

ENGINEERING DATA BOOK



INDOOR UNIT / OUTDOOR UNIT

RAS-09EKV-UL / RAS-09EAV-UL

RAS-12EKV-UL / RAS-12EAV-UL

RAS-15EKV-UL / RAS-15EAV-UL

RAS-17EKV-UL / RAS-17EAV-UL

RAS-22EKV-UL / RAS-22EAV-UL

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Product lineup

High wall	Size	9	12	15	17	22	
	Outdoor unit						
	Model name	RAS-09EAV-UL	RAS-12EAV-UL	RAS-15EAV-UL	RAS-17EAV-UL	RAS-22EAV-UL	
	RAS-09EKV-UL	●	-	-	-	-	°F Display (WH-TA14NE) 1111855001
	RAS-12EKV-UL	-	●	-	-	-	
	RAS-15EKV-UL	-	-	●	-	-	or °C Display (WH-TA15NE) 1111855002
	RAS-17EKV-UL	-	-	-	●	-	
	RAS-22EKV-UL	-	-	-	-	●	

Specifications

System	Size		9	12	15	17	22
	Outdoor Model		RAS-09EKV-UL	RAS-12EKV-UL	RAS-15EKV-UL	RAS-17EKV-UL	RAS-22EKV-UL
	Indoor Model		RAS-09EAV-UL	RAS-12EAV-UL	RAS-15EAV-UL	RAS-17EAV-UL	RAS-22EAV-UL
Performance	Cooling Rated Capacity	Btu/h	9000	12000	15000	16200	21400
	Cooling Range Capacity		3750 - 10580	2750 - 13950	2750 - 17050	3750 - 20450	4100 - 22500
	EER	Btu/W.h	13.00	12.60	13.00	12.60	8.30
	SEER	Btu/W.h	20	23	20	19	15.5
	Heating Rated Capacity	Btu/h	10800	14200	18000	20200	23200
	Heating Range Capacity		3070 - 16350	3070 - 19000	2750 - 21500	2750 - 21500	3450 - 24350
	COP	Btu/W.h	13.50	13.00	12.80	12.40	10.50
	HSPF		10	9.7	9	9	9
Controls	Wireless (°C, °F, Convertible)		Standards	Standards	Standards	Standards	Standards
	Wired (°C, °F, Convertible)		Optional	Optional	Optional	Optional	Optional
Operating Range	Cooling						
	Outdoor Min - Max DB	°F	0~115	0~115	0~115	0~115	0~115
	Indoor Min - Max DB	°F	70~90	70~90	70~90	70~90	70~90
	Heating						
	Outdoor Min - Max DB	°F	-4~75	-4~75	-4~75	-4~75	-4~75
	Indoor Min - Max DB	°F	32~82	32~82	32~82	32~82	32~82
Piping	Min. Piping Length	ft (m)	6.6 (2)	6.6 (2)	6.6 (2)	6.6 (2)	6.6 (2)
	Standard Piping Length	ft (m)	16 (5)	16 (5)	25 (7.5)	25 (7.5)	25 (7.5)
	Max. Piping Length with no additional refrigerant charge	ft (m)	50 (15)	50 (15)	50 (15)	50 (15)	50 (15)
	Max. Piping Length	ft (m)	66 (20)	66 (20)	66 (20)	66 (20)	66 (20)
	Gas Pipe (size/connection type)	in	3/8	3/8	1/2	1/2	1/2
	Liquid Pipe (size/connection type)	in	1/4	1/4	1/4	1/4	1/4
Electrical	Voltage	V-Ph-Hz	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
	Cooling Power Consumption	W	690 (250 - 820)	950 (150 - 1250)	1150 (160 - 1720)	1285 (190 - 2010)	2570 (210 - 2720)
	Heating Power Consumption	W	800 (170 - 1400)	1090 (160 - 1580)	1400 (143 - 1900)	1630 (150 - 1910)	2200 (190 - 2440)
	Cooling Running Current	A @208V	3.68 (1.50 - 4.15)	4.81 (1.03 - 6.26)	5.75 (1.04 - 8.40)	6.45 (1.23 - 9.90)	12.8 (1.38 - 13.40)
		A @230V	3.33 (1.36 - 3.75)	4.35 (0.93 - 5.66)	5.20 (0.94 - 7.60)	5.80 (1.12 - 8.90)	11.5 (1.25 - 12.10)
	Heating Running Current	A @208V	4.13 (1.02 - 6.86)	5.51 (1.10 - 7.75)	6.97 (1.07 - 9.80)	8.10 (1.00 - 9.40)	10.9 (1.26 - 12.00)
		A @230V	3.74 (0.92 - 6.21)	4.99 (0.99 - 7.00)	6.30 (0.96 - 8.80)	7.30 (0.90 - 8.50)	9.9 (1.14 - 10.80)
	MCA	A	10	13	13	13	15
Outdoor	MOPA	A	15	20	20	20	25
	Dimensions						
	Height	in (mm)	21-11/16 (550)	21-11/16 (550)	21-11/16 (550)	21-11/16 (550)	21-11/16 (550)
	Width	in (mm)	30-11/16 (780)	30-11/16 (780)	30-11/16 (780)	30-11/16 (780)	30-11/16 (780)
	Length	in (mm)	11-7/16 (290)	11-7/16 (290)	11-7/16 (290)	11-7/16 (290)	11-7/16 (290)
	Weight -Gross/Net	lbs (kg)	88 (40)/82 (37)	95 (43)/88 (40)	98 (44)/91 (41)	98 (44)/91 (41)	100 (45)/93 (42)
Indoor	Sound Pressure	dBa	47	50	51	52	53
	Dimensions						
	Width	in (mm)	10-25/32 (275)	10-25/32 (275)	12-19/32 (320)	12-19/32 (320)	12-19/32 (320)
	Height	in (mm)	31-1/8 (790)	31-1/8 (790)	41-5/16 (1050)	41-5/16 (1050)	41-5/16 (1050)
	Length	in (mm)	8-1/16 (205)	8-1/16 (205)	8-15/16 (228)	8-15/16 (228)	8-15/16 (228)
	Weight -Gross/Net	lbs (kg)	25 (11)/20 (9)	25 (11)/20 (9)	35 (16)/29 (13)	35 (16)/29 (13)	35 (16)/29 (13)
	Sound Pressure at Different Speeds (clg)	dBa	39/36/34/30/27	45/42/40/35/30	44/41/38/35/32	47/44/41/38/35	47/44/41/38/35
	Sound Pressure at Different Speeds (htg)	dBa	40/37/35/32/29	46/43/41/36/32	44/41/39/35/32	47/44/42/38/35	47/44/42/38/35
	Air flow (H/M/L) (clg)	CFM	303/244/177	406/304/219	562/445/346	636/505/388	636/505/388
	Air flow (H/M/L) (htg)	CFM	335/272/211	438/353/247	583/505/374	646/572/420	646/572/420

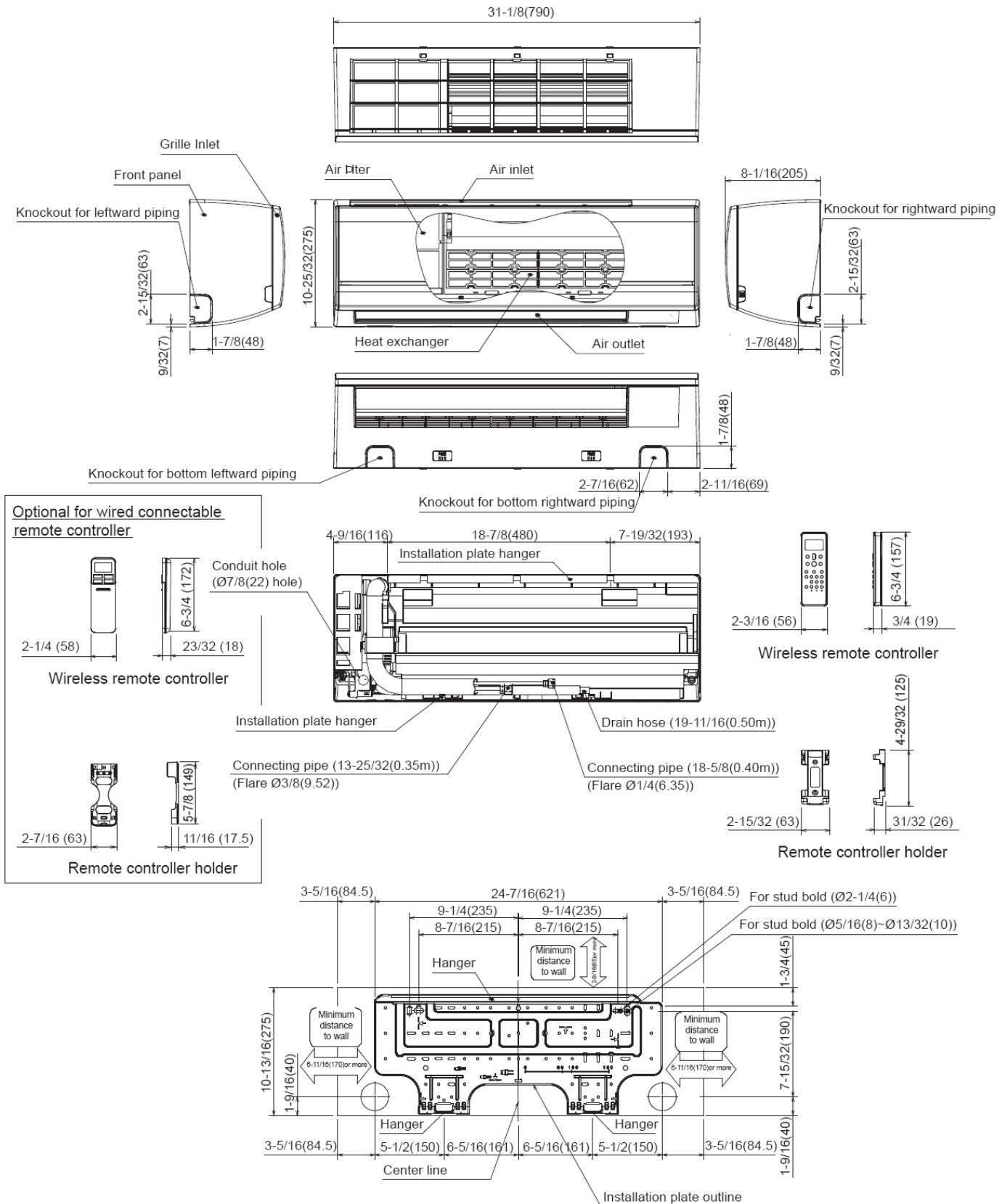
* The specification may be subject to change without notice for purpose of improvement.

Rated conditions Cooling: Indoor air temperature 80°F DB / 67°F WB, Outdoor air temperature 95°F DB
Heating: Indoor air temperature 70°F DB, Outdoor air temperature 47°F DB/ 43°F WB

Dimensions of Indoor and outdoor units

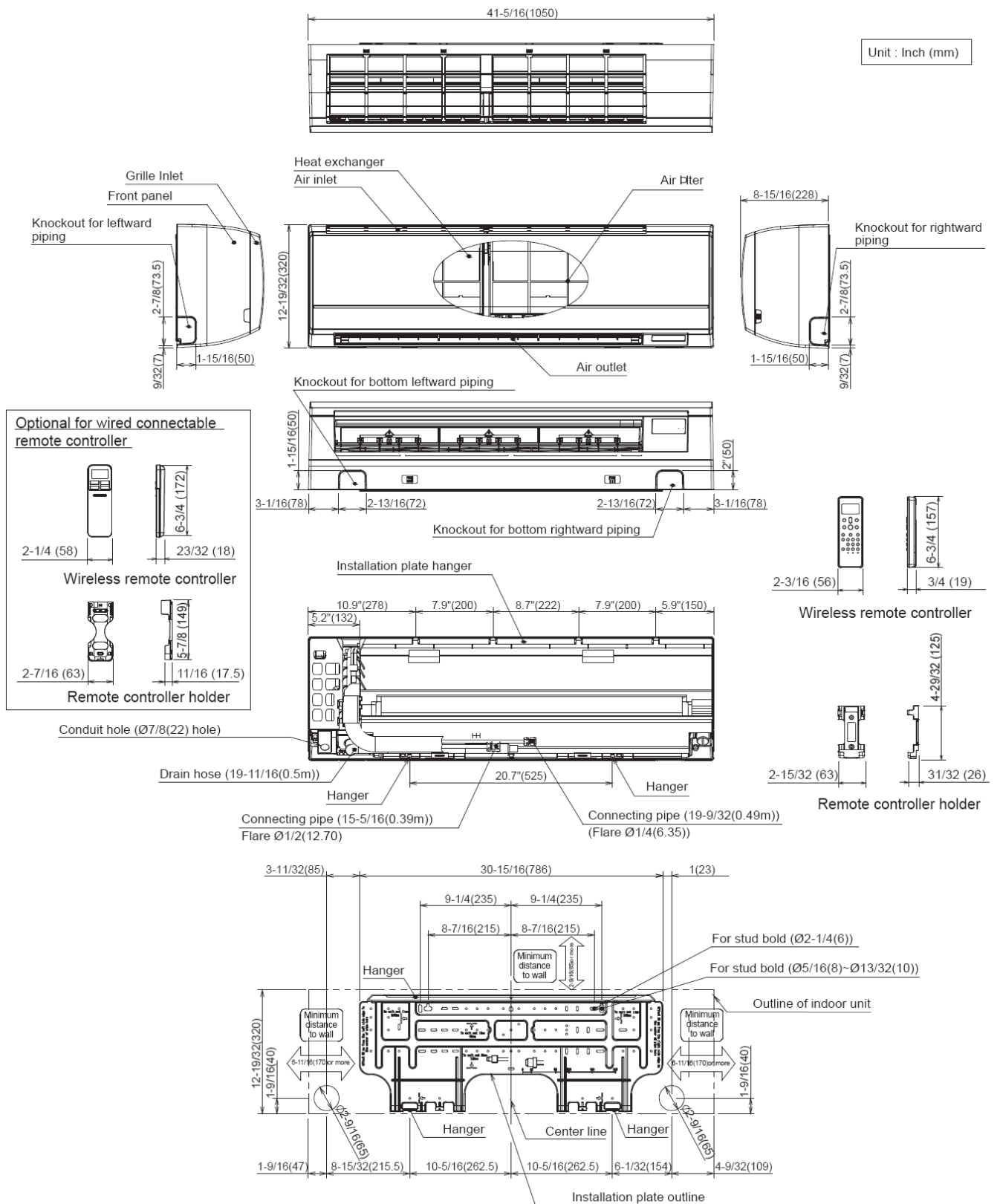
Indoor units: RAS-09EKV-UL, RAS-12EKV-UL

Unit : Inch (mm)

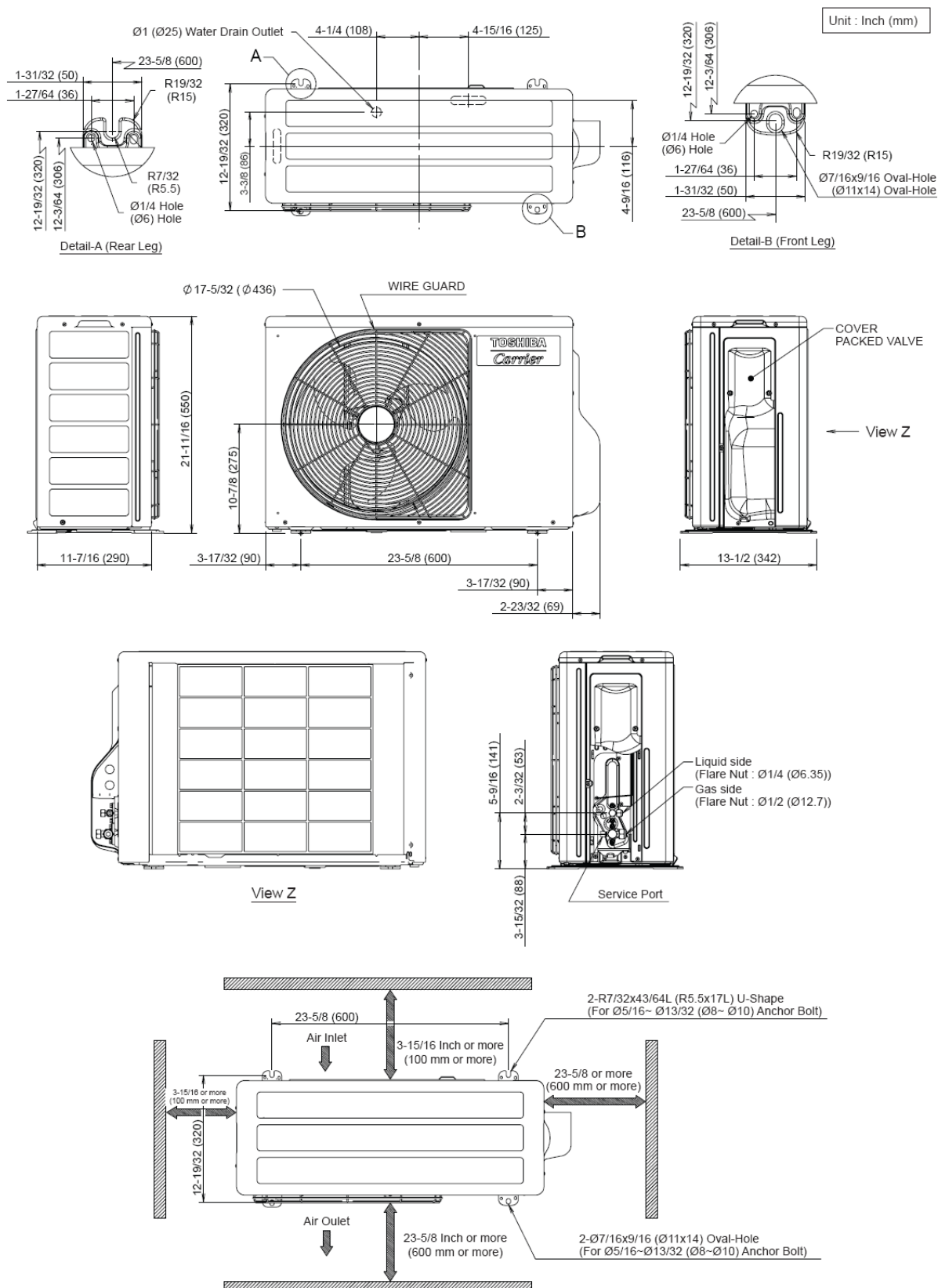


Indoor units: RAS-15EKV-UL, RAS-17EKV-UL, RAS-22EKV-UL

Unit : Inch (mm)



Outdoor units: RAS-09EAV-UL, RAS-12EAV-UL, RAS-15EAV-UL, RAS-17EAV-UL, RAS-22EAV-UL



Part load performance

Single Split Type

Indoor: RAS-09EKV-UL

Outdoor: RAS-09EAV-UL

	Cooling		Heating	
	Q (Btu/h)	W	Q (Btu/h)	W
Minimum	3750	250	3070	170
Rating	9000	690	10800	800

Cooling

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
115	Q (Btu/h)	7730	6957	6184	5411	4638	3865	3221	3221	3221	3221
	W	799	711	624	537	450	362	289	289	289	289
105	Q (Btu/h)	8365	7528	6692	5855	5019	4182	3485	3485	3485	3485
	W	744	663	582	500	419	338	270	270	270	270
95	Q (Btu/h)	9000	8100	7200	6300	5400	4500	3750	3750	3750	3750
	W	690	615	539	464	388	313	250	250	250	250
87	Q (Btu/h)	9520	8568	7616	6664	5712	4760	3967	3967	3967	3967
	W	646	575	504	434	363	293	234	234	234	234
82	Q (Btu/h)	9809	8828	7847	6866	5885	4904	4087	4087	4087	4087
	W	621	553	485	417	349	281	225	225	225	225
75	Q (Btu/h)	10271	9243	8216	7189	6162	5135	4279	4279	4279	4279
	W	581	518	454	391	327	264	211	211	211	211
65	Q (Btu/h)	10906	9815	8725	7634	6543	5453	4544	4544	4544	4544
	W	527	469	412	354	296	239	191	191	191	191
55	Q (Btu/h)	11541	10387	9233	8079	6925	5771	4809	4809	4809	4809
	W	472	421	369	317	266	214	171	171	171	171
45	Q (Btu/h)	12234	11011	9787	8564	7340	6117	5098	5098	5098	5098
	W	413	368	323	278	232	187	150	150	150	150
35	Q (Btu/h)	12869	11582	10295	9008	7722	6435	5362	5362	5362	5362
	W	359	319	280	241	202	163	130	130	130	130
25	Q (Btu/h)	13505	12154	10804	9453	8103	6752	5627	5627	5627	5627
	W	304	271	238	204	171	138	110	110	110	110
15	Q (Btu/h)	14140	12726	11312	9898	8484	7070	5892	5892	5892	5892
	W	250	223	195	168	141	113	91	91	91	91
0	Q (Btu/h)	15122	13609	12097	10585	9073	7561	6301	6301	6301	6301
	W	166	148	130	111	93	75	60	60	60	60

Heating

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
75	Q (Btu/h)	15120	13608	12096	10584	9072	7560	6048	4536	4298	4298
	W	992	883	774	665	555	446	337	228	211	211
68	Q (Btu/h)	14061	12655	11249	9843	8437	7031	5624	4218	3997	3997
	W	945	841	737	633	529	425	321	217	201	201
62	Q (Btu/h)	13085	11777	10468	9160	7851	6543	5234	3926	3720	3720
	W	902	803	704	604	505	406	307	207	192	192
55	Q (Btu/h)	12110	10899	9688	8477	7266	6055	4844	3633	3442	3442
	W	858	764	669	575	480	386	292	197	182	182
47	Q (Btu/h)	10800	9720	8640	7560	6480	5400	4320	3240	3070	3070
	W	800	712	624	536	448	360	272	184	170	170
45	Q (Btu/h)	10438	9394	8350	7307	6263	5219	4175	3131	2967	2967
	W	784	698	611	525	439	353	266	180	167	167
35	Q (Btu/h)	7595	6836	6076	5317	4557	3798	3038	2279	2159	2159
	W	691	615	539	463	387	311	235	159	147	147
25	Q (Btu/h)	6890	6201	5512	4823	4134	3445	2756	2067	1959	1959
	W	638	568	498	427	357	287	217	147	136	136
17	Q (Btu/h)	6313	5682	5050	4419	3788	3157	2525	1894	1795	1795
	W	596	530	465	399	334	268	203	137	127	127
5	Q (Btu/h)	4306	3875	3445	3014	2584	2153	1722	1292	1224	1224
	W	511	455	399	342	286	230	174	117	109	109
0	Q (Btu/h)	3470	3123	2776	2429	2082	1735	1388	1041	986	986
	W	474	422	370	318	265	213	161	109	101	101
-4	Q (Btu/h)	2913	2622	2330	2039	1748	1457	1165	874	828	828
	W	449	400	350	301	251	202	153	103	95	95

Part load performance

Single Split Type

Indoor: RAS-12EKV-UL

Outdoor: RAS-12EAV-UL

	Cooling		Heating	
	Q (Btu/h)	W	Q (Btu/h)	W
Minimum	2750	150	3070	160
Rating	12000	950	14200	1090

Cooling

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
115	Q (Btu/h)	10306	9275	8245	7214	6184	5153	4122	3092	2362	2362
	W	1100	980	859	739	619	499	379	259	174	174
105	Q (Btu/h)	11153	10038	8922	7807	6692	5577	4461	3346	2556	2556
	W	1025	913	801	689	577	465	353	241	162	162
95	Q (Btu/h)	12000	10800	9600	8400	7200	6000	4800	3600	2750	2750
	W	950	846	742	639	535	431	327	224	150	150
87	Q (Btu/h)	12693	11424	10154	8885	7616	6347	5077	3808	2909	2909
	W	889	792	695	597	500	403	306	209	140	140
82	Q (Btu/h)	13078	11770	10462	9155	7847	6539	5231	3923	2997	2997
	W	855	761	668	575	481	388	294	201	135	135
75	Q (Btu/h)	13694	12325	10955	9586	8216	6847	5478	4108	3138	3138
	W	800	713	625	538	451	363	276	188	126	126
65	Q (Btu/h)	14541	13087	11633	10179	8725	7271	5816	4362	3332	3332
	W	725	646	567	488	408	329	250	171	115	115
55	Q (Btu/h)	15388	13849	12310	10772	9233	7694	6155	4616	3526	3526
	W	650	579	508	437	366	295	224	153	103	103
45	Q (Btu/h)	16312	14681	13050	11418	9787	8156	6525	4894	3738	3738
	W	569	507	444	382	320	258	196	134	90	90
35	Q (Btu/h)	17159	15443	13727	12011	10295	8580	6864	5148	3932	3932
	W	494	440	386	332	278	224	170	116	78	78
25	Q (Btu/h)	18006	16205	14405	12604	10804	9003	7202	5402	4126	4126
	W	419	373	327	282	236	190	144	99	66	66
15	Q (Btu/h)	18853	16968	15082	13197	11312	9427	7541	5656	4320	4320
	W	344	306	269	231	194	156	119	81	54	54
0	Q (Btu/h)	20162	18146	16130	14113	12097	10081	8065	6049	4620	4620
	W	228	203	178	153	129	104	79	54	36	36

Heating

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
75	Q (Btu/h)	19980	17892	15904	13916	11928	9940	7952	5964	4298	4298
	W	1352	1205	1058	910	763	616	469	322	198	198
68	Q (Btu/h)	18487	16638	14790	12941	11092	9244	7395	5546	3997	3997
	W	1287	1147	1007	867	727	587	446	306	189	189
62	Q (Btu/h)	17205	15485	13764	12044	10323	8603	6882	5162	3720	3720
	W	1228	1094	961	827	693	560	426	292	180	180
55	Q (Btu/h)	15922	14330	12738	11145	9553	7961	6369	4777	342	342
	W	1169	1042	914	787	660	533	405	278	172	172
47	Q (Btu/h)	14200	12780	11360	9940	8520	7100	5680	4260	3070	3070
	W	1090	971	853	734	615	497	378	259	160	160
45	Q (Btu/h)	13724	12352	10979	9607	8234	6862	5490	4117	2967	2967
	W	1068	952	835	719	603	487	370	254	157	157
35	Q (Btu/h)	9986	8987	7989	6990	5992	4993	3994	2996	2159	2159
	W	941	839	736	634	531	429	326	224	138	138
25	Q (Btu/h)	9059	8153	7247	6341	5435	4530	3624	2718	1959	1959
	W	870	775	681	586	491	396	302	207	128	128
17	Q (Btu/h)	8301	7471	6641	5811	4981	4151	3320	2490	1795	1795
	W	812	724	635	547	458	370	282	193	119	119
5	Q (Btu/h)	5662	5096	4530	3963	3397	2831	2265	1699	1224	1224
	W	697	621	545	469	394	318	242	166	102	102
0	Q (Btu/h)	4562	4106	3650	3193	2737	2281	1825	1369	986	986
	W	646	576	505	435	365	294	224	154	95	95
-4	Q (Btu/h)	3829	3446	3063	2680	2297	1915	1532	1149	828	828
	W	612	545	479	412	346	279	212	146	90	90

