

TECHNICAL CATALOGUE

MONO SPLIT

RAK-DJ18PHAE
RAK-DJ25PHAE
RAK-DJ35PHAE
RAK-DJ50PHAE



RAC-DJ18PHAE
RAC-DJ25PHAE
RAC-DJ35PHAE



RAC-DJ50PHAE



HITACHI

**Specifications in this catalogue are subject to change without prior notice in order for
HITACHI to bring in the latest innovations to their customers**

**Whilst every effort is made to ensure that all dimensions and specifications are correct, any
printers' error not rectified are outside the control of HITACHI, who cannot be held responsible
for the same**

CONTENTS

CONTENTS	1
1 SPECIFICATIONS	2
2 DIMENSIONAL DATA	4
3 CAPACITIES TABLE	7
3.1. CAPACITY CHARACTERISTIC CURVES	7
3.2. CORRECTION FACTORS ACCORDING TO PIPING LENGTH	10
3.3. CORRECTION FACTORS ACCORDING TO DEFROSTING OPERATION	12
4 SOUND DATA	13
5 WORKING RANGE	17
5.1. POWER SUPPLY	17
5.2. WORKING RANGE	17
6 ELECTRICAL DATA	18
6.1. INDOOR UNIT	18
6.2. OUTDOOR UNIT	18
7 WIRING DIAGRAM	19
8 REFRIGERANT CYCLE	21
9 CONTROL AND FUNCTION	22
9.1. RC-AGU1EA0G	22
9.2. HOW TO SET UP FROM SERVICE SETTING MODE	23
9.3. HOW TO OPERATE THE HHRC METHOD	24
9.4. SERVICE SETTING ITEM USED FOR GRAC WH EU ENTRY	25
9.5. BUZZER SOUNDING FOR SHOWING ERROR CONTENTS	27
9.6. OTHER SETTING	28
9.7. ERROR CODE INFORMATION	28
9.7.1. HOW TO DISPLAY ERROR CODE	28
9.7.2. HOW TO REMOVE ERROR CODE	30
10 OPTION LIST	31
10.1 WIRED REMOTE CONTROL	31
10.1.1 SHIFT VALUE	31
10.1.2 ERROR CODE INFORMATION	32
10.2 H-LINK ADAPTOR	34
10.2.1 SAFETY SUMMARY	34
10.2.2 INSTALLATION WORK	34
10.2.3 ELECTRICAL WIRING	35
10.2.4 DIP SWITCH SETTING	36
10.2.5 TEST RUN	37
10.3 DRY CONTACT APPLICATION (USING DIP SWITCH)	38

1 SPECIFICATIONS

1.1. WALL TYPE

INDOOR	Unit	RAK-DJ18PHAE	RAK-DJ25PHAE	RAK-DJ35PHAE	RAK-DJ50PHAE
Nominal capacity adjustable		no	no	no	no
Nominal Cooling capacity (min - max)	kW	2.00 (0.90 - 2.50)	2.50 (0.90 - 3.10)	3.50 (0.90- 4.00)	5.00 (1.90- 5.20)
Cooling sensible capacity	kW	1.90	2.25	2.70	3.45
Nominal Heating capacity (min - max)	kW	2.50 (0.90 - 3.20)	3.40 (0.90- 4.40)	4.20 (0.90- 5.00)	6.00 (2.20- 7.30)
Noise level cooling (sound pressure) (SL / L / M / H)	dB(A)	20/24/29/33/37	20/24/30/36/40	20/27/35/39/43	28/33/38/42/46
Noise level heating (sound pressure) (SL / L / M / H)	dB(A)	20/24/30/34/38	20/25/31/36/41	20/28/36/40/44	25/31/37/42/47
Noise level (sound power)	dB(A)	51	54	57	60
Air flow cooling mode (SL / L / M / H)	m³/h	204/255/384/431/545	204/255/394/513/620	204/302/446/608/653	265/360/528/608/663
Air flow heating mode (SL / L / M / H)	m³/h	218/287/446/505/611	218/310/460/569/683	218/407/569/653/773	255/413/528/687/749
Fan Motor	W	18	18	18	38
Dehumidification	l/h	1.2	1.4	1.6	2
Dimensions (H x W x D)	mm	280 x 780 x 222	280 x 780 x 222	280 x 780 x 222	280 x 780 x 222
Weight	kg	7.7	7.7	7.7	8.4
Colour		star white *ZYY8001	star white *ZYY8001	star white *ZYY8001	star white *ZYY8001
Condensate Drain	mm	φ16mm	φ16mm	φ16mm	φ16mm
Running current (C/H)	A	1.09-4.39/1.09-4.22	1.09-5.61/1.09-5.43	1.09-6.35/1.09-7.39	2.17-9.13/2.17-11.96
Power supply		220-240V	220-240V	220-240V	220-240V
Cable section (interconnection)	mm²	1.50x 3+EARTH/-	1.50x 3+EARTH/-	1.50x 3+EARTH/-	2.50x 3+EARTH/-
Piping diameter (Liq / Gas)	Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"
Drain diameter (ext)	mm	φ16mm	φ16mm	φ16mm	φ16mm
Remote control (standard/optional)		RC-AGU1EA0G/SPX-RCDB	RC-AGU1EA0G/SPX-RCDB	RC-AGU1EA0G/SPX-RCDB	RC-AGU1EA0G/SPX-RCDB
Filter					
ACL Filter Optional		-	-	-	-
ACL part name		-	-	-	-
Pre-filter(Standard/Optional)		WASHABLE/-	WASHABLE/-	WASHABLE/-	WASHABLE/-

NOTE:

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the EN 14511.

Operation Conditions		Cooling	Heating
Indoor Air Inlet Temperature	dB	27.0 °C	20.0 °C
	WB	19.0 °C	15.0 °C
Outdoor Air Inlet Temperature	dB	35.0 °C	7.0 °C
	WB	24.0 °C	6.0 °C
Piping Length: 5.0 meters; Piping Lift: 0 meter dB: Dry Bulb; WB: Wet Bulb			

2. The Sound Pressure Level is based on the following conditions:

- 0.8 meter beneath indoor height center
- 1 meter from Discharge grille

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

1.2. WALL TYPE

			RAC- DJ18PHAE	RAC- DJ25PHAE	RAC- DJ35PHAE	RAC- DJ50PHAE
Nominal Cooling capacity (min - max)		kW	2.00 (0.90 - 2.50)	2.50 (0.90 - 3.10)	3.50 (0.90- 4.00)	5.00 (1.90- 5.20)
Nominal Heating capacity (min - max)		kW	2.50 (0.90 - 3.20)	3.40 (0.90- 4.40)	4.20 (0.90- 5.00)	6.00 (2.20- 7.30)
Nominal cooling power input (min - max)		kW	0.58(0.25-1.01)	0.70 (0.25 - 1.29)	1.084 (0.25 - 1.46)	1.548(0.50 - 2.10)
Nominal heating power input (min - max)		kW	0.595(0.25-0.97)	0.85 (0.25 - 1.25)	1.050(0.25 - 1.70)	1.617(0.50 - 2.75)
EER / COP			3.45/4.20	3.57/4.00	3.23/4.00	3.23/3.71
SEER / SCOP			7.50/4.60	7.50/4.60	7.50/4.60	7.00/4.50
Energy class (SEER/SCOP)			A++/A++	A++/A++	A++/A++	A++/A+
Noise level cooling (sound pressure)		dB(A)	45	47	48	50
Noise level heating (sound pressure)		dB(A)	46	48	49	51
Noise level (sound power)		dB(A)	59	61	62	64
Air flow (Cooling / Heating)		m ³ /h	1860 / 1620	1860 / 1620	1860 / 1620	2160 / 2160
Dimensions (H x W x D)		mm	530x660 x278	530x660 x278	530x660 x278	600x792x299
Weight		kg	23	23	24.4	39.1
Colour (Munsell Code)			Beige (5Y7/2)	Beige (5Y7/2)	Beige (5Y7/2)	Beige (5Y7/2)
Power supply		V/Ph/Hz	220-240V / 1Ph / 50Hz	220-240V / 1Ph / 50Hz	220-240V / 1Ph / 50Hz	220-240V / 1Ph / 50Hz
Recommended fuse size		A	15	15	15	25
Starting current(C/H)		A	3.22/3.51	3.89/4.53	5.38/5.30	7.11/7.42
Running current (C/H)		A	1.09-4.39/1.09-4.22	1.09-5.61/1.09-5.43	1.09-6.35/1.09-7.39	2.17-9.13/2.17-11.96
Cable section (power)		mm ²	1.50x 2+EARTH	1.50x 2+EARTH	1.50x 2+EARTH	2.50x 2+EARTH
Cable section (Interconnection)		mm ²	1.50x 3+EARTH	1.50x 3+EARTH	1.50x 3+EARTH	2.50x 3+EARTH
Piping diameter (Liq / Gas)		Inch	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"	1/4" / 3/8"
Minimum piping length		m	3	3	3	3
Maximum piping length / height difference		m	20 / 10	20 / 10	20 / 10	20 / 10
Current quantity of refrigerant / Chargeless		kg	0.58	0.580	0.720	0.930
Chargeless length / Additional refrigerant charge		m / g/m	20/-	20/-	20/-	20/-
Working range (cooling / heating)		°C	-10°C—46°C/-15°C—21°C	-10°C—46°C/-15°C—21°C	-10°C—46°C/-15°C—21°C	-10°C—46°C/-15°C—21°C
Refrigerant			R32	R32	R32	R32
Condenser Fan			Propeller Fan	Propeller Fan	Propeller Fan	Propeller Fan
Compressor	Type		ROTARY	ROTARY	ROTARY	2 Cylinder Rotary
	Oil Charge	mL	ACS-68R or equivalent	ACS-68R or equivalent	ACS-68R or equivalent	ACS-68R or equivalent
	Oil Type		320±20	320±20	320±20	480±20
	Coil resistance	Ω	2.084 at 20°C	2.084 at 20°C	2.084 at 20°C	1.354 at 20°C
	Quantity		1	1	1	1

NOTE:

1. The Sound Pressure Level is based on the following conditions:

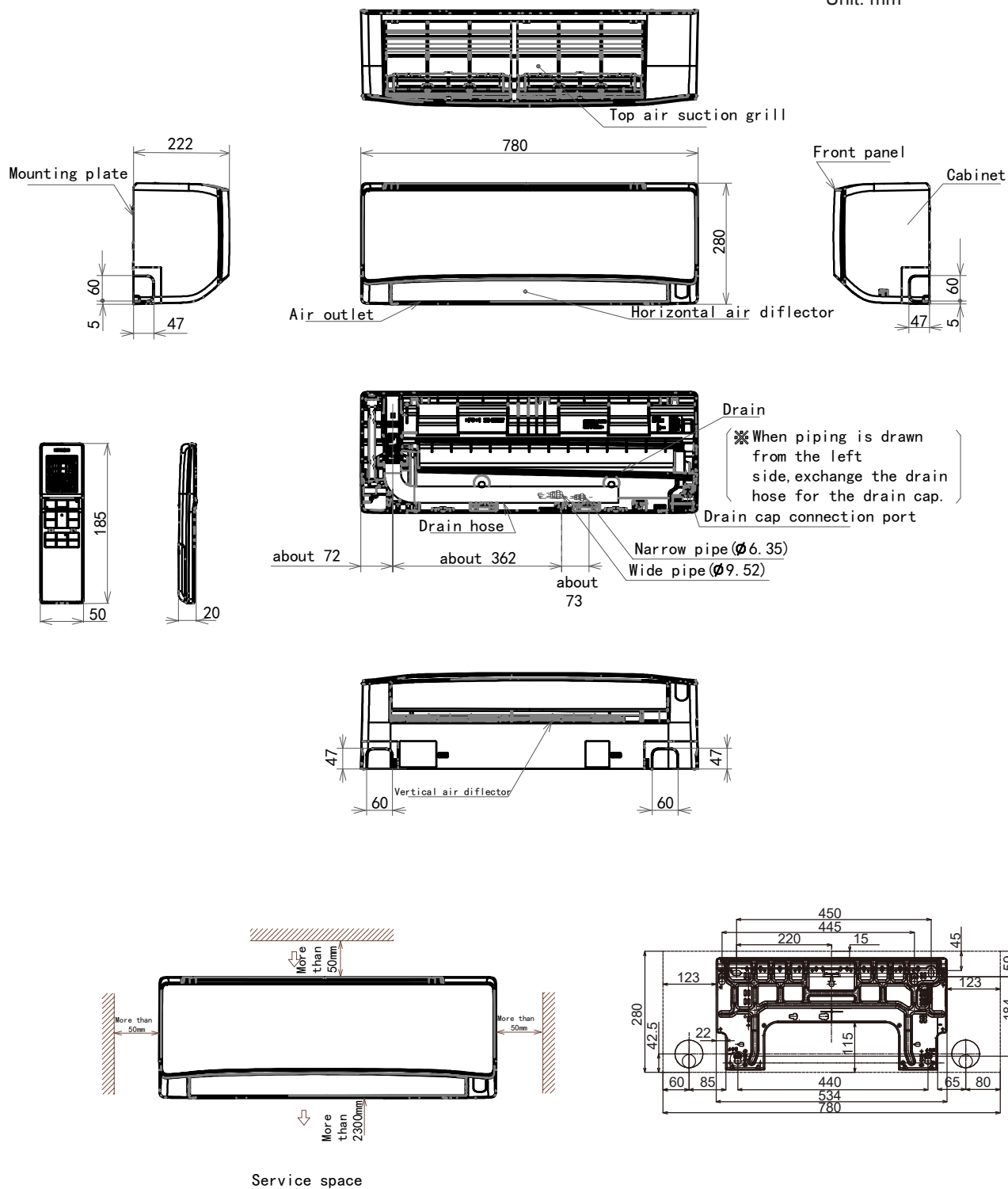
- 1 meter from the unit front surface and 1 meter from floor level

