990	23830	1750	20850	1500	17870	1260	14890	1020	11910	780	8940	530	5960	290	5630	270
54(12)	30480	2260	27440	2020	24390	1770	21340	1530	18290	1280	15240	1030	12190	790	9150	540	6100	300	5760	270
55(13)	31180	2300	28060	2050	24940	1800	21830	1550	18710	1300	15590	1050	12470	800	9350	550	6240	300	5890	270
57(14)	31880	2330	28690	2070	25500	1820	22310	1570	19130	1320	15940	1060	12750	810	9560	560	6380	310	6020	280
59(15)	32570	2360	29320	2100	26060	1850	22800	1590	19540	1330	16290	1080	13030	820	9770	570	6510	310	6150	280

Indoor : RAV-SM302CTP-UL
Outdoor : RAV-SP302AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	600	8100	600
RATING	Btu/h	30000	2400	34000	2790
MAXIMUM	Btu/h	38500	4190	40900	3960

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling		Parts Load (%)																			
		100		90		80		70		60		50		40		30		20		10	
		Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
Outdoor Temperature DB °F(°C)																					
68(20)		35780	1880	32200	1680	28620	1480	25040	1280	21470	1080	17890	880	14310	680	10730	480	10610	470	10610	470
70(21)		35390	1920	31850	1710	28310	1510	24770	1300	21230	1100	17700	900	14160	690	10620	490	10500	480	10500	480
72(22)		35010	1950	31500	1740	28000	1540	24500	1330	21000	1120	17500	910	14000	700	10500	500	10380	490	10380	490
73(23)		34620	1990	31160	1780	27700	1560	24230	1350	20770	1140	17310	930	13850	720	10390	500	10270	500	10270	500
75(24)		34240	2020	30810	1810	27390	1590	23960	1370	20540	1160	17120	940	13690	730	10270	510	10160	510	10160	510
77(25)		33850	2060	30470	1840	27080	1620	23700	1400	20310	1180	16930	960	13540	740	10160	520	10040	510	10040	510
79(26)		33470	2090	30120	1870	26770	1640	23430	1420	20080	1200	16730	980	13390	750	10040	530	9930	520	9930	520
81(27)		33080	2120	29770	1900	26460	1670	23160	1450	19850	1220	16540	990	13230	770	9920	540	9810	530	9810	530
82(28)		32700	2160	29430	1930	26160	1700	22890	1470	19620	1240	16350	1010	13080	780	9810	550	9700	540	9700	540
84(29)		32310	2190	29080	1960	25850	1730	22620	1490	19390	1260	16160	1020	12920	790	9690	560	9590	550	9590	550
86(30)		31930	2230	28730	1990	25540	1750	22350	1520	19160	1280	15960	1040	12770	800	9580	560	9470	560	9470	560
88(31)		31540	2260	28390	2020	25230	1780	22080	1540	18920	1300	15770	1060	12620	810	9460	570	9360	570	9360	570
90(32)		31160	2300	28040	2050	24920	1810	21810	1560	18690	1320	15580	1070	12460	830	9350	580	9240	570	9240	570
91(33)		30770	2330	27690	2080	24620	1830	21540	1590	18460	1340	15390	1090	12310	840	9230	590	9130	580	9130	580
93(34)		30390	2370	27350	2110	24310	1860	21270	1610	18230	1360	15190	1100	12150	850	9120	600	9010	590	9010	590
95(35)		30000	2400	27000	2140	24000	1890	21000	1630	18000	1380	15000	1120	12000	860	9000	610	8900	600	8900	600
97(36)		29620	2430	26650	2170	23690	1920	20730	1660	17770	1400	14810	1140	11850	880	8880	620	8790	610	8790	610
99(37)		29230	2470	26310	2210	23380	1940	20460	1680	17540	1420	14620	1150	11690	890	8770	630	8670	620	8670	620
100(38)		28850	2500	25960	2240	23080	1970	20190	1700	17310	1440	14420	1170	11540	900	8650	630	8560	630	8560	630
102(39)		28460	2540	25610	2270	22770	2000	19920	1730	17080	1460	14230	1180	11380	910	8540	640	8440	630	8440	630
104(40)		28080	2570	25270	2300	22460	2020	19650	1750	16850	1470	14040	1200	11230	930	8420	650	8330	640	8330	640
106(41)		27690	2610	24920	2330	22150	2050	19380	1770	16610	1490	13850	1220	11080	940	8310	660	8210	650	8210	650
108(42)		27310	2640	24570	2360	21840	2080	19110	1800	16380	1510	13650	1230	10920	950	8190	670	8100	660	8100	660
109(43)		26920	2680	24230	2390	21540	2100	18840	1820	16150	1530	13460	1250	10770	960	8080	680	7990	670	7990	670
111(44)		26540	2710	23880	2420	21230	2130	18570	1840	15920	1550	13270	1260	10610	980	7960	690	7870	680	7870	680
113(45)		26150	2740	23540	2450	20920	2160	18310	1870	15690	1570	13080	1280	10460	990	7850	700	7760	690	7760	690
115(46)		25770	2780	23190	2480	20610	2190	18040	1890	15460	1590	12880	1300	10310	1000	7730	700	7640	690	7640	690

Heating		Parts Load (%)																			
Outdoor Temperature DB °F(°C)	100		90		80		70		60		50		40		30		20		10		
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
-13(-25)	12200	1190	10980	1070	9760	950	8540	820	7320	700	6100	580	4880	460	3660	330	2910	260	2910	260	
-11(-24)	12840	1260	11550	1130	10270	1000	8990	870	7700	740	6420	610	5130	480	3850	350	3060	270	3060	270	
-9(-23)	13480	1330	12130	1190	10780	1050	9430	920	8090	780	6740	640	5390	510	4040	370	3210	290	3210	290	
-8(-22)	14120	1400	12710	1250	11290	1110	9880	960	8470	820	7060	680	5650	530	4240	390	3360	300	3360	300	
-6(-21)	14760	1460	13280	1310	11810	1160	10330	1010	8850	860	7380	710	5900	560	4430	410	3520	310	3520	310	
-4(-20)	15400	1530	13860	1370	12320	1210	10780	1060	9240	900	7700	740	6160	580	4620	430	3670	330	3670	330	
-2(-19)	15950	1560	14360	1400	12760	1240	11170	1070	9570	910	7980	750	6380	590	4790	430	3800	330	3800	330	
0(-18)	16510	1580	14860	1420	13210	1260	11560	1090	9900	930	8250	770	6600	600	4950	440	3930	340	3930	340	
1(-17)	17060	1610	15360	1440	13650	1280	11940	1110	10240	940	8530	780	6820	610	5120	450	4060	350	4060	350	
3(-16)	17620	1630	15850	1460	14090	1300	12330	1130	10570	960	8810	790	7050	620	5280	450	4200	350	4200	350	
5(-15)	18170	1660	16350	1490	14540	1320	12720	1140	10900	970	9090	800	7270	630	5450	460	4330	360	4330	360	
7(-14)	18710	1670	16840	1490	14970	1320	13100	1150	11230	980	9350	810	7480	640	5610	460	4460	360	4460	360	
9(-13)	19250	1680	17320	1500	15400	1330	13470	1160	11550	980	9620	810	7700	640	5770	470	4590	360	4590	360	
10(-12)	19790	1680	17810	1510	15830	1340	13850	1160	11870	990	9890	820	7910	640	5940	470	4710	360	4710	360	
12(-11)	20330	1690	18290	1520	16260	1350	14230	1170	12200	1000	10160	820	8130	650	6100	470	4840	360	4840	360	
14(-10)	20870	1700	18780	1530	16690	1350	14610	1180	12520	1000	10430	830	8350	650	6260	470	4970	370	4970	370	
16(-9)	21400	1710	19260	1540	17120	1360	14980	1180	12840	1010	10700	830	8560	650	6420	480	5100	370	5100	370	
18(-8)	21940	1720	19750	1540	17550	1370	15360	1190	13170	1010	10970	830	8780	660	6580	480	5230	370	5230	370	
19(-7)	22480	1730	20230	1550	17990	1370	15740	1200	13490	1020	11240	840	8990	660	6740	480	5360	370	5360	370	
21(-6)	22720	1810	20450	1630	18180	1440	15900	1250	13630	1070	11360	880	9090	690	6820	510	5410	390	5410	390	
23(-5)	22960	1900	20660	1700	18370	1500	16070	1310	13780	1110	11480	920	9180	720	6890	530	5470	410	5470	410	
25(-4)	23200	1980	20880	1770	18560	1570	16240	1370	13920	1160	11600	960	9280	750	6960	550	5530	430	5530	430	
27(-3)	23440	2060	21100	1850	18750	1630	16410	1420	14060	1210	11720	1000	9380	790	7030	570	5580	440	5580	440	
28(-2)	23680	2140	21310	1920	18940	1700	16580	1480	14210	1260	11840	1040	9470	820	7100	600	5640	460	5640	460	
30(-1)	23920	2220	21530	1990	19140	1770	16740	1540	14350	1310	11960	1080	9570	850	7180	620	5700	480	5700	480	
32(0)	24160	2310	21740	2070	19330	1830	16910	1590	14500	1360	12080	1120	9660	880	7250	640	5760	500	5760	500	
34(1)	24400	2390	21960	2140	19520	1900	17080	1650	14640	1400	12200	1160	9760	910	7320	670	5810	510	5810	510	
36(2)	24640	2470	22170	2210	19710	1960	17250	1710	14780	1450	12320	1200	9860	940	7390	690	5870	530	5870	530	
37(3)	25040	2500	22240	2240	20030	1990	17530	1730	15020	1470	12520	1210	10020	960	7510	700	5970	540	5970	540	
39(4)	25440	2540	22900	2270	20360	2010	17810	1750	15270	1490	12720	1230	10180	970	7630	710	6060	550	6060	550	
41(5)	25850	2570	23260	2300	20680	2040	18090	1770	15510	1510	12920	1250	10340	980	7750	720	6160	550	6160	550	
43(6)	33120	2750	29810	2460	26500	2180	23190	1900	19870	1610	16560	1330	13250	1050	9940	770	7890	590	7890	590	
45(7)	34000	2790	30600	2500	27200	2220	23800	1930	20400	1640	17000	1350	13600	1070	10200	780	8100	600	8100	600	
46(8)	34880	2830	31390	2540	27900	2250	24410	1960	20930	1670	17440	1370	13950	1080	10460	790	8310	610	8310	610	
48(9)	35750	2880	32180	2580	28600	2280	25030	1990	21450	1690	17880	1390	14300	1100	10730	800	8520	620	8520	620	
50(10)	36630	2920	32970	2620	29310	2320	25640	2020	21980	1720	18320	1420	14650	1110	10990	810	8730	630	8730	630	
52(11)	37510	2960	33760	2660	30010	2350	26260	2050	22510	1740	18750	1440	15000	1130	11250	830	8940	640	8940	640	
54(12)	38390	3010	34550	2700	30710	2390	26870	2080	23030	1770	19190	1460	15350	1150	11520	840	9150	650	9150	650	
55(13)	39260	3050	35340	2740	31410	2420	27490	2110	23560	1790	19630	1480	15710	1160	11780	850	9350	660	9350	660	
57(14)	40140	3090	36130	2770	32110	2460	28100	2140	24090	1820	20070	1500	16060	1180	12040	860	9560	670	9560	670	
59(15)	41020	3140	36920	2810	32820	2490	28710	2170	24610	1840	20510	1520	16410	1200	12310	870	9770	670	9770	670	

Indoor : RAV-SM362CTP-UL
Outdoor : RAV-SP362AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 8900	660	8100	460
RATING	Btu/h 36000	2980	40000	3200
MAXIMUM	Btu/h 41000	3810	44300	3580

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	42930	2340	38640	2100	34340	1860	30050	1610	25760	1370	21470	1130	17170	890	12880	650	10610	520	10610	520
70(21)	42470	2380	38220	2140	33970	1890	29730	1640	25480	1400	21230	1150	16990	900	12740	660	10500	530	10500	530
72(22)	42010	2420	37810	2170	33600	1920	29400	1670	25200	1420	21000	1170	16800	920	12600	670	10380	540	10380	540
73(23)	41540	2470	37390	2210	33240	1960	29080	1700	24930	1450	20770	1190	16620	940	12460	680	10270	550	10270	550
75(24)	41080	2510	36970	2250	32870	1990	28760	1730	24650	1470	20540	1210	16430	950	12320	690	10160	560	10160	560
77(25)	40620	2550	36560	2290	32500	2020	28430	1760	24370	1500	20310	1230	16250	970	12190	700	10040	570	10040	570
79(26)	40160	2600	36140	2330	32130	2060	28110	1790	24090	1520	20080	1250	16060	980	12050	720	9930	570	9930	570
81(27)	39700	2640	35730	2370	31760	2090	27790	1820	23820	1550	19850	1270	15880	1000	11910	730	9810	580	9810	580
82(28)	39230	2680	35310	2400	31390	2130	27460	1850	23540	1570	19620	1290	15690	1020	11770	740	9700	590	9700	590
84(29)	38770	2720	34890	2440	31020	2160	27140	1880	23260	1600	19390	1320	15510	1030	11630	750	9590	600	9590	600
86(30)	38310	2770	34480	2480	30650	2190	26820	1910	22990	1620	19160	1340	15320	1050	11490	760	9470	610	9470	610
88(31)	37850	2810	34060	2520	30280	2230	26490	1940	22710	1650	18920	1360	15140	1070	11350	780	9360	620	9360	620
90(32)	37390	2850	33650	2560	29910	2260	26170	1970	22430	1670	18690	1380	14950	1080	11220	790	9240	630	9240	630
91(33)	36920	2890	33230	2600	29540	2300	25850	2000	22150	1700	18460	1400	14770	1100	11080	800	9130	640	9130	640
93(34)	36460	2940	32820	2630	29170	2330	25520	2030	21880	1720	18230	1420	14580	1110	10940	810	9010	650	9010	650
95(35)	36000	2980	32400	2670	28800	2360	25200	2060	21600	1750	18000	1440	14400	1130	10800	820	8900	660	8900	660
97(36)	35540	3020	31980	2710	28430	2400	24880	2080	21320	1770	17770	1460	14220	1150	10660	830	8790	670	8790	670
99(37)	35080	3070	31570	2750	28060	2430	24550	2110	21050	1800	17540	1480	14030	1160	10520	850	8670	680	8670	680
100(38)	34610	3110	31150	2790	27690	2470	24230	2140	20770	1820	17310	1500	13850	1180	10380	860	8560	690	8560	690
102(39)	34150	3150	30740	2820	27320	2500	23910	2170	20490	1850	17080	1520	13660	1200	10250	870	8440	700	8440	700
104(40)	33690	3190	30320	2860	26950	2530	23580	2200	20210	1870	16850	1540	13480	1210	10110	880	8330	710	8330	710
106(41)	33230	3240	29910	2900	26580	2570	23260	2230	19940	1900	16610	1560	13290	1230	9970	890	8210	720	8210	720
108(42)	32770	3280	29490	2940	26210	2600	22940	2260	19660	1920	16380	1580	13110	1240	9830	910	8100	730	8100	730
109(43)	32300	3320	29070	2980	25840	2630	22610	2290	19380	1950	16150	1600	12920	1260	9690	920	7990	740	7990	740
111(44)	31840	3360	28660	3020	25470	2670	22290	2320	19110	1970	15920	1620	12740	1280	9550	930	7870	750	7870	750
113(45)	31380	3410	28240	3050	25100	2700	21970	2350	18830	2000	15690	1650	12550	1290	9410	940	7760	750	7760	750
115(46)	30920	3450	27830	3090	24730	2740	21640	2380	18550	2020	15460	1670	12370	1310	9280	950	7640	760	7640	760

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	14590	1800	13130	1610	11670	1410	10210	1220	8750	1030	7290	830	5840	640	4380	450	2950	260	2950	260
-11(-24)	15250	1820	13720	1630	12200	1430	10670	1230	9150	1040	7620	840	6100	650	4570	450	3090	260	3090	260
-9(-23)	15910	1840	14320	1640	12730	1450	11140	1250	9550	1050	7960	850	6360	650	4770	460	3220	260	3220	260
-8(-22)	16570	1860	14910	1660	13260	1460	11600	1260	9940	1060	8290	860	6630	660	4970	460	3360	270	3360	270
-6(-21)	17230	1880	15510	1680	13790	1480	12060	1270	10340	1070	8620	870	6890	670	5170	470	3490	270	3490	270
-4(-20)	17890	1900	16100	1700	14310	1490	12520	1290	10740	1080	8950	880	7160	680	5370	470	3620	270	3620	270
-2(-19)	18250	1910	16430	1710	14600	1500	12780	1300	10950	1090	9130	890	7300	680	5480	480	3700	280	3700	280
0(-18)	18610	1930	16750	1720	14890	1510	13030	1310	11160	1100	9300	890	7440	690	5580	480	3770	280	3770	280
1(-17)	18970	1940	17070	1730	15170	1520	13280	1310	11380	1110	9480	900	7590	690	5690	480	3840	280	3840	280
3(-16)	19320	1950	17390	1740	15460	1530	13530	1320	11590	1110	9660	900	7730	690	5800	490	3910	280	3910	280
5(-15)	19680	1970	17710	1750	15750	1540	13780	1330	11810	1120	9840	910	7870	700	5900	490	3990	280	3990	280
7(-14)	20450	1970	18410	1760	16360	1550	14320	1340	12270	1120	10230	910	8180	700	6140	490	4140	280	4140	280
9(-13)	21220	1970	19100	1760	16980	1550	14860	1340	12730	1130	10610	910	8490	700	6370	490	4300	280	4300	280
10(-12)	21990	1980	19790	1760	17590	1550	15390	1340	13200	1130	11000	920	8800	700	6600	490	4450	280	4450	280
12(-11)	22760	1980	20490	1770	18210	1560	15930	1340	13660	1130	11380	920	9110	700	6830	490	4610	280	4610	280
14(-10)	23530	1980	21180	1770	18830	1560	16470	1350	14120	1130	11770	920	9410	710	7060	490	4770	290	4770	290
16(-9)	24300	1990	21870	1780	19440	1560	17010	1350	14580	1130	12150	920	9720	710	7290	490	4920	290	4920	290
18(-8)	25070	1990	22570	1780	20060	1560	17550	1350	15040	1140	12540	920	10030	710	7520	490	5080	290	5080	290
19(-7)	25840	2000	23260	1780	20680	1570	18090	1350	15510	1140	12920	920	10340	710	7750	500	5230	290	5230	290
21(-6)	26190	2090	23570	1860	20950	1640	18340	1420	15720	1190	13100	970	10480	740	7860	520	5300	300	5300	300
23(-5)	26540	2180	23890	1950	21230	1710	18580	1480	15930	1240	13270	1010	10620	780	7960	540	5370	310	5370	310
25(-4)	26890	2270	24200	2030	21510	1790	18820	1540	16130	1300	13450	1050	10760	810	8070	570	5450	330	5450	330
27(-3)	27240	2370	24520	2110	21790	1860	19070	1600	16340	1350	13620	1100	10900	840	8170	590	5520	340	5520	340
28(-2)	27590	2460	24830	2200	22070	1930	19310	1670	16550	1400	13790	1140	11040	880	8280	610	5590	350	5590	350
30(-1)	27940	2550	25140	2280	22350	2010	19560	1730	16760	1460	13970	1180	11180	910	8380	630	5660	370	5660	370
32(0)	28290	2650	25460	2360	22630	2080	19800	1790	16970	1510	14140	1230	11310	940	8490	660	5730	380	5730	380
34(1)	28640	2740	25770	2440	22910	2150	20050	1860	17180	1560	14320	1270	11450	970	8590	680	5800	390	5800	390
36(2)	28990	2830	26090	2530	23190	2220	20290	1920	17390	1620	14490	1310	11590	1010	8700	700	5870	410	5870	410
37(3)	29460	2870	26510	2560	23570	2250	20620	1950	17680	1640	14730	1330	11780	1020	8840	710	5970	410	5970	410
39(4)	29940	2910	26940	2600	23950	2280	20950	1970	17960	1660	14970	1350	11970	1030	8980	720	6060	420	6060	420
41(5)	30410	2950	27370	2630	24330	2310	21290	2000	18250	1680	15200	1360	12160	1050	9120	730	6160	420	6160	420
43(6)	38970	3150	35070	2810	31170	2470	27280	2140	23380	1800	19480	1460	15590	1120	11690	780	7890	450	7890	450
45(7)	40000	3200	36000	2860	32000	2510	28000	2170	24000	1830	20000	1480	16000	1140	12000	790	8100	460	8100	460
46(8)	41030	3250	36930	2900	32830	2550	28720	2200	24620	1850	20520	1510	16410	1160	12310	810	8310	470	8310	470
48(9)	42060	3300	37860	2940	33650	2590	29450	2240	25240	1880	21030	1530	16830	1170	12620	820	8520	470	8520	470
50(10)	43100	3350	38790	2990	34480	2630	30170	2270	25860	1910	21550	1550	17240	1190	12930	830	8730	480	8730	480
52(11)	44130	3400	39720	3030	35300	2670	30890	2300	26480	1940	22060	1570	17650	1210	13240	840	8940	490	8940	490
54(12)	45160	3450	40650	3080	36130	2710	31610	2340	27100	1970	22580	1600	18060	1230	13550	860	9150	500	9150	500
55(13)	46190	3500	41570	3120	36950	2750	32340	2370	27720	2000	23100	1620	18480	1240	13860	870	9350	500	9350	500
57(14)	47230	3550	42500	3170	37780	2790	33060	2400	28340	2020	23610	1640	18890	1260	14170	880	9560	510	9560	510
59(15)	48260	3600	43430	3210	38610	2820	33780	2440	28950	2050	24130	1670	19300	1280	14480	890	9770	520	9770	520

Indoor : RAV-SM422CTP-UL
Outdoor : RAV-SM422AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	670	8100	460
RATING	Btu/h	42000	4280	47000	4100
MAXIMUM	Btu/h	47800	4560	61400	5910

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	50090	3360	45080	3000	40070	2640	35060	2280	30050	1920	25040	1560	20030	1200	15030	840	10610	530	10610	530
70(21)	49550	3420	44590	3050	39640	2690	34680	2320	29730	1960	24770	1590	19820	1220	14860	860	10500	540	10500	540
72(22)	49010	3480	44110	3110	39210	2740	34300	2360	29400	1990	24500	1620	19600	1250	14700	870	10380	550	10380	550
73(23)	48470	3540	43620	3160	38770	2790	33930	2410	29080	2030	24230	1650	19390	1270	14540	890	10270	550	10270	550
75(24)	47930	3610	43140	3220	38340	2830	33550	2450	28760	2060	23960	1680	19170	1290	14380	900	10160	560	10160	560
77(25)	47390	3670	42650	3270	37910	2880	33170	2490	28430	2100	23700	1700	18960	1310	14220	920	10040	570	10040	570
79(26)	46850	3730	42170	3330	37480	2930	32800	2530	28110	2130	23430	1730	18740	1330	14060	940	9930	580	9930	580
81(27)	46310	3790	41680	3380	37050	2980	32420	2570	27790	2170	23160	1760	18520	1360	13890	950	9810	590	9810	590
82(28)	45770	3850	41200	3440	36620	3030	32040	2610	27460	2200	22890	1790	18310	1380	13730	970	9700	600	9700	600
84(29)	45230	3910	40710	3490	36190	3070	31660	2660	27140	2240	22620	1820	18090	1400	13570	980	9590	610	9590	610
86(30)	44700	3970	40230	3550	35760	3120	31290	2700	26820	2270	22350	1850	17880	1420	13410	1000	9470	620	9470	620
88(31)	44160	4030	39740	3600	35320	3170	30910	2740	26490	2310	22080	1880	17660	1440	13250	1010	9360	630	9360	630
90(32)	43620	4100	39260	3660	34890	3220	30530	2780	26170	2340	21810	1900	17450	1470	13090	1030	9240	640	9240	640
91(33)	43080	4160	38770	3710	34460	3270	30150	2820	25850	2380	21540	1930	17230	1490	12920	1040	9130	650	9130	650
93(34)	42540	4220	38290	3770	34030	3320	29780	2860	25520	2410	21270	1960	17020	1510	12760	1060	9010	660	9010	660
95(35)	42000	4280	37800	3820	33600	3360	29400	2910	25200	2450	21000	1990	16800	1530	12600	1070	8900	670	8900	670
97(36)	41460	4340	37310	3880	33170	3410	29020	2950	24880	2480	20730	2020	16580	1550	12440	1090	8790	680	8790	680
99(37)	40920	4400	36830	3930	32740	3460	28650	2990	24550	2520	20460	2050	16370	1580	12280	1100	8670	690	8670	690
100(38)	40380	4460	36340	3990	32310	3510	28270	3030	24230	2550	20190	2080	16150	1600	12110	1120	8560	700	8560	700
102(39)	39840	4530	35860	4040	31880	3560	27890	3070	23910	2590	19920	2100	15940	1620	11950	1140	8440	710	8440	710
104(40)	39310	4590	35370	4100	31440	3600	27510	3110	23580	2620	19650	2130	15720	1640	11790	1150	8330	720	8330	720
106(41)	38770	4650	34890	4150	31010	3650	27140	3160	23260	2660	19380	2160	15510	1660	11630	1170	8210	730	8210	730
108(42)	38230	4710	34400	4210	30580	3700	26760	3200	22940	2690	19110	2190	15290	1690	11470	1180	8100	740	8100	740
109(43)	37690	4770	33920	4260	30150	3750	26380	3240	22610	2730	18840	2220	15080	1710	11310	1200	7990	750	7990	750
111(44)	37150	4830	33430	4310	29720	3800	26000	3280	22290	2760	18570	2250	14860	1730	11140	1210	7870	760	7870	760
113(45)	36610	4890	32950	4370	29290	3850	25630	3320	21970	2800	18310	2270	14640	1750	10980	1230	7760	770	7760	770
115(46)	36070	4950	32460	4420	28860	3890	25250	3360	21640	2830	18040	2300	14430	1770	10820	1240	7640	780	7640	780

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	15070	1760	13560	1570	12060	1380	10550	1190	9040	1000	7530	810	6030	630	4520	440	3010	250	2600	200
-11(-24)	15890	1790	14300	1600	12710	1410	11120	1220	9530	1020	7940	830	6350	640	4770	450	3180	250	2740	200
-9(-23)	16700	1830	15030	1630	13360	1440	11690	1240	10020	1040	8350	850	6680	650	5010	460	3340	260	2880	210
-8(-22)	17520	1860	15770	1660	14020	1460	12270	1260	10510	1060	8760	860	7010	660	5260	460	3500	260	3020	210
-6(-21)	18340	1900	16510	1700	14670	1490	12840	1290	11000	1090	9170	880	7340	680	5500	470	3670	270	3160	210
-4(-20)	19160	1940	17240	1730	15330	1520	13410	1310	11490	1110	9580	900	7660	690	5750	480	3830	270	3300	220
-2(-19)	19580	1960	17630	1750	15670	1540	13710	1330	11750	1120	9790	910	7830	700	5880	490	3920	280	3380	220
0(-18)	20010	1990	18010	1770	16010	1560	14010	1350	12010	1130	10000	920	8000	710	6000	500	4000	280	3450	220
1(-17)	20430	2010	18390	1800	16350	1580	14300	1370	12260	1150	10220	930	8170	720	6130	500	4090	290	3520	230
3(-16)	20860	2040	18770	1820	16690	1600	14600	1380	12520	1160	10430	940	8340	730	6260	510	4170	290	3600	230
5(-15)	21290	2060	19160	1840	17030	1620	14900	1400	12770	1180	10640	960	8510	740	6390	510	4260	290	3670	230
7(-14)	22360	2100	20120	1870	17890	1650	15650	1420	13410	1200	11180	970	8940	750	6710	520	4470	300	3850	240
9(-13)	23430	2140	21090	1910	18740	1680	16400	1450	14060	1220	11720	990	9370	760	7030	530	4690	300	4040	240
10(-12)	24500	2170	22050	1940	19600	1710	17150	1470	14700	1240	12250	1010	9800	770	7350	540	4900	310	4220	240
12(-11)	25570	2210	23020	1970	20460	1730	17900	1500	15340	1260	12790	1020	10230	790	7670	550	5110	310	4410	250
14(-10)	26650	2250	23980	2000	21320	1760	18650	1520	15990	1280	13320	1040	10660	800	7990	560	5330	320	4590	250
16(-9)	27720	2280	24950	2040	22170	1790	19400	1550	16630	1300	13860	1060	11090	810	8320	570	5540	320	4780	260
18(-8)	28790	2320	25910	2070	23030	1820	20150	1570	17270	1320	14400	1070	11520	830	8640	580	5760	330	4960	260
19(-7)	29860	2360	26880	2100	23890	1850	20900	1600	17920	1340	14930	1090	11940	840	8960	590	5970	330	5150	260
21(-6)	30330	2500	27300	2230	24260	1960	21230	1690	18200	1430	15160	1160	12130	890	9100	620	6070	350	5230	280
23(-5)	30790	2640	27710	2350	24640	2070	21560	1790	18480	1510	15400	1220	12320	940	9240	660	6160	370	5310	300
25(-4)	31260	2780	28130	2480	25010	2180	21880	1890	18760	1590	15630	1290	12500	990	9380	690	6250	390	5390	310
27(-3)	31730	2920	28550	2610	25380	2290	22210	1980	19040	1670	15860	1350	12690	1040	9520	730	6350	410	5470	330
28(-2)	32190	3060	28970	2730	25750	2410	22540	2080	19320	1750	16100	1420	12880	1090	9660	760	6440	430	5550	340
30(-1)	32660	3200	29390	2860	26130	2520	22860	2170	19600	1830	16330	1490	13060	1140	9800	800	6530	450	5630	360
32(0)	33130	3350	29810	2990	26500	2630	23190	2270	19880	1910	16560	1550	13250	1190	9940	830	6630	470	5710	380
34(1)	33590	3490	30230	3110	26870	2740	23510	2360	20160	1990	16800	1620	13440	1240	10080	870	6720	490	5790	390
36(2)	34060	3630	30650	3240	27250	2850	23840	2460	20430	2070	17030	1680	13620	1290	10220	900	6810	510	5870	410
37(3)	34620	3680	31150	3280	27690	2890	24230	2490	20770	2100	17310	1700	13850	1310	10380	920	6920	520	5970	410
39(4)	35170	3730	31660	3330	28140	2930	24620	2530	21100	2130	17590	1730	14070	1330	10550	930	7030	530	6060	420
41(5)	35730	3770	32160	3370	28590	2960	25010	2560	21440	2160	17870	1750	14290	1350	10720	940	7150	540	6160	420
43(6)	45790	4040	41210	3600	36630	3170	32050	2740	27470	2300	22890	1870	18310	1440	13740	1010	9160	570	7890	450
45(7)	47000	4100	42300	3660	37600	3220	32900	2780	28200	2340	23500	1900	18800	1460	14100	1020	9400	580	8100	460
46(8)	48210	4160	43390	3720	38570	3270	33750	2820	28930	2380	24110	1930	19290	1480	14460	1040	9640	590	8310	470
48(9)	49430	4230	44480	3770	39540	3320	34600	2870	29660	2410	24710	1960	19770	1510	14830	1050	9890	600	8520	470
50(10)	50640	4290	45570	3830	40510	3370	35450	2910	30380	2450	25320	1990	20260	1530	15150	1070	10130	610	8730	480
52(11)	51850	4350	46670	3890	41480	3420	36300	2950	31110	2490	25930	2020	20740	1550	15560	1080	10370	620	8940	490
54(12)	53060	4420	47760	3940	42450	3470	37150	3000	31840	2520	26530	2050	21230	1570	15920	1100	10610	630	9150	500
55(13)	54280	4480	48850	4000	43420	3520	37990	3040	32570	2560	27140	2080	21710	1600	16280	1120	10860	640	9350	500
57(14)	55490	4540	49940	4060	44390	3570	38840	3080	33290	2590	27750	2110	22200	1620	16650	1130	11100	640	9560	510
59(15)	56700	4610	51030	4110	45360	3620	39690	3130	34020	2630	28350	2140	22680	1640	17010	1150	11340	650	9770	520

Indoor : RAV-SM482CTP-UL
Outdoor : RAV-SP482AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	670	8100	530
RATING	Btu/h	48000	5430	54000	4870
MAXIMUM	Btu/h	54600	5500	64800	5400

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

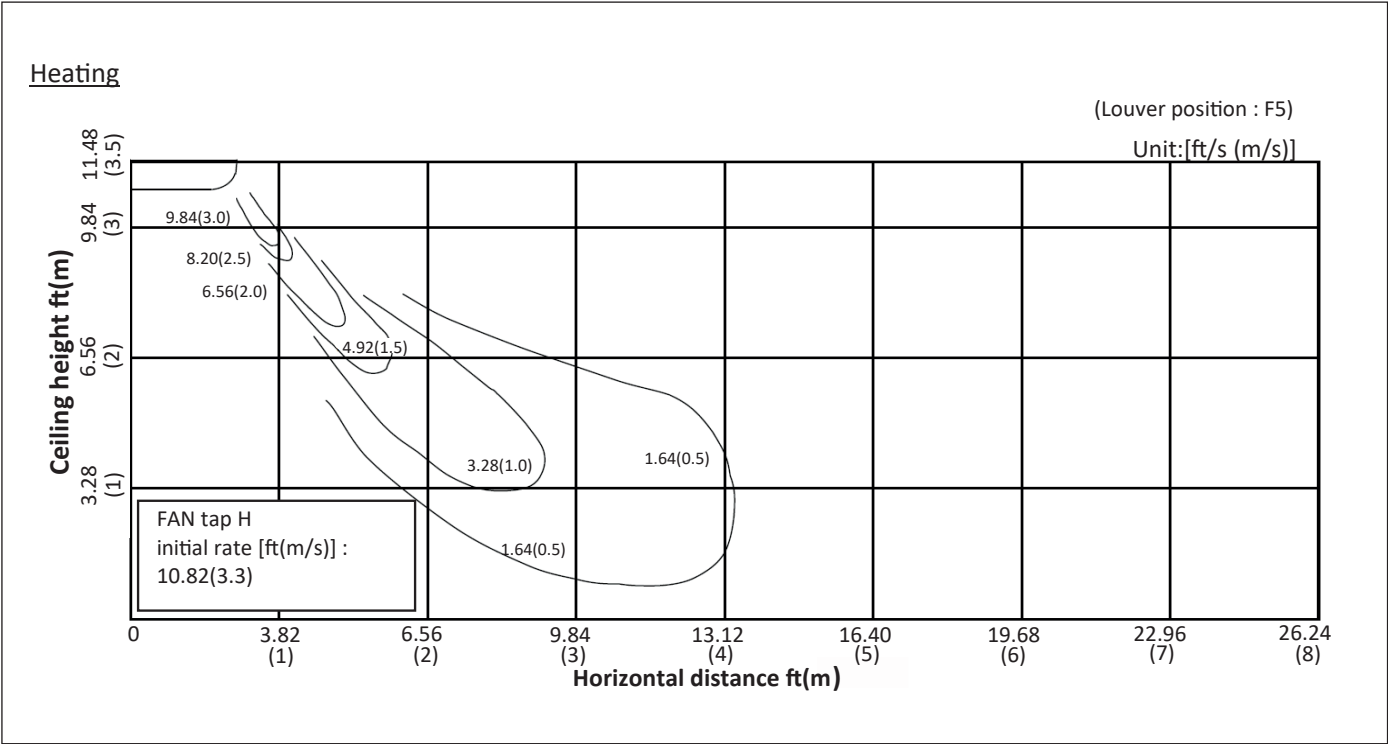
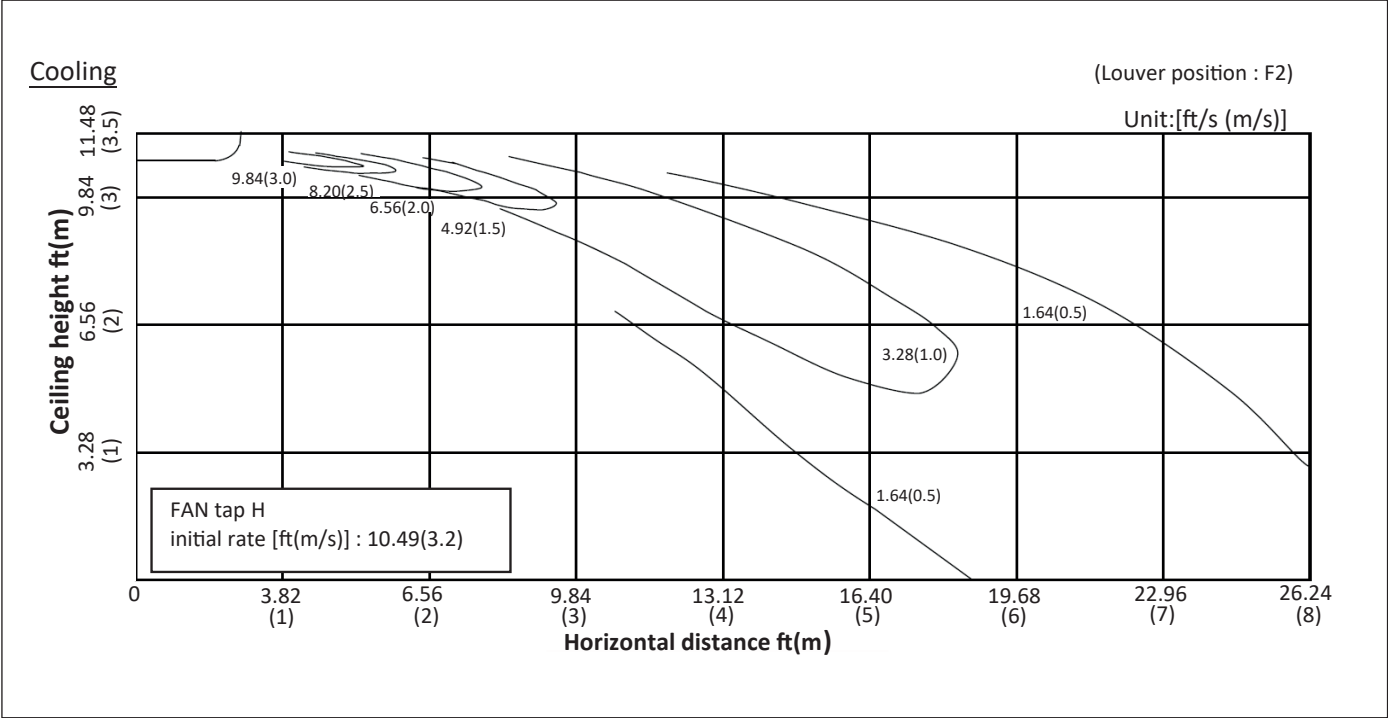
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	57240	4260	51520	3800	45790	3350	40070	2890	34340	2430	28620	1970	22900	1510	17170	1050	11450	590	10610	530
70(21)	56620	4340	50960	3870	45300	3410	39640	2940	33970	2470	28310	2000	22650	1540	16990	1070	11320	600	10500	540
72(22)	56010	4420	50410	3940	44810	3470	39210	2990	33600	2520	28000	2040	22400	1570	16800	1090	11200	610	10380	550
73(23)	55390	4500	49850	4010	44310	3530	38770	3040	33240	2560	27700	2080	22160	1590	16620	1110	11080	630	10270	550
75(24)	54780	4570	49300	4080	43820	3590	38340	3100	32870	2610	27390	2110	21910	1620	16430	1130	10960	640	10160	560
77(25)	54160	4650	48740	4150	43330	3650	37910	3150	32500	2650	27080	2150	21660	1650	16250	1150	10830	650	10040	570
79(26)	53540	4730	48190	4220	42840	3710	37480	3200	32130	2690	26770	2180	21420	1680	16060	1170	10710	660	9930	580
81(27)	52930	4810	47640	4290	42340	3770	37050	3260	31760	2740	26460	2220	21170	1700	15880	1190	10590	670	9810	590
82(28)	52310	4890	47080	4360	41850	3830	36620	3310	31390	2780	26160	2260	20920	1730	15690	1210	10460	680	9700	600
84(29)	51700	4960	46530	4430	41360	3890	36190	3360	31020	2830	25850	2290	20680	1760	15510	1220	10340	690	9590	610
86(30)	51080	5040	45970	4500	40860	3960	35760	3410	30650	2870	25540	2330	20430	1790	15320	1240	10220	700	9470	620
88(31)	50460	5120	45420	4570	40370	4020	35320	3470	30280	2920	25320	2360	20190	1810	15140	1260	10090	710	9360	630
90(32)	49850	5200	44860	4640	39880	4080	34890	3520	29910	2960	24920	2400	19940	1840	14950	1280	9970	720	9240	640
91(33)	49230	5270	44310	4710	39390	4140	34460	3570	29540	3000	24620	2440	19690	1870	14770	1300	9850	730	9130	650
93(34)	48620	5350	43750	4780	38890	4200	34030	3620	29170	3050	24310	2470	19450	1900	14580	1320	9720	740	9010	660
95(35)	48000	5430	43200	4850	38400	4260	33600	3680	28800	3090	24000	2510	19200	1920	14400	1340	9600	760	8900	670
97(36)	47380	5510	42650	4920	37910	4320	33170	3730	28430	3140	23690	2540	18950	1950	14220	1360	9480	770	8790	680
99(37)	46770	5590	42090	4980	37410	4380	32740	3780	28060	3180	23380	2580	18710	1980	14030	1380	9350	780	8670	690
100(38)	46150	5660	41540	5050	36920	4440	32310	3840	27690	3230	23080	2620	18460	2010	13850	1400	9230	790	8560	700
102(39)	45540	5740	40980	5120	36430	4510	31880	3890	27320	3270	22770	2650	18210	2030	13660	1420	9110	800	8440	710
104(40)	44920	5820	40430	5190	35940	4570	31440	3940	26950	3310	22460	2690	17970	2060	13480	1440	8980	810	8330	720
106(41)	44300	5900	39870	5260	35440	4630	31010	3990	26580	3360	22150	2720	17720	2090	13290	1450	8860	820	8210	730
108(42)	43690	5970	39320	5330	34950	4690	30580	4050	26210	3400	21840	2760	17480	2120	13110	1470	8740	830	8100	740
109(43)	43070	6050	38760	5400	34460	4750	30150	4100	25840	3450	21540	2800	17230	2140	12920	1490	8610	840	7990	750
111(44)	35640	5630	32080	5020	28510	4420	24950	3810	21380	3200	17820	2600	14260	1990	10690	1390	7130	780	6610	690
113(45)	33970	5630	30580	5020	27180	4420	23780	3810	20380	3200	16990	2600	13590	1990	10190	1390	6790	780	6300	690
115(46)	32310	5630	29070	5020	25840	4420	22610	3810	19380	3200	16150	2600	12920	1990	9690	1390	6460	780	5990	690

Heating

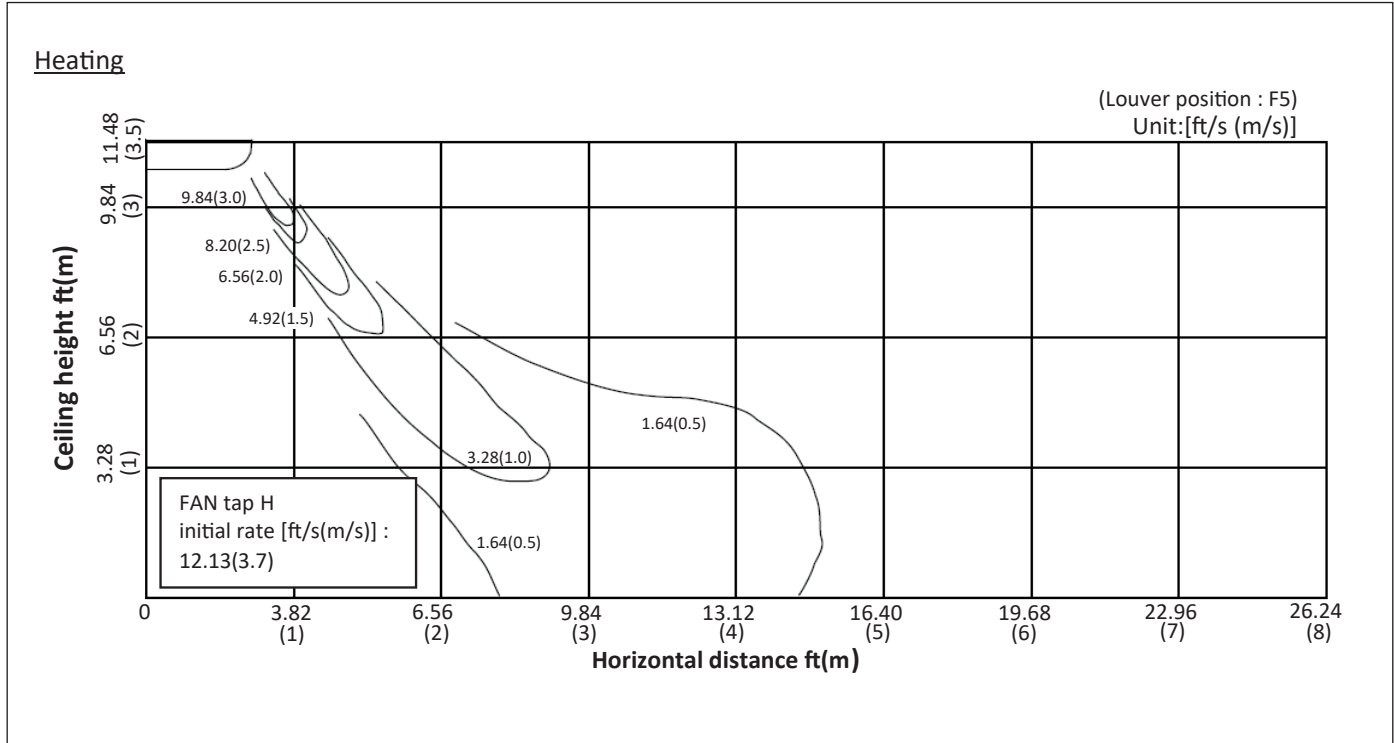
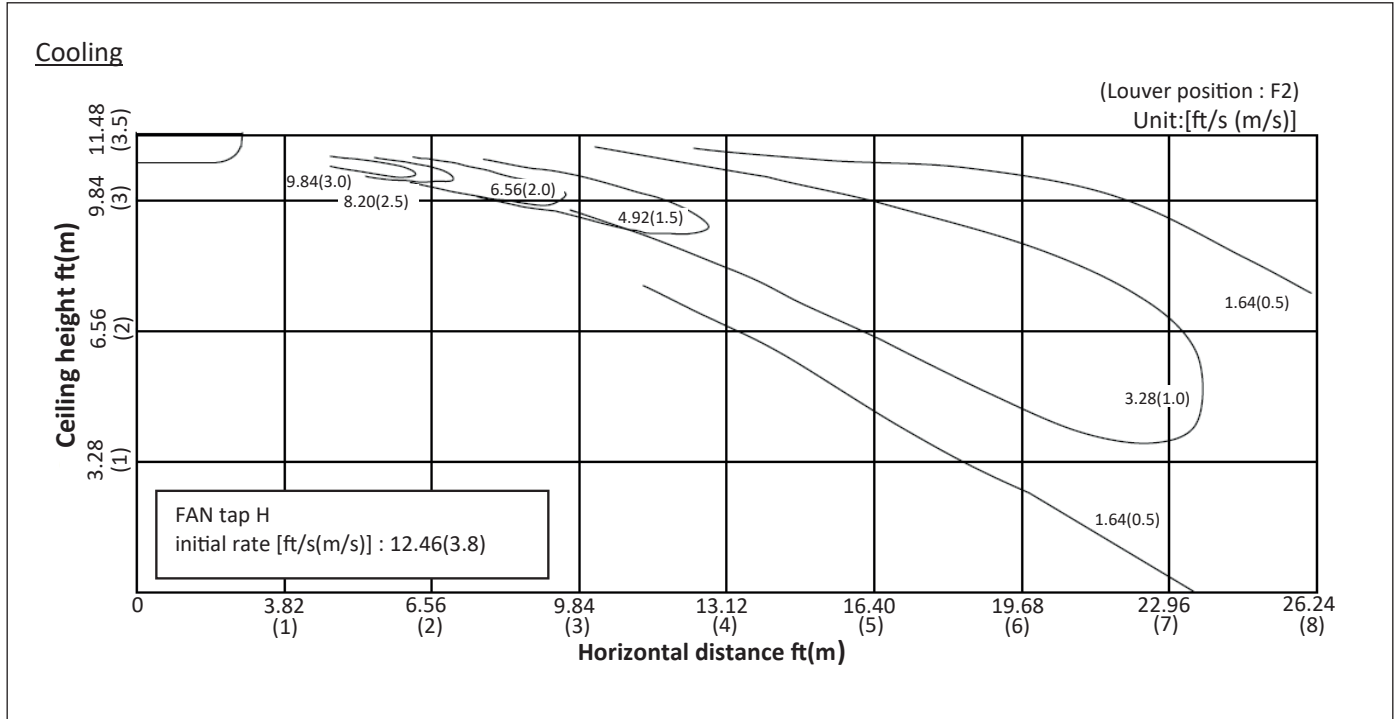
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	19570	4630	17610	4140	15650	3660	13700	3170	11740	2690	9780	2200	7830	1720	5870	1230	3910	750	2930	500
-11(-24)	20050	4590	18050	4110	16040	3630	14040	3150	12030	2670	10030	2190	8020	1700	6020	1220	4010	740	3010	500
-9(-23)	20540	4560	18490	4080	16430	3600	14380	3130	12330	2650	10270	2170	8220	1690	6160	1210	4110	740	3080	500
-8(-22)	21030	4520	18930	4050	16830	3570	14720	3100	12620	2630	10520	2150	8410	1680	6310	1200	4210	730	3150	490
-6(-21)	21520	4490	19370	4020	17220	3550	15070	3080	12910	2610	10760	2140	8610	1660	6460	1190	4300	720	3230	490
-4(-20)	22010	4450	19810	3990	17610	3520	15410	3050	13210	2590	11010	2120	8800	1650	6600	1180	4400	720	3300	480
-2(-19)	22500	4010	20250	3590	18000	3170	15750	2750	13500	2330	11250	1910	9000	1490	6750	1070	4500	650	3380	440
0(-18)	22990	3570	20690	3200	18390	2820	16090	2450	13790	2070	11490	1700	9200	1320	6900	950	4600	580	3450	390
1(-17)	23480	3130	21130	2800	18780	2470	16430	2140	14090	1820	11740	1490	9390	1160	7040	830	4700	500	3520	340
3(-16)	23970	2690	21570	2410	19170	2120	16780	1840	14380	1560	11980	1280	9590	1000	7190	710	4790	430	3600	290
5(-15)	24460	2250	22010	2010	19570	1770	17120	1540	14670	1300	12230	1070	9780	830	7340	600	4890	360	3670	240
7(-14)	25310	2320	22780	2080	20250	1840	17720	1590	15190	1350	12660	1110	10130	860	7590	620	5060	370	3800	250
9(-13)	26170	2400	23550	2150	20940	1900	18320	1650	15700	1390	13090	1140	10470	890	7850	640	5230	390	3930	260
10(-12)	27030	2480	24330	2220	21620	1960	18920	1700	16220	1440	13510	1180	10810	920	8110	660	5410	400	4050	270
12(-11)	27890	2560	25100	2290	22310	2020	19520	1750	16730	1480	13940	1220	11150	950	8370	680	5580	410	4180	280
14(-10)	28740	2630	25870	2360	23000	2080	20120	1810	17250	1530	14370	1250	11500	980	8620	700	5750	420	4310	290
16(-9)	29600	2710	26640	2430	23680	2140	20720	1860	17760	1570	14800	1290	11840	1010	8880	720	5920	440	4440	300
18(-8)	30460	2790	27410	2500	24370	2200	21320	1910	18280	1620	15230	1330	12180	1030	9140	740	6090	450	4570	300
19(-7)	31320	2870	28180	2570	25050	2270	21920	1970	18790	1660	15660	1360	12530	1060	9390	760	6260	460	4700	310
21(-6)	32180	3030	28970	2710	25750	2390	22530	2080	19310	1760	16090	1440	12870	1120	9660	810	6440	490	4830	330
23(-5)	33050	3190	29750	2850	26440	2520	23140	2180	19830	1850	16530	1520	13220	1180	9920	850	6610	510	4960	350
25(-4)	33920	3350	30530	3000	27140	2650	23740	2290	20350	1940	16960	1590	13570	1240	10180	890	6780	540	5090	360
27(-3)	34790	3510	31310	3140	27830	2770	24350	2400	20870	2040	17390	1670	13920	1300	10440	930	6960	570	5220	380
28(-2)	35660	3670	32090	3280	28530	2900	24960	2510	21390	2130	17830	1750	14260	1360	10700	980	7130	590	5350	400
30(-1)	36530	3830	32870	3430	29220	3030	25570	2620	21920	2220	18260	1820	14610	1420	10960	1020	7310	620	5480	420
32(0)	37390	3990	33650	3570	29920	3150	26180	2730	22440	2320	18700	1900	14960	1480	11220	1060	7480	640	5610	430
34(1)	38260	4150	34440	3710	30610	3280	26780	2840	22960	2410	19130	1970	15300	1540	11480	1100	7650	670	5740	450
36(2)	39130	4310	35220	3860	31300	3410	27390	2950	23480	2500	19570	2050	15650	1600	11740	1150	7830	690	5870	470
37(3)	39770	4370	35790	3910	31820	3450	27840	2990	23860	2540	19890	2080	15910	1620	11930	1160	7950	700	5970	480
39(4)	40410	4430	36370	3960	32330	3500	28290	3030	24250	2570	20210	2110	16160	1640	12120	1180	8080	710	6060	480
41(5)	41050	4480	36950	4010	32840	3540	28740	3070	24630	2600	20530	2130	16420	1660	12320	1190	8210	720	6160	490
43(6)	42610	4790	47350	4290	42090	3790	36820	3290	31560	2780	26300	2280	21040	1780	15780	1280	10520	770	7890	520
45(7)	54000	4870	48600	4360	43200	3850	37800	3340	32400	2830	27000	2320	21600	1810	16200	1300	10800	790	8100	530
46(8)	55390	4950	49850	4430	44310	3910	38780	3390	33240	2870	27700	2350	22160	1830	16620	1320	11080	800	8310	540
48(9)	56790	5020	51110	4490	45430	3970	39750	3440	34070	2920	28390	2390	22710	1860	17040	1340	11360	810	8520	550
50(10)	58180	5100	52360	4560	46540	4030	40730	3490	34910	2960	29090	2420	23270	1890	17450	1360	11640	820	8730	550
52(11)	59570	5170	53520	4630	47660	4090	41700	3540	35740	3000	29790	2460	23830	1920	17870	1380	11910	830	8940	560
54(12)	60970	5250	54870	4700	48770	4150	42680	3600	36580	3050	30480	2500	24390	1950	18290	1400	12190	850	9150	570
55(13)	62360	5320	56130	4760	49890	4210	43650	3650	37420	3090	31180	2530	24940	1970	18710	1420	12470	860	9350	580
57(14)	63750	5400	57380	4830	51000	4270	44630	3700	38250	3130	31880	2570	25500	2000	19130	1440	12750	870	9560	590
59(15)	65150	5470	58630	4900	52120	4330	45600	3750	39090	3180	32570	2600	26060	2030	19540	1460	13030	880	9770	600

2-2-6. Air Throw Distance Chart

RAV-SM182CTP-UL

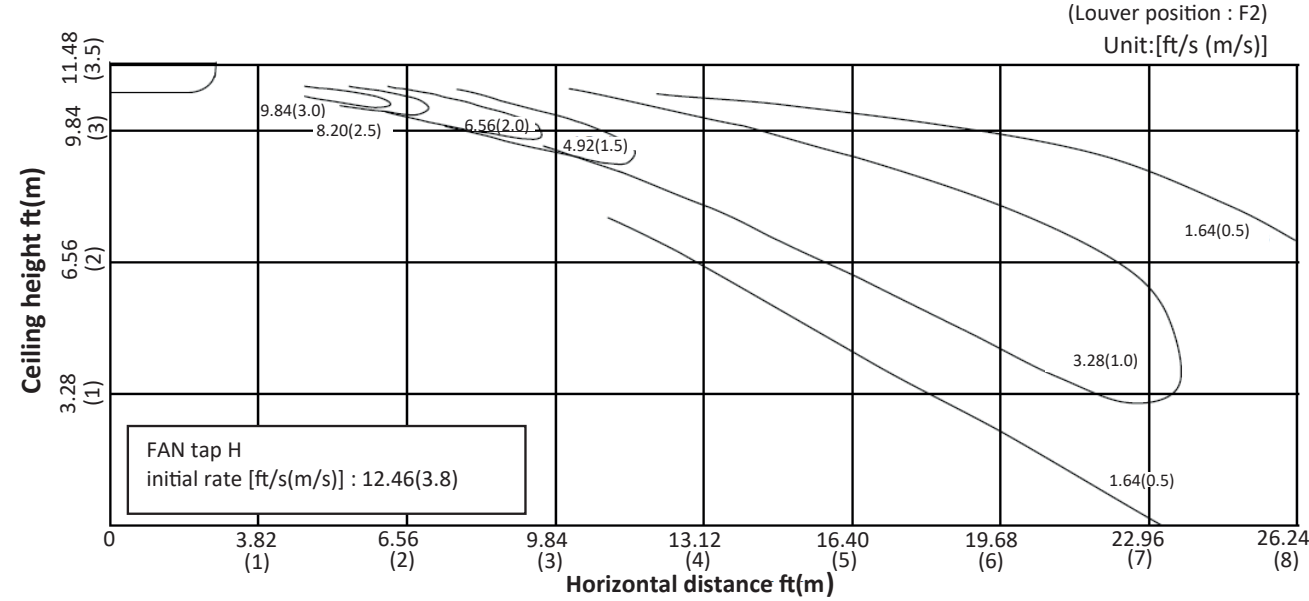


RAV-SM*_2CTP-UL (*24 / 30)

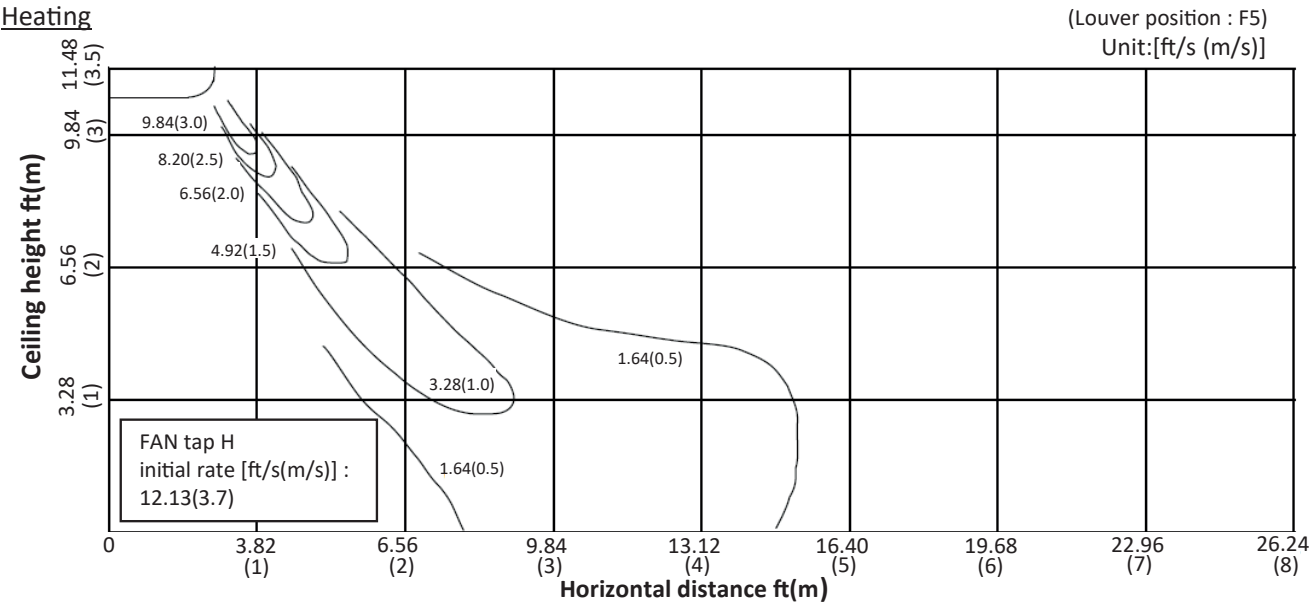


RAV-SM*__2CTP-UL (*36 / 42)