Part load performance

Single Split Type

Indoor: RAS-15EKV-UL

Outdoor: RAS-15EAV-UL

	Cooling		Heating	
	Q (Btu/h)	W	Q (Btu/h)	W
Minimum	2750	160	2750	143
Rating	15000	1150	18000	1400

Cooling

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
115	Q (Btu/h)	12883	11594	10306	9018	7730	6441	5153	3865	2577	2362
	W	1331	1191	1051	910	770	630	489	349	209	185
105	Q (Btu/h)	13941	12547	11153	9759	8365	6971	5577	4182	2788	2556
	W	1241	1110	979	848	718	587	456	325	194	173
95	Q (Btu/h)	15000	13500	12000	10500	9000	7500	6000	4500	3000	2750
	W	1150	1029	908	786	665	544	423	301	180	160
87	Q (Btu/h)	15866	14280	12693	11106	9520	7933	6347	4760	3173	2909
	W	1076	962	849	736	622	509	395	282	169	150
82	Q (Btu/h)	16348	14713	13078	11443	9809	8174	6539	4904	3270	2997
	W	1035	926	816	707	598	489	380	271	162	144
75	Q (Btu/h)	17118	15406	13694	11982	10271	8559	6847	5135	3424	3138
	W	969	867	764	662	560	458	356	254	152	135
65	Q (Btu/h)	18176	16359	14541	12723	10906	9088	7271	5453	3635	3332
	W	878	785	693	600	508	415	323	230	138	122
55	Q (Btu/h)	19235	17312	15388	13465	11541	9618	7694	5771	3847	3526
	W	787	704	621	538	455	372	289	206	123	110
45	Q (Btu/h)	20390	18351	16312	14273	12234	10195	8156	6117	4078	3738
	W	688	616	543	471	398	326	253	180	108	96
35	Q (Btu/h)	21449	19304	17159	15014	12869	10724	8580	6435	4290	3932
	W	598	535	472	409	346	283	220	157	94	83
25	Q (Btu/h)	22508	20257	18006	15755	13505	11254	9003	6752	4502	4126
	W	507	454	400	347	293	240	186	133	79	71
15	Q (Btu/h)	23566	21210	18853	16496	14140	11783	9427	7070	4713	4320
	W	416	373	329	285	241	197	153	109	65	58
0	Q (Btu/h)	25203	22682	20162	17642	15122	12601	10081	7561	5041	4620
	W	276	247	218	189	160	131	102	72	43	38

Heating

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
75	Q (Btu/h)	25200	22680	20160	17640	15120	12600	10080	7560	500	3850
	W	1736	1552	1368	1184	1000	816	632	448	264	177
68	Q (Btu/h)	23435	21092	1874	16405	14061	11718	9374	7031	4687	3580
	W	1654	1479	1303	1128	953	778	602	427	252	169
62	Q (Btu/h)	21805	19625	17444	15264	13083	10903	8722	6542	4361	3331
	W	1578	1411	1244	1076	909	724	575	407	240	161
55	Q (Btu/h)	20183	18165	16146	14128	12110	10092	8073	6055	4037	3084
	W	1502	1343	1184	1024	865	706	547	388	229	153
47	Q (Btu/h)	18000	16200	14400	12600	10800	9000	7200	5400	3600	2750
	W	1400	1252	1103	955	807	658	510	361	213	143
45	Q (Btu/h)	17396	15656	13917	12177	10438	8698	6958	5219	3479	2658
	W	1372	1227	1081	936	790	645	500	354	209	140
35	Q (Btu/h)	12659	11393	10127	8861	7595	6330	5064	3798	2532	1934
	W	1209	1081	953	825	696	568	440	312	184	123
25	Q (Btu/h)	11484	10336	9187	8035	6890	5742	4594	3445	2297	1755
	W	1117	999	880	762	643	525	407	288	170	114
17	Q (Btu/h)	10522	9470	8418	7365	6313	5261	4209	3157	2104	1608
	W	102	932	821	711	600	490	379	269	159	106
5	Q (Btu/h)	7177	6459	5742	5024	4306	3580	2871	2153	1435	1096
	W	895	800	705	610	516	421	326	231	136	91
0	Q (Btu/h)	5783	5205	4626	4048	3470	2892	2313	1735	1157	884
	W	830	742	654	566	478	390	302	214	126	85
-4	Q (Btu/h)	4854	4369	3883	3398	2912	2427	1942	1453	971	742
	W	787	704	620	537	453	370	287	203	120	80

Part load performance

Single Split Type

Indoor: RAS-17EKV-UL

Outdoor: RAS-17EAV-UL

	Cooling		Heating	
	Q (Btu/h)	W	Q (Btu/h)	W
Minimum	3750	190	2750	150
Rating	16200	1285	20200	1630

Cooling

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
115	Q (Btu/h)	13913	12522	11130	9739	8348	6957	5565	4174	3221	3221
	W	1488	1323	1158	993	828	663	498	333	220	220
105	Q (Btu/h)	15057	13551	12045	10540	9034	7528	6023	4517	3485	3485
	W	1386	1233	1079	925	771	618	464	310	205	205
95	Q (Btu/h)	16200	14580	12960	11340	9720	8100	6480	4860	3750	3750
	W	1285	1143	1000	858	715	573	430	288	190	190
87	Q (Btu/h)	17136	15422	13708	11995	10281	8568	6854	5141	3967	3967
	W	1202	1069	936	802	669	536	402	269	178	178
82	Q (Btu/h)	17655	15890	14124	12359	10593	8828	7062	5297	4087	4087
	W	1156	1028	900	772	643	515	387	259	171	171
75	Q (Btu/h)	18487	16638	14790	12941	11092	9243	7395	5546	4279	4279
	W	1082	962	842	722	602	482	362	242	160	160
65	Q (Btu/h)	19630	17667	15704	13741	11778	9815	7852	5889	4544	4544
	W	981	872	764	655	546	437	328	220	145	145
55	Q (Btu/h)	20774	18696	16619	14542	12464	10387	8310	6232	4809	4809
	W	880	782	685	587	490	392	294	197	130	130
45	Q (Btu/h)	22021	19819	17617	15415	13213	11011	8808	6606	5098	5098
	W	769	684	599	513	428	343	257	172	114	114
35	Q (Btu/h)	23165	20848	18532	16215	13899	11582	9266	6949	5362	5362
	W	668	594	520	446	372	298	224	150	99	99
25	Q (Btu/h)	24308	21877	19446	17016	14585	12154	9723	7292	5627	5627
	W	567	504	441	378	315	253	190	127	84	84
15	Q (Btu/h)	25452	22906	20361	17816	15271	12726	10181	7635	5892	5892
	W	465	414	362	311	259	207	156	104	69	69
0	Q (Btu/h)	27219	24497	21775	19053	16331	13609	10887	8166	6301	6301
	W	309	275	240	206	172	138	103	69	46	46

Heating

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
75	Q (Btu/h)	28280	25452	22624	19796	16968	14140	11312	8484	5656	3850
	W	2021	1809	1596	1384	1171	959	746	534	322	186
68	Q (Btu/h)	26299	23669	21039	18409	15779	13150	10520	7890	5260	3580
	W	1925	1723	1520	1318	1116	913	711	509	306	177
62	Q (Btu/h)	24475	22028	19580	17133	14685	12238	9790	7343	4895	3332
	W	1837	1644	1451	1258	1065	872	679	485	292	169
55	Q (Btu/h)	22650	20385	18120	15855	13590	11325	9060	6795	4530	3084
	W	1749	1565	1381	1198	1014	830	646	462	278	161
47	Q (Btu/h)	20200	18180	16160	14140	12120	10100	8080	6060	4040	2750
	W	1630	1459	1287	1116	945	773	602	431	259	150
45	Q (Btu/h)	19522	17570	15618	13665	11713	9761	7809	5857	3904	2658
	W	1597	1429	1261	1093	926	758	590	422	254	147
35	Q (Btu/h)	14206	12785	11365	9944	8524	7103	5682	4262	2841	1934
	W	1408	1260	1112	964	816	668	520	372	224	130
25	Q (Btu/h)	12887	11598	10310	9021	7732	6444	5155	3866	2577	1754
	W	1301	1164	1028	891	754	617	481	344	207	120
17	Q (Btu/h)	11808	10627	9446	8266	7085	5904	4723	3542	2362	1608
	W	1214	1086	959	831	704	576	448	321	193	112
5	Q (Btu/h)	8054	7249	6443	5638	4832	4027	3222	2416	1611	1096
	W	1042	932	823	713	604	494	385	275	166	96
0	Q (Btu/h)	6490	5841	5192	4543	3894	3245	2596	1947	1298	884
	W	966	864	763	661	560	458	357	255	154	89
-4	Q (Btu/h)	5447	4902	4358	3813	3268	2724	2179	1634	1089	742
	W	916	820	723	627	531	435	338	242	146	84

Part load performance

Single Split Type

Indoor: RAS-22EKV-UL

Outdoor: RAS-22EAV-UL

	Cooling		Heating	
	Q (Btu/h)	W	Q (Btu/h)	W
Minimum	4100	210	3450	190
Rating	21400	2570	23200	2200

Cooling

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
115	Q (Btu/h)	10549	9494	8439	7384	6330	5275	4220	3165	2110	2021
	W	1908	1691	1474	1257	1041	824	607	391	174	156
105	Q (Btu/h)	17227	15504	13781	12059	10336	8613	6891	5168	3445	3300
	W	2409	2136	1862	1588	1315	1041	767	494	220	197
95	Q (Btu/h)	21400	19260	17120	14980	12840	10700	8560	6420	4280	4100
	W	2570	2278	1986	1694	1402	1110	818	526	235	210
87	Q (Btu/h)	22636	20372	18109	15845	13582	11318	9054	6791	4527	4337
	W	2404	2131	1858	1585	1312	1039	766	493	219	196
82	Q (Btu/h)	23322	20990	18658	16326	13993	11661	9329	6997	4664	4468
	W	2312	2050	1787	1524	1262	999	736	474	211	189
75	Q (Btu/h)	24421	21979	19537	17095	14653	12210	9768	7326	4884	4679
	W	2165	1919	1673	1427	1181	935	689	443	198	177
65	Q (Btu/h)	25931	23338	20745	18152	15559	12966	10373	7779	5186	4968
	W	1962	1739	1516	1294	1071	848	625	402	179	160
55	Q (Btu/h)	27442	24698	21954	19209	16465	13721	10977	8233	5488	5258
	W	1760	1560	1360	1160	960	760	560	360	161	144
45	Q (Btu/h)	29090	26181	23272	20363	17454	14545	11636	8727	5818	5573
	W	1539	1364	1189	1014	839	665	490	315	140	126
35	Q (Btu/h)	30600	27540	24480	21420	18360	15300	12240	9180	6120	5863
	W	1336	1184	1032	881	729	577	425	274	122	109
25	Q (Btu/h)	32111	28900	25689	22477	19266	16055	12844	9633	6422	6152
	W	1133	1005	876	747	618	490	361	232	103	93
15	Q (Btu/h)	33621	30259	26897	23535	20173	16811	13448	10086	6724	6441
	W	931	825	719	614	508	402	296	191	85	76
0	Q (Btu/h)	35956	32360	28764	25169	21573	17978	14382	10787	7191	6889
	W	618	547	477	407	337	267	197	127	56	50

Heating

OD temp. (°F)		Load (%)									
		100	90	80	70	60	50	40	30	20	10
75	Q (Btu/h)	32480	29232	25984	22736	19488	16240	12992	9744	6496	4830
	W	2728	2435	2142	1850	1557	1264	971	679	386	236
68	Q (Btu/h)	30205	27185	24164	2114	18123	15103	12082	9062	6041	4492
	W	2599	2320	2041	1762	1483	1204	925	646	368	224
62	Q (Btu/h)	28109	25298	22487	19676	16865	14055	11244	8433	5622	4180
	W	2479	2213	1947	1681	1415	1149	883	617	351	214
55	Q (Btu/h)	26014	23413	20811	18210	15608	13007	10406	7804	5203	3868
	W	2360	2107	1853	1600	1347	1094	840	587	334	204
47	Q (Btu/h)	23200	20880	18560	16240	13920	11600	9280	6960	4640	3450
	W	2200	1964	1728	1492	1256	1019	783	547	311	190
45	Q (Btu/h)	22422	20180	17938	15695	13453	11211	8969	6727	4484	3334
	W	2156	1925	1693	1462	1230	999	768	536	305	186
35	Q (Btu/h)	16316	14684	13053	11421	9790	8158	6526	4895	3263	2426
	W	1900	1696	1492	1288	1084	880	677	473	269	164
25	Q (Btu/h)	14801	13321	11841	10361	8881	7401	5920	4440	2960	2201
	W	1756	1568	1379	1191	1002	814	625	437	248	152
17	Q (Btu/h)	13562	12206	10850	9493	8137	6781	5425	4069	2712	2017
	W	1638	1462	1286	1111	935	759	583	407	232	141
5	Q (Btu/h)	9250	8325	7400	6475	5550	4625	3700	2775	1850	1376
	W	1406	1255	1104	953	802	652	501	350	199	121
0	Q (Btu/h)	7454	6709	5963	5218	4472	3727	2982	2236	1491	1108
	W	1304	1164	1024	884	744	604	464	324	184	113
-4	Q (Btu/h)	6257	5631	5006	4380	3754	3129	2503	1877	1251	930
	W	1236	1103	971	838	705	573	440	307	175	107

Sensible capacity table

Trend of Total & Sensible Heat Capacity / Indoor Air & Outdoor Air Temperature.

Product models: RAS-09EKV-UL / RAS-09EAV-UL

Standard condition

Indoor	80.0°F DB / 67.0°F WB
Outdoor	95.0°F DB / 75.0°F WB

Specification of product at standard condition.

Total Cooling Capacity (TC)	9000 Btu/h
Sensible Heat Capacity (SHC)	6990 Btu/h
Air flow volume	303 CFM

	Indoor coil air temperature																
Outdoor coil air temp.	68.0°F DB 57.0°F WB		73.0°F DB 61.0°F WB		75.0°F DB 63.0°F WB		79.0°F DB 64.0°F WB		80.0°F DB 67.0°F WB		82.0°F DB 68.0°F WB		86.0°F DB 72.0°F WB		90.0°F DB 75.0°F WB		
	°F DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
0	12421	10402	13717	11079	14042	11313	14689	11776	15122	11744	15554	11727	16472	11594	17228	11346	17654
5	12136	10164	13402	10825	13720	11054	14352	11506	14775	11475	15198	11458	16094	11328	16833	11086	17340
10	11852	9925	13088	10571	13398	10795	14016	11236	14429	11206	14841	11190	15717	11063	16438	10826	17026
15	11614	9727	12826	10359	13130	10579	13735	11011	14140	10982	14544	10966	15402	10841	16109	10609	16712
20	11330	9488	12512	10105	12808	10319	13399	10741	13793	10713	14188	10696	15025	10576	15715	10349	16398
25	11093	9290	12250	9894	12540	10103	13118	10516	13505	10488	13891	10473	14710	10354	15386	10132	16084
30	10808	9051	11936	9640	12219	9844	12782	10247	13158	10219	13534	10204	14333	10089	14991	9873	15770
35	10571	8853	11674	9428	11950	9628	12501	10022	12869	9995	13237	9980	14018	9867	14662	9656	15456
40	10286	8614	11359	9175	11629	9369	12165	9752	12523	9726	12881	9712	13641	9601	14267	9396	15142
45	10049	8416	11097	8963	11360	9153	11884	9527	12234	9502	12584	9488	13326	9380	13938	9179	14828
50	9764	8177	10783	8709	11039	8894	11548	9257	11888	9233	12227	9219	12949	9114	13543	8919	14514
55	9480	7939	10469	8455	10717	8634	11211	8987	11541	8964	11871	8950	12572	8849	13149	8659	14200
60	9243	7740	10207	8244	10449	8418	10930	8763	11252	8739	11574	8726	12257	8627	12820	8443	13886
65	8958	7502	9893	7990	10127	8159	10594	8493	10906	8470	11218	8458	11880	8362	12425	8183	13572
70	8721	7303	9631	7778	9859	7943	10313	8268	10617	8246	10921	8234	11565	8140	12096	7966	13258
75	8436	7065	9316	7525	9537	7684	9977	7998	10271	7977	10564	7965	11188	7875	11701	7706	12944
80	8199	6866	9054	7313	9269	7468	9696	7773	9982	7752	10267	7741	10873	7653	11372	7489	12630
82	8057	6747	8897	7186	9108	7338	9528	7638	9809	7618	10089	7607	10684	7520	11175	7359	12316
85	7914	6628	8740	7059	8947	7209	9360	7503	9635	7483	9911	7472	10496	7388	10977	7229	12002
87	7820	6549	8635	6974	8840	7122	9247	7413	9520	7394	9792	7383	10370	7299	10846	7143	11688
90	7677	6429	8478	6848	8679	6993	9079	7278	9347	7259	9614	7248	10181	7166	10648	7013	11374
95	7393	6191	8164	6594	8357	6733	8743	7009	9000	6990	9257	6980	9804	6900	10254	6753	11060
100	7108	5953	7850	6340	8036	6474	8406	6739	8654	6721	8901	6711	9426	6635	9859	6493	10746
105	6871	5754	7588	6128	7768	6258	8126	6514	8365	6497	8604	6487	9112	6413	9530	6276	10432
110	6586	5516	7273	5874	7446	5999	7789	6244	8018	6228	8248	6218	8734	6148	9135	6016	10118
115	6349	5317	7011	5663	7178	5783	7508	6019	7730	6003	7951	5994	8420	5926	8806	5799	9804

Trend of Total & Sensible Heat Capacity / Indoor Air & Outdoor Air Temperature.

Product models: RAS-12EKV-UL / RAS-12EAV-UL

Standard condition

Indoor	80.0°F DB / 67.0°F WB
Outdoor	95.0°F DB / 75.0°F WB

Specification of product at standard condition.

Total Cooling Capacity (TC)	12000 Btu/h
Sensible Heat Capacity (SHC)	9216 Btu/h
Air flow volume	406 CFM

	Indoor coil air temperature																
Outdoor coil air temp.	68.0°F DB 57.0°F WB		73.0°F DB 61.0°F WB		75.0°F DB 63.0°F WB		79.0°F DB 64.0°F WB		80.0°F DB 67.0°F WB		82.0°F DB 68.0°F WB		86.0°F DB 72.0°F WB		90.0°F DB 75.0°F WB		
	°F DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
0	16561	13726	18289	14613	18722	14922	19585	15531	20162	15484	20739	15457	21962	15268	22971	14929	
5	16182	13411	17870	14278	18293	14580	19137	15175	19700	15130	20263	15102	21459	14918	22444	14586	
10	15802	13097	17451	13943	17864	14238	18688	14819	19238	14775	19788	14748	20956	14569	21918	14244	
15	15486	12835	17102	13664	17507	13953	18314	14523	18853	14479	19392	14453	20537	14277	21479	13959	
20	15106	12520	16682	13329	17078	13611	17865	14167	18391	14124	18917	14099	20033	13927	20953	13617	
25	14790	12258	16333	13050	16720	13326	17491	13870	18006	13829	18521	13804	19614	13636	20514	13332	
30	14411	11944	15914	12715	16291	12984	17042	13514	17544	13474	18046	13450	19111	13286	19988	12990	
35	14094	11681	15565	12436	15934	12699	16668	13218	17159	13178	17650	13154	18691	12994	19549	12705	
40	13715	11367	15146	12102	15505	12357	16219	12862	16697	12823	17175	12800	18188	12644	19023	12363	
45	13399	11105	14797	11822	15147	12072	15845	12565	16312	12528	16779	12505	17769	12353	18584	12078	
50	13019	10790	14378	11488	14718	11730	15397	12210	15850	12173	16303	12151	17265	12003	18058	11736	
55	12640	10426	13958	11153	14289	11389	14948	11854	15388	11818	15828	11797	16762	11653	17532	11394	
60	12323	10214	13609	10874	13932	11104	14574	11557	15003	11522	15432	11502	16343	11361	17093	11109	
65	11944	9899	13190	10539	13503	10762	14125	11201	14541	11167	14957	11147	15840	11012	16567	10767	
70	11628	9637	12841	10260	13145	10477	13751	10905	14156	10872	14561	10852	15420	10720	16128	10482	
75	11248	9323	12422	9925	12716	10135	13302	10549	13694	10517	14086	10498	14917	10370	15602	10139	
80	10932	9060	12073	9646	12359	9850	12928	10252	13309	10221	13690	10203	14497	10079	15163	9854	
82	10742	8903	11863	9479	12144	9679	12704	10074	13078	10044	13452	10026	14246	9904	14900	9683	
85	10553	8746	11654	9311	11930	9508	12480	9896	12847	9866	13214	9849	13994	9729	14637	9512	
87	10426	8641	11514	9200	11787	9394	12330	9778	12693	9748	13056	9731	13826	9612	14461	9398	
90	10236	8484	11304	9032	11572	9223	12106	9600	12462	9571	12818	9554	13575	9437	14198	9227	
95	9857	8169	10885	8697	11143	8881	11657	9244	12000	9216	12343	9199	13072	9087	13672	8885	
100	9477	7855	10466	8362	10714	8539	11208	8888	11538	8861	11868	8845	12568	8738	13145	8543	
105	9161	7593	10117	8083	10357	8254	10834	8591	11153	8566	11472	8550	12149	8446	12707	8258	
110	8782	7278	9698	7749	9928	7912	10385	8235	10691	8211	10997	8196	11646	8096	12180	7916	
115	8465	7016	9349	7470	9570	7627	10011	7939	10306	7915	10601	7901	11226	7805	11742	7631	

Sensible capacity table

Trend of Total & Sensible Heat Capacity / Indoor Air & Outdoor Air Temperature.

Product models: RAS-15EKV-UL / RAS-15EAV-UL

Standard condition

Indoor	80.0°F DB / 67.0°F WB
Outdoor	95.0°F DB / 75.0°F WB

Specification of product at standard condition.

Total Cooling Capacity (TC)	15000 Btu/h
Sensible Heat Capacity (SHC)	12510 Btu/h
Air flow volume	562 CFM

Outdoor coil air temp. °F DB	Indoor coil air temperature															
	68.0°F DB 57.0°F WB		73.0°F DB 61.0°F WB		75.0°F DB 63.0°F WB		79.0°F DB 64.0°F WB		80.0°F DB 67.0°F WB		82.0°F DB 68.0°F WB		86.0°F DB 72.0°F WB		90.0°F DB 75.0°F WB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
0	20701	18524	22861	19775	23403	20197	24482	21030	25203	21019	25923	21032	27453	20897	28713	20556
5	20227	18099	22337	19322	22867	19734	23921	20548	24625	20537	25329	20550	26824	20418	28055	20085
10	19753	17675	21813	18869	22331	19271	23360	20066	24048	20056	24735	20068	26195	19940	27397	19614
15	19357	17321	21377	18491	21884	18886	22892	19664	23566	19654	24240	19666	25671	19541	26849	19221
20	18883	16896	20853	18038	21347	18423	22331	19183	22989	19173	23646	19184	25042	19062	26191	18750
25	18488	16543	20417	17660	20900	18037	21864	18781	22508	18771	23151	18783	24517	18663	25643	18358
30	18013	16118	19893	17207	20364	17574	21303	18299	21930	18290	22557	18301	23888	18184	24985	17887
35	17618	15765	19456	16830	19917	17189	20835	17898	21449	17888	22062	17899	23364	17785	24437	17494
40	17144	15340	18932	16376	19381	16726	20274	17416	20871	17407	21468	17417	22735	17306	23779	17023
45	16748	14986	18496	15999	18934	16340	19807	17014	20390	17005	20973	17017	22211	16907	23230	16631
50	16274	14562	17972	15546	18398	15877	19246	16532	19813	16524	20379	16534	21582	16428	22572	16160
55	15800	14138	17448	15093	17862	15415	18685	16050	19235	16042	19785	16052	20953	15949	21914	15689
60	15404	13784	17012	14715	17415	15029	18217	15649	18754	15641	19290	15650	20428	15550	21366	15296
65	14930	13359	16488	14262	16878	14566	17656	15167	18176	15159	18696	15168	19799	15071	20708	14825
70	14535	13006	16051	13884	16432	14180	17189	14765	17695	14758	18201	14767	19275	14672	20160	14432
75	14060	12581	15527	13431	15895	13718	16628	14283	17118	14276	17607	14285	18646	14193	19502	13961
80	13665	12227	15091	13053	15448	13332	16160	13882	16636	13875	17112	13883	18122	13794	18954	13569
82	13428	12015	14829	12827	15180	13101	15880	13641	16348	13634	16815	13642	17807	13555	18625	13333
85	13191	11803	14567	12600	14912	12869	15599	13400	16059	13393	16518	13401	17493	13316	18296	13098
87	13033	11662	14392	12449	14733	12715	15412	13239	15866	13232	16320	13240	17283	13156	18076	12941
90	12795	11449	14130	12223	14465	12484	15132	12998	15578	12992	16023	12999	16969	12916	17747	12705
95	12321	11025	13607	11770	13929	12021	14571	12516	15000	12510	15429	12518	16340	12438	17090	12234
100	11847	10600	13083	11316	13393	11558	14010	12035	14423	12028	14835	12036	15710	11959	16432	11763
105	11451	10247	12646	10939	12946	11172	13543	11633	13941	11627	14340	11634	15186	11560	15883	11371
110	10927	9822	12122	10486	12410	10709	12982	11151	13364	11145	13746	11152	14557	11081	15225	10900
115	10582	9468	11686	10108	11963	10324	12514	10750	12883	10744	13251	10750	14033	10682	14677	10507

Trend of Total & Sensible Heat Capacity / Indoor Air & Outdoor Air Temperature.

Product models: RAS-17EKV-UL / RAS-17EAV-UL

Standard condition

Indoor	80.0°F DB / 67.0°F WB
Outdoor	95.0°F DB / 75.0°F WB

Specification of product at standard condition.