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

2 DIMENSIONAL DATA

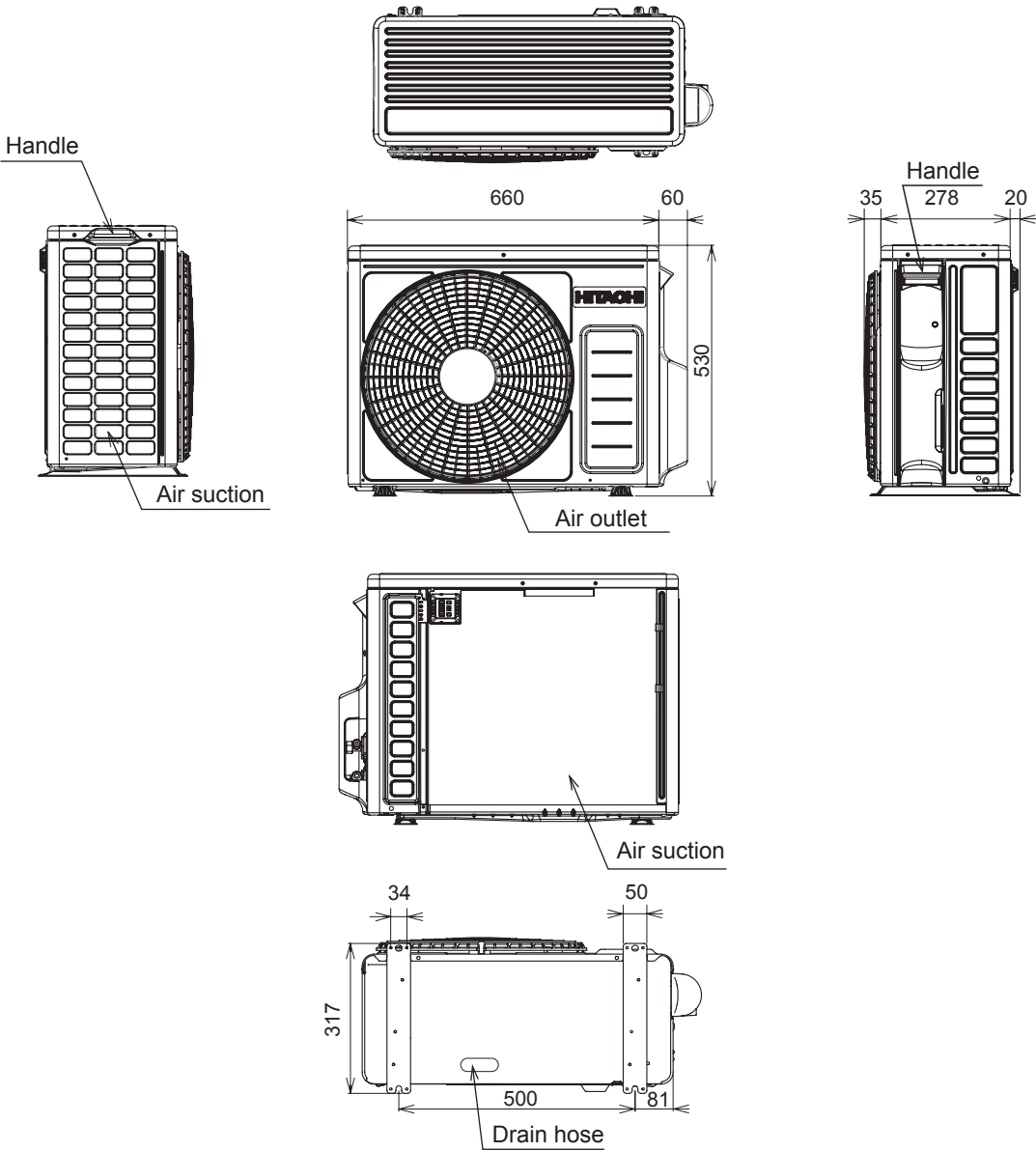
2.1. WALL TYPE: RAK-DJ18PHAE,RAK-DJ25PHAE,RAK-DJ35PHAE,RAK-DJ50PHAE

Unit: mm



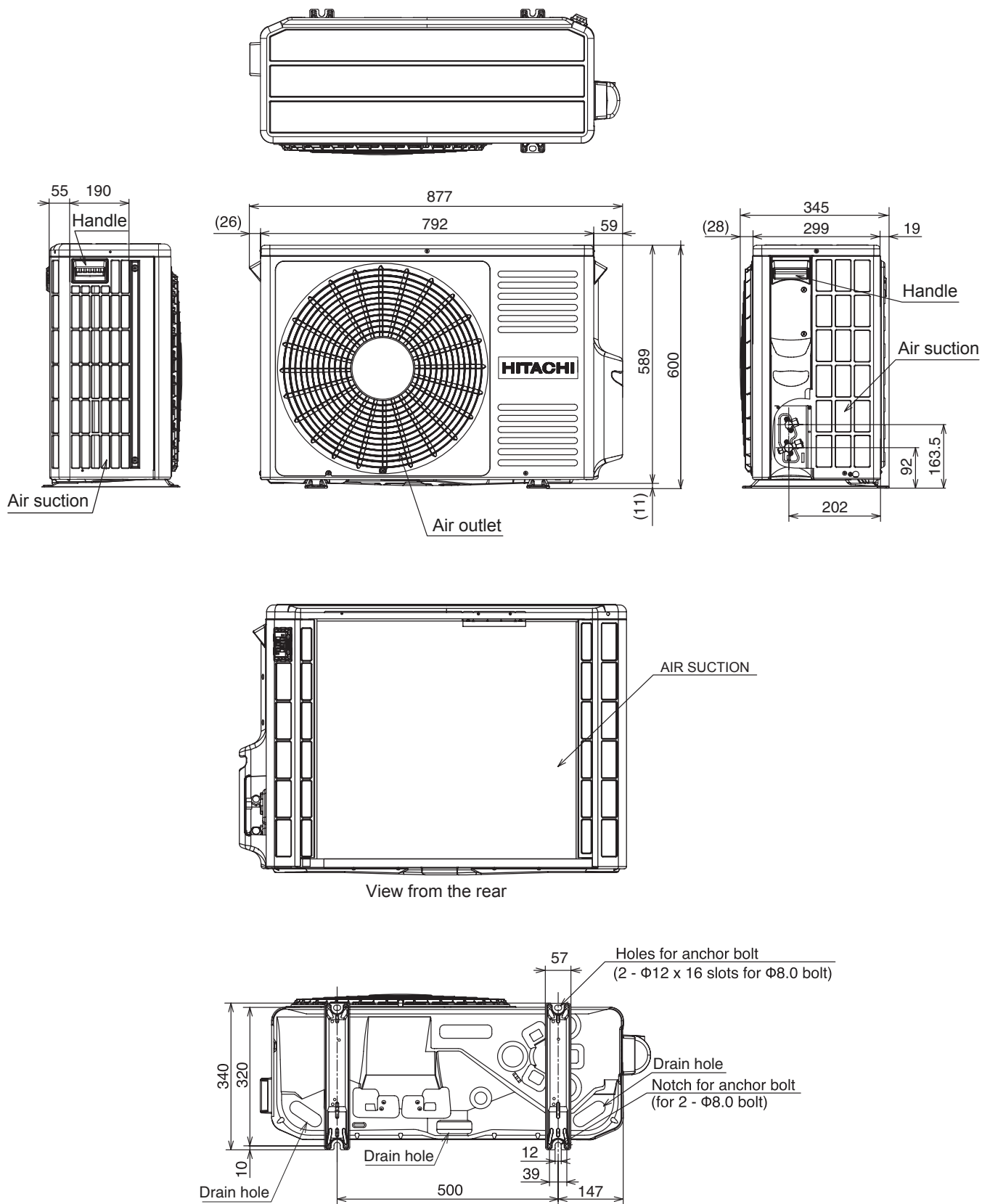
2.2. WALL TYPE: RAC-DJ18PHAE,RAC-DJ25PHAE,RAC-DJ35PHAE

Unit: mm



2.3. WALL TYPE: RAC-DJ50PHAE

Unit : mm



3 CAPACITIES TABLE

3.1. CAPACITY CHARACTERISTIC CURVES

The following charts show the characteristics of outdoor unit capacity, which corresponds with the operating ambient temperature of outdoor unit.

Conditions:

① Pipe length / height difference : 5m / 0m

② Indoor fan speed at High mode

③ Compressor at rated inverter frequency

④ Capacity loss due to white frost and defrost operation is not included.

3.1.1. RAK-DJ18PHAE/RAC-DJ18PHAE

COOLING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																				
EWB	EDB	-10			21			27			32			35			40			43		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
12.0	18	1660	1552	345	1880	2070	410	1740	1910	483	1640	1811	534	1580	1731	557	1480	1631.8	597	1420	1552.2	621
14.0	20	1660	1552	345	2020	2070	410	1880	1930	489	1760	1811	539	1700	1751	563	1580	1631.8	603	1520	1572	632
16.0	22	1660	1652	351	2160	2070	415	2000	1930	495	1880	1811	545	1820	1751	574	1700	1631.8	615	1640	1572	638
18.0	25	1780	1771	356	2300	2249	421	2120	2090	500	2000	1970	551	1920	1891	574	1800	1771	621	1720	1692	644
19.0	27	1840	1831	361	2380	2368	426	2200	2189	506	2080	2070	557	2000	1990	580	1880	1870.6	621	1800	1791	644
22.0	30	2040	1811	361	2640	2348	426	2440	2169	506	2300	2050	563	2220	1970	586	2000	1910.4	644	1860	1870.6	679
24.0	32	2180	1811	367	2820	2348	432	2600	2169	512	2460	2050	563	2360	1970	592	2080	1950.2	661	1900	1930	702

HEATING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																						
EDB	-15			-10			-7			-5			0			7			10			15		
°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
16	1625		568	1875		581	2032		581	2108		576	2290		572	2529		548	2678		553	2946		560
18	1613		574	1863		587	2016		591	2090		588	2270		585	2514		572	2664		578	2923		587
20	1600		580	1850		593	2000		600	2071		599	2250		598	2500		595	2650		603	2900		615
22	1588		586	1838		598	1984		609	2053		611	2230		610	2486		618	2636		627	2877		643
24	1575		592	1825		604	1968		619	2035		623	2210		623	2471		642	2623		652	2854		670

EWB : Evaporator Wet Bulb temperature (°C)

EDB : Evaporator Dry Bulb temperature (°C)

(°CDB) : Outdoor Unit Inlet Air Dry Bulb Temperature (°C)

TC : Total Capacity (W)

SHC : Sensible Heating Capacity (W)

PI : Power Input

3.1.2. RAK-DJ25PHAE/RAC-DJ25PHAE

COOLING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																				
EWB	EDB	-10			21			27			32			35			40			43		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
12.0	18	2075	1778	417	2350	2371	495	2175	2189	583	2050	2075	644	1975	1984	672	1850	1869.6	721	1775	1778.4	749
14.0	20	2075	1778	417	2525	2371	495	2350	2212	590	2200	2075	651	2125	2006	679	1975	1869.6	728	1900	1801	763
16.0	22	2075	1892	423	2700	2371	501	2500	2212	597	2350	2075	658	2275	2006	693	2125	1869.6	742	2050	1801	770
18.0	25	2225	2029	430	2875	2576	508	2650	2394	604	2500	2257	665	2400	2166	693	2250	2029	749	2150	1938	777
19.0	27	2300	2098	436	2975	2713	514	2750	2508	611	2600	2371	672	2500	2280	700	2350	2143.2	749	2250	2052	777
22.0	30	2550	2075	436	3300	2690	514	3050	2485	611	2875	2348	679	2775	2257	707	2500	2188.8	777	2325	2143.2	819
24.0	32	2725	2075	443	3525	2690	521	3250	2485	617	3075	2348	679	2950	2257	714	2600	2234.4	798	2375	2212	847

HEATING [50Hz, 230V]

INDOOR	OUTDOOR TEMPERATURE (°CDW)																							
EDB	-15			-10			-7			-5			0			7			10			15		
°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
16	2840		631	2778		753	2751		815	2858		808	3114		807	3446		775	3407		844	3374		956
18	2820		640	2758		762	2725		830	2829		827	3082		827	3423		813	3385		883	3337		1001
20	2800		650	2738		772	2700		845	2800		846	3050		848	3400		850	3363		923	3300		1045
22	2780		660	2718		781	2675		860	2771		865	3018		868	3377		887	3341		963	3263		1089
24	2760		669	2698		791	2650		875	2742		883	2986		888	3354		925	3319		1002	3226		1134

3.1.3. RAK-DJ35PHAE/RAC-DJ35PHAE

COOLING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																				
EWB	EDB	-10			21			27			32			35			40			43		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
12.0	18	2453	1890	545	3290	2985	766	3045	2755	903	2870	2612	997	2765	2497	1041	2590	2353.4	1117	2485	2238.6	1160
14.0	20	2453	1890	545	3535	2985	766	3290	2784	914	3080	2612	1008	2975	2526	1051	2765	2353.4	1127	2660	2267	1182
16.0	22	2453	2012	553	3780	2985	776	3500	2784	924	3290	2612	1019	3185	2526	1073	2975	2353.4	1149	2870	2267	1192
18.0	25	2630	2157	562	4025	3243	786	3710	3014	935	3500	2841	1030	3360	2727	1073	3150	2554	1160	3010	2440	1203
19.0	27	2719	2230	570	4165	3415	796	3850	3157	945	3640	2985	1041	3500	2870	1084	3290	2697.8	1160	3150	2583	1203
22.0	30	3015	2205	570	4620	3387	796	4270	3128	945	4025	2956	1051	3885	2841	1095	3500	2755.2	1203	3255	2697.8	1268
24.0	32	3222	2205	579	4935	3387	806	4550	3128	956	4305	2956	1051	4130	2841	1106	3640	2812.6	1236	3325	2784	1312

HEATING [50Hz, 230V]

INDOOR	OUTDOOR TEMPERATURE (°CDW)																							
EDB	-15			-10			-7			-5			0			7			10			15		
°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI			
16	2958		1069	3552		1256	3923		1351	3984		1288	4118		1159	4267		928	4620		1033	5257	1205	
18	2929		1084	3523		1272	3887		1375	3942		1319	4071		1192	4233		989	4588		1098	5204	1277	
20	2900		1100	3494		1288	3850		1400	3900		1350	4025		1225	4200		1050	4556		1163	5150	1350	
22	2871		1116	3465		1303	3813		1425	3858		1381	3979		1258	4167		1111	4524		1227	5096	1423	
24	2842		1131	3436		1319	3777		1449	3816		1412	3932		1291	4133		1172	4492		1292	5043	1495	

EWB : Evaporator Wet Bulb temperature (°C)
 EDB : Evaporator Dry Bulb temperature (°C)
 (°CDB) : Outdoor Unit Inlet Air Dry Bulb Temperature (°C)

TC : Total Capacity (W)
 SHC : Sensible Heating Capacity (W)
 PI : Power Input

3.1.4. RAK-DJ50PHAE/RAC-DJ50PHAE

COOLING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																				
EWB	EDB	-10			21			27			32			35			40			43		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
12.0	18	3228	2105	717	4700	3609	1094	4350	3331	1289	4100	3158	1424	3950	3019	1486	3700	2845.4	1594	3550	2706.6	1656
14.0	20	3228	2105	717	5050	3609	1094	4700	3366	1305	4400	3158	1440	4250	3054	1502	3950	2845.4	1610	3800	2741	1687
16.0	22	3228	2240	728	5400	3609	1109	5000	3366	1320	4700	3158	1455	4550	3054	1533	4250	2845.4	1641	4100	2741	1703
18.0	25	3461	2402	739	5750	3921	1123	5300	3644	1335	5000	3435	1471	4800	3297	1533	4500	3088	1656	4300	2950	1718
19.0	27	3578	2483	750	5950	4129	1137	5500	3817	1350	5200	3609	1486	5000	3470	1548	4700	3261.8	1656	4500	3123	1718
22.0	30	3967	2456	750	6600	4095	1137	6100	3782	1350	5750	3574	1502	5550	3435	1563	5000	3331.2	1718	4650	3261.8	1811
24.0	32	4239	2456	761	7050	4095	1152	6500	3782	1365	6150	3574	1502	5900	3435	1579	5200	3400.6	1765	4750	3366	1873

HEATING [50Hz, 230V]

INDOOR		OUTDOOR TEMPERATURE (°CDW)																					
EDB	-15	-10			-7			-5			0			7			10			15			
°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI		
16	3858		1819	4483		1694	4873		1601	5056		1584	5493		1567	6067		1495	6439		1413	7107	1272
18	3829		1834	4454		1709	4837		1625	5013		1614	5446		1600	6033		1556	6407		1477	7054	1344
20	3800		1850	4425		1725	4800		1650	4971		1645	5400		1634	6000		1617	6375		1542	7000	1417
22	3771		1866	4396		1741	4763		1675	4929		1676	5354		1667	5967		1678	6343		1607	6946	1490
24	3742		1881	4367		1756	4727		1699	4887		1707	5307		1700	5933		1739	6311		1671	6893	1562

EWB : Evaporator Wet Bulb temperature (°C)
 EDB : Evaporator Dry Bulb temperature (°C)
 (°CDB) : Outdoor Unit Inlet Air Dry Bulb Temperature (°C)

TC : Total Capacity (W)
 SHC : Sensible Heating Capacity (W)
 PI : Power Input

3.2. CORRECTION FACTORS ACCORDING TO PIPING LENGTH

Correction Factor for **Cooling Capacity** according to Piping Length

The cooling capacity should be corrected according to the following formula:

$$CCA = CC \times F$$

CCA: Actual Corrected Cooling Capacity (kcal/h)

CC: Cooling Capacity in the Performance Table (kcal/h)

F: Correction Factor Based on the Equivalent Piping Length

Correction Factor for **Heating Capacity** according to Piping Length

The heating capacity should be corrected according to the following formula:

$$HCA = HC \times F$$

HCA: Actual Corrected Heating Capacity (kcal/h)

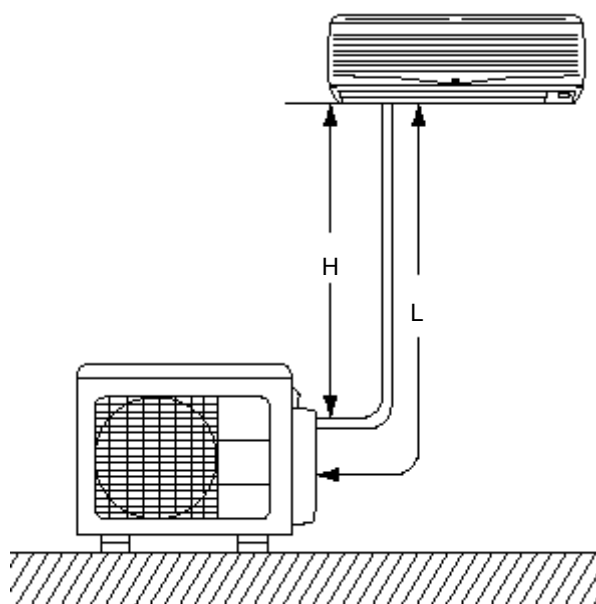
HC: Heating Capacity in the Performance Table (kcal/h)

F: Correction Factor Based on the Equivalent Piping Length

The correction factors are shown in the following figure.