Cooling

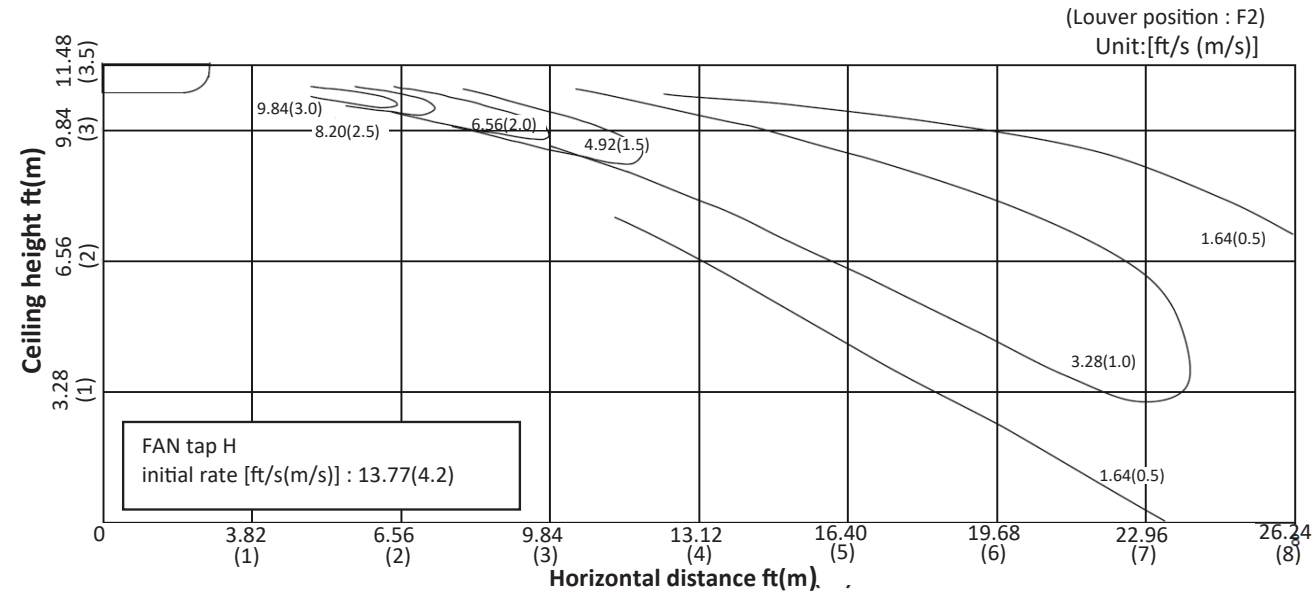


Heating

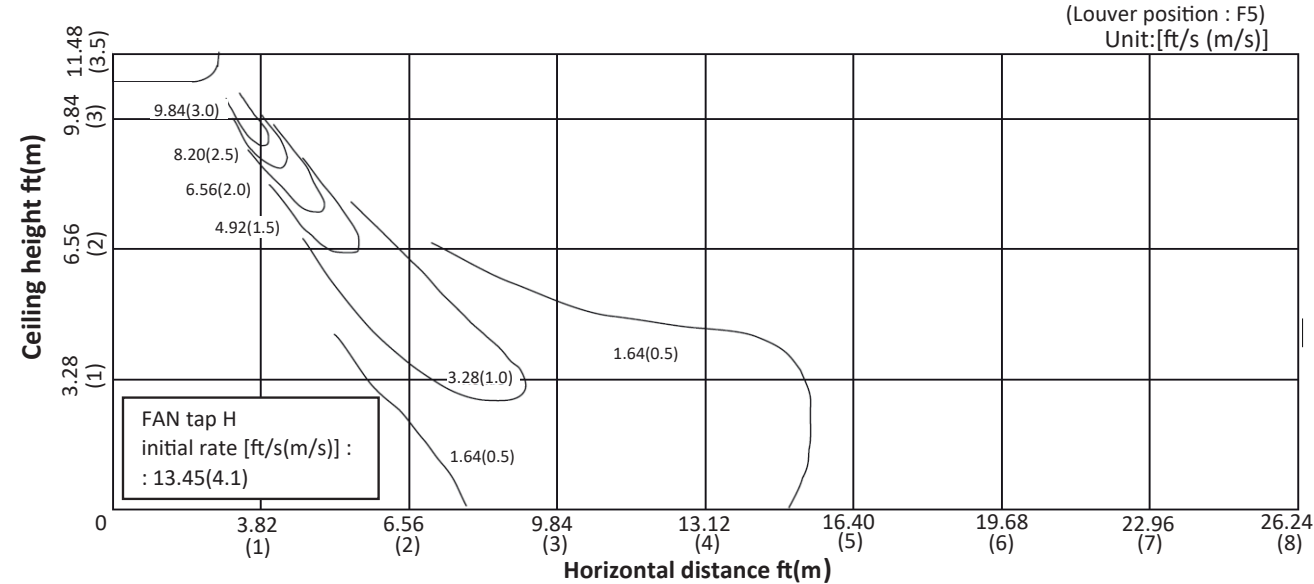


RAV-SM482CTP-UL

Cooling



Heating

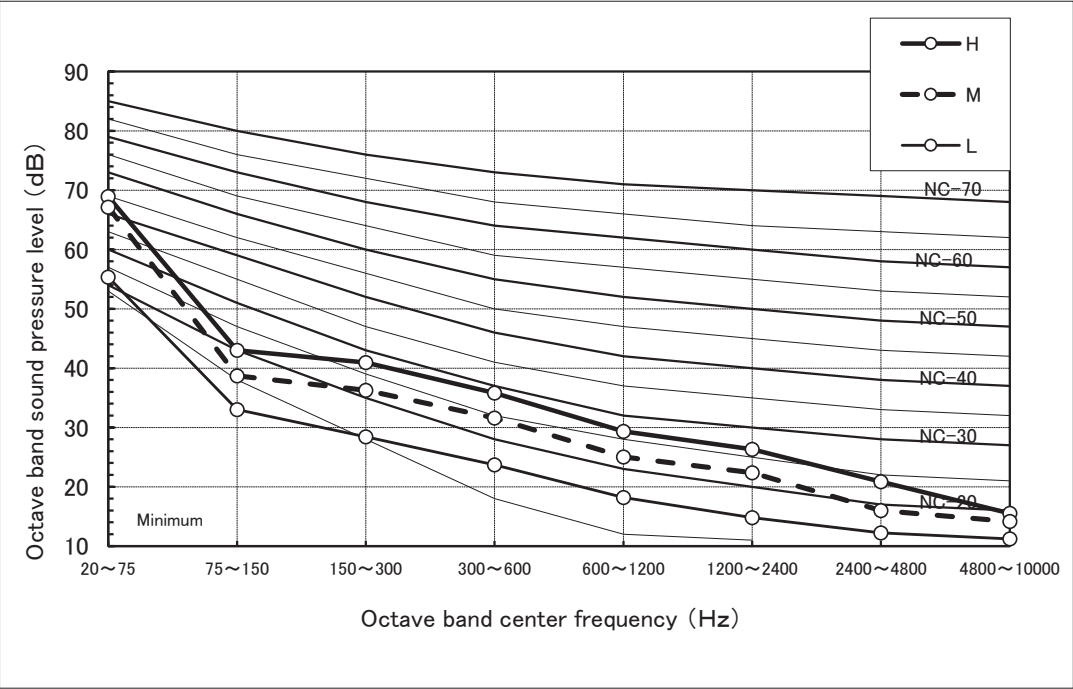


2-2-7. Sound characteristics (NC curve)

RAV-SM182CTP-UL

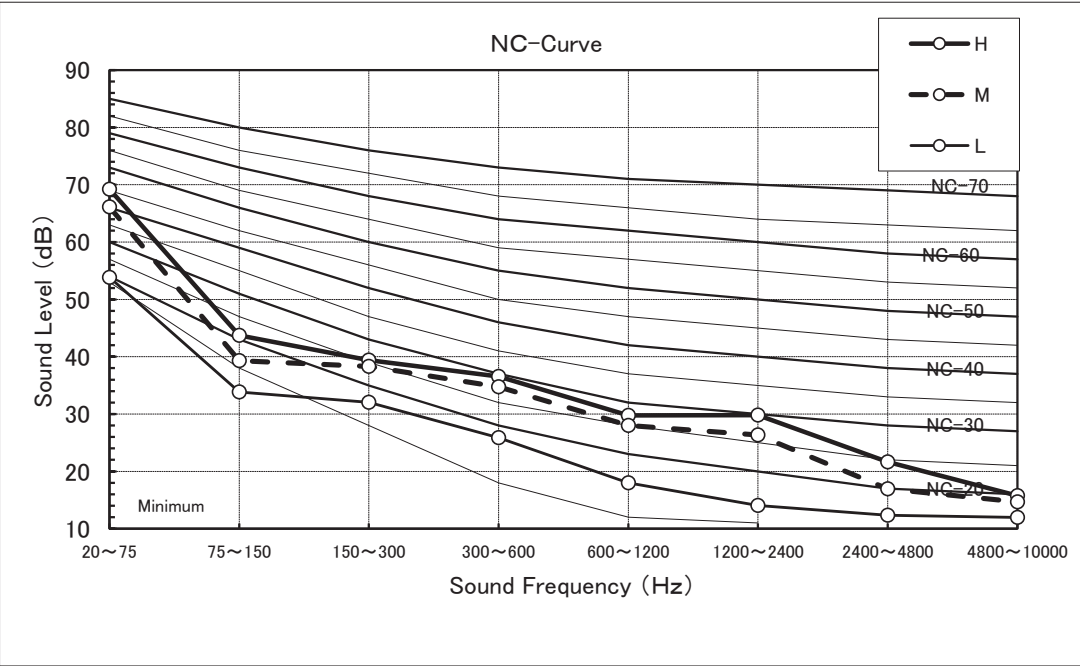
Cooling

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



Heating

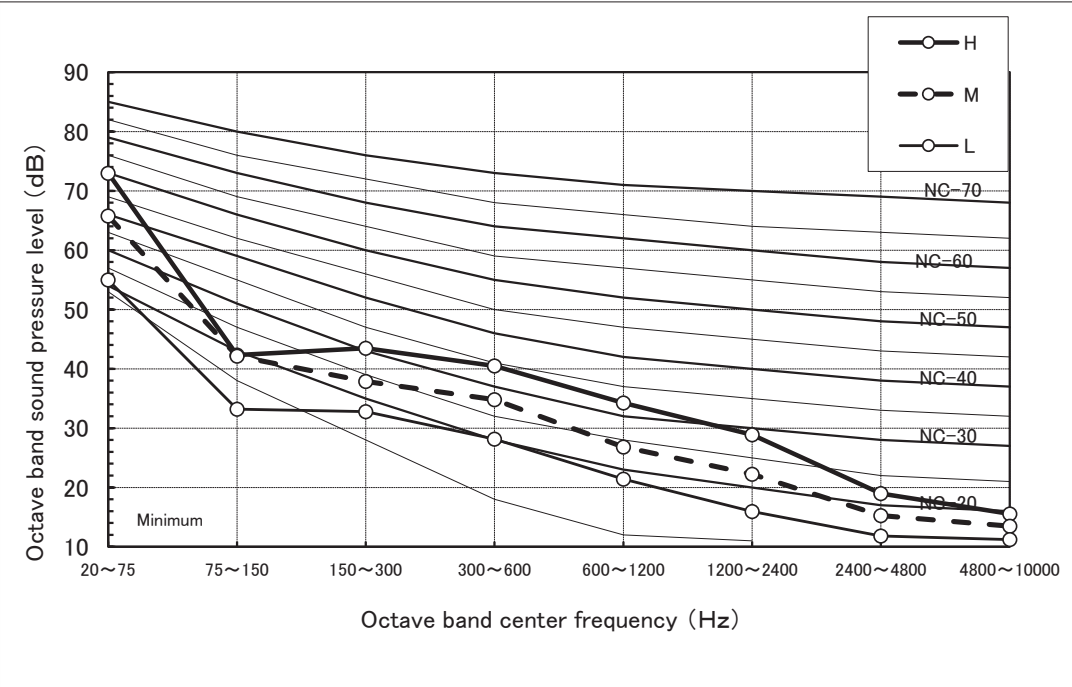
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	37	35	32



RAV-SM242CTP-UL

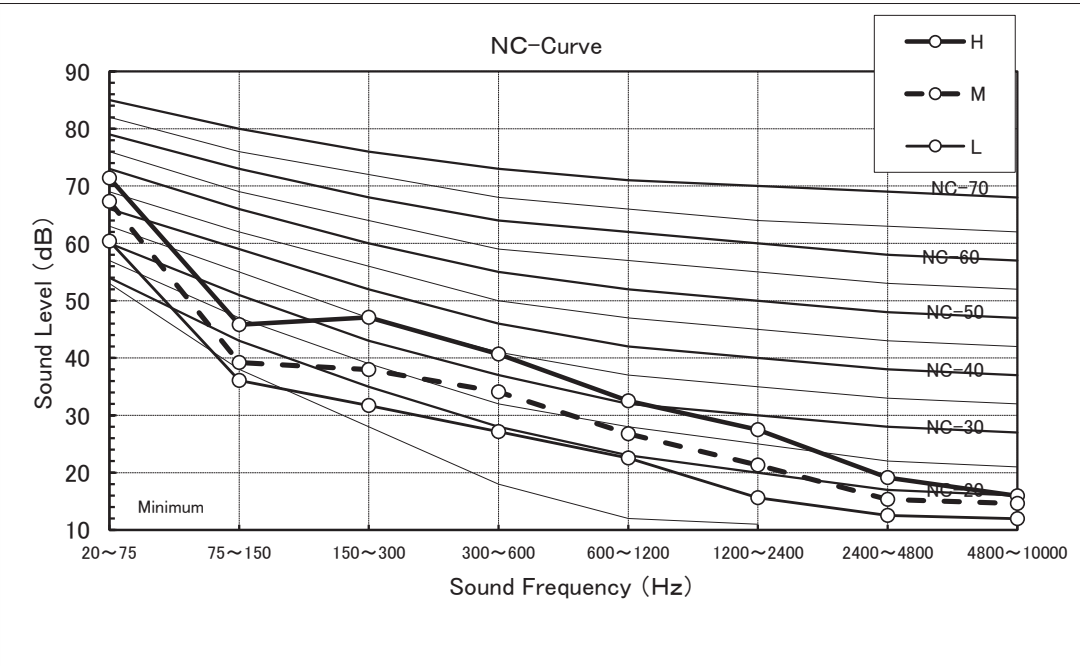
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	41	36	29



Heating

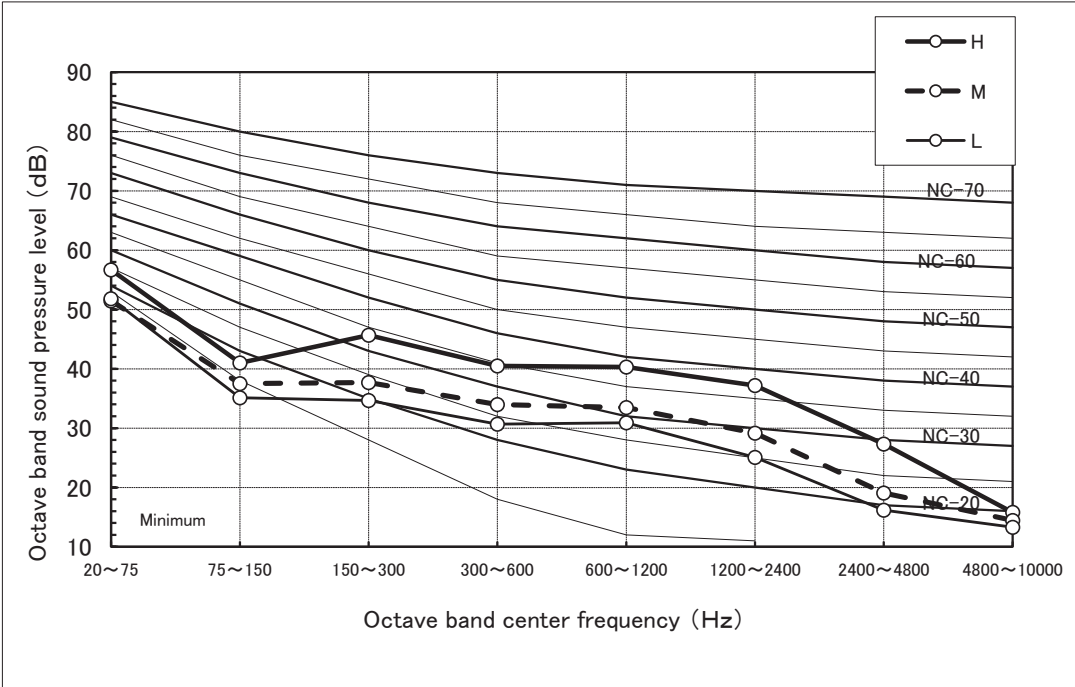
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	41	36	29



RAV-SM302CTP-UL

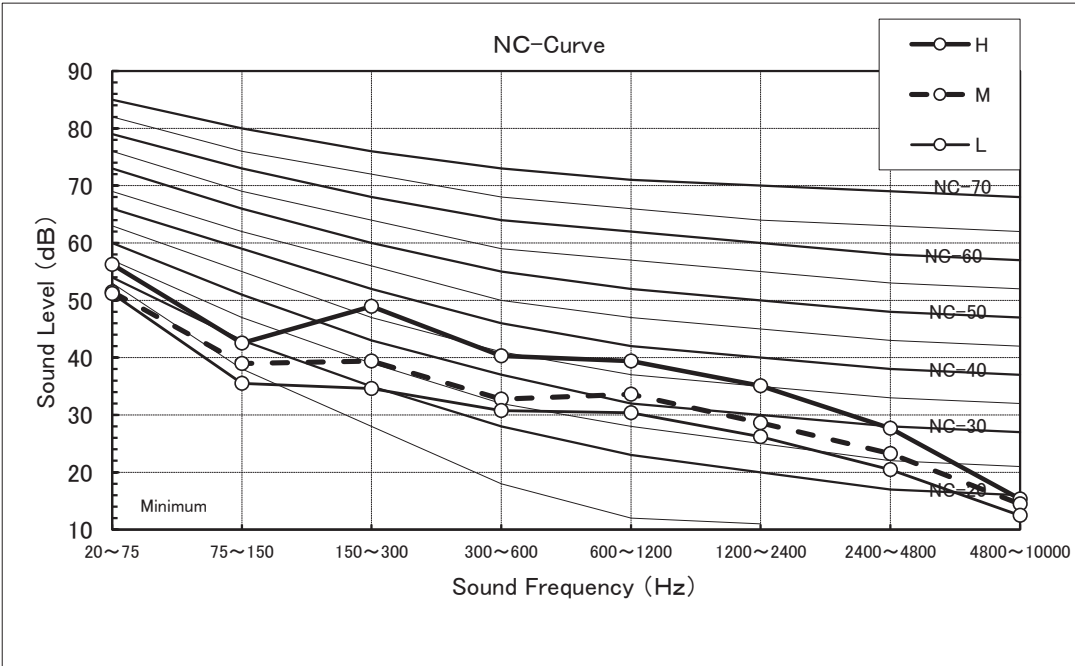
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	43	36	33



Heating

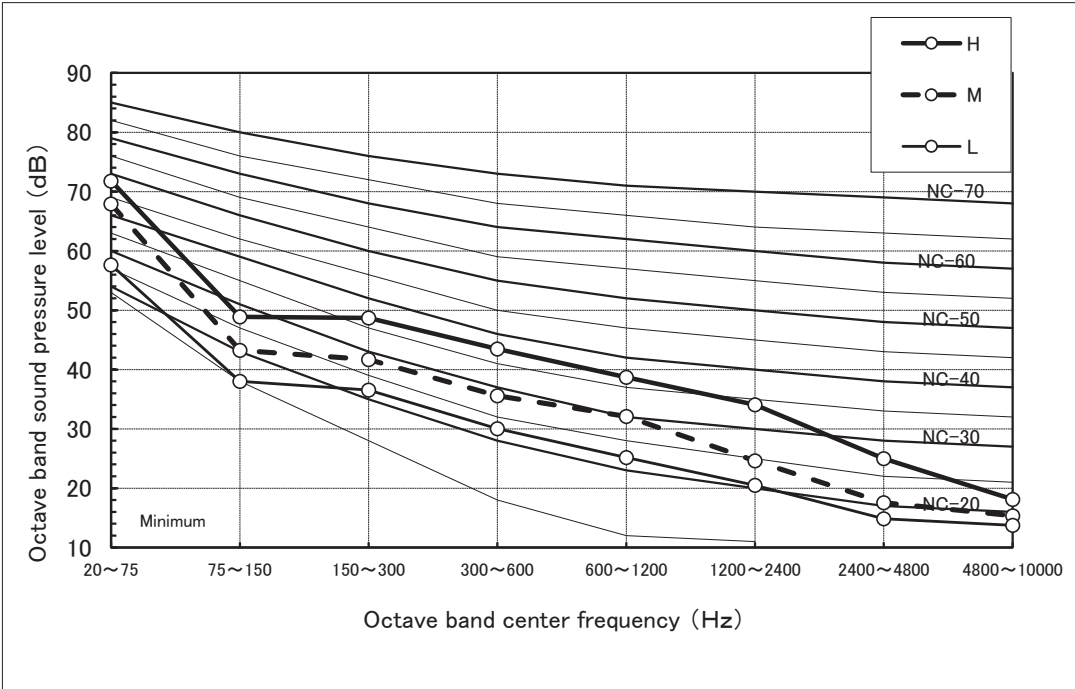
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	43	36	33



RAV-SM362CTP-UL

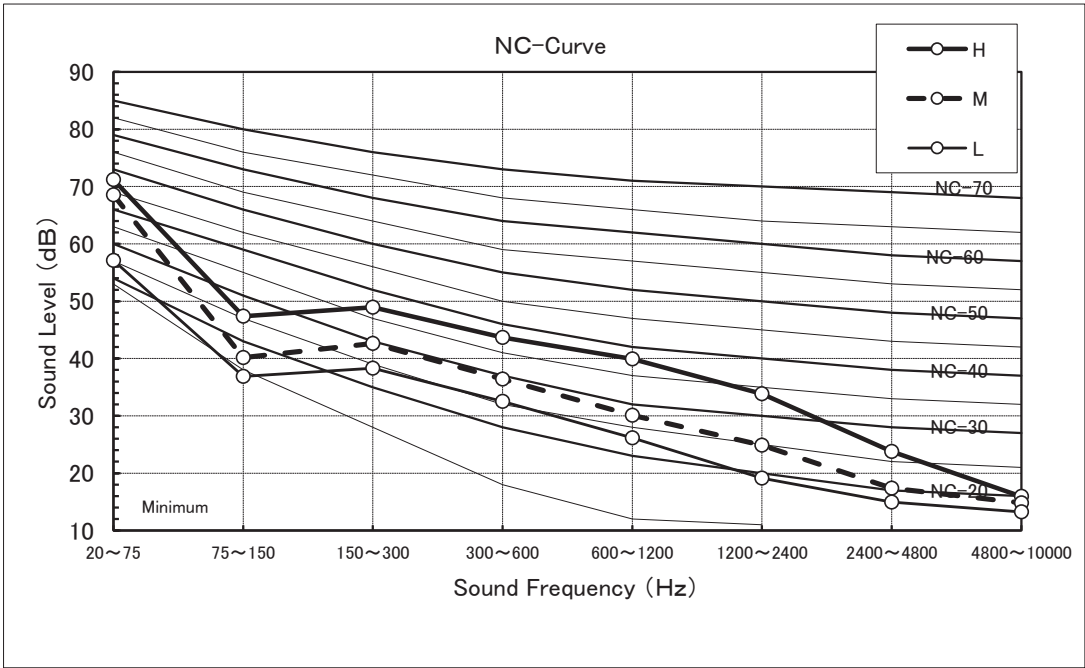
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	44	38	32



Heating

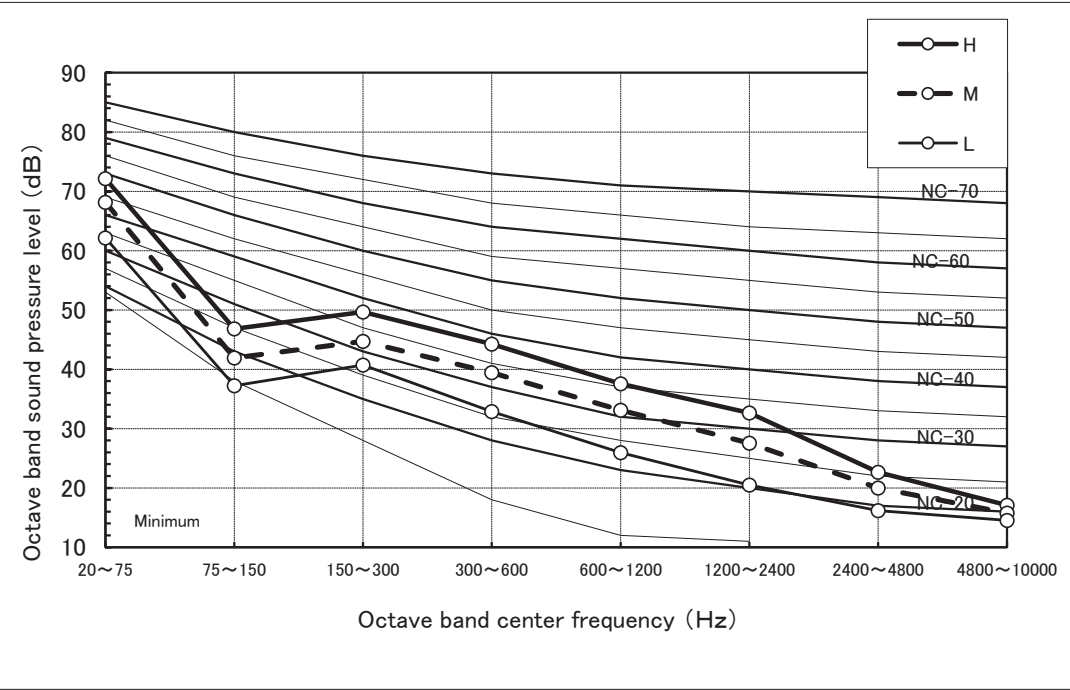
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	44	38	32



RAV-SM422CTP-UL

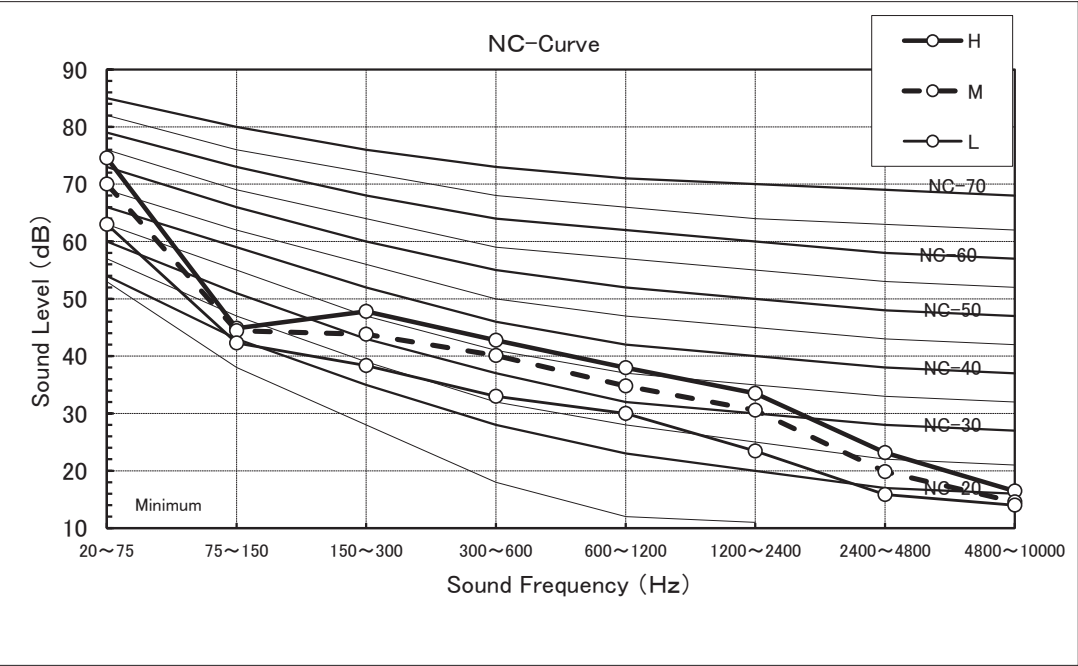
Cooling

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



Heating

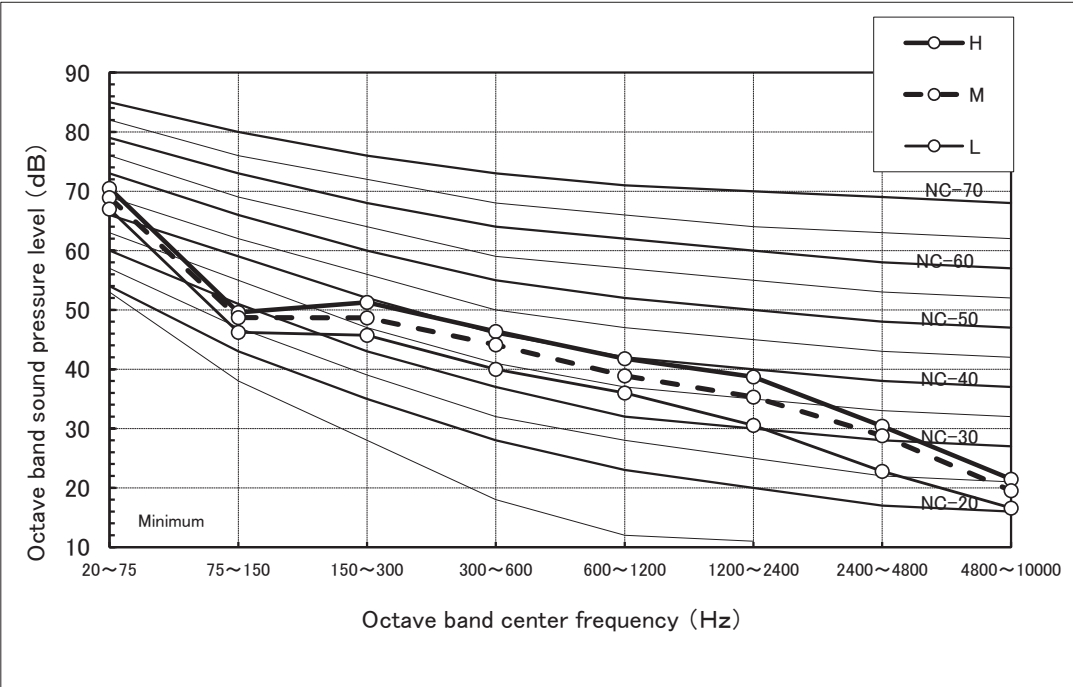
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	44	41	35



RAV-SM482CTP-UL

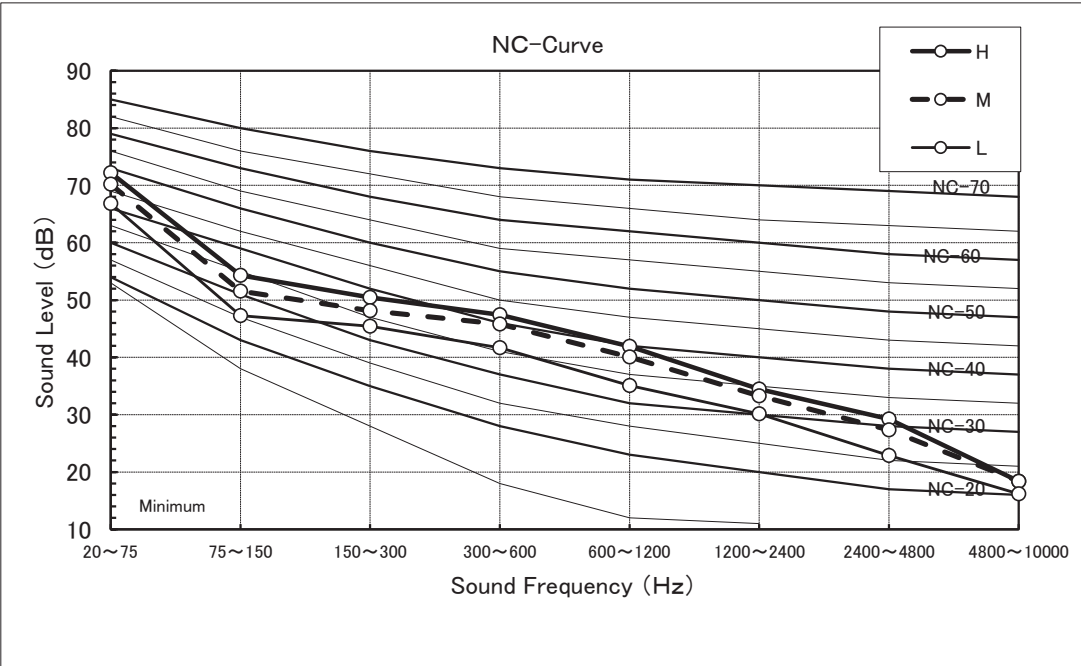
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	47	45	41



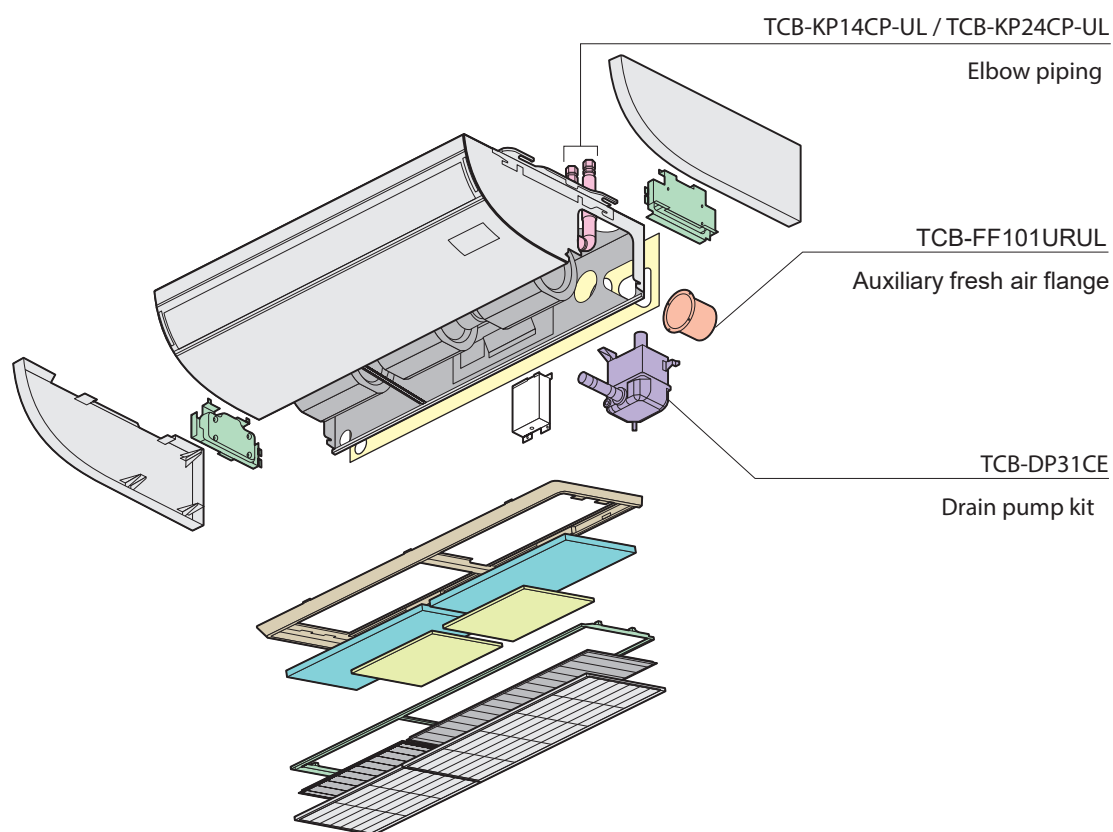
Heating

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	47	45	41



2-2-8. Accessories

Optional Parts	Model Name
Drain pump kit	TCB-DP31CE
Elbow piping kit	TCB-KP14CP-UL TCB-KP24CP-UL
Auxiliary fresh air flange	TCB-FF101URUL
Wireless Remote Controller	RBC-AX33C-UL



RBC-AX33C-UL
for Under ceiling

2-3. Standard Duct Type

2-3-1. Specifications

2-3-2. Dimension

2-3-3. Wiring Diagrams

2-3-4. Sensible Capacity Table

2-3-5. Part Load Performance

2-3-6. Fan Static Characteristic

2-3-7. Sound Characteristics (NC Curve)

2-3-8. Accessories

2-3-1. Specifications

Standard duct type

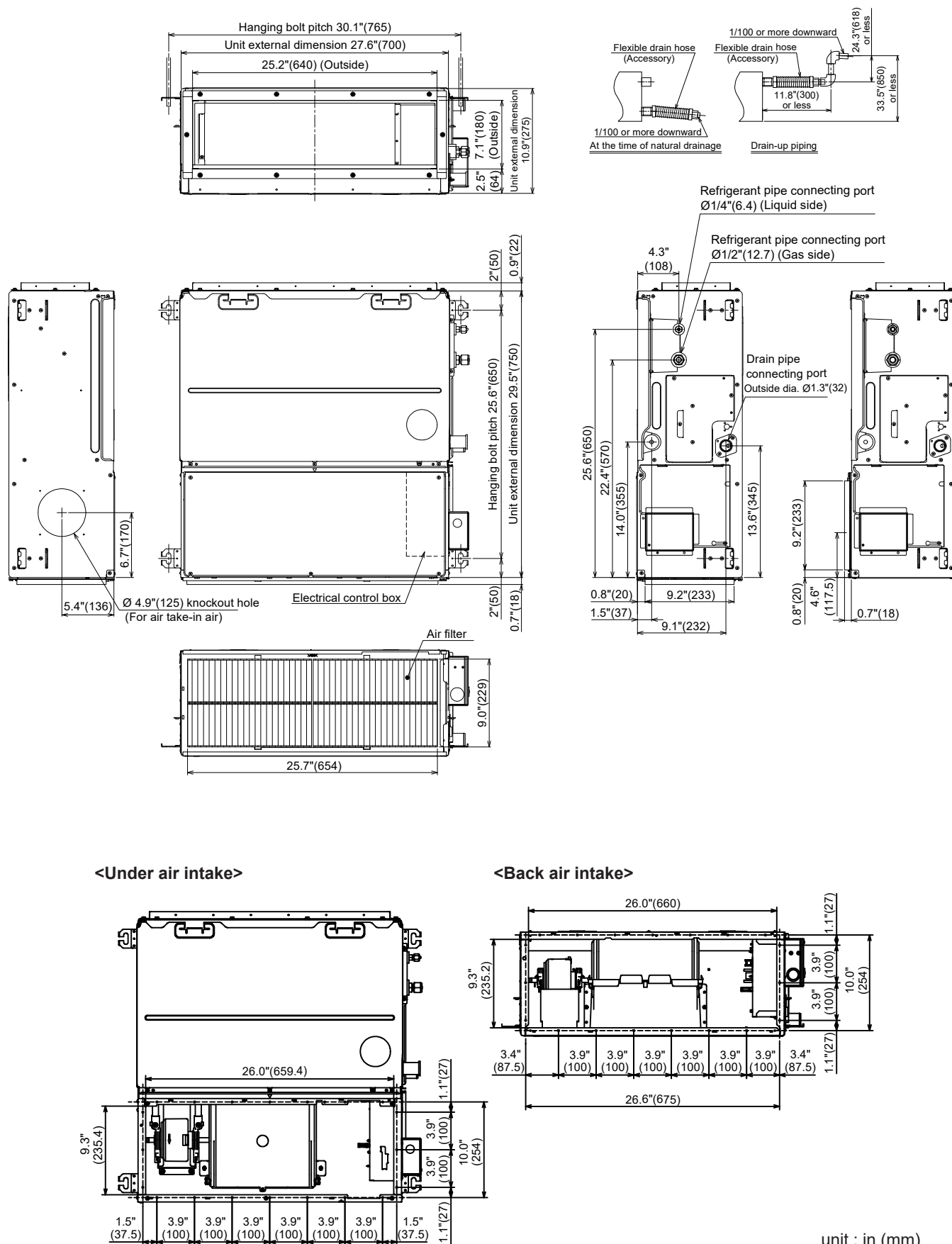
Model name	Indoor unit		RAV -	SM122BTP-UL	SM182BTP-UL	SM242BTP-UL	SM302BTP-UL	SM362BTP-UL	SM422BTP-UL	SM482BTP-UL
	Outdoor unit		RAV -	SP122AT2P-UL	SP182AT2P-UL	SP242AT2P-UL	SP302AT2P-UL	SP362AT2P-UL	SP422AT2P-UL	SP482AT2P-UL
Cooling	Capacity		Btu/h	12,000	18,000	24,000	30,000	36,000	42,000	48,000
	SEER			20.8	20.1	22.4	20.0	21.4	19.3	18.2
	EER			14.5	11.5	12.9	12.8	11.5	10.1	9.4
Heating	Capacity		Btu/h	14,000	20,000	27,000	34,000	40,000	47,000	54,000
	HSPF			12.4	10.6	11.5	11.9	11.5	10.6	9.4
	COP			13.3	11.4	13.4	14.1	13.1	12.2	11.3
Power supply			1 Phase 208V/230V 60 Hz							
Indoor unit										
Outer dimension	Main unit	Height	In	10.9		10.9	10.9			
		Width	In	27.6		39.4	55.2			
		Depth	In	29.5		29.5	29.5			
Total weight	Main unit	lbs.	53		71	93				
Air flow volume	(H/M/L)	CFM	395 / 330 / 265	540 / 390 / 315	775 / 640 / 510	990 / 780 / 650	1130 / 920 / 790	1130 / 955 / 810	1175 / 1025 / 885	
Sound Pressure Level (H/M/L)		dB(A)	33 / 29 / 25	34 / 30 / 26	36 / 31 / 27	37 / 34 / 31	38 / 35 / 32	38 / 35 / 32	40 / 36 / 33	
External static pressure (standard)		INwg(Pa)	0.12 (30)				0.20 (50)			
Fan motor output		w	150				250			
Drain tube size (outside diameter)		In	1.3" (VP25)							
Outdoor unit										
Air flow volume	Cooling / Heating	CFM	1590 / 1590	1590 / 1590	2300 / 2220	3570 / 2870	3570 / 3100	3570 / 3290	4540 / 4060	
Sound Pressure Level (High) Cooling / Heating		dB(A)	48 / 52	48 / 52	52 / 54	54 / 54	54 / 54	54 / 54	60 / 60	
Outer dimension	Height	In	21.7		35.0	52.8				
	Width	In	30.7		35.4	35.4				
	Depth	In	11.4		12.6	12.6				
Total weight	Main unit	lbs.	99		141	218		234		
Pipe	Min. legth	ft.	16'5"							
	Max. total length	ft.	164'1"				246'1"			
Flare Connections	Gas side	In	1 / 2"			5 / 8"				
	Liquid side	In	1 / 4"			3 / 8"				
Operating Range	Cooling	(°F)	5 to 115							
	Cooling with Wind buffels	(°F)	5 to 115				-13 to 115			
	Heating	(°F)	-13 to 59							

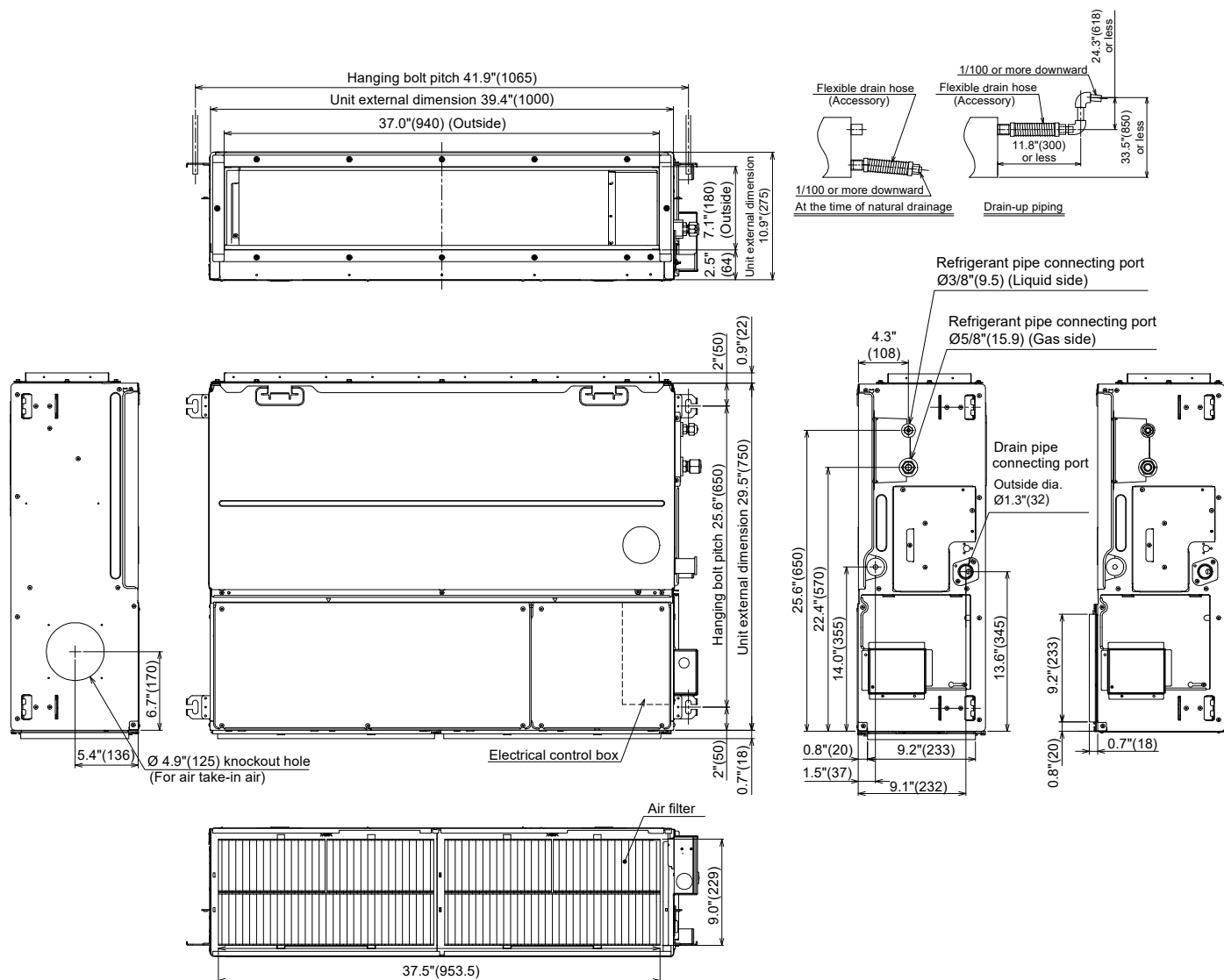
Rated conditions Cooling : Indoor air temperature 80°F (27°C) DB / 67°F (19°C) WB, Outdoor air temperature 95°F (35°C) DB

Heating : Indoor air temperature 70°F (21°C) DB, Outdoor air temperature 47°F (8°C) DB/43°F (6°C) WB

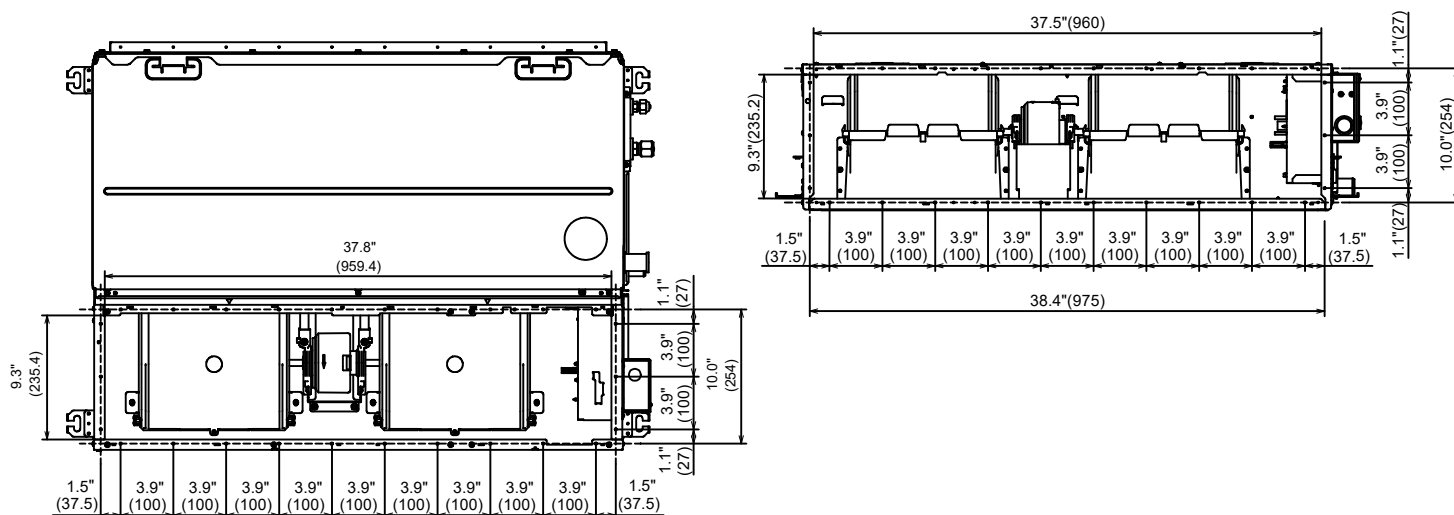
2-3-2. Dimension

RAV-SM*_2BTP-UL (*12 / 18)



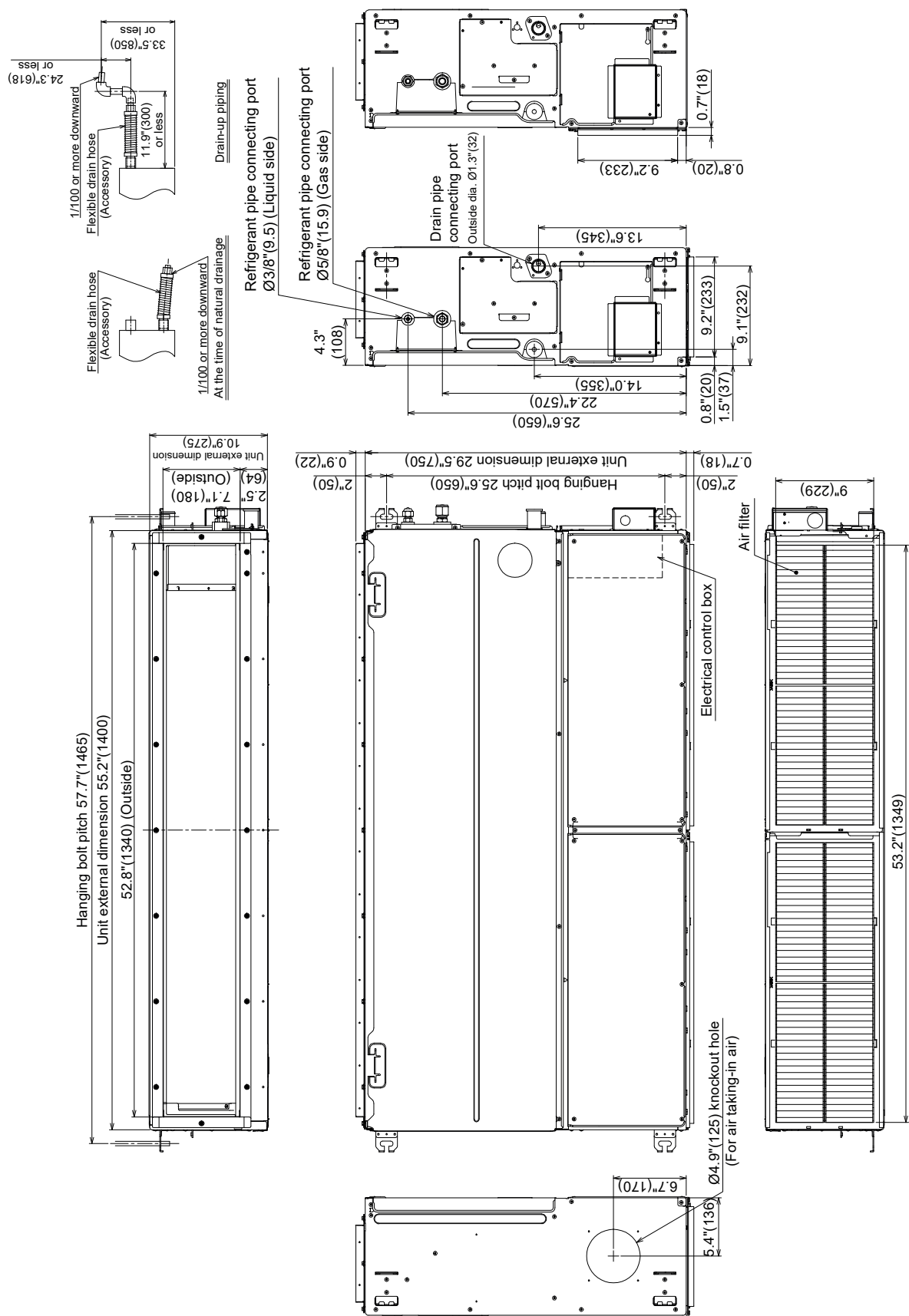


<Back air intake>



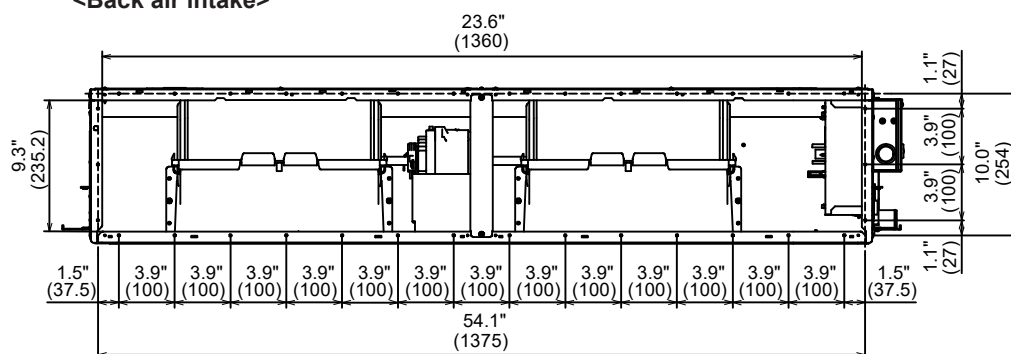
unit : in (mm)

RAV-SM*__2BTP-UL (*30 / 36 / 42 / 48)



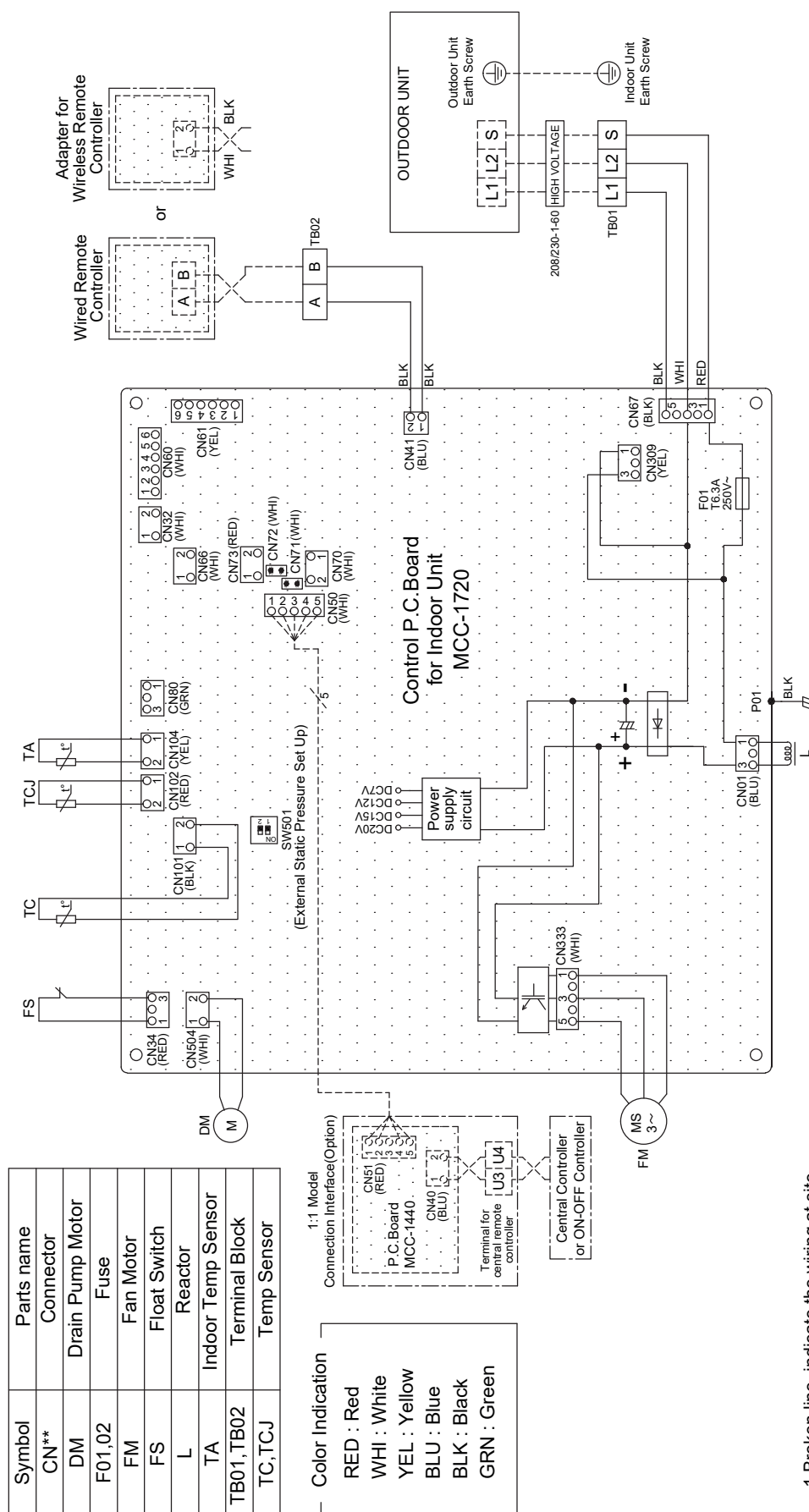
unit : in (mm)

<Under air intake>



unit : in (mm)

2-3-3. Wiring diagrams

RAV-SM*__2BTP-UL (*12 / 18 / 24 / 30 / 36 / 42 / 48)

1. Broken line indicates the wiring at site.
Long dashed short dashed line indicates the accessories.
2.  indicates the terminal block.
3.  indicates the connection terminal.
4.  indicates the connector on the control P.C. Board.
5.  indicates the protection ground.
6.  indicates the control P.C. Board.

