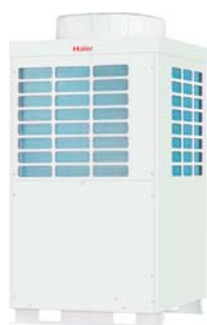


Haier

MRV II

Design, Installation & Maintenance instruction

R22 HEAT PUMP 50HZ



-025-07REV.1

Mar. 2008



Большая библиотека технической документации

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каталоги, инструкции, сервисные мануалы, схемы.

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MRV II Dual-variation multi-combination system

MRV II Dual-variation multi-combination system

	Master unit	Slave unit	
Outdoor	<p>AU96NMTAHA AU78NMTAHA</p> 	<p>AU78NMTAAA AU96NMTAAA</p> 	<p>AV16NMTAHA AV18NMTAHA AV20NMTAHA</p> 
		<p>AV24NMTAHA AV26NMTAHA AV28NMTAHA AV30NMTAHA</p> 	<p>AV32NMTAHA AV34NMTAHA AV36NMTAHA AV38NMTAHA AV40NMTAHA</p> 
Indoor	<p>AD072~482MLAIA</p> 	<p>AB072~162MCAHA</p> 	<p>AB182~482MCAHA</p> 
	<p>AD322~482MMAHA</p> 	<p>AS072~182MCAHA</p> 	

Product introduction

1.1 *MRV II* general information and features

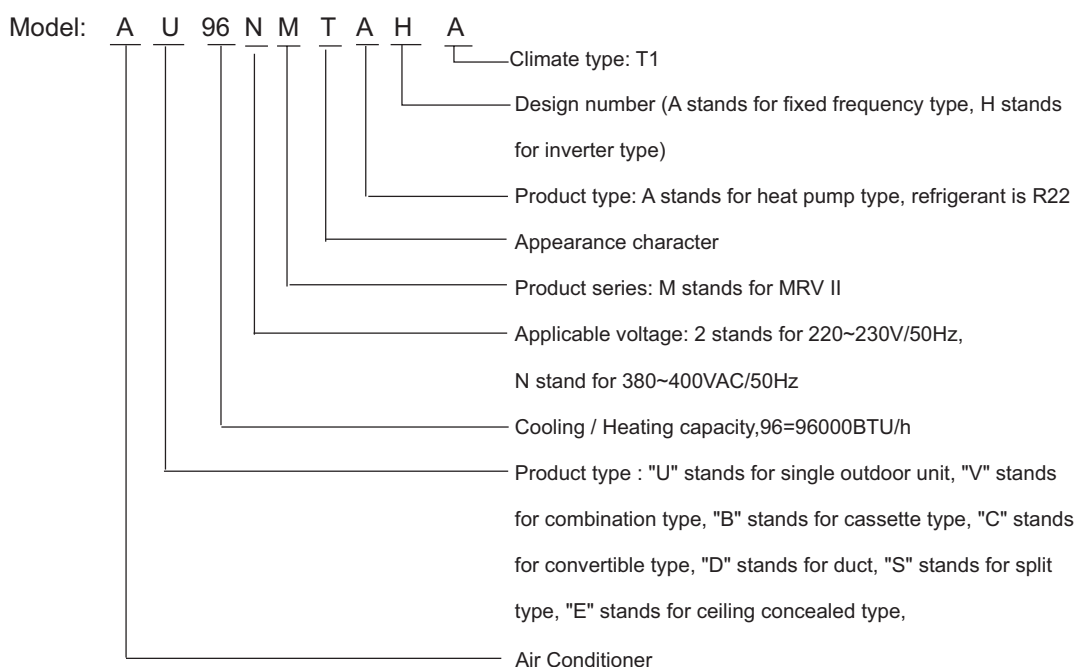
MRVII R22



1.1 MRV II general information and features

MRV II can be used in a large combination with multiple outdoor units; it is only one system and is the second generation of C-MRV. Major features are energy saving, intelligent control and precise temperature control. Adopts power source of 3-phase, 380V, 50Hz; control the refrigerant flow by the electronic expansion valve (EEV); collects the data by the pressure sensor and temperature sensor to adjust the compressor capacity; it comprises the master unit and the slave unit, and the former adopts one inverter compressor, while the latter adopts one variable-capacity compressor; realize the capacity combination from 8HP to 40HP; includes the oil equalization, oil return, refrigerant return, refrigerant spray, unloading assistant control.

1.1.1 Products code explanation



1.1.2 Indoor models

Capacity(HP)		072 (0.8)	092 (1.0)	122 (1.25)	142 (1.5)	162 (1.7)	182 (2.0)	242 (2.5)	282 (3.0)	322 (3.2)	382 (4.0)	482 (5.0)
Ceiling concealed type	AD*MLAIA	●	●	●	●	●	●	●	●	●	●	●
Cassette type	AB*MCAHA	●	●	●	●	●	●	●	●	●	●	●
Duct type	AD*MMAHA									●	●	●
Wall mounted	AS*MCAHA	●	●	●	●	●						

1.1.3 Combination of Outdoor unit

Outdoor unit		QTY of Outdoor unit					Indoor unit	
Capacity (100W)	HP	AU78NMTAHA	AU78NMTAAA	AU96NMTAHA	AU96NMTAAA	Total QTY	Total capacity (100W)	QTY
226	8	1	0	0	0	1	113~294	1~13
280	10	0	0	1	0	1	140~364	1~16
452	16	1	1	0	0	2	226~588	2~18
506	18	0	1	1	0	2	253~658	2~18
560	20	0	0	1	1	2	280~728	2~20
678	24	1	2	0	0	3	339~881	3~24
732	26	0	2	1	0	3	366~951	3~26
786	28	0	1	1	1	3	393~1022	3~28
840	30	0	0	1	2	3	420~1092	3~30
904	32	1	3	0	0	4	452~1175	4~32
958	34	0	3	1	0	4	479~1245	4~34
1012	36	0	2	1	1	4	506~1315	4~36
1066	38	0	1	1	2	4	533~1386	4~38
1120	40	0	0	1	3	4	560~1456	4~40


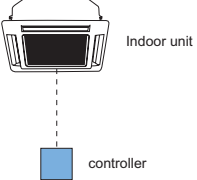
1.1.4 Gather pipe assembly(optional)


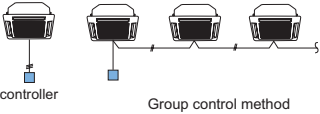
Total capacity of outdoor unit(100W)	Model
452, 506, 560	HZG-20
678, 732, 786, 840	HZG-30
904, 958, 1012, 1066, 1120	HZG-40


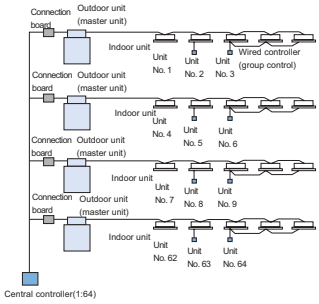
1.1.5 Branch pipe(optional)

Total capacity of indoor unit(100W)	Model
Less than 101	FQG-B120
More than 101 but less than 180	FQG-B180
More than 180 but less than 370	FQG-B370
More than 370 but less than 700	FQG-B700
More than 700 but less than 1100	FQG-B1100
More than 1100	FQG-B1460

1.1.6 Controllers

Remote controller	Function	Illustration
 <p>YR-H71</p>	<input type="checkbox"/> All the standard functions	 <p>Indoor unit</p> <p>controller</p>

Wired controller	Function	Illustration
 <p>YR-E12</p>	<input type="checkbox"/> Can control at most 16 indoor units synchronously <input type="checkbox"/> A indoor unit can connect with 2 standard(simple) controllers (Master/Slave control) <input type="checkbox"/> Timing function	 <p>controller</p> <p>Group control method</p>

Central controller(1:64)	Function	Illustration
 <p>ICR01</p>	<input type="checkbox"/> Can monitor max.64 groups of indoor unit state: running mode, fan speed, set temp., swing and vent. etc, also will display indoor filter icon; can set below three modes: the later entering indoor in priority, central control and lock; <input type="checkbox"/> Can monitor indoor failure and save the failure to be checked. <input type="checkbox"/> Receive the external signal such as the fire alarm, make the interconnect control	 <p>Connection Outdoor unit (master unit)</p> <p>Indoor unit Unit No.1 Unit No.2 Unit No.3</p> <p>Wired controller (group control)</p> <p>Connection Outdoor unit (master unit)</p> <p>Indoor unit Unit No.4 Unit No.5 Unit No.6</p> <p>Connection Outdoor unit (master unit)</p> <p>Indoor unit Unit No.7 Unit No.8 Unit No.9</p> <p>Connection Outdoor unit (master unit)</p> <p>Indoor unit Unit No.62 Unit No.63 Unit No.64</p> <p>Central controller(1:64)</p>

1.1.7 features

- (1) Inverter technology and variable capacity technology
- (2) 4-way air return heat-exchange technology
- (3) Priority control for indoor unit
- (4) Precise temperature control

1.1.8 Functions and characteristics

- (1) High efficiency and energy saving

According to required indoor capacity, the master unit is inverter type and the slave units can run with half or full load and is able to regulate running state of each outdoor unit automatically. Greatly improve efficiency at full capacity range, realizes high efficiency and energy-saving due to the perfect outdoor heat exchanger.

- (2) Long piping design

Piping length between the indoor units and outdoor units in one system can extend up to 100m; the difference in height can be up to 50m and the height difference between indoor units is 20m.

- (3) Realizing capacity compensation by PID electronic expansion valve control

According to the room cooling load of buildings, the system finely controls the indoor unit capacity by using PID electronic expansion valve control, avoids refrigerant deflection and realizes comfortable air conditioning space.

- (4) Precise control to ensure the comfortable and steady environment

The system is very stable because of the use of high and low pressure sensors. Assistant control systems (such as oil equalization, oil return, refrigerant reclaim, refrigerant spray and unloading etc.) are adopted to ensure the compressor operates steadily, avoids efficiency drop due to the frequency reduction and makes sure the system run more stably and precisely.

- (5) Easy Maintenance

All running parameters may collect from digital LEDs and rotary switches on PCB. Many test modes or backup running modes are possible for easier test running and troubleshooting.

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Product design

2.1 Model selection

2.2 Performance curves

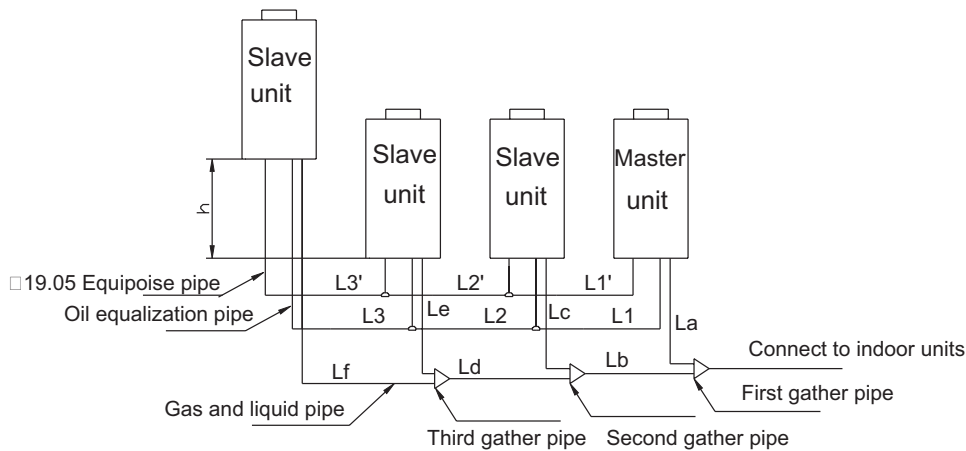
2.1 Model selection

2.1.1 Usage range

Refrigerant pipe length (one way)		MAX. 100m
Distance from outdoor to the first branch		MAX. 70m
Piping length after the first branch		MAX. 50m
Piping length between outdoor units		Within 5m after gather branch
Height difference between IU&OU	Outdoor is higher	MAX. 50m
	Indoor is higher	MAX. 40m
Height difference between outdoor units(the same system)		In horizon
Height difference between indoor units		MAX. 20m
Voltage	Voltage range	rated voltage \pm 10%
	Voltage decrease when starting	rated voltage \pm 15%
	Unbalance among phases	rated voltage \pm 3%

Note: Total capacity of the running indoor units should not be more than the nominal capacity of outdoor unit.

2.1.2 Piping length between outdoor units



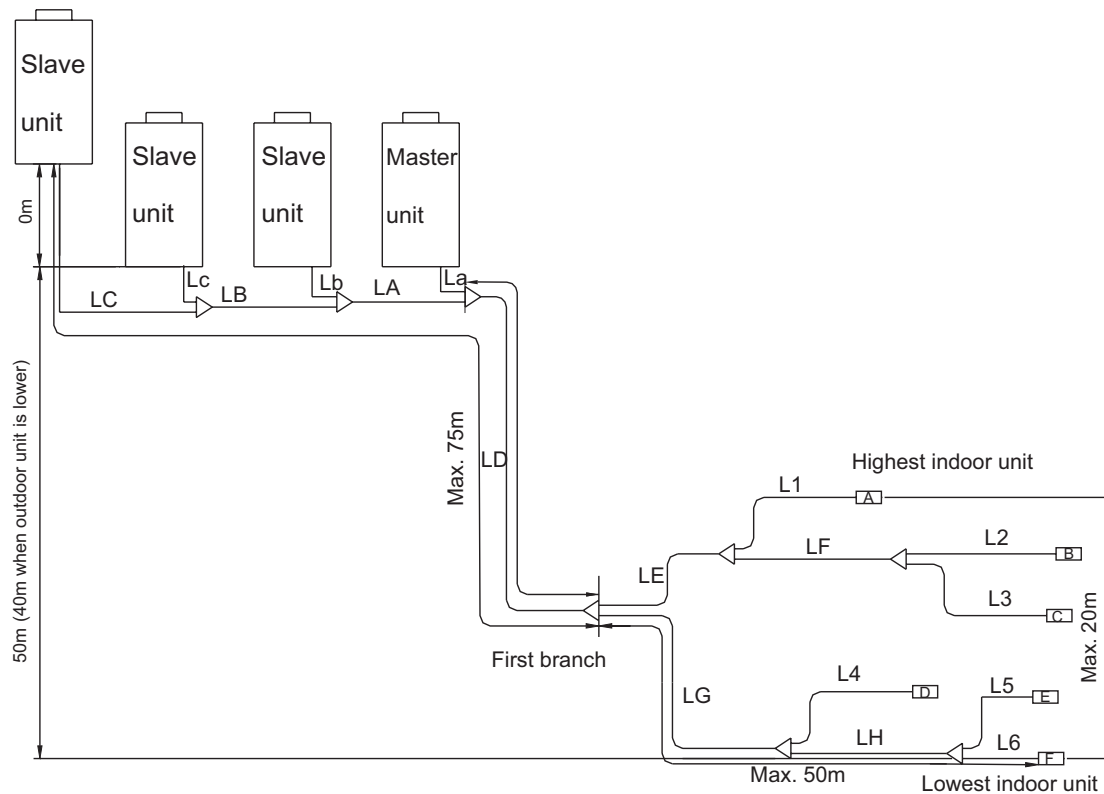
Gas and liquid pipe: $L_a + L_b$; 5m, $L_b + L_c$; 5m, $L_b + L_d + L_e$; 5m, $L_b + L_d + L_f$; 5m,

Oil equalization pipe: L_1 ; 5m, L_2 ; 5m, L_3 ; 5m,

Equipoise pipe: L_1' ; 5m, L_2' ; 5m, L_3' ; 5m

Height difference between outdoor units: 0m

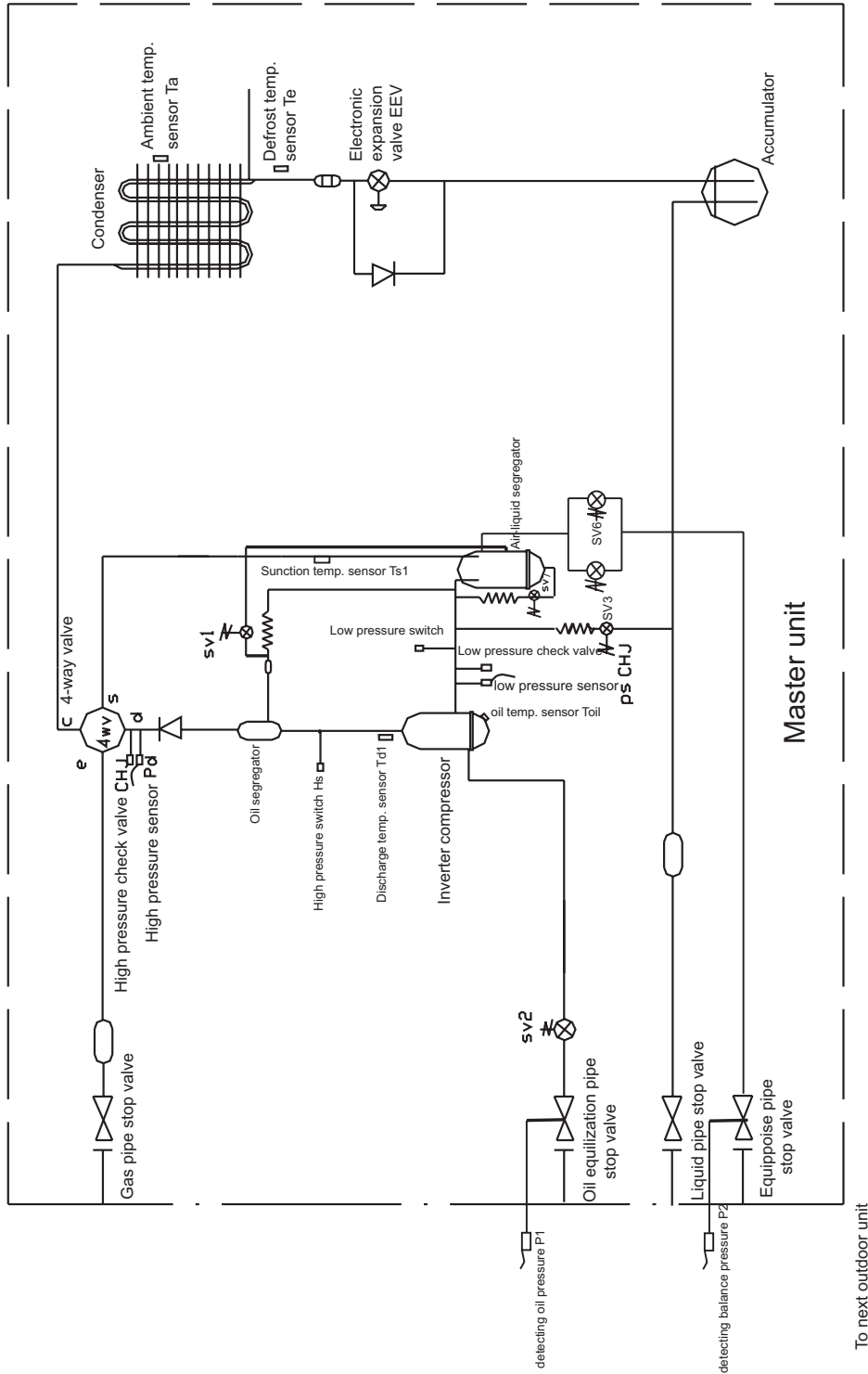
2.1.3 Refrigerant piping length and Height difference between indoor&outdoor units



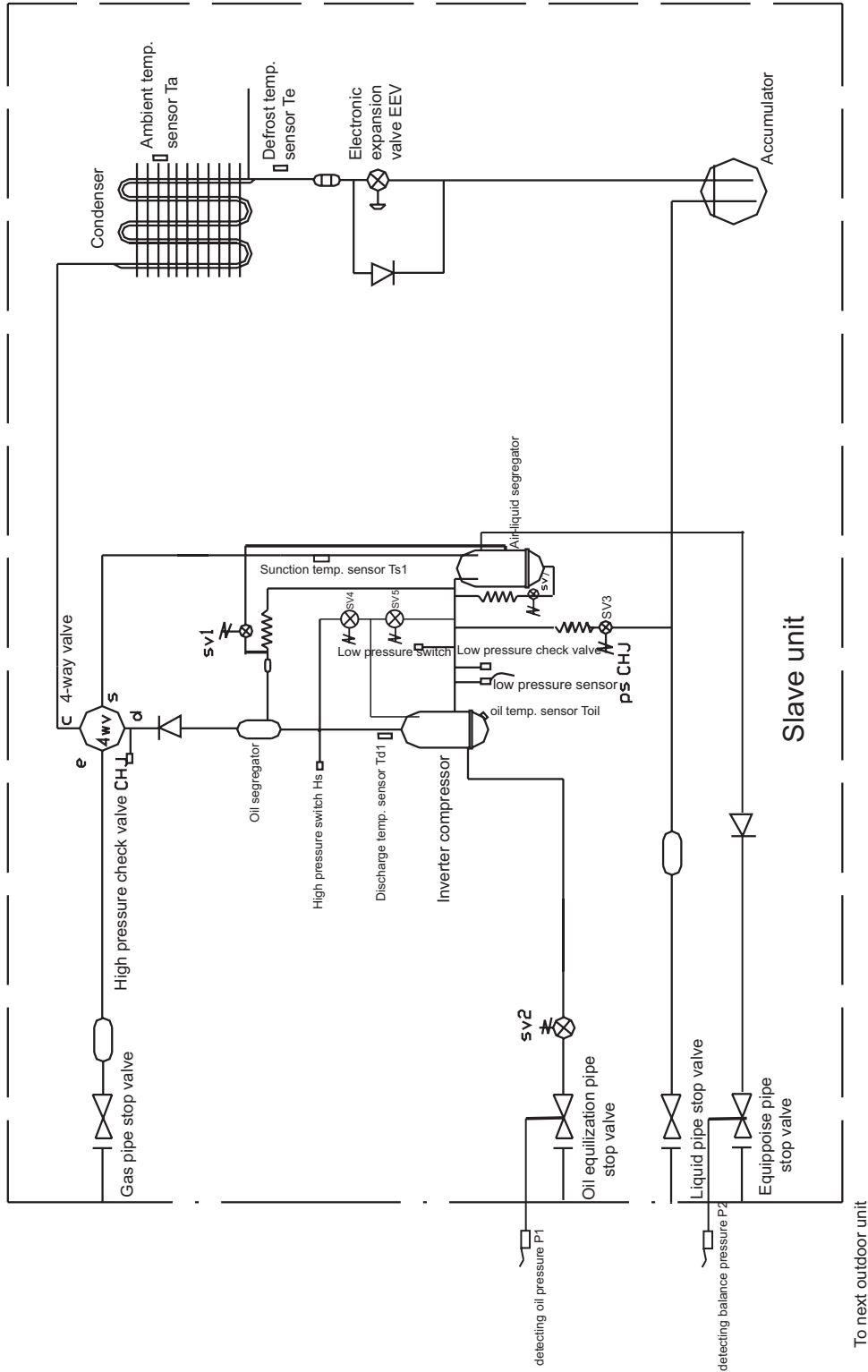
	Max. piping(m)	piping
Total piping length	250	$L_a+L_b+L_c+L_a+L_b+L_c+L_d+L_e+L_f+L_g+L_h+L_1+L_2+L_3+L_4+L_5+L_6$
Longest pipe length	Actual(100)	$L_a+L_b+L_c+L_d+L_g+L_h+L_6$
	Equivalent(125)	
Max. piping length after the first branch	50	$L_g+L_h+L_6$
Main piping length	70	L_d
Height difference between indoor units	20	" " " " " "
Height difference between outdoor units	0	" " " " " "

2.1.4 Refrigerant diagram

(1) Master unit: AU78NMTAHA, AU96NMTAHA



(2) Slave units: AU78NMTAAA, AU96NMTAAA



2.1.5 Main parts

(1) Master unit

Part name	Sign	Function	Data
Compressor	MC	capacity control, meet indoor load request by adjusting the frequency	resistor of 3-phase coil:0.481 Ω , $\epsilon\epsilon\epsilon 20\Omega$
Pressure switch	Hs	High pressure protection	3.3Mpa, OFF
	Ls	Low pressure protection	0.05 Mpa,OFF
Pressure sensor	Pd	in heating,compressor frequency correction,abnormal pressure protection	PS8040A150NH4-H
	Ps	in heating,compressor frequency correction,EEV overheat control,abnormal pressure protection	PS8040A150NH4-L
Electronic expansion valve	EEV	in heating,refrigerant flow control	full pulse:2000 10TON
Solenoid valve	SV1	reduce high/low pressure drop on compressor startup; high/low pressure protection; light load control	AC220V, open when power is on; close when power is off
	SV2	oil equalization control	
	SV3	discharging temp. and oil temp. control	
Oil return valve	SV7	used to control oil return of gas-liquid segregator	
4-way valve	4WV	change over between cooling and heating	AC220V,electrified in heating; not electrified in cooling or defrosting
Temp. sensor	Toil	check refrigerant oil temp. at compressor bottom	R(25 Ω)=10K
	Te	check frost condition of outdoor heat exchanger	B(25/50 Ω)=3700K
	Td	Detect the discharge temp. of compressor	R(80 Ω)=50K B(25/80 Ω)=4450K
	Ts	Detect the suction temp. of compressor, EEV open control	R(25 Ω)=10K
	Ta	detect ambient temp.,set primary setting for fan speed and EEV open angle	B(25/50 Ω)=3700K
Heater	CH1	used to heat liquid refrigerant in gas-liquid segregator	40W, 220V
	CH2	used to heat liquid refrigerant in compressor	48W*2, 220V
Pressure equalization valve	SV6	used to equalize the pressure between master and slave unit in heating mode	AC220V, open when power is on; close when power is off

(2) Slave unit

Part name	Sign	Function	Data
Compressor	MC	capacity control, meet indoor load request by using solenoid valve SV4 and SV5 to adjust the capacity	resistor of 3-phase coil : 1 . 197 f , £20
Pressure switch	Hs	High pressure protection	3.3Mpa, OFF
	Ls	Low pressure protection	0.05 Mpa,OFF
Pressure sensor	Ps	check compressor low pressure, in heating EEV overheat control, pressure switch control	PS8040A150NH4-L
Electronic expansion valve	EEV	refrigerant flow control	10TON
Solenoid valve	SV1	reduce high/low pressure drop on compressor startup; high/low pressure protection; light load control	AC220V, open when power is on; close when power is off
	SV2	oil equalization control	
	SV3	Control discharge temp. and oil temp.	
	SV4	Control the capacity of compressor	
	SV5		
Oil return valve	SV7	Control oil return of gas-liquid separator	
4-way valve	4WV	Cooling, heating conversion	AC220V, electrified in heating; not electrified in cooling or defrosting
Temp. sensor	Toil	check refrigerant oil temp. at compressor bottom	R(25 ;)=10K
	Te	check frost condition of outdoor heat exchanger	B(25/50 ;)=3700K
	Td	Detect the discharge temp. of compressor	R(80 ;) =50K B(25/80 ;)=4450K
	Ts	detect compressor suction temp., EEV open angle	R(25 ;) =10K
	Ta	detect ambient temp., set primary setting for fan speed and EEV open angle	B(25/50 ;)=3700K
Heater	CH1	used to heat liquid refrigerant in gas-liquid segregator	40W, 220V
	CH2	used to heat liquid refrigerant in compressor	48W*2, 220V

(3) Indoor unit

Part name	Sign	Function	Data
Electronic expansion valve	EEV	in heating, refrigerant flow control	CAM-BD22FKS-1
			CAM-BD24FKS-1
			HAM-BD30FKS-1
Temp. sensor	TC1	Detect gas pipe temp.	R(25 ;)=10K
	TC2	Detect liquid pipe temp.	B(25/50 ;)=3700K
	Ta1	Detect indoor ambient temp.	R(25 ;)=23K
	Ta2	Detect temp. of wired controller	B(25/50 ;)=4200K

2.1.6 Specifications

(1) Outdoor unit

Equivalent HP		10	10	8	8	
Model		AU96NMTAHA	AU96NMTAAA	AU78NMTAHA	AU78NMTAAA	
Combination mode		**	For combination	**	For combination	
Nominal cooling capacity(KW)		28.0	28.0	22.6	22.6	
Nominal heating capacity(KW)		31.5	31.5	25.0	25.0	
Heating capacity at low temp.(KW)		24.3	24.3	19.5	19.5	
Power source		3N~, 380V, 50Hz				
Electrical characteristics	Cooling	Operating/Max. current(A)	16.8/22.1	16.1/18.3	13.0/18.7	12.5/16.7
		Operating/Max. consumption(kw)	9.85/13.5	9.8/11.8	8.0/11.5	7.5/10.8
	Heating	Operating/Max. current(A)	16.5/20.8	14.8/16.6	11.5/17.6	11.5/16.3
		Operating/Max. consumption(kw)	9.6/13.0	9.0/10.8	7.0/11.0	7.0/10.5
	Power consumption when heating at low temp.(kw)		9.0	8.5	6.5	6.5
Output power of outdoor motor(KW)		0.35				
Exterior dimensions (mm)		990*750*1700				
Weight (Kg)		235				
Exterior colour		ivory				
Compressor model		scroll				
Outdoor airflow (m3/min)		167				
Refrigerant (R22) charge (Kg)		13.0	10.0	13.0	10.0	
Piping dimension	Gas piping(mm)		Ø28.58			
	Liquid piping(mm)		Ø12.7			
	Equipoise/Oil equalization piping(mm)		Ø19.05/Ø9.52			
Noise level(dB(A))		58.0	58.0	57.0	57.0	

Equivalent HP		16		18			
Model		AV16NMTAHA		AV18NMTAHA			
Combination mode		AU78NMTAHA	AU78NMTAAA	AU96NMTAHA	AU78NMTAAA		
Nominal cooling capacity(KW)		45.2		50.6			
Nominal heating capacity(KW)		50.0		56.5			
Heating capacity at low temp.(KW)		39.0		43.8			
Power source		3N~, 380V, 50Hz					
Electrical characteristics	Cooling	Operating/Max. current(A)		25.5/35.4		29.3/38.8	
		Operating/Max. consumption(kw)		15.5/22.3		17.35/24.3	
	Heating	Operating/Max. current(A)		23.0/33.9		28.0/37.1	
		Operating/Max. consumption(kw)		14.0/21.5		16.6/23.5	
	Power consumption when heating at low temp.(kw)		13.0		15.5		
Output power of outdoor motor(KW)		0.7(0.35*2)					
Exterior dimensions (mm)		2000*750*1700					
Weight (Kg)		470(235*2)					
Exterior colour		ivory					
Compressor model		scroll					
Outdoor airflow (m3/min)		334(167*2)					
Refrigerant (R22) charge (Kg)		23.0(13.0+10.0)					
Piping dimension	Gas piping(mm)		Ø38.1(Ø28.58*2)		Ø38.1(Ø28.58*2)		
	Liquid piping(mm)		Ø15.88(Ø12.7*2)		Ø15.88(Ø12.7*2)		
	Equipoise/Oil equalization piping(mm)		Ø19.05/Ø9.52				
Noise level(dB(A))		60		60			

Equivalent HP		20		24		
Model		AV20NMTAHA		AV24NMTAHA		
Combination mode		AU96NMTAHA	AU96NMTAAA	AU78NMTAHA	AU78NMTAAA*2	
Nominal cooling capacity(KW)		56.0		67.8		
Nominal heating capacity(KW)		63.0		75.0		
Heating capacity at low temp.(KW)		48.6		58.5		
Power source		3N~, 380V, 50Hz				
Electrical characteristics	Cooling	Operating/Max. current(A)		32.9/40.4		
		Operating/Max. consumption(kw)		19.65/25.3		
	Heating	Operating/Max. current(A)		31.3/37.4		
		Operating/Max. consumption(kw)		18.6/23.8		
	Power consumption when heating at low temp.(kw)		17.5		19.5	
Output power of outdoor motor(KW)		0.7(0.35*2)		1.05(0.35*3)		
Exterior dimensions (mm)		2000*750*1700		3010*750*1700		
Weight (Kg)		470(235*2)		705(235*3)		
Exterior colour		ivory				
Compressor model		scroll				
Outdoor airflow (m3/min)		334(167*2)		501(167*3)		
Refrigerant (R22) charge (Kg)		23.0(13.0+10.0)		33.0(13.0+10.0*2)		
Piping dimension	Gas piping(mm)		F38.1(F28.58*2)		F38.1(F28.58*2)	
	Liquid piping(mm)		F19.05(F12.7 *2)		F19.05(F12.7*2)	
	Equipoise/Oil equalization piping(mm)		F19.05/F9.52			
Noise level(dB(A))		60		61		

Equivalent HP		26			28	
Model		AU26NMTAHA			AU28NMTAHA	
Combination mode		AU96NMTAHA	AU78NMTAAA*2	AU96NMTAHA	AU96NMTAAA	AU78NMTAAA
Nominal cooling capacity(KW)		73.2			78.6	
Nominal heating capacity(KW)		81.5			88.0	
Heating capacity at low temp.(KW)		63.3			68.1	
Power source		3N~, 380V, 50Hz				
Electrical characteristics	Cooling	Operating/Max. current(A)			41.8/55.5	
		Operating/Max. consumption(kw)			24.85/35.1	
	Heating	Operating/Max. current(A)			39.5/53.4	
		Operating/Max. consumption(kw)			23.6/34	
	Power consumption when heating at low temp.(kw)		22			24
Output power of outdoor motor(KW)		1.05(0.35*3)			1.05(0.35*3)	
Exterior dimensions (mm)		3010*750*1700			3010*750*1700	
Weight (Kg)		705(235*3)			705(235*3)	
Exterior colour		ivory				
Compressor model		scroll				
Outdoor airflow (m3/min)		501(167*3)				
Refrigerant (R22) charge (Kg)		33.0(13.0+10.0*2) 7*3)				
Piping dimension	Gas piping(mm)		ø44.5(ø28.58*3)			
	Liquid piping(mm)		ø22.22(ø12.7*3)			
	Equipoise/Oil equalization piping(mm)		ø19.05/ø9.52			
Noise level(dB(A))		61			61	

Equivalent HP		30	32
Model		AV30NMTAHA	
Combination mode		AU96NMTAHA AU96NMTAAA*2	AU78NMTAHA AU78NMTAAA*3
Nominal cooling capacity(KW)		84.0	90.4
Nominal heating capacity(KW)		94.5	100.0
Heating capacity at low temp.(KW)		72.9	78.0
Power source		3N~, 380V, 50Hz	
Electrical characteristics	Cooling	Operating/Max. current(A)	49.0/58.7
		Operating/Max. consumption(kw)	29.45/37.1
	Heating	Operating/Max. current(A)	46.1/54.0
		Operating/Max. consumption(kw)	27.6/34.6
	Power consumption when heating at low temp.(kw)		26.0
Output power of outdoor motor(KW)		1.05(0.35*3)	1.4(0.35*4)
Exterior dimensions (mm)		3010*750*1700	4020*750*1700
Weight (Kg)		705(235*3)	940(235*4)
Exterior colour		ivory	
Compressor model		scroll	
Outdoor airflow (m3/min)		501(167*3)	668(167*4)
Refrigerant (R22) charge (Kg)		33.0(13.0+10.0*2)	43.0(13.0+10.0*3)
Piping dimension	Gas piping(mm)	∅44.5(∅28.58*3)	∅44.5(∅28.58*4)
	Liquid piping(mm)	∅22.22(∅12.7*3)	∅22.22(∅12.7*4)
	Equipoise/Oil equalization piping(mm)	∅19.05/∅9.52	
Noise level(dB(A))		62	62

Equivalent HP		34	36
Model		AV34NMTAHA	
Combination mode		AU96NMTAHA AU78NMTAAA*3	AU96NMTAHA AU96NMTAAA AU78NMTAAA*2
Nominal cooling capacity(KW)		95.8	101.2
Nominal heating capacity(KW)		106.5	113.0
Heating capacity at low temp.(KW)		82.8	87.6
Power source		3N~, 380V, 50Hz	
Electrical characteristics	Cooling	Operating/Max. current(A)	54.3/72.2
		Operating/Max. consumption(kw)	32.35/45.9
	Heating	Operating/Max. current(A)	51/69.7
		Operating/Max. consumption(kw)	30.6/44.5
	Power consumption when heating at low temp.(kw)		28.5
Output power of outdoor motor(KW)		1.4(0.35*4)	1.4(0.35*4)
Exterior dimensions (mm)		4020*750*1700	4020*750*1700
Weight (Kg)		940(235*4)	940(235*4)
Exterior colour		ivory	
Compressor model		scroll	
Outdoor airflow (m3/min)		668(167*4)	
Refrigerant (R22) charge (Kg)		43.0(13.0+10.0*3)	
Piping dimension	Gas piping(mm)	∅44.5(∅28.58*4)	
	Liquid piping(mm)	∅22.22(∅12.7*4)	
	Equipoise/Oil equalization piping(mm)	∅19.05/∅9.52	
Noise level(dB(A))		62	62

Equivalent HP		38			40	
Model		AV38NMTAHA			AV40NMTAHA	
Combination mode		AU96NMTAHA	AU96NMTAAA*2	AU78NMTAAA	AU96NMTAHA	AU96NMTAAA*3
Nominal cooling capacity(KW)		106.6			112.0	
Nominal heating capacity(KW)		119.5			126.0	
Heating capacity at low temp.(KW)		92.4			97.2	
Power source		3N~, 380V, 50Hz				
Electrical characteristics	Cooling	Operating/Max. current(A)			61.5/75.4	
		Operating/Max. consumption(kw)			36.95/47.9	
	Heating	Operating/Max. current(A)			57.6/70.3	
		Operating/Max. consumption(kw)			34.6/45.1	
		Power consumption when heating at low temp.(kw)			32.5	
		Output power of outdoor motor(KW)			1.4(0.35*4)	
Exterior dimensions (mm)		4020*750*1700			4020*750*1700	
Weight (Kg)		940(235*4)			940(235*4)	
Exterior colour		ivory				
Compressor model		scroll				
Outdoor airflow (m3/min)		668(167*4)				
Refrigerant (R22) charge (Kg)		43.0(13.0+10.0*3)				
Piping dimension	Gas piping(mm)		Ø50.8(Ø28.58*4)			
	Liquid piping(mm)		Ø25.4(Ø12.7*4)			
	Equipoise/Oil equalization piping(mm)		Ø19.05/Ø9.52			
Noise level(dB(A))		63			63	

A. Low static pressure duct type

Model	AD072ML AIA	AD092ML AIA	AD122ML AIA	AD142ML AIA	AD162ML AIA	AD182ML AIA	AD242ML AIA	
Nominal cooling capacity(KW)	2.2	2.8	3.6	4.0	4.5	5.6	7.1	
Nominal heating capacity(KW)	2.6	3.4	4.0	4.5	5.0	6.3	8.0	
Electrical heating power(KW) /Current(A)	--	--	--	--	--	--	--	
Electrical characteristics	Power source	1PH, 220V~, 50Hz						
	Operating current(A)	0.25	0.25	0.25	0.27	0.27	0.27	0.55
	Power consumption(KW)	0.045	0.045	0.045	0.05	0.05	0.05	0.11
Fan characteristics	Standard airflow(m ³ /h)	500	500	500	850	850	850	1250
	Standard static pressure(Pa)	0						
	Max. static pressure(Pa)	20						
Exterior dimensions(mm)	610*483.5 *220	610*483.5 *220	610*483.5 *220	1105*483. 5*220	1105*483. 5*220	1105*483. 5*220	1105*483. 5*220	
Air outlet dimensions(mm)	418*131	418*131	418*131	880*131	880*131	880*131	880*131	
Weight(Kg)	13/15	13/15	14/16	25/27	25/27	25/27	28/30	
Expansion mode	Electronic expansion valve							
Controller	Wired controller/ wireless controller (optional)							
Piping dimension	Gas piping(mm)	∅12.7	∅12.7	∅12.7	∅12.7	∅12.7	∅15.88	∅15.88
	Liquid piping(mm)	∅6.35	∅6.35	∅6.35	∅6.35	∅6.35	∅9.52	∅9.52
	Drain hose(mm)	∅24	∅24	∅24	∅24	∅24	∅24	∅24
Noise level(dB(A)) H/M/L	35/32/30	35/32/30	35/32/30	35/32/30	35/32/30	36/33/31	39/37/35	

Model	AD282MLAIA	AD322MLAIA	AD382MLAIA	AD482MLAIA	
Nominal cooling capacity(KW)	8.0	9.0	11.2	14.0	
Nominal heating capacity(KW)	9.0	10.0	12.5	16.0	
Electrical heating power(KW) /Current(A)	--	--	--	--	
Electrical characteristics	Power source	1PH, 220V~, 50Hz			
	Operating current(A)	0.55	1	1	1
	Power consumption(KW)	0.11	0.2	0.2	0.2
Fan characteristics	Standard airflow(m ³ /h)	1250	1800	1800	1800
	Standard static pressure(Pa)	0			
	Max. static pressure(Pa)	20			
Exterior dimensions(mm)	1105*483.5*220	1656*500*220	1656*500*220	1656*500*220	
Air outlet dimensions(mm)	880*131	1470*115	1470*115	1470*115	
Weight(Kg)	28/29	39/41.5	41/43.5	41/43.5	
Expansion mode	Electronic expansion valve				
Controller	Wired controller/ wireless controller (optional)				
Piping dimension	Gas piping(mm)	15.88	∅ 15.88	∅ 19.05	∅ 19.05
	Liquid piping(mm)	9.52	∅ 9.52	∅ 9.52	∅ 9.52
	Drain hose(mm)	24	∅ 24	∅ 24	∅ 24
Noise level(dB(A)) H/M/L	39/37/35	43/41/39	43/41/39	43/41/39	

B. 4-way cassette type

Model	AB072MCAHA	AB092MCAHA	AB122MCAHA	AB142MCAHA	AB162MCAHA
Nominal cooling capacity(KW)	2.2	2.8	3.6	4.0	4.5
Nominal heating capacity(KW)	2.5	3.2	4.0	4.5	5.0
Electrical characteristics	Power source	1PH, 220V~, 50Hz			
	Operating current(A)	0.47			
	Power consumption(KW)	0.08			
Fan characteristics	Standard airflow(m ³ /h)	700			
	Standard static pressure(Pa)	0			
	Max. static pressure(Pa)	-----			
Exterior dimensions(mm)	570*570*260				
Panel exterior dimensions(mm)	700*700*609				
Weight(Kg)	19+2.8				
Expansion mode	Electronic expansion valve				
Controller	Wired controller/ wireless controller (optional)				
Piping dimension	Gas piping(mm)	∅ 12.7	∅ 12.7	∅ 12.7	∅ 12.7
	Liquid piping(mm)	∅ 6.35	∅ 6.35	∅ 6.35	∅ 6.35
	Drain hose(mm)	∅ 32	∅ 32	∅ 32	∅ 32
Noise level(dB(A)) H/M/L	32/30/29	32/30/29	32/30/29	33/30/29	33/30/29

Model	AB182MC AHA	AB242M CAHA	AB282MC AHA	AB322MC AHA	AB382MC AHA	AB482MC AHA	
Nominal cooling capacity(KW)	5.6	7.1	8.0	9.0	11.2	14.0	
Nominal heating capacity(KW)	6.3	8.0	9.0	10.0	12.5	16.0	
Electrical heating power(KW) /Current(A)	--	--	--	--	--	--	
Electrical characteristics	Power source	1PH, 220V~, 50Hz					
	Operating current(A)	0.45	0.51	0.51	0.76	0.76	0.76
	Power consumption(KW)	0.09	0.1	0.1	0.15	0.15	0.15
Fan characteristics	Standard airflow(m ³ /h)	1020			1920		
	Standard static pressure(Pa)	0					
	Max. static pressure(Pa)	-----					
Exterior dimensions(mm)	840*840*240			840*840*295			
Panel exterior dimensions(mm)	950*950*80						
Weight(Kg)	36(30+6)			44(38+6)			
Controller	Wired controller/ wireless controller (optional)						
Piping dimension	Gas piping(mm)	∅ 15.88	∅ 15.88	∅ 15.88	∅ 15.88	∅ 19.05	∅ 19.05
	Liquid piping(mm)	∅ 9.52					
	Drain hose(mm)	∅ 32					
	Connecting method	Flared joint					
Noise level(dB(A)) H/M/L	34/32/30	35/34/31	37/35/31			42/39/35	

C. Wall mounted type

Model	AS072MCAHA	AS092MCAHA	AS122MCAHA	AS142MCAHA	AS162MCAHA	AS182MCAHA
Nominal cooling capacity(KW)	2.2	2.8	3.6	4.0	4.5	5.6
Nominal heating capacity(KW)	2.5	3.2	4.0	4.5	5.0	6.3
Electrical characteristics	Power source	1PH, 220V~, 50Hz				
	Operating current(A)	0.08		0.1	0.25	
	Power consumption(KW)	0.015		0.02	0.05	
Fan characteristics	Standard airflow(m ³ /h)	600	630		760	
	Standard static pressure(Pa)	0				
	Max. static pressure(Pa)	-----				
Exterior dimensions(mm)	795*197*265				928*197*265	
Air outlet dimensions(mm)	600*85				850*85	
Weight(Kg)	10				13	
Controller	Wired controller/ wireless controller (optional)					
Piping dimension	Gas piping(mm)	Ø 12.7				Ø 15.88
	Liquid piping(mm)	Ø 6.35				Ø 9.52
	Drain hose(mm)	Ø 16.5				
	Connecting method	Flared joint + brazing				
Noise level(dB(A)) H/M/L	34/30/29		35/32/29		38/36/32	

D. Middle static pressure duct type

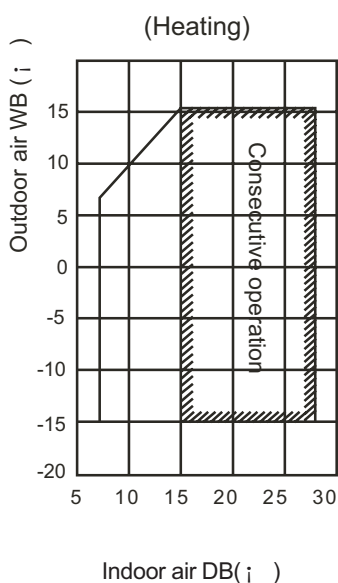
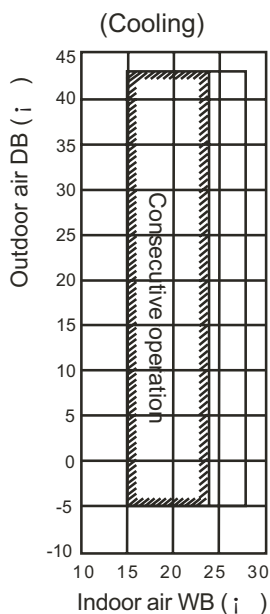
Model		AD322MMAHA	AD382MMAHA	AD482MMAHA
Nominal cooling capacity(KW)		9.0	11.2	14.0
Nominal heating capacity(KW)		10.0	12.5	16.0
Electrical heating power(KW) /Current(A)		--	--	--
Electrical characteristics	Power source	1PH, 220V, 50Hz		
	Operating current(A)	0.51		
	Power consumption(KW)	0.1		
Fan characteristics	Standard airflow(m ³ /h)	1900	1900	2100
	Standard static pressure(Pa)	50		
	Max. static pressure(Pa)	96		
Exterior dimensions(mm)		1410*645*350		
Air outlet dimensions(mm)		Ø200*4		
Weight(Kg)		57		
Controller		Wired controller/ wireless controller (optional)		
Accessories		Use for installation		
Piping dimension	Gas piping(mm)	Ø 15.88	Ø 19.05	Ø 19.05
	Liquid piping(mm)	Ø 9.52		
	Drain hose(mm)	Ø 32		
Noise level(dB(A)) H/M/L		43/37/35		44/40/36

2.1.7 Optional accessories list

Name	Model	Units	Code number	Remark
Gather pipe assembly	HZG-20	AV16,18,20NMTAHA	AZOG8000000	
	HZG-30	AV24,26,28,30NMTAHA	AZOG9000000	
	HZG-40	AV32,34,36,38,40NMTAHA	AZOGA0000000	
Branch pipe assembly	FQG-B120	-----	10105904000	
	FQG-B180	-----	10100802800	
	FQG-B370	-----	10100802700	
	FQG-B700	-----	AZ0GB000000	
	FQG-B1100	-----	AZ0GC000000	
	FQG-B1460	-----	AZ0GD000000	
Standard wired controller	YR-E12	All indoor units	AZ0H8000000	
Remote controller	YR-H71	AD322,482MM/MLAHA	AZ0HA000000	With the remote receiver
Remote controller	YR-H71	AS072~182MCAHA AB072~162MCAHA	10105904900	The remote receiver is in the panel or the front panel
Remote controller	YR-H71	KMR(d)- 56~140Q/520B	AZ0LJ000000	with the remote receiver and the panel
Group controller	YR-E12	All indoor units	AZ0JD000000	Max. 16 (Group) indoor units
Central controller	ICR01	All indoor units	AZ0K5000000	Max. 64 (Group) indoor units
Connection board	IGU04	All indoor units	AZ0K6000000	Used with the ICR01 assembly(1: 64), can be installed in the electrical box of master unit

2.2 Performance curves

2.2.1 Running range

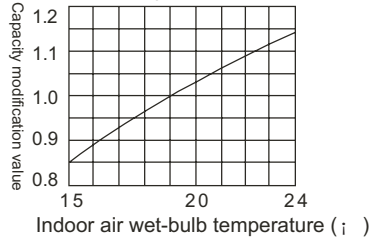


2.2.2 Calculation method

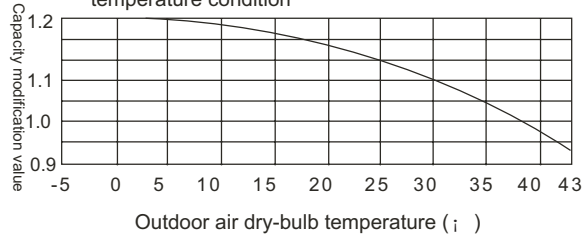
(1) Calculation method of refrigerating capacity---Refrigerating capacity to be known

=Refrigerating capacity x (A x B x C x D x E) W

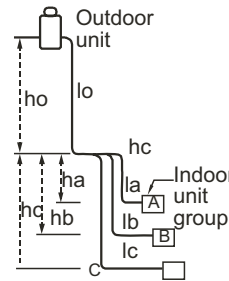
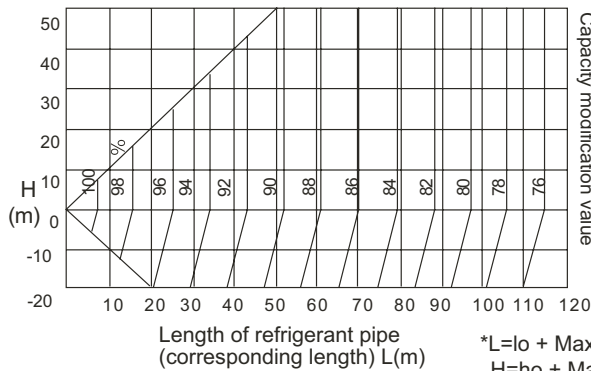
A. Capacity compensation value of indoor air wet-bulb temperature condition



B. Capacity compensation value of outdoor air dry-bulb temperature condition



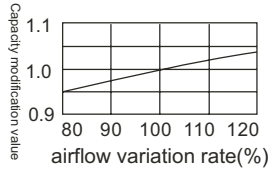
C. Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length



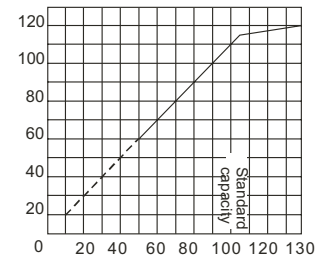
$$*L = lo + \text{Max.} (la, lb, lc)$$

$$H = ho + \text{Max.} (ha, hb, hc)$$

D. Capacity modification value under airflow variation rate of indoor unit group (only for duct unit)



E. Capacity compensation suitable for total capability of indoor unit group (cooling)

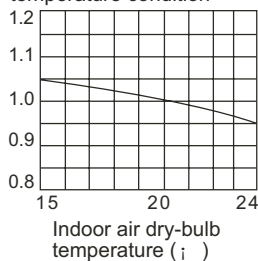


Total capacity of indoor unit group(%)

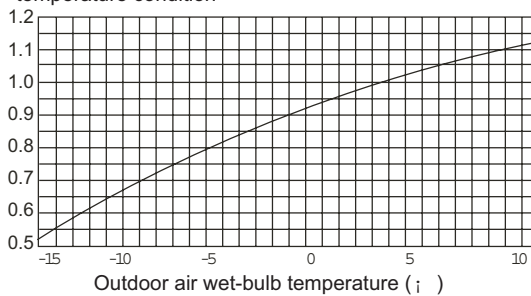
(2) Calculation method of heating capacity---Heating capacity to be known

= Heating capacity x (A x B x C x D x E x F) W

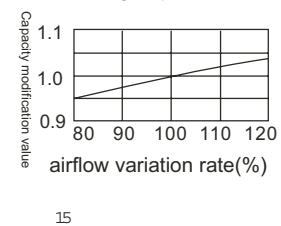
A. Capacity modification under indoor air dry-bulb temperature condition



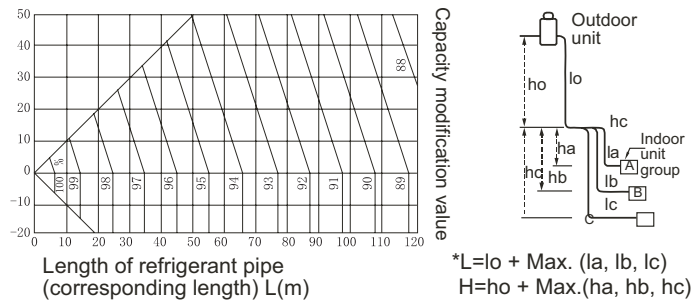
B. Capacity modification under outdoor air wet-bulb temperature condition



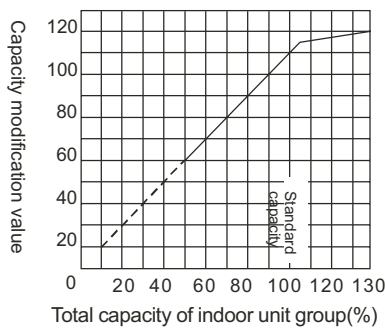
C. Capacity modification value under airflow variation rate of indoor unit group



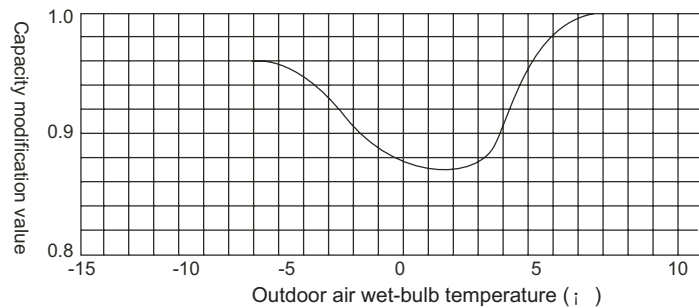
D. Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length



E. Capacity compensation suitable for total capability of indoor unit group (heating)



F. Capacity compensation value for defrost capability of outdoor heat exchanger



(3) Calculation method of refrigerating capacity---Only one indoor unit running

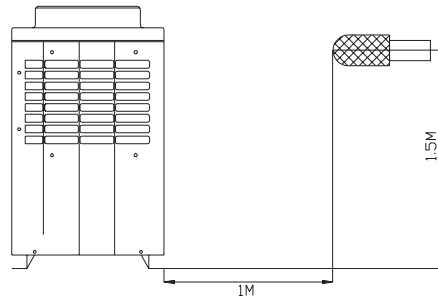
$$\text{Outdoor modified capacity with a single indoor running} = \text{outdoor modified capacity} * \frac{\text{standby indoor nominal capacity}}{\text{Indoor total nominal capacity}}$$

(Outdoor modified capacity: heating or cooling capacity after modify item 1 and 2)

2.3 Noise level

2.3.1 Outdoor running noise:

(1) Testing illustrate:



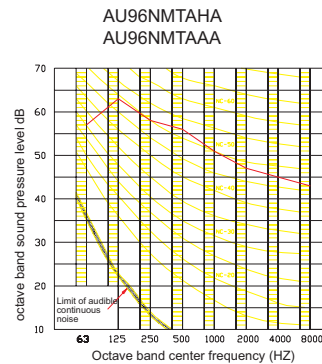
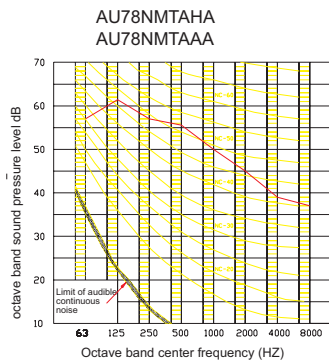
(2) Testing condition:

- Unit running in the nominal condition
- Test in the semi-anechoic chamber
- Noise level varies from the actual factors such as room structure, etc.

(3) Noise level dB(A):

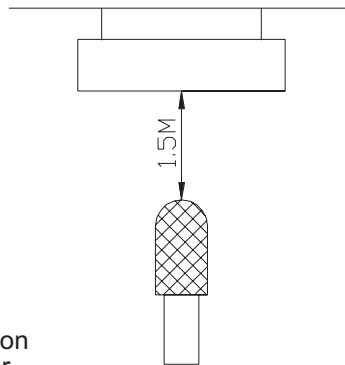
Air speed	Outdoor unit group(380V, 50HZ)												
	8HP	10HP	16HP	18HP	20HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP
H	57	58	60		61			62			63		

(4) Octave band level



2.3.2 Ceiling concealed type running noise:

(1) Testing illustrate:



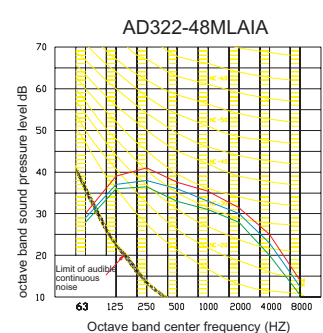
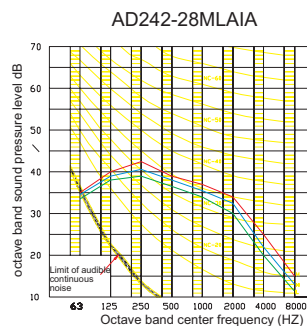
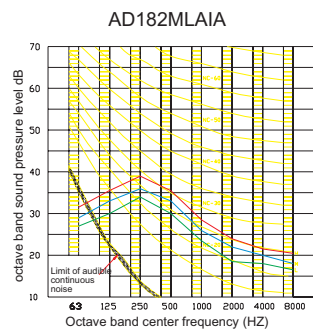
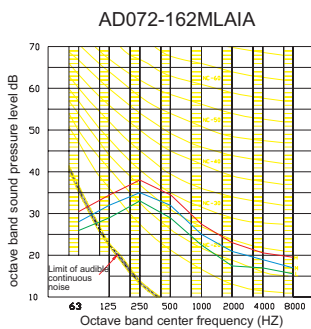
(2) Testing condition:

- Unit running in the nominal condition
- Test in the semi-anechoic chamber
- Noise level varies from the actual factors such as room structure, etc.

(3) Noise level dB(A):

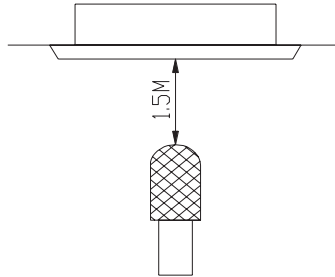
Air speed	Ceiling concealed duct type (220V, 50HZ)										
	07	09	12	14	16	18	24	28	32	38	48
H			35			36		39		43	
M			32			33		37		41	
L			30			31		35		39	

(4) Octave band level



2.3.3 4-way cassette type running noise:

(1) Testing illustrate:



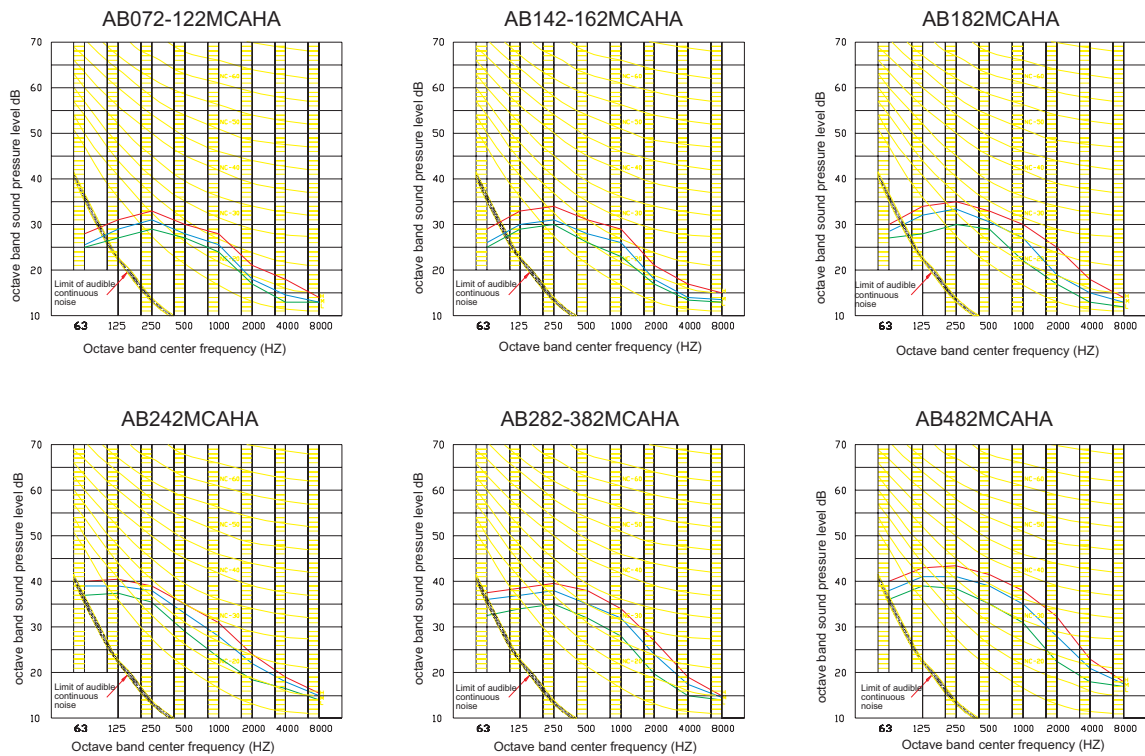
(2) Testing condition:

- a. Unit running in the nominal condition
- b. Test in the semi-anechoic chamber
- c. Noise level varies from the actual factors such as room structure, etc.

(3) Noise level dB(A):

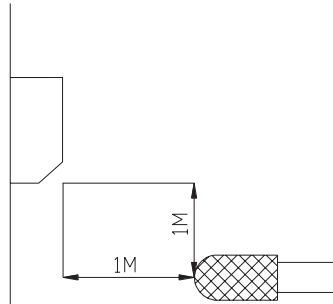
Air speed	4-way cassette type (220V, 50HZ)										
	22(0.8)	28(1.0)	36(1.25)	40(1.5)	45(1.7)	56(2.0)	71(2.5)	80(3.0)	90(3.2)	112(4.0)	140(5.0)
H		32		33	34	35			37		42
M		30		30	32	34			35		39
L		29		29	30	31			31		35

(4) Octave band level



2.3.4 Wall mounted type running noise:

(1) Testing illustrate:



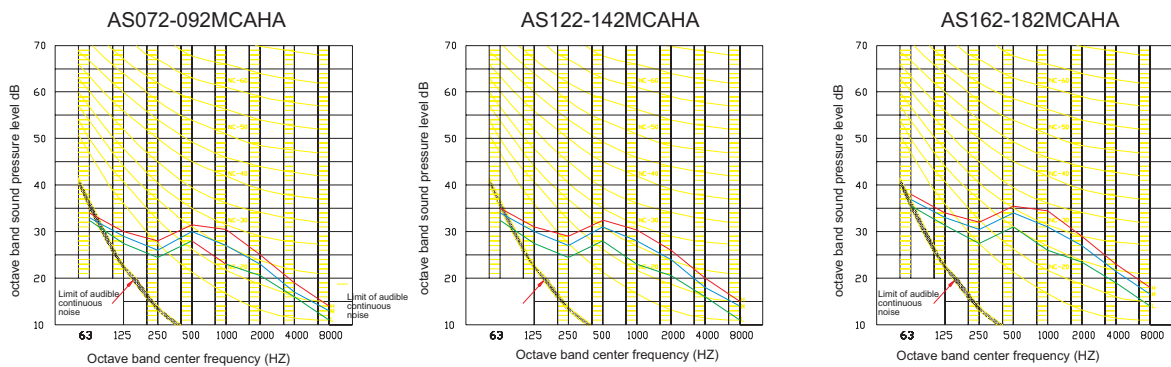
(2) Testing condition:

- a. Unit running in the nominal condition
- b. Test in the semi-anechoic chamber
- c. Noise level varies from the actual factors such as room structure, etc.

(3) Noise level dB(A):

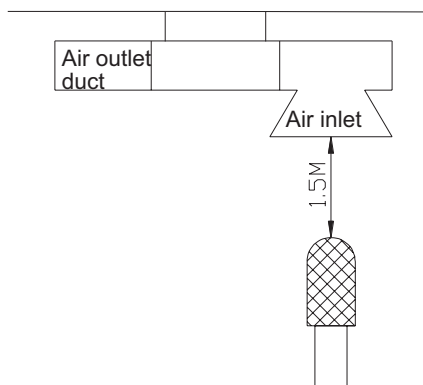
Air speed	Wall mounted type (220V,50HZ)					
	22(0.8)	28(1.0)	36(1.25)	40(1.5)	45(1.7)	56(2.0)
H	34		35		38	
M	30		32		36	
L	29		29		32	

(4) Octave band level



2.3.5 Middle static pressure duct type running noise:

(1) Testing illustrate:



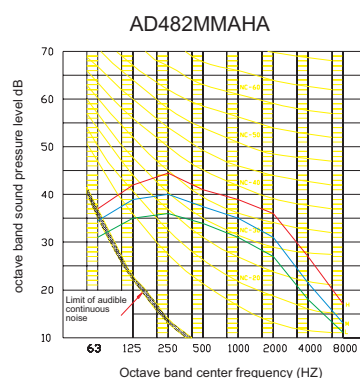
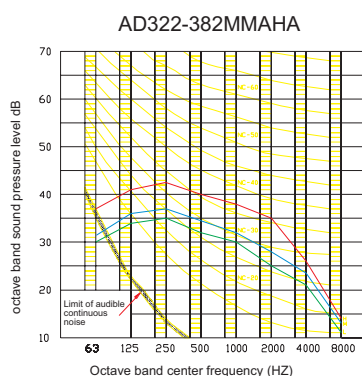
(2) Testing condition:

- a. Unit running in the nominal condition
- b. Test in the semi-anechoic chamber
- c. Noise level varies from the actual factors such as room structure, etc.

(3) Noise level dB(A):

Air speed	Middle static pressure duct type (220V, 50HZ)		
	90(3.2)	112(4.0)	140(5.0)
H	43	43	44
M	37	37	40
L	35	35	36

(4) Octave band level



Installation instruction

- 3.1 Outdoor installation
- 3.2 Indoor installation
- 3.3 Circuit diagram
- 3.4 Electric installation

3.1 Outdoor installation

SAFETY PRECAUTIONS

Please read these "Safety Precautions" first then accurately execute the installation work.

Though the precautionary points indicated herein are divided under two headings, "WARNING" and "CAUTION", those points which are related to the strong possibility of an installation done in error resulting in death or serious injury are listed in the "WARNING" section. However, there is also a possibility of serious consequences in relationship to the points listed in the "CAUTION" section as well. In either case, important safety related information is indicated, so by all means, properly observe all that is mentioned.

After completing the installation, along with confirming that no abnormalities were seen from the operation tests, please explain operating methods as well as maintenance methods to the user (customer) of this equipment, based on the owner's manual.

Moreover, ask the customer to keep this sheet together with the owner's manual.

WARNING

This system should be applied to places of office, restaurant, residence and the like. Application to inferior environment such as engineering shop could cause equipment malfunction.

Please entrust installation to either the company which sold you the equipment or to a professional contractor. Defects from improper installations can be the cause of water leakage, electric shocks and fires.

Execute the installation accurately, based on following the installation manual. Again, improper installations can result in water leakage, electric shocks and fires.

When a large air-conditioning system is installed to a small room, it is necessary to have a prior planned countermeasure for the rare case of a refrigerant leakage, to prevent the exceeding of threshold concentration. In regards to preparing this countermeasure, consult with the company from which you purchased the equipment, and make the installation accordingly. In the rare event that a refrigerant leakage and exceeding of threshold concentration does occur, there is the danger of a resultant oxygen deficiency accident.

For installation, confirm that the installation site can sufficiently support heavy weight. When strength is insufficient, injury can result from a falling of the unit.

Execute the prescribed installation construction to prepare for earthquakes and the strong winds of typhoons and hurricanes, etc. Improper installations can result in accidents due to a violent falling over of the unit.

For electrical work, please see that a licensed electrician executes the work while following the safety standards related to electrical equipment, and local regulations as well as the installation instructions, and that only exclusive use circuits are used. Insufficient power source circuit capacity and defective installment execution can be the cause of electric shocks and fires.

Accurately connect wiring using the proper cable, and insure that the external force of the cable is not conducted to the terminal connection part, through properly securing it. Improper connection or securing can result in heat generation or fire.

Take care that wiring does not rise upward, and accurately install the lid/service panel. Its improper installation can also result in heat generation or fire.

When setting up or moving the location of the air conditioner, do not mix air etc. or anything other than the designated refrigerant (please see nameplate) within the refrigeration cycle.

Rupture and injury caused by abnormal high pressure can result from such mixing.

Always use accessory parts and authorized parts for installation construction. Using parts not authorized by this company can result in water leakage, electric shock, fire and refrigerant leakage.

CAUTION

Execute proper grounding. Do not connect the ground wire to a gas pipe, water pipe, lightning rod or a telephone ground wire.

Improper placement of ground wires can result in electric shock.

The installation of an earth leakage breaker is necessary depending on the established location of the unit. Not installing an earth leakage breaker may result in electric shock.

Do not install the unit where there is a concern about leakage of combustible gas. The rare event of leaked gas collecting around the unit could result in an outbreak of fire.

For the drain pipe, follow the installation manual to insure that it allows proper drainage and thermally insulate it to prevent condensation. Inadequate plumbing can result in water leakage and water damage to interior items.

1. Refrigerant pipe

(1) Piping selection chart(unit of capacity: 100W)

	Capacity	Gas pipe	Liquid pipe	Branch pipe
Total capacity of indoor units	~101	Ø 15.88	Ø 9.52	FQG-B120
	101~180	Ø 19.05	Ø 9.52	FQG-B180
	180~371	Ø 28.58	Ø 12.7	FQG-B370
	371~540	Ø 31.8	Ø 15.88	FQG-B700
	540~700	Ø 38.1	Ø 19.05	
	700~1100	Ø 44.5	Ø 22.22	FQG-B1100
	1100~	Ø 50.8	Ø 25.4	FQG-B1460

Remark: A. Adjust the sub-pipe diameter when the pipes between the sub-pipe and unit need to be adjusted;

B. Select the pipe and branch pipe by the total capacity after indoor unit pipe and sub-pipe.

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(2) Gather pipe for combination of outdoor unit

HZG-20 HZG-30 HZG-40

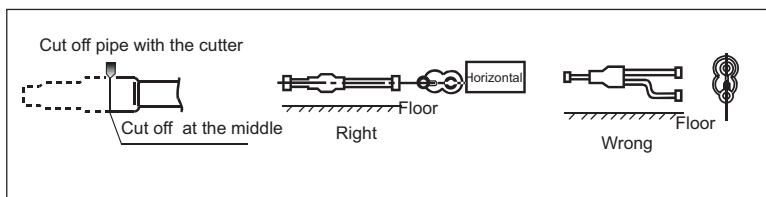
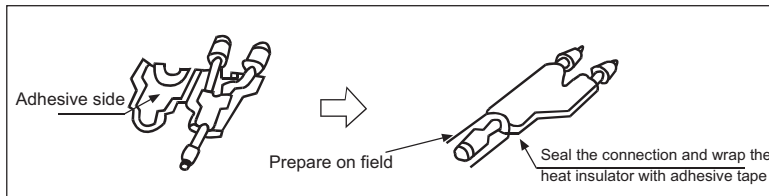
A. Structures of outdoor unit gather pipe (unit:mm, ID: inner diameter; OD: outer diameter)

Note: Cut off the pipe from its middle when using

Model	Side	Mark	Manifold pipe	Insulation material	Side	Mark	
HZG-20	Gas side	Ⓐ			Gas side	①	
	Liquid side	Ⓑ				②	
HZG-30	Gas side	Ⓒ			Gas side	③	
		Ⓓ				④	
	Liquid side	Ⓔ				⑤	
HZG-40	Gas side	Ⓕ			Gas side	⑦	
		Ⓖ				⑧	
		Ⓗ				⑨	
	Liquid side	Ⓖ				⑩	
		Ⓙ				⑪	
						⑫	

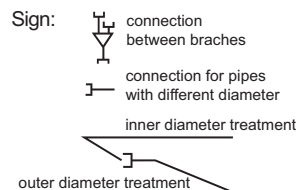
B. Outdoor unit type

The first branch should be at the inverter outdoor unit.



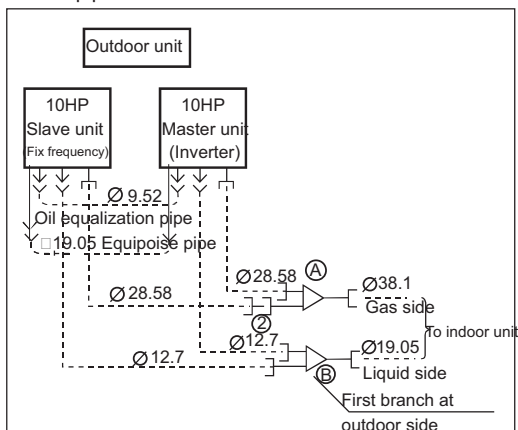
Note:

1. When connecting the gather pipe and the outdoor, please pay attention to the outdoor pipe dimension.
2. When adjusting the diameter among gather pipes and among the units, please must execute at the branch pipe side.
3. Please install the gather pipe(gas/liquid side) in horizontal or vertical direction.
4. When welding with hard solder, please must blow nitrogen. If not, a number of oxide will be produced and cause heavy damage. Besides, to prevent water and dust into the pipe, please make the brim as outer roll.



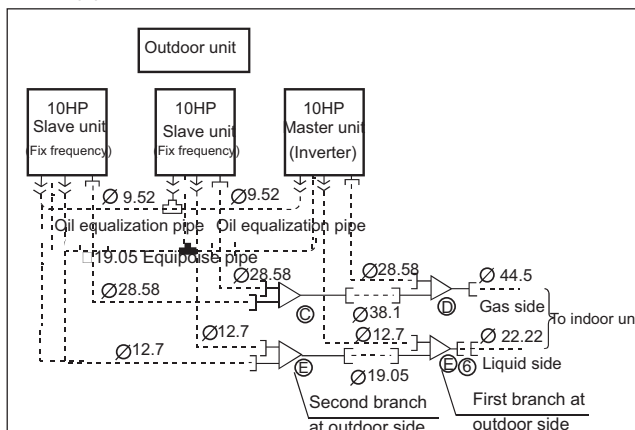
20HP<AU96NMTAHA+AU96NMTAAA>

Gather pipe HZG-20



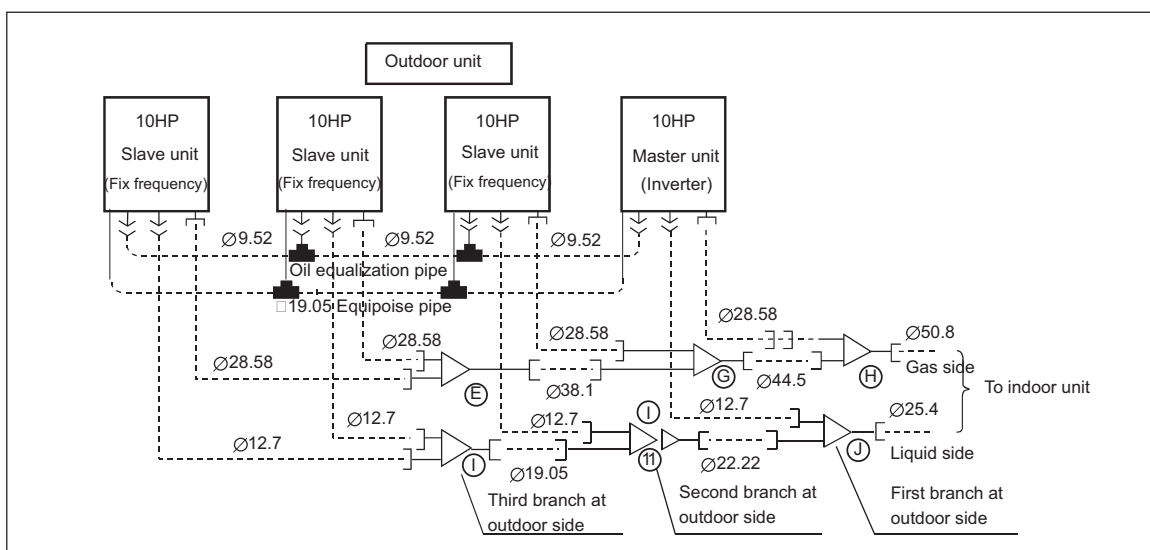
30HP<AU96NMTAHA+AU96NMTAAA*2>

Gather pipe HZG-30



40HP<AU96NMTAHA+AU96NMTAAA*3>

Gather pipe HZG-40



(3) Branch pipe

Branch pipe FQG-B120, FQG-B180, FQG-B370 (unit: mm)

Model	Gas/Liquid pipe	Branch pipe	Changing pipe
FQG-B120	Gas pipe		-----
	Liquid pipe		-----
FQG-B180	Gas pipe		-----
	Liquid pipe		-----
FQG-B370	Gas pipe		
	Liquid pipe		-----

Branch pipe FQG-B700 (unit: mm, ID: inner diameter; OD: outer diameter)

	Gas side	Liquid side
Branch pipe		
Connection of manifold pipe	ID34.92 OD38.1	ID9.52 OD12.7
Connection of manifold pipe	ID12.7 OD15.88	ID6.35 OD12.7
Connection of manifold pipe	ID44.5 OD38.1	ID22.22 OD19.05
Insulation material		

Branch pipe FQG-B1100

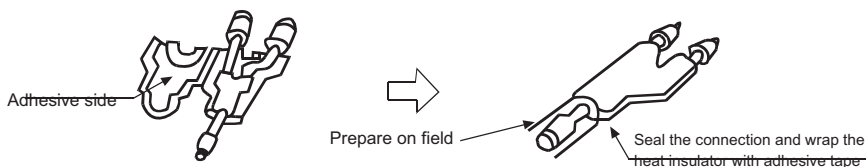
	No.	Gas side	No.	Liquid side
Branch pipe				
Changing pipe	1	ID28.58 OD25.8 (Num.: 2)	5	ID9.52 OD12.7
Changing pipe	2	ID15.88 OD19.05	6	ID6.35 OD12.7
Changing pipe	3	ID12.7 OD19.05	7	ID22.22 OD19.05
Changing pipe	4	ID44.5 OD38.1	Note: there is code sign on the changing pipe	
Insulation material				

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Branch pipe FQG-B1460 (unit: mm)

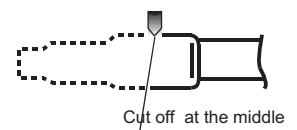
Haier

	No.	Gas side	No.	Liquid side
Branch pipe				
Changing pipe	1		5	
Changing pipe	2		6	
Changing pipe	3		7	
Changing pipe	4		8	
Insulation material				Note: there is code sign on the changing pipe



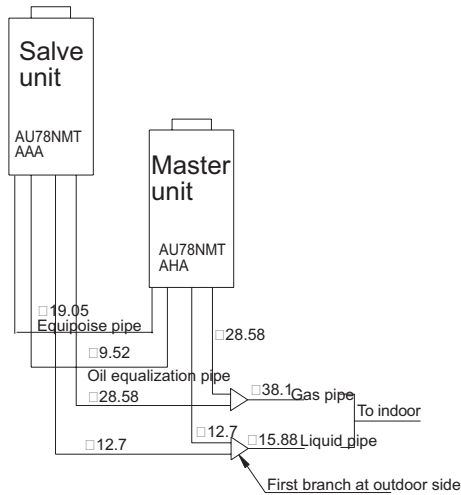
Note:

1. The diameter of pipe between the first branch pipe and outdoor unit should be identical with the main pipe of outdoor unit.
2. The diameter of pipe between branch pipe and indoor unit should be identical with the main pipe of indoor unit.
3. The diameter adjustment of pipe between branch pipe and machine should be proceeded at the branch pipe side.
4. Branch pipe(gas/liquid side) must be installed in horizontal or vertical direction
5. When welding the pipe, please must blow nitrogen. If not, a number of oxide will be produced and cause heavy damage.

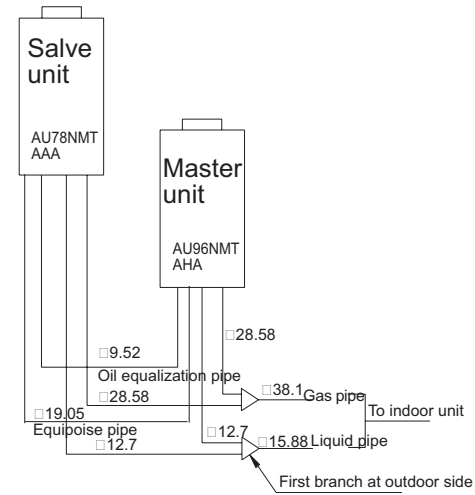


(4) Outdoor unit pipe dimension (Master unit should be the closest to the first gather pipe of outdoor unit)

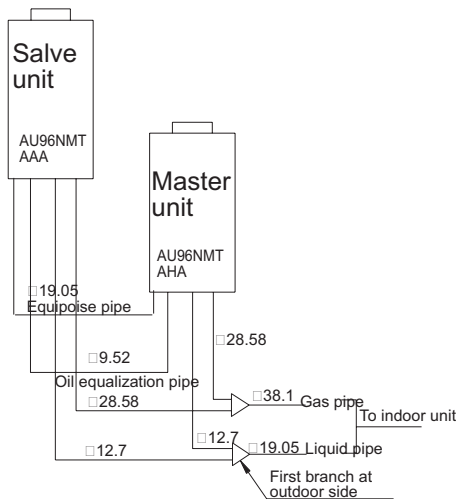
AV16NMTAHA
16HP



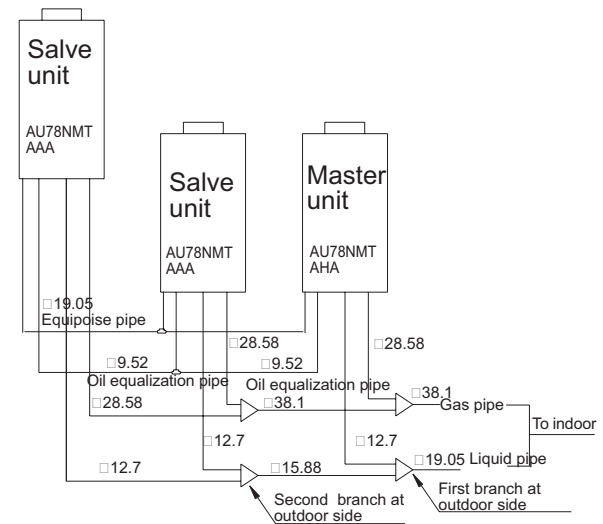
AV18NMTAHA
18HP



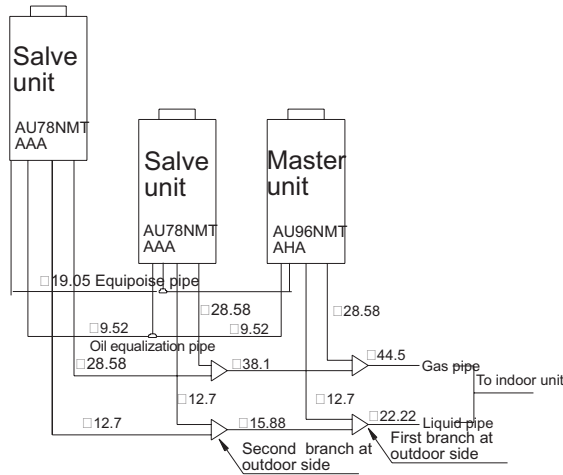
AV20NMTAHA
20HP



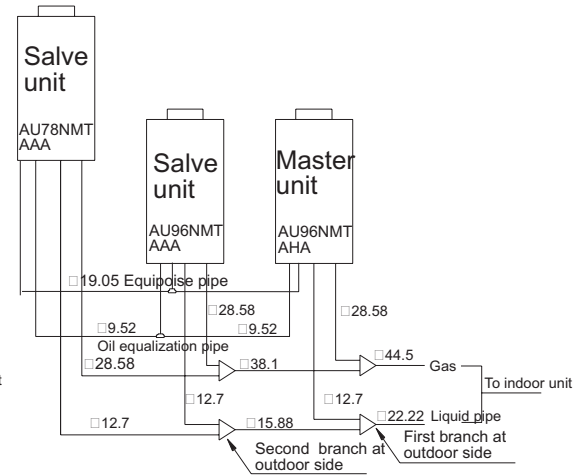
AV24NMTAHA
24HP



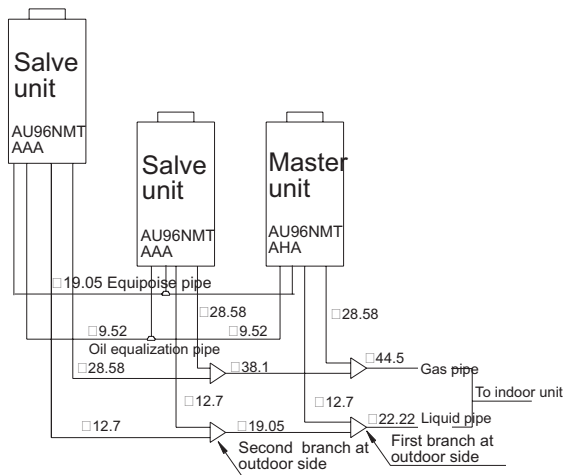
AV26NMTAHA
26HP



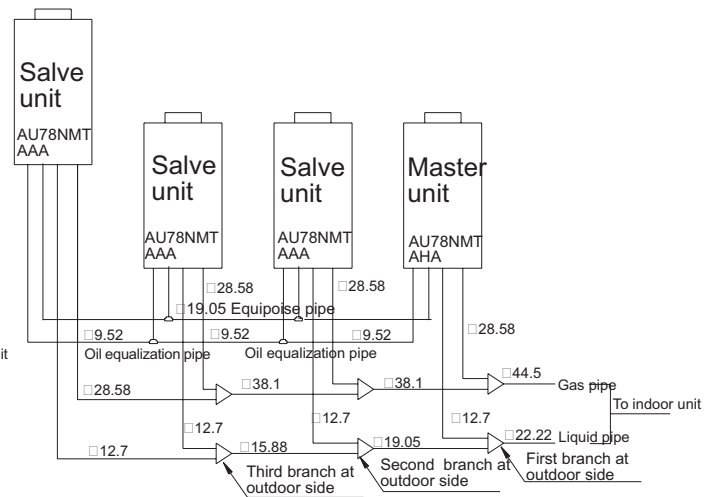
AV28NMTAHA
28HP



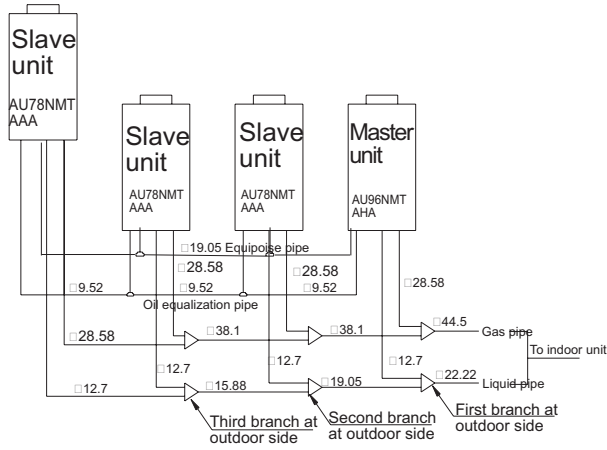
AV30NMTAHA
30HP



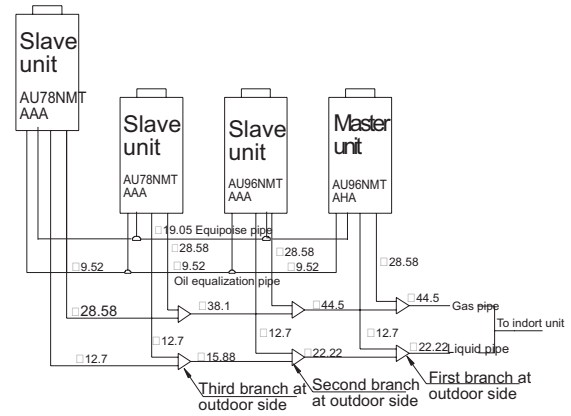
AV32NMTAHA
32HP



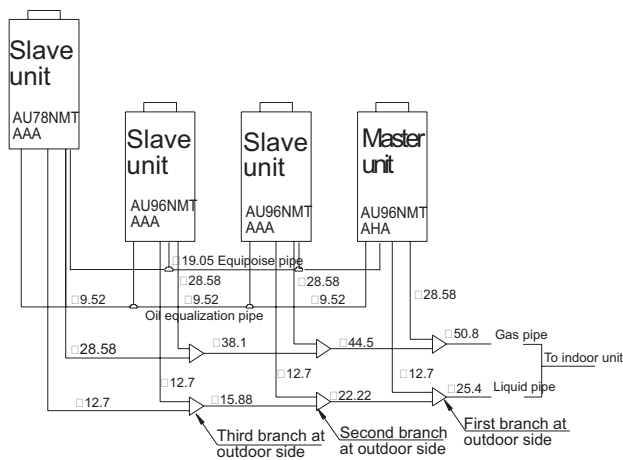
AV34NMTAHA
34HP



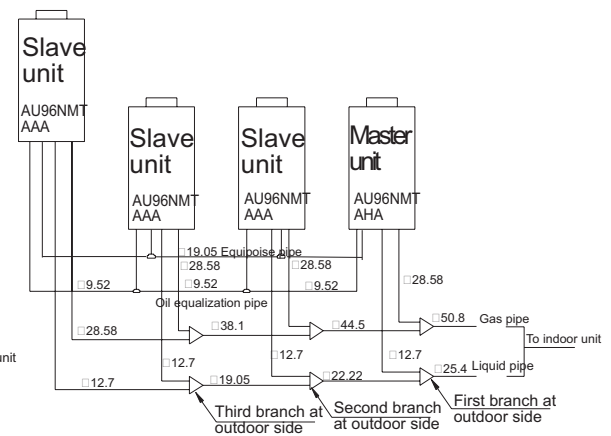
AV36NMTAHA
36HP



AV38NMTAHA
38HP



AV40NMTAHA
40HP

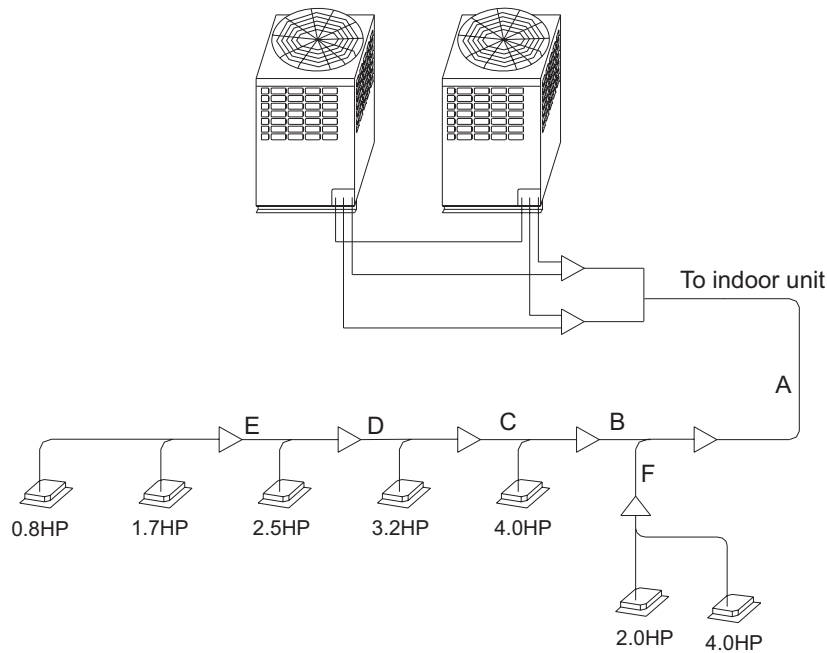


(5) Connection of oil equalization pipe and equipoise pipe

Connect the □9.52 oil equalization pipe and □19.05 equipoise pipe by T shape 3-way pipe, which is supplied when out of factory.

(6) Example for connection of refrigerant pipe (unit: mm)

Branch pipe		Pipe dimension	
		∅ Gas pipe	∅ Liquid pipe
A	FQG- B700	∅ 38.1	∅ 19.05
B	FQG- B370	∅ 28.58	∅ 12.7
C	FQG- B370	∅ 25.4	∅ 12.7
D	FQG- B180	∅ 19.05	∅ 9.52
E	FQG- B120	∅ 15.88	∅ 9.52
F	FQG- B180	∅ 19.05	∅ 9.52



Note:

A.The changing pipe in the branch pipe set can be used properly due to the piping dimension.

B.When the dimension of indoor side pipe connector and branch pipe needs to be adjusted, please adjust the branch pipe connector.

C.Please set the branch pipe at horizontal or vertical direction.