Total Cooling Capacity (TC)	16200 Btu/h
Sensible Heat Capacity (SHC)	13580 Btu/h
Air flow volume	636 CFM

Outdoor coil air temp. °F DB	Indoor coil air temperature															
	68.0°F DB 57.0°F WB		73.0°F DB 61.0°F WB		75.0°F DB 63.0°F WB		79.0°F DB 64.0°F WB		80.0°F DB 67.0°F WB		82.0°F DB 68.0°F WB		86.0°F DB 72.0°F WB		90.0°F DB 75.0°F WB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
0	22357	20101	24690	21462	25275	21921	26440	22825	27219	22817	27997	22834	29649	22696	31010	22333
5	21845	19640	24124	20971	24696	21418	25834	22302	26595	22294	27356	22310	28970	22176	30300	21821
10	21333	19180	23559	20479	24117	20916	25229	21779	25971	21771	26714	21787	28291	21656	29589	21309
15	20906	18796	23087	20069	23634	20497	24724	21343	25452	21335	26179	21351	27724	21222	28997	20883
20	20394	18335	22521	19577	23055	19995	24118	20820	24828	20812	25538	20828	27045	20702	28286	20371
25	19967	17951	22050	19167	22573	19576	23613	20384	24308	20377	25003	20392	26479	20269	27694	19945
30	19454	17491	21484	18676	21993	19074	23007	19861	23684	19854	24362	19869	25799	19749	26984	19433
35	19027	17107	21013	18266	21511	18656	22502	19425	23165	19418	23827	19433	25233	19315	26391	19006
40	18515	16646	20447	17774	20932	18153	21896	18902	22541	18895	23186	18910	24554	18795	25681	18495
45	18088	16263	19975	17364	20449	17735	21391	18467	22021	18460	22651	18474	23988	18362	25089	18068
50	17576	15802	19410	16872	19870	17232	20786	17944	21398	17937	22009	17950	23308	17842	24378	17556
55	17064	15341	18844	16380	19291	16730	20180	17421	20774	17414	21368	17427	22629	17322	23668	17045
60	16637	14958	18372	15971	18808	16312	19675	16985	20254	16978	20833	16991	22063	16888	23075	16618
65	16124	14497	17807	15479	18229	15809	19069	16462	19630	16456	20192	16468	21383	16368	22365	16107
70	15697	14113	17335	15069	17746	15391	18564	16026	19111	16020	19657	16032	20817	15935	21773	15680
75	15185	13653	16769	14577	17167	14888	17958	15503	18487	15497	19016	15509	20138	15415	21062	15168
80	14758	13269	16298	14167	16684	14470	17453	15067	17967	15061	18481	15073	19572	14982	20470	14742
82	14502	13038	16015	13921	16395	14219	17150	14805	17655	14800	18160	14811	19232	14721	20115	14486
85	14246	12808	15732	13676	16105	13968	16847	14544	17343	14539	17839	14549	18892	14461	19759	14230
87	14075	12655	15544	13512	15912	13800	16645	14370	17136	14364	17626	14375	18666	14288	19523	14060
90	13819	12424	15261	13266	15622	13549	16343	14108	16824	14103	17305	14113	18326	14028	19167	13804
95	13307	11964	14695	12774	15043	13047	15737	13585	16200	13580	16663	13590	17647	13508	18457	13292
100	12794	11503	14129	12282	14464	12544	15131	13062	15576	13057	16022	13067	16967	12988	17746	12780
105	12367	11119	13658	11872	13982	12126	14626	12626	15057	12621	15487	12631	16401	12555	17154	12354
110	11855	10659	13092	11381	13402	11623	14020	12103	14433	12099	14846	12108	15722	12035	16443	11842
115	11428	10275	12621	10971	12920	11205	13515	11667	13913	11663	14311	11672	15156	11601	15851	11416

Sensible capacity table

Trend of Total & Sensible Heat Capacity / Indoor Air & Outdoor Air Temperature.

Product models: RAS-22EKV-UL / RAS-22EAV-UL

Standard condition

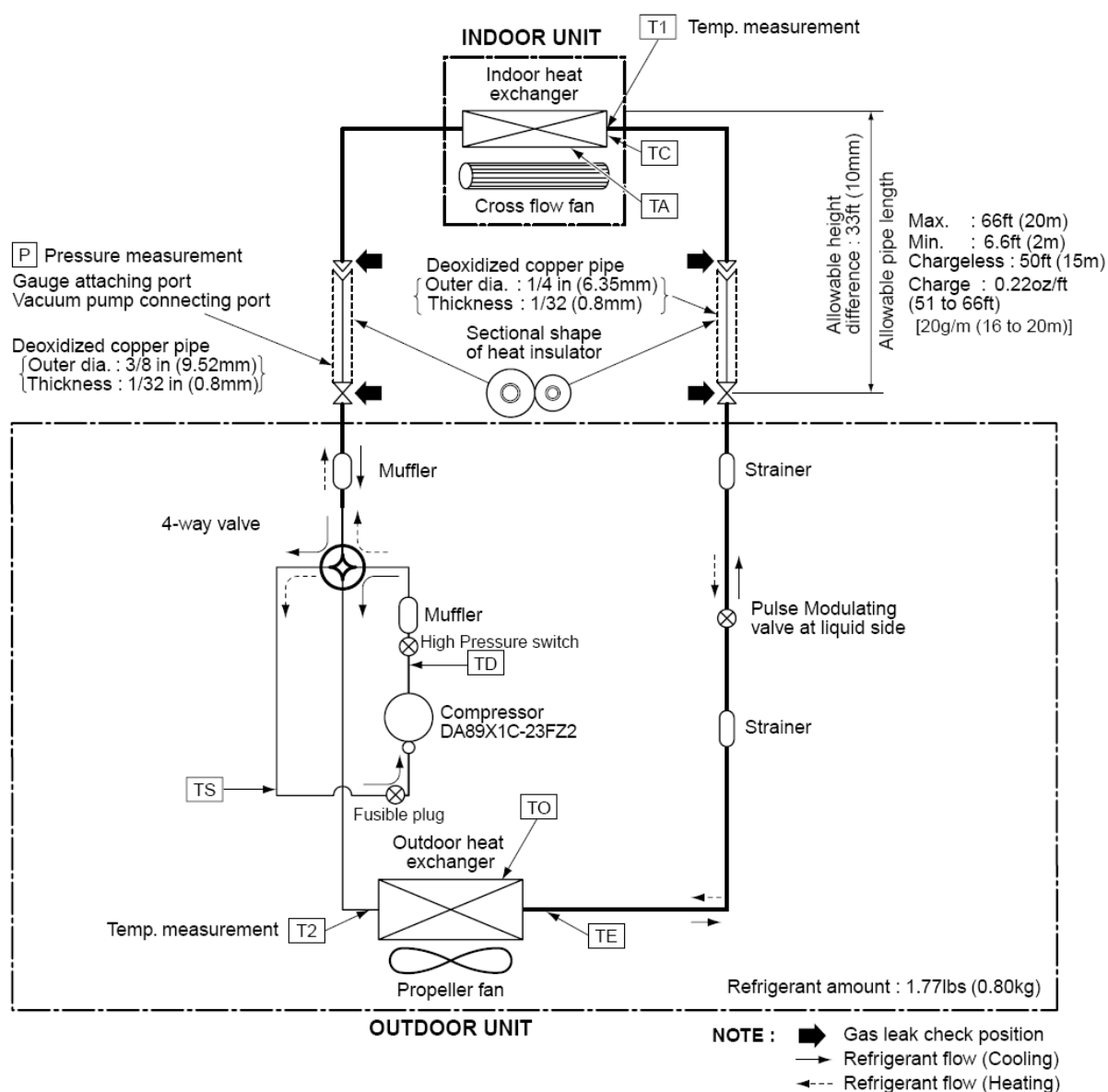
Indoor	80.0°F DB / 67.0°F WB
Outdoor	95.0°F DB / 75.0°F WB

Specification of product at standard condition.

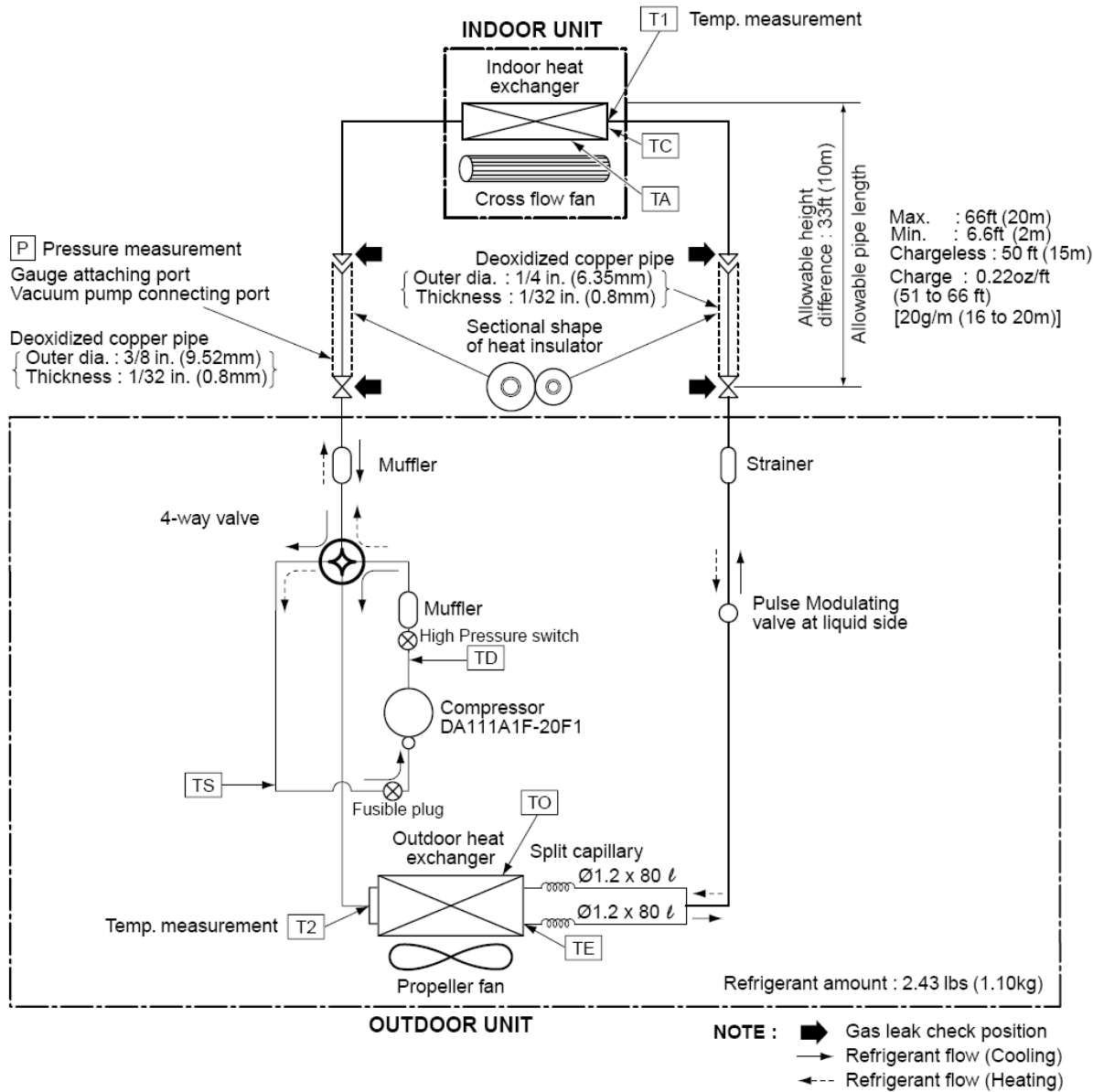
Total Cooling Capacity (TC)	21400 Btu/h
Sensible Heat Capacity (SHC)	15800 Btu/h
Air flow volume	636 CFM

Outdoor coil air temp. °F DB	Indoor coil air temperature															
	68.0°F DB 57.0°F WB		73.0°F DB 61.0°F WB		75.0°F DB 63.0°F WB		79.0°F DB 64.0°F WB		80.0°F DB 67.0°F WB		82.0°F DB 68.0°F WB		86.0°F DB 72.0°F WB		90.0°F DB 75.0°F WB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
0	29534	23601	32615	25092	33388	25619	34927	26661	35956	26547	36984	26466	39166	26066	40964	25407
5	28857	23060	31868	24517	32623	25032	34127	26050	35132	25938	36136	25860	38269	25469	40026	24825
10	28180	22519	31121	23942	31858	24445	33327	25439	34308	25330	35289	25253	37371	24871	39087	24242
15	27616	22069	30498	23462	31221	23956	32660	24930	33621	24823	34583	24748	36624	24374	38305	23757
20	26940	21528	29750	22888	30456	23369	31859	24319	32797	24215	33735	24142	35726	23776	37366	23175
25	26376	21077	29128	22408	29818	22880	31192	23810	32111	23708	33029	23636	34978	23279	36584	22690
30	25699	20537	28380	21833	29053	22293	30392	23199	31287	23100	32182	23030	34081	22681	35645	22108
35	25135	20086	27757	21354	28415	21804	29725	22690	30600	22593	31475	22524	33333	22184	34863	21623
40	24458	19545	27010	20779	27650	21217	28925	22079	29776	21984	30628	21918	32435	21586	33924	21040
45	23894	19094	26387	20300	27013	20727	28258	21570	29090	21477	29922	21412	31687	21089	33142	20555
50	23218	18554	25640	19725	26248	20140	27457	20959	28266	20869	29074	20806	30790	20491	32203	19973
55	22541	18013	24893	19150	25483	19553	26657	20348	27442	20261	28227	20200	29892	19894	31265	19391
60	21977	17562	24270	18671	24845	19064	25990	19839	26755	19754	27521	19694	29145	19396	30482	18906
65	21300	17021	23522	18096	24080	18477	25190	19228	25931	19146	26673	19088	28247	18799	29544	18324
70	20736	16571	22900	17617	23442	17988	24523	18719	25245	18639	25967	18582	27499	18301	28761	17838
75	20059	16030	22152	17042	22677	17401	23723	18108	24421	18030	25119	17976	26602	17704	27823	17256
80	19495	15579	21529	16563	22040	16911	23056	17599	23734	17524	24413	17471	25854	17206	27041	16771
82	19157	15309	21156	16276	21657	16618	22655	17293	23322	17219	23989	17167	25405	16908	26571	16480
85	18819	15038	20782	15988	21275	16324	22255	16988	22910	16915	23566	16864	24956	16609	26102	16189
87	18593	14858	20533	15796	21020	16129	21988	16784	22636	16712	23283	16662	24657	16410	25789	15995
90	18255	14588	20159	15509	20637	15835	21588	16479	22224	16408	22860	16359	24208	16111	25320	15704
95	17578	14047	19412	14934	19872	15248	20788	15868	21400	15800	22012	15752	23311	15514	24381	15122
100	16881	13490	18643	14342	19085	14644	19964	15239	20552	15174	21140	15128	22387	14899	23415	14522
105	14150	11308	15627	12022	15997	12275	16734	12774	17227	12719	17720	12681	18765	12489	19627	12173
110	12807	10235	14144	10881	14479	11110	15146	11561	15592	11512	16038	11477	16984	11303	17764	11018
115	8665	6924	9569	7362	9796	7516	10247	7822	10549	7789	10851	7765	11491	7647	12018	7454