2-3-4. Sensible Capacity Table

Product models : RAV-SM__2BTP-UL : RAV-SP__2AT2P-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
12	50	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	54	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	57	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	61	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	64	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	68	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	70	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	73	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	77	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	81	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	84	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	88	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	91	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	95	10210	9160	10690	9420	11360	9800	12000	10110	12210	10140	12980	10010	13510	9630
	99	9910	8890	10380	9150	11030	9520	11650	9820	11860	9850	12600	9720	13120	9350
	102	9680	8680	10130	8930	10770	9290	11380	9580	11580	9610	12310	9490	12810	9130
18	50	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	54	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	57	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	61	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	64	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	68	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	70	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	73	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	77	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	81	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	84	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	88	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	91	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	95	15320	12070	16030	12400	17040	12900	18000	13310	18310	13350	19470	13180	20270	12680
	99	14880	11720	15570	12040	16550	12530	17480	12920	17780	12960	18910	12800	19680	12310
	102	14520	11440	15200	11760	16150	12230	17060	12620	17360	12660	18460	12490	19220	12020
24	50	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	54	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	57	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	61	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	64	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	68	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	70	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	73	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	77	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	81	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	84	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	88	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	91	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	95	20430	17900	21370	18390	22730	19140	24000	19740	24410	19790	25960	19550	27020	18810
	99	19840	17380	20750	17860	22070	18580	23300	19170	23700	19220	25210	18980	26240	18260
	102	19370	16970	20260	17430	21550	18140	22750	18710	23140	18760	24610	18530	25610	17830
30	50	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	54	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	57	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	61	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	64	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	68	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	70	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	73	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	77	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	81	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	84	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	88	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	91	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	95	25530	21600	26720	22200	28410	23110	30000	23830	30510	23890	32450	23600	33780	22710
	99	24790	20970	25950	21560	27590	22440	29130	23140	29630	23200	31510	22920	32800	22050
	102	24200	20480	25330	21050	26930	21910	28440	22590	28920	22650	30760	22370	32020	21530

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Product models : RAV-SM__2BTP-UL : RAV-SP__2AT2P-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
36	50	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	54	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	57	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	61	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	64	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	68	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	70	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	73	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	77	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	81	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	84	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	88	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
	91	30640	24630	32060	25310	34090	26340	36000	27170	36620	27250	38930	26900	40540	25890
42	50	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	54	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	57	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	61	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	64	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	68	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	70	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	73	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	77	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	81	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	84	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	88	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
	91	34480	26670	38140	28410	40740	30170	42000	30080	43260	30080	45780	29800	47880	29110
48	50	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	54	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	57	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
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	64	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	68	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	70	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	73	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	77	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	81	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	84	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	88	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	91	39408	29098	43584	30990	46560	32915	48000	32817	49440	32815	52320	32513	54720	31760
	95	38265	28254	42320	30091	45210	31960	46608	31865	48006	31863	50803	31570	53133	30839
	102	37359	27585	41318	29378	44139	31203	45504	31111	46869	31109	49599	30822	51875	30109

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Heating capacity table

Product model : RAV-SM__2BTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
12	59	57	17169	1090	16992	1121	16888	1160	16786	1213	16687	1272
	50	48	15586	1033	15425	1063	15330	1099	15238	1149	15148	1206
	47	43	14234	987	14087	1015	14000	1050	13916	1098	13833	1152
	41	39	13273	956	13136	983	13055	1017	12977	1063	12900	1115
	36	34	11903	909	11780	935	11708	968	11637	1011	11568	1061
	32	31	9288	806	9191	829	9135	858	9080	896	9026	941
	23	22	9288	806	9191	829	9135	858	9080	896	9026	941
	19	18	8736	785	8646	808	8593	836	8541	873	8490	916
	14	13	8006	749	7924	771	7875	797	7828	833	7781	874
	5	4	6743	708	6674	728	6633	753	6593	787	6554	826
	1	0	5089	650	5043	670	4998	692	4978	724	4936	760
	-3	-4	3980	609	3947	628	3906	649	3895	679	3857	712
	-13	-13	2132	542	2120	559	2086	577	2089	604	2058	634
18	59	57	24528	1837	24274	1890	24125	1955	23981	2044	23838	2144
	50	48	22266	1741	22035	1792	21900	1853	21769	1937	21639	2033
	47	43	20334	1663	20124	1711	20000	1770	19880	1850	19762	1941
	41	39	18961	1611	18765	1657	18650	1714	18538	1792	18428	1880
	36	34	17004	1532	16828	1577	16725	1631	16625	1705	16526	1789
	32	31	13268	1358	13131	1398	13050	1446	12972	1511	12895	1585
	23	22	13268	1358	13131	1398	13050	1446	12972	1511	12895	1585
	19	18	12480	1323	12351	1362	12275	1409	12202	1472	12129	1545
	14	13	11438	1263	11320	1299	11250	1344	11183	1405	11116	1474
	5	4	9633	1193	9534	1227	9475	1270	9418	1327	9362	1392
	1	0	7270	1096	7204	1129	7140	1167	7112	1220	7052	1281
	-3	-4	5686	1027	5638	1059	5580	1094	5564	1144	5510	1201
	-13	-13	3046	913	3028	943	2980	973	2984	1018	2940	1068
24	59	57	33113	2097	32770	2157	32569	2232	32374	2333	32181	2447
	50	48	30059	1987	29748	2045	29565	2115	29388	2211	29213	2320
	47	43	27451	1898	27167	1953	27000	2020	26838	2112	26679	2215
	41	39	25598	1838	25333	1892	25178	1957	25027	2045	24878	2146
	36	34	22956	1749	22718	1800	22579	1861	22444	1946	22310	2041
	32	31	17912	1550	17726	1595	17618	1650	17512	1725	17408	1809
	23	22	17912	1550	17726	1595	17618	1650	17512	1725	17408	1809
	19	18	16848	1510	16674	1554	16571	1608	16472	1680	16374	1763
	14	13	15441	1441	15281	1483	15188	1534	15097	1603	15007	1682
	5	4	13005	1361	12870	1401	12791	1449	12715	1515	12639	1589
	1	0	9815	1250	9725	1289	9639	1332	9601	1393	9520	1461
	-3	-4	7676	1172	7611	1209	7533	1249	7511	1306	7439	1371
	-13	-13	4112	1042	4088	1076	4023	1110	4028	1162	3969	1219
30	59	57	41697	2501	41266	2574	41013	2662	40767	2783	40525	2920
	50	48	37852	2371	37460	2440	37230	2524	37007	2638	36787	2768
	47	43	34568	2264	34210	2330	34000	2410	33797	2519	33595	2643
	41	39	32234	2193	31901	2257	31705	2334	31515	2440	31328	2560
	36	34	28907	2087	28608	2147	28433	2221	28262	2321	28094	2435
	32	31	22555	1849	22322	1903	22185	1968	22052	2058	21921	2159
	23	22	22555	1849	22322	1903	22185	1968	22052	2058	21921	2159
	19	18	21216	1802	20997	1854	20868	1918	20743	2005	20619	2103
	14	13	19444	1719	19243	1769	19125	1830	19011	1912	18897	2006
	5	4	16376	1624	16207	1671	16108	1729	16011	1807	15916	1896
	1	0	12359	1492	12247	1538	12138	1589	12090	1662	11988	1744
	-3	-4	9666	1399	9585	1442	9486	1490	9459	1558	9367	1635
	-13	-13	5178	1243	5148	1283	5066	1325	5073	1386	4998	1454

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

Product model : RAV-SM__2BTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
36	59	57	49056	3176	48548	3268	48250	3380	47961	3534	47676	3707
	50	48	44531	3011	44071	3098	43800	3204	43538	3349	43279	3514
	47	43	40668	2875	40247	2958	40000	3060	39761	3199	39524	3356
	41	39	37923	2785	37531	2865	37300	2964	37077	3098	36856	3250
	36	34	34009	2649	33657	2726	33450	2820	33250	2947	33052	3092
	32	31	26536	2348	26261	2416	26100	2499	25944	2613	25789	2741
	23	22	26536	2348	26261	2416	26100	2499	25944	2613	25789	2741
	19	18	24960	2288	24702	2354	24550	2435	24403	2546	24258	2671
	14	13	22876	2183	22639	2246	22500	2323	22365	2428	22232	2548
	5	4	19266	2062	19067	2122	18950	2195	18837	2294	18725	2407
	1	0	14540	1894	14408	1953	14280	2017	14224	2110	14104	2214
	-3	-4	11372	1776	11276	1831	11160	1892	11128	1979	11020	2076
	-13	-13	6092	1578	6056	1629	5960	1682	5968	1760	5880	1847
42	59	57	57640	4007	57044	4122	56694	4264	56355	4457	56019	4676
	50	48	52324	3798	51783	3908	51465	4042	51157	4225	50853	4433
	47	43	47785	3627	47291	3732	47000	3860	46719	4035	46441	4233
	41	39	44559	3513	44098	3614	43828	3739	43565	3908	43306	4100
	36	34	39960	3342	39547	3439	39304	3557	39069	3718	38836	3901
	32	31	31180	2962	30857	3048	30668	3153	30484	3296	30303	3457
	23	22	31180	2962	30857	3048	30668	3153	30484	3296	30303	3457
	19	18	29328	2886	29025	2970	28846	3072	28674	3211	28503	3369
	14	13	26879	2753	26601	2833	26438	2930	26279	3063	26123	3214
	5	4	22638	2601	22404	2677	22266	2769	22133	2894	22001	3036
	1	0	17085	2389	16929	2463	16779	2545	16713	2661	16572	2793
	-3	-4	13362	2240	13249	2310	13113	2386	13075	2496	12949	2619
	-13	-13	7158	1991	7116	2055	7003	2122	7012	2220	6909	2330
48	59	57	66225	4982	65540	5126	65138	5303	64748	5543	64363	5815
	50	48	60117	4722	59496	4859	59130	5026	58776	5254	58427	5512
	47	43	54902	4510	54334	4640	54000	4800	53677	5018	53358	5264
	41	39	51196	4368	50666	4495	50355	4649	50054	4860	49756	5099
	36	34	45912	4156	45437	4276	45158	4423	44887	4623	44620	4851
	32	31	35823	3684	35453	3790	35235	3920	35024	4098	34816	4299
	23	22	35823	3684	35453	3790	35235	3920	35024	4098	34816	4299
	19	18	33696	3589	33347	3693	33143	3820	32944	3993	32748	4189
	14	13	30882	3424	30563	3523	30375	3644	30193	3809	30014	3996
	5	4	26010	3235	25741	3329	25583	3443	25429	3599	25278	3776
	1	0	19629	2971	19451	3063	19278	3165	19202	3310	19040	3473
	-3	-4	15352	2785	15223	2873	15066	2967	15023	3104	14877	3257
	-13	-13	8224	2476	8176	2556	8046	2639	8057	2760	7938	2897

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

2-3-5. Part load performance

Indoor : RAV-SM122BTP-UL
Outdoor : RAV-SP122AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 4000	320	3000	270
RATING	Btu/h 12000	830	14000	1050
MAXIMUM	Btu/h 19100	1000	21400	1460

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling		Parts Load (%)																			
		100		90		80		70		60		50		40		30		20		10	
		Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
Outdoor Temperature DB °F(°C)																					
68(20)	14310	650	12880	590	11450	530	10020	470	8590	410	7160	350	5720	290	4770	250	4770	250	4770	250	
70(21)	14160	660	12740	600	11320	540	9910	480	8490	420	7080	360	5660	300	4720	260	4720	260	4720	260	
72(22)	14000	680	12600	610	11200	550	9800	490	8400	430	7000	360	5600	300	4670	260	4670	260	4670	260	
73(23)	13850	690	12460	620	11080	560	9690	500	8310	430	6920	370	5540	310	4620	260	4620	260	4620	260	
75(24)	13690	700	12320	630	10960	570	9590	510	8220	440	6850	380	5480	310	4560	270	4560	270	4560	270	
77(25)	13540	710	12190	650	10830	580	9480	510	8120	450	6770	380	5420	320	4510	270	4510	270	4510	270	
79(26)	13390	720	12050	660	10710	590	9370	520	8030	460	6690	390	5350	320	4460	280	4460	280	4460	280	
81(27)	13230	730	11910	670	10590	600	9260	530	7940	460	6620	400	5290	330	4410	280	4410	280	4410	280	
82(28)	13080	750	11770	680	10460	610	9150	540	7850	470	6540	400	5230	330	4360	290	4360	290	4360	290	
84(29)	12920	760	11630	690	10340	620	9050	550	7750	480	6460	410	5170	340	4310	290	4310	290	4310	290	
86(30)	12770	770	11490	700	10220	630	8940	560	7660	490	6390	420	5110	340	4260	300	4260	300	4260	300	
88(31)	12620	780	11350	710	10090	640	8830	570	7570	490	6310	420	5050	350	4210	300	4210	300	4210	300	
90(32)	12460	790	11220	720	9970	650	8720	570	7480	500	6230	430	4980	360	4150	310	4150	310	4150	310	
91(33)	12310	810	11080	730	9850	660	8620	580	7380	510	6150	430	4920	360	4100	310	4100	310	4100	310	
93(34)	12150	820	10940	740	9720	670	8510	590	7290	520	6080	440	4860	370	4050	320	4050	320	4050	320	
95(35)	12000	830	10800	750	9600	680	8400	600	7200	520	6000	450	4800	370	4000	320	4000	320	4000	320	
97(36)	11850	840	10660	760	9480	690	8290	610	7110	530	5920	450	4740	380	3950	320	3950	320	3950	320	
99(37)	11690	850	10520	780	9350	700	8180	620	7020	540	5850	460	4680	380	3900	330	3900	330	3900	330	
100(38)	11540	870	10380	790	9230	710	8080	630	6920	550	5770	470	4620	390	3850	330	3850	330	3850	330	
102(39)	11380	880	10250	800	9110	720	7970	630	6830	550	5690	470	4550	390	3790	340	3790	340	3790	340	
104(40)	11230	890	10110	810	8980	730	7860	640	6740	560	5620	480	4490	400	3740	340	3740	340	3740	340	
106(41)	11080	900	9970	820	8860	740	7750	650	6650	570	5540	490	4430	400	3690	350	3690	350	3690	350	
108(42)	10920	910	9830	830	8740	740	7650	660	6550	580	5460	490	4370	410	3640	350	3640	350	3640	350	
109(43)	10770	930	9690	840	8610	750	7540	670	6460	580	5380	500	4310	410	3590	360	3590	360	3590	360	
111(44)	10610	940	9550	850	8490	760	7430	680	6370	590	5310	510	4250	420	3540	360	3540	360	3540	360	
113(45)	10460	950	9410	860	8370	770	7320	690	6280	600	5230	510	4180	420	3490	370	3490	370	3490	370	
115(46)	10310	960	9280	870	8240	780	7210	700	6180	610	5150	520	4120	430	3440	370	3440	370	3440	370	

Heating		Parts Load (%)																			
Outdoor Temperature DB °F(°C)	100		90		80		70		60		50		40		30		20		10		
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
-13(-25)	5070	350	4570	310	4060	280	3550	250	3040	210	2540	180	2030	150	1520	120	1090	90	1090	90	
-11(-24)	5200	350	4680	320	4160	290	3640	250	3120	220	2600	190	2080	150	1560	120	1110	90	1110	90	
-9(-23)	5330	360	4790	330	4260	290	3730	260	3200	220	2660	190	2130	160	1600	120	1140	90	1140	90	
-8(-22)	5450	370	4910	330	4360	300	3820	260	3270	230	2730	190	2180	160	1640	120	1170	90	1170	90	
-6(-21)	5580	380	5020	340	4460	310	3910	270	3350	230	2790	200	2230	160	1670	130	1200	100	1200	100	
-4(-20)	5710	380	5140	350	4570	310	3990	280	3420	240	2850	200	2280	170	1710	130	1220	100	1220	100	
-2(-19)	6090	400	5480	360	4870	330	4260	290	3650	250	3040	210	2430	170	1830	140	1300	100	1300	100	
0(-18)	6470	420	5820	380	5170	340	4530	300	3880	260	3230	220	2590	180	1940	140	1390	110	1390	110	
1(-17)	6850	440	6160	400	5480	360	4790	310	4110	270	3420	230	2740	190	2050	150	1470	110	1470	110	
3(-16)	7230	460	6510	410	5780	370	5060	330	4340	280	3610	240	2890	200	2170	150	1550	120	1550	120	
5(-15)	7610	480	6850	430	6090	390	5330	340	4570	300	3800	250	3040	210	2280	160	1630	120	1630	120	
7(-14)	7700	500	6930	450	6160	410	5390	360	4620	310	3850	260	3080	220	2310	170	1650	130	1650	130	
9(-13)	7790	530	7010	480	6240	430	5460	380	4680	330	3900	280	3120	230	2340	180	1670	140	1670	140	
10(-12)	7890	550	7100	500	6310	450	5520	400	4730	340	3940	290	3150	240	2370	190	1690	140	1690	140	
12(-11)	7980	580	7180	520	6380	470	5590	410	4790	360	3990	300	3190	250	2390	200	1710	150	1710	150	
14(-10)	8070	600	7270	550	6460	490	5650	430	4840	380	4040	320	3230	260	2420	200	1730	160	1730	160	
16(-9)	8170	630	7350	570	6530	510	5720	450	4900	390	4080	330	3270	270	2450	210	1750	160	1750	160	
18(-8)	8260	650	7430	590	6610	530	5780	470	4950	410	4130	350	3300	280	2480	220	1770	170	1770	170	
19(-7)	8350	680	7520	620	6680	550	5850	490	5010	420	4180	360	3340	290	2510	230	1790	170	1790	170	
21(-6)	8550	710	7700	640	6840	570	5990	510	5130	440	4280	370	3420	310	2570	240	1830	180	1830	180	
23(-5)	8750	740	7870	670	7000	600	6120	530	5250	460	4370	390	3500	320	2620	250	1870	190	1870	190	
25(-4)	8950	760	8050	690	7160	620	6260	550	5370	470	4470	400	3580	330	2680	260	1920	200	1920	200	
27(-3)	9150	790	8230	720	7320	640	6400	570	5490	490	4570	420	3660	340	2740	270	1960	200	1960	200	
28(-2)	9350	820	8410	740	7480	660	6540	590	5610	510	4670	430	3740	350	2800	280	2000	210	2000	210	
30(-1)	9550	850	8590	770	7640	690	6680	610	5730	530	4770	450	3820	370	2860	290	2050	220	2050	220	
32(0)	9750	870	8770	790	7800	710	6820	630	5850	540	4870	460	3900	380	2920	300	2090	220	2090	220	
34(1)	9950	900	8950	820	7960	730	6960	650	5970	560	4970	480	3980	390	2980	300	2130	230	2130	230	
36(2)	10140	930	9130	840	8120	750	7100	670	6090	580	5070	490	4060	400	3040	310	2170	240	2170	240	
37(3)	10310	940	9280	850	8250	760	7220	670	6190	590	5160	500	4120	410	3090	320	2210	240	2210	240	
39(4)	10480	950	9430	860	8380	770	7330	680	6290	590	5240	500	4190	410	3140	320	2250	250	2250	250	
41(5)	10640	970	9580	880	8510	780	7450	690	6390	600	5320	510	4260	420	3190	330	2280	250	2280	250	
43(6)	13640	1030	12270	940	10910	840	9550	740	8180	640	6820	550	5460	450	4090	350	2920	270	2920	270	
45(7)	14000	1050	12600	950	11200	850	9800	750	8400	650	7000	550	5600	450	4200	360	3000	270	3000	270	
46(8)	14360	1070	12930	970	11490	860	10050	760	8620	660	7180	560	5740	460	4310	360	3080	270	3080	270	
48(9)	14720	1080	13250	980	11780	880	10310	780	8830	670	7360	570	5890	470	4420	370	3150	280	3150	280	
50(10)	15080	1100	13580	990	12070	890	10560	790	9050	680	7540	580	6030	480	4530	370	3230	280	3230	280	
52(11)	15450	1120	13900	1010	12360	900	10810	800	9270	690	7720	590	6180	480	4630	380	3310	290	3310	290	
54(12)	15810	1130	14230	1020	12650	920	11060	810	9480	700	7900	600	6320	490	4740	380	3390	290	3390	290	
55(13)	16170	1150	14550	1040	12930	930	11320	820	9700	710	8080	610	6470	500	4850	390	3460	300	3460	300	
57(14)	16530	1160	14880	1050	13220	940	11570	830	9920	720	8260	610	6610	500	4960	390	3540	300	3540	300	
59(15)	16890	1180	15200	1070	13510	960	11820	850	10130	730	8450	620	6760	510	5070	400	3620	300	3620	300	

Indoor : **RAV-SM182BTP-UL**
Outdoor : **RAV-SP182AT2P-UL**

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	4000	320	3000	270
RATING	Btu/h	18000	1570	20000	1770
MAXIMUM	Btu/h	19100	1880	21400	1920

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	21470	1230	19320	1110	17170	980	15030	850	12880	730	10730	600	8590	480	6440	350	4770	250	4770	250
70(21)	21230	1250	19110	1130	16990	1000	14860	870	12740	740	10620	610	8490	480	6370	360	4720	260	4720	260
72(22)	21000	1280	18900	1150	16800	1020	14700	890	12600	750	10500	620	8400	490	6300	360	4670	260	4670	260
73(23)	20770	1300	18690	1170	16620	1030	14540	900	12460	770	10390	630	8310	500	6230	370	4620	260	4620	260
75(24)	20540	1320	18490	1190	16430	1050	14380	920	12320	780	10270	650	8220	510	6160	370	4560	270	4560	270
77(25)	20310	1340	18280	1210	16250	1070	14220	930	12190	790	10160	660	8120	520	6090	380	4510	270	4510	270
79(26)	20080	1370	18070	1230	16060	1090	14060	950	12050	810	10040	670	8030	530	6020	390	4460	280	4460	280
81(27)	19850	1390	17860	1250	15880	1110	13890	960	11910	820	9920	680	7940	540	5950	390	4410	280	4410	280
82(28)	19620	1410	17660	1270	15690	1120	13730	980	11770	830	9810	690	7850	540	5890	400	4360	290	4360	290
84(29)	19390	1430	17450	1290	15510	1140	13570	990	11630	850	9690	700	7750	550	5820	410	4310	290	4310	290
86(30)	19160	1460	17240	1310	15320	1160	13410	1010	11490	860	9580	710	7660	560	5750	410	4260	300	4260	300
88(31)	18920	1480	17030	1330	15140	1180	13250	1030	11350	870	9460	720	7570	570	5680	420	4210	300	4210	300
90(32)	18690	1500	16820	1350	14950	1190	13090	1040	11220	890	9350	730	7480	580	5610	430	4150	310	4150	310
91(33)	18460	1520	16620	1370	14770	1210	12920	1060	11080	900	9230	740	7380	590	5540	430	4100	310	4100	310
93(34)	18230	1550	16410	1390	14580	1230	12760	1070	10940	910	9120	760	7290	600	5470	440	4050	320	4050	320
95(35)	18000	1570	16200	1410	14400	1250	12600	1090	10800	930	9000	770	7200	610	5400	450	4000	320	4000	320
97(36)	17770	1590	15990	1430	14220	1270	12440	1100	10660	940	8880	780	7110	610	5330	450	3950	320	3950	320
99(37)	17540	1620	15780	1450	14030	1280	12280	1120	10520	950	8770	790	7020	620	5260	460	3900	330	3900	330
100(38)	17310	1640	15580	1470	13850	1300	12110	1130	10380	970	8650	800	6920	630	5190	460	3850	330	3850	330
102(39)	17080	1660	15370	1490	13660	1320	11950	1150	10250	980	8540	810	6830	640	5120	470	3790	340	3790	340
104(40)	16850	1680	15160	1510	13480	1340	11790	1170	10110	990	8420	820	6740	650	5050	480	3740	340	3740	340
106(41)	16610	1710	14950	1530	13290	1360	11630	1180	9970	1010	8310	830	6650	660	4980	480	3690	350	3690	350
108(42)	16380	1730	14740	1550	13110	1370	11470	1200	9830	1020	8190	840	6550	670	4910	490	3640	350	3640	350
109(43)	16130	1740	14510	1560	12900	1380	11290	1200	9680	1030	8060	850	6450	670	4840	490	3580	350	3580	350
111(44)	15860	1740	14270	1560	12690	1380	11100	1200	9510	1030	7930	850	6340	670	4760	490	3520	350	3520	350
113(45)	14910	1350	13420	1210	11930	1070	10440	930	8950	800	7460	660	5970	520	4470	380	3310	270	3310	270
115(46)	14640	1350	13180	1210	11710	1070	10250	930	8790	800	7320	660	5860	520	4390	380	3250	270	3250	270

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	7970	840	7170	760	6380	670	5580	590	4780	500	3990	420	3190	340	2390	250	1590	170	1200	130
-11(-24)	8120	850	7300	760	6490	680	5680	600	4870	510	4060	430	3250	340	2430	260	1620	170	1220	130
-9(-23)	8260	860	7430	770	6610	690	5780	600	4960	520	4130	430	3300	350	2480	260	1650	170	1240	130
-8(-22)	8410	870	7570	780	6720	700	5880	610	5040	520	4200	440	3360	350	2520	260	1680	180	1260	130
-6(-21)	8550	880	7700	790	6840	700	5990	620	5130	530	4280	440	3420	350	2570	270	1710	180	1280	130
-4(-20)	8700	890	7830	800	6960	710	6090	620	5220	530	4350	450	3480	360	2610	270	1740	180	1300	140
-2(-19)	8770	910	7890	820	7010	730	6140	640	5260	550	4380	460	3510	370	2630	270	1750	180	1320	140
0(-18)	8840	930	7960	840	7070	740	6190	650	5300	560	4420	470	3540	370	2650	280	1770	190	1330	140
1(-17)	8910	950	8020	860	7130	760	6240	670	5350	570	4460	480	3570	380	2670	290	1780	190	1340	140
3(-16)	8990	970	8090	870	7190	780	6290	680	5390	580	4490	490	3590	390	2700	290	1800	200	1350	150
5(-15)	9060	990	8150	890	7250	790	6340	690	5430	600	4530	500	3620	400	2720	300	1810	200	1360	150
7(-14)	9620	1010	8660	910	7700	810	6740	710	5770	610	4810	510	3850	400	2890	300	1920	200	1440	150
9(-13)	10190	1020	9170	920	8150	820	7130	720	6110	620	5100	510	4080	410	3060	310	2040	210	1530	160
10(-12)	10760	1040	9680	940	8610	830	7530	730	6450	630	5380	520	4300	420	3230	310	2150	210	1610	160
12(-11)	11320	1060	10190	950	9060	850	7930	740	6790	640	5660	530	4530	430	3400	320	2260	210	1700	160
14(-10)	11890	1080	10700	970	9510	860	8320	750	7130	650	5940	540	4760	430	3570	330	2380	220	1780	160
16(-9)	12450	1090	11210	980	9960	880	8720	770	7470	660	6230	550	4980	440	3740	330	2490	220	1870	170
18(-8)	13020	1110	11720	1000	10420	890	9110	780	7810	670	6510	560	5210	450	3910	340	2600	220	1950	170
19(-7)	13590	1130	12230	1020	10870	900	9510	790	8150	680	6790	570	5430	450	4080	340	2720	230	2040	170
21(-6)	13690	1180	12320	1060	10950	940	9580	820	8210	710	6840	590	5480	470	4110	360	2740	240	2050	180
23(-5)	13790	1230	12410	1100	11030	980	9650	860	8270	740	6890	610	5520	490	4140	370	2760	250	2070	190
25(-4)	13890	1270	12500	1150	11110	1020	9720	890	8330	770	6940	640	5560	510	4170	380	2780	260	2080	190
27(-3)	13990	1320	12590	1190	11190	1060	9790	930	8390	800	6990	660	5600	530	4200	400	2800	270	2100	200
28(-2)	14090	1370	12680	1230	11270	1100	9860	960	8450	820	7050	690	5640	550	4230	410	2820	280	2110	210
30(-1)	14190	1420	12770	1280	11350	1140	9930	1000	8510	850	7100	710	5680	570	4260	430	2840	290	2130	220
32(0)	14290	1470	12860	1320	11430	1180	10000	1030	8570	880	7150	740	5720	590	4290	440	2860	300	2140	220
34(1)	14390	1520	12950	1370	11510	1220	10070	1060	8640	910	7200	760	5760	610	4320	460	2880	310	2160	230
36(2)	14490	1570	13040	1410	11590	1250	10140	1100	8700	940	7250	790	5800	630	4350	470	2900	320	2170	240
37(3)	14730	1590	13260	1430	11780	1270	10310	1110	8840	950	7370	800	5890	640	4420	480	2950	320	2210	240
39(4)	14970	1610	13470	1450	11970	1290	10480	1130	8980	970	7480	810	5990	650	4490	490	2990	330	2250	250
41(5)	15200	1630	13680	1470	12160	1300	10640	1140	9120	980	7600	820	6080	650	4560	490	3040	330	2280	250
43(6)	19480	1740	17540	1570	15590	1400	13640	1220	11690	1050	9740	870	7790	700	5850	530	3900	350	2920	270
45(7)	20000	1770	18000	1590	16000	1420	14000	1240	12000	1060	10000	890	8000	710	6000	530	4000	360	3000	270
46(8)	20520	1800	18460	1620	16410	1440	14360	1260	12310	1080	10260	900	8210	720	6150	540	4100	360	3080	270
48(9)	21030	1820	18930	1640	16830	1460	14720	1280	12620	1100	10520	920	8410	730	6310	550	4210	370	3150	280
50(10)	21550	1850	19390	1670	17240	1480	15080	1300	12930	1110	10770	930	8620	740	6460	560	4310	370	3230	280
52(11)	22060	1880	19860	1690	17650	1500	15450	1320	13240	1130	11030	940	8830	760	6620	570	4410	380	3310	290
54(12)	22580	1910	20320	1720	18060	1530	15810	1340	13550	1150	11290	960	9030	770	6770	580	4520	390	3390	290
55(13)	23100	1930	20790	1740	18480	1550	16170	1360	13860	1160	11550	970	9240	780	6930	580	4620	390	3460	300
57(14)	23610	1960	21250	1770	18890	1570	16530	1380	14170	1180	11810	980	9450	790	7080	590	4720	400	3540	300
59(15)	24130	1990	21720	1790	19300	1590	16890	1390	14480	1200	12060	1000	9650	800	7240	600	4830	400	3620	300

Indoor : RAV-SM242BTP-UL
Outdoor : RAV-SP242AT2P-UL

Operation range	Cooling		Heating		
	Q	P	Q	P	
MINIMUM	Btu/h	6500	350	5100	300
RATING	Btu/h	24000	1860	27000	2020
MAXIMUM	Btu/h	27300	2330	38500	3000

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	28620	1460	25760	1300	22900	1130	20030	970	17170	810	14310	650	11450	480	8590	320	7750	270	7750	270
70(21)	28310	1490	25480	1320	22650	1160	19820	990	16990	820	14160	660	11320	490	8490	330	7670	280	7670	280
72(22)	28000	1510	25200	1340	22400	1180	19600	1010	16800	840	14000	670	11200	500	8400	330	7580	280	7580	280
73(23)	27700	1540	24930	1370	22160	1200	19390	1030	16620	850	13850	680	11080	510	8310	340	7500	290	7500	290
75(24)	27390	1570	24650	1390	21910	1220	19170	1040	16430	870	13690	690	10960	520	8220	350	7420	290	7420	290
77(25)	27080	1590	24370	1420	21660	1240	18960	1060	16250	880	13540	710	10830	530	8120	350	7330	300	7330	300
79(26)	26770	1620	24090	1440	21420	1260	18740	1080	16060	900	13390	720	10710	540	8030	360	7250	300	7250	300
81(27)	26460	1650	23820	1460	21170	1280	18520	1100	15880	910	13230	730	10590	550	7940	360	7170	310	7170	310
82(28)	26160	1670	23540	1490	20920	1300	18310	1110	15690	930	13080	740	10460	560	7850	370	7080	310	7080	310
84(29)	25850	1700	23260	1510	20680	1320	18090	1130	15510	940	12920	750	10340	560	7750	380	7000	320	7000	320
86(30)	25540	1730	22990	1530	20430	1340	17880	1150	15320	960	12770	770	10220	570	7660	380	6920	320	6920	320
88(31)	25230	1750	22710	1560	20190	1360	17660	1170	15140	970	12620	780	10090	580	7570	390	6830	330	6830	330
90(32)	24920	1780	22430	1580	19940	1380	17450	1190	14950	990	12460	790	9970	590	7480	390	6750	330	6750	330
91(33)	24620	1810	22150	1610	19690	1400	17230	1200	14770	1000	12310	800	9850	600	7380	400	6670	340	6670	340
93(34)	24310	1830	21880	1630	19450	1430	17020	1220	14580	1020	12150	810	9720	610	7290	400	6580	340	6580	340
95(35)	24000	1860	21600	1650	19200	1450	16800	1240	14400	1030	12000	820	9600	620	7200	410	6500	350	6500	350
97(36)	23690	1890	21320	1680	18950	1470	16580	1260	14220	1050	11850	840	9480	630	7110	420	6420	360	6420	360
99(37)	23380	1910	21050	1700	18710	1490	16370	1270	14030	1060	11690	850	9350	640	7020	420	6330	360	6330	360
100(38)	23080	1940	20770	1720	18460	1510	16150	1290	13850	1080	11540	860	9230	640	6920	430	6250	370	6250	370
102(39)	22770	1970	20490	1750	18210	1530	15940	1310	13660	1090	11380	870	9110	650	6830	430	6170	370	6170	370
104(40)	22460	1990	20210	1770	17970	1550	15720	1330	13480	1110	11230	880	8980	660	6740	440	6080	380	6080	380
106(41)	22150	2020	19940	1800	17720	1570	15510	1350	13290	1120	11080	900	8860	670	6650	450	6000	380	6000	380
108(42)	21840	2050	19660	1820	17480	1590	15290	1360	13110	1140	10920	910	8740	680	6550	450	5920	390	5920	390
109(43)	21540	2070	19380	1840	17230	1610	15080	1380	12920	1150	10770	920	8610	690	6460	460	5830	390	5830	390
111(44)	21230	2100	19110	1870	16980	1630	14860	1400	12740	1160	10610	930	8490	700	6370	460	5750	400	5750	400
113(45)	20790	2100	18710	1870	16630	1630	14550	1400	12470	1170	10400	930	8320	700	6240	460	5630	400	5630	400
115(46)	20340	2100	18310	1870	16280	1630	14240	1400	12210	1170	10170	930	8140	700	6100	460	5510	400	5510	400

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	8250	840	7420	750	6600	660	5770	570	4950	480	4120	400	3300	310	2470	220	1650	130	1560	120
-11(-24)	8700	890	7830	790	6960	700	6090	610	5220	510	4350	420	3480	330	2610	240	1740	140	1640	130
-9(-23)	9160	940	8240	840	7320	740	6410	640	5490	540	4580	450	3660	350	2750	250	1830	150	1730	140
-8(-22)	9610	990	8650	890	7690	780	6730	680	5770	570	4800	470	3840	370	2880	260	1920	160	1820	150
-6(-21)	10060	1040	9060	930	8050	820	7040	710	6040	600	5030	490	4030	390	3020	280	2010	170	1900	150
-4(-20)	10520	1090	9460	980	8410	860	7360	750	6310	630	5260	520	4210	400	3150	290	2100	180	1990	160
-2(-19)	10860	1070	9770	960	8690	840	7600	730	6520	620	5430	510	4340	400	3260	280	2170	170	2050	160
0(-18)	11200	1040	10080	930	8960	820	7840	710	6720	610	5600	500	4480	390	3360	280	2240	170	2120	150
1(-17)	11540	1020	10390	910	9230	800	8080	700	6930	590	5770	480	4620	380	3460	270	2310	160	2180	150
3(-16)	11890	990	10700	890	9510	780	8320	680	7130	580	5940	470	4750	370	3570	260	2380	160	2250	150
5(-15)	12230	970	11010	870	9780	760	8560	660	7340	560	6110	460	4890	360	3670	260	2450	150	2310	140
7(-14)	12990	1010	11690	900	10390	800	9090	690	7800	590	6500	480	5200	370	3900	270	2600	160	2450	150
9(-13)	13760	1050	12380	940	11010	830	9630	720	8250	610	6880	500	5500	390	4130	280	2750	170	2600	160
10(-12)	14520	1090	13070	980	11620	860	10160	750	8710	630	7260	520	5810	400	4360	290	2900	170	2740	160
12(-11)	15290	1130	13760	1010	12230	900	10700	780	9170	660	7640	540	6110	420	4590	300	3060	180	2890	170
14(-10)	16050	1180	14440	1050	12840	930	11230	810	9630	680	8020	560	6420	440	4810	310	3210	190	3030	170
16(-9)	16810	1220	15130	1090	13450	960	11770	830	10090	710	8410	580	6730	450	5040	320	3360	190	3180	180
18(-8)	17580	1260	15820	1130	14060	990	12300	860	10550	730	8790	600	7030	470	5270	330	3520	200	3320	190
19(-7)	18340	1300	16510	1160	14670	1030	12840	890	11010	750	9170	620	7340	480	5500	340	3670	210	3460	190
21(-6)	18480	1350	16630	1210	14780	1070	12930	930	11090	790	9240	640	7390	500	5540	360	3700	220	3490	200
23(-5)	18610	1410	16750	1260	14890	1110	13030	960	11170	820	9310	670	7450	520	5580	370	3720	230	3520	210
25(-4)	18750	1460	16880	1310	15000	1160	13130	1000	11250	850	9380	690	7500	540	5630	390	3750	230	3540	220
27(-3)	18890	1520	17000	1360	15110	1200	13220	1040	11330	880	9440	720	7550	560	5670	400	3780	240	3570	230
28(-2)	19020	1570	17120	1410	15220	1240	13320	1080	11410	910	9510	750	7610	580	5710	420	3800	250	3590	230
30(-1)	19160	1630	17240	1450	15330	1280	13410	1110	11490	940	9580	770	7660	600	5750	430	3830	260	3620	240
32(0)	19290	1680	17360	1500	15430	1330	13510	1150	11580	970	9650	800	7720	620	5790	450	3860	270	3640	250
34(1)	19430	1730	17490	1550	15540	1370	13600	1190	11660	1010	9710	820	7770	640	5830	460	3890	280	3670	260
36(2)	19570	1790	17610	1600	15650	1410	13700	1220	11740	1040	9780	850	7830	660	5870	470	3910	290	3700	270
37(3)	19890	1810	17900	1620	15910	1430	13920	1240	11930	1050	9940	860	7950	670	5970	480	3980	290	3760	270
39(4)	20210	1840	18190	1640	16160	1450	14140	1260	12120	1060	10100	870	8080	680	6060	490	4040	290	3820	270
41(5)	20530	1860	18470	1660	16420	1470	14370	1270	12320	1080	10260	880	8210	690	6160	490	4110	300	3880	280
43(6)	26300	1990	23670	1780	21040	1570	18410	1360	15780	1150	13150	940	10520	740	7890	530	5260	320	4970	300
45(7)	27000	2020	24300	1810	21600	1600	18900	1380	16200	1170	13500	960	10800	750	8100	540	5400	320	5100	300
46(8)	27700	2050	24930	1840	22160	1620	19390	1410	16620	1190	13850	970	11080	760	8310	540	5540	330	5230	300
48(9)	28390	2080	25550	1860	22710	1650	19880	1430	17040	1210	14200	990	11360	770	8520	550	5680	330	5360	310
50(10)	29090	2110	26180	1890	23270	1670	20360	1450	17450	1230	14550	1000	11640	780	8730	560	5820	340	5490	310
52(11)	29790	2150	26810	1920	23830	1690	20850	1470	17870	1240	14890	1020	11910	790	8940	570	5960	340	5630	320
54(12)	30480	2180	27440	1950	24390	1720	21340	1490	18290	1260	15240	1030	12190	810	9150	580	6100	350	5760	320
55(13)	31180	2210	28060	1980	24940	1740	21830	1510	18710	1280	15590	1050	12470	820	9350	590	6240	350	5890	330
57(14)	31880	2240	28690	2000	25500	1770	22310	1530	19130	1300	15940	1060	12750	830	9560	590	6380	360	6020	330
59(15)	32570	2270	29320	2030	26060	1790	22800	1560	19540	1320	16290	1080	13030	840	9770	600	6510	360	6150	340

Indoor : RAV-SM302BTP-UL
Outdoor : RAV-SP302AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 8900	760	8100	560
RATING	Btu/h 30000	2340	34000	2410
MAXIMUM	Btu/h 38500	4130	40900	3530

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	35780	1840	32200	1660	28620	1480	25040	1310	21470	1130	17890	960	14310	780	10730	600	10610	600	10610	600
70(21)	35390	1870	31850	1690	28310	1510	24770	1330	21230	1150	17700	970	14160	790	10620	610	10500	610	10500	610
72(22)	35010	1900	31500	1720	28000	1540	24500	1360	21000	1170	17500	990	14000	810	10500	620	10380	620	10380	620
73(23)	34620	1940	31160	1750	27700	1570	24230	1380	20770	1190	17310	1010	13850	820	10390	640	10270	630	10270	630
75(24)	34240	1970	30810	1780	27390	1590	23960	1400	20540	1210	17120	1020	13690	840	10270	650	10160	640	10160	640
77(25)	33850	2000	30470	1810	27080	1620	23700	1430	20310	1230	16930	1040	13540	850	10160	660	10040	650	10040	650
79(26)	33470	2040	30120	1840	26770	1650	23430	1450	20080	1260	16730	1060	13390	860	10040	670	9930	660	9930	660
81(27)	33080	2070	29770	1870	26460	1670	23160	1480	19850	1280	16540	1080	13230	880	9920	680	9810	670	9810	670
82(28)	32700	2110	29430	1900	26160	1700	22890	1500	19620	1300	16350	1090	13080	890	9810	690	9700	680	9700	680
84(29)	32310	2140	29080	1930	25850	1730	22620	1520	19390	1320	16160	1110	12920	910	9690	700	9590	690	9590	690
86(30)	31930	2170	28730	1960	25540	1760	22350	1550	19160	1340	15960	1130	12770	920	9580	710	9470	710	9470	710
88(31)	31540	2210	28390	1990	25230	1780	22080	1570	18920	1360	15770	1150	12620	940	9460	720	9360	720	9360	720
90(32)	31160	2240	28040	2020	24920	1810	21810	1590	18690	1380	15580	1160	12460	950	9350	730	9240	730	9240	730
91(33)	30770	2270	27690	2050	24620	1840	21540	1620	18460	1400	15390	1180	12310	960	9230	750	9130	740	9130	740
93(34)	30390	2310	27350	2090	24310	1860	21270	1640	18230	1420	15190	1200	12150	980	9120	760	9010	750	9010	750
95(35)	30000	2340	27000	2120	24000	1890	21000	1670	18000	1440	15000	1220	12000	990	9000	770	8900	760	8900	760
97(36)	29620	2370	26650	2150	23690	1920	20730	1690	17770	1460	14810	1230	11850	1010	8880	780	8790	770	8790	770
99(37)	29230	2410	26310	2180	23380	1940	20460	1710	17540	1480	14620	1250	11690	1020	8770	790	8670	780	8670	780
100(38)	28850	2440	25960	2210	23080	1970	20190	1740	17310	1500	14420	1270	11540	1030	8650	800	8560	790	8560	790
102(39)	28460	2470	25610	2240	22770	2000	19920	1760	17080	1520	14230	1290	11380	1050	8540	810	8440	800	8440	800
104(40)	28080	2510	25270	2270	22460	2030	19650	1790	16850	1540	14040	1300	11230	1060	8420	820	8330	810	8330	810
106(41)	27690	2540	24920	2300	22150	2050	19380	1810	16610	1570	13850	1320	11080	1080	8310	830	8210	830	8210	830
108(42)	27310	2570	24570	2330	21840	2080	19110	1830	16380	1590	13650	1340	10920	1090	8190	840	8100	840	8100	840
109(43)	26920	2610	24230	2360	21540	2110	18840	1860	16150	1610	13460	1360	10770	1110	8080	860	7990	850	7990	850
111(44)	26540	2640	23880	2390	21230	2130	18570	1880	15920	1630	13270	1370	10610	1120	7960	870	7870	860	7870	860
113(45)	26150	2680	23540	2420	20920	2160	18310	1900	15690	1650	13080	1390	10460	1130	7850	880	7760	870	7760	870
115(46)	25770	2710	23190	2450	20610	2190	18040	1930	15460	1670	12880	1410	10310	1150	7730	890	7640	880	7640	880

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	10200	1030	9180	930	8160	820	7140	720	6120	610	5100	510	4080	410	3060	300	2430	240	2430	240
-11(-24)	10770	1090	9690	980	8620	870	7540	760	6460	650	5390	540	4310	430	3230	320	2570	250	2570	250
-9(-23)	11340	1150	10210	1030	9070	920	7940	800	6800	680	5670	570	4540	450	3400	340	2700	270	2700	270
-8(-22)	11910	1210	10720	1080	9530	960	8340	840	7140	720	5950	600	4760	480	3570	360	2840	280	2840	280
-6(-21)	12480	1260	11230	1140	9980	1010	8730	880	7490	750	6240	630	4990	500	3740	370	2970	290	2970	290
-4(-20)	13040	1320	11740	1190	10430	1060	9130	920	7830	790	6520	660	5220	520	3910	390	3110	310	3110	310
-2(-19)	13800	1340	12420	1210	11040	1070	9660	940	8280	800	6900	670	5520	530	4140	400	3290	310	3290	310
0(-18)	14550	1370	13100	1230	11640	1090	10190	950	8730	820	7280	680	5820	540	4370	400	3470	320	3470	320
1(-17)	15300	1390	13770	1250	12240	1110	10710	970	9180	830	7650	690	6120	550	4590	410	3650	320	3650	320
3(-16)	16060	1410	14450	1270	12850	1130	11240	980	9630	840	8030	700	6420	560	4820	420	3830	330	3830	330
5(-15)	16810	1430	15130	1290	13450	1140	11770	1000	10090	850	8410	710	6720	570	5040	420	4010	330	4010	330
7(-14)	17480	1410	15730	1270	13990	1120	12240	980	10490	840	8740	700	6990	560	5240	410	4160	330	4160	330
9(-13)	18150	1390	16340	1250	14520	1110	12710	970	10890	830	9080	690	7260	550	5450	410	4320	320	4320	320
10(-12)	18820	1360	16940	1230	15060	1090	13180	950	11290	810	9410	680	7530	540	5650	400	4480	320	4480	320
12(-11)	19490	1340	17540	1200	15590	1070	13640	930	11700	800	9750	660	7800	530	5850	390	4640	310	4640	310
14(-10)	20160	1320	18150	1180	16130	1050	14110	920	12100	790	10080	650	8070	520	6050	390	4800	310	4800	310
16(-9)	20830	1290	18750	1160	16670	1030	14580	900	12500	770	10420	640	8330	510	6250	380	4960	300	4960	300
18(-8)	21500	1270	19350	1140	17200	1010	15050	890	12900	760	10750	630	8600	500	6450	370	5120	300	5120	300
19(-7)	22170	1250	19960	1120	17740	1000	15520	870	13300	740	11090	620	8870	490	6650	370	5280	290	5280	290
21(-6)	22450	1350	20200	1210	17960	1070	15710	940	13470	800	11220	670	8980	530	6730	400	5350	310	5350	310
23(-5)	22720	1440	20450	1300	18180	1150	15900	1010	13630	860	11360	720	9090	570	6820	430	5410	340	5410	340
25(-4)	23000	1540	20700	1390	18400	1230	16100	1080	13800	920	11500	770	9200	610	6900	450	5480	360	5480	360
27(-3)	23270	1640	20940	1480	18620	1310	16290	1140	13960	980	11630	810	9310	650	6980	480	5540	380	5540	380
28(-2)	23540	1740	21190	1560	18830	1390	16480	1210	14130	1040	11770	860	9420	690	7060	510	5610	400	5610	400
30(-1)	23820	1840	21430	1650	19050	1470	16670	1280	14290	1100	11910	910	9530	730	7140	540	5670	430	5670	430
32(0)	24090	1940	21680	1740	19270	1550	16860	1350	14450	1160	12050	960	9640	770	7230	570	5740	450	5740	450
34(1)	24360	2030	21930	1830	19490	1620	17050	1420	14620	1210	12180	1010	9750	800	7310	600	5800	470	5800	470
36(2)	24640	2130	22170	1920	19710	1700	17250	1490	14780	1270	12320	1060	9860	840	7390	630	5870	500	5870	500
37(3)	25040	2160	22540	1940	20030	1730	17530	1510	15020	1290	12520	1070	10020	850	7510	640	5970	500	5970	500
39(4)	25440	2190	22900	1970	20360	1750	17810	1530	15270	1310	12720	1090	10180	870	7630	650	6060	510	6060	510
41(5)	25850	2220	23260	2000	20680	1770	18090	1550	15510	1320	12920	1100	10340	880	7750	650	6160	520	6160	520
43(6)	33120	2370	29810	2130	26500	1890	23190	1660	19870	1420	16560	1180	13250	940	9940	700	7890	550	7890	550
45(7)	34000	2410	30600	2170	27200	1920	23800	1680	20400	1440	17000	1200	13600	950	10200	710	8100	560	8100	560
46(8)	34880	2450	31390	2200	27900	1950	24410	1710	20930	1460	17440	1210	13950	970	10460	720	8310	570	8310	570
48(9)	35750	2480	32180	2230	28600	1980	25030	1730	21450	1480	17880	1230	14300	980	10730	730	8520	580	8520	580
50(10)	36630	2520	32970	2270	29310	2010	25640	1760	21980	1510	18320	1250	14650	1000	10990	740	8730	590	8730	590
52(11)	37510	2560	33760	2300	30010	2040	26260	1790	22510	1530	18750	1270	15000	1010	11250	750	8940	590	8940	590
54(12)	38390	2600	34550	2330	30710	2070	26870	1810	23030	1550	19190	1290	15350	1030	11520	760	9150	600	9150	600
55(13)	39260	2630	35340	2370	31410	2100	27490	1840	23560	1570	19630	1310	15710	1040	11780	780	9350	610	9350	610
57(14)	40140	2670	36130	2400	32110	2130	28100	1860	24090	1590	20070	1330	16060	1060	12040	790	9560	620	9560	620
59(15)	41020	2710	36920	2440	32820	2160	28710	1890	24610	1620	20510	1340	16410	1070	12310	800	9770	630	9770	630

Indoor : RAV-SM362BTP-UL
Outdoor : RAV-SP362AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	760	8100	560
RATING	Btu/h	36000	3140	40000	3060
MAXIMUM	Btu/h	41000	4130	44300	3530

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	42930	2460	38640	2220	34340	1970	30050	1720	25760	1470	21470	1220	17170	980	12880	730	10610	600	10610	600
70(21)	42470	2510	38220	2260	33970	2000	29730	1750	25480	1500	21230	1250	16990	990	12740	740	10500	610	10500	610
72(22)	42010	2550	37810	2300	33600	2040	29400	1780	25200	1530	21000	1270	16800	1010	12600	750	10380	620	10380	620
73(23)	41540	2600	37390	2340	33240	2080	29080	1810	24930	1550	20770	1290	16620	1030	12460	770	10270	630	10270	630
75(24)	41080	2640	36970	2380	32870	2110	28760	1850	24650	1580	20540	1310	16430	1050	12320	780	10160	640	10160	640
77(25)	40620	2690	36560	2420	32500	2150	28430	1880	24370	1610	20310	1340	16250	1060	12190	790	10040	650	10040	650
79(26)	40160	2730	36140	2460	32130	2180	28110	1910	24090	1630	20080	1360	16060	1080	12050	810	9930	660	9930	660
81(27)	39700	2780	35730	2500	31760	2220	27790	1940	23820	1660	19850	1380	15880	1100	11910	820	9810	670	9810	670
82(28)	39230	2820	35310	2540	31390	2260	27460	1970	23540	1690	19620	1400	15690	1120	11770	830	9700	680	9700	680
84(29)	38770	2870	34890	2580	31020	2290	27140	2000	23260	1710	19390	1430	15510	1140	11630	850	9590	690	9590	690
86(30)	38310	2910	34480	2620	30650	2330	26820	2030	22990	1740	19160	1450	15320	1150	11490	860	9470	710	9470	710
88(31)	37850	2960	34060	2660	30280	2360	26490	2070	22710	1770	18920	1470	15140	1170	11350	870	9360	720	9360	720
90(32)	37390	3000	33650	2700	29910	2400	26170	2100	22430	1790	18690	1490	14950	1190	11220	890	9240	730	9240	730
91(33)	36920	3050	33230	2740	29540	2440	25850	2130	22150	1820	18460	1510	14770	1210	11080	900	9130	740	9130	740
93(34)	36460	3090	32820	2780	29170	2470	25520	2160	21880	1850	18230	1540	14580	1230	10940	910	9010	750	9010	750
95(35)	36000	3140	32400	2820	28800	2510	25200	2190	21600	1880	18000	1560	14400	1240	10800	930	8900	760	8900	760
97(36)	35540	3190	31980	2860	28430	2540	24880	2220	21320	1900	17770	1580	14220	1260	10660	940	8790	770	8790	770
99(37)	35080	3230	31570	2900	28060	2580	24550	2250	21050	1930	17540	1600	14030	1280	10520	950	8670	780	8670	780
100(38)	34610	3280	31150	2950	27690	2620	24230	2290	20770	1960	17310	1630	13850	1300	10380	970	8560	790	8560	790
102(39)	34150	3320	30740	2990	27320	2650	23910	2320	20490	1980	17080	1650	13660	1310	10250	980	8440	800	8440	800
104(40)	33690	3370	30320	3030	26950	2690	23580	2350	20210	2010	16850	1670	13480	1330	10110	990	8330	810	8330	810
106(41)	33230	3410	29910	3070	26580	2720	23260	2380	19940	2040	16610	1690	13290	1350	9970	1010	8210	830	8210	830
108(42)	32770	3460	29490	3110	26210	2760	22940	2410	19660	2060	16380	1720	13110	1370	9830	1020	8100	840	8100	840
109(43)	32300	3500	29070	3150	25840	2800	22610	2440	19380	2090	16150	1740	12920	1390	9690	1030	7990	850	7990	850
111(44)	31840	3550	28660	3190	25470	2830	22290	2470	19110	2120	15920	1760	12740	1400	9550	1050	7870	860	7870	860
113(45)	31380	3590	28240	3230	25100	2870	21970	2510	18830	2140	15690	1780	12550	1420	9410	1060	7760	870	7760	870
115(46)	30920	3640	27830	3270	24730	2900	21640	2540	18550	2170	15460	1810	12370	1440	9280	1070	7640	880	7640	880

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	11490	1720	10340	1550	9190	1370	8040	1190	6890	1020	5740	840	4600	660	3450	490	2330	320	2330	320
-11(-24)	12090	1740	10880	1560	9670	1380	8460	1210	7250	1030	6040	850	4840	670	3630	490	2450	320	2450	320
-9(-23)	12690	1760	11420	1580	10150	1400	8880	1220	7610	1040	6350	860	5080	680	3810	500	2570	320	2570	320
-8(-22)	13290	1780	11960	1600	10630	1410	9300	1230	7970	1050	6650	870	5320	690	3990	500	2690	330	2690	330
-6(-21)	13890	1800	12500	1610	11110	1430	9720	1250	8340	1060	6950	880	5560	690	4170	510	2810	330	2810	330
-4(-20)	14490	1820	13040	1630	11590	1440	10140	1260	8700	1070	7250	890	5800	700	4350	510	2930	330	2930	330
-2(-19)	15370	1830	13840	1640	12300	1450	10760	1270	9220	1080	7690	890	6150	710	4610	520	3110	330	3110	330
0(-18)	16250	1840	14630	1650	13000	1460	11380	1280	9750	1090	8130	900	6500	710	4880	520	3290	340	3290	340
1(-17)	17130	1850	15420	1660	13700	1470	11990	1280	10280	1090	8570	900	6850	710	5140	520	3470	340	3470	340
3(-16)	18010	1870	16210	1680	14410	1480	12610	1290	10810	1100	9010	910	7200	720	5400	530	3650	340	3650	340
5(-15)	18890	1880	17000	1690	15110	1490	13220	1300	11330	1110	9450	920	7560	720	5670	530	3830	340	3830	340
7(-14)	19570	1880	17610	1690	15650	1500	13700	1300	11740	1110	9780	920	7830	730	5870	530	3960	340	3960	340
9(-13)	20240	1890	18220	1690	16200	1500	14170	1310	12150	1110	10120	920	8100	730	6070	530	4100	350	4100	350
10(-12)	20920	1890	18830	1700	16740	1500	14650	1310	12550	1120	10460	920	8370	730	6280	530	4240	350	4240	350
12(-11)	21600	1890	19440	1700	17280	1510	15120	1310	12960	1120	10800	920	8640	730	6480	540	4370	350	4370	350
14(-10)	22280	1900	20050	1700	17820	1510	15590	1310	13370	1120	11140	930	8910	730	6680	540	4510	350	4510	350
16(-9)	22950	1900	20660	1710	18360	1510	16070	1320	13770	1120	11480	930	9180	730	6890	540	4650	350	4650	350
18(-8)	23630	1910	21270	1710	18910	1510	16540	1320	14180	1120	11820	930	9450	730	7090	540	4790	350	4790	350
19(-7)	24310	1910	21880	1710	19450	1520	17020	1320	14590	1130	12150	930	9720	740	7290	540	4920	350	4920	350
21(-6)	24830	2000	22350	1790	19860	1590	17380	1380	14900	1180	12410	970	9930	770	7450	570	5030	370	5030	370
23(-5)	25350	2090	22810	1870	20280	1660	17740	1450	15210	1230	12670	1020	10140	800	7600	590	5130	380	5130	380
25(-4)	25870	2180	23280	1950	20690	1730	18110	1510	15520	1280	12930	1060	10350	840	7760	620	5240	400	5240	400
27(-3)	26390	2260	23750	2030	21110	1800	18470	1570	15830	1340	13190	1100	10560	870	7920	640	5340	410	5340	410
28(-2)	26910	2350	24220	2110	21530	1870	18840	1630	16140	1390	13450	1150	10760	910	8070	670	5450	430	5450	430
30(-1)	27430	2440	24680	2190	21940	1940	19200	1690	16460	1440	13710	1190	10970	940	8230	690	5550	450	5550	450
32(0)	27950	2530	25150	2270	22360	2010	19560	1750	16770	1490	13970	1230	11180	980	8380	720	5660	460	5660	460
34(1)	28470	2620	25620	2350	22770	2080	19930	1810	17080	1550	14230	1280	11390	1010	8540	740	5760	480	5760	480
36(2)	28990	2710	26090	2430	23190	2150	20290	1880	17390	1600	14490	1320	11590	1040	8700	770	5870	500	5870	500
37(3)	29460	2740	26510	2460	23570	2180	20620	1900	17680	1620	14730	1340	11780	1060	8840	780	5970	500	5970	500
39(4)	29940	2780	26940	2500	23950	2210	20950	1930	17960	1640	14970	1360	11970	1070	8980	790	6060	510	6060	510
41(5)	30410	2820	27370	2530	24330	2240	21290	1950	18250	1660	15200	1370	12160	1090	9120	800	6160	520	6160	520
43(6)	38970	3010	35070	2700	31170	2400	27280	2090	23380	1780	19480	1470	15590	1160	11690	850	7890	550	7890	550
45(7)	40000	3060	36000	2750	32000	2430	28000	2120	24000	1810	20000	1490	16000	1180	12000	870	8100	560	8100	560
46(8)	41030	3110	36930	2790	32830	2470	28720	2150	24620	1830	20520	1520	16410	1200	12310	880	8310	570	8310	570
48(9)	42060	3150	37860	2830	33650	2510	29450	2190	25240	1860	21030	1540	16830	1220	12620	890	8520	580	8520	580
50(10)	43100	3200	38790	2870	34480	2550	30170	2220	25860	1890	21550	1560	17240	1230	12930	910	8730	590	8730	590
52(11)	44130	3250	39720	2920	35300	2580	30890	2250	26480	1920	22060	1590	17650	1250	13240	920	8940	590	8940	590
54(12)	45160	3300	40650	2960	36130	2620	31610	2280	27100	1950	22580	1610	18060	1270	13550	930	9150	600	9150	600
55(13)	46190	3340	41570	3000	36950	2660	32340	2320	27720	1970	23100	1630	18480	1290	13860	950	9350	610	9350	610
57(14)	47230	3390	42500	3040	37780	2700	33060	2350	28340	2000	23610	1650	18890	1310	14170	960	9560	620	9560	620
59(15)	48260	3440	43430	3090	38610	2730	33780	2380	28950	2030	24130	1680	19300	1330	14480	970	9770	630	9770	630

Indoor : RAV-SM422BTP-UL
Outdoor : RAV-SP422AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 8900	800	8100	590
RATING	Btu/h 42000	4170	47000	3860
MAXIMUM	Btu/h 47800	5390	61400	5700

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	50090	3270	45080	2940	40070	2600	35060	2270	30050	1930	25040	1600	20030	1260	15030	920	10610	630	10610	630
70(21)	49550	3330	44590	2990	39640	2650	34680	2310	29730	1970	24770	1620	19820	1280	14860	940	10500	640	10500	640
72(22)	49010	3390	44110	3050	39210	2700	34300	2350	29400	2000	24500	1650	19600	1310	14700	960	10380	650	10380	650
73(23)	48470	3450	43620	3100	38770	2740	33930	2390	29080	2040	24230	1680	19390	1330	14540	970	10270	660	10270	660
75(24)	47930	3510	43140	3150	38340	2790	33550	2430	28760	2070	23960	1710	19170	1350	14380	990	10160	670	10160	670
77(25)	47390	3570	42650	3210	37910	2840	33170	2470	28430	2110	23700	1740	18960	1370	14220	1010	10040	690	10040	690
79(26)	46850	3630	42170	3260	37480	2890	32800	2510	28110	2140	23430	1770	18740	1400	14060	1020	9930	700	9930	700
81(27)	46310	3690	41680	3310	37050	2930	32420	2560	27790	2180	23160	1800	18520	1420	13890	1040	9810	710	9810	710
82(28)	45770	3750	41200	3370	36620	2980	32040	2600	27460	2210	22890	1830	18310	1440	13730	1060	9700	720	9700	720
84(29)	45230	3810	40710	3420	36190	3030	31660	2640	27140	2250	22620	1860	18090	1470	13570	1080	9590	730	9590	730
86(30)	44700	3870	40230	3470	35760	3080	31290	2680	26820	2280	22350	1890	17880	1490	13410	1090	9470	740	9470	740
88(31)	44160	3930	39740	3530	35320	3120	30910	2720	26490	2320	22080	1920	17660	1510	13250	1110	9360	750	9360	750
90(32)	43620	3990	39260	3580	34890	3170	30530	2760	26170	2350	21810	1940	17450	1540	13090	1130	9240	770	9240	770
91(33)	43080	4050	38770	3640	34460	3220	30150	2800	25850	2390	21540	1970	17230	1560	12920	1140	9130	780	9130	780
93(34)	42540	4110	38290	3690	34030	3270	29780	2850	25520	2420	21270	2000	17020	1580	12760	1160	9010	790	9010	790
95(35)	42000	4170	37800	3740	33600	3310	29400	2890	25200	2460	21000	2030	16800	1600	12600	1180	8900	800	8900	800
97(36)	41460	4230	37310	3800	33170	3360	29020	2930	24880	2490	20730	2060	16580	1630	12440	1190	8790	810	8790	810
99(37)	40920	4290	36830	3850	32740	3410	28650	2970	24550	2530	20460	2090	16370	1650	12280	1210	8670	820	8670	820
100(38)	40380	4350	36340	3900	32310	3460	28270	3010	24230	2570	20190	2120	16150	1670	12110	1230	8560	830	8560	830
102(39)	39840	4410	35860	3960	31880	3500	27890	3050	23910	2600	19920	2150	15940	1700	11950	1240	8440	850	8440	850
104(40)	39310	4470	35370	4010	31440	3550	27510	3090	23580	2640	19650	2180	15720	1720	11790	1260	8330	860	8330	860
106(41)	38770	4530	34890	4060	31010	3600	27140	3140	23260	2670	19380	2210	15510	1740	11630	1280	8210	870	8210	870
108(42)	38230	4590	34400	4120	30580	3650	26760	3180	22940	2710	19110	2240	15290	1770	11470	1290	8100	880	8100	880
109(43)	37690	4650	33920	4170	30150	3690	26380	3220	22610	2740	18840	2260	15080	1790	11310	1310	7990	890	7990	890
111(44)	37150	4710	33430	4230	29720	3740	26000	3260	22290	2780	18570	2290	14860	1810	11140	1330	7870	900	7870	900
113(45)	36610	4770	32950	4280	29290	3790	25630	3300	21970	2810	18310	2320	14640	1830	10980	1350	7760	910	7760	910
115(46)	36070	4830	32460	4330	28860	3840	25250	3340	21640	2850	18040	2350	14430	1860	10820	1360	7640	930	7640	930