(7) Unit pipe spec and connection method (unit: mm)

A. Outdoor unit

Model	Gas pipe side		Liquid pipe side		Oil pipe side		Oil pipe side	
	Diameter	Connecting method	Diameter	Connecting method	Diameter	Connecting method	Diameter	Connecting method
AU96NMTAHA AU96NMTAAA	∅28.58	Brazing	∅12.7	Flared joint	∅9.52	Flared joint	∅19.05	Flared joint
AU78NMTAHA AU78NMTAAA	∅28.58	Brazing	∅12.7	Flared joint	∅9.52	Flared joint		

B. Indoor unit

Model Capacity(HP)	Gas pipe side		Liquid pipe side	
	Diameter	Connecting method	Diameter	Connecting method
0.8	∅12.7	Flared joint (welded with hard solder for Ceiling concealed type)	∅6.35	Flared joint (welded with hard solder for Ceiling concealed type)
1.0	∅12.7		∅6.35	
1.25	∅12.7		∅6.35	
1.5	∅12.7		∅6.35	
1.7	∅12.7		∅6.35	
2.0	∅15.88		∅9.52	
2.5	∅15.88		∅9.52	
3.0	∅15.88		∅9.52	
3.2	∅15.88		∅9.52	
4.0	∅19.05		∅9.52	
5.0	∅19.05		∅9.52	

C. Pipe spec and the torque

diameter	Thickness(mm)	Torque(N.m)
∅6.35	0.8	14~18
∅9.52	0.8	34~42
∅12.7	1.0	
∅15.88	1.0	68~82
∅19.05	1.0	100~120
∅25.4	1.2	---
Not less than ∅28.58	More than 1.4	---

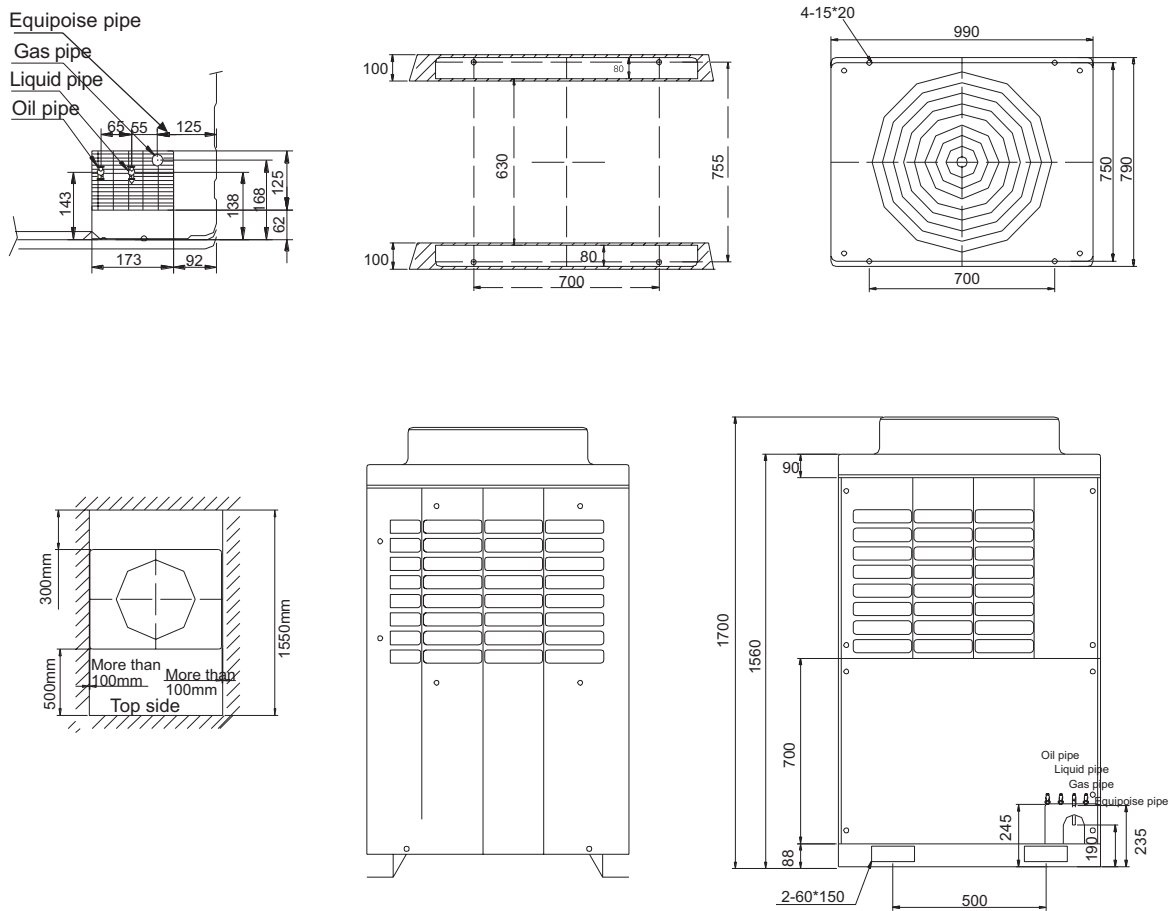
2. Appearance and installation dimension of outdoor unit (unit: mm)

(1) Appearance(single unit)

Note:

A There should be no obstacles in 2000mm above the top of outdoor unit;

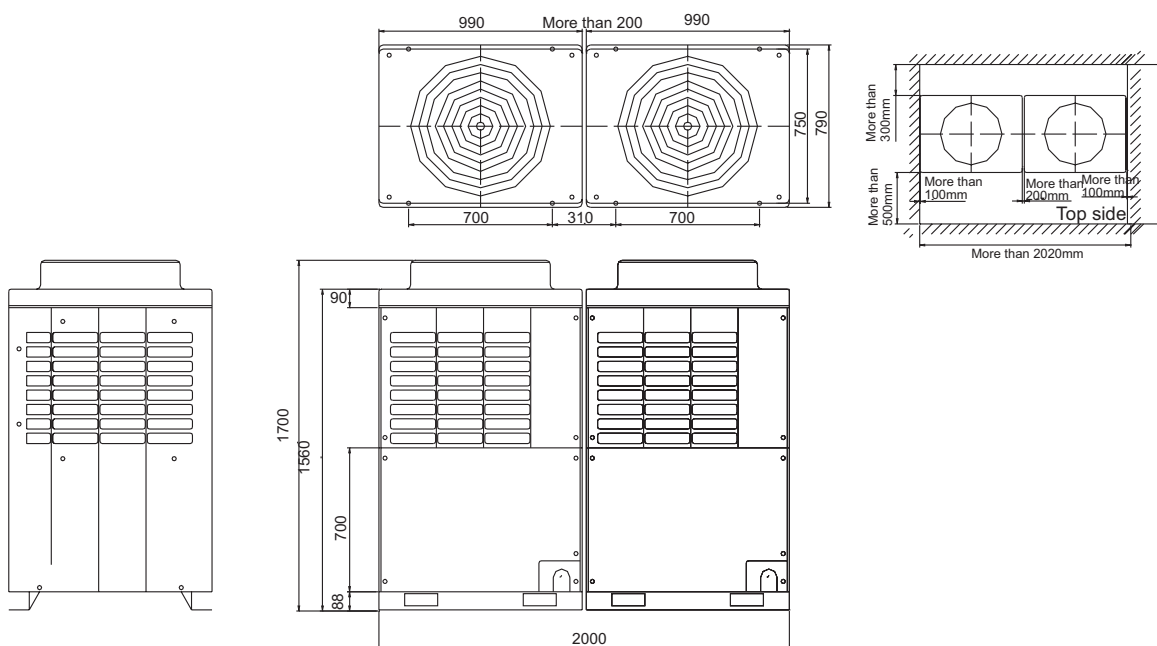
B Obstacles around outdoor should be less than 800mm to the bottom of unit.



(2) Combined outdoor unit(2 units)

Note:

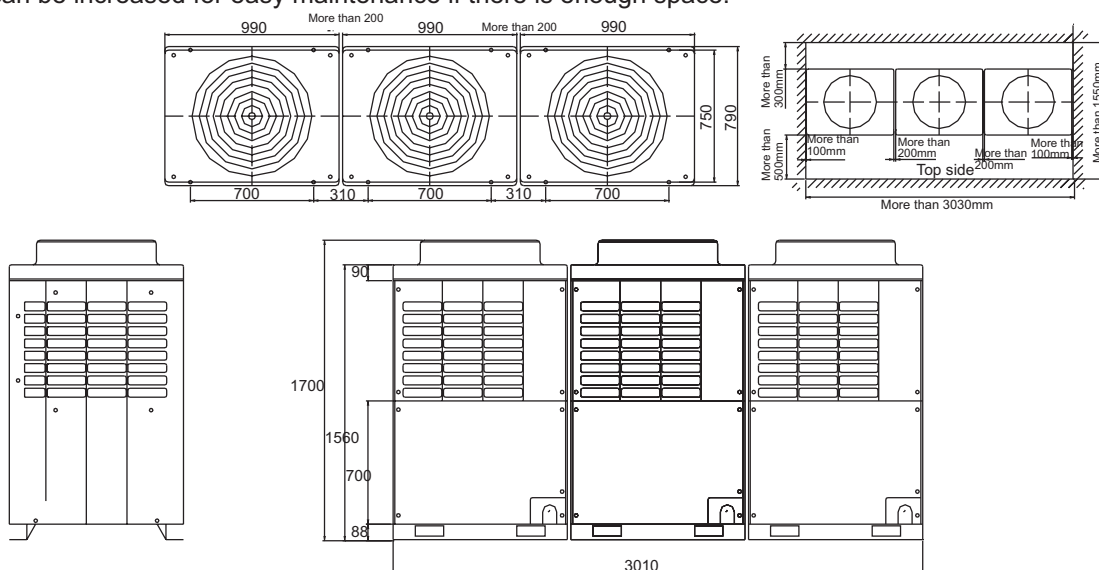
- A. There should be no obstacles in 2000mm above the top of outdoor unit;
- B. Obstacles around outdoor should be less than 800mm to the bottom of unit.
- C. Master unit should be the nearest one to the first branch pipe;
- D. The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.



(3) Combined outdoor unit(3 units)

Note:

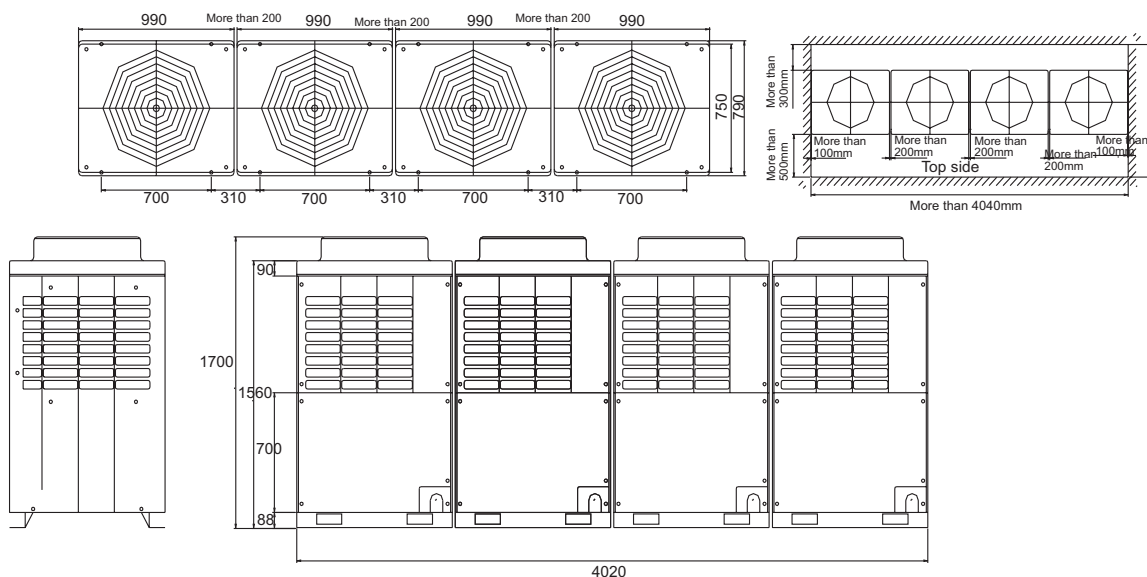
- A. There should be no obstacles in 2000mm above the top of outdoor unit;
- B. Obstacles around outdoor should be less than 800mm to the bottom of unit.
- C. Master unit should be the nearest one to the first branch pipe;
- D. The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.



(4) Combined outdoor unit(4 units)

Note:

- A. There should be no obstacles in 2000mm above the top of outdoor unit;
- B. Obstacles around outdoor should be less than 800mm to the bottom of unit.
- C. Master unit should be the nearest one to the first branch pipe;
- D. The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.

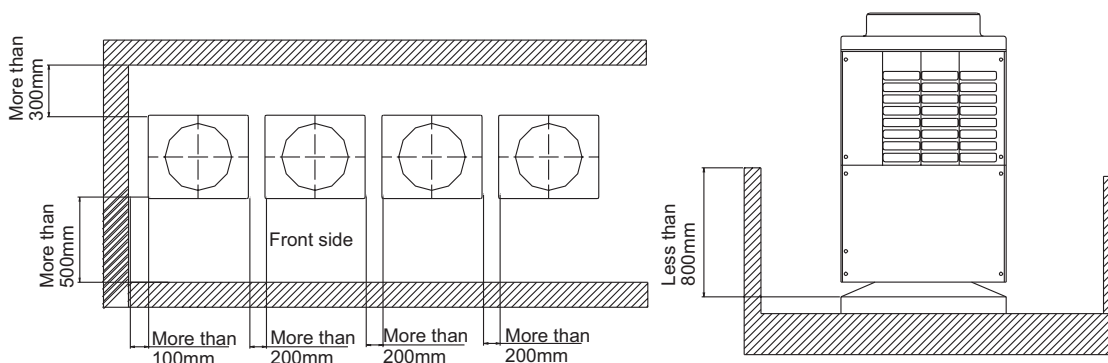


3. Dimensions for outdoor unit in groups

(1) When outer wall is lower than the outdoor condenser

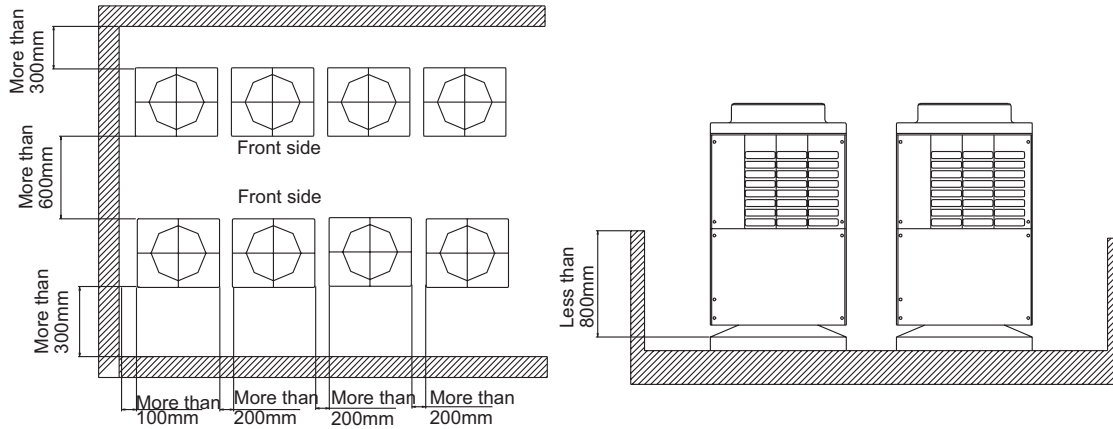
A. Sites for one-row layout

The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.



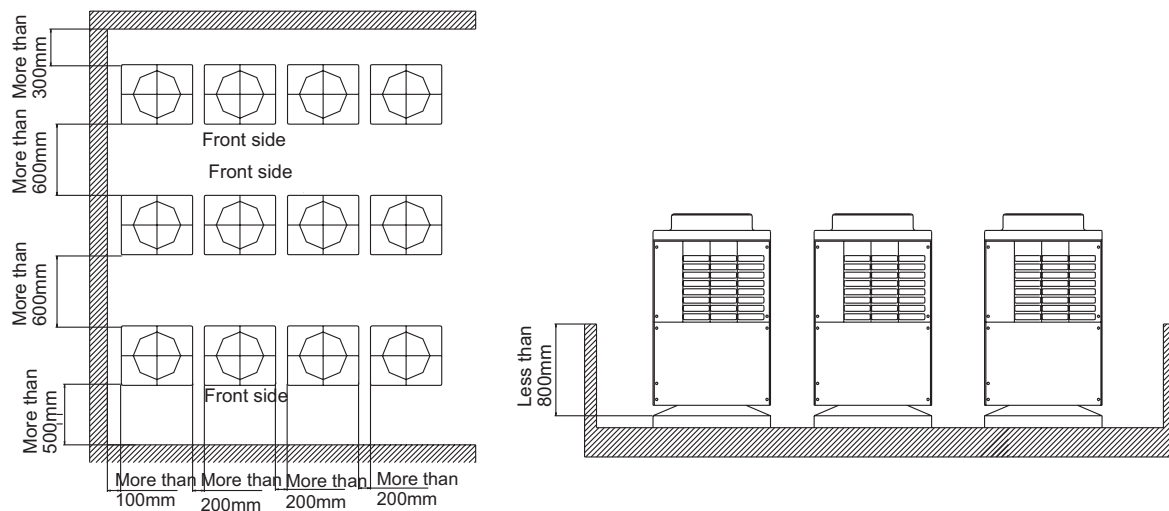
B. Sites for two-row layout

The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.

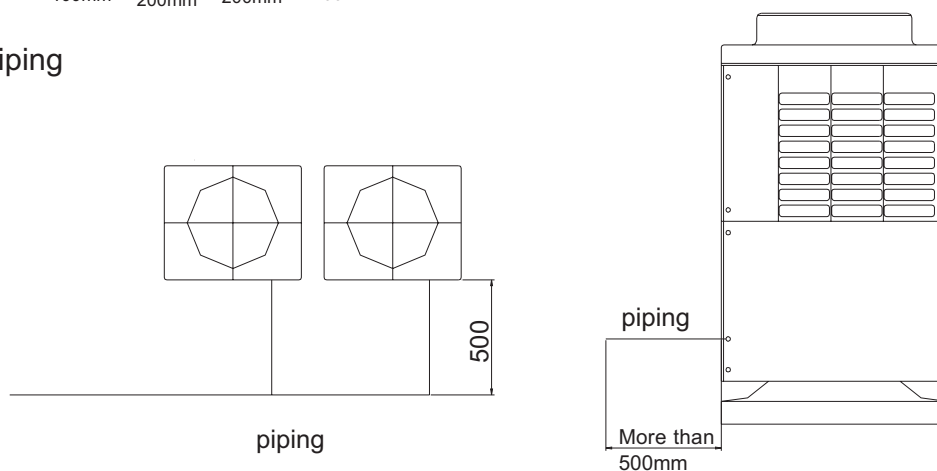


C. Sites for three-row layout

The distance between two outdoor units in the same line and the distance from unit to the wall can be increased for easy maintenance if there is enough space.



D. Piping



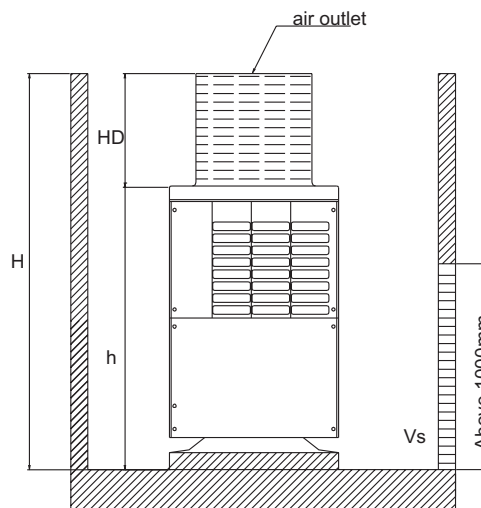
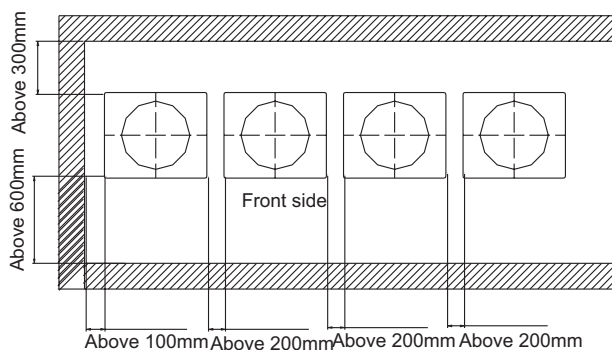
(2) Wall higher than the outdoor condenser

A. Place with air inlet hole

Notes:

A. Fan speed V_s at air inlet is 1.5m/s or below.

B. Air outlet height $HD=H-h$ and below 1m.

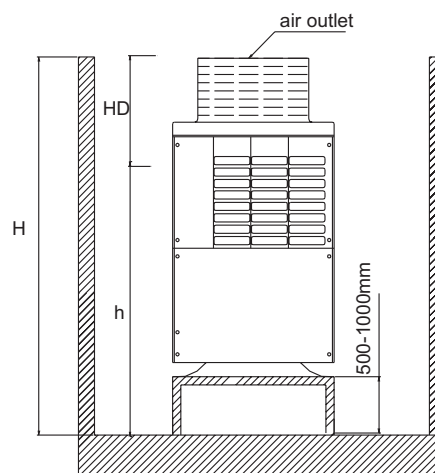
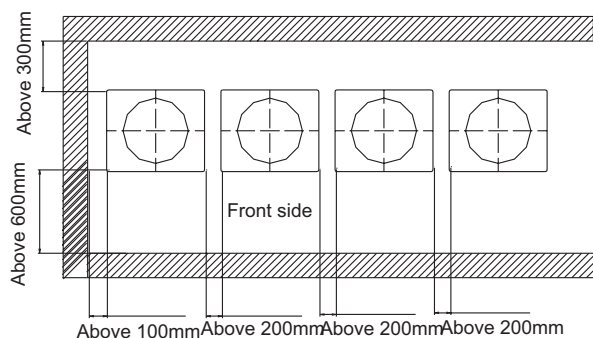


B. Place without air inlet hole

Notes:

A. Set a 500~1000mm bracket.

B. Air outlet height $HD=H-h$ and below 1m.



4. Precaution in installation

(1) Treatment for pipes to prevent compressor being blocked

Compressor failure includes being blocked and motor burnt. It may be because of damaged parts, but mainly it is relative to the installation.

Measures to prevent piping failure

A. Charge nitrogen fluently

1) Non-flow nitrogen will produce the film $*Cu_2O$. The oxide film will cause the serious failure.

2) The exterior substance will cause the capillary or the expansion valve blocked, abnormal discharging temperature, not cooling or heating, compressor locked, etc.

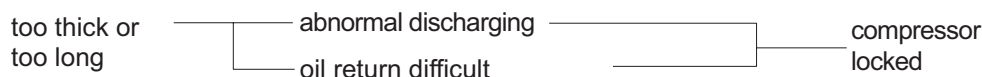
B. Do not let water into the pipe.

1) Do not install the pipe when raining.

2) Hang and fix the outdoor pipe to prevent water into it. The water in pipe will cause the following effect: the capillary or the expansion valve blocked, refrigerant hydrolyzed into acid substance, cause abnormal crystal by refrigerant oil reaction.

C. Do not let dust or other matter such as the concrete fragment, sand, or the clinker etc into the pipe. Please deal with them carefully.

D. Adopt the specified copper pipe.



E. Fix the refrigerant pipe

1) In operation, the pipe will vibrate and expand or shrink. If not being fixed, the refrigerant will focus on one part to cause the broken pipe.

2) To prevent the central stress, fix the pipe for every 2-3m.

(2) Heat insulation (Gas pipe, liquid pipe and oil equalization pipe must be treated with the heat insulation material against heat release and condensate)

A. The heat insulation material can prevent the condensate causing on gas pipe, which will result in leakage; and the material can be against burn someone for the high temperature on the gas pipe.

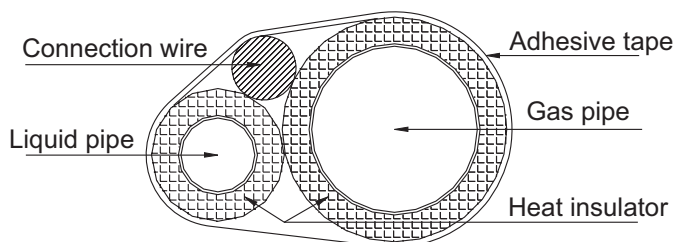
B. Wrap the indoor connection pipe with the heat insulation material.

1) Gas pipe and liquid pipe should be heat insulated separately.

2) The material for gas pipe should endure the high temperature over 120°.

3) The material thickness should be over 10mm, when ambient temp. is 30°, and the relative humidity is over 80°, the material thickness should be over 15mm.

C. The material should cling the pipe closely without gap. The connection wire and the heat insulation material are put together and then wrapped with the adhesive tape.



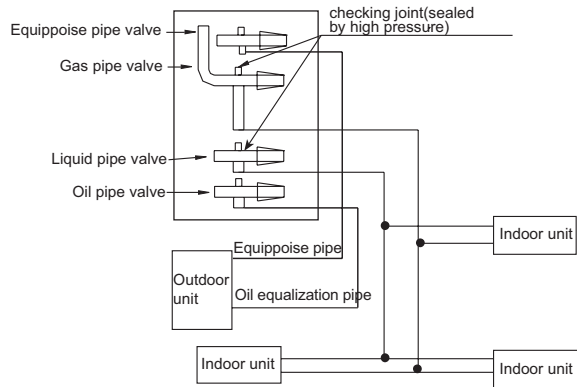
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(3) Leakage testing

A. Charge nitrogen (to test the leakage condition)

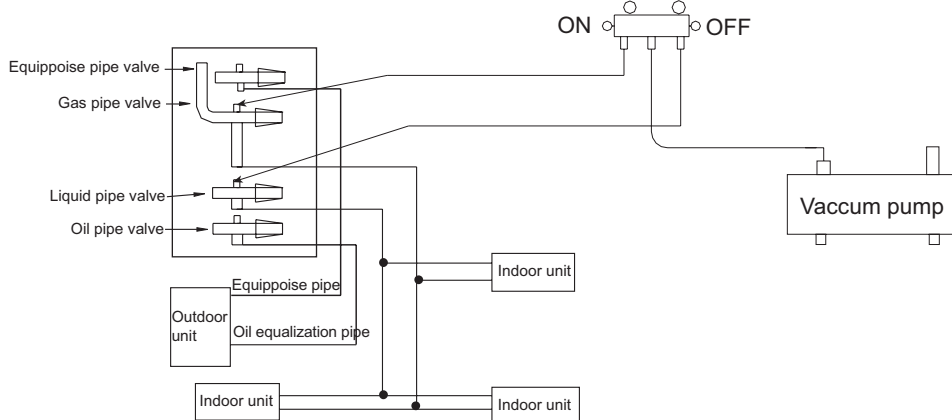
Connect the connection pipe to checking joint of the gas pipe stop valve, and keep the stop valve close, charge the nitrogen, the gas pressure should be 30Kf/cm².



B. Evacuation

1) Evacuation of refrigerant pipe: Evacuate the system through the checking joints on liquid pipe stop valve and on the gas pipe stop valve. (if only evacuating through liquid pipe stop valve, at least one indoor EEV must open). After evacuation, open stop valve fully and then take down the evacuation pipe.

2) Evacuation of oil equalization pipe: If two or more outdoor units are connected, evacuate through the checking joints on oil pipe stop valve. After evacuation, take down the evacuation pipe, and confirm the stop valve open fully. (when there is only with the master unit, no need evacuation. Please confirm the oil equalization valve close fully to avoid the leakage of refrigerant and the oil)



(4) Refrigerant charging and additional charging

Model	additional refrigerant charging per meter							charge when out of factory
	*25.4	*22.22	*19.05	*15.88	*12.7	*9.52	*6.35	
AU96NMTAHA	0.53kg/m	0.4kg/m	0.28kg/m	0.2kg/m	0.12kg/m	0.06kg/m	0.03kg/m	13kg
AU96NMTAAA								10kg
AU78NMTAHA								13kg
AU78NMTAAA								10kg

Remarks:

A. Charging amount when out of factory excludes the refrigerant in the pipe.

B. Additional charging amount = actual length of liquid pipe * additional amount per meter liquid pipe

Additional charging amount = $L1 * 0.53 + L2 * 0.4 + L3 * 0.28 + L4 * 0.2 + L5 * 0.12 + L6 * 0.06 + L7 * 0.03$

L1: total length of 25.4 liquid pipe L2: total length of 22.22 liquid pipe

L3: total length of 19.05 liquid pipe L4: total length of 15.88 liquid pipe

L5: total length of 12.7 liquid pipe L6: total length of 9.52 liquid pipe

L7: total length of 6.35 liquid pipe

3.2 Indoor installation

3.2.1 Ceiling concealed type installation

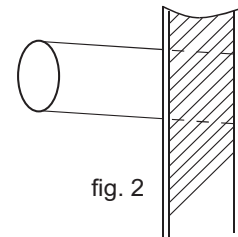
(1) Installation and dimension of indoor unit

⚠ WARNING

- It should be installed at places where it is firm enough to bear the air conditioner to prevent falling.
- To avoid the strong wind and earthquake, it should be installed due to specific requirements. Improper installation may lead to accidents.

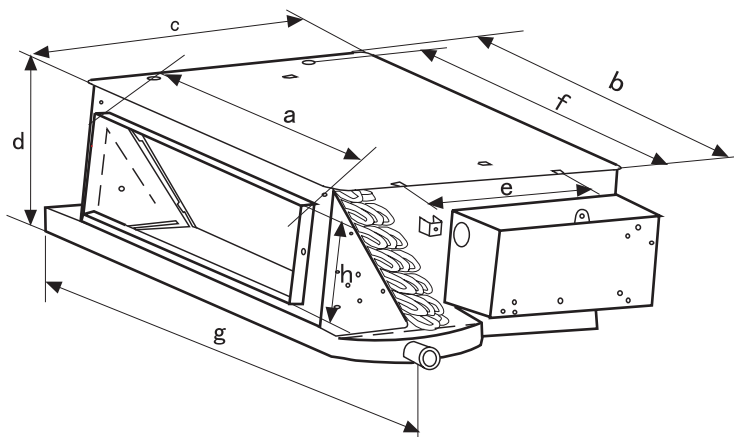
After selecting the installation space, proceed the following steps:

1. Drill a hole in the wall and insert the connecting pipe and wire through a PVC wall-through tube purchased locally. The wall hole shall be with a outward down slope of at least 1/100. (See Figure 2)
2. Before drilling check that there is no pipe or reinforcing bar just behind the drilling position. Drilling shall avoid at positions with electric wire or pipe.
3. Mount the unit on a strong and horizontal building roof. If the base is not firm, it will cause noise, vibration or leakage.
4. Support the unit firmly.
5. Change the form of the connection pipe, connection wire and drain pipe so that they can go through the wall hole easily.



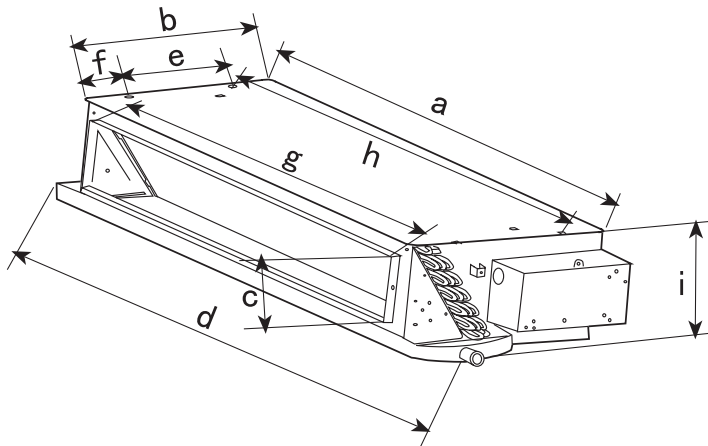
Model	a	b	c	d	e	f	g	h	i
AD07~122MLAIA	418	538	483	220	255	508	610	131	—
AD16~242MLAIA	1002	483.5	131	1105	255	105	880	970	220

AD07~122MLAIA



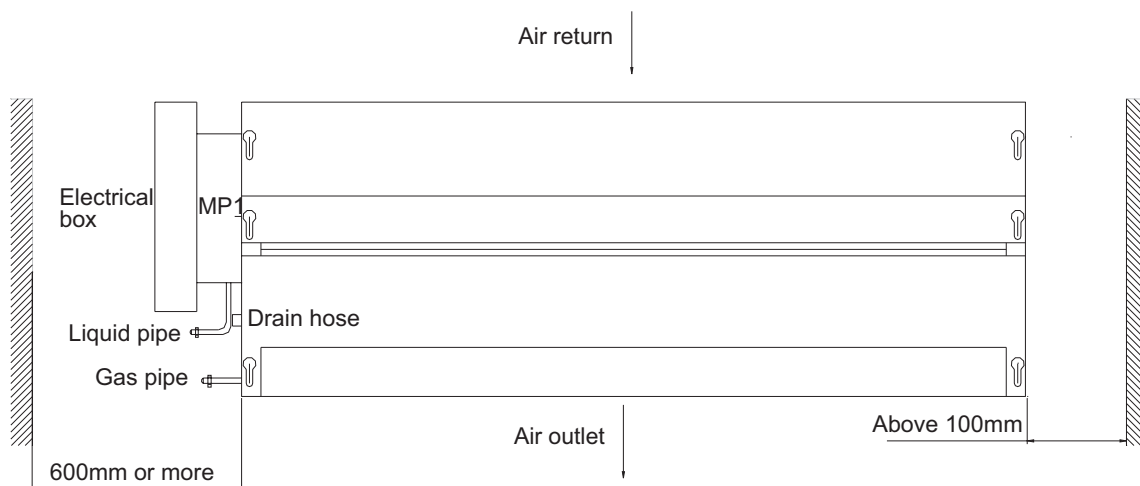
Evaporators of AD07, AD09 are 2-row type; evaporator of AD12 is 3-row type.

AD16~242MLAIA



Evaporators of AD16,18 are 2-row type; evaporator of AD24 is 3-row type.

(2) Installation position (unit: mm)



(3) Installation of air return duct

AD07-18 is with air return and is set as back return type when out of factory. When installation, it can be changed to down return type.

Ceiling Concealed type indoor unit must be with air return duct when installation, as figure 3 and 4:

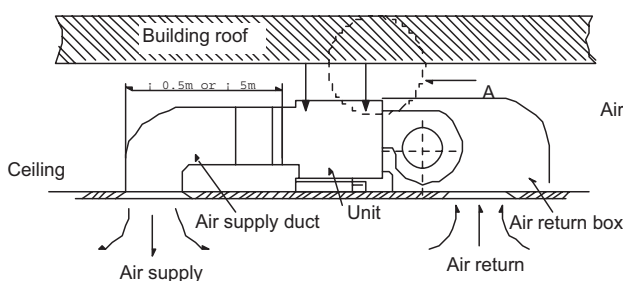


Fig. 3

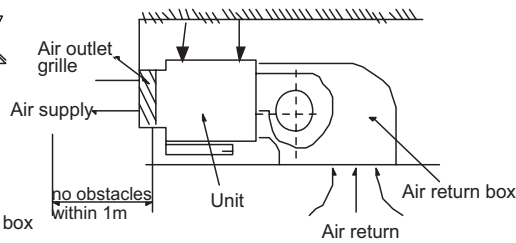
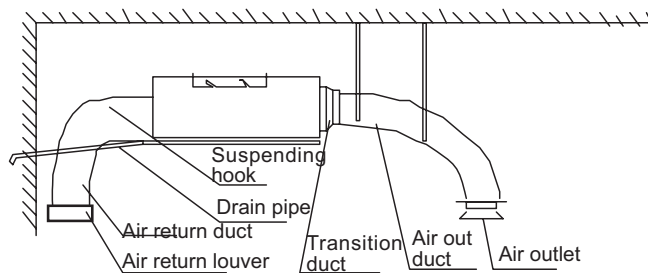


Fig. 4(for A)

Every air sending duct and air return duct shall be fixed on the ceiling prefabricated panel by the iron bracket. The duct joint is sealed with the glue. The recommended distance between the edge of the air return duct and the wall is over 150mm.

The distance from the air outlet of the duct to the air outlet of the air conditioner is decided by the length of duct and static pressure terminal:

Installation of short and long ducts is as below figure, when connecting the short ducts, use the low static pressure terminals, which is white, the distance from the air outlet of the duct to the air outlet of the air conditioner shall be no more than 0.5 m; When connecting the long ducts, use the middle static pressure terminals, which is red. The distance from the air outlet of the duct to the air outlet of the air conditioner shall be no more than 5m.



The gradient of the condensate water pipe shall keep over 1/100. The condensate water pipe shall be thermal insulated.

Installation of indoor unit duct

A. Installation of air sending duct

This unit uses rectangle duct, the diameter of the duct is less than air outlet.

B. Installation of air return duct

Use rivet to connect the air return duct on the air return inlet of the indoor unit, then connect the other end with the air return blind. As Fig. 2 shown.

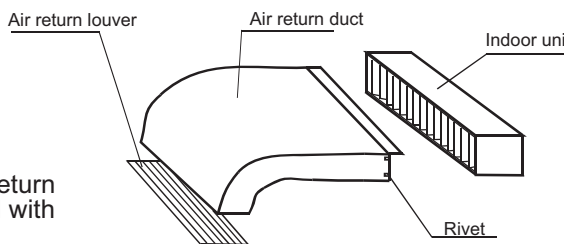


Fig. 2 Connection of air return duct

C. Thermal insulation of duct

Air-sending duct and air return duct shall be thermally insulated. First stick the gluey nail on the duct, then attach the heat preservation cotton with a layer of tinfoil paper and use the gluey nail cap to fix. Finally use the tinfoil adhesive tape to seal the connected part. As Fig. 3 shown.

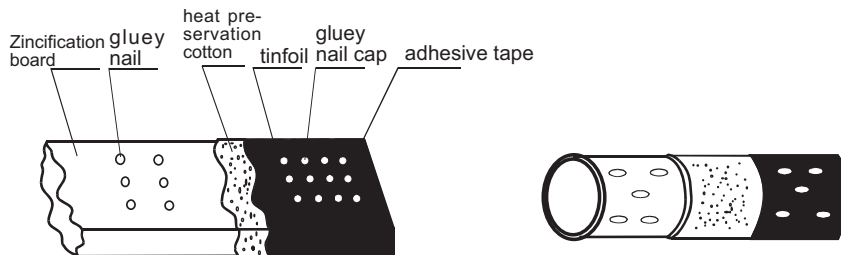


Fig. 3

Note:

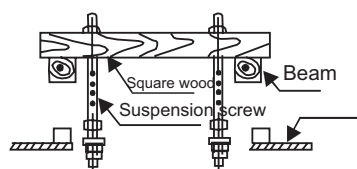
- (1)The air sending/return duct should be heat insulated properly.
- (2)Forbidden to get air return directly from the ceiling.
- (3)Air return must in indoor, not allowed in the corridor.

(6) Installing the suspension screw:

Use M8 or M10 suspension screws (4,prepared in the field)(when the suspension screwheight exceeds 0.9m, M10 size is the only choice).These screws shall be installed as follows with space adapting to air conditioner overall dimensions according to the original building structures.

Wooden structure

A square wood shall be supported by the beams and then set the suspension screws.

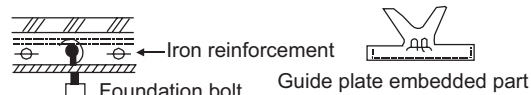


New concrete slab

To set with embedded parts, foundation bolts etc.



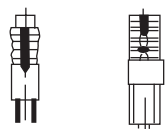
Knife embedded part



(Pipe suspension foundation bolt)

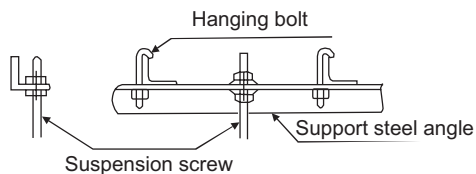
Original concrete slab

Use hole hinge, hole plunger or hole bolt.



Steel reinforcement structure

Use steel angle or new support steel angle directly.



Hanging of the indoor unit

Fasten the nut on the suspension screw and then hang the suspension screw in the T slot of the suspension part of the unit. Aided with a level meter,adjust level of the unit within 5mm.

Suspension units as follows:

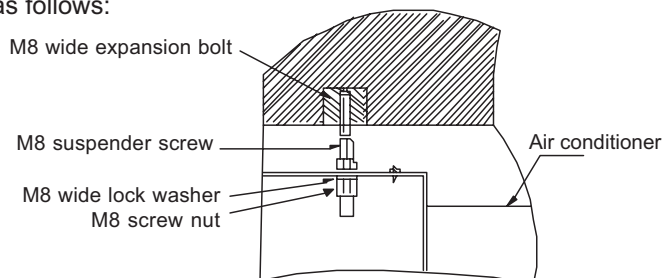


Fig. 5

3.2.2 4-way cassette installation

(1) Selection of Installation Place

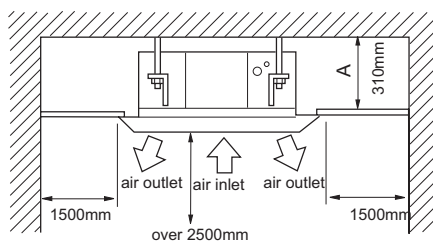
- A. Place above the ceiling where have enough space to arrange the unit.
- B. Place where the drainage pipe can be arranged well.
- C. Distance from air outlet to the floor not more than 2.7m.
- D. Place where inlet and outlet air of indoor ot be blocked.
- E. Place strong enough to support the unit weight.
- F. No expensive articles such as television and piano below indoor unit.
- G. Place more than 1m away from television and radio to avoid disturbing television and radio.

(2) Installation space

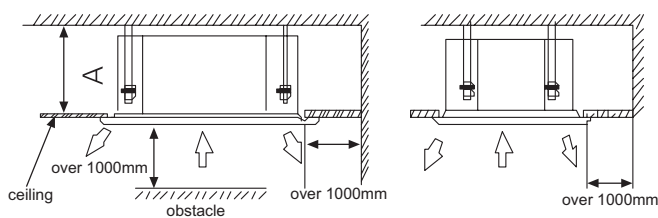
Ensure there is enough space for installation and maintenance.

Installation height not more than 2.7m, or when the ceiling is over 2.7m, the warm air can not arrive the floor.

AB07~AB16:



AB18~AB48:



model	A(mm)
AB072~AB162	310
AB182~AB282	280
AB322~AB482	320

Note:

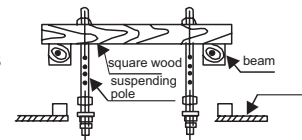
- Before hanging indoor unit, decide the installation position and the pipe direction due to the piping and the wiring in the ceiling.
- Before hanging indoor unit, firstly prepare all the pipes (refrigerant pipe and drainage pipe) and the wires (remote controller wire, connecting wire between indoor and outdoor), in order to connect with the indoor at once after installation.
If the ceiling is existing, before hanging, place the refrigerant pipe, drainage pipe, indoor wires, controller wires on the prepared position.
- Confirm indoor dimension. For the unit with installation paper pattern, use the paper pattern to make the dimension and the position of the unit and the ceiling opening identical when installation.

(4) The ceiling opening and reinforcement

- According to indoor dimension, cut down and take away the ceiling base plate.
- After making the proper installation hole, reinforce the cut surface of ceiling base plate, and modify the ceiling edge to consolidate the base plate. To avoid ceiling vibration, it is important to consolidate the base plate and keep the original level.

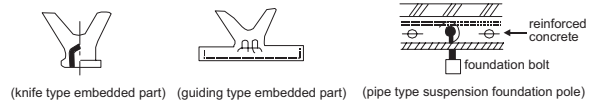
(5) Install the suspending pole

- To bear the unit, in the place with existing ceiling, use the foundation bolt; while in the place with new built ceiling, use the built-in bolt, embedded bolt or other parts supplied on field. Before installation, adjust the distance to the ceiling.
- Fix the unit with M10 suspending pole (4 pieces, prepared on field) as the showed dimension in the figure. Execute the proper installation due to the different room structure and keep horizontal with the gradienter.



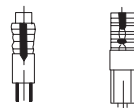
New concrete slab

To fix with built-in parts, foundation bolts, etc.



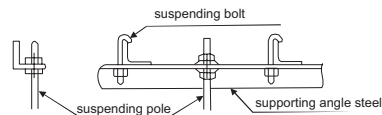
Original concrete slab

Use hole-in hinge, hole-in plunger or hole-in bolt.



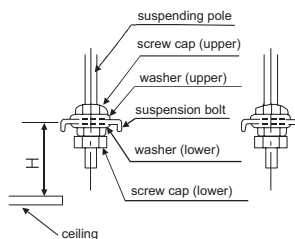
Steel reinforcement structure

Use angle steel or new supporting angle steel directly.



Hanging indoor unit

Adjust the screw cap (lower) position, and keep the distance between washer (lower) and the ceiling is Hmm, as the table:



model	H(mm)
KMR-22~45Q/520B	150
KMR(d)-56~80Q/520B	135
KMR(d)-90~140Q/520B	150

(6) Indoor unit installation

In case of no ceiling

A. Install unit temporarily

Put suspending bracket on the suspending bolt to hang the unit up. Be sure to use nut and washer at both end of the bracket to secure firmly.

B. Ceiling opening hole dimension, refer to the figure on Page 54.

After installation on the ceiling

C. Adjust unit to its right position

D. Check if the unit is horizontal.

The unit is with built-in water pump and float switch, check if the four corners of the unit are horizontal with the gradienter or the PVC tube with water. (If unit is tilting against the direction of water drainage, float switch will be abnormal and cause water drop).

E. Fasten the nut up on the washer.

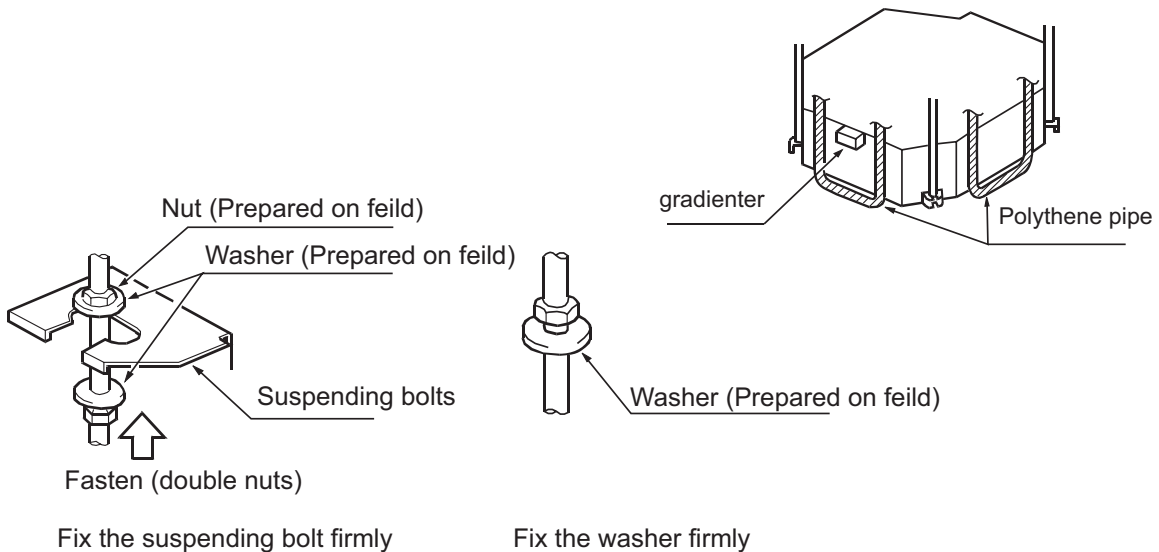
In the case of existing ceiling

F. Install unit temporarily

Put suspending bracket on the suspending bolt to hang the unit up. Be sure to use nut and washer at both end of the bracket to secure it firmly.

G. Adjust the height and position of the unit.

H. Proceed the procedure D, E of " In the case of no ceiling "



(7) Ornament panel installation

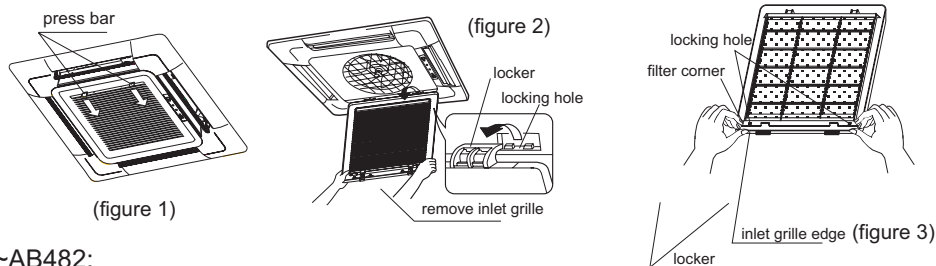
A. Preparing and handling with ornament panel

- Ornament panel shall not be placed face down or against wall, neither on an uneven object.
- Don't bend carelessly the swing flap, or problem may occur.

AB072~AB162:

1. Remove air inlet grille and push down the two bars on the inlet grille (see figure 1), move it close to the grille and then lift it up for 45degree (see figure 2), and take off the air inlet grille.

2. Take off the filter and press the air inlet grille outer edge with thumb, and pull out the filter corner with forefinger, to lift the filter after leaving the locker, then remove the filter (see figure 3).

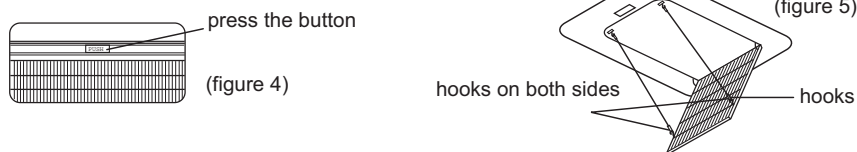


AB182~AB482:

1. Open the grille

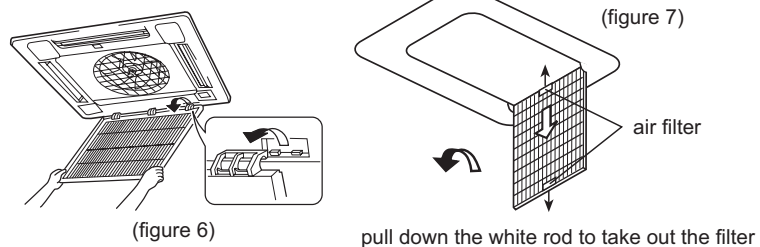
Press "PUSH" button, the inlet grille will open automatically (there are hooks on both sides of inlet grille, see figure 4).

2. Open the two hooks, see figure 5.



3. Remove the air filter, see figure 6.

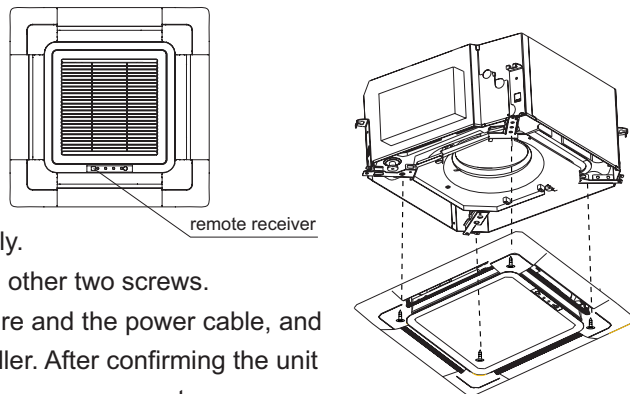
4. Remove air inlet grille, see figure 7.



B. Ornament panel installation on the indoor unit

1) AB072~AB162:

- Install the panel as the direction in the figure, if not, there will be air leakage; also the swing and receiver can not connect successfully.
- Firstly fix the panel with screws temporarily.
- Fasten the two temporary screws and the other two screws.
- Connect the motor, the communication wire and the power cable, and check if the wiring is correct with a controller. After confirming the unit can run normally, install the air inlet grille, corner cover, etc.

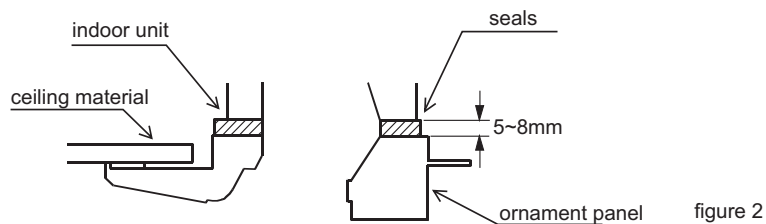
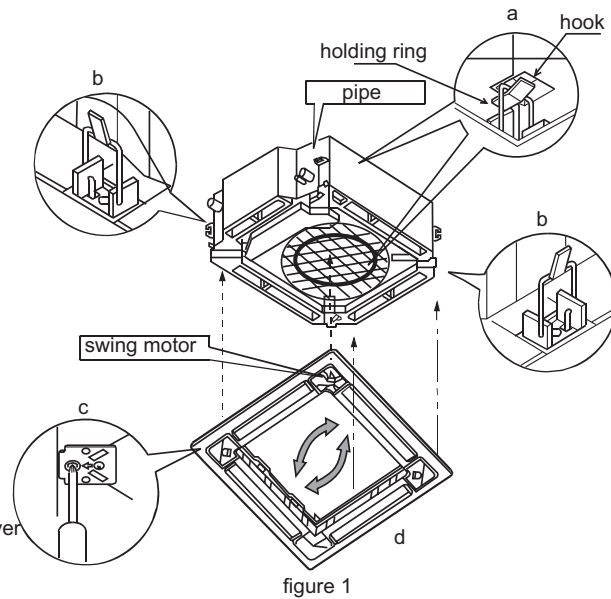


2)AB182~AB482:

Shown as figure 1, put the swing motor on the ornament panel and the pipe on the unit at the same position, then install the ornament panel on the indoor unit.

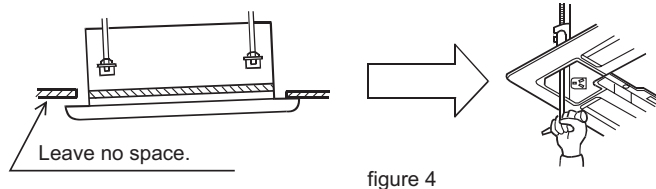
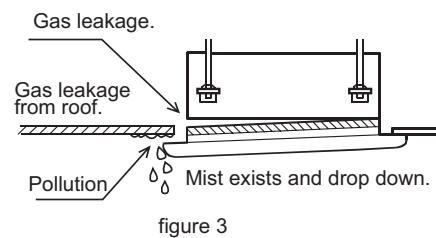
Install the ornament panel

- Place the holding ring on swing motor opposite side temporarily on hooks of the indoor unit. (2 pcs)
- Put the other two holding rings on the hooks at both sides of the indoor unit temporarily. (Pay attention not to push wires of swing motor into seals).
- Screw in all 4 screws under holding ring for about 15mm. (Panel will rise).
- Adjust the ornament panel as per procedure d to cover the ceiling opening.
- Tighten screws to reduce the thickness of seals between ornament and indoor unit to 5-8mm.



Warning

If screws are not tighten properly, problems in Fig. 3 might occur.
 If there are still space between ornament panel and ceiling, after tightening of screws, please readjust the height of indoor unit. (Refer to Fig. 4)
 If indoor unit is horizontal and water drainage is smooth, then, indoor unit height can be adjusted through holes in corners of ornament panel.



Wiring of ornament panel

- f. Connect the swing motor wires connectors on the ornament panel, see figure 5.
- g. Connect the remote receiver port on the ornament panel.

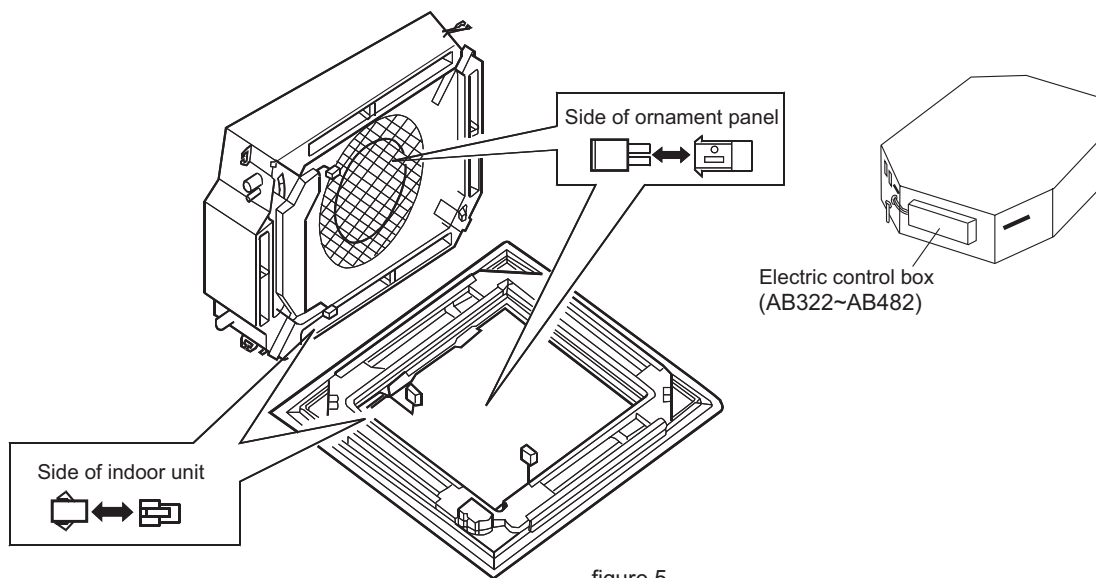


figure 5

C. Installation of inlet grille and corner cover

1) Installation of inlet grille

Install in opposite order of "Prepare ornament panel".

When installing inlet grille, pay attention to the swing motor wires not to be twisted.

2) For the model AB182~482, install the corner cover on the unit corner.

- a. As shown in figure 6, tie the corner cover thread onto the bolt of ornament panel.
- b. Fix the corner cover on the ornament panel, see figure 7.

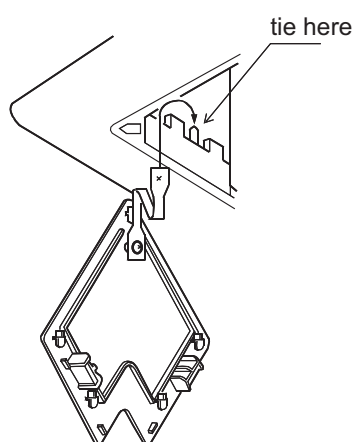


figure 6

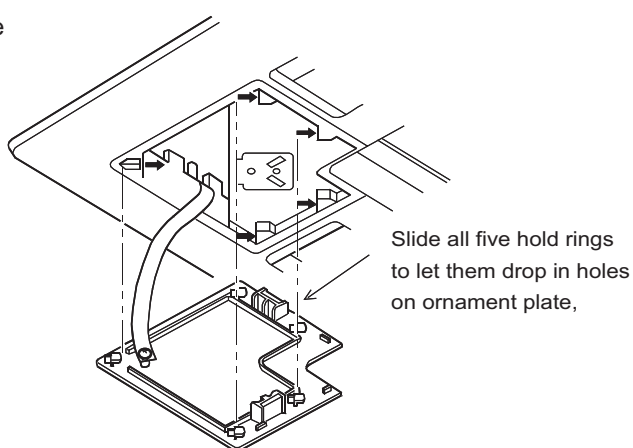


figure 7

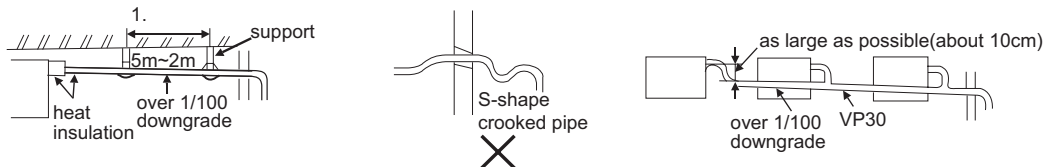
D. Installation of drainage pipe

NOTE

- In order to normal drain, the drainage pipe should be specified as the installation manual. Otherwise, water drop will occur. Heat insulation is required.

Requirements:

- Indoor drainage pipe should be heat insulated.
- The connection section with indoor unit must be heat insulated. Improper heat insulation will cause dew.
- Drainage pipe is downgrade over 1/100, and the pipe should not be crooked, or noise will occur.
- The horizontal length should be no more than 20m. In case of long pipe, there should be support for every 1.5~2m to avoid unevenness.
- The central pipe is executed as the below figure.
- Take care not to put force to the drainage pipe connection section.



3) Material of pipe and heat insulation

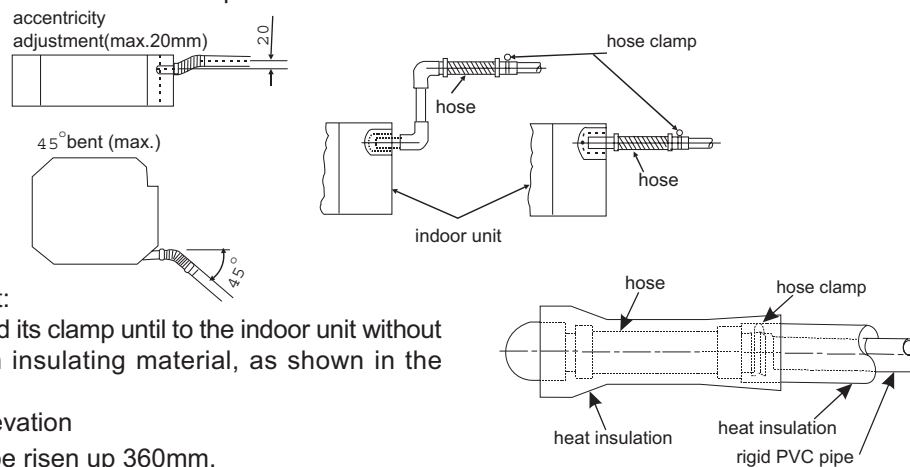
In order to avoid causing dew, heat insulation should be dealt with at gas side and liquid side.

Pipe	Rigid PVC pipe VP31.5mm (internal diameter)
Insulation	Foamed PE with thickness above 7 mm

4) Hose

The hose is used for adjusting the accentricity and angle of the rigid PVC pipe.

- Directly stretch the hose to install without making any deformation.
- The soft end of the hose must be fastened with a hose clamp.
- Please apply the hose on horizontal part



Insulation treatment:

- Wrap the hose and its clamp until to the indoor unit without any clearance with insulating material, as shown in the

5) Drainage pipe elevation

Drainage pipe can be risen up 360mm.

When the downgrade can be sure, go down slope after being risen up.

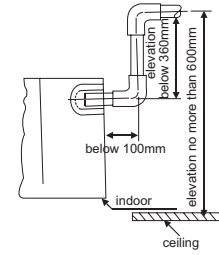
Haier

MRVII R22

6) Drain confirmation

During trial run, check that there is no leakage at the pipe connection part during water draining even in winter.

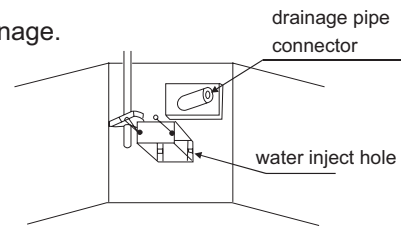
Inject 600cc water from the water pipe with the hose slowly, and not to spray on the pump motor.



- After installing electric system, set the unit in cooling mode, meanwhile charging water to check.
- If electric installation is not finished, pull out the float switch connector(2P).

After confirming not leakage, connect the float switch connector, and the pump motor will run for another 5 minutes, then it will stop automatically.

- Confirm the motor noise
Confirm the pump motor operation noise and check water drainage.



7) Allowable pipe length and drop

These parameters differ from the outdoor unit. See the instruction manual attached with the outdoor unit for details.

8) Pipe material and size

Pipe material	Phosphorus deoxidized copper seamless pipe (TP2) for air conditioner			
model		AB072~AB162	AB182~AB282	AB322~AB482
Pipe size (mm)	Gas side	∅12.70	∅15.88	∅19.05
	Liquid side	∅6.35	∅9.52	∅9.52

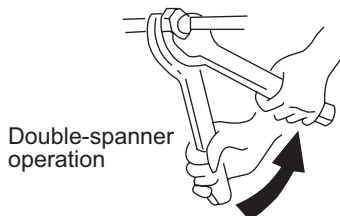
9) Recharge of refrigerant

The refrigerant recharge shall be performed as specified in the installation instructions. The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

10) Refrigerant pipe connection

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.



Connecting pipe O.D.(mm)	Installing torque (N-m)	Additional installing torque (N-m)
∅ 6.35	11.8(1.2kgf-m)	13.7(1.4kgf-m)
∅ 9.52	24.5(2.5kgf-m)	29.4(3.0kgf-m)
∅ 12.70	49.0(5.0kgf-m)	53.9(5.5kgf-m)
∅ 15.88	78.4(8.0kgf-m)	98.0(10.0kgf-m)
∅ 19.05	98.0(10.0kgf-m)	117.7(12.0kgf-m)

Cut pipe and expand pipe

When pipe is too long or flared pipe is damaged, the intaller will cut pipe or expand pipe.

Evacuation

Evacuate from the stop valve with vacuum pump, and must not discharge the refrigerant in the outdoor directly.

Open all valves

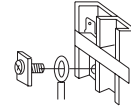
Open all valves, but when only one master unit is running, the oil equalization valve should close.

Leakage checking

Check if there is leakage on the pipe connection and the valve cap with a leakage detector or soap water.

Wiring method

ring terminal wiring:



1. Ring terminal wiring:

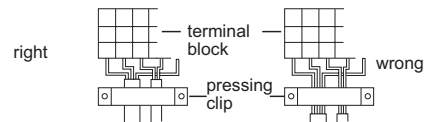
The wiring method is as the above figure, take off the screw, lead the screw through the ring terminal, then press it in the terminal block to fasten the screw.

2. Straight terminal wiring

Loose the screw, put the wire end into the terminal block, then fasten the screw, pull out the wire to confirm if the wire is fixed firmly.

3. Pressing method of connection wire

After wiring, press the connection wire at the wire sleeve firmly with pressing clip, as the figure:



3.2.3 Wall mounted unit installation

The manual can not include all cases, if you have new request and question, please contact Haier local distributor.

The standard accessories of this series refer to the packing list with the unit, while the other admired parts will be prepared by the clients.

(1) Select installation position

The indoor unit shall be installed at locations where cold and hot air could evenly circulated.

The following locations should be avoided:

- Places with rich salt (seaside area).
- Places with plenty of gas sulfides (mainly in warm spring areas where the copper tube and braze weld is easy to corrosion).
- Locations with much oil (including mechanical oil) and steam.
- Locations using organic solvents.
- Places where there are machines generating HF electromagnetic waves.
- Positions adjacent to door or window in contact with high-humidity external air. (Easy to generate dew).
- Locations frequently using special aerosols.

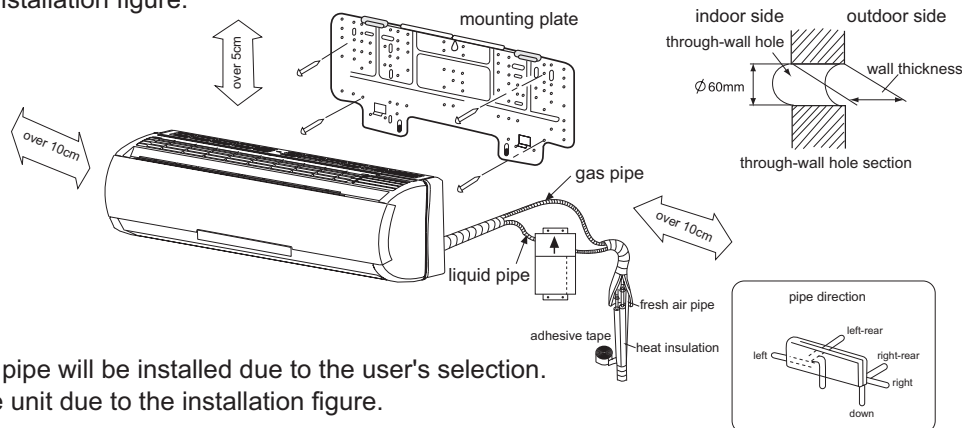
Indoor unit installation space:

- A. The distance between air outlet and the floor should be no more than 2.7m. Outdoor installation height should be no less than 2.5m.
- B. Select suitable places the outlet air can be sent to the entire room, and convenient to lay out the connection pipe, connection wire and the drainage pipe to outdoor.
- C. The ceiling structure must be strong enough to support the unit weight.
- D. The connecting pipe, drain pipe and connection wire shall be able to go though the building wall to connect between the indoor and outdoor units.
- E. The connecting pipe between the indoor and outdoor units as well as the drain pipe shall be as short as possible.
- F. If it's necessary to adjust the refrigerant charging, please refer to the installation manual attached with the outdoor unit.
- G. The unit should be installed close to the plug. There should be enough space around the unit.
- H. Below the unit please do not place the TV, device, artist, piano, radio, etc. to avoid being damaged by the condensate.

(2) After selecting the installation place, proceed the following procedures:

Drill a hole in the wall, and let the connection pipe and the wires through the wall with the PVC pipe purchased locally. The hole should be downward to the outside for at least 1/100 gradient. Before drilling, check and confirm there is no pipe or reinforced concrete behind the hole to avoid damaging the wire or the pipe.

(3) Indoor installation figure:



Fresh air pipe will be installed due to the user's selection.
Install the unit due to the installation figure.

(4) Installation procedure

A. Fix the mounting plate and locate through-wall hole

According to the indoor installation place and the pipe direction, fix the mounting plate.

Install the unit on the flat wall under the beam or beside the pole, firstly fix the mounting plate on the wall with a screw.

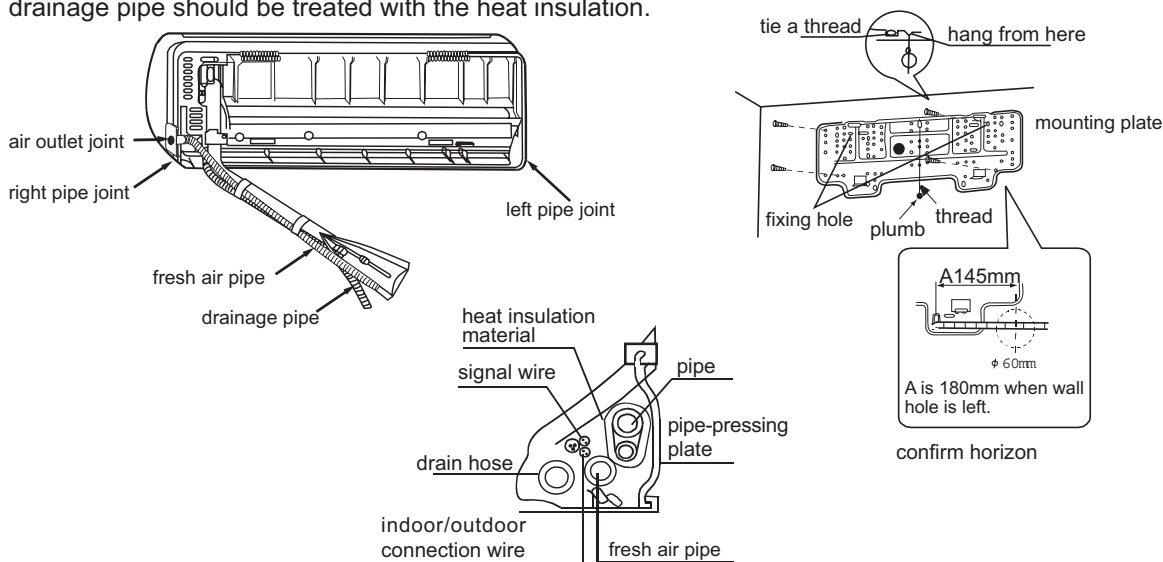
Confirm the horizon with a gradienter.

Fix the plate with the concrete screw, (if fixing with the expansion screw, firstly drill holes in the wall at the plate position with a driller (diameter 4.8mm), then put the plastic sleeve into the hole, and hang the mounting plate on the wall with 4*25 screws), measure the through-wall hole position A with the tapeline.

B. Drill through-wall hole and install hole cover. Drill a hole with diameter 60mm, and the outside is downward slightly. Install the hole cover and seal it with the plaster powder or the putty.

C. Indoor pipe layout

According to the installation place of indoor/outdoor and the through-wall hole, lay the connection pipe, drainage pipe, connection wire, communication wire and fresh air pipe. The drainage pipe is lower, and the connection wire is upper, the power cable and the connection wire can not twist each other, the drainage pipe should be treated with the heat insulation.



D. Connecting pipe

Thread the connection pipe (liquid/gas pipe) and the connection wire through the wall hole from outside, or after finishing the indoor pipe and wire connection, thread the pipe and wire through the wall hole from inside.

E. Allowable pipe length and drop

These parameters differ from the outdoor unit. See the instruction manual attached with the outdoor unit for details.

F. Pipe material and size

NOTE: AS182 gas pipe/liquid pipe is $\varnothing 12.7\text{mm}/\varnothing 6.35\text{mm}$ when out of factory, but when it connects with outdoor, it will need the changing pipe $\varnothing 15.88\text{mm}/\varnothing 9.52\text{mm}$.

model		AS072~AS162	AS182
Pipe size (mm)	Gas side	$\varnothing 12.70$	$\varnothing 15.88$
	Liquid side	$\varnothing 6.35$	$\varnothing 9.52$
Pipe material		Phosphorus deoxidized copper seamless pipe (TP2)	

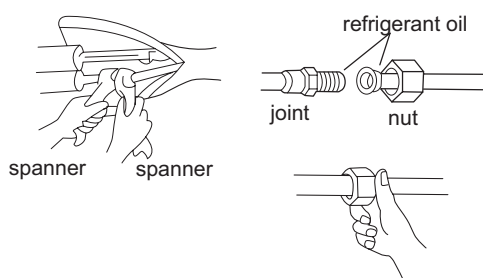
G. Recharge of refrigerant

The refrigerant recharge shall be performed as specified in the installation instructions. The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

H. Refrigerant pipe connection

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.



Connecting pipe O.D.(mm)	Installing torque (N-m)	Additional installing torque (N-m)
$\varnothing 6.35$	11.8(1.2kgf-m)	13.7(1.4kgf-m)
$\varnothing 9.52$	24.5(2.5kgf-m)	29.4(3.0kgf-m)
$\varnothing 12.70$	49.0(5.0kgf-m)	53.9(5.5kgf-m)
$\varnothing 15.88$	78.4(8.0kgf-m)	98.0(10.0kgf-m)
$\varnothing 19.05$	98.0(10.0kgf-m)	117.7(12.0kgf-m)

Cut pipe and expand pipe

When pipe is too long or flared pipe is damaged, the intaller will cut pipe or expand pipe.

Evacuation

Evacuate from the stop valve with vacuum pump, and must not discharge the refrigerant in the outdoor directly.

Open all valves

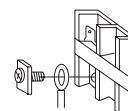
Open all valves, but when only one master unit is running, the oil equalization valve should close.

Leakage checking

Check if there is leakage on the pipe connection and the valve cap with a leakage detector or soap water.

Wiring method

ring terminal wiring:



1.Ring terminal wiring:

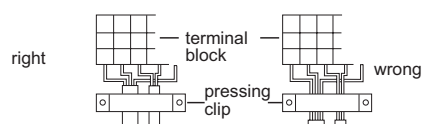
The wiring method is as the above figure, take off the screw, lead the screw through the ring terminal, then press it in the terminal block to fasten the screw.

2.Straight terminal wiring

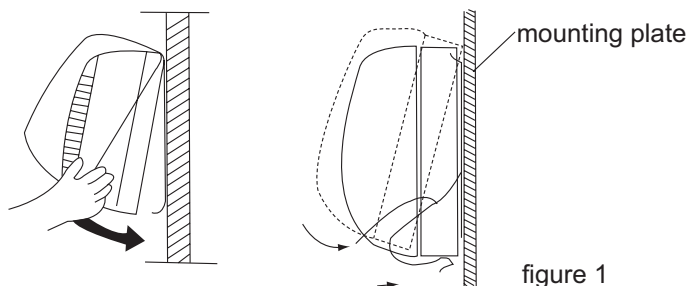
Loose the screw, put the wire end into the terminal block, then fasten the screw, pull out the wire to confirm if the wire is fixed firmly.

3.Pressing method of connection wire

After wiring, press the connection wire at the wire sleeve firmly with pressing clip, as the figure:

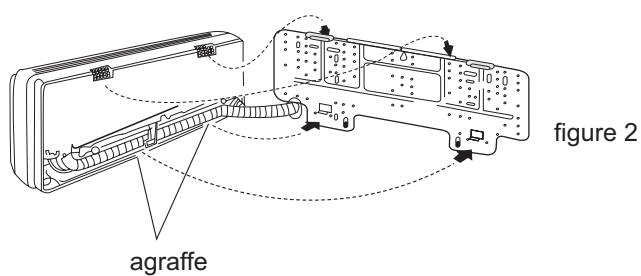


(5) Indoor installation and taking down



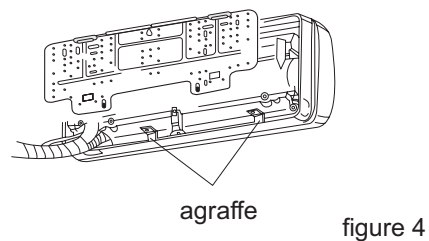
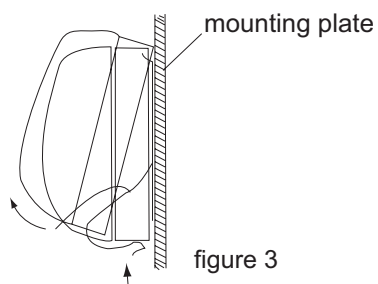
1) Installation explanation

When installing indoor unit, firstly fix the mounting plate on the wall, then fix the unit on the hook on top of mounting plate, press the unit and sound "pa""pa". At this time, indoor unit agraffe has hung on the mounting plate, as figure 1.



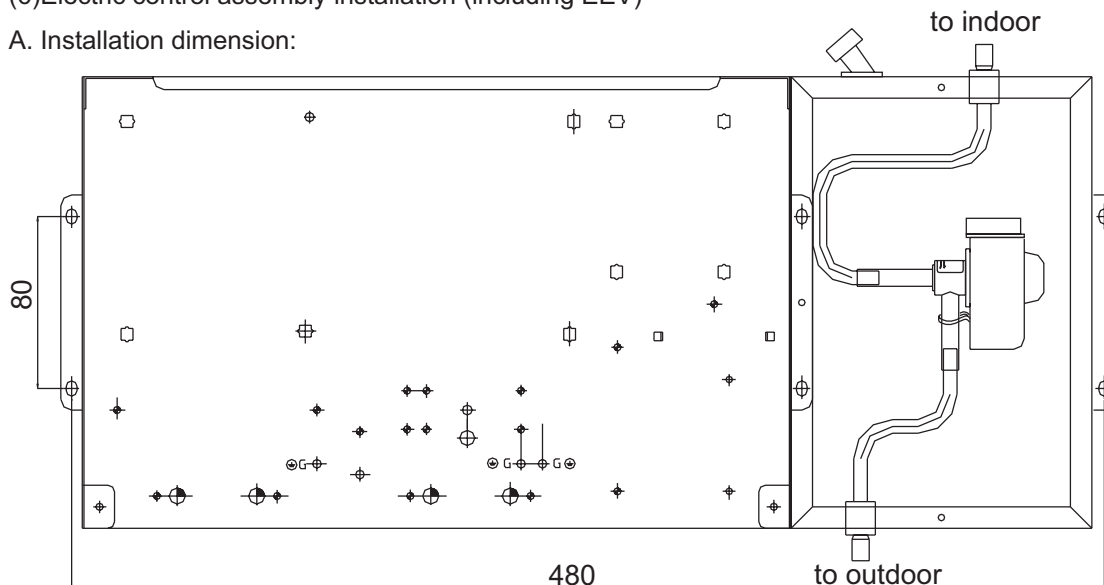
2) Taking down the unit

When taking down the indoor, as figure 3, press upwards the indoor agraffe to let it remove, then lift up the indoor to leave the agraffe, as figure 4.



(6) Electric control assembly installation (including EEV)

A. Installation dimension:



B. Installation procedure:

A. Select installation position, fix electric control box; the distance between electric control box and indoor can not be more than 1.5m (the total wire length is 2.0m, including the wire in electric control box);

B. Connect the liquid pipe from EEV to indoor unit;

C. Connect the wiring between indoor and electric control box correctly, the detailed method refers to the wiring diagram.

3.2.4 Med ESP duct installation

(1) Before installation

- Confirm the way to move the unit to the installation place.
- Before moving the unit to the installation place, do not remove their packages.
When have to remove the package, use a soft material or protection board with rope to lift the unit assembly to avoid unit damage or bumping a scrape.

(2) Choose installation place

A. The chosen installation place should meet the following requirements and get the user's agreement.

- Place ensures ideal airflow distribution.
- The passage of airflow has no obstacles.
- When importing outside air, it should be imported directly from outdoors. (if the pipe can not be extended, it also can not be imported from top)
- Place ensures enough space for maintenance.
- The pipe length between indoor and outdoor unit is in the permitted limit (referring to outdoor unit installation part).
- The indoor unit, outdoor unit, electric wire and connection wire is at least 1m away from television and radio. This is to avoid the image disturbance and noise caused by the above-mentioned home appliance. (Even if 1m away, if the electromagnetic wave is too strong, it can also cause noise.)

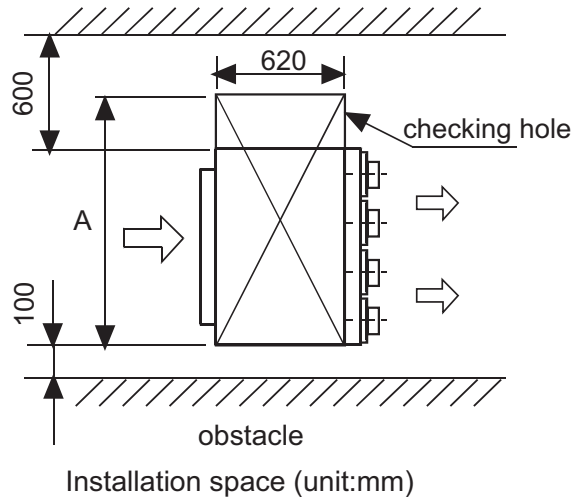
B. The height of ceiling

The indoor unit can install on the ceiling, which height is no more than 3m.

C. Install the unit with suspending pole. Check if the installation place can bear the unit.

If not certain, strengthen it before installing the unit.

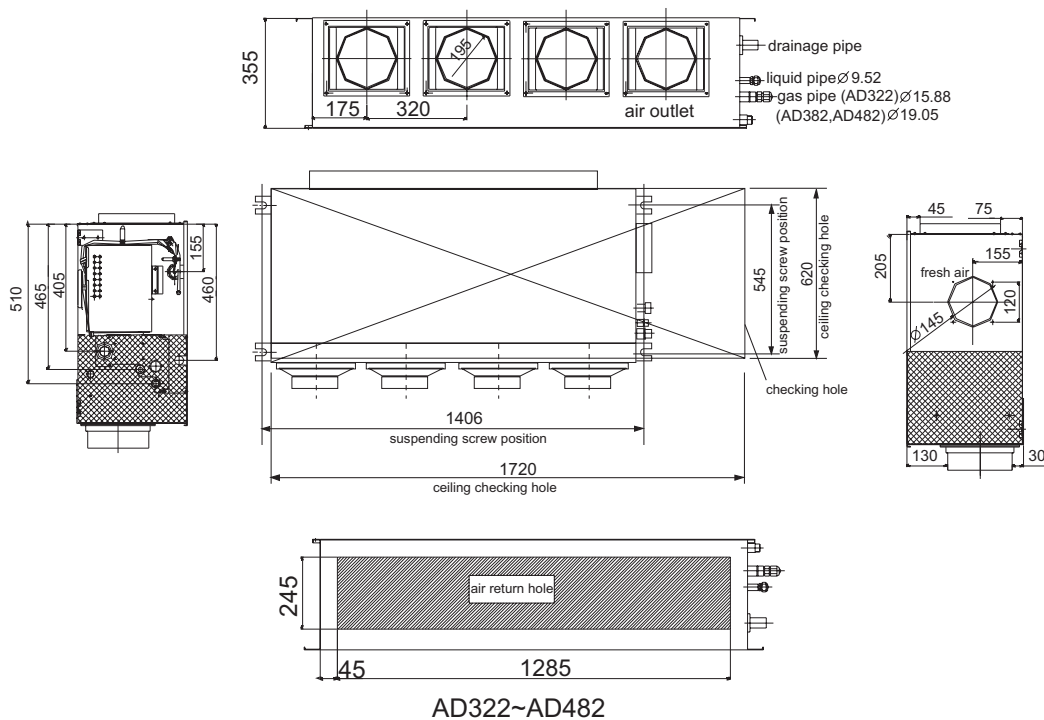
AD322~482: A=1720



(3) Indoor installation

A. The relationship among the ceiling checking hole, the unit and the suspension pole (unit: mm)

Note: the unit is with water pump.



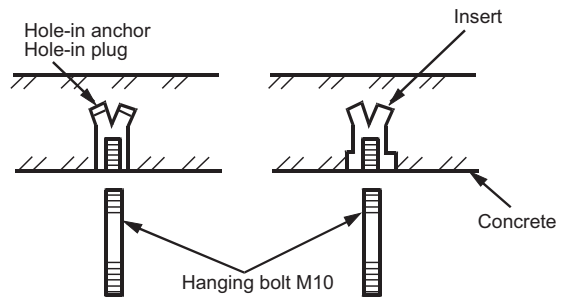
B. If necessary, prepare all the needed installation and checking hole on the ceiling (with existing ceiling)

- Before installation, prepare all the pipes (refrigerant, drainage) and wire (wire controller connection wire, indoor and outdoor unit connection wire) connected with indoor, so that after installation, they can be immediately connected with indoor.
- Cut the opening on the ceiling. Maybe it needs to strengthen the ceiling to keep the ceiling even and flat and prevent the ceiling from vibration. For details, please consult the builder.

C. Suspending bolts installation

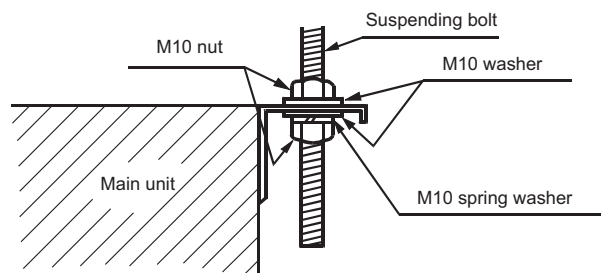
(Use M10 screw bolt)

To bear the unit, in the place with existing ceiling, use the foundation bolt; while in the place with new built ceiling, use the built-in bolt, embedded bolt or other parts supplied on field. Before installation, adjust the distance to the ceiling.



D. Installation of indoor unit

Fix the indoor unit to the suspending bolts. If necessary, it is possible to suspend the unit to the beam, etc. Directly use the suspending bolts instead of the suspending screws.



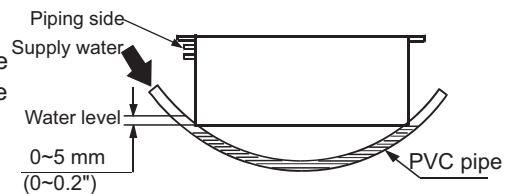
Note

When the dimensions of main unit and ceiling holes does not match, it can be adjusted with the slot holes of hanging bracket.

Adjusting to the horizon

Adjust the horizon with a gradienter or by the following method. Make adjustment so that the relation between the lower surface of the unit and water level in the hose becomes what is in the figure.

Unless the adjustment to the horizon is made properly, failure of the float switch may occur.



make the piping side slightly lower.

Fan speed selection (when using high efficient filter)

The fan motor composes red terminal and white terminal, which has been set at standard position when out of factory. When the static pressure is increased for using high efficient filter, you can change the connector position on the side of electric control box.

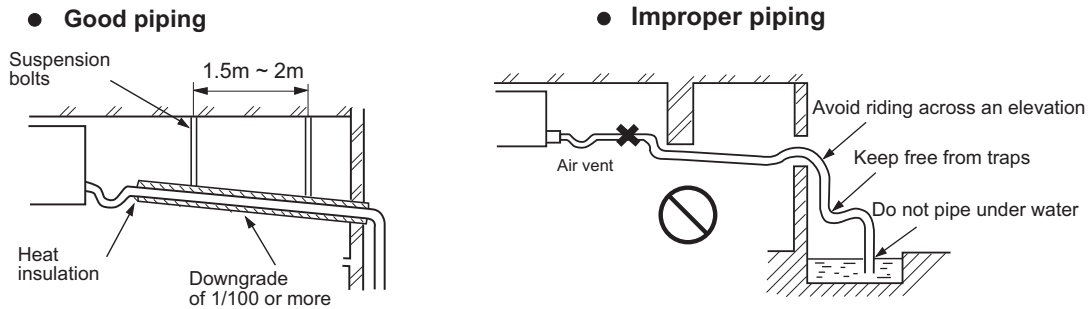
standard fan speed (out of factory)				high speed air outlet			
electric control box side	white	white connector	white	red	white connector	red	black
	blue						white
	yellow						blue
	red						red
fan motor side				fan motor side			

Static pressure, unit: Pa

standard	max.
50	96

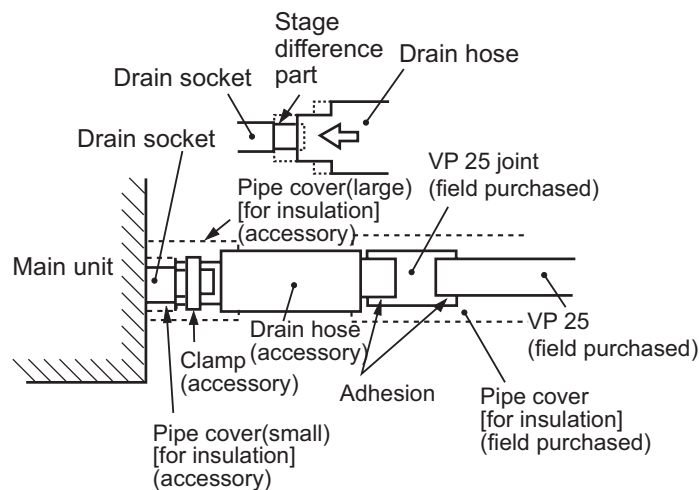
(4) Drain Piping

a. Drain piping should always be in a downhill grade (1/50~1/100) and avoid riding across an elevation or making traps.

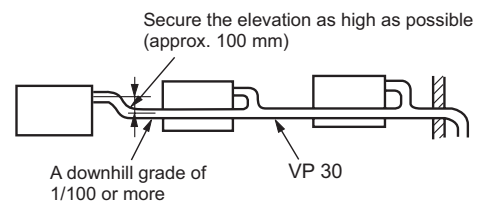


b. When connecting the drain pipe to unit, pay sufficient attention not to apply excess force to the piping on the unit side. Also, fix the piping at a point as close as possible to the unit.

c. For drain pipe, use hard PVC general purpose pipe VP-25(1.1") which can be purchased locally. When connecting, insert a PVC pipe end securely into the drain socket before tightening securely using the attached drain hose and clamp. Adhesive must not be used connection of the drain socket and drain hose (accessory).

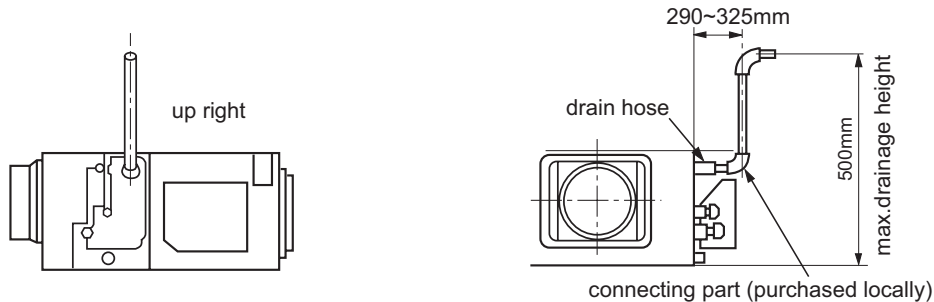


d. When constructing drain piping for several units, position the common pipe about 100 mm below the drain outlet of each unit as shown in the sketch. Use VP-30(1 1/4") or thicker pipe for this purpose.



e. The stiff PVC pipe put indoor side should be heat insulated.

f. The water pipe should be rised up within 500mm above the ceiling. When there is obstacle above the ceiling, adopt the bracket for water pipe to round the obstacle. When the extending height is higher than 500mm, the water return volume will be too much to cause drain pan overflow. So drainage pipe height should be in the range shown in the below figure.



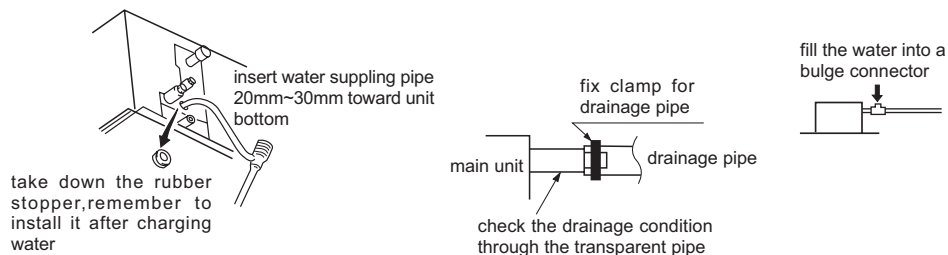
g. Avoid putting the outlet of drain hose in the places with irritant gas generated. Do not insert the drain hose directly into drainage, where the gas with sulfur may be generated.

(5) Drainage Test

- Conduct a drainage test after completion of the electrical work.
- During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
- In case of a new building, conduct the test before it is furnished with the ceiling.
- Be sure to conduct this test even when the unit is installed in the heating season.

(6) Procedures

- Supply about 1000 cc of water to the unit through the air outlet using a water feeding pump.
- Check the drain while cooling operation.