Refrigerant cycle diagram: RAS-09EKV-UL / RAS-09EAV-UL

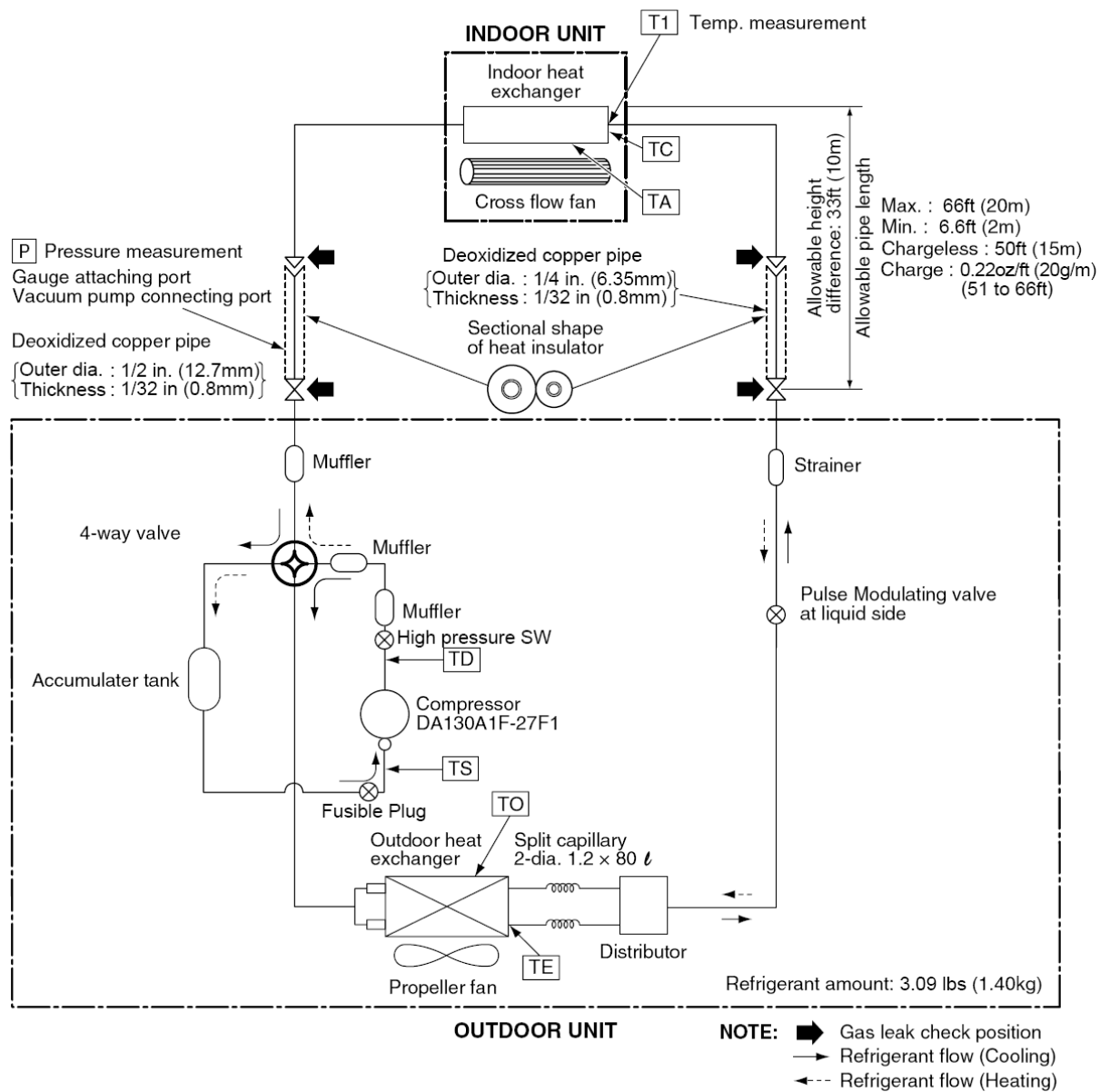


Refrigerant cycle diagram: RAS-12EKV-UL / RAS-12EAV-UL

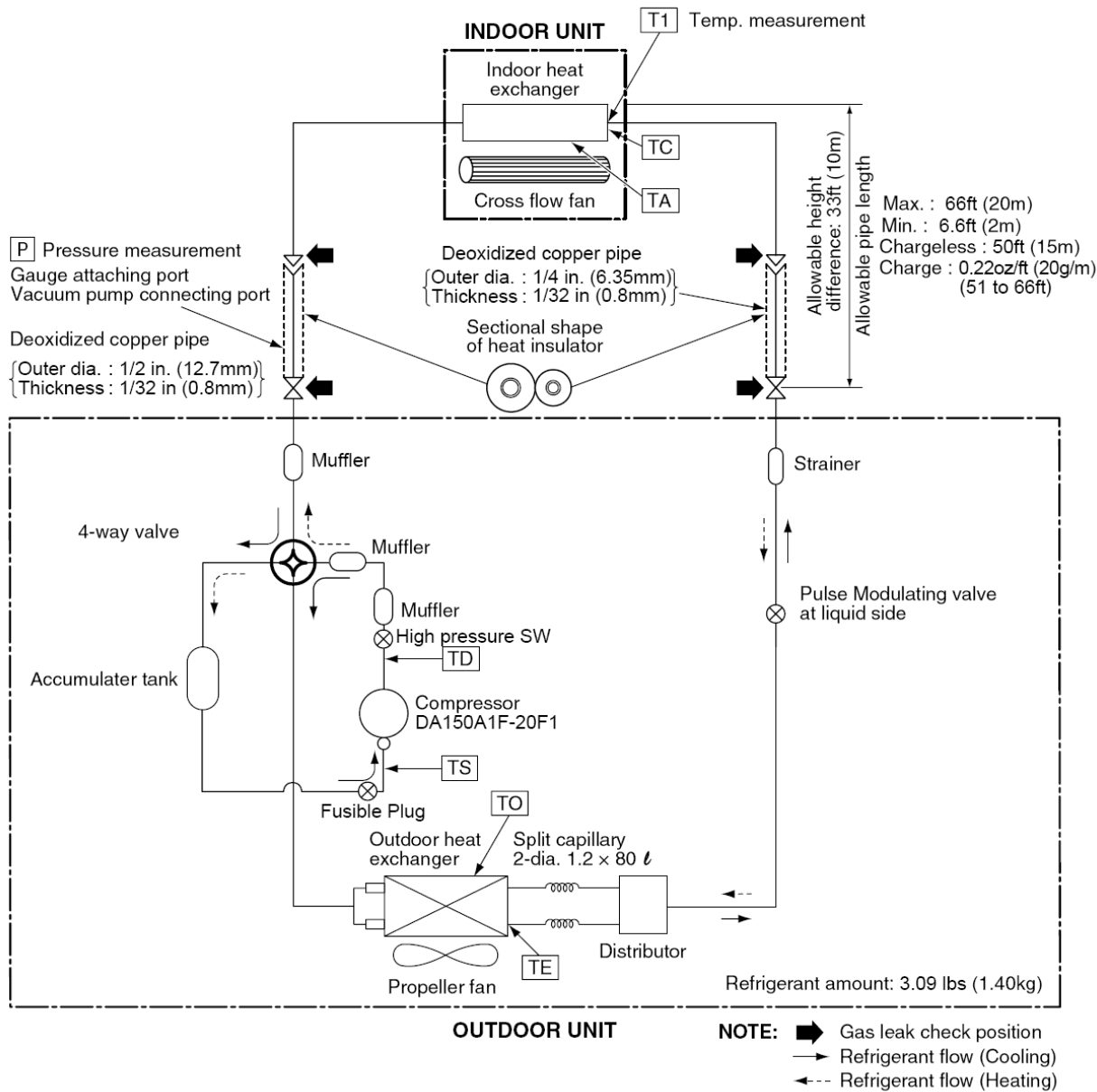


Refrigerant cycle diagram: RAS-15EKV-UL / RAS-15EAV-UL

RAS-17EKV-UL / RAS-17EAV-UL

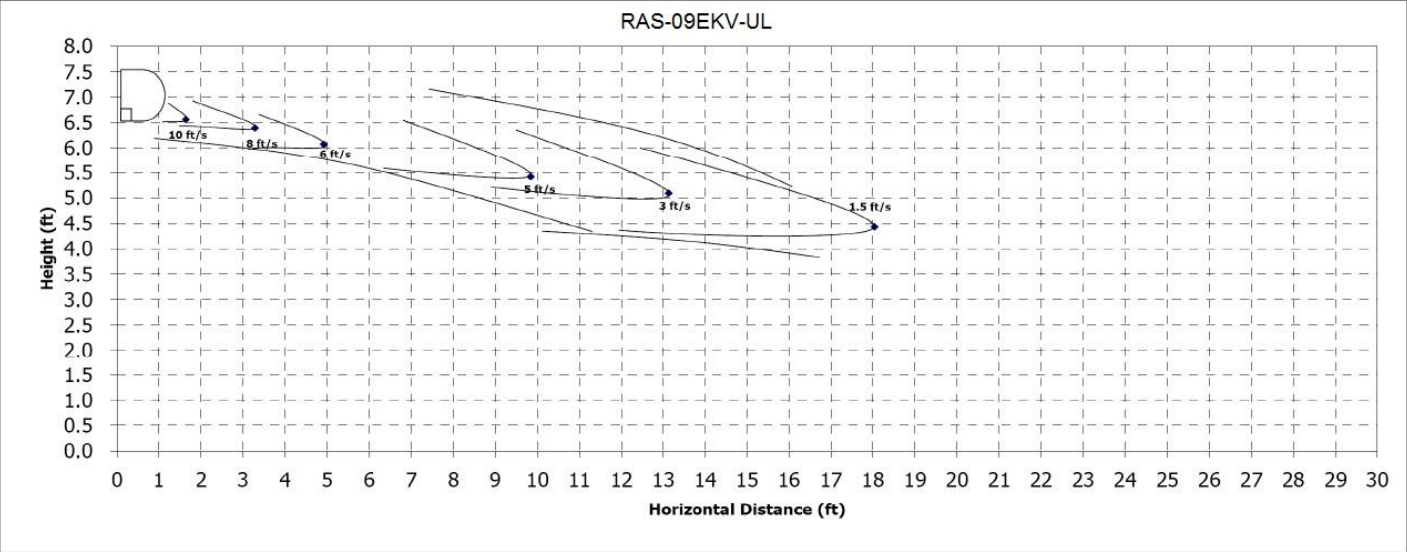


Refrigerant cycle diagram: RAS-22EKV-UL / RAS-22EAV-UL

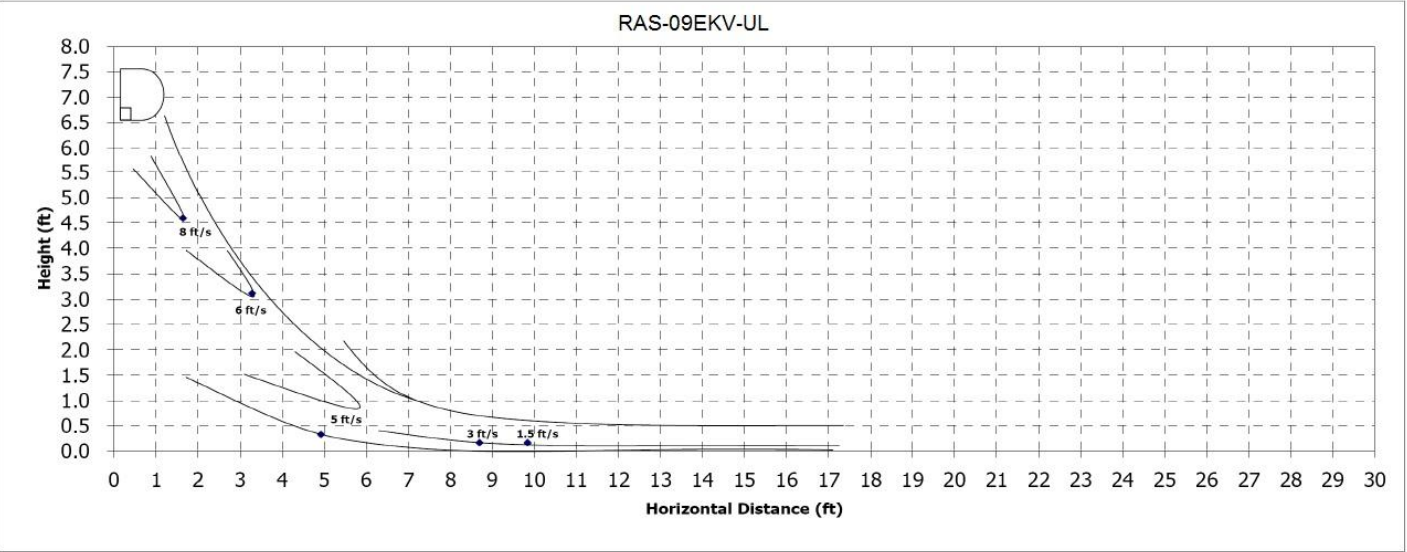


Air throw chart

Cooling

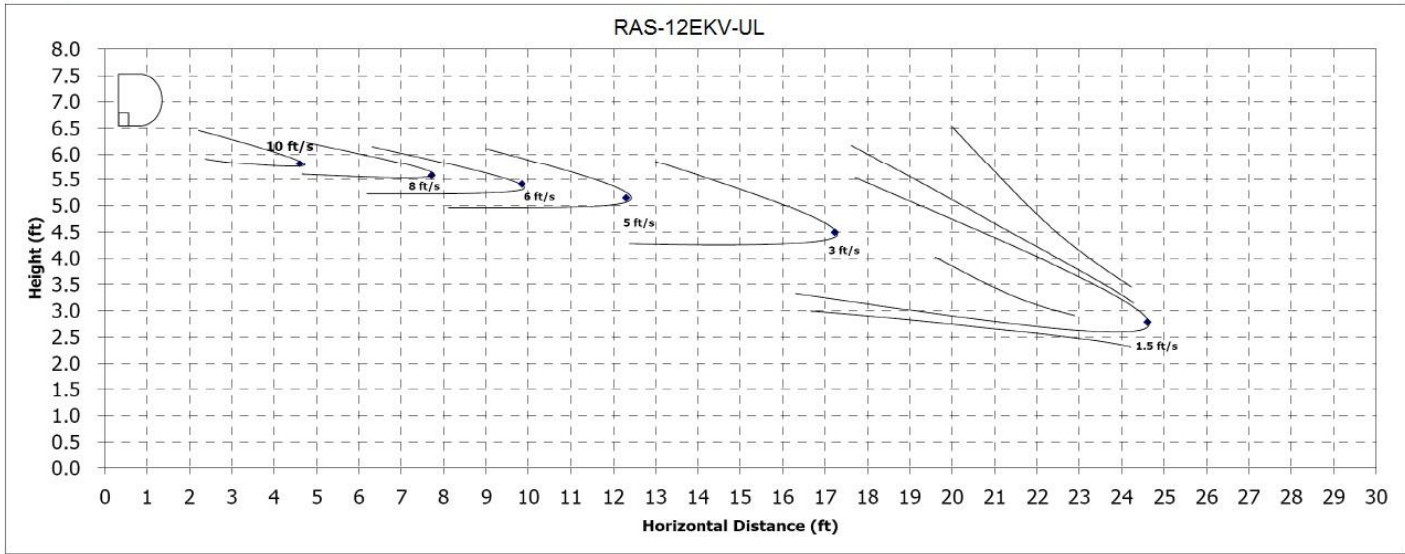


Heating

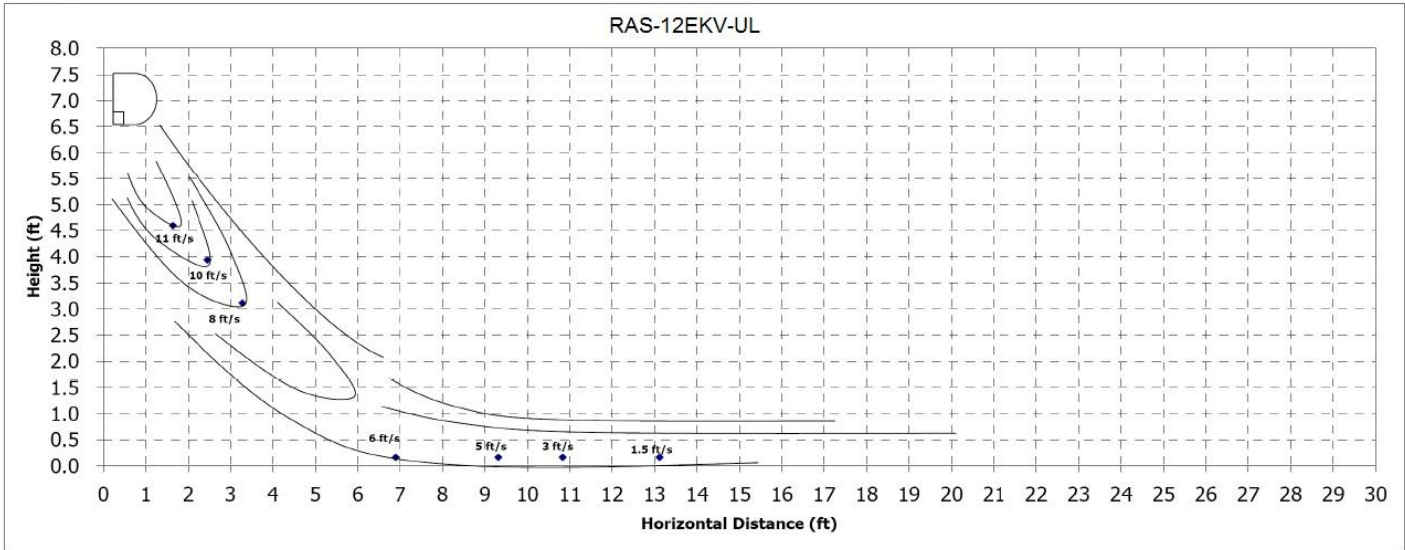


Air throw chart

Cooling

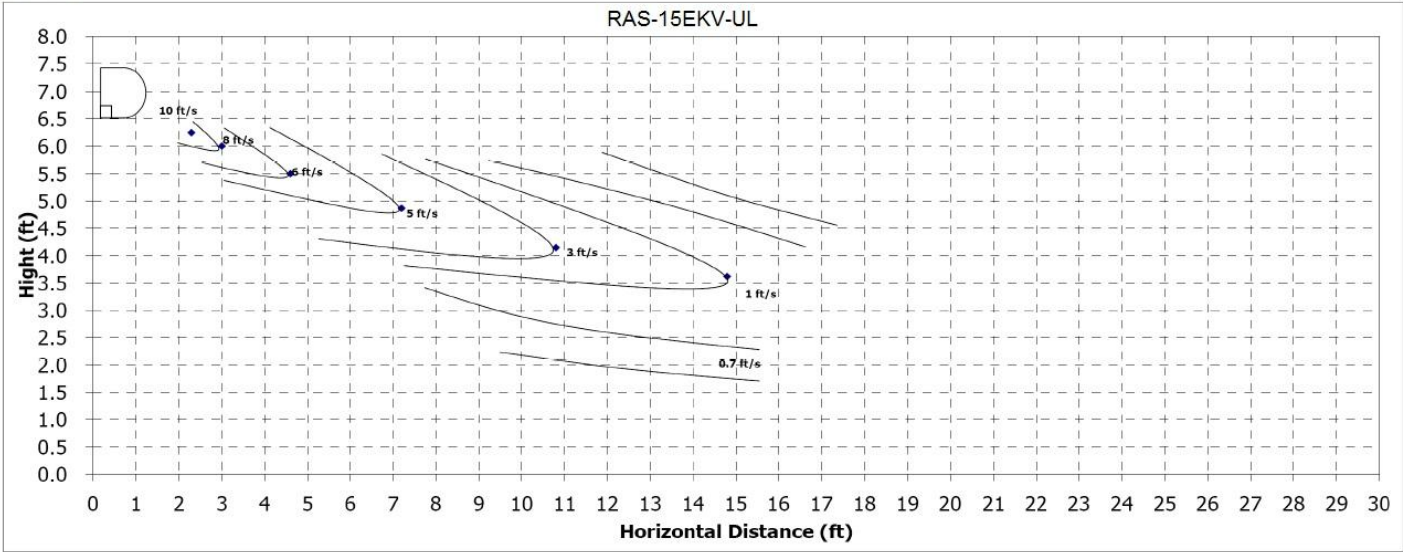