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	15070	1640	13560	1470	12060	1300	10550	1130	9040	970	7530	800	6030	630	4520	460	3010	300	2600	250
-11(-24)	15890	1670	14300	1500	12710	1330	11120	1160	9530	990	7940	820	6350	640	4770	470	3180	300	2740	260
-9(-23)	16700	1700	15030	1530	13360	1360	11690	1180	10020	1010	8350	830	6680	660	5010	480	3340	310	2880	260
-8(-22)	17520	1740	15770	1560	14020	1380	12270	1200	10510	1030	8760	850	7010	670	5260	490	3500	320	3020	270
-6(-21)	18340	1770	16510	1590	14670	1410	12840	1230	11000	1050	9170	870	7340	680	5500	500	3670	320	3160	270
-4(-20)	19160	1810	17240	1620	15330	1440	13410	1250	11490	1070	9580	880	7660	700	5750	510	3830	330	3300	280
-2(-19)	19580	1830	17630	1640	15670	1460	13710	1270	11750	1080	9790	890	7830	710	5880	520	3920	330	3380	280
0(-18)	20010	1850	18010	1660	16010	1470	14010	1280	12010	1090	10000	900	8000	720	6000	530	4000	340	3450	280
1(-17)	20430	1880	18390	1680	16350	1490	14300	1300	12260	1110	10220	920	8170	720	6130	530	4090	340	3520	290
3(-16)	20860	1900	18770	1710	16690	1510	14600	1320	12520	1120	10430	930	8340	730	6260	540	4170	340	3600	290
5(-15)	21290	1920	19160	1730	17030	1530	14900	1330	12770	1140	10640	940	8510	740	6390	550	4260	350	3670	290
7(-14)	22360	1960	20120	1760	17890	1560	15650	1360	13410	1160	11180	960	8940	760	6710	550	4470	350	3850	300
9(-13)	23430	1990	21090	1790	18740	1580	16400	1380	14060	1180	11720	970	9370	770	7030	560	4690	360	4040	300
10(-12)	24500	2030	22050	1820	19600	1610	17150	1400	14700	1200	12250	990	9800	780	7350	570	4900	370	4220	310
12(-11)	25570	2060	23020	1850	20460	1640	17900	1430	15340	1220	12790	1010	10230	790	7670	580	5110	370	4410	310
14(-10)	26650	2090	23980	1880	21320	1660	18650	1450	15990	1240	13320	1020	10660	810	7990	590	5330	380	4590	320
16(-9)	27720	2130	24950	1910	22170	1690	19400	1470	16630	1260	13860	1040	11090	820	8320	600	5540	390	4780	330
18(-8)	28790	2160	25910	1940	23030	1720	20150	1500	17270	1280	14400	1060	11520	830	8640	610	5760	390	4960	330
19(-7)	29860	2200	26880	1970	23890	1750	20900	1520	17920	1300	14930	1070	11940	850	8960	620	5970	400	5150	340
21(-6)	30330	2230	27300	2090	24260	1850	21230	1620	18200	1380	15160	1140	12130	900	9100	660	6070	420	5230	360
23(-5)	30790	2470	27710	2210	24640	1960	21560	1710	18480	1460	15400	1200	12320	950	9240	700	6160	450	5310	380
25(-4)	31260	2600	28130	2340	25010	2070	21880	1800	18760	1540	15630	1270	12500	1000	9380	740	6250	470	5390	400
27(-3)	31730	2740	28550	2460	25380	2180	22210	1900	19040	1620	15860	1340	12690	1060	9520	780	6350	500	5470	420
28(-2)	32190	2870	28970	2580	25750	2290	22540	1990	19320	1700	16100	1400	12880	1110	9660	810	6440	520	5550	440
30(-1)	32660	3010	29390	2700	26130	2390	22860	2090	19600	1780	16330	1470	13060	1160	9800	850	6530	550	5630	460
32(0)	33130	3140	29810	2820	26500	2500	23190	2180	19880	1860	16560	1540	13250	1210	9940	890	6630	570	5710	480
34(1)	33590	3280	30230	2940	26870	2610	23510	2270	20160	1940	16800	1600	13440	1270	10080	930	6720	590	5790	500
36(2)	34060	3420	30650	3070	27250	2720	23840	2370	20430	2020	17030	1670	13620	1320	10220	970	6810	620	5870	520
37(3)	34620	3460	31150	3110	27690	2750	24230	2400	20770	2040	17310	1690	13850	1340	10380	980	6920	630	5970	530
39(4)	35170	3510	31660	3150	28140	2790	24620	2430	21100	2070	17590	1710	14070	1350	10550	990	7030	640	6060	540
41(5)	35730	3550	32160	3190	28590	2830	25010	2460	21440	2100	17870	1740	14290	1370	10720	1010	7150	640	6160	540
43(6)	45790	3800	41210	3410	36630	3020	32050	2630	27470	2240	22890	1860	18310	1470	13740	1080	9160	690	7890	580
45(7)	47000	3860	42300	3460	37600	3070	32900	2670	28200	2280	23500	1880	18800	1490	14100	1090	9400	700	8100	590
46(8)	48210	3920	43390	3520	38570	3120	33750	2720	28930	2310	24110	1910	19290	1510	14460	1110	9640	710	8310	600
48(9)	49430	3980	44480	3570	39540	3160	34600	2760	29660	2350	24710	1940	19770	1540	14830	1130	9890	720	8520	610
50(10)	50640	4040	45570	3630	40510	3210	35450	2800	30380	2390	25320	1970	20260	1560	15190	1150	10130	730	8730	620
52(11)	51850	4100	46670	3680	41480	3260	36300	2840	31110	2420	25930	2000	20740	1580	15560	1160	10370	740	8940	630
54(12)	53060	4160	47760	3730	42450	3310	37150	2880	31840	2460	26530	2030	21230	1600	15920	1180	10610	750	9150	640
55(13)	54280	4220	48850	3790	43420	3360	37990	2920	32570	2490	27140	2060	21710	1630	16280	1200	10860	760	9350	640
57(14)	55490	4280	49940	3840	44390	3400	38840	2960	33290	2530	27750	2090	22200	1650	16650	1210	11100	780	9560	650
59(15)	56700	4340	51030	3890	45360	3450	39690	3010	34020	2560	28350	2120	22680	1670	17010	1230	11340	790	9770	660

Indoor : RAV-SM482BTP-UL
Outdoor : RAV-SP482AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	820	8100	650
RATING	Btu/h	48000	5130	54000	4800
MAXIMUM	Btu/h	54600	5500	64800	5400

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

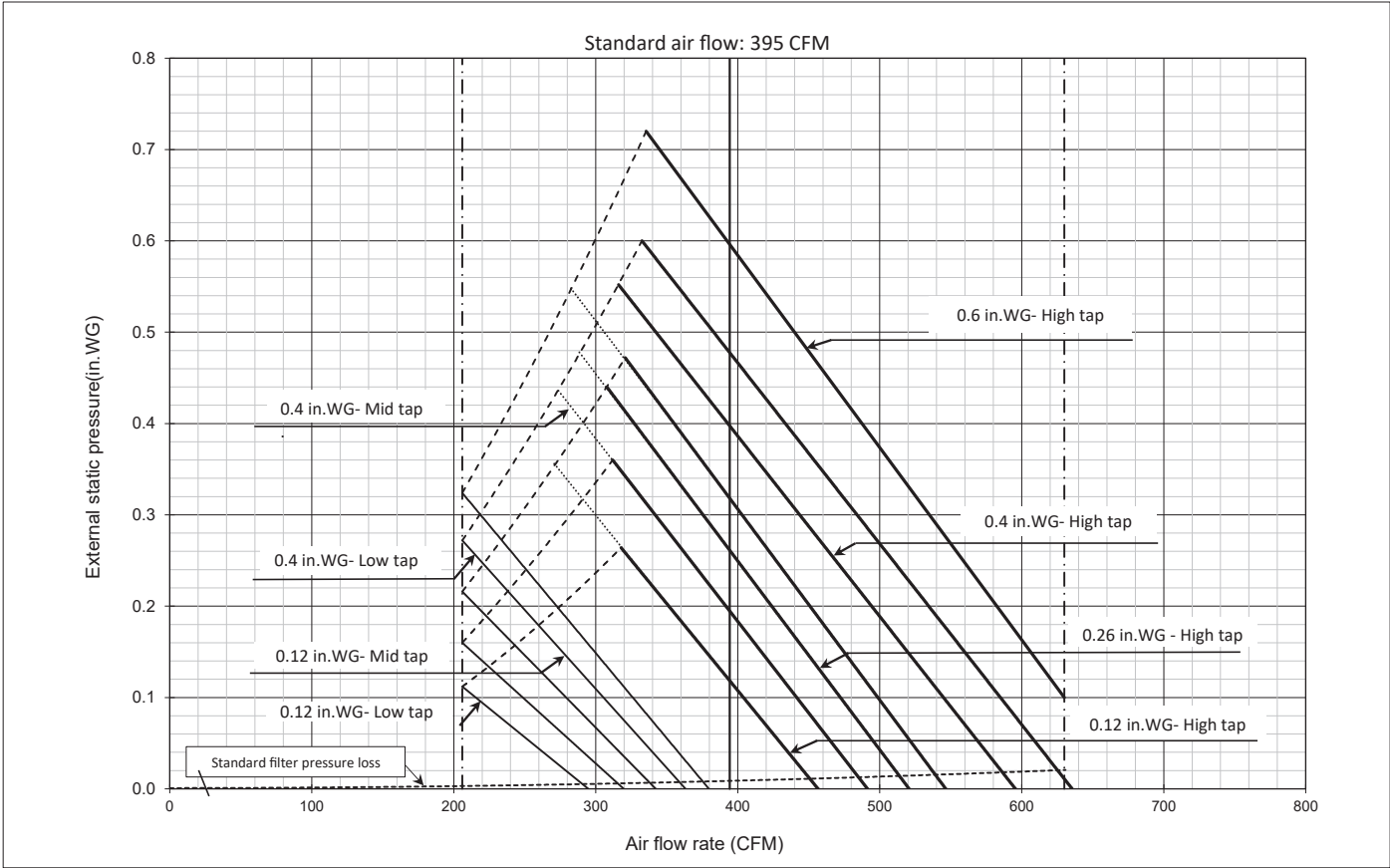
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	57240	4030	51520	3610	45790	3200	40070	2780	34340	2370	28620	1950	22900	1530	17170	1120	11450	700	10610	640
70(21)	56620	4100	50960	3680	45300	3250	39640	2830	33970	2410	28310	1990	22650	1560	16990	1140	11320	720	10500	660
72(22)	56010	4170	50410	3740	44810	3310	39210	2880	33600	2450	28000	2020	22400	1590	16800	1160	11200	730	10380	670
73(23)	55390	4250	49850	3810	44310	3370	38770	2930	33240	2500	27700	2060	22160	1620	16620	1180	11080	740	10270	680
75(24)	54780	4320	49300	3880	43820	3430	38340	2980	32870	2540	27390	2090	21910	1650	16430	1200	10960	760	10160	690
77(25)	54160	4390	48740	3940	43330	3490	37910	3030	32500	2580	27080	2130	21660	1680	16250	1220	10830	770	10040	700
79(26)	53540	4470	48190	4010	42840	3550	37480	3090	32130	2620	26770	2160	21420	1700	16060	1240	10710	780	9930	710
81(27)	52930	4540	47640	4070	42340	3600	37050	3140	31760	2670	26460	2200	21170	1730	15880	1260	10590	790	9810	730
82(28)	52310	4620	47080	4140	41850	3660	36620	3190	31390	2710	26160	2240	20920	1760	15690	1280	10460	810	9700	740
84(29)	51700	4690	46530	4210	41360	3720	36190	3240	31020	2750	25850	2270	20680	1790	15510	1300	10340	820	9590	750
86(30)	51080	4760	45970	4270	40860	3780	35760	3290	30650	2800	25540	2310	20430	1820	15320	1320	10220	830	9470	760
88(31)	50460	4840	45420	4340	40370	3840	35320	3340	30280	2840	25230	2340	20190	1840	15140	1340	10090	850	9360	770
90(32)	49850	4910	44860	4400	39880	3900	34890	3390	29910	2880	24920	2380	19940	1870	14950	1360	9970	860	9240	780
91(33)	49230	4980	44310	4470	39390	3960	34460	3440	29540	2930	24620	2410	19690	1900	14770	1390	9850	870	9130	800
93(34)	48620	5060	43750	4530	38890	4010	34030	3490	29170	2970	24310	2450	19450	1930	14580	1410	9720	880	9010	810
95(35)	48000	5130	43200	4600	38400	4070	33600	3540	28800	3010	24000	2480	19200	1960	14400	1430	9600	900	8900	820
97(36)	47380	5200	42650	4670	37910	4130	33170	3590	28430	3060	23690	2520	18950	1980	14220	1450	9480	910	8790	830
99(37)	46770	5280	42090	4730	37410	4190	32740	3640	28060	3100	23380	2560	18710	2010	14030	1470	9350	920	8670	840
100(38)	46150	5350	41540	4800	36920	4250	32310	3700	27690	3140	23080	2590	18460	2040	13850	1490	9230	940	8560	860
102(39)	45540	5420	40980	4860	36430	4310	31880	3750	27320	3190	22770	2630	18210	2070	13660	1510	9110	950	8440	870
104(40)	44920	5500	40430	4930	35940	4360	31440	3800	26950	3230	22460	2660	17970	2100	13480	1530	8980	960	8330	880
106(41)	44300	5570	39870	5000	35440	4420	31010	3850	26580	3270	22150	2700	17720	2120	13290	1550	8860	970	8210	890
108(42)	43690	5640	39320	5060	34950	4480	30580	3900	26210	3320	21840	2730	17480	2150	13110	1570	8740	990	8100	900
109(43)	43070	5720	38760	5130	34460	4540	30150	3950	25840	3360	21540	2770	17230	2180	12920	1590	8610	1000	7990	910
111(44)	35640	5320	32080	4770	28510	4220	24950	3670	21380	3120	17820	2570	14260	2030	10690	1480	7130	930	6610	850
113(45)	33970	5320	30580	4770	27180	4220	23780	3670	20380	3120	16990	2570	13590	2030	10190	1480	6790	930	6300	850
115(46)	32310	5320	29070	4770	25840	4220	22610	3670	19380	3120	16150	2570	12920	2030	9690	1480	6460	930	5990	850

Heating

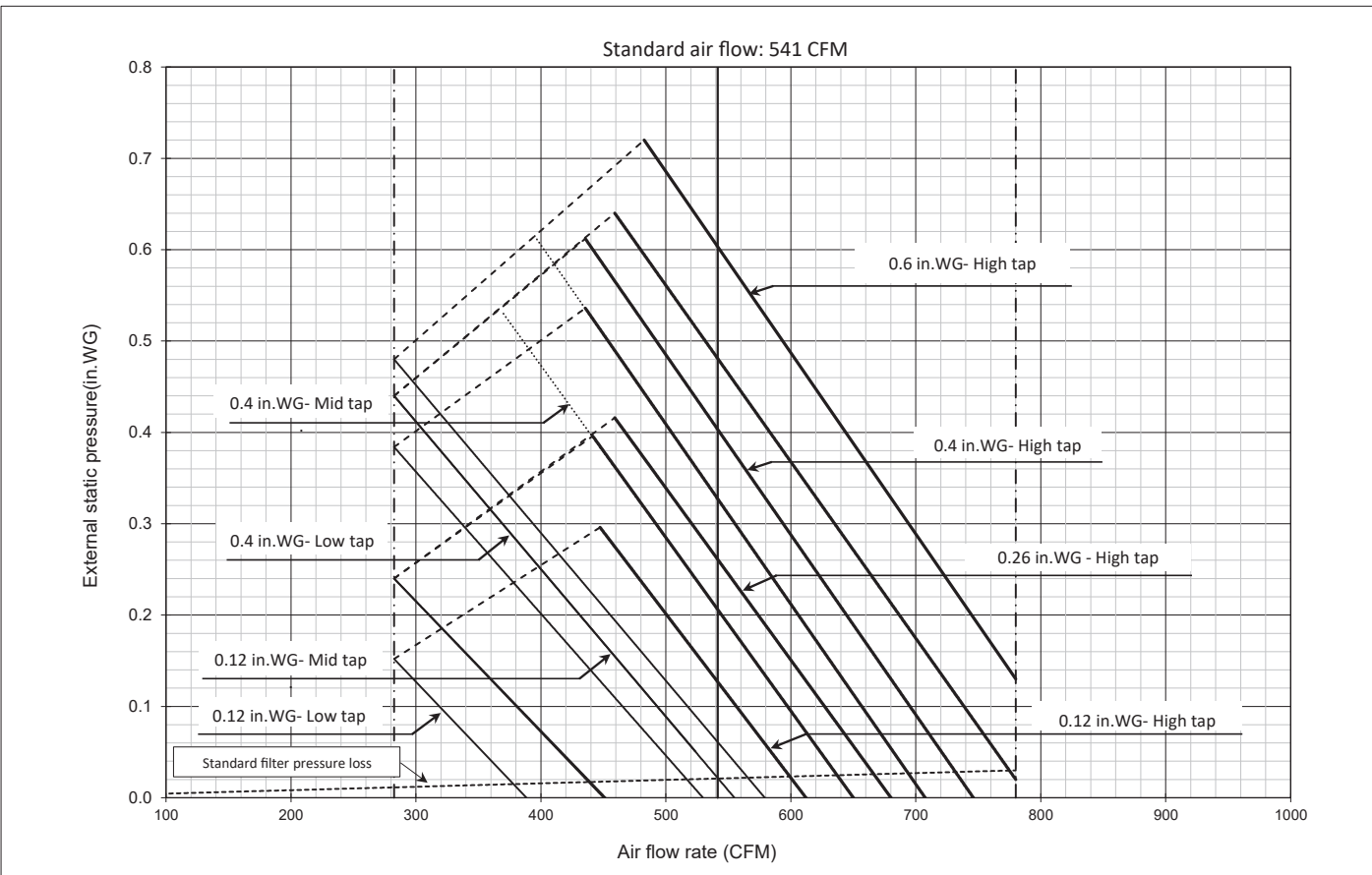
Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	19570	4560	17610	4100	15650	3640	13700	3170	11740	2710	9780	2240	7830	1780	5870	1310	3910	850	2930	620
-11(-24)	20050	4530	18050	4070	16040	3610	14040	3150	12030	2690	10030	2230	8020	1760	6020	1300	4010	840	3010	610
-9(-23)	20540	4490	18490	4040	16430	3580	14380	3120	12330	2670	10270	2210	8220	1750	6160	1290	4110	840	3080	610
-8(-22)	21030	4460	18930	4000	16830	3550	14720	3100	12620	2640	10520	2190	8410	1740	6310	1280	4210	830	3150	600
-6(-21)	21520	4420	19370	3970	17220	3520	15070	3070	12910	2620	10760	2170	8610	1720	6460	1270	4300	820	3230	600
-4(-20)	22010	4390	19810	3940	17610	3500	15410	3050	13210	2600	11010	2160	8800	1710	6600	1260	4400	820	3300	590
-2(-19)	22500	3950	20250	3550	18000	3150	15750	2750	13500	2340	11250	1940	9000	1540	6750	1140	4500	740	3380	540
0(-18)	22990	3520	20690	3160	18390	2800	16090	2440	13790	2090	11490	1730	9200	1370	6900	1010	4600	660	3450	480
1(-17)	23480	3080	21130	2770	18780	2460	16430	2140	14090	1830	11740	1520	9390	1200	7040	890	4700	570	3520	420
3(-16)	23970	2650	21570	2380	19170	2110	16780	1840	14380	1570	11980	1300	9590	1030	7190	760	4790	490	3600	360
5(-15)	24460	2210	22010	1990	19570	1760	17120	1540	14670	1310	12230	1090	9780	860	7340	640	4890	410	3670	300
7(-14)	25310	2290	22780	2060	20250	1820	17720	1590	15190	1360	12660	1130	10130	890	7590	660	5060	430	3800	310
9(-13)	26170	2370	23550	2130	20940	1880	18320	1640	15700	1400	13090	1160	10470	920	7850	680	5230	440	3930	320
10(-12)	27030	2440	24330	2190	21620	1950	18920	1700	16220	1450	13510	1200	10810	950	8110	700	5410	460	4050	330
12(-11)	27890	2520	25100	2260	22310	2010	19520	1750	16730	1490	13940	1240	11150	980	8370	730	5580	470	4180	340
14(-10)	28740	2600	25870	2330	23000	2070	20120	1800	17250	1540	14370	1280	11500	1010	8620	750	5750	480	4310	350
16(-9)	29600	2670	26640	2400	23680	2130	20720	1860	17760	1590	14800	1310	11840	1040	8880	770	5920	500	4440	360
18(-8)	30190	2750	27170	2470	24150	2190	21130	1910	18110	1630	15090	1350	12070	1070	9060	790	6040	510	4530	370
19(-7)	31320	2830	28180	2540	25050	2250	21920	1960	18790	1680	15660	1390	12530	1100	9390	810	6260	530	4700	380
21(-6)	32180	2980	28970	2680	25750	2380	22530	2070	19310	1770	16090	1470	12870	1160	9660	860	6440	560	4830	400
23(-5)	33050	3140	29750	2820	26440	2500	23140	2180	19830	1860	16530	1540	13220	1220	9920	900	6610	590	4960	430
25(-4)	33920	3300	30530	2960	27140	2630	23740	2290	20350	1960	16960	1620	13570	1290	10180	950	6780	610	5090	450
27(-3)	34790	3460	31310	3110	27830	2750	24350	2400	20870	2050	17390	1700	13920	1350	10440	1000	6960	640	5220	470
28(-2)	35660	3620	32090	3250	28530	2880	24960	2510	21390	2140	17830	1780	14260	1410	10700	1040	7130	670	5350	490
30(-1)	36530	3770	32870	3390	29220	3010	25570	2620	21920	2240	18260	1850	14610	1470	10960	1090	7310	700	5480	510
32(0)	37390	3930	33650	3530	29920	3130	26180	2730	22440	2330	18700	1930	14960	1530	11220	1130	7480	730	5610	530
34(1)	38260	4090	34440	3670	30610	3260	26780	2840	22960	2430	19130	2010	15300	1590	11480	1180	7650	760	5740	550
36(2)	39130	4250	35220	3820	31300	3380	27390	2950	23480	2520	19570	2090	15650	1660	11740	1220	7830	790	5870	580
37(3)	39770	4300	35790	3870	31820	3430	27840	2990	23860	2550	19890	2120	15910	1680	11930	1240	7950	800	5970	580
39(4)	40410	4360	36370	3920	32330	3470	28290	3030	24250	2590	20210	2140	16160	1700	12120	1260	8080	810	6060	590
41(5)	41050	4420	36950	3970	32840	3520	28740	3070	24630	2620	20530	2170	16420	1720	12320	1270	8210	820	6160	600
43(6)	42610	4730	47350	4250	42090	3760	36820	3280	31560	2800	26300	2320	21040	1840	15780	1360	10520	880	7890	640
45(7)	54000	4800	48600	4310	43200	3820	37800	3340	32400	2850	27000	2360	21600	1870	16200	1380	10800	890	8100	650
46(8)	55390	4870	49850	4380	44310	3880	38780	3390	33240	2890	27700	2400	22160	1900	16620	1400	11080	910	8310	660
48(9)	56790	4950	51110	4450	45430	3940	39750	3440	34070	2940	28390	2430	22710	1930	17040	1430	11360	920	8520	670
50(10)	58180	5020	52360	4510	46540	4000	40730	3490	34910	2980	29090	2470	23270	1960	17450	1450	11640	940	8730	680
52(11)	59570	5100	53620	4580	47660	4060	41700	3540	35740	3020	29790	2500	23830	1990	17870	1470	11910	950	8940	690
54(12)	60970	5170	54870	4650	48770	4120	42680	3590	36580	3070	30480	2540	24390	2020	18290	1490	12190	960	9150	700
55(13)	62360	5250	56130	4710	49890	4180	43650	3650	37420	3110	31180	2580	24940	2040	18710	1510	12470	980	9350	710
57(14)	63750	5320	57380	4780	51000	4240	44630	3700	38250	3160	31880	2610	25500	2070	19130	1530	12750	990	9560	720
59(15)	65150	5390	58630	4850	52120	4300	45600	3750	39090	3200	32570	2650	26060	2100	19540	1550	13030	1000	9770	730

2-3-6. Fan Static Characteristic

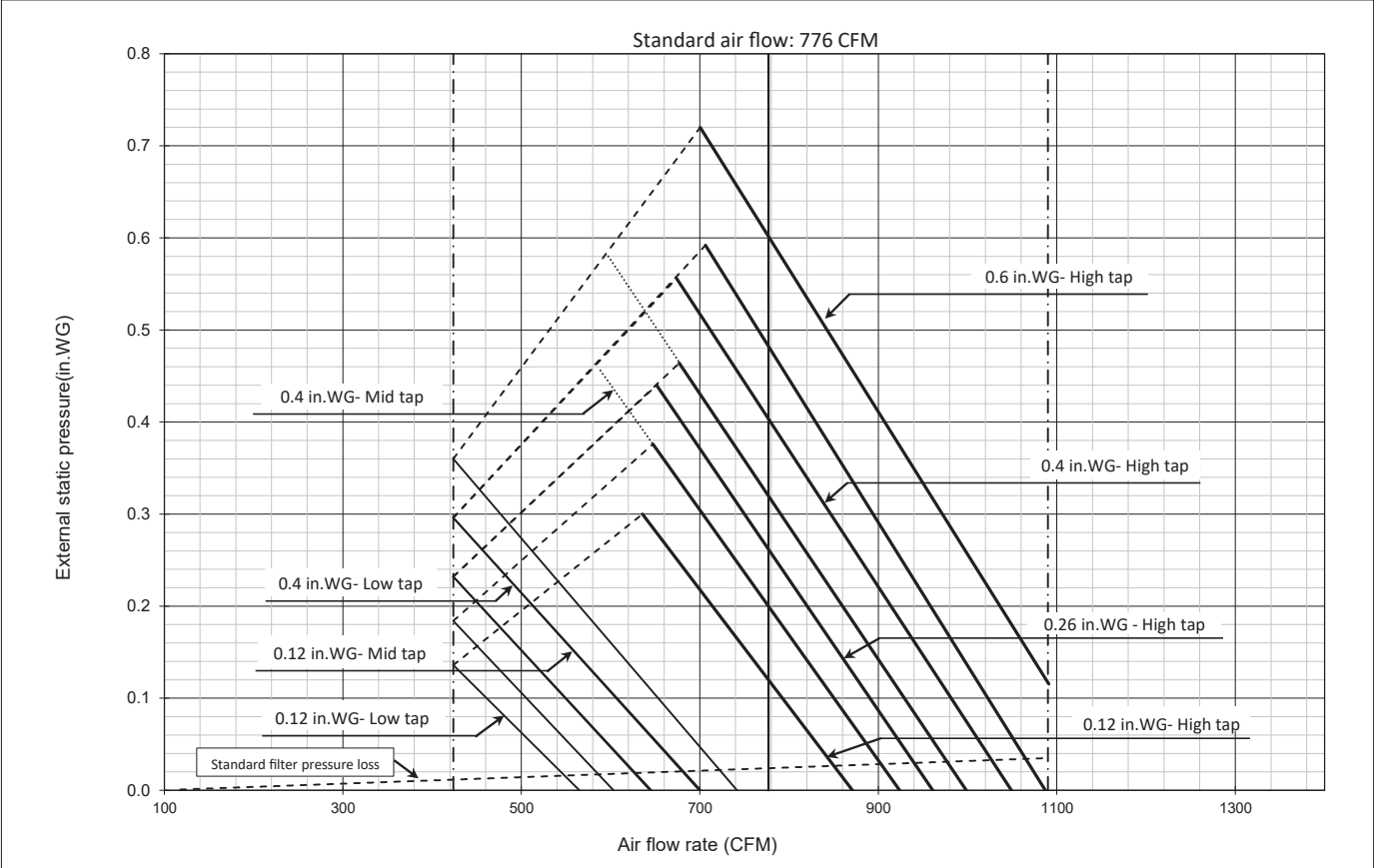
RAV-SM122BTP-UL



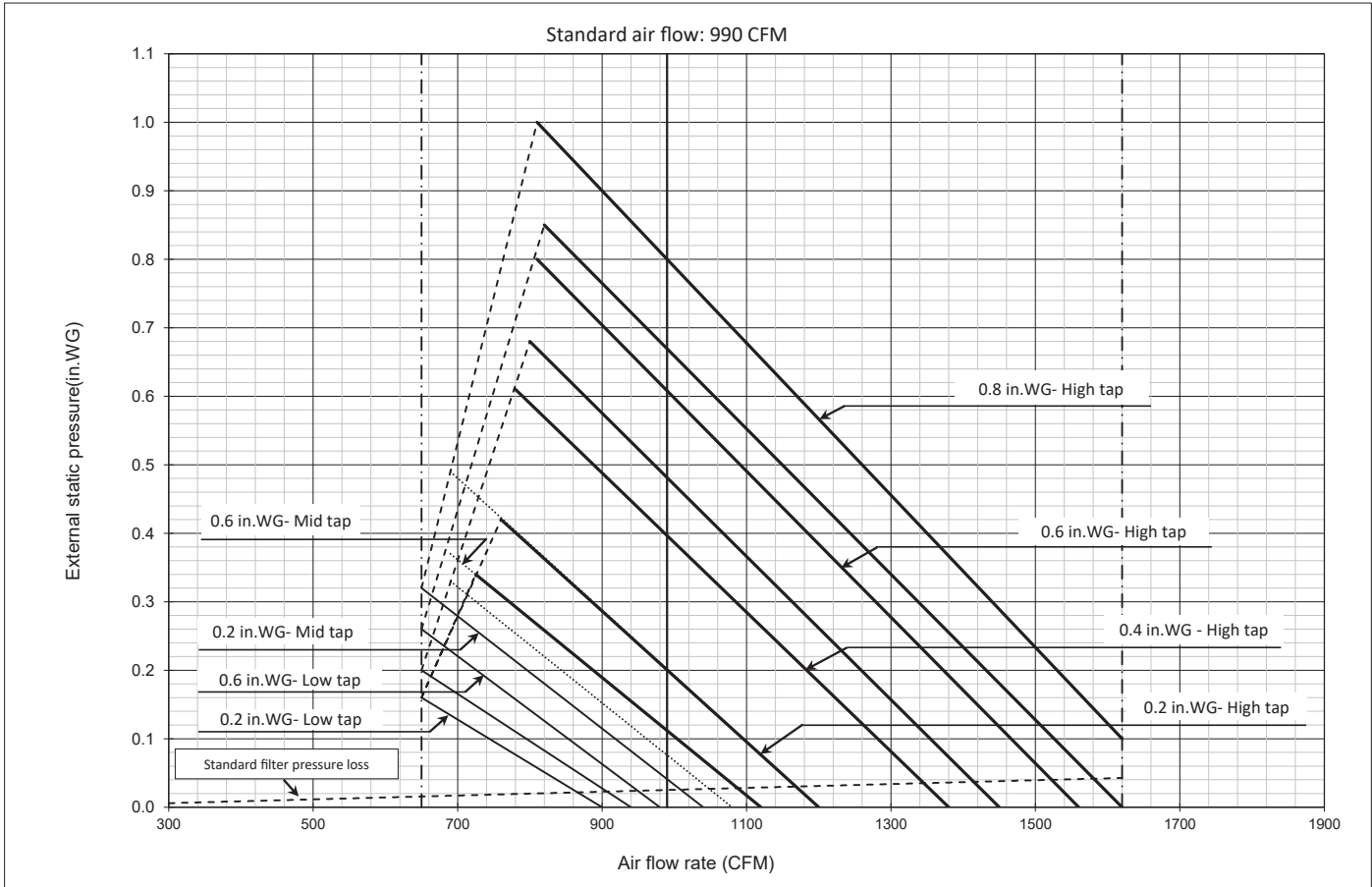
RAV-SM182BTP-UL



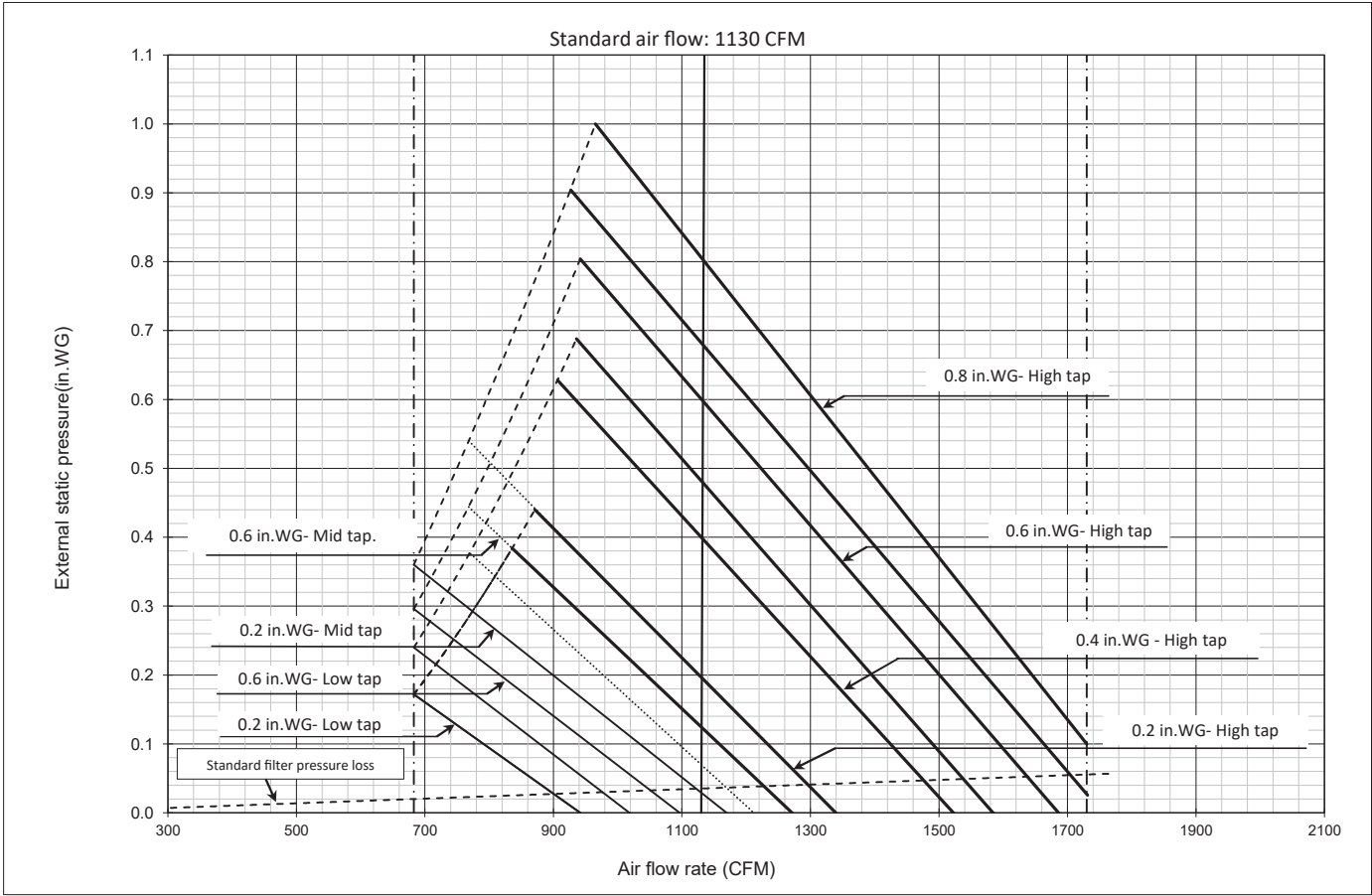
RAV-SM242BTP-UL



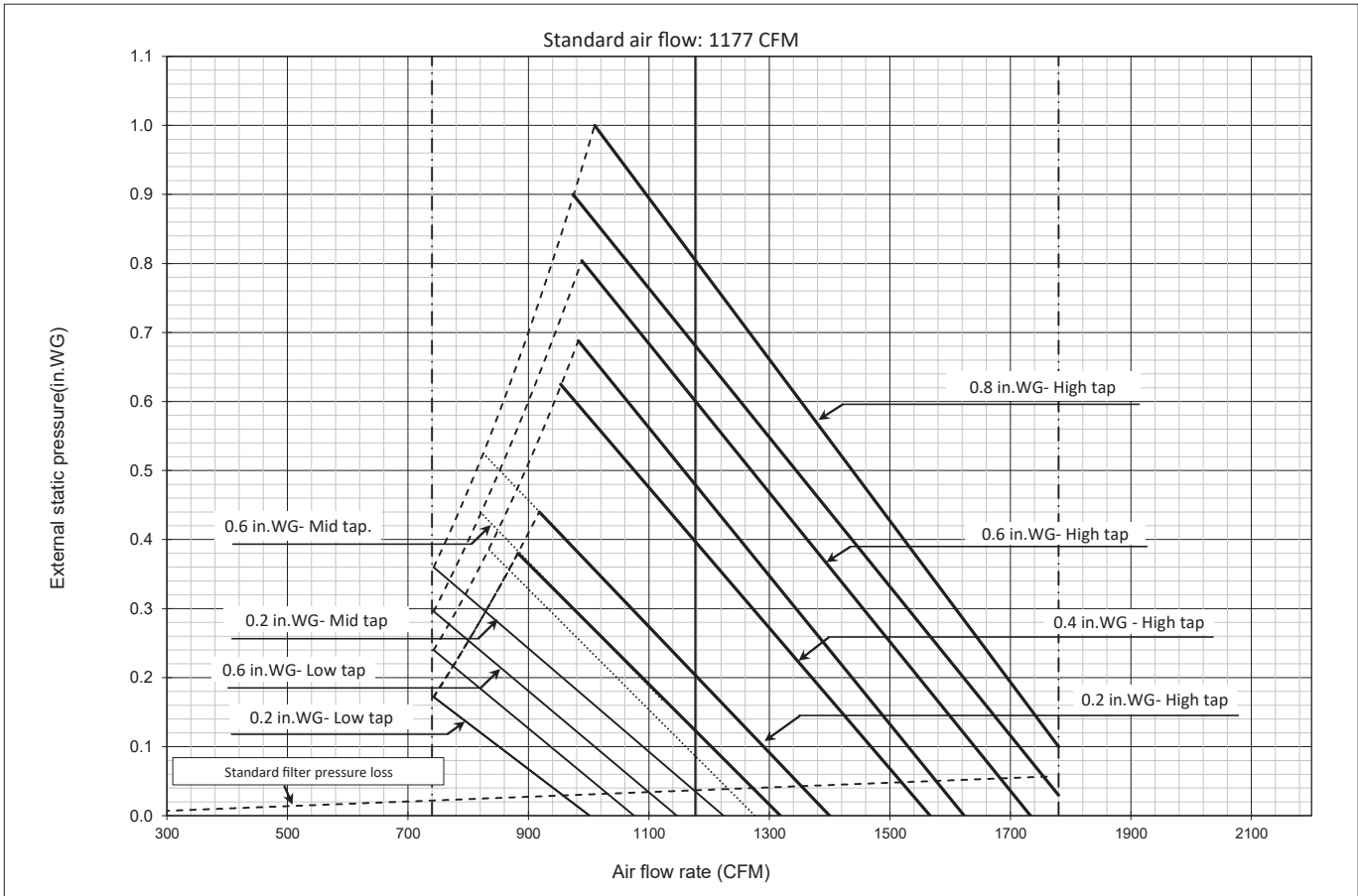
RAV-SM302BTP-UL



RAV-SM*__2BTP-UL (*36 / 42)



RAV-SM482BTP-UL

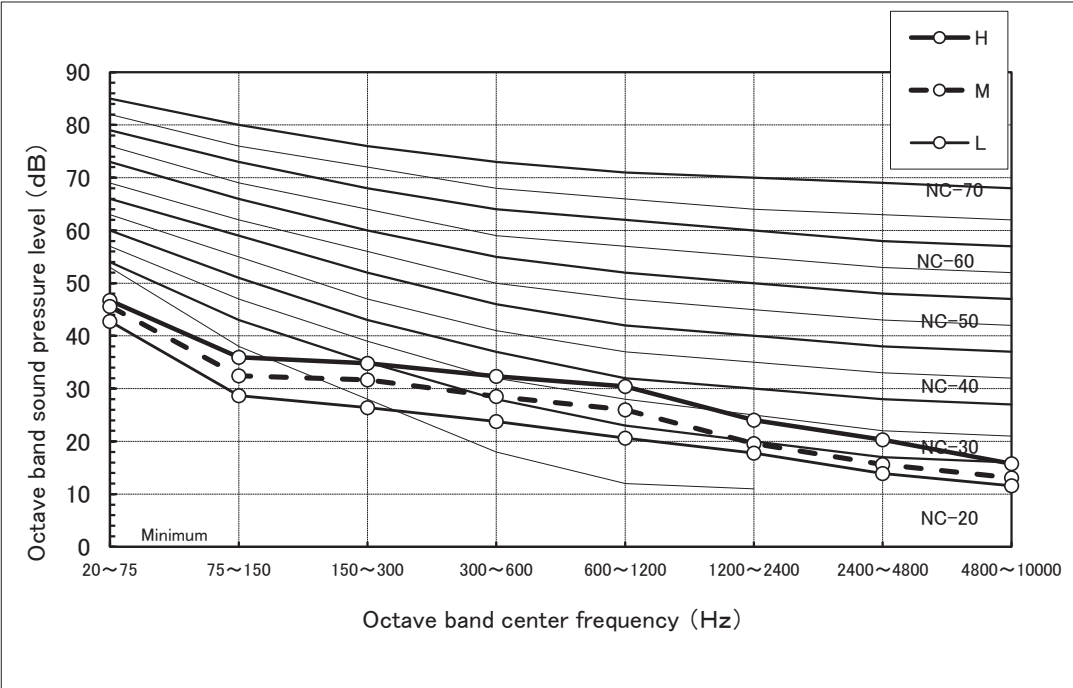


2-3-7. Sound Characteristics (NC curve)

RAV-SM122BTP-UL

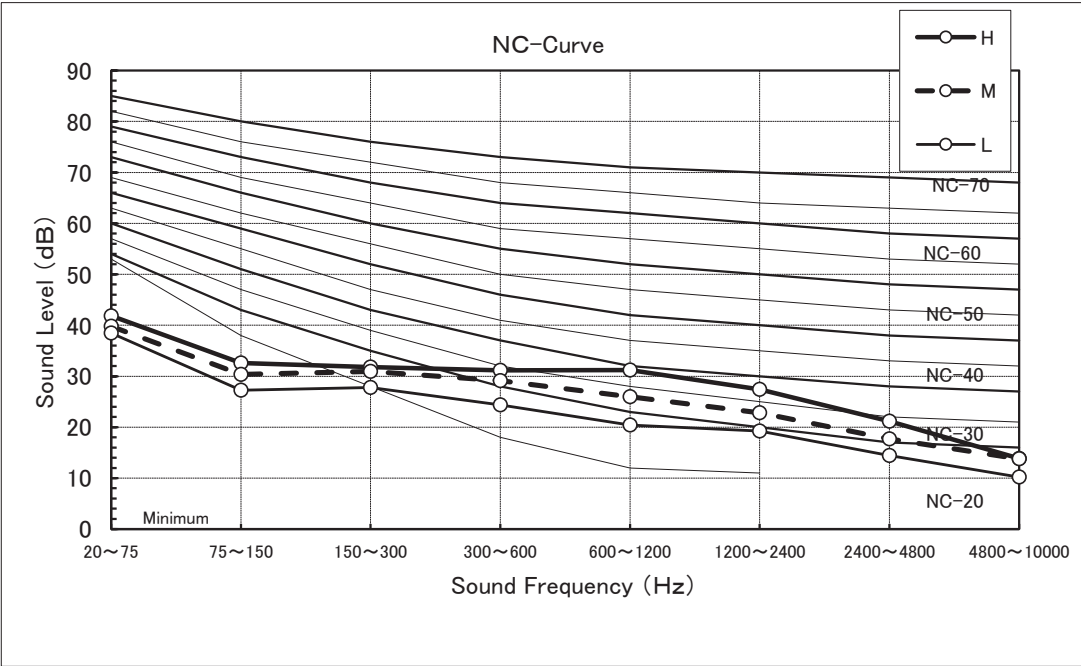
Cooling

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



Heating

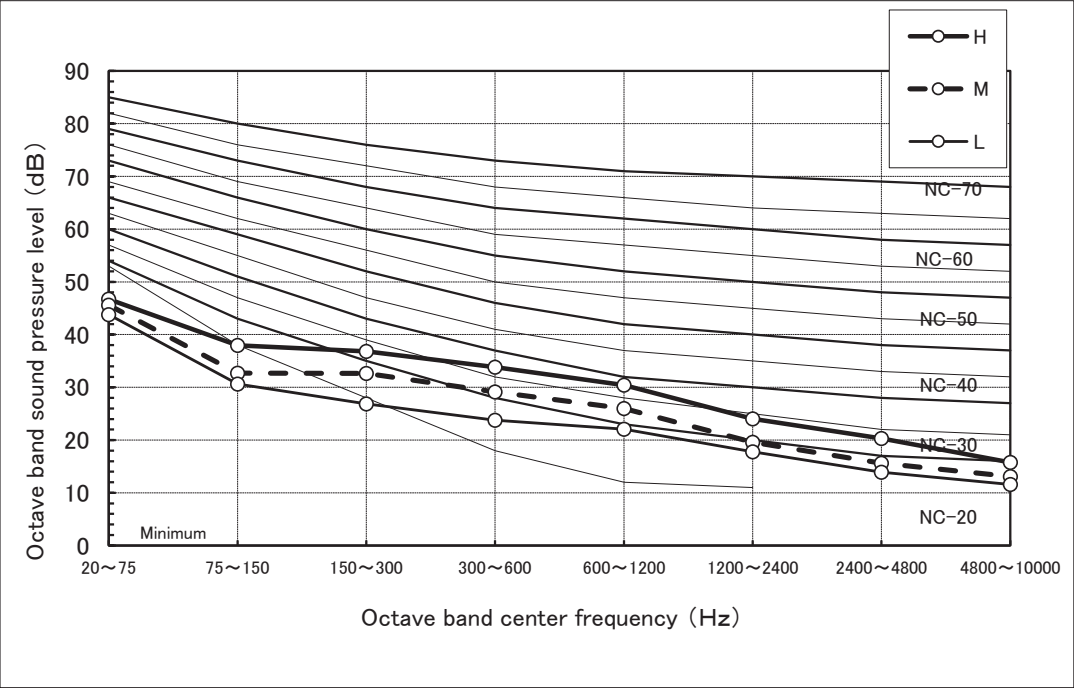
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	33	29	25



RAV-SM182BTP-UL

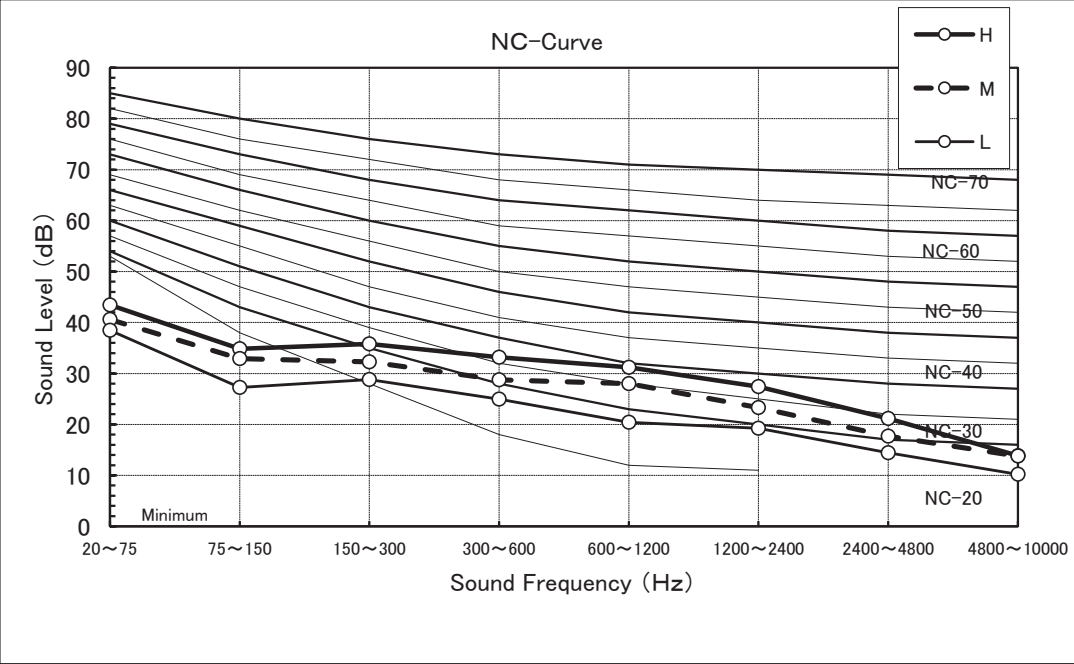
Cooling

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



Heating

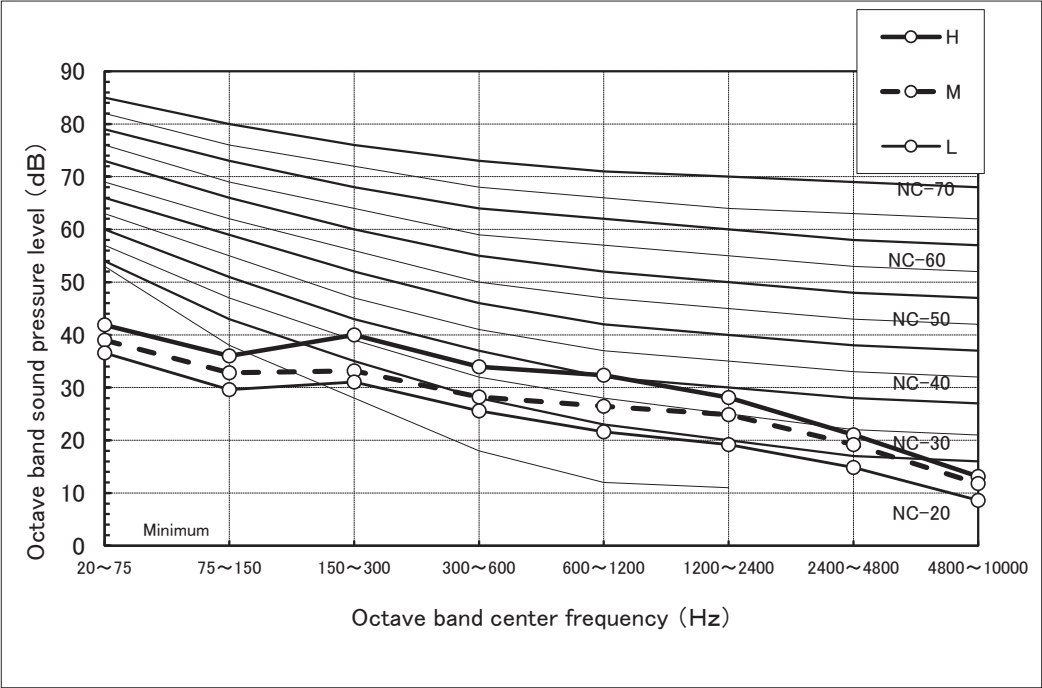
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	34	30	26



RAV-SM242BTP-UL

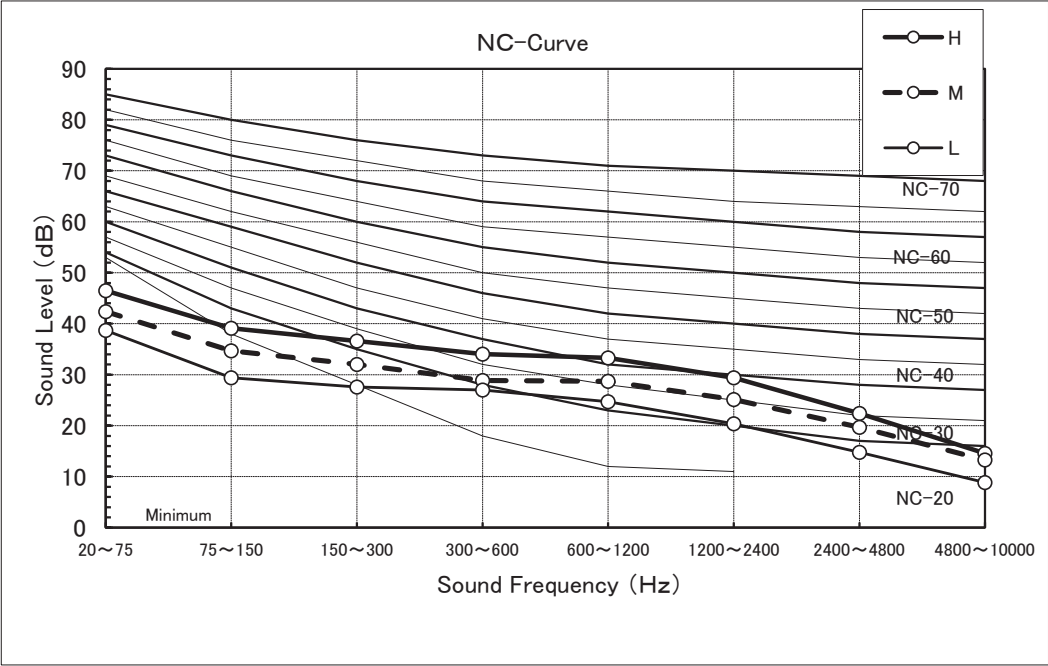
Cooling

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



Heating

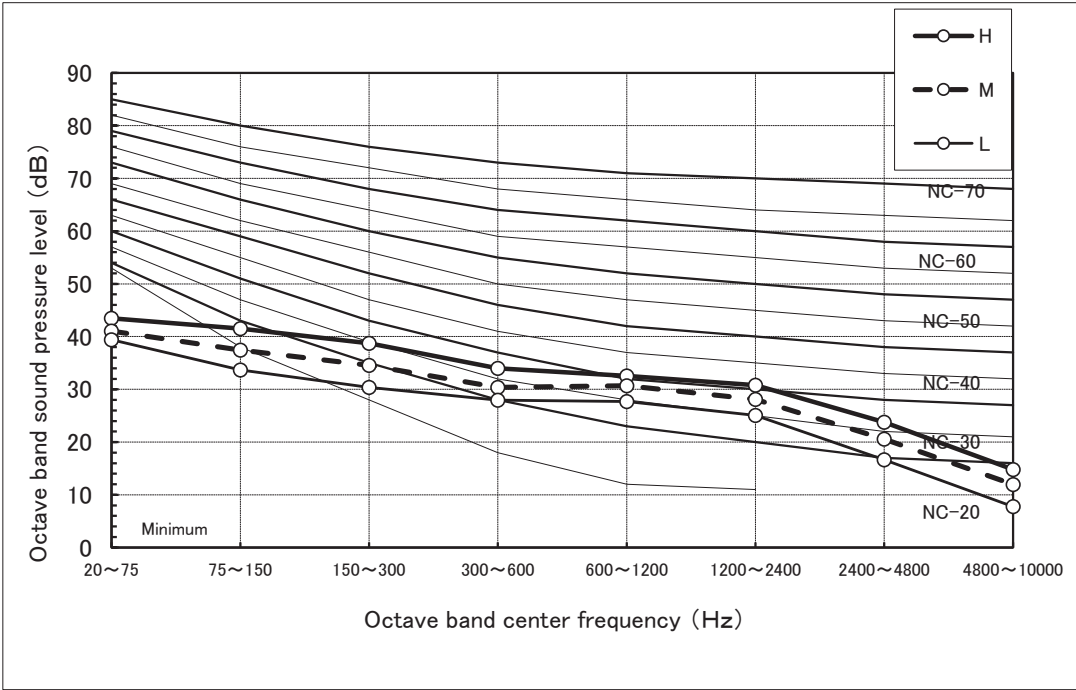
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	36	31	27



RAV-SM302BTP-UL

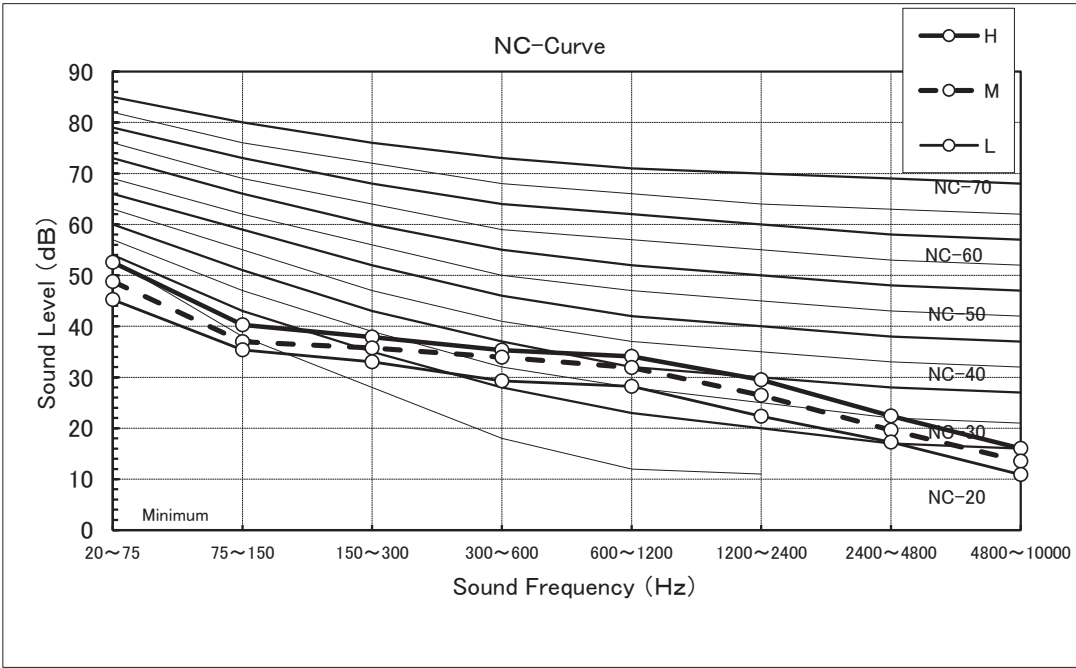
Cooling

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



Heating

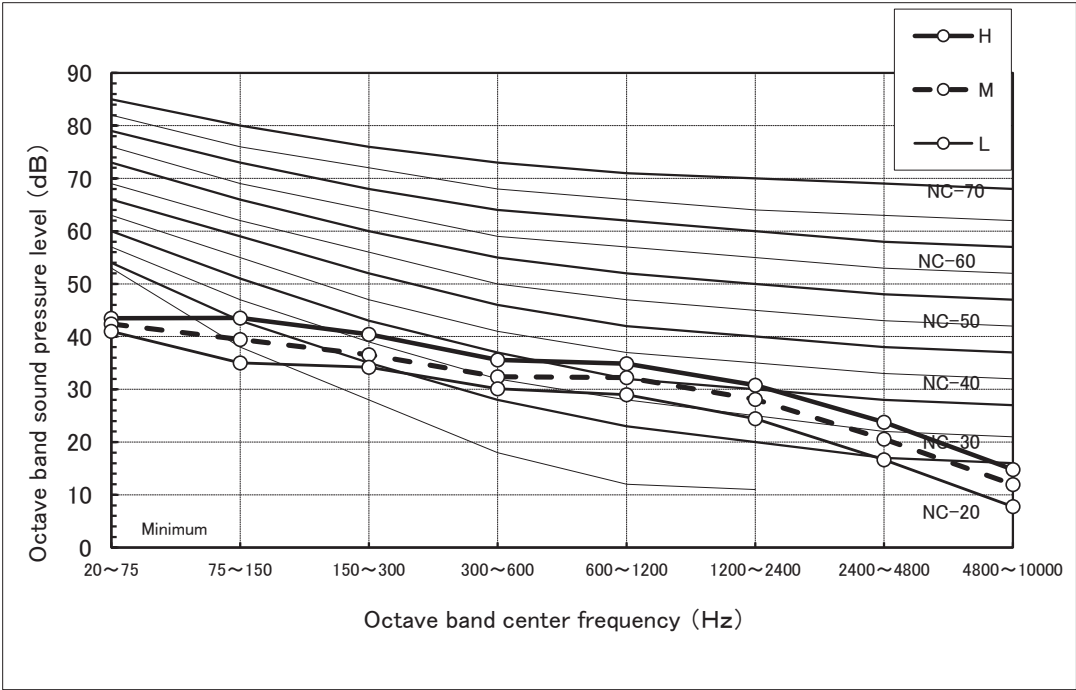
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	37	34	31



RAV-SM362BTP-UL

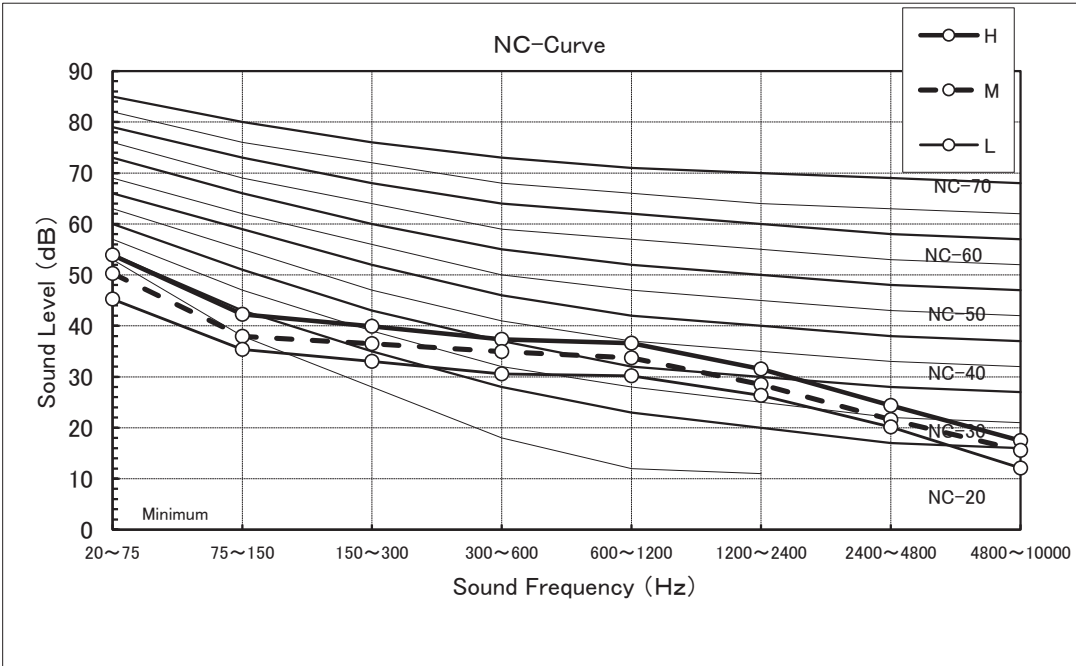
Cooling

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



Heating

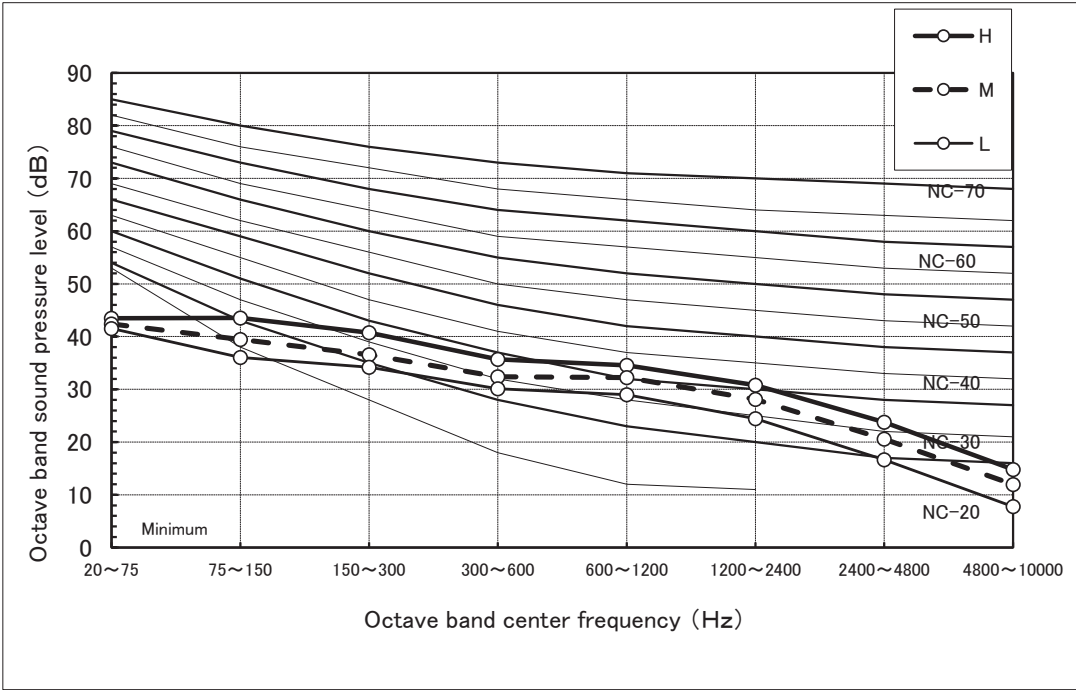
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	38	35	32