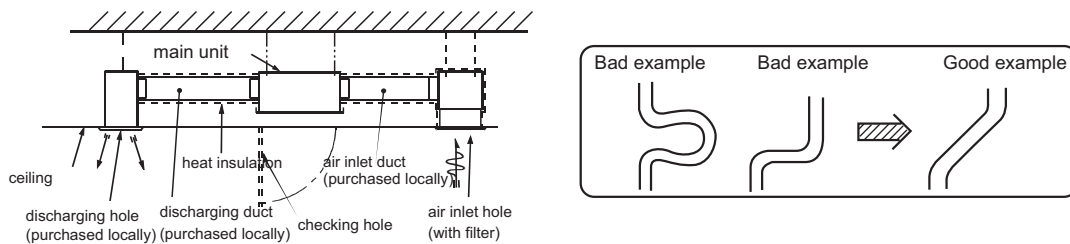


When the electric installation has not been finished, install a bulge connector on the drainage pipe to supply a water inlet. Then if there is water leaking from the pipe, check the system until the water can flow normally.

(7) Installation of air return duct and discharging duct

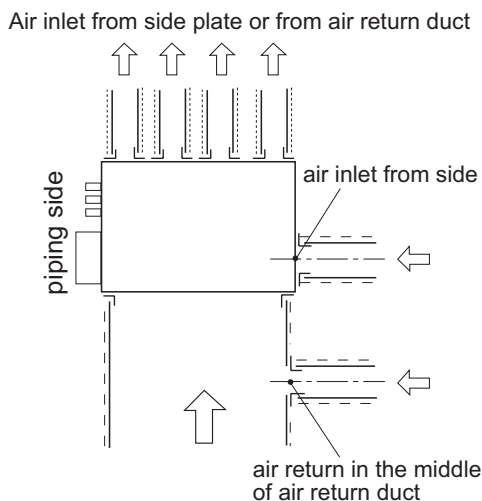
Please consult the after-sales service worker of Haier Air Conditioner for the choosing and installation of air inlet, air inlet duct, discharging outlet and discharging duct. Calculating the design drawing and outer static pressure, and choose the discharging duct with proper length and shape.

- The length difference among every duct is limited below 2:1.
- Reduce the length of duct as possible as can.
- Reduce the amount of bend as possible as can.
- Use heat insulation material to wrap the flange part between main unit and air discharging duct. Perform duct installation before the ceiling decoration.

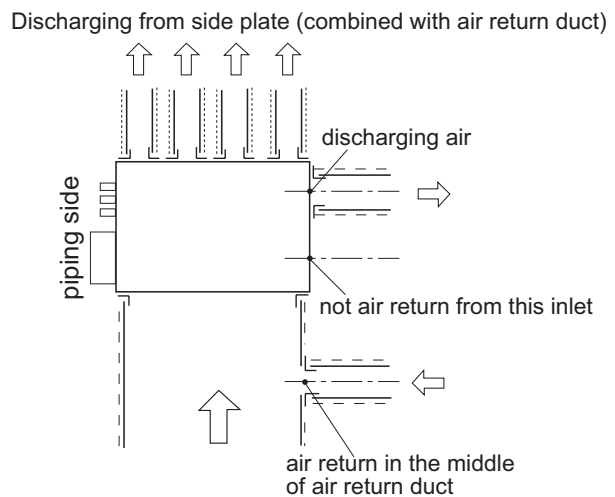


(8) Connection of air return duct and discharging duct

(a) fresh air inlet (from single side)



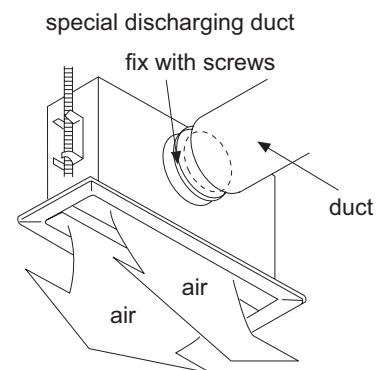
(b) discharging duct



(c) Duct must be heat insulated to avoid causing dew.

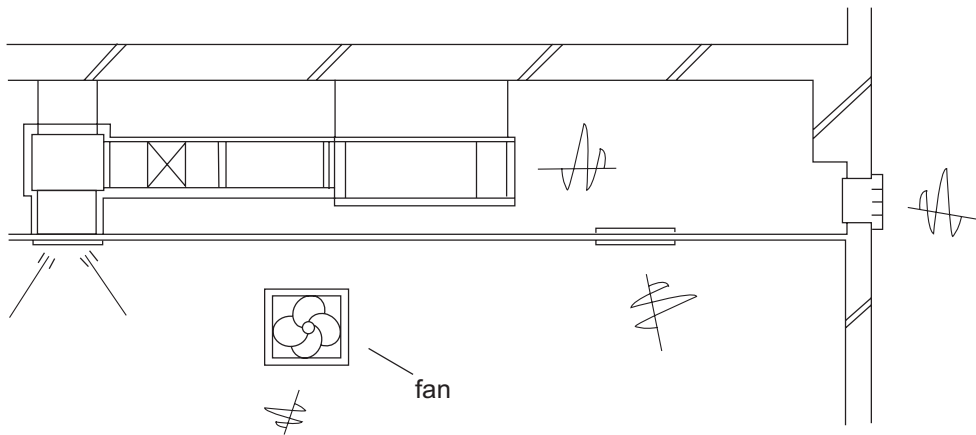
(9) Cautions for air return duct and discharging duct installation

- Suggest the duct with against-dew and noise absorbing material. (purchased locally)
- Finish duct installation before ceiling decoration.
- Duct must be heat insulated.
- Special discharging duct should be in the place where air can be distributed reasonably.
- Checking hole must be pre-set in the ceiling for easy checking and maintenance.



(10) Improper installation examples

- Without air return duct, take the ceiling inside as the duct. It will cause large humidity for nonregular air, strong wind, sunshine, etc.
- Water will drop from the outside of duct. For the new building with concrete, the humidity will be great, even through not taking the ceiling inside as the duct, so the duct should be with heat insulation.
- Exceed the unit operation range (e.g.: indoor DB 35degree, WB 24degree), which will result in compressor overload.
- Affected by the fan, strong wind and air direction, etc, when the unit air velocity exceeds the allowable limitation, the heat exchanger discharging water will overflow to cause water leakage.



improper example

A. Allowable pipe length and drop

These parameters differ from the outdoor unit. See the instruction manual attached with the outdoor unit for details.

B. Material of pipe and heat insulation

In order to avoid causing dew, heat insulation should be dealt with at gas side and liquid side.

Pipe	Rigid PVC pipe VP31.5mm (internal diameter)
Insulation	Foamed PE with thickness above 7 mm

C. Pipe material and size

Pipe material	Phosphorus deoxidized copper seamless pipe (TP2) for air conditioner		
model		AD322	AD382~AD482
Pipe size (mm)	Gas side	∅ 15.88	∅ 19.05
	Liquid side	∅ 9.52	∅ 9.52

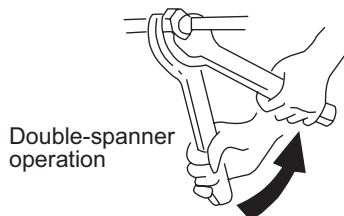
D. Recharge of refrigerant

The refrigerant recharge shall be performed as specified in the installation instructions. The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

E. Refrigerant pipe connection

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.



Connecting pipe O.D.(mm)	Installing torque (N.m)
∅ 9.52	32.7~39.9
∅ 15.88	78.4~98.0
∅ 19.05	97.2~118.6

Cut pipe and expand pipe

When pipe is too long or flared pipe is damaged, the intaller will cut pipe or expand pipe.

Evacuation

Evacuate from the stop valve with vacuum pump, and must not discharge the refrigerant in the outdoor directly.

Open all valves

Open all valves, but when only one master unit is running, the oil equalization valve should close.

Leakage checking

Check if there is leakage on the pipe connection and the valve cap with a leakage detector or soap water.

Wiring method



1. Ring terminal wiring:

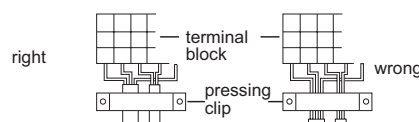
The wiring method is as the above figure, take off the screw, lead the screw through the ring terminal, then press it in the terminal block to fasten the screw.

2. Straight terminal wiring

Loose the screw, put the wire end into the terminal block, then fasten the screw, pull out the wire to confirm if the wire is fixed firmly.

3. Pressing method of connection wire

After wiring, press the connection wire at the wire sleeve firmly with pressing clip, as the figure:



11) Duct design and installation

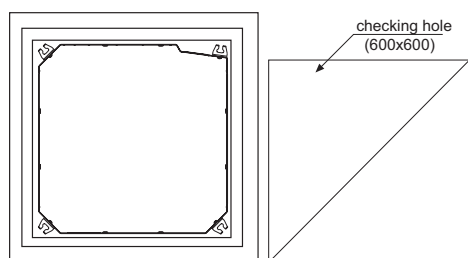
- A. Count the necessary static pressure for air sending duct and air return duct and select proper model due to static pressure. Forbidden to take the MED ESP unit as the Low ESP unit or use the unit without duct.
- B. Air sending duct and air return duct should be heat insulated.
- C. Forbidden to get air return from the ceiling directly.
- D. Adopt air return from indoor, and forbidden air return from corridor.
- E. Forbidden to use the duct unit as the fresh air motor.
- F. The selection of indoor air sending/return duct should consider the indoor air distribution. Air sending hole and air return hole should be a distance to avoid the short circuit. Meanwhile air outlet position and direction should consider the cooling/heating effect and avoid the hot air can blow down because of the air outlet too high.

3.2.5 Explanation for indoor pre-set checking hole

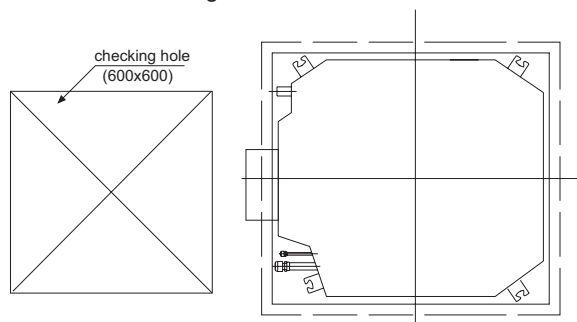
To standardize indoor installation and be convenient for maintenance and design before sale, herein indoor pre-set checking hole will be executed as the following:

(1) Cassette type indoor unit

A. AB072~AB162, pre-set the 600*600 checking hole at the electric control box side.

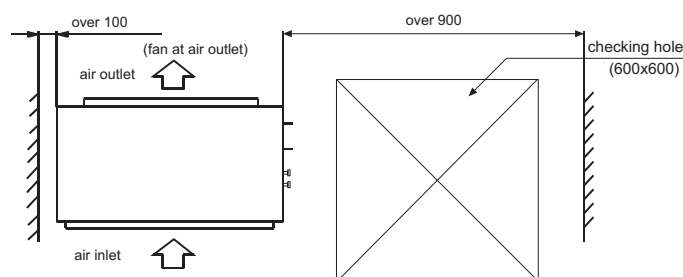


B. AB182~AB482, pre-set the 600*600 checking hole at the electric control box side.



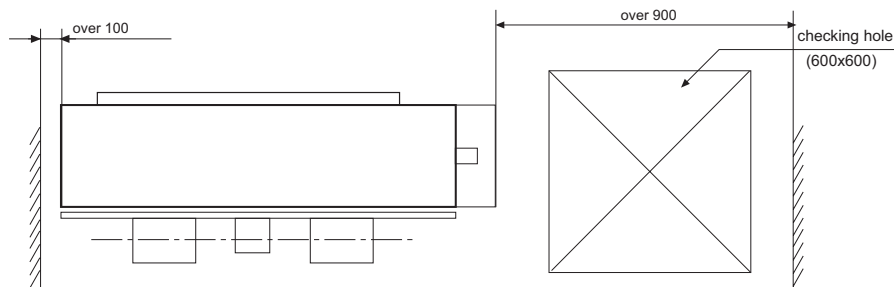
(2) Duct type indoor unit

Pre-set the 600*600 checking hole at the electric control box side.

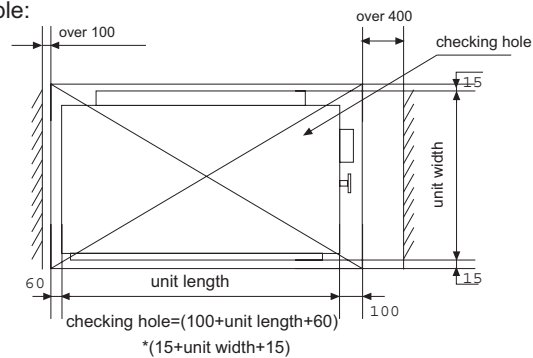


(3) Low ESP Duct type indoor unit

Pre-set the 600*600 checking hole at the electric control box side.



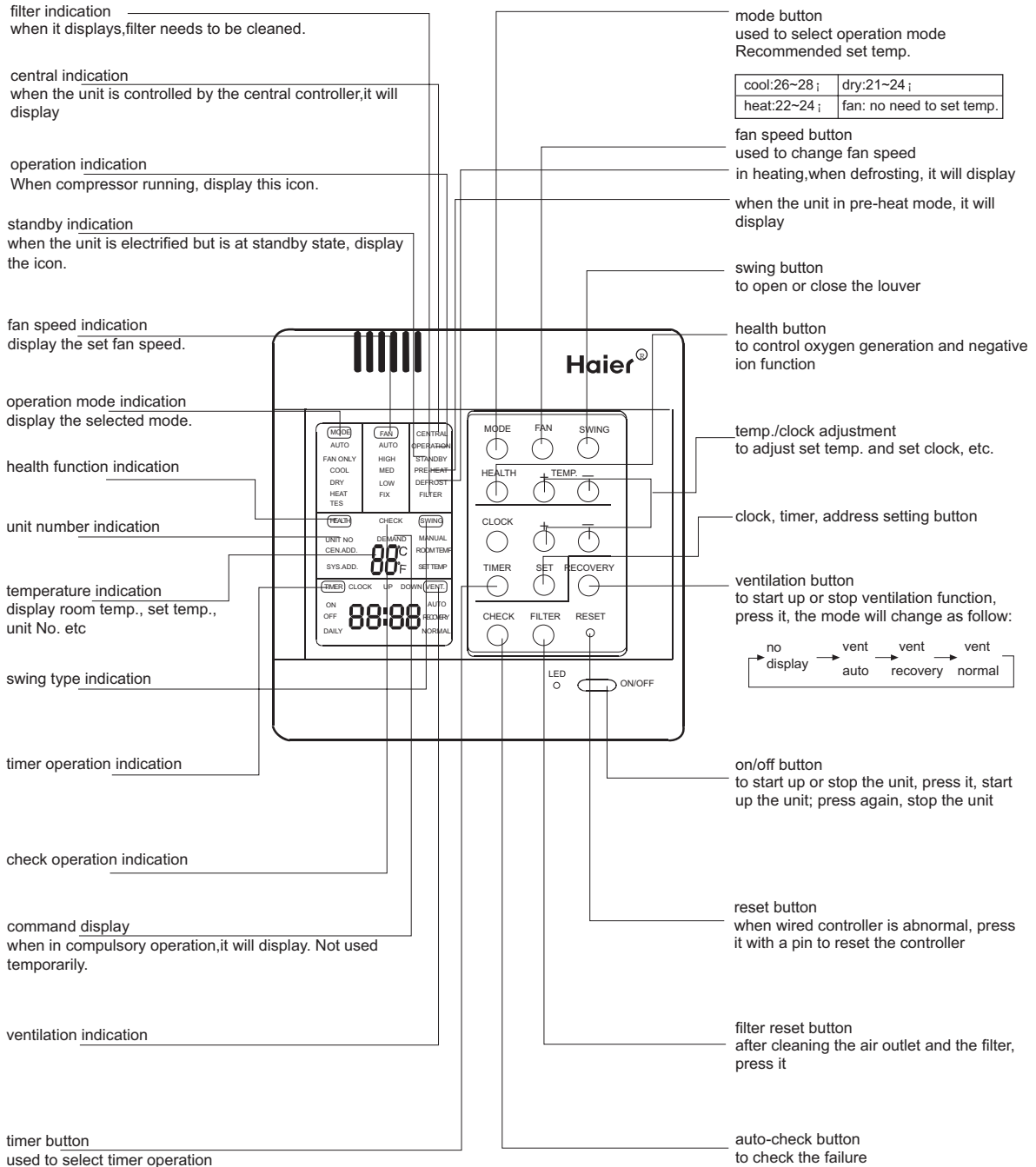
(4) If the ceiling can not be used for maintenance, please prepare enough space above the unit as checking hole, taking duct unit as an example:



(5) The checking hole is used to maintain the unit for the engineer. Generally as long as it is large enough to check and change parts, the recommended dimension is 600*600 near the electric control box.

3.2.6 Controller functions and installation

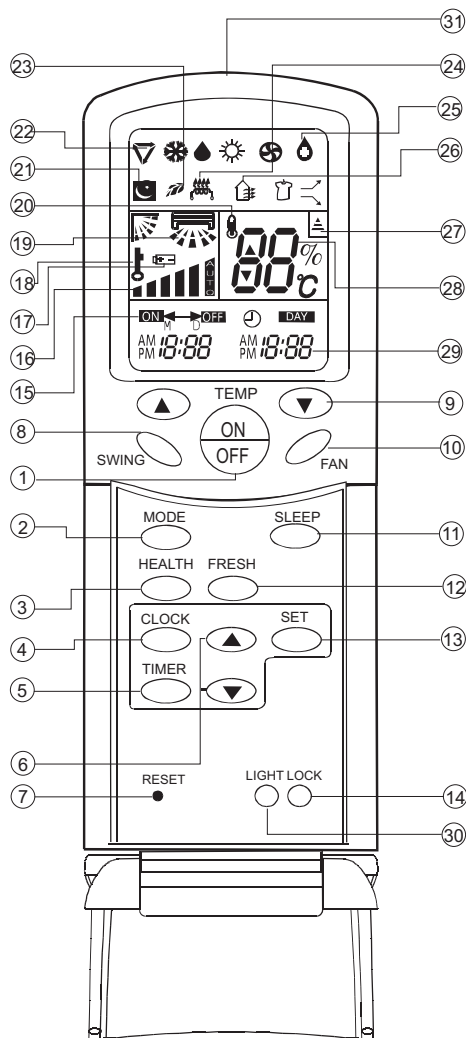
(1) Function introduction



Note:

The displayed temperature will differ from the thermometer, it is normal.

The model in this manual is without health and ventilation function, and for non-electric heating model, there is no electric heating function.



1. ON/OFF Button
Used for unit start and stop
Note: the button on wired controller can set compulsory cooling.
2. MODE Button
used to select operation mode: AUTO, COOL, DRY, FAN, HEAT
3. HEALTH Button
Used to set health mode, if the unit has the negative ion function and oxygen bar function.
4. CLOCK Button
Used to set correct time.
5. CLOCK Button
Used to select TIMER ON, TIMER OFF, TIMER ON/OFF
6. Up and down Button
Used to set TIMER and CLOCK up or down.
7. RESET Button
Press this button by using a sharp article to resume the correct operation of the remote controller in case of malfunctions
8. SWING Button
used to adjust louver direction
9. Temp. set button
used to set temp. (16~30degree)
10. Fan button
used to select fan speed: AUTO, LOW, MED, HIGH
11. SLEEP button
used to set sleep mode
12. FRESH button
used to set fresh air function
13. SET button
used to confirm TIMER and CLOCK time
14. LOCK button
used to lock operation button and LCD
15. TIMER ON/OFF indication

16. Fan speed indication

On remote controller:



17. Battery energy indication

18. Locked state display

19. Air direction display

20. Ambient humidity indication icon (no used)

21. Sleep state indication

22. Operation mode indication

operation	display
AUTO	▽
COOL	❄️
DRY	💧
HEAT	☀️
FAN	🌀

Recommended set temp.

cool:26~28 ;	dry:21~24 ;
heat:22~24 ;	fan: no need to set temp.

23. Health function indication

to display health operation

24. Electric heating indication

25. Comfortable operation icon

26. Fresh air state icon

27. Signal emission icon

28. Temp. display

used to display set temp. and room temp.

29. Clock indication

30. Light button

used to light the operation panel, display

more darker/ more brighter

31. Signal emission head

Cautions:

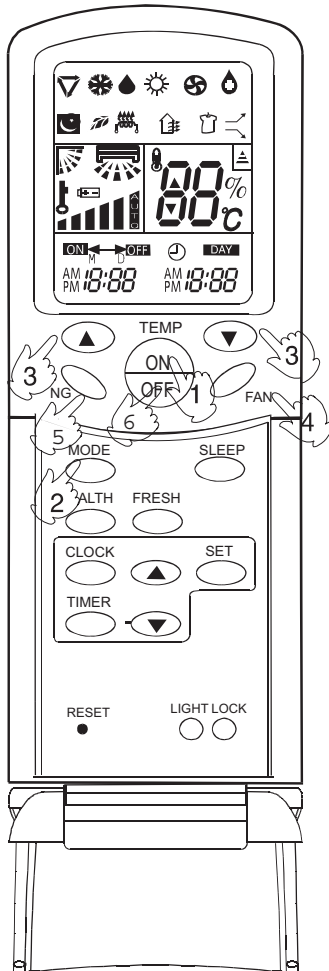
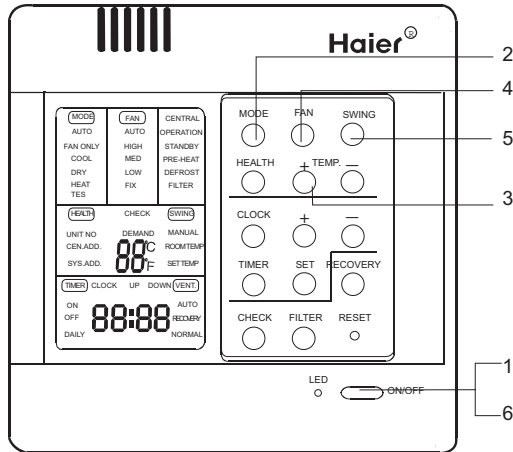
Do not throw or damage the remote controller.

In the room equipped with electronic startup lamp, converting lamp or wireless phone, the signal receiver will be interfered. When using the controller, get closer to the indoor unit.

Note:

1. The models in this manual are without health, fresh air, sleep function and the indications 17, 19, 20, 21, 23, 25, 26.
2. Non-electric heating model, no electric heating function and the indication 24.
3. For some models, there are no fresh button and the indication.

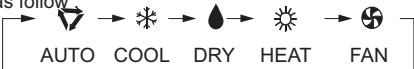
(2) Start/stop unit



Press ON/OFF button to start your air conditioner. Previous operation status appears on LCD (except for TIMER and SWING setting).

1 Press "ON/OFF" button
The unit begins to run, LED on the wired controller or power lamp on remote controller will be light.

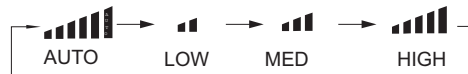
2 Select operation mode
Press "MODE" button, the modes for wired controller change as follow :
"AUTO" ; œ "FAN" ; œ "COOL" ; œ "DRY" ; œ "HEAT".
Press "MODE" button, the modes for remote controller change as follow :



AUTO COOL DRY HEAT FAN

3 Press TEMP button
For wired controller, press "+", "-" to set indoor temp.
For remote controller, press "▲", "▼" to set indoor temp.

4 Press FAN button (at DRY mode, fan speed is AUTO)
For wired controller, fan speed changes as below
"AUTO" ; œ "HIGH" ; œ "MED" ; œ "LOW" ; œ "AUTO".
For remote controller, fan speed changes as below



5 Press "SWING" button, louver swings.

6 Press "ON/OFF" button, stop the unit.
LED on wired controller is off.

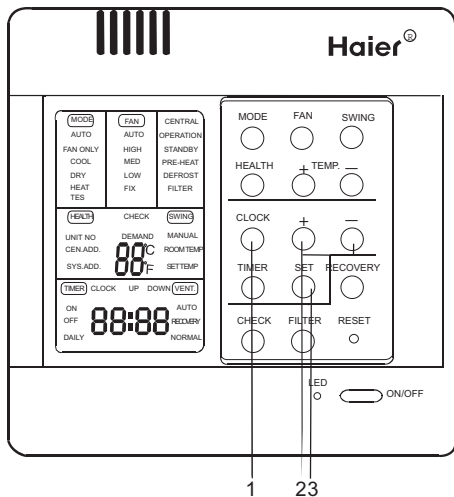
Note: 1) Several seconds later being controlled by the wired/remote controller, the unit state will change.
2) If the everyday requests (operation mode, set temp., fan speed) are the same, you only need to execute the first procedure ON/OFF. The wired/remote controller will display the previous state.

Remarks

- Avoid start/stop unit frequently.
- When selecting cooling/dry/heating mode, if the other indoors are in different modes, the indoor will be standby state and the operation mode icon on wired controller will flash.
- Do not press the buttons of controller.
- When pressing temp. UP/DOWN button, the unit maybe stop, it is not abnormal.
- In cooling/heating mode, though the room temp. may be lower/higher than the set temp, the unit will run in cooling/heating mode, it is not abnormal.
- In dry/demand mode, the unit will adjust the fan speed due to the indoor temp automatically, and can not be adjusted by the fan speed switch.
- When wired controller is electrified for the first time, the controller will display all info for 2 seconds, then LED and CLOCK area will change: "8888" ; œ "888" ; œ "88" ; œ "8" and flash for about 30 seconds, all buttons are invalid.
- If indoor fan speed is admired to be fixed, the fan speed can not be changed, wired controller will display "FIX".

(3) Set the present time

The TIMER setting is based on the present time, so confirm the present time as the following:



1 Press CLOCK button
CLOCK will flash, the display time is the present time.

2 Press "+" "-" button to adjust the time.
Press + once, the set time will increase 1 minute.
Press - once, the set time will reduce 1 minute.

3 Press SET button to confirm the time.

Note:
In non-timer state, LCD will display the clock.
If setting the timer, LCD will display the timer clock.
If it is necessary to check the present time, press clock button.

The clock adjustment for remote controller is in the next page.

How to cancel the auto restart function?

Wired control type unit: if J07 on wired controller PCB is short connected, auto restart function is unavailable; if J07 is disconnected, the auto restart function is available.

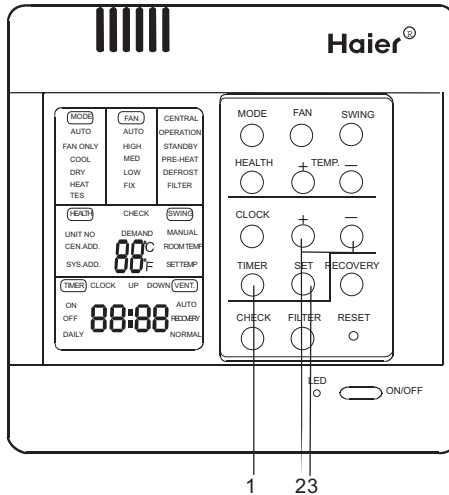
Remote control type unit: press SWING button 10 times in 5 seconds, set or cancel the auto restart function.

Being electrified after being powered off, if with auto restart function, the unit will resume the state before being powered off; or the unit will stop, press ON/OFF button back to the previous state.

(4) TIMER operation

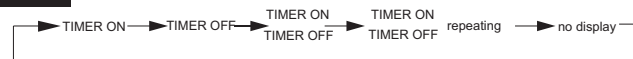
TIMER OFF: when the set time has passed, the unit will stop;

TIMER ON: when the set time has passed, the unit will start up.



Firstly press ON/OFF button to start up the unit, then set the mode. Before setting TIMER, adjust the clock.

1 Press TIMER button
Wired controller will display the following, select one mode.



Remote controller will display the following, select one mode.



2 Set timing clock.
When TIMER ON/TIMER OFF flashes, for wired controller, press +, - button to adjust the clock; for remote controller, press ▲▼ to adjust the ON/OFF clock.
Press + once, the set time will increase 10 minute.
Press - once, the set time will reduce 10 minute.
If TIMER ON/OFF be set at the same time, press TIMER button to change the set item.

3 Press SET button to confirm the time.

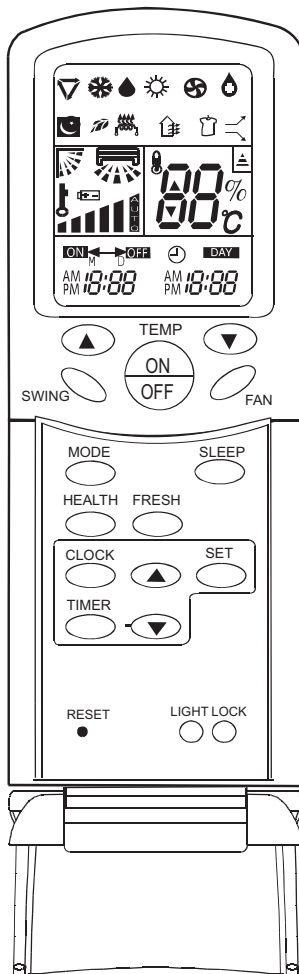
Cancel TIMER
If you need to change the TIMER mode to the normal mode, press TIMER until there is no timing indication, then TIMER is cancelled.

Remarks for wired controller:

1. The unit will work/stop at the TIMER ON/OFF, meanwhile, the LCD will display the timing clock.
2. "TIMER ON, TIMER OFF repeating" means that the unit will work/stop at the set timing clock everyday.

NOTES

The system will execute the shorter time firstly.
If TIMER ON and TIMER OFF are at the same clock, the setting is invalid.
Even though the unit is set by timing, you can control the unit work/stop by ON/OFF button.

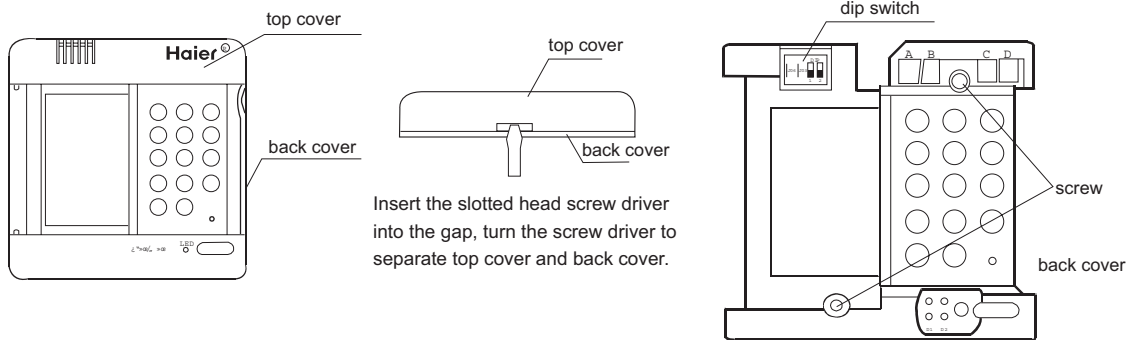


(5) Controller installation

Wired controller installation

A. Take down the top cover of wired controller

(PCB is in the wired controller, when taking down the top cover, take care not to damage PCB)



B. Install wired controller

Please drill two holes on the wall according to the back cover screw hole position of the wired controller, then strike the wood block to the holes respectively, then align the 2 screw hole of the wired controller back cover to the wood block, fasten the wired controller to the wall with wood screws.

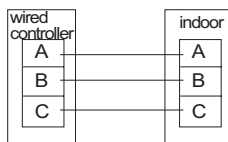
Note: Better install the wired controller on the flat wall and do not fasten the wood screw with excessive force, or the wired controller will be damaged.

C. Dip switch

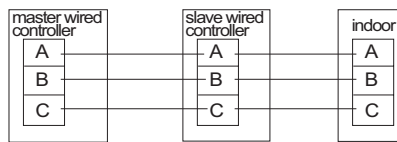
Refer to the dip switch information in the latter chapter.

D. Wiring method

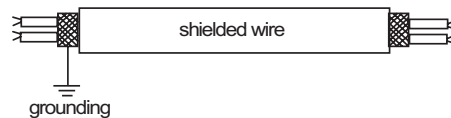
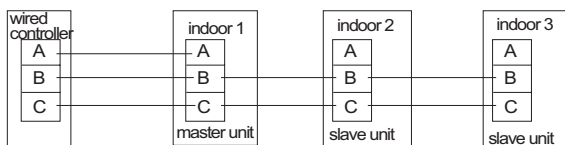
⌚ To control single unit with single wire (1 to 1)



⌚ Master/slave wired controller control single indoor (2 to 1)



⌚ Single wired controller controls multi indoors (1 to X)



Note:

Use shielded wires for communication between wired controller and indoor unit; indoor unit and outdoor unit. Ground the shielded wire on outdoor communication wire side. Otherwise misoperation because of interference may occur. Confirm the terminal connectors are connected firmly and not touch with the shielded wire.

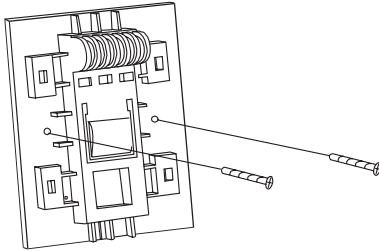
E. Replace the top cover of wired controller. Be careful not to press the wiring.

(6) Installation of remote receiver (used for low ESP duct, med ESP duct and high ESP duct unit)

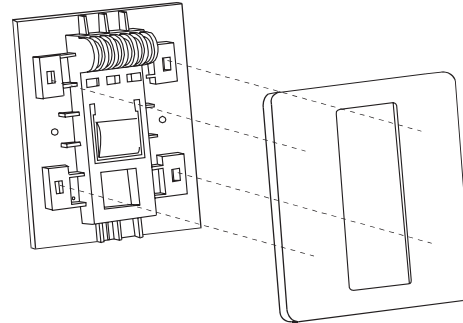
Because of the temperature sensitive device, do not install the remote receiver at straight sunlight place, either in front of air outlet grill, for it is effected greatly from cool air and heat air, the remote receiver is at least 20mm distance to the air outlet grill.

Since there is light sensitive device which receives wireless remote signal, so do not installed behind the window curtain or other obstacles, in order not to obstruct the signal.

Must fix the remote control wire far from high voltage electricity (such as the wiring of electric light, air conditioner, etc.) and low voltage electricity (such as the wiring of telephone, interphone, etc.).



1. Fix the remote receiver with screws on the selected place



2. Place the panel onto the fixed frame, pay attention that the four claws must be placed into the corresponding four poles on the frame

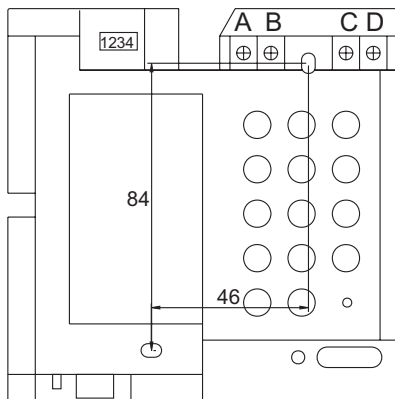
Connecting wiring method of receiver :

Refer the indoor unit wiring diagram .

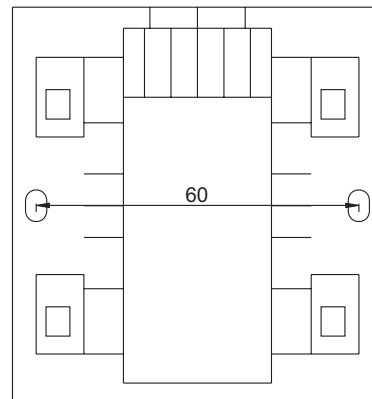
Safety cautions see the electrical wiring section .

(7) Installation dimension:

A. Wired controller installation dimension:



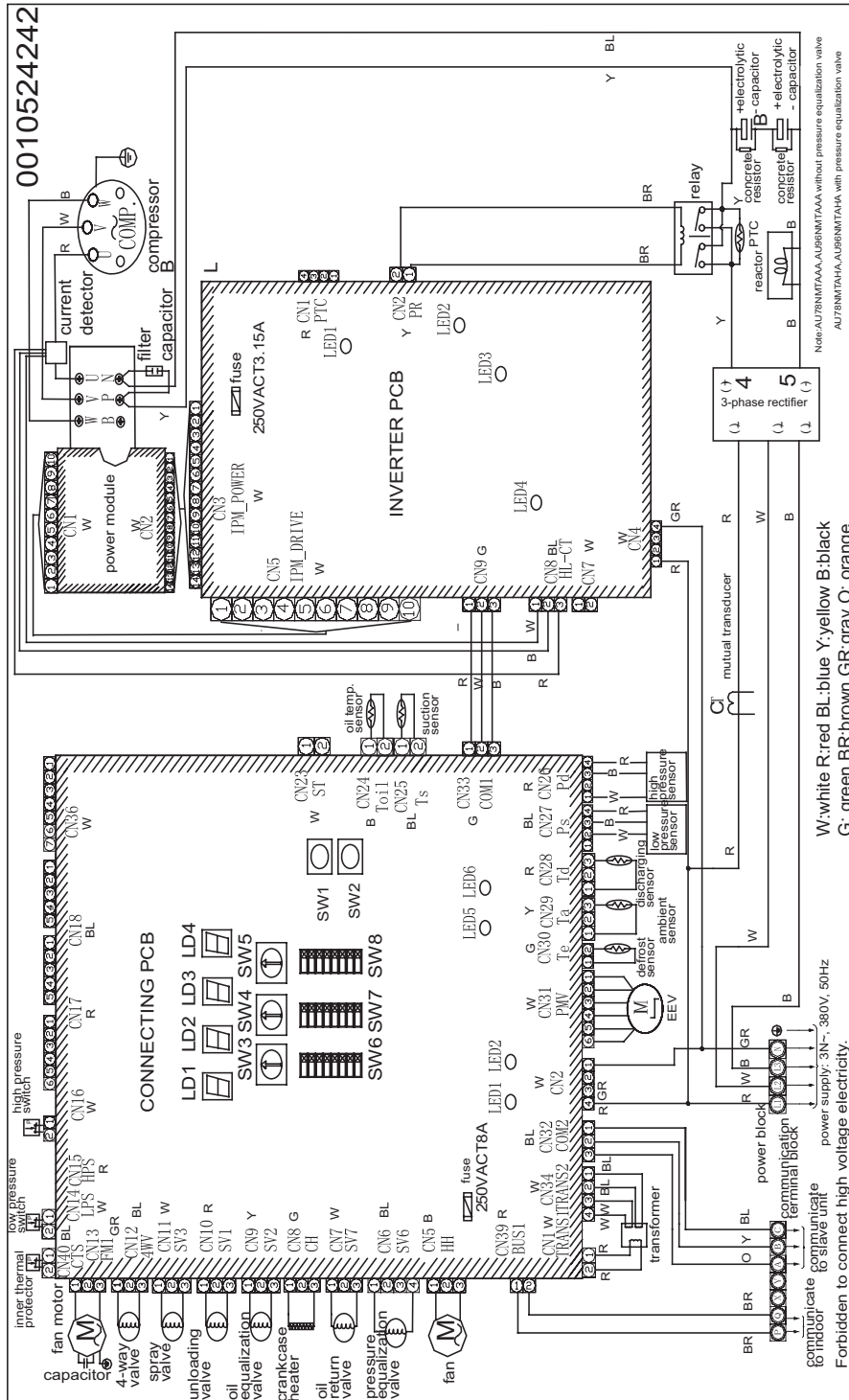
B. Remote receiver installation dimension:



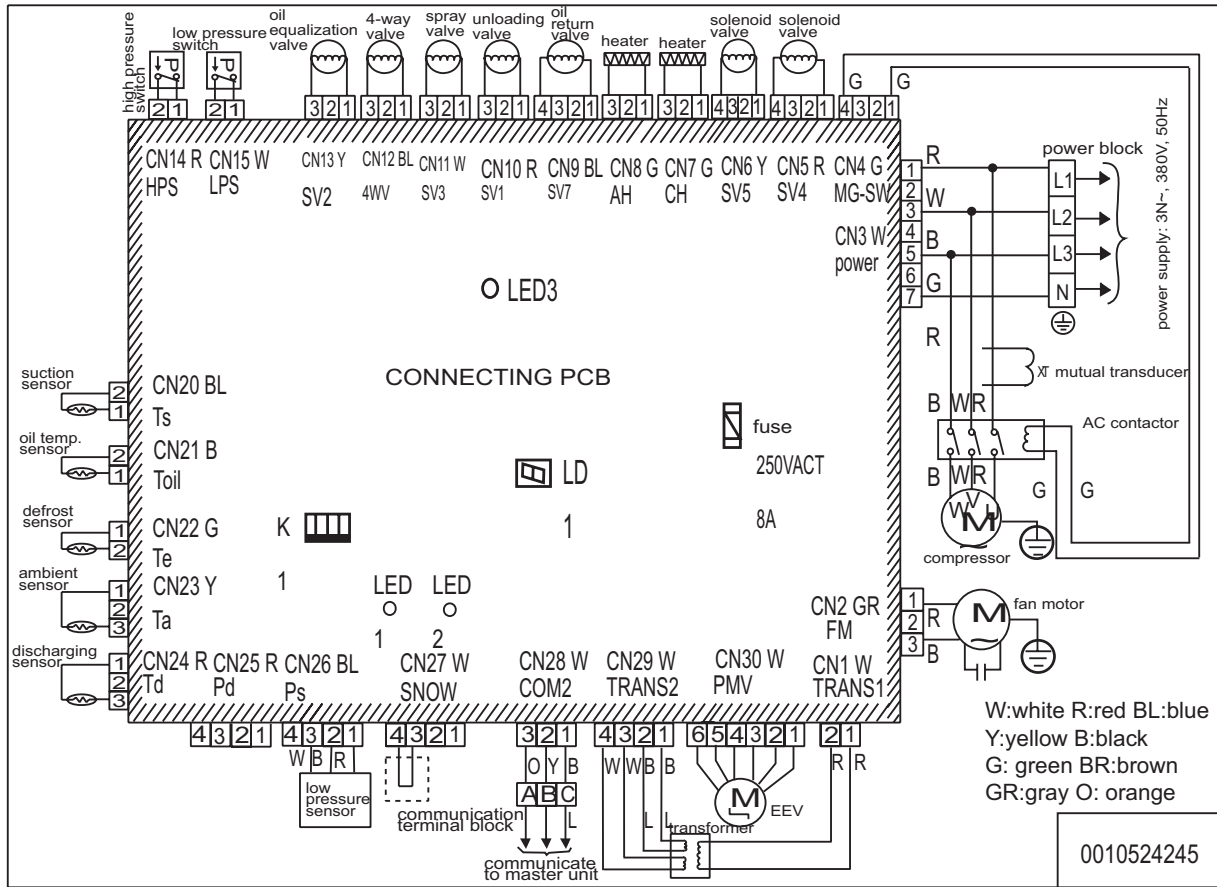
3.3 Circuit diagram

3.3.1 Wiring diagram

(1) Master unit: AU96NMTAHA, AU78NMTAHA

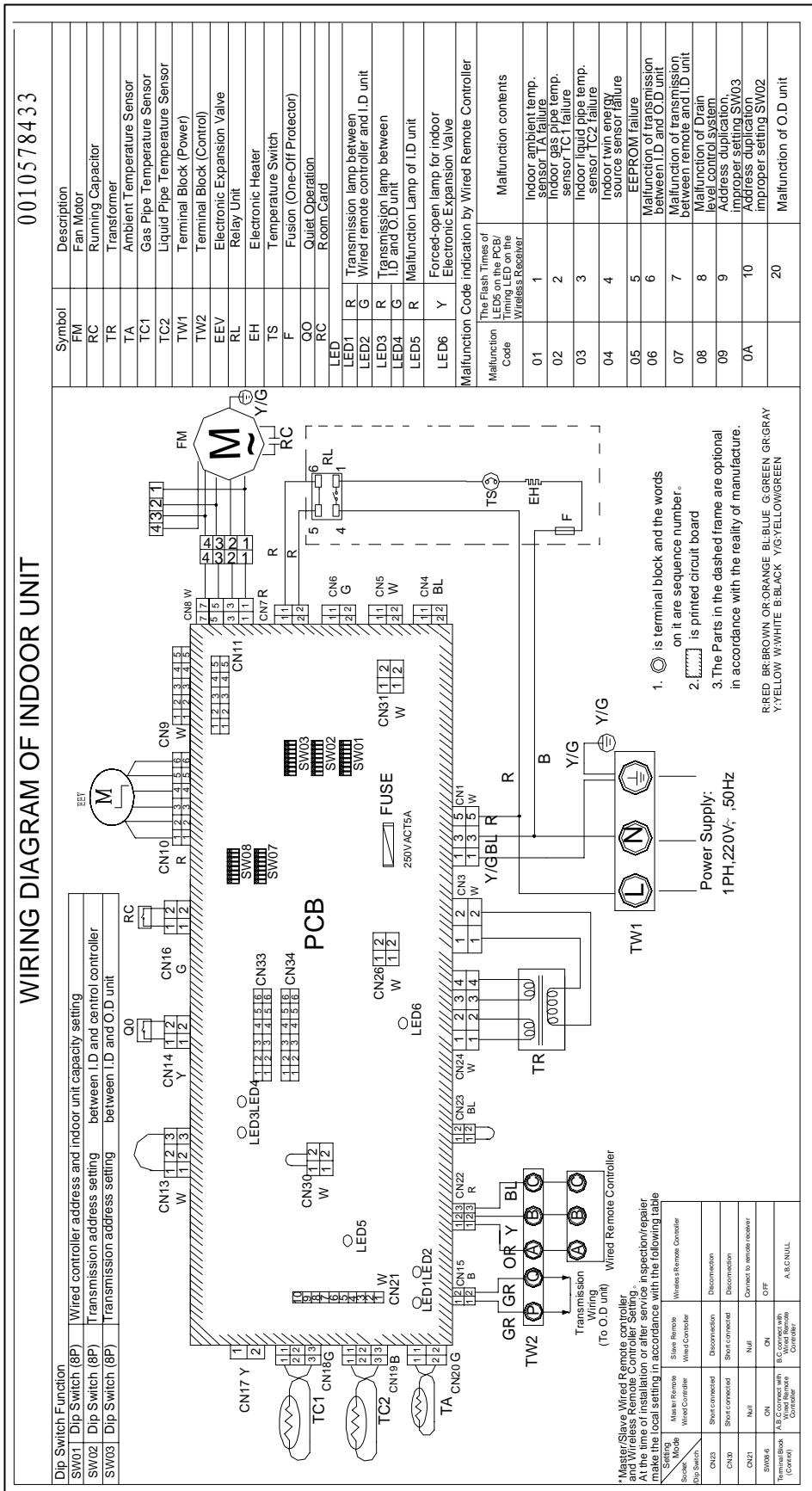


(2) Slave unit: AU96NMTAAA, AU78NMTAAA



----- CN27 short connected in dashed frame stands for 8HP, disconnected stands for 10HP.

Note: Within 3 minutes when being electrified for the first time, the digit tube displays unit No and capacity. 8HP displays 8* 10HP displays A.



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WIRING DIAGRAM OF INDOOR UNIT

Malfunction Code indication by Wired Remote Controller

Malfunction Code	The Flash Times of LEDs on the PCB/Flashing LED on the Wireless Receiver	Malfunction Contents
01	1	Indoor ambient temp. sensor TA failure
02	2	Indoor gas pipe temp. sensor TC1 failure
03	3	Indoor liquid pipe temp. sensor TC2 failure
04	4	Indoor twin energy source sensor failure
05	5	EEPROM failure
06	6	Malfunction of transmission between I.D and O.D unit
07	7	Malfunction of transmission between remote Controller and I.D unit
08	8	Malfunction of Drain level control system
09	9	Address duplication improper setting SW03
0A	10	Address duplication improper setting SW02
20		Malfunction of O.D unit

1 Master/Slave Wired Remote controller and Wireless Remote Setting
At the time of installation or after service inspection/repair make the local setting in accordance with the following table

Socket	Master Remote Wired Controller	Slave Remote Wired Controller	Wireless Remote Controller
CN23	Short connected	Disconnected	Disconnected
CN30	Short connected	Short connected	Disconnected
CN21	Null	Null	Connect to fan/heater
SW06-6	Null	ON	OFF

Terminal Block (Unit)

Terminal Block	A	B	C	Null
Terminal Block (Unit)	A	B	C	Null

TO POWER SUPPLY
1PH, 220-230V, 50HZ

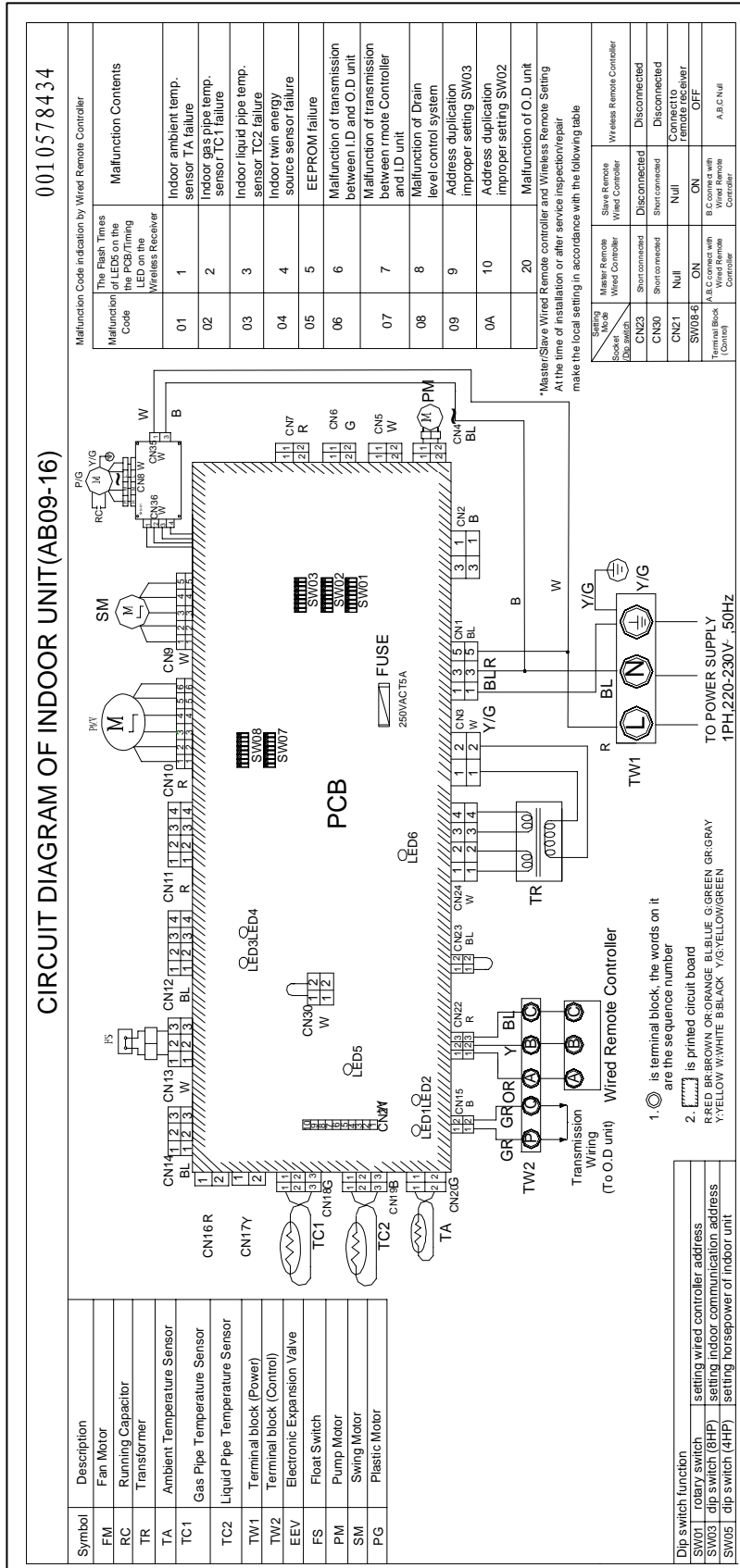
1. [Symbol] is terminal block, the words on it are the sequence number
2. [Symbol] is printed circuit board
3. The Parts in the dashed frame are optional in accordance with the reality of the manufacture.

R-RED BROWN OR-ORANGE BL-BLUE G-GREEN GR-GRAY
Y-YELLOW W-WHITE B-BLACK Y-YELLOW/GREEN

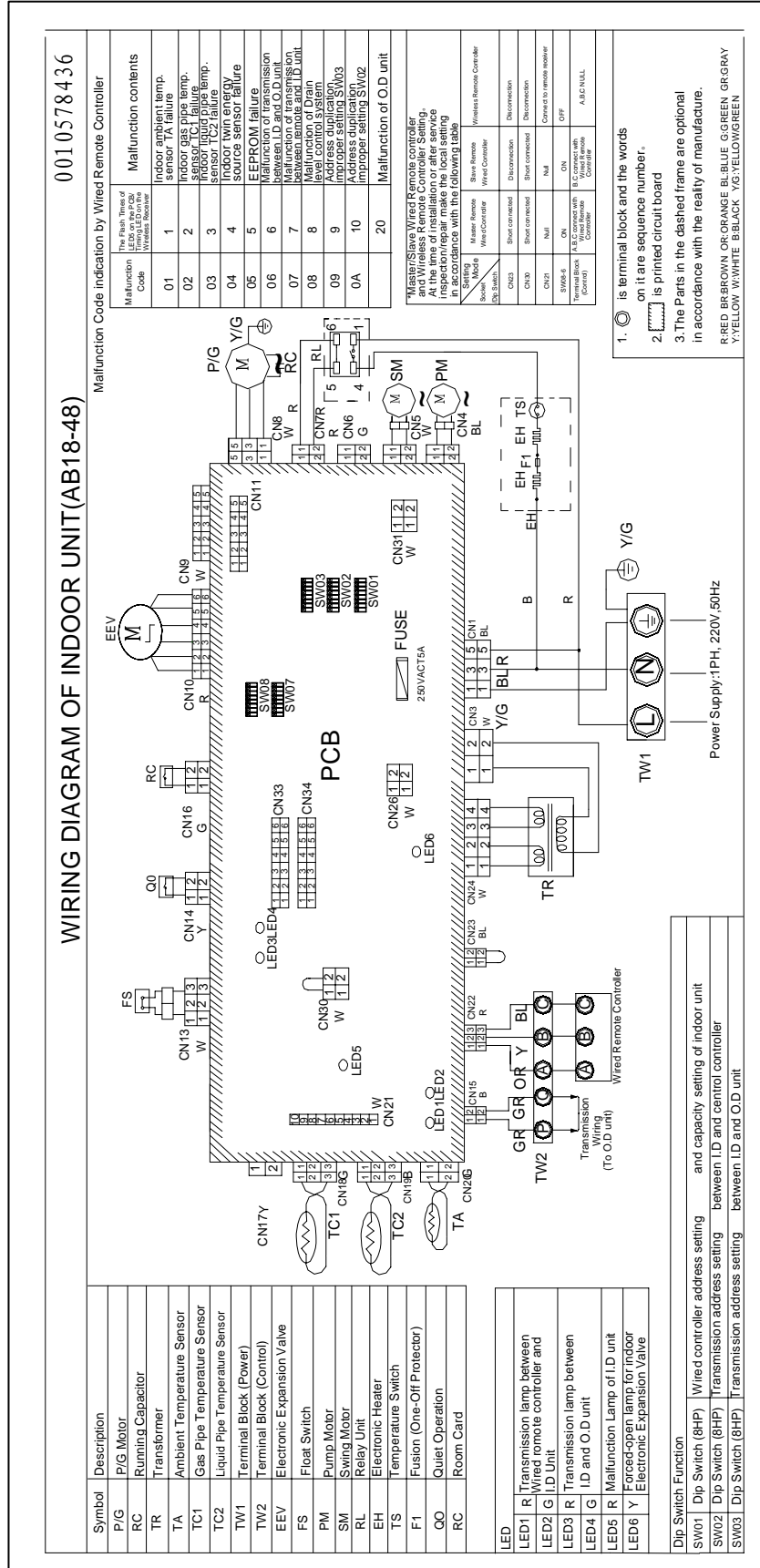
Symbol	Description
FM	Fan Motor
RC	Running Capacitor
TR	Transformer
TA	Ambient Temperature Sensor
TC1	Gas Pipe Temperature Sensor
TC2	Liquid Pipe Temperature Sensor
TW1	Terminal block (Power)
TW2	Terminal block (Control)
EEV	Electronic Expansion Valve
FS	Float Switch
PM	Pump Motor
RL	Relay
RC	Quiet Operation Room Card

LED	LED
LED1 R	Transmission Lamp between
LED2 G	Wired remote controller and I.D Unit
LED3 R	Transmission Lamp between
LED4 G	I.D and O.D unit
LED5 R	Malfunction lamp for I.D unit
LED6 Y	Force-open lamp for indoor Electronic Expansion Valve

Dip Switch Function	Wired controller address and capacity setting of indoor unit
SW01 Dip switch (8HP)	Transmission address setting between I.D and central controller
SW02 Dip switch (8HP)	Transmission address setting between I.D and O.D unit
SW03 Dip switch (8HP)	Transmission address setting between I.D and O.D unit



(6) 4-way cassette unit (more than 2HP)



Symbol	Description
P/G	P/G Motor
RC	Running Capacitor
TR	Transformer
TA	Ambient Temperature Sensor
TC1	Gas Pipe Temperature Sensor
TC2	Liquid Pipe Temperature Sensor
TW1	Terminal Block (Power)
TW2	Terminal Block (Control)
EEV	Electronic Expansion Valve
FS	Float Switch
PM	Pump Motor
SM	Swing Motor
RL	Relay Unit
EH	Electronic Heater
TS	Temperature Switch
F1	Fusion (One-Off Protector)
OO	Quiet Operation
RC	Room Card

LED	Function
LED1	R Transmission lamp between remote controller and I.D. Unit
LED2	G Transmission lamp between I.D and O.D unit
LED3	R Transmission lamp between I.D and O.D unit
LED4	G Malfunction lamp of I.D. unit
LED5	Y Forced-open lamp for indoor Electronic Expansion Valve

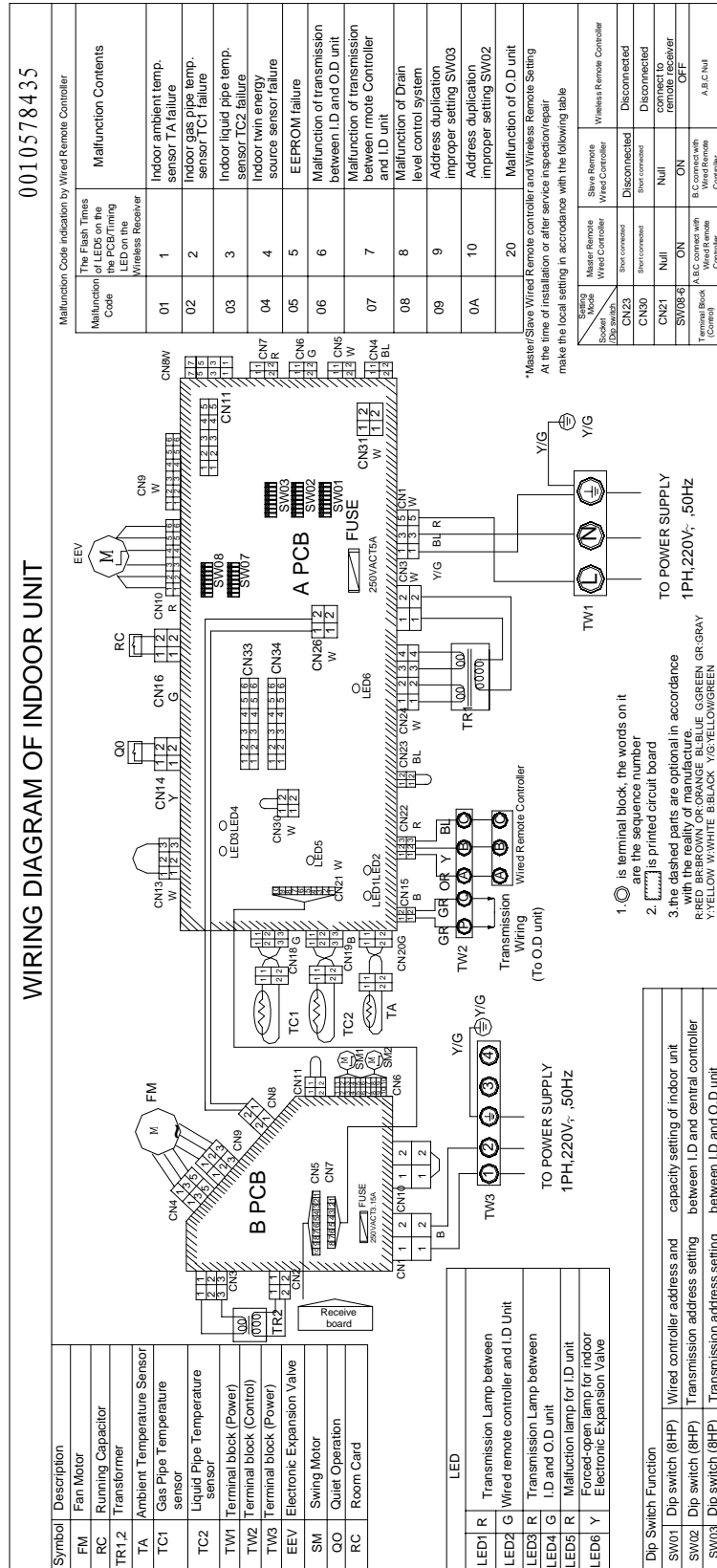
Dip Switch Function	Setting
SW01	Dip Switch (8HP) Wired controller address setting and capacity setting of indoor unit
SW02	Dip Switch (8HP) Transmission address setting between I.D and control controller
SW03	Dip Switch (8HP) Transmission address setting between I.D and O.D unit

1. is terminal block and the words on it are sequence number.

2. is printed circuit board

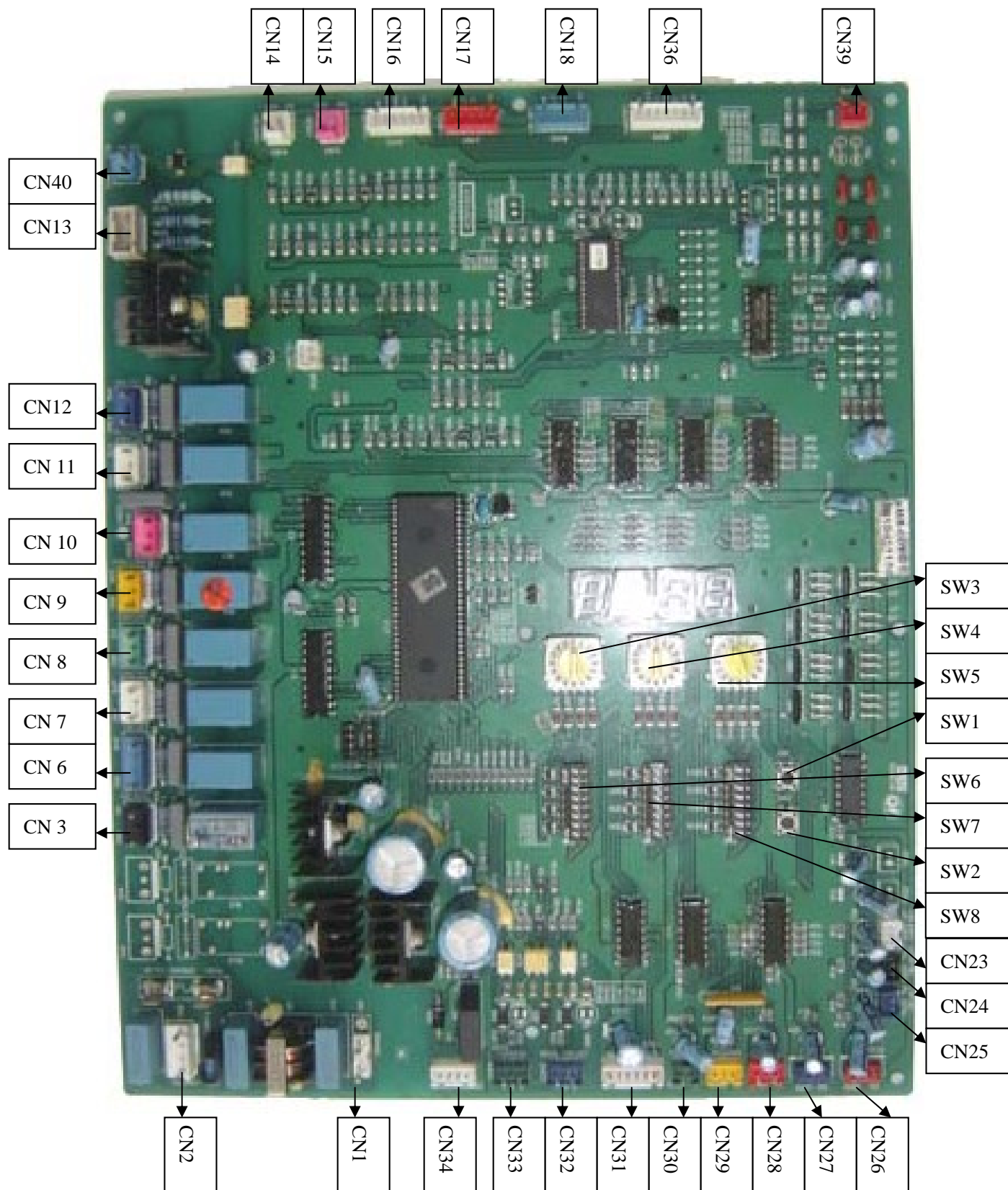
3. The Parts in the dashed frame are optional in accordance with the reality of manufacture.

R:RED B: BROWN OR ORANGE BL: BLUE G: GREEN GR: GRAY Y: YELLOW W: WHITE B: BLACK YG: YELLOWGREEN

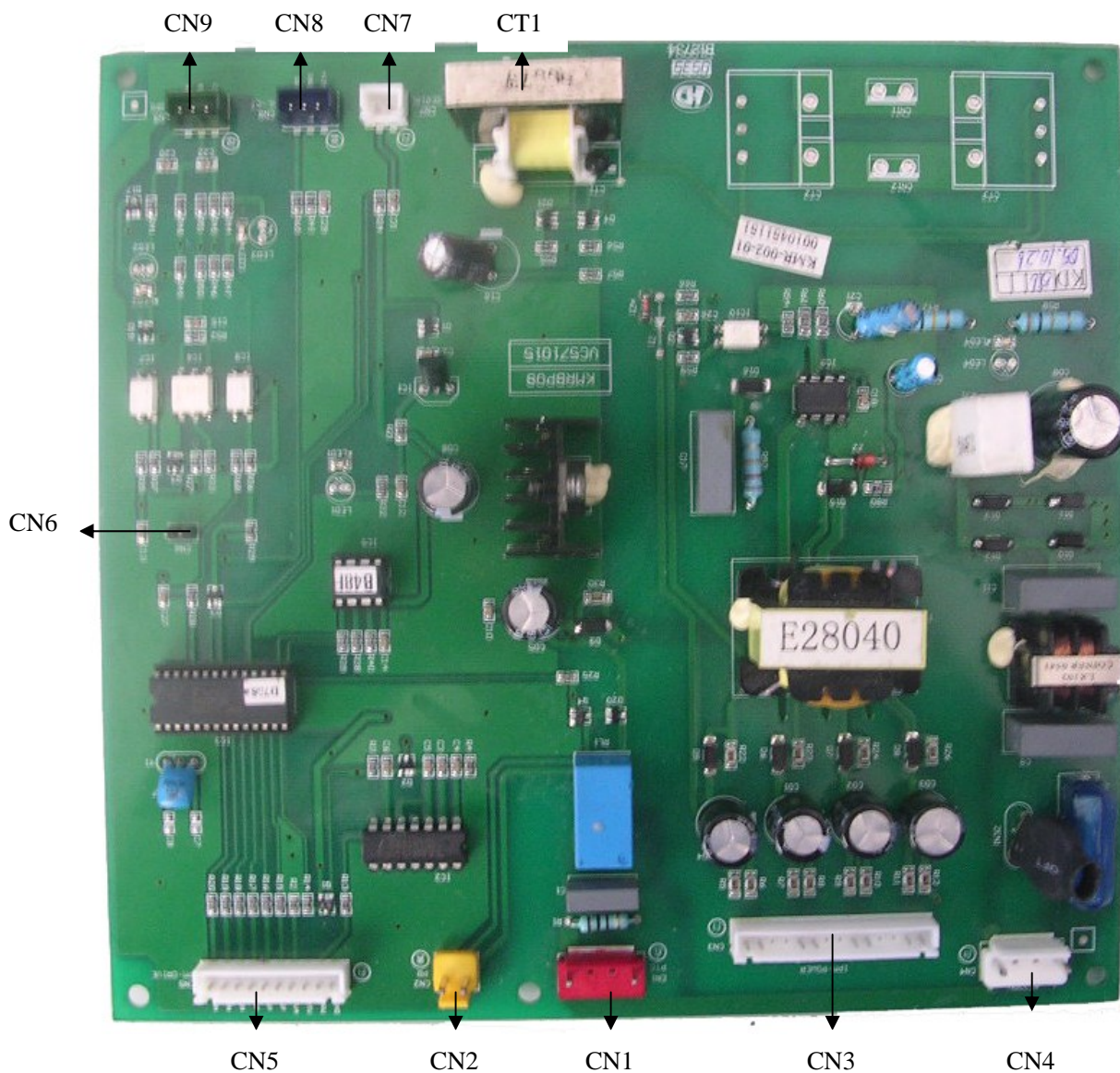


3.3.2 PCB figures

(1) Connecting PCB of master unit

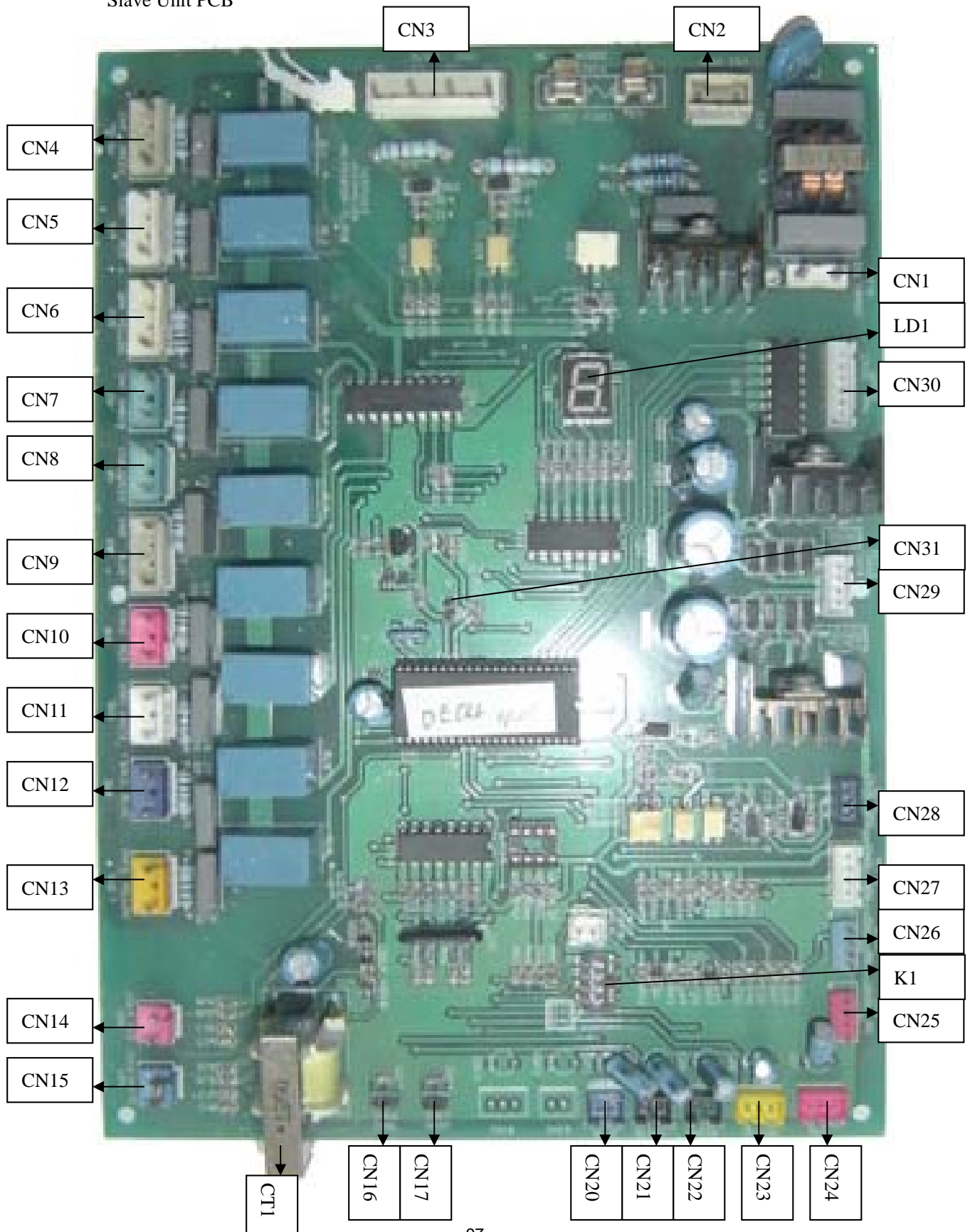


(2) Inverter PCB of master unit



(3) Connecting PCB of slave unit

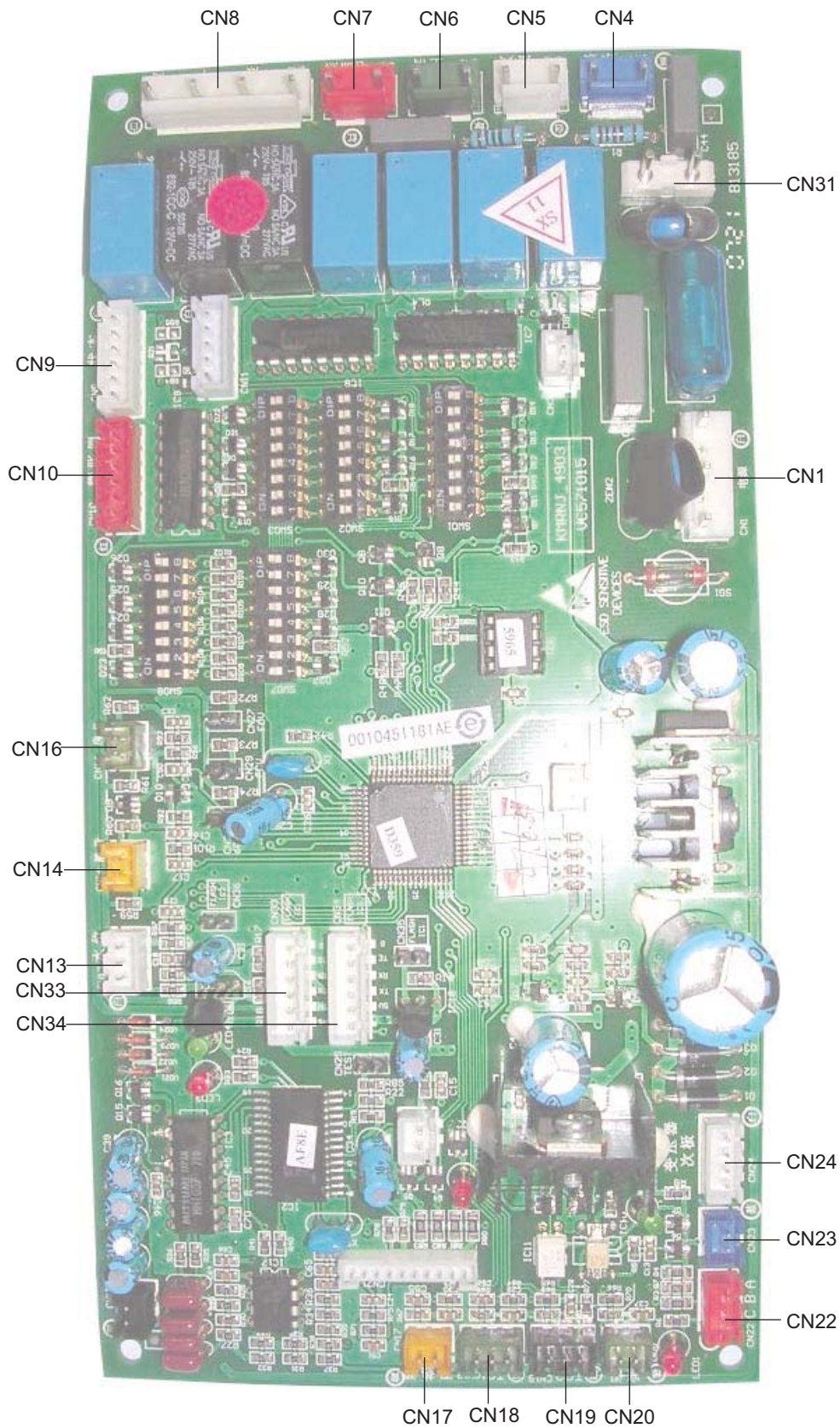
Slave Unit PCB



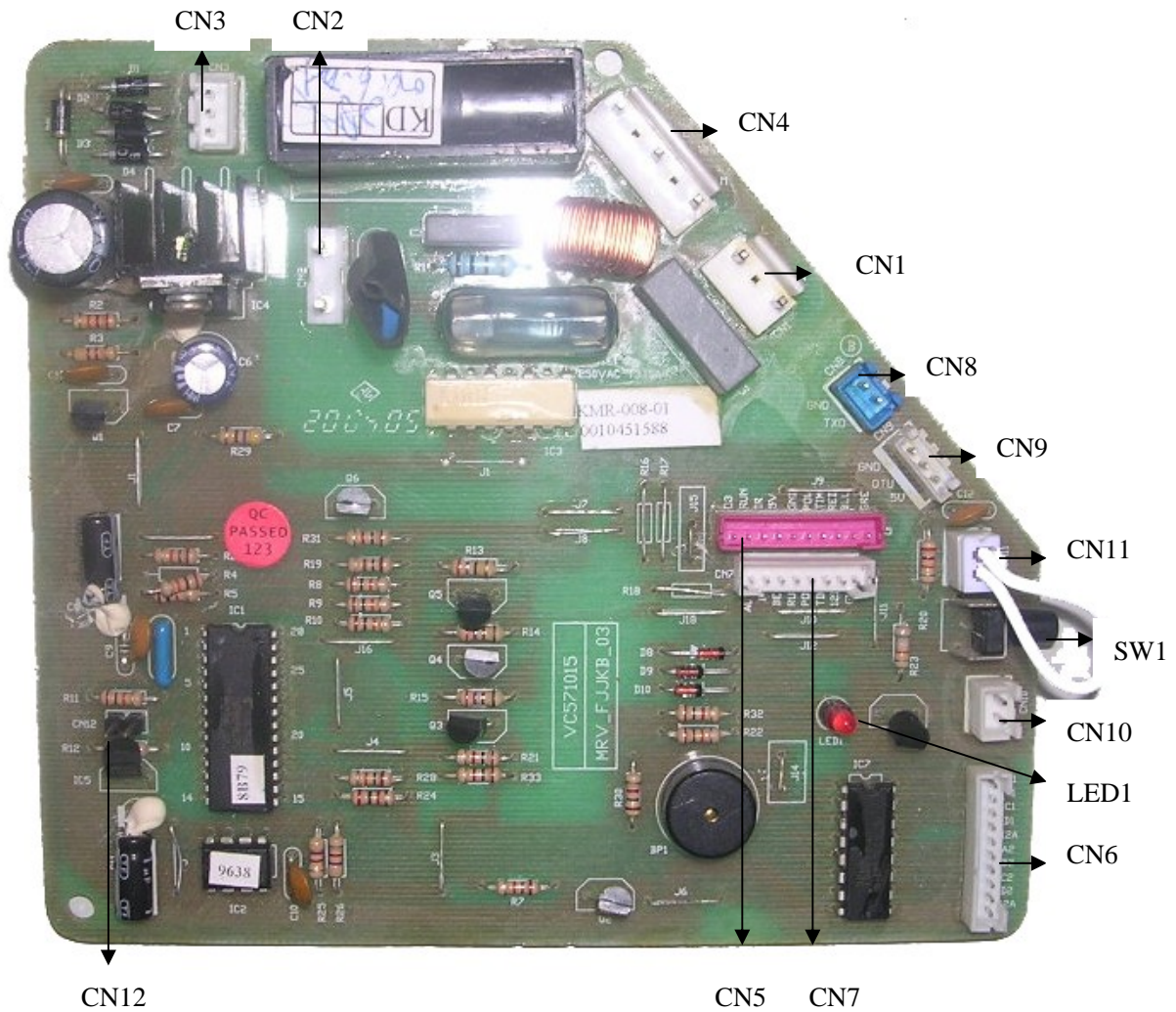
MRVII R22

(4) Indoor unit PCB

Haier



(5) Auxiliary PCB (only necessary for wall mounted unit)



3.4 Electric installation

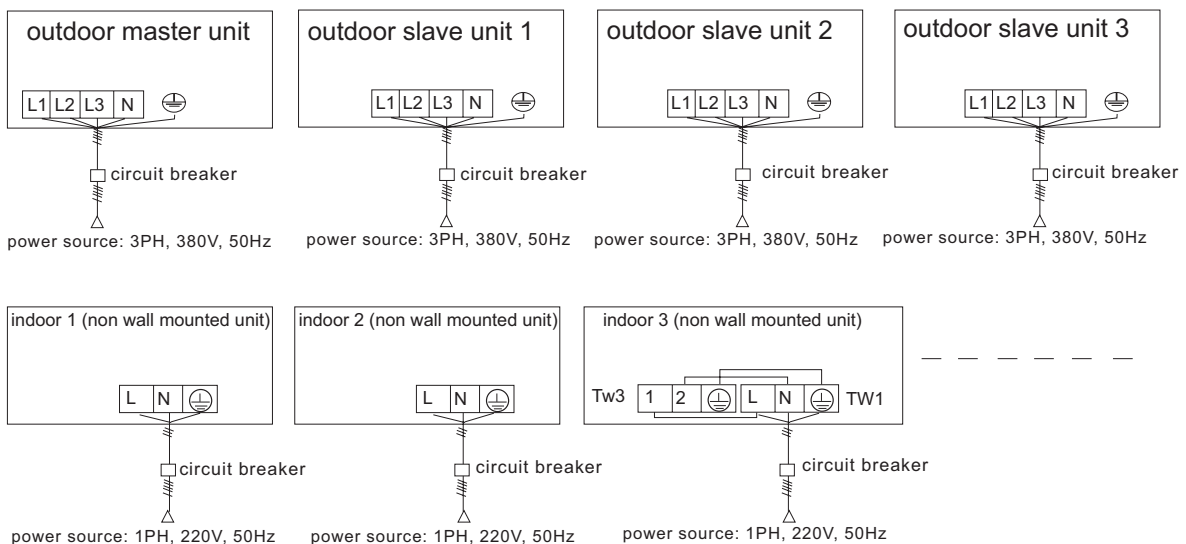
Electric wiring should be executed by the specialized well-trained person.

Warnings:

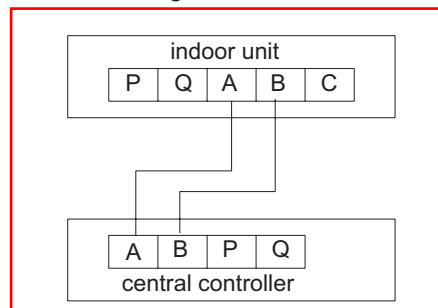
- A. Do not take the other wire except for copper wire as the power cable.
- B. All indoor/outdoor units must be connected with the earthing wire of power cable. The earthing wire can not be connected onto the earthing wire of coal gas pipe, water pipe, lightning rod, or telephone. Or the electric shock or fire will occur.
- C. Must install the circuit breaker, or electric shock will occur.
- D. Before finishing electric installation, do not electrify the unit.
- E. Indoor and outdoor use their individual power source. The indoors connected to one outdoor must use one power source.
- F. The communication wire and the power cable must be individual and can not use one multi-core cable, or the communication wire will be interfered to cause abnormal.

1. Wiring system:

(1) Power wiring figure

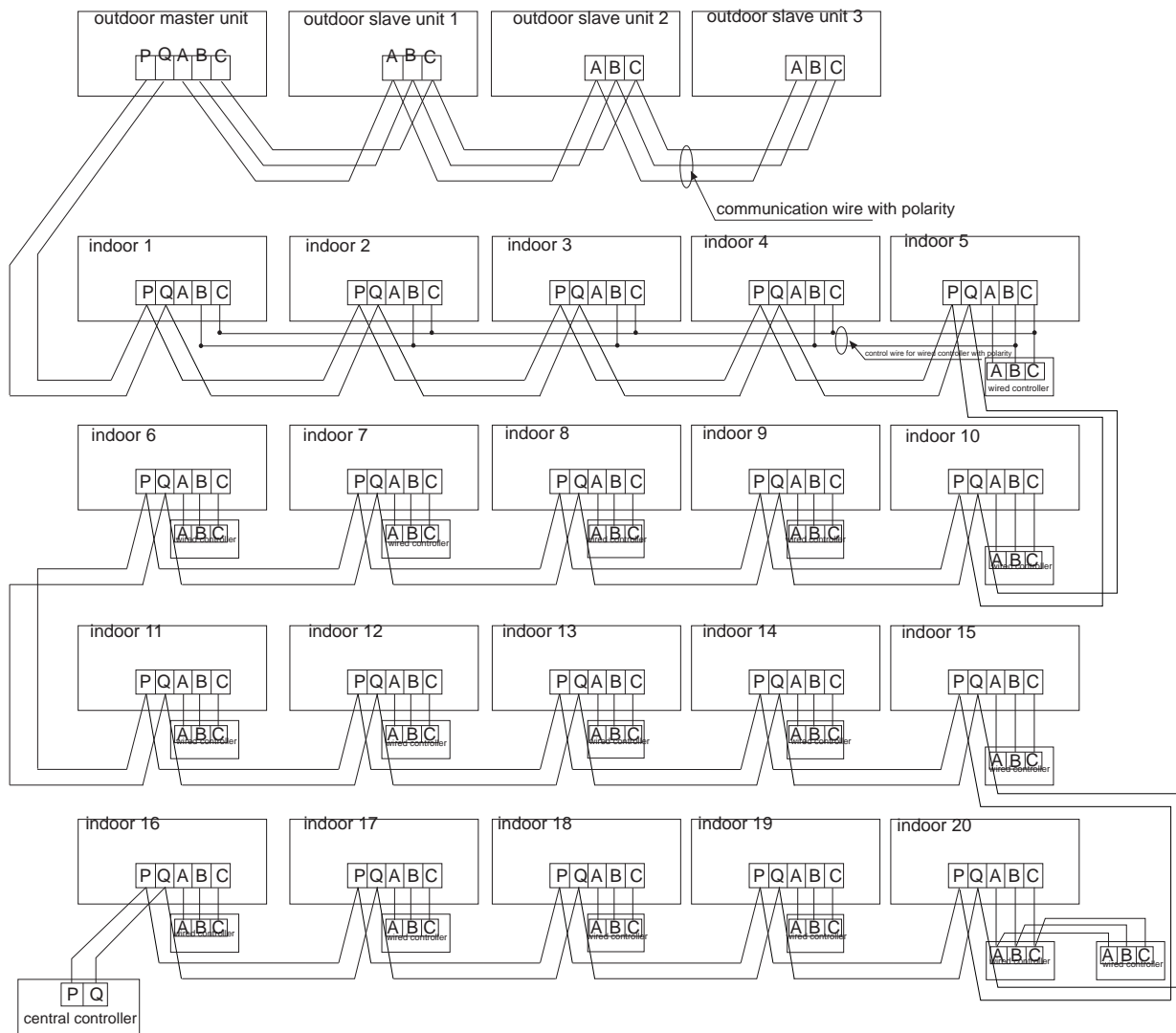


If you want, you can also take a 12 voltage from indoor PCB as following:



(Select any indoor unit to supply the power source for the central controller, and short connect the CN23 on indoor PCB.)

(2) Communication wiring figure



Outdoor units are in parallel through 3 polar wires. The master unit, central controller and all indoor units are in parallel through 2 non-polar wires.

Three wiring methods between wired controller and indoor unit: A. 1 to multi (group control): one wired controller control

C. 2 to 1 (two wired controller controls one indoor): as shown in above figure, indoor 20. Any of wired controllers can be set as master wired controller, and the other is slave wired controller. They are connected by 3 polar wires.

When indoor is controlled by remote controller, refer to the "wired control master unit/wired control slave unit/remote control unit table".A, B, C on signal terminal block need not wires and not connect the wired controller.

2. Specs for power cable and communication wire

(1) Outdoor power source and power cable

model \ item		power source	power cable section (mm ²)	wire length (m)	circuit breaker(A)	earthing wire	
						section(mm ²)	screw
individual power	master unit	3N~, 380V, 50Hz	10	45	40	3.5	M5
	slave unit		10	60	40		

- Power cable must be fixed firmly.
- Each outdoor must be earthed well.
- When power cable exceeds the range, thicken it appropriately.
- Shielded layer of communication wires of indoors and outdoors must be connected together and be earthed at single point on outdoor communication wire side.

(2) Indoor power source, communication wire between indoor and outdoor, among indoors

indoor total current (A) \ item	power cable section (mm ²)	wire length (m)	rated current of overcurrent breaker(A)	rated current of residual current circuit breaker(A) leakage current (mA) response time(s)	communication wire section	
					outdoor/indoor (mm ²)	indoor/indoor (mm ²)
<10*10 and <15*15	1.5 and 2.5	<20*22 and <20*27	20, 30	20A, 30mA, below 0.1s	2-core * (0.75-2.0mm ²) shielded wire	
	3.5	25	30	30A, 30mA, below 0.1s		
	5.5	30	40	40A, 30mA, below 0.1s		
	10	40	50	50A, 30mA, below 0.1s		

- Power cable and communication wire must be fixed firmly.
- Each indoor must be earthed well.
- When power cable exceeds the range, thicken it appropriately.
- Shielded layer of communication wires of indoors and outdoors must be connected together and be earthed at single point on outdoor communication wire side.
- Communication wire total length cannot exceed 1000m.

(3) Communication wire for wired controller

wire length(m)	wire spec	wire length(m)	wire spec
*100	0.3mm ² * (3-core) shielded wire	*300 and <400	1.25mm ² * (3-core) shielded wire
*100 and <200	0.5mm ² * (3-core) shielded wire	*400 and <600	2mm ² * (3-core) shielded wire
*200 and <300	0.75mm ² * (3-core) shielded wire		

- a. Shielded layer of communication wire must be earthed at one end.
- b. The total length cannot exceed 600m.

(4) Control type and the switchover

- a) Indoor unit can be controlled by wired controller or remote controller.
- b) When installation, the installer must set the unit due to the control type and wiring type.

Switchover between wired control master/slave unit /remote control unit, set when installation:

control type socket /dip switch	wired control master unit	wired control slave unit	remote control
CN23	short connected	disconnected	disconnected
CN30	short connected	short connected	disconnected
CN21	blank	blank	to remote receiver
SW08-[6]	ON	ON	OFF
signal terminal block	A,B,C to wired controller	B,C to wired controller	A,B,C not to wired controller

Debugging

4.1 Trial operation and the performance

4.2 Control function

4.3 Management system H-CACS

4.1 Trial operation and the performance

3-minute delay function

If starting up the unit after being powered off, the compressor will run about 3 minutes later against being damaged.

Cooling/heating operation

Indoor units can be controlled individually, but cannot run in cool and heat mode at the same time. If the cool mode and the heat mode are existing simultaneously, the unit set latter will be standby, and the unit set earlier will run normally. If the A/C manager sets the unit at cooling or heating mode fixedly, the unit can not run at the other modes.

Defrosting in heating mode

In heating mode, outdoor defrosting will affect the heating efficiency. The unit will defrost for about 2~10 minutes automatically, at this time, the condensate will flow from outdoor, also in defrosting, the vapour will appear at outdoor, which is normal. Indoor motor will run at low speed or stop, and outdoor motor will stop.

The unit operation condition

To use the unit properly, please operate the unit under the allowed condition range.

If operating beyond the range, the protection device will act.

The relative humidity should be lower than 80%. If the unit runs at the humidity over 80% for a long period, the dew on the unit will drop down and the vapour will be blown from air outlet.

Protection device (such as high pressure switch)

High pressure switch is the device which can stop the unit automatically when the unit runs abnormally.

When the high pressure switch acts, the cooling/heating mode will stop but the running LED on wired controller will be light still. The wired controller will display failure code.

When the following cases occur, the protection device will act:

In cooling mode, air outlet and air inlet of outdoor are clogged.

In heating mode, indoor filter is stucked with duct; indoor air outlet is clogged.

When protection device acts, please cut off the power source and re-start up after eliminating the trouble.

When power is failure

When power is failure in running, all the operations will stop.

After being electrified again, if with re-start up function, the unit can resume to the state before power off automatically; if without re-start up function, the unit needs to be switched on again.

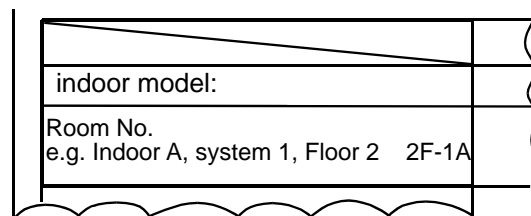
When abnormal occurs in running because of the thunder, the lightning, the interference of car or radio, etc, please cut off the power source, after eliminating the failure, press "ON/OFF" button to start up the unit.

Heating capacity

The heating mode adopts the heat pump type that absorbs outdoor heat energy and releases into indoor. So if outdoor temperature goes down, the heating capacity will decrease.

1. System marks

On the condition that multi MRV II systems are installed, in order to confirm the relationship between outdoor and indoor, please make marks on outdoor electric control box cover to indicate the connected indoor unit. As the below figure:



2. Trial operation

Before trial operation:

Before being electrified, measure the resistor between power terminal block (live wire and neutral wire) and the earthed point with a multimeter, and check if it is over $1M\Omega$. If not, the unit can not operate. To protect compressor, electrify the outdoor unit for at least 12 hours before the unit runs. If the crankcase heater is not electrified for 6 hours, the compressor will not work.