Heating

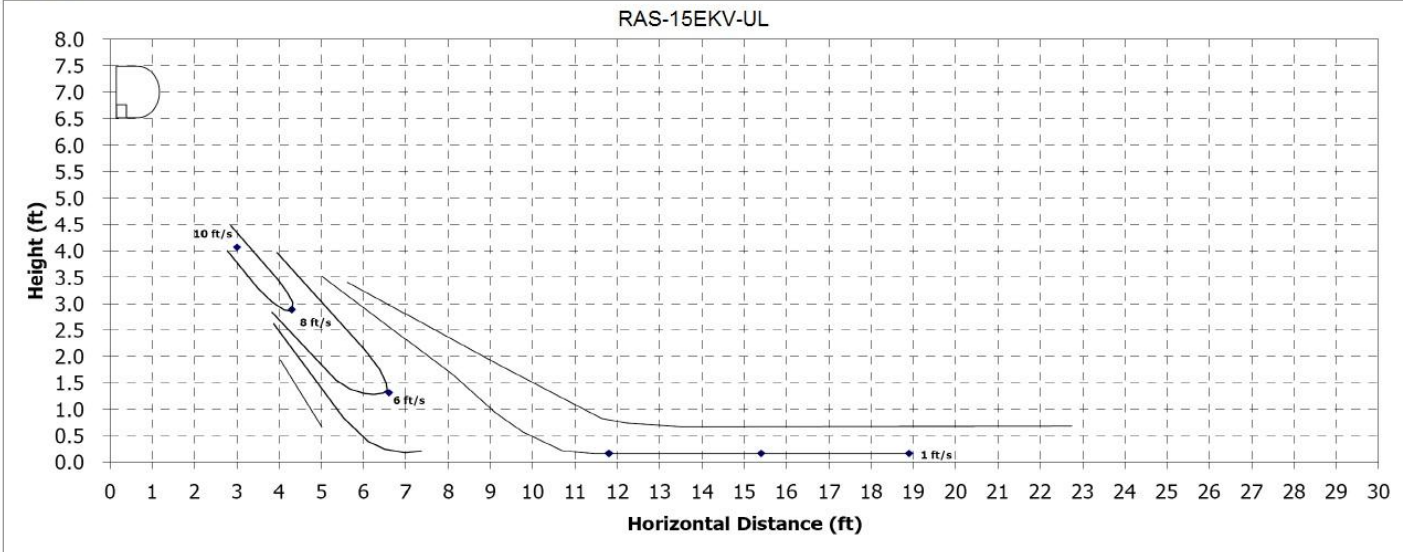


Air throw chart

Cooling

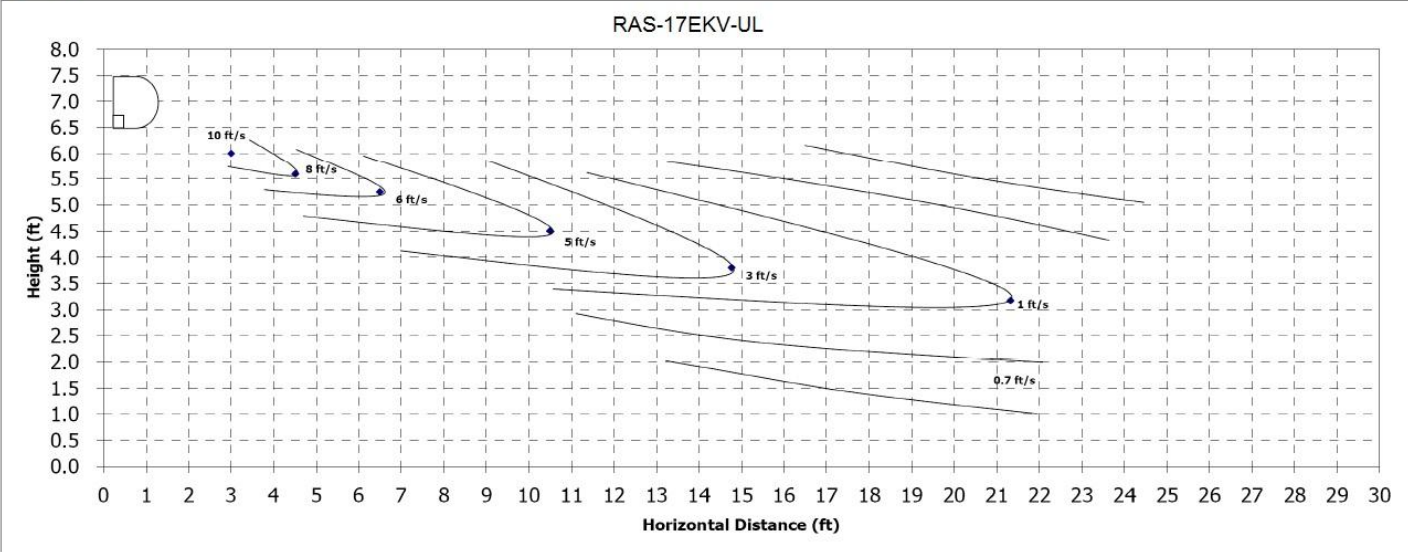


Heating

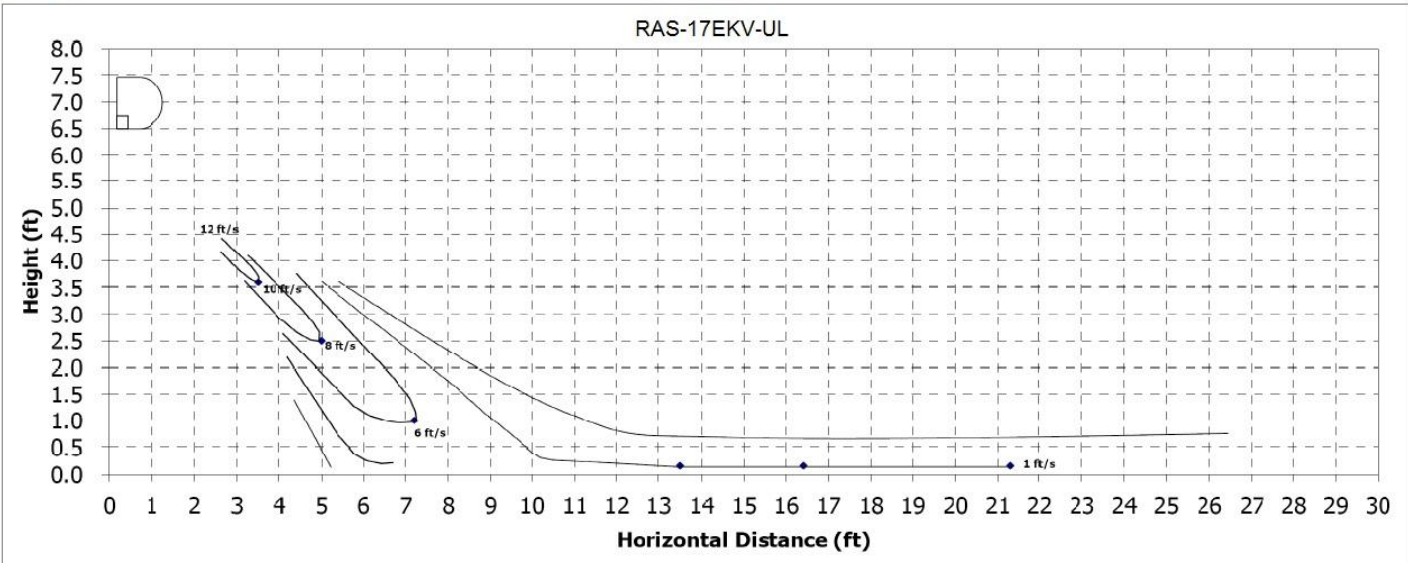


Air throw chart

Cooling

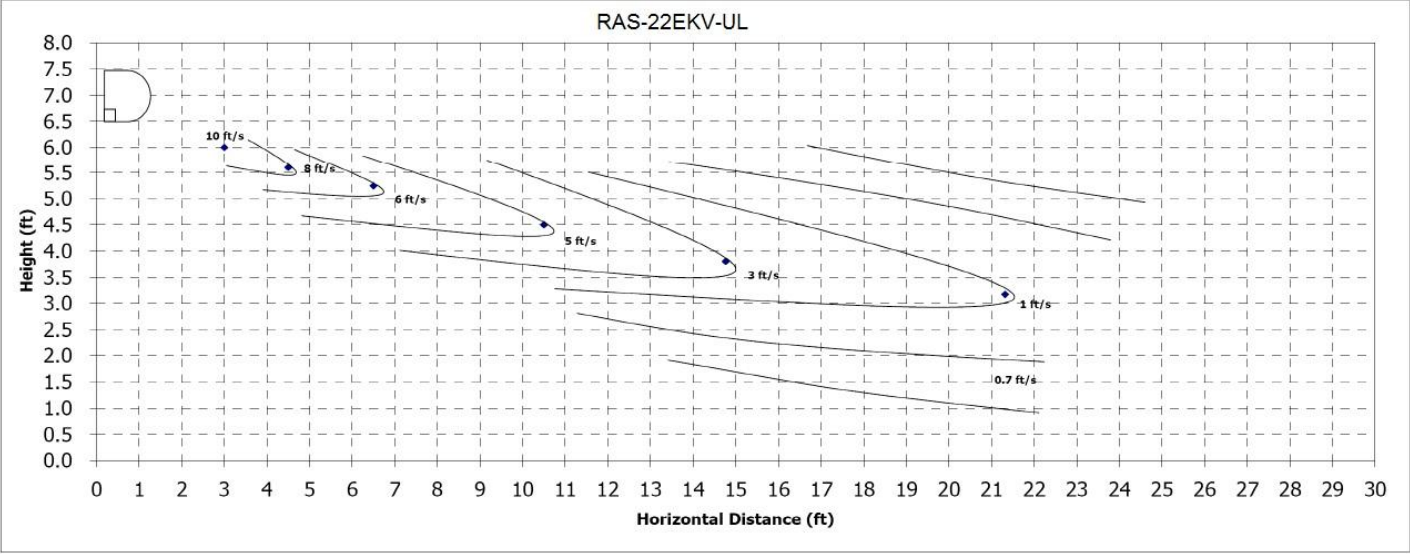


Heating

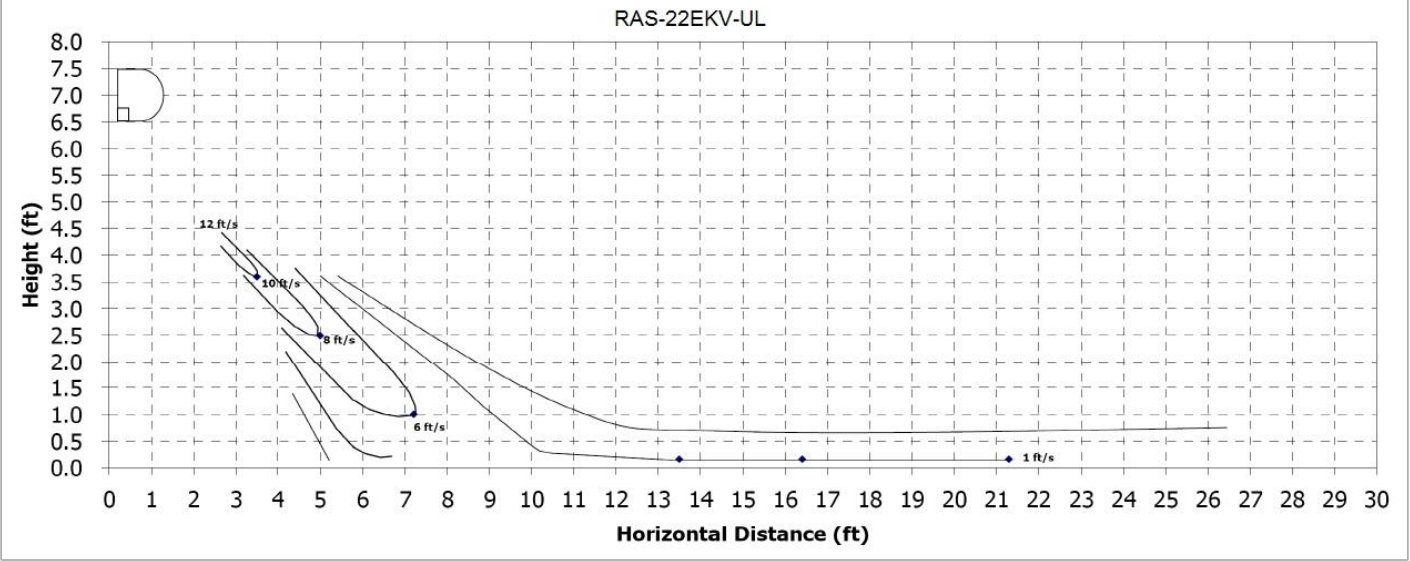


Air throw chart

Cooling



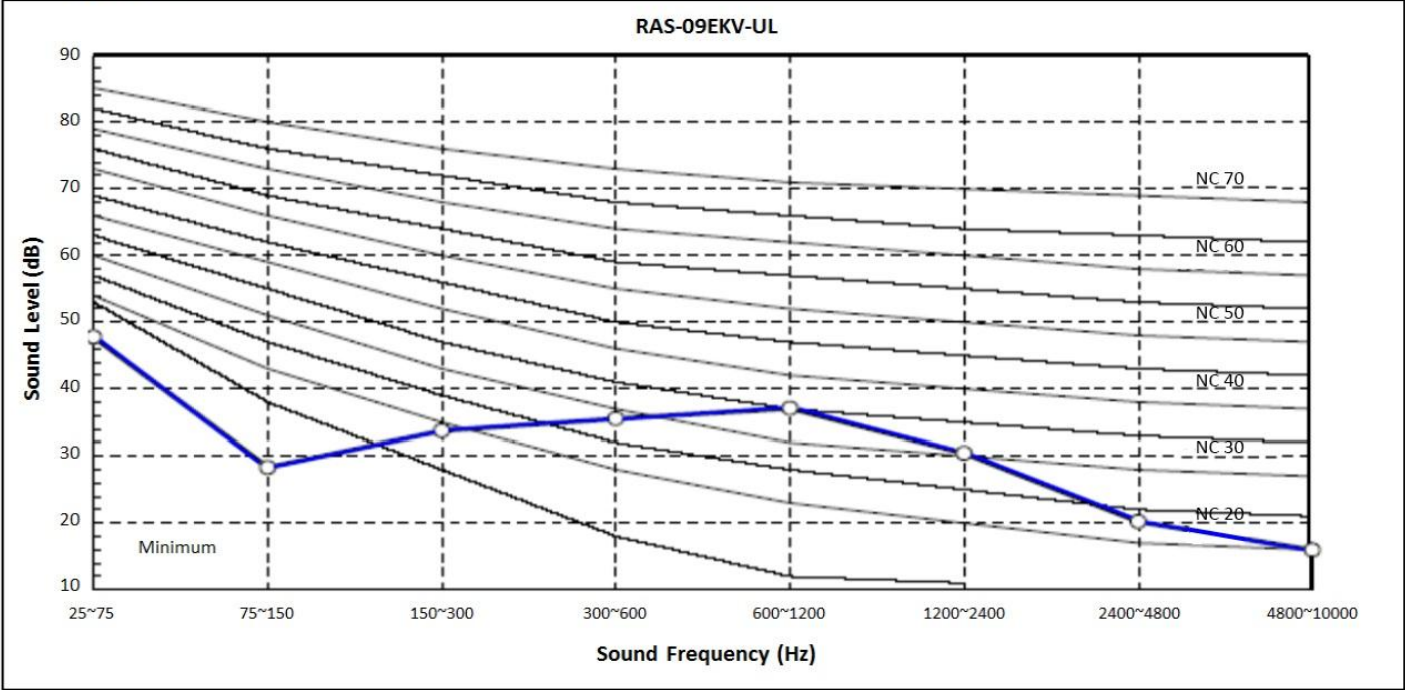
Heating



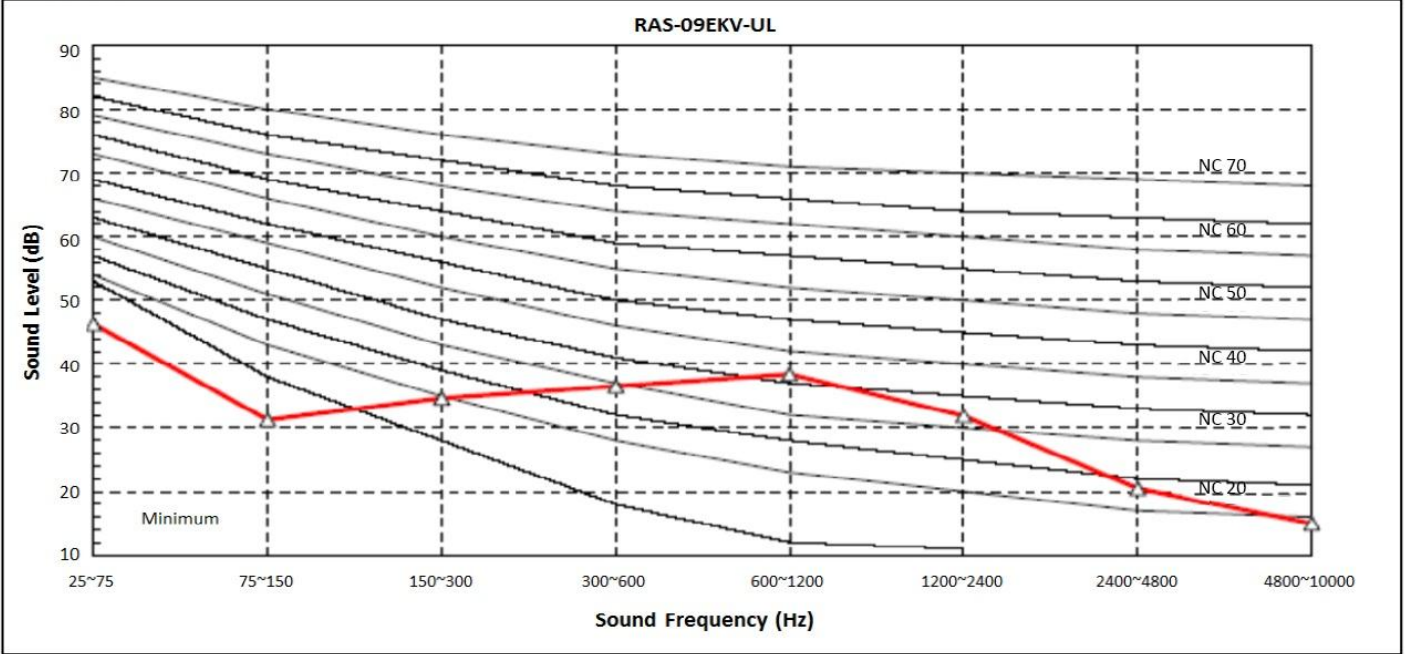
Indoor and outdoor sound characteristic

RAS-09EKV-UL

Cooling operation

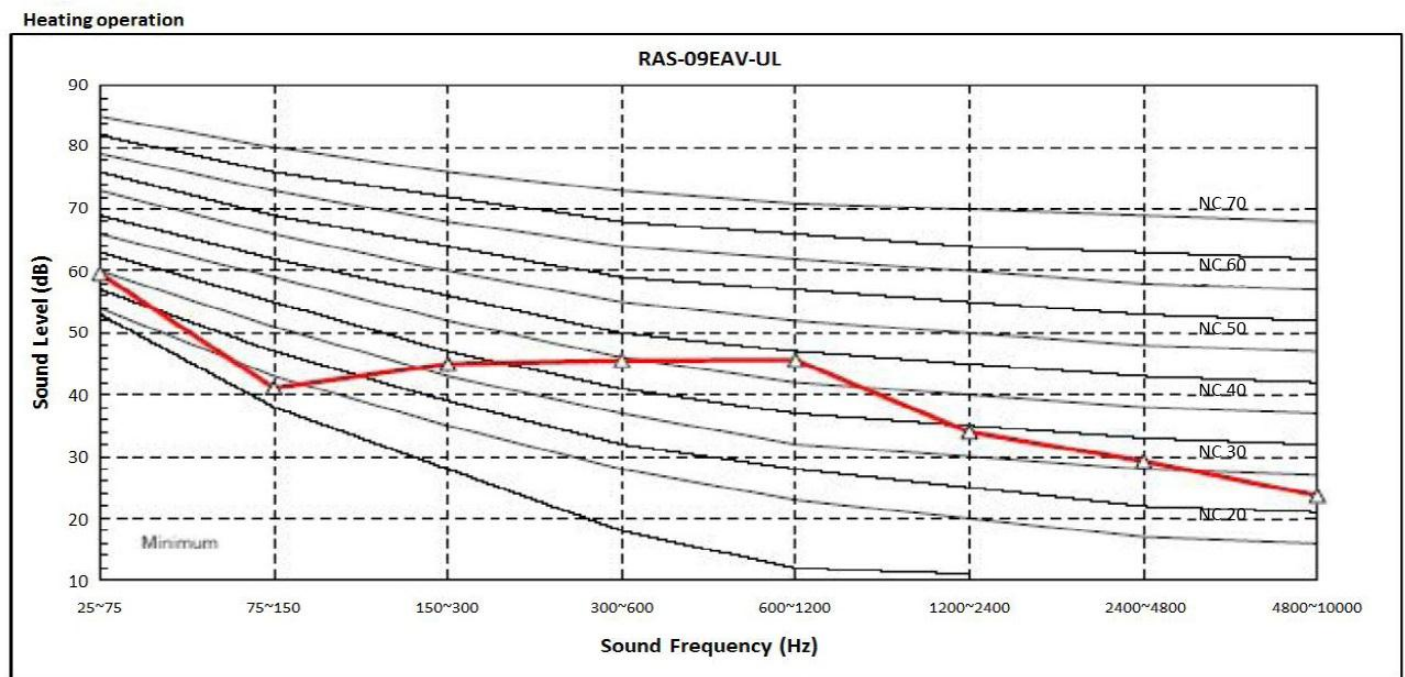
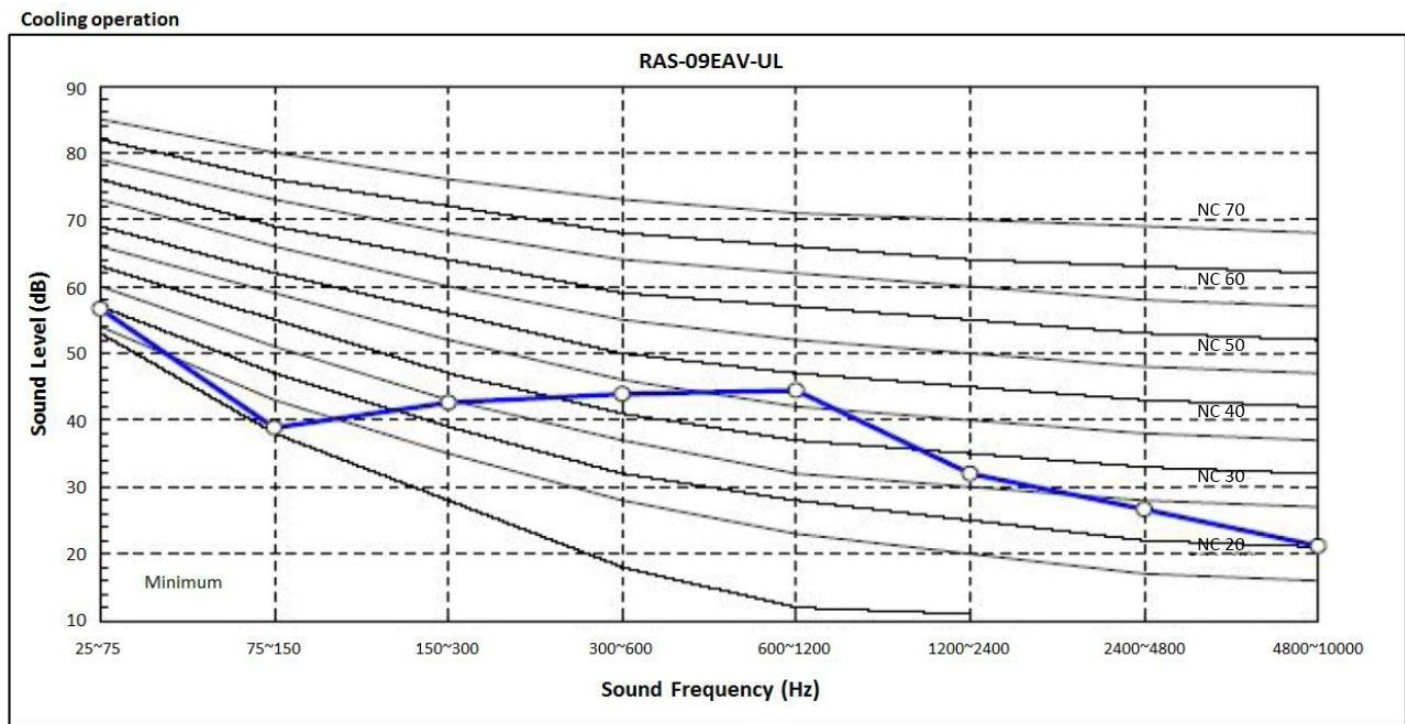