Equivalent Piping Length for:

- One 90° Elbow is 0.5m.
- One 180° Curve is 1.5m.

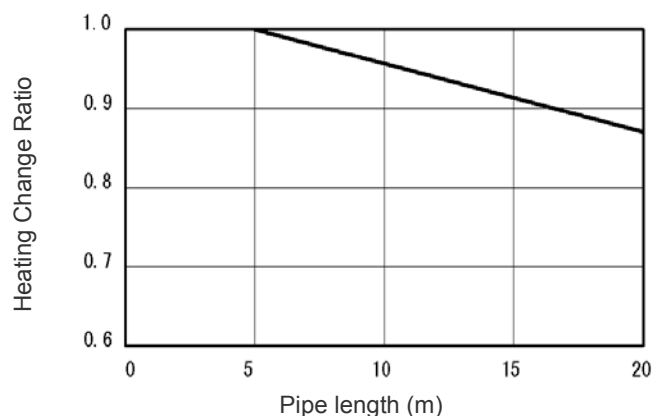
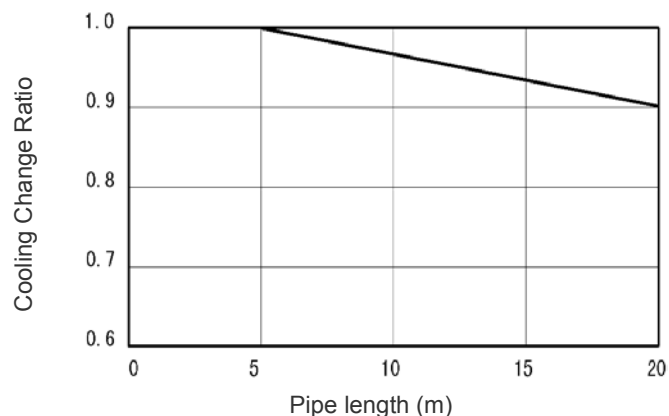


H: Vertical Distance Between Indoor Unit and Outdoor Units in Meters

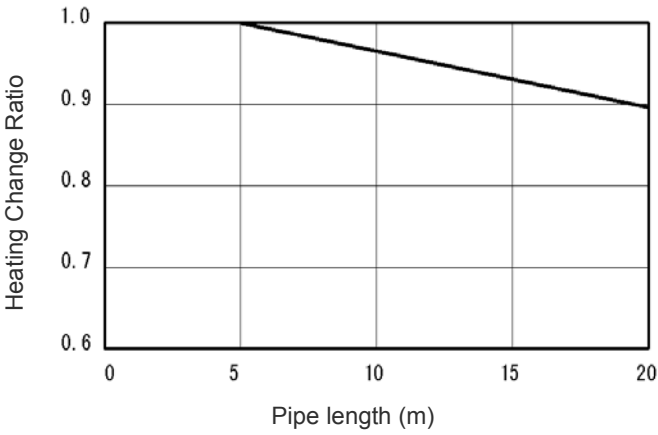
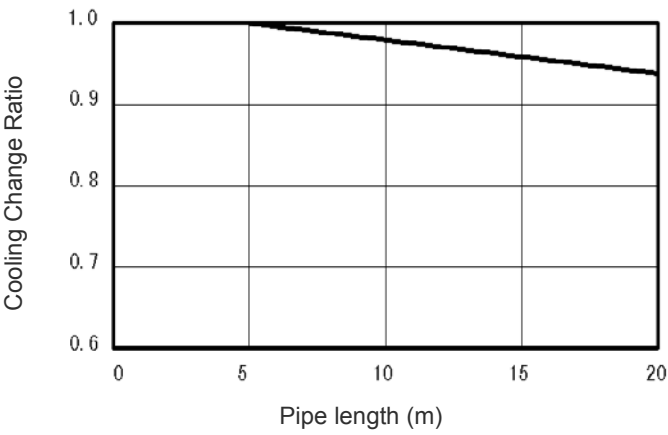
L: Actual One-Way Piping Length Between Indoor Unit and Outdoor Unit in Meters

EL: Equivalent Total Distance Between Indoor Unit and Outdoor Unit in Meters (Equivalent One-Way Piping Length)

Models : RAK-DJ18PHAE/RAC-DJ18PHAE, RAK-DJ25PHAE/RAC-DJ25PHAE, RAK-DJ35PHAE/RAC-DJ35PHAE



Models : RAK-DJ50PHAE/RAC-DJ50PHAE



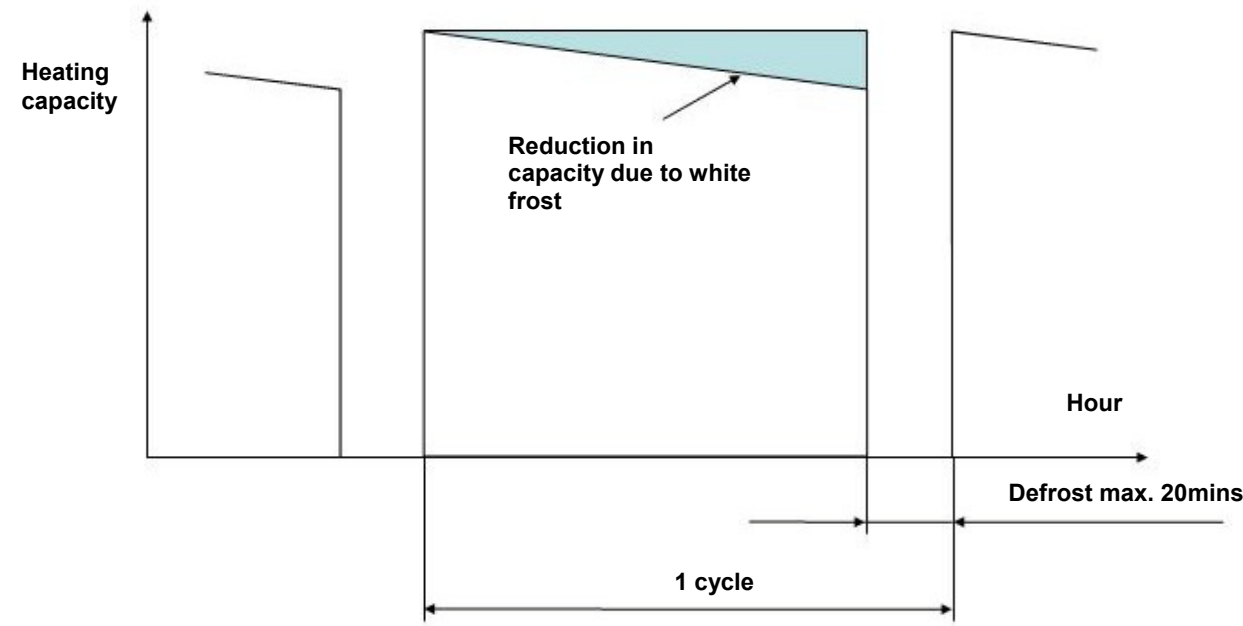
3.3. CORRECTION FACTORS ACCORDING TO DEFROSTING OPERATION

The heating capacity in the preceding paragraph, excludes the condition of the frost or the defrosting operation period. In consideration of the frost or the defrosting operation, the heating capacity is corrected by the equation below.

Corrected heating capacity = Defrost Correction factor x unit capacity

OUTDOOR TEMPERATURE (°CDB)	-15	-10	-5	0	7	10	15
Correction factor (humidity rate85% RH)	0.80	0.80	0.80	0.80	1.0	1.0	1.0

Correction Factor

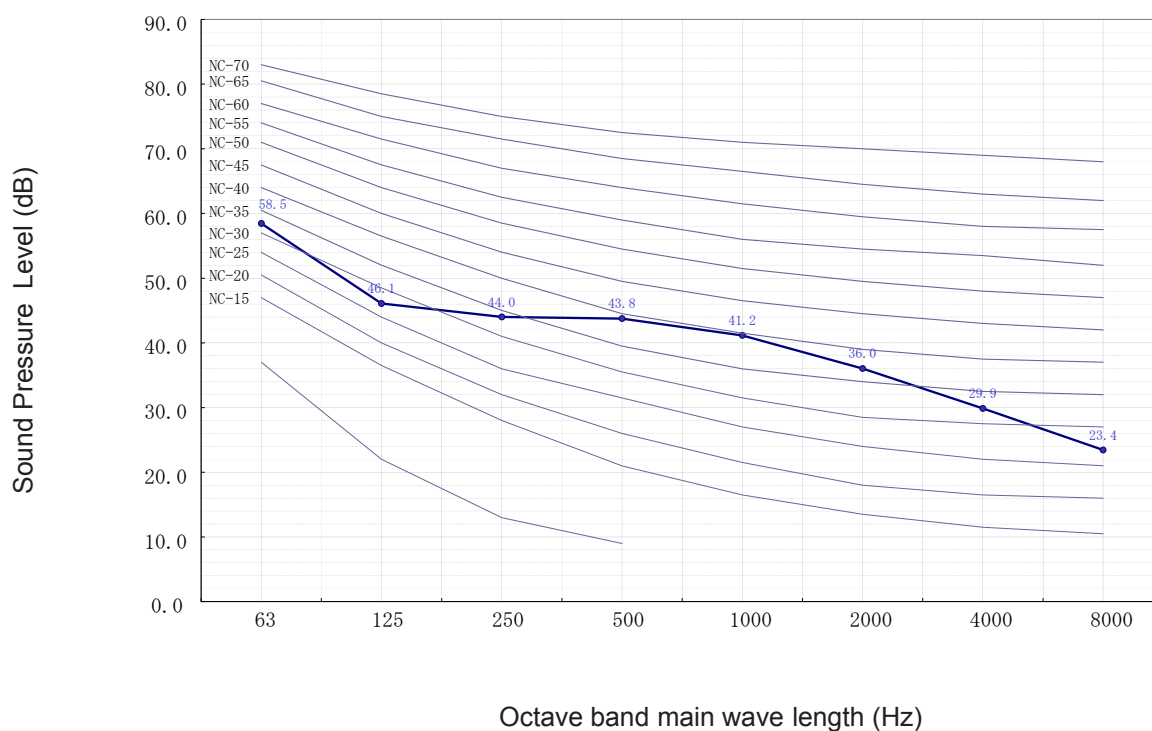


NOTE:
The correction factor is not valid for special conditions such as snowfall or operation in a transitional period.

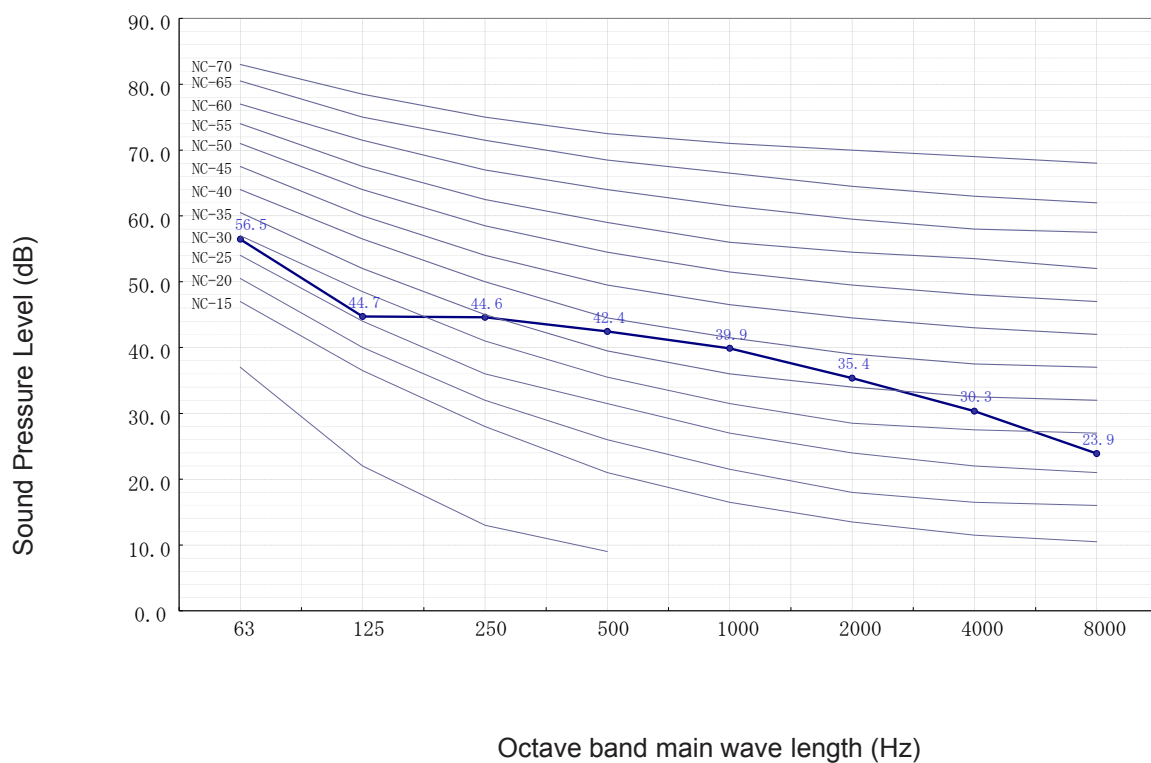
4 SOUND DATA

4.1. RAC-DJ18PHAE

COOLING



HEATING



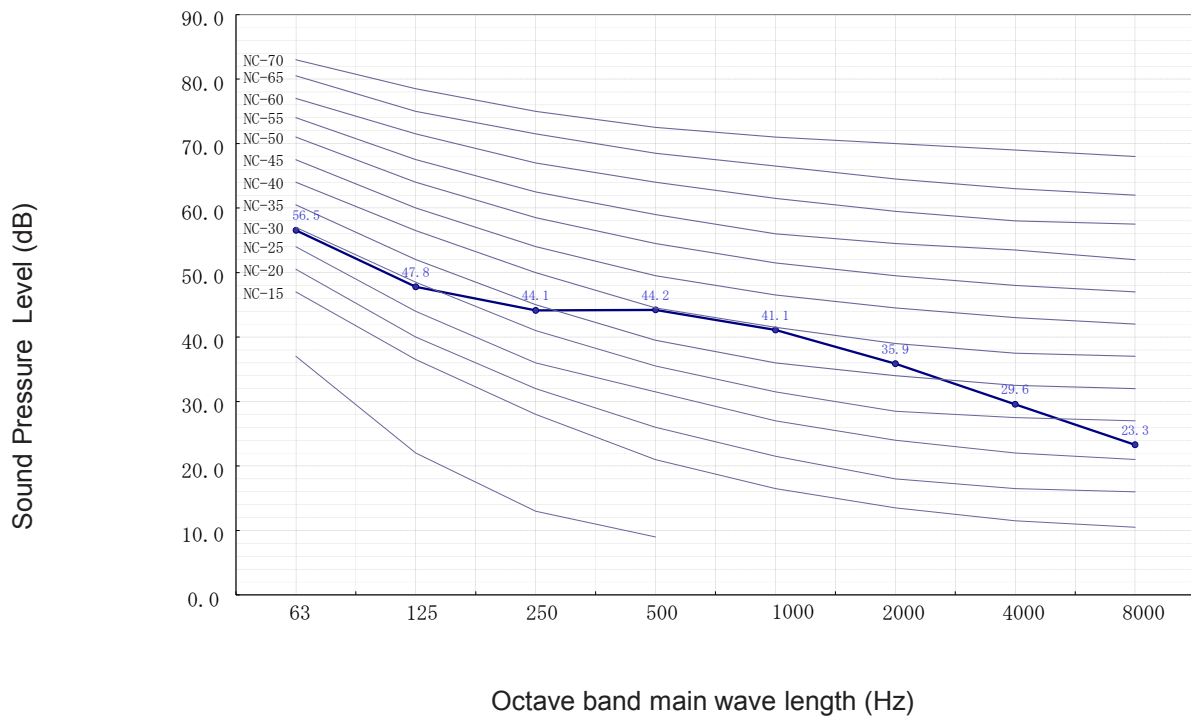
The Sound Pressure Level is based on the following conditions:

1 meter from the unit front surface and 1 meter from floor level

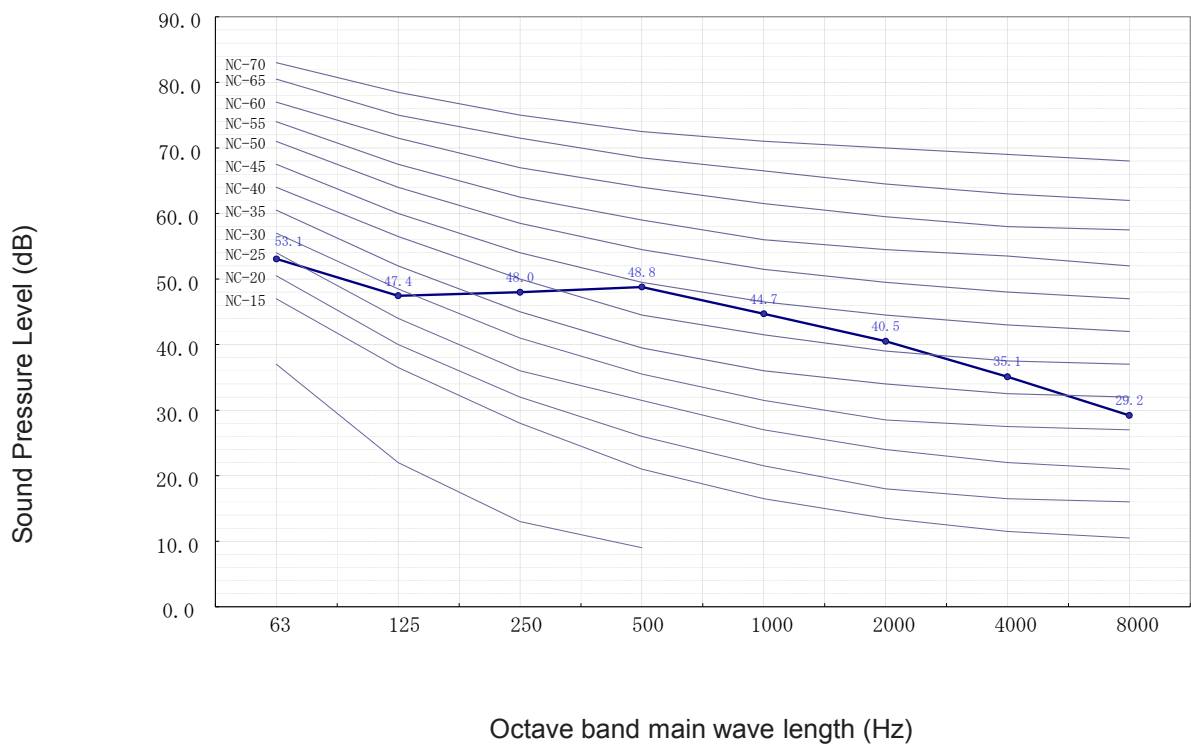
The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

4.2. RAC-DJ25PHAE

COOLING



HEATING



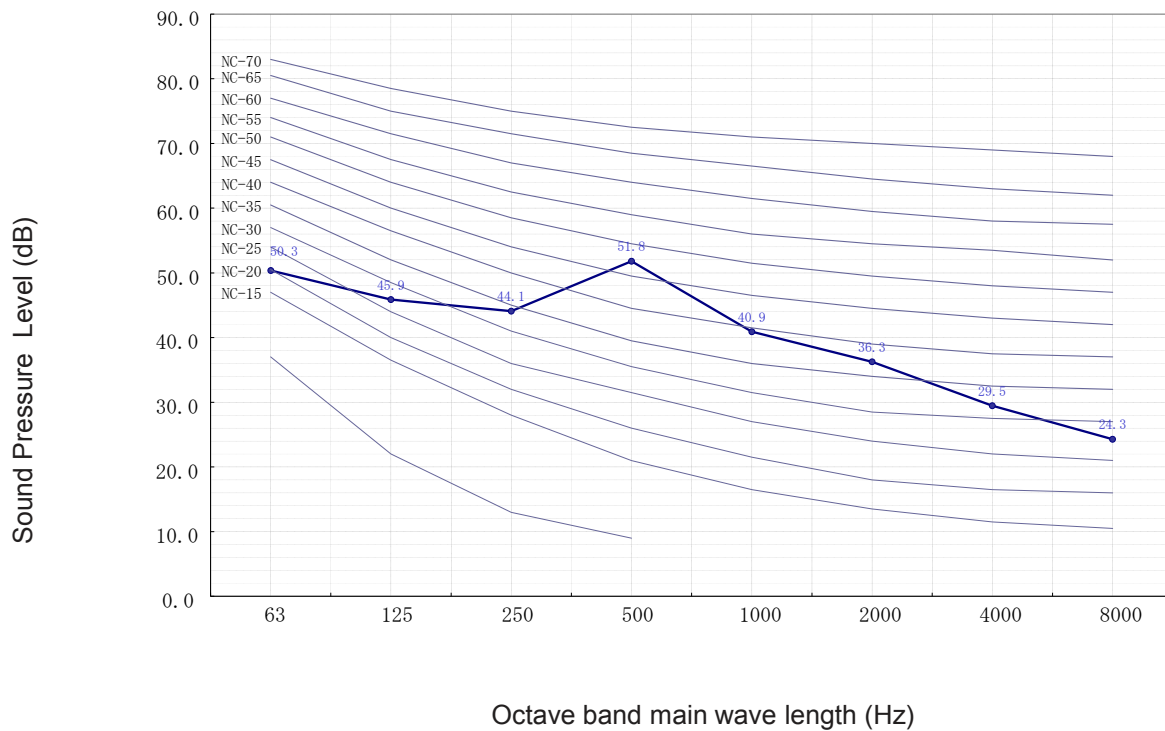
The Sound Pressure Level is based on the following conditions:

1 meter from the unit front surface and 1 meter from floor level

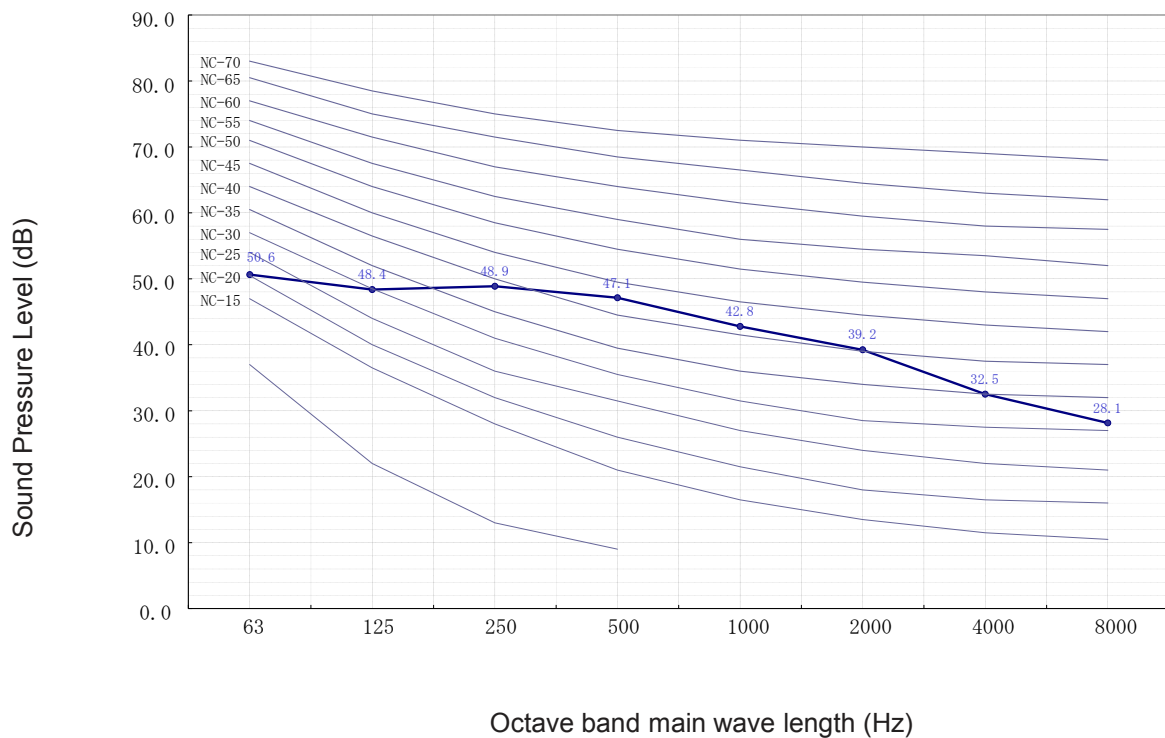
The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

4.3. RAC-DJ35PHAE

COOLING



HEATING



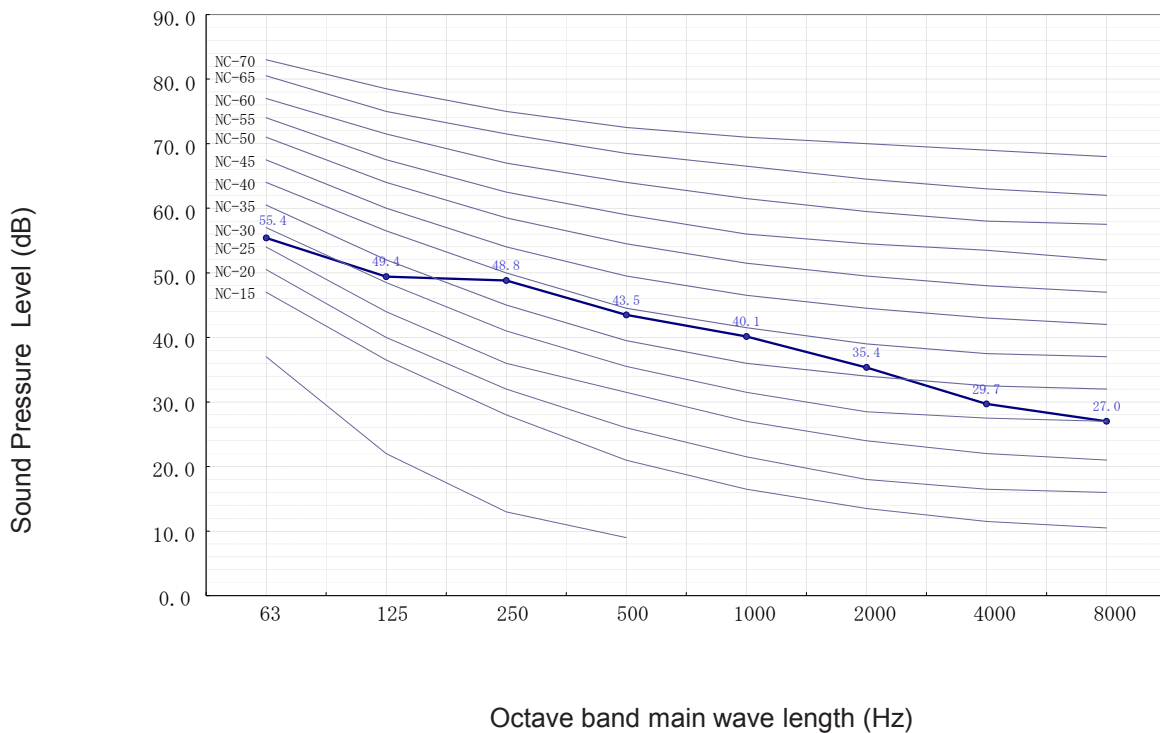
The Sound Pressure Level is based on the following conditions:

1 meter from the unit front surface and 1 meter from floor level

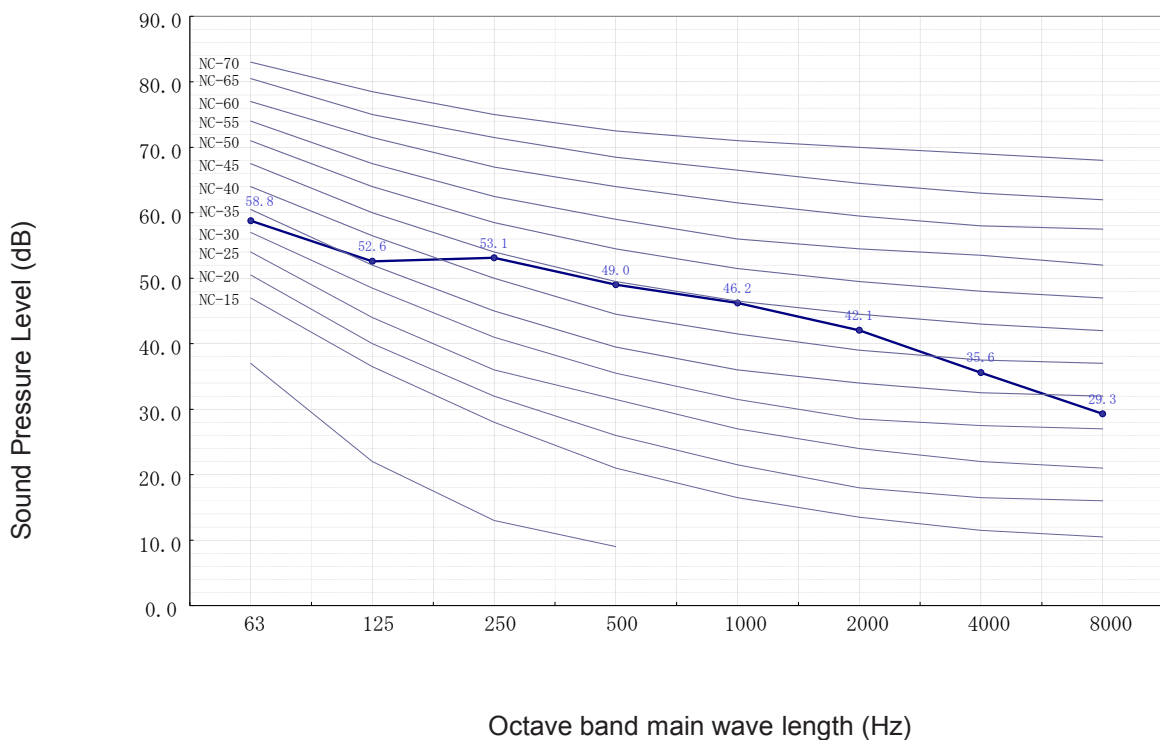
The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

4.4. RAC-DJ50PHAE

COOLING



HEATING



The Sound Pressure Level is based on the following conditions:

1 meter from the unit front surface and 1 meter from floor level

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific site

5 WORKING RANGE

5.1. POWER SUPPLY

Working Voltage	198V ~ 269V
Voltage Imbalance	Within a 3% Deviation from Each Voltage at the Main Terminal of Outdoor Unit
Starting Voltage	Higher than 85% of the Rated Voltage

5.2. WORKING RANGE

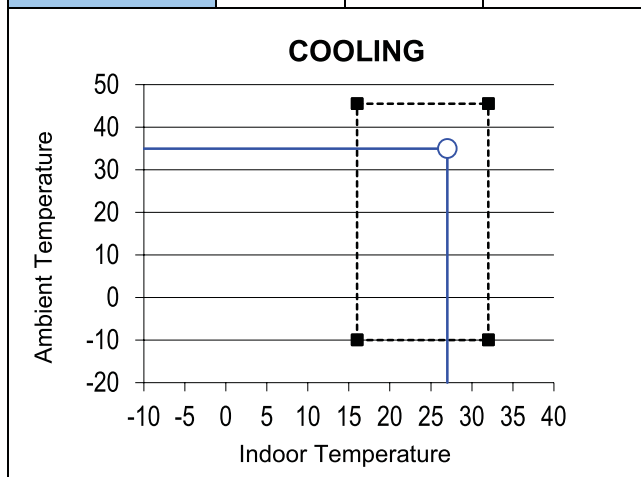
Applicable models:

RAC-DJ18PHAE
RAC-DJ25PHAE
RAC-DJ35PHAE
RAC-DJ50PHAE

The temperature range is indicated in the following table.