Confirm the compressor bottom getting hot. Except for the condition that there is only one master unit connected (no operating the unit without opening the valves, compressor failure will occur.

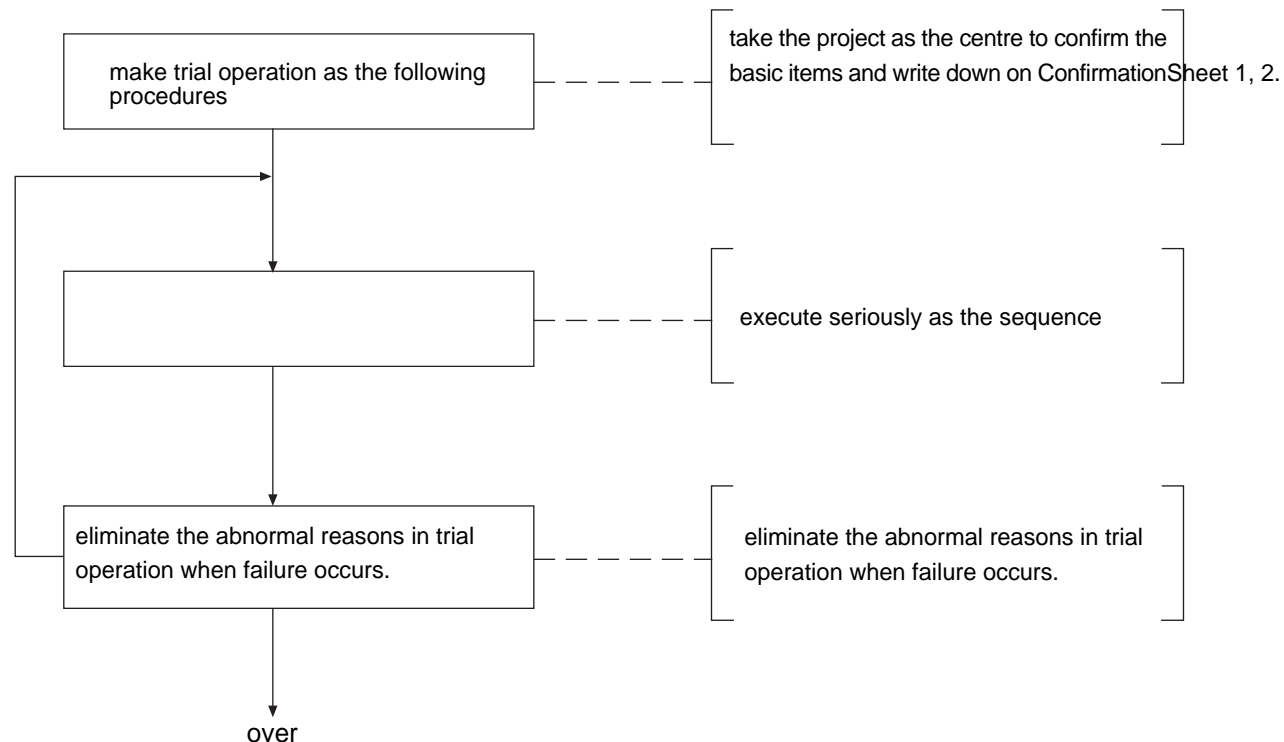
Confirm all indoor units being electrified. If not, water leakage will occur.

Measure the system pressure with pressure gauge, at the same time, operate the unit.

Trial operation

In trial operation, refer to the information of performance section. When the unit can not start up at the room temperature, make trial operation for outdoor.

1. Trial operation procedure



Please must record the confirmed result on the Confirmation Sheet 1 and 2, which is the important documentary for the later service or maintenance.

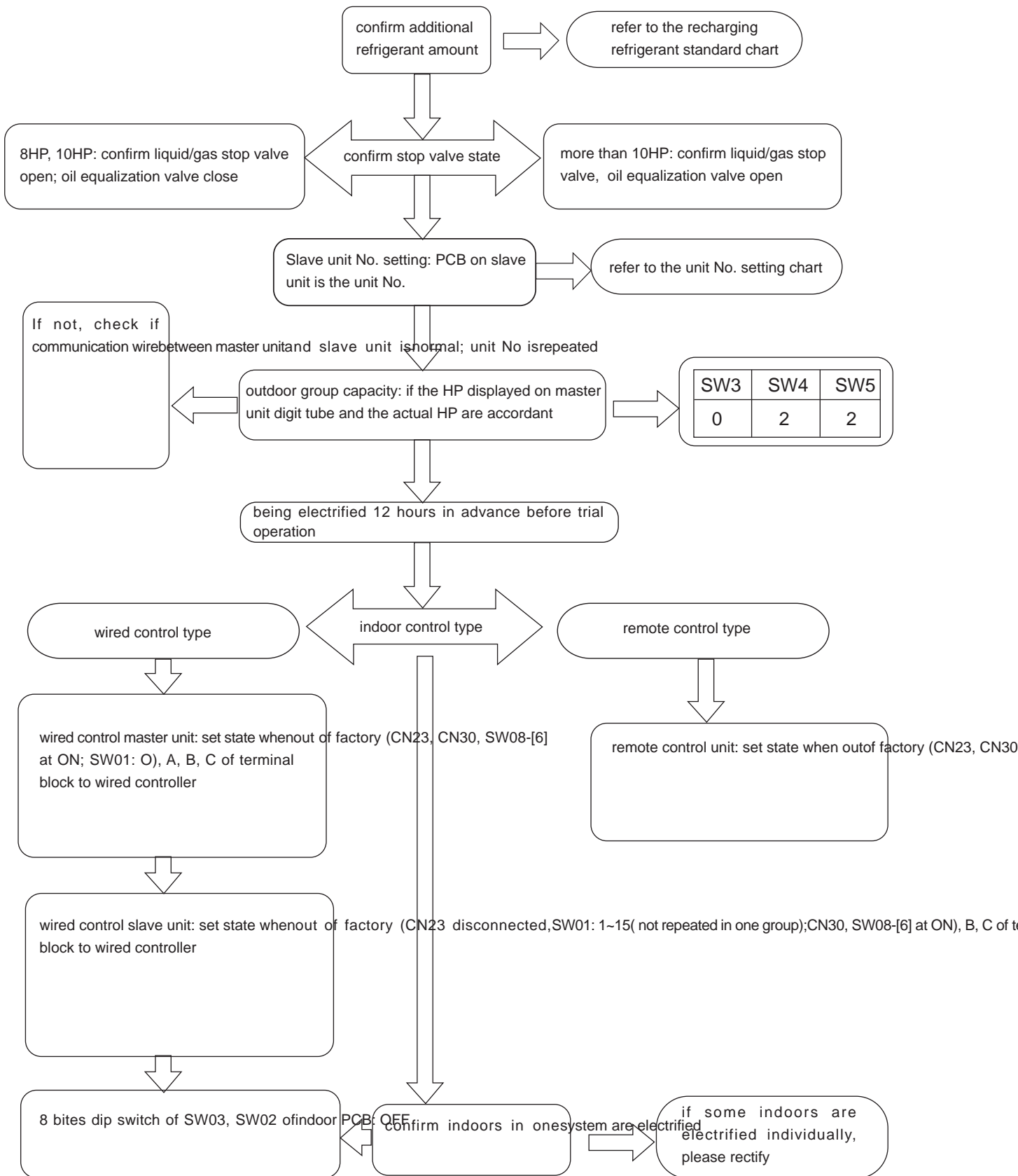
2. Confirmation before trial operation

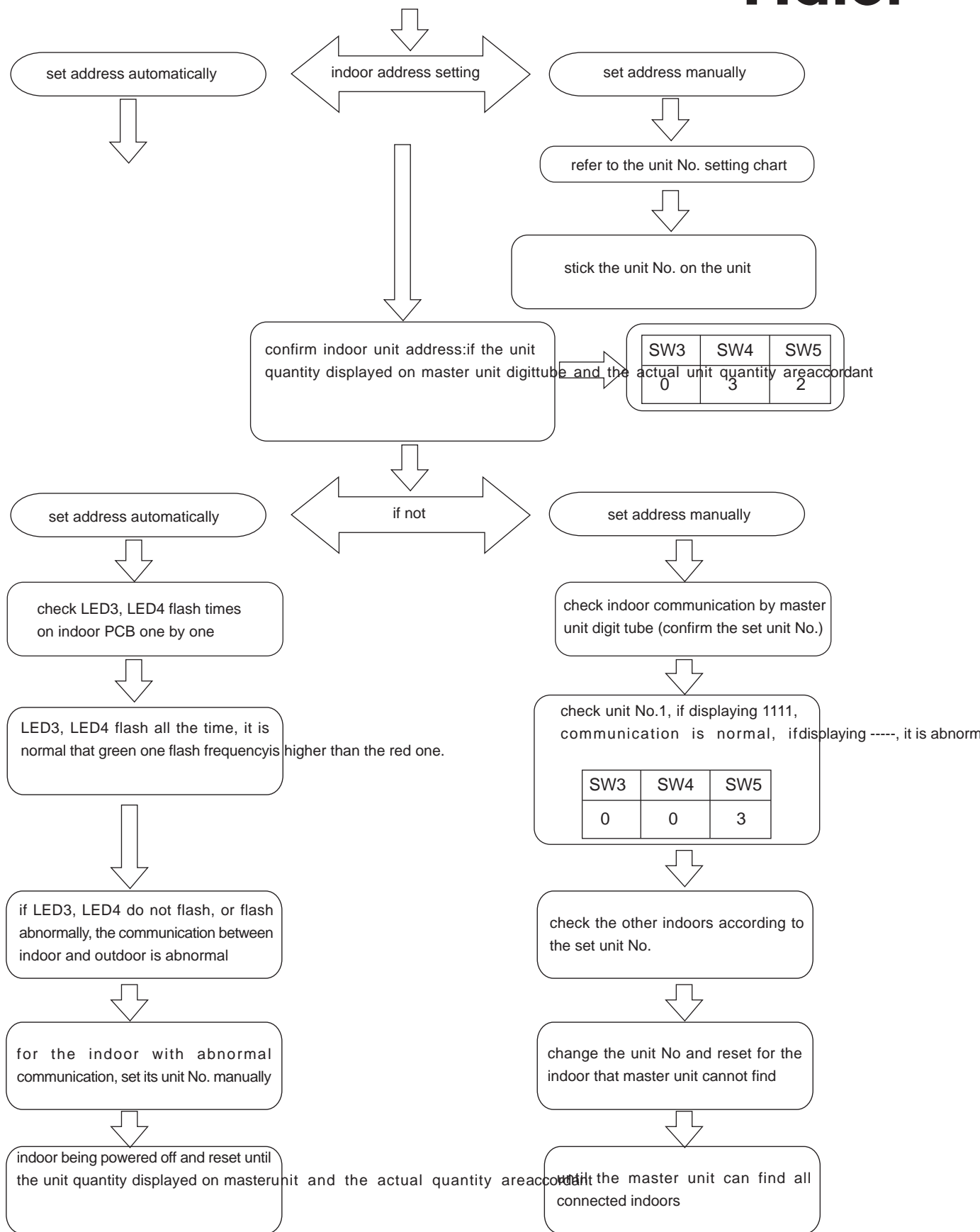
Before trial operation, please confirm the project normal and record in the "Confirmation Sheet 1".

Confirmation Sheet 1

Rated current of residual current circuit breaker	outdoor <input type="text"/> A; outdoor group <input type="text"/> A
Power cable diameter	outdoor <input type="text"/> mm ² ; outdoor group <input type="text"/> mm ²
Connection wire specs (indoor/outdoor communication wire: P,Q, shielded)	<input type="text"/> mm ²
If indoor units power cable uses one power switch	<input type="checkbox"/> Yes <input type="checkbox"/> No
If being earthed well	
If the insulation is good (resistor:10M*)	more than <input type="text"/> M*
If the voltage is normal (within 380V*10%)	<input type="text"/> V
If the refrigerant pipe diameter is correct	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the manifold pipes are correct	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the condensate drainage is fluent	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the heat insulation is in good condition (pipe connection section, manifold pipe)	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the air from indoor and outdoor is in short circuit	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the system is evacuated and charge the additional refrigerant	<input type="checkbox"/> Yes <input type="checkbox"/> No
If the valves are open fully	<input type="checkbox"/> Yes <input type="checkbox"/> No

Please confirm the refrigerant charging amount.





Confirmation Sheet 2

According to the liquid pipe diameter, pipe length and the charged refrigerant, record the pipe length of different liquid pipe, and count the additional refrigerant amount. The charged refrigerant is only used for outdoor, and won't enter the piping.

Cautions for trial operation:

Check if outdoor stop valves are open fully, when there is only master unit, please confirm if the oil pipe stop valve is close. The slave unit address is set by the slave unit dip switch.

In the following cases, indoor and outdoor can set address automatically:

- (1) Newly installed unit is electrified for the first time;
- (2) After changing indoor PCB, the unit is electrified for the first time;
- (3) After rectifying the wrong wiring, the unit is electrified for the first time;

When being electrified, please connect the outdoor power source firstly.

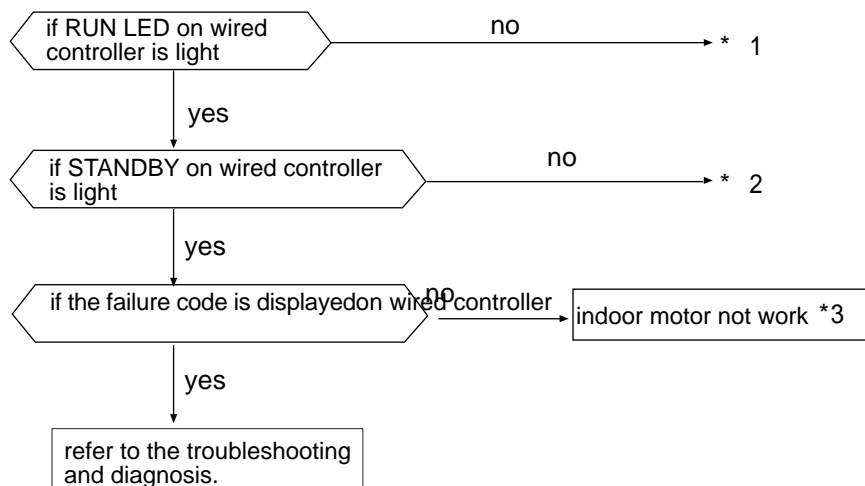
When setting unit address automatically, the unit can not make cooling/heating operation.

Check the wrong wiring only after being electrified, once the indoor address is set, you cannot set the address automatically again.

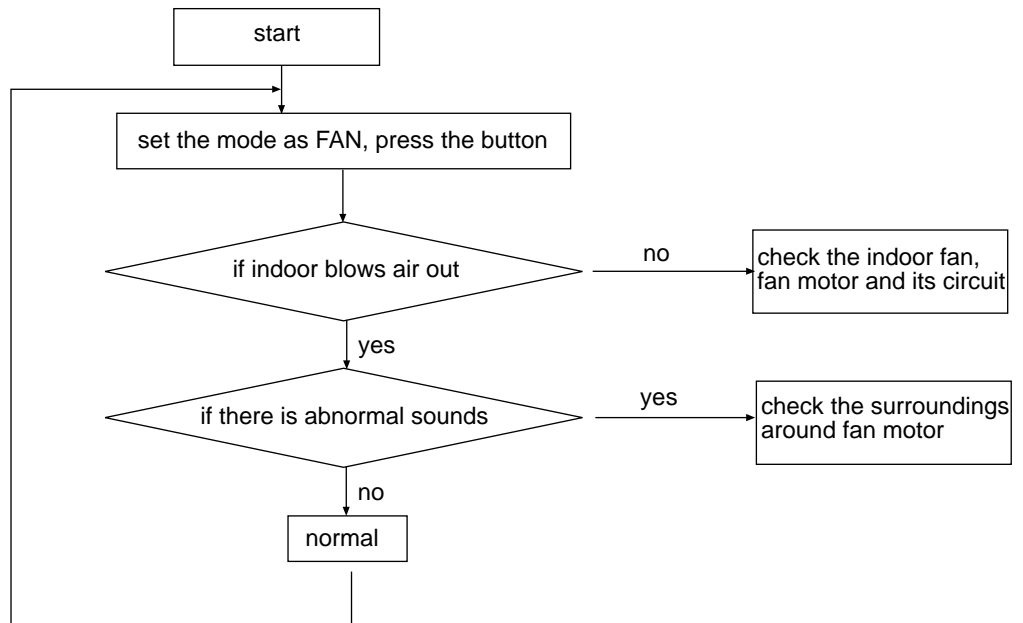
3. Trial operation

Generally, confirm all the indoors one by one. Please set the other indoors at STOP state. Before trial operation, electrify the indoor unit to pre-heat the compressor heater.

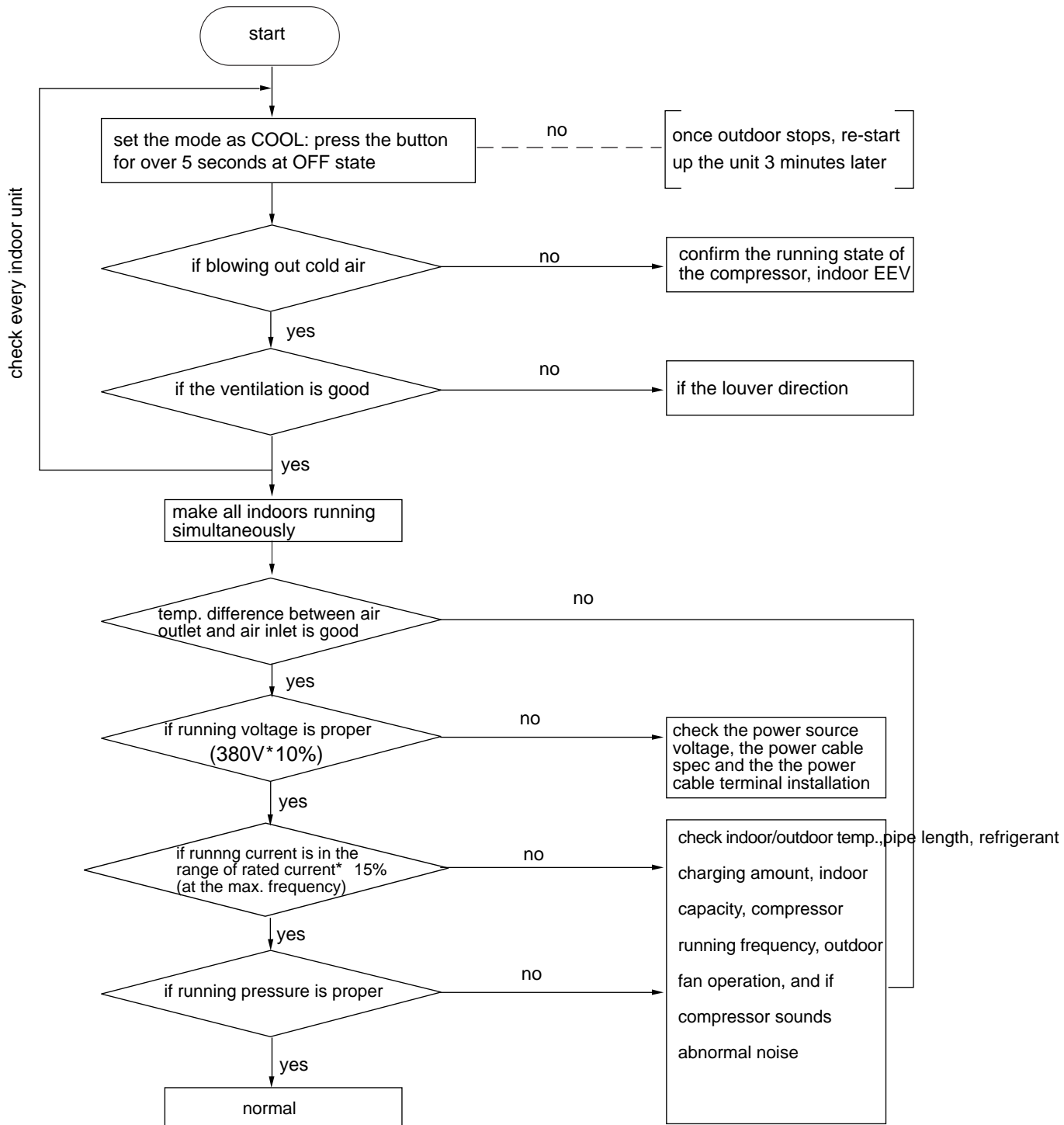
(1) Main power supply and preliminary confirmation



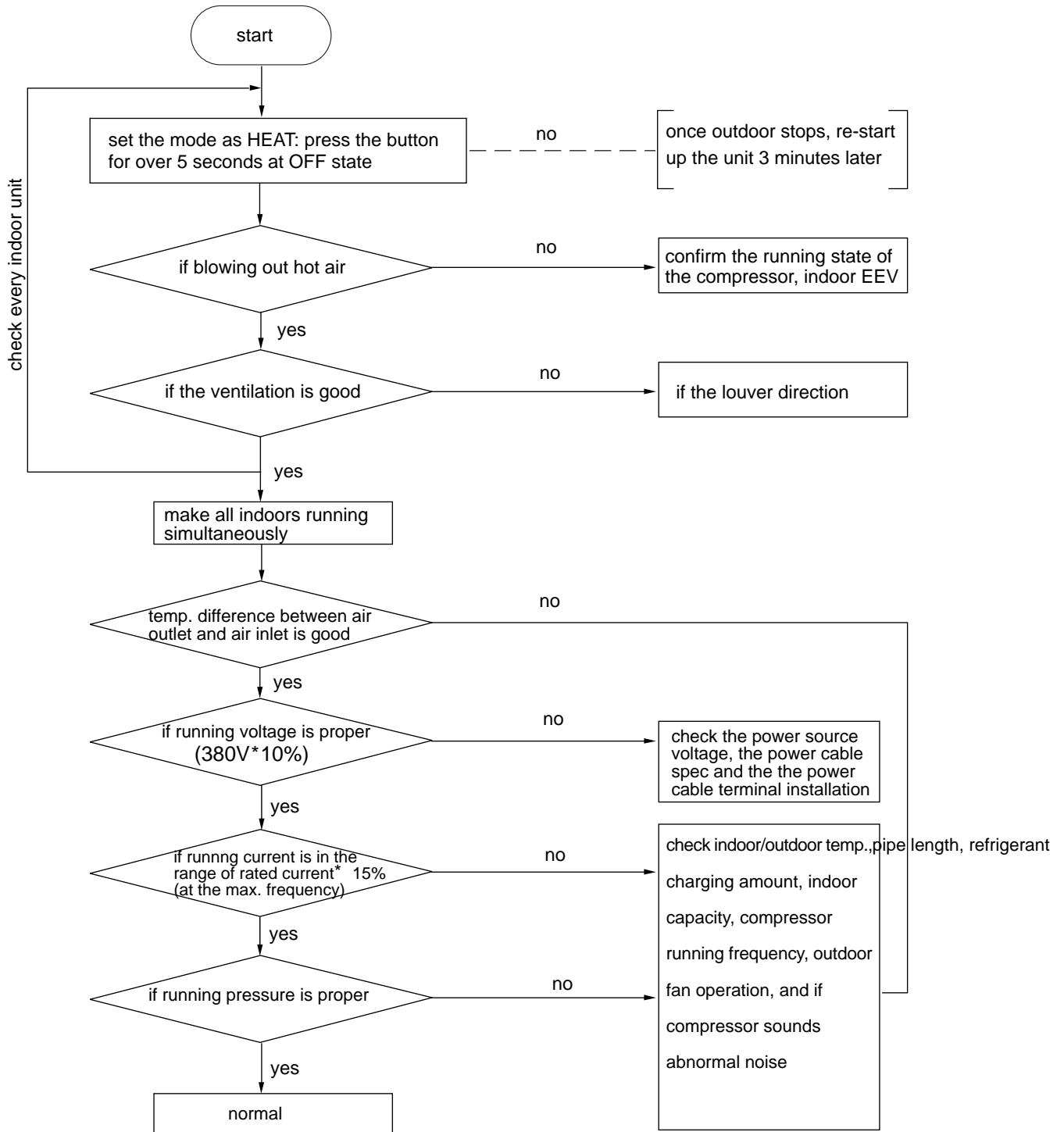
(2) Motor operation confirmation



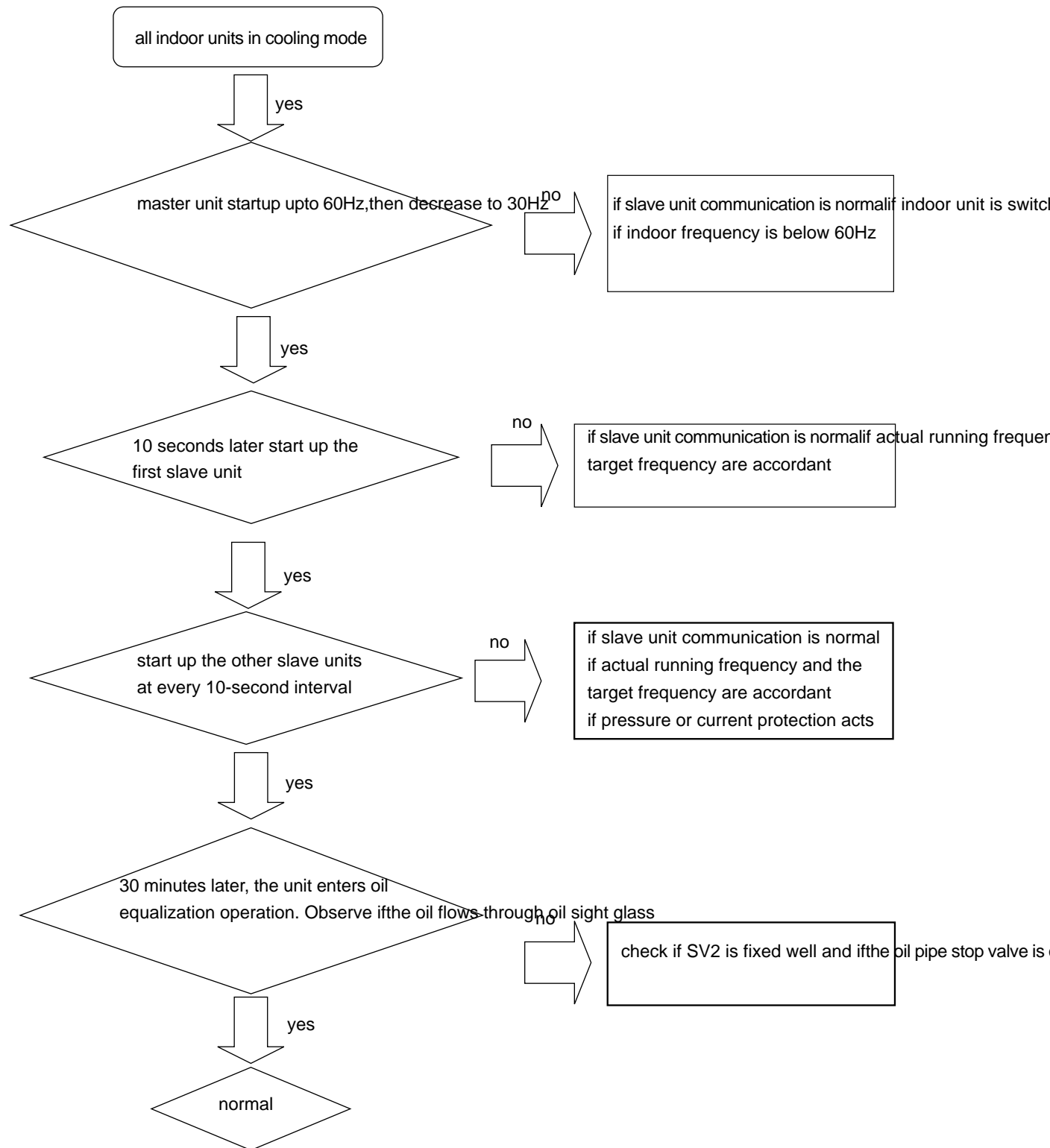
(3) Indoor confirmation (cooling mode)



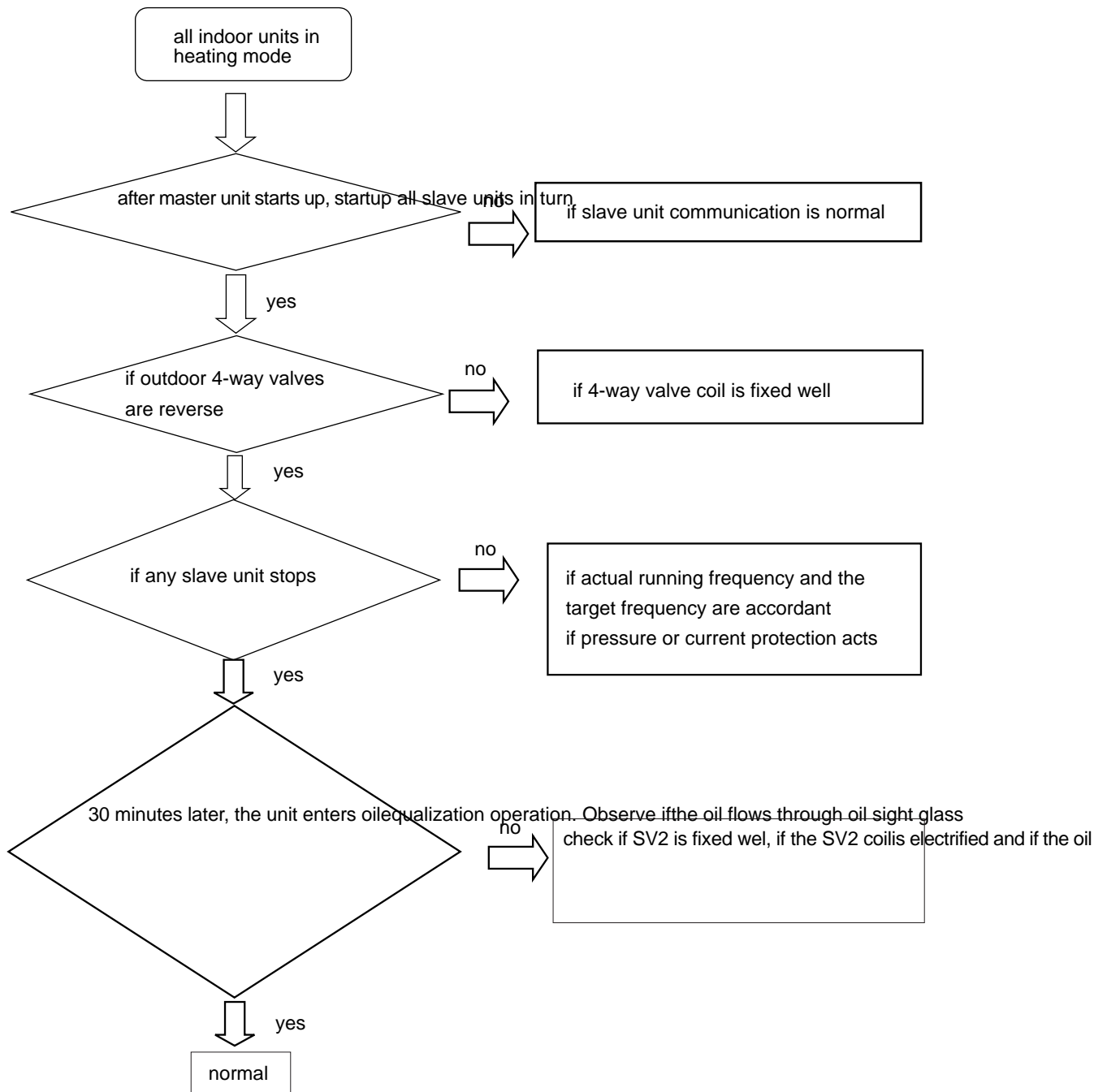
(4) Indoor confirmation(heating mode)

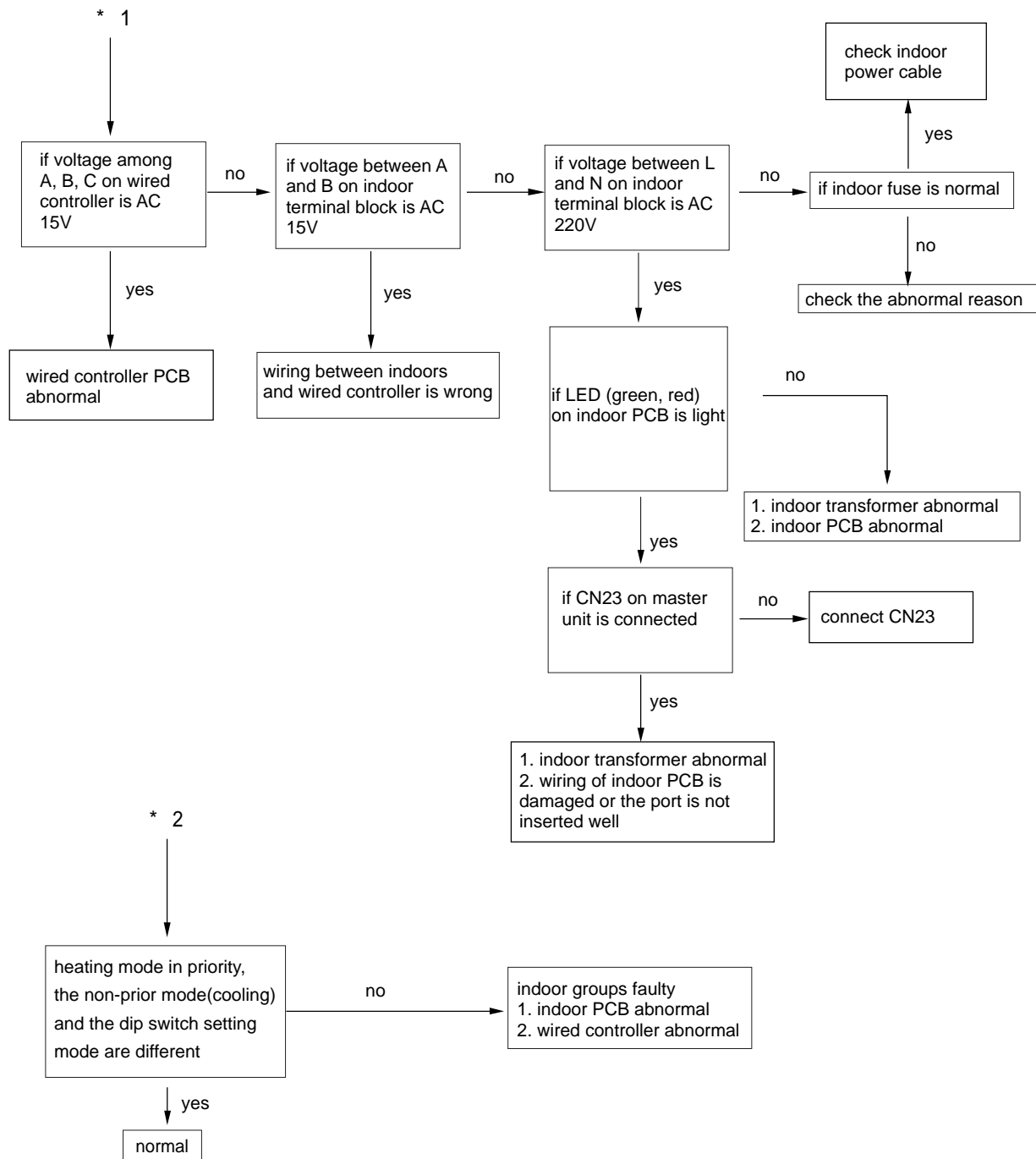


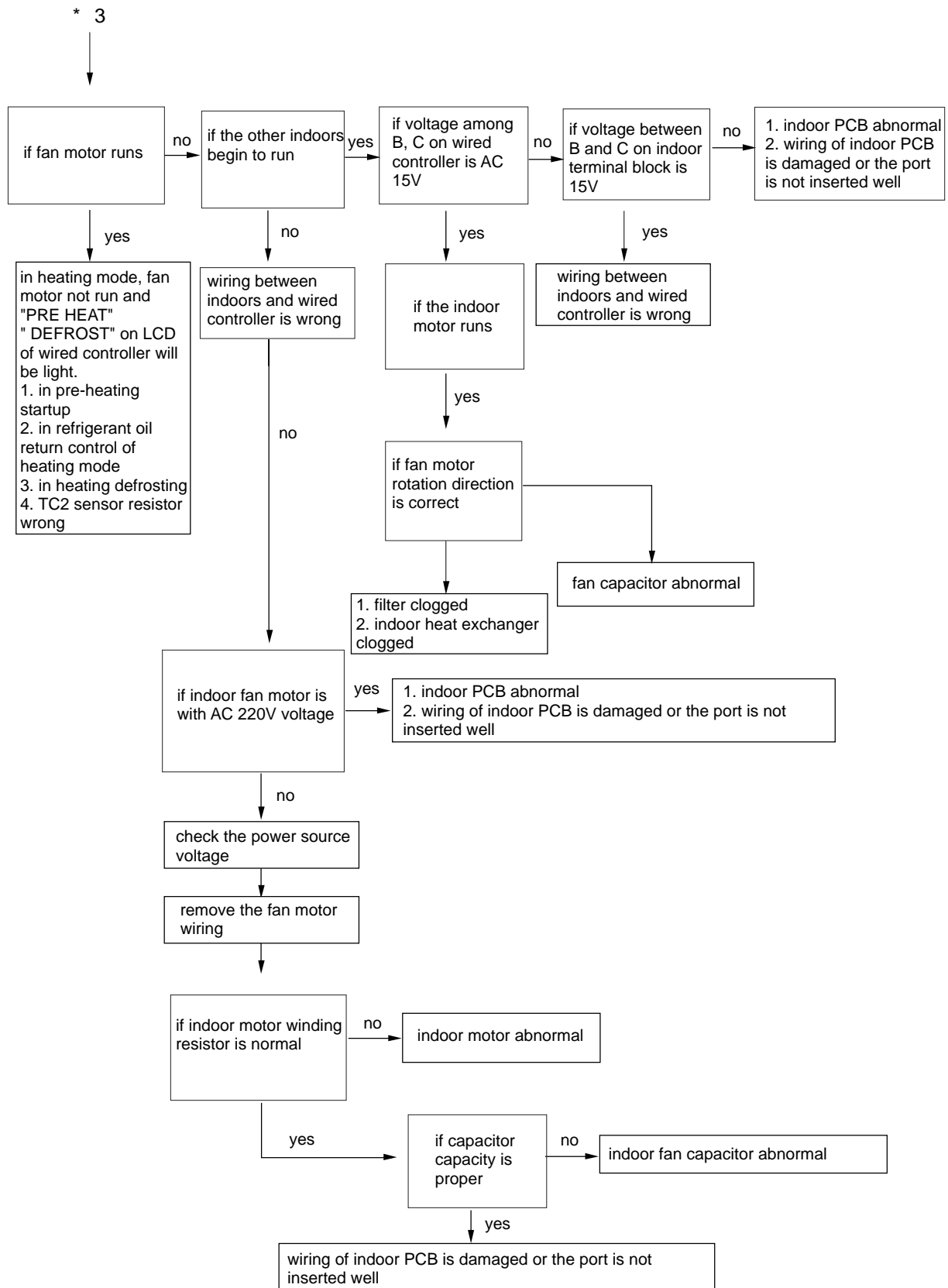
(5) Outdoor confirmation (cooling)



(6) Outdoor confirmation (heating)







Note 1: Temp. difference between air inlet and air outlet Standard

A. In cooling mode, after running for at least 30 minutes, it is normal that the temp. difference between air inlet and air outlet is over 10*, (at max. frequency) B. In heating mode, after running for at least 30 minutes, it is normal that the temp. difference between air inlet and air outlet is over 18*, (at max. frequency).

Note 2: Running current standard

It is normal that the running current is in the range of rated current *15*(at max. frequency) . The current will be different for the below condition:

if more than the rated current: high indoor/outdoor temp. ; outdoor bad ventilation (cooling mode), indoor bad ventilation (heating mode).

if lower than rated current: low indoor/outdoor temp.; refrigerant leakage (lack of refrigerant).

Note 3: Running pressure standard

cooling (at max. frequency)	high pressure 1.6~2.0MPa	indoor 18~32*
	low pressure 0.35~0.55MPa	outdoor 25~35*
heating (at max. frequency)	high pressure 1.5~2.1MPa	indoor 15~25*
	low pressure 0.3~0.45MPa	outdoor 5~10*

The above value is measured after running for 15 minutes (ambient temp. is DB*)

High/low pressure changing trend due to the running condition:

Cooling/heating:

indoor temp. goes up---high/low pressure goes up

indoor temp. goes down---high/low pressure goes down

outdoor temp. goes up---high/low pressure goes up

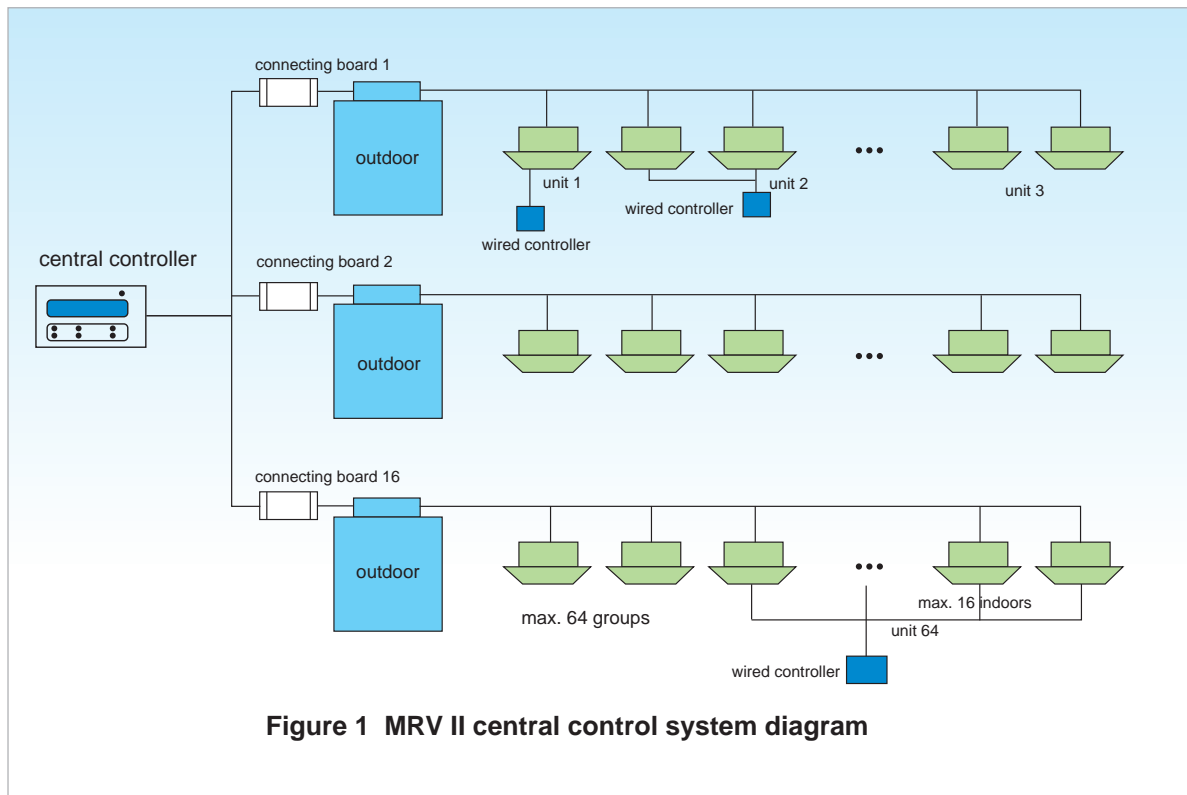
outdoor temp. goes down---high/low pressure goes down

4.2 Control function

1. Features and functions of central controller

1) Central controller can realize monitor and control for the MRV II system. Can be used for single MRV II system and also for multi MRV II systems; can control max. 64 groups and every group can connect max 16 sets of indoor.

2) Central controller control diagram is as below:



* Main functions of central controller

(1) Can monitor the running mode, fan speed, set temp., swing and ventilation, etc of the max. 64 groups of indoor. And display indoor filter icon.

(2) Can realize the setting of mode, fan speed, temp. of single unit/group/total of indoors.

(3) Can realize the setting of indoor mode and ventilation.

(4) Can set the three modes: priority for entering later, central control and lock.

(5) Can monitor indoor failure and save it to be checked. (6) Can connect the external signal input. When receiving the control simultaneously.

(7) Receive external timer signal to control TIMER ON/OFF for the unit.

(8) Can set the central control unit as a group, and the max. 64 units of indoor can be set a group. After setting unit, the indoor in one group can be controlled the same operation (when out of factory, one unit is regarded as one group).

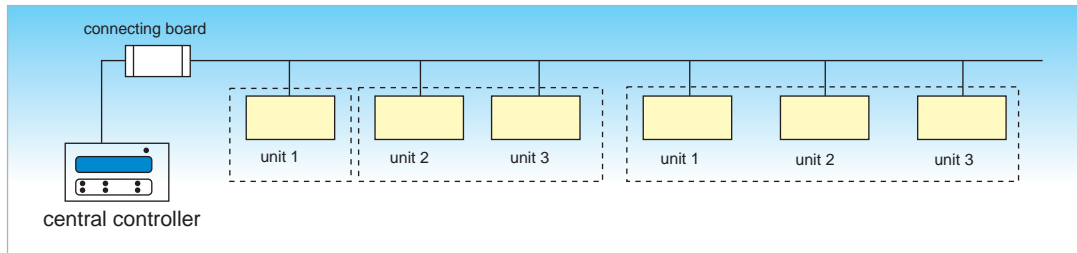


Figure 2 Central unit and group diagram

(9) When the central controller connects one outdoor unit, the connecting board IGU04 is unnecessary.

2. Display and button introduction of central controller

* LCD and buttons on central controller, shown as figure 3:

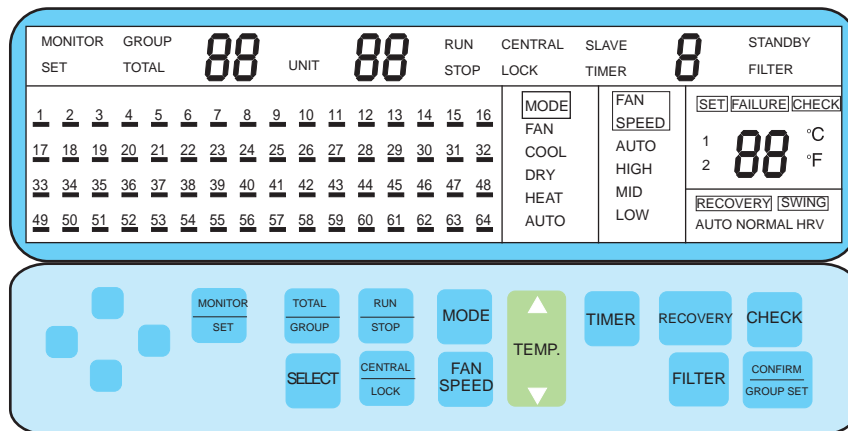


Figure 3: LCD and buttons on central controller

2.1 LCD icons introduction

LCD of central controller displays indoor state and setting mode of different units.

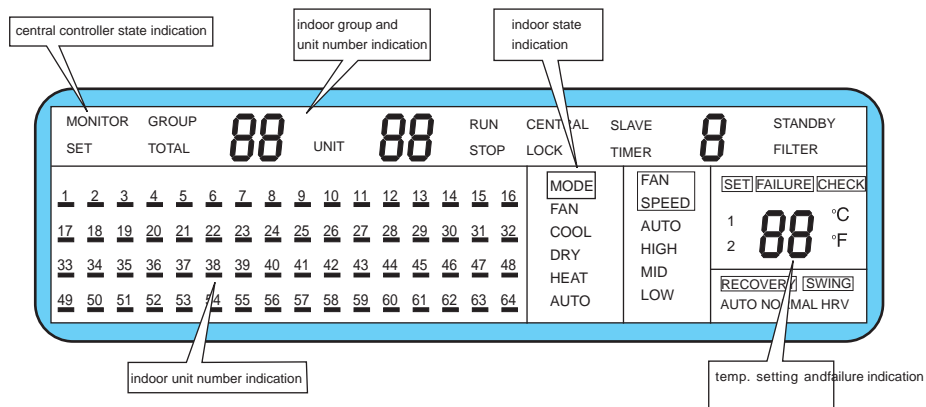


Figure 4: LCD diagram of central controller

- a. The state indication icon shows the central controller in "MONITOR" or "LOCK" state.
 - b. Indoor group and unit number indication shows the current indoor group No. and unit No.
 - c. Indoor state indication shows the current indoor state.
- When a failure occurs, LCD will display FAILURE icon and the failure code.* After the central controller is electrified, all icons will disappear. Figure 4. Then if the controller is the master central controller, LCD will display "CENTRAL", and "88" on "GROUP" "UNIT" position will flash at 1Hz frequency, the sequence is 888* 888*88*8, which shows the central controller is searching indoor, when indoor unit is found, LCD will display the indoor state and display "MONITOR" icon; if no indoor unit is found, the "88" will flash all the time at 1Hz; when more than 2 indoor units are found, it will display the min. unit No., and the unit No. indication will display all found indoor unit No. for 15 seconds, no input or press again "MONITOR/SET" button, "GROUP" icon will disappear automatically and resume to the original totally monitor state.

2.2 Button functions

The button distribution is shown in Figure 5.

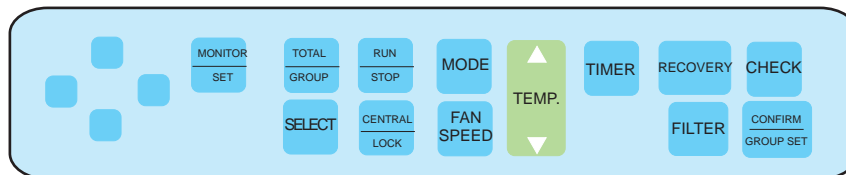


Figure 5: Button distribution diagram

(1) MONITOR/SET button

- a. Used for the monitor state and the set mode changeover;
- b. After being electrified (or pressing RESET button), the central controller will regard the monitor state as the default. LCD will display "MONITOR" icon, and "SET" will disappear;
- c. In monitor state, the valid buttons are MONITOR/SET, UNIT, TOTAL, CHECK and FILTER;
- d. In monitor state, press MONITOR/SET button, the central controller turns to the set state, "MONITOR" disappears, "SET" will be on and flash at 1Hz to enter SET state; then if within 15 seconds, press no buttons or press again SET, the controller will be back to MONITOR state;
- e. In set state, all the buttons are valid.

(2) GROUP SET/CONFIRM button

a. In monitor state, press the button to select the indoor group; and in set state, confirm the group selection.

(3) TOTAL/GROUP button

a. Press GROUPSET/CONFIRM button to select the control range;

b. Press it every time, the display sequence on LCD is



c. In monitor state, press it, and the LCD will display "GROUP" or "TOTAL".

(4) SELECT button

a. Used to put the indoor unit No. into the group or take the unit No. out of the group.

b. In monitor state, the button is invalid.

(5) Group button

a. Used to select the group No. to be displayed or to be set, and display on LCD; every time press it, the number will change from 1 to 64;

b. In monitor state, LCD will display the indoor running state in this group.

(6) Unit button

a. Used to select the unit No. to be displayed or to be set, and display on LCD; every time press it, the unit will change from 1 to the unit No. connected to the outdoor (max. No. is 64).

(7) RUN button

a. Used to start up the unit

b. In set state, press it, the "STOP" icon will disappear, "RUN" will be light (if the unit is ON before pressing the button, the unit is still ON after pressing it), and in the indoor unit number indication area, the corresponding indoor number will be light with underline; in set state, you can set RUN for different indoors.

c. In monitor state, press "TOTAL" button firstly, when icons "TOTAL", "RUN" and "STOP" are all light, press "RUN" button, icon "STOP" will be OFF, "RUN" stops flashing, and the controller will send startup signal to all indoors, "TOTAL" will flash at 1Hz for 3 seconds, then be OFF.

(8) STOP button

a. Used to stop the unit

b. In set state, press it, the "RUN" icon will disappear, "STOP" will be light (if the unit stops, after pressing it, the unit still stops), and the corresponding indoor number underline will be off; in set state, you can set STOP for different indoors.

c. In monitor state, press "TOTAL" button firstly, when icons "TOTAL", "RUN" and "STOP" are all light, press "RUN" button, icon "RUN" will be OFF, "STOP" stops flashing, and the controller will send stop signal to all indoors, "TOTAL" will flash at 1Hz for 3 seconds, then be OFF.

(9) CENTRAL/LOCK button

a. Used to select indoor central control mode;

b. Every time press it, indoor mode will be repeated as the sequence: priority for the entering latter ---central --- lock, and the LCD display sequence is no display --- central --- lock.

(10) TIMER button

a. Used to set the timing function;

b. In set state, press it, TIMER icon on LCD will be light, which shows the corresponding indoor unit in unit No. indication area has been set TIMER mode; press again, TIMER icon will be off, which shows TIMER has been cancelled.

(11) MODE button

a. Used to select indoor operation mode; every time press it, the mode will change in the sequence:

FAN ; œCOOL ; œDRY ; œAUTO

b. In monitor state, the button is invalid.

(12) FAN SPEED button

a. Used to select indoor fan speed;

b. every time press it, the mode will change in the sequence:

AUTO ; œHIGH ; œMID ; œLOW

b. In monitor state, the button is invalid.

(13) TEMP button

a. Used to set the set temperature; every time press it, the temp. will increase or decrease 1 degree; if you keep pressing it, the temp. will change quickly until the max. or the min. temp.

b. In monitor state, the button is invalid.

(14) FILTER button

a. Used to remove the filter icon;

b. When LCD displays FILTER, press the button, then FILTER icon will disappear.

(15) RECOVERY button

a. Used to set indoor RECOVERY function. Every time press it, the recovery icon will change as

AUTO ; œNORMAL ; œHRV;

b. In monitor state, the button is invalid.

(16) CHECK button

a. Press it, the controller will enter the failure history to display the current indoor failure code and the latest occurred failure code;

b. If pressing it when displaying the failure history, it will quit and be back to the monitor state;

c. Press the button for over 10 seconds, all the failure history will be cleared;

d. When no failure history, the set temp. area will display "--".

Note: CHECK 1 is the current failure; CHECK 2 is the latest failure.

(17) RESET button

Used to reset the controller; it is inside the controller.

3. Group setting and cancel

3.1 Group setting

1) The central controller can set multiple units as one group, and the indoor in one group can be controlled ON/OFF simultaneously.

2) In monitor state, press "CONFIRM/GROUP SET", LCD will display "SET", "GROUP", group No. "1" and unit No. in group "1".

3) Press group button to select the group No., "▲" increases, "▼" decreases, the number will change among 1~64.

1 ; œ2 ; œ3 ; œ4 · · · ; œ63 ; œ64

- 4) Press unit button to select the unit to be set as one group, the corresponding unit on LCD will flash at 2Hz.
- 5) Press "SELECT" button to confirm the unit, the unit No. on LCD stops flashing and becomes ON.
- 6) Repeat procedure 4 and 5 to set the other units into the group.

After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

Note: One indoor unit can be set in multiple groups. For the indoor without connected, when selecting indoor unit, the No. will be ignored and not display on LCD.

3.2 Cancel group

- 1) In monitor state, press "CONFIRM/GROUP SET" to change to the set state, LCD displays "SET", "GROUP" icons.
- 2) Press group button "⬆" and "⬇" to select the group to be cancelled, LCD will display group No. and the units in the group.
- 3) Press unit button "⬆" and "⬇" to select the unit to be cancelled, LCD will display indoor No.
- 4) Press SELECT for about 3 seconds, the unit No. underline will disappear.
- 5) Repeat procedure 3 and 4 to cancelled the other unit No. in the group.
- 6) Press "CONFIRM/GROUP SET" and the indoor unit No. without underline disappears.

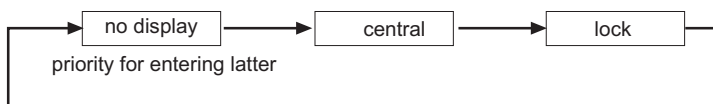
After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

4. Control mode setting

The central controller can set the following modes for the indoor unit connected to the bus wire: mode, fan speed, set temp., recovery, etc. and set the control mode (priority for entering latter, central and lock). Also it can set the single/group/total mode for indoor unit.

4.1 Single indoor unit setting

- 1) Press "MONITOR/SET" button, the controller turns into set state, "SET" icon on the LCD will display at 1Hz.
- 2) Indoor unit number selection: press unit ⬆ and ⬇ to select the unit to be set.
- 3) Indoor operation mode selection: press "CENTRAL/LOCK" button to select indoor central control mode, every time press it, LCD will display:



Priority for entering latter: the set demand input latter is valid between central controller and indoor individual controller.

Central: in central mode, indoor unit only can receive the ON/OFF demand from the individual controller.

Lock: indoor unit does not receive any demand from individual controller.

4) Set: press MODE, FAN SPEED, TEMP., RECOVERY button to set indoor operation state, the detailed info refers to 2.2.

5) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".

6) Press "CONFIRM/GROUP SET" to confirm the set.

After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

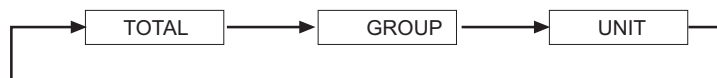
If you only set ON/OFF for indoor unit, the procedure 3 and 4 are not necessary. The system regards the mode, fan speed, set temp. as the same before being switched off; if being electrified after being powered off, the default modes are: MODE: AUTO; FAN SPEED: AUTO; set temp.: 24degree.



4.2 Total indoor units in group setting

Central controller can operate the indoor in group. The procedure is as follows:

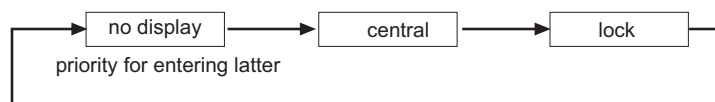
1) Press "MONITOR/SET" button, the controller turns into set state, and SET will flash on LCD at 1Hz.

2) Total/group/unit selection: press "TOTAL/GROUP", then "GROUP" will display on LCD. Every time press it, the changing sequence is:



3) Set group No.: Press group  and  to select the group No. LCD will display the min. indoor unit No. on the mode and fan speed area.

4) Indoor operation mode selection: press "CENTRAL/LOCK" button to select the indoor central control mode. Every time press it, the following will display on LCD:



5) Setting: press MODE, FAN SPEED, TEMP., RECOVERY, etc to set indoor operation mode.

6) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".

7) Press "CONFIRM/GROUP SET" to confirm the set.

After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

If you only set ON/OFF for indoor unit, the procedure 3 and 4 are not necessary. The system regards the mode, fan speed, set temp. as the same before being switched off; if being electrified after being powered off, the default modes are: MODE: AUTO; FAN SPEED: AUTO; set temp.: 24degree.

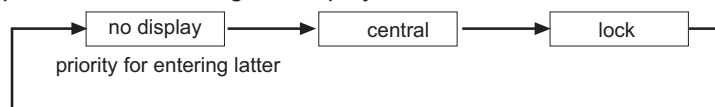
4.3 Setting for indoor in a single unit of a group

The procedure is as follows:

- 1) Press "MONITOR/SET" button, the controller turns into set state, and SET will flash on LCD at 1Hz.
- 2) Total/group/unit selection: press "TOTAL/GROUP", then "GROUP" will display on LCD. Every time press it, the changing sequence is:



- 3) Set group No.: Press group and to select the group No. LCD will display the min. indoor unit No. on the mode and fan speed area.
- 4) Set unit No.: press unit and to select the indoor unit No. to be set, the indoor number to be set will flash on LCD.
- 5) Indoor operation mode selection: press "CENTRAL/LOCK" button to select the indoor central control mode. Every time press it, the following will display on LCD:



- 6) Setting: press MODE, FAN SPEED, TEMP., RECOVERY, etc to set indoor operation mode.
- 7) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".
- 8) Press "CONFIRM/GROUP SET" to confirm the set.

After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

If you only set ON/OFF for indoor unit, the procedure 3 and 4 are not necessary. The system regards the mode, fan speed, set temp. as the same before being switched off; if being electrified after being powered off, the default modes are: MODE: AUTO; FAN SPEED: AUTO; set temp.: 24degree.

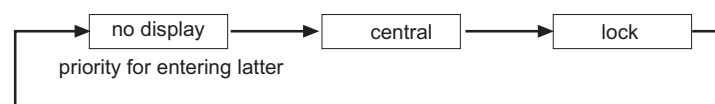
4.4 Total indoor setting

The procedure is as follows:

- 1) Press "MONITOR/SET" button, the controller turns into set state, and SET will flash on LCD at 1Hz.
- 2) Total/group/unit selection: press "TOTAL/GROUP", then "GROUP" will display on LCD. Every time press it, the changing sequence is:



- 3) Indoor operation mode selection: press "CENTRAL/LOCK" button to select the indoor central control mode. Every time press it, the following will display on LCD:



- 4) Setting: press MODE, FAN SPEED, TEMP., RECOVERY, etc to set indoor operation mode.
- 5) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".
- 6) Press "CONFIRM/GROUP SET" to confirm the set.

After pressing "MONITOR/SET", the setting is finished, and the controller will turn into monitor state; or if no any pressing within 15 seconds, the controller will turn into monitor state automatically.

If you only set ON/OFF for indoor unit, the procedure 3 and 4 are not necessary. The system regards the mode, fan speed, set temp. as the same before being switched off; if being electrified after being powered off, the default modes are: MODE: AUTO; FAN SPEED: AUTO; set temp.: 24degree.



5. Total ON/Total OFF operation

Central controller can operate ON/OFF simultaneously for the indoors connected to the bus wire. The indoors will operate as the default modes, and need not set the indoor mode, fan speed, etc.

5.1 Total indoors ON/OFF setting

- 1) Check if the central controller is in monitor state. If it is in set monitor, press "MONITOR/SET" to ensure that LCD displays MONITOR icon.
- 2) Total/group/unit selection: press "TOTAL/GROUP", LCD will display "TOTAL" icon, meanwhile, SET icon flashes.
- 3) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".
- 4) Press "CONFIRM/GROUP SET" to confirm the set.

5.2 ON/OFF setting for total indoors in one group



- 1) Check if the central controller is in monitor state. If it is in set monitor, press "MONITOR/SET" to ensure that LCD displays MONITOR icon.
- 2) Total/group/unit selection: press "TOTAL/GROUP", LCD will display "TOTAL" icon, meanwhile, SET icon flashes.
- 3) Select group No.: press group  and  to select the group to be set.
- 4) RUN/STOP set: in OFF state, press "RUN/STOP" button, LCD displays "RUN"; in ON state, press "RUN/STOP" button, LCD displays "STOP".
- 5) Press "CONFIRM/GROUP SET" to confirm the set.

If you want to set the indoors of the other groups the same operation, repeat procedure 3 and 4.

6. Filter indication

6.1 Filter icon and reset operation

On central controller, filter icon shows the filter state of corresponding indoor unit. When the filter needs to be cleaned, the icon will occur.

- 1) Check if central controller is in monitor state, if not, press "MONITOR/SET" to turn into monitor state.
- 2) Select the unit No.: press unit  and  to check indoor state.
- 3) Check FILTER icon: if FILTER icon of the current indoor is light, it shows this indoor filter needs to be cleaned.
- 4) Clean the indoor filter.
- 5) After cleaning, press FILTER button to reset, and FILTER icon on LCD will be off.

7. Failure diagnosis function

When indoor failure occurs, the central controller will display the corresponding failure code. When checking failure, if the faulty indoor unit is the current displayed one, the controller will display the corresponding failure code; if the faulty indoor unit is not the current displayed one, the faulty unit No. will flash. When checking the indoor, the failure code will display on LCD.

Press CHECK button for 0.5 seconds to find the failure history. The failure code refers to the maintenance section.

8. Safety cautions for central controller

- 1) Must avoid water splash on the central controller or the controller is installed on the higher position, otherwise, the controller will be damaged.
- 2) Must avoid being installed in the place with much dirt, or it will cause the controller in short circuit or electric shock, which will damage the controller.
- 3) Avoid the sunshine shows onto the controller directly, also do not be close to the flammable or the explosive objects.
- 4) The central controller must be away from the TV and radio. Keep a distance more than 1m. Or the controller will occur wrong operation.
- 5) Don't press the button with wet hand, or the controller will be damaged.
- 6) Central controller must be installed or maintained by the authorized distributor or installer.
- 7) When in maintenance, please cut off the power.

9. Exterior dimensions for central controller

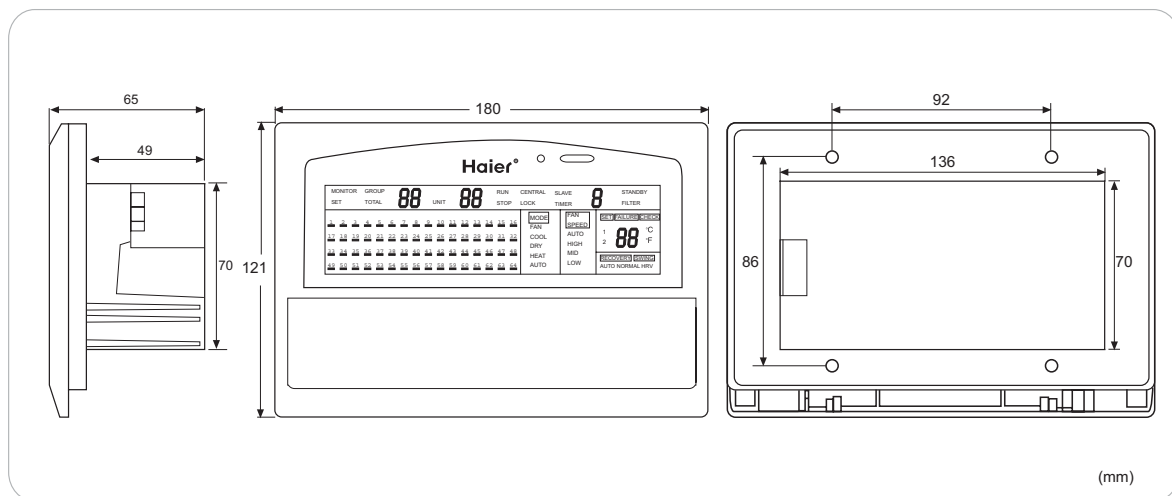


Figure 6: Exterior dimension

10. Installation instruction of central controller

10.1 Wiring diagram is as follows:

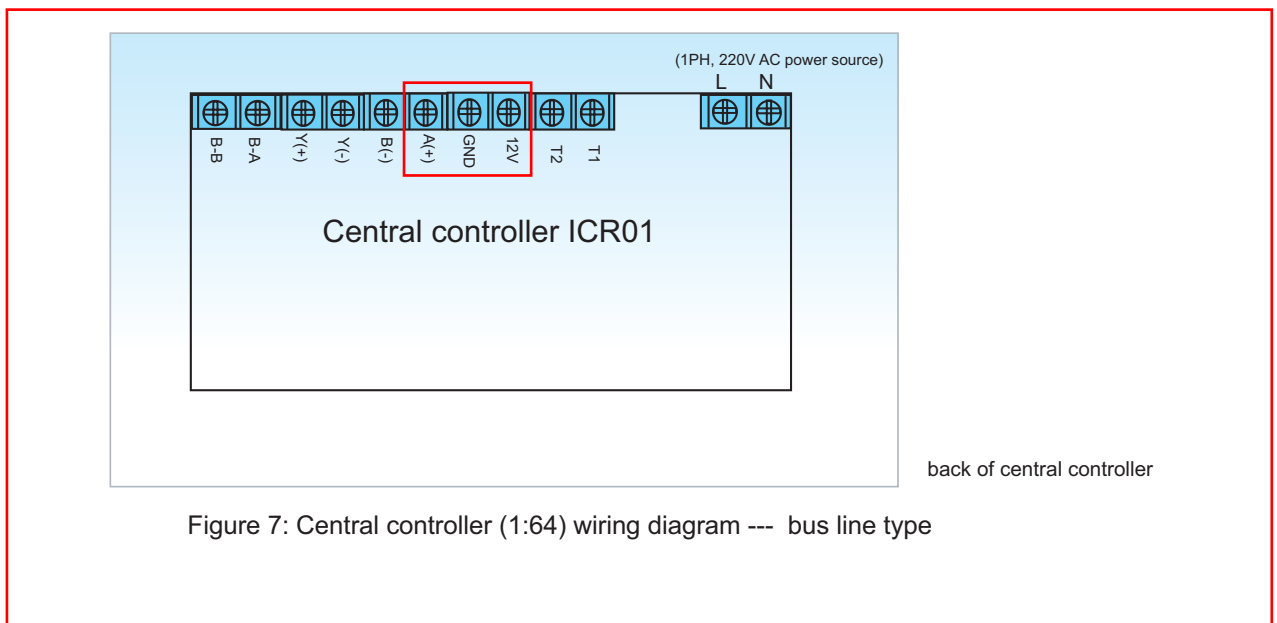
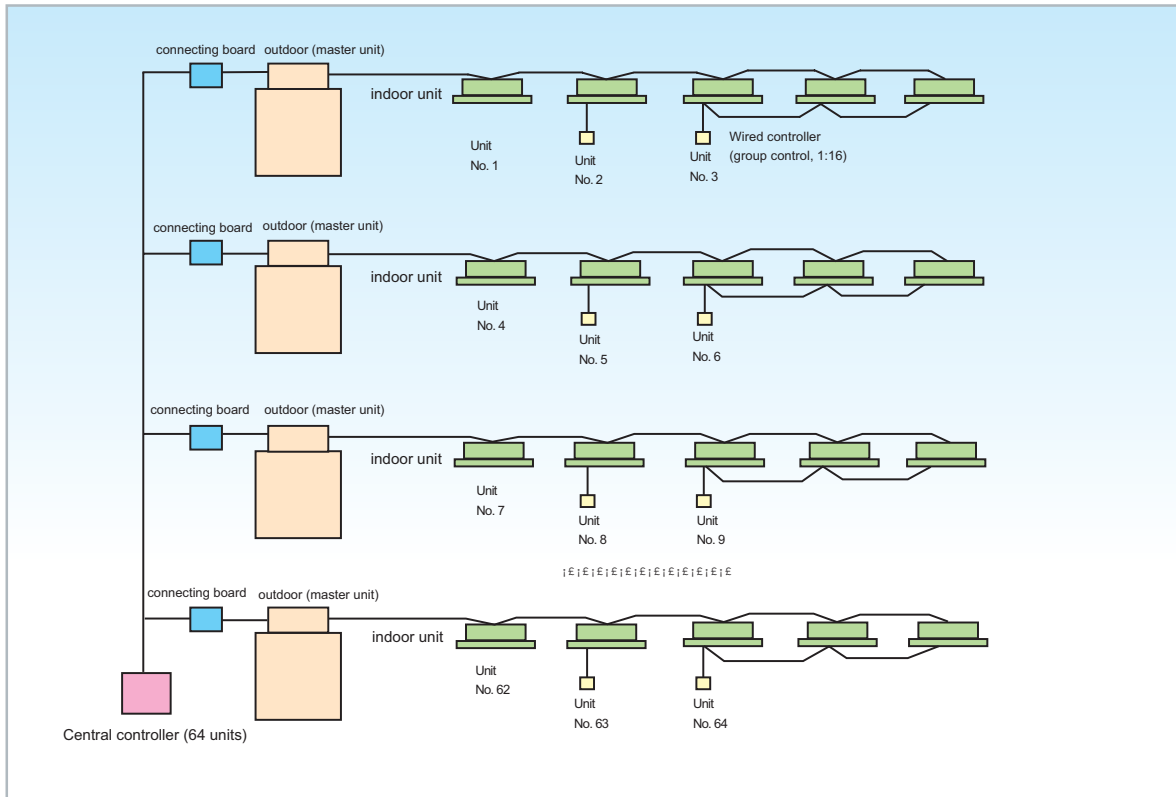


Figure 7: Central controller (1:64) wiring diagram --- bus line type

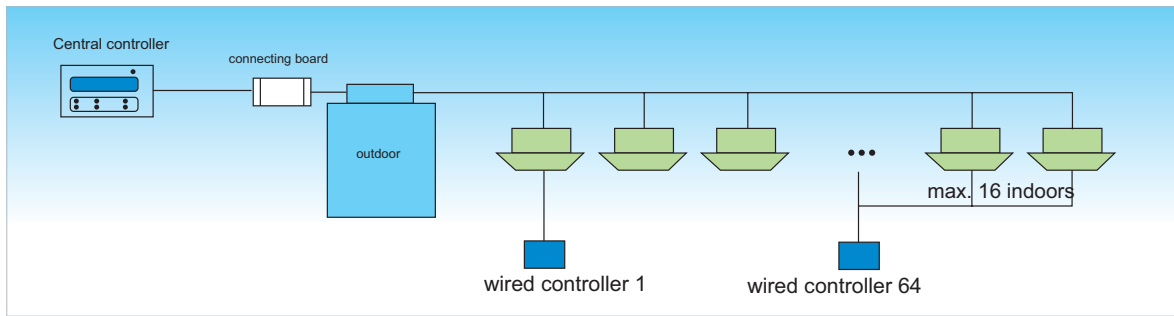


Figure 8: Central controller (1:64) wiring diagram --- daisy chain type

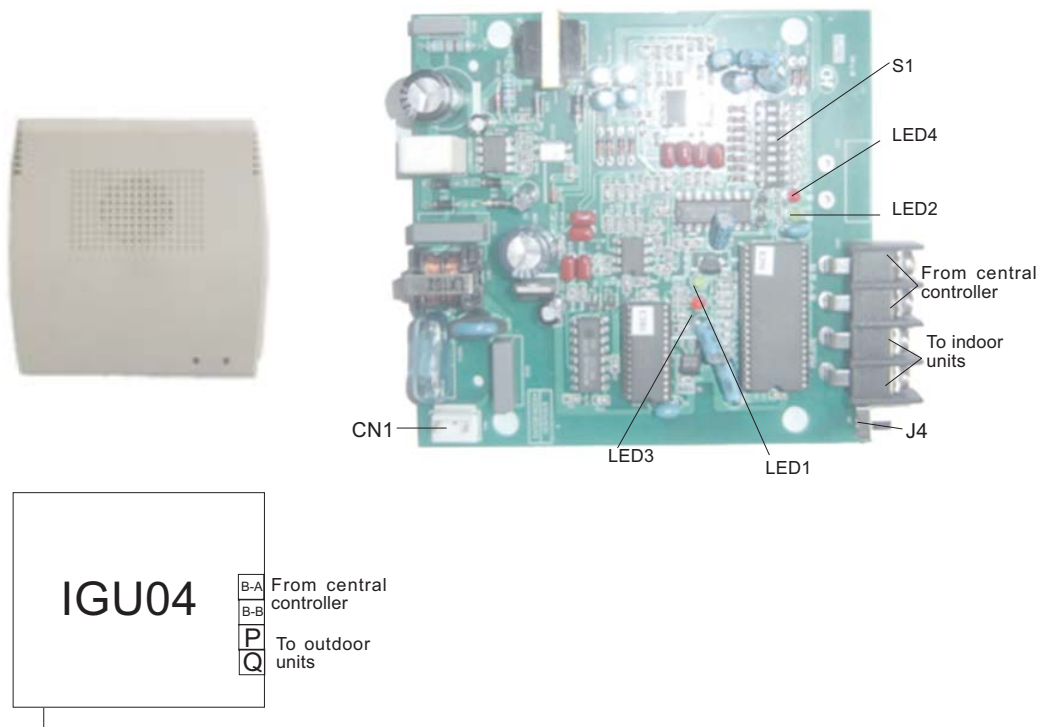
10.2 Communication wire specs

The wire between connecting board to the central controller is the dual-core STP (shielded twisted pair). The detailed specs are as below:

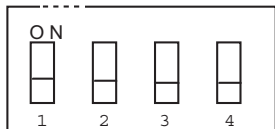
wire length(m)	Specs
<100	0.3mm ² * 2-core STP
∩ 100 and <200	0.5mm ² * 2-core STP
∩ 200 and <300	0.75mm ² * 2-core STP
∩ 300 and <400	1.25mm ² * 2-core STP
∩ 400 and <600	2mm ² * 2-core STP

∩ ∅ Shielded layer of communication wire must be earthed on one end.

11. Connecting board wiring method



1. Dip switch setting of central controller: shown in the below figure (ON:0, OFF: 1)



Dip switch setting meaning:

The first bit: central bus line selection, 0: indoor bus line; 1: central bus line

The second bit: master/slave central controller selection, 0: master central controller; 1: slave central controller

The third, fourth bit: control range, 00: 1~64, 01: 65~128, 10: 129~192, 11: 193~256. Every central controller only can control 64 units, and every unit can include max. 16 indoors, but the central controller only displays the master indoor state.

position	1	2	3	4
0: ON	indoor bus line	master controller	00: 1~64 01: 65~128	
1: OFF	central bus line	slave controller	10: 129~192 11: 193~256	

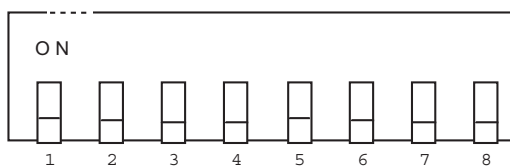
For example:

Select central bus line, master central controller, control range is 00, so the dip switch is 1 0 0 0.

Select indoor bus line, master central controller, control range is 00, so the dip switch is 0 0 0 0.

2. Dip switch setting of connecting board

The dip switch is as below figure (ON:1, OFF: 0):



position								description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
£>	£>	0	0	0	0	0	0	connecting board address =1
£>	£>	0	0	0	0	0	1	connecting board address =2

£>	£>	0	1	1	1	1	0	connecting board address =63
£>	£>	0	1	1	1	1	1	connecting board address =64
£>	0							central bus line: 3600baud
£>	1							central bus line: 2400baud
0								auto set address
1								manual set address

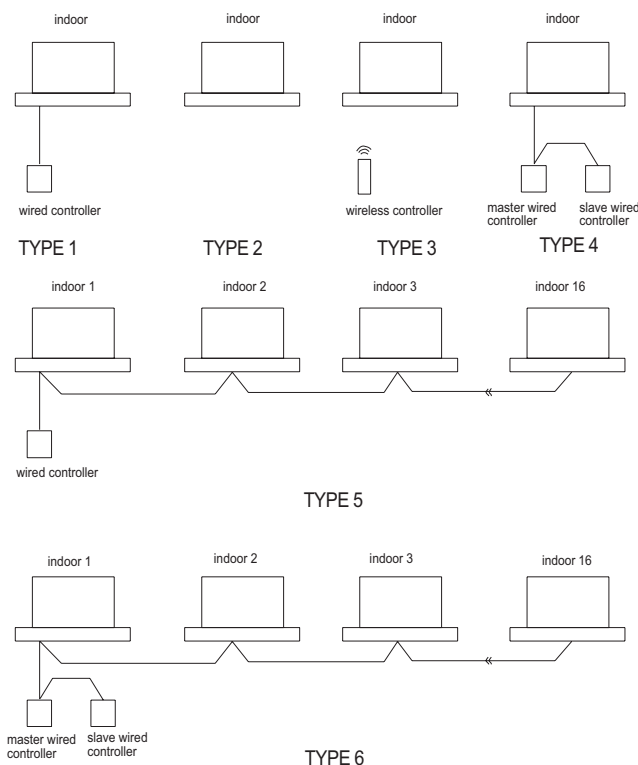
12. Cautions for central controller

12.1 Application range:

Central controller (1:64) can be used for MRV II. It can control the indoors in single refrigerant system, also can control the indoors in multi refrigerant system (connecting board for the master outdoor unit is necessary). Every central controller can control 64 units of indoors, and every unit can connect max. 16 indoors. But the indoors connected to single refrigerant system can not exceed 40 sets.

Note:

- 1) Single refrigerant system: composed of one outdoor master unit, outdoor slave units, and indoor units.
- 2) Wired controller can control 1~16 sets of indoors, and there are 6 types of connection. When being controlled by the wired controller or central controller, all indoors in one unit will be set at the same state.



12.2 Communication wire and power cable connection

Every inverter master unit must connect a connecting board to transform the protocol.

- 1) CN01 on connecting board (port of indoor communication bus line) connects to P, Q on terminal block.
- 2) CN02 on connecting board (port of central control communication bus line) connects to X, Y on terminal block.
- 3) CN03 on connecting board (port of AC220V power source) connects to A, B on terminal block.

Communication wire and central controller power cable specs:

item	specs
communication wire	2-core shielded wire, 0.75mm ²
power cable	2-core RVV wire, 0.5mm ²

Communication wire and power cable connection:

1) After connecting the connecting board and outdoor master unit. Connect the communication terminal X, Y among master units, and between master unit and central controller. Non-polarity. The communication wires adopts the daisy chain type wiring (shortly, one unit by one unit), The total length can be up to 500m.

2) Power cable wiring: Connect AC 220V power source nearby.

12.3 Relative setting when being central controlled

1) Indoor central control address setting method:

Central control address dip switch: SW02 (8-bit), the setting is below: (only the master indoor in a unit needs to be set the address)

SW02								description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
—	0	0	0	0	0	0	0	central control address=1
—	0	0	0	0	0	0	1	central control address=2
----								----
—	1	1	1	1	1	1	0	central control address=127
—	1	1	1	1	1	1	1	central control address=128
0								set central control address by wired controller
1								Forbidden to set address by wired controller

When the first bit of SW02 is ON, indoor central control address will be set by wired controller, and the address will be saved in EEPROM of wired controller (it won't miss even though indoor and wired controller are electrified again). So the first bit of SW02 must be OFF.

2) When the wired control type unit does not connect the wired controller, the central control setting method is as follows:

In this case, you must set the PCB as remote wireless control type, and cancel the communication with wired controller, the detailed method is as follows:

Set the jumper J19 on indoor PCB:

J19	function
connected	wired control
disconnected	remote control

CN30 on indoor PCB:

CN30	function
connected	wired control
disconnected	remote control

Note: if making central control for more than one indoor, please must connect the wired controller.

12.4 Setting method in group control

1) Address setting method for indoor in one group

When making group control with wired controller, the indoor unit connected to the wired controller is the master unit. Use the rotary switch SW01 to set the indoor unit address, for master unit, SW01 is at 0, while the rotary switch SW01 of the slave unit will be at the other digits except 0, and can not repeat.

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2) Wiring method of serial communication wires between wired controller and indoors

Connect A, B, C on the wiring block of the serial communication wire between wired controller and indoor master unit; Only connect B, C on the wiring block of the serial communication wire between indoor slave unit and indoor master unit, and among indoor slave units.

3) Pull out the jumper of CN23 on the indoor slave unit PCB.

4.3 Management system H-CACS

1. General information

This management system suits for MRV II series air conditioner.

1.1 Gateway(Model:iGU01)

Function:Communication BUS for indoor &Outdoor ,adopt the running status parameters,transmit the control signal .And convert the comminucation protocal from Homebus to LONKWORKS .Each system need one set ,that is the gateway quantity equals to Inverter outdoor unit quantity and every gateway can connect max. 40 sets of indoor in one system.

1.2 Network server(Model:iSERVER)

Function:Convert the communication protocol from Lonwokrs to TCP/IP.

Each Network server can connect 256 management ports(Each indoor unit ,outdoor unit is regarded as one management port) in theory ,But in fact ,the system can not be more than 200 management ports, and each management system can connect 4 sets network server maximum by HUB.

1.3 Network side software:Each software can control 20000 sets parameter ports

1.4 PC, HBU, internet wire, electric box, pulse ammeter are common devices, which will not be supplied by Haier and be purchased by the distributor or the buyer.

Herein,

PC is the engineer computer or the server with the current standard configuration.

HUB is required with the enough ports.

Pulse ammeter is required with high precision.

For example:

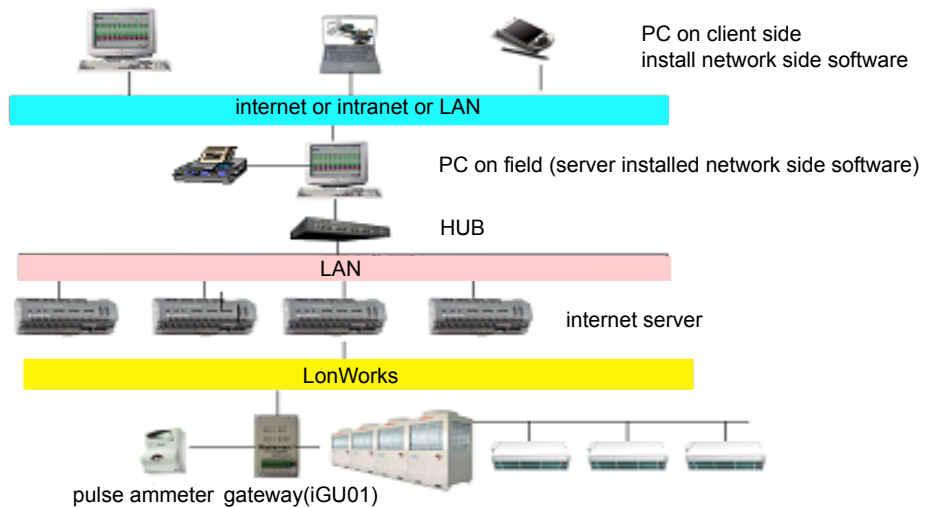
10 sets of indoor (20HP), 20 sets of indoor (30HP), 30 sets of indoor (40HP), MRV II outdoor. To realize monitor, control and count function.

The required devices are as follows:

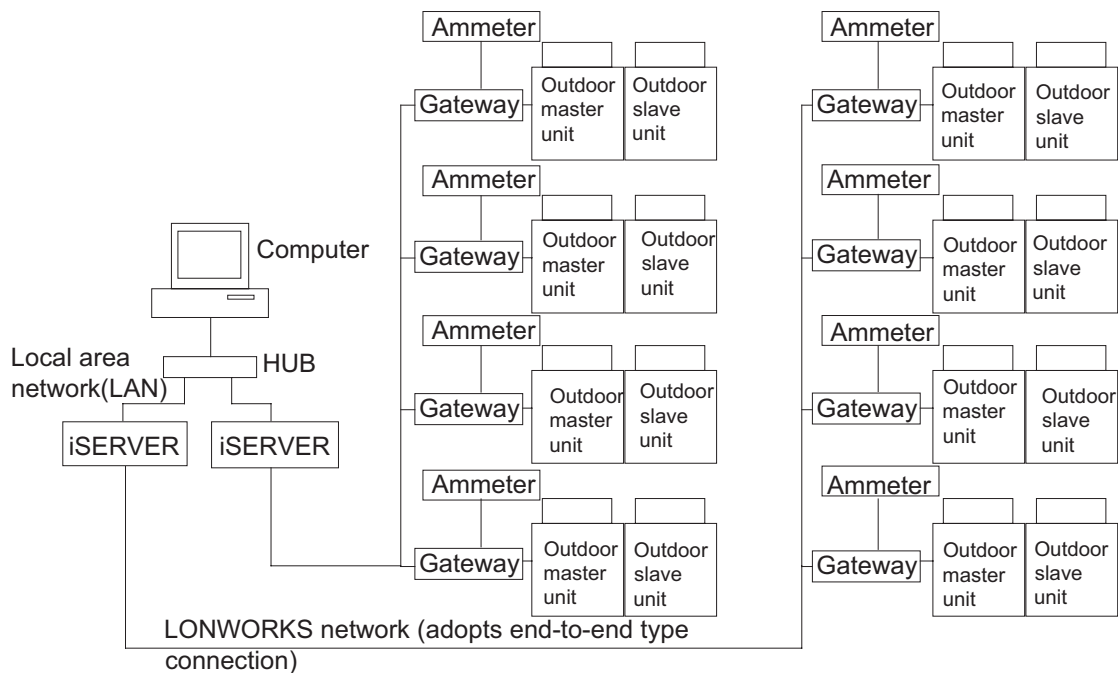
3 gateways; 3 pieces of communication wire, one internet server, one set of network side software, internet wire, one set of PC.

2. Installation instruction

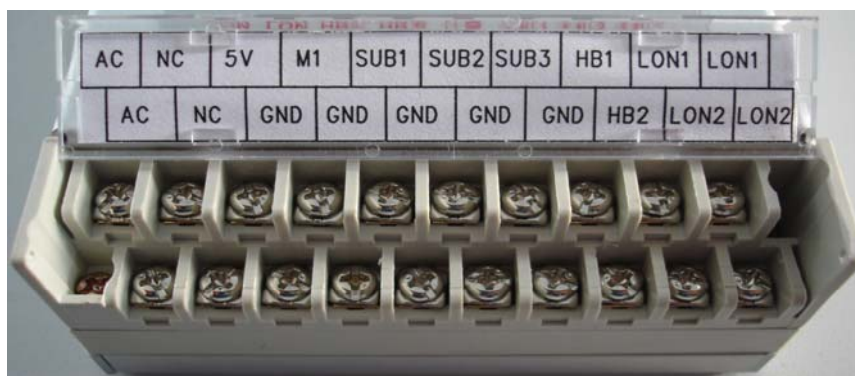
2.1 Structure figure



2.2 System diagram:



2. 3 Gateway exterior appearance & installation method



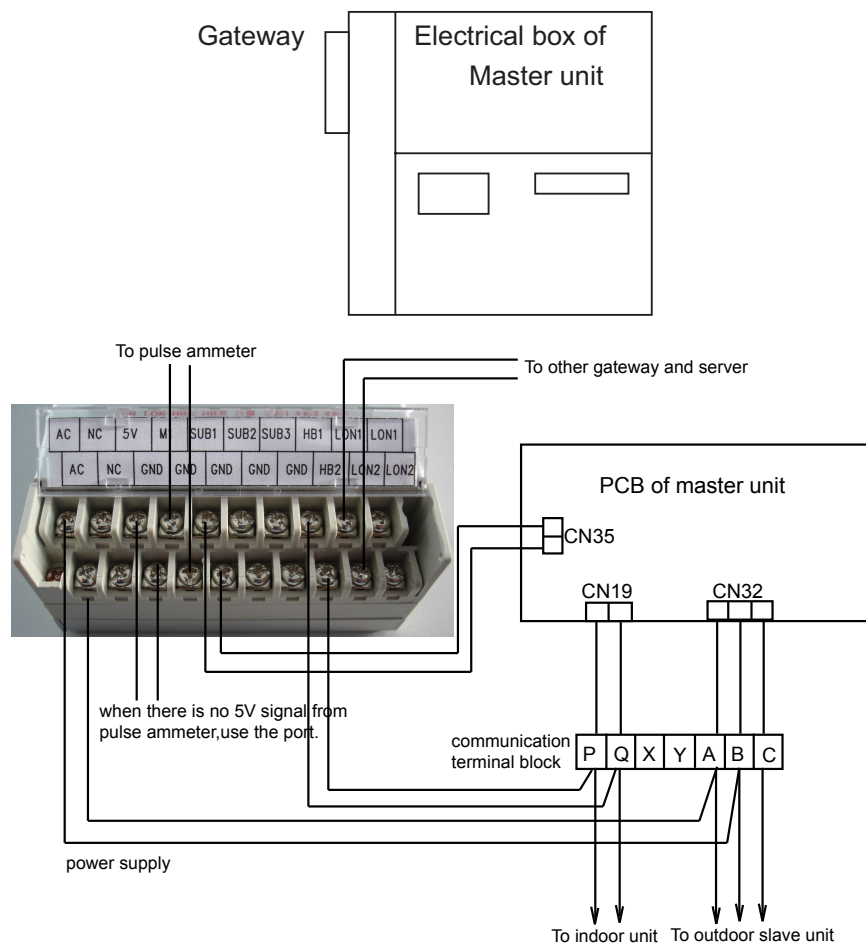
No.	item	Remarks
1	AC	13.8V, non-polar
2	AC	
3	NC	
4	NC	
5	5V	When ammeter connects external power supply, there should be a resistor 10KΩ between 5 and 7
6	GND	
7	M1	
8	GND	
9	SUB1	Signal of slave unit 1
10	GND	
11	SUB2	Signal of slave unit 2
12	GND	
13	SUB3	Signal of slave unit 3
14	GND	
15	HB1	Communication bus line between indoor and outdoor
16	HB2	
17	LONA	Communication bus line of LonWorks
18	LONB	
19	LONA	
20	LONB	

B. Installation place of gateway

Install the gateway near the master unit, because the gateway gets HOMEBUS data and slave data from outdoor inverter master unit(KMR-280W/BP), you could install the unit as follows:

Install the gateway on the cover of the electrical box right side of Master unit, drilling a hole on the site. Adopt the flat head tapping screw to fix the gateway, to prevent the wires punctured by the wires in the electric box.

C. Wiring connection of gateway:



Remarks:

- 1) Power: The power of gateway is AC12V and could be gotten from port A and B on the communication terminal block of outdoor master unit and slave unit. There can be any error when connecting, or the gateway will be burnt off.
 - 2) LON/LON(LONWORKS communication) connector: connect with the gateway of other master unit and LONWORKS communication connector of internet server, no polarity requirement.
 - 3) HBS/earth wire(serial signal of master unit) wiring: connect with the output port of serial signal of the master unit PCB, get the parameter of slave unit from serial signal, could not detect slave unit data when in reverse connection. Polarity is required. When using communication wire 0010450044, black wire is connected to the HBS terminal of gateway, and white wire is connected to the earth wire on the right of HBS.
 - 4) Count/ earth wire(pulse signal) wiring: connect pulse ammeter to get the power consumption recorded in the ammeter. Polarity is required. Connect the earth wire terminal of pulse output of ammeter to the earth wire terminal on the right of count terminal of gateway, and the other terminal of pulse output of ammeter connects to the count terminal of gateway.
- HBM/HBM (HOMEBUS communication) port: connect ports P&Q of the communication terminal block of outdoor master unit and indoor unit, no polarity requirement..