Heating operation



Indoor and outdoor sound characteristic

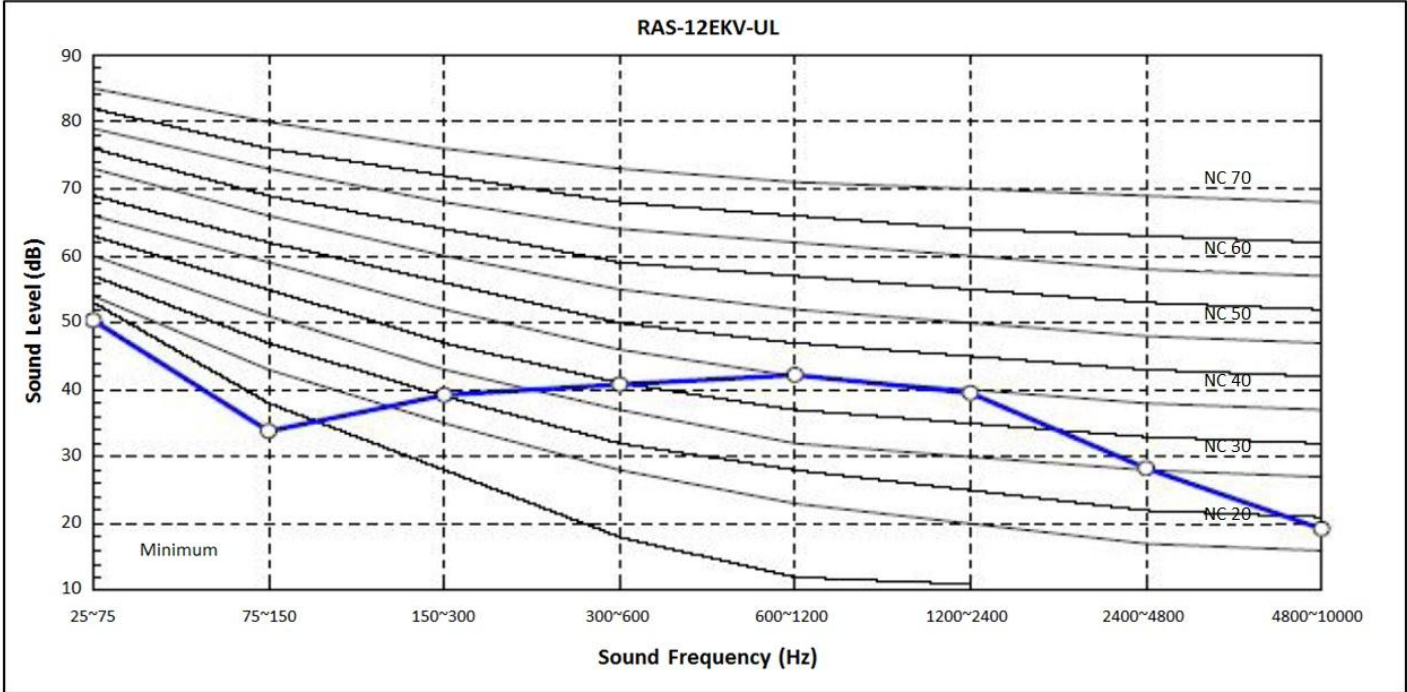
RAS-09EAV-UL



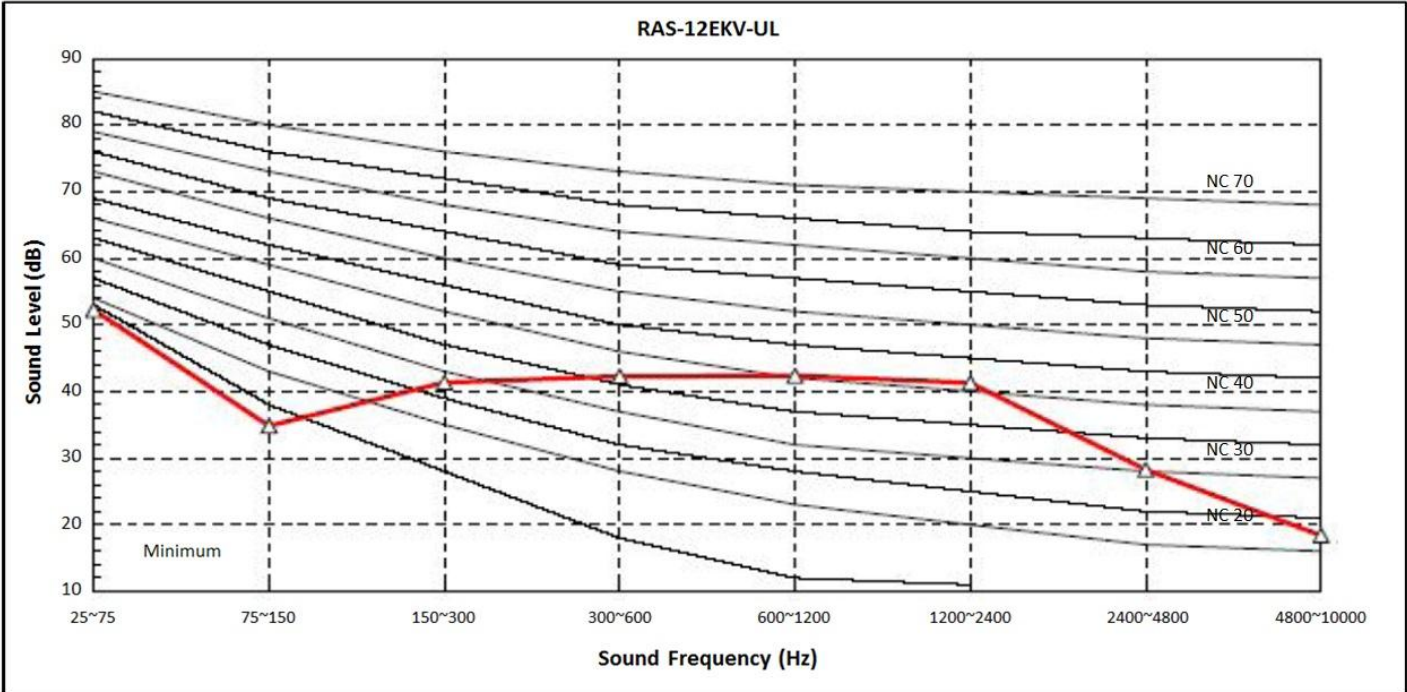
Indoor and outdoor sound characteristic

RAS-12EKV-UL

Cooling operation



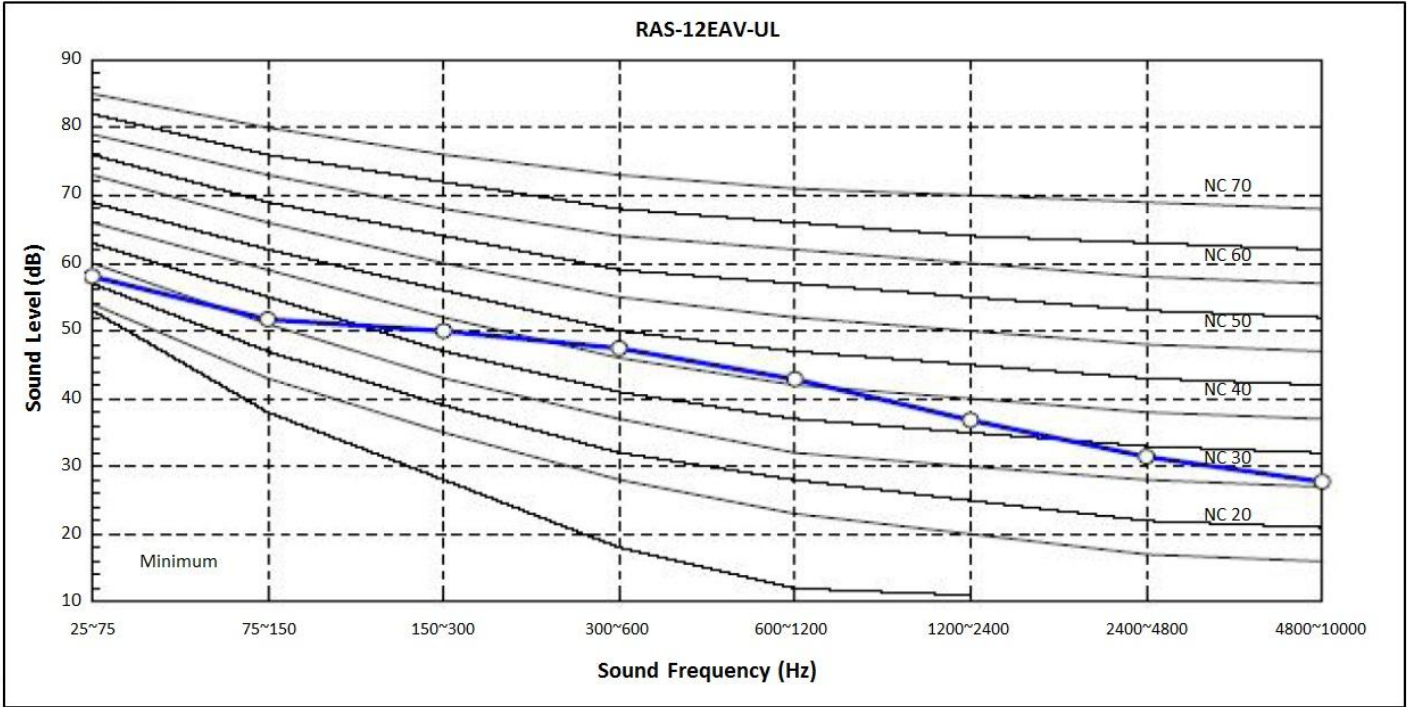
Heating operation



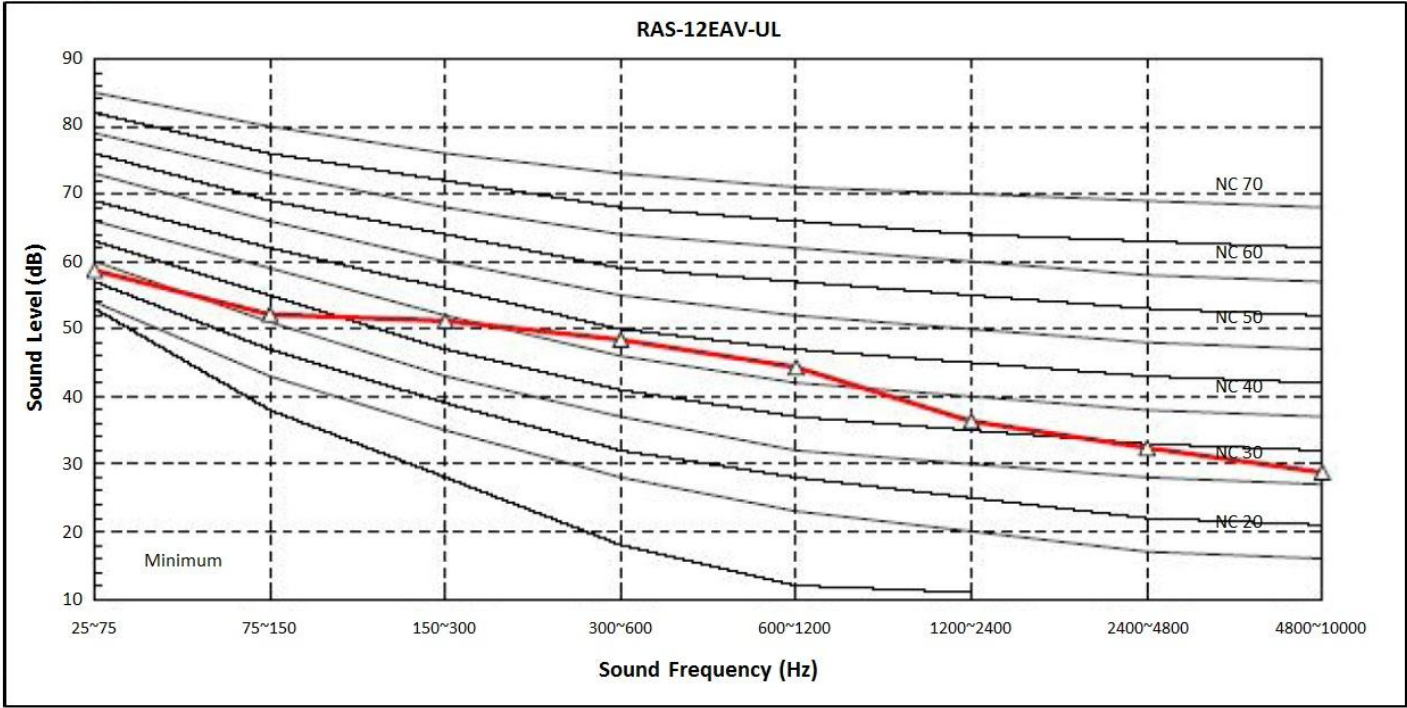
Indoor and outdoor sound characteristic

RAS-12EAV-UL

Cooling operation



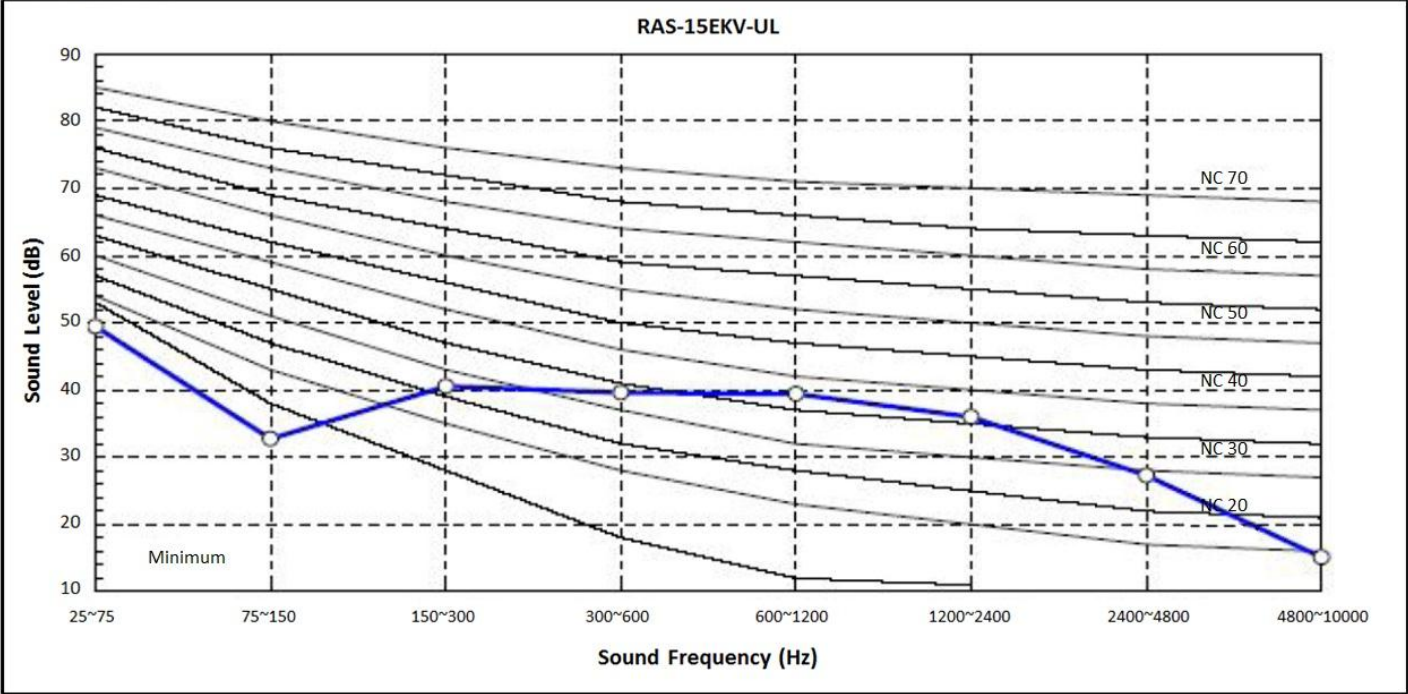
Heating operation



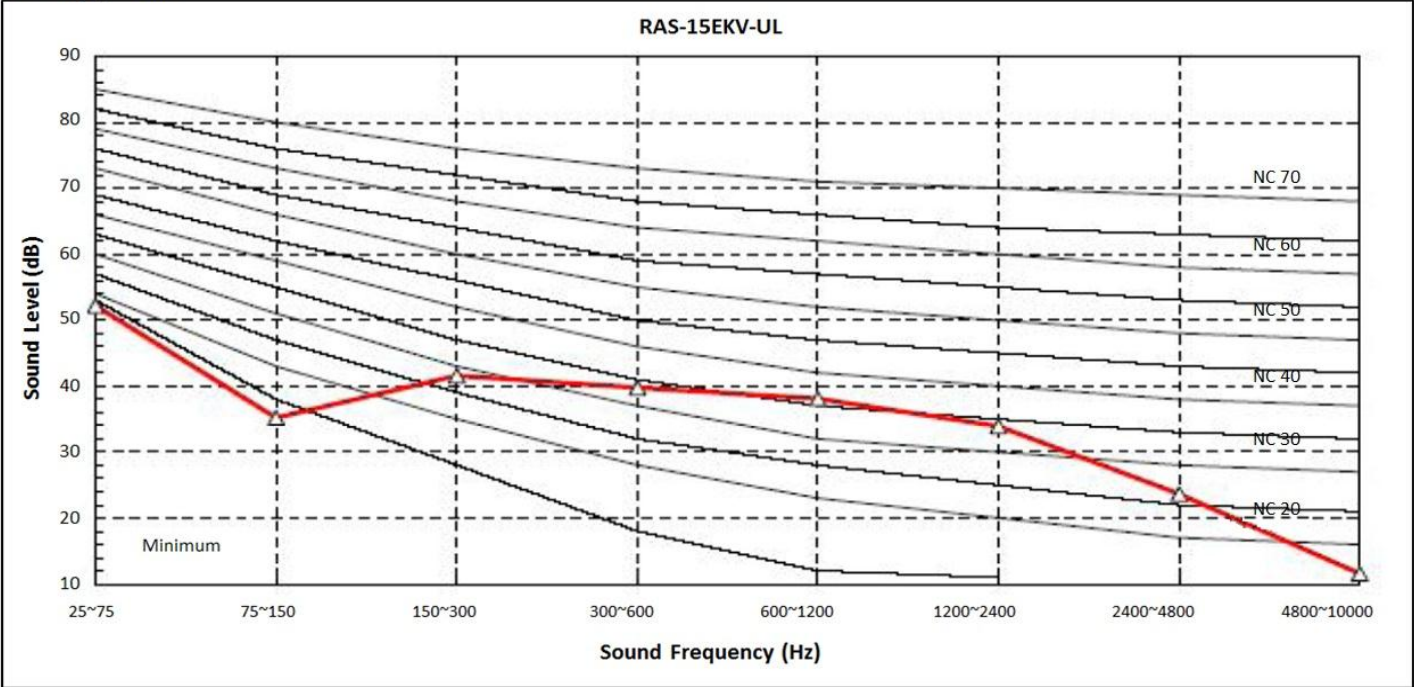
Indoor and outdoor sound characteristic

RAS-15EKV-UL

Cooling operation

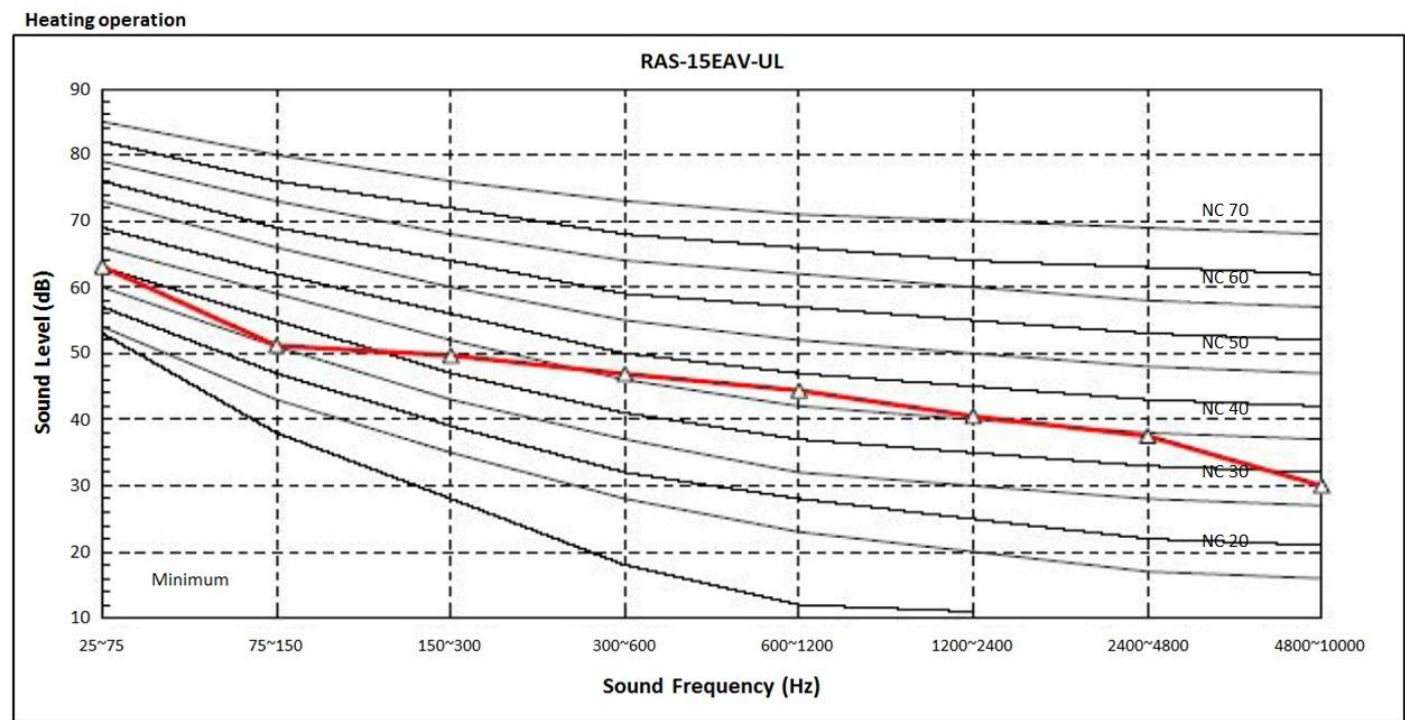
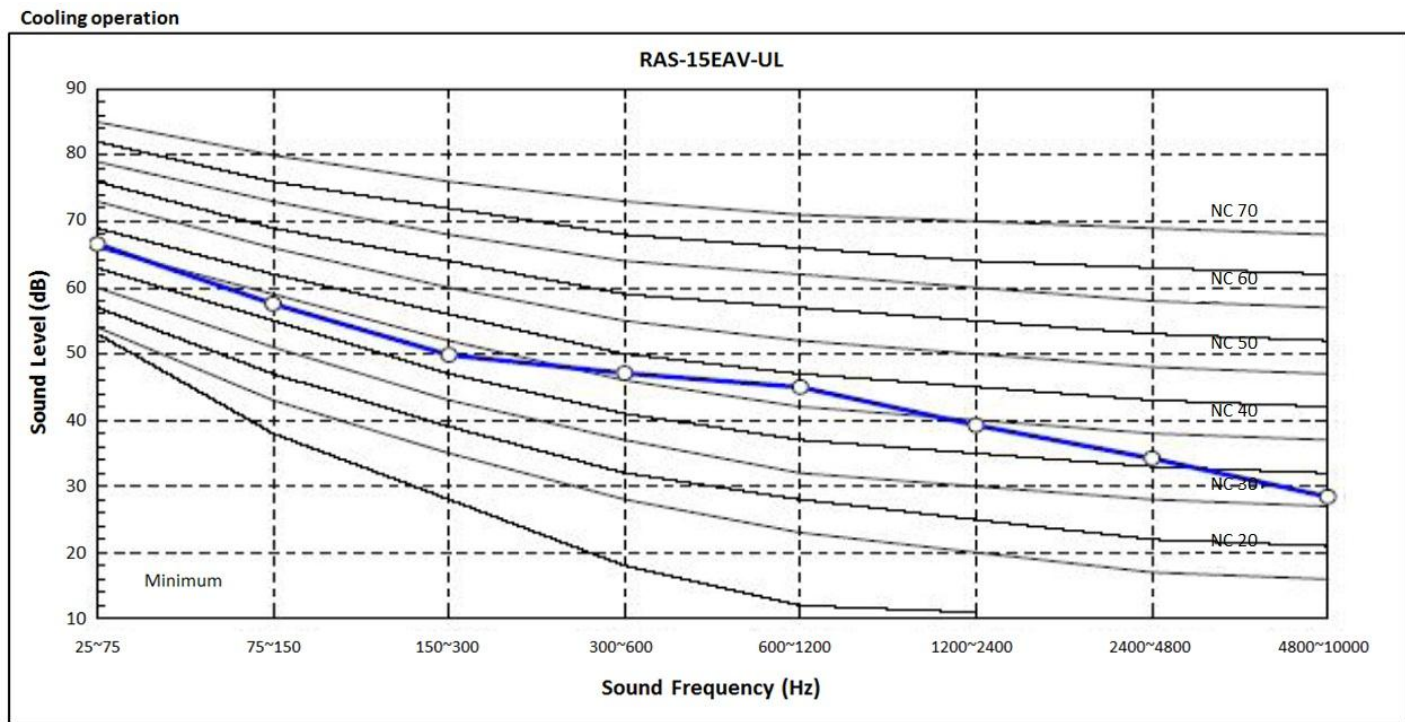


Heating operation



Indoor and outdoor sound characteristic

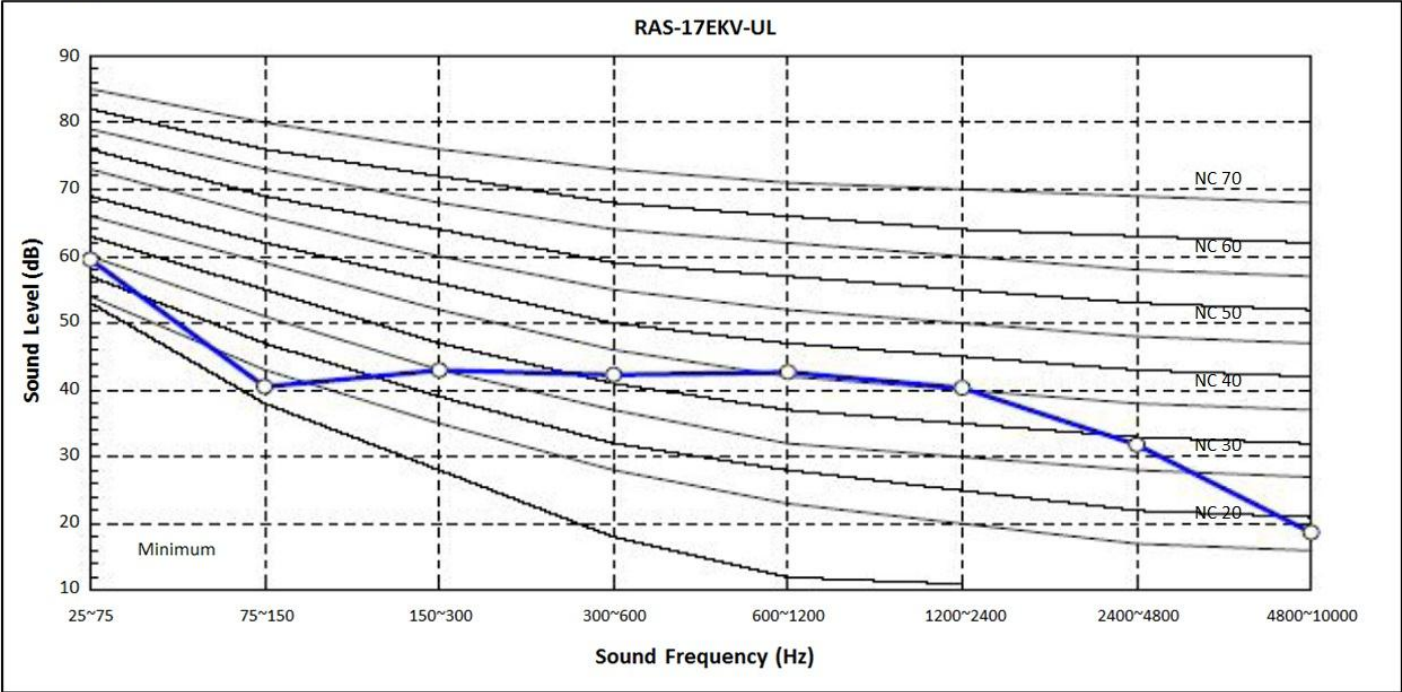
RAS-15EAV-UL



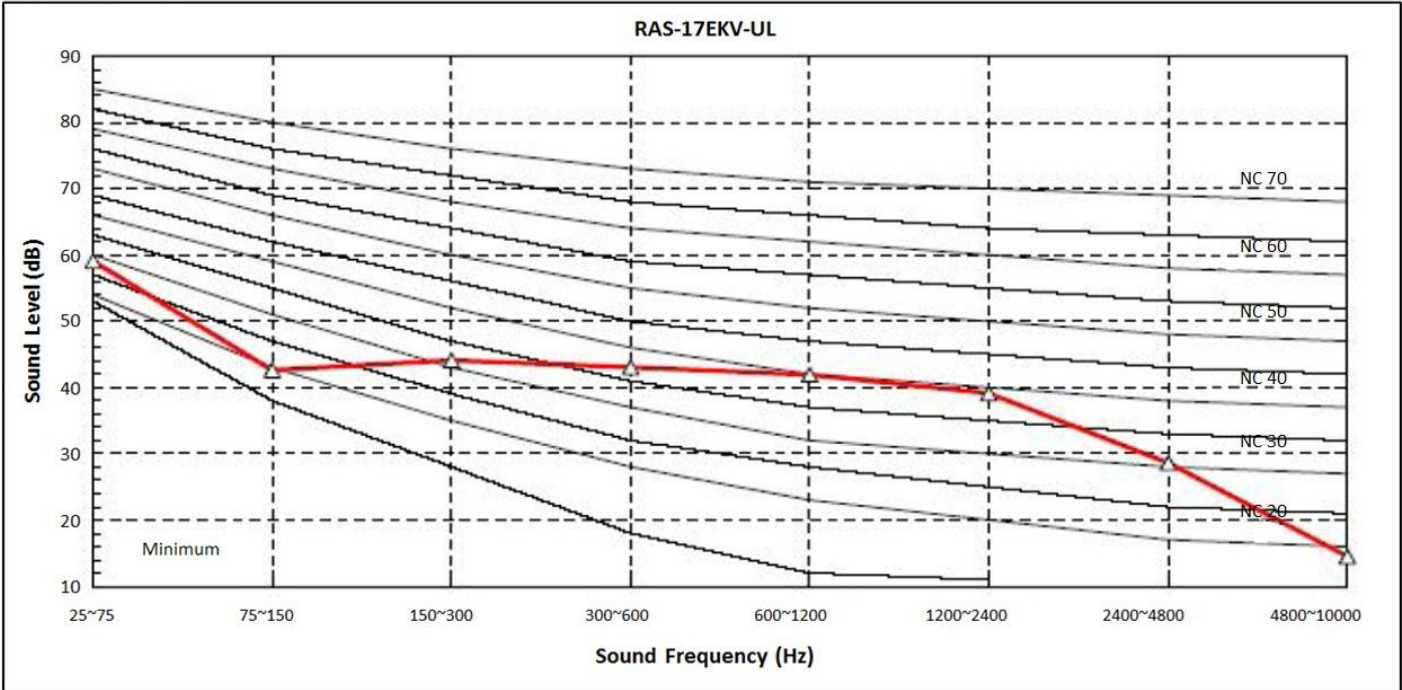
Indoor and outdoor sound characteristic

RAS-17EKV-UL

Cooling operation



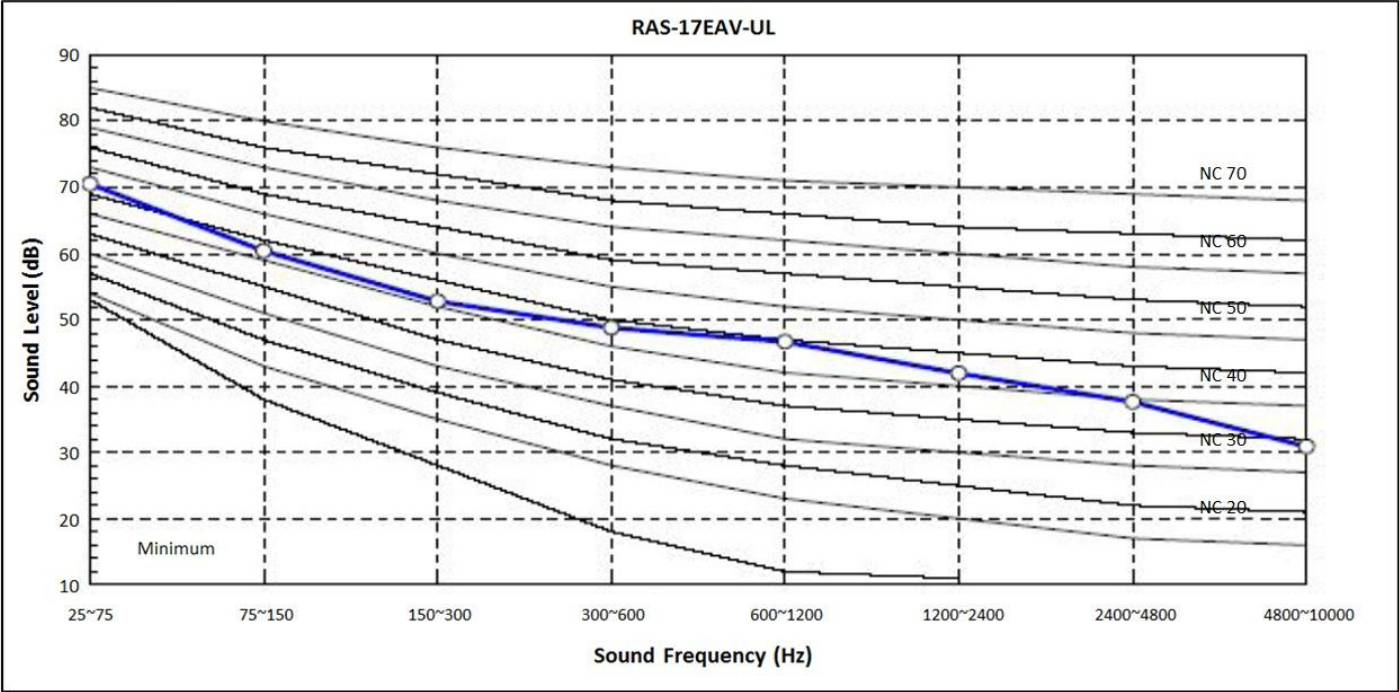
Heating operation



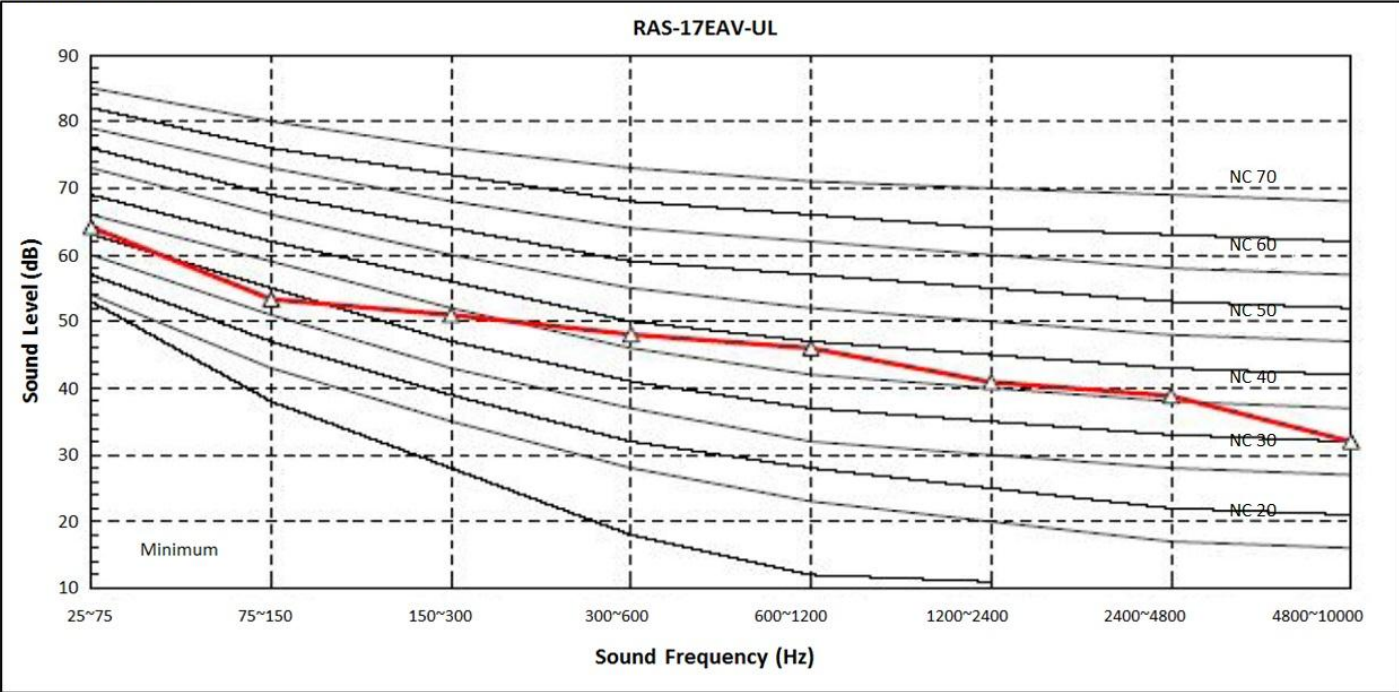
Indoor and outdoor sound characteristic

RAS-17EAV-UL

Cooling operation

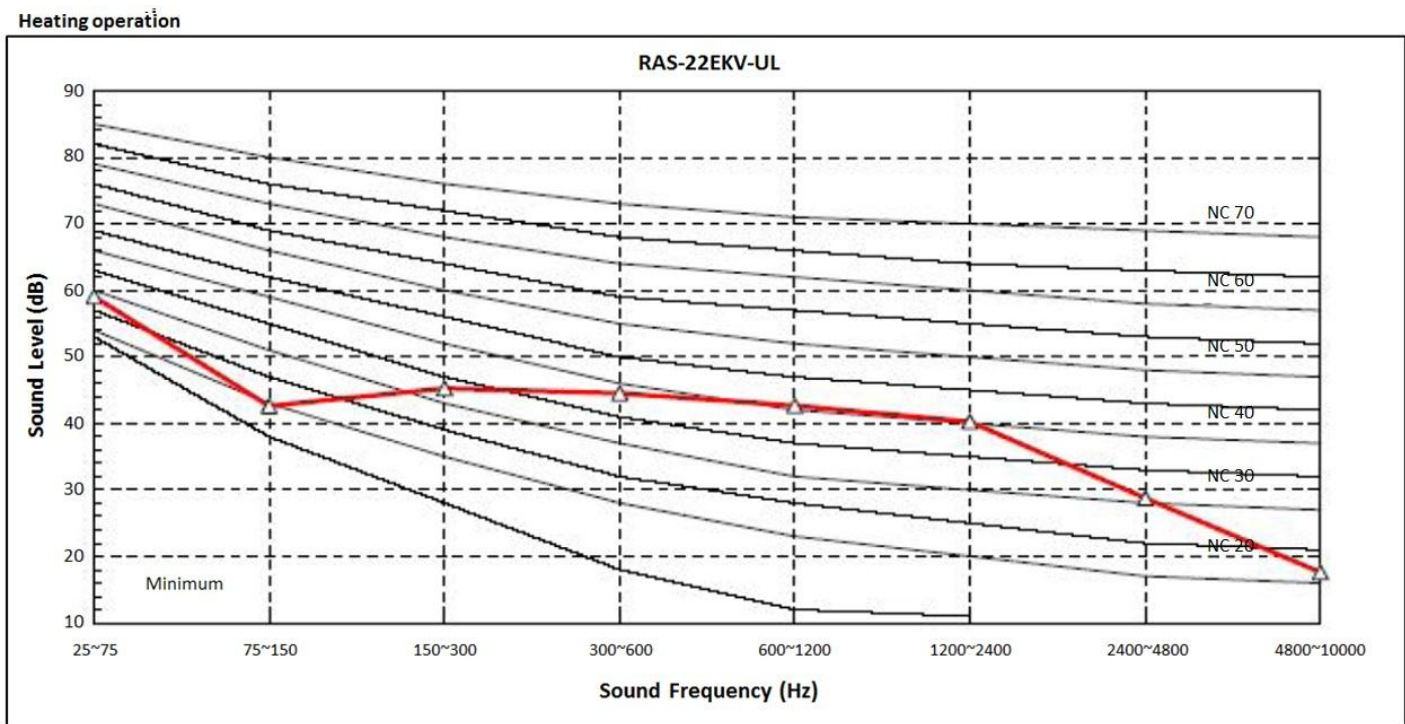
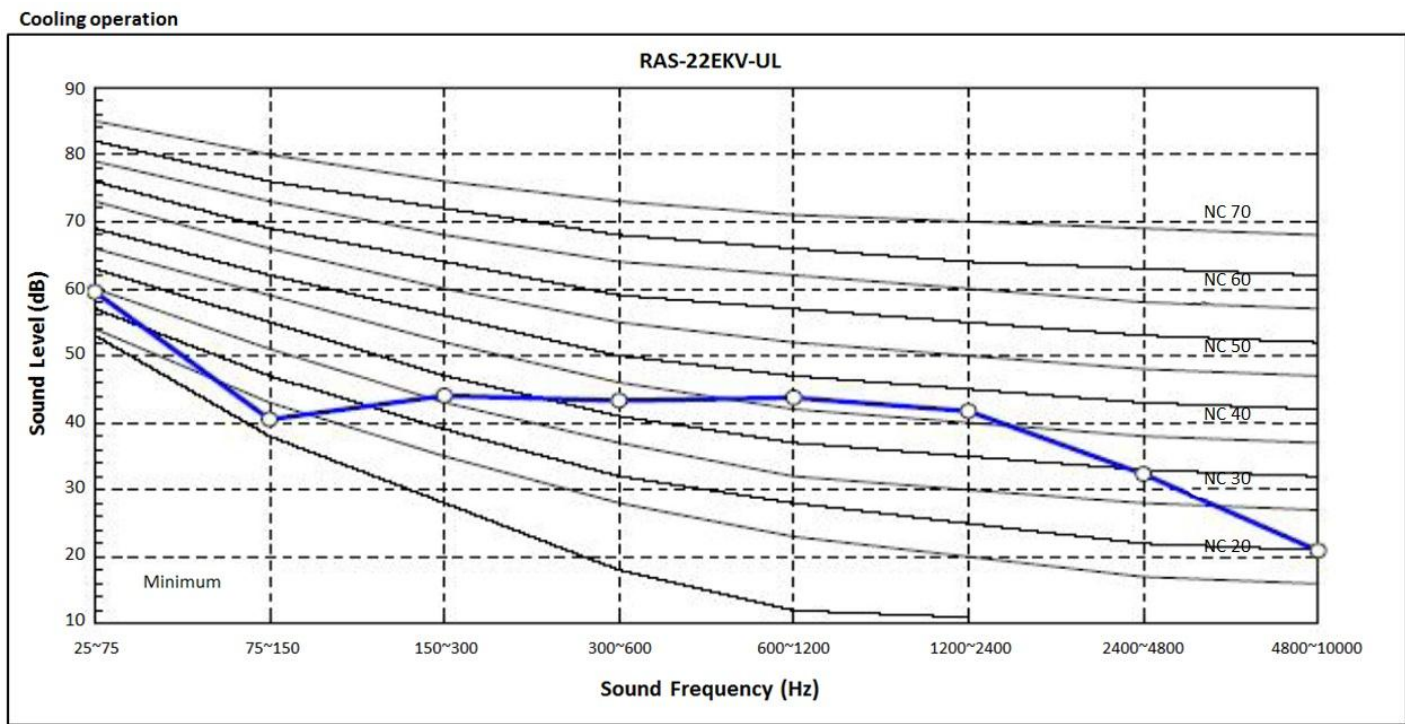