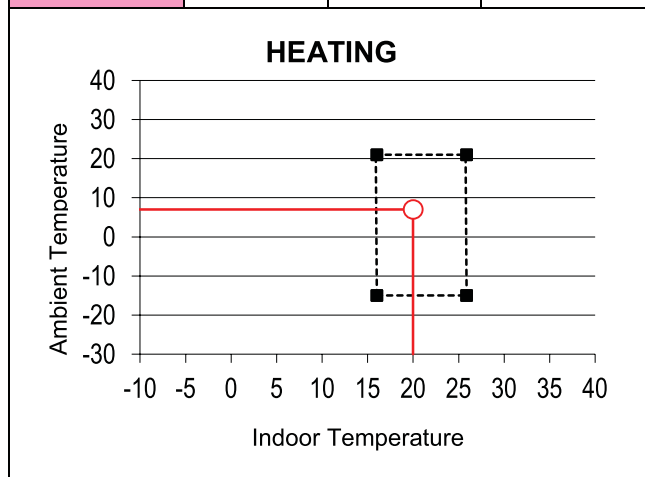
Cooling

working range	min (°C)	max (°C)	rated (°C)
outdoor	-10	46	35
indoor	16	32	27



Heating

working range	min (°C)	max (°C)	rated (°C)
outdoor	-15	21	7
indoor	16	26	20



6 ELECTRICAL DATA

6.1. INDOOR UNIT

Model	Unit Main Power		Indoor Fan Motor	
	VOL, PH, Hz	Fuse Rating (A)	RNC	IPT
RAK-DJ18PHAE	220 ~ 240, 1, 50	3.15	(C)0.02 (H)0.03	(C)8.5 (H)11.0
RAK-DJ25PHAE	220 ~ 240, 1, 50	3.15	(C)0.04 (H)0.06	(C)11.8 (H)16.2
RAK-DJ35PHAE	220 ~ 240, 1, 50	3.15	(C)0.05 (H)0.09	(C)14.1 (H)22.9
RAK-DJ50PHAE	220 ~ 240, 1, 50	3.15	(C)0.06 (H)0.09	(C)19.4(H)26.1

VOL: Rated Unit Power Supply Voltage (V)

Hz: Frequency (Hz)

STC: Starting Current (A)

RNC: Running Current (A)

PH: Phase (φ)

IPT: Input (W)

6.2. OUTDOOR UNIT

Model	Unit Main Power		Outdoor Fan Motor	
	VOL, PH, Hz	Fuse Rating (A)	RNC	IPT
RAK-DJ18PHAE	220 ~ 240, 1, 50	15	(C)0.1 (H)0.1	(C)29.4 (H)29.4
RAK-DJ25PHAE	220 ~ 240, 1, 50	15	(C)0.17 (H)0.13	(C)42.2 (H)35.4
RAK-DJ35PHAE	220 ~ 240, 1, 50	15	(C)0.13 (H)0.15	(C)35.4 (H)39.4
RAK-DJ50PHAE	220 ~ 240, 1, 50	25	(C)0.20 (H)0.26	(C)52.6(H)63.2

VOL: Rated Unit Power Supply Voltage (V)

HZ: Frequency (Hz)

STC: Starting Current (A)

RNC: Running Current (A)

PH: Phase (φ)

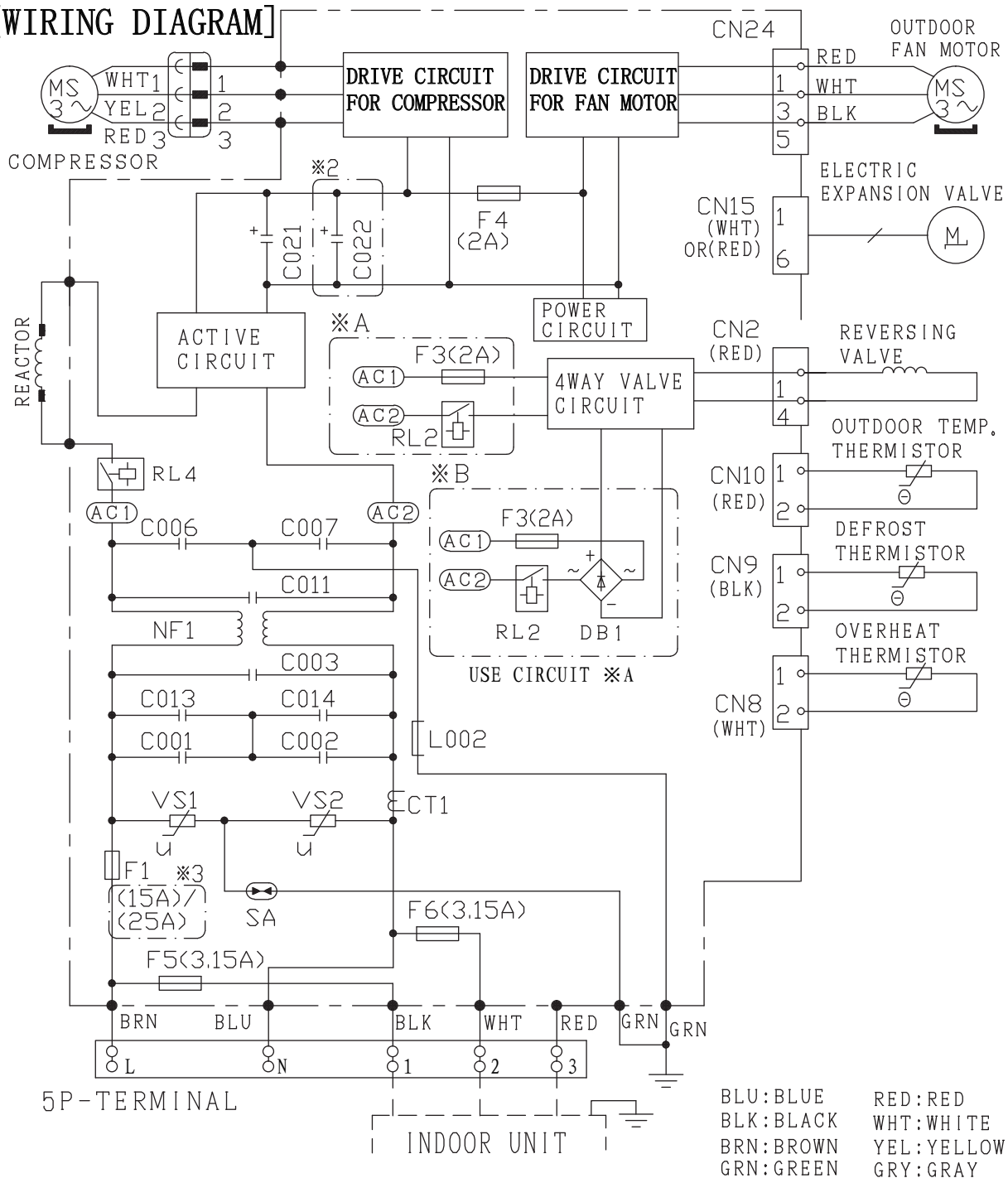
IPT: Input (W)

NOTE:

1. The above compressor data is based on 100% capacity combination of indoor units at the rated operating frequency
2. This data is based on the same conditions as the nominal heating and cooling capacities.
3. The compressor started by an inverter, resulting in extremely low starting current.

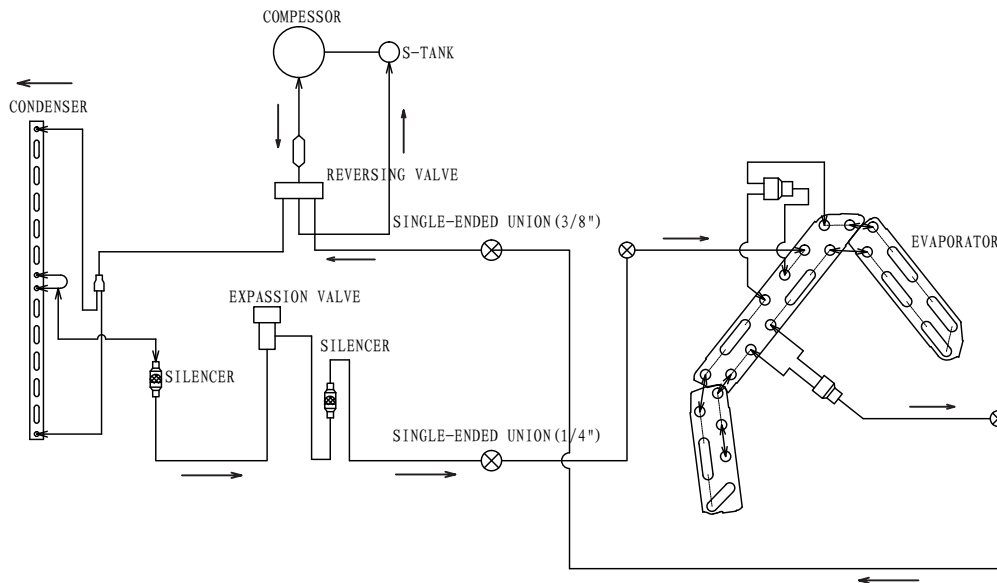
7.2. RAC-DJ18/25/35/50PHAE

[WIRING DIAGRAM]