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Spec of cable:

- 1) Power: Two-core RVV, the section area is 0.5mm^2 , there is no polarity requirement when connection.
- 2) LON(LONWORKS communication) port: Two-core STP, the section area is 1.5mm^2 , there is no polarity requirement when connection.
- 3) HBS(master unit serial signal): get state signal of slave units.
- 4) Count (pulse signal): use two-core RVVP shielded wire, the section area is 1.0mm^2 , there is polarity requirement when connection.
- 5) HBM (HOMEBUS communication): use two-core RVVP shielded wire, the section area is 1.0mm^2 , there is no polarity requirement when connection.

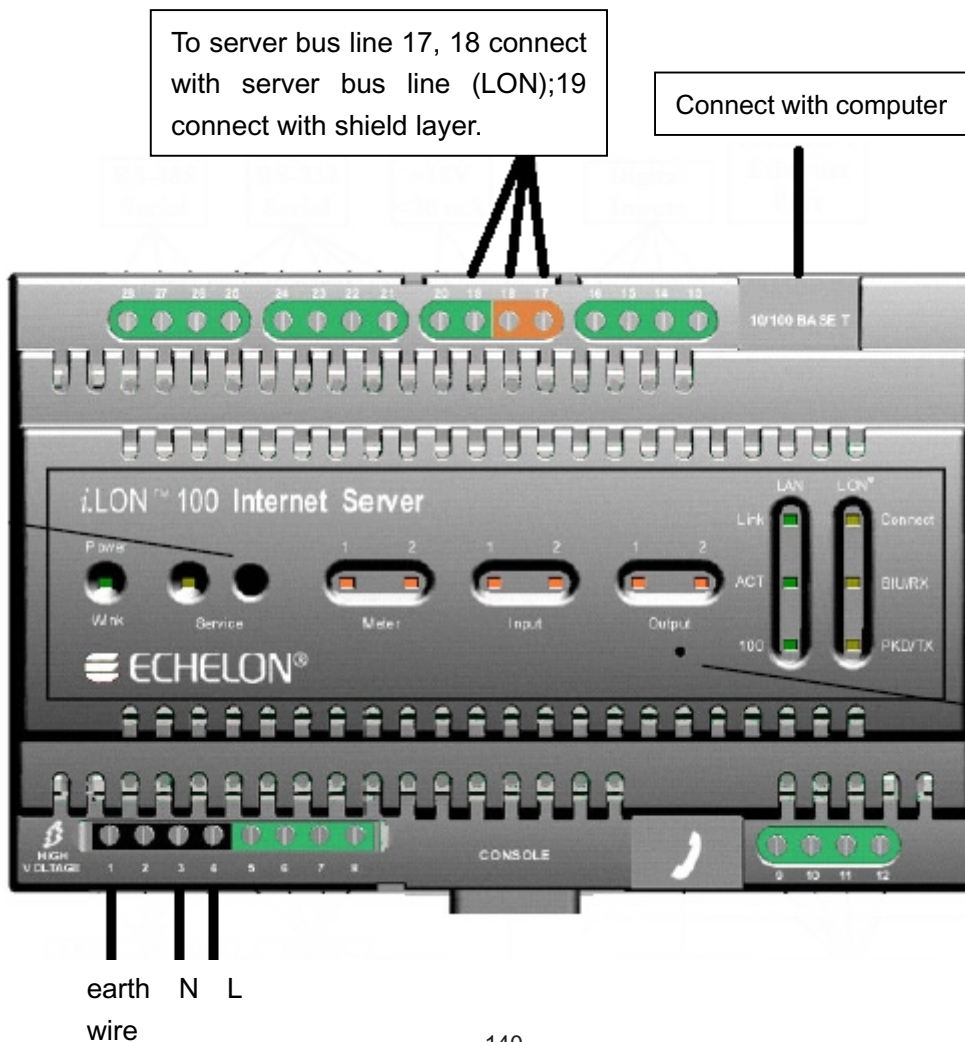
2.4 Connection among gateways, between gateway and server

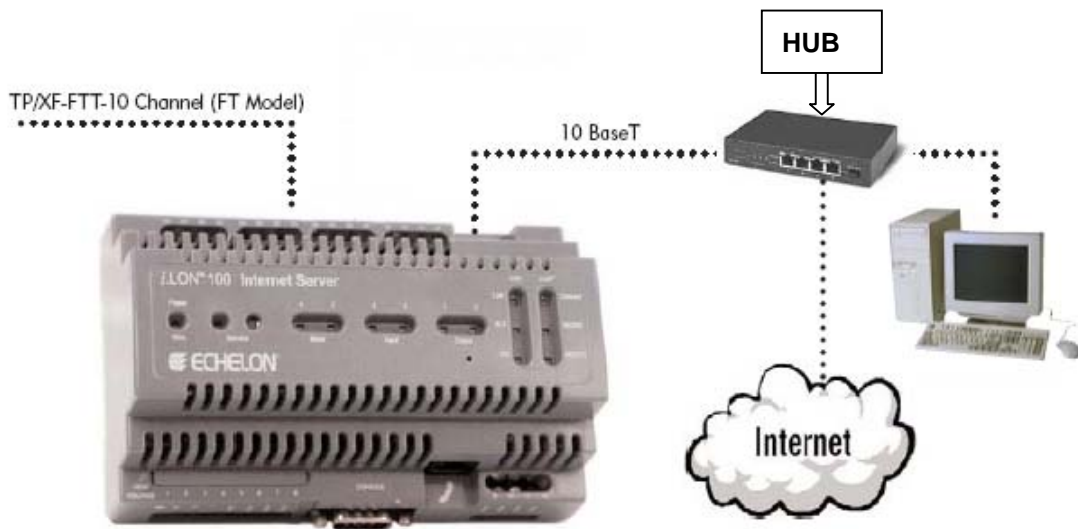
The gateways are interconnected with two-core STP (the section is 1.5mm^2) to make LONWORKS control network. The spec of signal wire is as above. The wiring of signal wires adopts bus type (identical with the communication wires connection between indoor and outdoor).

If it is very far from gateway to server, the wires must be shielded and be heat insulated well; and the shielded layer must be connected to the earth wire terminal of the server.

2.5 Exterior appearance & installation method of internet server

A. External appearance and definition of port

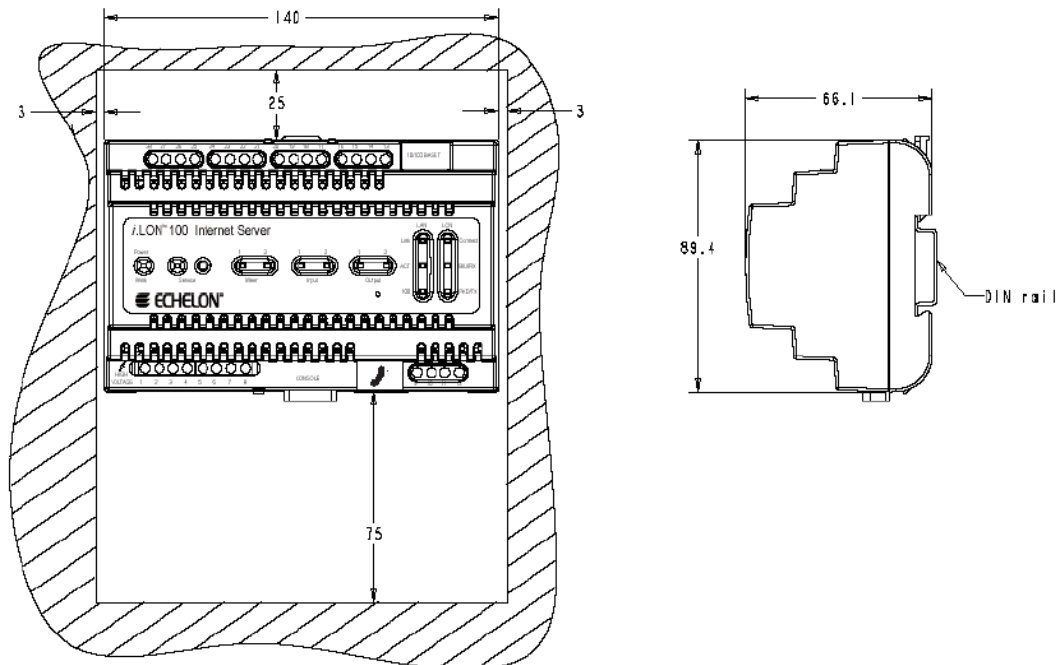




The other communication ports are no used.

A: External dimension and installation space requirement:

Because the internet server is a precise electronic device, it should be installed in the control room to connect computers conveniently.



B. connection method:

1) Power: The internet server adopts AC220 power, connect the power wiring terminals on the server due to the corresponding marks. (1: earth wire; 3: connect with N; 4: connect with L).

LON A/LON B (LONWORKS communication) port: communicate the LONWORKS after connecting all the gateways.

(17: connect with shielded layer; 18: connect with LON; 19: connect with LON)

2) LAN port: connect to Ethernet network card, when there are many internet servers in the system, you should connect to the HUB firstly and then to computer.

Spec of cable:

1) Power: use three-core RVV, the section area is 0.5mm^2 .

2) LON (LONWORKS communication) port: Two-core STP, the section area is 1.5mm^2 , there is no polarity requirement when connection.

LAN: Ethernet internet wire, 10 Base/T cable, Cat5 wire.

3. Cautions in installation

3.1 Set the communication address between indoor and outdoor unit and central address of indoor unit by hand, and set the same address for them. Make a table to record the room of indoor unit, the address of indoor unit, and the corresponding outdoor unit.

As the below table:

Name of room	Floor of room	Outdoor unit system	Indoor unit No.
Signal distribution office	--	S1-36N	1
West of training room	--	S1-90E	2
East of training room	--	S1-90E	3
Maintenance&technic team	--	S1-90E	4
Shift workshop section	--	S1-45N	5
Checking team	--	S1-90E	6
Periodic Maintenance team	--	S1-90E	7
Clearing team	--	S1-90E	8
Shift team	--	S1-90E	9
Debugging workshop	--	S1-90E	10
Running room	--	S1-90E	11

3.2 If you need the count function, the PC should be engineering computer or server to ensure the computer can run for a long time, also, please do not used the integrated internet card.

3.3 When the count function is available, all the outdoor power supply must pass the ammeter. 10HP and 20HP system, the slave outdoor can connect power from the terminal block of master outdoor unit; 30HP, and 40HP system, it is necessary to add a large capacity terminal block (no less than 100A).

3.4 Indoor power consumption is comparatively lower and will be counted respectively. Indoor unit can use the same power supply with the other indoor side electric application. The power consumption will be counted by the ammeter on the power supply circuit and not pass the H-CACS system.

Note: No matter if indoor units are running, make all indoors being electrified.

3.3 To get the steady signal, the internet wire and the power cable will be laid respectively. And the distance between them can not be less than 20cm. If they are through the shielded pipe, the distance can not be less than 10cm.

3.4 Indoor/outdoor communication wires and power cable must be laid respectively. And the distance between them can not be less than 20cm. If they are through the shielded pipe, the distance can not be less than 10cm.

3.5 Wired controller communication wires and power cable must be laid respectively. And the distance between them can not be less than 20cm. If they are through the shielded pipe, the distance can not be less than 10cm.

3.6 When wiring, ensure all the communication wire and power cable are laid respectively, and be earthed on one end of communication wire, also P, Q terminals can not touch the electric box.

The wiring among outdoors must be end by end and all the shielded layers of communication wire must be together, then connect the shielded layer to the earthed terminal of the server.

3.7 Pulse ammeter is the engineering device and should be purchased in advance. If the ammeters are installed centrally, the distance between ammeter and gateway should not be over 180m, and pulse output wire and power cable should be laid respectively, the distance between them can not be over 20cm. If the ammeter is installed in the master unit, recommend to use the electronic type.

3.8 All ammeters need to be measured and calibrated before being installed.

4. About the ammeter

If you want to realize the individual counting function, every gateway should be equipped with a 3-phase, 4-line ammeter. The ammeter will not be supplied by Haier, and be purchased locally. The request is as follow:

A. The ammeter can be used for 50Hz 3-phase AC electricity. The characteristic should comply with the regulation of the national criteria GB/T15283-94 or GB/T15282-94 and JB/T7655-95.

B. The amplitude of the pulse signal is DC 5V, the min. breadth of every pulse is 80ms.

C. The pulse signal of the ammeter is either passive or active one.

The present ammeter comprises mechanical type and electronic type, and the latter is requested. The parameters such as the rated current depends on the total consumption power after being combined.

5. Dip switch setting

"1" shows dip switch is ON or jumper is short connected; "0" shows dip switch is OFF or jumper is disconnected.

1. Indoor dip switch setting

A. Indoor address setting when in group control by wired controller: SW01.

SW01								Description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
0	0	0	0	--	--	--	--	wired controller address=1
0	0	0	1	--	--	--	--	wired controller address=2
--	--	--	--	--	--	--	--	--
1	1	0	1	--	--	--	--	wired controller address=15
1	1	1	1	--	--	--	--	wired controller address=16
--	--	--	--	0	0	0	0	indoor horse power=0.6HP
--	--	--	--	0	0	0	1	indoor horse power=0.8HP
--	--	--	--	0	0	1	0	indoor horse power=1.0HP
--	--	--	--	0	0	1	1	indoor horse power=1.25HP
--	--	--	--	0	1	0	0	indoor horse power=1.5HP
--	--	--	--	0	1	0	1	indoor horse power=1.7HP
--	--	--	--	0	1	1	0	indoor horse power=2.0HP
--	--	--	--	0	1	1	1	indoor horse power=2.5HP
--	--	--	--	1	0	0	0	indoor horse power=3.0HP
--	--	--	--	1	0	0	1	indoor horse power=3.2HP
--	--	--	--	1	0	1	0	indoor horse power=4.0HP
--	--	--	--	1	0	1	1	indoor horse power=5.0HP
--	--	--	--	1	1	0	0	indoor horse power=6.0HP
--	--	--	--	1	1	0	1	indoor horse power=8.0HP
--	--	--	--	1	1	1	0	indoor horse power=10.0HP
--	--	--	--	1	1	1	1	indoor horse power=15.0HP

B. Indoor address setting when in central control by central controller: SW02 (only on the master unit).

SW02								
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
—	0	0	0	0	0	0	0	central control address=1
—	0	0	0	0	0	0	1	central control address=2

—	1	1	1	1	1	1	0	central control address=127
—	1	1	1	1	1	1	1	central control address=128
0								set central control address by wired controller
1								Forbidden to set address by wired controller

C. Indoor communication address

SW03								
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
—	-	0	0	0	0	0	0	central control address=1
—	-	0	0	0	0	0	1	central control address=2

—	-	1	1	1	1	1	0	central control address=63
—	-	1	1	1	1	1	1	central control address=64
-	0							set central control address by wired controller
-	1							Forbidden to set address by wired controller
0								set address automatically
1								set address by hand

There are three kinds of address setting method for indoor units: automatical address setting, manual address setting, wired controller setting. Any one of them can set the address and wired controller setting type has the highest priority.

D. TA correction value in AUTO mode and Tdif: SW07-1, SW07-2 (written in EEPROM)

When out of factory, SW05 has been set and can not be changed at random.

SW07-1	function
1	TA correction value is available in AUTO mode
0	TA correction value is unavailable in AUTO mode
SW07-2	function
1	Tdif = 3*
0	Tdif = 2*

Note: Mode changeover condition: when TA*set temp.-1-Tdif, running mode is HEAT; when TA*set temp.+TA correction value+1+Tdif, running mode is COOL.

E: Indoor temp. sensor selection:SW07-3

SW07-3	function
0	indoor ambient temp. and heating set temp. correction value be controlled simultaneously
1	indoor ambient temp. and heating set temp. correction value be controlled individually

Note: "indoor ambient temp. and heating set temp. correction value be controlled simultaneously" is that when in group control (wired controller: 1 to x), the indoor ambient temp. and heating set temp. correction value of slave unit are as the same as that of the master unit; "indoor ambient temp. and heating set temp. correction value be controlled individually" is that the two values of slave unit and master unit are controlled by the individual indoor unit.

F. Inlet air temp. TA correction value: (SW07-4,SW07-5, be written in EEPROM)

When out of factory, SW05 has been set and can not be changed at random.

SW07-5	SW07-4	function
0	0	TA correction value=12*
0	1	TA correction value=8*
1	0	TA correction value=4*
1	1	TA correction value=0*

G. Filter cleaning time selection:SW07-6

SW07-6	function
1	2500 hrs
0	120 hrs

H. Operation mode changeover of wired controller (SW07-7, SW07-8)

SW07-8	SW07-7	function
0	0	[AUTO] [FAN] [COOL] [DRY] [HEAT]
0	1	[FAN] [COOL] [DRY] [HEAT] [ELECTRIC-HEAT]
1	0	[FAN] [COOL] [DRY]
1	1	[FAN] [COOL] [DRY] [HEAT]

I. Air volume: SW08-1

SW08-1	function
1	normal operation
0	air volume is fixed (for duct unit)

J. In heating, fan speed selection:SW08-2

SW08-2	function
1	normal operation
0	run at mid. speed when in heating high speed

K. 26 degree lock function (SW08-3): in heating mode, though set temp. exceeds 20 degree, count as 20 degree; in cooling mode, though set temp. is below 26 degree, count as 26 degree.

SW08-3	function
1	normal mode
0	26 degree lock is available

L. Indoor priority selection (SW08-4)

SW08-4	function
1	normal mode
0	indoor priority is higher

M. Passive contact selection (SW08-5): room card function

SW08-5	function
1	passive contact function(room card) is available
0	passive contact function(room card) is unavailable

N. Wired control/remote control selection: SW08-6

SW08-6	function
1	wired control type
0	remote control type

O. Indoor installation height selection(SW08-7)

SW08-7	function
1	normal mode
0	when height is over 2.7m, indoor motor speed will be increased one class: in low speed, unit will run at med speed; in med speed,unit will run at high speed(not increased)

P. For twin energy source or not be used (SW08-8)

SW08-8	function
1	TES is not available
0	TES is available

Q. EEV open angle setting manually (CN27, CN29)

When being electrified, short connect CN27, EEV will open fully for 2 minutes; short connect CN29, EEV will open fully for 2 minutes.

R. Time shorting input (CN28)

	function
0	normal
1	1. short connected after being electrified, enter time shorting function 2. short connected when being electrified and reset, enter auto-check function

S. Float switch input (CN13, jumper connected is 1)

	function
1	normal
0	float switch is close (full of water)

2. Dip switch setting of wired controller

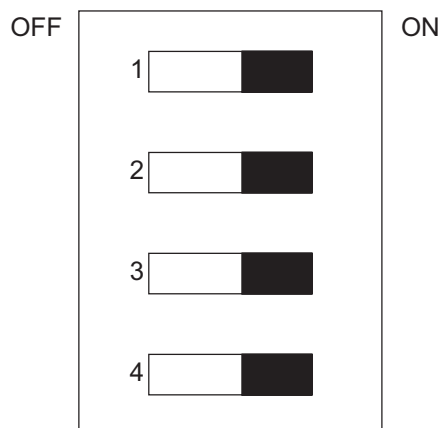
No.	selection item	state	function description
J02	changeover of controller type	0	set as simple controller
		1	set as standard controller
J08	selection of room temp. sensor	0	use room temp. sensor on wired controller
		1	not use room temp. sensor on wired controller
J07	auto restart	0	without auto restart
		1	with auto restart
J03	selection of room temp. display	0	display room temp.
		1	not display room temp.

No.	selection item	state	function description
SW20-[1]	changeover of master/slave controller	ON	set as slave controller
		OFF	set as master controller
SW20-[2]	°C or °F	ON	°F
		OFF	°C
D1	shorten time function	0	indoor shorting time
		1	without shorten time
D2	compulsory defrost	0	send to compulsory defrost signal
		1	normal operation

Note: 1. D1, D2 are the diode, if the two terminals are disconnected, the state is "1"; if the two terminals are connected with a jumper, the state is "0".

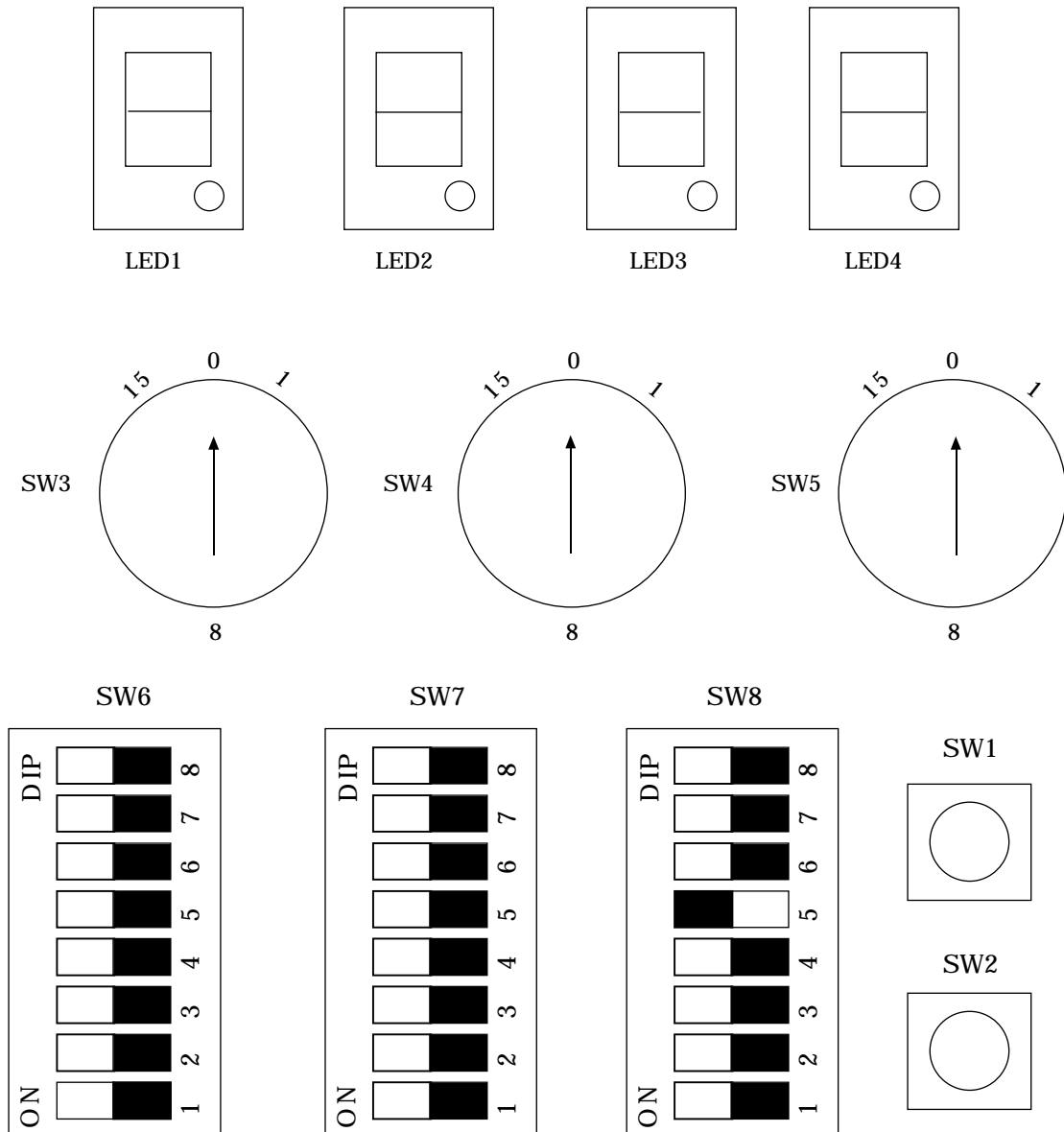
2. Only when two controllers control one indoor unit, one of wired controllers can be set as slave controller, and set SW20-[1] as ON, the others keep the state when out of factory, set SW20-[1] as OFF.

3. Dip switch of outdoor slave unit



1	2	3	4	unit No. on digital tube
ON	ON	ON/OFF	ON/OFF	1
ON	OFF	ON	ON/OFF	2
ON	OFF	OFF	ON/OFF	3
OFF	ON/OFF	ON/OFF	ON/OFF	4

4. Dip switch of outdoor master unit



If SW8-1 is set at ON, the checking switch is ON.

If SW8-1 is set at OFF, the checking switch is OFF.

If SW8-5 is set at ON, the compressor thermal protector is valid.

If SW8-5 is set at OFF, the compressor thermal protector is null.

SW8-6, SW8-7 are used to select the defrosting function. When out of factory, they are at OFF. In the place easy to frost, set SW8-6 at ON, and SW8-7 at OFF. In the place not easy to frost, set SW8-6 at OFF and SW8-7 at ON.

Rotary switch setting:

(1) Indoor parameter

SW3		SW4		address
0		0-15		1-16
1				17-32
2				33-48
3				49-64
SW5	function	control description		
3	indoor communication checking	LED3, LED4, indoor available, display 1111; indoor unavailable, display ----		
4	indoor abnormal	display indoor failure code; no failure, display 0		
5	indoor capacity	LED3, LED4, display indoor capacity, 1.5HP displays 1.5		
6	indoor EEV open angle	LED2, LED3, LED4 display valve open angle		
7	air inlet temp.	LED2, LED3, LED4 display air inelt temp. -2 degree displays -02		
8	indoor gas pipe temp.	LED2, LED3, LED4 display air inelt temp. -2 degree displays -02		
9	indoor liquid pipe temp.	LED2, LED3, LED4 display air inelt temp. -2 degree displays -02		
14	compulsory cooling	press SW7 to start up the unit; press SW8 to stop the unit. for unit startup, 4LEDs display "1" and flash		
15	compulsory heating	press SW7 to start up the unit; press SW8 to stop the unit. for unit startup, 4LEDs display "1" and flash		

SW03	SW04	system address
0	0	1
0	1	2
0	2	3
0	3	4
0	4	5
0	5	6
0	6	7
0	7	8
0	8	9
0	9	10
0	10	11
0	11	12
0	12	13
0	13	14
0	14	15
0	15	16

SW03	SW04	system address
1	0	17
1	1	18
1	2	19
1	3	20
1	4	21
1	5	22
1	6	23
1	7	24
1	8	25
1	9	26
1	10	27
1	11	28
1	12	29
1	13	30
1	14	31
1	15	32

SW03	SW04	system address
2	0	33
2	1	34
2	2	35
2	3	36
2	4	37
2	5	38
2	6	39
2	7	40
2	8	41
2	9	42
2	10	43
2	11	44
2	12	45
2	13	46
2	14	47
2	15	48

SW03	SW04	system address
3	0	49
3	1	50
3	2	51
3	3	52
3	4	53
3	5	54
3	6	55
3	7	56
3	8	57
3	9	58
3	10	59
3	11	60
3	12	61
3	13	62
3	14	63
3	15	64

(2) Outdoor inverter unit parameters

SW3	SW4	SW5	function	description
0	0	0	display inverter outdoor failure code	display master unit failure code; no failure, display 0
0	2	0	display running mode	H H H H: heat C C C C: cool
0	3	0	inverter outdoor capacity	10.0 shows 10HP

SW3	SW4	SW5	function	description
0	4	0	outdoor total capacity	40.0 stands for 40HP, add 10HP for every added slave unit
0	5	0	inverter compressor frequency	110 stands for 110Hz
0	6	0	fan speed	15 stands for 15-step speed
0	8	0	4-way valve state	LED1 displays 1:open; 0: close
			SV1 unloading valve state	LED2 displays 1:open; 0: close
			SV2 oil equalization valve state	LED3 displays 1:open; 0: close
			SV3 spray valve state	LED4 displays 1:open; 0: close
0	10	0	EEV open angle	0---2000 steps

SW3	SW4	SW5	function	description
0	0	1	discharging pressure	KG
0	1	1	suction pressure	KG
0	2	1	TD1 inverter unit discharging temp.	LED1, LED2, LED3 will display
0	3	1	TS1 inverter unit suction temp.	LED1, LED2, LED3 will display
0	4	1	TE inverter unit defrosting temp.	LED1, LED2, LED3 will display
0	5	1	TA inverter unit ambient temp.	LED1, LED2, LED3 will display
0	6	1	Toil inverter unit oil temp.	LED1, LED2, LED3 will display
0	10	1	current value of inverter compressor	LED1, LED2 will display. For example, 15A displays 150; 1A displays 10

(3) Outdoor slave unit parameters (FQY is frequency for short; QTY is quantity for short)

SW3 at 0 shows the master unit parameter; at 1, shows parameters of slave unit 1; at 2, shows parameters of slave unit 2; at

SW3	SW4	SW5	function	description
1	0	0	fixed FQY unit 1 failure code	display master unit failure code; no failure, display 0
1	2	0	display running mode	H H H H: heat C C C C: cool
1	3	0	fixed FQY outdoor capacity	10.0 shows 10HP, 8.0 shows 8HP
1	5	0	fixed FQY comp. capacity	10.0 shows full load state; 6.0 shows half load state
1	8	0	4-way valve state	LED1 displays 1:open; 0: close
			SV1 unloading valve state	LED2 displays 1:open; 0: close
			SV2 oil equalization valve state	LED3 displays 1:open; 0: close
			SV3 spray valve state	LED4 displays 1:open; 0: close
1	9	0	solenoid valve SV4 state	LED1 displays 1:open; 0: close
			solenoid valve SV5 state	LED2 displays 1:open; 0: close
			solenoid valve SV6 state	LED3 displays 1:open; 0: close
1	10	0		0---2000 steps

SW3	SW4	SW5	function	description
1	0	1	fixed FQY discharging pressure	(MPa)
1	1	1	fixed FQY suction pressure	(MPa)
1	2	1	TD1 fixed FQY discharging temp.	LED1, LED2, LED3 will display
1	3	1	TS1 fixed FQY suction temp.	LED1, LED2, LED3 will display
1	4	1	TE fixed FQY defrosting temp.	LED1, LED2, LED3 will display
1	5	1	TA fixed FQY ambient temp.	LED1, LED2, LED3 will display
1	6	1	Toil fixed FQY oil temp.	LED1, LED2, LED3 will display
1	10	1	fixed FQY AC current value	LED1, LED2, LED3 will display A/D value: 0~255

(4) Inverter unit information center: display parameters of the whole system

SW3	SW4	SW5	function	description
0	0	2	refrigerant type	R22
0	1	2	outdoor total capacity	40.0 stands for 40HP
0	2	2	outdoor QTY in one system	e.g.: 4 outdoors (excluding inverter outdoor)
0	3	2	indoor QTY in one system	e.g.: 64 indoors
0	4	2	running indoor QTY	depend on if thermostat is ON
0	5	2	indoor QTY whose operation modes are as the same as that of outdoor	e.g.: 13 indoors
0	11	2	outdoor inverter unit runs at fixed FQY	Run as indoor mode. Press SW2 for 2 seconds until the running FQY of outdoor inverter unit is displayed. Press SW2, increase FQY Press SW1, decrease FQY There must be running indoor in the system: SW8-8: ON, in the fixed FQY mode, fixed FQY compressor is running for 100%; SW8-8: OFF, in the fixed FQY mode, fixed FQY compressor stops totally, and only inverter compressor works; SW8-7: ON, in the fixed FQY mode, fixed FQY compressor is running for 62%;
0	12	2	indoor valves open fully	press SW2, displays 1111 and indoor valves will open 2 minutes fully
0	15	2	rated operation	Run as indoor mode. Press SW2, displays 1111, which shows being in rated operation. Press SW1, displays 0000 and flashes Display rated capacity: for example, 1.5 stands for 1.5HP in rated operation; 6.0 stands for 6HP in rated operation (there must be running indoors)
15	0	0	compulsory cooling	Press SW2 for 5 seconds, displays 1111, which shows being in rated operation and flashes once, which shows being out of rated operation.
15	1	0	compulsory heating	Press SW2 for 5 seconds, displays 1111, which shows being in rated operation and flashes once, which shows being out of rated operation.

5. Indoor unit control

5.1 Indoor PCB

A. Cooling operation

Set temp. in cooling: T_s =set temp. of wired controller;

After startup, indoor unit will send the request to outdoor according to the temp. difference between the set temp. and the room temp.

B. Heating operation

Set temp. in heating: T_s =set temp. of wired controller+TA correction value.

After startup, indoor unit will send the request to outdoor according to the temp. difference between the set temp. and the room temp.

C. Dry operation room temp.-set temp.*2*, indoor operation is identical with the cooling operation, and send the cooling signal to outdoor; room temp.-set temp.*2*, indoor will send the dry signal to outdoor, and indoor fan motor will run at low speed compulsorily when compressor is running; when room temp. *16*, indoor stops and sends stop signal to outdoor.

In dry operation, the auto mode of indoor fan motor is identical with the cooling mode; EEV control mode is identical with the cooling mode.

D. Fan operation

Indoor fan motor will run at the speed set on the wired controller and sends stop signal to outdoor.

E. Abnormal operation

When the requested mode collides with the outdoor mode, the entering earlier will be in prior.

After indoor receives the startup command from wired controller (remote controller), firstly judge the outdoor current mode. If it is normal mode, the indoor will run as the request of wired controller; if it is abnormal mode, the command can not be executed, and indoor keeps stop; wired controller displays standby mode (if in remote control type, the buzzer will sound twice and the remote controller can not receive the signal). Until the outdoor stops or the outdoor mode is accordant with the requested mode of wired controller (remote controller), the outdoor will work.

COOL (including AUTO COOL), DRY, RECOVERY are regarded as the same mode;

HEAT, RECOVERY are as abnormal mode.

F. Fan speed control of indoor fan motor

a. Adjustment by hand

Set high/mid/low fan speed as the request;

b. Auto fan speed

Confirm the fan speed as the temp. difference between room temp. TA and the set temp.

c. Anti-code air control

In heating mode, after compressor startup, the unit will control indoor fan motor state due to the indoor coil temp.; In anti-code air period, indoor sends pre-heat signal to wired controller; in outdoor defrosting period, indoor fan motor will stop.

After being switched off in heating mode, indoor fan motor will run at low speed and 30 seconds later will stop.

H. Set EEV open angle by hand

When being switched off, short connect CN27 to open the valve fully compulsorily for 2 minutes;
When being switched off, short connect CN29 to close the valve fully compulsorily for 2 minutes.

I. Anti-freezed protection

In cooling mode, execute the anti-freezed protection due to the measured indoor coil temp. to avoid the indoor heat

J. Other functions

a. Swing motor control

Indoor will control swing motor ON/OFF due to the swing signal from wired controller.

b. Auxiliary electric heater control

In heating mode, if the below conditions can be met, the electric heater will work:

- (1) Indoor fan motor and compressor are running;
- (2) Air inlet temp. is no more than 22*;
- (3) Room temp. is lower over 2* than the set temp.;
- (4) Compressor has run for 5 seconds;

Either below condition is met, the electric heater will stop:

- (1) Indoor fan motor or compressor not runs;
- (2) Indoor air inlet temp. is over 23*;
- (3) Indoor air inlet temp. is higher over -1* than the set temp.;
- (4) Unit stops or quit the heating mode.

c. Filter cleaning

Check and memorize the running time of indoor fan motor, once arriving the requested time (set by SW07-6), indoor will send filter cleaning signal to wired controller; when indoor receives the filter reset signal from wired controller, if the time exceeds the requested time, the filter will reset.

d. Compulsory defrosting: after indoor receives the compulsory defrosting signal from wired controller, it will send compulsory defrosting signal to outdoor continuously for 10 times. In the sending period, indoor will execute

e. Trial operation

Set the mode as cooling (heating), press ON/OFF for 5 seconds to enter compulsory cooling (heating).

In compulsory cooling, display "LL" and COOL will flash; fan speed is AUTO.

In compulsory heating, display "HH" and HEAT will flash, fan speed is AUTO.

At this time, only ON/OFF is valid.

5.2 Wired controller When wired controller is electrified for the first time, the controller will display all info for 2 seconds
"88""8" and flash for about 30 seconds, all buttons are invalid.

Buttons description:

A. ON/OFF

Press ON/OFF button to start up or stop the unit; when running, LED will be on, when in stop, LED will be off.

When the unit stops at cooling mode or heating mode, press ON/OFF for 5 seconds to enter the compulsory operation

B. MODE

a. In group control, the master unit mode depends on the operation mode range that the wired controller can display and can be set.

b. After being electrified again, the displayed mode is the latest mode.

c. Press MODE, the modes will change as below (only in the mode range of the master unit): [FAN] ; œ [COOL] ; œ [DRY] ; œ [HEAT] ; œ [AUTO] ; œ [FAN].

C. FAN

Press FAN button, the fan speed will change as follow: [AUTO] ; œ [HIGH] ; œ [MID] ; œ [LOW] ; œ [AUTO]

If the master indoor unit requests fan speed to be fixed, so the fan speed can not be changed and display fan speed [FIX]. After being electrified, the displayed fan speed is the latest mode. In compulsory operation, fan speed displays [AUTO].

D. SWING

The master unit will depend if the wired controller can display and set SWING function.

Every time press SWING button, the swing mode changes as follows:

[OFF] ; œ [SWING] ; œ [OFF].

E. TEMP +/-

In RECOVERY mode, there is no set temp.; after being electrified again, the displayed temp. is the latest temp.

Every time press TEMP +/- button, SET icon will display and the set temp. will increase/decrease 1 degree; keep pressing it, within 5 seconds, the set temp. will change at 1 degree/0.5 second; if no pressing within 10 seconds, the temp. will display the room temp., SET icon will be off and ROOM TEMP icon will be on; by adjusting SW01-2, realize the change between degree celsius and degree fahrenheit.

F. The other buttons

Refer to the information in the "controller installation".

G. Special functions

a. Indoor central control address setting

On the condition that indoor dip switch allows the wired controller to set the central control address, press FILTER button for 10 seconds to enter central control address setting mode. Select the address by TEMP +/- button.

Temp. display area: [central address]+XX, herein XX is the hex digit, press TIME +/- button to change in 0-7F, and the preliminary is 00; press SET to confirm the setting and quit out; if press the other buttons or no any operation in 15 seconds, quit the setting automatically and keep the set of last time.

b. Communication address setting of outdoor and indoor

On the condition that indoor dip switch allows the wired controller to set the communication address, press FILTER button for 5 seconds to enter central control address setting mode. Select the address by TEMP +/- button.

Temp. display area: [system address]+XX, herein XX is the hex digit, press TIME +/- button to change in 0-3F, and the preliminary is 00; press SET to confirm the setting and quit out; if press the other buttons or no any operation in 15 seconds, quit the setting automatically and keep the set of last time.

c. Query indoor malfunction history

In the state of power on or power off, press [CHECK] button, enter the malfunction-querying mode of

all indoor units in the group. Then [CHECK] and [UNIT NO.] will display, and the actual indoor numbers will be displayed in some sequence (unit number is in decimals). At the same time, in the time region, there will be the current malfunction and the latest time malfunction, the displaying format is [XX:YY], in which XX stands for the current malfunction, if normal, it will display □--□; YY stands for the latest time malfunction. The failure code of every unit will display for 3 seconds. After the failure codes of all indoor units in the whole group are displayed, the mode will quit automatically.

d. Clear abnormal state and malfunction history

In normal state, press [CHECK] button for 5 seconds, the malfunction history in wired controller will be cleared.

e. Query indoor performance state:

In normal state, press both buttons of [CHECK] and [FILTER] for 5 seconds, in the set temperature region in the screen, [XX] will display, XX is indoor number, which can be selected by pressing [TEMP] [+] [-]. In the timer region in the screen, [YZZZ] will display, in which Y stands for data type, ZZZ stands for the corresponding data. which can be selected by pressing [CLOCK] [+] [-].

Y	ZZZ	Type
A	Temperature of indoor ambient temp. sensor TA	Actual value, decimal
B	Temperature of indoor gas pipe temp. sensor TC1	Actual value, decimal
C	Temperature of indoor liquid pipe temp. sensor TC2	Actual value, decimal
D	Indoor EEV open angle	Actual value/2, decimal

Press CHECK to quit the query state and back to the normal state.

f. Compulsorily defrost

In heating mode, D2 is in short circuit, it will enter compulsorily defrost mode; cut off D2, it will quit.

g. Shorten time function

In normal operation, D1 is in short circuit, it will enter shorten time mode, and the time will be shortened in the proportion of 60:1. In shorten time mode, LED will flash at the frequency of 0.5 second. Cut off D1, it will quit the shorten time mode and return to the normal operation mode.

H. Difference between master wired controller and slave wired controller

item	master wired controller	slave wired controller
function	all functions	only can set ON/OFF, MODE, FAN, SET TEMP, SWING

5.2 Outdoor control

(1) Compressor capacity range

The running FQY range of master unit: 30Hz~105Hz.

The slave unit capacity range:

SV4		SV5		capacity
coil	valve	coil	valve	
ON	open	OFF	close	100%
OFF	close	ON	open	62%

(2) Compressor startup control

When outdoor is electrified for the first time, the master unit will check the slave unit QTY automatically; in the operation, if within continuous 4 minutes, it does not find any slave unit, the system will consider no slave unit and alarm; if finding the slave unit, the alarm will be eliminated.

Cooling operation:

- According to the indoor capacity, confirm the compressor target FQY.
- At 30Hz, the master unit starts up the slave unit and every slave unit startup interval is 10 seconds.
- In compressor startup period, the master FQY can not exceed 60Hz.
- In compressor startup period, the unit will not adjust the FQY due to the target PS, but the compressor protection is available.

Heating operation:

- 4-way valve assured operation: in heating mode, the unit will make 4-way valve assured operation automatically, not limited by the indoor capacity.
- After the assured operation is over, enter the compressor target FQY due to indoor capacity.
- In compressor startup period, the master FQY can not exceed 60Hz.
- In compressor startup period, the unit will not adjust the FQY due to the target PS, but the compressor protection is available.

Compressor delay startup control:

- The compressor can not start up within 3 minutes after it stops.
- The function is invalid for the first time startup.

(3) Compressor oil equalization operation (at least connect with one slave unit)

When being electrified for the first time, if the slave unit has run for accumulative over 30 minutes or there is one slave unit has run accumulatively for 120 minutes since the oil equalization of last time was over, the unit will enter the oil equalization; SV2 of all the oil equalization units will open, and operate as follow:

step	master unit	slave unit 1	slave unit 2	slave unit 3	time
1	30Hz	ON full load	OFF	OFF	3min
2	30Hz	OFF	ON full load	OFF	3min
3	30Hz	OFF	OFF	ON full load	3min
4	90Hz	OFF	OFF	OFF	3min

Once the oil equalization operation is over, the accumulative time will be cleared.

(4) Outdoor fan motor control

The fan motor can realize 16 steps fan speed.

After the compressor stops, outdoor fan motor will blow remained air and 30 seconds later, it will stop.

In cooling mode:

- a. In fan motor startup period, confirm the preliminary speed of fan motor due to the outdoor ambient temp.
- b. After the startup is over, control the fan speed due to the high pressure.

In heating mode:

- a. In 4-way valve assured operation, confirm fan speed due to the outdoor ambient temp.
- b. After 4-way valve assured operation is over, enter fan motor startup period and confirm the preliminary speed of fan motor due to the outdoor ambient temp.
- c. After startup, control fan speed due to the defrosting temp.

(5) Defrosting control

In heating mode, make defrosting operation due to the frost state measured by defrosting temp. sensor TE. In defrosting, all outdoor units will operate defrosting.

The procedure:

- a. At the beginning, send the defrosting signal to indoor unit.
 - b. All 4-way valves converts into cooling mode, and all slave units run with full load, meanwhile indoor/outdoor fan motor stop.
 - c. Confirm the master running FQY due to the temp. measured by oil temp. sensor of master unit.
 - d. Quit the defrost due to the frost state measured by the defrosting sensor at outdoor heat exchanger.
- If the communication between master unit and slave unit is abnormal, the defrosting-over condition can not be confirmed, then the unit will quit defrost compulsorily.

(6) Protection functions

Low pressure protections:

- a. Decrease the compressor frequency due to the low pressure measured by Ps.
- b. If the low pressure measured by Ps is below 0.2kgf/cm² for 30 seconds, the system will stop.

High pressure protections:

- a. Decrease the compressor frequency due to the high pressure measured by Pd.
- b. If the high pressure measured by Pd is over 28.5kgf/cm² for 10 seconds, the system will stop.

Temp. sensor protection:

- a. If master unit running FQY is below 30Hz, discharging temp. sensor TD1 ; 120 ; for 10 seconds, the whole system will stop;
- b. When the slave unit is running, discharging temp. sensor TD ; 120 ; for 10 seconds, the slave unit will stop.

Current protection:

- a. Due to the current value measured by master unit, control the compressor increasing/decreasing FQY.
- b. Due to the current value measured by slave unit, control the compressor run or stop.

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5. Maintenance

5.1 Trouble diagnose

5.2 Sensor characteristic

5.1 Trouble diagnose

1. Failure code is as follow:

0~9 indoor failure code

20~70 inverter outdoor failure code

71~100 fixed frequency outdoor failure code

Outdoor failure code will be displayed on the digit tube. Indoor failure code will be displayed on the rotary switch SW3, SW4, SW5.

According to the displayed failure code, find the failure description from the following table and eliminate the failure.

2. Failure code

(1) Inverter master outdoor failure code list

digit tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description
20	14	master unit defrosting temp. sensor Te failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
21	15	master unit ambient temp. sensor Ta failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
22	16	master unit suction temp. sensor Ts failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
23	17	master unit discharging temp. sensor Td failure	after compressor runs for 5 minutes, sensor temp. is below -4.45 ; (open circuit) or over 337.14 ; (short circuit) for 1 minute
24	18	master unit oil temp. sensor Toil failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
25	19	master unit compressor over current	input from chip 840 on inverter board
26	1A	communication between indoor and outdoor failure	outdoor not find any indoor
27	1B	master unit oil temp. too high	oil temp. is no less than 90 ; for 5 minutes, when no more than 75 ; , resumable
28	1C	master unit high pressure sensor Pd failure	over 4.9V, or below 0.1V for 30 seconds
29	1D	master unit low pressure sensor Ps failure	over 4.9V, or below 0.1V for 30 seconds
30	1E	master unit high pressure switch failure	switch opens for 1 minute, alarm; switch closes for 1 minute, resumable
31	1F	master unit low pressure switch failure	switch opens for 1 minute, alarm; switch closes for 1 minute, resumable
32	20	master unit IPM module protection	input from chip 840 on inverter board
33	21	EEPROM failure of master unit main chip 538	EEPROM faulty, or being inserted conversely, with incorrect part
34	22	master unit discharging temp. Td protection	Td sensor is over 125 ; for 10 seconds, when below 100 ; , resumable

digit tube indication on master unit	indication on wired controller (hex)	failure code definition	failure description
35	23	inner thermal protector circuit of master compressor failure	inner thermal protector of master compressor response
37	25	faulty wiring for high/low pressure sensor Pd, Ps	after compressor startup for 3 minutes, Pd is lower than Ps for 1 minute
39	27	master unit low pressure sensor Ps protection	cooling: for 30 seconds, Ps is below 0.2kgG/cm^2 heating: for 10 minutes, Ps is below -0.2kgG/cm^2
40	28	master unit high pressure sensor Pd protection	sensor Pd is over 28.5kgG/cm^2 for 30 seconds
41	29	master unit suction temp. sensor Ts protection	after compressor startup, Ts is over $40\text{ }^\circ\text{C}$ for 10 minutes
42		master unit over current	current failure will alarm when current is more than the current protection value C for 5 seconds
43	2B	master unit low FQY discharging temp. sensor Td protection	running FQY of inverter compressor is below 30Hz, and Td is over $100\text{ }^\circ\text{C}$ for 10 minutes
44	2C	communication between master unit main chip 538 and 807 (indoor) failure	no communication for 4 minutes
45	2D	communication between master unit main chip 538 and 807 (central communication) failure	no communication for 4 minutes
46	2E	communication between master unit connecting board and inverter board failure	after being electrified, communication is abnormal for 2 minutes
49	31	driving chip EEPROM on master unit inverter board failure	EEPROM faulty, or being inserted conversely, with incorrect part
54	36	master unit oil temp. too low	in operation, compressor oil temp. is below $(Ps+10)\text{ }^\circ\text{C}$ for 5 minutes, resumable
69	45	slave unit is missing in operation	in operation, slave unit communication is abnormal or is powered off
70	46	lack of refrigerant	the failure only is displayed; no protection occurs

(2) Fixed FQY slave outdoor failure code list

digit tube indication on master unit (fixed FQY board flash times)	indication on wired controller (hex)	failure code definition	failure description
71(1)	47	lack of phase or incorrect phase sequence	
72(2)	48	compressor overcurrent protection	
73(3)	49	the slave unit defrosting temp. sensor Te failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
74(4)	4A	the slave unit ambient temp. sensor Ta failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
75(5)	4B	the slave unit suction temp. sensor Ts failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
76(6)	4C	the slave unit discharging temp. sensor Td failure	after compressor runs for 5 minutes, sensor temp. is below -4.45 ; (open circuit) or over 337.14 ; (short circuit) for 1 minute
77(7)	4D	the slave unit oil temp. sensor Toil failure	sensor temp. is below -60.87 ; (open circuit) or over 135.4 ; (short circuit) for 1 minute
78(8)	4E	EEPROM for fixed FQY failure	EEPROM faulty, or being inserted conversely, with incorrect part
79(9)	4F	the slave unit sensor Ps failure	over 4.9V, or below 0.1V for 30 seconds
80(10)	50	the slave unit discharging temp. protection response	Td sensor is over 120 ; for 10 seconds, when below 100 ; , resumable
81(11)	51	EEPROM for fixed FQY failure	forever, change part
82(12)	52	communication between the slave unit and the connecting board failure	communication abnormal for 1 minute and alarm
83(13)	53	the slave unit high pressure switch protection	switch opens for 1 minute, alarm; switch closes for 1 minute, resumable
84(14)	54	the slave unit low pressure switch protection	switch opens for 1 minute, alarm; switch closes for 1 minute, resumable
85(15)	55	the slave unit suction temp. sensor Ts protection	after compressor startup, Ts is over 40 ; for 10 minutes
86(16)	56	the slave unit oil temp. too high	oil temp. is over 80 ; for 10 minutes, resumable
87(17)	57	the slave unit oil temp. too low	in operation, compressor oil temp. is below (Ps+10) ; for 5 minutes, resumable

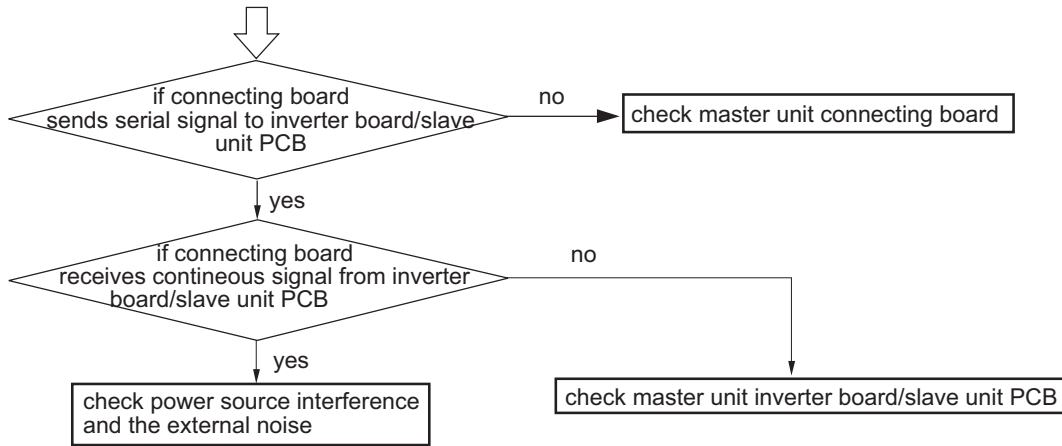
(3) Indoor failure code list

indication on wired controller	flash times of LED5 on indoor PCB/timer LED on remote receiver	flash times of health LED on remote receiver	failure code definition
01	1	--	indoor ambient temp. sensor Ta failure
02	2	--	indoor coil temp. sensor Tc1 failure
03	3	--	indoor coil temp. sensor Tc2 failure
04	4	--	indoor TES sensor failure
05	5	--	indoor EEPROM failure
06	6	--	communication between indoor and outdoor failure
07	7	--	communication between indoor and wired controller failure
08	8	--	indoor drainage failure
09	9	--	indoor repeated address
0A	10	--	indoor repeated central control address
0C	12	--	wall mounted unit connecting board failure
outdoor failure code	20	--	outdoor corresponding failure
--	--	1	wall mounted unit P/G motor failure
--	--	2	EEPROM of wall mounted unit board A failure
--	--	3	communication between wall mounted board A and wired controller failure
--	--	4	serial communication failure between wall mounted board A and B
--	--	5	set modes of wall mounted board A and B conflict

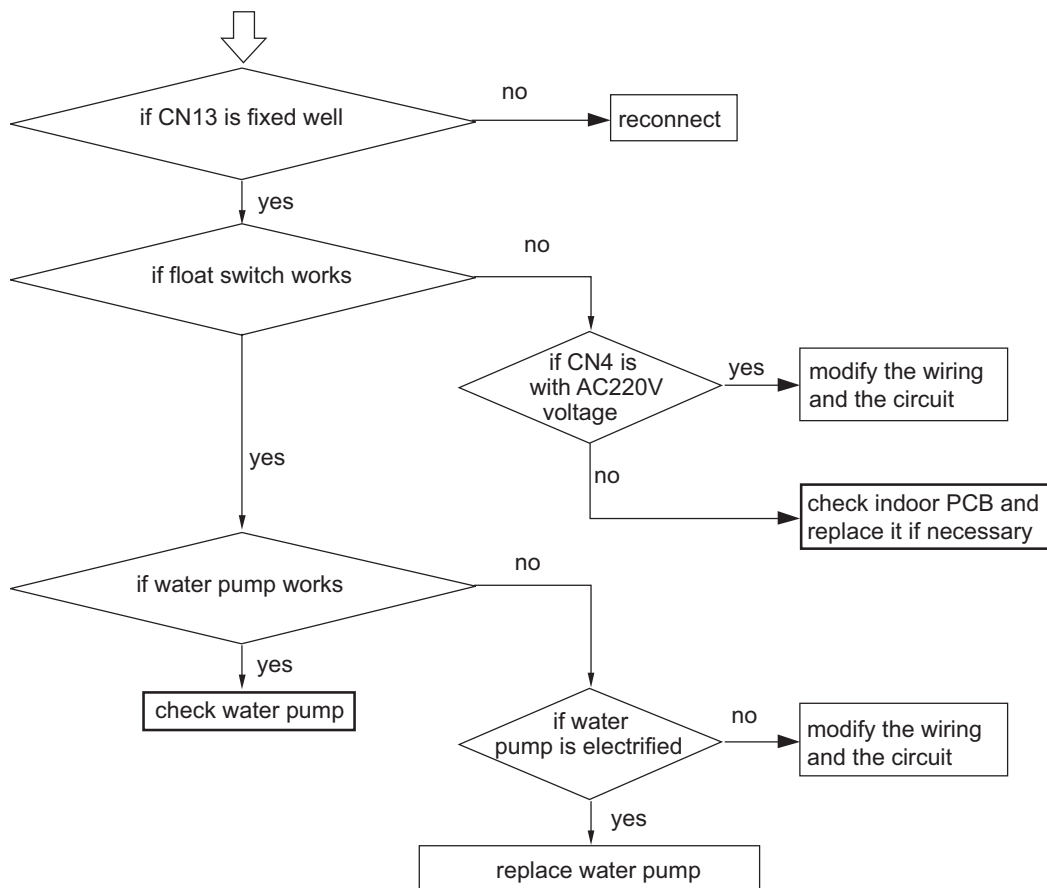
Note: When indoor units occur abnormal modes, the earlier entering mode will be prior, and the latter operated unit will be standby. If the unit is remote control type, the buzzer will sound twice, and the sent signal will not be received. It is not failure.

3. Failure diagnose

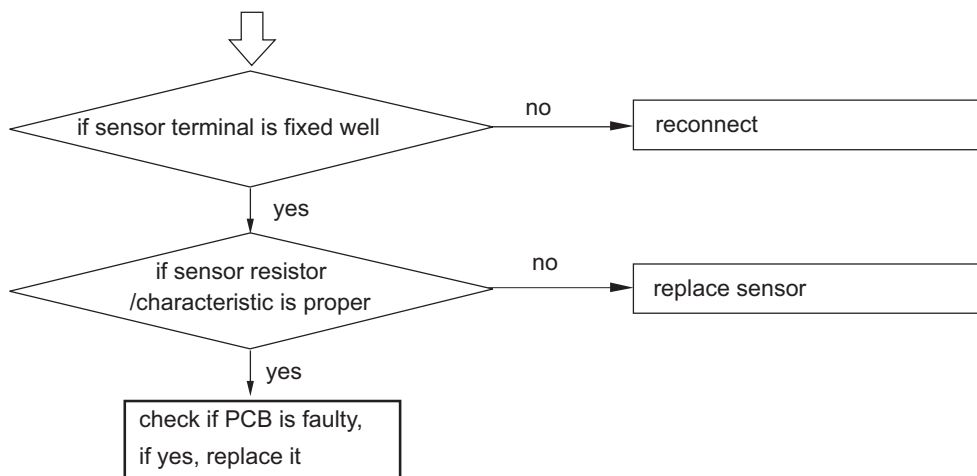
[46/82]communication between master unit connecting board and inverter board failure/communication between the slave unit and the connecting board failur(master unit connecting board: LED1,LED2; master unit inverter board: LED2,LED3; slave unit PCB: LED1,LED2; if they flash regularly, it is normal)



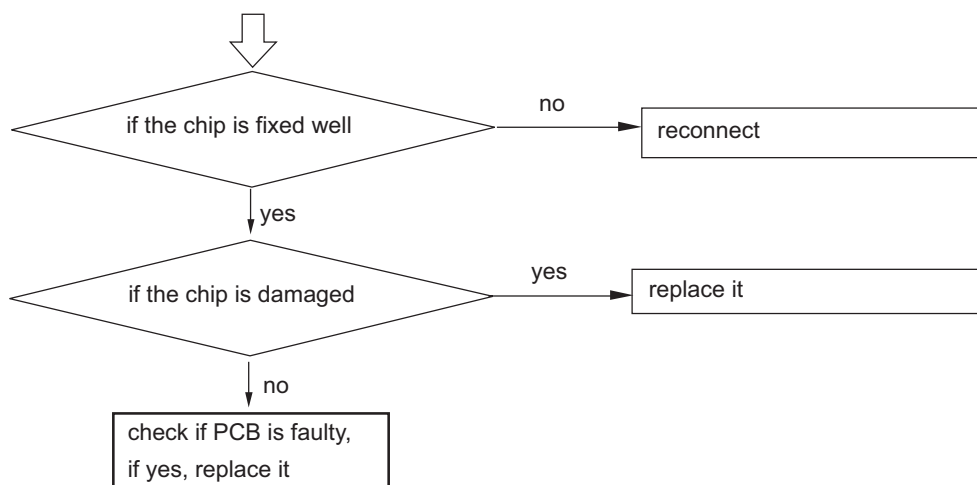
[08]indoor drainage system failure/float switch circuit on indoor PCB failure

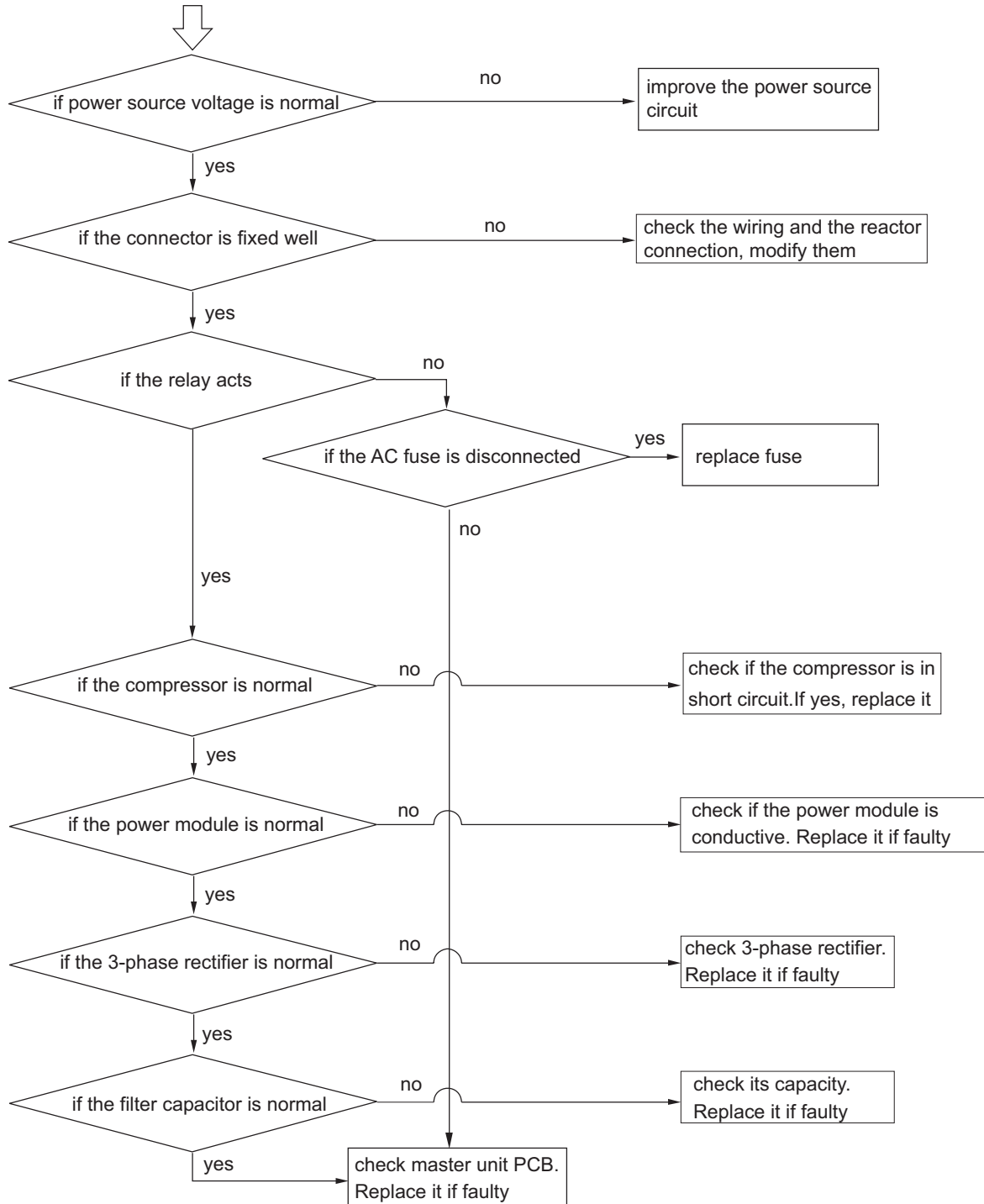


[01/02/03/04/20/21/22/23/24/73/74/75/76/77] sensor circuit

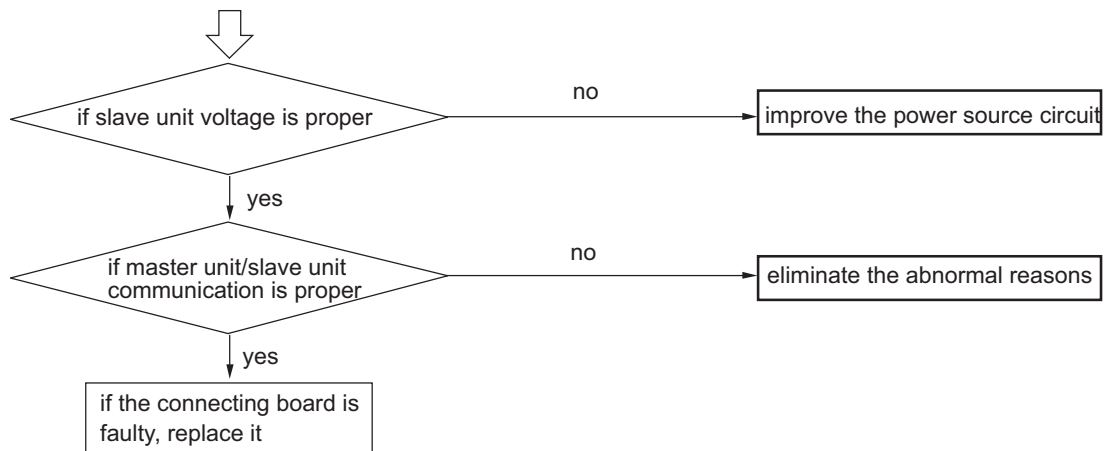


[05/33/49/81] indoor PCB/master unit connecting board/master unit inverter board/slave unit PCB EEPROM failure

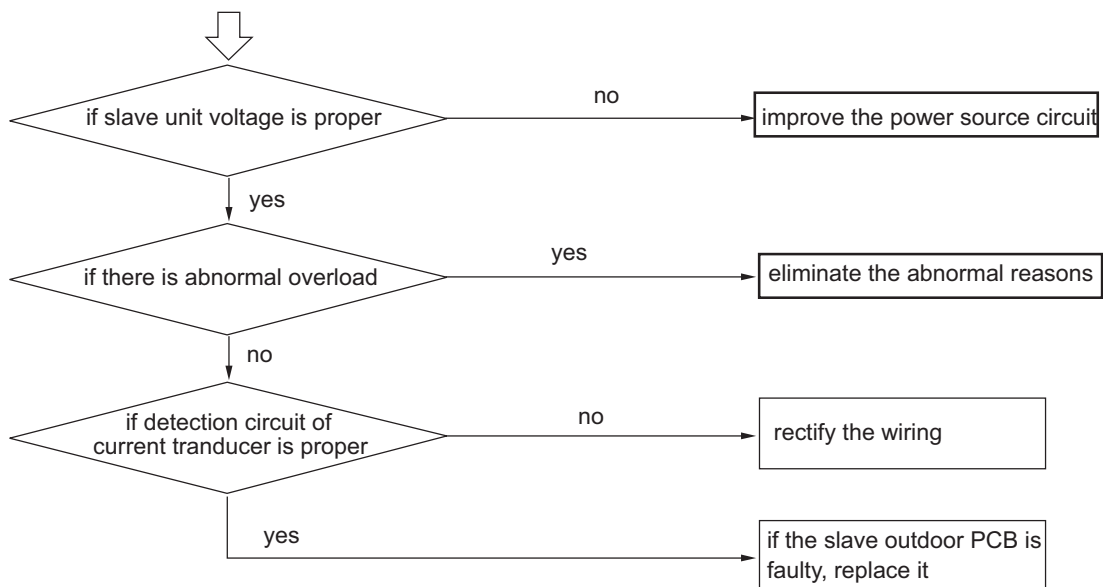




[69] slave unit is missing in operation



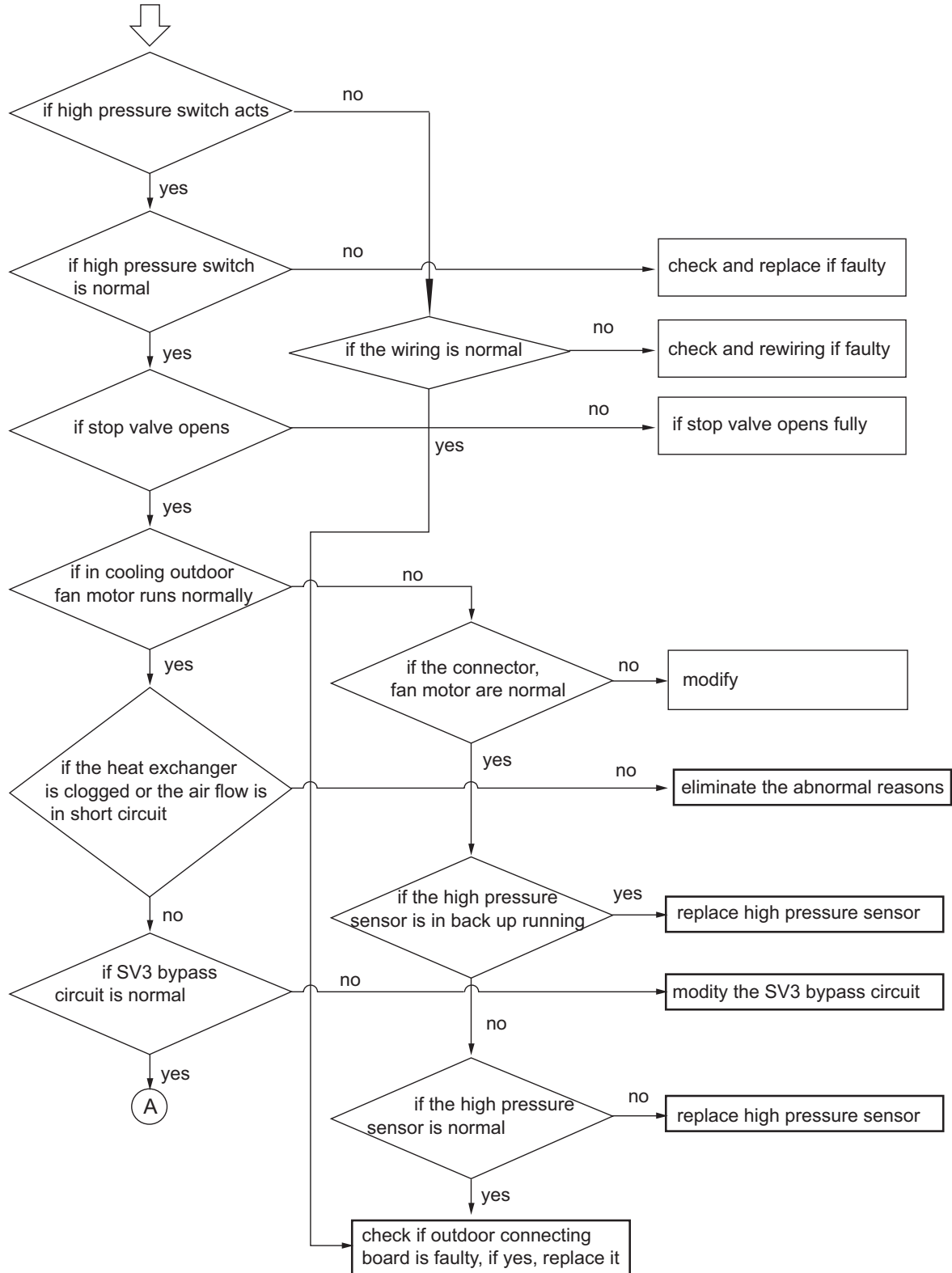
[72] fixed FQY compressor overcurrent protection



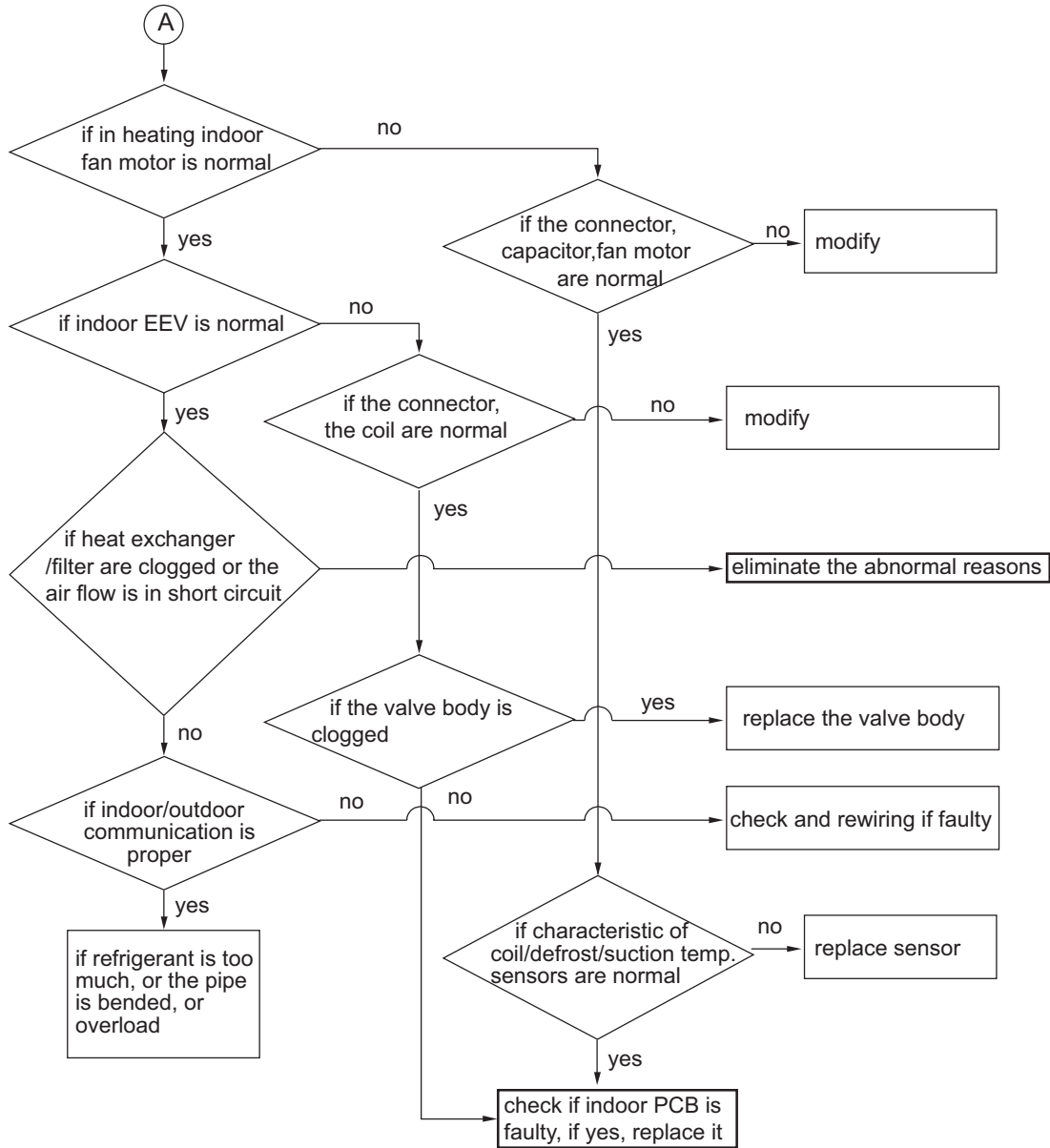
MRVII R22

[30/83] master unit/slave unit high pressure switch circuit

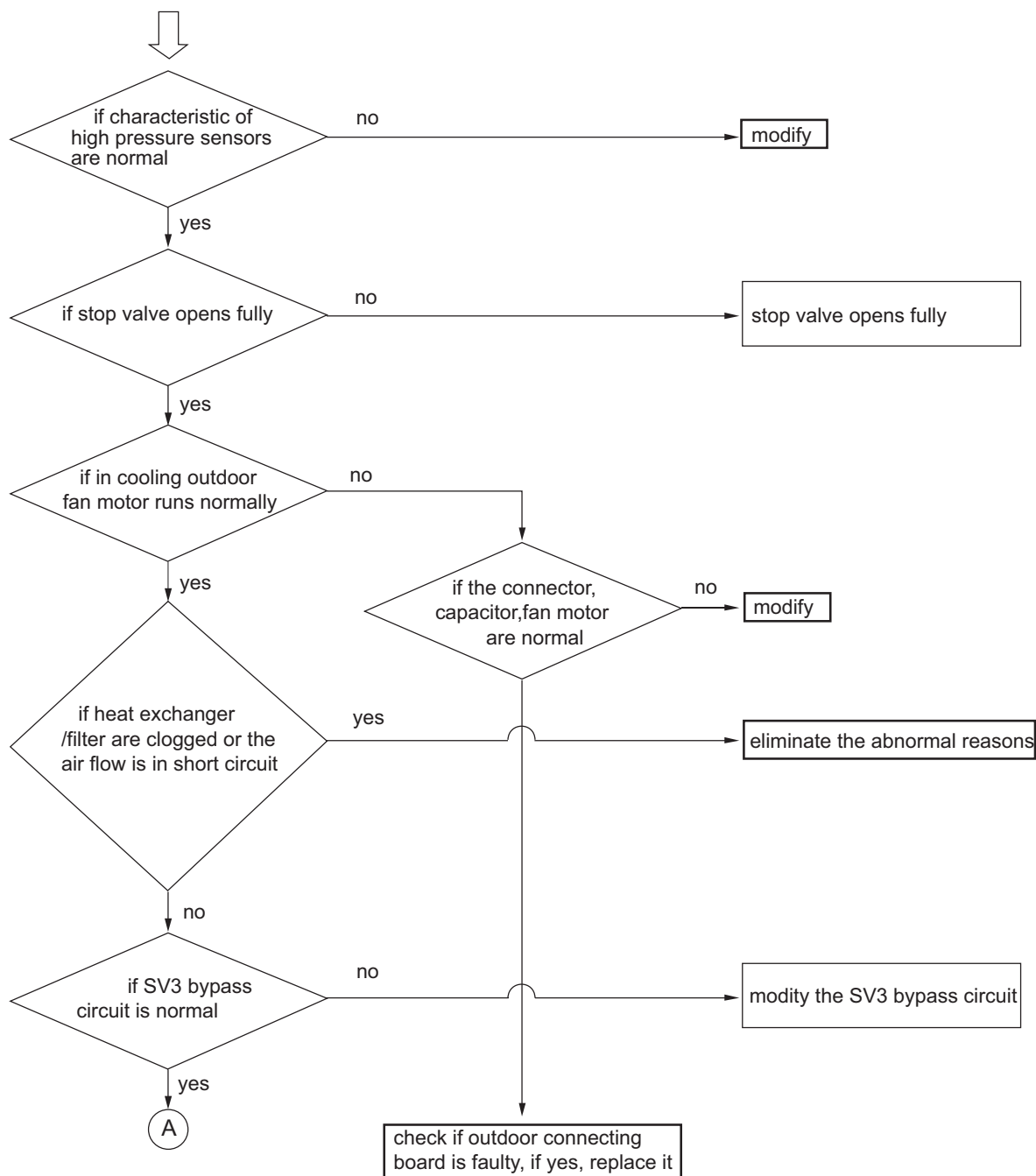
Haier



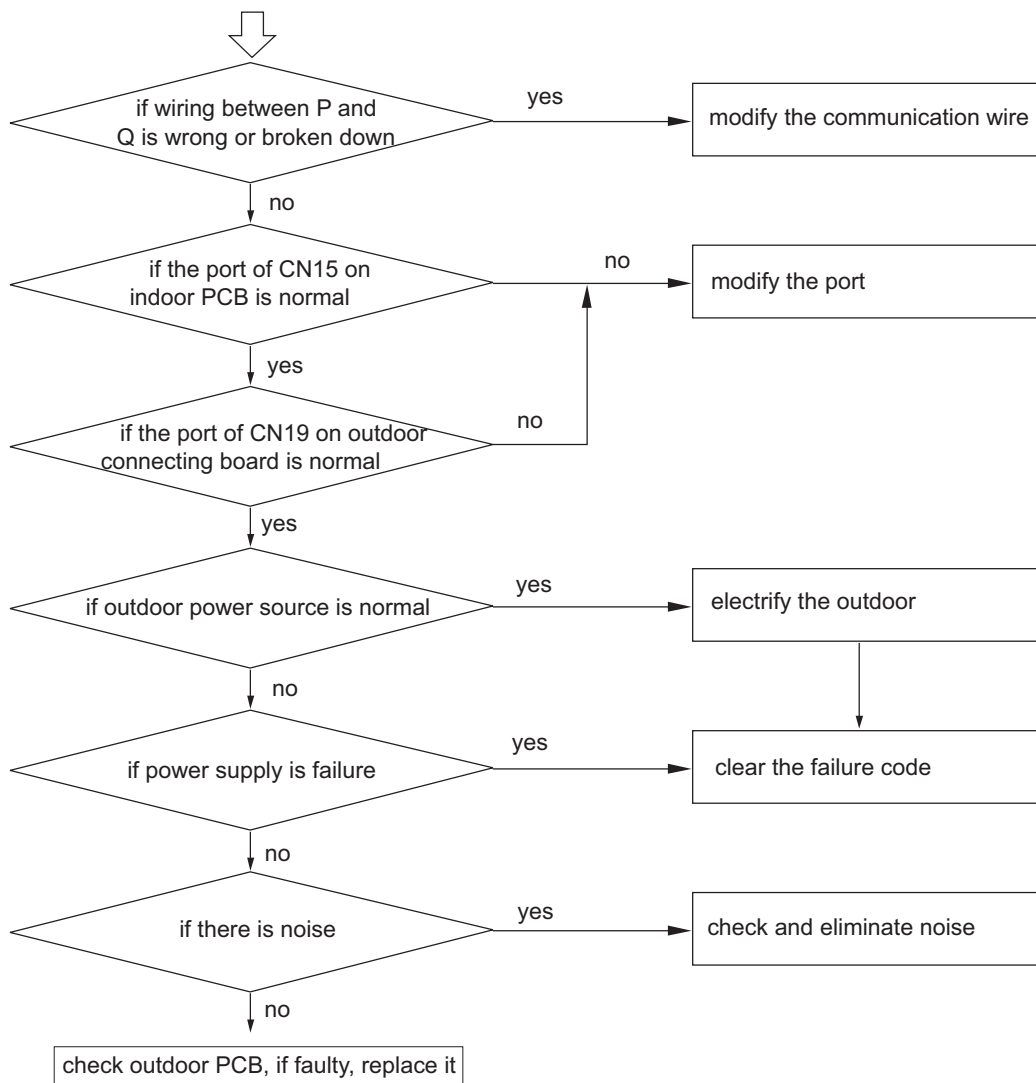
[31/38/84]master unit/slave unit high/low pressure switch circuit



[40] high pressure protection (Pd sensor)

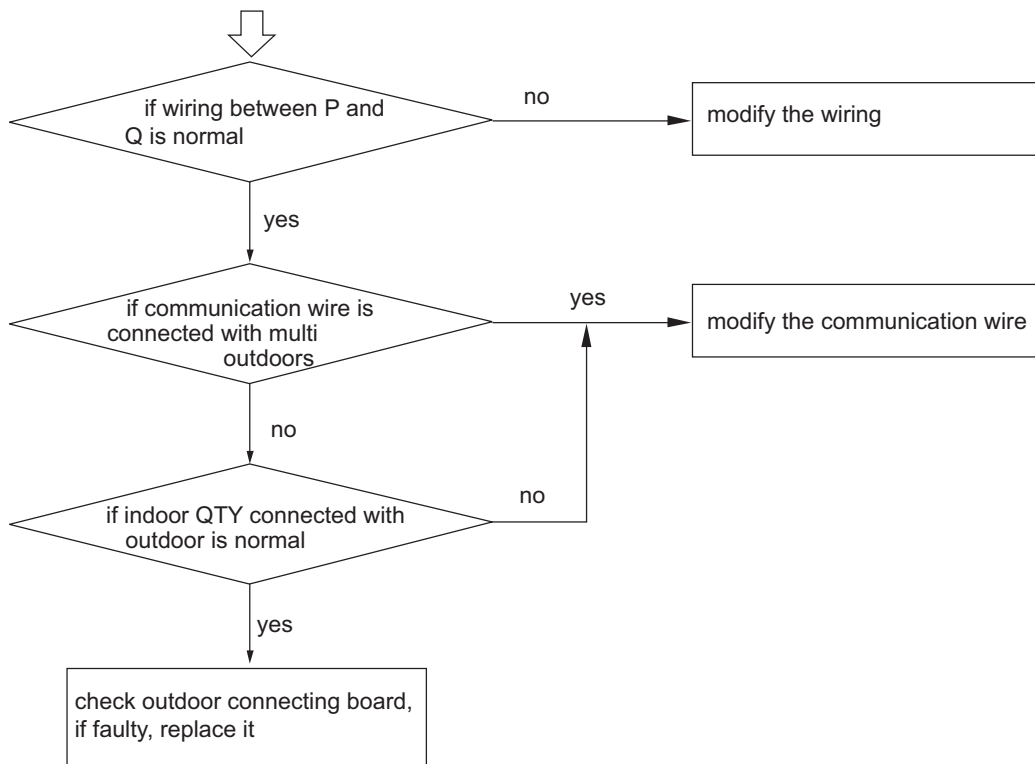


[44/06]communication circuit between indoor and outdoor (upper left on indoor PCB, LED3 and LED4 are indicators of indoor/outdoor communication, if normal, LED3 and LED4 will flash in turns.)

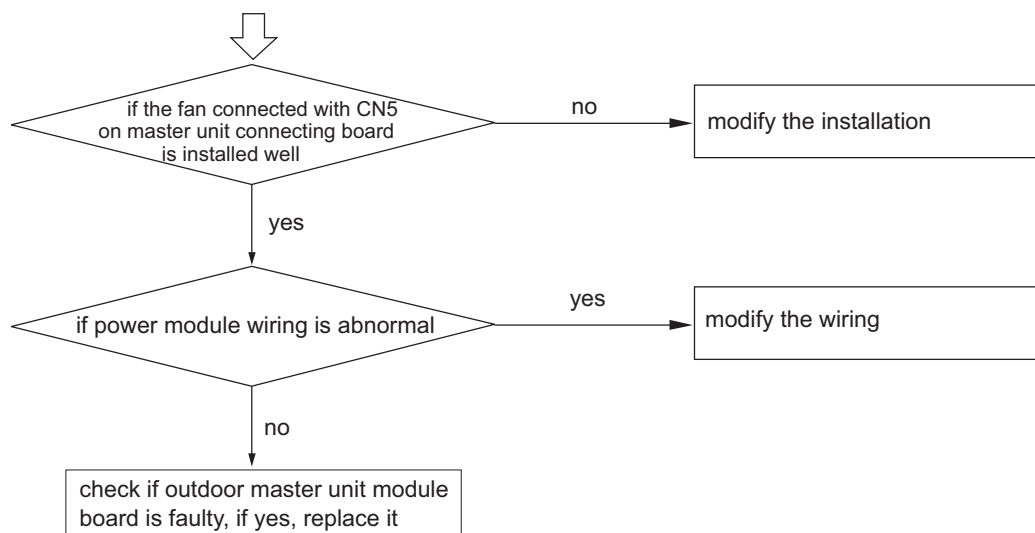


Note: if LED3, LED4 do not flash in turns, that shows LED is broken down or indoor/outdoor communication is abnormal. At this time, it will not always alarm.

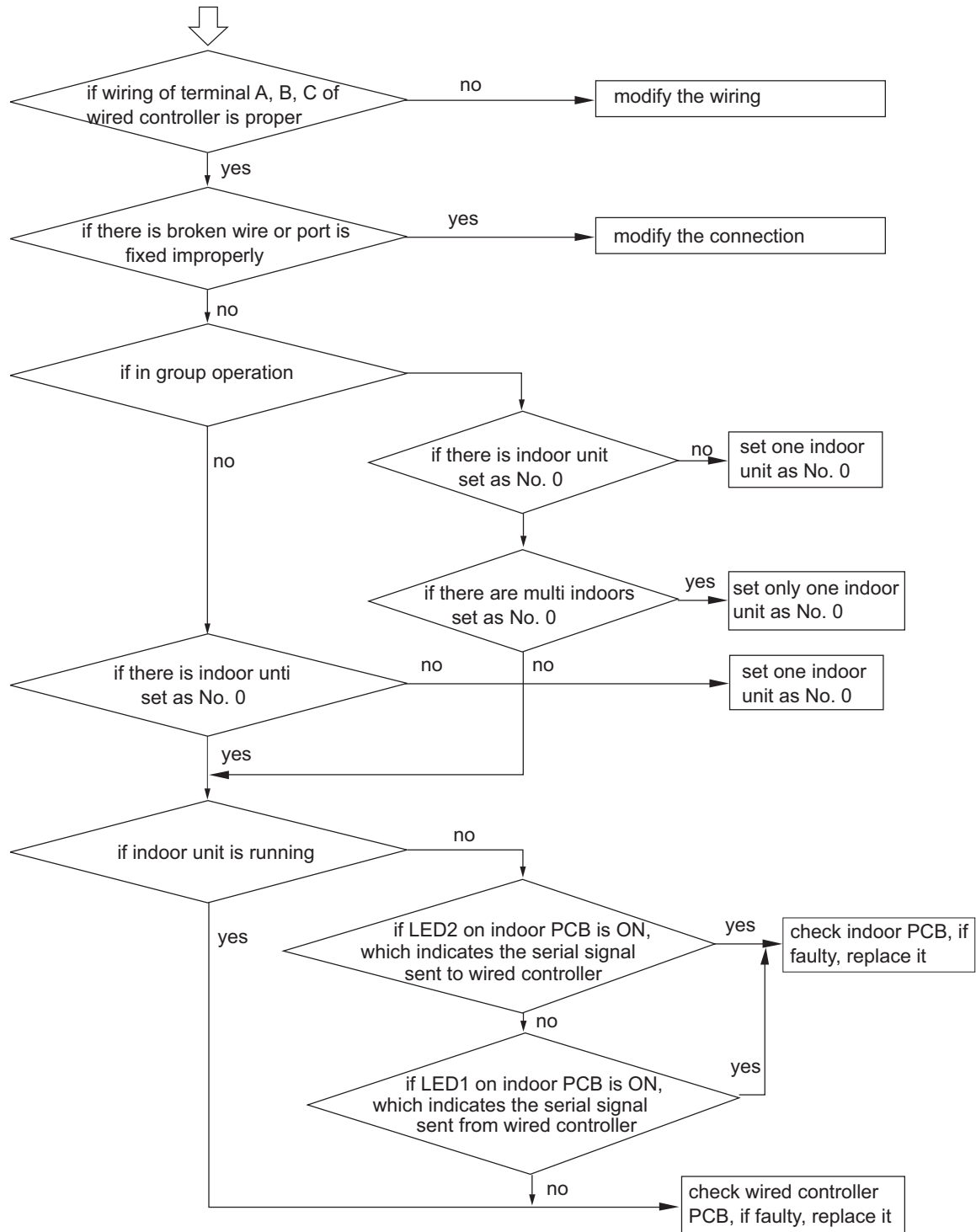
[09]indoor address repeated



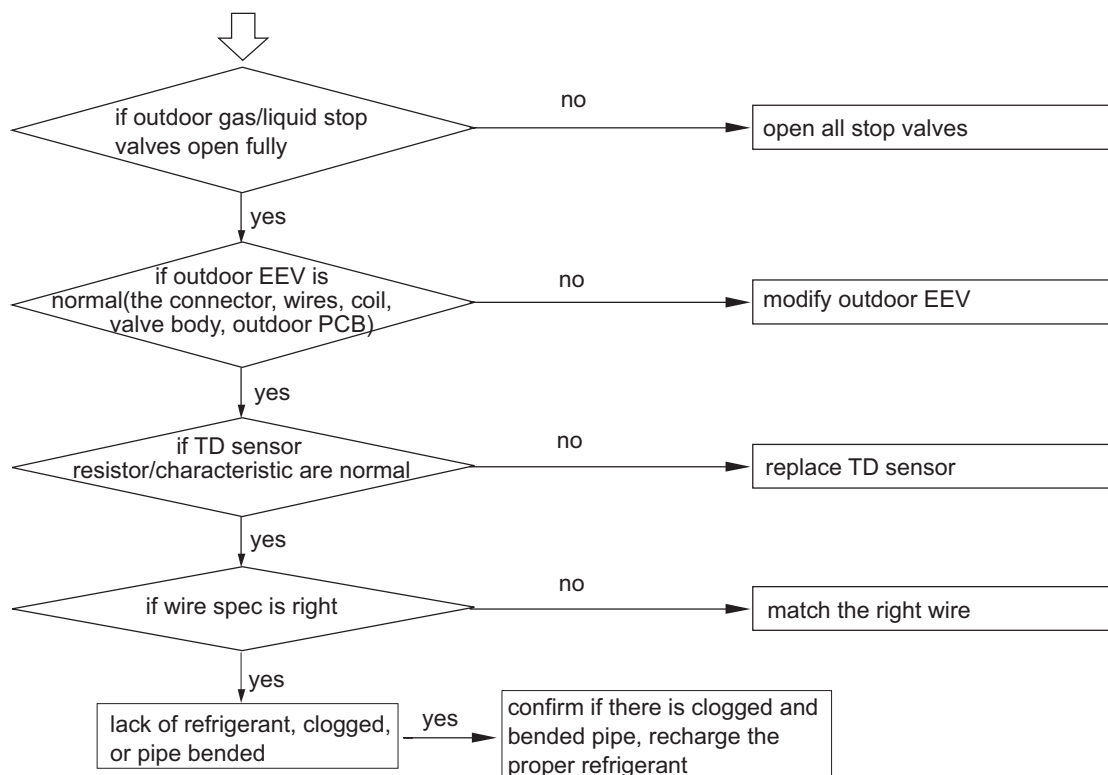
[32]master unit IPM (power module) alarms



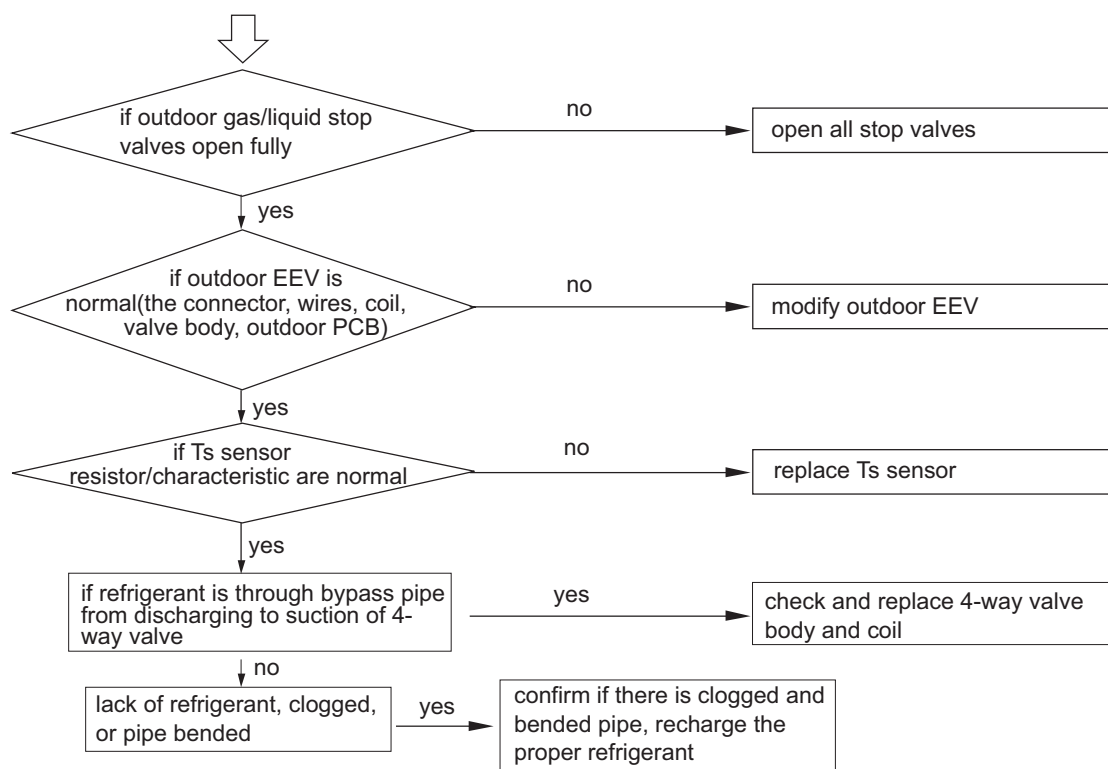
[07]communication abnormal between indoor and wired controller (upper left on indoor PCB, LED3 and LED4 are indicators of indoor/outdoor communication, if normal, LED3 and LED4 will flash in turns.)