Heating operation



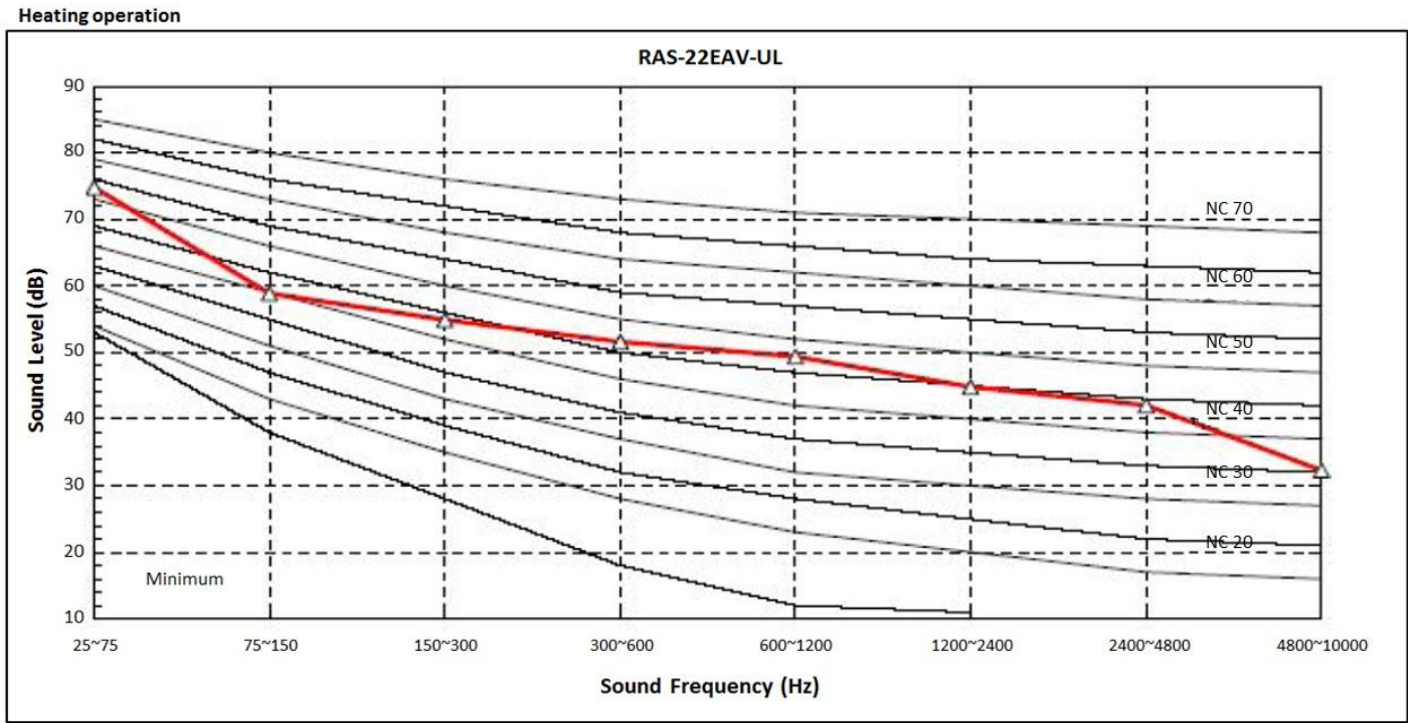
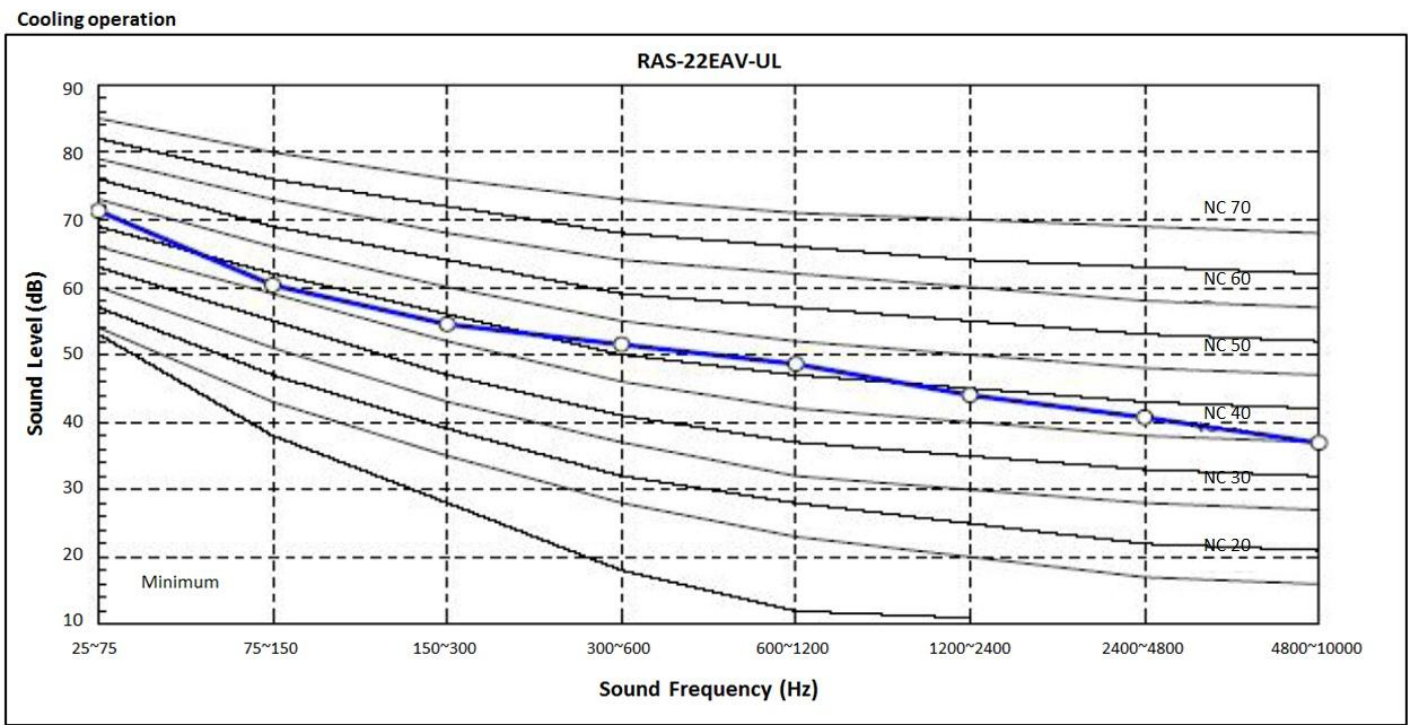
Indoor and outdoor sound characteristic

RAS-22EKV-UL



Indoor and outdoor sound characteristic

RAS-22EAV-UL



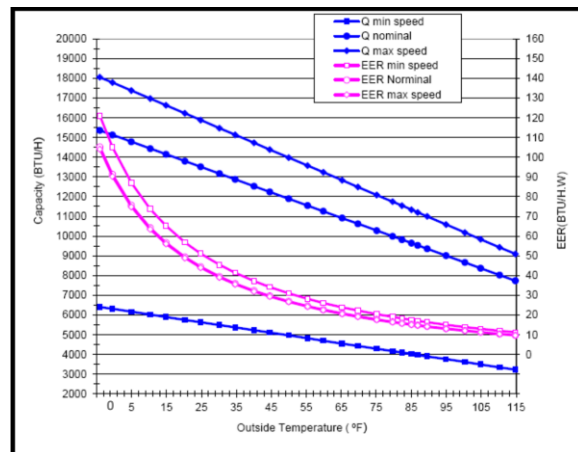
Performance characteristic: RAS-09EKV-UL / RAS-09EAV-UL

Product specification :

Condition		Capacity (BTU/H)	Power (W)	EER or COP(BTU/H.W)
Cooling In : 80°Cdb/67°CWb Out : 95°Cdb/75°CWb	Min	3750	250	15.00
	Nominal	9000	690	13.04
	Max	10580	820	12.90
Heating In : 70°Cdb/ 60°CWb Out : 47°Cdb/43°CWb	Min	3070	170	18.06
	Nominal	10800	800	13.50
	Max	16350	1400	11.68
Heating Low Temperature In : 70°Cdb/ 60°CWb Out : 35°Cdb/33°CWb	Max	11900	1238	9.61

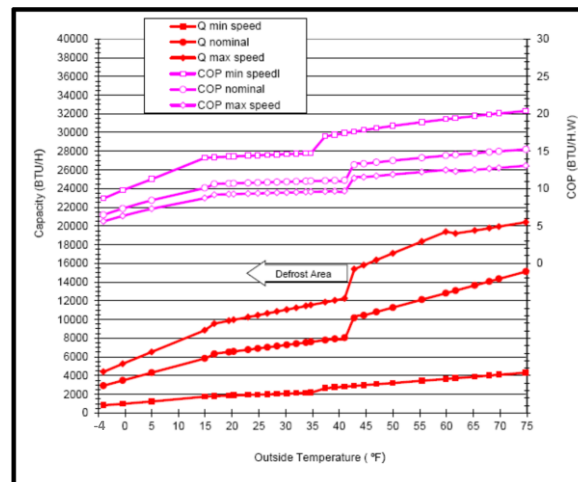
Cooling performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)
0	6301	60	104.86	15122	166	91.19	17776	197	90.20
5	6156	71	86.91	14775	196	75.58	17369	232	74.76
10	6012	82	73.69	14429	225	64.08	16962	268	63.39
15	5892	91	65.07	14140	250	56.58	16622	297	55.97
20	5747	101	56.74	13793	280	49.34	16215	332	48.80
25	5627	110	51.04	13505	304	44.38	15875	362	43.90
30	5483	121	45.31	13158	334	39.40	15468	397	38.97
35	5362	130	41.26	12869	359	35.88	15129	426	35.49
40	5218	141	37.08	12523	388	32.25	14721	462	31.90
45	5098	150	34.06	12234	413	29.62	14382	491	29.30
50	4953	160	30.88	11888	443	26.85	13974	526	26.56
55	4809	171	28.09	11541	472	24.43	13567	561	24.17
60	4688	180	26.03	11252	497	22.63	13228	591	22.39
65	4544	191	23.81	10906	527	20.70	12820	626	20.48
70	4424	200	22.14	10617	552	19.25	12481	655	19.04
75	4279	211	20.32	10271	581	17.67	12074	691	17.48
80	4159	220	18.94	9982	606	16.47	11734	720	16.30
82	4087	225	18.17	9809	621	15.80	11530	738	15.63
85	4015	230	17.43	9635	636	15.16	11327	755	15.00
87	3967	234	16.96	9521	646	14.75	11191	767	14.59
90	3894	239	16.28	9347	660	14.15	10987	785	14.00
95	3750	250	15.00	9000	690	13.04	10580	820	12.90
100	3606	261	13.83	8654	720	12.02	10173	855	11.89
105	3485	270	12.92	8365	744	11.24	9833	885	11.12
110	3341	280	11.91	8018	774	10.36	9426	920	10.25
115	3221	289	11.13	7730	799	9.68	9086	949	9.57



Heating performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)
-4	828	96	8.67	2913	449	6.48	4409	787	5.61
0	986	101	9.79	3470	474	7.32	5253	830	6.33
5	1224	109	11.26	4306	511	8.42	6519	895	7.28
15	1758	125	14.12	5839	580	10.08	8840	1014	8.72
17	1795	127	14.18	6313	596	10.60	9551	1042	9.16
19	1849	130	14.27	6506	610	10.67	9850	1067	9.23
20	1868	131	14.30	6570	615	10.69	9949	1076	9.25
23	1922	134	14.38	6762	629	10.75	10248	1100	9.31
25	1959	136	14.44	6890	638	10.79	10447	1117	9.35
27	1995	138	14.49	7018	648	10.83	10646	1134	9.39
28	2031	140	14.54	7147	658	10.87	10845	1150	9.43
30	2068	142	14.59	7275	667	10.91	11044	1167	9.47
32	2104	144	14.64	7403	677	10.94	11243	1183	9.50
34	2141	146	14.68	7531	686	10.98	11442	1200	9.54
35	2159	147	14.71	7595	691	10.99	11542	1208	9.55
37	2650	156	16.98	7788	705	11.04	11840	1233	9.60
39	2729	159	17.20	7916	715	11.08	12039	1249	9.64
41	2809	161	17.41	8044	724	11.11	12238	1266	9.67
43	2888	164	17.61	8159	732	11.17	12437	1281	9.70
45	2967	167	17.81	8283	742	11.22	12636	1296	9.73
47	3070	170	18.06	8407	751	11.27	12835	1311	9.76
50	3205	174	18.37	8531	761	11.33	13034	1326	9.79
55	3442	182	18.88	8755	781	11.41	13433	1356	9.88
60	3640	189	19.27	8979	801	11.40	13832	1386	9.97
62	3720	192	19.42	9085	812	11.45	14031	1401	10.00
65	3878	197	19.70	9259	826	11.47	14230	1416	10.03
68	3997	201	19.91	9433	840	11.48	14429	1431	10.06
70	4076	203	20.04	9557	851	11.49	14628	1446	10.09
75	4298	211	20.39	9921	881	11.24	15027	1476	10.16



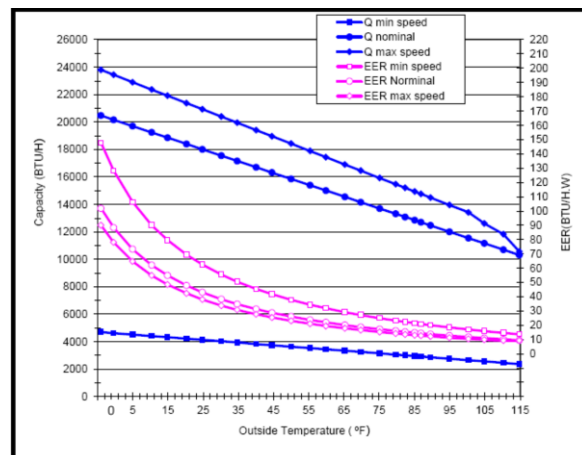
Performance characteristic: RAS-12EKV-UL / RAS-12EAV-UL

Product specification :

Condition		Capacity (BTU/H)	Power (W)	EER or COP(BTU/H.W)
Cooling In : 80°CDB/67°CWB Out : 95°CDB/75°CWB	Min	2750	150	18.33
	Nominal	12000	950	12.63
	Max	13950	1250	11.16
Heating In : 70°CDB/ 60°CWB Out : 47°CDB/43°CWB	Min	3070	160	19.19
	Nominal	14200	1090	13.03
	Max	19000	1580	12.03
Heating Low Temperature In : 70°CDB/ 60°CWB Out : 35°CDB/33°CWB	Max	14200	1397	10.16

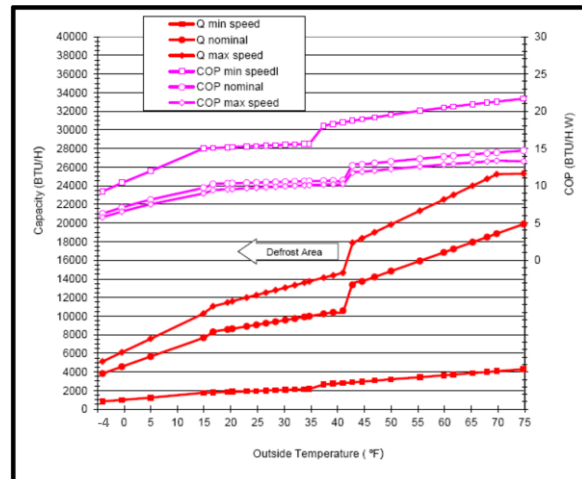
Cooling performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)
0	4620	36	128.17	20162	228	88.31	23438	300	78.02
5	4515	43	106.23	19700	269	73.19	22901	354	64.66
10	4409	49	90.07	19238	310	62.05	22364	408	54.83
15	4320	54	79.53	18853	344	54.80	21917	453	48.41
20	4215	61	69.35	18391	385	47.78	21380	506	42.21
25	4126	66	62.38	18006	419	42.98	20932	551	37.97
30	4021	73	55.38	17544	460	38.16	20395	605	33.71
35	3932	78	50.43	17159	494	34.75	19947	650	30.70
40	3826	84	45.32	16697	535	31.23	19410	704	27.59
45	3738	90	41.63	16312	569	28.68	18963	748	25.34
50	3632	96	37.74	15850	610	26.00	18426	802	22.97
55	3526	103	34.34	15388	650	23.66	17889	856	20.90
60	3438	108	31.81	15003	684	21.92	17441	901	19.37
65	3332	115	29.10	14541	725	20.05	16904	954	17.71
70	3244	120	27.06	14156	759	18.64	16456	999	16.47
75	3138	126	24.84	13694	800	17.11	15919	1053	15.12
80	3050	132	23.15	13309	834	15.95	15472	1098	14.09
82	2997	135	22.21	13078	855	15.30	15203	1125	13.52
85	2944	138	21.31	12847	875	14.68	14935	1151	12.97
87	2909	140	20.73	12693	889	14.28	14756	1169	12.62
90	2856	144	19.89	12462	909	13.71	14487	1196	12.11
95	2750	150	18.33	12000	950	12.63	13950	1250	11.16
100	2644	156	16.90	11538	991	11.64	13413	1304	10.29
105	2556	162	15.79	11153	1025	10.88	12608	1285	9.81
110	2450	168	14.56	10691	1066	10.03	11822	1285	9.20
115	2362	174	13.60	10306	1100	9.37	10555	1151	9.17



Heating performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)
-4	828	90	9.21	3829	612	6.25	5124	888	5.77
0	986	95	10.40	4562	646	7.06	6105	937	6.52
5	1224	102	11.97	5662	697	8.13	7575	1010	7.50
15	1758	117	15.00	7677	790	9.72	10272	1145	8.98
17	1795	119	15.07	8301	812	10.23	11053	1177	9.40
19	1849	122	15.16	8554	831	10.29	11453	1205	9.51
20	1868	123	15.19	8638	837	10.31	11587	1214	9.55
23	1922	126	15.28	8891	857	10.38	11987	1242	9.65
25	1959	128	15.34	9059	870	10.41	12253	1261	9.72
27	1995	130	15.39	9228	883	10.45	12520	1279	9.79
28	2031	132	15.45	9396	896	10.49	12787	1298	9.85
30	2068	133	15.50	9565	909	10.52	13053	1317	9.91
32	2104	135	15.55	9734	922	10.56	13320	1335	9.98
34	2141	137	15.60	9902	935	10.59	13587	1354	10.03
35	2159	138	15.63	9986	941	10.61	13720	1363	10.06
37	2650	147	18.04	10239	961	10.66	14120	1391	10.15
39	2729	149	18.28	10408	974	10.69	14387	1410	10.20
41	2809	152	18.50	10576	987	10.72	14653	1429	10.26
43	2888	154	18.72	11357	1051	12.71	17872	1524	11.73
45	2967	157	18.92	11724	1068	12.85	18363	1548	11.86
47	3070	160	19.19	14200	1090	13.03	19000	1580	12.03
50	3205	164	19.52	14823	1119	13.25	19834	1622	12.23
55	3442	172	20.06	15922	1169	13.62	21305	1695	12.57
60	3640	178	20.47	16838	1212	13.90	22530	1756	12.83
62	3720	180	20.63	17205	1228	14.01	23021	1781	12.93
65	3878	185	20.93	17938	1262	14.21	24001	1830	13.12
68	3997	189	21.15	18487	1287	14.36	24737	1866	13.25
70	4076	191	21.29	18854	1304	14.45	25227	1891	13.34
75	4298	198	21.66	19880	1352	14.71	25304	1905	13.28



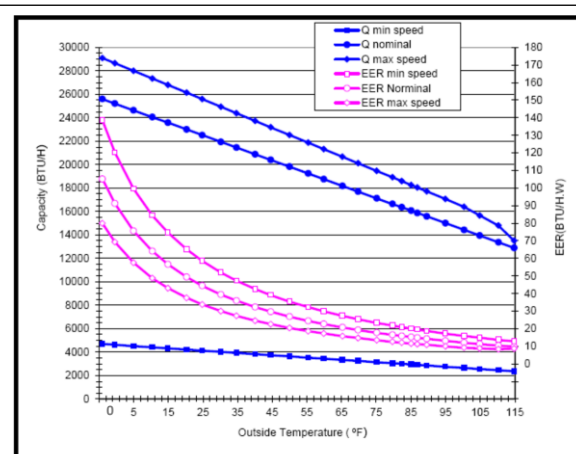
Performance characteristic: RAS-15EKV-UL / RAS-15EAV-UL

Product specification :

Condition		Capacity (BTU/H)	Power (W)	EER or COP(BTU/H.W)
Cooling In : 80°CDB/67°CWB Out : 95°CDB/75°CWB	Min	2750	160	17.19
	Nominal	15000	1150	13.04
	Max	17050	1720	9.91
Heating In : 70°CDB/ 60°CWB Out : 47°CDB/43°CWB	Min	2750	143	19.23
	Nominal	18000	1400	12.86
	Max	21500	1900	11.32
Heating Low Temperature In : 70°CDB/ 60°CWB Out : 35°CDB/33°CWB	Max	15700	1680	9.35

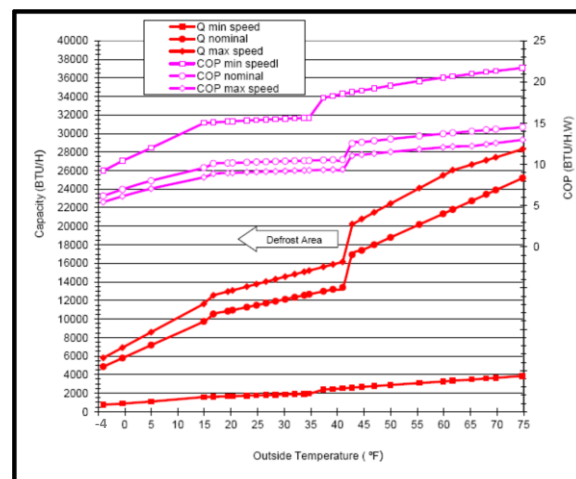
Cooling performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)
0	4620	38	120.16	25203	276	91.19	28647	413	69.30
5	4515	45	99.59	24625	326	75.58	27990	487	57.44
10	4409	52	84.44	24048	375	64.08	27334	561	48.70
15	4320	58	74.56	23566	416	56.58	26787	623	43.00
20	4215	65	65.01	22989	466	49.34	26131	697	37.50
25	4126	71	58.48	22508	507	44.38	25584	759	33.73
30	4021	77	51.92	21930	557	39.40	24927	832	29.94
35	3932	83	47.28	21449	598	35.88	24380	894	27.27
40	3826	90	42.49	20871	647	32.25	23724	968	24.51
45	3738	96	39.03	20390	688	29.62	23177	1030	22.51
50	3632	103	35.38	19813	738	26.85	22520	1104	20.40
55	3526	110	32.19	19235	787	24.43	21864	1178	18.57
60	3438	115	29.82	18754	829	22.63	21317	1239	17.20
65	3332	122	27.28	18176	878	20.70	20660	1313	15.73
70	3244	128	25.37	17695	919	19.25	20113	1375	14.63
75	3138	135	23.29	17118	969	17.67	19457	1449	13.43
80	3050	141	21.71	16636	1010	16.47	18910	1510	12.52
82	2997	144	20.82	16348	1035	15.80	18582	1547	12.01
85	2944	147	19.98	16059	1059	15.16	18253	1584	11.52
87	2909	150	19.43	15866	1076	14.75	18035	1609	11.21
90	2856	153	18.65	15578	1101	14.15	17706	1646	10.76
95	2750	160	17.19	15000	1150	13.04	17050	1720	9.91
100	2644	167	15.84	14423	1199	12.02	16394	1794	9.14
105	2556	173	14.81	13941	1241	11.24	15652	1793	8.73
110	2450	179	13.65	13364	1290	10.36	14800	1793	8.25
115	2362	185	12.75	12883	1331	9.68	13495	1561	8.65



Heating performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)
-4	742	80	9.23	4854	787	6.17	5798	1067	5.43
0	884	85	10.42	5783	830	6.97	6908	1126	6.13
5	1096	91	11.99	7177	895	8.02	8572	1215	7.06
15	1575	105	15.03	9732	1014	9.60	11624	1376	8.45
17	1608	106	15.10	10522	1042	10.09	12553	1415	8.87
19	1657	109	15.19	10843	1067	10.16	12953	1448	8.94
20	1673	110	15.23	10950	1076	10.18	13087	1460	8.97
23	1722	112	15.32	11270	1101	10.24	13487	1493	9.03
25	1754	114	15.37	11484	1117	10.28	13753	1516	9.07
27	1787	116	15.43	11697	1134	10.32	14020	1538	9.11
28	1820	118	15.48	11911	1151	10.35	14287	1561	9.15
30	1852	119	15.54	12125	1167	10.39	14553	1583	9.19
32	1885	121	15.59	12338	1184	10.42	14820	1606	9.23
34	1918	123	15.64	12552	1201	10.45	15087	1628	9.27
35	1934	123	15.66	12659	1209	10.47	15220	1639	9.28
37	2374	131	18.08	12979	1234	10.52	15620	1673	9.34
39	2445	133	18.32	13193	1251	10.55	15887	1696	9.37
41	2516	136	18.54	13407	1267	10.58	16153	1718	9.40
43	2587	138	18.76	16932	1350	12.54	20224	1832	11.04
45	2658	140	18.97	17396	1372	12.68	20779	1862	11.16
47	2750	143	19.23	18000	1400	12.86	21500	1900	11.32
50	2871	147	19.56	18790	1437	13.08	22443	1950	11.51
55	3084	153	20.10	20183	1502	13.44	24108	2038	11.83
60	3261	159	20.52	21345	1556	13.72	25495	2112	12.07
62	3332	161	20.68	21809	1578	13.82	26050	2141	12.17
65	3474	166	20.98	22738	1621	14.03	26648	2180	12.23
68	3580	169	21.20	23435	1654	14.17	27117	2180	12.44
70	3651	171	21.34	23899	1675	14.27	27430	2180	12.58
75	3850	177	21.71	25200	1736	14.52	28306	2180	12.99



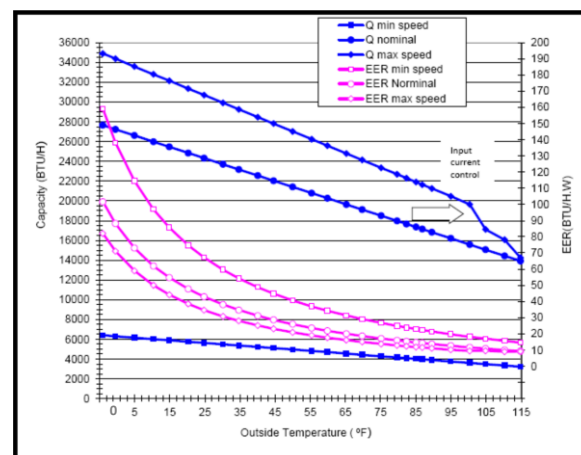
Performance characteristic: RAS-17EKV-UL / RAS-17EAV-UL

Product specification :

Condition		Capacity (BTU/H)	Power (W)	EER or COP(BTU/H.W)
Cooling In : 80°CDB/67°CWB Out : 95°CDB/75°CWB	Min	3750	190	19.74
	Nominal	16200	1285	12.61
	Max	20450	2010	10.17
Heating In : 70°CDB/ 60°CWB Out : 47°CDB/43°CWB	Min	2750	150	18.33
	Nominal	20200	1630	12.39
	Max	21500	1910	11.26
Heating Low Temperature In : 70°CDB/ 60°CWB Out : 35°CDB/33°CWB	Max	15700	1689	9.30

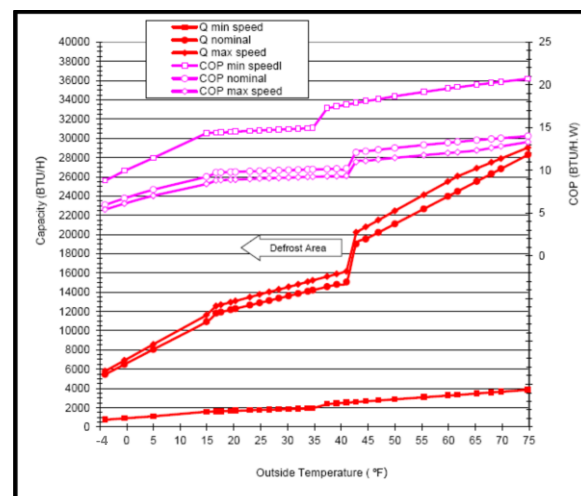
Cooling performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)
0	6301	46	137.98	27219	309	88.14	34359	483	71.13
5	6156	54	114.36	26595	364	73.05	33572	570	58.95
10	6012	62	96.96	25971	419	61.93	32785	656	49.98
15	5892	69	85.62	25452	465	54.69	32129	728	44.14
20	5747	77	74.66	24828	521	47.69	31341	814	38.48
25	5627	84	67.15	24308	567	42.90	30685	886	34.62
30	5483	92	59.62	23684	622	38.08	29898	973	30.73
35	5362	99	54.29	23165	668	34.68	29242	1045	27.99
40	5218	107	48.79	22541	723	31.17	28454	1131	25.15
45	5098	114	44.81	22021	769	28.63	27798	1203	23.10
50	4953	122	40.63	21398	825	25.95	27011	1290	20.94
55	4809	130	36.97	20774	880	23.61	26224	1376	19.06
60	4688	137	34.25	20254	926	21.88	25568	1448	17.65
65	4544	145	31.32	19630	981	20.01	24780	1535	16.15
70	4424	152	29.13	19111	1027	18.61	24124	1607	15.02
75	4279	160	26.74	18487	1082	17.08	23337	1693	13.78
80	4159	167	24.93	17967	1128	15.92	22681	1765	12.85
85	4087	171	23.91	17655	1156	15.27	22287	1808	12.32
90	4015	175	22.94	17343	1184	14.65	21893	1852	11.82
95	3967	178	22.32	17136	1202	14.25	21631	1880	11.50
100	3894	182	21.42	16824	1230	13.68	21237	1924	11.04
105	3806	198	18.19	15576	1340	11.62	19633	2091	9.39
110	3485	205	17.00	15057	1386	10.86	17110	1793	9.54
115	3341	213	15.67	14433	1442	10.01	16068	1793	8.96
115	3221	220	14.64	13913	1488	9.35	14233	1561	9.12