RAV-SM422BTP-UL

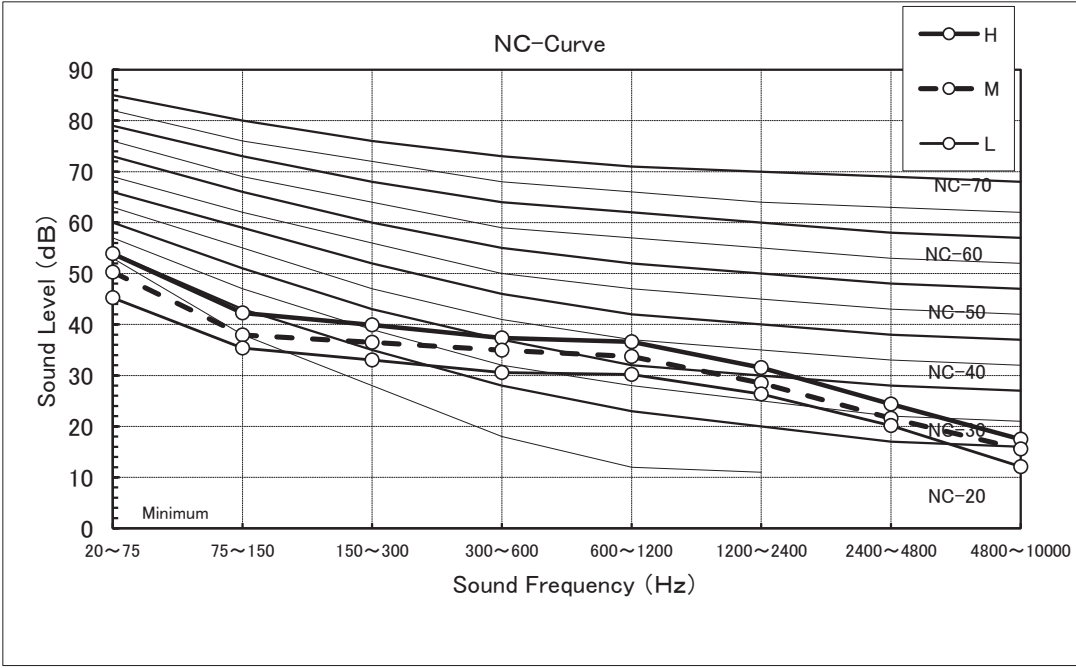
Cooling

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



Heating

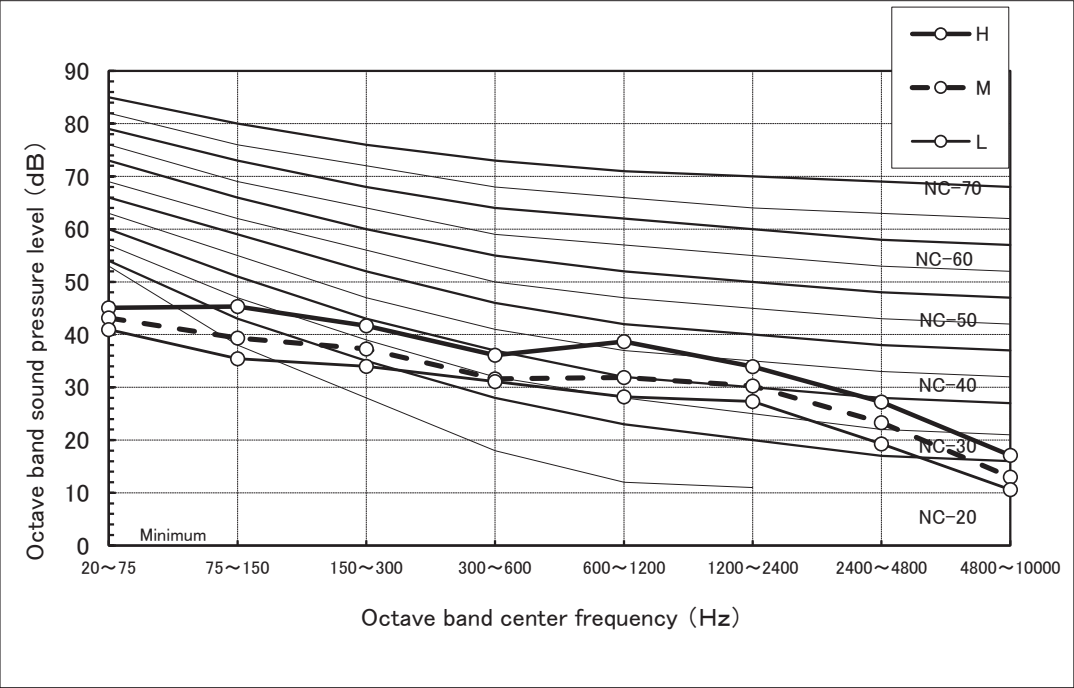
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	38	35	32



RAV-SM482BTP-UL

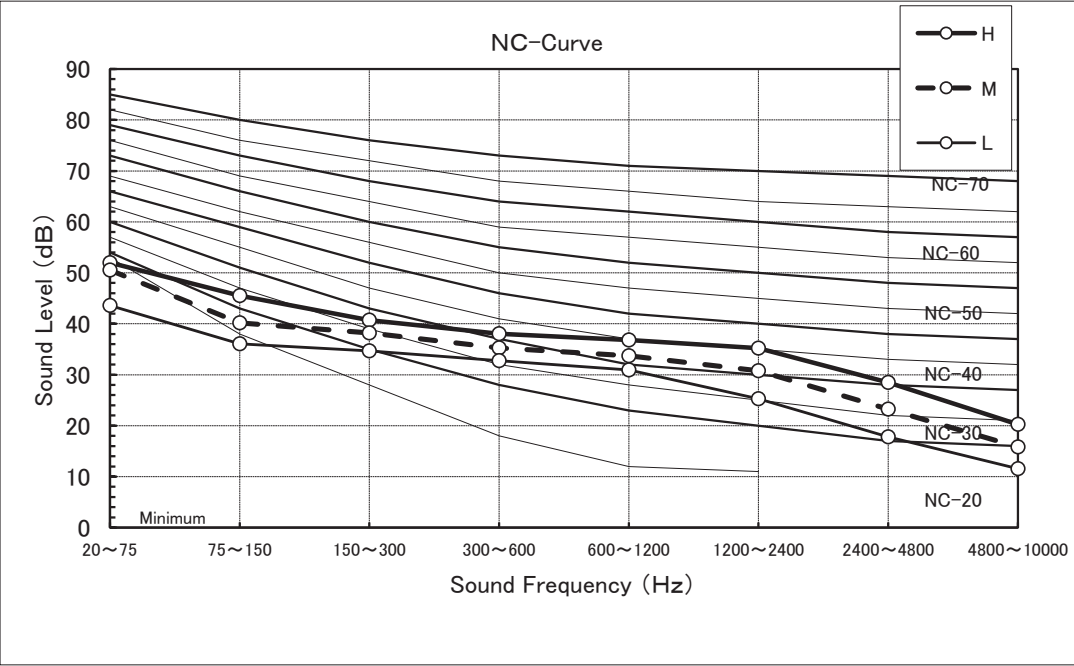
Cooling

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



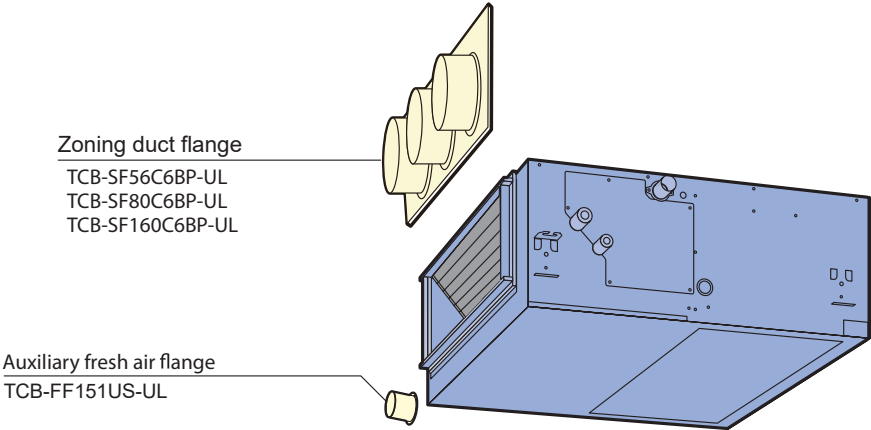
Heating

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



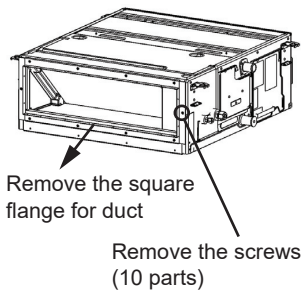
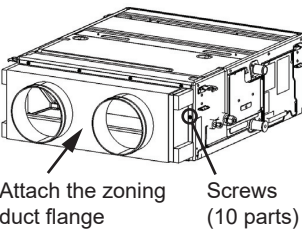
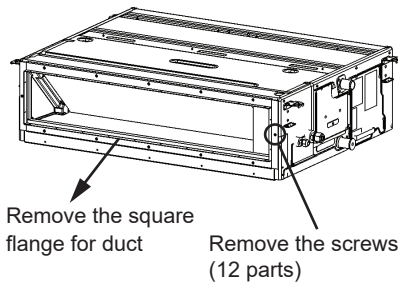
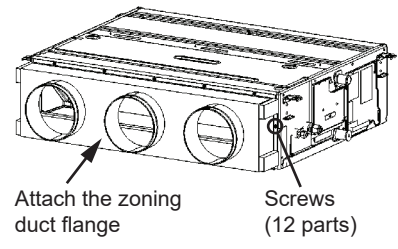
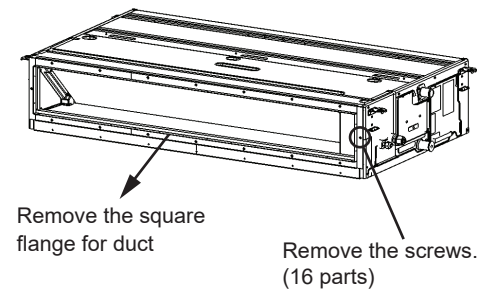
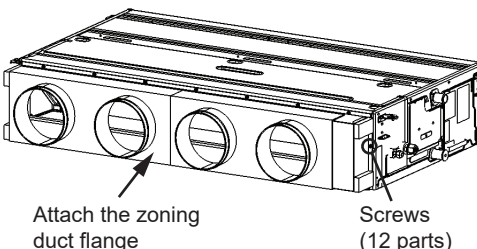
2-3-8. Accessories

Optional Parts	Model Name	Remarks
Wireless remote controller	TCB-AX32-UL	-
Zoning duct flange	TCB-SF56C6BP-UL	RAV-SM122BTP, RAV-SM182BTP
	TCB-SF80C6BP-UL	RAV-SM242BTP
	TCB-SF160C6BP-UL	RAV-SM302BTP, RAV-SM362BTP, RAV-SM422BTP, RAV-SM482BTP
Auxiliary fresh air flange	TCB-FF151US-UL	-



TCB-AX32-UL

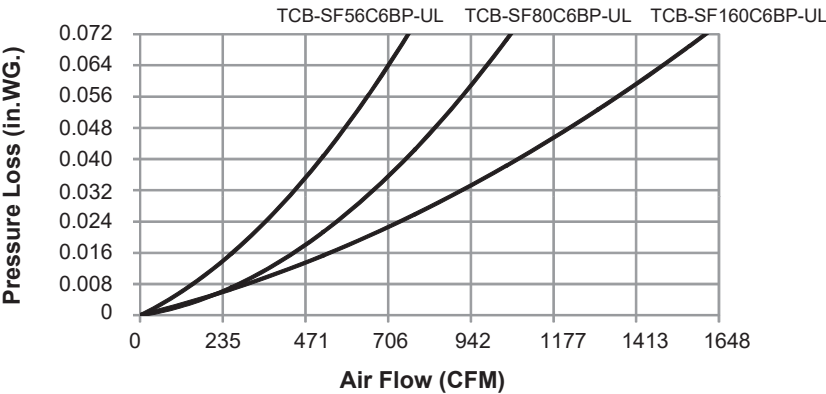
Appendix

Zoning duct flange TCB-SF56C6BP-UL	Zoning duct flange TCB-SF80C6BP-UL	Zoning duct flange TCB-SF160C6BP-UL
 Remove the square flange for duct Remove the screws. (10 parts)  Attach the zoning duct flange Screws (10 parts)	 Remove the square flange for duct Remove the screws. (12 parts)  Attach the zoning duct flange Screws (12 parts)	 Remove the square flange for duct Remove the screws. (16 parts)  Attach the zoning duct flange Screws (12 parts)

Remove screws on square flange for duct of indoor unit and attach the zoning duct flange with the screw.

External pressure loss characteristic

When you use these “Zoning duct flange” with Concealed Duct Type and High Static Presure type, pressure-loss characteristics depends on Air Flow.



2-4. High-wall Type

2-4-1. Specifications

2-4-2. Dimension

2-4-3. Wiring Diagrams

2-4-4. Sensible Capacity Table

2-4-5. Part Load Performance

2-4-6. Air Throw Distance Chart

2-4-7. Sound Characteristics (NC Curve)

2-4-1. Specifications

High-wall type

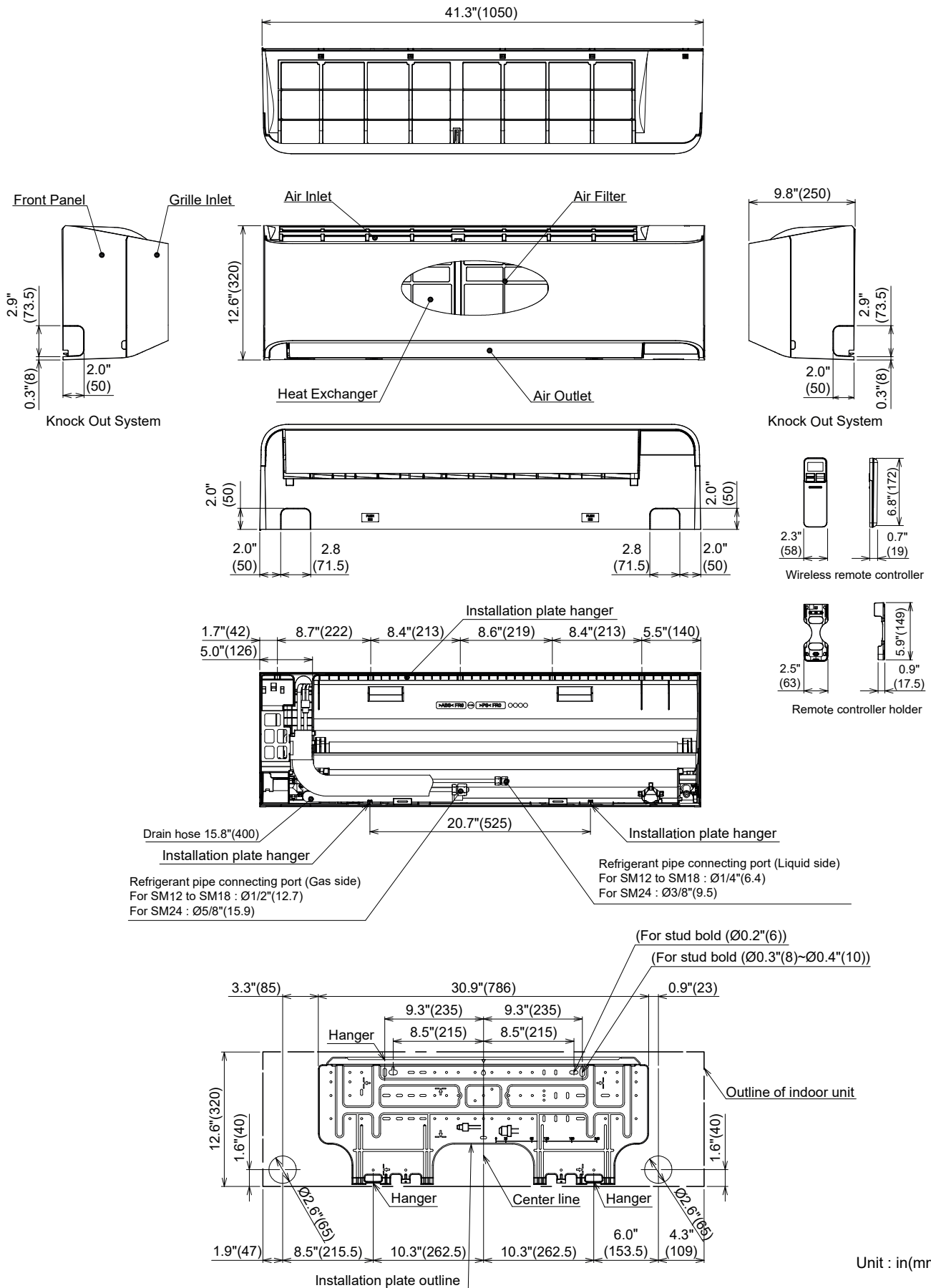
Model name	Indoor unit		RAV -	SM122KRTP-UL	SM182KRTP-UL	SM242KRTP-UL	SM302KRTP-UL	SM362KRTP-UL
	Outdoor unit		RAV -	SP122AT2P-UL	SP182AT2P-UL	SP242AT2P-UL	SP302AT2P-UL	SP362AT2P-UL
Cooling	Capacity	Btu/h		12,000	18,000	24,000	30,000	36,000
	SEER			25.2	23.6	21.9	23.0	20.8
	EER			15.6	12.0	11.7	12.6	10.5
Heating	Capacity	Btu/h		14,000	20,000	27,000	34,000	40,000
	HSPF			10.6	10.6	10.0	10.2	10.0
	COP			13.0	11.4	10.6	12.0	10.7
Power supply			1 Phase 208V/230V 60 Hz					
Indoor unit								
Outer dimension	Main unit	Height	In	12.6			13.7	
		Width	In	41.3			47.2	
		Depth	In	9.8			11.0	
Total weight	Main unit	lbs.		33			44	
Air flow volume	Indoor unit (H/M/L)	CFM		475 / 355 / 250	530 / 425 / 325	705 / 530 / 355	940 / 825 / 705	970 / 910 / 735
Sound Pressure Level (H/M/L)			dB(A)	37 / 33 / 28	41 / 37 / 32	46 / 41 / 35	48 / 45 / 41	50 / 47 / 43
Fan motor output			w	30			61	
Drain tube size (outside diameter)			In	0.9" (VP16)				
Outdoor unit								
Air flow volume	Cooling / Heating	CFM		1590 / 1590	1590 / 1590	2300 / 2220	3570 / 2870	3570 / 3100
Sound Pressure Level (High) Cooling / Heating			dB(A)	48 / 52	48 / 52	52 / 54	54 / 54	54 / 54
Outer dimension	Height	In		21.7		35.0	52.8	
	Width	In		30.7		35.4	35.4	
	Depth	In		11.4		12.6	12.6	
Total weight	Main unit	lbs.		99		141	218	
Pipe	Min. legnth	ft.		16'5"				
	Max. total length	ft.		164'1"			246'1"	
Flare Connections	Gas side	In		1 / 2"		5 / 8"		
	Liquid side	In		1 / 4"		3 / 8"		
Operating Range	Cooling	(°F)		5 to 115				
	Cooling with Wind buffels	(°F)		5 to 115			-13 to 115	
	Heating	(°F)		-13 to 59				

Rated conditions Cooling : Indoor air temperature 80°F (27°C) DB / 67°F (19°C) WB, Outdoor air temperature 95°F (35°C) DB

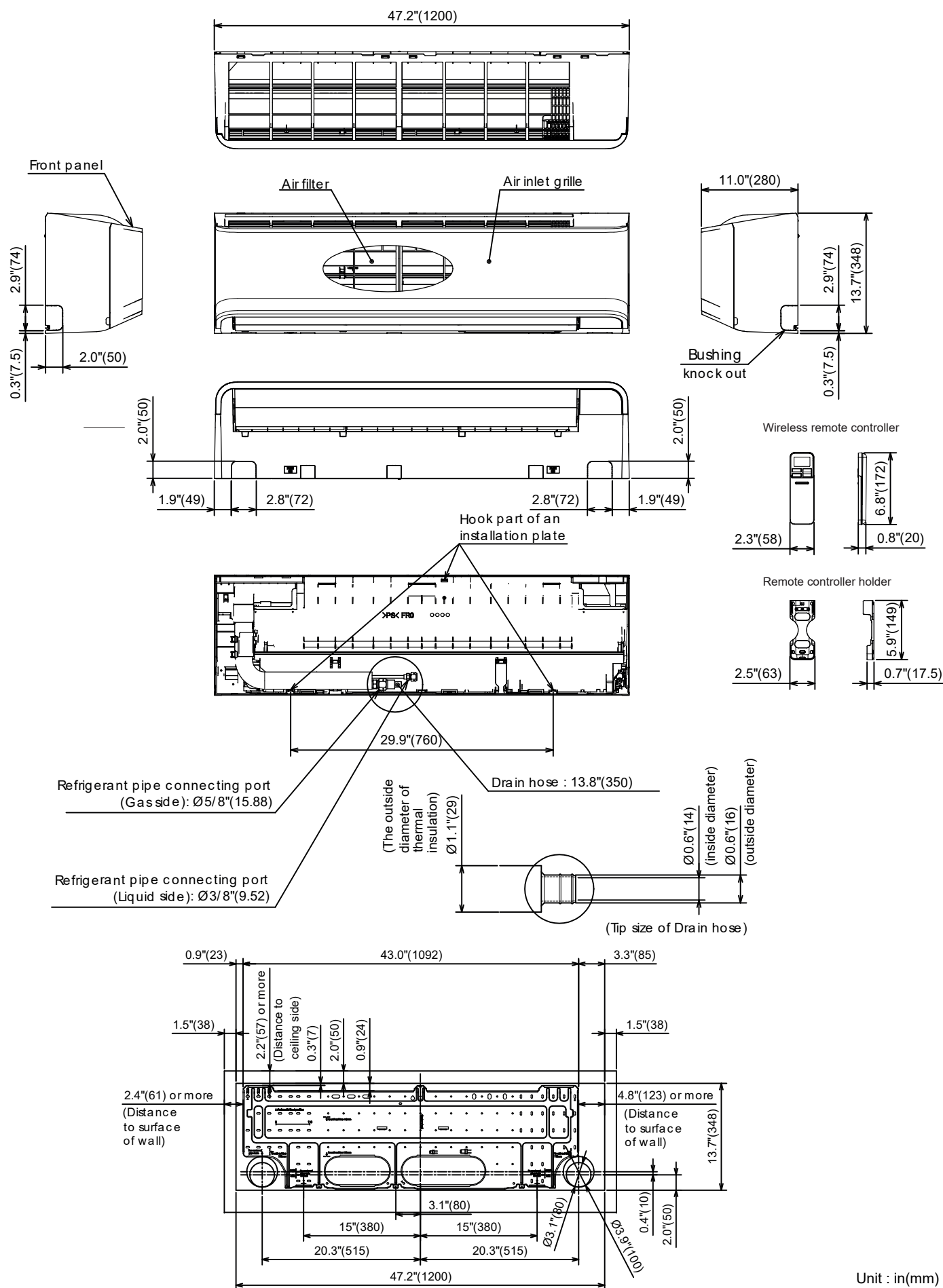
Heating : Indoor air temperature 70°F (21°C) DB, Outdoor air temperature 47°F (8°C) DB/43°F (6°C) WB

2-4-2. Dimension

RAV-SM*_2KRTP-UL (*12 / 18 / 24)



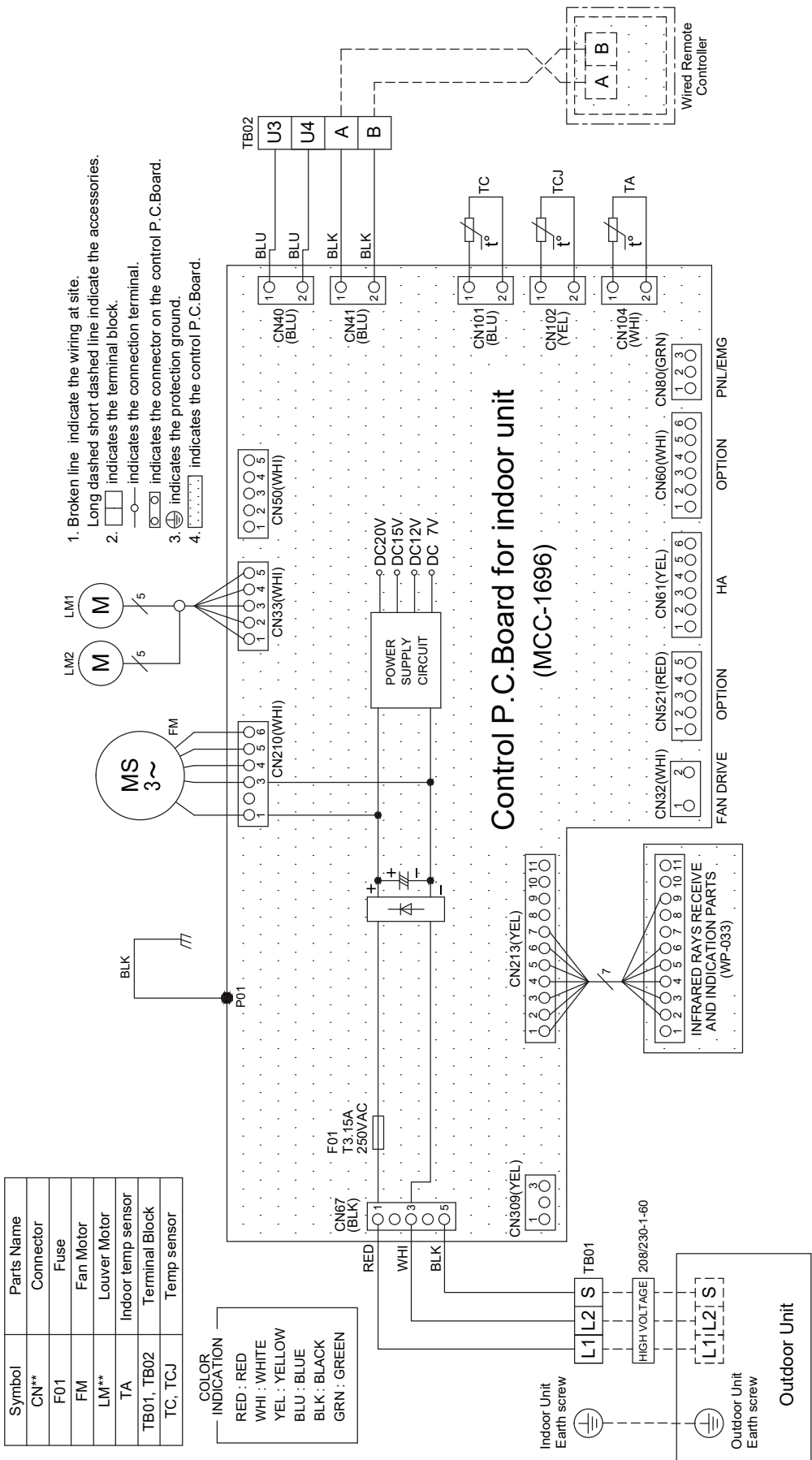
RAV-SM*__2KRTP-UL (*30 / 36)



Unit : in(mm)

2-4-3. Wiring diagrams

RAV-SM*_2K RTP-UL (*12 / 18 / 24 / 30 / 36)



2-4-4. Sensible Capacity Table

Product models : RAV-SM__2KRTP-UL : RAV-SP__2AT2P-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
12	50	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	54	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	57	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	61	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	64	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	68	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	70	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	73	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	77	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	81	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	84	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	88	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	91	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	95	10210	9850	10690	10130	11360	10540	12000	10870	12210	10900	12980	10760	13510	10360
	99	9910	9560	10380	9840	11030	10230	11650	10550	11860	10580	12600	10450	13120	10060
	102	9680	9340	10130	9600	10770	9990	11380	10300	11580	10330	12310	10200	12810	9820
18	50	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	54	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	57	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	61	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	64	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	68	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	70	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	73	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	77	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	81	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	84	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	88	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	91	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	95	15320	12470	16030	12810	17040	13330	18000	13750	18310	13790	19470	13610	20270	13100
	99	14880	12110	15570	12440	16550	12940	17480	13350	17780	13390	18910	13220	19680	12720
	102	14520	11820	15200	12140	16150	12640	17060	13040	17360	13070	18460	12900	19220	12420
24	50	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	54	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	57	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	61	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	64	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	68	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	70	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	73	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	77	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	81	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	84	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	88	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	91	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	95	20430	16150	21370	16590	22730	17270	24000	17810	24410	17860	25960	17630	27020	16970
	99	19840	15680	20750	16110	22070	16770	23300	17290	23700	17340	25210	17120	26240	16480
	102	19370	15310	20260	15730	21550	16370	22750	16880	23140	16930	24610	16710	25610	16090
30	50	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	54	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	57	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	61	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	64	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	68	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	70	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	73	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	77	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	81	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	84	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	88	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	91	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	95	25530	20640	26720	21210	28410	22080	30000	22770	30510	22830	32450	22550	33780	21700
	99	24790	20040	25950	20590	27590	21440	29130	22110	29630	22170	31510	21900	32800	21070
	102	24200	19570	25330	20110	26930	20930	28440	21590	28920	21640	30760	21380	32020	20570

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Product models : RAV-SM__2KRTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp. °FDB	Indoor air temp.													
		59 °FDB		61 °FDB		64 °FDB		67 °FDB		68 °FDB		72 °FDB		75 °FDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
36	50	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	54	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	57	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	61	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	64	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	68	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	70	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	73	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	77	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	81	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	84	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	88	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	91	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	95	30640	23250	32060	23880	34090	24860	36000	25640	36620	25710	38930	25380	40540	24440
	99	29750	22580	31130	23190	33100	24140	34960	24900	35560	24960	37800	24640	39360	23730
	102	29050	22040	30390	22640	32320	23570	34130	24310	34720	24370	36910	24060	38430	23170

TC : Total capacity [Btu/h]

SHC : Sensible capacity [Btu/h]

Heating capacity table

Product model : RAV-SM__2KRTP-UL : RAV-SP__2AT2P-UL

unit size	outdoor air temp.		Indoor air temp.									
	°FDB	°FWB	61 °FDB		64 °FDB		70 °FDB		72 °FDB		75 °FDB	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
12	59	57	17169	1121	16992	1153	16888	1193	16786	1247	16687	1308
	50	48	15586	1063	15425	1093	15330	1131	15238	1182	15148	1240
	47	43	14234	1015	14087	1044	14000	1080	13916	1129	13833	1184
	41	39	13273	983	13136	1011	13055	1046	12977	1093	12900	1147
	36	34	11903	935	11780	962	11708	995	11637	1040	11568	1091
	32	31	9288	829	9191	853	9135	882	9080	922	9026	967
	23	22	9288	829	9191	853	9135	882	9080	922	9026	967
	19	18	8736	808	8646	831	8593	859	8541	898	8490	943
	14	13	8006	770	7924	793	7875	820	7828	857	7781	899
	5	4	6743	728	6674	749	6633	775	6593	810	6554	850
	1	0	5089	669	5043	689	4998	712	4978	745	4936	781
	-3	-4	3980	627	3947	646	3906	668	3895	698	3857	733
	-13	-13	2132	557	2120	575	2086	594	2089	621	2058	652
18	59	57	24528	1837	24274	1890	24125	1955	23981	2044	23838	2144
	50	48	22266	1741	22035	1792	21900	1853	21769	1937	21639	2033
	47	43	20334	1663	20124	1711	20000	1770	19880	1850	19762	1941
	41	39	18961	1611	18765	1657	18650	1714	18538	1792	18428	1880
	36	34	17004	1532	16828	1577	16725	1631	16625	1705	16526	1789
	32	31	13268	1358	13131	1398	13050	1446	12972	1511	12895	1585
	23	22	13268	1358	13131	1398	13050	1446	12972	1511	12895	1585
	19	18	12480	1323	12351	1362	12275	1409	12202	1472	12129	1545
	14	13	11438	1263	11320	1299	11250	1344	11183	1405	11116	1474
	5	4	9633	1193	9534	1227	9475	1270	9418	1327	9362	1392
	1	0	7270	1096	7204	1129	7140	1167	7112	1220	7052	1281
	-3	-4	5686	1027	5638	1059	5580	1094	5564	1144	5510	1201
	-13	-13	3046	913	3028	943	2980	973	2984	1018	2940	1068
24	59	57	33113	2647	32770	2723	32569	2817	32374	2945	32181	3089
	50	48	30059	2509	29748	2581	29565	2670	29388	2791	29213	2928
	47	43	27451	2396	27167	2465	27000	2550	26838	2666	26679	2797
	41	39	25598	2321	25333	2388	25178	2470	25027	2582	24878	2709
	36	34	22956	2208	22718	2272	22579	2350	22444	2456	22310	2577
	32	31	17912	1957	17726	2014	17618	2083	17512	2177	17408	2284
	23	22	17912	1957	17726	2014	17618	2083	17512	2177	17408	2284
	19	18	16848	1907	16674	1962	16571	2029	16472	2121	16374	2226
	14	13	15441	1819	15281	1872	15188	1936	15097	2024	15007	2123
	5	4	13005	1719	12870	1768	12791	1829	12715	1912	12639	2006
	1	0	9815	1578	9725	1627	9639	1681	9601	1758	9520	1845
	-3	-4	7676	1480	7611	1526	7533	1576	7511	1649	7439	1730
	-13	-13	4112	1315	4088	1358	4023	1402	4028	1467	3969	1539
30	59	57	41697	2948	41266	3033	41013	3137	40767	3280	40525	3441
	50	48	37852	2794	37460	2875	37230	2974	37007	3109	36787	3261
	47	43	34568	2668	34210	2746	34000	2840	33797	2969	33595	3115
	41	39	32234	2585	31901	2659	31705	2751	31515	2875	31328	3017
	36	34	28907	2459	28608	2530	28433	2617	28262	2736	28094	2870
	32	31	22555	2179	22322	2242	22185	2320	22052	2425	21921	2544
	23	22	22555	2179	22322	2242	22185	2320	22052	2425	21921	2544
	19	18	21216	2124	20997	2185	20868	2260	20743	2363	20619	2479
	14	13	19444	2026	19243	2084	19125	2156	19011	2254	18897	2364
	5	4	16376	1914	16207	1969	16108	2037	16011	2129	15916	2234
	1	0	12359	1758	12247	1812	12138	1872	12090	1958	11988	2055
	-3	-4	9666	1648	9585	1700	9486	1756	9459	1836	9367	1927
	-13	-13	5178	1465	5148	1512	5066	1561	5073	1633	4998	1714
36	59	57	49056	3892	48548	4005	48250	4143	47961	4330	47676	4543
	50	48	44531	3689	44071	3796	43800	3927	43538	4105	43279	4306
	47	43	40668	3523	40247	3625	40000	3750	39761	3920	39524	4113
	41	39	37923	3413	37531	3511	37300	3632	37077	3797	36856	3983
	36	34	34009	3247	33657	3341	33450	3455	33250	3612	33052	3790
	32	31	26536	2878	26261	2961	26100	3063	25944	3202	25789	3359
	23	22	26536	2878	26261	2961	26100	3063	25944	3202	25789	3359
	19	18	24960	2804	24702	2885	24550	2984	24403	3120	24258	3273
	14	13	22876	2675	22639	2752	22500	2847	22365	2976	22232	3122
	5	4	19266	2527	19067	2600	18950	2690	18837	2812	18725	2950
	1	0	14540	2321	14408	2393	14280	2472	14224	2586	14104	2713
	-3	-4	11372	2176	11276	2244	11160	2318	11128	2425	11020	2544
	-13	-13	6092	1934	6056	1997	5960	2061	5968	2157	5880	2263

TC : Total Heating Capacity [Btu/h]

PI : Power Input [W]

2-4-5. Part load performance

Indoor : RAV-SM122KRTP-UL
Outdoor : RAV-SP122AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 4000	220	3000	170
RATING	Btu/h 12000	770	14000	1080
MAXIMUM	Btu/h 19100	942	21400	1525

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling																					
Outdoor Temperature DB °F(°C)	Parts Load (%)																				
	100		90		80		70		60		50		40		30		20		10		
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
68(20)	14310	600	12880	540	11450	470	10020	410	8590	350	7160	280	5720	220	4770	170	4770	170	4770	170	
70(21)	14160	620	12740	550	11320	480	9910	420	8490	350	7080	290	5660	220	4720	180	4720	180	4720	180	
72(22)	14000	630	12600	560	11200	490	9800	430	8400	360	7000	290	5600	220	4670	180	4670	180	4670	180	
73(23)	13850	640	12460	570	11080	500	9690	430	8310	360	6920	300	5540	230	4620	180	4620	180	4620	180	
75(24)	13690	650	12320	580	10960	510	9590	440	8220	370	6850	300	5480	230	4560	190	4560	190	4560	190	
77(25)	13540	660	12190	590	10830	520	9480	450	8120	380	6770	310	5420	240	4510	190	4510	190	4510	190	
79(26)	13390	670	12050	600	10710	530	9370	460	8030	380	6690	310	5350	240	4460	190	4460	190	4460	190	
81(27)	13230	680	11910	610	10590	540	9260	460	7940	390	6620	320	5290	240	4410	190	4410	190	4410	190	
82(28)	13080	690	11770	620	10460	540	9150	470	7850	400	6540	320	5230	250	4360	200	4360	200	4360	200	
84(29)	12920	700	11630	630	10340	550	9050	480	7750	400	6460	330	5170	250	4310	200	4310	200	4310	200	
86(30)	12770	710	11490	640	10220	560	8940	490	7660	410	6390	330	5110	260	4260	200	4260	200	4260	200	
88(31)	12620	730	11350	650	10090	570	8830	490	7570	410	6310	340	5050	260	4210	210	4210	210	4210	210	
90(32)	12460	740	11220	660	9970	580	8720	500	7480	420	6230	340	4980	260	4150	210	4150	210	4150	210	
91(33)	12310	750	11080	670	9850	590	8620	510	7380	430	6150	350	4920	270	4100	210	4100	210	4100	210	
93(34)	12150	760	10940	680	9720	600	8510	520	7290	430	6080	350	4860	270	4050	220	4050	220	4050	220	
95(35)	12000	770	10800	690	9600	610	8400	520	7200	440	6000	360	4800	280	4000	220	4000	220	4000	220	
97(36)	11850	780	10660	700	9480	610	8290	530	7110	450	5920	360	4740	280	3950	220	3950	220	3950	220	
99(37)	11690	790	10520	710	9350	620	8180	540	7020	450	5850	370	4680	280	3900	230	3900	230	3900	230	
100(38)	11540	800	10380	720	9230	630	8080	540	6920	460	5770	370	4620	290	3850	230	3850	230	3850	230	
102(39)	11380	810	10250	730	9110	640	7970	550	6830	470	5690	380	4550	290	3790	230	3790	230	3790	230	
104(40)	11230	830	10110	740	8980	650	7860	560	6740	470	5620	380	4490	290	3740	240	3740	240	3740	240	
106(41)	11080	840	9970	750	8860	660	7750	570	6650	480	5540	390	4430	300	3690	240	3690	240	3690	240	
108(42)	10920	850	9830	760	8740	670	7650	570	6550	480	5460	390	4370	300	3640	240	3640	240	3640	240	
109(43)	10770	860	9690	770	8610	670	7540	580	6460	490	5380	400	4310	310	3590	250	3590	250	3590	250	
111(44)	10610	870	9550	780	8490	680	7430	590	6370	500	5310	400	4250	310	3540	250	3540	250	3540	250	
113(45)	10460	880	9410	790	8370	690	7320	600	6280	500	5230	410	4180	310	3490	250	3490	250	3490	250	
115(46)	10310	890	9280	800	8240	700	7210	600	6180	510	5150	410	4120	320	3440	250	3440	250	3440	250	

Heating																					
Outdoor Temperature DB °F(°C)	Parts Load (%)																				
	100		90		80		70		60		50		40		30		20		10		
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	
-13(-25)	5140	340	4620	310	4110	270	3590	230	3080	200	2570	160	2050	120	1540	90	1100	50	1100	50	
-11(-24)	5260	350	4730	310	4210	280	3680	240	3160	200	2630	160	2100	130	1580	90	1130	60	1130	60	
-9(-23)	5390	360	4850	320	4310	280	3770	240	3230	210	2690	170	2150	130	1620	90	1150	60	1150	60	
-8(-22)	5510	370	4960	330	4410	290	3860	250	3310	210	2760	170	2200	130	1650	90	1180	60	1180	60	
-6(-21)	5640	370	5070	330	4510	290	3950	250	3380	210	2820	170	2250	130	1690	90	1210	60	1210	60	
-4(-20)	5760	380	5190	340	4610	300	4030	260	3460	220	2880	180	2300	140	1730	100	1230	60	1230	60	
-2(-19)	6090	400	5480	350	4870	310	4260	270	3650	230	3040	180	2430	140	1830	100	1300	60	1300	60	
0(-18)	6410	410	5770	370	5130	320	4490	280	3850	240	3210	190	2570	150	1920	100	1370	60	1370	60	
1(-17)	6740	430	6060	380	5390	340	4720	290	4040	240	3370	200	2700	150	2020	110	1440	70	1440	70	
3(-16)	7060	440	6360	400	5650	350	4940	300	4240	250	3530	210	2830	160	2120	110	1510	70	1510	70	
5(-15)	7390	460	6650	410	5910	360	5170	310	4430	260	3690	210	2960	160	2220	110	1580	70	1580	70	
7(-14)	7510	490	6760	440	6010	380	5260	330	4500	280	3750	230	3000	170	2250	120	1610	80	1610	80	
9(-13)	7630	520	6860	460	6100	410	5340	350	4580	290	3810	240	3050	180	2290	130	1630	80	1630	80	
10(-12)	7750	540	6970	490	6200	430	5420	370	4650	310	3870	250	3100	190	2320	140	1660	90	1660	90	
12(-11)	7860	570	7080	510	6290	450	5510	390	4720	330	3930	270	3150	200	2360	140	1690	90	1690	90	
14(-10)	7980	600	7180	540	6390	470	5590	410	4790	340	3990	280	3190	210	2390	150	1710	90	1710	90	
16(-9)	8100	630	7290	560	6480	500	5670	430	4860	360	4050	290	3240	220	2430	160	1740	100	1740	100	
18(-8)	8220	660	7400	590	6580	520	5750	450	4930	380	4110	310	3290	240	2470	160	1760	100	1760	100	
19(-7)	8340	690	7510	610	6670	540	5840	470	5000	390	4170	320	3340	250	2500	170	1790	110	1790	110	
21(-6)	8540	720	7690	640	6830	560	5980	490	5120	410	4270	330	3420	260	2560	180	1830	110	1830	110	
23(-5)	8740	750	7870	670	6990	590	6120	510	5240	430	4370	350	3500	270	2620	190	1870	120	1870	120	
25(-4)	8940	780	8050	690	7150	610	6260	530	5360	440	4470	360	3580	280	2680	190	1920	120	1920	120	
27(-3)	9140	810	8230	720	7310	630	6400	550	5490	460	4570	370	3660	290	2740	200	1960	130	1960	130	
28(-2)	9340	840	8410	750	7470	660	6540	570	5610	480	4670	390	3740	300	2800	210	2000	130	2000	130	
30(-1)	9540	870	8590	770	7630	680	6680	590	5730	490	4770	400	3820	310	2860	220	2040	140	2040	140	
32(0)	9740	900	8770	800	7790	700	6820	610	5850	510	4870	420	3900	320	2920	220	2090	140	2090	140	
34(1)	9940	930	8950	830	7960	730	6960	630	5970	530	4970	430	3980	330	2980	230	2130	150	2130	150	
36(2)	10140	960	9130	850	8120	750	7100	650	6090	550	5070	440	4060	340	3040	240	2170	150	2170	150	
37(3)	10310	970	9280	860	8250	760	7220	660	6190	550	5160	450	4120	350	3090	240	2210	150	2210	150	
39(4)	10480	980	9430	880	8380	770	7330	670	6290	560	5240	460	4190	350	3140	240	2250	150	2250	150	
41(5)	10640	990	9580	890	8510	780	7450	670	6390	570	5320	460	4260	350	3190	250	2280	160	2280	160	
43(6)	13640	1060	12270	950	10910	840	9550	720	8180	610	6820	490	5460	380	4090	270	2920	170	2920	170	
45(7)	14000	1080	12600	960	11200	850	9800	730	8400	620	7000	500	5600	390	4200	270	3000	170	3000	170	
46(8)	14360	1100	12930	980	11490	860	10050	740	8620	630	7180	510	5740	390	4310	270	3080	170	3080	170	
48(9)	14720	1110	13250	990	11780	870	10310	760	8830	640	7360	520	5890	400	4420	280	3150	180	3150	180	
50(10)	15080	1130	13580	1010	12070	890	10560	770	9050	650	7540	520	6030	400	4530	280	3230	180	3230	180	
52(11)	15450	1150	13900	1020	12360	900	10810	780	9270	650	7720	530	6180	410	4630	290	3310	180	3310	180	
54(12)	15810	1160	14230	1040	12650	910	11060	790	9480	660	7900	540	6320	410	4740	290	3390	180	3390	180	
55(13)	16170	1180	14550	1050	12930	930	11320	800	9700	670	8080	550	6470	420	4850	290	3460	190	3460	190	
57(14)	16530	1200	14880	1070	13220	940	11570	810	9920	680	8260	560	6610	430	4960	300	3540	190	3540	190	
59(15)	16890	1210	15200	1080	13510	950	11820	820	10130	690	8450	560	6760	430	5070	300	3620	190	3620	190	

Indoor : RAV-SM182KRTP-UL
Outdoor : RAV-SP182AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	4000	220	3000	170
RATING	Btu/h	18000	1500	20000	1770
MAXIMUM	Btu/h	19100	1705	21400	1960

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	21470	1180	19320	1050	17170	920	15030	790	12880	660	10730	530	8590	400	6440	270	4770	170	4770	170
70(21)	21230	1200	19110	1070	16990	940	14860	800	12740	670	10620	540	8490	410	6370	280	4720	180	4720	180
72(22)	21000	1220	18900	1090	16800	950	14700	820	12600	680	10500	550	8400	420	6300	280	4670	180	4670	180
73(23)	20770	1240	18690	1110	16620	970	14540	830	12460	700	10390	560	8310	420	6230	290	4620	180	4620	180
75(24)	20540	1260	18490	1120	16430	990	14380	850	12320	710	10270	570	8220	430	6160	290	4560	190	4560	190
77(25)	20310	1290	18280	1140	16250	1000	14220	860	12190	720	10160	580	8120	440	6090	300	4510	190	4510	190
79(26)	20080	1310	18070	1160	16060	1020	14060	880	12050	730	10040	590	8030	450	6020	300	4460	190	4460	190
81(27)	19850	1330	17860	1180	15880	1040	13890	890	11910	750	9920	600	7940	450	5950	310	4410	190	4410	190
82(28)	19620	1350	17660	1200	15690	1050	13730	910	11770	760	9810	610	7850	460	5890	310	4360	200	4360	200
84(29)	19390	1370	17450	1220	15510	1070	13570	920	11630	770	9690	620	7750	470	5820	320	4310	200	4310	200
86(30)	19160	1390	17240	1240	15320	1090	13410	930	11490	780	9580	630	7660	480	5750	320	4260	200	4260	200
88(31)	18920	1410	17030	1260	15140	1100	13250	950	11350	790	9460	640	7570	480	5680	330	4210	210	4210	210
90(32)	18690	1440	16820	1280	14950	1120	13090	960	11220	810	9350	650	7480	490	5610	330	4150	210	4150	210
91(33)	18460	1460	16620	1300	14770	1140	12920	980	11080	820	9230	660	7380	500	5540	340	4100	210	4100	210
93(34)	18230	1480	16410	1320	14580	1150	12760	990	10940	830	9120	670	7290	510	5470	340	4050	220	4050	220
95(35)	18000	1500	16200	1340	14400	1170	12600	1010	10800	840	9000	680	7200	510	5400	350	4000	220	4000	220
97(36)	17770	1520	15990	1350	14220	1190	12440	1020	10660	850	8880	690	7110	520	5330	350	3950	220	3950	220
99(37)	17540	1540	15780	1370	14030	1200	12280	1040	10520	870	8770	700	7020	530	5260	360	3900	230	3900	230
100(38)	17310	1560	15580	1390	13850	1220	12110	1050	10380	880	8650	710	6920	530	5190	360	3850	230	3850	230
102(39)	17080	1590	15370	1410	13660	1240	11950	1060	10250	890	8540	720	6830	540	5120	370	3790	230	3790	230
104(40)	16850	1610	15160	1430	13480	1250	11790	1080	10110	900	8420	730	6740	550	5050	370	3740	240	3740	240
106(41)	16610	1630	14950	1450	13290	1270	11630	1090	9970	910	8310	740	6650	560	4980	380	3690	240	3690	240
108(42)	16380	1650	14740	1470	13110	1290	11470	1110	9830	930	8190	750	6550	560	4910	380	3640	240	3640	240
109(43)	16130	1660	14510	1480	12900	1290	11290	1110	9680	930	8060	750	6450	570	4840	380	3580	240	3580	240
111(44)	15860	1660	14270	1480	12690	1290	11100	1110	9510	930	7930	750	6340	570	4760	380	3520	240	3520	240
113(45)	14910	1290	13420	1150	11930	1000	10440	860	8950	720	7460	580	5970	440	4470	300	3310	190	3310	190
115(46)	14640	1290	13180	1150	11710	1000	10250	860	8790	720	7320	580	5860	440	4390	300	3250	190	3250	190

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	8310	840	7480	750	6650	660	5820	570	4990	480	4150	390	3320	300	2490	210	1660	130	1250	80
-11(-24)	8390	850	7550	760	6710	670	5870	580	5030	490	4190	400	3350	310	2520	220	1680	130	1260	80
-9(-23)	8460	860	7620	770	6770	680	5920	590	5080	490	4230	400	3390	310	2540	220	1690	130	1270	80
-8(-22)	8540	870	7690	780	6830	680	5980	590	5120	500	4270	410	3420	310	2560	220	1710	130	1280	80
-6(-21)	8620	880	7760	790	6890	690	6030	600	5170	510	4310	410	3450	320	2590	220	1720	130	1290	80
-4(-20)	8700	890	7830	800	6960	700	6090	610	5220	510	4350	420	3480	320	2610	230	1740	130	1300	90
-2(-19)	8810	910	7930	810	7050	720	6170	620	5290	520	4410	430	3520	330	2640	230	1760	140	1320	90
0(-18)	8930	930	8030	830	7140	730	6250	630	5360	530	4460	440	3570	340	2680	240	1790	140	1340	90
1(-17)	9040	950	8140	850	7230	750	6330	650	5430	550	4520	440	3620	340	2710	240	1810	140	1360	90
3(-16)	9160	970	8240	870	7330	760	6410	660	5500	560	4580	450	3660	350	2750	250	1830	140	1370	90
5(-15)	9280	990	8350	880	7420	780	6490	670	5570	570	4640	460	3710	360	2780	250	1860	150	1390	100
7(-14)	9780	1010	8800	900	7830	790	6850	690	5870	580	4890	470	3910	360	2930	260	1960	150	1470	100
9(-13)	10290	1020	9260	920	8230	810	7200	700	6170	590	5140	480	4120	370	3090	260	2060	150	1540	100
10(-12)	10800	1040	9720	930	8640	820	7560	710	6480	600	5400	490	4320	380	3240	270	2160	160	1620	100
12(-11)	11300	1060	10170	950	9040	830	7910	720	6780	610	5650	500	4520	380	3390	270	2260	160	1700	100
14(-10)	11810	1080	10630	960	9450	850	8270	730	7090	620	5910	500	4720	390	3540	280	2360	160	1770	100
16(-9)	12320	1090	11090	980	9860	860	8620	740	7390	630	6160	510	4930	400	3700	280	2460	160	1850	110
18(-8)	12830	1110	11540	990	10260	870	8980	760	7700	640	6410	520	5130	400	3850	280	2570	170	1920	110
19(-7)	13330	1130	12000	1010	10670	890	9330	770	8000	650	6670	530	5330	410	4000	290	2670	170	2000	110
21(-6)	13460	1180	12120	1050	10770	930	9420	800	8080	680	6730	550	5380	430	4040	300	2690	180	2020	110
23(-5)	13590	1230	12230	1090	10870	960	9510	830	8150	700	6800	570	5440	440	4080	310	2720	180	2040	120
25(-4)	13720	1270	12350	1140	10980	1000	9600	870	8230	730	6860	600	5490	460	4120	330	2740	190	2060	120
27(-3)	13850	1320	12460	1180	11080	1040	9690	900	8310	760	6920	620	5540	480	4150	340	2770	200	2080	130
28(-2)	13980	1370	12580	1230	11180	1080	9780	930	8390	790	6990	640	5590	500	4190	350	2800	200	2100	130
30(-1)	14110	1420	12700	1270	11290	1120	9870	970	8460	820	7050	670	5640	510	4230	360	2820	210	2120	140
32(0)	14240	1470	12810	1310	11390	1160	9960	1000	8540	840	7120	690	5690	530	4270	380	2850	220	2140	140
34(1)	14360	1520	12930	1360	11490	1190	10050	1030	8620	870	7180	710	5750	550	4310	390	2870	230	2150	150
36(2)	14490	1570	13040	1400	11590	1230	10140	1070	8700	900	7250	730	5800	570	4350	400	2900	230	2170	150
37(3)	14730	1590	13260	1420	11780	1250	10310	1080	8840	910	7370	740	5890	570	4420	410	2950	240	2210	150
39(4)	14970	1610	13470	1440	11970	1270	10480	1100	8980	920	7480	750	5990	580	4490	410	2990	240	2250	150
41(5)	15200	1630	13680	1460	12160	1280	10640	1110	9120	940	7600	760	6080	590	4560	420	3040	240	2280	160
43(6)	19480	1740	17540	1560	15590	1370	13640	1190	11690	1000	9740	820	7790	630	5850	450	3900	260	2920	170
45(7)	20000	1770	18000	1580	16000	1390	14000	1210	12000	1020	10000	830	8000	640	6000	450	4000	260	3000	170
46(8)	20520	1800	18460	1610	16410	1420	14360	1220	12310	1030	10260	840	8210	650	6150	460	4100	270	3080	170
48(9)	21030	1820	18930	1630	16830	1440	14720	1240	12620	1050	10520	850	8410	660	6310	470	4210	270	3150	180
50(10)	21550	1850	19390	1660	17240	1460	15080	1260	12930	1060	10770	870	8620	670	6460	470	4310	280	3230	180
52(11)	22060	1880	19860	1680	17650	1480	15450	1280	13240	1080	11030	880	8830	680	6620	480	4410	280	3310	180
54(12)	22580	1910	20320	1700	18060	1500	15810	1300	13550	1100	11290	890	9030	690	6770	490	4520	280	3390	180
55(13)	23100	1930	20790	1730	18480	1520	16170	1320	13860	1110	11550	910	9240	700	6930	490	4620	290	3460	190
57(14)	23610	1960	21250	1750	18890	1540	16530	1340	14170	1130	11810	920	9450	710	7080	500	4720	290	3540	190
59(15)	24130	1990	21720	1780	19300	1570	16890	1350	14480	1140	12060	930	9650	720	7240	510	4830	300	3620	190

Indoor : RAV-SM242KRTP-UL
Outdoor : RAV-SP242AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	6500	280	5100	250
RATING	Btu/h	24000	2060	27000	2550
MAXIMUM	Btu/h	27300	2710	38500	3580

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	28620	1620	25760	1430	22900	1230	20030	1040	17170	850	14310	660	11450	470	8590	280	7750	220	7750	220
70(21)	28310	1650	25480	1450	22650	1260	19820	1060	16990	870	14160	670	11320	480	8490	280	7670	220	7670	220
72(22)	28000	1680	25200	1480	22400	1280	19600	1080	16800	880	14000	680	11200	480	8400	290	7580	230	7580	230
73(23)	27700	1710	24930	1500	22160	1300	19390	1100	16620	900	13850	700	11080	490	8310	290	7500	230	7500	230
75(24)	27390	1740	24650	1530	21910	1320	19170	1120	16430	910	13690	710	10960	500	8220	300	7420	240	7420	240
77(25)	27080	1760	24370	1560	21660	1350	18960	1140	16250	930	13540	720	10830	510	8120	300	7330	240	7330	240
79(26)	26770	1790	24090	1580	21420	1370	18740	1160	16060	940	13390	730	10710	520	8030	310	7250	240	7250	240
81(27)	26460	1820	23820	1610	21170	1390	18520	1180	15880	960	13230	740	10590	530	7940	310	7170	250	7170	250
82(28)	26160	1850	23540	1630	20920	1410	18310	1190	15690	970	13080	760	10460	540	7850	320	7080	250	7080	250
84(29)	25850	1880	23260	1660	20680	1440	18090	1210	15510	990	12920	770	10340	540	7750	320	7000	260	7000	260
86(30)	25540	1910	22990	1690	20430	1460	17880	1230	15320	1010	12770	780	10220	550	7660	330	6920	260	6920	260
88(31)	25230	1940	22710	1710	20190	1480	17660	1250	15140	1020	12620	790	10090	560	7570	330	6830	260	6830	260
90(32)	24920	1970	22430	1740	19940	1500	17450	1270	14950	1040	12460	800	9970	570	7480	340	6750	270	6750	270
91(33)	24620	2000	22150	1760	19690	1530	17230	1290	14770	1050	12310	820	9850	580	7380	340	6670	270	6670	270
93(34)	24310	2030	21880	1790	19450	1550	17020	1310	14580	1070	12150	830	9720	590	7290	350	6580	280	6580	280
95(35)	24000	2060	21600	1820	19200	1570	16800	1330	14400	1080	12000	840	9600	600	7200	350	6500	280	6500	280
97(36)	23690	2090	21320	1840	18950	1590	16580	1350	14220	1100	11850	850	9480	600	7110	360	6420	280	6420	280
99(37)	23380	2120	21050	1870	18710	1620	16370	1370	14030	1110	11690	860	9350	610	7020	360	6330	290	6330	290
100(38)	23080	2150	20770	1890	18460	1640	16150	1380	13850	1130	11540	880	9230	620	6920	370	6250	290	6250	290
102(39)	22770	2180	20490	1920	18210	1660	15940	1400	13660	1150	11380	890	9110	630	6830	370	6170	300	6170	300
104(40)	22460	2210	20210	1950	17970	1680	15720	1420	13480	1160	11230	900	8980	640	6740	380	6080	300	6080	300
106(41)	22150	2240	19940	1970	17720	1710	15510	1440	13290	1180	11080	910	8860	650	6650	380	6000	300	6000	300
108(42)	21840	2270	19660	2000	17480	1730	15290	1460	13110	1190	10920	920	8740	660	6550	390	5920	310	5920	310
109(43)	21540	2300	19380	2020	17230	1750	15080	1480	12920	1210	10770	940	8610	660	6460	390	5830	310	5830	310
111(44)	21230	2330	19110	2050	16980	1770	14860	1500	12740	1220	10610	950	8490	670	6370	400	5750	320	5750	320
113(45)	20790	2330	18710	2050	16630	1780	14550	1500	12470	1220	10400	950	8320	670	6240	400	5630	320	5630	320
115(46)	20340	2330	18310	2050	16280	1780	14240	1500	12210	1220	10170	950	8140	670	6100	400	5510	320	5510	320