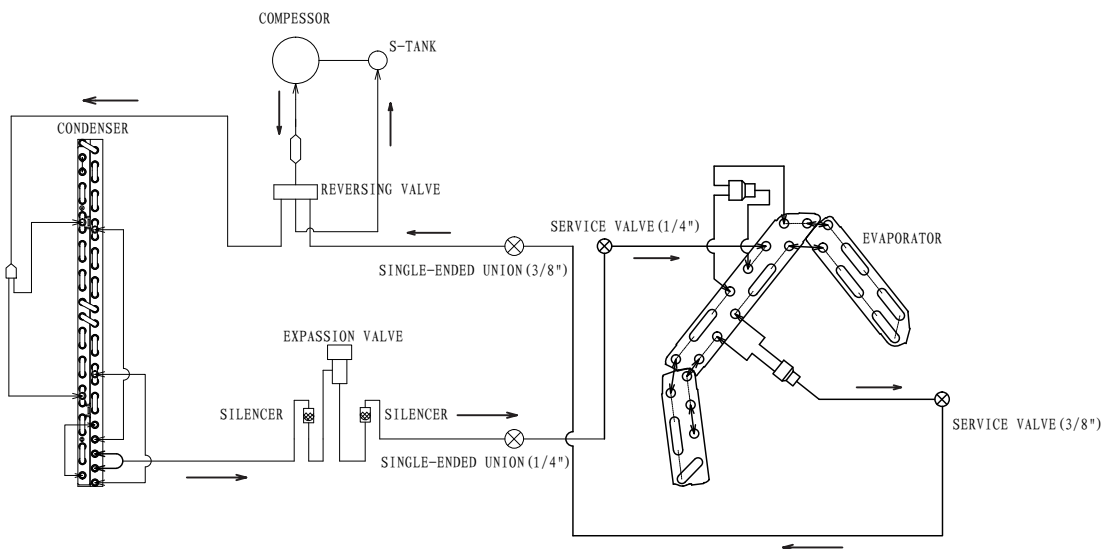


8 REFRIGERANT CYCLE

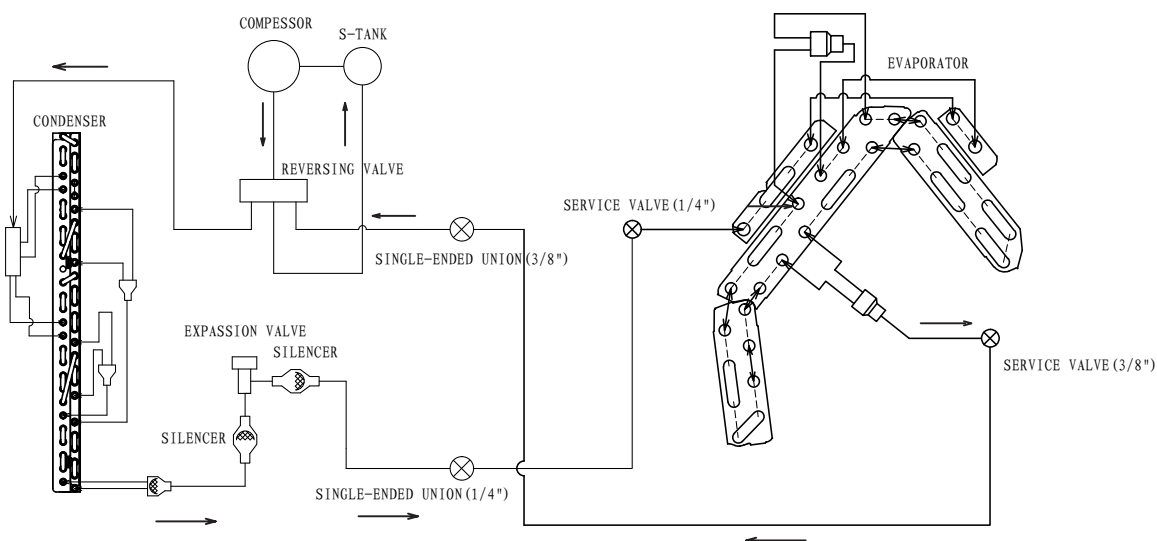
8.1. WALL TYPE: RAK-DJ18PHAE/RAC-DJ18PHAE, RAK-DJ25PHAE/RAC-DJ25PHAE



8.2. WALL TYPE: RAK-DJ35PHAE/RAC-DJ35PHAE

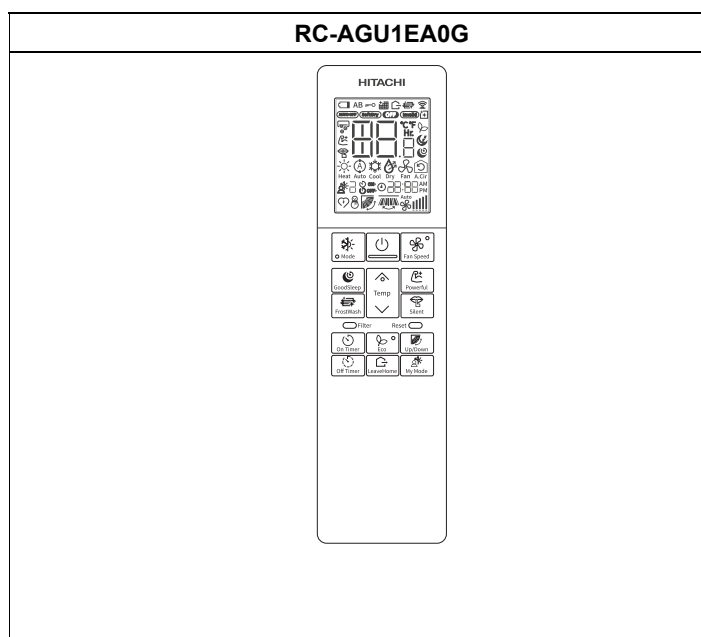









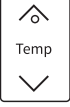











8.3. WALL TYPE: RAK-DJ50PHAE/RAC-DJ50PHAE



9 CONTROL AND FUNCTION

9.1. RC-AGU1EA0G



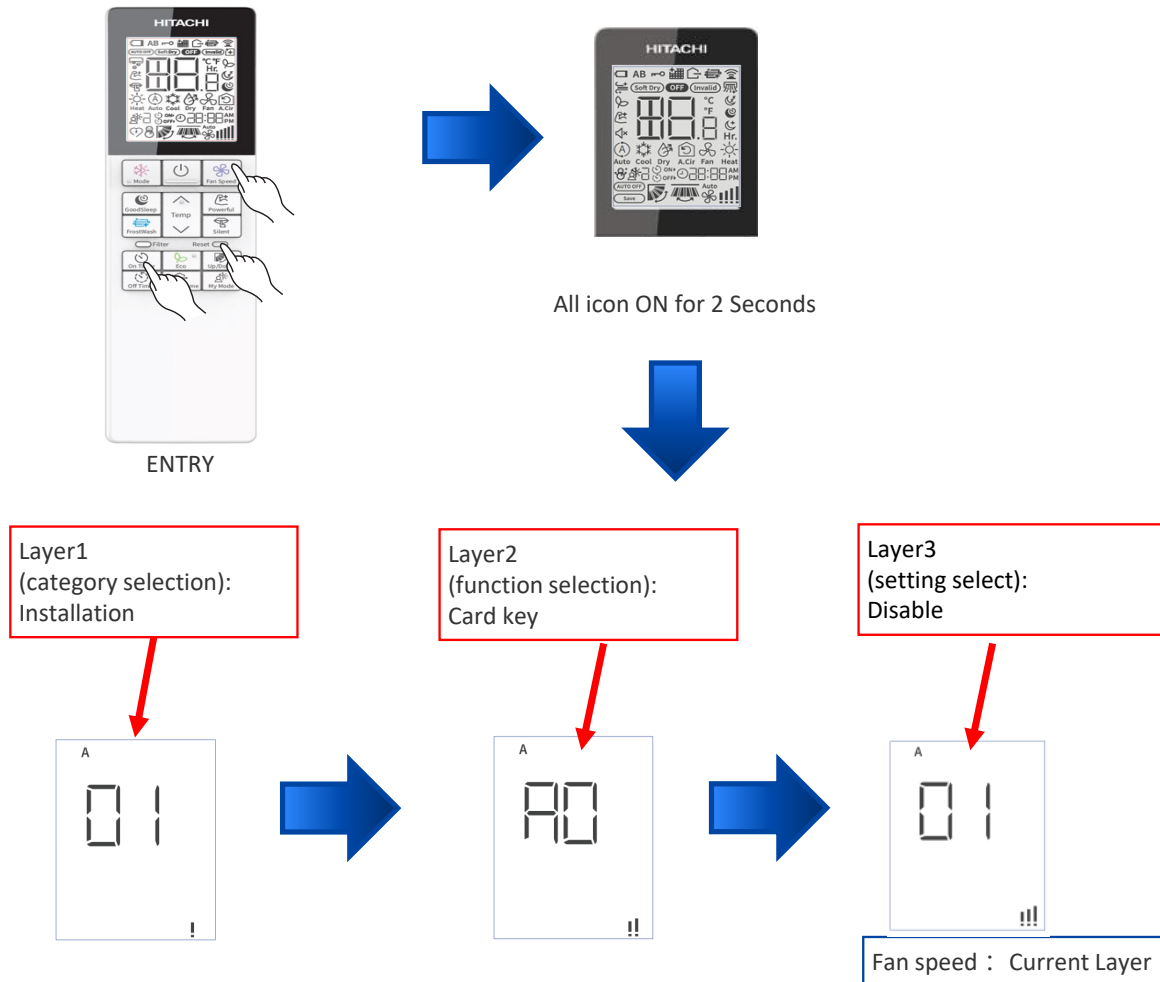
BUTTONS	FUNCTION
	Mode Selector Button Use this button to select the operation mode. Every time you press this button the mode will change from  (Heat) →  (Auto) →  (Cool) →  (Dry) →  (Fan) cyclically.
	GoodSleep Button the unit shifts the room temperature and reduces the fan speed.
	Temperature Button Room temperature setting. Value will change quicker when keep pressing.
	FrostWash Button The dust and dirt adhering to indoor heat exchanger which is the cause of the smell.
	Fan Speed Button Select the fan speed.
	On/Off Button Press this button to start operation. Press it again to stop operation.
	Powerful Button The air conditioner performs at maximum power.
	POWERFUL Button The fan speed changes to the silent fan speed
	On Timer Button Select the turn ON time.
	Off Timer Button Select the turn OFF time.
	Eco Button Use this button to set the Eco mode.
	LeaveHome Button the air conditioner performs at maximum power.
	Up/Down Button Control the angle of the horizontal air deflector.
	My Mode Button Use this mode for personalized comfortable settings. The My Mode can be set by using the remote controller. Up to 3 programs can be set.

For more information, please refer to the operation manual.

9.2. How to set up from Service setting mode

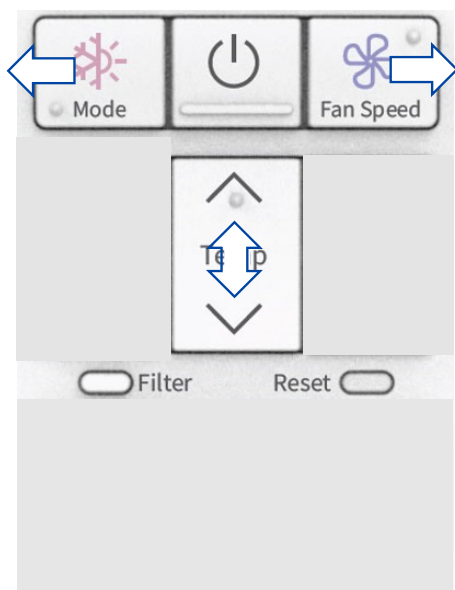
The Service function, which was set by DIP-SW setting or double pressing of the HHRC in the current model. it will be done by HHRC in GRAC as shown as below.

「On timer」 + 「Fan speed」 + 「Reset」
(Press three Key for 5 seconds to avoid access by User)



※ If you don't do anything for 30 seconds, you will be out of the service setting mode.

9.3. How to operate the HHRC method



Temp△▽ : Selection (in the same layer)

Mode : move to previous layer

Fan Speed : Move to next layer

ON/OFF : Decision/Send (at layer 3)

: Current setting check(at layer 2)

Filter: category initialization(at layer 1)

Filter + ON/OFF: all category initialization(at layer 1)

※ To exit from this setting mode, you need to either not operate the HHRC panel for 30 seconds or press and hold the UP/Down key for 5 seconds.

Layer 1
(category selection)

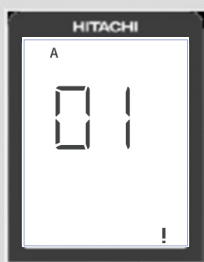
Layer 2
(Function selection)

Layer 3
(Setting select)

1A:installation
2C: . . .
3d: . . .

A0:Cardkey
A1: . . .
A2: . . .

01:Disable
02: Input -A Enable
03:Input -B Enable



9.4. Service setting item used for GRAC Entry

Category	Function Name	Value	HHRC LCD display			L1 (Category)
			Layer1 Category	Layer2 Function	Layer3 Value	
Installation	Card Key	Disable	1A	A0	01	1A Installation
		Card Key Input -A Enable			02	2C Clean
		Card Key Input -B Enable			03	3d cycle operation adjustment
		reserve			04-99	4E Fan control
	Mode Lock	Normal Mode	1A	A1	01	5F supporting service
		Cooling Lock (Cool, Dry, Fan mode available)			02	6H HHRC
		Heating Lock (Heat and Fan mode available)			03	7J Diagnosis
		reserve			04-99	8L Future
	Auto restart	auto restart changeover disable	1A	A2	01	1A Installation
		auto restart by previous mode			02	2C Clean
		reserve			03-99	3d cycle operation adjustment
Cycle operation	Defrost selection Function	average area setting	3d	E0	01	4E Fan control
		cold area setting			02	5F supporting service
		reserve			03-99	6H HHRC
	Shift value adjustment of setting temperature (Cool Mode, Heat Mode)	(-5° C/-10° F)	3d	E1(Cool)/E2(H eat)	01	7J Diagnosis
		(-4°C/-8°F)			02	8L Future
		(-3°C/-6°F)			03	1A Installation
		(-2° C/-4° F)			04	2C Clean
		(-1° C/-2° F)			05	3d cycle operation adjustment
		(±0° C/±0° F)			06	4E Fan control
		(+1° C/2° F)			07	5F supporting service
		(+2° C/4° F)			08	6H HHRC
		(+3° C/6° F)			09	7J Diagnosis
		(+4° C/8° F)			10	8L Future
		(+5° C/10° F)			11	1A Installation
		reserve			12-99	2C Clean
Cycle operation	IDU fan control at cooling thermo-off	ultra low	3d	E3	01	3d cycle operation adjustment
		set fan speed			02	4E Fan control
		reserve			03-99	5F supporting service
HHRC	Temperature Resolution change - 0.5 --> 1	0.5° C	6H	P0	01	6H HHRC
		1° C			02	7J Diagnosis
	Fan Speed key sequence	Auto-Silent - Low-Med-Hi-Super Hi		P1	01	8L Future
		Super Hi-Hi-Med-Lo-Silent -Auto			02	1A Installation
	Operation Mode : Auto	Disable Selection on HHRC		P2	01	2C Clean
		Enable Selection on HHRC			02	3d cycle operation adjustment
	Operation Mode : Cool	Disable Selection on HHRC		P3	01	4E Fan control
		Enable Selection on HHRC			02	5F supporting service
	Operation Mode : Dry	Disable Selection on HHRC		P4	01	6H HHRC
		Enable Selection on HHRC			02	7J Diagnosis
	Operation Mode : Fan	Disable Selection on HHRC		P5	01	8L Future
		Enable Selection on HHRC			02	1A Installation

9.4. Service setting item used for GRAC Entry

Category	Function Name	Value	HHRC LCD display			L1 (Category)
			Layer1	Layer2	Layer3	
			Category	Function	Value	
HHRC	Operation Mode : Heat	Disable Selection on HHRC	6H	P6	01	L1 (Category) 1A Installation
		Enable Selection on HHRC			02	2C Clean
	Auto Fan speed : Enable / Disable	Disable Selection on HHRC		P8	01	3d cycle operation adjustment
		Enable Selection on HHRC			02	4E Fan control
	Super hi Fan speed : Enable / Disable	Enable Selection on HHRC		P9	01	5F supporting service
		Disable Selection on HHRC			02	6H HHRC
HHRC	Cooling Lower limit setting	16 ° C	6H	PC	01	7J Diagnosis
		17 ° C			02	8L Future
		18 ° C			03	L1 (Category)
		19 ° C			04	1A Installation
		20 ° C			05	2C Clean
		21 ° C			06	3d cycle operation adjustment
		22 ° C			07	4E Fan control
		23 ° C			08	5F supporting service
		24 ° C			09	6H HHRC
		25 ° C			10	7J Diagnosis
		26 ° C			11	8L Future
		27 ° C			12	L1 (Category)
		28 ° C			13	1A Installation
		29 ° C			14	2C Clean
		30 ° C			15	3d cycle operation adjustment
		31 ° C			16	4E Fan control
		32 ° C			17	5F supporting service
HHRC	Heating Upper limit setting	32 ° C	6H	Pd	01	6H HHRC
		31 ° C			02	7J Diagnosis
		30 ° C			03	8L Future
		29 ° C			04	L1 (Category)
		28 ° C			05	1A Installation
		27 ° C			06	2C Clean
		26 ° C			07	3d cycle operation adjustment
		25 ° C			08	4E Fan control
		24 ° C			09	5F supporting service
		23 ° C			10	6H HHRC
		22 ° C			11	7J Diagnosis
		21 ° C			12	8L Future
		20 ° C			13	L1 (Category)
		19 ° C			14	1A Installation
		18 ° C			15	2C Clean
		17 ° C			16	3d cycle operation adjustment
		16 ° C			17	4E Fan control
Diagnosis	Display self-diagnosis memory(※)	Display History 1 (Latest(newest) of last Five)	7J	t0	01	5F supporting service
		Display History 2			02	6H HHRC
		Display History 3			03	7J Diagnosis
		Display History 4			04	8L Future
		Display History 5			05	L1 (Category)
		reserve			06-99	1A Installation
	Display ODU self-check result	request		t1	01	2C Clean
		reserve			02-99	3d cycle operation adjustment
	Erase self-diagnosis memory(※)	request		t2	01	4E Fan control
		reserve			02-99	5F supporting service
	Humidity sensor failure diagnosis	request		t3	01	6H HHRC
		reserve			02-99	7J Diagnosis

9.5. Buzzer sounding for showing error contents

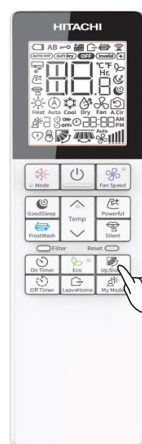
【Up/Down】

When IDU or ODU has failed, and the Timer lamp is blinking. Service engineer can know error contents from the buzzer through phone.

When IDU or ODU has failed, and the Timer lamp is blinking. Service engineer can know error contents from the buzzer through phone.

【Up/Down】

(Press this Key for 5 seconds)



In case of IDU failure



LED action



Timer lamp is blinking

Buzzer action



【note】

- for stopping buzzer, stop by On/Off button, or press Up/Down button for 5 seconds.

In case of ODU failure



LED action



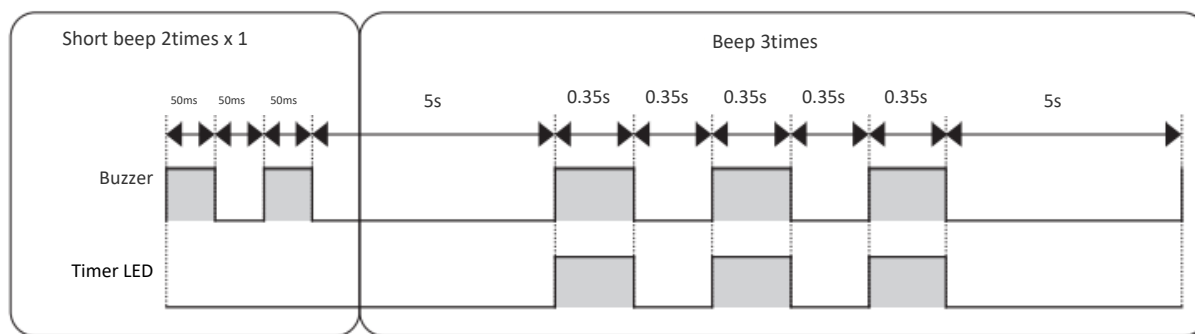
Operation lamp is blinking

Buzzer action



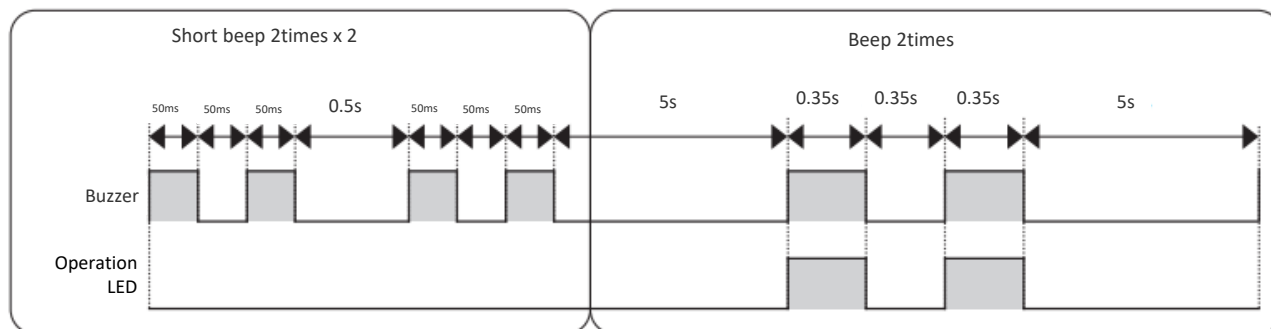
Sounding by same rhythm with LED

<IDU error example: timer LED will blink 3 times(interface defective(IDU) >



After "Short 2times x 1 beep", "3 times beep" will be repeated.

<ODU error example: operation LED will blink 2 times(peak current cut) >

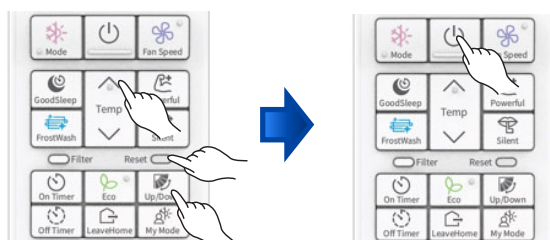


After "Short 2times x 2 beep", "2 times beep" will be repeated.


9.6. OTHER SETTING

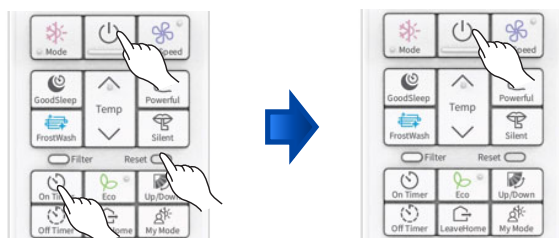
▪ ID SELECTION

1. Press “Up/Down swing button” and “set. Temp. up button” and “reset button”, and release “reset button”.
2. Select from A or B by pressing “set.temp. button”.
3. Press “On/Off button” toward IDU.
(EEPROM in HHRC will keep the A or B information.)



▪ DISPLAY MODE


1. Press “On Timer button” and “On/Off button” and “reset button”, and release “reset button”.
2. Fan speed icon() on LCD will blink.
3. Press “On/Off button” toward IDU.


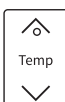



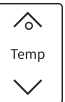
9.7. ERROR CODE INFORMATION

9.7.1. HOW TO DISPLAY ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “  ” (Temperature) button of the remote control and select the “7J” option.