Heating performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)
-4	742	84	8.80	5447	916	5.95	5798	1073	5.40
0	884	89	9.94	6490	966	6.72	6908	1132	6.10
5	1096	96	11.44	8054	1042	7.73	8572	1221	7.02
15	1575	110	14.33	10921	1181	9.25	11624	1384	8.40
17	1608	112	14.39	11808	1214	9.73	12553	1422	8.83
18	1624	113	14.43	11928	1223	9.75	12687	1434	8.85
19	1657	114	14.49	12168	1243	9.79	12953	1456	8.90
20	1673	115	14.52	12288	1252	9.81	13087	1467	8.92
23	1722	118	14.60	12648	1281	9.87	13487	1501	8.98
25	1754	120	14.66	12887	1301	9.91	13753	1524	9.03
27	1787	121	14.71	13127	1320	9.94	14020	1546	9.07
28	1820	123	14.76	13367	1340	9.98	14287	1569	9.11
30	1852	125	14.81	13607	1359	10.01	14553	1592	9.14
32	1885	127	14.86	13846	1378	10.04	14820	1614	9.18
34	1918	129	14.91	14086	1398	10.08	15087	1637	9.22
35	1934	130	14.93	14206	1408	10.09	15220	1648	9.23
37	2374	138	17.24	14566	1437	10.14	15620	1682	9.29
39	2445	140	17.46	14806	1456	10.17	15887	1705	9.32
41	2516	142	17.68	15045	1475	10.20	16153	1727	9.35
43	2587	145	17.88	19001	1572	12.09	20224	1842	10.98
45	2658	147	18.08	19522	1597	12.22	20779	1872	11.10
47	2750	150	18.33	20200	1630	12.39	21500	1910	11.26
50	2871	154	18.65	21086	1673	12.60	22443	1960	11.45
55	3084	161	19.16	22650	1749	12.95	24108	2049	11.77
60	3261	167	19.56	23953	1812	13.22	25495	2123	12.01
62	3332	169	19.71	24475	1837	13.32	26050	2153	12.10
65	3474	174	20.00	25517	1887	13.52	26874	2180	12.33
68	3580	177	20.21	26299	1925	13.66	27480	2180	12.61
70	3651	179	20.34	26820	1951	13.75	27884	2180	12.79
75	3850	186	20.70	28280	2021	13.99	29016	2180	13.31



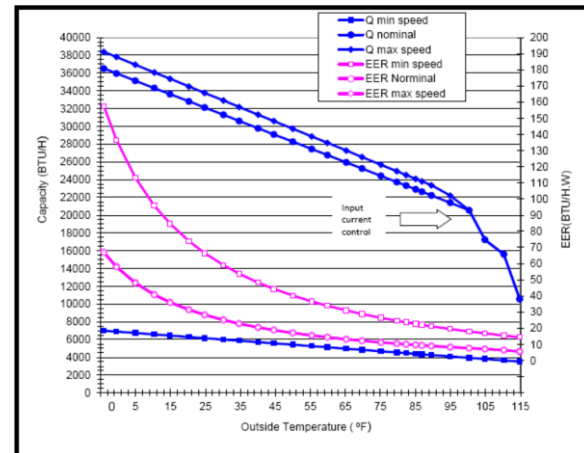
Performance characteristic: RAS-22EKV-UL / RAS-22EAV-UL

Product specification :

Condition		Capacity (BTU/H)	Power (W)	EER or COP(BTU/H.W)
Cooling In : 80°CDB/67°CWB Out : 95°CDB/75°CWB	Min	4100	210	19.52
	Nominal	21400	2570	8.33
	Max	22500	2720	8.27
Heating In : 70°CDB/ 60°CWB Out : 47°CDB/43°CWB	Min	3450	190	18.16
	Nominal	23200	2200	10.55
	Max	24350	2440	9.98
Heating Low Temperature In : 70°CDB/ 60°CWB Out : 35°CDB/33°CWB	Max	18400	2157	8.53

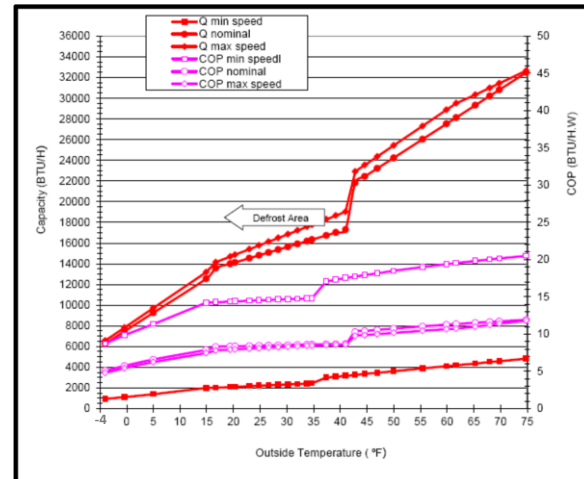
Cooling performance characteristic :

Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)	Capacity (BTU/H)	Power (W)	EER (BTU/H.W)
0	6889	50	136.49	35956	618	58.21	37804	654	57.83
5	6731	60	113.12	35132	728	48.25	36938	771	47.93
10	6573	69	95.91	34308	839	40.91	36071	888	40.64
15	6441	76	84.69	33621	931	36.12	35349	985	35.88
20	6284	85	73.85	32797	1041	31.50	34483	1102	31.29
25	6152	93	66.43	32111	1133	28.33	33761	1200	28.15
30	5994	102	58.97	31287	1244	25.15	32895	1316	24.99
35	5863	109	53.70	30600	1336	22.90	32173	1414	22.75
40	5705	118	48.27	29776	1446	20.59	31307	1531	20.45
45	5573	126	44.33	29090	1539	18.91	30585	1628	18.78
50	5415	135	40.19	28266	1649	17.14	29719	1745	17.03
55	5258	144	36.57	27442	1760	15.60	28853	1862	15.49
60	5126	151	33.88	26755	1852	14.45	28131	1960	14.35
65	4968	160	30.99	25931	1962	13.22	27264	2077	13.13
70	4837	168	28.81	25245	2054	12.29	26543	2174	12.21
75	4679	177	26.45	24421	2165	11.28	25676	2291	11.21
80	4547	184	24.66	23734	2257	10.52	24954	2389	10.45
82	4468	189	23.65	23322	2312	10.09	24521	2447	10.02
85	4389	193	22.69	22910	2367	9.68	24088	2506	9.61
87	4337	196	22.08	22636	2404	9.41	23799	2545	9.35
90	4258	201	21.19	22224	2459	9.04	23366	2603	8.98
95	4100	210	19.52	21400	2570	8.33	22186	2677	8.29
100	3942	219	18.00	20552	2677	7.68	20552	2677	7.68
105	3811	227	16.82	17227	2409	7.15	17227	2409	7.15
110	3653	236	15.51	15592	2409	6.47	15592	2409	6.47
115	3521	243	14.48	10549	1908	5.53	10549	1908	5.53

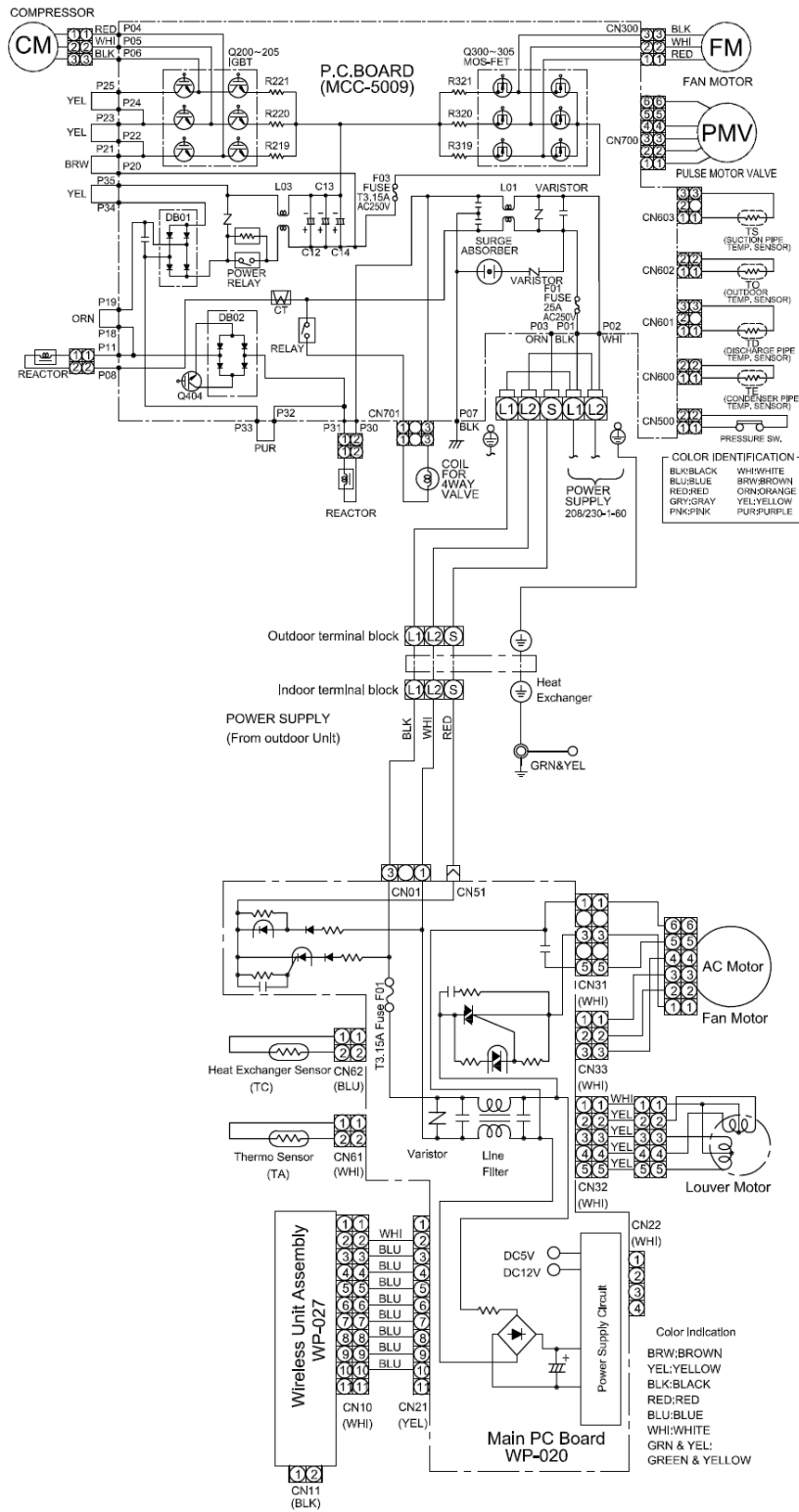


Heating performance characteristic :

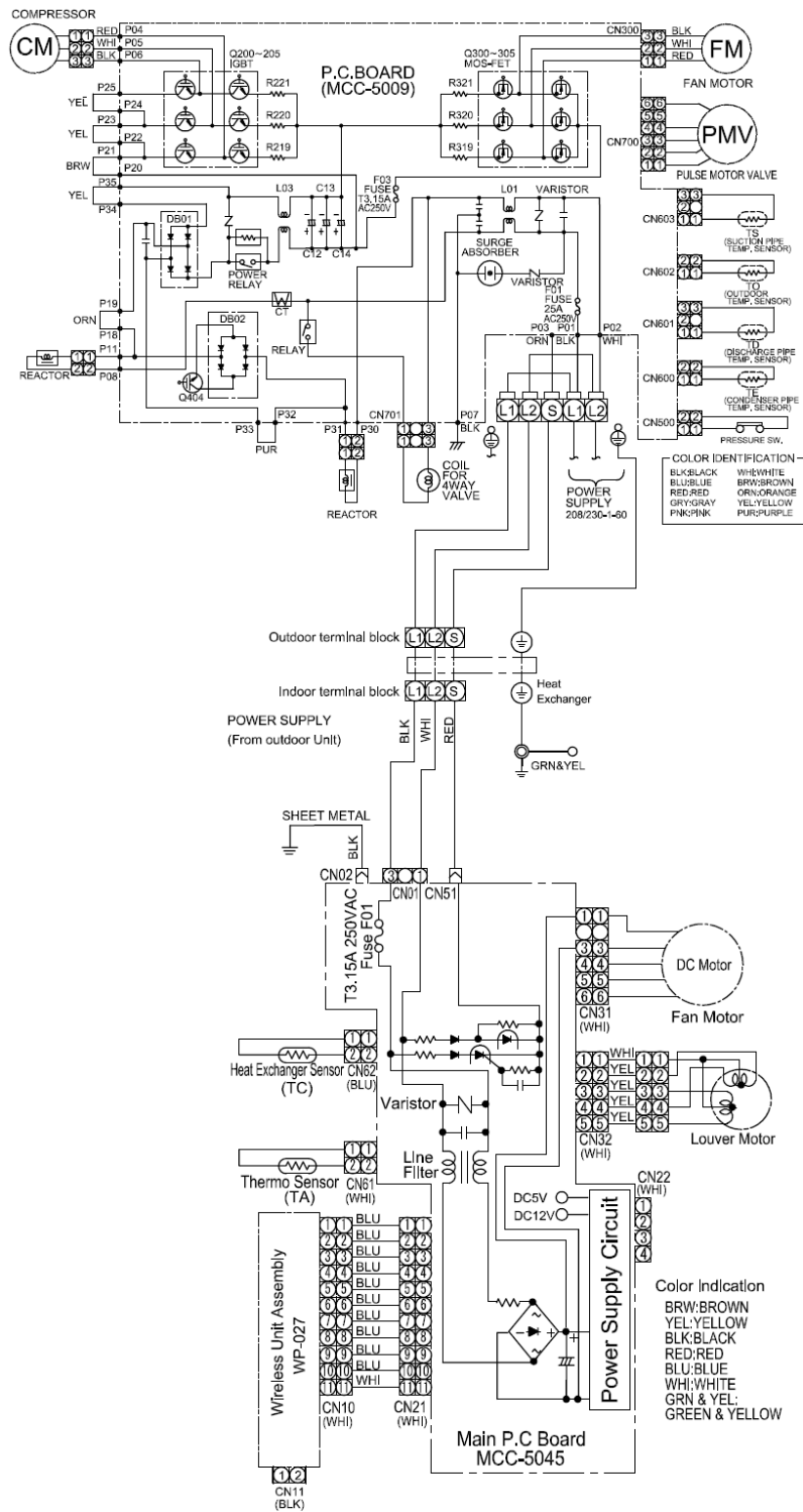
Outside Temp (°F)	Minimum capacity			Nominal capacity			Maximum capacity		
	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)	Capacity (BTU/H)	Power (W)	COP (BTU/H.W)
-4	930	107	8.72	6257	1236	5.06	6567	1371	4.79
0	1108	113	9.84	7454	1304	5.72	7823	1446	5.41
5	1376	121	11.33	9250	1406	6.58	9709	1560	6.22
15	1976	139	14.19	12543	1594	7.87	13165	1768	7.45
17	2017	141	14.26	13562	1638	8.28	14141	1817	7.78
19	2078	145	14.35	13975	1677	8.33	14682	1860	7.89
20	2099	146	14.38	14113	1690	8.35	14863	1875	7.93
23	2160	149	14.46	14526	1730	8.40	15404	1918	8.03
25	2201	152	14.52	14801	1756	8.43	15765	1947	8.10
27	2242	154	14.57	15077	1782	8.46	16126	1976	8.16
28	2283	156	14.62	15352	1808	8.49	16487	2004	8.23
30	2324	158	14.67	15627	1834	8.52	16848	2033	8.29
32	2365	161	14.72	15903	1861	8.55	17209	2062	8.35
34	2406	163	14.76	16178	1887	8.57	17570	2091	8.40
35	2426	164	14.79	16316	1900	8.59	17750	2105	8.43
37	2478	174	14.08	16729	1939	8.63	18292	2149	8.51
39	3067	177	17.29	17004	1965	8.65	18653	2178	8.57
41	3156	180	17.51	17280	1991	8.68	19014	2206	8.62
43	3245	183	17.71	17823	2122	10.29	22905	2353	9.73
45	3334	186	17.91	22422	2156	10.40	23533	2391	9.84
47	3450	190	18.16	23200	2200	10.55	24350	2440	9.98
50	3601	195	18.47	24218	2258	10.73	25418	2504	10.15
55	3868	204	18.98	26014	2360	11.02	27303	2618	10.43
60	4091	211	19.37	27511	2445	11.25	28874	2712	10.65
62	4180	214	19.52	28109	2479	11.34	29503	2750	10.73
65	4358	220	19.81	29307	2547	11.50	30335	2762	10.98
68	4492	224	20.01	30205	2599	11.62	30988	2762	11.22
70	4581	227	20.15	30804	2633	11.70	31423	2762	11.38
75	4830	236	20.50	32480	2728	11.91	32643	2762	11.82



Wiring diagrams: RAS-09EKV-UL / RAS-09EAV-UL



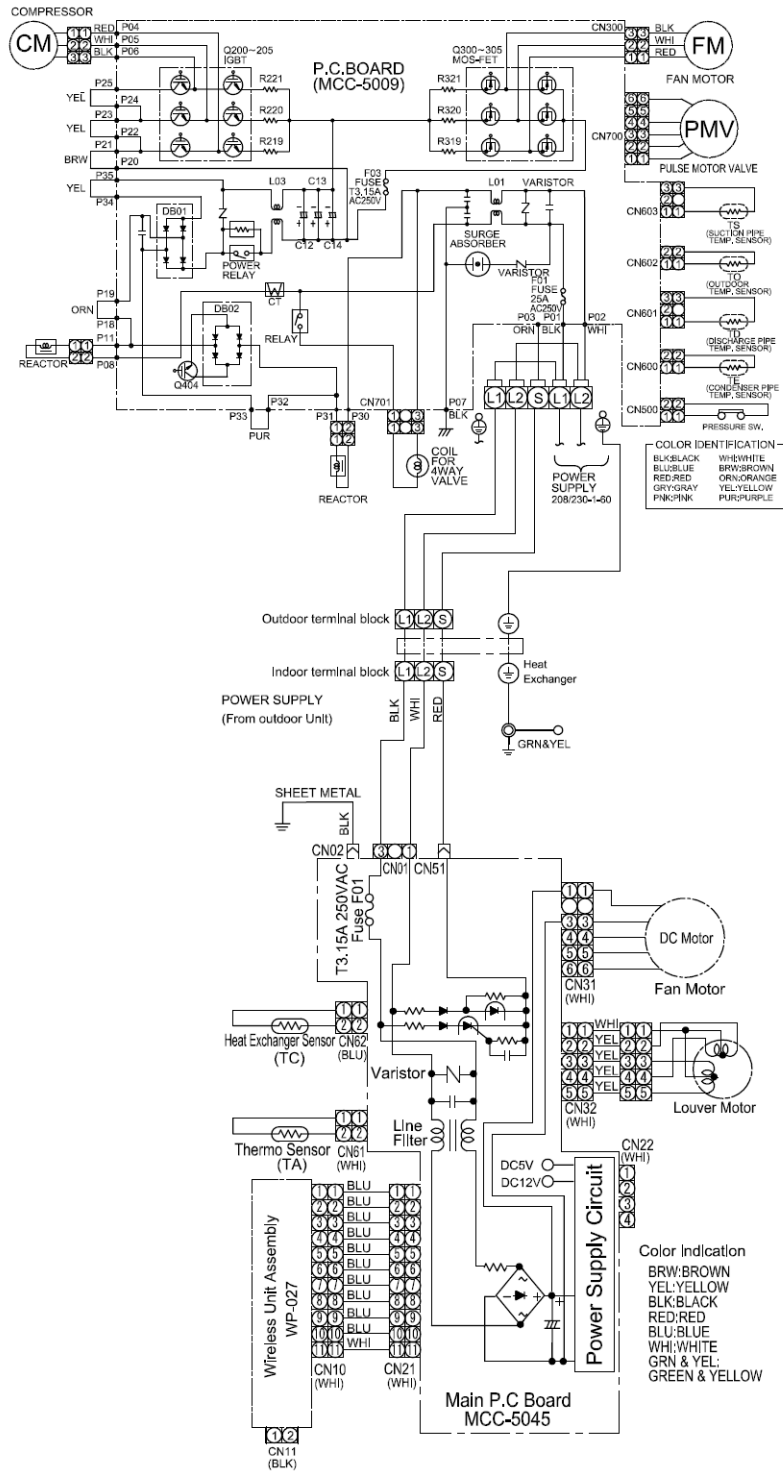
Wiring diagrams: RAS-12EKV-UL / RAS-12EAV-UL



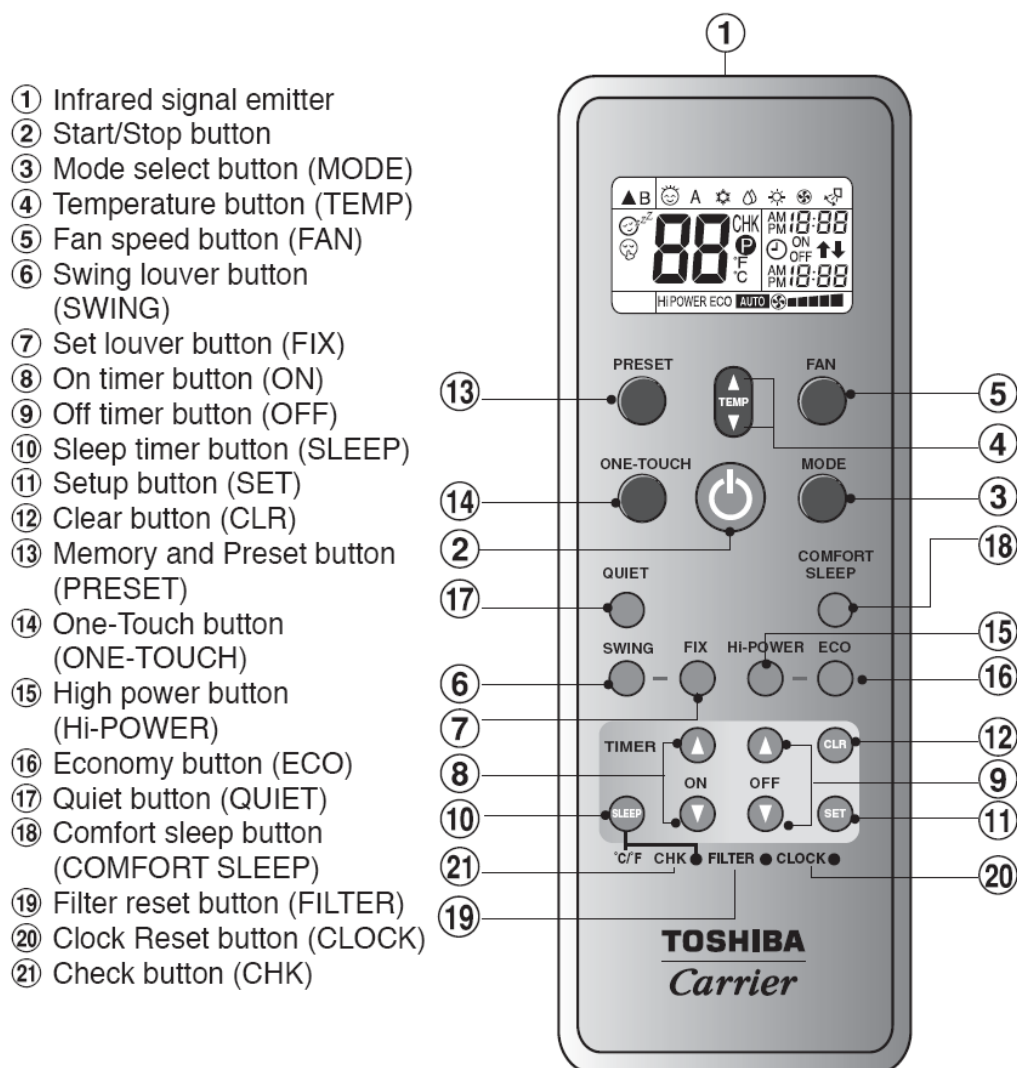
Wiring diagrams: RAS-15EKV-UL / RAS-15EAV-UL

RAS-17EKV-UL / RAS-17EAV-UL

RAS-22EKV-UL / RAS-22EAV-UL



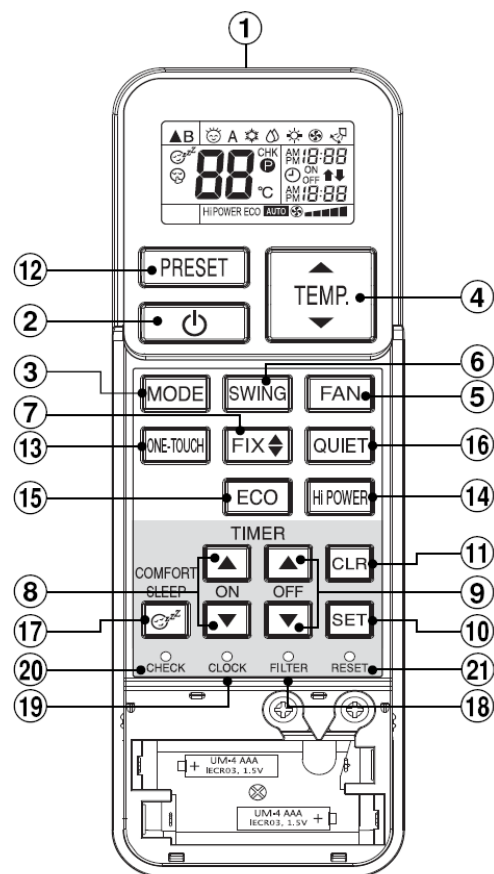
Standard wireless remote controller



Optional wired connectable remote controller

Model name: ASM-OPTIONAL-RC (WH-TA14NE) 1111855001 → °F Display
 ASM-OPTIONAL-RC (WH-TA15NE) 1111855002 → °C Display

- ① Infrared signal emitter
- ② Start/Stop button
- ③ Mode select button (MODE)
- ④ Temperature button (TEMP)
- ⑤ Fan speed button (FAN)
- ⑥ Swing louver button (SWING)
- ⑦ Set louver button (FIX)
- ⑧ On timer button (ON)
- ⑨ Off timer button (OFF)
- ⑩ Setup button (SET)
- ⑪ Clear button (CLR)
- ⑫ Memory and Preset button (PRESET)
- ⑬ One-Touch button (ONE-TOUCH)
- ⑭ High power button (Hi-POWER)
- ⑮ Economy button (ECO)
- ⑯ Quiet button (QUIET)
- ⑰ Comfort sleep button (COMFORT SLEEP)
- ⑱ Filter reset button (FILTER)
- ⑲ Set clock button (CLOCK)
- ⑳ Check button (CHECK)
- ㉑ Reset button (RESET)



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