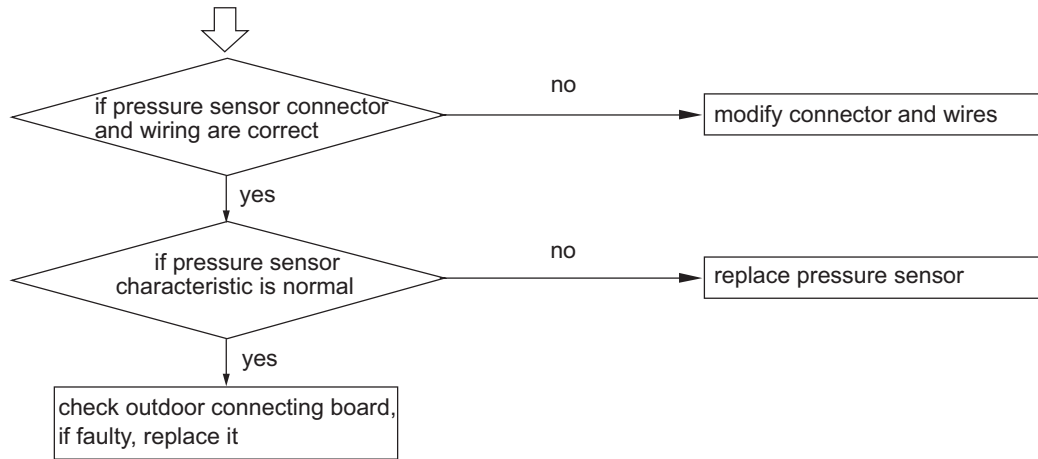
[34/80] discharging temp. (TD) protection acts



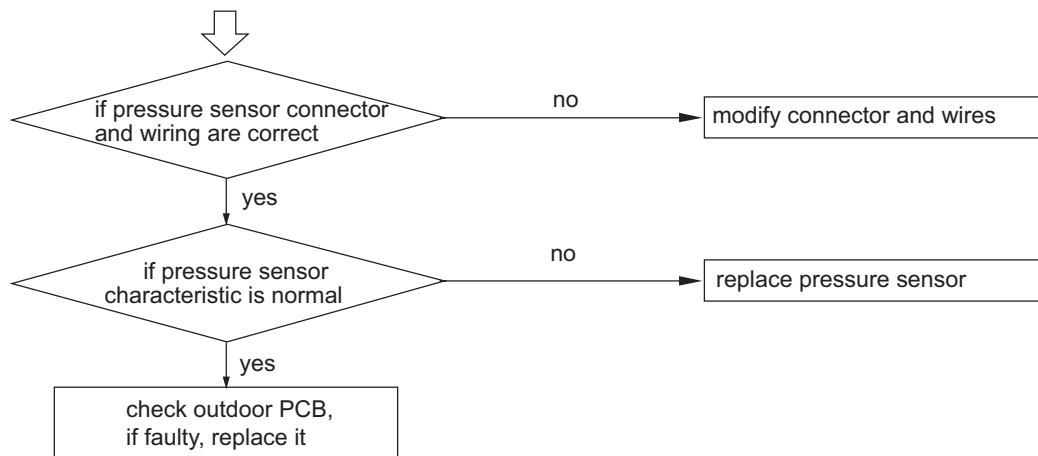
[41/85] suction temp. Ts protection acts



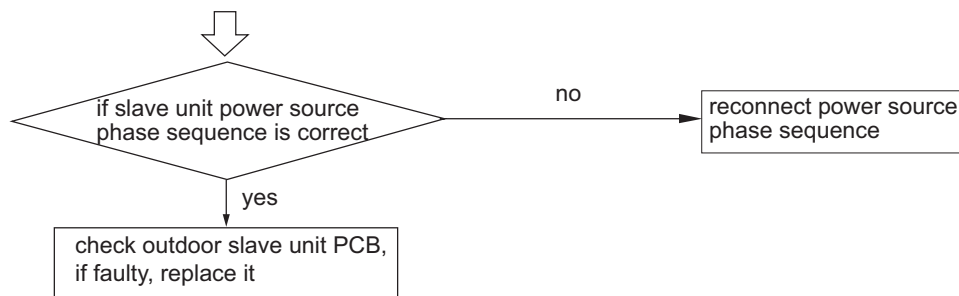
[28/29/38] high/low pressure sensor circuit



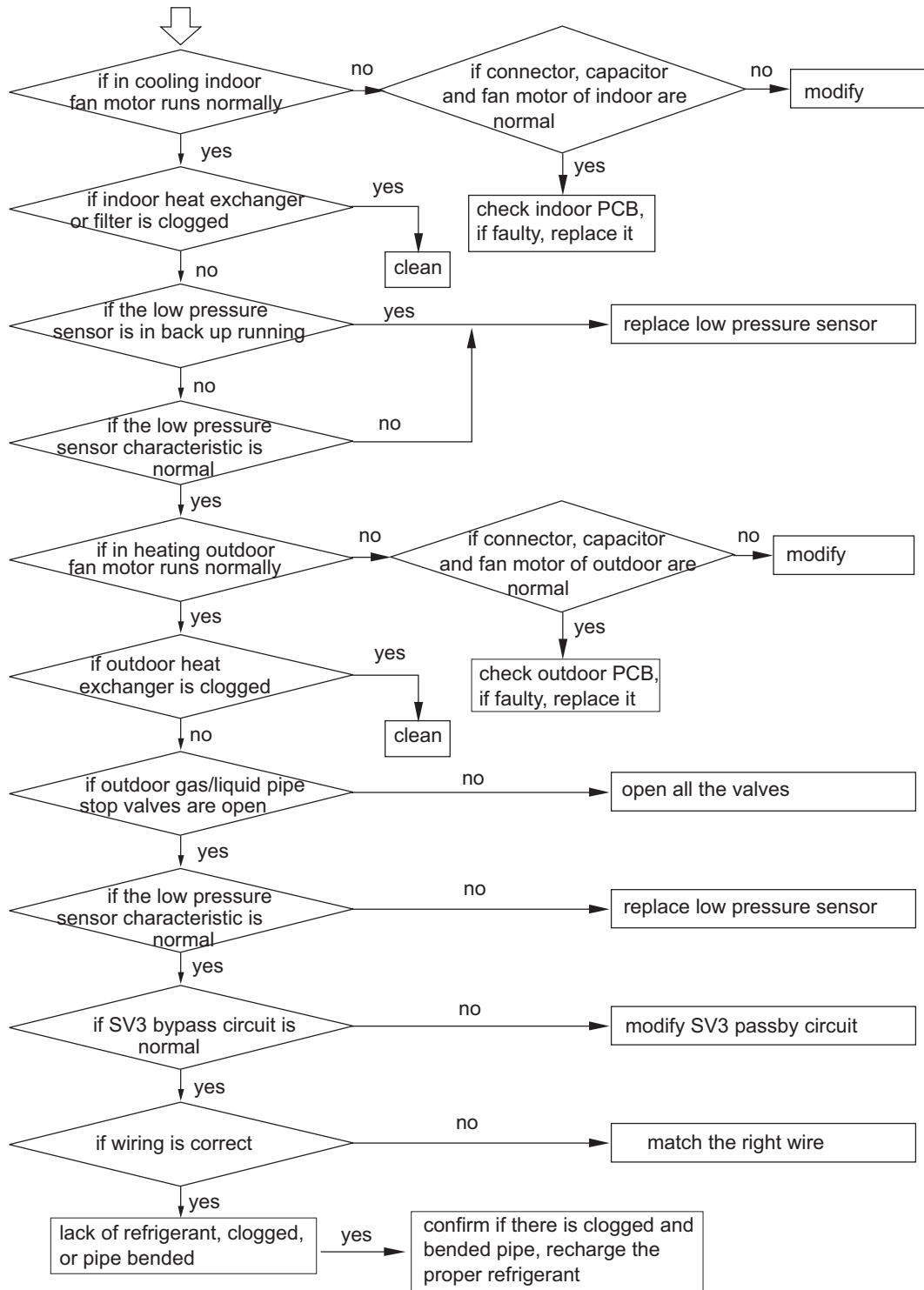
[37]faulty wiring for high/low pressure sensor Pd, Ps



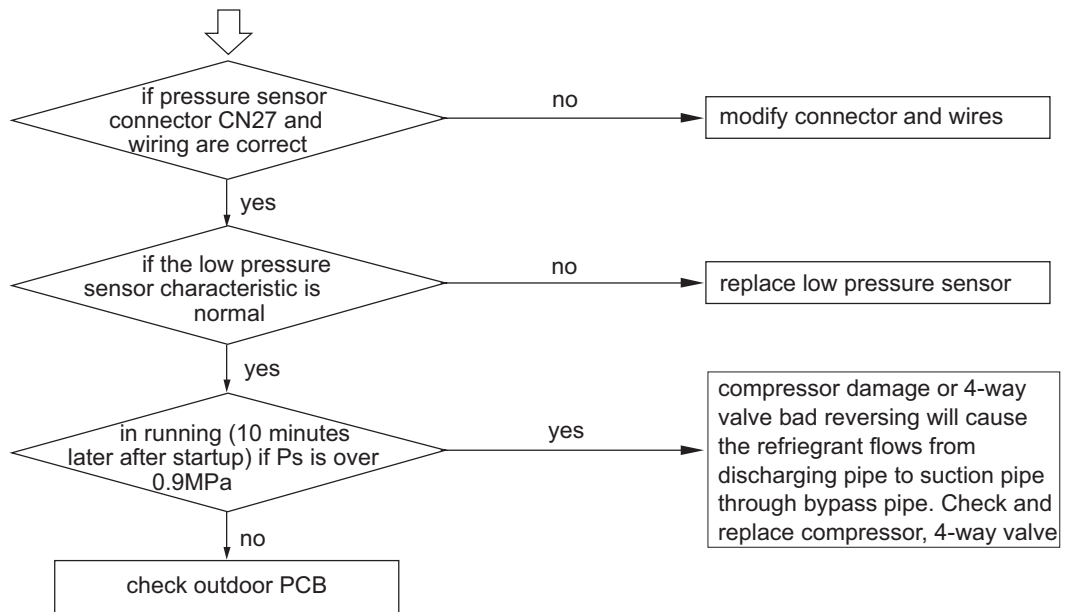
[71] incorrect phase sequence of outdoor slave unit



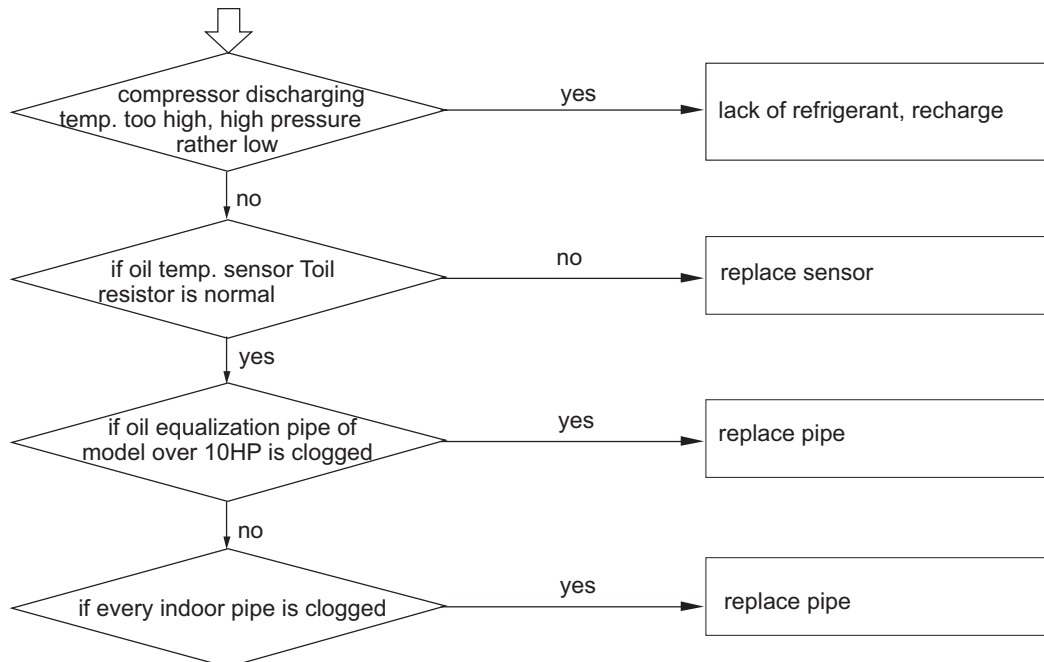
[39/31/38/84] low pressure protection acts



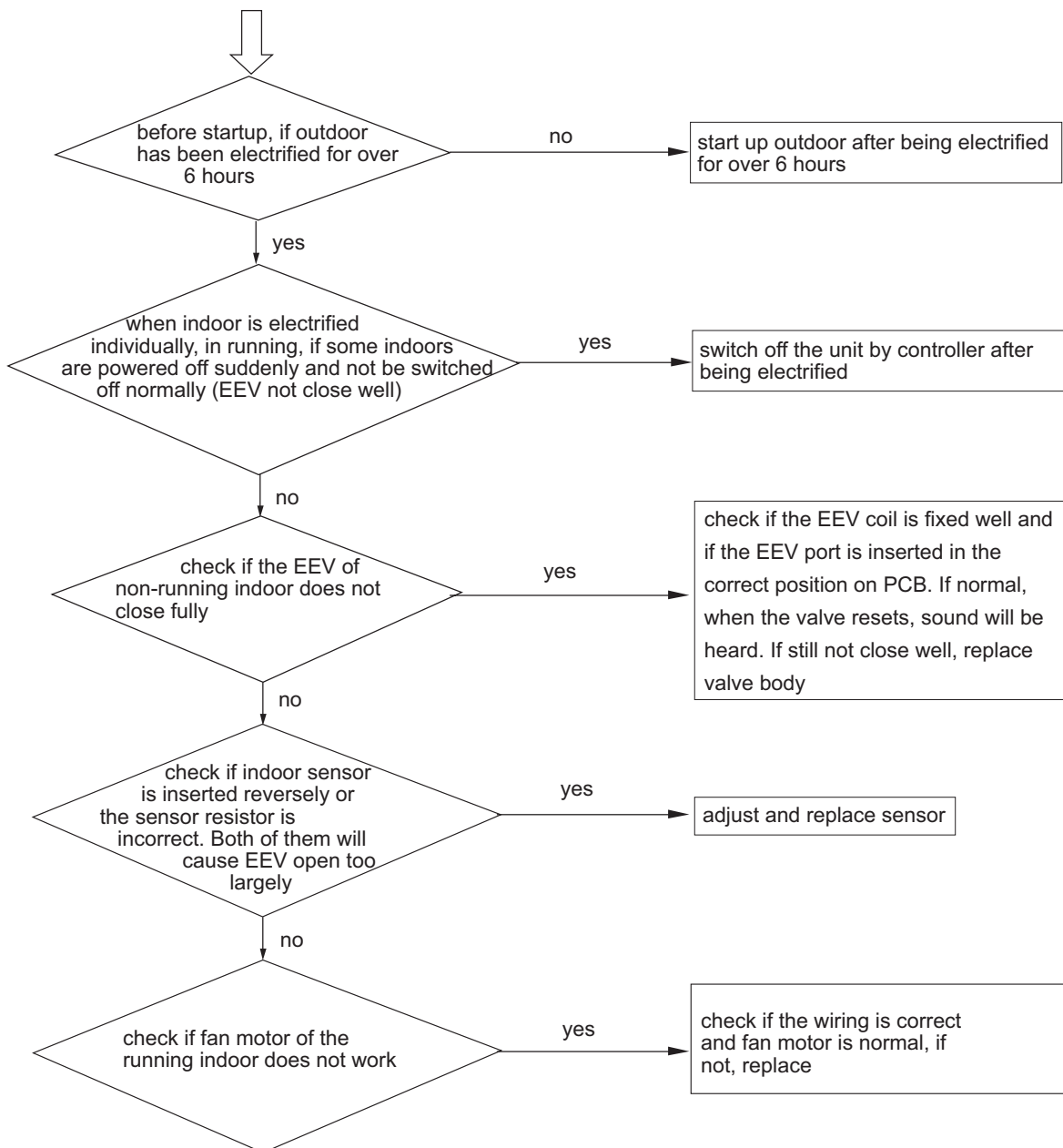
[22] low pressure sensor Ps circuit

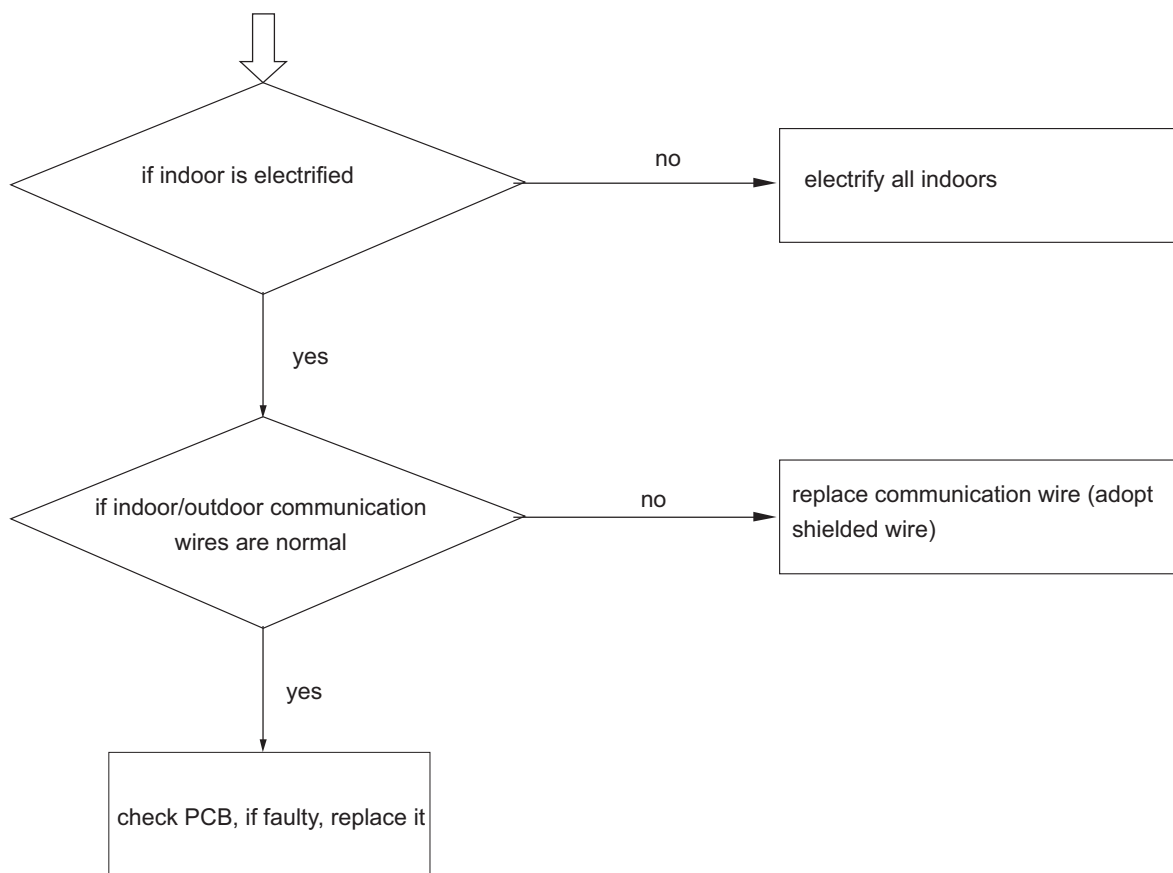


[27/86] oil temp. too high



[54/87] oil temp. too low





5.2 Sensor characteristic

1. Temp. sensor characteristic

No.	sensor type	characteristic
1	indoor coil/ outdoor suction/ oil temp./ defrost/ ambient temp. sensor	$R(25_i) = 10K_f$, $B(25_i / 50_i) = 3700K$
2	wired controller ambient temp./indoor ambient temp. sensor	$R(25_i) = 23K_f$, $B(25_i / 50_i) = 4200K$
3	outdoor discharging temp. sensor	$R(80_i) = 50K_f$, $B(25_i / 80_i) = 4450K$

Herein, the sensor typical resistor is as follows:

(1) $R(25_i) = 10K_f$, $B(25_i / 50_i) = 3700K$

temp. sensor			
temp.(i)	resistor(K_f)	temp.(i)	resistor(K_f)
- 10	51.8	60	2.660
- 5	39.55	65	2.223
0	30.88	70	1.912
5	24.30	75	1.630
10	19.20	80	1.395
15	15.38	85	1.200
20	12.36	90	1.035
25	10.00	95	0.8967
30	8.141	100	0.7796
35	6.668	105	0.6802
40	5.492	110	0.5955
45	4.549	- 15	66.53
50	3.788	- 20	87.42
55	3.170	- 25	116.0

(2) $R(25_i) = 23K_f$, $B(25_i / 50_i) = 4200K$

temp. sensor			
temp.(i)	resistor(K _f)	temp.(i)	resistor(K _f)
- 10	139.5	60	5.243
- 5	105.3	65	4.336
0	80.14	70	3.603
5	61.51	75	3.008
10	47.58	80	2.522
15	35.36	- 20	251.8
20	27.93	- 19	235.9
25	23.00	- 18	223.1
30	18.30	- 17	210.1
35	14.65	- 16	197.9
40	11.79	- 15	186.5
45	9.556	- 14	176.9
50	7.780	- 13	165.9
55	6.371	- 12	156.5

(3) $R(80_i) = 50K_f$, $B(25_i / 80_i) = 4450K$

temp. sensor			
temp.(i)	resistor(K _f)	temp.(i)	resistor(K _f)
15	878.5	85	41.5
20	621.4	90	34.8
25	599.9	95	29.6
30	398.6	100	25.0
40	246.4	105	21.7
50	160.4	110	18.7
60	105.3	115	16.0
70	72.1	120	13.8
75	59.5	125	11.9
80	49.3	130	10.3

2. High pressure sensor

0-9.8kgf/cm² (0-9.8kgf/cm²;0.5-3.5 output)
 outdoor voltage of CN27 (W)-(B)-(B) connected to end of multimeter

VOUT	Pd	VOUT	Pd	VOUT	Pd	VOUT	Pd	VOUT	Pd
0.500	0.00	1.216	7.01	1.922	13.93	2.625	20.81	3.326	27.68
0.517	0.17	1.234	7.19	1.937	14.07	2.638	20.94	3.340	27.82
0.532	0.31	1.248	7.33	1.950	14.20	2.652	21.08	3.355	27.96
0.546	0.45	1.262	7.46	1.964	14.34	2.667	21.22	3.369	28.10
0.560	0.59	1.276	7.60	1.978	14.48	2.681	21.36	3.382	28.23
0.574	0.72	1.290	7.74	1.993	14.62	2.694	21.49	3.397	28.37
0.588	0.86	1.305	7.88	2.006	14.75	2.708	21.63	3.411	28.51
0.602	1.00	1.318	8.01	2.020	14.89	2.723	21.77	3.425	28.65
0.616	1.14	1.332	8.15	2.035	15.03	2.737	21.91	3.438	28.78
0.630	1.27	1.346	8.29	2.049	15.17	2.750	22.04	3.453	28.92
0.644	1.41	1.361	8.43	2.062	15.30	2.765	22.18	3.467	29.06
0.658	1.55	1.374	8.56	2.076	15.44	2.779	22.32	3.481	29.20
0.673	1.69	1.388	8.70	2.091	15.58	2.793	22.46	3.495	29.33
0.686	1.82	1.403	8.84	2.105	15.72	2.806	22.59	3.509	29.47
0.700	1.96	1.417	8.98	2.118	15.85	2.821	22.73	3.523	29.61
0.714	2.10	1.430	9.11	2.133	15.99	2.835	22.87	3.538	29.75
0.729	2.24	1.444	9.25	2.147	16.13	2.849	23.01	3.551	29.88
0.743	2.38	1.459	9.39	2.161	16.27	2.863	23.14	3.565	30.02
0.756	2.51	1.473	9.53	2.174	16.40	2.877	23.28	3.579	30.16
0.771	2.65	1.486	9.66	2.189	16.54	2.891	23.42	3.594	30.30
0.785	2.79	1.501	9.80	2.203	16.68	2.906	23.56	3.607	30.43
0.812	3.06	1.515	9.94	2.217	16.82	2.919	23.69	3.621	30.57
0.827	3.20	1.529	10.08	2.231	16.95	2.933	23.83	3.636	30.71
0.841	3.34	1.543	10.22	2.245	17.09	2.947	23.97	3.650	30.85
0.855	3.48	1.557	10.35	2.259	17.23	2.962	24.11	3.663	30.98
0.869	3.61	1.571	10.49	2.274	17.37	2.975	24.24	3.677	31.12
0.883	3.75	1.585	10.63	2.287	17.50	2.989	24.38	3.692	31.26
0.897	3.89	1.600	10.77	2.301	17.64	3.004	24.52	3.706	31.40
0.911	4.03	1.613	10.90	2.315	17.78	3.018	24.66	3.719	31.53
0.925	4.16	1.627	11.04	2.330	17.92	3.031	24.79	3.734	31.67
0.939	4.30	1.642	11.18	2.344	18.06	3.045	24.93	3.748	31.81
0.953	4.44	1.656	11.32	2.357	18.19	3.060	25.07	3.762	31.95
0.968	4.58	1.669	11.45	2.372	18.33	3.074	25.21	3.776	32.09
0.981	4.71	1.683	11.59	2.386	18.47	3.087	25.34	3.791	32.23
0.995	4.85	1.698	11.73	2.400	18.61	3.102	25.48	3.805	32.37
1.009	4.99	1.712	11.87	2.413	18.74	3.116	25.62	3.819	32.51
1.024	5.13	1.725	12.00	2.428	18.88	3.130	25.76	3.834	32.65
1.037	5.26	1.740	12.14	2.442	19.02	3.144	25.90	3.848	32.79
1.051	5.40	1.754	12.28	2.456	19.16	3.158	26.03	3.862	32.93
1.066	5.54	1.768	12.42	2.470	19.29	3.172	26.17	3.877	33.07
1.077	5.65	1.781	12.55	2.484	19.43	3.186	26.31	3.891	33.21
1.093	5.81	1.796	12.69	2.498	19.57	3.201	26.45	3.900	33.30
1.108	5.95	1.810	12.83	2.512	19.71	3.214	26.58		
1.122	6.09	1.824	12.97	2.526	19.84	3.228	26.72		
1.136	6.23	1.838	13.10	2.540	19.98	3.242	26.86		
1.149	6.36	1.852	13.24	2.554	20.12	3.257	27.00		
1.164	6.50	1.866	13.38	2.569	20.26	3.270	27.13		
1.178	6.64	1.880	13.52	2.582	20.39	3.284	27.27		
1.192	6.78	1.894	13.65	2.596	20.53	3.299	27.41		
1.206	6.91	1.908	13.79	2.610	20.67	3.313	27.55		

3. Low pressure sensor

0-9.8kgf/cm² (0-9.8kgf/cm²;0.5-3.5 output)
 outdoor voltage of CN27 (W)-(B)-(B) connected to end of multimeter

VOUT	Ps	VOUT	Ps	VOUT	Ps	VOUT	Ps	VOUT	Ps
0.500	0.00	1.204	2.30	1.908	4.60	2.609	6.89	3.310	9.18
0.503	0.01	1.219	2.35	1.920	4.64	2.624	6.94	3.326	9.23
0.518	0.06	1.238	2.41	1.936	4.69	2.637	6.98	3.338	9.27
0.531	0.10	1.247	2.44	1.948	4.73	2.652	7.03	3.353	9.32
0.546	0.15	1.262	2.49	1.963	4.78	2.664	7.07	3.368	9.37
0.561	0.20	1.274	2.53	1.979	4.83	2.680	7.12	3.381	9.41
0.573	0.24	1.290	2.58	1.991	4.87	2.692	7.16	3.396	9.46
0.589	0.29	1.305	2.63	2.006	4.92	2.707	7.21	3.408	9.50
0.601	0.33	1.317	2.67	2.018	4.96	2.722	7.26	3.423	9.55
0.616	0.38	1.333	2.72	2.034	5.01	2.735	7.30	3.436	9.59
0.629	0.42	1.345	2.76	2.049	5.06	2.750	7.35	3.451	9.64
0.644	0.47	1.360	2.81	2.061	5.10	2.762	7.39	3.466	9.69
0.659	0.52	1.372	2.85	2.077	5.15	2.778	7.44	3.479	9.73
0.671	0.56	1.388	2.9	2.089	5.19	2.793	7.49	3.494	9.78
0.687	0.61	1.403	2.95	2.104	5.24	2.805	7.53	3.500	9.80
0.699	0.65	1.415	2.99	2.116	5.28	2.820	7.58		
0.714	0.70	1.431	3.04	2.132	5.33	2.833	7.62		
0.730	0.75	1.443	3.08	2.147	5.38	2.848	7.67		
0.742	0.79	1.458	3.13	2.159	5.42	2.860	7.71		
0.757	0.84	1.473	3.18	2.174	5.47	2.876	7.76		
0.769	0.88	1.486	3.22	2.187	5.51	2.891	7.81		
0.785	0.93	1.501	3.27	2.202	5.56	2.903	7.85		
0.812	1.02	1.513	3.31	2.217	5.61	2.918	7.90		
0.828	1.07	1.529	3.36	2.230	5.65	2.931	7.94		
0.840	1.11	1.544	3.41	2.245	5.70	2.946	7.99		
0.855	1.16	1.556	3.45	2.257	5.74	2.961	8.04		
0.867	1.20	1.571	3.5	2.272	5.79	2.973	8.08		
0.883	1.25	1.584	3.54	2.285	5.83	2.989	8.13		
0.898	1.30	1.599	3.59	2.300	5.88	3.001	8.17		
0.910	1.34	1.611	3.63	2.315	5.93	3.016	8.22		
0.926	1.39	1.627	3.68	2.328	5.97	3.029	8.26		
0.938	1.43	1.642	3.73	2.343	6.02	3.044	8.31		
0.950	1.47	1.654	3.77	2.355	6.06	3.059	8.36		
0.953	1.48	1.669	3.82	2.370	6.11	3.071	8.40		
0.968	1.53	1.682	3.86	2.386	6.16	3.087	8.45		
0.981	1.57	1.697	3.91	2.398	6.20	3.099	8.49		
0.996	1.62	1.712	3.96	2.413	6.25	3.114	8.54		
1.008	1.66	1.724	4.00	2.426	6.29	3.13	8.59		
1.023	1.71	1.74	4.05	2.441	6.34	3.142	8.63		
1.051	1.80	1.752	4.09	2.456	6.39	3.157	8.68		
1.066	1.85	1.767	4.14	2.468	6.43	3.169	8.72		
1.079	1.89	1.78	4.18	2.484	6.48	3.185	8.77		
1.094	1.94	1.795	4.23	2.496	6.52	3.20	8.82		
1.106	1.98	1.81	4.28	2.511	6.57	3.212	8.86		
1.121	2.03	1.822	4.32	2.523	6.61	3.228	8.91		
1.137	2.08	1.838	4.37	2.539	6.66	3.24	8.95		
1.149	2.12	1.85	4.41	2.554	6.71	3.255	9.00		
1.164	2.17	1.865	4.46	2.566	6.75	3.267	9.04		
1.177	2.21	1.881	4.51	2.582	6.80	3.283	9.09		
1.192	2.26	1.893	4.55	2.594	6.84	3.298	9.14		

1. Saturated R22 thermodynamic characteristic

t	p	v'	v''	p'	p''	h	h''	t	s'	s''	t	p	v'	v''	p'	p''	h	h''	t	s'	s''
i	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/dm ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK	i	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/dm ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK
-60	0.38	0.683	537.90	1.464	1.860	132.40	378.06	245.66	0.7227	1.8752	20	9.08	0.824	26.06	1.214	38.38	224.19	411.13	186.94	1.0643	1.7220
-59	0.40	0.684	510.19	1.461	1.960	133.45	378.56	245.11	0.7276	1.8722	21	9.33	0.826	25.33	1.210	39.47	225.42	411.39	185.96	1.0884	1.7206
-58	0.42	0.686	484.18	1.458	2.070	134.51	379.06	244.56	0.7326	1.8692	22	9.59	0.829	24.63	1.206	40.59	226.65	411.64	184.99	1.0925	1.7193
-57	0.45	0.687	459.75	1.456	2.180	135.57	379.57	244.00	0.7375	1.8663	23	9.86	0.832	23.96	1.203	41.74	227.87	411.89	184.02	1.0966	1.7179
-56	0.47	0.688	436.79	1.453	2.290	136.63	380.07	243.43	0.7424	1.8634	24	10.13	0.834	23.31	1.199	42.91	229.10	412.13	183.03	1.1007	1.7166
-55	0.50	0.690	415.19	1.450	2.410	137.70	380.57	242.87	0.7473	1.8606	25	10.41	0.837	22.67	1.195	44.11	230.34	412.37	182.03	1.1047	1.7153
-54	0.52	0.691	394.87	1.447	2.530	138.77	381.07	242.29	0.7522	1.8578	26	10.69	0.840	22.06	1.191	45.33	231.56	412.60	181.04	1.1087	1.7139
-53	0.55	0.692	375.73	1.445	2.660	139.84	381.56	241.72	0.7570	1.8550	27	10.98	0.842	21.46	1.187	46.59	232.79	412.83	180.03	1.1128	1.7126
-52	0.56	0.694	367.71	1.442	2.800	140.92	382.06	241.14	0.7619	1.8523	28	11.27	0.845	20.89	1.183	47.88	234.03	413.04	179.01	1.1168	1.7112
-51	0.61	0.695	340.72	1.439	2.940	142.00	382.56	240.55	0.7668	1.8496	29	11.57	0.848	20.33	1.179	49.2	235.27	413.26	177.98	1.1208	1.7099
-50	0.65	0.696	324.69	1.436	3.08	143.08	383.05	239.97	0.7716	1.8470	30	11.88	0.851	19.79	1.175	50.54	236.50	413.47	176.97	1.1248	1.7086
-49	0.68	0.698	309.57	1.433	3.23	144.17	383.54	239.37	0.7765	1.8444	31	12.19	0.854	19.26	1.171	51.92	237.74	413.67	175.93	1.1288	1.7072
-48	0.72	0.699	295.29	1.431	3.39	145.26	384.03	238.78	0.7813	1.8418	32	12.51	0.857	18.76	1.167	53.33	238.99	413.86	174.87	1.1328	1.7059
-47	0.75	0.700	281.00	1.428	3.55	146.25	384.52	238.17	0.7861	1.8393	33	12.83	0.860	18.25	1.163	54.78	240.23	414.05	173.82	1.1368	1.7045
-46	0.79	0.702	269.05	1.425	3.72	147.44	385.01	237.57	0.7909	1.8366	34	13.16	0.863	17.77	1.159	56.26	241.48	414.23	172.75	1.1408	1.7032
-45	0.83	0.703	257.24	1.422	3.89	148.34	385.52	237.18	0.7949	1.8344	35	13.49	0.866	17.31	1.155	57.78	242.73	414.40	171.67	1.1447	1.7018
-44	0.87	0.705	245.82	1.419	4.07	149.44	386.00	236.57	0.7997	1.8320	36	13.84	0.869	16.86	1.150	59.33	243.98	414.57	170.59	1.1487	1.7005
-43	0.91	0.706	235.01	1.416	4.26	150.54	386.49	235.95	0.8044	1.8296	37	14.18	0.873	16.42	1.146	60.92	245.23	414.73	169.50	1.1526	1.6991
-42	0.96	0.707	224.78	1.414	4.45	151.65	386.97	235.32	0.8092	1.8273	38	14.54	0.876	15.99	1.142	62.54	246.49	414.88	168.39	1.1566	1.6978
-41	1.01	0.709	215.08	1.411	4.65	152.75	387.45	234.7	0.8140	1.8250	39	14.90	0.879	15.57	1.137	64.21	247.75	415.03	167.28	1.1605	1.6964
-40	1.05	0.710	205.88	1.408	4.86	153.86	387.93	234.07	0.8187	1.8227	40	15.27	0.883	15.17	1.133	65.91	249.01	415.17	166.16	1.1644	1.6951
-39	1.10	0.712	197.17	1.405	5.07	154.97	388.40	233.43	0.8235	1.8204	41	15.64	0.886	14.78	1.129	67.66	250.27	415.30	165.02	1.1684	1.6937
-38	1.15	0.713	188.89	1.402	5.29	156.09	388.88	232.79	0.8282	1.8182	42	16.02	0.890	14.40	1.124	69.45	251.55	415.42	163.87	1.1723	1.6923
-37	1.21	0.715	181.04	1.399	5.52	157.21	389.35	232.15	0.8329	1.8160	43	16.41	0.893	14.03	1.120	71.28	252.82	415.53	162.72	1.1762	1.6909
-36	1.26	0.716	173.58	1.396	5.76	158.32	389.82	231.50	0.8376	1.8138	44	16.81	0.897	3.670	1.115	73.16	254.10	415.63	161.54	1.1802	1.6895
-35	1.32	0.718	166.54	1.393	6.00	159.38	390.30	230.92	0.8421	1.8117	45	17.21	0.901	3.320	1.110	75.08	255.38	415.73	160.36	1.1841	1.6881
-34	1.38	0.719	159.80	1.390	6.26	160.50	390.76	230.26	0.8468	1.8096	46	17.62	0.904	12.98	1.106	77.06	256.66	415.82	159.15	1.1880	1.6867
-33	1.44	0.721	153.39	1.387	6.52	161.63	391.23	229.60	0.8514	1.8075	47	18.04	0.908	12.65	1.101	79.08	257.95	415.90	157.95	1.1919	1.6853
-32	1.51	0.722	147.29	1.385	6.79	162.75	391.69	228.94	0.8561	1.8054	48	18.46	0.912	12.32	1.096	81.15	259.24	416.01	156.72	1.1958	1.6839
-31	1.57	0.724	141.49	1.382	7.07	163.88	392.15	228.27	0.8607	1.8034	49	18.89	0.916	12.01	1.091	83.28	260.55	416.03	155.48	1.1997	1.6824
-30	1.64	0.725	135.96	1.379	7.36	165.01	392.61	227.59	0.8654	1.8014	50	19.33	0.920	11.70	1.087	85.46	261.85	416.08	154.22	1.2037	1.6809
-29	1.71	0.727	130.69	1.376	7.66	166.14	393.06	226.92	0.8700	1.7994	51	19.78	0.925	11.40	1.082	87.70	263.17	416.11	152.94	1.2076	1.6794
-28	1.78	0.728	125.68	1.373	7.96	167.28	393.51	226.24	0.8746	1.7975	52	20.23	0.929	11.11	1.077	90.00	264.49	416.14	151.65	1.2115	1.6780
-27	1.86	0.730	120.89	1.370	8.27	168.41	393.96	225.55	0.8792	1.7955	53	20.69	0.933	10.83	1.072	92.36	265.81	416.16	150.35	1.2155	1.6765
-26	1.94	0.732	116.33	1.367	8.60	169.55	394.41	224.88	0.8838	1.7936	54	21.16	0.938	10.55	1.066	94.77	267.13	416.17	149.03	1.2194	1.6749
-25	2.02	0.733	111.97	1.364	8.93	170.69	394.85	224.17	0.8884	1.7917	55	21.64	0.942	10.28	1.061	97.26	268.48	416.16	147.69	1.2233	1.6734
-24	2.10	0.735	107.82	1.361	9.28	171.82	395.30	223.47	0.8929	1.7898	56	22.13	0.947	10.02	1.056	99.81	269.82	416.14	146.32	1.2273	1.6718
-23	2.18	0.737	103.85	1.358	9.63	172.96	395.74	222.77	0.8975	1.7880	57	22.62	0.952	9.76	1.051	102.44	271.18	416.11	144.93	1.2313	1.6703
-22	2.27	0.738	100.06	1.355	9.99	174.11	396.17	222.07	0.9020	1.7862	58	23.12	0.957	9.51	1.045	105.14	272.54	416.07	143.53	1.2353	1.6687
-21	2.36	0.740	96.40	1.352	10.37	175.31	396.60	221.29	0.9067	1.7843	59	23.63	0.962	9.27	1.04	107.91	273.91	416.01	142.10	1.2392	1.6671
-20	2.45	0.742	92.94	1.348	10.76	176.46	397.03	220.57	0.9112	1.7826	60	24.15	0.967	9.03	1.034	110.77	275.30	415.94	140.64	1.2433	1.6654
-19	2.55	0.743	89.63	1.345	11.16	177.60	397.46	219.86	0.9157	1.7808	61	24.68	0.972	8.79	1.028	113.70	276.69	415.86	139.16	1.2473	1.6636
-18	2.65	0.745	86.46	1.342	11.57	178.75	397.88	219.13	0.9202	1.7791	62	25.22	0.978	8.57	1.022	116.73	278.10	415.75	137.65	1.2513	1.6620
-17	2.75	0.747	83.43	1.339	11.99	179.90	398.30	218.41	0.9247	1.7773	63	25.78	0.984	8.34	1.017	119.85	279.51	415.64	136.12	1.2553	1.6603
-16	2.86	0.748	80.53	1.336	12.42	181.04	398.72	217.68	0.9291	1.7756	64	26.32	0.990	8.13	1.011	123.06	280.95	415.50	134.56	1.2595	1.6586
-15	2.96	0.750	77.72	1.333	12.87	182.25	399.13	216.88	0.9338	1.7739	65	26.88	0.996	7.91	1.004	126.37	282.39	415.35	132.96	1.2636	1.6568
-14	3.07	0.752	75.06	1.330	13.32	183.40	399.54	216.14	0.9382	1.7722	66	27.46	1.002	7.70	0.998	129.79	283.84	415.18	131.34	1.2677	1.6550
-13	3.19	0.754	72.49	1.327	13.78	184.62	399.94	215.33	0.9428	1.7705	67	28.04	1.008	7.50	0.992	133.32	285.32	414.99	129.67	1.2719	1.6531
-12	3.30	0.756	70.04	1.324	14.28	185.77	400.35	214.58	0.9472	1.7689	68	28.63	1.015	7.30	0.985	136.96	286.81	414.78	127.97	1.2761	1.6512
-11	3.42	0.757	67.70	1.320	14.77	186.92	400.75	213.83	0.9516	1.7673	69	29.23	1.022	7.11	0.979	140.74	288.32	414.55	126.23	1.2803	1.6492
-10	3.55	0.759	65.43	1.317	15.28	188.13	401.14	213.01	0.9562	1.7656	70	29.84	1.029	6.91	0.972	144.65	289.84	414.29	124.45	1.2846	1.6472
-9	3.68	0.761	63.27	1.314	15.81	189.29	401.54	212.25	0.9605	1.764	71	30.46	1.036	6.73	0.965	148.70	291.39				

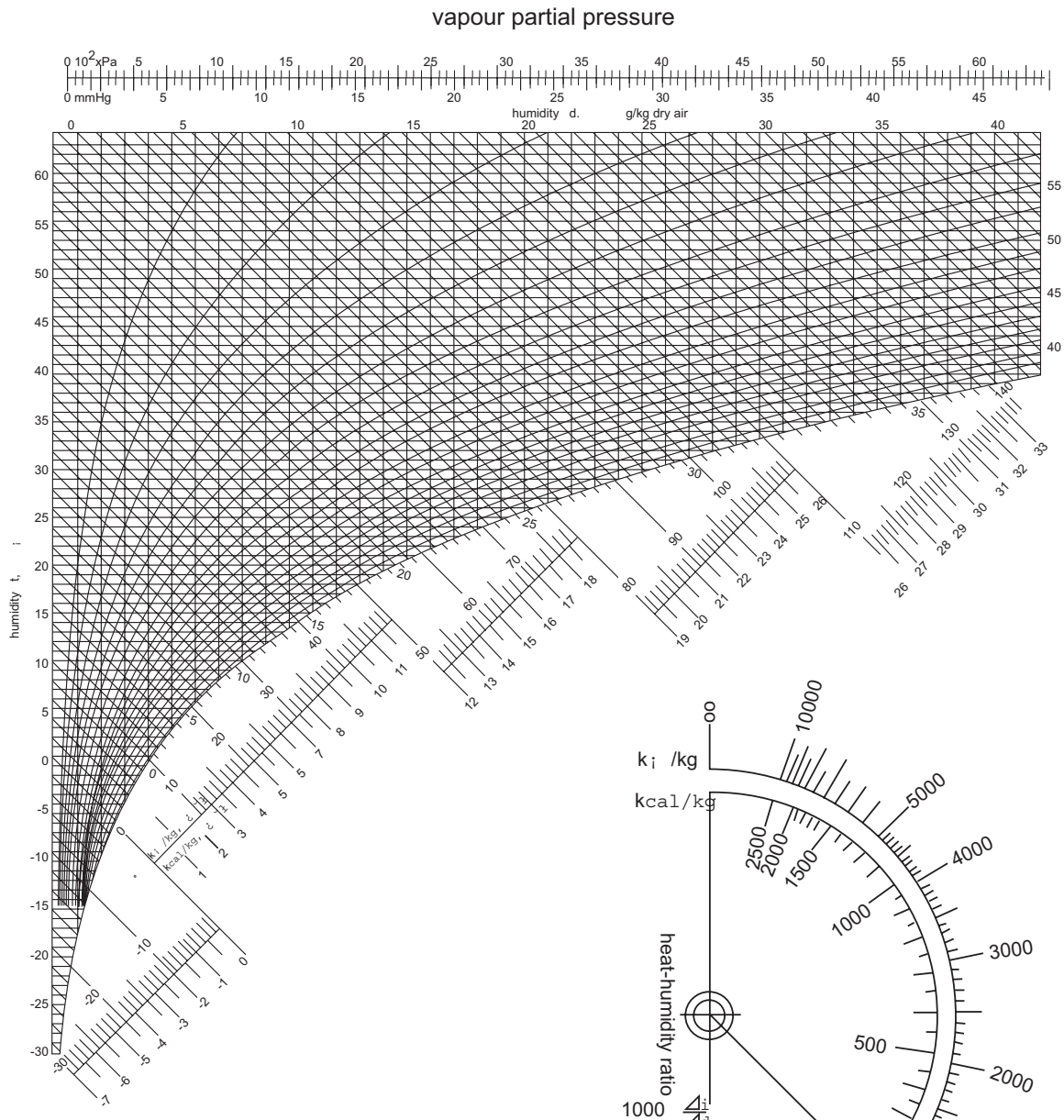
2. Saturated R407C thermodynamic characteristic

t	p'	p''	v'	v''	p'	p''	h	h''	t	s'	s''	t	p'	p''	v'	v''	p'	p''	h	h''	t	s'	s''
i	bar	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/dm ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK	kJ/kg	bar	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/dm ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK
-50	0.75	0.505	0.713	416.20	1.402	2.403	132.74	380.81	248.07	0.7305	1.8614	20	10.36	8.798	0.864	26.60	1.157	37.595	228.68	417.68	188.81	1.1009	1.7517
-49	0.79	0.534	0.715	394.95	1.399	2.532	134.02	381.42	247.41	0.7363	1.8589	21	10.65	9.064	0.867	25.80	1.153	38.765	230.36	418.08	187.70	1.1059	1.7506
-48	0.83	0.565	0.716	375.01	1.396	2.667	135.29	382.04	246.74	0.7420	1.8564	22	10.85	9.337	0.871	25.02	1.149	39.967	231.85	418.44	186.59	1.1109	1.7495
-47	0.87	0.596	0.718	358.27	1.393	2.807	136.57	382.65	246.08	0.7477	1.8540	23	11.25	9.615	0.874	24.27	1.144	41.201	233.34	418.8	185.48	1.1159	1.7484
-46	0.91	0.630	0.719	338.65	1.391	2.953	137.85	383.26	245.41	0.7534	1.8516	24	11.56	9.90	0.877	23.55	1.140	42.468	234.84	419.16	184.32	1.1210	1.7473
-45	0.96	0.664	0.721	322.05	1.388	3.105	139.13	383.87	244.74	0.7591	1.8493	25	11.88	10.191	0.881	22.85	1.135	43.768	236.35	419.52	183.17	1.1260	1.7463
-44	1.00	0.700	0.722	306.43	1.385	3.263	140.42	384.48	244.06	0.7647	1.8470	26	12.20	10.459	0.884	22.17	1.131	45.104	237.86	419.86	182.01	1.1310	1.7452
-43	1.05	0.738	0.724	291.72	1.382	3.428	141.71	385.08	243.38	0.7704	1.8447	27	12.53	10.793	0.888	21.52	1.126	46.475	239.37	420.20	180.83	1.1360	1.7441
-42	1.10	0.777	0.725	277.84	1.379	3.599	143.00	385.69	242.69	0.7760	1.8425	28	12.87	11.104	0.891	20.88	1.122	47.884	240.89	420.53	179.65	1.1410	1.7430
-41	1.16	0.818	0.727	264.76	1.376	3.777	144.29	386.29	242.00	0.7816	1.8403	29	13.21	11.422	0.895	20.27	1.117	49.330	242.41	420.8	178.45	1.1460	1.7419
-40	1.21	0.861	0.729	252.41	1.373	3.962	145.58	386.89	241.31	0.7872	1.8381	30	13.56	11.746	0.899	19.68	1.113	50.815	243.95	421.18	177.23	1.1511	1.7408
-39	1.27	0.905	0.730	240.75	1.370	4.154	146.88	387.49	240.61	0.7928	1.8360	31	13.92	12.078	0.903	19.11	1.108	52.341	245.48	421.49	176.01	1.1561	1.7397
-38	1.33	0.951	0.732	229.73	1.366	4.353	148.18	388.09	239.91	0.7984	1.8339	32	14.28	12.416	0.906	18.55	1.103	53.908	247.03	421.79	174.76	1.1611	1.7386
-37	1.39	0.999	0.733	219.32	1.363	4.560	149.49	388.69	239.2	0.8039	1.8319	33	14.65	12.762	0.910	18.01	1.099	55.518	248.58	422.09	173.51	1.1662	1.7375
-36	1.45	1.049	0.735	209.47	1.360	4.744	150.80	389.28	238.49	0.8094	1.8299	34	15.03	13.115	0.914	17.49	1.094	57.171	250.14	422.37	172.24	1.1712	1.7364
-35	1.52	1.101	0.737	200.15	1.357	4.996	152.11	389.88	237.77	0.8150	1.8279	35	15.41	13.475	0.918	16.99	1.089	58.871	251.70	422.65	170.95	1.1763	1.7353
-34	1.59	1.155	0.739	191.33	1.354	5.227	153.42	390.47	237.05	0.8205	1.8260	36	15.80	13.843	0.922	16.50	1.084	60.617	253.28	422.92	169.65	1.1813	1.7342
-33	1.66	1.211	0.740	182.97	1.351	5.465	154.74	391.06	236.32	0.8260	1.8241	37	16.20	14.219	0.927	16.02	1.079	62.413	254.86	423.18	168.33	1.1864	1.7331
-32	1.73	1.269	0.742	175.05	1.348	5.713	156.06	391.64	235.59	0.8314	1.8222	38	16.61	14.602	0.931	15.56	1.074	64.258	256.45	423.44	167.00	1.1915	1.7319
-31	1.80	1.329	0.744	167.54	1.345	5.969	157.38	392.23	234.85	0.8369	1.8203	39	17.03	14.993	0.935	15.12	1.069	66.155	258.05	423.68	165.63	1.1965	1.7308
-30	1.88	1.392	0.745	160.42	1.341	6.234	158.71	392.81	234.10	0.8424	1.8185	40	17.45	15.392	0.940	14.68	1.064	68.106	259.65	423.91	164.26	1.2016	1.7296
-29	1.96	1.457	0.747	153.66	1.338	6.508	160.04	393.39	233.36	0.8478	1.8167	41	17.88	15.799	0.944	14.26	1.059	70.113	261.27	424.13	162.86	1.2067	1.7285
-28	2.04	1.524	0.749	147.24	1.336	6.792	161.37	393.97	232.60	0.8532	1.8150	42	18.31	16.214	0.949	13.85	1.054	72.176	262.90	424.34	161.44	1.2118	1.7274
-27	2.13	1.593	0.751	141.14	1.332	7.085	162.71	394.55	231.84	0.8588	1.8132	43	18.76	16.638	0.954	13.40	1.049	74.303	264.54	424.54	160.01	1.2169	1.7263
-26	2.22	1.665	0.753	135.35	1.329	7.388	164.05	395.12	231.08	0.8640	1.8115	44	19.21	17.070	0.958	13.07	1.043	76.491	266.19	424.73	158.55	1.2221	1.7252
-25	2.31	1.740	0.755	129.84	1.325	7.702	165.39	395.68	230.30	0.8694	1.8098	45	19.67	17.510	0.963	12.70	1.038	78.743	267.84	424.91	157.07	1.2272	1.7242
-24	2.40	1.817	0.756	124.60	1.322	8.026	166.73	396.26	229.53	0.8748	1.8082	46	20.14	17.959	0.968	12.34	1.033	81.062	269.52	425.08	155.56	1.2323	1.7231
-23	2.5	1.897	0.758	119.63	1.319	8.361	168.08	396.83	228.74	0.8801	1.8066	47	20.62	18.417	0.973	11.98	1.027	83.452	271.20	425.23	154.03	1.2375	1.7221
-22	2.60	1.979	0.760	114.86	1.315	8.706	169.43	397.39	227.96	0.8855	1.8049	48	21.11	18.884	0.979	11.64	1.022	85.915	272.90	425.37	152.47	1.2427	1.7211
-21	2.70	2.064	0.762	110.34	1.312	9.063	170.79	397.95	227.16	0.8908	1.8034	49	21.60	19.381	0.984	11.31	1.018	88.455	274.61	425.49	150.89	1.2478	1.7201
-20	2.81	2.152	0.764	106.03	1.309	9.432	172.15	398.51	226.36	0.8961	1.8018	50	22.11	19.846	0.990	10.98	1.011	91.074	276.33	425.60	149.28	1.2530	1.7191
-19	2.92	2.243	0.766	101.92	1.305	9.814	173.51	399.06	225.56	0.9014	1.8003	51	22.62	20.341	0.995	10.66	1.005	93.777	278.07	425.70	147.63	1.2582	1.7181
-18	3.03	2.337	0.768	98.00	1.302	10.204	174.87	399.61	224.74	0.9067	1.7987	52	23.14	20.845	1.001	10.38	0.999	96.567	279.82	425.78	145.96	1.2635	1.7171
-17	3.14	2.434	0.770	94.26	1.298	10.609	176.24	400.16	223.92	0.9120	1.7972	53	23.67	21.359	1.007	10.06	0.993	99.449	281.59	425.84	144.26	1.2687	1.7161
-16	3.26	2.534	0.772	90.70	1.295	11.026	177.61	400.71	223.10	0.9172	1.7958	54	24.21	21.883	1.013	9.76	0.987	102.426	283.37	425.89	142.52	1.2740	1.7151
-15	3.39	2.637	0.774	87.29	1.292	11.456	178.98	401.25	222.27	0.9226	1.7943	55	24.75	22.417	1.019	9.48	0.981	105.505	285.17	425.91	140.74	1.2792	1.7141
-14	3.51	2.744	0.776	84.04	1.288	11.899	180.36	401.79	221.43	0.9277	1.7929	56	25.31	22.961	1.026	9.20	0.975	108.690	286.99	425.92	138.93	1.2845	1.7086
-13	3.64	2.853	0.778	80.93	1.285	12.358	181.74	402.33	220.59	0.9329	1.7914	57	25.89	23.518	1.032	8.93	0.969	111.986	288.82	425.9	137.08	1.2898	1.7070
-12	3.78	2.966	0.781	77.96	1.281	12.827	183.12	402.66	219.74	0.9382	1.7900	58	26.45	24.081	1.039	8.67	0.963	115.400	290.68	425.67	135.19	1.2951	1.7054
-11	3.91	3.083	0.783	75.12	1.278	13.312	184.5	403.39	218.89	0.9434	1.7887	59	27.04	24.657	1.046	8.41	0.956	118.938	292.55	425.81	133.26	1.3005	1.7037
-10	4.05	3.203	0.785	72.40	1.274	13.812	185.89	403.91	218.02	0.9486	1.7873	60	27.63	25.244	1.053	8.16	0.950	122.609	294.45	425.72	131.28	1.3058	1.702
-9	4.20	3.326	0.787	69.80	1.271	14.326	187.28	404.43	217.15	0.9538	1.7859	61	28.23	25.842	1.061	7.91	0.943	126.429	296.36	425.61	129.25	1.3112	1.7002
-8	4.35	3.454	0.789	67.31	1.267	14.856	188.67	404.95	216.28	0.9589	1.7846	62	28.85	26.451	1.068	7.67	0.938	130.377	298.30	425.46	127.18	1.3166	1.6984
-7	4.50	3.584	0.792	64.83	1.263	15.401	190.07	405.47	215.40	0.9641	1.7833	63	29.47	27.072	1.076	7.44	0.929	134.492	300.26	425.31	125.05	1.3220	1.6965
-6	4.65	3.719	0.794	62.45	1.26	15.963	191.47	405.98	214.51	0.9692	1.7820	64	30.10	27.705	1.084	7.21	0.922	138.775	302.24	425.11	122.87	1.3275	1.6945
-5	4.81	3.858	0.796	60.18	1.256	16.540	192.87	406.49	213.62	0.9744	1.7807	65	30.75	28.35	1.093	6.98	0.915	143.236	304.24	424.88	120.63	1.3330	1.6925
-4	4.98	4.00	0.798	58.06	1.252	17.135	194.28	406.99	212.71	0.9795	1.7794	66	31.40	29.007	1.102	6.76	0.908	147.889	306.27	424.61	118.34	1.3384	1.6904
-3	5.15	4.146	0.801	56.35	1																		

MRVII R22

Haier

3. Enthalpy-humidity chart

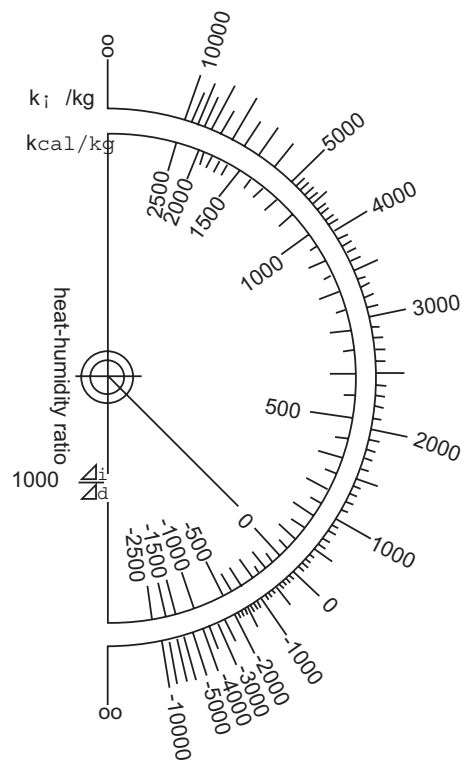


Wet air enthalpy-humidity chart

atmospheric pressure 1013.25mbar(10Pa)
760 mmHg

$$\hat{i} = 1.01t + 0.001d(2500 + 1.84t) \text{ kJ/kg dry air}$$

$$\hat{i} = 1.24t + 0.001d(597.3 + 0.44t) \text{ kcal/kg dry air}$$



4. Outdoor performance with different indoor capacity

(1) Cooling

A. AU78NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	20.4	3.59	24.1	4.34	27.8	5.08	29.7	5.72	30.9	5.58	31.8	5.09	32.3	4.6
	10	20.4	3.77	24.1	4.54	27.8	5.32	29.7	5.71	30.0	5.61	30.7	5.36	31.4	5.11
	15	20.4	3.95	24.1	4.74	27.8	5.56	28.7	5.7	29.1	5.64	29.7	5.63	30.5	5.66
	20	20.4	4.15	24.1	5.26	27.5	6.36	27.8	6.39	28.1	6.42	28.8	6.48	29.5	6.54
	25	20.4	4.98	24.1	6.31	26.5	7.18	26.8	7.21	27.2	7.25	27.9	7.32	28.6	7.39
	30	20.4	5.86	24.1	7.51	25.6	8.05	25.9	8.05	26.3	8.06	26.9	8.12	27.7	8.41
	35	20.4	6.96	24.0	8.75	24.7	8.85	25.0	8.89	25.3	8.94	26.0	9.03	26.7	9.12
	41	20.4	7.93	23.1	9.44	23.8	9.53	24.1	9.59	24.5	9.64	25.1	9.85	25.9	9.95
43	20.4	8.59	22.6	9.95	23.2	10.85	23.6	11.05	24.0	11.15	24.6	11.35	25.3	11.5	
120	5	18.9	3.36	22.2	3.96	25.7	4.42	27.3	4.98	29.4	5.39	31.1	5.46	31.7	5.07
	10	18.9	3.44	22.2	4.15	25.7	4.86	27.3	5.22	29.0	5.58	30.2	5.54	30.8	5.31
	15	18.9	3.6	22.2	4.34	25.7	5.10	27.3	5.46	28.7	5.72	29.3	5.62	29.9	5.55
	20	18.9	3.77	22.2	4.68	25.7	5.76	27.3	6.33	27.7	6.38	28.3	6.43	28.9	6.49
	25	18.9	4.45	22.2	5.62	25.7	6.91	26.4	7.17	26.8	7.20	27.4	7.27	28.0	7.33
	30	18.9	5.18	22.2	6.67	25.1	7.96	25.5	8	25.9	8.04	26.4	8.11	27.0	8.19
	35	18.9	6.22	22.2	7.87	24.2	8.79	24.6	8.83	24.9	8.88	25.5	8.96	26.1	9.05
	41	18.9	7.17	22.2	9.22	23.3	9.44	23.6	9.45	24.0	9.45	24.6	9.85	25.2	9.85
43	18.9	7.68	22.2	10.55	22.8	10.7	23.1	10.85	23.4	11.0	24.0	11.25	24.7	11.45	
110	5	17.3	2.98	20.4	3.59	23.5	4.21	25.0	4.55	26.6	4.84	30.6	5.75	31.3	5.43
	10	17.3	3.12	20.4	3.76	23.5	4.41	25.0	4.74	26.6	5.07	29.7	5.72	30.3	5.52
	15	17.3	3.26	20.4	3.93	23.5	4.61	25.0	4.93	26.6	5.30	28.7	5.69	29.3	5.61
	20	17.3	3.42	20.4	4.13	23.5	5.07	25.0	5.56	26.6	6.08	27.8	6.39	28.4	6.44
	25	17.3	3.95	20.4	4.96	23.5	6.08	25.0	7.17	25.9	7.49	26.5	7.55	27.1	7.61
	30	17.3	4.69	20.4	5.89	23.5	7.23	25.0	7.89	25.2	7.99	25.9	8.05	26.5	8.12
	35	17.3	5.51	20.4	6.94	23.5	8.53	24.1	8.78	24.4	8.82	25.0	8.89	25.6	8.97
	41	17.3	6.45	20.4	8.14	22.8	9.57	23.2	9.61	23.5	9.56	24.0	9.75	24.7	9.95
43	17.3	6.95	20.4	8.65	22.2	10.1	22.7	10.45	23.0	10.05	23.5	10.25	24.1	10.45	
100	5	15.7	2.79	18.5	3.23	21.3	3.83	22.6	4.07	24.2	4.34	27.0	4.91	30.7	5.75
	10	15.7	2.81	18.5	3.38	21.3	3.96	22.6	4.26	24.2	4.55	27.0	5.15	29.7	5.72
	15	15.7	2.93	18.5	3.53	21.3	4.14	22.6	4.45	24.2	4.76	27.0	5.39	28.7	5.69
	20	15.7	3.07	18.5	3.70	21.3	4.41	22.6	4.84	24.2	5.28	27.0	6.22	27.8	6.39
	25	15.7	3.47	18.5	4.34	21.3	5.30	22.6	5.81	24.2	6.34	26.4	7.16	26.9	7.22
	30	15.7	4.1	18.5	5.15	21.3	6.29	22.6	6.90	24.2	7.49	25.4	7.99	25.9	8.06
	35	15.7	4.84	18.5	6.07	21.3	7.42	22.6	8.00	24.0	8.75	24.5	8.83	25.0	8.9
	41	15.7	5.66	18.5	7.05	21.3	8.68	22.6	9.15	23.1	9.59	23.6	9.65	24.1	9.75
43	15.7	6.17	18.5	7.56	21.3	9.19	22.6	10.05	22.5	10.05	23.1	10.15	23.6	10.25	
90	5	14.2	2.38	16.7	2.87	19.3	3.37	20.5	3.61	21.8	3.85	24.3	4.38	26.8	4.89
	10	14.2	2.5	16.7	3.00	19.3	3.52	20.5	3.78	21.8	4.04	24.3	4.58	26.8	5.12
	15	14.2	2.62	16.7	3.13	19.3	3.67	20.5	3.95	21.8	4.23	24.3	4.78	26.8	5.35
	20	14.2	2.74	16.7	3.28	19.3	3.85	20.5	4.16	21.8	4.53	24.3	5.32	26.8	6.16
	25	14.2	3.02	16.7	3.76	19.3	4.56	20.5	4.99	21.8	5.44	24.3	6.39	26.3	7.16
	30	14.2	3.58	16.7	4.46	19.3	5.42	20.5	5.93	21.8	6.46	24.3	7.63	25.4	7.98
	35	14.2	4.21	16.7	5.24	19.3	6.38	20.5	6.99	21.8	7.62	24.0	8.76	24.5	8.82
	41	14.2	4.91	16.7	6.13	19.3	7.48	20.5	7.7	21.8	8.92	23.1	9.58	23.4	9.65
43	14.2	5.43	16.7	6.49	19.3	7.97	20.5	8.55	21.8	9.64	22.5	9.95	22.9	10.15	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
80	5	12.6	2.12	14.8	2.53	17.1	2.94	18.3	3.16	19.3	3.38	21.6	3.83	23.9	4.27
	10	12.6	2.21	14.8	2.64	17.1	3.08	18.3	3.31	19.3	3.54	21.6	4.01	23.9	4.48
	15	12.6	2.3	14.8	2.75	17.1	3.22	18.3	3.46	19.3	3.70	21.6	4.19	23.9	4.69
	20	12.6	2.41	14.8	2.88	17.1	3.37	18.3	3.62	19.3	3.88	21.6	4.48	23.9	5.38
	25	12.6	2.6	14.8	3.21	17.1	3.88	18.3	4.23	19.3	4.60	21.6	5.38	23.9	6.67
	30	12.6	3.08	14.8	3.81	17.1	4.60	18.3	5.03	19.3	5.46	21.6	6.39	23.9	7.39
	35	12.6	3.62	14.8	4.48	17.1	5.42	18.3	5.92	19.3	6.44	21.6	7.54	23.9	8.71
	41	12.6	4.32	14.8	5.22	17.1	6.32	18.3	6.92	19.3	7.56	21.6	8.82	22.8	9.57
43	12.6	4.98	14.8	5.67	17.1	6.70	18.3	7.52	19.3	8.31	21.6	9.11	21.7	10.15	
70	5	11.0	1.84	13.0	2.18	14.9	2.54	15.9	2.72	16.9	2.92	18.9	3.3	20.9	2.69
	10	11.0	1.92	13.0	2.28	14.9	2.66	15.9	2.85	16.9	3.05	18.9	3.45	20.9	3.86
	15	11.0	2	13.0	2.38	14.9	2.78	15.9	2.98	16.9	3.18	18.9	3.6	20.9	4.03
	20	11.0	2.09	13.0	2.49	14.9	2.91	15.9	3.12	16.9	3.34	18.9	3.78	20.9	4.27
	25	11.0	2.2	13.0	2.70	14.9	3.24	15.9	3.53	16.9	3.83	18.9	4.46	20.9	5.12
	30	11.0	2.61	13.0	3.20	14.9	3.85	15.9	4.19	16.9	4.54	18.9	5.29	20.9	6.08
	35	11.0	3.07	13.0	3.76	14.9	4.52	15.9	4.93	16.9	5.34	18.9	6.23	20.9	7.17
	41	11.0	3.57	13.0	4.33	14.9	5.28	15.9	5.66	16.9	6.24	18.9	7.28	20.9	8.4
43	11.0	3.77	13.0	4.54	14.9	5.83	15.9	5.81	16.9	6.72	18.9	7.91	20.9	9.15	
60	5	9.4	1.57	11.1	1.86	12.8	2.15	13.7	2.32	14.6	2.46	16.2	2.77	17.9	3.09
	10	9.4	1.64	11.1	1.94	12.8	2.25	13.7	2.41	14.6	2.57	16.2	2.9	17.9	3.24
	15	9.4	1.71	11.1	2.02	12.8	2.35	13.7	2.52	14.6	2.68	16.2	3.03	17.9	3.39
	20	9.4	1.78	11.1	2.11	12.8	2.45	13.7	2.63	14.6	2.81	16.2	3.18	17.9	3.55
	25	9.4	1.86	11.1	2.23	12.8	2.66	13.7	2.88	14.6	3.12	16.2	3.61	17.9	4.13
	30	9.4	2.17	11.1	2.65	12.8	3.16	13.7	3.42	14.6	3.70	16.2	4.28	17.9	4.9
	35	9.4	2.55	11.1	3.11	12.8	3.70	13.7	4.02	14.6	4.35	16.2	5.03	17.9	5.77
	41	9.4	2.97	11.1	3.60	12.8	4.31	13.7	4.68	14.6	5.07	16.2	5.88	17.9	6.75
43	9.4	3.21	11.1	3.67	12.8	4.67	13.7	5.19	14.6	5.52	16.2	6.29	17.9	7.35	
50	5	7.9	1.32	9.3	1.57	10.7	1.78	11.4	1.87	12.1	2.01	13.5	2.28	14.9	2.53
	10	7.9	1.37	9.3	1.61	10.7	1.86	11.4	1.98	12.1	2.11	13.5	2.38	14.9	2.65
	15	7.9	1.42	9.3	1.65	10.7	1.94	11.4	2.07	12.1	2.21	13.5	2.48	14.9	2.77
	20	7.9	1.48	9.3	1.75	10.7	2.02	11.4	2.16	12.1	2.30	13.5	2.6	14.9	2.9
	25	7.9	1.55	9.3	1.82	10.7	2.12	11.4	2.29	12.1	2.47	13.5	2.84	14.9	3.23
	30	7.9	1.77	9.3	2.13	10.7	2.51	11.4	2.72	12.1	2.93	13.5	3.38	14.9	3.83
	35	7.9	2.08	9.3	2.50	10.7	2.96	11.4	3.19	12.1	3.44	13.5	3.96	14.9	4.5
	41	7.9	2.43	9.3	2.74	10.7	3.44	11.4	3.72	12.1	4.01	13.5	4.61	14.9	5.25
43	7.9	2.67	9.3	2.98	10.7	3.74	11.4	4.02	12.1	4.31	13.5	5	14.9	5.7	

B. AU96NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	25.2	5.20	29.7	6.23	34.2	7.17	36.2	7.96	37.4	7.89	38.1	7.15	39.1	7.01
	10	25.2	5.29	29.7	6.34	34.2	7.41	36.6	7.93	36.9	7.80	37.8	7.46	38.6	7.12
	15	25.2	5.52	29.7	6.62	34.2	7.73	35.9	7.92	36.2	7.85	36.6	7.90	37.5	7.91
	20	25.2	5.80	29.7	7.32	33.8	8.82	34.8	8.86	34.6	8.91	35.5	8.98	36.3	9.07
	25	25.2	6.93	29.7	8.76	32.8	9.9	33.6	10.0	33.5	10.0	34.4	10.1	35.1	10.2
	30	25.2	8.21	29.7	9.7	31.5	11.1	31.8	11.1	32.3	11.2	32.2	11.3	33.9	11.4
	35	25.2	9.7	29.4	12.1	30.8	12.2	30.7	12.3	31.2	12.3	32.1	12.5	32.8	12.6
	41	25.2	11.2	29.2	13.2	29.2	13.3	29.7	13.3	30.0	13.3	31.0	13.3	31.4	13.4
	43	25.2	12.1	28.7	13.4	28.6	13.4	29.1	13.4	29.3	13.4	30.4	13.47	30.5	13.50
120	5	23.4	4.75	27.4	5.59	31.6	6.56	33.7	7.08	35.7	7.60	37.6	7.76	38.4	7.43
	10	23.4	4.84	27.4	5.80	31.6	6.79	33.7	7.28	35.7	7.76	37.2	7.71	37.9	7.40
	15	23.4	5.05	27.4	6.07	31.6	7.08	33.7	7.59	35.2	7.95	35.9	7.81	36.7	7.86
	20	23.4	5.29	27.4	6.53	31.6	8.01	33.7	8.80	34.1	8.85	34.8	8.92	35.6	9.01
	25	23.4	6.21	27.4	7.81	31.6	9.59	32.6	9.9	33.0	10.0	33.8	10.1	34.4	10.2
	30	23.4	7.36	27.4	9.26	30.8	11.0	31.3	11.1	31.7	11.2	32.4	11.2	33.3	11.3
	35	23.4	8.63	27.4	10.9	30.2	12.1	30.2	12.2	30.6	12.2	31.4	12.3	32.1	12.5
	41	23.4	10.1	27.4	12.5	28.6	13.3	29.2	13.3	29.6	13.3	29.9	13.3	30.7	13.3
	43	23.4	11.0	27.4	13.3	28.0	13.4	28.6	13.4	28.9	13.4	29.2	13.4	30.2	13.48
110	5	21.5	4.31	25.1	5.09	29.0	5.95	30.9	6.45	32.7	6.95	37.0	8.01	37.7	7.73
	10	21.5	4.40	25.1	5.27	29.0	6.16	30.9	6.62	32.7	7.07	36.5	7.96	37.2	7.68
	15	21.5	4.60	25.1	5.51	29.0	6.45	30.9	6.91	32.7	7.37	35.3	7.92	36.1	7.80
	20	21.5	4.81	25.1	5.79	29.0	7.06	30.9	7.74	32.7	8.45	34.2	8.87	34.9	8.93
	25	21.5	5.53	25.1	6.92	29.0	8.45	30.9	9.26	32.3	9.9	33.0	10.0	33.7	10.1
	30	21.5	6.53	25.1	8.19	29.0	10.1	30.9	10.9	30.9	11.0	31.9	11.2	32.6	11.2
	35	21.5	7.67	25.1	9.63	29.0	11.1	29.7	12.1	30.1	12.2	30.7	12.3	31.4	12.5
	41	21.5	8.96	25.1	11.3	28.3	12.0	28.7	13.1	29.0	13.1	29.3	13.2	30.2	13.2
	43	21.5	9.7	25.1	12.2	27.6	12.9	28.1	13.2	28.3	13.2	28.6	13.3	29.5	13.3
100	5	19.4	3.90	22.8	4.59	26.3	5.40	28.0	6.10	29.7	6.19	33.2	7.06	38.3	7.98
	10	19.4	3.97	22.8	4.75	26.3	5.54	28.0	5.95	29.7	6.36	33.2	7.18	37.7	7.95
	15	19.4	4.14	22.8	4.96	26.3	5.79	28.0	6.23	29.7	6.64	33.2	7.49	37	7.91
	20	19.4	4.33	22.8	5.19	26.3	6.16	28.0	6.75	29.7	7.36	33.2	8.64	36.4	8.87
	25	19.4	4.87	22.8	6.07	26.3	7.37	28.0	8.08	29.7	8.80	32.4	9.9	35.1	10.0
	30	19.4	5.76	22.8	7.12	26.3	8.74	28.0	9.43	29.7	10.4	31.2	11.1	33.5	11.1
	35	19.4	6.75	22.8	8.42	26.3	10.28	28.0	9.9	29.5	12.1	30.1	12.2	31.9	12.3
	41	19.4	7.89	22.8	9.8	26.3	11.97	28.0	12.5	28.4	13.0	29.0	13.2	29.6	12.9
	43	19.4	8.79	22.8	10.6	26.3	12.95	28.0	12.9	27.7	13.3	28.5	13.3	28.9	13.2
90	5	17.6	3.49	20.6	4.16	23.7	4.85	25.3	5.15	26.9	5.62	29.9	6.20	33.0	6.93
	10	17.6	3.55	20.6	4.24	23.7	4.93	25.3	5.30	26.9	5.66	29.9	6.40	33.0	7.13
	15	17.6	3.70	20.6	4.42	23.7	5.15	25.3	5.52	26.9	5.92	29.9	6.68	33.0	7.45
	20	17.6	3.87	20.6	4.63	23.7	5.40	25.3	5.82	26.9	6.34	29.9	7.41	33.0	8.56
	25	17.6	4.26	20.6	5.27	23.7	6.37	25.3	6.96	26.9	7.57	29.9	8.86	32.4	9.9
	30	17.6	5.03	20.6	6.23	23.7	7.54	25.3	8.24	26.9	8.97	29.9	10.5	31.3	11.0
	35	17.6	5.88	20.6	7.30	23.7	8.86	25.3	9.7	26.9	10.6	29.5	12.1	30.1	12.2
	41	17.6	6.77	20.6	8.51	23.7	10.3	25.3	11.3	26.9	12.1	28.2	13.2	29.0	13.2
	43	17.6	7.02	20.6	9.24	23.7	11.0	25.3	11.9	26.9	12.5	27.0	13.3	28.4	13.3

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	15.8	3.10	18.2	3.68	21.2	4.27	22.5	4.63	23.8	4.84	26.6	5.47	29.3	5.92
	10	15.8	3.15	18.2	3.74	21.2	4.35	22.5	4.74	23.8	4.97	26.6	5.62	29.3	6.26
	15	15.8	3.27	18.2	3.90	21.2	4.54	22.5	4.86	23.8	5.19	26.6	5.87	29.3	6.54
	20	15.8	3.42	18.2	4.07	21.2	4.74	22.5	5.09	23.8	5.43	26.6	6.26	29.3	7.21
	25	15.8	3.68	18.2	4.52	21.2	5.43	22.5	5.92	23.8	6.42	26.6	7.49	29.3	8.63
	30	15.8	4.33	18.2	5.34	21.2	6.42	22.5	7.01	23.8	7.60	26.6	8.87	29.3	10.2
	35	15.8	5.08	18.2	6.25	21.2	7.54	22.5	8.23	23.8	8.93	26.6	10.4	29.3	12.1
	41	15.8	5.75	18.2	7.43	21.2	8.78	22.5	9.56	23.8	10.4	26.1	12.0	28.1	12.9
43	15.8	6.13	18.2	7.43	21.2	9.48	22.5	10.2	23.8	10.9	24.9	12.5	27.5	13.2	
70	5	13.6	2.70	16.2	3.20	18.6	3.59	19.6	4.01	20.8	4.18	23.2	4.73	25.7	5.12
	10	13.6	2.75	16.2	3.25	18.6	3.76	19.6	4.03	20.8	4.30	23.2	4.85	25.7	5.41
	15	13.6	2.86	16.2	3.38	18.6	3.93	19.6	4.20	20.8	4.48	23.2	5.05	25.7	5.65
	20	13.6	2.98	16.2	3.53	18.6	4.10	19.6	4.40	20.8	4.69	23.2	5.30	25.7	5.97
	25	13.6	3.14	16.2	3.82	18.6	4.57	19.6	4.96	20.8	5.37	23.2	6.23	25.7	7.14
	30	13.6	3.70	16.2	4.49	18.6	5.40	19.6	5.86	20.8	6.35	23.2	7.37	25.7	8.46
	35	13.6	4.32	16.2	5.27	18.6	6.32	19.6	6.87	20.8	7.45	23.2	8.65	25.7	9.9
	41	13.6	4.92	16.2	6.13	18.6	7.38	19.6	8.02	20.8	8.67	23.2	10.0	25.7	11.6
43	13.6	5.29	16.2	6.64	18.6	7.99	19.6	8.75	20.8	9.40	22.0	10.5	25.1	12.1	
60	5	11.8	2.33	13.8	2.75	15.9	3.14	16.8	3.40	17.8	3.57	19.9	3.87	22.0	4.29
	10	11.8	2.37	13.8	2.79	15.9	3.20	16.8	3.54	17.8	3.65	19.9	4.10	22.0	4.57
	15	11.8	2.47	13.8	2.90	15.9	3.33	16.8	3.57	17.8	3.81	19.9	4.27	22.0	4.76
	20	11.8	2.57	13.8	3.02	15.9	3.48	16.8	3.72	17.8	3.97	19.9	4.47	22.0	4.98
	25	11.8	2.68	13.8	3.18	15.9	3.76	16.8	4.08	17.8	4.40	19.9	5.07	22.0	5.77
	30	11.8	3.10	13.8	3.75	15.9	5.65	16.8	4.81	17.8	5.16	19.9	5.98	22.0	6.84
	35	11.8	3.62	13.8	4.37	15.9	5.20	16.8	5.63	17.8	6.08	19.9	7.02	22.0	8.02
	41	11.8	4.20	13.8	3.83	15.9	5.98	16.8	6.16	17.8	7.06	19.9	8.18	22.0	9.36
43	11.8	4.57	13.8	4.20	15.9	6.23	16.8	6.76	17.8	7.67	19.9	8.91	22.0	9.56	
50	5	9.76	1.98	11.5	2.30	13.2	2.64	14.0	2.82	14.8	2.96	16.6	3.26	18.3	3.65
	10	9.76	2.00	11.5	2.33	13.2	2.68	14.0	2.85	14.8	3.02	16.6	3.38	18.3	3.75
	15	9.76	2.08	11.5	2.42	13.2	2.77	14.0	2.96	14.8	3.14	16.6	3.52	18.3	3.91
	20	9.76	2.16	11.5	2.52	13.2	2.90	14.0	3.09	14.8	3.29	16.6	3.68	18.3	4.09
	25	9.76	2.25	11.5	2.63	13.2	3.03	14.0	3.26	14.8	3.51	16.6	4.02	18.3	4.54
	30	9.76	2.55	11.5	3.04	13.2	3.57	14.0	3.85	14.8	4.14	16.6	4.73	18.3	5.37
	35	9.76	2.97	11.5	3.55	13.2	4.18	14.0	4.49	14.8	4.84	16.6	5.54	18.3	6.29
	41	9.76	3.46	11.5	4.12	13.2	4.82	14.0	5.19	14.8	5.62	16.6	6.63	18.3	7.40
43	9.76	3.82	11.5	4.48	13.2	5.20	14.0	5.92	14.8	6.09	16.6	6.99	18.3	8.24	

C. AV16NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	40.9	6.68	48.3	8.18	55.6	9.66	59.4	10.94	61.8	10.7	63.6	9.7	64.6	8.70
	10	40.9	7.04	48.3	8.58	55.6	10.14	59.4	10.92	60.0	10.7	61.4	10.2	62.8	9.7
	15	40.9	7.40	48.3	8.98	55.6	10.62	57.4	10.9	58.2	10.8	59.4	10.8	61.0	10.8
	20	40.9	7.80	48.3	10.0	55.0	12.22	55.6	12.28	56.2	12.3	57.6	12.5	59.0	12.6
	25	40.9	9.5	48.3	12.1	53.0	13.86	53.6	13.92	54.4	14.0	55.8	14.1	57.2	14.3
	30	40.9	11.2	48.3	14.5	51.2	15.60	51.8	15.6	52.6	15.6	53.8	15.7	55.4	16.3
	35	40.9	13.4	47.9	17.0	49.4	17.20	50.0	17.28	50.6	17.4	52.0	17.6	53.4	17.7
	41	40.9	15.2	46.3	18.2	47.6	18.36	48.2	18.48	49.0	18.6	50.2	19.0	51.8	19.2
43	40.9	16.5	45.2	19.2	46.4	21.00	47.2	21.4	48.0	21.6	49.2	22.0	50.6	22.3	
120	5	37.8	6.22	44.5	7.42	51.4	8.34	54.6	9.46	58.8	10.3	62.2	10.4	63.4	9.6
	10	37.8	6.38	44.5	7.80	51.4	9.22	54.6	9.94	58.0	10.7	60.4	10.6	61.6	10.1
	15	37.8	6.70	44.5	8.18	51.4	9.70	54.6	10.42	57.4	10.9	58.6	10.7	59.8	10.6
	20	37.8	7.04	44.5	8.86	51.4	11.02	54.6	12.16	55.4	12.3	56.6	12.4	57.8	12.5
	25	37.8	8.40	44.5	10.7	51.4	13.32	52.8	13.84	53.6	13.9	54.8	14.0	56.0	14.2
	30	37.8	9.9	44.5	12.8	50.2	15.42	51	15.5	51.8	15.6	52.8	15.7	54.0	15.9
	35	37.8	11.9	44.5	15.2	48.4	17.08	49.2	17.16	49.8	17.3	51.0	17.4	52.2	17.6
	41	37.8	13.6	44.5	17.7	46.6	18.18	47.2	18.2	48.0	18.2	49.2	19.0	50.4	19
43	37.8	14.7	44.5	20.4	45.6	20.6	46.2	21	46.8	21.2	48.0	21.8	49.4	22.2	
110	5	34.5	5.46	40.9	6.68	47.0	7.92	50.0	8.6	53.2	9.18	61.2	11.0	62.6	10.4
	10	34.5	5.74	40.9	7.02	47.0	8.32	50.0	8.98	53.2	9.6	59.4	10.9	60.6	10.5
	15	34.5	6.02	40.9	7.36	47.0	8.72	50.0	9.36	53.2	10.1	57.4	10.9	58.6	10.7
	20	34.5	6.34	40.9	7.76	47.0	9.64	50.0	10.62	53.2	11.7	55.6	12.3	56.8	12.4
	25	34.5	7.40	40.9	9.4	47.0	11.66	50.0	13.84	51.8	14.5	53.0	14.6	54.2	14.7
	30	34.5	8.88	40.9	11.3	47.0	13.96	50.0	15.28	50.4	15.5	51.8	15.6	53.0	15.7
	35	34.5	10.5	40.9	13.4	47.0	16.56	48.2	17.06	48.8	17.1	50.0	17.3	51.2	17.4
	41	34.5	12.2	40.9	15.6	45.6	18.44	46.4	18.52	47.0	18.4	48.0	18.8	49.4	19.2
43	34.5	13.2	40.9	16.6	44.4	19.4	45.4	20.2	46.0	19.4	47.0	19.8	48.2	20.2	
100	5	31.5	5.08	37.1	5.96	42.6	7.16	45.2	7.64	48.4	8.18	54.0	9.3	61.4	11
	10	31.5	5.12	37.1	6.26	42.6	7.42	45.2	8.02	48.4	8.60	54.0	9.8	59.4	10.9
	15	31.5	5.36	37.1	6.56	42.6	7.78	45.2	8.4	48.4	9.02	54.0	10.3	57.4	10.9
	20	31.5	5.64	37.1	6.90	42.6	8.32	45.2	9.18	48.4	10.1	54.0	11.9	55.6	12.3
	25	31.5	6.44	37.1	8.18	42.6	10.10	45.2	11.12	48.4	12.2	52.8	13.8	53.8	13.9
	30	31.5	7.70	37.1	9.8	42.6	12.08	45.2	13.3	48.4	14.5	50.8	15.5	51.8	15.6
	35	31.5	9.18	37.1	11.6	42.6	14.34	45.2	15.5	48.0	17.0	49.0	17.2	50.0	17.3
	41	31.5	10.6	37.1	13.4	42.6	16.66	45.2	17.6	46.2	18.5	47.2	18.6	48.2	18.8
	43	31.5	11.6	37.1	14.4	42.6	17.68	45.2	19.4	45.0	19.4	46.2	19.6	47.2	19.8
90	5	28.4	4.26	33.4	5.24	38.6	6.24	41	6.72	43.6	7.20	48.6	8.26	53.6	9.28
	10	28.4	4.50	33.4	5.50	38.6	6.54	41	7.06	43.6	7.58	48.6	8.66	53.6	9.7
	15	28.4	4.74	33.4	5.76	38.6	6.84	41	7.4	43.6	7.96	48.6	9.06	53.6	10.2
	20	28.4	4.98	33.4	6.06	38.6	7.20	41	7.82	43.6	8.56	48.6	10.1	53.6	11.8
	25	28.4	5.54	33.4	7.02	38.6	8.62	41	9.48	43.6	10.4	48.6	12.3	52.6	13.8
	30	28.4	6.66	33.4	8.42	38.6	10.34	41	11.36	43.6	12.4	48.6	14.8	50.8	15.5
	35	28.4	7.92	33.4	10.0	38.6	12.26	41	13.48	43.6	14.7	48.0	17.0	49.0	17.1
	41	28.4	9.12	33.4	11.6	38.6	14.26	41	14.7	43.6	17.1	46.2	18.5	46.8	18.6
43	28.4	10.2	33.4	12.3	38.6	15.24	41	16.4	43.6	18.6	45.0	19.2	45.8	19.6	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	25.1	3.74	29.7	4.56	34.2	5.38	36.6	5.82	38.6	6.26	43.2	7.16	47.8	8.04
	10	25.1	3.92	29.7	4.78	34.2	5.66	36.6	6.12	38.6	6.58	43.2	7.52	47.8	8.46
	15	25.1	4.10	29.7	5.00	34.2	5.94	36.6	6.42	38.6	6.90	43.2	7.88	47.8	8.88
	20	25.1	4.32	29.7	5.26	34.2	6.24	36.6	6.74	38.6	7.26	43.2	8.46	47.8	10.3
	25	25.1	4.70	29.7	5.92	34.2	7.26	36.6	7.96	38.6	8.70	43.2	10.3	47.8	12.8
	30	25.1	5.66	29.7	7.12	34.2	8.70	36.6	9.56	38.6	10.4	43.2	12.3	47.8	14.3
	35	25.1	6.74	29.7	8.46	34.2	10.34	36.6	11.34	38.6	12.4	43.2	14.6	47.8	16.9
	41	25.1	7.94	29.7	9.7	34.2	11.94	36.6	13.14	38.6	14.4	43.2	16.9	45.6	18.4
43	25.1	9.26	29.7	10.6	34.2	12.70	36.6	14.34	38.6	15.9	43.2	17.5	43.4	19.6	
70	5	22.1	3.18	26.0	3.86	29.8	4.58	31.8	4.94	33.8	5.34	37.8	6.10	41.8	4.88
	10	22.1	3.34	26.0	4.06	29.8	4.82	31.8	5.2	33.8	5.60	37.8	6.40	41.8	7.22
	15	22.1	3.50	26.0	4.26	29.8	5.06	31.8	5.46	33.8	5.86	37.8	6.70	41.8	7.56
	20	22.1	3.68	26.0	4.48	29.8	5.32	31.8	5.74	33.8	6.18	37.8	7.06	41.8	8.04
	25	22.1	3.90	26.0	4.90	29.8	5.98	31.8	6.56	33.8	7.16	37.8	8.42	41.8	9.7
	30	22.1	4.72	26.0	5.90	29.8	7.20	31.8	7.88	33.8	8.58	37.8	10.1	41.8	11.7
	35	22.1	5.64	26.0	7.02	29.8	8.54	31.8	9.36	33.8	10.2	37.8	12.0	41.8	13.8
	41	22.1	6.44	26.0	7.96	29.8	9.86	31.8	10.62	33.8	11.8	37.8	13.9	41.8	16.1
43	22.1	6.84	26.0	8.38	29.8	10.96	31.8	10.92	33.8	12.7	37.8	15.1	41.8	17.6	
60	5	18.8	2.64	22.2	3.22	25.6	3.80	27.4	4.14	29.2	4.42	32.4	5.04	35.8	5.68
	10	18.8	2.78	22.2	3.38	25.6	4.00	27.4	4.32	29.2	4.64	32.4	5.30	35.8	5.98
	15	18.8	2.92	22.2	3.54	25.6	4.20	27.4	4.54	29.2	4.86	32.4	5.56	35.8	6.28
	20	18.8	3.06	22.2	3.72	25.6	4.40	27.4	4.76	29.2	5.12	32.4	5.86	35.8	6.60
	25	18.8	3.22	22.2	3.96	25.6	4.82	27.4	5.26	29.2	5.74	32.4	6.72	35.8	7.76
	30	18.8	3.84	22.2	4.80	25.6	5.82	27.4	6.34	29.2	6.90	32.4	8.06	35.8	9.3
	35	18.8	4.60	22.2	5.72	25.6	6.90	27.4	7.54	29.2	8.20	32.4	9.6	35.8	11.0
	41	18.8	5.24	22.2	6.50	25.6	7.92	27.4	8.66	29.2	9.4	32.4	11.1	35.8	12.8
43	18.8	5.72	22.2	6.64	25.6	8.64	27.4	9.7	29.2	10.3	32.4	11.9	35.8	14	
50	5	15.7	2.14	18.6	2.64	21.4	3.06	22.8	3.24	24.2	3.52	27.0	4.06	29.8	4.56
	10	15.7	2.24	18.6	2.72	21.4	3.22	22.8	3.46	24.2	3.72	27.0	4.26	29.8	4.80
	15	15.7	2.34	18.6	2.80	21.4	3.38	22.8	3.64	24.2	3.92	27.0	4.46	29.8	5.04
	20	15.7	2.46	18.6	3.00	21.4	3.54	22.8	3.82	24.2	4.10	27.0	4.70	29.8	5.30
	25	15.7	2.60	18.6	3.14	21.4	3.74	22.8	4.08	24.2	4.44	27.0	5.18	29.8	5.96
	30	15.7	3.04	18.6	3.76	21.4	4.52	22.8	4.94	24.2	5.36	27.0	6.26	29.8	7.16
	35	15.7	3.66	18.6	4.50	21.4	5.42	22.8	5.88	24.2	6.38	27.0	7.42	29.8	8.5
	41	15.7	4.16	18.6	4.78	21.4	6.18	22.8	6.74	24.2	7.32	27.0	8.52	29.8	9.8
43	15.7	4.64	18.6	5.26	21.4	6.78	22.8	7.34	24.2	7.92	27.0	9.3	29.8	10.7	