3. Press “  ” (Fan Speed) button of the remote control, then Press “  ” (Temperature) button select the “t0” option.

4. Press “  ” (Fan Speed) button of the remote control, then Press “  ” (Temperature) button select the “01” option.

5. Press “  ” (On/Off) button of the remote control, the fault information will be seen.

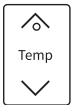
Function Name	Value	Layer1	Layer2	Layer3
		Category	Function	Value
Display self-diagnosis memory(※)	Display History 1 (Latest(newest) of last Five)	7J	t0	01
	Display History 2			02
	Display History 3			03
	Display History 4			04
	Display History 5			05


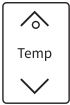
The specific information of error code is shown in the table below:


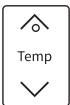
	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
INDOOR	-	-	000 00	Normal
	1 time		001 00	Refrigerant cycle fault
	2 times	-	-	Outdoor unit is under forced operation
	3 times	9 times	003 00	Communication error (indoor)
	9 times	-	009 00	Indoor thermistor defective
	10 times	-	010 00	Abnormal rotating numbers of DC fan motor
	12 times	9 times	012 00	Communication error (outdoor)
	13 times	-	013 00	EEPROM data reading error
	21 times	-	021 00	Interface defective (other machine cause)
OUTDOOR	4 times	2 times	002 01	Peak current cut
	4 times	3 times	003 01	Compressor abnormal low speed rotation
	4 times	4 times	004 01	Compressor switching failure
	4 times	5 times	005 01	Overload lower limit cut
	4 times	6 times	006 01	OH thermistor temperature rise
	4 times	7 times	007 01	Abnormal outdoor thermistor
	4 times	9 times	009 01	Communication error
	4 times	10 times	010 01	Abnormal power source
	4 times	11 times	011 01	Fan stop for strong wind
	4 times	12 times	012 01	Fan motor fault
	4 times	13 times	013 01	EEPROM reading error
	4 times	14 times	014 01	DC Voltage abnormal
	4 times	15 times	015 01	Abnormal PWB circuit
	4 times	16 times	016 01	High load stop

9.7.2. HOW TO REMOVE ERROR CODE

1. Press three key ([On Timer] + [Fan Speed] + [Reset]) button on the remote control for 5 seconds to avoid access by User.

2. Press “” (Temperature) button of the remote control and select the “7J” option.






















3. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “t2” option.

4. Press “” (Fan Speed) button of the remote control, then Press “” (Temperature) button select the “01” option.






5. Press “” (On/Off) button of the remote control, and the error code will be removed.

10 OPTION LIST

10.1. WIRED REMOTE CONTROL – SPX-RCDB1



 RAR-5G2 (SPX-RCDB1)	BUTTONS	FUNCTION
		MODE Selector Use this button to select the operating mode. Every time you press this button, the mode will change from  (AUTO) →  (HEAT) →  (DEHUMIDIFY) →  (COOL) and →  (FAN) cyclically.
		FAN SPEED Selector Button This determines the fan speed. Every time you press this button, the airflow rate will change from  (AUTO) →  (HIGH) →  (MED) →  (LOW) →  (SILENT) (This button allows selection of optimal or preferred fan speed for each operation mode).
		ON/OFF button Press this button to start operation. Press it again to stop operation.
		SLEEP button Use this button to set the SLEEP timer.
		SET button Timer setting reservation.
		OFF button Select the turn OFF timer.
		ON button Select the turn ON timer.
		CANCEL button Cancel timer reservation.
		AUTO SWING (Vertical) button Controls the angle of the horizontal air deflector.
		ROOM TEMPERATURE setting button Value will change quicke when keep pressing.

10.1.1. SHIFT VALUE

- Press and hold  (ON/OFF) button and  (ON TIMER) button at the same time while giving a single press on the RESET button until remote controller now enter 'Shift value change mode'.
- Press  (ON/OFF) button so that the display indicates  (FAN) speed.
- Select  (FAN SPEED) button to choose Heating Shift or Cooling Shift Mode.

By setting fan speed to HIGH  or MED  , it will go to Cooling Shift mode.

By setting fan speed to LOW  or SILENT  , it will go to Heating Shift mode.

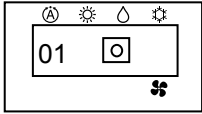
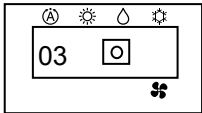
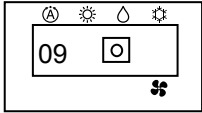
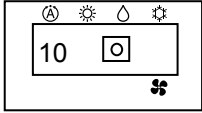
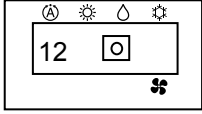
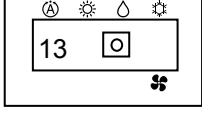

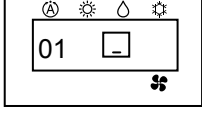

- Press  (ROOM TEMPERATURE) button to change the shift value (-3°C ~ 0 ~ 3°C).
- Press  (ON/OFF) button to end 'Shift value setting mode'.

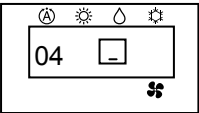
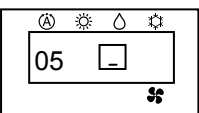
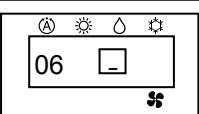
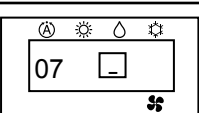
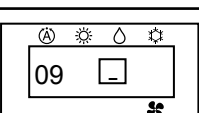
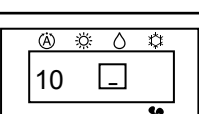
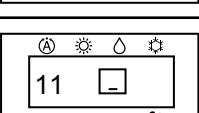
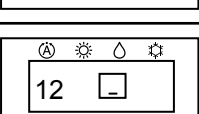
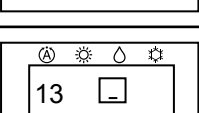
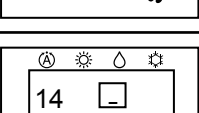
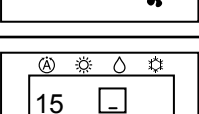
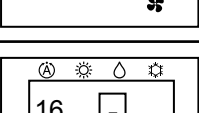
NOTE:

- There are total of 7 shift values ranging from -3 to 3.
- The changed shift value will remain unchanged after turned off the power.

10.1.2. ERROR CODE INFORMATION

1. In case failure occurs to the air conditioner, the error code will constantly appear on the wired remote controller display.

	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
INDOOR	-	-	-	Normal
	1 time	-		Refrigerant cycle fault
	2 times	-	-	Outdoor unit is under forced operation
	3 times	9 times		Communication error (indoor)
	9 times	-		Indoor thermistor defective
	10 times	-		Abnormal rotating numbers of DC fan motor
	12 times	-		Communication error (outdoor)
	13 times	-		EEPROM data reading error
	21 times	-		Interface defective (other machine cause)
OUTDOOR	4 times	2 times		Peak current cut
	4 times	3 times		Compressor abnormal low speed rotation

	TIMER LAMP BLINKING	LD301 BLINKING	CODE	MEANING
OUTDOOR	4 times	4 times		Compressor switching failure
	4 times	5 times		Overload lower limit cut
	4 times	6 times		OH thermistor temperature rise
	4 times	7 times		Abnormal outdoor thermistor
	4 times	9 times		Communication error
	4 times	10 times		Abnormal power source
	4 times	11 times		Fan stop for strong wind
	4 times	12 times		Fan motor fault
	4 times	13 times		EEPROM reading error
	4 times	14 times		DC Voltage abnormal
	4 times	15 times		Abnormal PWB circuit
	4 times	16 times		High load stop

10.2. H-LINK ADAPTOR – PSC 6RAD

10.2.1. SAFETY SUMMARY

DANGER:

- *DO NOT pour water into the remote control switch (hereafter called “controller”). This product is equipped with electrical parts. This will cause serious electrical shock.*

WARNING:

- *DO NOT perform installation work and electrical wiring connection by yourself. Contact your distributor or dealer of HITACHI and ask then for installation work and electrical wiring by service person. The specified cable should be used to connect (i) room air conditioner and adaptor, and (ii) controller and adaptor.*


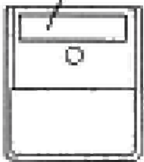

CAUTION:




- *DO NOT install the indoor unit, outdoor unit, controller and cable as such places as:*
 - *where there is oil vapor and dispersion of oil*
 - *where there is sulfuric environment (near the hot springs)*
 - *where there is a flammable gas*
 - *where there is salty environment (near the sea)*
- *DO NOT install the indoor unit, outdoor unit, controller and cable within approximately 3 meters from strong electromagnetic wave radiators, such as medical equipment. In case that the controller is installed in a place where there is electromagnetic wave direct-radiation, shield the controller and cables by covering with the steel box and running the cable through the metal conduit tube.*
- *In case that there is electric noise at the power source for the indoor unit, provide a noise filter.*

10.2.2. INSTALLATION WORK

■ Before installation

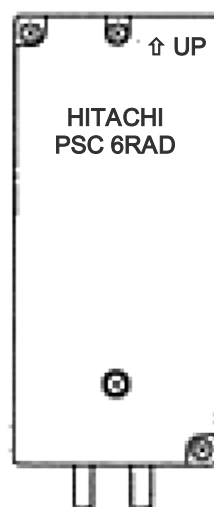
Check the contents and the number of the accessories in the packing.

Adaptor	 With two 1.8m cables
1 piece of cover for hiding the covering	 Attached 2 sided tapes
Two-sided tape for attaching to Adaptor	 110x40x3mm

2 connectors for H-Link connection	
2 tapping screws for attaching to wall	 $\phi 3.0 \times 10\text{mm}$
2 screws for attaching to wooden wall	 $\phi 3.1 \times 16\text{mm}$

- 1) RAC adaptor can be installed to the wall as well as on the air conditioner itself
- 2) Install RAC adaptor in the vertical surface as shown below.

Upper side

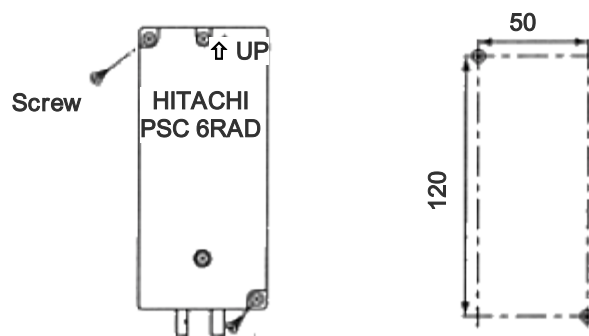


Mark “ \uparrow UP”

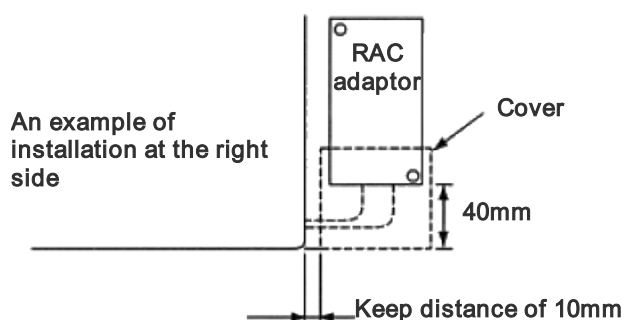
Wiring outlet

Bottom side

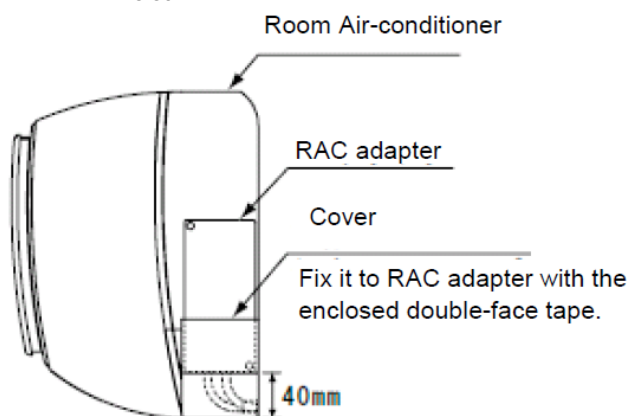
- 3) Installation procedure
 - a) When installing to the wall.
 - i) Fix the adaptor with 2 screws. Tapping screw is for metal surface, and other screw is for wooden surface.



- ii) When using the cover
It can be installed at the right and left side of room air conditioner. Fix the cover and RAC adaptor with the two-sided tape (accessory).



- b) When installing on the room air-conditioner
In case that it cannot be installed to the wall due to the space or material problem, install the RAC adaptor with the two-sided tape (accessory) on the room air-conditioner.
- Confirm if the piping cover of the unit can be removed when performing the service maintenance, and then fix the RAC adaptor in the side of room air-conditioner with two-sided tape. (Available at the right as well as left side)
 - Clean the surface to be installed with a dry cloth.

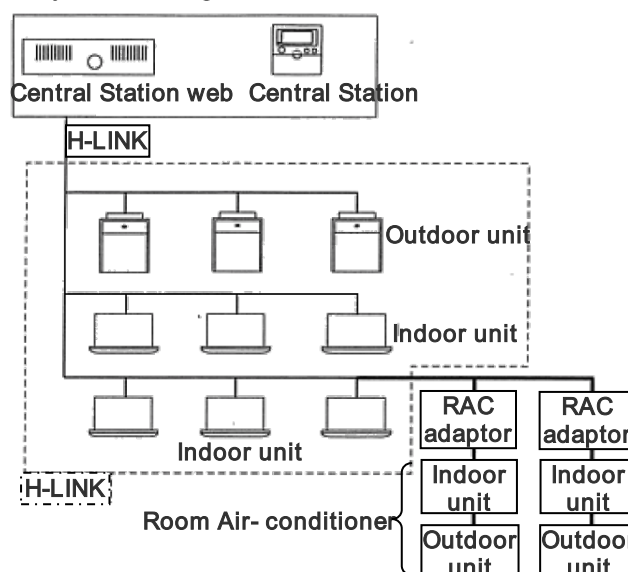


NOTE:

- Consider the following points since the adhesiveness changes according to the environmental conditions (temperature, humidity etc)
- The adhesiveness is decreased when there is humidity or oil.
- Warm the adhesive part and installation place of the two-sided tape to avoid the decrease of the adhesiveness in case the ambient temperature is low.
- DO NOT touch the adhesive part by fingers nor re-attach it many times. The adhesiveness has decreased and the RAC adaptor may fall off.
- DO NOT apply any force within 24 hours after installation.

10.2.3. ELECTRICAL WIRING

■ System configuration



CAUTION:

- Turn OFF the power supply of the room air-conditioner of the central control device when performing the wiring work
- DO NOT run all the H-LINK cable or power supply cable along the other signal cable, or malfunction may occur due to the noise, etc. If it is required to run along the other transmission cable, separate the cable more than 30cm, or run the cable through the metal tube and earth the tube.
- Follow local codes and regulations when performing electrical wiring and earth wiring.
- Transmissions cable used in H-LINK shall be 2 cores cable (0.7mm^2 to 1.25mm^2 for model: VCTF, VCT, CVV, MVVX, CVVX, VVR, VVF) or 2 cores twisted pair cable (model: KPEV, KPEV-Spec). Total length of cable shall be below 1000mm.
- DO NOT use wire with more than 3 cores.

■ Internal components and Wiring connections

Check the contents and the number of the accessories in the packing.

- Access
Open the cover by removing the ① and ② screws.



- Wiring Connection
Connection with Room Air-Conditioner
 - Remove the front cover of the room air-conditioner and the cover of electrical box.
 - The cable attached with the connector of the RAC adaptor shall be connected with the connector of indoor PCB

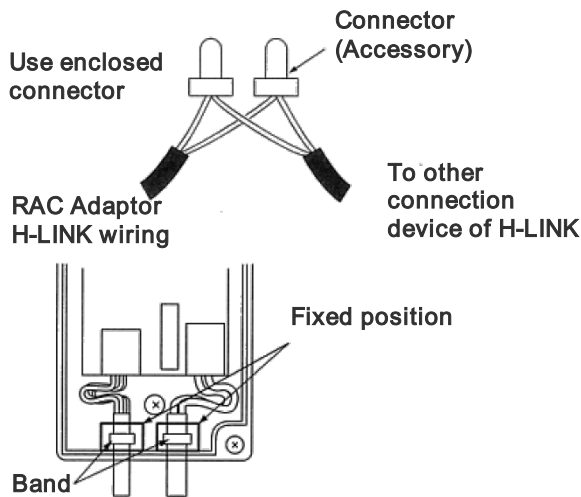
- iii) Install the electrical box cover paying attention not to clamp the cable. Read the installation manual of each room air-conditioner for confirming how to connect and how to assemble the cable of the RAC adaptor.