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	7790	1080	7010	960	6230	840	5450	720	4670	600	3900	480	3120	360	2340	240	1560	120	1470	110
-11(-24)	8290	1140	7460	1010	6630	890	5800	760	4970	630	4150	510	3320	380	2490	250	1660	130	1570	110
-9(-23)	8790	1200	7910	1070	7030	930	6150	800	5270	670	4390	530	3520	400	2640	270	1760	130	1660	120
-8(-22)	9290	1260	8360	1120	7430	980	6500	840	5570	700	4640	560	3710	420	2790	280	1860	140	1750	120
-6(-21)	9790	1320	8810	1170	7830	1020	6850	880	5870	730	4890	580	3910	440	2940	290	1960	150	1850	130
-4(-20)	10280	1380	9260	1220	8230	1070	7200	920	6170	760	5140	610	4110	460	3090	300	2060	150	1940	130
-2(-19)	10690	1350	9620	1200	8550	1050	7480	900	6410	750	5340	600	4270	450	3210	300	2140	150	2020	130
0(-18)	11090	1320	9980	1170	8870	1020	7760	880	6650	730	5540	590	4430	440	3330	290	2220	150	2090	130
1(-17)	11490	1290	10340	1150	9190	1000	8040	860	6890	720	5740	570	4600	430	3450	290	2300	140	2170	130
3(-16)	11890	1260	10700	1120	9510	980	8320	840	7130	700	5940	560	4760	420	3570	280	2380	140	2250	120
5(-15)	12290	1230	11060	1090	9830	960	8600	820	7370	680	6150	550	4920	410	3690	270	2460	140	2320	120
7(-14)	12950	1280	11650	1140	10360	1000	9060	850	7770	710	6470	570	5180	430	3880	280	2590	140	2450	130
9(-13)	13610	1340	12250	1190	10890	1040	9530	890	8160	740	6800	590	5440	440	4080	300	2720	150	2570	130
10(-12)	14270	1390	12840	1230	11410	1080	9990	930	8560	770	7130	620	5710	460	4280	310	2850	150	2690	140
12(-11)	14920	1440	13430	1280	11940	1120	10450	960	8950	800	7460	640	5970	480	4480	320	2980	160	2820	140
14(-10)	15580	1490	14020	1330	12470	1160	10910	1000	9350	830	7790	660	6230	500	4670	330	3120	160	2940	150
16(-9)	16240	1550	14620	1370	12990	1200	11370	1030	9740	860	8120	690	6500	510	4870	340	3250	170	3070	150
18(-8)	16900	1600	15210	1420	13520	1240	11830	1070	10140	890	8450	710	6760	530	5070	350	3380	180	3190	160
19(-7)	17560	1650	15800	1470	14050	1280	12290	1100	10540	920	8780	730	7020	550	5270	370	3510	180	3320	160
21(-6)	17780	1720	16000	1530	14230	1340	12450	1150	10670	950	8890	760	7110	570	5330	380	3560	190	3360	170
23(-5)	18000	1790	16200	1590	14400	1390	12600	1190	10800	990	9000	790	7200	590	5400	400	3600	200	3400	180
25(-4)	18230	1850	16400	1650	14580	1440	12760	1230	10940	1030	9110	820	7290	620	5470	410	3650	200	3440	180
27(-3)	18450	1920	16610	1710	14760	1490	12920	1280	11070	1070	9230	850	7380	640	5540	430	3690	210	3490	190
28(-2)	18670	1990	16810	1770	14940	1550	13070	1320	11200	1100	9340	880	7470	660	5600	440	3730	220	3530	190
30(-1)	18900	2050	17010	1830	15120	1600	13230	1370	11340	1140	9450	910	7560	680	5670	460	3780	230	3570	200
32(0)	19120	2120	17210	1890	15300	1650	13380	1410	11470	1180	9560	940	7650	710	5740	470	3820	230	3610	210
34(1)	19340	2190	17410	1950	15470	1700	13540	1460	11610	1220	9670	970	7740	730	5800	490	3870	240	3650	210
36(2)	19570	2260	17610	2010	15650	1750	13700	1500	11740	1250	9780	1000	7830	750	5870	500	3910	250	3700	220
37(3)	19890	2290	17900	2030	15910	1780	13920	1520	11930	1270	9940	1020	7950	760	5970	510	3980	250	3760	220
39(4)	20210	2320	18190	2060	16160	1800	14140	1540	12120	1290	10100	1030	8080	770	6060	510	4040	260	3820	230
41(5)	20530	2350	18470	2090	16420	1830	14370	1560	12320	1300	10260	1040	8210	780	6160	520	4110	260	3880	230
43(6)	26300	2510	23670	2230	21040	1950	18410	1670	15780	1390	13150	1110	10520	840	7890	560	5260	280	4970	250
45(7)	27000	2550	24300	2270	21600	1980	18900	1700	16200	1420	13500	1130	10800	850	8100	570	5400	280	5100	250
46(8)	27700	2590	24930	2300	22160	2010	19390	1730	16620	1440	13850	1150	11080	860	8310	570	5540	290	5230	250
48(9)	28390	2630	25550	2340	22710	2040	19880	1750	17040	1460	14200	1170	11360	870	8520	580	5680	290	5360	260
50(10)	29090	2670	26180	2370	23270	2070	20360	1780	17450	1480	14550	1180	11640	890	8730	590	5820	290	5490	260
52(11)	29790	2710	26810	2410	23830	2110	20850	1800	17870	1500	14890	1200	11910	900	8940	600	5960	300	5630	270
54(12)	30480	2750	27440	2440	24390	2140	21340	1830	18290	1530	15240	1220	12190	910	9150	610	6100	300	5760	270
55(13)	31180	2790	28060	2480	24940	2170	21830	1860	18710	1550	15590	1240	12470	930	9350	620	6240	310	5890	270
57(14)	31880	2830	28690	2510	25500	2200	22310	1880	19130	1570	15940	1250	12750	940	9560	630	6380	310	6020	280
59(15)	32570	2870	29320	2550	26060	2230	22800	1910	19540	1590	16290	1270	13030	950	9770	640	6510	320	6150	280

Indoor : RAV-SM302KRTP-UL
Outdoor : RAV-SP302AT2P-UL

Operation range		Cooling		Heating	
		Q	P	Q	P
MINIMUM	Btu/h	8900	600	8100	530
RATING	Btu/h	30000	2380	34000	2840
MAXIMUM	Btu/h	38500	4210	40900	4170

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	35780	1870	32200	1670	28620	1470	25040	1270	21470	1070	17890	870	14310	680	10730	480	10610	470	10610	470
70(21)	35390	1900	31850	1700	28310	1500	24770	1300	21230	1090	17700	890	14160	690	10620	490	10500	480	10500	480
72(22)	35010	1940	31500	1730	28000	1520	24500	1320	21000	1110	17500	910	14000	700	10500	500	10380	490	10380	490
73(23)	34620	1970	31160	1760	27700	1550	24230	1340	20770	1130	17310	920	13850	710	10390	500	10270	500	10270	500
75(24)	34240	2000	30810	1790	27390	1580	23960	1370	20540	1150	17120	940	13690	730	10270	510	10160	510	10160	510
77(25)	33850	2040	30470	1820	27080	1610	23700	1390	20310	1170	16930	950	13540	740	10160	520	10040	510	10040	510
79(26)	33470	2070	30120	1850	26770	1630	23430	1410	20080	1190	16730	970	13390	750	10040	530	9930	520	9930	520
81(27)	33080	2110	29770	1880	26460	1660	23160	1430	19850	1210	16540	990	13230	760	9920	540	9810	530	9810	530
82(28)	32700	2140	29430	1910	26160	1690	22890	1460	19620	1230	16350	1000	13080	780	9810	550	9700	540	9700	540
84(29)	32310	2180	29080	1940	25850	1710	22620	1480	19390	1250	16160	1020	12920	790	9690	560	9590	550	9590	550
86(30)	31930	2210	28730	1970	25540	1740	22350	1500	19160	1270	15960	1030	12770	800	9580	560	9470	560	9470	560
88(31)	31540	2240	28390	2000	25230	1770	22080	1530	18920	1290	15770	1050	12620	810	9460	570	9360	570	9360	570
90(32)	31160	2280	28040	2040	24920	1790	21810	1550	18690	1310	15580	1070	12460	820	9350	580	9240	570	9240	570
91(33)	30770	2310	27690	2070	24620	1820	21540	1570	18460	1330	15390	1080	12310	840	9230	590	9130	580	9130	580
93(34)	30390	2350	27350	2100	24310	1850	21270	1600	18230	1350	15190	1100	12150	850	9120	600	9010	590	9010	590
95(35)	30000	2380	27000	2130	24000	1870	21000	1620	18000	1370	15000	1110	12000	860	9000	610	8900	600	8900	600
97(36)	29620	2410	26650	2160	23690	1900	20730	1640	17770	1390	14810	1130	11850	870	8880	620	8790	610	8790	610
99(37)	29230	2450	26310	2190	23380	1930	20460	1670	17540	1410	14620	1150	11690	890	8770	630	8670	620	8670	620
100(38)	28850	2480	25960	2220	23080	1950	20190	1690	17310	1430	14420	1160	11540	900	8650	630	8560	630	8560	630
102(39)	28460	2520	25610	2250	22770	1980	19920	1710	17080	1450	14230	1180	11380	910	8540	640	8440	630	8440	630
104(40)	28080	2550	25270	2280	22460	2010	19650	1740	16850	1470	14040	1190	11230	920	8420	650	8330	640	8330	640
106(41)	27690	2580	24920	2310	22150	2030	19380	1760	16610	1490	13850	1210	11080	940	8310	660	8210	650	8210	650
108(42)	27310	2620	24570	2340	21840	2060	19110	1780	16380	1500	13650	1230	10920	950	8190	670	8100	660	8100	660
109(43)	26920	2650	24230	2370	21540	2090	18840	1810	16150	1520	13460	1240	10770	960	8080	680	7990	670	7990	670
111(44)	26540	2690	23880	2400	21230	2120	18570	1830	15920	1540	13270	1260	10610	970	7960	690	7870	680	7870	680
113(45)	26150	2720	23540	2430	20920	2140	18310	1850	15690	1560	13080	1270	10460	990	7850	700	7760	690	7760	690
115(46)	25770	2760	23190	2460	20610	2170	18040	1880	15460	1580	12880	1290	10310	1000	7730	700	7640	690	7640	690

Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	10840	1210	9760	1080	8670	950	7590	820	6500	700	5420	570	4340	440	3250	310	2580	230	2580	230
-11(-24)	11440	1280	10300	1150	9160	1010	8010	870	6870	730	5720	600	4580	460	3430	320	2730	240	2730	240
-9(-23)	12050	1350	10840	1210	9640	1060	8430	920	7230	770	6020	630	4820	490	3610	340	2870	250	2870	250
-8(-22)	12650	1420	11390	1270	10120	1120	8860	970	7590	810	6330	660	5060	510	3800	360	3010	270	3010	270
-6(-21)	13260	1490	11930	1330	10600	1170	9280	1010	7950	850	6630	690	5300	540	3980	380	3160	280	3160	280
-4(-20)	13860	1560	12470	1390	11090	1230	9700	1060	8320	890	6930	730	5540	560	4160	390	3300	290	3300	290
-2(-19)	14290	1580	12860	1410	11430	1250	10000	1080	8570	910	7140	740	5720	570	4290	400	3400	300	3400	300
0(-18)	14720	1610	13250	1440	11780	1270	10300	1090	8830	920	7360	750	5890	580	4420	410	3510	300	3510	300
1(-17)	15150	1640	13640	1460	12120	1290	10610	1110	9090	940	7580	760	6060	590	4550	410	3610	310	3610	310
3(-16)	15580	1660	14030	1480	12470	1310	10910	1130	9350	950	7790	770	6230	600	4680	420	3710	310	3710	310
5(-15)	16010	1690	14410	1510	12810	1330	11210	1150	9610	970	8010	790	6410	610	4800	430	3820	310	3820	310
7(-14)	16630	1690	14970	1510	13300	1330	11640	1150	9980	970	8320	790	6650	610	4990	430	3960	320	3960	320
9(-13)	17250	1700	15520	1520	13800	1340	12070	1160	10350	980	8620	790	6900	610	5170	430	4110	320	4110	320
10(-12)	17860	1710	16080	1530	14290	1340	12500	1160	10720	980	8930	800	7140	610	5360	430	4260	320	4260	320
12(-11)	18480	1720	16630	1530	14780	1350	12930	1170	11090	980	9240	800	7390	620	5540	430	4400	320	4400	320
14(-10)	19090	1720	17180	1540	15280	1360	13370	1170	11460	990	9550	800	7640	620	5730	440	4550	320	4550	320
16(-9)	19710	1730	17740	1550	15770	1360	13800	1180	11830	990	9860	810	7880	620	5910	440	4700	320	4700	320
18(-8)	20330	1740	18290	1550	16260	1370	14230	1180	12200	1000	10160	810	8130	630	6100	440	4840	320	4840	320
19(-7)	20940	1750	18850	1560	16750	1370	14660	1190	12570	1000	10470	810	8380	630	6280	440	4990	330	4990	330
21(-6)	21350	1830	19220	1640	17080	1440	14950	1250	12810	1050	10680	850	8540	660	6410	460	5090	340	5090	340
23(-5)	21760	1920	19590	1710	17410	1510	15230	1300	13060	1100	10880	890	8710	690	6530	480	5180	360	5180	360
25(-4)	22170	2000	19960	1790	17740	1580	15520	1360	13300	1150	11090	930	8870	720	6650	510	5280	370	5280	370
27(-3)	22580	2090	20330	1870	18070	1640	15810	1420	13550	1200	11290	970	9030	750	6780	530	5380	390	5380	390
28(-2)	23000	2170	20700	1940	18400	1710	16100	1480	13800	1240	11500	1010	9200	780	6900	550	5480	410	5480	410
30(-1)	23410	2260	21070	2020	18720	1780	16380	1530	14040	1290	11700	1050	9360	810	7020	570	5580	420	5580	420
32(0)	23820	2340	21430	2090	19050	1840	16670	1590	14290	1340	11910	1090	9530	840	7140	590	5670	440	5670	440
34(1)	24230	2430	21800	2170	19380	1910	16960	1650	14540	1390	12110	1130	9690	870	7270	610	5770	450	5770	450
36(2)	24640	2510	22170	2240	19710	1980	17250	1710	14780	1440	12320	1170	9860	900	7390	630	5870	470	5870	470
37(3)	25040	2550	22540	2280	20030	2000	17530	1730	15020	1460	12520	1190	10020	920	7510	640	5970	480	5970	480
39(4)	25440	2580	22900	2310	20360	2030	17810	1750	15270	1480	12720	1200	10180	930	7630	650	6060	480	6060	480
41(5)	25850	2610	23260	2340	20680	2060	18090	1780	15510	1500	12920	1220	10340	940	7750	660	6160	490	6160	490
43(6)	33120	2800	29810	2500	26500	2200	23190	1900	19870	1600	16560	1300	13250	1000	9940	710	7890	520	7890	520
45(7)	34000	2840	30600	2540	27200	2230	23800	1930	20400	1630	17000	1320	13600	1020	10200	720	8100	530	8100	530
46(8)	34880	2880	31390	2580	27900	2270	24410	1960	20930	1650	17440	1340	13950	1040	10460	730	8310	540	8310	540
48(9)	35750	2930	32180	2620	28600	2300	25030	1990	21450	1680	17880	1360	14300	1050	10730	740	8520	550	8520	550
50(10)	36630	2970	32970	2650	29310	2340	25640	2020	21980	1700	18320	1390	14650	1070	10990	750	8730	550	8730	550
52(11)	37510	3020	33760	2690	30010	2370	26260	2050	22510	1730	18750	1410	15000	1080	11250	760	8940	560	8940	560
54(12)	38390	3060	34550	2730	30710	2410	26870	2080	23030	1750	19190	1430	15350	1100	11520	770	9150	570	9150	570
55(13)	39260	3100	35340	2770	31410	2440	27490	2110	23560	1780	19630	1450	15710	1120	11780	780	9350	580	9350	580
57(14)	40140	3150	36130	2810	32110	2480	28100	2140	24090	1800	20070	1470	16060	1130	12040	800	9560	590	9560	590
59(15)	41020	3190	36920	2850	32820	2510	28710	2170	24610	1830	20510	1490	16410	1150	12310	810	9770	600	9770	600

Indoor : RAV-SM362KRTP-UL
Outdoor : RAV-SP362AT2P-UL

Operation range	Cooling		Heating	
	Q	P	Q	P
MINIMUM	Btu/h 8900	600	8100	530
RATING	Btu/h 36000	3440	40000	3750
MAXIMUM	Btu/h 41000	4500	44300	6000

Q : Capacity (Btu/h)
P : Power consumption (W)

Cooling

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
68(20)	42930	2700	38640	2400	34340	2110	30050	1810	25760	1520	21470	1220	17170	920	12880	630	10610	470	10610	470
70(21)	42470	2750	38220	2450	33970	2150	29730	1850	25480	1540	21230	1240	16990	940	12740	640	10500	480	10500	480
72(22)	42010	2800	37810	2490	33600	2190	29400	1880	25200	1570	21000	1260	16800	960	12600	650	10380	490	10380	490
73(23)	41540	2850	37390	2540	33240	2220	29080	1910	24930	1600	20770	1290	16620	970	12460	660	10270	500	10270	500
75(24)	41080	2900	36970	2580	32870	2260	28760	1940	24650	1630	20540	1310	16430	990	12320	670	10160	510	10160	510
77(25)	40620	2950	36560	2620	32500	2300	28430	1980	24370	1650	20310	1330	16250	1010	12190	680	10040	510	10040	510
79(26)	40160	3000	36140	2670	32130	2340	28110	2010	24090	1680	20080	1350	16060	1020	12050	700	9930	520	9930	520
81(27)	39700	3050	35730	2710	31760	2380	27790	2040	23820	1710	19850	1380	15880	1040	11910	710	9810	530	9810	530
82(28)	39230	3090	35310	2760	31390	2420	27460	2080	23540	1740	19620	1400	15690	1060	11770	720	9700	540	9700	540
84(29)	38770	3140	34890	2800	31020	2450	27140	2110	23260	1760	19390	1420	15510	1080	11630	730	9590	550	9590	550
86(30)	38310	3190	34480	2840	30650	2490	26820	2140	22990	1790	19160	1440	15320	1090	11490	740	9470	560	9470	560
88(31)	37850	3240	34060	2890	30280	2530	26490	2180	22710	1820	18920	1460	15140	1110	11350	750	9360	570	9360	570
90(32)	37390	3290	33650	2930	29910	2570	26170	2210	22430	1850	18690	1490	14950	1130	11220	760	9240	570	9240	570
91(33)	36920	3340	33230	2970	29540	2610	25850	2240	22150	1880	18460	1510	14770	1140	11080	780	9130	580	9130	580
93(34)	36460	3390	32820	3020	29170	2650	25520	2280	21880	1900	18230	1530	14580	1160	10940	790	9010	590	9010	590
95(35)	36000	3440	32400	3060	28800	2690	25200	2310	21600	1930	18000	1550	14400	1180	10800	800	8900	600	8900	600
97(36)	35540	3490	31980	3110	28430	2720	24880	2340	21320	1960	17770	1580	14220	1190	10660	810	8790	610	8790	610
99(37)	35080	3540	31570	3150	28060	2760	24550	2370	21050	1990	17540	1600	14030	1210	10520	820	8670	620	8670	620
100(38)	34610	3590	31150	3190	27690	2800	24230	2410	20770	2010	17310	1620	13850	1230	10380	830	8560	630	8560	630
102(39)	34150	3640	30740	3240	27320	2840	23910	2440	20490	2040	17080	1640	13660	1240	10250	840	8440	630	8440	630
104(40)	33690	3690	30320	3280	26950	2880	23580	2470	20210	2070	16850	1660	13480	1260	10110	860	8330	640	8330	640
106(41)	33230	3740	29910	3330	26580	2920	23260	2510	19940	2100	16610	1690	13290	1280	9970	870	8210	650	8210	650
108(42)	32770	3790	29490	3370	26210	2950	22940	2540	19660	2120	16380	1710	13110	1290	9830	880	8100	660	8100	660
109(43)	32300	3830	29070	3410	25840	2990	22610	2570	19380	2150	16150	1730	12920	1310	9690	890	7990	670	7990	670
111(44)	31840	3880	28660	3460	25470	3030	22290	2610	19110	2180	15920	1750	12740	1330	9550	900	7870	680	7870	680
113(45)	31380	3930	28240	3500	25100	3070	21970	2640	18830	2210	15690	1780	12550	1340	9410	910	7760	690	7760	690
115(46)	30920	3980	27830	3550	24730	3110	21640	2670	18550	2240	15460	1800	12370	1360	9280	930	7640	690	7640	690

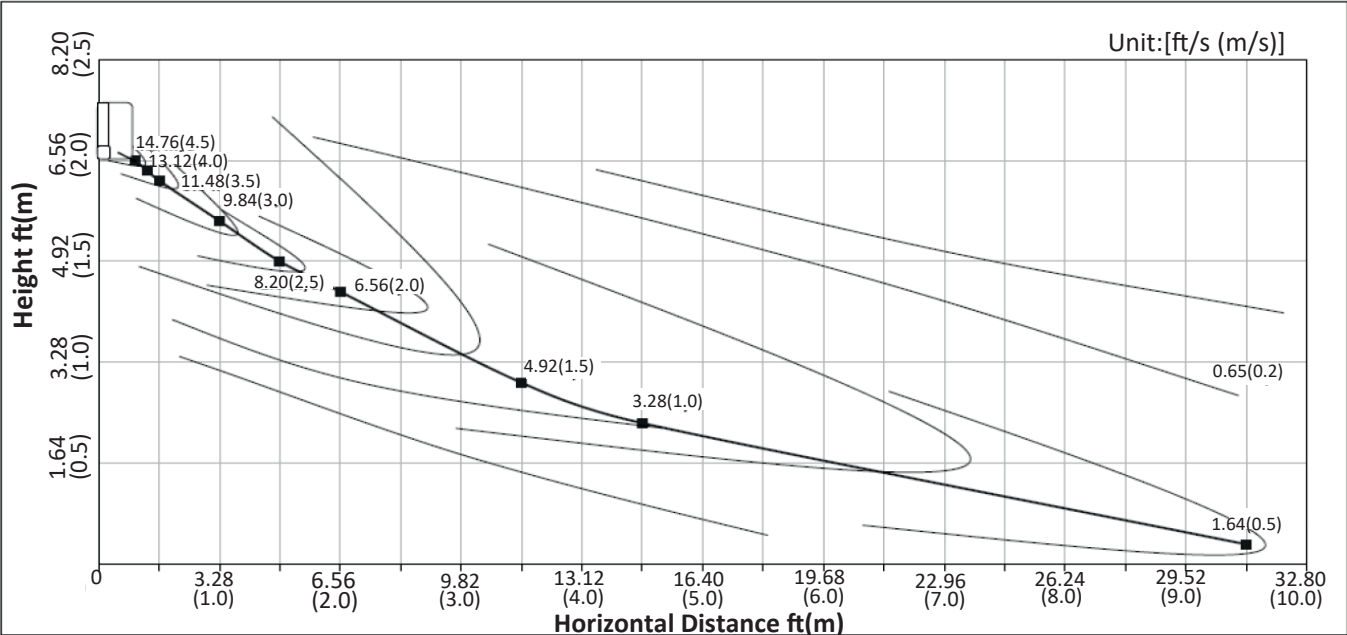
Heating

Outdoor Temperature DB °F(°C)	Parts Load (%)																			
	100		90		80		70		60		50		40		30		20		10	
	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P	Q	P
-13(-25)	14680	2110	13210	1880	11740	1660	10270	1430	8810	1200	7340	970	5870	750	4400	520	2970	300	2970	300
-11(-24)	15260	2130	13740	1900	12210	1670	10680	1440	9160	1210	7630	990	6110	760	4580	530	3090	300	3090	300
-9(-23)	15850	2160	14270	1920	12680	1690	11100	1460	9510	1230	7930	1000	6340	760	4760	530	3210	300	3210	300
-8(-22)	16440	2180	14790	1950	13150	1710	11510	1480	9860	1240	8220	1010	6570	770	4930	540	3330	310	3330	310
-6(-21)	17020	2200	15320	1970	13620	1730	11920	1490	10210	1250	8510	1020	6810	780	5110	540	3450	310	3450	310
-4(-20)	17610	2230	15850	1990	14090	1750	12330	1510	10570	1270	8810	1030	7040	790	5280	550	3570	310	3570	310
-2(-19)	17900	2240	16110	2000	14320	1760	12530	1520	10740	1280	8950	1040	7160	790	5370	550	3630	320	3630	320
0(-18)	18200	2260	16380	2010	14560	1770	12740	1530	10920	1290	9100	1040	7280	800	5460	560	3690	320	3690	320
1(-17)	18490	2270	16640	2030	14790	1780	12940	1540	11100	1290	9250	1050	7400	800	5550	560	3740	320	3740	320
3(-16)	18790	2290	16910	2040	15030	1800	13150	1550	11270	1300	9390	1060	7510	810	5640	560	3800	320	3800	320
5(-15)	19080	2300	17170	2060	15260	1810	13360	1560	11450	1310	9540	1060	7630	820	5720	570	3860	330	3860	330
7(-14)	19450	2320	17500	2070	15560	1820	13610	1570	11670	1320	9720	1070	7780	820	5830	570	3940	330	3940	330
9(-13)	19810	2330	17830	2080	15850	1830	13870	1580	11890	1330	9910	1070	7930	820	5940	570	4010	330	4010	330
10(-12)	20180	2340	18160	2090	16140	1840	14130	1580	12110	1330	10090	1080	8070	830	6050	580	4090	330	4090	330
12(-11)	20550	2350	18490	2100	16440	1850	14380	1590	12330	1340	10270	1090	8220	830	6160	580	4160	330	4160	330
14(-10)	20910	2370	18820	2110	16730	1860	14640	1600	12550	1350	10460	1090	8370	840	6270	580	4240	330	4240	330
16(-9)	21280	2380	19150	2120	17020	1870	14900	1610	12770	1350	10640	1100	8510	840	6380	590	4310	340	4310	340
18(-8)	21650	2390	19480	2130	17320	1880	15150	1620	12990	1360	10820	1100	8660	850	6490	590	4380	340	4380	340
19(-7)	22010	2400	19810	2140	17610	1880	15410	1630	13210	1370	11010	1110	8810	850	6600	590	4460	340	4460	340
21(-6)	22790	2500	20510	2230	18230	1960	15950	1700	13670	1430	11390	1160	9120	890	6840	620	4610	350	4610	350
23(-5)	23560	2610	21210	2330	18850	2040	16490	1760	14140	1480	11780	1200	9430	920	7070	640	4770	370	4770	370
25(-4)	24340	2710	21900	2420	19470	2120	17040	1830	14600	1540	12170	1250	9740	960	7300	670	4930	380	4930	380
27(-3)	25110	2810	22600	2510	20090	2200	17580	1900	15070	1600	12560	1300	10050	990	7530	690	5090	400	5090	400
28(-2)	25890	2910	23300	2600	20710	2280	18120	1970	15530	1660	12940	1340	10350	1030	7770	720	5240	410	5240	410
30(-1)	26660	3010	24000	2690	21330	2360	18660	2040	16000	1720	13330	1390	10660	1070	8000	740	5400	430	5400	430
32(0)	27440	3110	24690	2780	21950	2440	19210	2110	16460	1770	13720	1440	10970	1100	8230	770	5560	440	5560	440
34(1)	28210	3220	25390	2870	22570	2520	19750	2180	16930	1830	14110	1490	11280	1140	8460	790	5710	450	5710	450
36(2)	28990	3320	26090	2960	23190	2600	20290	2250	17390	1890	14490	1530	11590	1170	8700	820	5870	470	5870	470
37(3)	29460	3360	26510	3000	23570	2640	20620	2280	17680	1910	14730	1550	11780	1190	8840	830	5970	480	5970	480
39(4)	29940	3410	26940	3040	23950	2670	20950	2310	17960	1940	14970	1570	11970	1210	8980	840	6060	480	6060	480
41(5)	30410	3450	27370	3080	24330	2710	21290	2340	18250	1970	15200	1590	12160	1220	9120	850	6160	490	6160	490
43(6)	38970	3690	35070	3290	31170	2900	27280	2500	23380	2100	19480	1700	15590	1310	11690	910	7890	520	7890	520
45(7)	40000	3750	36000	3350	32000	2940	28000	2540	24000	2130	20000	1730	16000	1330	12000	920	8100	530	8100	530
46(8)	41030	3810	36930	3400	32830	2990	28720	2580	24620	2170	20520	1760	16410	1350	12310	940	8310	540	8310	540
48(9)	42060	3870	37860	3450	33650	3030	29450	2620	25240	2200	21030	1780	16830	1370	12620	950	8520	550	8520	550
50(10)	43100	3920	38790	3500	34480	3080	30170	2660	25860	2230	21550	1810	17240	1390	12930	970	8730	550	8730	550
52(11)	44130	3980	39720	3550	35300	3120	30890	2700	26480	2270	22060	1840	17650	1410	13240	980	8940	560	8940	560
54(12)	45160	4040	40650	3610	36130	3170	31610	2740	27100	2300	22580	1870	18060	1430	13550	1000	9150	570	9150	570
55(13)	46190	4100	41570	3660	36950	3220	32340	2770	27720	2330	23100	1890	18480	1450	13860	1010	9350	580	9350	580
57(14)	47230	4160	42500	3710	37780	3260	33060	2810	28340	2370	23610	1920	18890	1470	14170	1020	9560	590	9560	590
59(15)	48260	4210	43430	3760	38610	3310	33780	2850	28950	2400	24130	1950	19300	1490	14480	1040	9770	600	9770	600

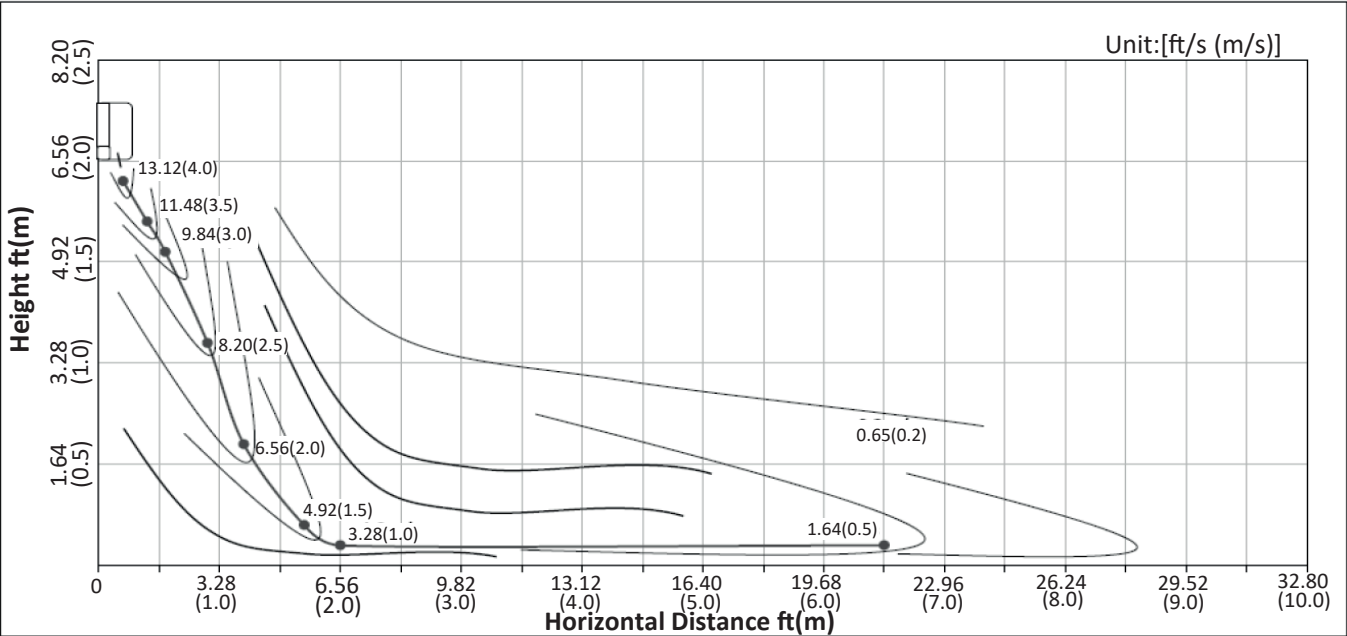
2-4-6. Air Speed Distribution

RAV-SM*_2KRTP-UL (*12 / 18)

Cooling

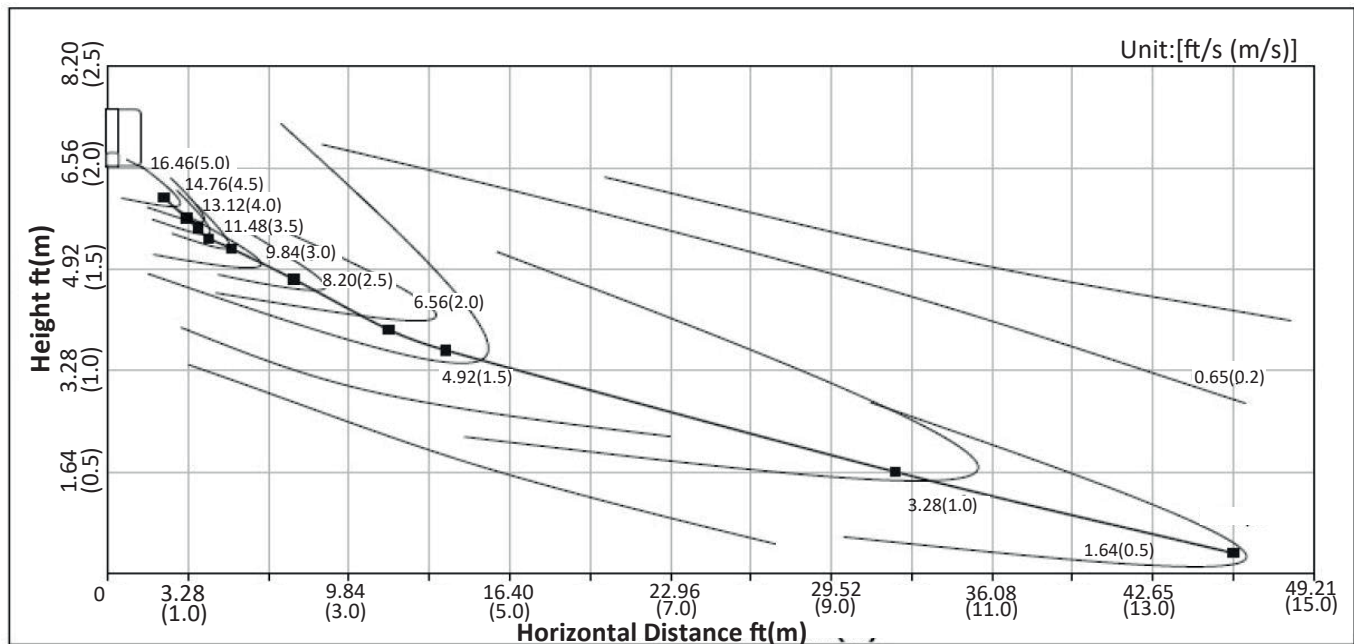


Heating

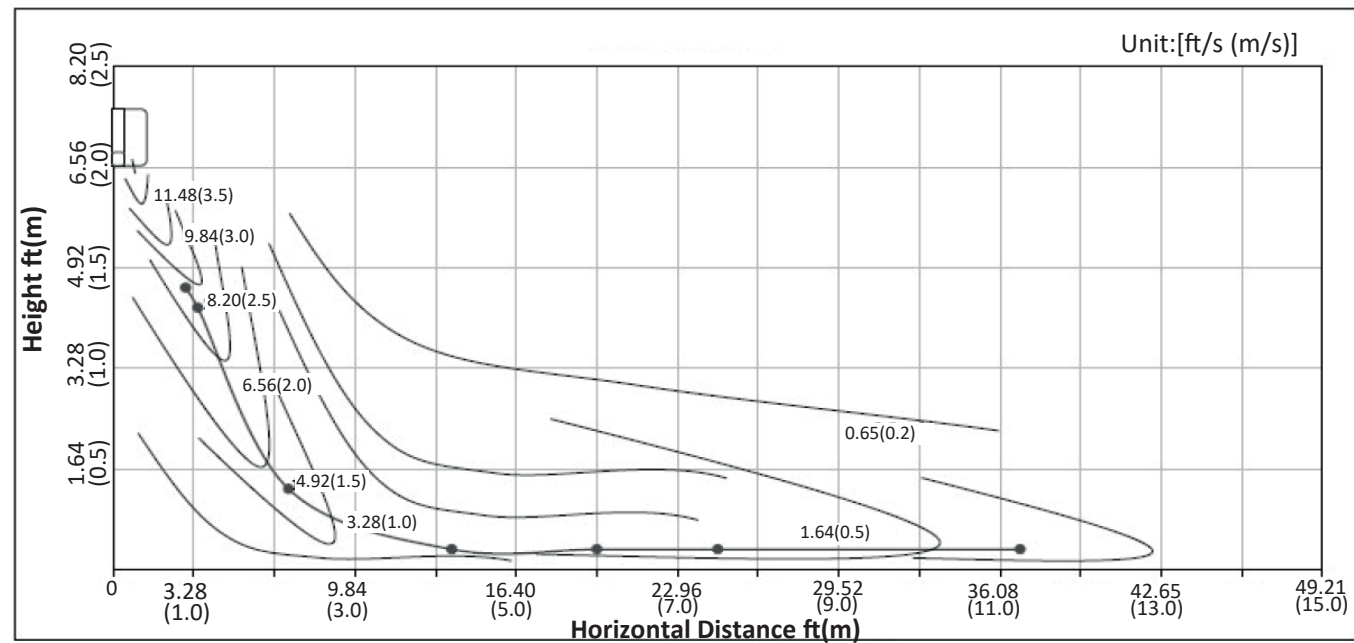


RAV-SM242KRTP-UL

Cooling

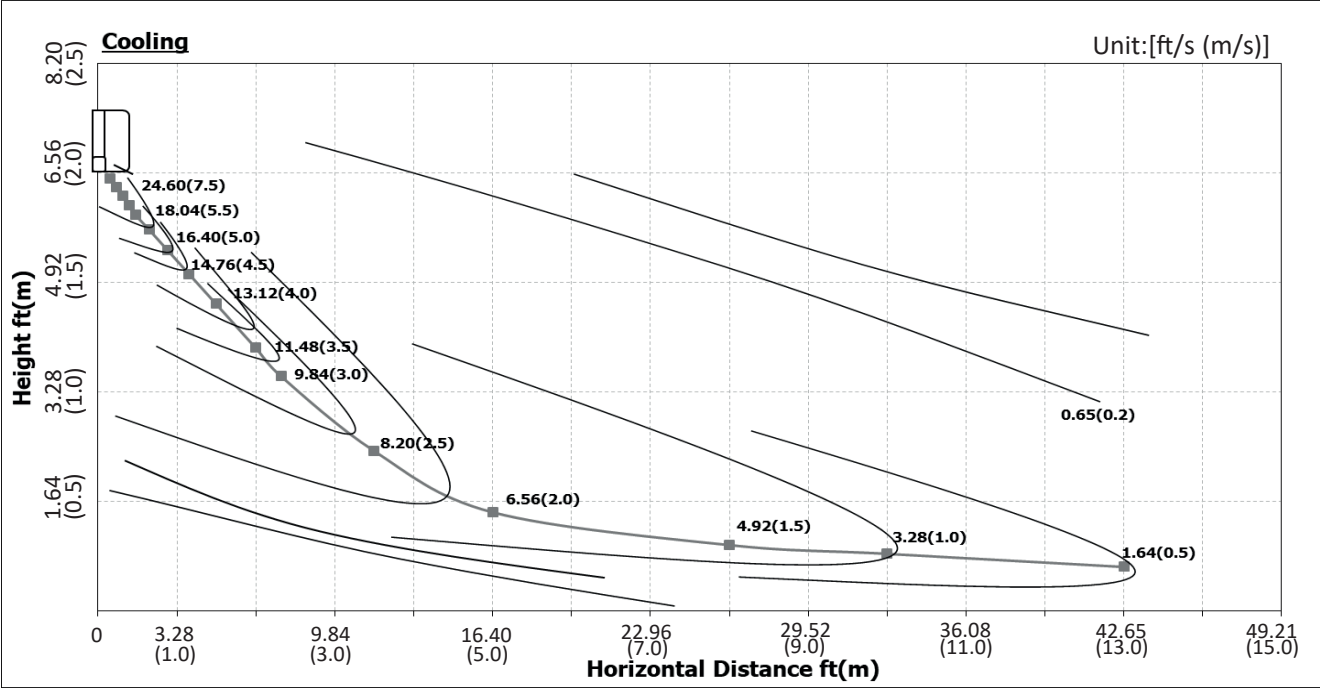


Heating

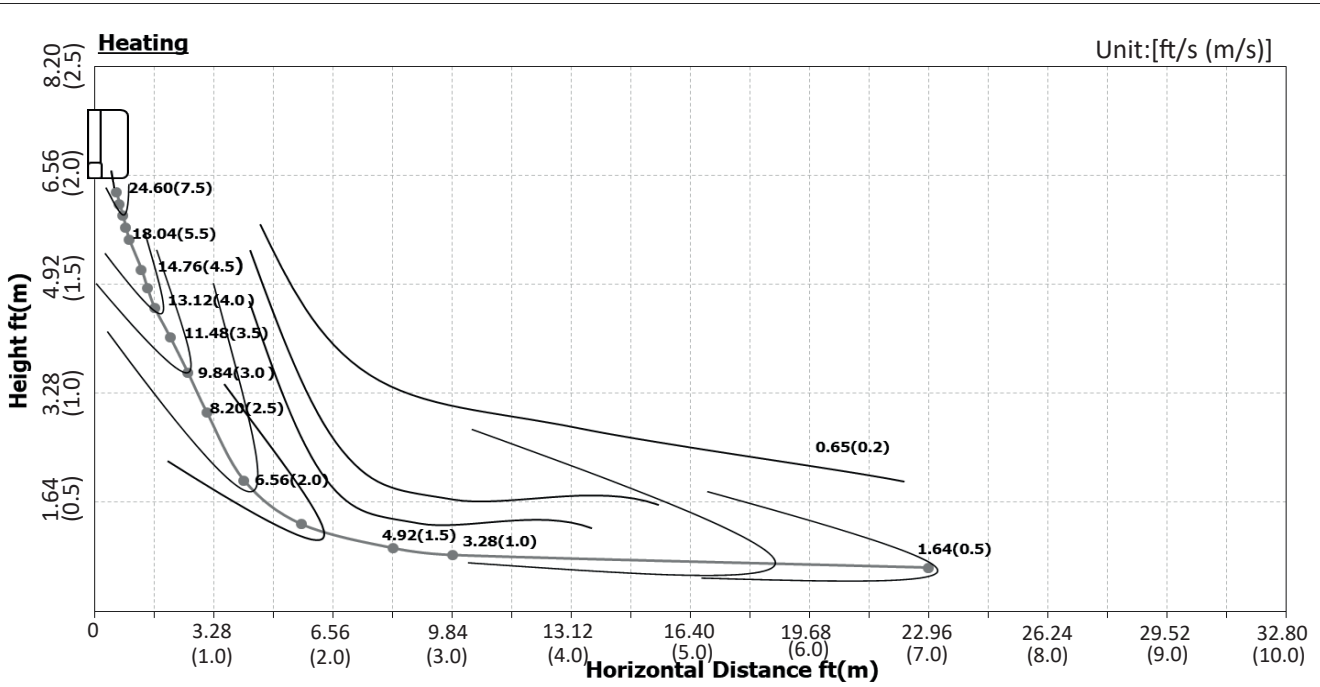


RAV-SM302KRTP-UL

Cooling

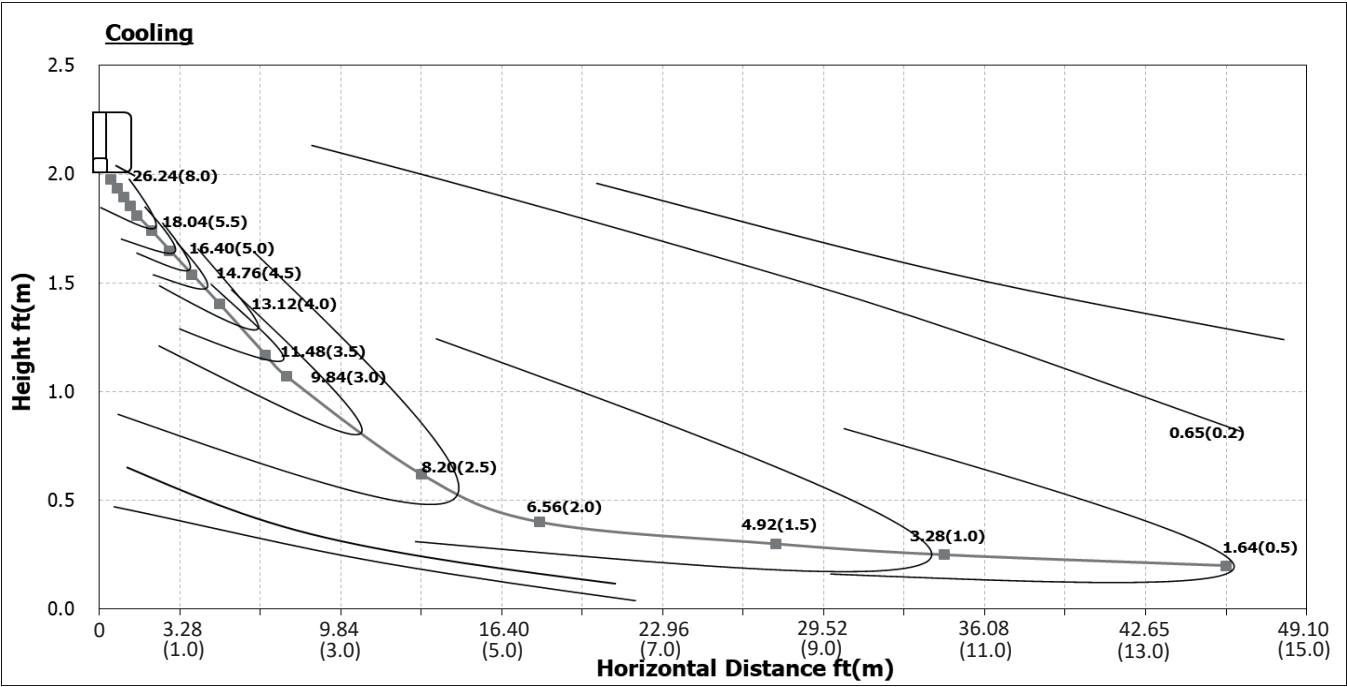


Heating

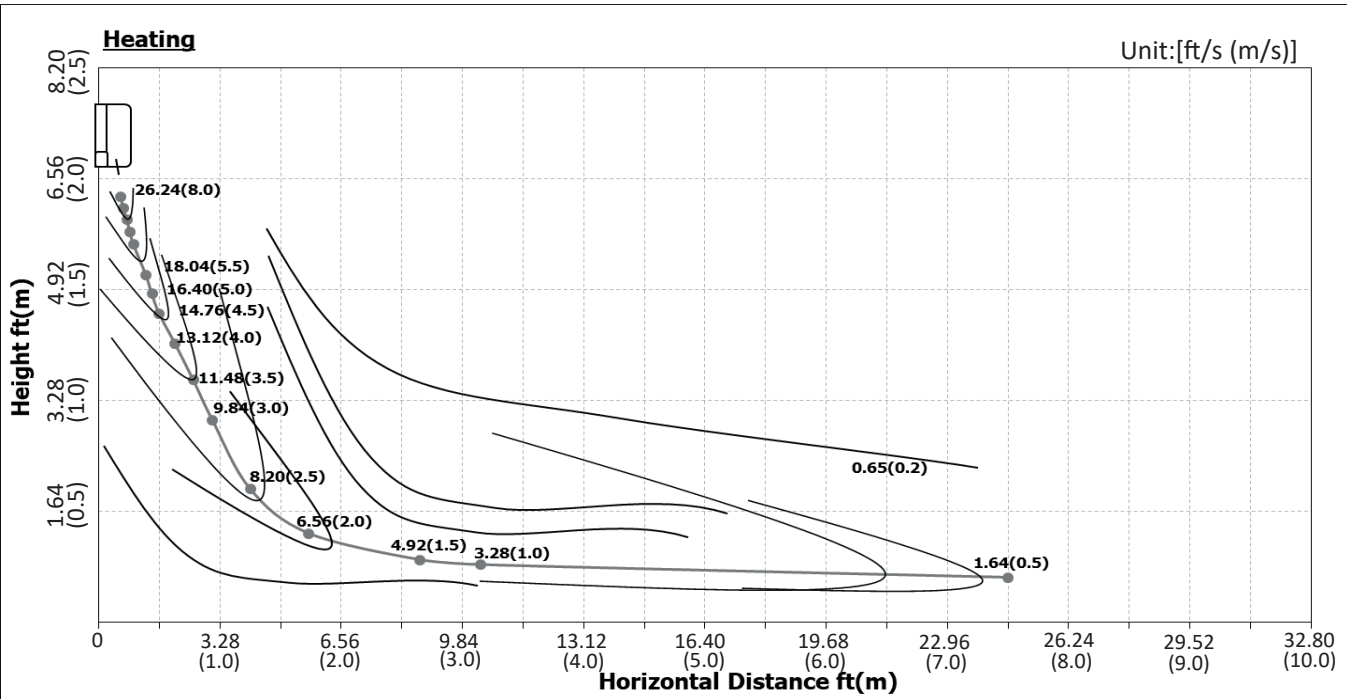


RAV-SM362KRTP-UL

Cooling



Heating

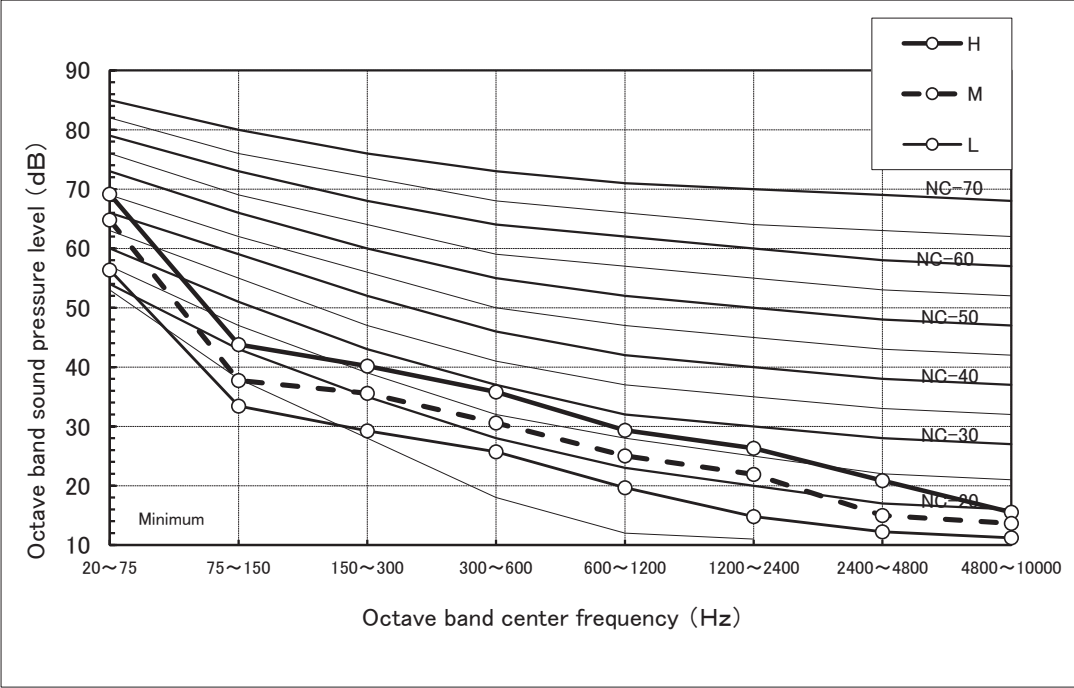


2-4-7. Sound Characteristics (NC curve)

RAV-SM122KRTP-UL

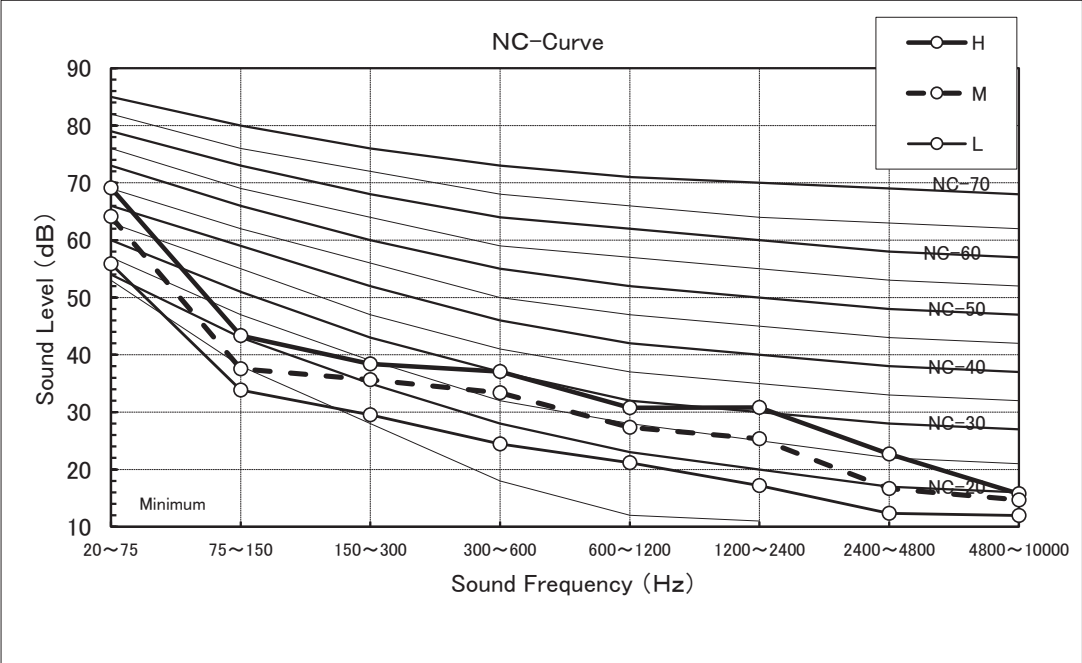
Cooling

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



Heating

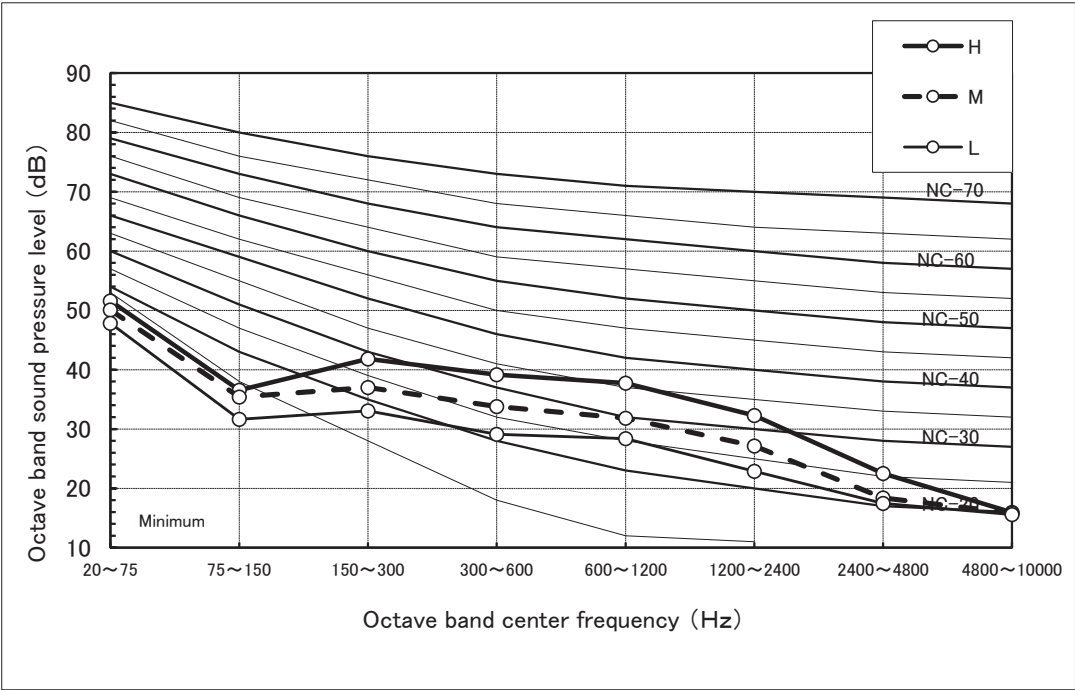
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	28



RAV-SM182KRTP-UL

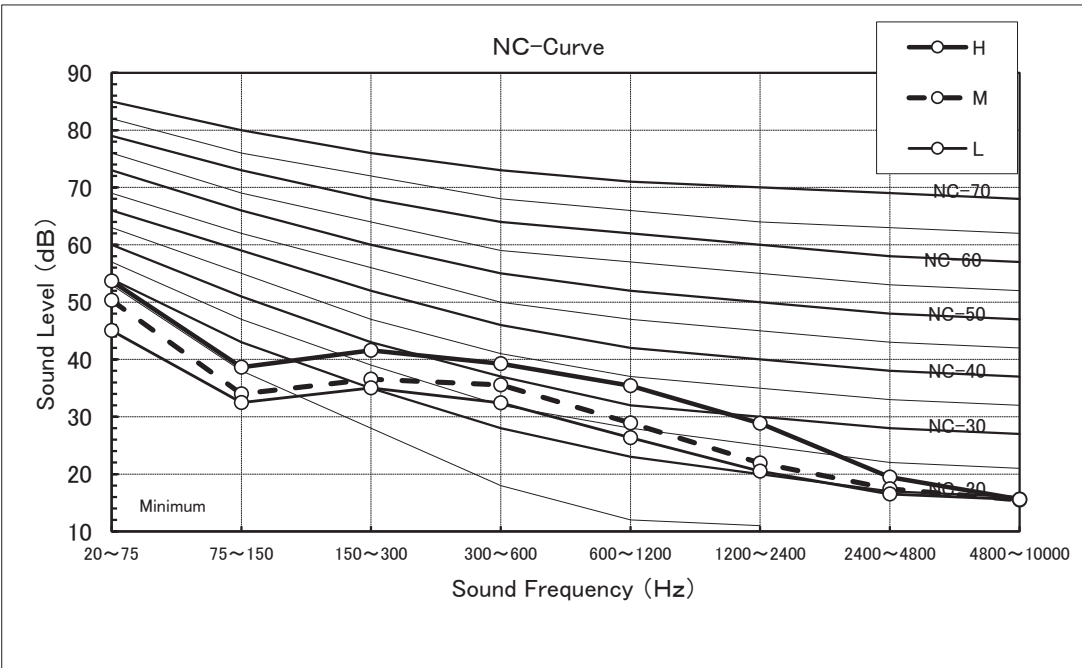
Cooling

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



Heating

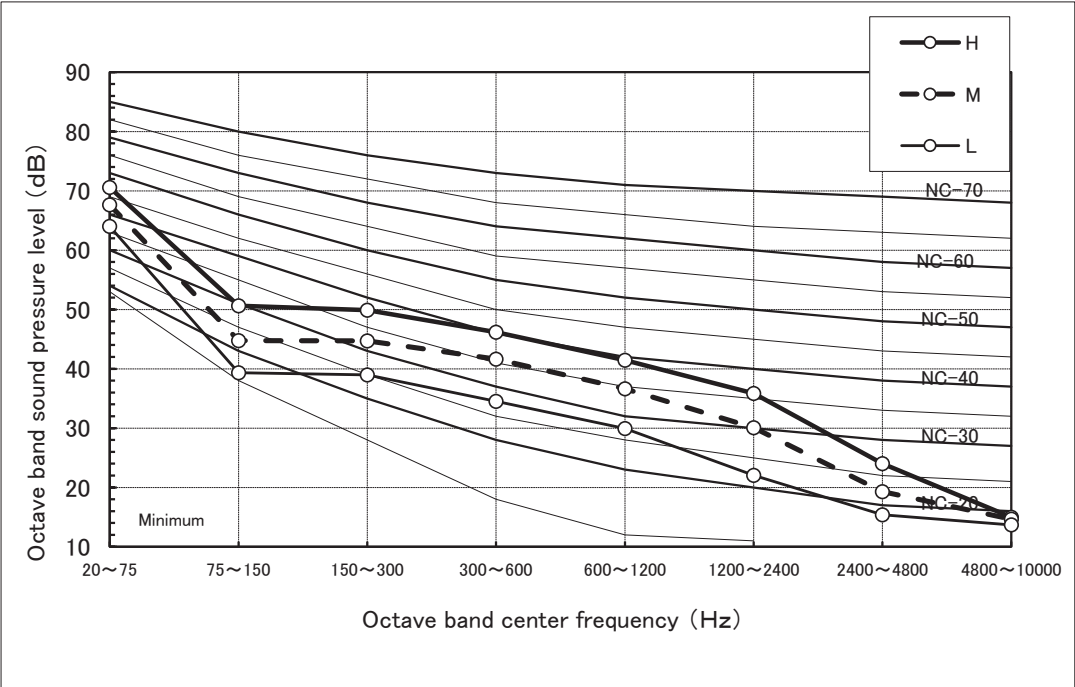
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	41	37	32



RAV-SM242KRTP-UL

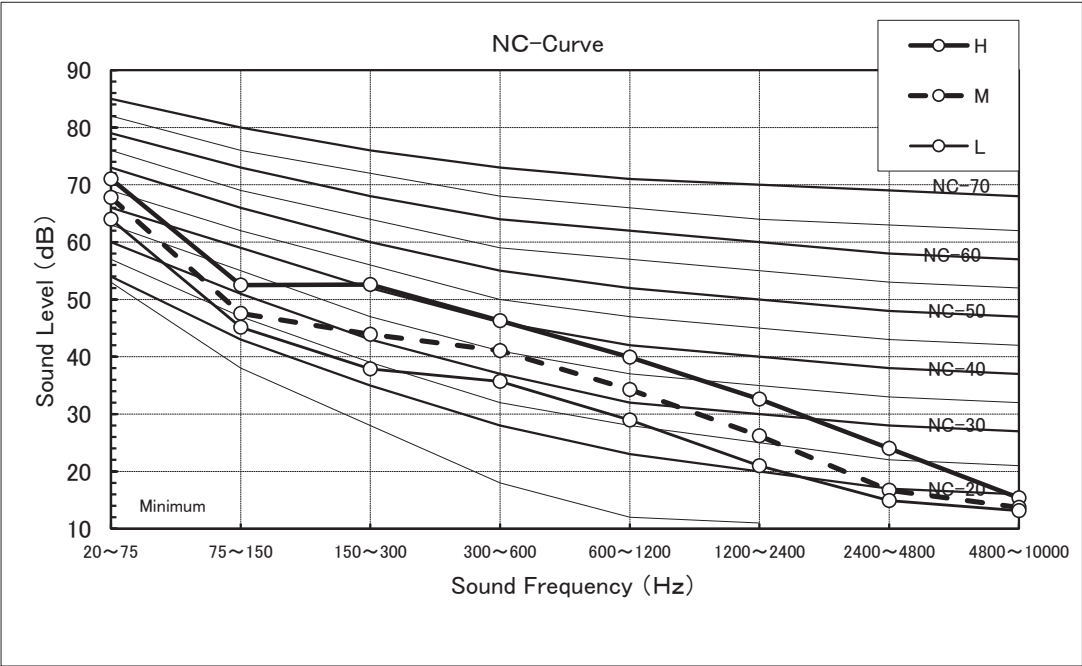
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	46	41	35