D. AV18NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
130	5	45.6	8.29	53.8	10.07	62.0	11.75	65.9	13.18	68.3	12.97	69.9	11.74	71.4	11.11
	10	45.6	8.56	53.8	10.38	62.0	12.23	66.3	13.14	66.9	12.91	68.5	12.32	70.0	11.73
	15	45.6	8.97	53.8	10.86	62.0	12.79	64.6	13.12	65.3	12.99	66.3	13.03	68.0	13.07
	20	45.6	9.45	53.8	12.08	61.3	14.68	62.6	14.75	62.7	14.83	64.3	14.96	65.8	15.11
	25	45.6	11.41	53.8	14.57	59.3	16.63	60.4	16.71	60.7	16.79	62.3	16.96	63.7	17.13
	30	45.6	13.57	53.8	16.73	57.1	18.63	57.7	18.69	58.6	18.75	59.1	18.93	61.6	19.33
	35	45.6	16.11	53.4	20.34	55.5	20.57	55.7	20.73	56.5	20.78	58.1	20.99	59.5	21.20
	41	45.6	18.46	52.3	21.89	53.0	22.14	53.8	22.20	54.5	22.25	56.1	22.46	57.3	22.64
43	45.6	19.98	51.3	22.60	51.8	23.50	52.7	23.79	53.3	23.89	55.0	24.12	55.8	24.30	
120	5	42.3	7.61	49.6	9.05	57.3	10.48	61	11.56	65.1	12.49	68.7	12.72	70.1	12.00
	10	42.3	7.78	49.6	9.45	57.3	11.15	61	12.00	64.7	12.84	67.4	12.75	68.7	12.21
	15	42.3	8.15	49.6	9.91	57.3	11.68	61	12.55	63.9	13.17	65.2	12.93	66.6	12.91
	20	42.3	8.56	49.6	10.71	57.3	13.27	61	14.63	61.8	14.73	63.1	14.85	64.5	15.00
	25	42.3	10.16	49.6	12.93	57.3	16.00	59	16.60	59.8	16.68	61.2	16.84	62.4	16.98
	30	42.3	12.04	49.6	15.43	55.9	18.47	56.8	18.61	57.6	18.69	58.8	18.84	60.3	19.02
	35	42.3	14.35	49.6	18.27	54.4	20.38	54.8	20.55	55.5	20.60	56.9	20.80	58.2	21.01
	41	42.3	16.52	49.6	20.98	51.9	22.05	52.8	22.06	53.6	22.06	54.5	22.46	55.9	22.46
43	42.3	17.99	49.6	23.10	50.8	23.4	51.7	23.59	52.3	23.7	53.2	23.99	54.9	24.23	
110	5	38.8	6.79	45.5	8.18	52.5	9.66	55.9	10.50	59.3	11.29	67.6	13.26	69.0	12.66
	10	38.8	7.02	45.5	8.53	52.5	10.07	55.9	10.86	59.3	11.64	66.2	13.18	67.5	12.70
	15	38.8	7.36	45.5	8.94	52.5	10.56	55.9	11.34	59.3	12.17	64.0	13.11	65.4	12.91
	20	38.8	7.73	45.5	9.42	52.5	11.63	55.9	12.80	59.3	14.03	62.0	14.76	63.3	14.87
	25	38.8	8.98	45.5	11.38	52.5	14.03	55.9	15.93	58.2	16.91	59.5	17.05	60.8	17.19
	30	38.8	10.72	45.5	13.58	52.5	16.87	55.9	18.33	56.1	18.53	57.8	18.72	59.1	18.86
	35	38.8	12.68	45.5	16.07	52.5	19.09	53.8	20.37	54.5	20.54	55.7	20.73	57.0	20.93
	41	38.8	14.71	45.5	18.69	51.1	20.84	51.9	21.98	52.5	21.93	53.3	22.24	54.9	22.44
43	38.8	15.93	45.5	20.17	49.8	22.3	50.8	22.94	51.3	22.54	52.1	22.86	53.6	23.06	
100	5	35.1	6.19	41.3	7.32	47.6	8.73	50.6	9.67	53.9	10.03	60.2	11.47	69.0	13.23
	10	35.1	6.28	41.3	7.63	47.6	9.00	50.6	9.71	53.9	10.41	60.2	11.83	67.4	13.17
	15	35.1	6.57	41.3	7.99	47.6	9.43	50.6	10.18	53.9	10.90	60.2	12.38	65.7	13.10
	20	35.1	6.90	41.3	8.39	47.6	10.07	50.6	11.09	53.9	12.14	60.2	14.36	64.2	14.76
	25	35.1	7.84	41.3	9.91	47.6	12.17	50.6	13.39	53.9	14.64	58.8	16.59	62.0	16.73
	30	35.1	9.36	41.3	11.77	47.6	14.53	50.6	15.83	53.9	17.42	56.6	18.60	59.4	18.70
	35	35.1	11.09	41.3	13.99	47.6	17.20	50.6	17.35	53.5	20.34	54.6	20.55	56.9	20.74
	41	35.1	12.85	41.3	16.17	47.6	19.95	50.6	20.91	51.5	21.84	52.6	22.14	53.7	22.00
43	35.1	14.26	41.3	17.50	47.6	21.44	50.6	22.30	50.2	22.66	51.6	22.76	52.5	22.74	
90	5	31.8	5.37	37.3	6.53	43.0	7.72	45.8	8.26	48.7	8.97	54.2	10.08	59.8	11.32
	10	31.8	5.55	37.3	6.74	43.0	7.95	45.8	8.58	48.7	9.20	54.2	10.48	59.8	11.75
	15	31.8	5.82	37.3	7.05	43.0	8.32	45.8	8.97	48.7	9.65	54.2	10.96	59.8	12.30
	20	31.8	6.11	37.3	7.41	43.0	8.75	45.8	9.48	48.7	10.37	54.2	12.23	59.8	14.22
	25	31.8	6.78	37.3	8.53	43.0	10.43	45.8	11.45	48.7	12.51	54.2	14.75	58.7	16.58
	30	31.8	8.11	37.3	10.19	43.0	12.46	45.8	13.67	48.7	14.93	54.2	17.64	56.7	18.52
	35	31.8	9.59	37.3	12.04	43.0	14.74	45.8	16.18	48.7	17.68	53.5	20.35	54.6	20.54
	41	31.8	10.98	37.3	13.94	43.0	17.07	45.8	18.31	48.7	20.31	51.3	22.07	52.4	22.14
43	31.8	11.75	37.3	15.03	43.0	18.29	45.8	19.70	48.7	21.40	49.5	22.56	51.3	22.76	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
80	5	28.4	4.72	33.0	5.71	38.3	6.71	40.8	7.29	43.1	7.72	48.2	8.80	53.2	9.69
	10	28.4	4.86	33.0	5.88	38.3	6.93	40.8	7.55	43.1	8.01	48.2	9.13	53.2	10.24
	15	28.4	5.07	33.0	6.15	38.3	7.26	40.8	7.82	43.1	8.39	48.2	9.56	53.2	10.73
	20	28.4	5.33	33.0	6.45	38.3	7.61	40.8	8.21	43.1	8.81	48.2	10.24	53.2	12.09
	25	28.4	5.78	33.0	7.23	38.3	8.81	40.8	9.65	43.1	10.52	48.2	12.37	53.2	14.80
	30	28.4	6.91	33.0	8.65	38.3	10.52	40.8	11.54	43.1	12.56	48.2	14.76	53.2	17.13
	35	28.4	8.20	33.0	10.23	38.3	12.46	40.8	13.65	43.1	14.87	48.2	17.47	53.2	20.30
	41	28.4	9.37	33.0	11.95	38.3	14.40	40.8	15.78	43.1	17.23	47.7	20.09	50.9	21.82
43	28.4	10.41	33.0	12.40	38.3	15.48	40.8	16.97	43.1	18.47	46.5	20.87	49.2	22.64	
70	5	24.6	4.04	29.2	4.88	33.5	5.63	35.5	6.23	37.7	6.60	42.1	7.53	46.6	7.31
	10	24.6	4.17	29.2	5.03	33.5	5.92	35.5	6.38	37.7	6.85	42.1	7.80	46.6	8.77
	15	24.6	4.36	29.2	5.26	33.5	6.21	35.5	6.68	37.7	7.16	42.1	8.15	46.6	9.18
	20	24.6	4.57	29.2	5.52	33.5	6.51	35.5	7.02	37.7	7.53	42.1	8.58	46.6	9.74
	25	24.6	4.84	29.2	6.02	33.5	7.31	35.5	7.99	37.7	8.70	42.1	10.19	46.6	11.76
	30	24.6	5.81	29.2	7.19	33.5	8.75	35.5	9.55	37.7	10.39	42.1	12.16	46.6	14.04
	35	24.6	6.89	29.2	8.53	33.5	10.34	35.5	11.30	37.7	12.29	42.1	14.38	46.6	16.60
	41	24.6	7.79	29.2	9.76	33.5	11.96	35.5	12.98	37.7	14.21	42.1	16.62	46.6	19.34
43	24.6	8.36	29.2	10.48	33.5	13.12	35.5	13.86	37.7	15.42	40.9	17.74	46.0	20.54	
60	5	21.2	3.40	24.9	4.11	28.7	4.79	30.5	5.22	32.4	5.53	36.1	6.14	39.9	6.88
	10	21.2	3.51	24.9	4.23	28.7	4.95	30.5	5.45	32.4	5.72	36.1	6.50	39.9	7.31
	15	21.2	3.68	24.9	4.42	28.7	5.18	30.5	5.59	32.4	5.99	36.1	6.80	39.9	7.65
	20	21.2	3.85	24.9	4.63	28.7	5.43	30.5	5.85	32.4	6.28	36.1	7.15	39.9	8.03
	25	21.2	4.04	24.9	4.91	28.7	5.92	30.5	6.46	32.4	7.02	36.1	8.18	39.9	9.40
	30	21.2	4.77	24.9	5.90	28.7	8.31	30.5	7.73	32.4	8.36	36.1	9.76	39.9	11.24
	35	21.2	5.67	24.9	6.98	28.7	8.40	30.5	9.15	32.4	9.93	36.1	11.55	39.9	13.29
	41	21.2	6.47	24.9	6.73	28.7	9.59	30.5	10.14	32.4	11.43	36.1	13.36	39.9	15.41
43	21.2	7.08	24.9	7.17	28.7	10.20	30.5	11.25	32.4	12.49	36.1	14.50	39.9	16.21	
50	5	17.6	2.80	20.8	3.37	23.9	3.92	25.4	4.19	26.9	4.47	30.1	5.04	33.2	5.68
	10	17.6	2.87	20.8	3.44	23.9	4.04	25.4	4.33	26.9	4.63	30.1	5.26	33.2	5.90
	15	17.6	3.00	20.8	3.57	23.9	4.21	25.4	4.53	26.9	4.85	30.1	5.50	33.2	6.18
	20	17.6	3.14	20.8	3.77	23.9	4.42	25.4	4.75	26.9	5.09	30.1	5.78	33.2	6.49
	25	17.6	3.30	20.8	3.95	23.9	4.65	25.4	5.05	26.9	5.48	30.1	6.36	33.2	7.27
	30	17.6	3.82	20.8	4.67	23.9	5.58	25.4	6.07	26.9	6.57	30.1	7.61	33.2	8.70
	35	17.6	4.55	20.8	5.55	23.9	6.64	25.4	7.18	26.9	7.78	30.1	9.00	33.2	10.29
	41	17.6	5.19	20.8	6.16	23.9	7.56	25.4	8.21	26.9	8.93	30.1	10.54	33.2	11.95
43	17.6	5.79	20.8	6.76	23.9	8.24	25.4	9.24	26.9	9.70	30.1	11.29	33.2	13.24	

E. AV20NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	50.4	10.4	59.4	12.40	68.4	14.28	72.4	15.87	74.8	15.72	76.2	14.26	78.2	13.96
	10	50.4	10.5	59.4	12.62	68.4	14.77	73.2	15.82	73.8	15.55	75.6	14.87	77.2	14.18
	15	50.4	11.0	59.4	13.18	68.4	15.40	71.8	15.79	72.4	15.65	73.2	15.74	75.0	15.77
	20	50.4	11.5	59.4	14.60	67.6	17.60	69.6	17.67	69.2	17.77	71.0	17.92	72.6	18.09
	25	50.4	13.8	59.4	17.48	65.6	19.84	67.2	19.94	67.0	20.04	68.8	20.23	70.2	20.43
	30	50.4	16.4	59.4	19.38	63.0	22.11	63.6	21.69	64.6	21.84	64.4	22.06	67.8	22.27
	35	50.4	19.3	58.8	22.69	61.6	22.93	61.4	23.29	62.4	23.49	64.2	23.71	65.6	23.93
	41	50.4	22.3	58.4	24.30	58.4	24.56	59.4	24.76	60.0	24.86	62.0	25.01	62.8	25.08
43	50.4	23.2	57.4	24.60	57.2	24.80	58.2	24.99	58.6	25.09	60.8	25.22	61.0	25.30	
120	5	46.8	9.4	54.8	11.13	63.2	13.06	67.4	14.11	71.4	15.16	75.2	15.48	76.8	14.82
	10	46.8	9.6	54.8	11.55	63.2	13.52	67.4	14.50	71.4	15.48	74.4	15.38	75.8	14.74
	15	46.8	10.1	54.8	12.08	63.2	14.11	67.4	15.13	70.4	15.84	71.8	15.57	73.4	15.67
	20	46.8	10.5	54.8	13.01	63.2	15.96	67.4	17.55	68.2	17.65	69.6	17.79	71.2	17.96
	25	46.8	12.4	54.8	15.57	63.2	19.14	65.2	19.82	66.0	19.92	67.6	20.09	68.8	20.26
	30	46.8	14.7	54.8	18.48	61.6	20.86	62.6	21.06	63.4	21.30	64.8	21.66	66.6	21.85
	35	46.8	17.2	54.8	20.30	60.4	22.14	60.4	22.37	61.2	22.67	62.8	22.89	64.2	23.71
	41	46.8	20.0	54.8	22.61	57.2	23.56	58.4	23.76	59.2	23.86	59.8	24.56	61.4	24.86
43	46.8	21.1	54.8	23.50	56.0	23.9	57.2	23.99	57.8	24.7	58.4	24.99	60.4	25.23	
110	5	43.0	8.6	50.2	10.13	58.0	11.84	61.8	12.84	65.4	13.84	74.0	15.96	75.4	15.40
	10	43.0	8.7	50.2	10.50	58.0	12.28	61.8	13.18	65.4	14.09	73.0	15.87	74.4	15.31
	15	43.0	9.2	50.2	10.96	58.0	12.84	61.8	13.77	65.4	14.70	70.6	15.79	72.2	15.55
	20	43.0	9.6	50.2	11.52	58.0	14.06	61.8	15.43	65.4	16.84	68.4	17.70	69.8	17.82
	25	43.0	11.0	50.2	13.79	58.0	16.84	61.8	18.48	64.6	19.79	66.0	19.94	67.4	20.11
	30	43.0	13.0	50.2	16.33	58.0	20.23	61.8	21.19	61.8	21.39	63.8	21.63	65.2	21.78
	35	43.0	15.3	50.2	17.76	58.0	20.61	59.4	22.24	60.2	22.77	61.4	22.99	62.8	23.41
	41	43.0	17.8	50.2	21.00	56.6	22.22	57.4	23.62	58.0	23.72	58.6	24.24	60.4	24.68
43	43.0	19.3	50.2	22.57	55.2	23.5	56.2	23.94	56.6	24.34	57.2	24.86	59.0	24.96	
100	5	38.8	7.7	45.6	9.13	52.6	10.74	56.0	12.16	59.4	12.33	66.4	14.06	76.6	15.92
	10	38.8	7.9	45.6	9.45	52.6	11.04	56.0	11.84	59.4	12.67	66.4	14.30	75.4	15.84
	15	38.8	8.2	45.6	9.86	52.6	11.52	56.0	12.40	59.4	13.23	66.4	14.94	74.0	15.77
	20	38.8	8.6	45.6	10.33	52.6	12.28	56.0	13.45	59.4	14.67	66.4	17.23	72.8	17.70
	25	38.8	9.7	45.6	12.08	52.6	14.70	56.0	16.11	59.4	17.55	64.8	19.82	70.2	19.97
	30	38.8	11.5	45.6	14.18	52.6	17.43	56.0	18.82	59.4	20.28	62.4	21.26	67.0	21.79
	35	38.8	13.5	45.6	15.34	52.6	19.05	56.0	19.65	59.0	22.34	60.2	22.87	63.8	23.19
	41	38.8	15.7	45.6	18.15	52.6	21.72	56.0	22.81	56.8	23.60	58.0	24.14	59.2	24.30
43	38.8	17.5	45.6	19.78	52.6	23.40	56.0	23.60	55.4	24.36	57.0	24.66	57.8	24.68	
90	5	35.2	6.9	41.2	8.28	47.4	9.64	50.6	10.25	53.8	11.18	59.8	12.35	66.0	13.82
	10	35.2	7.1	41.2	8.42	47.4	9.82	50.6	10.55	53.8	11.28	59.8	12.74	66.0	14.21
	15	35.2	7.4	41.2	8.79	47.4	10.25	50.6	10.99	53.8	11.79	59.8	13.30	66.0	14.84
	20	35.2	7.7	41.2	9.21	47.4	10.74	50.6	11.60	53.8	12.62	59.8	14.77	66.0	17.06
	25	35.2	8.5	41.2	10.50	47.4	12.69	50.6	13.87	53.8	15.09	59.8	17.67	64.8	19.79
	30	35.2	10.0	41.2	12.40	47.4	15.04	50.6	16.43	53.8	17.89	59.8	20.76	62.6	21.49
	35	35.2	11.7	41.2	13.10	47.4	16.22	50.6	19.33	53.8	20.91	59.0	22.64	60.2	22.87
	41	35.2	13.5	41.2	15.51	47.4	19.08	50.6	21.58	53.8	22.84	56.4	23.84	58.0	24.44
43	35.2	14.0	41.2	16.98	47.4	20.54	50.6	22.60	53.8	23.41	54.0	24.56	56.8	24.66	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
80	5	31.6	6.2	36.4	7.30	42.4	8.50	45	9.21	47.6	9.62	53.2	10.89	58.6	11.79
	10	31.6	6.3	36.4	7.42	42.4	8.64	45	9.42	47.6	9.89	53.2	11.18	58.6	12.47
	15	31.6	6.5	36.4	7.74	42.4	9.03	45	9.67	47.6	10.33	53.2	11.69	58.6	13.04
	20	31.6	6.8	36.4	8.08	42.4	9.42	45	10.13	47.6	10.82	53.2	12.47	58.6	14.38
	25	31.6	7.3	36.4	8.99	42.4	10.82	45	11.79	47.6	12.79	53.2	14.94	58.6	17.21
	30	31.6	8.6	36.4	10.62	42.4	12.79	45	13.96	47.6	15.16	53.2	17.70	58.6	20.43
	35	31.6	10.1	36.4	11.00	42.4	13.59	45	16.40	47.6	17.82	53.2	20.82	58.6	22.64
	41	31.6	11.4	36.4	13.37	42.4	16.05	45	18.06	47.6	19.70	52.2	22.52	56.2	24.00
43	31.6	12.2	36.4	14.69	42.4	17.47	45	19.26	47.6	20.67	49.8	23.41	55.0	24.44	
70	5	27.2	5.4	32.4	6.35	37.2	7.13	39.2	7.96	41.6	8.30	46.4	9.40	51.4	10.18
	10	27.2	5.4	32.4	6.45	37.2	7.47	39.2	8.01	41.6	8.55	46.4	9.64	51.4	10.77
	15	27.2	5.7	32.4	6.72	37.2	7.81	39.2	8.35	41.6	8.91	46.4	10.06	51.4	11.25
	20	27.2	5.9	32.4	7.01	37.2	8.16	39.2	8.74	41.6	9.33	46.4	10.55	51.4	11.89
	25	27.2	6.2	32.4	7.59	37.2	9.08	39.2	9.86	41.6	10.69	46.4	12.40	51.4	14.23
	30	27.2	7.4	32.4	8.94	37.2	10.74	39.2	11.67	41.6	12.65	46.4	14.70	51.4	16.87
	35	27.2	8.6	32.4	9.05	37.2	11.15	39.2	13.69	41.6	14.84	46.4	17.26	51.4	18.82
	41	27.2	9.8	32.4	10.76	37.2	13.27	39.2	14.99	41.6	16.28	46.4	19.04	51.4	21.59
43	27.2	10.5	32.4	11.78	37.2	14.49	39.2	16.45	41.6	17.75	44.0	20.01	50.2	22.49	
60	5	23.6	4.6	27.6	5.45	31.8	6.23	33.6	6.74	35.6	7.08	39.8	7.69	44.0	8.52
	10	23.6	4.7	27.6	5.52	31.8	6.35	33.6	7.03	35.6	7.25	39.8	8.16	44.0	9.08
	15	23.6	4.9	27.6	5.74	31.8	6.62	33.6	7.08	35.6	7.57	39.8	8.50	44.0	9.47
	20	23.6	5.1	27.6	5.98	31.8	6.91	33.6	7.40	35.6	7.89	39.8	8.89	44.0	9.91
	25	23.6	5.3	27.6	6.30	31.8	7.47	33.6	8.11	35.6	8.74	39.8	10.08	44.0	11.50
	30	23.6	6.2	27.6	7.45	31.8	11.25	33.6	9.57	35.6	10.28	39.8	11.91	44.0	13.62
	35	23.6	7.2	27.6	7.24	31.8	8.90	33.6	11.21	35.6	12.11	39.8	13.99	44.0	14.99
	41	23.6	8.3	27.6	6.17	31.8	10.46	33.6	11.83	35.6	13.61	39.8	15.86	44.0	17.02
43	23.6	9.1	27.6	6.90	31.8	10.95	33.6	12.48	35.6	14.28	39.8	16.77	44.0	17.41	
50	5	19.5	3.9	23.0	4.54	26.4	5.23	28	5.59	29.6	5.86	33.2	6.47	36.6	7.25
	10	19.5	4.0	23.0	4.62	26.4	5.30	28	5.64	29.6	5.98	33.2	6.72	36.6	7.45
	15	19.5	4.1	23.0	4.79	26.4	5.50	28	5.86	29.6	6.23	33.2	6.98	36.6	7.77
	20	19.5	4.3	23.0	4.98	26.4	5.74	28	6.13	29.6	6.52	33.2	7.30	36.6	8.13
	25	19.5	4.4	23.0	5.20	26.4	6.01	28	6.47	29.6	6.96	33.2	7.99	36.6	9.03
	30	19.5	5.1	23.0	6.03	26.4	7.08	28	7.64	29.6	8.23	33.2	9.40	36.6	10.69
	35	19.5	5.9	23.0	5.61	26.4	6.85	28	8.94	29.6	9.62	33.2	11.04	36.6	11.77
	41	19.5	6.8	23.0	6.73	26.4	8.15	28	9.88	29.6	10.73	33.2	12.76	36.6	13.09
43	19.5	7.6	23.0	7.46	26.4	8.90	28	10.79	29.6	11.13	33.2	13.49	36.6	14.78	

F. AV24NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	61.3	9.77	72.4	12.02	83.4	14.24	89.1	16.16	92.7	15.74	95.4	14.27	96.9	12.8
	10	61.3	10.31	72.4	12.62	83.4	14.96	89.1	16.13	90.0	15.83	92.1	15.08	94.2	14.33
	15	61.3	10.85	72.4	13.22	83.4	15.68	86.1	16.1	87.3	15.92	89.1	15.89	91.5	15.98
	20	61.3	11.45	72.4	14.78	82.5	18.08	83.4	18.17	84.3	18.26	86.4	18.44	88.5	18.62
	25	61.3	13.94	72.4	17.93	79.5	20.54	80.4	20.63	81.6	20.75	83.7	20.96	85.8	21.17
	30	61.3	16.58	72.4	21.53	76.8	23.15	77.7	23.15	78.9	23.18	80.7	23.36	83.1	24.23
	35	61.3	19.88	71.9	25.25	74.1	25.55	75.0	25.67	75.9	25.82	78.0	26.09	80.1	26.36
	43	61.3	22.39	69.4	26.92	71.4	27.19	72.3	27.37	73.5	27.52	75.3	28.15	77.7	28.45
120	5	56.7	9.08	66.7	10.88	77.1	12.26	81.9	13.94	88.2	15.17	93.3	15.38	95.1	14.21
	10	56.7	9.32	66.7	11.45	77.1	13.58	81.9	14.66	87.0	15.74	90.6	15.62	92.4	14.93
	15	56.7	9.8	66.7	12.02	77.1	14.30	81.9	15.38	86.1	16.16	87.9	15.86	89.7	15.65
	20	56.7	10.31	66.7	13.04	77.1	16.28	81.9	17.99	83.1	18.14	84.9	18.29	86.7	18.47
	25	56.7	12.35	66.7	15.86	77.1	19.73	79.2	20.51	80.4	20.60	82.2	20.81	84.0	20.99
	30	56.7	14.54	66.7	19.01	75.3	22.88	76.5	23	77.7	23.12	79.2	23.33	81.0	23.57
	35	56.7	17.66	66.7	22.61	72.6	25.37	73.8	25.49	74.7	25.64	76.5	25.88	78.3	26.15
	43	56.7	21.64	66.7	30.25	68.4	30.6	69.3	31.15	70.2	31.5	72.0	32.35	74.1	32.95
110	5	51.8	7.94	61.3	9.77	70.5	11.63	75.0	12.65	79.8	13.52	91.8	16.25	93.9	15.29
	10	51.8	8.36	61.3	10.28	70.5	12.23	75.0	13.22	79.8	14.21	89.1	16.16	90.9	15.56
	15	51.8	8.78	61.3	10.79	70.5	12.83	75.0	13.79	79.8	14.90	86.1	16.07	87.9	15.83
	20	51.8	9.26	61.3	11.39	70.5	14.21	75.0	15.68	79.8	17.24	83.4	18.17	85.2	18.32
	25	51.8	10.85	61.3	13.88	70.5	17.24	75.0	20.51	77.7	21.47	79.5	21.65	81.3	21.83
	30	51.8	13.07	61.3	16.67	70.5	20.69	75.0	22.67	75.6	22.97	77.7	23.15	79.5	23.36
	35	51.8	15.53	61.3	19.82	70.5	24.59	72.3	25.34	73.2	25.46	75.0	25.67	76.8	25.91
	43	51.8	17.95	61.3	23.02	68.4	27.31	69.6	27.43	70.5	27.28	72.0	27.85	74.1	28.45
100	5	47.2	7.37	55.6	8.69	63.9	10.49	67.8	11.21	72.6	12.02	81.0	13.73	92.1	16.25
	10	47.2	7.43	55.6	9.14	63.9	10.88	67.8	11.78	72.6	12.65	81.0	14.45	89.1	16.16
	15	47.2	7.79	55.6	9.59	63.9	11.42	67.8	12.35	72.6	13.28	81.0	15.17	86.1	16.07
	20	47.2	8.21	55.6	10.10	63.9	12.23	67.8	13.52	72.6	14.84	81.0	17.66	83.4	18.17
	25	47.2	9.41	55.6	12.02	63.9	14.90	67.8	16.43	72.6	18.02	79.2	20.48	80.7	20.66
	30	47.2	11.3	55.6	14.45	63.9	17.87	67.8	19.7	72.6	21.47	76.2	22.97	77.7	23.18
	35	47.2	13.52	55.6	17.21	63.9	21.26	67.8	23.0	72.0	25.25	73.5	25.49	75.0	25.7
	43	47.2	15.58	55.6	19.75	63.9	24.64	67.8	26.05	69.3	27.37	70.8	27.55	72.3	27.85
90	5	42.6	6.14	50.2	7.61	57.9	9.11	61.5	9.83	65.4	10.55	72.9	12.14	80.4	13.67
	10	42.6	6.5	50.2	8.00	57.9	9.56	61.5	10.34	65.4	11.12	72.9	12.74	80.4	14.36
	15	42.6	6.86	50.2	8.39	57.9	10.01	61.5	10.85	65.4	11.69	72.9	13.34	80.4	15.05
	20	42.6	7.22	50.2	8.84	57.9	10.55	61.5	11.48	65.4	12.59	72.9	14.96	80.4	17.48
	25	42.6	8.06	50.2	10.28	57.9	12.68	61.5	13.97	65.4	15.32	72.9	18.17	78.9	20.48
	30	42.6	9.74	50.2	12.38	57.9	15.26	61.5	16.79	65.4	18.38	72.9	21.89	76.2	22.94
	35	42.6	11.63	50.2	14.72	57.9	18.14	61.5	19.97	65.4	21.86	72.0	25.28	73.5	25.46
	43	42.6	13.33	50.2	16.99	57.9	21.04	61.5	21.7	65.4	25.36	69.3	27.34	70.2	27.55
	43	42.6	14.89	50.2	18.07	57.9	22.51	61.5	24.25	65.4	27.52	67.5	28.45	68.7	29.05

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14 (i)		16 (i)		18 (i)		19 (i)		20 (i)		22 (i)		24 (i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	37.7	5.36	44.5	6.59	51.3	7.82	54.9	8.48	57.9	9.14	64.8	10.49	71.7	11.81
	10	37.7	5.63	44.5	6.92	51.3	8.24	54.9	8.93	57.9	9.62	64.8	11.03	71.7	12.44
	15	37.7	5.9	44.5	7.25	51.3	8.66	54.9	9.38	57.9	10.10	64.8	11.57	71.7	13.07
	20	37.7	6.23	44.5	7.64	51.3	9.11	54.9	9.86	57.9	10.64	64.8	12.44	71.7	15.14
	25	37.7	6.8	44.5	8.63	51.3	10.64	54.9	11.69	57.9	12.80	64.8	15.14	71.7	19.01
	30	37.7	8.24	44.5	10.43	51.3	12.80	54.9	14.09	57.9	15.38	64.8	18.17	71.7	21.17
	35	37.7	9.86	44.5	12.44	51.3	15.26	54.9	16.76	57.9	18.32	64.8	21.62	71.7	25.13
	41	37.7	11.56	44.5	14.26	51.3	17.56	54.9	19.36	57.9	21.28	64.8	25.06	68.4	27.31
43	37.7	13.54	44.5	15.61	51.3	18.70	54.9	21.16	57.9	23.53	64.8	25.93	65.1	29.05	
70	5	33.1	4.52	39.1	5.54	44.7	6.62	47.7	7.16	50.7	7.76	56.7	8.9	62.7	7.07
	10	33.1	4.76	39.1	5.84	44.7	6.98	47.7	7.55	50.7	8.15	56.7	9.35	62.7	10.58
	15	33.1	5	39.1	6.14	44.7	7.34	47.7	7.94	50.7	8.54	56.7	9.8	62.7	11.09
	20	33.1	5.27	39.1	6.47	44.7	7.73	47.7	8.36	50.7	9.02	56.7	10.34	62.7	11.81
	25	33.1	5.6	39.1	7.10	44.7	8.72	47.7	9.59	50.7	10.49	56.7	12.38	62.7	14.36
	30	33.1	6.83	39.1	8.60	44.7	10.55	47.7	11.57	50.7	12.62	56.7	14.87	62.7	17.24
	35	33.1	8.21	39.1	10.28	44.7	12.56	47.7	13.79	50.7	15.02	56.7	17.69	62.7	20.51
	41	33.1	9.31	39.1	11.59	44.7	14.44	47.7	15.58	50.7	17.32	56.7	20.44	62.7	23.8
43	33.1	9.91	39.1	12.22	44.7	16.09	47.7	16.03	50.7	18.76	56.7	22.33	62.7	26.05	
60	5	28.2	3.71	33.4	4.58	38.4	5.45	41.1	5.96	43.8	6.38	48.6	7.31	53.7	8.27
	10	28.2	3.92	33.4	4.82	38.4	5.75	41.1	6.23	43.8	6.71	48.6	7.7	53.7	8.72
	15	28.2	4.13	33.4	5.06	38.4	6.05	41.1	6.56	43.8	7.04	48.6	8.09	53.7	9.17
	20	28.2	4.34	33.4	5.33	38.4	6.35	41.1	6.89	43.8	7.43	48.6	8.54	53.7	9.65
	25	28.2	4.58	33.4	5.69	38.4	6.98	41.1	7.64	43.8	8.36	48.6	9.83	53.7	11.39
	30	28.2	5.51	33.4	6.95	38.4	8.48	41.1	9.26	43.8	10.10	48.6	11.84	53.7	13.7
	35	28.2	6.65	33.4	8.33	38.4	10.10	41.1	11.06	43.8	12.05	48.6	14.09	53.7	16.31
	41	28.2	7.51	33.4	9.40	38.4	11.53	41.1	12.64	43.8	13.81	48.6	16.24	53.7	18.85
43	28.2	8.23	33.4	9.61	38.4	12.61	41.1	14.17	43.8	15.16	48.6	17.47	53.7	20.65	
50	5	23.6	2.96	27.9	3.71	32.1	4.34	34.2	4.61	36.3	5.03	40.5	5.84	44.7	6.59
	10	23.6	3.11	27.9	3.83	32.1	4.58	34.2	4.94	36.3	5.33	40.5	6.14	44.7	6.95
	15	23.6	3.26	27.9	3.95	32.1	4.82	34.2	5.21	36.3	5.63	40.5	6.44	44.7	7.31
	20	23.6	3.44	27.9	4.25	32.1	5.06	34.2	5.48	36.3	5.90	40.5	6.8	44.7	7.7
	25	23.6	3.65	27.9	4.46	32.1	5.36	34.2	5.87	36.3	6.41	40.5	7.52	44.7	8.69
	30	23.6	4.31	27.9	5.39	32.1	6.53	34.2	7.16	36.3	7.79	40.5	9.14	44.7	10.49
	35	23.6	5.24	27.9	6.50	32.1	7.88	34.2	8.57	36.3	9.32	40.5	10.88	44.7	12.5
	41	23.6	5.89	27.9	6.82	32.1	8.92	34.2	9.76	36.3	10.63	40.5	12.43	44.7	14.35
43	23.6	6.61	27.9	7.54	32.1	9.82	34.2	10.66	36.3	11.53	40.5	13.6	44.7	15.7	

G. AV26NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	66.1	11.38	78.0	13.91	89.8	16.33	95.6	18.40	99.2	18.05	101.76	16.33	103.7	15.206
	10	66.1	11.83	78.0	14.42	89.8	17.05	96.0	18.35	96.9	18.02	99.2	17.18	101.4	16.336
	15	66.1	12.42	78.0	15.10	89.8	17.85	93.3	18.32	94.4	18.13	96.0	18.16	98.5	18.229
	20	66.1	13.10	78.0	16.84	88.8	20.54	90.4	20.64	90.8	20.75	93.1	20.94	95.3	21.148
	25	66.1	15.89	78.0	20.38	85.8	23.31	87.2	23.42	87.9	23.54	90.2	23.78	92.3	24.019
	30	66.1	18.93	78.0	23.74	82.7	26.18	83.6	26.24	84.9	26.31	86.0	26.55	89.3	27.243
	35	66.1	22.57	77.3	28.59	80.2	28.92	80.7	29.12	81.8	29.22	84.1	29.52	86.2	29.822
	43	66.1	27.87	73.9	31.85	75.0	33.65	76.3	34.14	77.3	34.34	79.6	34.77	81.1	35.1
120	5	61.2	10.47	71.9	12.51	83.0	14.40	88.3	16.04	94.5	17.38	99.8	17.68	101.8	16.573
	10	61.2	10.72	71.9	13.10	83.0	15.51	88.3	16.72	93.7	17.92	97.6	17.79	99.5	17.017
	15	61.2	11.25	71.9	13.75	83.0	16.28	88.3	17.51	92.6	18.39	94.5	18.05	96.5	17.960
	20	61.2	11.83	71.9	14.89	83.0	18.53	88.3	20.46	89.5	20.61	91.4	20.78	93.4	20.987
	25	61.2	14.11	71.9	18.05	83.0	22.41	85.4	23.27	86.6	23.38	88.6	23.61	90.4	23.814
	30	61.2	16.72	71.9	21.60	81.0	25.93	82.3	26.11	83.5	26.23	85.2	26.45	87.3	26.705
	35	61.2	20.07	71.9	25.64	78.6	28.67	79.4	28.88	80.4	28.98	82.4	29.26	84.3	29.56
	43	61.2	24.97	71.9	32.95	73.6	33.34	74.8	33.74	75.7	33.9	77.2	34.54	79.6	34.98
110	5	56.0	9.27	66.0	11.27	76.0	13.37	80.9	14.55	85.9	15.63	98.2	18.51	100.3	17.586
	10	56.0	9.64	66.0	11.79	76.0	13.98	80.9	15.10	85.9	16.21	95.9	18.40	97.8	17.717
	15	56.0	10.12	66.0	12.37	76.0	14.67	80.9	15.77	85.9	16.97	92.7	18.30	94.7	18.019
	20	56.0	10.65	66.0	13.05	76.0	16.20	80.9	17.86	85.9	19.61	89.8	20.65	91.7	20.814
	25	56.0	12.43	66.0	15.84	76.0	19.61	80.9	22.60	84.1	23.90	86.0	24.10	87.9	24.301
	30	56.0	14.91	66.0	18.97	76.0	23.60	80.9	25.72	81.3	26.02	83.7	26.27	85.6	26.48
	35	56.0	17.69	66.0	22.51	76.0	27.12	77.9	28.65	78.9	28.86	80.7	29.12	82.6	29.4
	43	56.0	20.46	66.0	26.13	73.9	29.71	75.1	30.89	76.0	30.79	77.3	31.29	79.6	31.692
100	5	50.9	8.48	59.9	10.05	68.9	12.06	73.2	13.24	78.1	13.87	87.2	15.88	99.7	18.482
	10	50.9	8.59	59.9	10.51	68.9	12.46	73.2	13.47	78.1	14.46	87.2	16.48	97.1	18.386
	15	50.9	9.00	59.9	11.02	68.9	13.07	73.2	14.13	78.1	15.16	87.2	17.27	94.4	18.289
	20	50.9	9.47	59.9	11.59	68.9	13.98	73.2	15.43	78.1	16.92	87.2	20.08	92.0	20.653
	25	50.9	10.81	59.9	13.75	68.9	16.97	73.2	18.70	78.1	20.48	85.2	23.25	88.9	23.447
	30	50.9	12.96	59.9	16.42	68.9	20.32	73.2	22.23	78.1	24.41	82.0	26.09	85.3	26.262
	35	50.9	15.43	59.9	19.56	68.9	24.12	73.2	24.85	77.5	28.59	79.1	28.88	81.9	29.138
	43	50.9	19.73	59.9	24.36	68.9	29.93	73.2	31.65	72.7	32.01	74.7	32.21	76.1	32.292
90	5	46.0	7.25	54.0	8.90	62.3	10.59	66.3	11.37	70.5	12.32	78.5	13.96	86.6	15.713
	10	46.0	7.55	54.0	9.24	62.3	10.97	66.3	11.86	70.5	12.74	78.5	14.56	86.6	16.368
	15	46.0	7.94	54.0	9.68	62.3	11.49	66.3	12.42	70.5	13.38	78.5	15.24	86.6	17.145
	20	46.0	8.35	54.0	10.19	62.3	12.10	66.3	13.14	70.5	14.40	78.5	17.05	86.6	19.876
	25	46.0	9.30	54.0	11.79	62.3	14.49	66.3	15.94	70.5	17.45	78.5	20.64	85.0	23.242
	30	46.0	11.19	54.0	14.15	62.3	17.38	66.3	19.10	70.5	20.89	78.5	24.77	82.1	26.004
	35	46.0	13.30	54.0	16.78	62.3	20.62	66.3	22.67	70.5	24.80	77.5	28.61	79.1	28.856
	43	46.0	15.19	54.0	19.37	62.3	23.85	66.3	25.31	70.5	28.53	74.4	30.95	75.8	31.092

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
80	5	40.9	6.34	47.9	7.74	55.4	9.15	59.1	9.95	62.4	10.60	69.8	12.13	77.1	13.46
	10	40.9	6.57	47.9	8.02	55.4	9.51	59.1	10.36	62.4	11.05	69.8	12.64	77.1	14.22
	15	40.9	6.87	47.9	8.40	55.4	9.98	59.1	10.78	62.4	11.59	69.8	13.25	77.1	14.92
	20	40.9	7.24	47.9	8.83	55.4	10.48	59.1	11.33	62.4	12.19	69.8	14.22	77.1	16.97
	25	40.9	7.88	47.9	9.94	55.4	12.19	59.1	13.38	62.4	14.62	69.8	17.25	77.1	20.96
	30	40.9	9.49	47.9	11.96	55.4	14.62	59.1	16.07	62.4	17.52	69.8	20.65	77.1	24.01
	35	40.9	11.32	47.9	14.21	55.4	17.38	59.1	19.07	62.4	20.81	69.8	24.51	77.1	28.51
	41	40.9	12.99	47.9	16.47	55.4	20.02	59.1	22.00	62.4	24.09	69.3	28.21	73.7	30.68
43	40.9	14.69	47.9	17.37	55.4	21.48	59.1	23.79	62.4	26.08	68.1	29.28	70.9	32.09	
70	5	35.7	5.38	42.2	6.56	48.4	7.67	51.4	8.45	54.6	9.02	61.0	10.33	67.5	9.49
	10	35.7	5.59	42.2	6.81	48.4	8.08	51.4	8.73	54.6	9.40	61.0	10.75	67.5	12.12
	15	35.7	5.86	42.2	7.14	48.4	8.49	51.4	9.16	54.6	9.84	61.0	11.25	67.5	12.71
	20	35.7	6.16	42.2	7.51	48.4	8.92	51.4	9.64	54.6	10.37	61.0	11.86	67.5	13.50
	25	35.7	6.54	42.2	8.22	48.4	10.05	51.4	11.02	54.6	12.03	61.0	14.15	67.5	16.38
	30	35.7	7.92	42.2	9.89	48.4	12.10	51.4	13.24	54.6	14.43	61.0	16.95	67.5	19.61
	35	35.7	9.46	42.2	11.79	48.4	14.36	51.4	15.73	54.6	17.13	61.0	20.11	67.5	23.27
	41	35.7	10.66	42.2	13.39	48.4	16.54	51.4	17.94	54.6	19.75	61.0	23.20	67.5	27.04
43	35.7	11.43	42.2	14.32	48.4	18.25	51.4	18.97	54.6	21.44	59.8	24.95	66.9	28.99	
60	5	30.6	4.47	36.0	5.47	41.5	6.44	44.2	7.04	47.0	7.49	52.3	8.41	57.8	9.46
	10	30.6	4.65	36.0	5.67	41.5	6.70	44.2	7.36	47.0	7.79	52.3	8.90	57.8	10.04
	15	30.6	4.89	36.0	5.94	41.5	7.03	44.2	7.61	47.0	8.17	52.3	9.33	57.8	10.54
	20	30.6	5.13	36.0	6.24	41.5	7.38	44.2	7.98	47.0	8.59	52.3	9.83	57.8	11.08
	25	30.6	5.40	36.0	6.64	41.5	8.08	44.2	8.84	47.0	9.64	52.3	11.29	57.8	13.03
	30	30.6	6.44	36.0	8.05	41.5	10.97	44.2	10.65	47.0	11.56	52.3	13.54	57.8	15.63
	35	30.6	7.72	36.0	9.59	41.5	11.60	44.2	12.67	47.0	13.78	52.3	16.08	57.8	18.55
	41	30.6	8.74	36.0	9.63	41.5	13.20	44.2	14.12	47.0	15.80	52.3	18.54	57.8	21.46
43	30.6	9.59	36.0	10.14	41.5	14.17	44.2	15.74	47.0	17.31	52.3	20.09	57.8	22.85	
50	5	25.5	3.62	30.1	4.44	34.6	5.20	36.8	5.56	39.0	5.98	43.6	6.82	48.1	7.71
	10	25.5	3.74	30.1	4.55	34.6	5.40	36.8	5.81	39.0	6.24	43.6	7.14	48.1	8.04
	15	25.5	3.92	30.1	4.72	34.6	5.65	36.8	6.10	39.0	6.56	43.6	7.48	48.1	8.44
	20	25.5	4.12	30.1	5.02	34.6	5.94	36.8	6.41	39.0	6.89	43.6	7.88	48.1	8.89
	25	25.5	4.35	30.1	5.27	34.6	6.27	36.8	6.84	39.0	7.45	43.6	8.70	48.1	10.02
	30	25.5	5.09	30.1	6.30	34.6	7.59	36.8	8.29	39.0	9.00	43.6	10.49	48.1	12.03
	35	25.5	6.13	30.1	7.55	34.6	9.10	36.8	9.87	39.0	10.72	43.6	12.46	48.1	14.28
	41	25.5	6.92	30.1	8.20	34.6	10.30	36.8	11.23	39.0	12.24	43.6	14.45	48.1	16.49
43	25.5	7.76	30.1	9.04	34.6	11.28	36.8	12.56	39.0	13.31	43.6	15.59	48.1	18.23	

H. AV28NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW	TC KW	PI KW
130	5	70.8	13.44	83.5	16.24	96.2	18.86	102.1	21.09	105.7	20.80	108.0	18.85	110.5	18.06
	10	70.8	13.79	83.5	16.66	96.2	19.59	102.9	21.03	103.8	20.66	106.3	19.73	108.6	18.79
	15	70.8	14.44	83.5	17.42	96.2	20.46	100.5	20.99	101.5	20.79	102.9	20.87	105.5	20.93
	20	70.8	15.20	83.5	19.36	95.1	23.46	97.4	23.56	97.3	23.69	99.8	23.90	102.1	24.13
	25	70.8	18.30	83.5	23.29	92.1	26.52	94.0	26.65	94.2	26.79	96.7	27.05	98.8	27.32
	30	70.8	21.74	83.5	26.39	88.6	29.66	89.5	29.24	90.9	29.40	91.3	29.68	95.5	30.18
	35	70.8	25.71	82.8	30.94	86.3	31.28	86.4	31.68	87.7	31.93	90.2	32.24	92.3	32.55
	41	70.8	29.51	81.5	33.04	82.2	33.39	83.5	33.65	84.5	33.80	87.1	34.16	88.7	34.33
43	70.8	31.13	80.0	33.85	80.4	34.95	81.8	35.34	82.6	35.54	85.4	35.87	86.3	36.10	
120	5	65.7	12.31	77.0	14.59	88.9	16.98	94.7	18.59	100.8	20.05	106.3	20.44	108.5	19.39
	10	65.7	12.56	77.0	15.20	88.9	17.88	94.7	19.22	100.4	20.56	104.6	20.42	106.6	19.55
	15	65.7	13.16	77.0	15.92	88.9	18.71	94.7	20.09	99.1	21.06	101.1	20.69	103.3	20.72
	20	65.7	13.79	77.0	17.19	88.9	21.22	94.7	23.38	95.9	23.53	97.9	23.72	100.1	23.95
	25	65.7	16.33	77.0	20.69	88.9	25.55	91.6	26.49	92.8	26.62	95.0	26.86	96.8	27.09
	30	65.7	19.35	77.0	24.65	86.7	28.32	88.1	28.56	89.3	28.84	91.2	29.27	93.6	29.54
	35	65.7	22.93	77.0	27.67	84.6	30.43	85.0	30.70	86.1	31.05	88.3	31.35	90.3	32.26
	41	65.7	26.50	77.0	31.13	80.5	32.30	82.0	32.51	83.2	32.61	84.4	33.71	86.6	34.01
43	65.7	28.04	77.0	33.35	78.8	33.8	80.3	34.14	81.2	34.9	82.4	35.54	85.1	35.98	
110	5	60.3	11.05	70.6	13.22	81.5	15.55	86.8	16.89	92.0	18.18	104.6	21.21	106.7	20.33
	10	60.3	11.36	70.6	13.76	81.5	16.19	86.8	17.42	92.0	18.66	102.7	21.09	104.7	20.33
	15	60.3	11.92	70.6	14.39	81.5	16.95	86.8	18.20	92.0	19.50	99.3	20.98	101.5	20.66
	20	60.3	12.49	70.6	15.15	81.5	18.63	86.8	20.49	92.0	22.42	96.2	23.59	98.2	23.76
	25	60.3	14.46	70.6	18.25	81.5	22.42	86.8	25.15	90.5	26.78	92.5	26.99	94.5	27.22
	30	60.3	17.20	70.6	21.72	81.5	26.96	86.8	28.58	87.0	28.88	89.7	29.18	91.7	29.40
	35	60.3	20.29	70.6	24.20	81.5	28.64	83.5	30.52	84.6	31.09	86.4	31.38	88.4	31.88
	41	60.3	23.60	70.6	28.44	79.4	31.09	80.6	32.53	81.5	32.58	82.6	33.29	85.1	33.93
43	60.3	25.54	70.6	30.52	77.4	32.8	78.9	33.69	79.6	33.69	80.7	34.41	83.1	34.71	
100	5	54.5	10.03	64.1	11.86	73.9	14.07	78.6	15.73	83.6	16.17	93.4	18.47	107.3	21.17
	10	54.5	10.20	64.1	12.33	73.9	14.50	78.6	15.60	83.6	16.72	93.4	18.95	105.1	21.06
	15	54.5	10.66	64.1	12.89	73.9	15.16	78.6	16.35	83.6	17.49	93.4	19.83	102.7	20.96
	20	54.5	11.19	64.1	13.53	73.9	16.19	78.6	17.79	83.6	19.45	93.4	22.95	100.6	23.59
	25	54.5	12.66	64.1	15.92	73.9	19.50	78.6	21.42	83.6	23.39	91.2	26.48	97.1	26.69
	30	54.5	15.07	64.1	18.83	73.9	23.22	78.6	25.22	83.6	27.27	87.8	28.75	92.9	29.35
	35	54.5	17.79	64.1	20.91	73.9	25.97	78.6	27.15	83.0	30.59	84.7	31.20	88.8	31.59
	41	54.5	20.66	64.1	24.50	73.9	29.70	78.6	31.26	79.9	32.49	81.6	33.09	83.3	33.35
43	54.5	22.98	64.1	26.64	73.9	31.89	78.6	32.95	77.9	33.71	80.1	34.11	81.4	34.23	
90	5	49.4	8.82	57.9	10.65	66.7	12.51	71.1	13.36	75.6	14.53	84.1	16.23	92.8	18.21
	10	49.4	9.06	57.9	10.92	66.7	12.84	71.1	13.83	75.6	14.82	84.1	16.82	92.8	18.83
	15	49.4	9.47	57.9	11.42	66.7	13.42	71.1	14.44	75.6	15.52	84.1	17.58	92.8	19.69
	20	49.4	9.93	57.9	11.99	66.7	14.09	71.1	15.26	75.6	16.65	84.1	19.59	92.8	22.72
	25	49.4	10.99	57.9	13.76	66.7	16.75	71.1	18.36	75.6	20.03	84.1	23.56	91.1	26.45
	30	49.4	13.09	57.9	16.36	66.7	19.96	71.1	21.86	75.6	23.85	84.1	27.89	88.0	28.97
	35	49.4	15.43	57.9	17.84	66.7	22.10	71.1	25.82	75.6	28.03	83.0	30.90	84.7	31.19
	41	49.4	17.69	57.9	20.94	66.7	25.86	71.1	28.58	75.6	31.06	79.5	32.72	81.4	33.39
43	49.4	18.70	57.9	22.77	66.7	27.81	71.1	30.45	75.6	32.35	76.5	33.81	79.7	34.11	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	44.2	7.78	51.2	9.33	59.5	10.94	63.3	11.87	66.9	12.50	74.8	14.22	82.5	15.56
	10	44.2	7.96	51.2	9.56	59.5	11.22	63.3	12.23	66.9	12.93	74.8	14.69	82.5	16.45
	15	44.2	8.30	51.2	9.99	59.5	11.75	63.3	12.63	66.9	13.53	74.8	15.38	82.5	17.23
	20	44.2	8.70	51.2	10.46	59.5	12.29	63.3	13.25	66.9	14.20	74.8	16.45	82.5	19.26
	25	44.2	9.40	51.2	11.70	59.5	14.20	63.3	15.52	66.9	16.89	74.8	19.82	82.5	23.38
	30	44.2	11.20	51.2	13.93	59.5	16.89	63.3	18.49	66.9	20.12	74.8	23.59	82.5	27.32
	35	44.2	13.23	51.2	14.98	59.5	18.51	63.3	21.82	66.9	23.76	74.8	27.86	82.5	30.85
	41	44.2	15.05	51.2	17.89	59.5	21.67	63.3	24.28	66.9	26.56	73.8	30.64	79.0	32.87
43	44.2	16.47	51.2	19.66	59.5	23.47	63.3	26.08	66.9	28.28	71.4	31.82	76.7	33.89	
70	5	38.2	6.69	45.4	8.03	52.1	9.17	55.1	10.18	58.5	10.72	65.3	12.20	72.3	12.37
	10	38.2	6.87	45.4	8.23	52.1	9.63	55.1	10.36	58.5	11.10	65.3	12.59	72.3	14.13
	15	38.2	7.17	45.4	8.60	52.1	10.09	55.1	10.83	58.5	11.59	65.3	13.16	72.3	14.78
	20	38.2	7.50	45.4	9.00	52.1	10.57	55.1	11.36	58.5	12.17	65.3	13.83	72.3	15.66
	25	38.2	7.93	45.4	9.79	52.1	11.82	55.1	12.89	58.5	14.02	65.3	16.36	72.3	18.85
	30	38.2	9.46	45.4	11.64	52.1	14.09	55.1	15.36	58.5	16.69	65.3	19.49	72.3	22.45
	35	38.2	11.17	45.4	12.31	52.1	15.17	55.1	18.12	58.5	19.68	65.3	22.99	72.3	25.49
	41	38.2	12.64	45.4	14.39	52.1	17.85	55.1	19.95	58.5	21.82	65.3	25.62	72.3	29.29
43	38.2	13.57	45.4	15.62	52.1	19.62	55.1	21.56	58.5	23.77	62.9	27.22	71.1	30.94	
60	5	33.0	5.69	38.7	6.81	44.6	7.88	47.3	8.56	50.2	9.04	56.0	9.96	61.9	11.11
	10	33.0	5.83	38.7	6.96	44.6	8.10	47.3	8.94	50.2	9.32	56.0	10.56	61.9	11.82
	15	33.0	6.10	38.7	7.26	44.6	8.47	47.3	9.10	50.2	9.75	56.0	11.03	61.9	12.36
	20	33.0	6.36	38.7	7.59	44.6	8.86	47.3	9.53	50.2	10.20	56.0	11.57	61.9	12.96
	25	33.0	6.66	38.7	8.03	44.6	9.63	47.3	10.49	50.2	11.36	56.0	13.19	61.9	15.13
	30	33.0	7.83	38.7	9.60	44.6	13.91	47.3	12.49	50.2	13.48	56.0	15.69	61.9	18.02
	35	33.0	9.23	38.7	9.85	44.6	12.10	47.3	14.73	50.2	15.96	56.0	18.52	61.9	20.26
	41	33.0	10.60	38.7	9.07	44.6	14.07	47.3	15.81	50.2	17.98	56.0	21.04	61.9	23.07
43	33.0	11.57	38.7	9.87	44.6	14.92	47.3	16.97	50.2	19.10	56.0	22.36	61.9	24.06	
50	5	27.4	4.73	32.3	5.61	37.1	6.51	39.4	6.96	41.7	7.37	46.7	8.25	51.5	9.28
	10	27.4	4.83	32.3	5.73	37.1	6.66	39.4	7.12	41.7	7.59	46.7	8.60	51.5	9.60
	15	27.4	5.03	32.3	5.94	37.1	6.94	39.4	7.43	41.7	7.94	46.7	8.96	51.5	10.04
	20	27.4	5.26	32.3	6.23	37.1	7.26	39.4	7.79	41.7	8.32	46.7	9.40	51.5	10.53
	25	27.4	5.50	32.3	6.52	37.1	7.63	39.4	8.26	41.7	8.93	46.7	10.33	51.5	11.76
	30	27.4	6.33	32.3	7.66	37.1	9.09	39.4	9.86	41.7	10.66	46.7	12.28	51.5	14.02
	35	27.4	7.47	32.3	7.61	37.1	9.31	39.4	11.63	41.7	12.56	46.7	14.50	51.5	15.77
	41	27.4	8.57	32.3	8.77	37.1	10.89	39.4	12.90	41.7	14.04	46.7	16.67	51.5	17.64
43	27.4	9.54	32.3	9.74	37.1	11.94	39.4	14.11	41.7	14.74	46.7	17.79	51.5	19.78	

I. AV30NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	75.6	15.50	89.1	18.58	102.6	21.40	108.6	23.77	112.2	23.56	114.3	21.36	117.3	20.92
	10	75.6	15.76	89.1	18.91	102.6	22.13	109.8	23.70	110.7	23.30	113.4	22.27	115.8	21.25
	15	75.6	16.45	89.1	19.75	102.6	23.08	107.7	23.66	108.6	23.45	109.8	23.59	112.5	23.63
	20	75.6	17.30	89.1	21.87	101.4	26.37	104.4	26.48	103.8	26.63	106.5	26.85	108.9	27.11
	25	75.6	20.70	89.1	26.19	98.4	29.74	100.8	29.89	100.5	30.03	103.2	30.33	105.3	30.62
	30	75.6	24.54	89.1	29.05	94.5	33.14	95.4	32.24	96.9	32.49	96.6	32.81	101.7	33.12
	35	75.6	28.85	88.2	33.28	92.4	33.65	92.1	34.24	93.6	34.64	96.3	34.96	98.4	35.28
	41	75.6	33.33	87.6	35.45	87.6	35.81	89.1	36.21	90.0	36.41	93.0	36.71	94.2	36.77
	43	75.6	34.39	86.1	35.85	85.8	36.25	87.3	36.54	87.9	36.74	91.2	36.97	91.5	37.10
120	5	70.2	14.15	82.2	16.67	94.8	19.57	101.1	21.14	107.1	22.71	112.8	23.19	115.2	22.20
	10	70.2	14.41	82.2	17.30	94.8	20.26	101.1	21.73	107.1	23.19	111.6	23.04	113.7	22.09
	15	70.2	15.06	82.2	18.10	94.8	21.14	101.1	22.68	105.6	23.74	107.7	23.34	110.1	23.48
	20	70.2	15.76	82.2	19.49	94.8	23.92	101.1	26.30	102.3	26.45	104.4	26.67	106.8	26.92
	25	70.2	18.54	82.2	23.34	94.8	28.68	97.8	29.70	99.0	29.85	101.4	30.11	103.2	30.36
	30	70.2	21.98	82.2	27.69	92.4	30.71	93.9	31.01	95.1	31.45	97.2	32.08	99.9	32.38
	35	70.2	25.79	82.2	29.70	90.6	32.19	90.6	32.52	91.8	33.12	94.2	33.44	96.3	34.96
	41	70.2	30.01	82.2	32.76	85.8	33.81	87.6	34.21	88.8	34.41	89.7	35.81	92.1	36.41
	43	70.2	31.11	82.2	33.75	84	34.3	85.8	34.54	86.7	35.9	87.6	36.54	90.6	36.98
110	5	64.5	12.83	75.3	15.17	87	17.74	92.7	19.24	98.1	20.74	111.0	23.92	113.1	23.08
	10	64.5	13.09	75.3	15.72	87	18.39	92.7	19.75	98.1	21.10	109.5	23.77	111.6	22.93
	15	64.5	13.71	75.3	16.42	87	19.24	92.7	20.63	98.1	22.02	105.9	23.66	108.3	23.30
	20	64.5	14.33	75.3	17.26	87	21.07	92.7	23.12	98.1	25.24	102.6	26.52	104.7	26.70
	25	64.5	16.49	75.3	20.66	87	25.24	92.7	27.69	96.9	29.67	99.0	29.89	101.1	30.14
	30	64.5	19.49	75.3	24.47	87	30.33	92.7	31.44	92.7	31.73	95.7	32.10	97.8	32.32
	35	64.5	22.90	75.3	25.89	87	30.17	89.1	32.39	90.3	33.32	92.1	33.64	94.2	34.36
	41	64.5	26.74	75.3	30.76	84.9	32.47	86.1	34.17	87.0	34.37	87.9	35.29	90.6	36.18
	43	64.5	28.90	75.3	32.92	82.8	34.0	84.3	34.69	84.9	35.49	85.8	36.41	88.5	36.61
100	5	58.2	11.59	68.4	13.67	78.9	16.09	84.0	18.21	89.1	18.47	99.6	21.07	114.9	23.85
	10	58.2	11.81	68.4	14.15	78.9	16.53	84.0	17.74	89.1	18.98	99.6	21.43	113.1	23.74
	15	58.2	12.32	68.4	14.77	78.9	17.26	84.0	18.58	89.1	19.82	99.6	22.38	111.0	23.63
	20	58.2	12.90	68.4	15.47	78.9	18.39	84.0	20.15	89.1	21.98	99.6	25.82	109.2	26.52
	25	58.2	14.51	68.4	18.10	78.9	22.02	84.0	24.14	89.1	26.30	97.2	29.70	105.3	29.92
	30	58.2	17.19	68.4	21.25	78.9	26.12	84.0	28.20	89.1	30.13	93.6	31.41	100.5	32.44
	35	58.2	20.15	68.4	22.27	78.9	27.83	84.0	29.45	88.5	32.59	90.3	33.52	95.7	34.04
	41	58.2	23.52	68.4	26.47	78.9	31.47	84.0	33.16	85.2	34.25	87.0	35.09	88.8	35.65
	43	58.2	26.22	68.4	28.93	78.9	33.85	84.0	34.25	83.1	35.41	85.5	36.01	86.7	36.18
90	5	52.8	10.38	61.8	12.39	71.1	14.44	75.9	15.36	80.7	16.75	89.7	18.50	99.0	20.70
	10	52.8	10.56	61.8	12.61	71.1	14.70	75.9	15.80	80.7	16.89	89.7	19.09	99.0	21.29
	15	52.8	11.00	61.8	13.16	71.1	15.36	75.9	16.45	80.7	17.66	89.7	19.93	99.0	22.24
	20	52.8	11.51	61.8	13.78	71.1	16.09	75.9	17.37	80.7	18.91	89.7	22.13	99.0	25.57
	25	52.8	12.68	61.8	15.72	71.1	19.02	75.9	20.77	80.7	22.60	89.7	26.48	97.2	29.67
	30	52.8	14.99	61.8	18.58	71.1	22.53	75.9	24.62	80.7	26.81	89.7	31.01	93.9	31.94
	35	52.8	17.55	61.8	18.90	71.1	23.58	75.9	28.97	80.7	31.26	88.5	33.19	90.3	33.52
	41	52.8	20.18	61.8	22.52	71.1	27.87	75.9	31.84	80.7	33.59	84.6	34.49	87.0	35.69
	43	52.8	20.92	61.8	24.72	71.1	30.06	75.9	33.35	80.7	34.36	81.0	35.81	85.2	36.01

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	47.4	9.21	54.6	10.93	63.6	12.72	67.5	13.78	71.4	14.41	79.8	16.31	87.9	17.66
	10	47.4	9.35	54.6	11.11	63.6	12.94	67.5	14.11	71.4	14.81	79.8	16.75	87.9	18.69
	15	47.4	9.72	54.6	11.59	63.6	13.53	67.5	14.48	71.4	15.47	79.8	17.52	87.9	19.53
	20	47.4	10.16	54.6	12.10	63.6	14.11	67.5	15.17	71.4	16.20	79.8	18.69	87.9	21.54
	25	47.4	10.93	54.6	13.45	63.6	16.20	67.5	17.66	71.4	19.16	79.8	22.38	87.9	25.79
	30	47.4	12.90	54.6	15.91	63.6	19.16	67.5	20.92	71.4	22.71	79.8	26.52	87.9	30.62
	35	47.4	15.14	54.6	15.75	63.6	19.63	67.5	24.58	71.4	26.70	79.8	31.20	87.9	33.19
	41	47.4	17.11	54.6	19.30	63.6	23.33	67.5	26.57	71.4	29.02	78.3	33.07	84.3	35.05
43	47.4	18.24	54.6	21.95	63.6	25.45	67.5	28.36	71.4	30.49	74.7	34.36	82.5	35.69	
70	5	40.8	8.00	48.6	9.50	55.8	10.67	58.8	11.92	62.4	12.43	69.6	14.08	77.1	15.25
	10	40.8	8.15	48.6	9.65	55.8	11.18	58.8	11.99	62.4	12.79	69.6	14.44	77.1	16.13
	15	40.8	8.48	48.6	10.05	55.8	11.70	58.8	12.50	62.4	13.34	69.6	15.06	77.1	16.86
	20	40.8	8.84	48.6	10.49	55.8	12.21	58.8	13.09	62.4	13.97	69.6	15.80	77.1	17.81
	25	40.8	9.32	48.6	11.37	55.8	13.60	58.8	14.77	62.4	16.02	69.6	18.58	77.1	21.32
	30	40.8	11.00	48.6	13.38	55.8	16.09	58.8	17.48	62.4	18.94	69.6	22.02	77.1	25.28
	35	40.8	12.87	48.6	12.82	55.8	15.97	58.8	20.52	62.4	22.24	69.6	25.86	77.1	27.70
	41	40.8	14.62	48.6	15.38	55.8	19.15	58.8	21.96	62.4	23.90	69.6	28.03	77.1	31.53
43	40.8	15.72	48.6	16.92	55.8	20.98	58.8	24.15	62.4	26.09	66.0	29.50	75.3	32.88	
60	5	35.4	6.90	41.4	8.15	47.7	9.32	50.4	10.09	53.4	10.60	59.7	11.51	66.0	12.76
	10	35.4	7.01	41.4	8.26	47.7	9.50	50.4	10.53	53.4	10.85	59.7	12.21	66.0	13.60
	15	35.4	7.30	41.4	8.59	47.7	9.90	50.4	10.60	53.4	11.33	59.7	12.72	66.0	14.19
	20	35.4	7.60	41.4	8.95	47.7	10.34	50.4	11.07	53.4	11.81	59.7	13.31	66.0	14.84
	25	35.4	7.93	41.4	9.43	47.7	11.18	50.4	12.14	53.4	13.09	59.7	15.10	66.0	17.22
	30	35.4	9.21	41.4	11.15	47.7	16.86	50.4	14.33	53.4	15.39	59.7	17.85	66.0	20.41
	35	35.4	10.75	41.4	10.11	47.7	12.60	50.4	16.78	53.4	18.14	59.7	20.96	66.0	21.96
	41	35.4	12.46	41.4	8.50	47.7	14.95	50.4	17.49	53.4	20.17	59.7	23.53	66.0	24.68
43	35.4	13.56	41.4	9.60	47.7	15.68	50.4	18.19	53.4	20.90	59.7	24.63	66.0	25.27	
50	5	29.3	5.84	34.5	6.79	39.6	7.82	42.0	8.37	44.4	8.77	49.8	9.68	54.9	10.85
	10	29.3	5.91	34.5	6.90	39.6	7.93	42.0	8.44	44.4	8.95	49.8	10.05	54.9	11.15
	15	29.3	6.13	34.5	7.16	39.6	8.22	42.0	8.77	44.4	9.32	49.8	10.45	54.9	11.62
	20	29.3	6.39	34.5	7.45	39.6	8.59	42.0	9.17	44.4	9.76	49.8	10.93	54.9	12.17
	25	29.3	6.65	34.5	7.78	39.6	8.99	42.0	9.68	44.4	10.42	49.8	11.95	54.9	13.53
	30	29.3	7.56	34.5	9.02	39.6	10.60	42.0	11.44	44.4	12.32	49.8	14.08	54.9	16.02
	35	29.3	8.81	34.5	7.66	39.6	9.53	42.0	13.38	44.4	14.41	49.8	16.53	54.9	17.26
	41	29.3	10.23	34.5	9.35	39.6	11.47	42.0	14.57	44.4	15.85	49.8	18.89	54.9	18.79
43	29.3	11.33	34.5	10.44	39.6	12.60	42.0	15.66	44.4	16.17	49.8	19.98	54.9	21.32	

J.AV32NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	81.7	12.86	96.5	15.86	111.2	18.82	118.8	21.38	123.6	20.82	127.2	18.86	129.2	16.90
	10	81.7	13.58	96.5	16.66	111.2	19.78	118.8	21.34	120.0	20.94	122.8	19.94	125.6	18.94
	15	81.7	14.30	96.5	17.46	111.2	20.74	114.8	21.3	116.4	21.06	118.8	21.02	122.0	21.14
	20	81.7	15.10	96.5	19.54	110.0	23.94	111.2	24.06	112.4	24.18	115.2	24.42	118.0	24.66
	25	81.7	18.42	96.5	23.74	106.0	27.22	107.2	27.34	108.8	27.50	111.6	27.78	114.4	28.06
	30	81.7	21.94	96.5	28.54	102.4	30.70	103.6	30.7	105.2	30.74	107.6	30.98	110.8	32.14
	35	81.7	26.34	95.8	33.50	98.8	33.90	100.0	34.06	101.2	34.26	104.0	34.62	106.8	34.98
	41	81.7	29.62	92.6	35.66	95.2	36.02	96.4	36.26	98.0	36.46	100.4	37.3	103.6	37.70
43	81.7	32.26	90.4	37.70	92.8	41.30	94.4	42.1	96.0	42.50	98.4	43.3	101.2	43.90	
120	5	75.6	11.94	89.0	14.34	102.8	16.18	109.2	18.42	117.6	20.06	124.4	20.34	126.8	18.78
	10	75.6	12.26	89.0	15.10	102.8	17.94	109.2	19.38	116.0	20.82	120.8	20.66	123.2	19.74
	15	75.6	12.90	89.0	15.86	102.8	18.90	109.2	20.34	114.8	21.38	117.2	20.98	119.6	20.70
	20	75.6	13.58	89.0	17.22	102.8	21.54	109.2	23.82	110.8	24.02	113.2	24.22	115.6	24.46
	25	75.6	16.30	89.0	20.98	102.8	26.14	105.6	27.18	107.2	27.30	109.6	27.58	112.0	27.82
	30	75.6	19.22	89.0	25.18	100.4	30.34	102.0	30.5	103.6	30.66	105.6	30.94	108.0	31.26
	35	75.6	23.38	89.0	29.98	96.8	33.66	98.4	33.82	99.6	34.02	102.0	34.34	104.4	34.70
	41	75.6	26.58	89.0	34.78	93.2	35.66	94.4	35.7	96.0	35.70	98.4	37.3	100.8	37.30
43	75.6	28.62	89.0	40.10	91.2	40.5	92.4	41.3	93.6	41.7	96.0	42.9	98.8	43.70	
110	5	69.1	10.42	81.7	12.86	94.0	15.34	100.0	16.7	106.4	17.86	122.4	21.5	125.2	20.22
	10	69.1	10.98	81.7	13.54	94.0	16.14	100.0	17.46	106.4	18.78	118.8	21.38	121.2	20.58
	15	69.1	11.54	81.7	14.22	94.0	16.94	100.0	18.22	106.4	19.70	114.8	21.26	117.2	20.94
	20	69.1	12.18	81.7	15.02	94.0	18.78	100.0	20.74	106.4	22.82	111.2	24.06	113.6	24.26
	25	69.1	14.30	81.7	18.34	94.0	22.82	100.0	27.18	103.6	28.46	106.0	28.7	108.4	28.94
	30	69.1	17.26	81.7	22.06	94.0	27.42	100.0	30.06	100.8	30.46	103.6	30.7	106.0	30.98
	35	69.1	20.54	81.7	26.26	94.0	32.62	96.4	33.62	97.6	33.78	100.0	34.06	102.4	34.38
	41	69.1	23.70	81.7	30.46	91.2	36.18	92.8	36.34	94.0	36.14	96.0	36.9	98.8	37.70
43	69.1	25.70	81.7	32.50	88.8	38.1	90.8	39.7	92.0	38.10	94.0	38.9	96.4	39.70	
100	5	62.9	9.66	74.1	11.42	85.2	13.82	90.4	14.78	96.8	15.86	108.0	18.14	122.8	21.50
	10	62.9	9.74	74.1	12.02	85.2	14.34	90.4	15.54	96.8	16.70	108.0	19.1	118.8	21.38
	15	62.9	10.22	74.1	12.62	85.2	15.06	90.4	16.3	96.8	17.54	108.0	20.06	114.8	21.26
	20	62.9	10.78	74.1	13.30	85.2	16.14	90.4	17.86	96.8	19.62	108.0	23.38	111.2	24.06
	25	62.9	12.38	74.1	15.86	85.2	19.70	90.4	21.74	96.8	23.86	105.6	27.14	107.6	27.38
	30	62.9	14.90	74.1	19.10	85.2	23.66	90.4	26.1	96.8	28.46	101.6	30.46	103.6	30.74
	35	62.9	17.86	74.1	22.78	85.2	28.18	90.4	30.5	96.0	33.50	98.0	33.82	100.0	34.10
	41	62.9	20.54	74.1	26.10	85.2	32.62	90.4	34.5	92.4	36.26	94.4	36.5	96.4	36.90
43	62.9	22.58	74.1	28.14	85.2	34.66	90.4	38.1	90.0	38.10	92.4	38.5	94.4	38.90	
90	5	56.8	8.02	66.9	9.98	77.2	11.98	82.0	12.94	87.2	13.90	97.2	16.02	107.2	18.06
	10	56.8	8.50	66.9	10.50	77.2	12.58	82.0	13.62	87.2	14.66	97.2	16.82	107.2	18.98
	15	56.8	8.98	66.9	11.02	77.2	13.18	82.0	14.3	87.2	15.42	97.2	17.62	107.2	19.90
	20	56.8	9.46	66.9	11.62	77.2	13.90	82.0	15.14	87.2	16.62	97.2	19.78	107.2	23.14
	25	56.8	10.58	66.9	13.54	77.2	16.74	82.0	18.46	87.2	20.26	97.2	24.06	105.2	27.14
	30	56.8	12.82	66.9	16.34	77.2	20.18	82.0	22.22	87.2	24.34	97.2	29.02	101.6	30.42
	35	56.8	15.34	66.9	19.46	77.2	24.02	82.0	26.46	87.2	28.98	96.0	33.54	98.0	33.78
	41	56.8	17.54	66.9	22.42	77.2	27.82	82.0	28.7	87.2	33.58	92.4	36.22	93.6	36.50
43	56.8	19.62	66.9	23.86	77.2	29.78	82.0	32.1	87.2	36.46	90.0	37.7	91.6	38.50	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	50.3	6.98	59.3	8.62	68.4	10.26	73.2	11.14	77.2	12.02	86.4	13.82	95.6	15.58
	10	50.3	7.34	59.3	9.06	68.4	10.82	73.2	11.74	77.2	12.66	86.4	14.54	95.6	16.42
	15	50.3	7.70	59.3	9.50	68.4	11.38	73.2	12.34	77.2	13.30	86.4	15.26	95.6	17.26
	20	50.3	8.14	59.3	10.02	68.4	11.98	73.2	12.98	77.2	14.02	86.4	16.42	95.6	20.02
	25	50.3	8.90	59.3	11.34	68.4	14.02	73.2	15.42	77.2	16.90	86.4	20.02	95.6	25.18
	30	50.3	10.82	59.3	13.74	68.4	16.90	73.2	18.62	77.2	20.34	86.4	24.06	95.6	28.06
	35	50.3	12.98	59.3	16.42	68.4	20.18	73.2	22.18	77.2	24.26	86.4	28.66	95.6	33.34
	41	50.3	15.18	59.3	18.78	68.4	23.18	73.2	25.58	77.2	28.14	86.4	33.18	91.2	36.18
43	50.3	17.82	59.3	20.58	68.4	24.70	73.2	27.98	77.2	31.14	86.4	34.34	86.8	38.50	
70	5	44.1	5.86	52.1	7.22	59.6	8.66	63.6	9.38	67.6	10.18	75.6	11.7	83.6	9.26
	10	44.1	6.18	52.1	7.62	59.6	9.14	63.6	9.9	67.6	10.70	75.6	12.3	83.6	13.94
	15	44.1	6.50	52.1	8.02	59.6	9.62	63.6	10.42	67.6	11.22	75.6	12.9	83.6	14.62
	20	44.1	6.86	52.1	8.46	59.6	10.14	63.6	10.98	67.6	11.86	75.6	13.62	83.6	15.58
	25	44.1	7.30	52.1	9.30	59.6	11.46	63.6	12.62	67.6	13.82	75.6	16.34	83.6	18.98
	30	44.1	8.94	52.1	11.30	59.6	13.90	63.6	15.26	67.6	16.66	75.6	19.66	83.6	22.82
	35	44.1	10.78	52.1	13.54	59.6	16.58	63.6	18.22	67.6	19.86	75.6	23.42	83.6	27.18
	41	44.1	12.18	52.1	15.22	59.6	19.02	63.6	20.54	67.6	22.86	75.6	27.02	83.6	31.50
43	44.1	12.98	52.1	16.06	59.6	21.22	63.6	21.14	67.6	24.78	75.6	29.54	83.6	34.50	
60	5	37.6	4.78	44.5	5.94	51.2	7.10	54.8	7.78	58.4	8.34	64.8	9.58	71.6	10.86
	10	37.6	5.06	44.5	6.26	51.2	7.50	54.8	8.14	58.4	8.78	64.8	10.1	71.6	11.46
	15	37.6	5.34	44.5	6.58	51.2	7.90	54.8	8.58	58.4	9.22	64.8	10.62	71.6	12.06
	20	37.6	5.62	44.5	6.94	51.2	8.30	54.8	9.02	58.4	9.74	64.8	11.22	71.6	12.70
	25	37.6	5.94	44.5	7.42	51.2	9.14	54.8	10.02	58.4	10.98	64.8	12.94	71.6	15.02
	30	37.6	7.18	44.5	9.10	51.2	11.14	54.8	12.18	58.4	13.30	64.8	15.62	71.6	18.10
	35	37.6	8.70	44.5	10.94	51.2	13.30	54.8	14.58	58.4	15.90	64.8	18.62	71.6	21.58
	41	37.6	9.78	44.5	12.30	51.2	15.14	54.8	16.62	58.4	18.18	64.8	21.42	71.6	24.90
43	37.6	10.74	44.5	12.58	51.2	16.58	54.8	18.66	58.4	19.98	64.8	23.06	71.6	27.30	
50	5	31.5	3.78	37.2	4.78	42.8	5.62	45.6	5.98	48.4	6.54	54.0	7.62	59.6	8.62
	10	31.5	3.98	37.2	4.94	42.8	5.94	45.6	6.42	48.4	6.94	54.0	8.02	59.6	9.10
	15	31.5	4.18	37.2	5.10	42.8	6.26	45.6	6.78	48.4	7.34	54.0	8.42	59.6	9.58
	20	31.5	4.42	37.2	5.50	42.8	6.58	45.6	7.14	48.4	7.70	54.0	8.9	59.6	10.10
	25	31.5	4.70	37.2	5.78	42.8	6.98	45.6	7.66	48.4	8.38	54.0	9.86	59.6	11.42
	30	31.5	5.58	37.2	7.02	42.8	8.54	45.6	9.38	48.4	10.22	54.0	12.02	59.6	13.82
	35	31.5	6.82	37.2	8.50	42.8	10.34	45.6	11.26	48.4	12.26	54.0	14.34	59.6	16.50
	41	31.5	7.62	37.2	8.86	42.8	11.66	45.6	12.78	48.4	13.94	54.0	16.34	59.6	18.90
43	31.5	8.58	37.2	9.82	42.8	12.86	45.6	13.98	48.4	15.14	54.0	17.9	59.6	20.70	

K. AV34NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	86.5	14.47	102.1	17.75	117.6	20.91	125.3	23.62	130.1	23.13	133.5	20.92	136.0	19.31
	10	86.5	15.10	102.1	18.46	117.6	21.87	125.7	23.56	126.9	23.13	129.9	22.04	132.8	20.95
	15	86.5	15.87	102.1	19.34	117.6	22.91	122.0	23.52	123.5	23.27	125.7	23.29	129.0	23.39
	20	86.5	16.75	102.1	21.60	116.3	26.40	118.2	26.53	118.9	26.67	121.9	26.92	124.8	27.19
	25	86.5	20.37	102.1	26.19	112.3	29.99	114.0	30.13	115.1	30.29	118.1	30.60	120.9	30.91
	30	86.5	24.29	102.1	30.75	108.3	33.73	109.5	33.79	111.2	33.87	112.9	34.17	117.0	35.15
	35	86.5	29.03	101.3	36.84	104.9	37.27	105.7	37.51	107.1	37.66	110.1	38.05	112.9	38.44
	41	86.5	32.92	98.6	39.37	100.6	39.80	102.0	39.98	103.5	40.13	106.3	40.76	109.1	41.14
43	86.5	35.76	96.5	41.10	98.2	43.80	99.9	44.49	101.3	44.79	104.2	45.42	106.4	45.90	
120	5	80.1	13.33	94.1	15.97	108.7	18.32	115.6	20.52	123.9	22.27	130.9	22.64	133.5	21.14
	10	80.1	13.66	94.1	16.75	108.7	19.87	115.6	21.44	122.7	23.00	127.8	22.83	130.3	21.83
	15	80.1	14.35	94.1	17.59	108.7	20.88	115.6	22.47	121.3	23.61	123.8	23.17	126.4	23.01
	20	80.1	15.10	94.1	19.07	108.7	23.79	115.6	26.29	117.2	26.49	119.7	26.71	122.3	26.98
	25	80.1	18.06	94.1	23.17	108.7	28.82	111.8	29.94	113.4	30.08	116.0	30.38	118.4	30.64
	30	80.1	21.40	94.1	27.77	106.1	33.39	107.8	33.61	109.4	33.77	111.6	34.06	114.3	34.40
	35	80.1	25.79	94.1	33.01	102.8	36.96	104.0	37.21	105.3	37.36	107.9	37.72	110.4	38.11
	41	80.1	29.46	94.1	38.02	98.5	39.53	100.0	39.56	101.6	39.56	103.7	40.76	106.3	40.76
43	80.1	31.95	94.1	42.80	96.4	43.29	97.9	43.89	99.1	44.2	101.2	45.09	104.3	45.73	
110	5	73.3	11.75	86.4	14.36	99.5	17.08	105.9	18.60	112.5	19.97	128.8	23.76	131.6	22.52
	10	73.3	12.26	86.4	15.05	99.5	17.89	105.9	19.34	112.5	20.78	125.6	23.62	128.1	22.74
	15	73.3	12.88	86.4	15.80	99.5	18.78	105.9	20.20	112.5	21.77	121.4	23.49	124.0	23.13
	20	73.3	13.57	86.4	16.68	99.5	20.77	105.9	22.92	112.5	25.19	117.6	26.54	120.1	26.75
	25	73.3	15.88	86.4	20.30	99.5	25.19	105.9	29.27	110.0	30.89	112.5	31.15	115.0	31.41
	30	73.3	19.10	86.4	24.36	99.5	30.33	105.9	33.11	106.5	33.51	109.6	33.82	112.1	34.10
	35	73.3	22.70	86.4	28.95	99.5	35.15	102.0	36.93	103.3	37.18	105.7	37.51	108.2	37.87
	41	73.3	26.21	86.4	33.57	96.7	38.58	98.3	39.80	99.5	39.65	101.3	40.34	104.3	40.94
43	73.3	28.43	86.4	36.07	94.2	41.00	96.2	42.44	97.3	41.24	99.1	41.96	101.8	42.56	
100	5	66.6	10.77	78.4	12.78	90.2	15.39	95.8	16.81	102.3	17.71	114.2	20.29	130.4	23.73
	10	66.6	10.90	78.4	13.39	90.2	15.92	95.8	17.23	102.3	18.51	114.2	21.13	126.8	23.61
	15	66.6	11.43	78.4	14.05	90.2	16.71	95.8	18.08	102.3	19.42	114.2	22.16	123.1	23.48
	20	66.6	12.04	78.4	14.79	90.2	17.89	95.8	19.77	102.3	21.70	114.2	25.80	119.8	26.54
	25	66.6	13.78	78.4	17.59	90.2	21.77	95.8	24.01	102.3	26.32	111.6	29.91	115.8	30.17
	30	66.6	16.56	78.4	21.07	90.2	26.11	95.8	28.63	102.3	31.40	107.4	33.58	111.2	33.82
	35	66.6	19.77	78.4	25.13	90.2	31.04	95.8	32.35	101.5	36.84	103.6	37.21	106.9	37.54
	41	66.6	22.77	78.4	28.87	90.2	35.91	95.8	37.81	97.7	39.62	99.8	40.04	101.9	40.10
43	66.6	25.20	78.4	31.22	90.2	38.42	95.8	41.00	95.2	41.36	97.8	41.66	99.7	41.84	
90	5	60.2	9.13	70.8	11.27	81.6	13.46	86.8	14.48	92.3	15.67	102.8	17.84	113.4	20.10
	10	60.2	9.55	70.8	11.74	81.6	13.99	86.8	15.14	92.3	16.28	102.8	18.64	113.4	20.99
	15	60.2	10.06	70.8	12.31	81.6	14.66	86.8	15.87	92.3	17.11	102.8	19.52	113.4	22.00
	20	60.2	10.59	70.8	12.97	81.6	15.45	86.8	16.80	92.3	18.43	102.8	21.87	113.4	25.54
	25	60.2	11.82	70.8	15.05	81.6	18.55	86.8	20.43	92.3	22.39	102.8	26.53	111.3	29.90
	30	60.2	14.27	70.8	18.11	81.6	22.30	86.8	24.53	92.3	26.85	102.8	31.90	107.5	33.48
	35	60.2	17.01	70.8	21.52	81.6	26.50	86.8	29.16	92.3	31.92	101.5	36.87	103.6	37.18
	41	60.2	19.40	70.8	24.80	81.6	30.63	86.8	32.31	92.3	36.75	97.5	39.83	99.2	40.04
43	60.2	21.21	70.8	26.61	81.6	32.83	86.8	35.40	92.3	39.28	94.5	41.06	97.1	41.66	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	53.5	7.96	62.7	9.77	72.5	11.59	77.4	12.61	81.7	13.48	91.4	15.46	101.0	17.23
	10	53.5	8.28	62.7	10.16	72.5	12.09	77.4	13.17	81.7	14.09	91.4	16.15	101.0	18.20
	15	53.5	8.67	62.7	10.65	72.5	12.70	77.4	13.74	81.7	14.79	91.4	16.94	101.0	19.11
	20	53.5	9.15	62.7	11.21	72.5	13.35	77.4	14.45	81.7	15.57	91.4	18.20	101.0	21.85
	25	53.5	9.98	62.7	12.65	72.5	15.57	77.4	17.11	81.7	18.72	91.4	22.13	101.0	27.14
	30	53.5	12.07	62.7	15.27	72.5	18.72	77.4	20.60	81.7	22.48	91.4	26.54	101.0	30.91
	35	53.5	14.44	62.7	18.19	72.5	22.30	77.4	24.49	81.7	26.75	91.4	31.55	101.0	36.72
	41	53.5	16.61	62.7	20.99	72.5	25.64	77.4	28.22	81.7	30.95	90.9	36.33	96.5	39.56
43	53.5	18.97	62.7	22.34	72.5	27.48	77.4	30.61	81.7	33.69	89.7	37.69	92.6	41.54	
70	5	46.7	6.72	55.3	8.24	63.3	9.71	67.3	10.67	71.5	11.44	79.9	13.13	88.4	11.69
	10	46.7	7.01	55.3	8.59	63.3	10.24	67.3	11.08	71.5	11.95	79.9	13.70	88.4	15.49
	15	46.7	7.36	55.3	9.02	63.3	10.77	67.3	11.64	71.5	12.52	79.9	14.35	88.4	16.24
	20	46.7	7.75	55.3	9.50	63.3	11.33	67.3	12.26	71.5	13.21	79.9	15.14	88.4	17.28
	25	46.7	8.24	55.3	10.42	63.3	12.79	67.3	14.05	71.5	15.36	79.9	18.11	88.4	21.00
	30	46.7	10.03	55.3	12.59	63.3	15.45	67.3	16.93	71.5	18.47	79.9	21.74	88.4	25.20
	35	46.7	12.03	55.3	15.05	63.3	18.38	67.3	20.16	71.5	21.97	79.9	25.84	88.4	29.94
	41	46.7	13.53	55.3	17.02	63.3	21.12	67.3	22.90	71.5	25.29	79.9	29.78	88.4	34.74
43	46.7	14.50	55.3	18.16	63.3	23.38	67.3	24.08	71.5	27.46	78.7	32.16	87.8	37.44	
60	5	40.0	5.54	47.2	6.83	54.3	8.09	57.9	8.86	61.6	9.45	68.5	10.68	75.7	12.06
	10	40.0	5.79	47.2	7.11	54.3	8.45	57.9	9.27	61.6	9.86	68.5	11.30	75.7	12.79
	15	40.0	6.10	47.2	7.46	54.3	8.88	57.9	9.63	61.6	10.35	68.5	11.86	75.7	13.43
	20	40.0	6.41	47.2	7.85	54.3	9.33	57.9	10.11	61.6	10.90	68.5	12.51	75.7	14.13
	25	40.0	6.76	47.2	8.37	54.3	10.24	57.9	11.22	61.6	12.26	68.5	14.40	75.7	16.66
	30	40.0	8.11	47.2	10.20	54.3	13.63	57.9	13.57	61.6	14.76	68.5	17.32	75.7	20.04
	35	40.0	9.77	47.2	12.20	54.3	14.80	57.9	16.19	61.6	17.63	68.5	20.61	75.7	23.83
	41	40.0	11.01	47.2	12.53	54.3	16.81	57.9	18.10	61.6	20.17	68.5	23.72	75.7	27.51
43	40.0	12.10	47.2	13.11	54.3	18.14	57.9	20.23	61.6	22.13	68.5	25.68	75.7	29.51	
50	5	33.4	4.44	39.4	5.51	45.3	6.48	48.2	6.93	51.1	7.49	57.1	8.60	63.0	9.74
	10	33.4	4.61	39.4	5.66	45.3	6.76	48.2	7.29	51.1	7.85	57.1	9.02	63.0	10.20
	15	33.4	4.84	39.4	5.87	45.3	7.09	48.2	7.67	51.1	8.27	57.1	9.46	63.0	10.72
	20	33.4	5.10	39.4	6.27	45.3	7.46	48.2	8.07	51.1	8.69	57.1	9.98	63.0	11.29
	25	33.4	5.40	39.4	6.59	45.3	7.89	48.2	8.63	51.1	9.42	57.1	11.04	63.0	12.73
	30	33.4	6.36	39.4	7.93	45.3	9.60	48.2	10.51	51.1	11.43	57.1	13.37	63.0	15.36
	35	33.4	7.71	39.4	9.55	45.3	11.56	48.2	12.56	51.1	13.66	57.1	15.92	63.0	18.29
	41	33.4	8.65	39.4	10.24	45.3	13.04	48.2	14.25	51.1	15.55	57.1	18.36	63.0	21.05
43	33.4	9.73	39.4	11.32	45.3	14.32	48.2	15.88	51.1	16.92	57.1	19.89	63.0	23.24	