CAUTION:

- Disconnect the power plug before performing this work
- Turn OFF the break power source in case the power is supplied from the outdoor unit.

- Connection of Transmission Cable

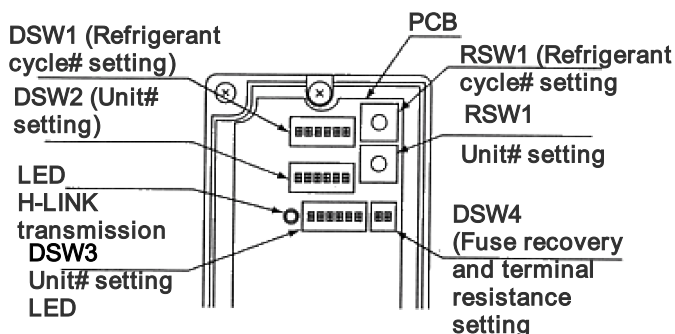
H-LINK transmission cable connecting to RAC adaptor shall be connected to H-LINK.

**CAUTION:**

- DO NOT connect incorrect wiring. It may cause the failure of the RAC Adaptor. Especially pay attention not to apply high voltage e.g. AC400/230V.
- DO NOT perform the wiring work while power to the central station or the RAC Adaptor is still being supplied. It may cause malfunction. Turn OFF devices when performing the wiring work.
- The RAC Adaptor side cable should not overload to the connector.
- DO NOT clamp the cable when attaching the RAC adaptor cover.
- Band should not be loose and in fixed position.

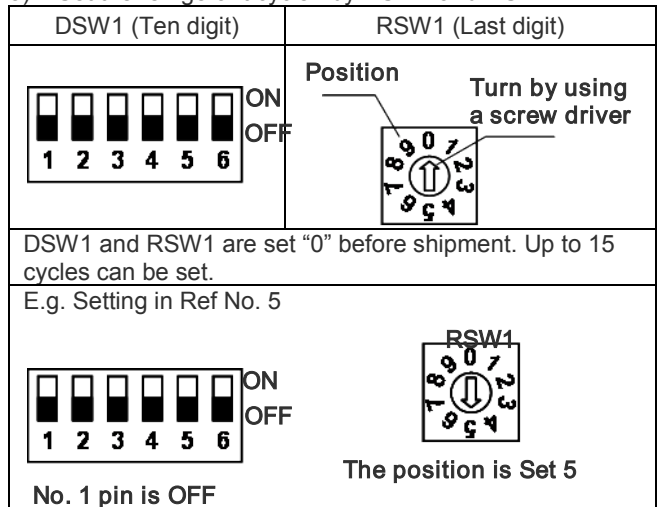
10.2.4. DIP SWITCH SETTING

- 1) Switch OFF the power of room air conditioner before setting the DIP switch. If the power is ON, the settings are INVALID.
- 2) The position of the DIP switch is shown below.

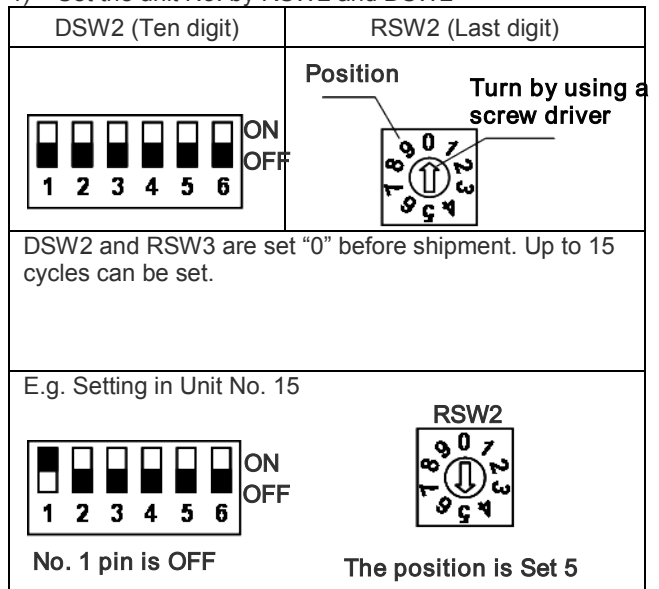
**CAUTION:**

- DO NOT turn ON various pins of DSW1 and DSW2

- 3) Set the refrigerant cycle# by RSW1 and DSW1

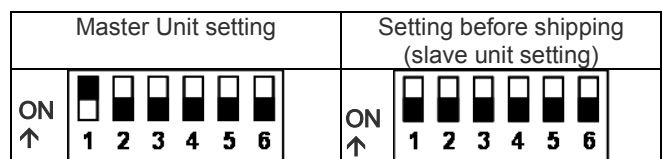


- 4) Set the unit No. by RSW2 and DSW2



- 5) Slave unit.

In case of setting various RAC adaptors in the same refrigerant cycle, set the RAC adaptor with smallest Unit# as a master unit. In case of setting only one RAC adaptor in a refrigerant system, this adaptor should be a master unit. Set this procedure by DSW3.



●: Master Unit setting

○: Setting before Shipping (Slave Unit setting)

		Indoor Unit#									
Refrigerant Unit#	0	1	2	3	4	5	6	7			
	0	●	○	○	○	○					
	1			●	○	○					
	2				●	○	○	○	○		
	3		●								
	4										

CAUTION:

- DO NOT set various main adaptors in the same refrigerant cycle.

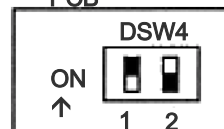
- 6) Procedure when applying 200V voltage to H-LINK wiring incorrectly.

In case of applying 200V voltage to H-LINK wiring incorrectly, the fuse installed in a transmission circuit on PCB will blow out. In this case, reconnect the wiring correctly and turn ON No. 2 pin of DSW4 on PCB. The transmission circuit can be recovered. (If applying this error again, the transmission circuit can not be recovered)

PCB

Turn ON No.2 pin of DSW4

- 7) Terminating resistance is set in whole H-LINK system.
- If H-LINK connecting devices like package air-conditioner are connected besides the RAC Adaptor, set the terminating resistance by those connecting devices. The terminating resistance should be set ON in only one position in whole H-LINK system.
 - In case that H-LINK is connected only by the RAC adaptor, set the terminating resistance by the RAC adaptor. The terminating resistance should be set ON in only one position in whole H-LINK system.

PCB

Turn ON No.1 pin of DSW4

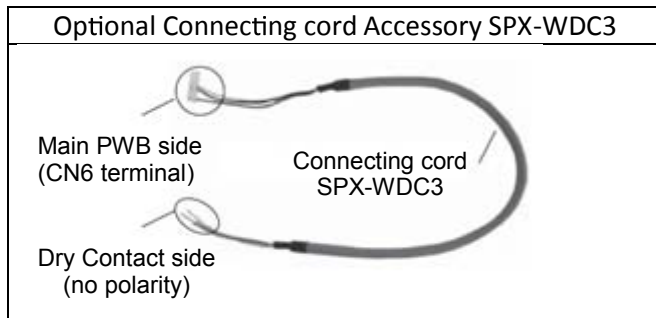
10.2.5. TEST RUN

Test run should be performed in the following after finishing the installation, wiring and setting. Refer to the installation manuals enclosed with the control system equipment.

- Confirmation of RAC Adaptor Connection
Confirm if the RAC adaptor connection is recognized in the control system equipments. In case that it is not confirmed, check the transmission cable, refrigerant cycle #, indoor unit #, terminal resistance setting etc.
- Registration
Confirm if the RAC adaptor connection is recognized.
- Confirmation of RUN/STOP Operation.
Confirm if the room air-conditioner operate correctly by RUN/STOP from the central control system equipments. Check also if the room air-conditioner operation changes correctly by each setting.

10.3. DRY CONTACT (SPX-WDC3) APPLICATION (USING DIP SWITCH)

The dry contact system enables the operation of the air conditioner indoor unit to be controlled by using external dry contacts (with non voltage) such as card-key controller or window for facilities such as hotels.



- Please decide A or B type of dry contact , you can use HHRC method and more details you can refer to Page 25.

Function Name	Value	Layer1	Layer2	Layer3
		Category	Function	Value
CardKey	Disable	1A	A0	01
	Card Key Input -A Enable			02
	Card Key Input -B Enable			03
	reserve			04-99

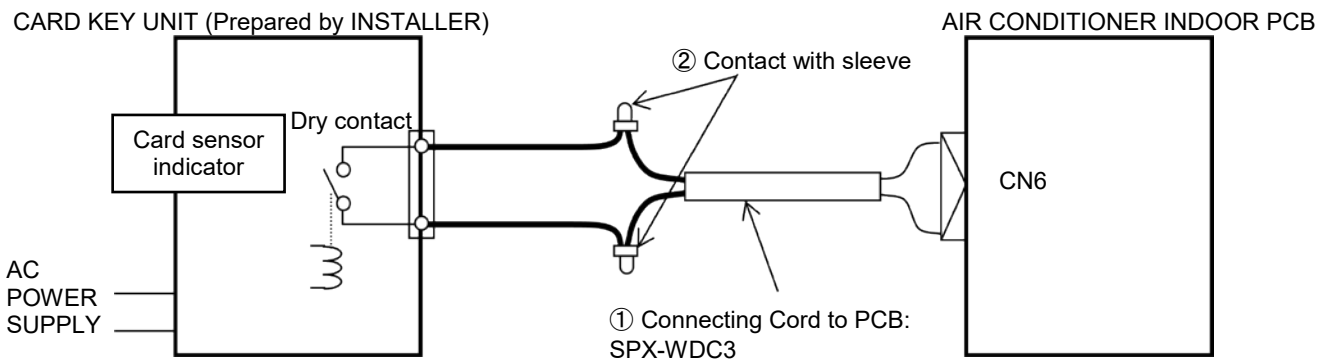
[1] CHECK DRY CONTACT OF CARD KEY UNIT

	AIR CONDITIONER Standby	AIR CONDITIONER Operating
CARD KEY (Door Switch)	REMOVE 	INSERT
Contact type A	OPEN 	CLOSE
Contact type B	CLOSE 	OPEN

After all connection has been done as below diagram, ON the breaker and push ON button of wireless remote controller or wired remote controller to operate the air conditioner unit.

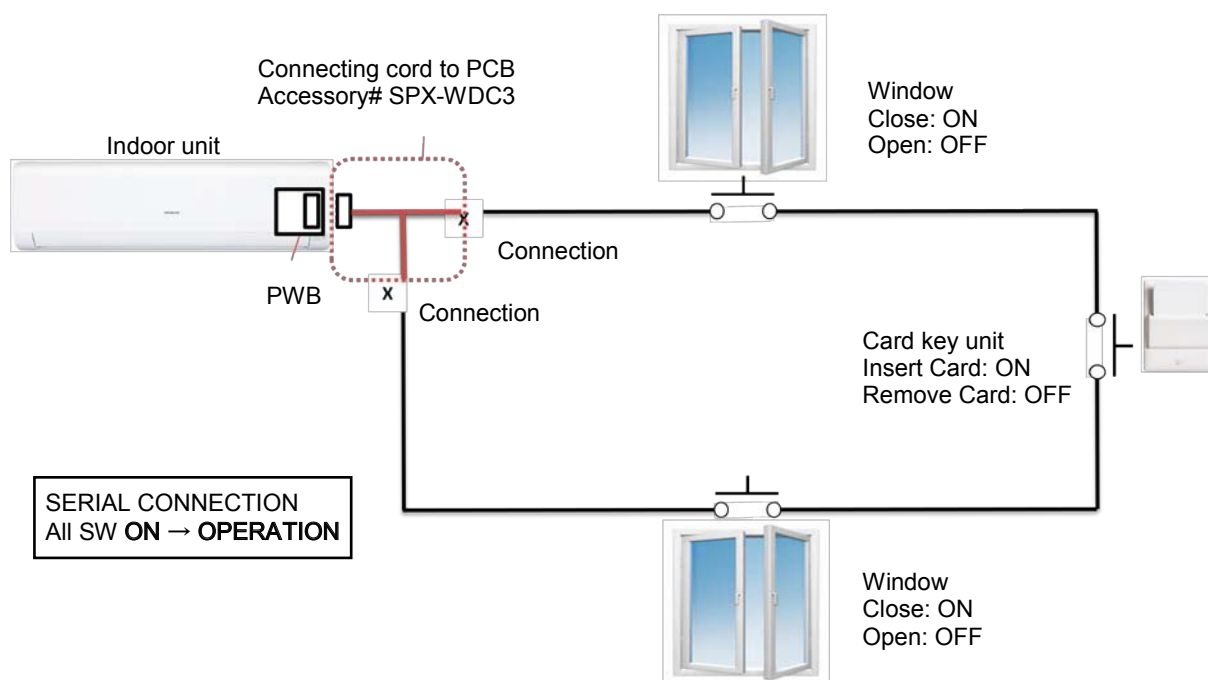
- When the CARD KEY is in insert condition, the air conditioner operation is allowable by remote controller.
- When the dry contact switch on the Card Key Unit is open (refer to diagram below for contact type a), the unit stops to operate (it takes 10 seconds to stop the unit operation after the dry contact switch on the card key turns off) and vice versa.
- When the card key is removed from the Card Key Unit, the wireless remote controller cannot be used.
- When the card key is removed from the Card Key Unit, the wired remote controller LCD display is activated; however it has no control over the unit.
- The suitable accessory Connecting Cord (accessory code#: SPX-WDC3) need to be used to connect the Card Key Unit's dry contact switch to the connector on the control board of the indoor unit. Please refer to Table 1 to select suitable accessory code# for the concerning indoor model.

Example of wiring connection to Card Key Unit will be as below (reference only)

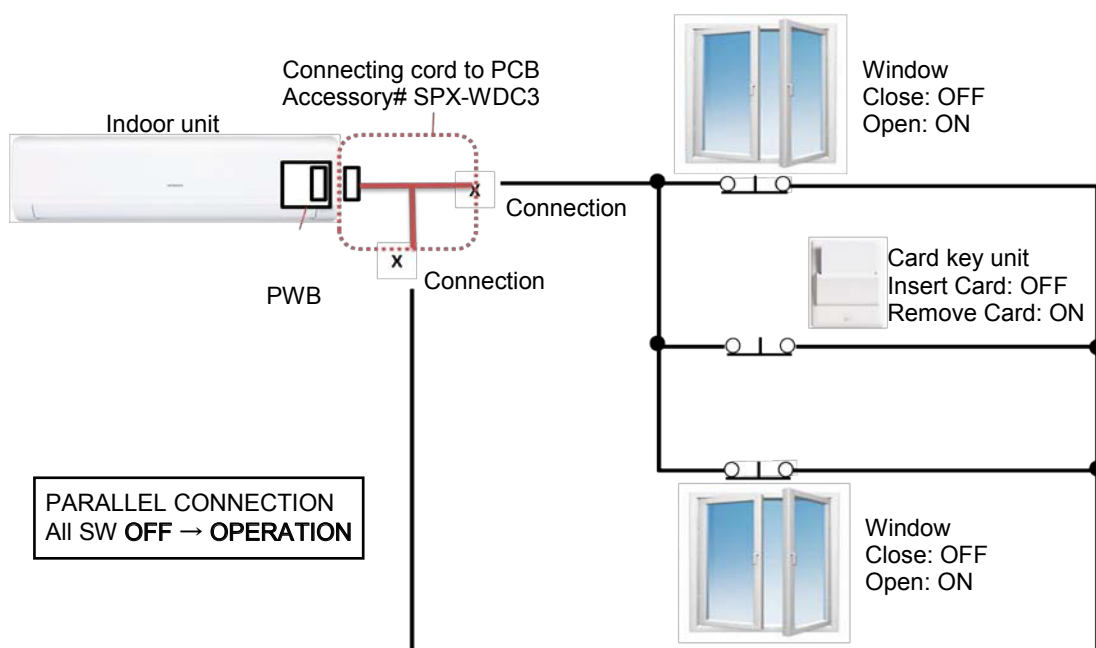


• CONNECTION EXAMPLE

i. HHRC for Dry Contact Type A



ii. HHRC for Dry Contact Type B



Please refer to the actual manual supplied with the optional connecting cords SPX-WDC3 for more details.

HITACHI

TC-ERP-Model

INDOOR

RAK-DJ18PHAE
RAK-DJ25PHAE
RAK-DJ35PHAE
RAK-DJ50PHAE

OUTDOOR

RAC-DJ18PHAE
RAC-DJ25PHAE
RAC-DJ35PHAE
RAC-DJ50PHAE