Heating

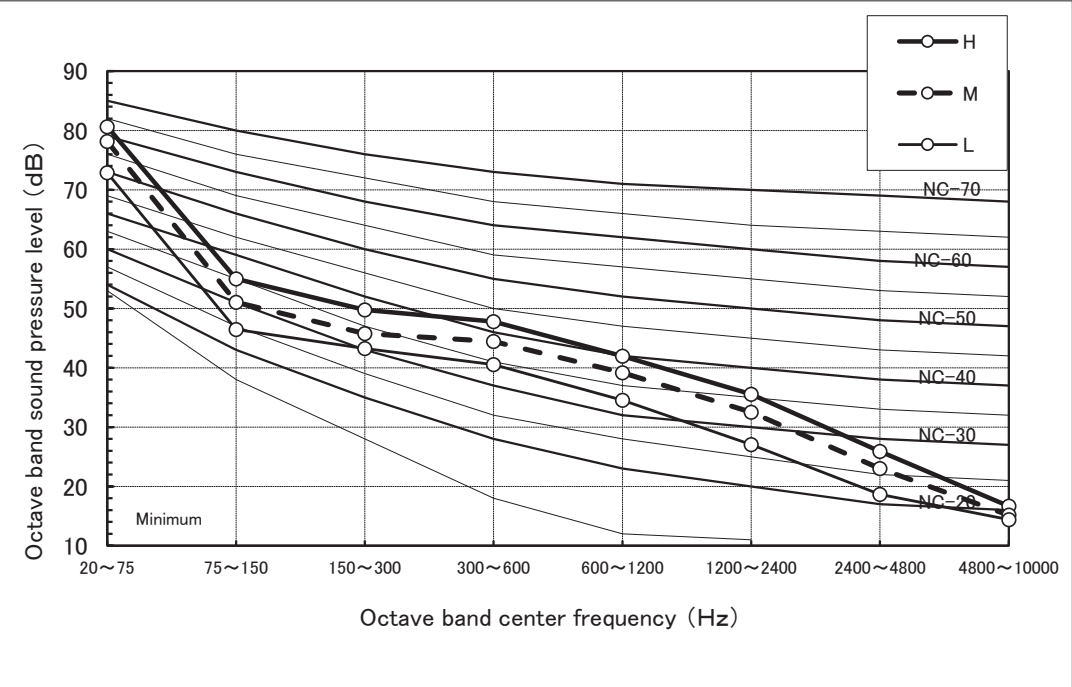
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	46	41	35



RAV-SM302KRTP-UL

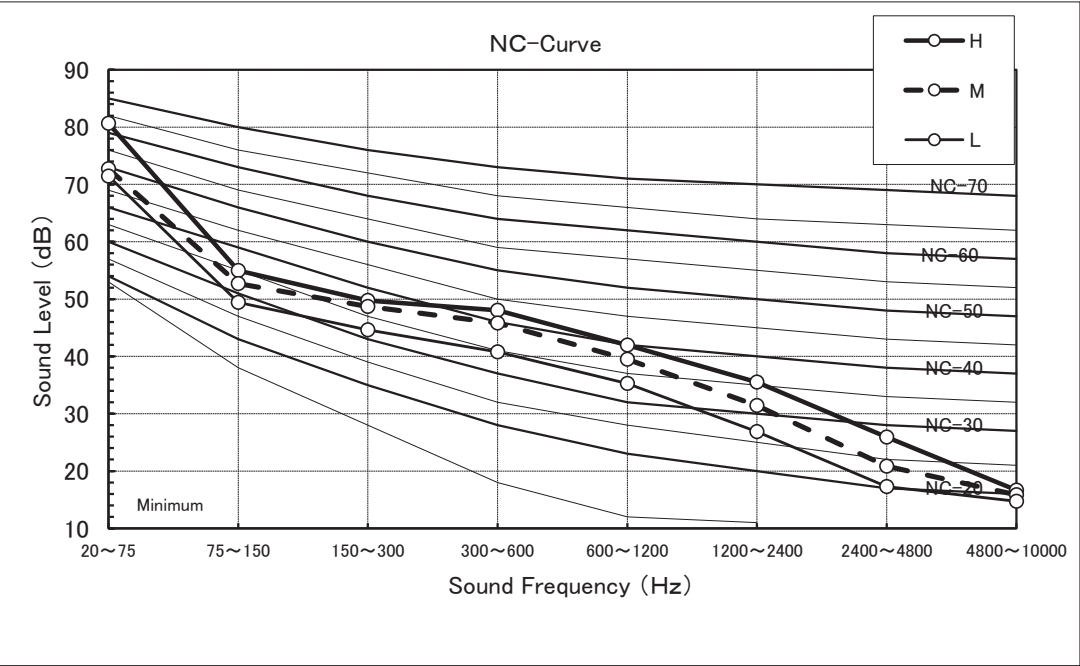
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	48	45	41



Heating

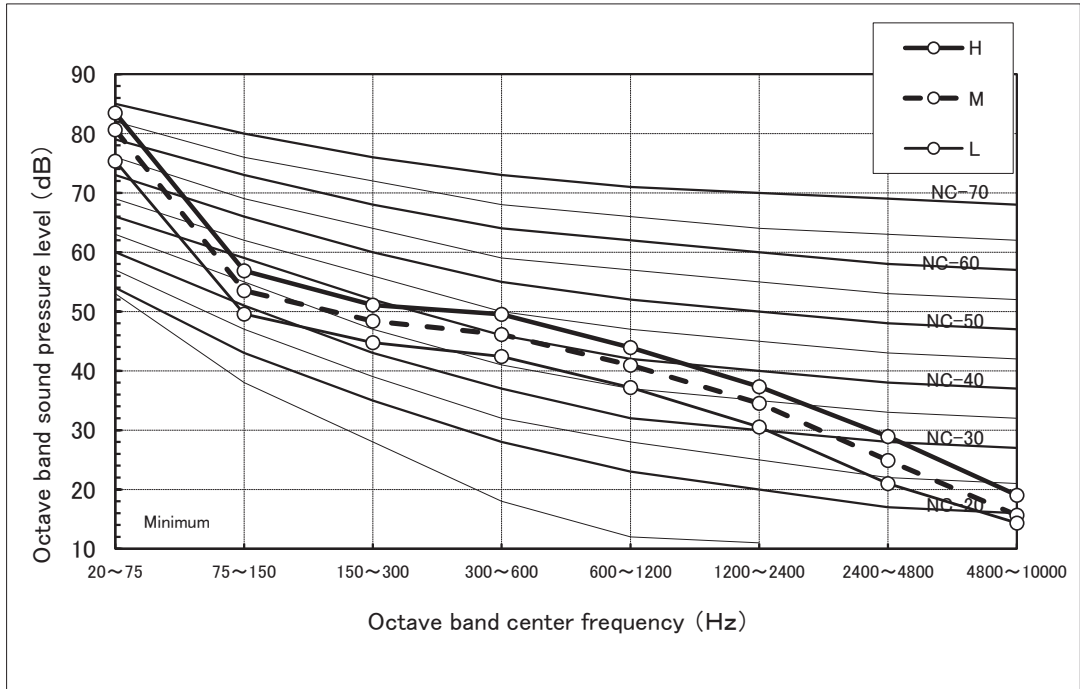
Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	48	45	41



RAV-SM362KRTP-UL

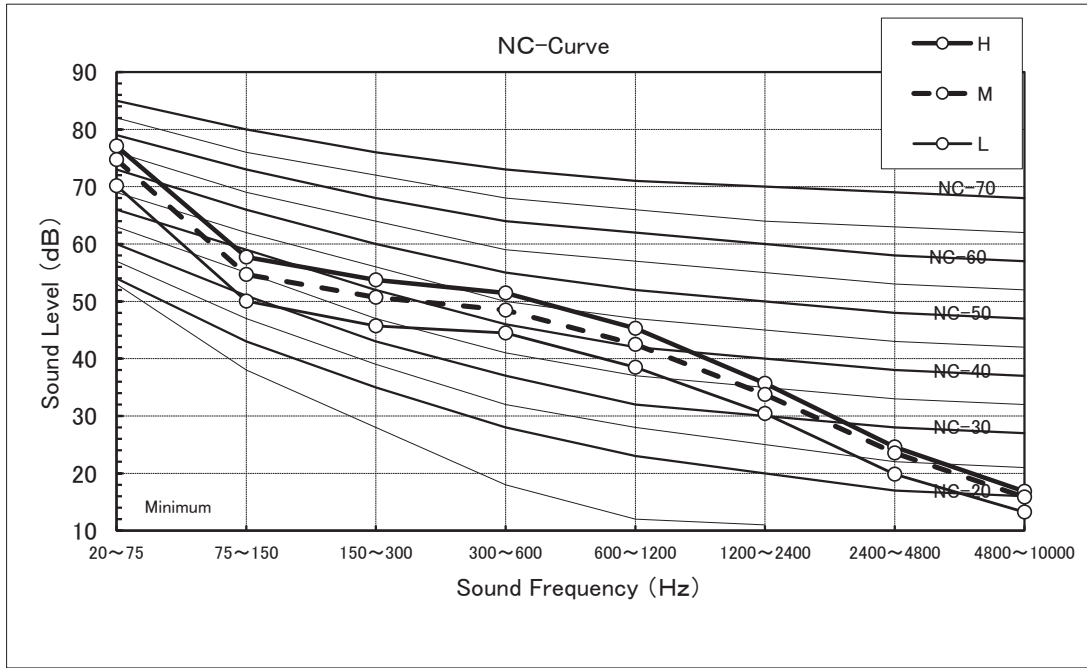
Cooling

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	50	47	43



Heating

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	50	47	43



3. Outdoor Unit

3-1. Specifications

3-2. Dimension

3-3. Wiring Diagrams

3-4. Refrigerant Cycle Diagram

3-5. Sound Characteristic

3-6. Connecting Pipe Length and Lift Difference Between Indoor Units VS. Capacity Correction Value

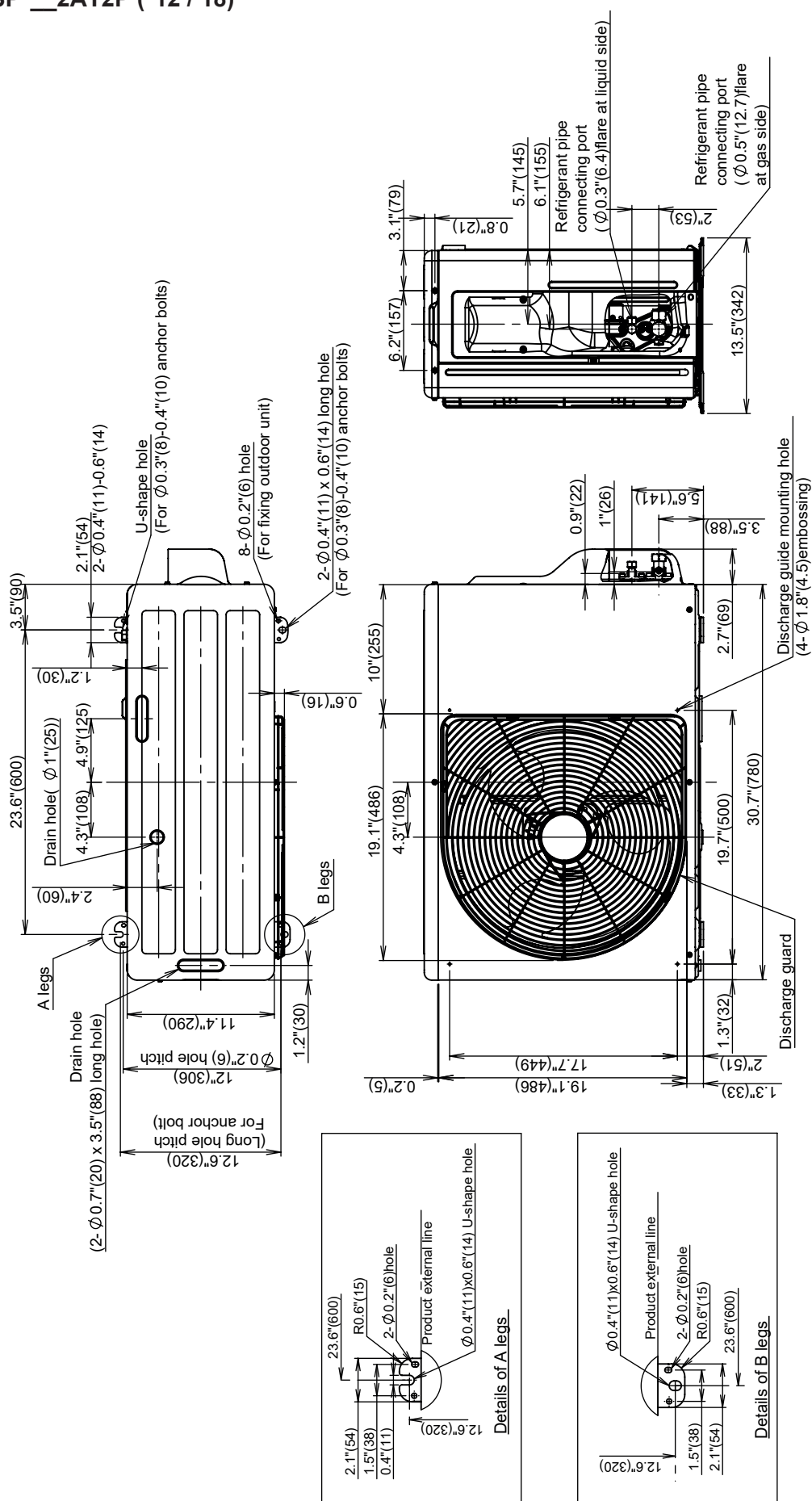
3-1 Specification

System	Model		RAV-	SP122AT2P-UL	SP182AT2P-UL	SP242AT2P-UL
	Capacity		Btu/h	12000	18000	24000
Operating range	Cooling	Indoor Min - Max DB	(°F)	70 to 89	70 to 89	70 to 89
		Outdoor Min - Max DB	(°F)	5 to 115	5 to 115	5 to 115
		Outdoor Min - Max DB with wind buffels	(°F)	5 to 115	5 to 115	5 to 115
	Heating	Indoor Min - Max DB	(°F)	59 to 86	59 to 86	59 to 86
		Outdoor Min - Max DB	(°F)	-13 to 59	-13 to 59	-13 to 59
Piping	Standard Piping Length		(ft)	24'7"	24'7"	24'7"
	Min. Piping Length		(ft)	16'5"	16'5"	16'5"
	Max. Piping Length		(ft)	164'1"	164'1"	164'1"
	Lift (Outdoor below Indoor)		(ft)	98'5"	98'5"	98'5"
	Lift (Outdoor above Indoor)		(ft)	98'5"	98'5"	98'5"
	Gas Pipe (size/connection type)			1/2"	1/2"	5/8"
	Liquid Pipe (size/connection type)			1/4"	1/4"	3/8"
	Additional refrigerant charge under long piping connection			0.22oz/ft (65'7" to 164'1")	0.22oz/ft (65'7" to 164'1")	0.43oz/ft (98'5" to 164'1")
Electrical	Voltage			1Ph, 208-230V ~ 60Hz.	1Ph, 208-230V ~ 60Hz.	1Ph, 208-230V ~ 60Hz.
	Maximum Current Amps		(A)	14	14	17
	Maximum Over Protection Device Amps		(A)	25	25	25
Outdoor	Dimensions	Height	(in)	21.7	21.7	35.0
		Width	(in)	30.7	30.7	35.4
		Depth	(in)	11.4	11.4	12.6
	Weight-Net/Gross		(lbs)	99/106	99/106	141/152
	Refrigerant charged		(lbs)	3.8	3.8	5.5
	Sound Pressure		(dBA)	48/52	48/52	52/54

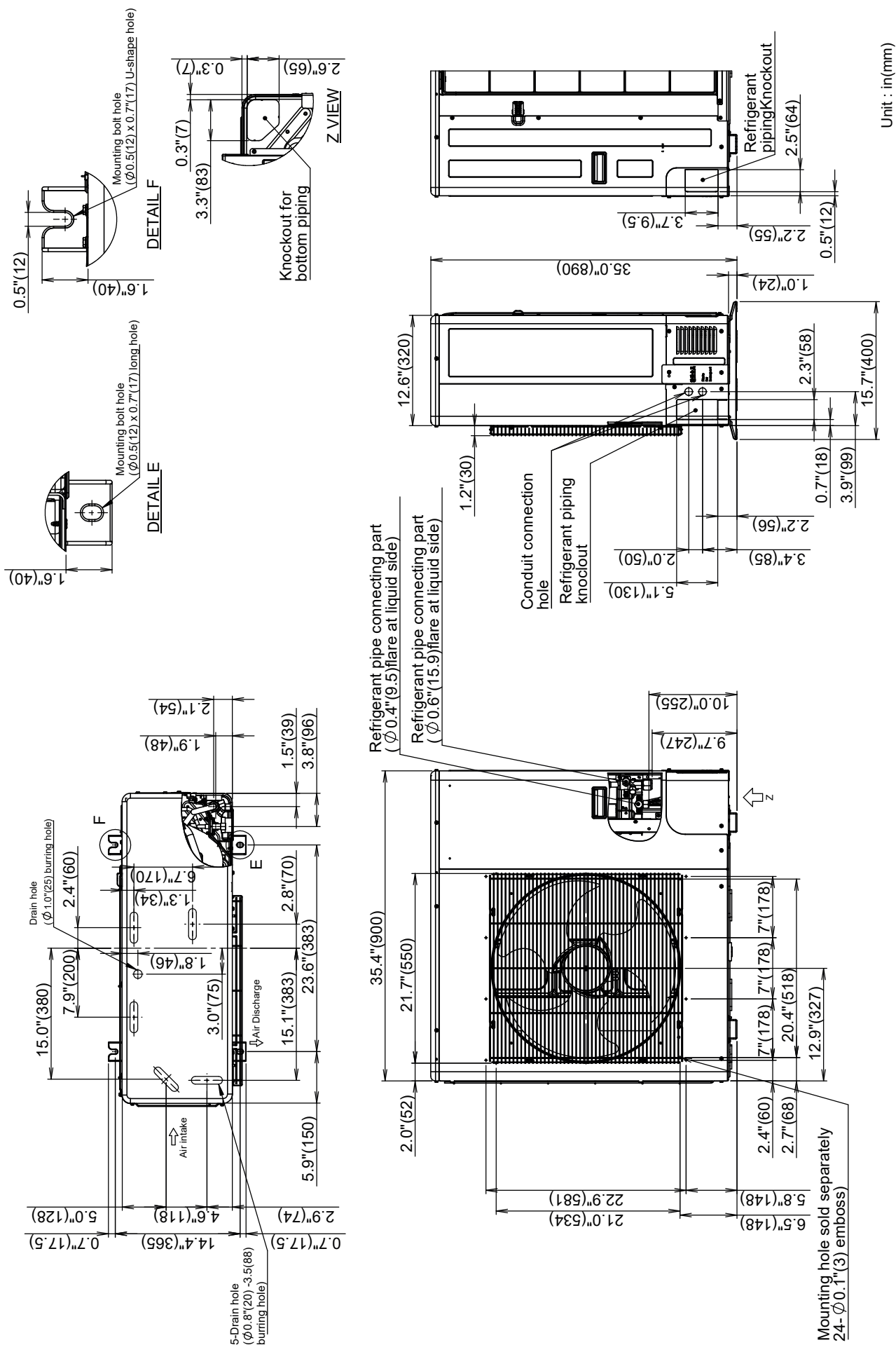
System	Model		RAV-	SP302AT2P-UL	SP362AT2P-UL	SP422AT2P-UL	SP482AT2P-UL
	Capacity		Btu/h	30000	36000	42000	48000
Operating range	Cooling	Indoor Min - Max DB	(°F)	70 to 89	70 to 89	70 to 89	70 to 89
		Outdoor Min - Max DB	(°F)	5 to 115	5 to 115	5 to 115	5 to 115
		Outdoor Min - Max DB with wind buffels	(°F)	-13 to 115	-13 to 115	-13 to 115	-13 to 115
	Heating	Indoor Min - Max DB	(°F)	59 to 86	59 to 86	59 to 86	59 to 86
		Outdoor Min - Max DB	(°F)	-13 to 59	-13 to 59	-13 to 59	-13 to 59
Piping	Standard Piping Length		(ft)	24'7"	24'7"	24'7"	24'7"
	Min. Piping Length		(ft)	16'5"	16'5"	16'5"	16'5"
	Max. Piping Length		(ft)	246'1"	246'1"	246'1"	246'1"
	Lift (Outdoor below Indoor)		(ft)	98'5"	98'5"	98'5"	98'5"
	Lift (Outdoor above Indoor)		(ft)	98'5"	98'5"	98'5"	98'5"
	Gas Pipe (size/connection type)			5/8"	5/8"	5/8"	5/8"
	Liquid Pipe (size/connection type)			3/8"	3/8"	3/8"	3/8"
	Additional refrigerant charge under long piping connection			0.43oz/ft (98'5" to 246'1")	0.43oz/ft (98'5" to 246'1")	0.43oz/ft (98'5" to 246'1")	0.43oz/ft (98'5" to 246'1")
Electrical	Voltage			1Ph, 208-230V ~ 60Hz.			
	Maximum Current Amps		(A)	30	30	32	32
	Maximum Over Protection Device Amps		(A)	40	40	40	40
Outdoor	Dimensions	Height	(in)	52.8	52.8	52.8	52.8
		Width	(in)	35.4	35.4	35.4	35.4
		Depth	(in)	12.6	12.6	12.6	12.6
	Weight-Net/Gross		(lbs)	218/232	218/232	234/247	234/247
	Refrigerant charged		(lbs)	6.8	6.8	7.3	7.3
	Sound Pressure		(dBa)	54/54	54/54	54/54	60/60

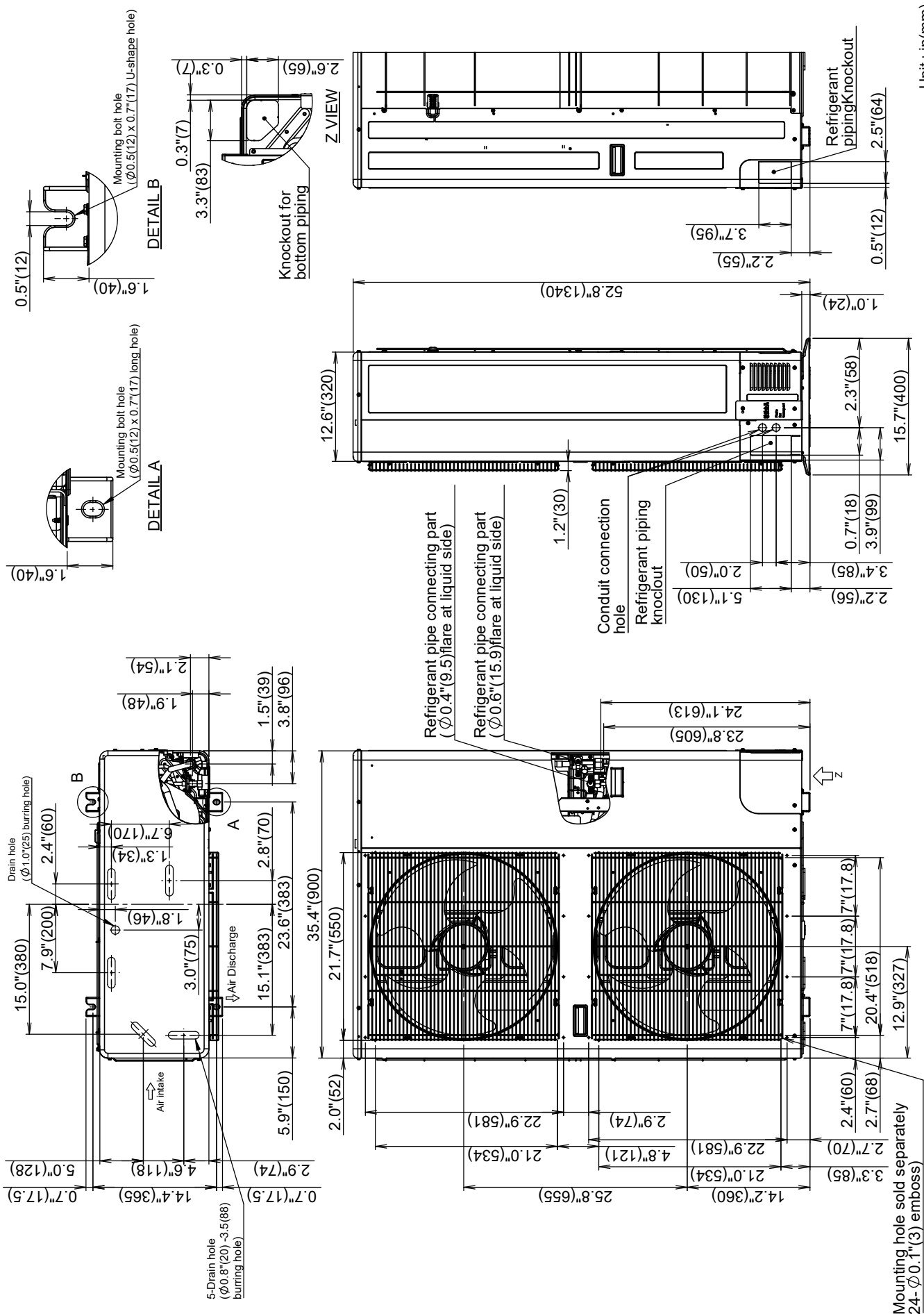
3-2. Dimension

RAV-SP*__2AT2P (*12 / 18)



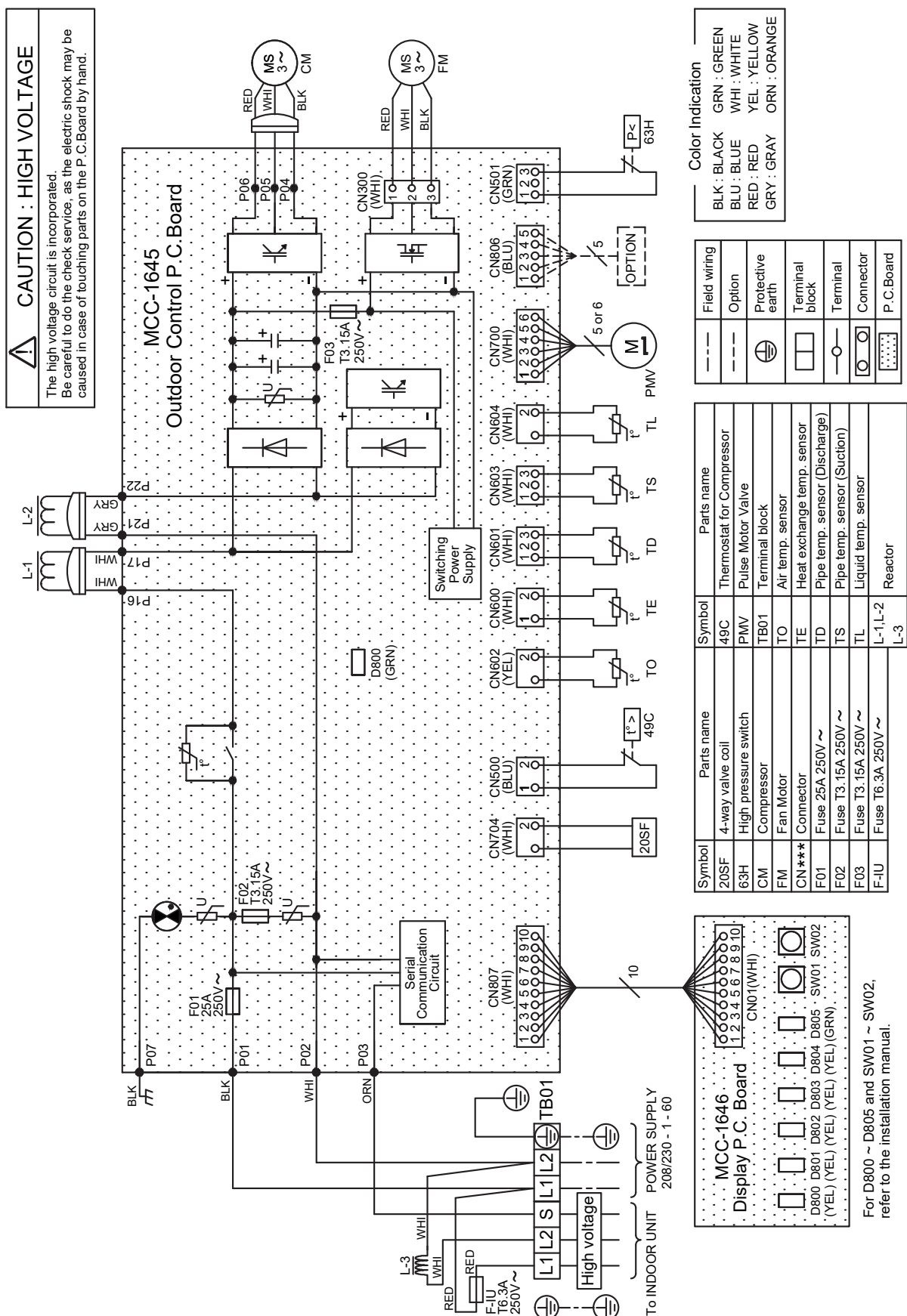
Unit : in(mm)

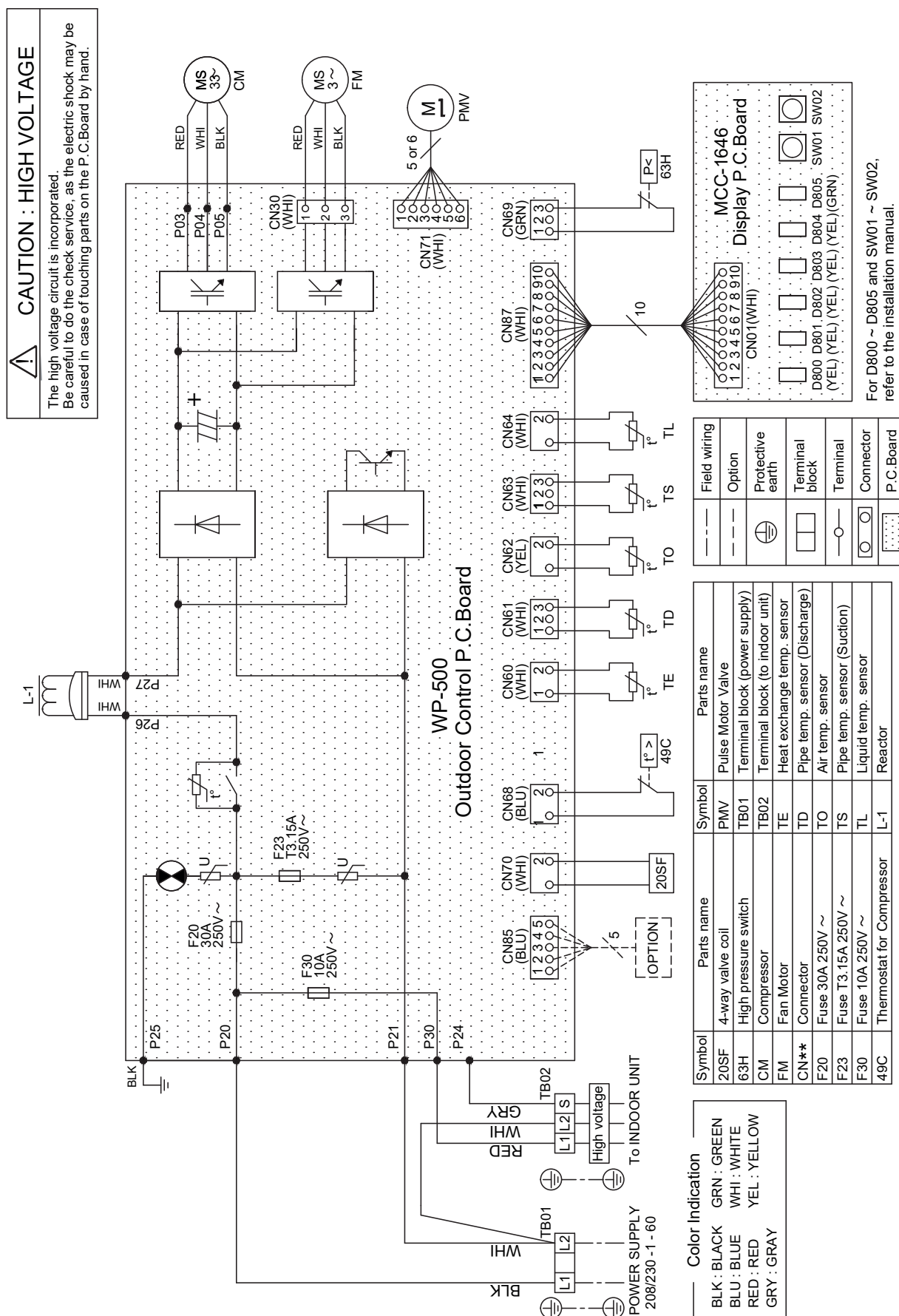
RAV-SP242AT2P-UL

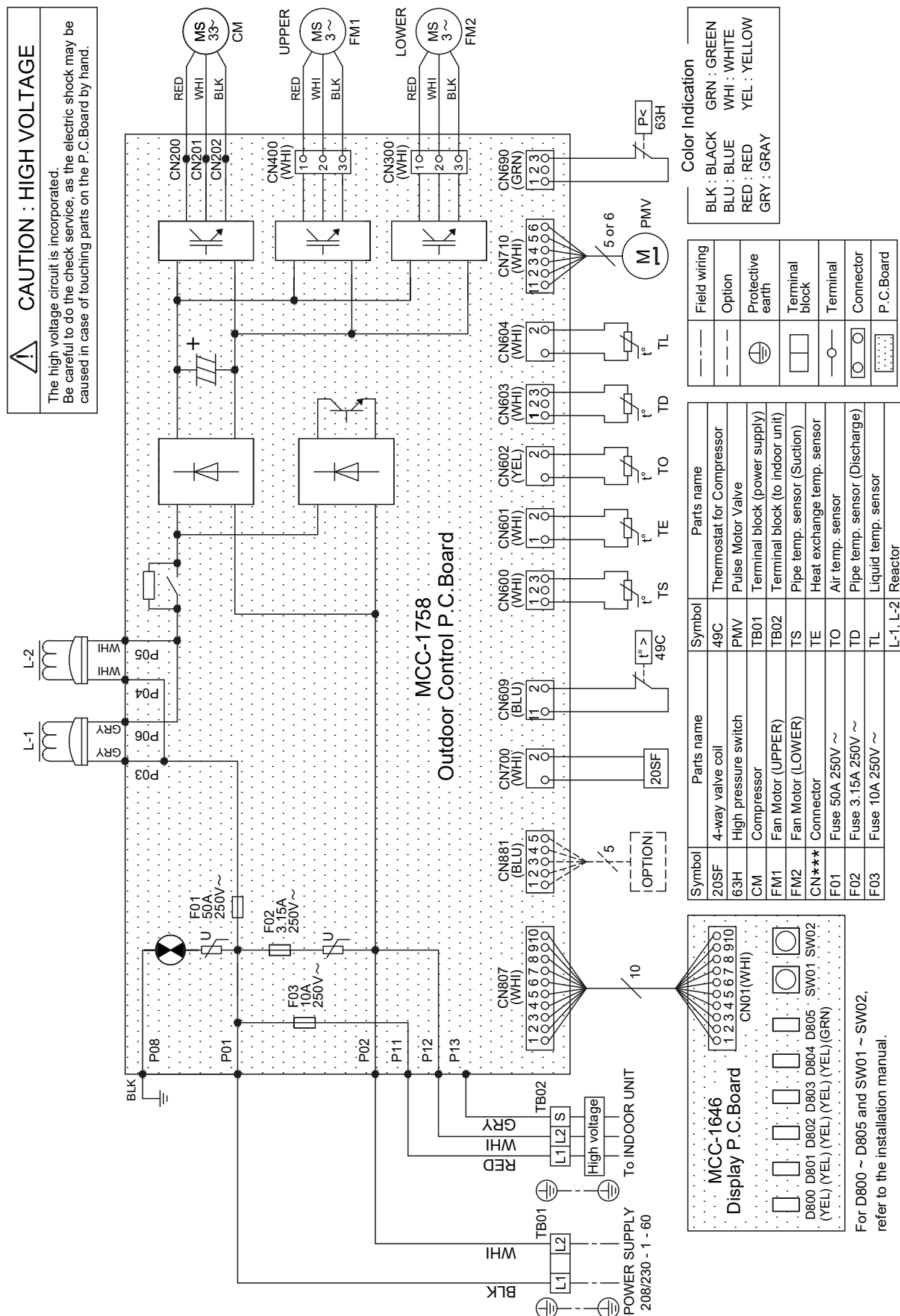
RAV-SP*__2AT2P-A (*30 / 36 / 42 / 48)

3-3. Wiring Diagram

RAV-SP*__2AT2P-UL (*12 / 18)



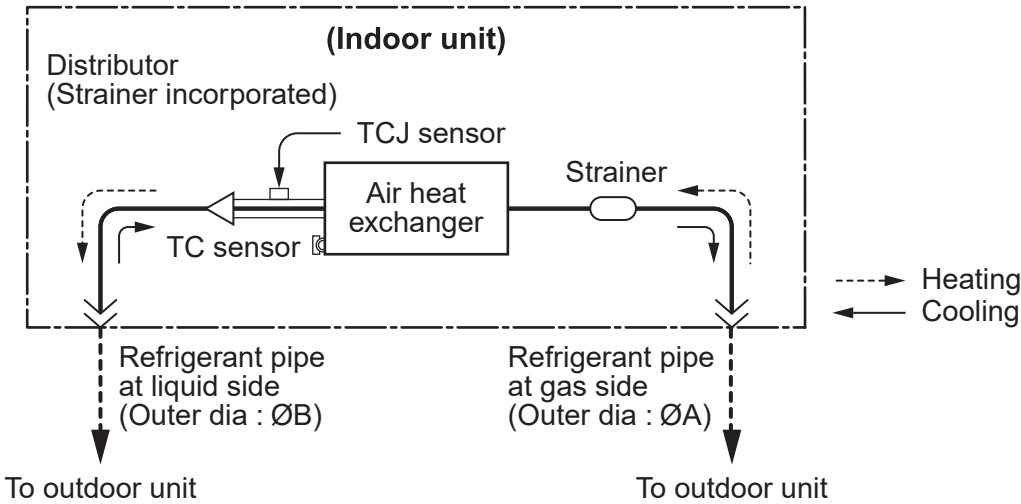
RAV-SP242AT2P-UL

RAV-SP*__2AT2P-UL (*30 / 36 / 42 /48)

3-4. Refrigerant cycle diagram

Indoor Unit

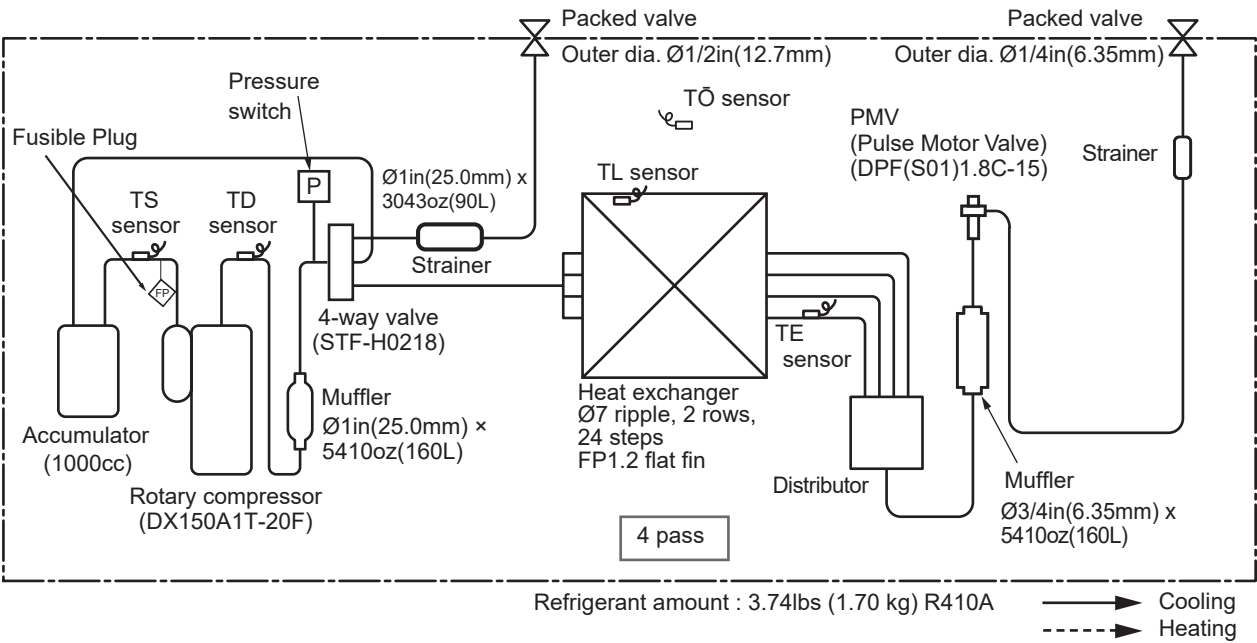
Single type (Combination of 1 indoor unit and 1 outdoor unit)



Dimension table

Indoor unit	Outer diameter of refrigerant pipe	
	Gas side ØA	Liquid side ØB
12,18 type	1/2" (12.7)	1/4" (6.4)
24,30, 36, 42, 48 type	5/8" (15.9)	3/8" (9.5)

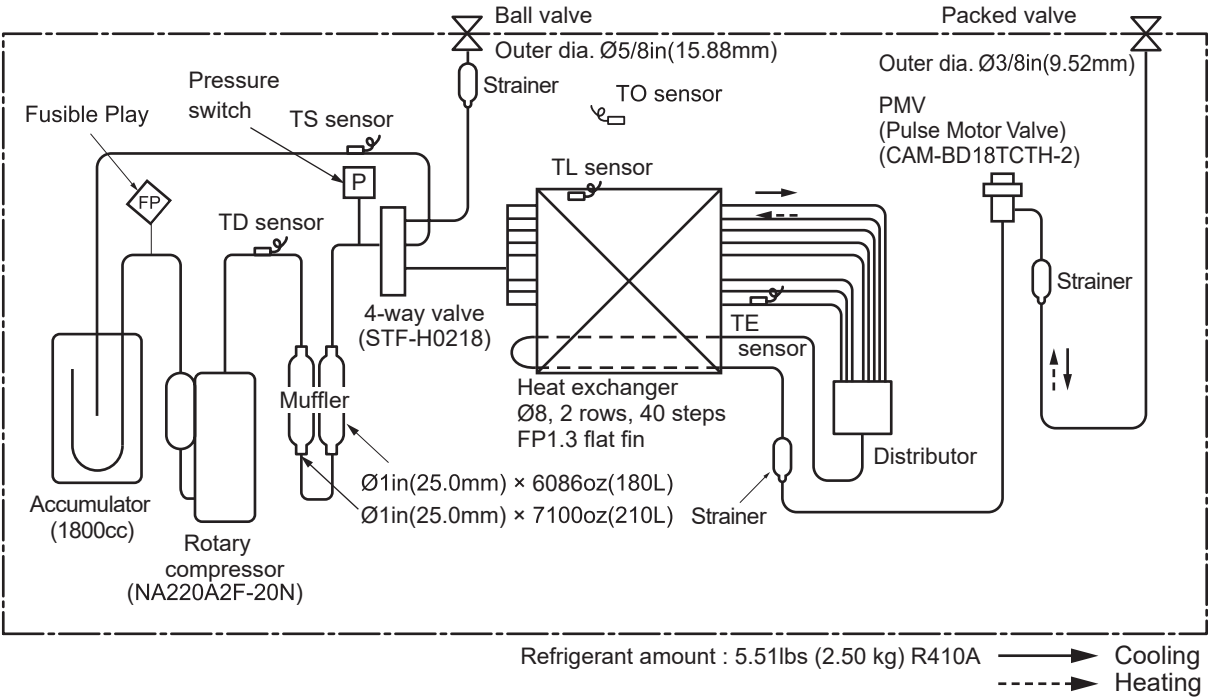
RAV-SP*_2AT2P-UL (*12 / 18)



		Pressure		Pipe surface temperature °F (°C)				Comp. Hz	Temp °F (°C)	
		PSI (Mpa)							In	Out
		Pd	Ps	(TD)	(TS)	(TC)	(TE)			
Cooling	Standard	394.50 (2.72)	118.93 (0.82)	172(78)	57(14)	53(12)	96(36)	65	80(27)	95(35)
	Over load	474.27 (3.27)	163.89 (1.13)	170(77)	71(22)	69(21)	116(47)	36	89(32)	115(46)
	Low load	266.86 (1.84)	116.03 (0.80)	111(44)	44(7)	44(7)	29(-1.6)	31	64(18)	-13(-25)
Heating	Standard	467.02 (3.22)	97.17 (0.67)	183(84)	39(4)	118(48)	35(2)	65	68(20)	44(7)
	Over load	467.02 (3.22)	124.73 (0.86)	168(76)	44(7)	123(51)	50(10)	64	84(29)	71(22)
	Low load	192.90 (1.33)	34.80 (0.24)	68(20)	-5(-21)	66(19)	-4(-20)	53	59(15)	-13(-25)

* 4 poles are provided to this compressor.
The compressor frequency (Hz) measured with a clamp meter is 2 times of revolutions (rps) of the compressor.

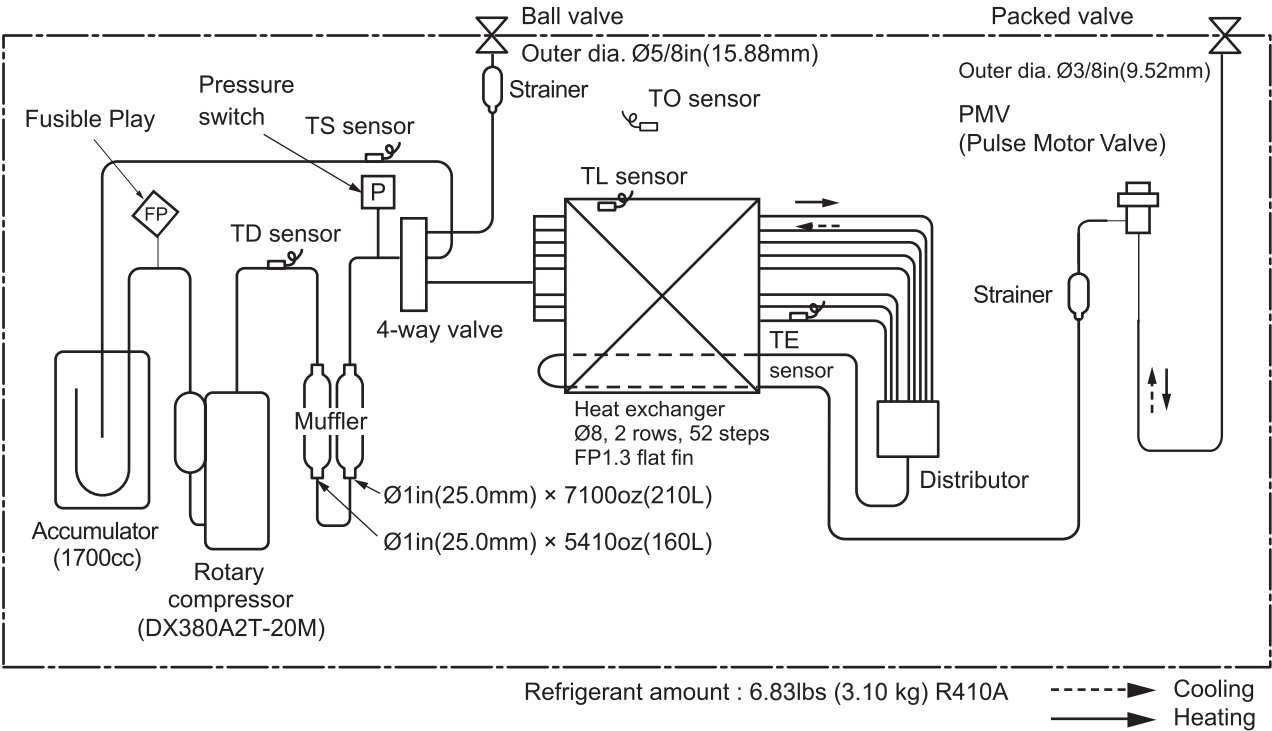
RAV-SP242AT2P-UL



		Pressure		Pipe surface temperature °F (°C)				Comp. Hz	Temp °F (°C)	
		PSI (Mpa)							In	Out
		Pd	Ps	(TD)	(TS)	(TC)	(TE)			
Cooling	Standard	445.26 (3.07)	134.88(0.93)	167(75)	51(11)	48(9)	102(39)	65	80(27)	95(35)
	Over load	497.47(3.43)	182.74(1.26)	172(78)	64(18)	62(17)	123(51)	50	89(32)	115(46)
	Low load	232.06 (1.60)	89.92(0.62)	116(47)	44(7)	46(8)	69(21)	33	64(18)	-13(-25)
Heating	Standard	397.40(2.74)	107.32 (0.74)	190(88)	35(2)	125(52)	48(9)	53	68(20)	44(7)
	Over load	387.25(2.67)	124.73 (0.86)	195(91)	60(16)	125(52)	59(15)	53	84(29)	71(22)
	Low load	127.63 (0.88)	37.70 (0.26)	154(68)	-2(-19)	39(4)	0(-18)	67	59(15)	-13(-25)

* 4 poles are provided to this compressor.
The compressor frequency (Hz) measured with a clamp meter is 2 times of revolutions (rps) of the compressor.

RAV-SP*_2AT2P-UL (*30 / 36)

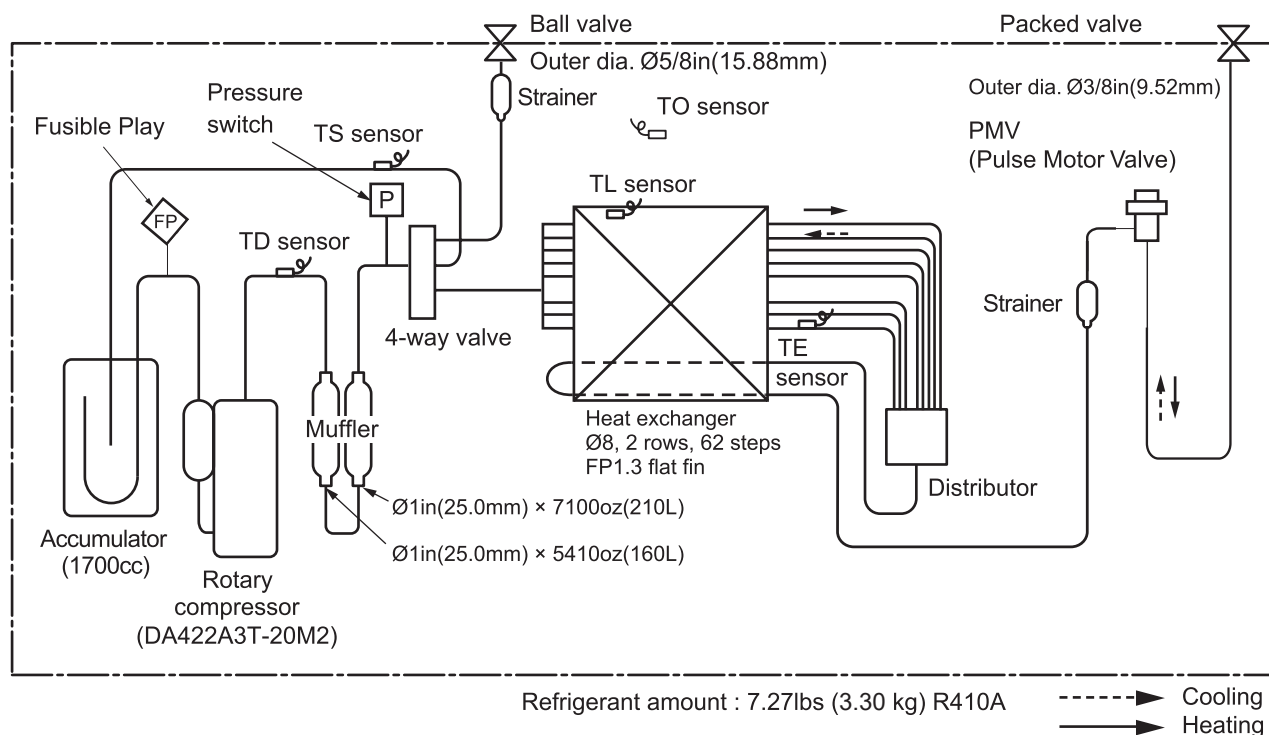


Operation Data

		Pressure		Pipe surface temperature °F (°C)				Comp. Hz	Temp °F (°C)	
		PSI (Mpa)								
		Pd	Ps	(TD)	(TS)	(TC)	(TE)		In	Out
Cooling	Standard	413.35(2.85)	110.22(0.76)	170(77)	46(8)	48(9)	104(40)	65	80(27)	95(35)
	Over load	504.73(3.48)	150.83(1.04)	179(82)	62(17)	60(16)	127(53)	50	89(32)	115(46)
	Low load	314.73(2.17)	107.32(0.74)	118(48)	39(4)	44(7)	122(50)	33	64(18)	-13(-25)
Heating	Standard	436.56(3.01)	121.83(0.84)	172(78)	35(2)	120(49)	39(4)	53	68(20)	44(7)
	Over load	467.02(3.22)	136.33(0.98)	147(64)	53(12)	120(49)	66(19)	53	84(29)	71(22)
	Low load	213.20(1.47)	23.20(0.16)	82(28)	-16(-27)	80(27)	-13(-25)	67	59(15)	-13(-25)

* 4 poles are provided to this compressor.
The compressor frequency (Hz) measured with a clamp meter is 2 times of revolutions (rps) of the compressor.

RAV-SP*_2AT2P-UL (*42 / 48)



Operation Data

		Pressure		Pipe surface temperature °F (°C)				Comp. Hz	Temp °F (°C)	
		PSI (Mpa)							In	Out
		Pd	Ps	(TD)	(TS)	(TC)	(TE)			
Cooling	Standard	413.35(2.85)	110.22(0.76)	168(76)	48(9)	46(8)	105(41)	66	80(27)	95(35)
	Over load	504.73(3.48)	150.83(1.04)	174(79)	62(17)	60(16)	62(17)	46	89(32)	115(46)
	Low load	314.73(2.17)	107.32(0.74)	102(39)	39(4)	41(5)	89(32)	33	64(18)	-13(-25)
Heating	Standard	432.21(2.98)	117.48(0.81)	185(85)	35(2)	118(48)	39(4)	54	68(20)	44(7)
	Over load	456.86(3.15)	156.64(1.08)	168(76)	66(19)	89(52)	60(16)	54	84(29)	71(22)
	Low load	188.54(1.30)	26.10(0.18)	104(40)	-18(-28)	66(19)	-13(-25)	80	59(15)	-13(-25)

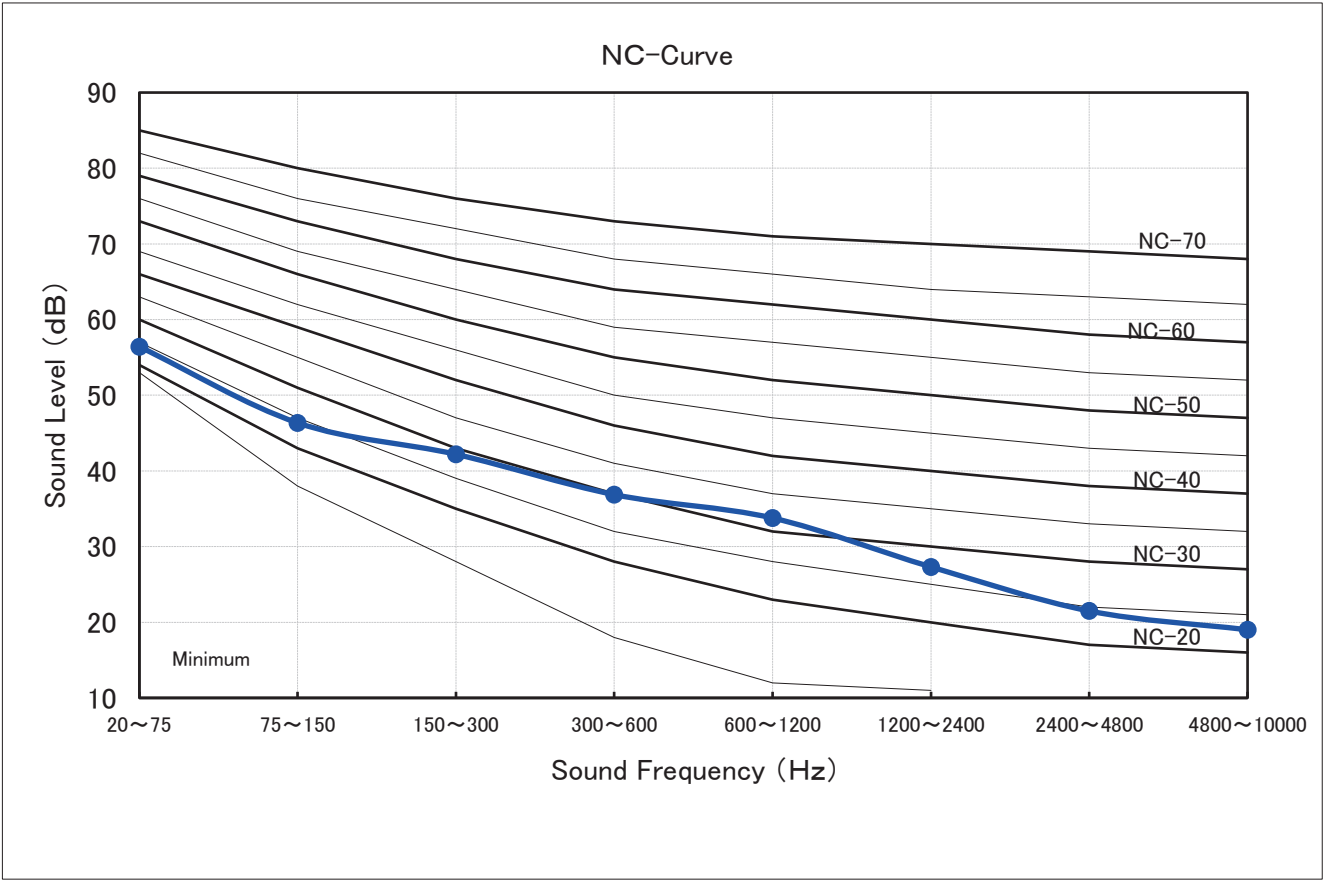
* 4 poles are provided to this compressor.

The compressor frequency (Hz) measured with a clamp meter is 2 times of revolutions (rps) of the compressor.

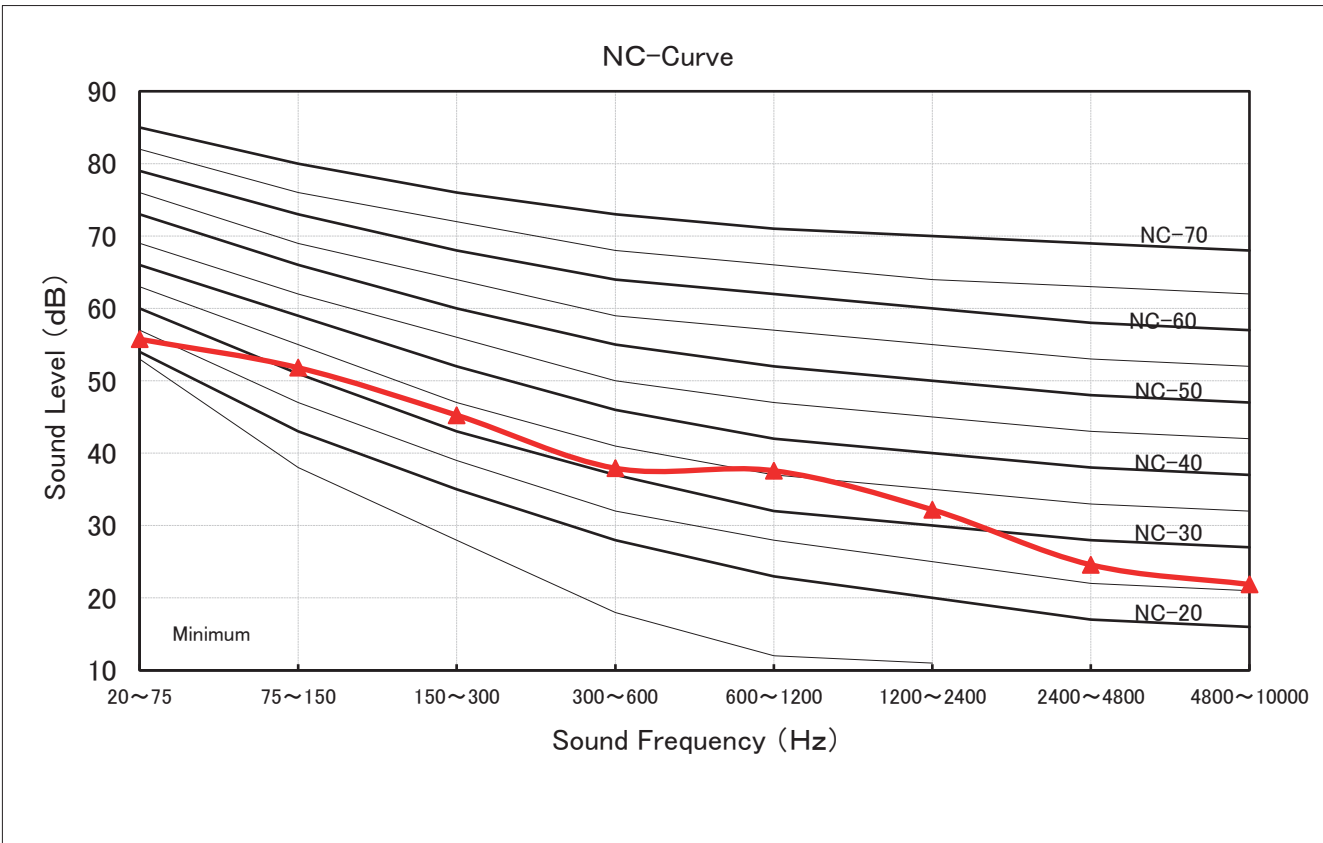
3-5. Sound characteristics (NC curve)

RAV-SP122AT2P-UL

Cooling mode

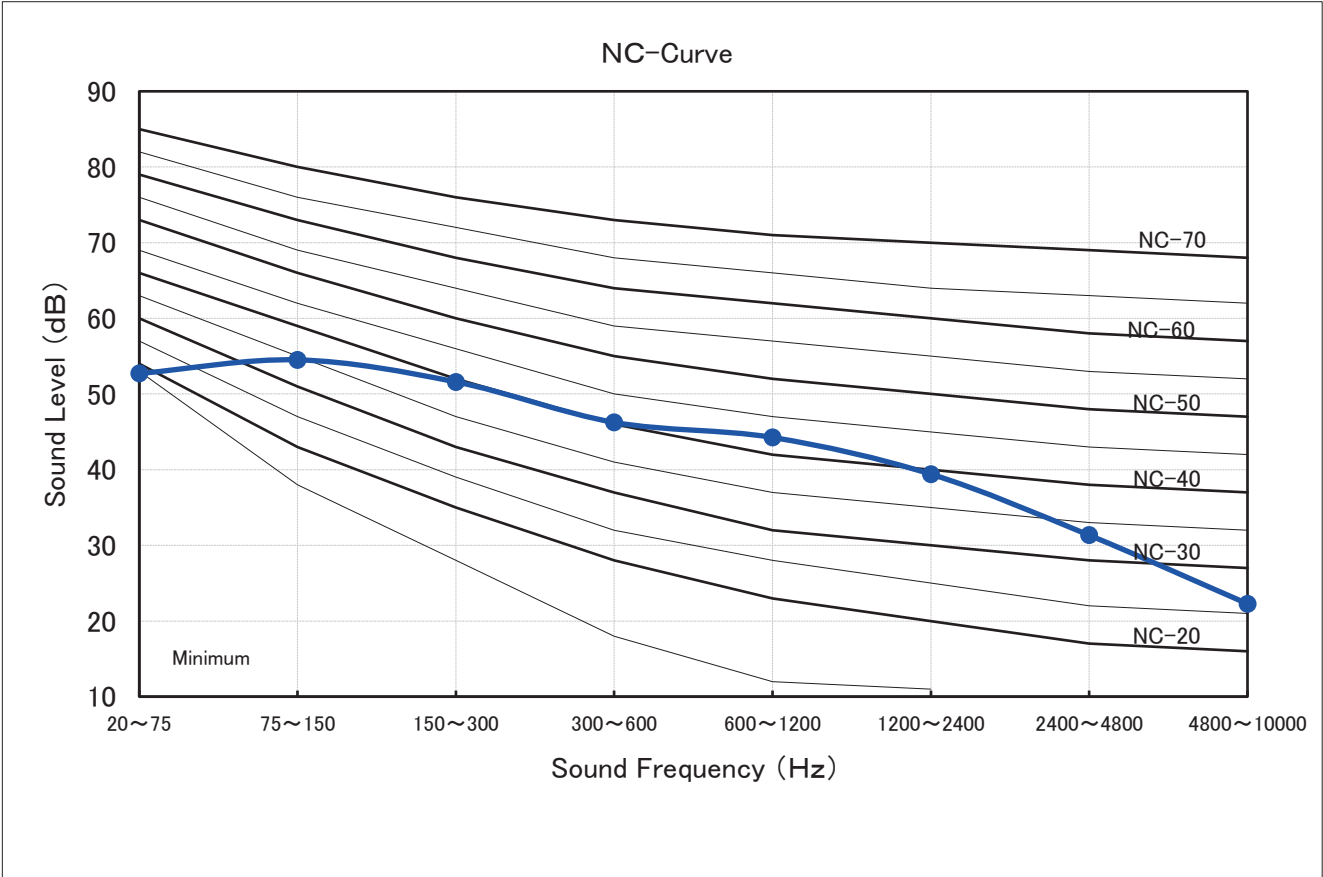


Heating mode

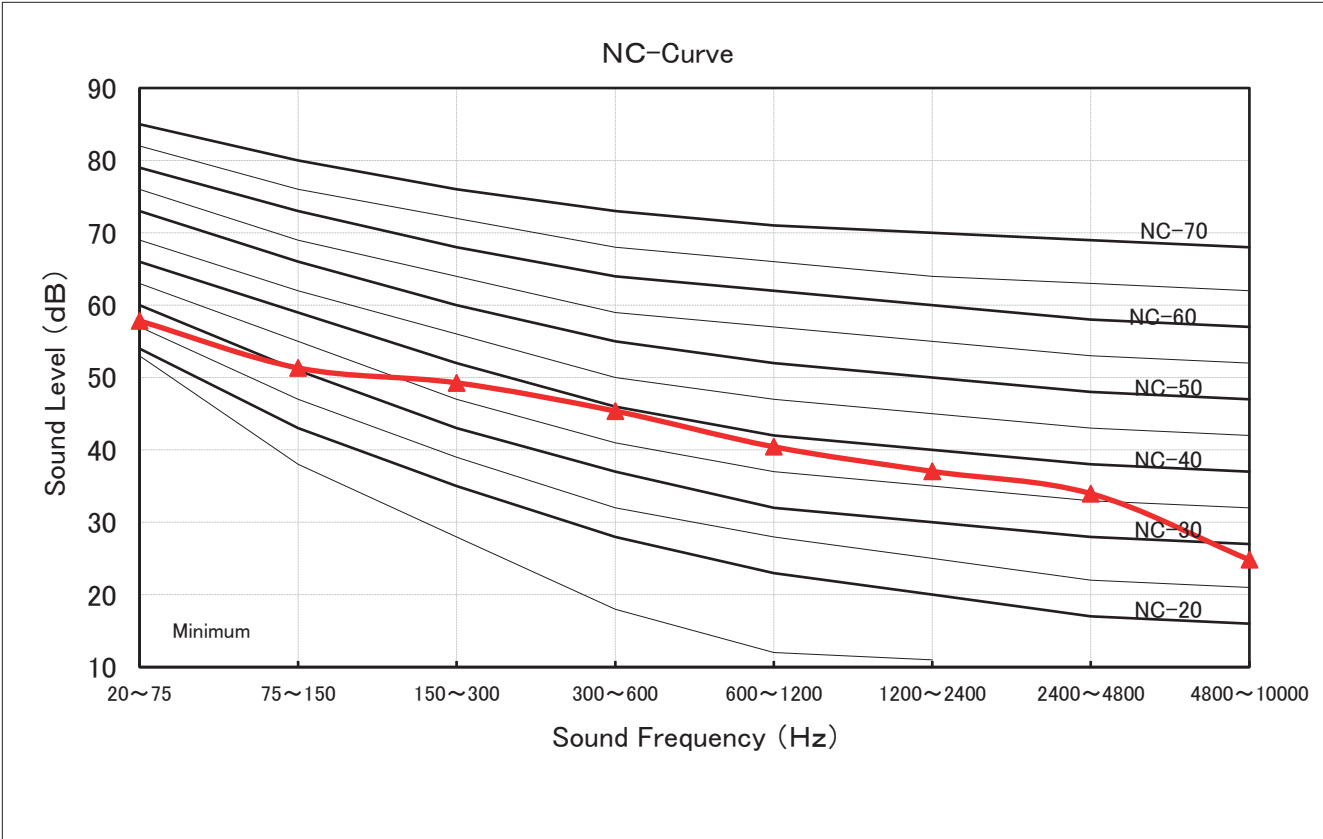


RAV-SP182AT2P-UL

Cooling mode

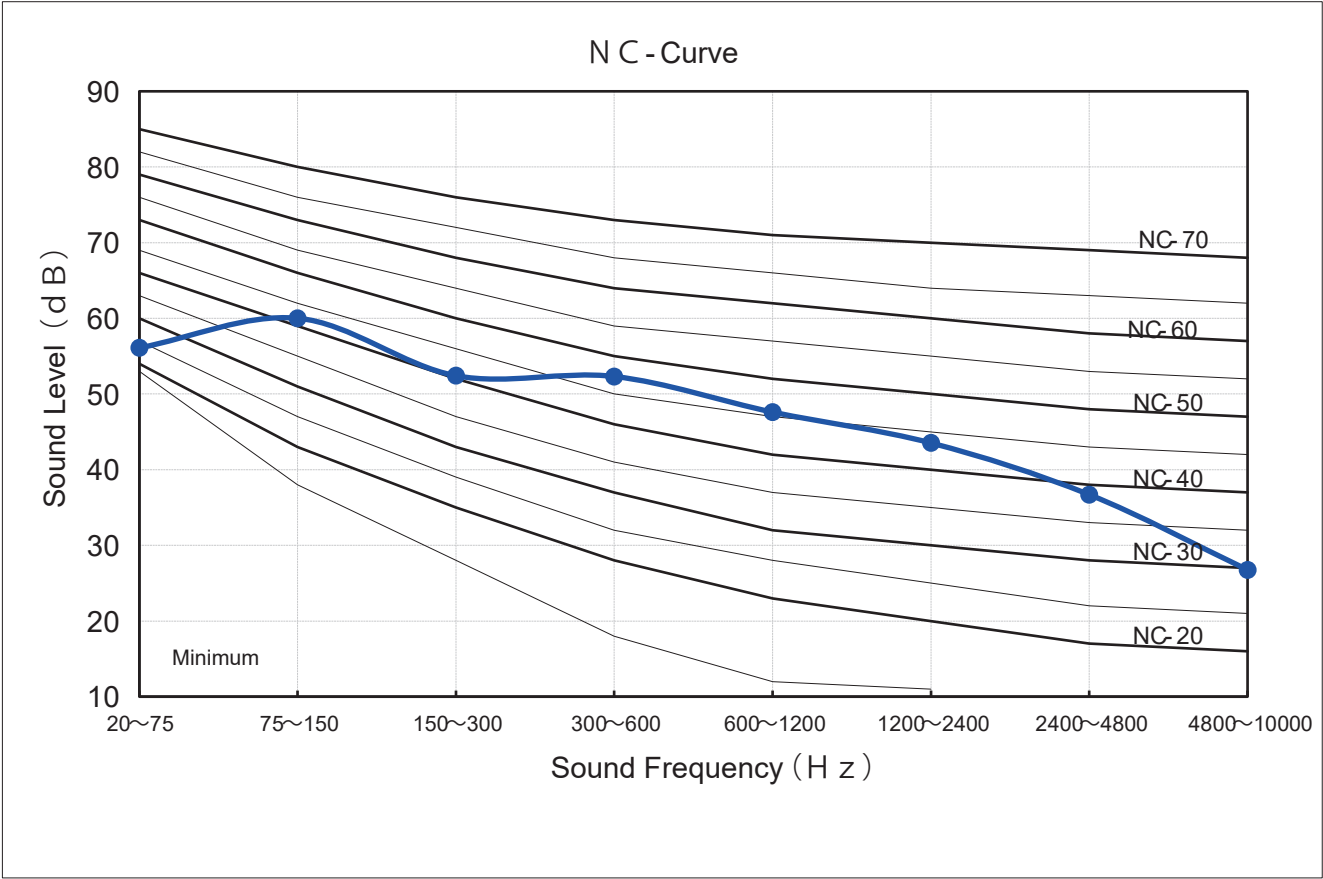


Heating mode

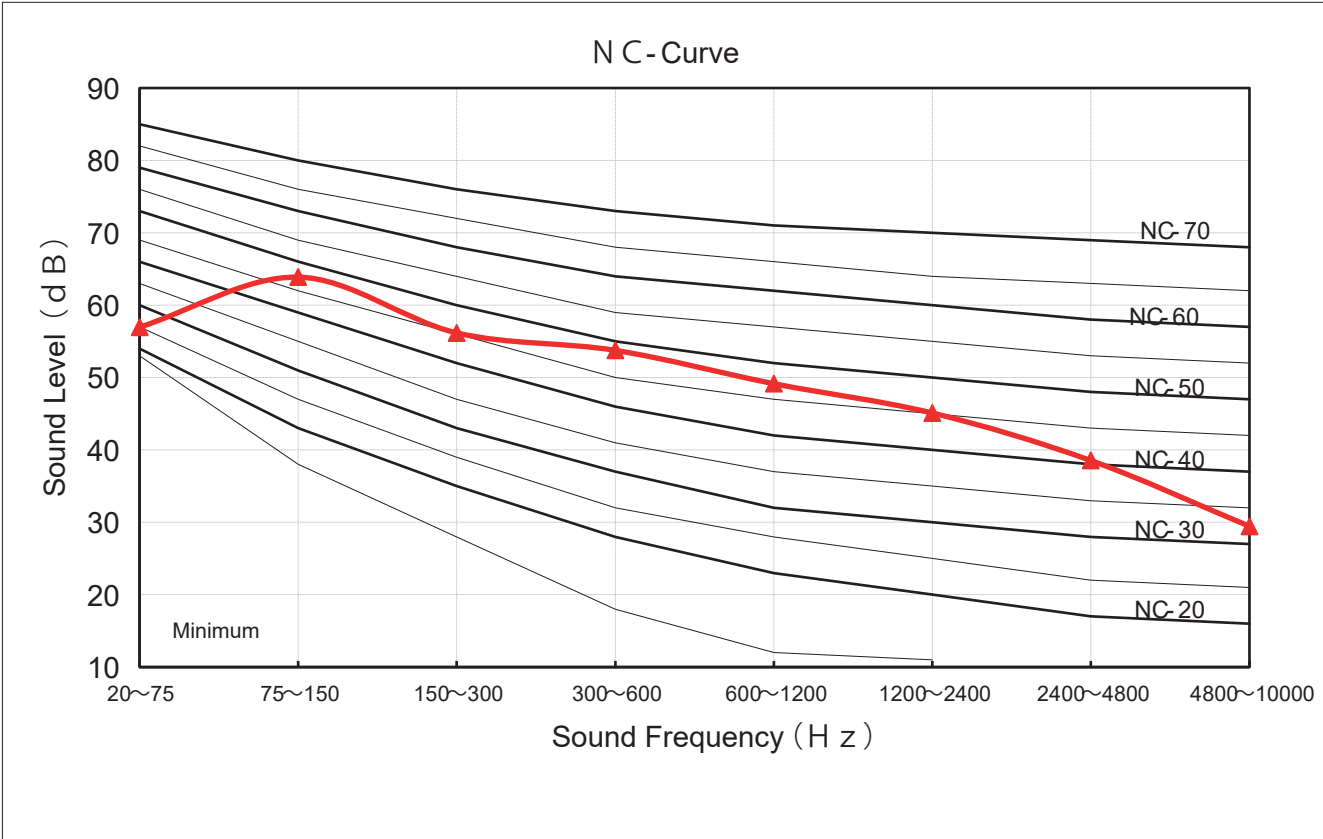


RAV-SP242AT2P-UL

Cooling mode

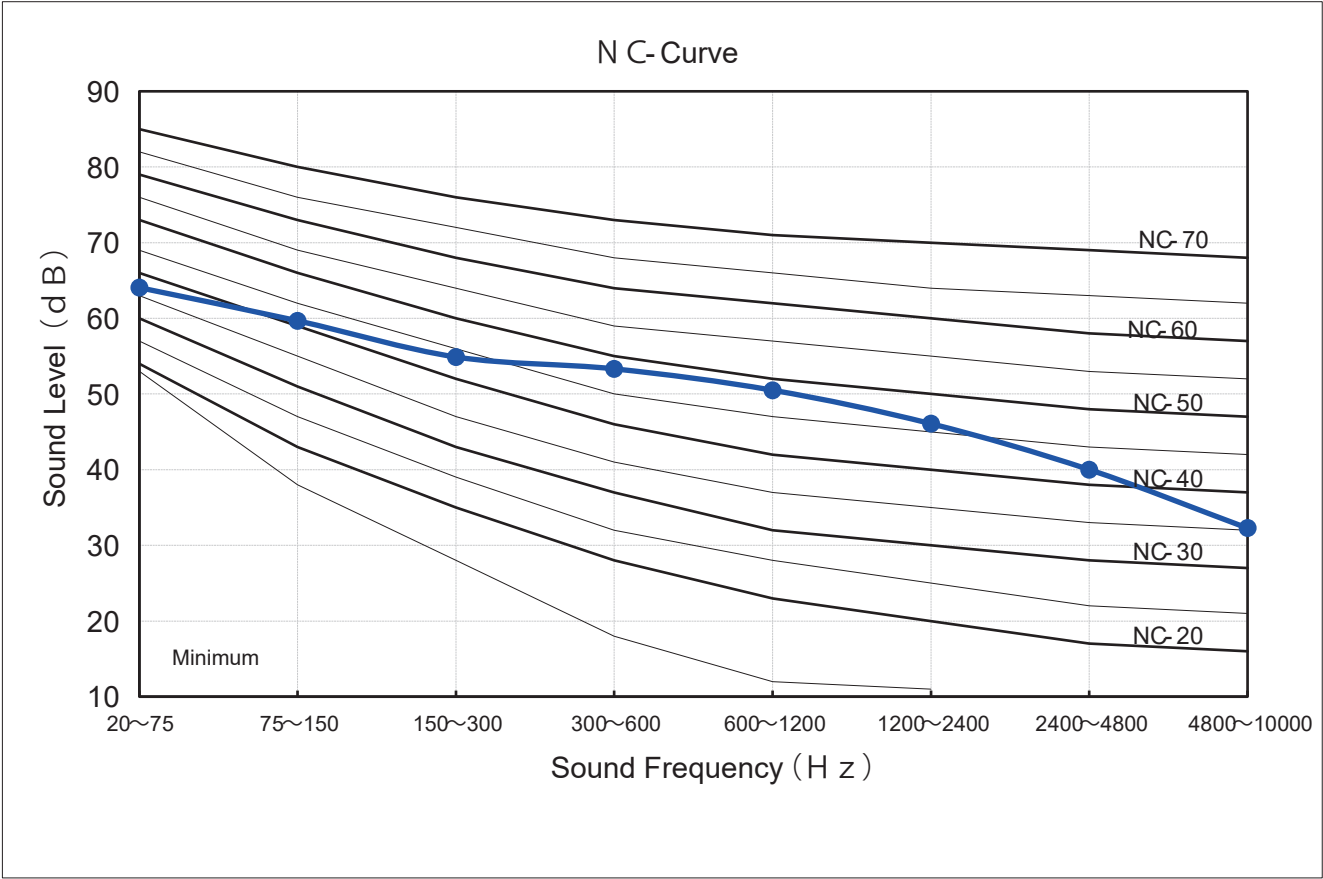


Heating mode

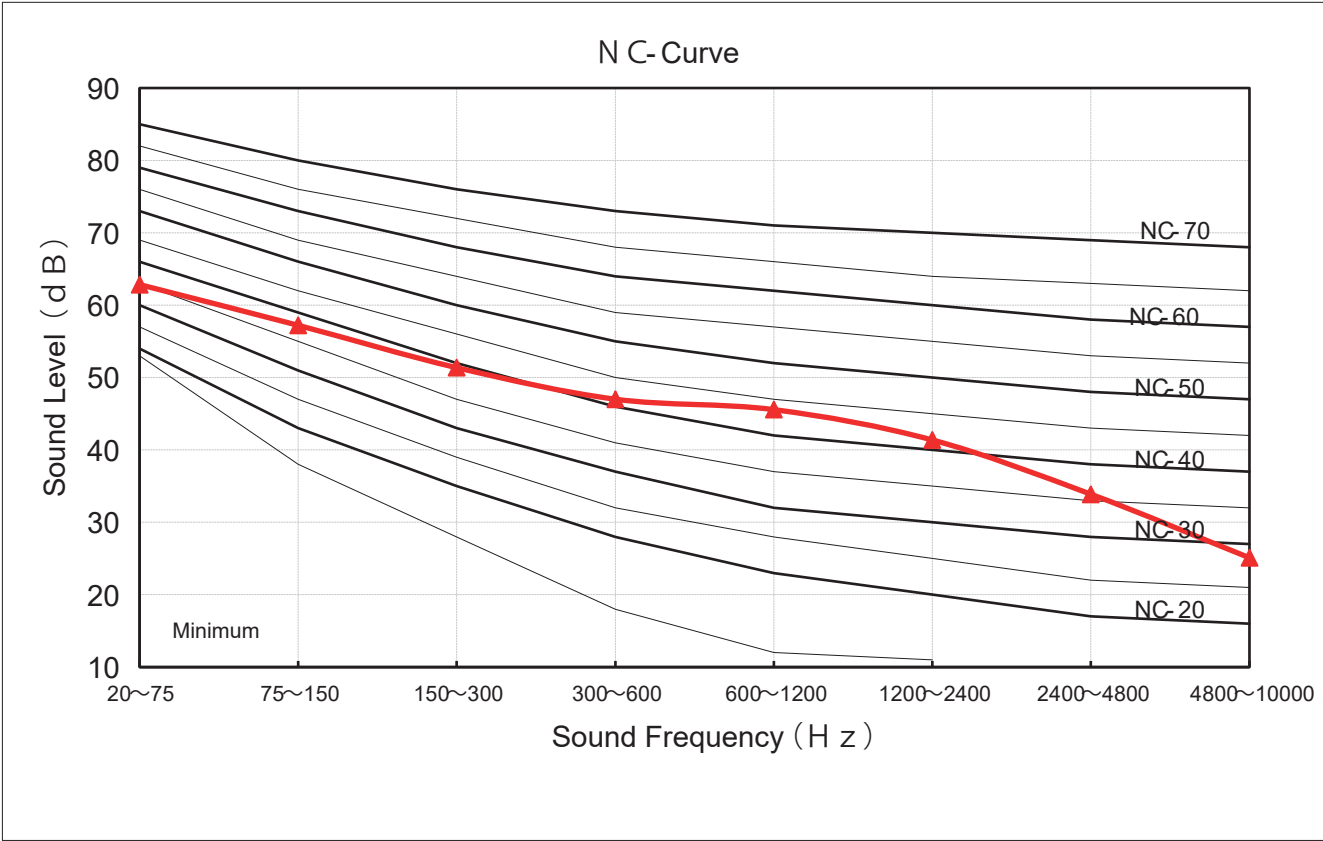


RAV-SP302AT2P-UL

Cooling mode

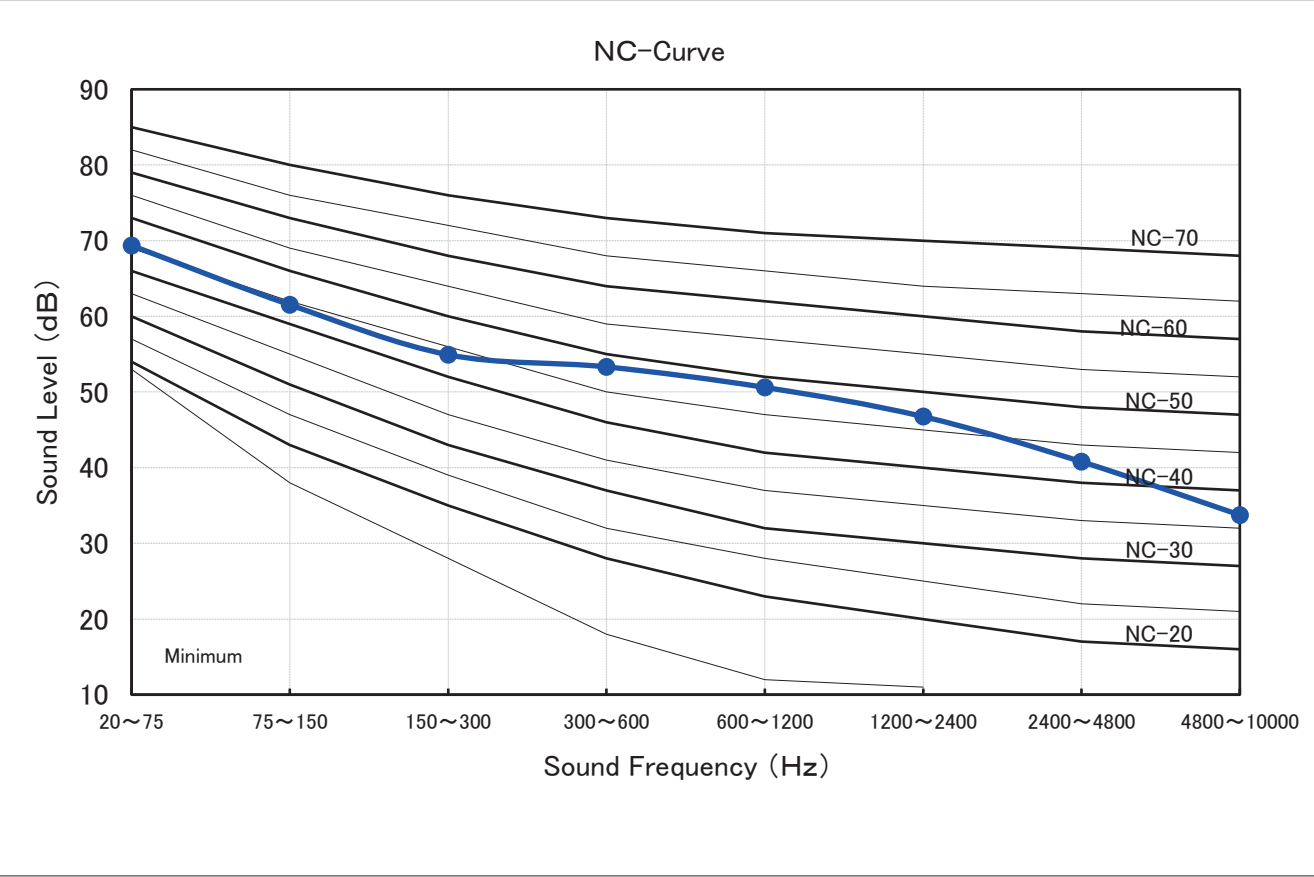


Heating mode

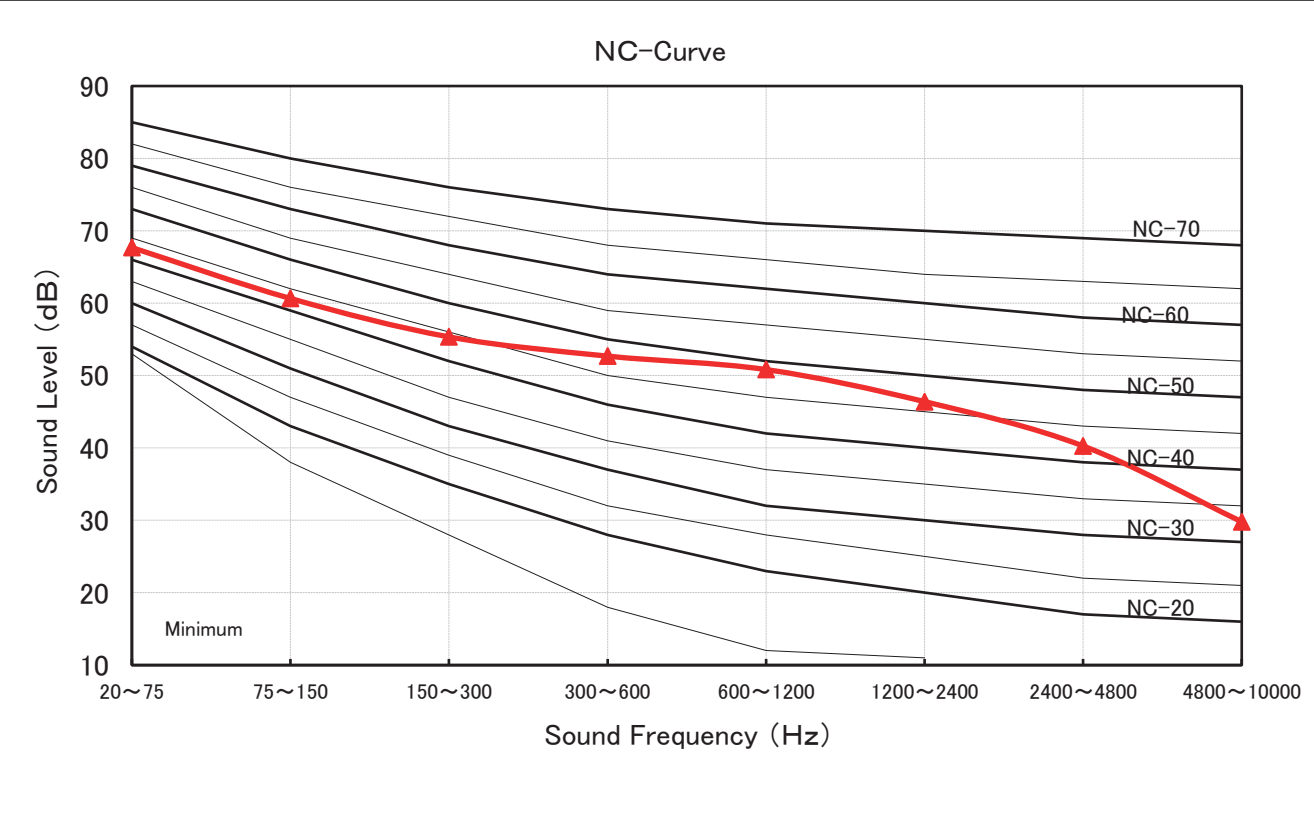


RAV-SP362AT2P-UL

Cooling mode

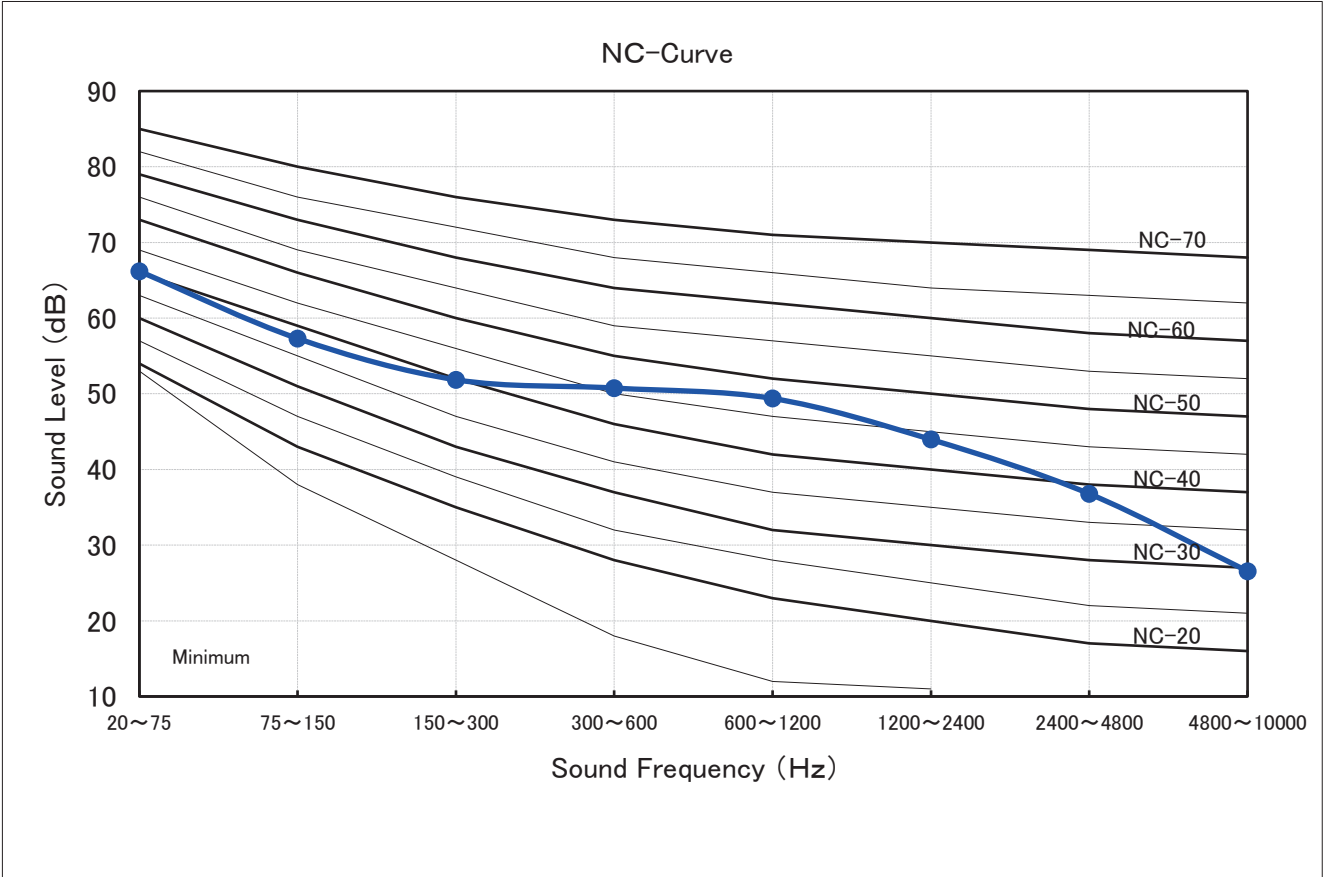


Heating mode

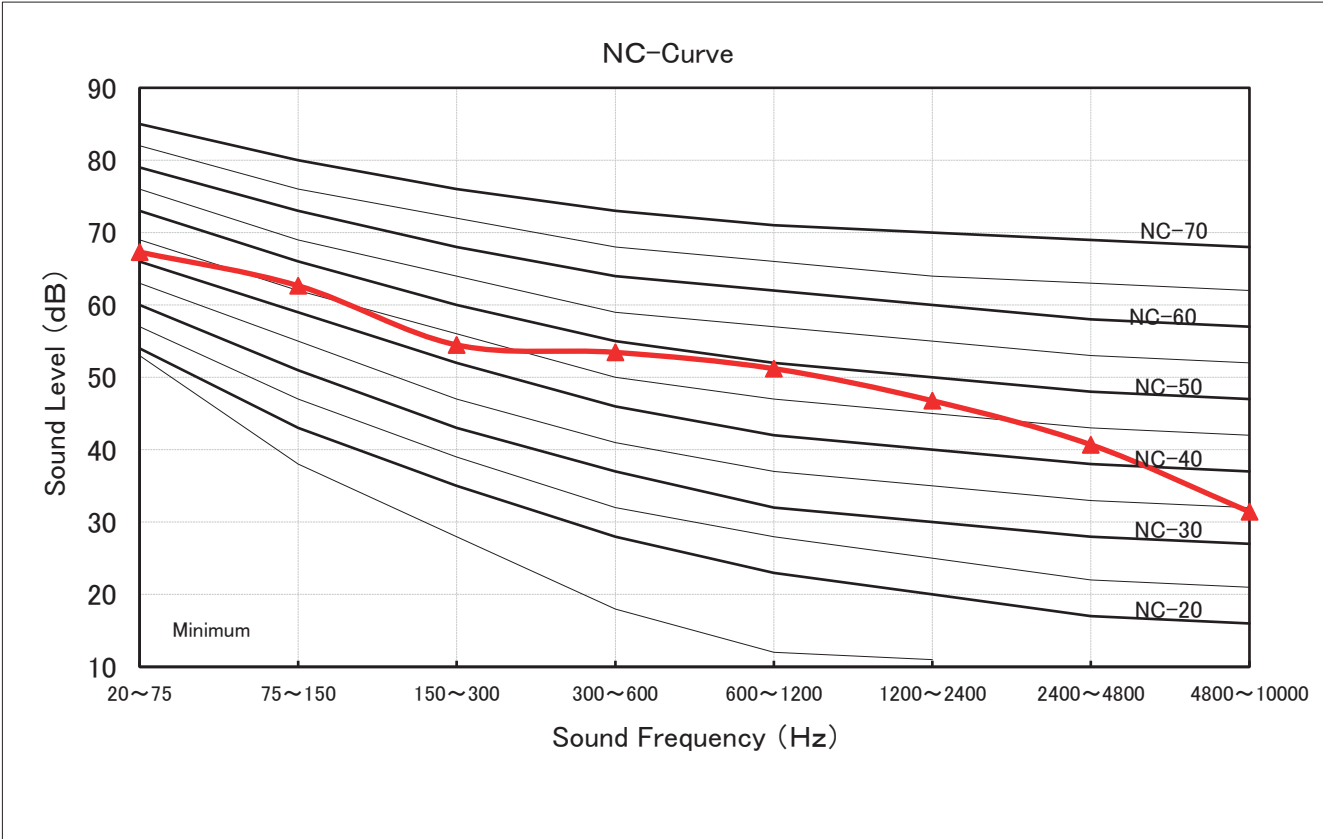


RAV-SP422AT2P-UL

Cooling mode

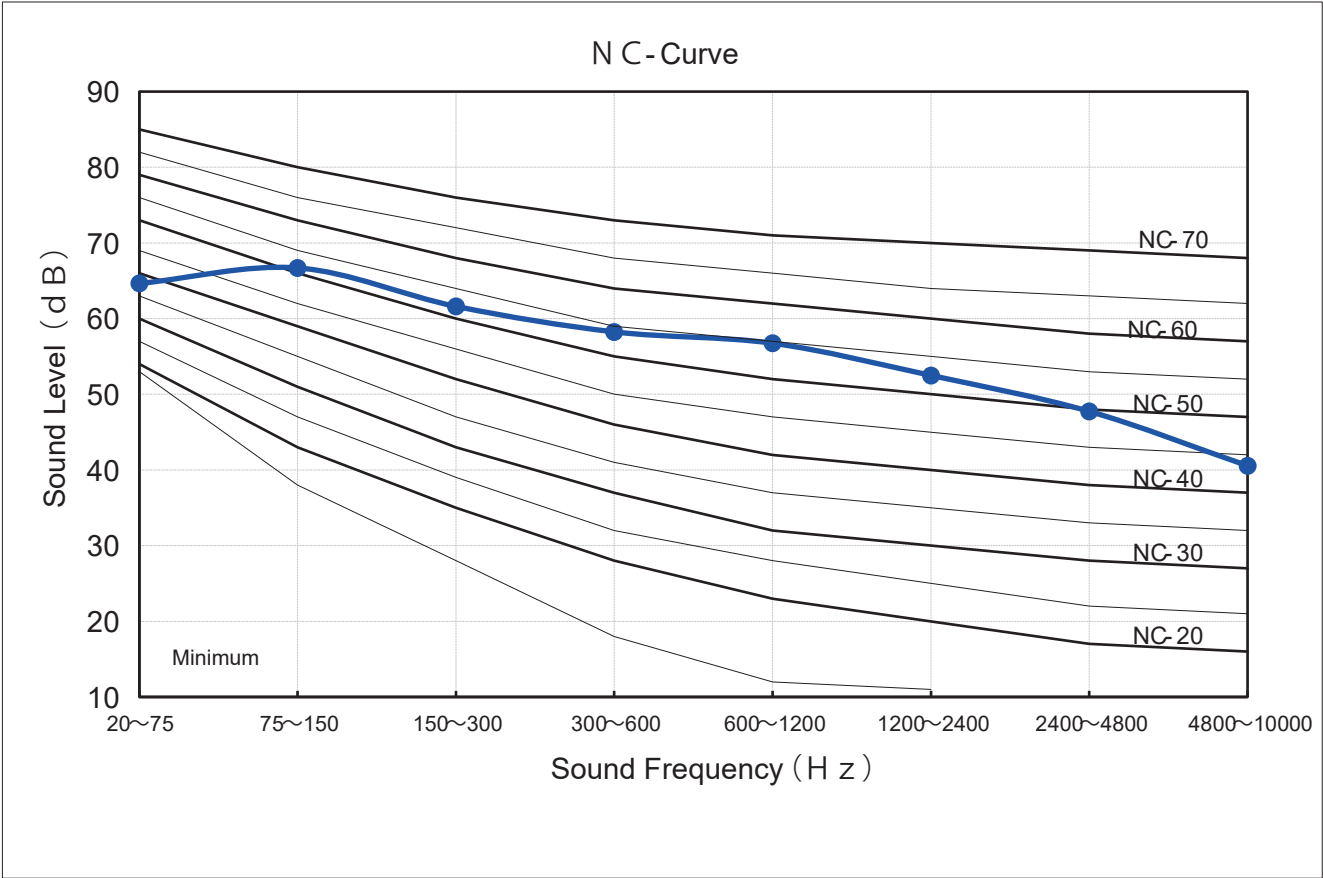


Heating mode

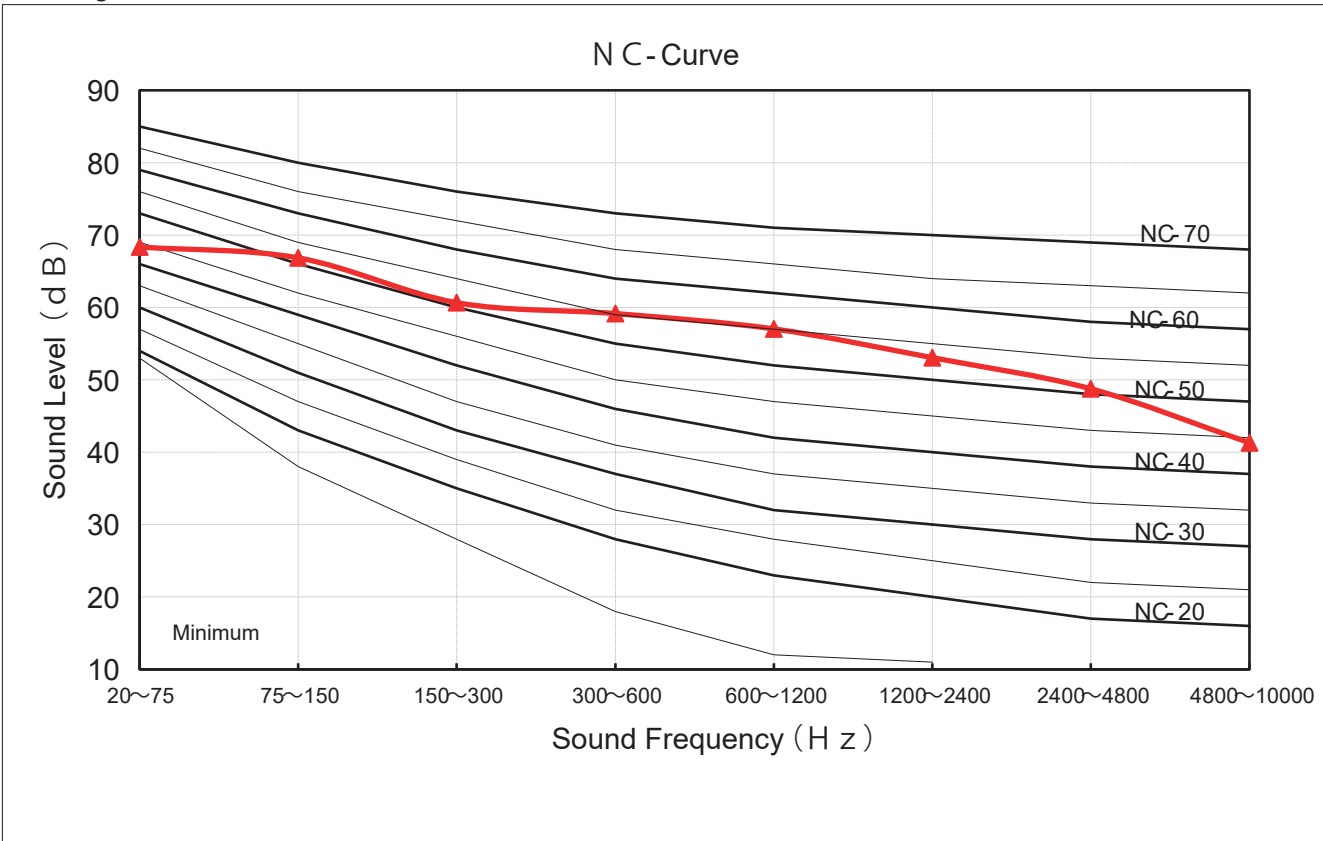


RAV-SP482AT2P-UL

Cooling mode

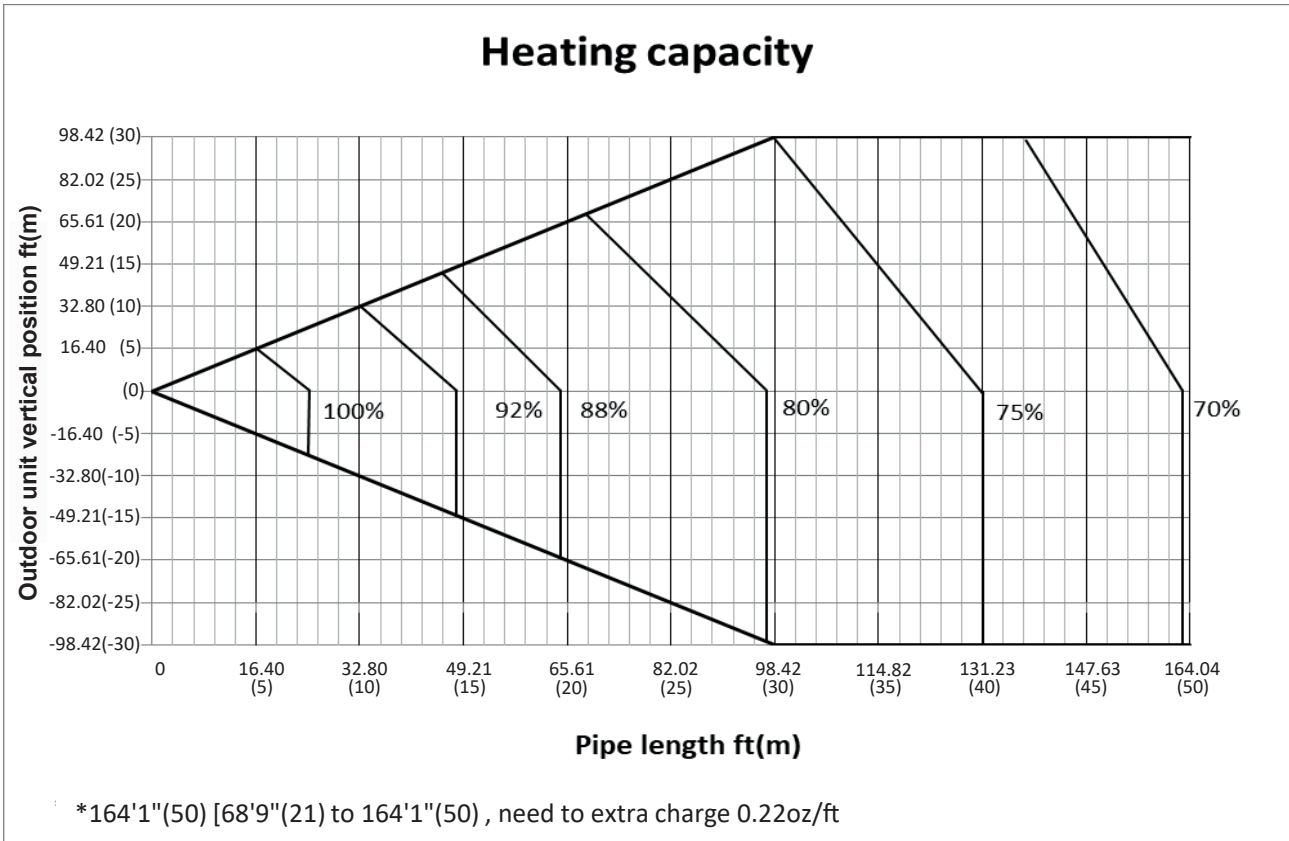
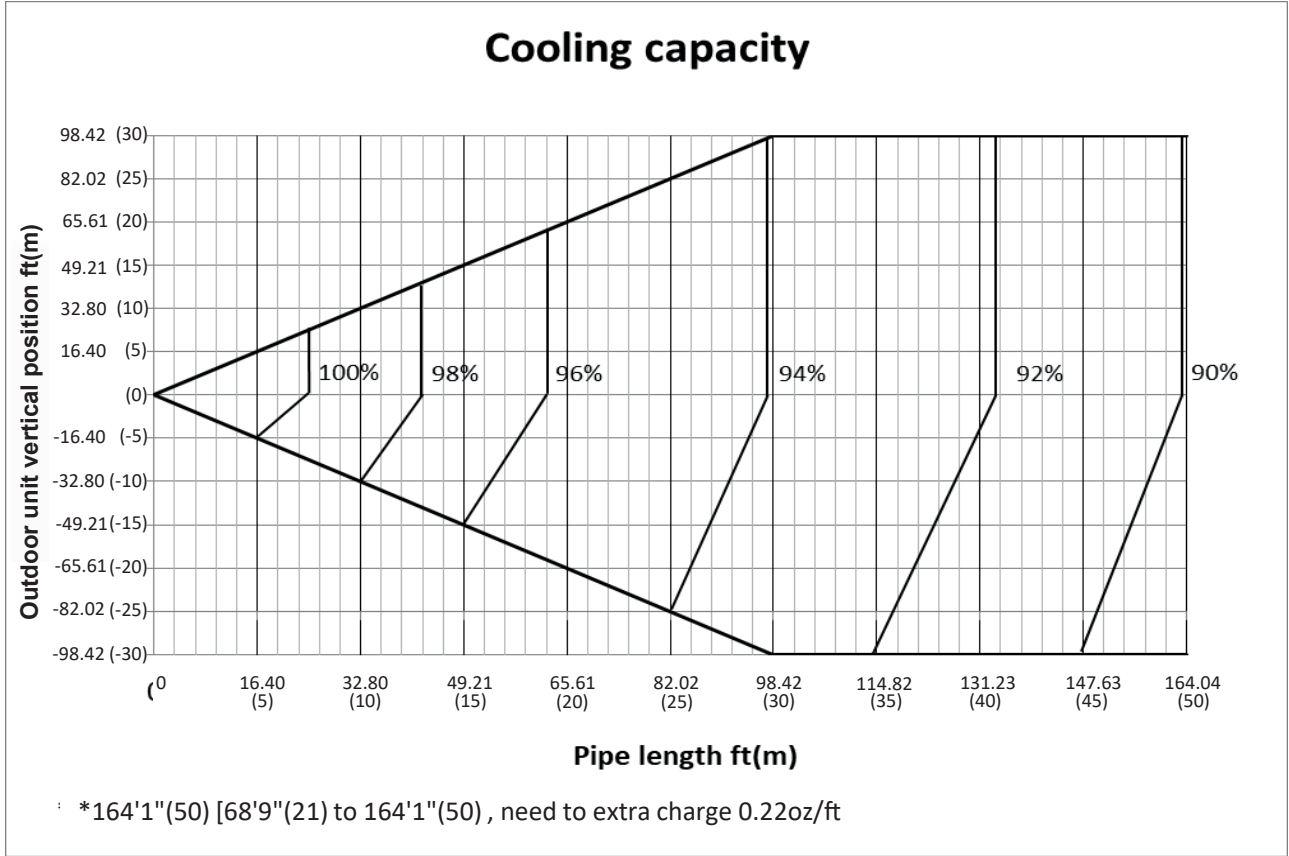


Heating mode



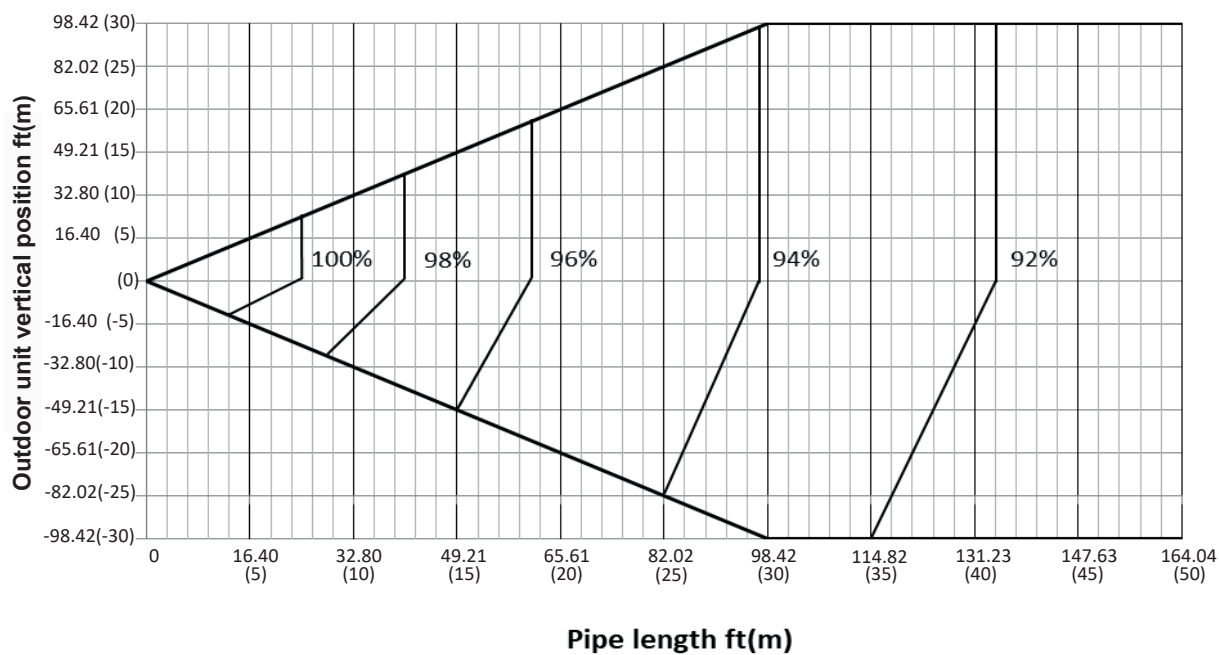
3-6. Connecting pipe length and lift difference between indoor units vs. capacity correction value

RAV-SP*_2AT2P-UL (*12 / 18)



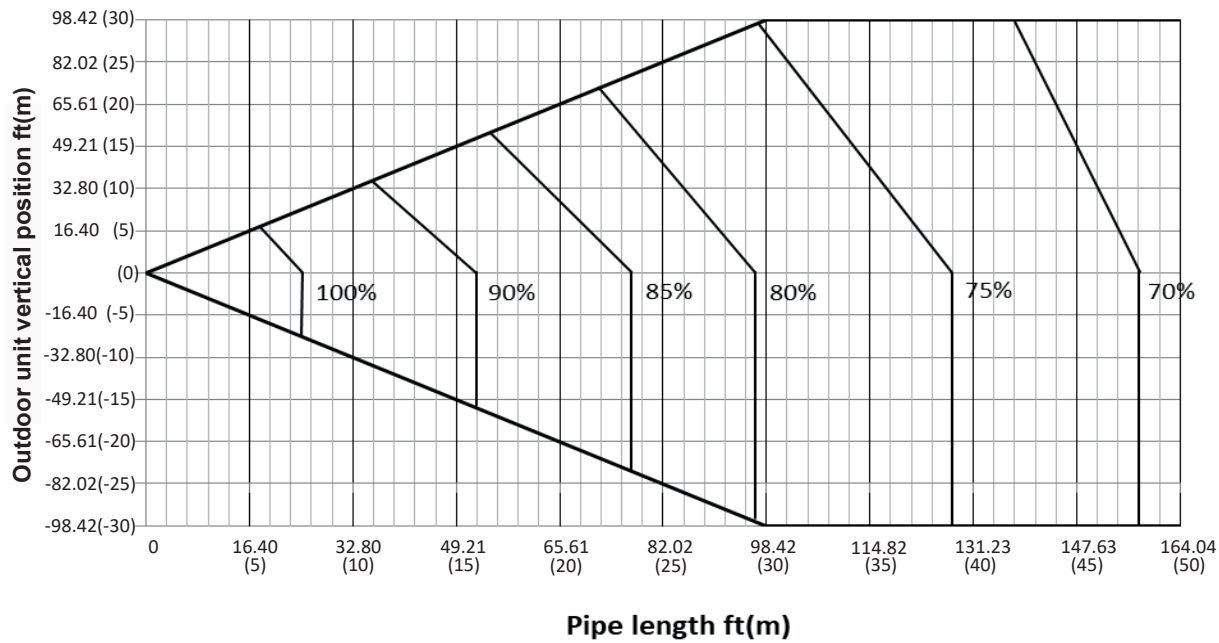
RAV-SP242AT2P-UL

Cooling capacity



*164'1"(50) [101'8"(31) to 164'1"(50) , need to extra charge 0.43oz/ft

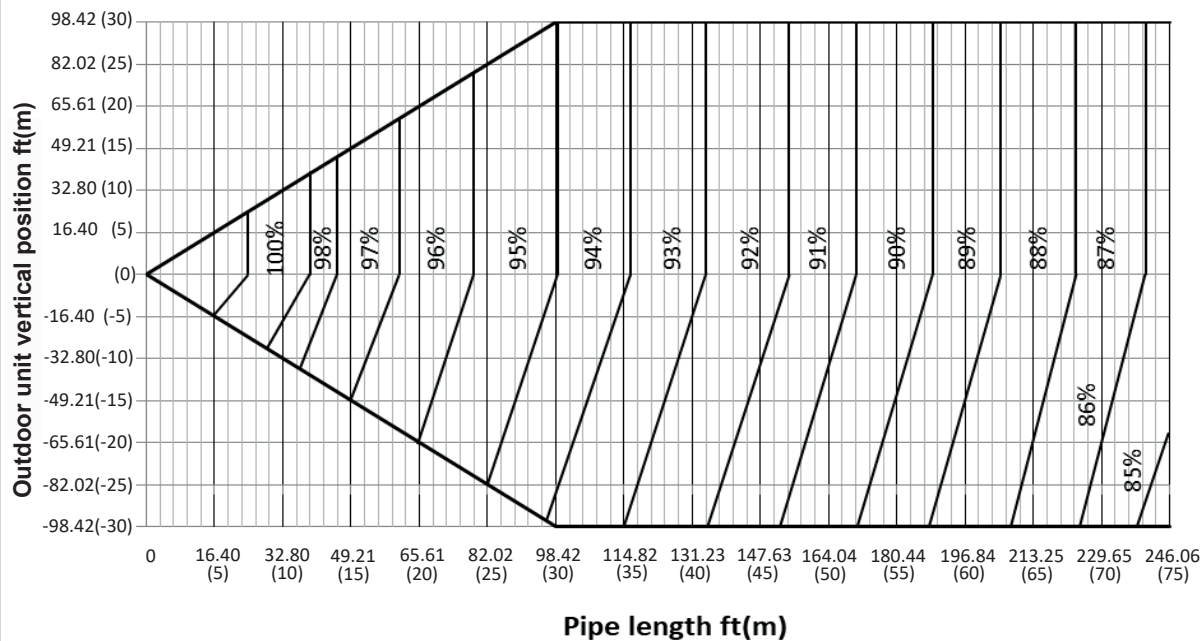
Heating capacity



*164'1"(50) [101'8"(31) to 164'1"(50) , need to extra charge 0.43oz/ft

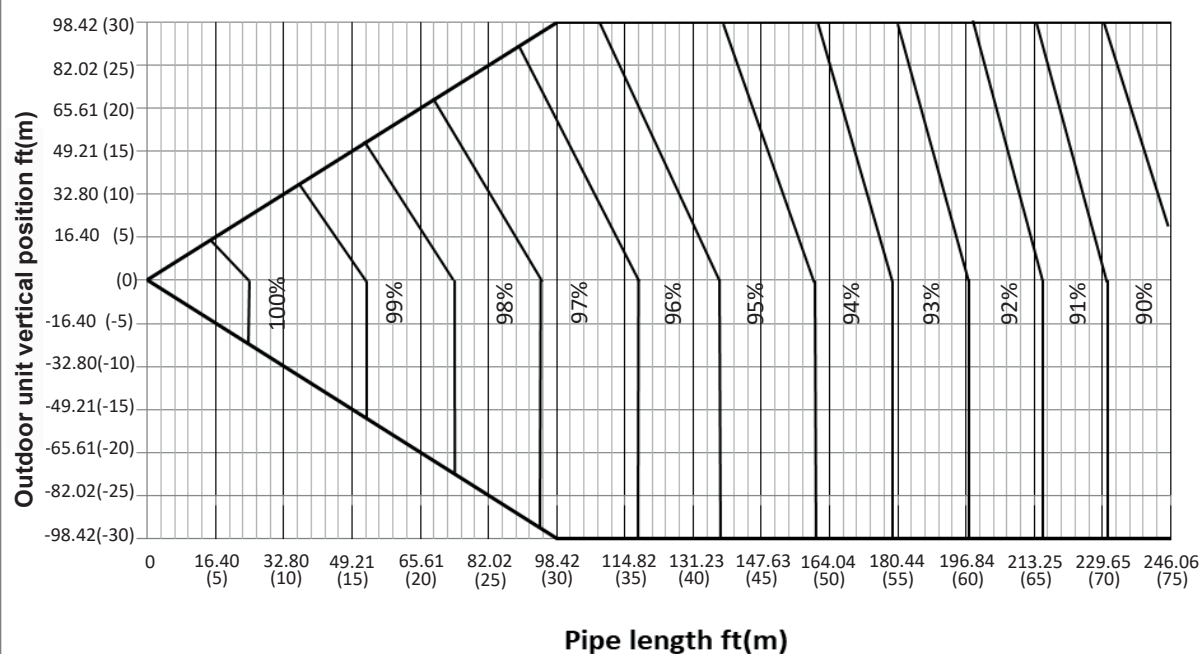
RAV-SP*_2AT2P-UL (*30 / 36 / 42 /48)

Cooling capacity



*164'1"(50) [101'8"(31) to 246'1"(75) , need to extra charge 0.43oz/ft

Heating capacity



*164'1"(50) [101'8"(31) to 246'1"(75) , need to extra charge 0.43oz/ft

4. Controller



RBC-AMS54E-UL



RBC-AMT32UL

TOSHIBA CARRIER (THAILAND)

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

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