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capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	91.3	16.53	107.7	20.08	124.0	23.44	131.8	26.31	136.6	27.28	139.8	23.44	142.8	22.16
	10	91.3	17.06	107.7	20.70	124.0	24.41	132.6	26.24	133.8	27.17	137.0	24.59	140.0	23.40
	15	91.3	17.89	107.7	21.66	124.0	25.52	129.2	26.19	130.6	27.33	132.6	26.00	136.0	26.09
	20	91.3	18.85	107.7	24.12	122.6	29.32	125.2	29.45	125.4	31.01	128.6	29.88	131.6	30.17
	25	91.3	22.78	107.7	29.10	118.6	33.20	120.8	33.36	121.4	34.94	124.6	33.87	127.4	34.21
	30	91.3	27.10	107.7	33.40	114.2	37.21	115.4	36.79	117.2	38.36	118.2	37.30	123.2	38.09
	35	91.3	32.17	106.7	39.19	111.0	39.63	111.4	40.07	113.0	41.77	116.2	40.77	119.0	41.17
	41	91.3	36.74	104.7	41.78	106.0	42.22	107.6	42.54	109.0	44.14	112.2	43.31	114.6	43.58
43	91.3	39.02	102.6	43.10	103.6	45.10	105.4	45.69	106.6	47.39	110.0	46.52	111.6	46.90	
120	5	84.6	15.17	99.3	18.05	114.6	20.90	122.0	23.07	130.2	26.34	137.4	25.40	140.2	23.96
	10	84.6	15.50	99.3	18.85	114.6	22.24	122.0	23.94	129.4	27.04	134.8	25.46	137.4	24.36
	15	84.6	16.26	99.3	19.76	114.6	23.31	122.0	25.05	127.8	27.68	130.4	25.81	133.2	25.77
	20	84.6	17.06	99.3	21.37	114.6	26.48	122.0	29.21	123.6	30.81	126.2	29.65	129.0	29.94
	25	84.6	20.28	99.3	25.81	114.6	31.96	118.0	33.16	119.6	34.72	122.4	33.63	124.8	33.92
	30	84.6	24.03	99.3	30.82	111.8	35.78	113.6	36.06	115.2	37.78	117.6	36.88	120.6	37.23
	35	84.6	28.65	99.3	35.04	108.8	38.72	109.6	39.03	111.0	40.83	113.8	39.81	116.4	40.81
	41	84.6	32.97	99.3	39.65	103.8	41.04	105.6	41.26	107.2	42.76	109.0	42.86	111.8	43.16
43	84.6	35.02	99.3	43.20	101.6	43.8	103.4	44.29	104.6	46.6	106.4	46.09	109.8	46.73	
110	5	77.5	13.53	91.1	16.31	105.0	19.26	111.8	20.94	118.6	23.92	135.2	26.46	138.0	25.26
	10	77.5	13.98	91.1	17.02	105.0	20.10	111.8	21.66	118.6	24.63	132.4	26.31	135.0	25.35
	15	77.5	14.68	91.1	17.82	105.0	21.06	111.8	22.63	118.6	25.70	128.0	26.17	130.8	25.77
	20	77.5	15.41	91.1	18.78	105.0	23.20	111.8	25.55	118.6	29.40	124.0	29.48	126.6	29.70
	25	77.5	17.91	91.1	22.71	105.0	28.00	111.8	31.82	116.4	35.17	119.0	34.04	121.6	34.33
	30	77.5	21.39	91.1	27.11	105.0	33.69	111.8	35.97	112.2	37.77	115.6	36.73	118.2	37.02
	35	77.5	25.30	91.1	30.64	105.0	36.67	107.6	38.80	109.0	40.81	111.4	39.77	114.0	40.35
	41	77.5	29.35	91.1	35.88	102.2	39.96	103.8	41.44	105.0	42.84	106.6	42.34	109.8	43.18
43	77.5	31.79	91.1	38.47	99.6	42.2	101.6	43.44	102.6	44.44	104.2	43.96	107.2	44.46	
100	5	70.3	12.32	82.7	14.59	95.2	17.40	101.2	19.30	107.8	21.41	120.4	22.88	138.0	26.42
	10	70.3	12.51	82.7	15.21	95.2	17.96	101.2	19.36	107.8	22.17	120.4	23.60	134.8	26.28
	15	70.3	13.09	82.7	15.92	95.2	18.80	101.2	20.30	107.8	23.15	120.4	24.72	131.4	26.15
	20	70.3	13.76	82.7	16.73	95.2	20.10	101.2	22.13	107.8	25.63	120.4	28.67	128.4	29.48
	25	70.3	15.63	82.7	19.76	95.2	24.30	101.2	26.73	107.8	30.63	117.6	33.14	124.0	33.41
	30	70.3	18.67	82.7	23.48	95.2	29.01	101.2	31.62	107.8	35.66	113.2	36.24	118.8	36.91
	35	70.3	22.13	82.7	26.48	95.2	32.89	101.2	34.65	107.0	40.24	109.2	39.53	113.8	39.99
	41	70.3	25.62	82.7	30.85	95.2	37.68	101.2	39.71	103.0	42.78	105.2	42.04	107.4	42.40
43	70.3	28.45	82.7	33.50	95.2	40.38	101.2	42.30	100.4	44.46	103.2	43.56	105.0	43.78	
90	5	63.6	10.70	74.6	13.02	86.0	15.38	91.6	16.47	97.4	19.28	108.4	20.11	119.6	22.60
	10	63.6	11.06	74.6	13.42	86.0	15.86	91.6	17.11	97.4	19.76	108.4	20.90	119.6	23.45
	15	63.6	11.59	74.6	14.05	86.0	16.59	91.6	17.89	97.4	20.65	108.4	21.86	119.6	24.54
	20	63.6	12.17	74.6	14.77	86.0	17.44	91.6	18.92	97.4	22.08	108.4	24.41	119.6	28.38
	25	63.6	13.51	74.6	17.02	86.0	20.81	91.6	22.85	97.4	26.37	108.4	29.45	117.4	33.11
	30	63.6	16.17	74.6	20.32	86.0	24.88	91.6	27.29	97.4	31.21	108.4	35.02	113.4	36.45
	35	63.6	19.14	74.6	22.58	86.0	27.98	91.6	32.31	97.4	36.55	107.0	39.16	109.2	39.51
	41	63.6	21.90	74.6	26.37	86.0	32.64	91.6	35.58	97.4	40.68	102.6	41.60	104.8	42.34
43	63.6	23.43	74.6	28.56	86.0	35.08	91.6	38.30	97.4	42.69	99.0	43.06	102.6	43.56	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	56.7	9.40	66.1	11.36	76.6	13.38	81.6	14.53	86.2	16.78	96.4	17.55	106.4	19.33
	10	56.7	9.67	66.1	11.70	76.6	13.80	81.6	15.04	86.2	17.37	96.4	18.20	106.4	20.43
	15	56.7	10.10	66.1	12.24	76.6	14.47	81.6	15.59	86.2	18.13	96.4	19.07	106.4	21.42
	20	56.7	10.61	66.1	12.84	76.6	15.16	81.6	16.37	86.2	18.98	96.4	20.43	106.4	24.14
	25	56.7	11.50	66.1	14.41	76.6	17.58	81.6	19.25	86.2	22.39	96.4	24.70	106.4	29.55
	30	56.7	13.78	66.1	17.24	76.6	20.99	81.6	23.02	86.2	26.48	96.4	29.48	106.4	34.21
	35	56.7	16.35	66.1	18.96	76.6	23.43	81.6	27.24	86.2	31.10	96.4	34.90	106.4	39.06
	41	56.7	18.67	66.1	22.41	76.6	27.29	81.6	30.50	86.2	34.82	95.4	38.76	101.8	41.74
43	56.7	20.75	66.1	24.63	76.6	29.47	81.6	32.90	86.2	37.29	93.0	40.23	98.4	43.34	
70	5	49.3	8.03	58.4	9.71	67.0	11.21	71.0	12.40	75.4	14.54	84.2	15.00	93.2	14.56
	10	49.3	8.29	58.4	10.01	67.0	11.79	71.0	12.71	75.4	15.05	84.2	15.54	93.2	17.49
	15	49.3	8.67	58.4	10.48	67.0	12.37	71.0	13.31	75.4	15.67	84.2	16.26	93.2	18.31
	20	49.3	9.09	58.4	10.99	67.0	12.98	71.0	13.98	75.4	16.41	84.2	17.11	93.2	19.43
	25	49.3	9.63	58.4	11.99	67.0	14.56	71.0	15.92	75.4	18.75	84.2	20.32	93.2	23.47
	30	49.3	11.57	58.4	14.34	67.0	17.44	71.0	19.05	75.4	22.13	84.2	24.28	93.2	28.03
	35	49.3	13.74	58.4	15.57	67.0	19.19	71.0	22.55	75.4	25.92	84.2	28.72	93.2	32.16
	41	49.3	15.51	58.4	18.02	67.0	22.43	71.0	24.91	75.4	28.76	84.2	32.20	93.2	36.99
43	49.3	16.64	58.4	19.46	67.0	24.75	71.0	26.67	75.4	31.19	81.8	34.43	92.0	39.39	
60	5	42.4	6.76	49.8	8.17	57.4	9.53	61.0	10.38	64.8	12.40	72.2	12.23	79.8	13.70
	10	42.4	6.97	49.8	8.40	57.4	9.85	61.0	10.85	64.8	12.79	72.2	12.96	79.8	14.56
	15	42.4	7.31	49.8	8.78	57.4	10.32	61.0	11.12	64.8	13.33	72.2	13.56	79.8	15.25
	20	42.4	7.64	49.8	9.20	57.4	10.81	61.0	11.66	64.8	13.91	72.2	14.25	79.8	16.01
	25	42.4	8.02	49.8	9.76	57.4	11.79	61.0	12.87	64.8	15.38	72.2	16.30	79.8	18.76
	30	42.4	9.50	49.8	11.75	57.4	16.57	61.0	15.41	64.8	18.08	72.2	19.47	79.8	22.42
	35	42.4	11.28	49.8	12.46	57.4	15.30	61.0	18.25	64.8	21.21	72.2	23.05	79.8	25.53
	41	42.4	12.87	49.8	11.97	57.4	17.68	61.0	19.79	64.8	23.75	72.2	26.22	79.8	29.12
43	42.4	14.08	49.8	12.84	57.4	18.89	61.0	21.46	64.8	25.32	72.2	27.95	79.8	30.71	
50	5	35.2	5.55	41.6	6.68	47.8	7.79	50.8	8.33	53.8	10.28	60.2	10.03	66.4	11.31
	10	35.2	5.70	41.6	6.84	47.8	8.02	50.8	8.60	53.8	10.60	60.2	10.48	66.4	11.75
	15	35.2	5.95	41.6	7.09	47.8	8.38	50.8	9.00	53.8	11.05	60.2	10.94	66.4	12.31
	20	35.2	6.24	41.6	7.48	47.8	8.78	50.8	9.45	53.8	11.52	60.2	11.50	66.4	12.93
	25	35.2	6.55	41.6	7.84	47.8	9.25	50.8	10.05	53.8	12.30	60.2	12.67	66.4	14.49
	30	35.2	7.60	41.6	9.29	47.8	11.10	50.8	12.08	53.8	14.49	60.2	15.16	66.4	17.35
	35	35.2	9.05	41.6	9.61	47.8	11.77	50.8	14.32	53.8	16.90	60.2	17.96	66.4	19.77
	41	35.2	10.30	41.6	10.81	47.8	13.63	50.8	15.92	53.8	18.75	60.2	20.58	66.4	22.19
43	35.2	11.51	41.6	12.02	47.8	14.98	50.8	17.43	53.8	19.75	60.2	22.09	66.4	24.78	

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capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	96.0	18.59	113.2	22.42	130.4	25.98	138.3	28.99	143.1	28.64	146.1	25.95	149.6	25.02
	10	96.0	19.03	113.2	22.95	130.4	26.95	139.5	28.91	140.7	28.41	144.1	27.13	147.2	25.86
	15	96.0	19.90	113.2	23.99	130.4	28.14	136.4	28.86	137.7	28.59	139.5	28.72	143.0	28.79
	20	96.0	20.95	113.2	26.63	128.9	32.23	132.2	32.37	131.9	32.55	135.3	32.83	138.4	33.15
	25	96.0	25.18	113.2	32.00	124.9	36.42	127.6	36.60	127.7	36.78	131.1	37.15	133.9	37.51
	30	96.0	29.90	113.2	36.06	120.1	40.69	121.3	39.79	123.2	40.05	123.5	40.43	129.4	41.03
	35	96.0	35.31	112.2	41.53	117.1	42.00	117.1	42.63	118.9	43.08	122.3	43.49	125.1	43.90
	41	96.0	40.56	110.7	44.19	111.4	44.64	113.2	45.10	114.5	45.35	118.1	45.86	120.1	46.02
43	96.0	42.28	108.7	45.10	109.0	46.40	110.9	46.89	111.9	47.19	115.8	47.62	116.8	47.90	
120	5	89.1	17.01	104.4	20.13	120.5	23.49	128.4	25.62	136.5	27.60	143.9	28.15	146.9	26.77
	10	89.1	17.35	104.4	20.95	120.5	24.62	128.4	26.45	136.1	28.27	141.8	28.08	144.5	26.90
	15	89.1	18.16	104.4	21.94	120.5	25.74	128.4	27.64	134.3	28.96	137.0	28.46	140.0	28.53
	20	89.1	19.03	104.4	23.67	120.5	29.18	128.4	32.13	130.0	32.33	132.7	32.60	135.7	32.91
	25	89.1	22.49	104.4	28.46	120.5	35.09	124.2	36.37	125.8	36.55	128.8	36.88	131.2	37.19
	30	89.1	26.66	104.4	33.86	117.5	38.17	119.4	38.51	121.0	38.99	123.6	39.69	126.9	40.07
	35	89.1	31.51	104.4	37.07	114.8	40.48	115.2	40.85	116.7	41.50	119.7	41.90	122.4	43.51
	41	89.1	36.48	104.4	41.28	109.1	42.55	111.2	42.96	112.8	43.16	114.3	44.96	117.3	45.56
43	89.1	38.09	104.4	43.60	106.8	44.3	108.9	44.69	110.1	46.2	111.6	47.09	115.3	47.73	
110	5	81.8	15.31	95.7	18.26	110.5	21.45	117.7	23.29	124.7	25.08	141.6	29.17	144.4	28.01
	10	81.8	15.71	95.7	18.98	110.5	22.30	117.7	23.99	124.7	25.67	139.2	28.99	141.9	27.95
	15	81.8	16.47	95.7	19.85	110.5	23.35	117.7	25.06	124.7	26.82	134.6	28.85	137.6	28.41
	20	81.8	17.25	95.7	20.89	110.5	25.64	117.7	28.18	124.7	30.82	130.4	32.41	133.1	32.64
	25	81.8	19.94	95.7	25.12	110.5	30.82	117.7	34.36	122.8	36.66	125.5	36.94	128.2	37.25
	30	81.8	23.68	95.7	29.86	110.5	37.06	117.7	38.83	117.9	39.22	121.6	39.65	124.3	39.94
	35	81.8	27.91	95.7	32.33	110.5	38.20	113.2	40.67	114.7	41.64	117.1	42.03	119.8	42.83
	41	81.8	32.49	95.7	38.20	107.7	41.34	109.3	43.08	110.5	43.23	111.9	44.34	115.3	45.43
43	81.8	35.15	95.7	40.87	105.0	43.4	107	44.44	107.9	44.84	109.3	45.96	112.6	46.36	
100	5	73.9	13.88	86.9	16.40	100.2	19.42	106.6	21.78	113.3	22.31	126.6	25.48	145.6	29.10
	10	73.9	14.12	86.9	17.03	100.2	19.99	106.6	21.50	113.3	23.03	126.6	26.08	142.8	28.96
	15	73.9	14.75	86.9	17.80	100.2	20.90	106.6	22.53	113.3	24.08	126.6	27.27	139.7	28.82
	20	73.9	15.47	86.9	18.67	100.2	22.30	106.6	24.49	113.3	26.76	126.6	31.54	137.0	32.41
	25	73.9	17.48	86.9	21.94	100.2	26.82	106.6	29.45	113.3	32.14	123.6	36.36	132.2	36.64
	30	73.9	20.79	86.9	25.90	100.2	31.91	106.6	34.60	113.3	37.12	119.0	38.90	126.4	40.00
	35	73.9	24.49	86.9	27.84	100.2	34.75	106.6	36.95	112.5	40.84	114.8	41.85	120.7	42.44
	41	73.9	28.48	86.9	32.82	100.2	39.45	106.6	41.61	108.3	43.14	110.6	44.04	112.9	44.70
43	73.9	31.69	86.9	35.79	100.2	42.34	106.6	43.60	105.6	44.76	108.6	45.46	110.3	45.73	
90	5	67.0	12.26	78.5	14.76	90.4	17.31	96.4	18.47	102.5	20.10	114.0	22.38	125.8	25.09
	10	67.0	12.56	78.5	15.11	90.4	17.72	96.4	19.08	102.5	20.43	114.0	23.17	125.8	25.91
	15	67.0	13.12	78.5	15.79	90.4	18.53	96.4	19.90	102.5	21.39	114.0	24.21	125.8	27.09
	20	67.0	13.75	78.5	16.56	90.4	19.44	96.4	21.03	102.5	22.94	114.0	26.95	125.8	31.23
	25	67.0	15.20	78.5	18.98	90.4	23.08	96.4	25.26	102.5	27.54	114.0	32.37	123.5	36.33
	30	67.0	18.07	78.5	22.54	90.4	27.45	96.4	30.05	102.5	32.77	114.0	38.14	119.3	39.42
	35	67.0	21.26	78.5	23.64	90.4	29.46	96.4	35.46	102.5	38.38	112.5	41.45	114.8	41.84
	41	67.0	24.39	78.5	27.95	90.4	34.65	96.4	38.84	102.5	41.81	107.7	43.37	110.4	44.64
43	67.0	25.65	78.5	30.51	90.4	37.33	96.4	41.20	102.5	43.30	103.5	45.06	108.1	45.46	

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	60.0	10.83	69.4	12.96	80.7	15.16	85.8	16.44	90.7	17.29	101.4	19.64	111.8	21.43
	10	60.0	11.06	69.4	13.25	80.7	15.52	85.8	16.92	90.7	17.85	101.4	20.26	111.8	22.67
	15	60.0	11.52	69.4	13.84	80.7	16.25	85.8	17.44	90.7	18.67	101.4	21.21	111.8	23.72
	20	60.0	12.07	69.4	14.48	80.7	16.98	85.8	18.29	90.7	19.58	101.4	22.67	111.8	26.42
	25	60.0	13.03	69.4	16.16	80.7	19.58	85.8	21.39	90.7	23.26	101.4	27.26	111.8	31.96
	30	60.0	15.48	69.4	19.22	80.7	23.26	85.8	25.45	90.7	27.67	101.4	32.41	111.8	37.51
	35	60.0	18.26	69.4	19.73	80.7	24.55	85.8	30.00	90.7	32.64	101.4	38.24	111.8	41.40
	41	60.0	20.73	69.4	23.82	80.7	28.95	85.8	32.79	90.7	35.88	99.9	41.19	107.1	43.92
43	60.0	22.52	69.4	26.92	80.7	31.45	85.8	35.18	90.7	38.10	96.3	42.77	104.2	45.14	
70	5	51.8	9.34	61.6	11.18	70.7	12.71	74.7	14.14	79.3	14.85	88.5	16.88	98.0	17.44
	10	51.8	9.57	61.6	11.43	70.7	13.34	74.7	14.34	79.3	15.34	88.5	17.39	98.0	19.49
	15	51.8	9.98	61.6	11.93	70.7	13.98	74.7	14.98	79.3	16.02	88.5	18.16	98.0	20.39
	20	51.8	10.43	61.6	12.48	70.7	14.62	74.7	15.71	79.3	16.81	88.5	19.08	98.0	21.58
	25	51.8	11.02	61.6	13.57	70.7	16.34	74.7	17.80	79.3	19.35	88.5	22.54	98.0	25.94
	30	51.8	13.11	61.6	16.08	70.7	19.44	74.7	21.17	79.3	22.98	88.5	26.81	98.0	30.86
	35	51.8	15.44	61.6	16.08	70.7	19.99	74.7	24.95	79.3	27.08	88.5	31.59	98.0	34.37
	41	51.8	17.49	61.6	19.01	70.7	23.73	74.7	26.92	79.3	29.44	88.5	34.61	98.0	39.23
43	51.8	18.79	61.6	20.76	70.7	26.11	74.7	29.26	79.3	32.11	84.9	36.71	96.2	41.33	
60	5	44.8	7.97	52.5	9.51	60.5	10.97	64.1	11.91	68.0	12.56	75.9	13.78	83.9	15.35
	10	44.8	8.15	52.5	9.70	60.5	11.25	64.1	12.44	68.0	12.92	75.9	14.61	83.9	16.34
	15	44.8	8.51	52.5	10.11	60.5	11.75	64.1	12.62	68.0	13.51	75.9	15.25	83.9	17.08
	20	44.8	8.88	52.5	10.56	60.5	12.29	64.1	13.20	68.0	14.12	75.9	15.99	83.9	17.89
	25	44.8	9.29	52.5	11.16	60.5	13.34	64.1	14.52	68.0	15.71	75.9	18.21	83.9	20.85
	30	44.8	10.88	52.5	13.30	60.5	19.52	64.1	17.25	68.0	18.59	75.9	21.63	83.9	24.81
	35	44.8	12.80	52.5	12.72	60.5	15.80	64.1	20.30	68.0	21.99	75.9	25.49	83.9	27.23
	41	44.8	14.73	52.5	11.40	60.5	18.56	64.1	21.47	68.0	24.54	75.9	28.71	83.9	30.73
43	44.8	16.07	52.5	12.57	60.5	19.65	64.1	22.68	68.0	25.72	75.9	30.22	83.9	31.92	
50	5	37.1	6.66	43.8	7.86	50.3	9.10	53.4	9.74	56.5	10.28	63.3	11.46	69.8	12.88
	10	37.1	6.78	43.8	8.01	50.3	9.29	53.4	9.92	56.5	10.56	63.3	11.93	69.8	13.30
	15	37.1	7.05	43.8	8.31	50.3	9.66	53.4	10.34	56.5	11.03	63.3	12.43	69.8	13.89
	20	37.1	7.37	43.8	8.70	50.3	10.11	53.4	10.83	56.5	11.56	63.3	13.03	69.8	14.57
	25	37.1	7.70	43.8	9.10	50.3	10.61	53.4	11.47	56.5	12.39	63.3	14.29	69.8	16.26
	30	37.1	8.83	43.8	10.65	50.3	12.61	53.4	13.66	56.5	14.75	63.3	16.96	69.8	19.35
	35	37.1	10.39	43.8	9.66	50.3	11.99	53.4	16.07	56.5	17.35	63.3	19.99	69.8	21.26
	41	37.1	11.96	43.8	11.39	50.3	14.21	53.4	17.59	56.5	19.16	63.3	22.80	69.8	23.34
43	37.1	13.30	43.8	12.72	50.3	15.64	53.4	18.98	56.5	19.78	63.3	24.28	69.8	26.32	

N. AV40NMTAHA 50HZ

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14(i)		16(i)		18(i)		19(i)		20(i)		22(i)		24(i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	5	100.8	20.65	118.8	24.75	136.8	28.51	144.8	31.68	149.6	31.39	152.4	28.46	156.4	27.88
	10	100.8	21.00	118.8	25.19	136.8	29.49	146.4	31.59	147.6	31.05	151.2	29.68	154.4	28.32
	15	100.8	21.92	118.8	26.31	136.8	30.76	143.6	31.54	144.8	31.24	146.4	31.44	150.0	31.49
	20	100.8	23.05	118.8	29.15	135.2	35.15	139.2	35.29	138.4	35.49	142.0	35.78	145.2	36.12
	25	100.8	27.58	118.8	34.90	131.2	39.64	134.4	39.83	134.0	40.03	137.6	40.42	140.4	40.81
	30	100.8	32.71	118.8	38.71	126.0	44.18	127.2	42.79	129.2	43.14	128.8	43.56	135.6	43.97
	35	100.8	38.45	117.6	43.88	123.2	44.36	122.8	45.19	124.8	45.79	128.4	46.21	131.2	46.63
	41	100.8	44.38	116.8	46.60	116.8	47.06	118.8	47.66	120.0	47.96	124.0	48.41	125.6	48.46
	43	100.8	45.54	114.8	47.10	114.4	47.70	116.4	48.09	117.2	48.39	121.6	48.72	122.0	48.90
120	5	93.6	18.85	109.6	22.22	126.4	26.07	134.8	28.17	142.8	30.27	150.4	30.90	153.6	29.58
	10	93.6	19.19	109.6	23.05	126.4	27.00	134.8	28.95	142.8	30.90	148.8	30.71	151.6	29.44
	15	93.6	20.07	109.6	24.12	126.4	28.17	134.8	30.22	140.8	31.63	143.6	31.10	146.8	31.29
	20	93.6	21.00	109.6	25.97	126.4	31.88	134.8	35.05	136.4	35.25	139.2	35.54	142.4	35.88
	25	93.6	24.70	109.6	31.10	126.4	38.22	130.4	39.59	132.0	39.78	135.2	40.13	137.6	40.47
	30	93.6	29.29	109.6	36.90	123.2	40.56	125.2	40.96	126.8	41.60	129.6	42.51	133.2	42.90
	35	93.6	34.37	109.6	39.09	120.8	42.24	120.8	42.67	122.4	43.57	125.6	43.99	128.4	46.21
	41	93.6	39.99	109.6	42.91	114.4	44.06	116.8	44.66	118.4	44.96	119.6	47.06	122.8	47.96
	43	93.6	41.16	109.6	44.00	112.0	44.8	114.4	45.09	115.6	47.2	116.8	48.09	120.8	48.73
110	5	86.0	17.09	100.4	20.21	116.0	23.63	123.6	25.63	130.8	27.63	148.0	31.88	150.8	30.76
	10	86.0	17.43	100.4	20.95	116.0	24.51	123.6	26.31	130.8	28.12	146.0	31.68	148.8	30.56
	15	86.0	18.26	100.4	21.87	116.0	25.63	123.6	27.49	130.8	29.34	141.2	31.54	144.4	31.05
	20	86.0	19.09	100.4	23.00	116.0	28.07	123.6	30.80	130.8	33.63	136.8	35.34	139.6	35.59
	25	86.0	21.97	100.4	27.53	116.0	33.63	123.6	36.90	129.2	39.54	132.0	39.83	134.8	40.17
	30	86.0	25.97	100.4	32.61	116.0	40.42	123.6	41.69	123.6	42.08	127.6	42.57	130.4	42.86
	35	86.0	30.51	100.4	34.02	116.0	39.73	118.8	42.54	120.4	43.87	122.8	44.29	125.6	45.31
	41	86.0	35.62	100.4	40.51	113.2	42.72	114.8	44.72	116.0	45.02	117.2	46.34	120.8	47.67
	43	86.0	38.50	100.4	43.27	110.4	44.6	112.4	45.44	113.2	46.64	114.4	47.96	118.0	48.26
100	5	77.6	15.43	91.2	18.21	105.2	21.43	112.0	24.27	118.8	24.61	132.8	28.07	153.2	31.78
	10	77.6	15.73	91.2	18.85	105.2	22.02	112.0	23.63	118.8	25.29	132.8	28.56	150.8	31.63
	15	77.6	16.41	91.2	19.68	105.2	23.00	112.0	24.75	118.8	26.41	132.8	29.83	148.0	31.49
	20	77.6	17.19	91.2	20.61	105.2	24.51	112.0	26.85	118.8	29.29	132.8	34.42	145.6	35.34
	25	77.6	19.34	91.2	24.12	105.2	29.34	112.0	32.17	118.8	35.05	129.6	39.59	140.4	39.88
	30	77.6	22.90	91.2	28.32	105.2	34.81	112.0	37.59	118.8	39.98	124.8	41.56	134.0	43.09
	35	77.6	26.85	91.2	29.19	105.2	36.60	112.0	39.25	118.0	42.84	120.4	44.17	127.6	44.89
	41	77.6	31.33	91.2	34.80	105.2	41.22	112.0	43.51	113.6	44.90	116.0	46.04	118.4	47.00
	43	77.6	34.94	91.2	38.07	105.2	44.30	112.0	44.90	110.8	46.46	114.0	47.36	115.6	47.67
90	5	70.4	13.82	82.4	16.51	94.8	19.24	101.2	20.46	107.6	22.31	119.6	24.66	132.0	27.58
	10	70.4	14.07	82.4	16.80	94.8	19.58	101.2	21.04	107.6	22.51	119.6	25.44	132.0	28.36
	15	70.4	14.65	82.4	17.53	94.8	20.46	101.2	21.92	107.6	23.53	119.6	26.56	132.0	29.63
	20	70.4	15.33	82.4	18.36	94.8	21.43	101.2	23.14	107.6	25.19	119.6	29.49	132.0	34.07
	25	70.4	16.90	82.4	20.95	94.8	25.34	101.2	27.68	107.6	30.12	119.6	35.29	129.6	39.54
	30	70.4	19.97	82.4	24.75	94.8	30.02	101.2	32.81	107.6	35.73	119.6	41.26	125.2	42.39
	35	70.4	23.39	82.4	24.70	94.8	30.94	101.2	38.61	107.6	41.61	118.0	43.74	120.4	44.17
	41	70.4	26.89	82.4	29.53	94.8	36.65	101.2	42.10	107.6	44.34	112.8	45.14	116.0	46.94
	43	70.4	27.87	82.4	32.46	94.8	39.58	101.2	44.10	107.6	45.31	108.0	47.06	113.6	47.36

capacity factor %	outdoor temp.(i DB)	indoor temp.(i WB)													
		14 (i)		16 (i)		18 (i)		19 (i)		20 (i)		22 (i)		24 (i)	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	5	63.2	12.26	72.8	14.55	84.8	16.95	90	18.36	95.2	19.19	106.4	21.73	117.2	23.53
	10	63.2	12.46	72.8	14.80	84.8	17.24	90	18.80	95.2	19.73	106.4	22.31	117.2	24.90
	15	63.2	12.94	72.8	15.43	84.8	18.02	90	19.29	95.2	20.61	106.4	23.34	117.2	26.02
	20	63.2	13.53	72.8	16.12	84.8	18.80	90	20.21	95.2	21.58	106.4	24.90	117.2	28.71
	25	63.2	14.55	72.8	17.92	84.8	21.58	90	23.53	95.2	25.53	106.4	29.83	117.2	34.37
	30	63.2	17.19	72.8	21.19	84.8	25.53	90	27.88	95.2	30.27	106.4	35.34	117.2	40.81
	35	63.2	20.17	72.8	20.50	84.8	25.67	90	32.76	95.2	35.59	106.4	41.59	117.2	43.74
	41	63.2	22.79	72.8	25.23	84.8	30.60	90	35.08	95.2	38.35	104.4	43.62	112.4	46.10
43	63.2	24.30	72.8	29.21	84.8	33.43	90	37.47	95.2	40.30	99.6	45.31	110.0	46.94	
70	5	54.4	10.65	64.8	12.65	74.4	14.21	78.4	15.87	83.2	16.55	92.8	18.75	102.8	20.31
	10	54.4	10.85	64.8	12.85	74.4	14.90	78.4	15.97	83.2	17.04	92.8	19.24	102.8	21.48
	15	54.4	11.28	64.8	13.38	74.4	15.58	78.4	16.65	83.2	17.77	92.8	20.07	102.8	22.46
	20	54.4	11.77	64.8	13.97	74.4	16.26	78.4	17.43	83.2	18.60	92.8	21.04	102.8	23.73
	25	54.4	12.41	64.8	15.14	74.4	18.12	78.4	19.68	83.2	21.34	92.8	24.75	102.8	28.41
	30	54.4	14.65	64.8	17.82	74.4	21.43	78.4	23.29	83.2	25.24	92.8	29.34	102.8	33.68
	35	54.4	17.14	64.8	16.60	74.4	20.79	78.4	27.34	83.2	29.63	92.8	34.46	102.8	36.59
	41	54.4	19.47	64.8	20.01	74.4	25.04	78.4	28.93	83.2	31.51	92.8	37.03	102.8	41.47
43	54.4	20.94	64.8	22.06	74.4	27.48	78.4	31.85	83.2	34.44	88.0	38.98	100.4	43.28	
60	5	47.2	9.19	55.2	10.85	63.6	12.41	67.2	13.43	71.2	14.11	79.6	15.33	88.0	16.99
	10	47.2	9.33	55.2	10.99	63.6	12.65	67.2	14.02	71.2	14.46	79.6	16.26	88.0	18.12
	15	47.2	9.72	55.2	11.43	63.6	13.19	67.2	14.11	71.2	15.09	79.6	16.95	88.0	18.90
	20	47.2	10.11	55.2	11.92	63.6	13.77	67.2	14.75	71.2	15.73	79.6	17.73	88.0	19.78
	25	47.2	10.55	55.2	12.55	63.6	14.90	67.2	16.16	71.2	17.43	79.6	20.12	88.0	22.95
	30	47.2	12.26	55.2	14.85	63.6	22.46	67.2	19.09	71.2	20.51	79.6	23.78	88.0	27.19
	35	47.2	14.31	55.2	12.99	63.6	16.30	67.2	22.36	71.2	24.17	79.6	27.93	88.0	28.93
	41	47.2	16.59	55.2	10.84	63.6	19.43	67.2	23.16	71.2	26.72	79.6	31.21	88.0	32.34
43	47.2	18.06	55.2	12.30	63.6	20.40	67.2	23.90	71.2	27.51	79.6	32.49	88.0	33.13	
50	5	39.0	7.77	46.0	9.04	52.8	10.41	56	11.14	59.2	11.67	66.4	12.89	73.2	14.46
	10	39.0	7.87	46.0	9.19	52.8	10.55	56	11.24	59.2	11.92	66.4	13.38	73.2	14.85
	15	39.0	8.16	46.0	9.53	52.8	10.94	56	11.67	59.2	12.41	66.4	13.92	73.2	15.48
	20	39.0	8.50	46.0	9.92	52.8	11.43	56	12.21	59.2	12.99	66.4	14.55	73.2	16.21
	25	39.0	8.84	46.0	10.36	52.8	11.97	56	12.89	59.2	13.87	66.4	15.92	73.2	18.02
	30	39.0	10.06	46.0	12.02	52.8	14.11	56	15.24	59.2	16.41	66.4	18.75	73.2	21.34
	35	39.0	11.72	46.0	9.72	52.8	12.20	56	17.82	59.2	19.19	66.4	22.02	73.2	22.75
	41	39.0	13.62	46.0	11.96	52.8	14.79	56	19.26	59.2	20.96	66.4	25.01	73.2	24.49
43	39.0	15.08	46.0	13.42	52.8	16.30	56	20.53	59.2	21.22	66.4	26.48	73.2	27.86	

2) Heating

A. AU78NMTAHA 50HZ

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	15.9	4.51	15.9	4.75	15.9	5.01	15.9	5.14	15.9	5.27	15.9	5.52
	-12.6	-13.0	16.8	4.73	16.8	4.96	16.8	5.22	16.8	5.33	16.8	5.46	16.8	5.70
	-10.5	-11.0	17.6	4.94	17.6	5.16	17.6	5.38	17.6	5.51	17.6	5.63	17.6	5.85
	-9.5	-10.0	18.1	5.04	18.1	5.26	18.1	5.48	18.1	5.60	18.1	5.70	18.1	5.91
	-8.5	-9.1	18.5	5.12	18.5	5.33	18.5	5.55	18.5	5.66	18.5	5.78	18.5	5.99
	-7.0	-7.6	19.1	5.25	19.1	5.46	19.1	5.67	19.1	5.78	19.1	5.88	19.1	6.09
	-5.0	-5.6	20.0	5.41	20.0	5.60	20.0	5.81	20.0	5.91	20.0	6.01	20.0	6.21
	-3.0	-3.7	20.8	5.54	20.8	5.73	20.8	5.93	20.8	6.03	20.8	6.12	20.8	6.31
	0.0	-0.7	22.1	5.73	22.1	5.91	22.1	6.10	22.1	6.20	22.1	6.28	22.1	6.46
	3.0	2.2	23.5	5.90	23.5	6.08	23.5	6.25	23.5	6.33	23.5	6.42	23.5	6.60
	5.0	4.1	24.2	6.01	24.2	6.18	24.2	6.33	24.2	6.42	24.2	6.50	24.2	6.67
	7.0	6.0	25.0	6.10	25.0	6.26	25.0	6.42	25.0	6.50	25.0	6.59	25.0	6.75
	9.0	7.9	25.8	6.40	25.8	6.55	25.8	6.73	25.8	6.80	25.8	6.88	25.8	7.04
	11.0	9.8	26.7	6.70	26.7	6.86	26.7	7.02	26.7	7.11	26.7	7.19	26.7	7.33
	13.0	11.8	27.5	7.22	27.5	7.39	27.5	7.55	27.5	7.64	27.5	7.72	27.5	7.89
	15.0	13.7	28.3	7.30	28.3	7.92	28.3	8.09	28.3	8.17	28.3	8.26	28.3	8.41
19.0	14.2	29.9	7.47	29.9	8.10	29.9	9.64	29.9	9.75	29.9	9.88	29.9	9.97	
21.0	15.0	30.7	7.55	30.7	8.19	30.7	9.73	30.7	9.79	30.7	10.90	30.7	11.00	
120	-14.7	-15.0	15.9	4.85	15.9	5.07	15.9	5.32	15.9	5.44	15.9	5.55	15.9	5.79
	-12.6	-13.0	16.8	5.06	16.8	5.28	16.8	5.49	16.8	5.62	16.8	5.72	16.8	5.94
	-10.5	-11.0	17.6	5.25	17.6	5.46	17.6	5.67	17.6	5.78	17.6	5.88	17.6	6.09
	-9.5	-10.0	18.1	5.33	18.1	5.54	18.1	5.74	18.1	5.85	18.1	5.95	18.1	6.16
	-8.5	-9.1	18.5	5.42	18.5	5.62	18.5	5.81	18.5	5.91	18.5	6.02	18.5	6.22
	-7.0	-7.6	19.1	5.53	19.1	5.72	19.1	5.91	19.1	6.02	19.1	6.11	19.1	6.31
	-5.0	-5.6	20.0	5.68	20.0	5.86	20.0	6.05	20.0	6.14	20.0	6.24	20.0	6.42
	-3.0	-3.7	20.8	5.81	20.8	5.99	20.8	6.17	20.8	6.25	20.8	6.33	20.8	6.51
	0.0	-0.7	22.1	5.99	22.1	6.16	22.1	6.32	22.1	6.41	22.1	6.49	22.1	6.65
	3.0	2.2	23.5	6.13	23.5	6.30	23.5	6.46	23.5	6.54	23.5	6.62	23.5	6.78
	5.0	4.1	24.2	6.23	24.2	6.39	24.2	6.54	24.2	6.62	24.2	6.69	24.2	7.78
	7.0	6.0	25.0	6.31	25.0	6.46	25.0	6.62	25.0	6.69	25.0	6.77	25.0	8.34
	9.0	7.9	25.8	6.62	25.8	6.77	25.8	6.91	25.8	6.99	25.8	7.07	25.8	9.84
	11.0	9.8	26.7	6.92	26.7	7.06	26.7	7.22	26.6	7.29	26.6	7.37	26.1	7.77
	13.0	11.8	27.5	7.45	27.5	7.60	27.5	7.76	27.5	7.83	27.5	7.90	26.1	7.03
	15.0	13.7	28.3	7.97	28.3	8.14	28.3	8.28	28.3	8.36	28.1	8.33	26.1	6.77
19.0	14.2	29.9	8.10	29.9	9.69	29.9	9.81	29.9	9.94	29.7	9.69	26.1	6.00	
21.0	15.0	30.7	8.15	30.7	9.78	30.7	9.86	30.7	10.01	30.5	8.23	26.1	5.78	
110	-14.7	-15.0	15.9	5.19	15.9	5.41	15.9	5.62	15.9	5.73	15.9	5.84	15.9	6.05
	-12.6	-13.0	16.8	5.38	16.8	5.58	16.8	5.80	16.8	5.89	16.8	6.00	16.8	6.20
	-10.5	-11.0	17.6	5.55	17.6	5.75	17.6	5.94	17.6	6.04	17.6	6.12	17.6	6.33
	-9.5	-10.0	18.1	5.64	18.1	5.83	18.1	6.02	18.1	6.11	18.1	6.21	18.1	6.40
	-8.5	-9.1	18.5	5.70	18.5	5.89	18.5	6.08	18.5	6.17	18.5	6.26	18.5	6.44
	-7.0	-7.6	19.1	5.81	19.1	6.00	19.1	6.18	19.1	6.26	19.1	6.36	19.1	6.52
	-5.0	-5.6	20.0	5.94	20.0	6.12	20.0	6.29	20.0	6.38	20.0	6.46	20.0	6.63
	-3.0	-3.7	20.8	6.06	20.8	6.23	20.8	6.39	20.8	6.47	20.8	6.57	20.8	7.19
	0.0	-0.7	22.1	6.23	22.1	6.39	22.1	6.54	22.1	6.62	22.1	6.69	22.1	8.26
	3.0	2.2	23.5	6.38	23.5	6.51	23.5	6.65	23.5	6.74	23.5	7.28	23.5	9.82

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	24.2	6.46	24.2	6.60	24.2	6.74	24.2	7.28	24.2	8.30	24.1	8.35
	7.0	6.0	25.0	6.54	25.0	6.67	25.0	6.81	25.0	8.28	25.0	9.81	24.1	8.02
	9.0	7.9	25.8	6.84	25.8	6.97	25.8	7.10	25.8	9.79	25.6	8.40	24.1	7.72
	11.0	9.8	26.7	7.13	26.6	7.28	26.6	7.41	26.6	10.82	25.6	8.09	24.1	6.58
	13.0	11.8	27.5	7.67	27.5	7.82	27.5	8.43	26.6	9.48	25.6	6.88	24.1	6.32
	15.0	13.7	28.3	8.21	28.3	8.35	27.5	8.12	26.6	7.82	25.6	6.65	24.1	6.12
	19.0	14.2	29.9	9.84	29.9	9.92	27.5	10.05	26.6	7.52	25.6	5.98	24.1	5.55
	21.0	15.0	30.7	9.94	30.7	10.00	27.5	7.52	26.6	6.40	25.6	5.73	24.1	5.37
100	-14.7	-15.0	15.9	5.53	15.9	5.73	15.9	5.91	15.9	6.02	15.9	6.12	15.9	6.31
	-12.6	-13.0	16.8	5.71	16.8	5.89	16.8	6.08	16.8	6.18	16.8	6.26	16.8	6.44
	-10.5	-11.0	17.6	5.87	17.6	6.04	17.6	6.22	17.6	6.30	17.6	6.40	17.6	6.57
	-9.5	-10.0	18.1	5.94	18.1	6.11	18.1	6.28	18.1	6.37	18.1	6.44	18.1	6.63
	-8.5	-9.1	18.5	6.00	18.5	6.17	18.5	6.33	18.5	6.42	18.5	6.50	18.5	7.13
	-7.0	-7.6	19.1	6.10	19.1	6.26	19.1	6.43	19.1	6.50	19.1	6.59	19.1	8.14
	-5.0	-5.6	20.0	6.22	20.0	6.38	20.0	6.54	20.0	6.61	20.0	7.14	20.0	9.66
	-3.0	-3.7	20.8	6.32	20.8	6.47	20.8	6.62	20.8	6.70	20.8	7.24	20.8	10.73
	0.0	-0.7	22.1	6.47	22.1	6.62	22.1	6.76	22.1	7.30	22.1	8.31	21.8	10.68
	3.0	2.2	23.5	6.61	23.5	6.74	23.5	6.86	23.5	8.36	23.5	9.88	21.8	7.77
	5.0	4.1	24.2	6.68	24.2	6.81	24.2	6.94	24.2	10.84	23.5	8.11	21.8	6.60
	7.0	6.0	25.0	6.76	25.0	6.86	25.0	7.00	24.2	10.42	23.5	7.80	21.8	6.34
	9.0	7.9	25.8	7.05	25.8	7.89	25.0	6.73	24.2	9.14	23.5	6.65	21.8	5.70
	11.0	9.8	26.6	7.36	26.6	9.84	25.0	6.47	24.2	6.23	23.5	5.99	21.8	5.49
	13.0	11.8	27.5	7.90	26.6	8.10	25.0	6.23	24.2	6.00	23.5	5.76	21.8	5.30
	15.0	13.7	28.2	8.36	26.6	7.36	25.0	6.02	24.2	5.79	23.5	5.56	21.8	5.12
19.0	14.2	29.7	9.51	26.6	6.23	25.0	5.79	24.2	5.66	23.5	5.37	21.8	4.94	
21.0	15.0	30.5	10.23	26.6	6.00	25.0	5.56	24.2	5.47	23.5	5.19	21.8	5.83	
90	-14.7	-15.0	15.9	5.88	15.9	6.05	15.9	6.23	15.9	6.31	15.9	6.41	15.9	6.58
	-12.6	-13.0	16.8	6.04	16.8	6.20	16.8	6.37	16.8	6.44	16.8	6.54	16.8	6.70
	-10.5	-11.0	17.6	6.18	17.6	6.33	17.6	6.49	17.6	6.57	17.6	6.65	17.6	7.28
	-9.5	-10.0	18.1	6.23	18.1	6.40	18.1	6.55	18.1	6.63	18.1	6.70	18.1	8.28
	-8.5	-9.1	18.5	6.29	18.5	6.44	18.5	6.60	18.5	7.13	18.5	7.21	18.5	9.75
	-7.0	-7.6	19.1	6.39	19.1	6.54	19.1	6.67	19.1	8.14	19.1	8.23	19.1	10.79
	-5.0	-5.6	20.0	6.49	20.0	6.63	20.0	6.78	20.0	9.66	20.0	9.76	19.6	8.28
	-3.0	-3.7	20.8	6.59	20.8	6.73	20.8	6.85	20.8	10.73	20.8	10.82	19.6	6.98
	0.0	-0.7	22.1	6.73	22.1	7.79	22.1	7.21	21.8	9.72	21.1	7.97	19.6	6.07
	3.0	2.2	23.5	6.84	23.5	9.82	22.5	6.69	21.8	7.77	21.1	6.61	19.6	5.69
	5.0	4.1	24.2	6.90	23.9	8.35	22.5	6.42	21.8	6.60	21.1	6.34	19.6	5.46
	7.0	6.0	25.0	9.84	23.9	7.55	22.5	6.17	21.8	5.93	21.1	5.70	19.6	5.25
	9.0	7.9	25.5	9.67	23.9	6.83	22.5	5.93	21.8	5.70	21.1	5.49	19.6	5.06
	11.0	9.8	25.5	7.96	23.9	6.37	22.5	5.70	21.8	5.49	21.1	5.28	19.6	4.88
	13.0	11.8	25.5	7.21	23.9	5.91	22.5	5.49	21.8	5.30	21.1	5.10	19.6	4.70
	15.0	13.7	25.5	6.55	23.9	5.70	22.5	5.32	21.8	5.12	21.1	4.93	19.6	4.54
19.0	14.2	25.5	6.13	23.9	5.49	22.5	5.06	21.8	4.91	21.1	4.77	19.6	4.38	
21.0	15.0	25.5	5.73	23.9	5.28	22.5	4.74	21.8	4.68	21.1	4.65	19.6	4.22	
80	-14.7	-15.0	15.9	6.22	15.9	6.38	15.9	6.54	15.9	6.61	15.9	6.69	15.9	7.31
	-12.6	-13.0	16.8	6.36	16.8	6.50	16.8	6.65	16.8	6.73	16.8	7.27	16.8	9.82

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	17.6	6.48	17.6	6.63	17.6	6.77	17.6	7.31	17.6	8.33	17.5	8.35
	-9.5	-10.0	18.1	6.55	18.1	6.68	18.1	6.82	18.1	8.30	18.1	9.82	17.5	7.19
	-8.5	-9.1	18.5	6.59	18.5	6.73	18.5	6.86	18.5	9.78	18.5	10.84	17.5	6.77
	-7.0	-7.6	19.1	6.67	19.1	6.80	19.1	6.93	19.1	10.84	18.7	8.26	17.5	6.29
	-5.0	-5.6	20.0	6.76	20.0	7.37	20.0	7.25	19.5	9.54	18.7	7.83	17.5	5.97
	-3.0	-3.7	20.8	6.85	20.8	9.84	20.0	6.69	19.5	7.76	18.7	6.18	17.5	5.68
	0.0	-0.7	22.1	9.84	21.3	8.09	20.0	6.22	19.5	6.40	18.7	5.75	17.5	5.28
	3.0	2.2	22.6	9.50	21.3	7.14	20.0	5.81	19.5	5.60	18.7	5.38	17.5	4.96
	5.0	4.1	22.6	7.77	21.3	6.42	20.0	5.58	19.5	5.38	18.7	5.17	17.5	4.77
	7.0	6.0	22.6	7.04	21.3	5.97	20.0	5.37	19.5	5.17	18.7	4.97	17.5	4.59
	9.0	7.9	22.6	6.37	21.3	5.56	20.0	5.17	19.5	4.98	18.7	4.79	17.5	4.42
	11.0	9.8	22.6	5.93	21.3	5.36	20.0	4.98	19.5	4.80	18.7	4.62	17.5	4.28
	13.0	11.8	22.6	5.52	21.3	5.16	20.0	4.80	19.5	4.63	18.7	4.45	17.5	4.12
	15.0	13.7	22.6	5.33	21.3	4.98	20.0	4.65	19.5	4.48	18.7	4.32	17.5	3.99
19.0	14.2	22.6	5.14	21.3	4.79	20.0	4.49	19.5	4.32	18.7	4.17	17.5	3.86	
21.0	15.0	22.6	4.95	21.3	4.51	20.0	4.33	19.5	4.15	18.7	4.14	17.5	3.74	
70	-14.7	-15.0	15.9	6.57	15.9	6.70	15.9	6.84	15.9	9.75	15.9	9.84	15.3	6.68
	-12.6	-13.0	16.8	6.68	16.8	6.81	16.8	6.95	16.8	10.86	16.5	9.64	15.3	6.27
	-10.5	-11.0	17.6	6.79	17.6	7.15	17.5	7.20	16.9	9.45	16.5	7.76	15.3	5.91
	-9.5	-10.0	18.1	6.84	18.1	7.92	17.5	6.76	16.9	7.85	16.5	7.52	15.3	5.74
	-8.5	-9.1	18.5	6.88	18.5	9.89	17.5	6.59	16.9	6.77	16.5	6.50	15.3	5.60
	-7.0	-7.6	19.1	9.82	18.6	9.61	17.5	6.31	16.9	6.08	16.5	5.84	15.3	6.43
	-5.0	-5.6	19.7	9.78	18.6	7.33	17.5	5.99	16.9	5.76	16.5	5.54	15.3	5.11
	-3.0	-3.7	19.7	7.95	18.6	6.57	17.5	5.71	16.9	5.50	16.5	5.28	15.3	4.86
	0.0	-0.7	19.7	6.97	18.6	5.92	17.5	5.32	16.9	5.12	16.5	4.93	15.3	4.54
	3.0	2.2	19.7	6.13	18.6	5.35	17.5	4.98	16.9	4.80	16.5	4.62	15.3	4.28
	5.0	4.1	19.7	5.70	18.6	5.14	17.5	4.79	16.9	4.61	16.5	4.43	15.3	4.11
	7.0	6.0	19.7	5.28	18.6	4.95	17.5	4.61	16.9	4.43	16.5	4.29	15.3	3.96
	9.0	7.9	19.7	5.10	18.6	4.77	17.5	4.43	16.9	4.29	16.5	4.12	15.3	3.82
	11.0	9.8	19.7	4.92	18.6	4.60	17.5	4.29	16.9	4.14	16.5	3.99	15.3	3.68
13.0	11.8	19.7	4.74	18.6	4.43	17.5	4.14	16.9	3.99	16.5	3.84	15.3	3.56	
15.0	13.7	19.7	4.58	18.6	4.29	17.5	4.00	16.9	3.86	16.5	3.73	15.3	3.45	
19.0	14.2	19.7	4.42	18.6	4.15	17.5	3.86	16.9	3.74	16.5	3.61	15.3	3.35	
21.0	15.0	19.7	4.26	18.6	3.93	17.5	3.73	16.9	3.61	16.5	3.50	15.3	3.24	
60	-14.7	-15.0	15.9	6.90	15.9	9.91	15.0	6.55	14.5	6.30	14.0	6.06	13.1	5.57
	-12.6	-13.0	16.8	9.89	16.0	8.00	15.0	6.16	14.5	5.91	14.0	5.69	13.1	5.24
	-10.5	-11.0	16.9	9.45	16.0	7.10	15.0	5.80	14.5	5.57	14.0	5.36	13.1	4.94
	-9.5	-10.0	16.9	7.83	16.0	6.90	15.0	5.63	14.5	5.42	14.0	5.22	13.1	4.80
	-8.5	-9.1	16.9	7.21	16.0	6.31	15.0	5.49	14.5	5.28	14.0	5.09	13.1	4.69
	-7.0	-7.6	16.9	6.49	16.0	6.06	15.0	5.27	14.5	5.07	14.0	4.89	13.1	4.51
	-5.0	-5.6	16.9	5.96	16.0	5.57	15.0	5.00	14.5	4.82	14.0	4.65	13.1	4.29
	-3.0	-3.7	16.9	5.49	16.0	5.13	15.0	4.78	14.5	4.60	14.0	4.43	13.1	4.10
	0.0	-0.7	16.9	5.12	16.0	4.78	15.0	4.47	14.5	4.31	14.0	4.15	13.1	3.83
	3.0	2.2	16.9	4.80	16.0	4.50	15.0	4.19	14.5	4.04	14.0	3.90	13.1	3.61
	5.0	4.1	16.9	4.61	16.0	4.32	15.0	4.03	14.5	3.90	14.0	3.75	13.1	3.47
7.0	6.0	16.9	4.44	16.0	4.16	15.0	3.88	14.5	3.75	14.0	3.62	13.1	3.35	

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	16.9	4.29	16.0	4.01	15.0	3.75	14.5	3.62	14.0	3.48	13.1	3.24
	11.0	9.8	16.9	4.14	16.0	3.87	15.0	3.62	14.5	3.48	14.0	3.38	13.1	3.13
	13.0	11.8	16.9	3.99	16.0	3.74	15.0	3.48	14.5	3.38	14.0	3.26	13.1	3.03
	15.0	13.7	16.9	3.86	16.0	3.62	15.0	3.38	14.5	3.27	14.0	3.16	13.1	2.93
	19.0	14.2	16.9	3.74	16.0	3.50	15.0	3.27	14.5	3.17	14.0	3.05	13.1	2.83
	21.0	15.0	16.9	3.61	16.0	3.38	15.0	3.17	14.5	3.06	14.0	2.94	13.1	2.73
50	-14.7	-15.0	14.1	6.30	13.3	5.89	12.5	5.28	12.1	5.10	11.7	4.90	10.9	4.52
	-12.6	-13.0	14.1	5.92	13.3	5.53	12.5	4.96	12.1	4.79	11.7	4.61	10.9	4.26
	-10.5	-11.0	14.1	5.38	13.3	5.04	12.5	4.70	12.1	4.53	11.7	4.36	10.9	4.03
	-9.5	-10.0	14.1	5.25	13.3	4.90	12.5	4.57	12.1	4.40	11.7	4.24	10.9	3.93
	-8.5	-9.1	14.1	5.11	13.3	4.78	12.5	4.45	12.1	4.30	11.7	4.14	10.9	3.83
	-7.0	-7.6	14.1	4.91	13.3	4.60	12.5	4.29	12.1	4.14	11.7	3.99	10.9	3.68
	-5.0	-5.6	14.1	4.67	13.3	4.37	12.5	4.09	12.1	3.94	11.7	3.80	10.9	3.52
	-3.0	-3.7	14.1	4.47	13.3	4.18	12.5	3.91	12.1	3.77	11.7	3.63	10.9	3.37
	0.0	-0.7	14.1	4.17	13.3	3.91	12.5	3.65	12.1	3.53	11.7	3.40	10.9	3.16
	3.0	2.2	14.1	3.92	13.3	3.67	12.5	3.38	12.1	3.33	11.7	3.21	10.9	2.98
	5.0	4.1	14.1	3.77	13.3	3.54	12.5	3.31	12.1	3.20	11.7	3.09	10.9	2.87
	7.0	6.0	14.1	3.63	13.3	3.41	12.5	3.20	12.1	3.09	11.7	2.99	10.9	2.78
	9.0	7.9	14.1	3.50	13.3	3.29	12.5	3.09	12.1	2.99	11.7	2.88	10.9	2.68
	11.0	9.8	14.1	3.38	13.3	3.19	12.5	2.99	12.1	2.89	11.7	2.79	10.9	2.60
	13.0	11.8	14.1	3.27	13.3	3.08	12.5	2.89	12.1	2.80	11.7	2.70	10.9	2.51
	15.0	13.7	14.1	3.17	13.3	2.99	12.5	2.80	12.1	2.71	11.7	2.62	10.9	2.43
19.0	14.2	14.1	3.06	13.3	2.89	12.5	2.70	12.1	2.61	11.7	2.53	10.9	2.34	
21.0	15.0	14.1	2.96	13.3	2.80	12.5	2.62	12.1	2.52	11.7	2.45	10.9	2.26	

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	20.1	6.22	20.1	6.56	20.1	6.91	20.0	7.08	20.0	7.25	20.0	7.60
	-12.6	-13.0	21.1	6.53	21.1	6.85	21.1	7.18	21.1	7.33	21.1	7.51	21.1	7.83
	-10.5	-11.0	22.2	6.81	22.2	7.12	22.2	7.43	22.2	7.57	22.2	7.74	22.2	8.03
	-9.5	-10.0	22.8	6.94	22.8	7.24	22.8	7.54	22.8	7.68	22.8	7.85	22.8	8.14
	-8.5	-9.1	23.3	7.05	23.3	7.34	23.3	7.64	23.3	7.78	23.3	7.95	23.3	8.23
	-7.0	-7.6	24.2	7.22	24.2	7.51	24.2	7.79	24.2	7.93	24.2	8.08	24.2	8.37
	-5.0	-5.6	25.2	7.44	25.2	7.71	25.2	7.98	25.2	8.12	25.2	8.24	25.2	8.54
	-3.0	-3.7	26.2	7.63	26.2	7.89	26.2	8.15	26.2	8.27	26.2	8.41	26.2	8.66
	0.0	-0.7	27.9	7.89	27.9	8.14	27.9	8.39	27.9	8.50	27.9	8.63	27.9	8.87
	3.0	2.2	29.3	8.12	29.3	8.37	29.3	8.59	29.3	8.70	29.3	8.82	29.3	9.06
	5.0	4.1	30.5	8.25	30.5	8.48	30.5	8.70	30.5	8.82	30.5	8.93	30.5	9.16
	7.0	6.0	31.5	8.38	31.5	8.60	31.5	8.82	31.5	8.93	31.5	9.04	31.5	9.26
	9.0	7.9	32.6	8.68	32.5	8.89	32.5	9.10	32.5	9.21	32.5	9.31	32.5	9.53
	11.0	9.8	33.6	8.96	33.6	9.17	33.6	9.38	33.6	9.48	33.6	9.58	33.6	9.81
	13.0	11.8	34.7	9.43	34.7	9.64	34.7	9.85	34.7	9.96	34.7	10.07	34.7	10.28
	15.0	13.7	35.7	10.24	35.7	10.46	35.7	10.68	35.7	10.78	35.7	10.89	35.7	11.12
19.0	14.2	37.6	11.26	37.6	11.30	37.6	11.64	37.6	11.72	37.6	11.85	37.6	12.04	
21.0	15.0	39.2	12.21	39.2	12.21	39.2	12.58	39.2	12.63	39.2	12.77	39.2	13.00	
120	-14.7	-15.0	20.1	6.69	20.0	6.99	20.0	7.32	20.0	7.48	20.0	7.64	20.0	7.96
	-12.6	-13.0	21.1	6.97	21.1	7.27	21.1	7.57	21.1	7.72	21.1	7.88	21.1	8.17
	-10.5	-11.0	22.2	7.23	22.2	7.51	22.2	7.80	22.2	7.94	22.2	8.09	22.2	8.37
	-9.5	-10.0	22.8	7.34	22.8	7.63	22.8	7.91	22.8	8.04	22.8	8.18	22.8	8.45
	-8.5	-9.1	23.3	7.45	23.3	7.72	23.3	7.99	23.3	8.13	23.3	8.26	23.3	8.55
	-7.0	-7.6	24.2	7.61	24.2	7.88	24.2	8.14	24.2	8.27	24.2	8.40	24.2	8.66
	-5.0	-5.6	25.2	7.80	25.2	8.05	25.2	8.32	25.2	8.44	25.2	8.56	25.2	8.82
	-3.0	-3.7	26.2	7.98	26.2	8.22	26.2	8.45	26.2	8.59	26.2	8.70	26.2	8.95
	0.0	-0.7	27.9	8.22	27.9	8.45	27.9	8.68	27.9	8.80	27.9	8.91	27.9	9.14
	3.0	2.2	29.3	8.42	29.3	8.65	29.3	8.87	29.3	8.97	29.3	9.08	29.3	9.29
	5.0	4.1	30.5	8.56	30.5	8.76	30.5	8.97	30.5	9.08	30.5	9.18	30.5	9.39
	7.0	6.0	31.5	8.68	31.5	8.87	31.5	9.08	31.5	9.18	31.5	9.28	31.5	9.49
	9.0	7.9	32.5	8.96	32.5	9.15	32.5	9.36	32.5	9.46	32.5	9.37	32.5	10.34
	11.0	9.8	33.6	9.07	33.6	9.26	33.6	9.45	33.6	9.55	33.6	10.00	32.9	9.57
	13.0	11.8	34.7	9.71	34.7	9.91	34.7	10.09	34.7	10.20	34.7	12.51	32.9	9.21
	15.0	13.7	35.7	10.54	35.7	10.74	35.7	10.94	35.7	11.05	35.7	11.99	32.9	8.71
19.0	14.2	37.6	11.52	37.6	11.70	37.6	11.77	37.6	11.99	37.6	11.77	32.9	8.40	
21.0	15.0	39.2	12.48	39.2	12.62	39.2	12.69	39.2	12.89	39.2	9.73	32.9	8.14	
110	-14.7	-15.0	20.0	7.15	20.0	7.44	20.0	7.73	20.0	7.88	20.0	8.02	20.0	8.32
	-12.6	-13.0	21.1	7.41	21.1	7.69	21.1	7.96	21.1	8.10	21.1	8.24	21.1	8.51
	-10.5	-11.0	22.2	7.65	22.2	7.91	22.2	8.17	22.2	8.31	22.2	8.43	22.2	8.69
	-9.5	-10.0	22.8	7.75	22.8	8.01	22.8	8.26	22.8	8.40	22.8	8.52	22.8	8.76
	-8.5	-9.1	23.3	7.85	23.3	8.10	23.3	8.35	23.3	8.47	23.3	8.60	23.3	8.85
	-7.0	-7.6	24.2	7.99	24.2	8.23	24.2	8.48	24.2	8.60	24.2	8.72	24.2	8.96
	-5.0	-5.6	25.2	8.18	25.2	8.41	25.2	8.64	25.2	8.75	25.2	8.87	25.2	9.10
	-3.0	-3.7	26.2	8.34	26.2	8.56	26.2	8.78	26.2	8.89	26.2	9.00	26.2	9.22
	0.0	-0.7	27.9	8.56	27.8	8.76	27.8	8.97	27.8	9.08	27.8	9.18	27.8	9.39
	3.0	2.2	29.3	8.75	29.3	8.94	29.3	9.14	29.3	9.25	29.3	9.34	29.3	9.72

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	30.5	8.87	30.5	9.06	30.5	9.25	30.5	9.34	30.5	9.43	30.2	9.69
	7.0	6.0	31.5	8.97	31.5	9.15	31.5	9.34	31.5	9.43	31.5	9.53	30.2	9.13
	9.0	7.9	32.5	9.25	32.5	9.43	32.5	9.61	32.5	9.52	32.3	9.75	30.2	8.79
	11.0	9.8	33.6	9.35	33.6	9.53	33.6	11.79	33.5	9.57	32.3	9.20	30.2	8.45
	13.0	11.8	34.7	10.00	34.7	10.18	34.7	11.89	33.5	9.21	32.3	8.86	30.2	8.14
	15.0	13.7	35.7	10.09	35.7	10.26	34.7	9.43	33.5	8.90	32.3	8.55	30.2	7.87
	19.0	14.2	37.6	11.75	37.6	12.04	34.7	8.58	33.5	8.27	32.3	7.92	30.2	7.32
	21.0	15.0	39.2	12.63	39.2	12.93	34.7	8.08	33.5	7.80	32.3	7.45	30.2	6.92
100	-14.7	-15.0	20.0	7.62	20.0	7.88	20.0	8.14	20.0	8.27	20.0	8.41	20.0	8.67
	-12.6	-13.0	21.1	7.86	21.1	8.11	21.1	8.35	21.1	8.48	21.1	8.61	21.1	8.86
	-10.5	-11.0	22.2	8.07	22.2	8.31	22.2	8.55	22.2	8.66	22.2	8.76	22.2	9.02
	-9.5	-10.0	22.8	8.16	22.8	8.40	22.8	8.63	22.8	8.74	22.8	8.86	22.8	9.10
	-8.5	-9.1	23.3	8.24	23.3	8.47	23.3	8.70	23.3	8.82	23.3	8.93	23.3	9.16
	-7.0	-7.6	24.2	8.38	24.2	8.60	24.2	8.82	24.2	8.93	24.2	9.04	24.2	9.27
	-5.0	-5.6	25.2	8.55	25.2	8.75	25.2	8.96	25.2	9.07	25.2	9.17	25.2	9.39
	-3.0	-3.7	26.2	8.69	26.2	8.89	26.2	9.08	26.2	9.18	26.2	9.29	26.2	9.69
	0.0	-0.7	27.8	8.89	27.8	9.08	27.8	9.26	27.8	9.37	27.8	9.46	27.5	9.64
	3.0	2.2	29.3	9.07	29.3	9.25	29.3	9.42	29.3	9.52	29.3	9.79	27.5	8.85
	5.0	4.1	30.5	9.17	30.5	9.34	30.5	9.52	30.5	9.60	29.5	9.23	27.5	8.49
	7.0	6.0	31.5	9.27	31.5	9.43	31.5	9.60	30.5	9.23	29.5	8.87	27.5	8.16
	9.0	7.9	32.5	9.55	32.5	11.81	31.5	9.23	30.5	8.87	29.5	8.54	27.5	7.86
	11.0	9.8	33.6	9.63	33.5	11.89	31.5	8.89	30.5	8.56	29.5	8.22	27.5	7.57
13.0	11.8	34.7	10.29	33.5	9.96	31.5	8.56	30.5	8.24	29.5	7.92	27.5	7.30	
15.0	13.7	35.5	10.30	33.5	9.61	31.5	8.26	30.5	7.96	29.5	7.66	27.5	7.06	
19.0	14.2	37.2	11.77	33.5	8.92	31.5	7.80	30.5	7.75	29.5	7.55	27.5	6.82	
21.0	15.0	39.0	11.73	33.5	7.95	31.5	7.60	30.5	7.54	29.5	7.43	27.5	6.59	
90	-14.7	-15.0	20.0	8.08	20.0	8.32	20.0	8.56	20.0	8.67	20.0	8.80	20.0	9.04
	-12.6	-13.0	21.1	8.29	21.1	8.51	21.1	8.74	21.1	8.86	21.1	8.97	21.1	9.19
	-10.5	-11.0	22.2	8.48	22.2	8.39	22.2	8.91	22.2	9.02	22.2	9.13	22.2	9.34
	-9.5	-10.0	22.8	8.58	22.8	8.79	22.8	8.99	22.8	9.10	22.8	9.20	22.8	9.41
	-8.5	-9.1	23.3	8.65	23.3	8.85	23.3	9.06	23.3	9.16	23.3	9.27	23.3	9.46
	-7.0	-7.6	24.2	8.76	24.2	8.96	24.2	9.16	24.2	9.27	24.2	9.36	24.1	9.75
	-5.0	-5.6	25.2	8.91	25.2	9.11	25.2	9.29	25.2	9.39	25.2	9.49	24.6	9.41
	-3.0	-3.7	26.2	9.05	26.2	9.22	26.2	9.39	26.2	9.50	26.2	9.78	24.6	8.97
	0.0	-0.7	27.8	9.22	27.8	9.39	27.8	9.57	27.3	9.44	26.5	9.08	24.6	8.35
	3.0	2.2	29.3	9.38	29.3	11.82	28.3	9.18	27.3	8.84	26.5	8.49	24.6	7.83
	5.0	4.1	30.5	9.47	30.3	11.72	28.3	8.82	27.3	8.48	26.5	8.16	24.6	7.51
	7.0	6.0	31.5	11.85	28.3	9.85	28.3	8.47	27.3	8.16	26.5	7.85	24.6	7.23
	9.0	7.9	32.0	10.15	30.3	8.94	28.3	8.16	27.3	7.86	26.5	7.55	24.6	6.97
	11.0	9.8	32.0	9.79	30.3	8.45	28.3	7.87	27.3	7.57	26.5	7.28	24.6	6.73
	13.0	11.8	32.0	8.89	30.3	8.14	28.3	7.57	27.3	7.29	26.5	7.02	24.6	6.49
	15.0	13.7	32.0	8.42	30.3	7.87	28.3	7.32	27.3	7.05	26.5	6.78	24.6	6.28
19.0	14.2	32.0	8.10	30.3	7.57	28.3	7.09	27.3	6.84	26.5	6.57	24.6	6.07	
21.0	15.0	32.0	7.67	30.3	7.28	28.3	6.85	27.3	6.66	26.5	6.42	24.6	5.88	
80	-14.7	-15.0	20.0	8.55	20.0	8.75	20.0	8.96	20.0	9.08	20.0	9.18	20.0	9.39
	-12.6	-13.0	21.1	8.73	21.1	8.93	21.1	9.13	21.1	9.23	21.1	9.34	21.1	9.73

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	22.2	8.90	22.2	9.09	22.2	9.29	22.2	9.38	22.2	9.47	22.0	9.69
	-9.5	-10.0	22.8	8.97	22.8	9.17	22.8	9.35	22.8	9.44	22.8	9.54	22.0	9.23
	-8.5	-9.1	23.3	9.05	23.3	9.23	23.3	9.41	23.3	9.51	23.3	9.78	22.0	8.99
	-7.0	-7.6	24.2	9.34	24.2	9.52	24.1	9.50	24.1	9.59	23.6	9.39	22.0	8.64
	-5.0	-5.6	25.2	10.03	25.2	10.21	25.2	9.62	24.3	9.28	23.6	8.91	22.0	8.20
	-3.0	-3.7	26.2	10.16	26.2	11.86	25.2	9.18	24.3	8.84	23.6	8.49	22.0	7.81
	0.0	-0.7	27.8	11.86	26.8	9.93	25.2	8.55	24.3	8.22	23.6	7.91	22.0	7.29
	3.0	2.2	28.3	9.97	26.8	9.30	25.2	8.00	24.3	7.71	23.6	7.41	22.0	6.84
	5.0	4.1	28.3	9.56	26.8	8.43	25.2	7.69	24.3	7.41	23.6	7.13	22.0	6.57
	7.0	6.0	28.3	8.68	26.8	8.10	25.2	7.40	24.3	7.13	23.6	6.86	22.0	6.34
	9.0	7.9	28.3	8.19	26.8	7.65	25.2	7.13	24.3	6.86	23.6	6.61	22.0	6.11
	11.0	9.8	28.3	7.89	26.8	7.38	25.2	6.87	24.3	6.62	23.6	6.38	22.0	5.90
	13.0	11.8	28.3	7.61	26.8	7.12	25.2	6.63	24.3	6.39	23.6	6.17	22.0	5.71
	15.0	13.7	28.3	7.34	26.8	6.87	25.2	6.42	24.3	6.19	23.6	5.97	22.0	5.52
19.0	14.2	28.3	7.10	26.8	6.72	25.2	6.21	24.3	6.00	23.6	5.79	22.0	5.35	
21.0	15.0	28.3	6.89	26.8	6.57	25.2	6.01	24.3	5.83	23.6	5.63	22.0	5.20	
70	-14.7	-15.0	20.0	9.00	20.0	9.18	20.0	9.38	20.0	9.47	20.0	9.76	19.2	9.37
	-12.6	-13.0	21.1	9.17	21.1	9.35	21.1	9.53	21.1	9.60	20.6	9.37	19.2	8.62
	-10.5	-11.0	22.2	9.32	22.2	9.49	22.1	9.55	21.3	9.18	20.6	8.83	19.2	8.12
	-9.5	-10.0	22.8	10.15	22.8	10.32	22.1	9.28	21.3	8.92	20.6	8.58	19.2	7.90
	-8.5	-9.1	23.3	10.20	23.3	11.93	22.1	9.04	21.3	8.70	20.6	8.36	19.2	7.70
	-7.0	-7.6	24.1	11.84	23.5	10.09	22.1	8.68	21.3	8.35	20.6	8.03	19.2	7.40
	-5.0	-5.6	24.9	10.26	23.5	9.57	22.1	8.23	21.3	7.93	20.6	7.62	19.2	7.03
	-3.0	-3.7	24.9	9.78	23.5	8.61	22.1	7.86	21.3	7.56	20.6	7.28	19.2	6.72
	0.0	-0.7	24.9	8.59	23.5	7.87	22.1	7.32	21.3	7.05	20.6	6.78	19.2	6.28
	3.0	2.2	24.9	7.89	23.5	7.38	22.1	6.87	21.3	6.62	20.6	6.38	19.2	5.90
	5.0	4.1	24.9	7.57	23.5	7.09	22.1	6.61	21.3	6.36	20.6	6.14	19.2	5.68
	7.0	6.0	24.9	7.29	23.5	6.82	22.1	6.36	21.3	6.14	20.6	5.91	19.2	5.48
	9.0	7.9	24.9	7.02	23.5	6.58	22.1	6.14	21.3	5.92	20.6	5.72	19.2	5.28
	11.0	9.8	24.9	6.78	23.5	6.35	22.1	5.94	21.3	5.73	20.6	5.52	19.2	5.11
13.0	11.8	24.9	6.54	23.5	6.12	22.1	5.73	21.3	5.53	20.6	5.32	19.2	4.94	
15.0	13.7	24.9	6.32	23.5	5.94	22.1	5.55	21.3	5.35	20.6	5.16	19.2	4.80	
19.0	14.2	24.9	6.12	23.5	5.77	22.1	5.39	21.3	5.19	20.6	5.03	19.2	4.67	
21.0	15.0	24.9	5.95	23.5	5.62	22.1	5.26	21.3	5.06	20.6	4.89	19.2	4.57	
60	-14.7	-15.0	20.0	10.24	20.0	11.95	18.9	8.99	18.3	8.66	17.7	8.33	16.5	7.67
	-12.6	-13.0	21.1	11.93	20.1	9.82	18.9	8.45	18.3	8.14	17.7	7.83	16.5	7.20
	-10.5	-11.0	21.3	9.92	20.1	9.25	18.9	7.97	18.3	7.67	17.7	7.39	16.5	6.81
	-9.5	-10.0	21.3	9.64	20.1	8.49	18.9	7.74	18.3	7.46	17.7	7.18	16.5	6.62
	-8.5	-9.1	21.3	8.87	20.1	8.12	18.9	7.55	18.3	7.28	17.7	7.01	16.5	6.47
	-7.0	-7.6	21.3	8.35	20.1	7.79	18.9	7.26	18.3	7.00	17.7	6.74	16.5	6.23
	-5.0	-5.6	21.3	7.92	20.1	7.41	18.9	6.91	18.3	6.66	17.7	6.42	16.5	5.92
	-3.0	-3.7	21.3	7.56	20.1	7.07	18.9	6.59	18.3	6.36	17.7	6.13	16.5	5.67
	0.0	-0.7	21.3	7.05	20.1	6.60	18.9	6.15	18.3	5.95	17.7	5.74	16.5	5.31
	3.0	2.2	21.3	6.62	20.1	6.21	18.9	5.80	18.3	5.60	17.7	5.40	16.5	5.01
	5.0	4.1	21.3	6.36	20.1	5.98	18.9	5.58	18.3	5.39	17.7	5.20	16.5	4.83
	7.0	6.0	21.3	6.13	20.1	5.76	18.9	5.38	18.3	5.20	17.7	5.02	16.5	4.66

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	21.3	5.92	20.1	5.56	18.9	5.20	18.3	5.03	17.7	4.85	16.5	4.50
	11.0	9.8	21.3	5.72	20.1	5.37	18.9	5.03	18.3	4.86	17.7	4.69	16.5	4.36
	13.0	11.8	21.3	5.53	20.1	5.19	18.9	4.86	18.3	4.69	17.7	4.54	16.5	4.22
	15.0	13.7	21.3	5.35	20.1	5.03	18.9	4.71	18.3	4.56	17.7	4.40	16.5	4.10
	19.0	14.2	21.3	5.19	20.1	4.88	18.9	4.59	18.3	4.44	17.7	4.17	16.5	3.98
	21.0	15.0	21.3	5.06	20.1	4.75	18.9	4.48	18.3	4.35	17.7	4.09	16.5	3.86
50	-14.7	-15.0	17.8	9.04	16.8	8.46	15.8	7.28	15.2	7.02	14.7	6.76	13.7	6.25
	-12.6	-13.0	17.8	8.50	16.8	7.95	15.8	6.85	15.2	6.61	14.7	6.36	13.7	5.89
	-10.5	-11.0	17.8	7.58	16.8	7.09	15.8	6.48	15.2	6.25	14.7	6.03	13.7	5.58
	-9.5	-10.0	17.8	7.22	16.8	6.76	15.8	6.31	15.2	6.08	14.7	5.86	13.7	5.42
	-8.5	-9.1	17.8	7.04	16.8	6.60	15.8	6.15	15.2	5.95	14.7	5.73	13.7	5.31
	-7.0	-7.6	17.8	6.78	16.8	6.35	15.8	5.92	15.2	5.73	14.7	5.52	13.7	5.11
	-5.0	-5.6	17.8	6.45	16.8	6.04	15.8	5.65	15.2	5.46	14.7	5.26	13.7	4.88
	-3.0	-3.7	17.8	6.15	16.8	5.78	15.8	5.40	15.2	5.23	14.7	5.04	13.7	4.68
	0.0	-0.7	17.8	5.77	16.8	5.41	15.8	5.07	15.2	4.89	14.7	4.72	13.7	4.38
	3.0	2.2	17.8	5.42	16.8	5.10	15.8	4.78	15.2	4.62	14.7	4.46	13.7	4.15
	5.0	4.1	17.8	5.21	16.8	4.91	15.8	4.61	15.2	4.45	14.7	4.31	13.7	4.00
	7.0	6.0	17.8	5.05	16.8	4.75	15.8	4.45	15.2	4.31	14.7	4.16	13.7	3.88
	9.0	7.9	17.8	4.87	16.8	4.59	15.8	4.31	15.2	4.16	14.7	4.02	13.7	3.75
	11.0	9.8	17.8	4.71	16.8	4.44	15.8	4.17	15.2	4.04	14.7	3.90	13.7	3.64
	13.0	11.8	17.8	4.56	16.8	4.30	15.8	4.04	15.2	3.91	14.7	3.77	13.7	3.52
	15.0	13.7	17.8	4.42	16.8	4.17	15.8	3.92	15.2	3.79	14.7	3.67	13.7	3.43
19.0	14.2	17.8	4.30	16.8	4.06	15.8	3.83	15.2	3.69	14.7	3.57	13.7	3.34	
21.0	15.0	17.8	4.17	16.8	3.94	15.8	3.73	15.2	3.60	14.7	3.42	13.7	3.25	

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capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
				KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
130	-14.7	-15.0	31.8	9.01	31.8	9.50	31.8	10.02	31.8	10.28	31.8	10.53	31.8	11.04
	-12.6	-13.0	33.6	9.45	33.6	9.92	33.6	10.43	33.6	10.66	33.6	10.91	33.6	11.40
	-10.5	-11.0	35.2	9.88	35.2	10.32	35.2	10.76	35.2	11.02	35.2	11.25	35.2	11.69
	-9.5	-10.0	36.2	10.07	36.2	10.51	36.2	10.95	36.2	11.19	36.2	11.40	36.2	11.82
	-8.5	-9.1	37.0	10.24	37.0	10.66	37.0	11.10	37.0	11.31	37.0	11.54	37.0	11.97
	-7.0	-7.6	38.2	10.49	38.2	10.91	38.2	11.33	38.2	11.54	38.2	11.76	38.2	12.18
	-5.0	-5.6	40.0	10.81	40.0	11.19	40.0	11.61	40.0	11.82	40.0	12.01	40.0	12.41
	-3.0	-3.7	41.6	11.08	41.6	11.46	41.6	11.86	41.6	12.05	41.6	12.24	41.6	12.62
	0.0	-0.7	44.2	11.46	44.2	11.82	44.2	12.20	44.2	12.39	44.2	12.56	44.2	12.92
	3.0	2.2	47.0	11.80	47.0	12.16	47.0	12.49	47.0	12.66	47.0	12.83	47.0	13.19
	5.0	4.1	48.4	12.01	48.4	12.35	48.4	12.66	48.4	12.83	48.4	13.00	48.4	13.34
	7.0	6.0	50.0	12.20	50.0	12.52	50.0	12.84	50.0	13.01	50.0	13.18	50.0	13.49
	9.0	7.9	51.6	12.71	51.6	13.01	51.6	13.36	51.6	13.51	51.6	13.66	51.6	13.99
	11.0	9.8	53.4	13.51	53.4	13.83	53.4	14.14	53.4	14.33	53.4	14.48	53.4	14.78
	13.0	11.8	55.0	14.11	55.0	14.43	55.0	14.76	55.0	14.92	55.0	15.09	55.0	15.41
	15.0	13.7	56.6	15.11	56.6	15.91	56.6	16.24	56.6	16.42	56.6	16.60	56.6	16.90
	19.0	14.2	59.8	16.75	59.8	17.59	59.8	19.30	59.8	19.50	59.8	19.77	59.8	19.94
21.0	15.0	61.4	17.38	61.4	18.23	61.4	19.93	61.4	20.05	61.4	21.31	61.4	21.50	
120	-14.7	-15.0	31.8	9.69	31.8	10.13	31.8	10.64	31.8	10.87	31.8	11.10	31.8	11.57
	-12.6	-13.0	33.6	10.11	33.6	10.55	33.6	10.97	33.6	11.23	33.6	11.44	33.6	11.88
	-10.5	-11.0	35.2	10.49	35.2	10.91	35.2	11.33	35.2	11.54	35.2	11.76	35.2	12.18
	-9.5	-10.0	36.2	10.66	36.2	11.08	36.2	11.48	36.2	11.69	36.2	11.90	36.2	12.30
	-8.5	-9.1	37.0	10.83	37.0	11.23	37.0	11.61	37.0	11.82	37.0	12.03	37.0	12.43
	-7.0	-7.6	38.2	11.06	38.2	11.44	38.2	11.82	38.2	12.03	38.2	12.22	38.2	12.62
	-5.0	-5.6	40.0	11.35	40.0	11.71	40.0	12.09	40.0	12.28	40.0	12.47	40.0	12.83
	-3.0	-3.7	41.6	11.61	41.6	11.97	41.6	12.33	41.6	12.49	41.6	12.66	41.6	13.02
	0.0	-0.7	44.2	11.97	44.2	12.30	44.2	12.64	44.2	12.81	44.2	12.98	44.2	13.30
	3.0	2.2	47.0	12.26	47.0	12.60	47.0	12.92	47.0	13.06	47.0	13.23	47.0	13.55
	5.0	4.1	48.4	12.45	48.4	12.77	48.4	13.06	48.4	13.23	48.4	13.38	48.4	14.62
	7.0	6.0	50.0	12.63	50.0	12.92	50.0	13.24	50.0	13.39	50.0	13.54	50.0	16.75
	9.0	7.9	51.6	13.14	51.6	13.44	51.6	13.73	51.6	13.88	51.6	14.03	51.6	19.68
	11.0	9.8	53.4	13.94	53.4	14.24	53.4	14.55	53.2	14.69	53.2	14.85	52.2	16.08
	13.0	11.8	55.0	14.55	55.0	14.85	55.0	15.16	55.0	15.30	55.0	15.44	52.2	14.17
	15.0	13.7	56.6	16.01	56.6	16.34	56.6	16.62	56.6	16.80	56.2	16.72	52.2	13.65
	19.0	14.2	59.8	17.59	59.8	19.38	59.8	19.62	59.8	19.88	59.4	19.59	52.2	12.51
21.0	15.0	61.4	18.14	61.4	20.02	61.4	20.20	61.4	20.50	61.0	17.86	52.2	12.04	
110	-14.7	-15.0	31.8	10.38	31.8	10.81	31.8	11.23	31.8	11.46	31.8	11.67	31.8	12.09
	-12.6	-13.0	33.6	10.76	33.6	11.16	33.6	11.59	33.6	11.78	33.6	11.99	33.6	12.39
	-10.5	-11.0	35.2	11.10	35.2	11.50	35.2	11.88	35.2	12.07	35.2	12.24	35.2	12.66
	-9.5	-10.0	36.2	11.27	36.2	11.65	36.2	12.03	36.2	12.22	36.2	12.41	36.2	12.79
	-8.5	-9.1	37.0	11.40	37.0	11.78	37.0	12.16	37.0	12.33	37.0	12.52	37.0	12.87
	-7.0	-7.6	38.2	11.61	38.2	11.99	38.2	12.35	38.2	12.52	38.2	12.71	38.2	13.04
	-5.0	-5.6	40.0	11.88	40.0	12.24	40.0	12.58	40.0	12.75	40.0	12.92	40.0	13.82
	-3.0	-3.7	41.6	12.11	41.6	12.45	41.6	12.77	41.6	12.94	41.6	13.13	41.6	15.37
	0.0	-0.7	44.2	12.45	44.2	12.77	44.2	13.06	44.2	13.23	44.2	13.96	44.2	17.94
	3.0	2.2	47.0	12.75	47.0	13.02	47.0	13.30	47.0	13.47	47.0	15.56	47.0	20.11

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	48.4	12.92	48.4	13.19	48.4	14.04	48.4	14.67	48.4	18.03	48.2	18.14
	7.0	6.0	50.0	13.07	50.0	13.35	50.0	14.20	50.0	15.72	50.0	20.08	48.2	15.24
	9.0	7.9	51.6	13.57	51.6	13.83	51.6	15.44	51.6	19.59	51.2	18.25	48.2	14.66
	11.0	9.8	53.4	14.37	53.2	14.67	53.2	17.21	53.2	21.15	51.2	15.36	48.2	13.26
	13.0	11.8	55.0	14.99	55.0	15.27	55.0	18.76	53.2	17.65	51.2	13.87	48.2	12.23
	15.0	13.7	56.6	16.49	56.6	16.77	55.0	16.32	53.2	14.86	51.2	13.40	48.2	11.84
	19.0	14.2	59.8	19.68	59.8	19.86	55.0	17.09	53.2	14.28	51.2	12.46	48.2	11.10
	21.0	15.0	61.4	19.88	61.4	20.47	55.0	14.28	53.2	12.90	51.2	11.96	48.2	10.74
100	-14.7	-15.0	31.8	11.06	31.8	11.46	31.8	11.82	31.8	12.03	31.8	12.24	31.8	12.62
	-12.6	-13.0	33.6	11.42	33.6	11.78	33.6	12.16	33.6	12.35	33.6	12.52	33.6	12.87
	-10.5	-11.0	35.2	11.73	35.2	12.07	35.2	12.43	35.2	12.60	35.2	12.79	35.2	13.13
	-9.5	-10.0	36.2	11.88	36.2	12.22	36.2	12.56	36.2	12.73	36.2	12.87	36.2	13.25
	-8.5	-9.1	37.0	11.99	37.0	12.33	37.0	12.66	37.0	12.83	37.0	13.00	37.0	13.80
	-7.0	-7.6	38.2	12.20	38.2	12.52	38.2	12.85	38.2	13.00	38.2	13.17	38.2	15.46
	-5.0	-5.6	40.0	12.43	40.0	12.75	40.0	13.06	40.0	13.21	40.0	13.82	40.0	17.98
	-3.0	-3.7	41.6	12.64	41.6	12.94	41.6	13.23	41.6	13.40	41.6	14.60	41.6	19.15
	0.0	-0.7	44.2	12.94	44.2	13.23	44.2	13.51	44.2	14.12	44.2	16.70	43.6	18.16
	3.0	2.2	47.0	13.21	47.0	13.47	47.0	13.72	47.0	16.80	47.0	19.77	43.6	14.76
	5.0	4.1	48.4	13.36	48.4	13.61	48.4	13.87	48.4	20.73	47.0	16.29	43.6	12.90
	7.0	6.0	50.0	13.51	50.0	13.73	50.0	14.00	48.4	18.60	47.0	14.81	43.6	12.39
	9.0	7.9	51.6	14.01	51.6	14.96	50.0	13.58	48.4	16.17	47.0	12.99	43.6	11.51
	11.0	9.8	53.2	14.82	53.2	17.39	50.0	13.07	48.4	12.58	47.0	11.97	43.6	10.97
13.0	11.8	55.0	15.44	53.2	15.38	50.0	12.45	48.4	11.99	47.0	11.52	43.6	10.59	
15.0	13.7	56.4	16.81	53.2	13.96	50.0	12.03	48.4	11.57	47.0	11.12	43.6	10.24	
19.0	14.2	59.4	17.97	53.2	12.58	50.0	11.57	48.4	11.31	47.0	10.74	43.6	9.88	
21.0	15.0	61.0	18.70	53.2	12.11	50.0	11.12	48.4	10.93	47.0	10.38	43.6	11.65	
90	-14.7	-15.0	31.8	11.76	31.8	12.09	31.8	12.45	31.8	12.62	31.8	12.81	31.8	13.15
	-12.6	-13.0	33.6	12.07	33.6	12.39	33.6	12.73	33.6	12.87	33.6	13.06	33.6	13.40
	-10.5	-11.0	35.2	12.35	35.2	12.66	35.2	12.98	35.2	13.13	35.2	13.30	35.2	14.08
	-9.5	-10.0	36.2	12.45	36.2	12.79	36.2	13.09	36.2	13.25	36.2	13.40	36.2	15.72
	-8.5	-9.1	37.0	12.58	37.0	12.87	37.0	13.19	37.0	13.80	37.0	13.95	37.0	18.14
	-7.0	-7.6	38.2	12.77	38.2	13.06	38.2	13.34	38.2	14.88	38.2	15.62	38.2	20.63
	-5.0	-5.6	40.0	12.98	40.0	13.25	40.0	13.55	40.0	16.49	40.0	18.17	39.2	15.72
	-3.0	-3.7	41.6	13.17	41.6	13.44	41.6	14.29	41.6	19.15	41.6	20.70	39.2	13.65
	0.0	-0.7	44.2	13.44	44.2	14.64	44.2	15.68	43.6	17.19	42.2	15.14	39.2	12.26
	3.0	2.2	47.0	13.68	47.0	18.28	45.0	13.96	43.6	14.76	42.2	12.92	39.2	11.49
	5.0	4.1	48.4	13.80	47.8	15.87	45.0	13.39	43.6	12.90	42.2	12.39	39.2	10.91
	7.0	6.0	50.0	18.31	47.8	14.76	45.0	12.45	43.6	11.86	42.2	11.40	39.2	10.49
	9.0	7.9	51.0	17.11	47.8	13.34	45.0	11.86	43.6	11.40	42.2	10.97	39.2	10.11
	11.0	9.8	51.0	15.12	47.8	12.52	45.0	11.40	43.6	10.97	42.2	10.55	39.2	9.75
	13.0	11.8	51.0	13.67	47.8	11.82	45.0	10.97	43.6	10.59	42.2	10.19	39.2	9.39
	15.0	13.7	51.0	12.66	47.8	11.40	45.0	10.64	43.6	10.24	42.2	9.86	39.2	9.07
	19.0	14.2	51.0	12.04	47.8	10.97	45.0	10.11	43.6	9.81	42.2	9.54	39.2	8.76
	21.0	15.0	51.0	11.46	47.8	10.55	45.0	9.48	43.6	9.35	42.2	9.29	39.2	8.44
80	-14.7	-15.0	31.8	12.43	31.8	12.75	31.8	13.06	31.8	13.21	31.8	13.38	31.8	15.63
	-12.6	-13.0	33.6	12.71	33.6	13.00	33.6	13.30	33.6	13.44	33.6	14.06	33.6	19.65

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	35.2	12.96	35.2	13.25	35.2	13.53	35.2	14.15	35.2	15.82	35.0	16.77
	-9.5	-10.0	36.2	13.09	36.2	13.36	36.2	13.63	36.2	15.18	36.2	18.28	35.0	14.48
	-8.5	-9.1	37.0	13.17	37.0	13.44	37.0	13.72	37.0	16.70	37.0	20.73	35.0	13.87
	-7.0	-7.6	38.2	13.34	38.2	13.59	38.2	14.44	38.2	19.35	37.4	16.60	35.0	12.71
	-5.0	-5.6	40.0	13.51	40.0	14.85	40.0	15.77	39.0	16.87	37.4	14.88	35.0	12.05
	-3.0	-3.7	41.6	14.29	41.6	18.31	40.0	13.96	39.0	14.31	37.4	12.47	35.0	11.35
	0.0	0.7	44.2	18.31	42.6	15.36	40.0	12.56	39.0	12.50	37.4	11.62	35.0	10.55
	3.0	2.2	45.2	16.79	42.6	13.53	40.0	11.73	39.0	11.19	37.4	10.76	35.0	9.92
	5.0	4.1	45.2	14.34	42.6	12.55	40.0	11.16	39.0	10.76	37.4	10.34	35.0	9.54
	7.0	6.0	45.2	13.35	42.6	11.74			39.0	10.34	37.4	9.94	35.0	9.18
	9.0	7.9	45.2	12.31	42.6	11.12	40.0	10.34	39.0	9.96	37.4	9.58	35.0	8.84
	11.0	9.8	45.2	11.66	42.6	10.72	40.0	9.96	39.0	9.60	37.4	9.24	35.0	8.55
	13.0	11.8	45.2	11.04	42.6	10.32	40.0	9.60	39.0	9.26	37.4	8.91	35.0	8.23
	15.0	13.7	45.2	10.66	42.6	9.96	40.0	9.29	39.0	8.95	37.4	8.63	35.0	7.98
19.0	14.2	45.2	10.28	42.6	9.58	40.0	8.97	39.0	8.63	37.4	8.34	35.0	7.72	
21.0	15.0	45.2	9.90	42.6	9.01	40.0	8.65	39.0	8.29	37.4	8.27	35.0	7.47	
70	-14.7	-15.0	31.8	13.13	31.8	13.40	31.8	13.68	31.8	17.24	31.8	19.68	30.6	13.93
	-12.6	-13.0	33.6	13.36	33.6	13.61	33.6	14.48	33.6	19.38	33.0	17.95	30.6	13.08
	-10.5	-11.0	35.2	13.57	35.2	14.06	35.0	15.66	33.8	16.72	33.0	14.74	30.6	12.33
	-9.5	-10.0	36.2	13.68	36.2	15.48	35.0	14.09	33.8	14.48	33.0	13.87	30.6	11.60
	-8.5	-9.1	37.0	14.35	37.0	18.42	35.0	13.30	33.8	13.23	33.0	12.58	30.6	11.19
	-7.0	-7.6	38.2	18.28	37.2	17.00	35.0	12.75	33.8	12.16	33.0	11.67	30.6	12.85
	-5.0	-5.6	39.4	17.29	37.2	13.89	35.0	11.97	33.8	11.52	33.0	11.08	30.6	10.21
	-3.0	-3.7	39.4	14.66	37.2	12.83	35.0	11.42	33.8	11.00	33.0	10.55	30.6	9.71
	0.0	0.7	39.4	13.21	37.2	11.64	35.0	10.64	33.8	10.24	33.0	9.86	30.6	9.07
	3.0	2.2	39.4	11.86	37.2	10.70	35.0	9.96	33.8	9.60	33.0	9.24	30.6	8.55
	5.0	4.1	39.4	11.21	37.2	10.28	35.0	9.58	33.8	9.22	33.0	8.86	30.6	8.21
	7.0	6.0	39.4	10.55	37.2	9.90			33.8	8.86	33.0	8.57	30.6	7.91
	9.0	7.9	39.4	10.19	37.2	9.54	35.0	8.86	33.8	8.57	33.0	8.23	30.6	7.64
	11.0	9.8	39.4	9.83	37.2	9.20	35.0	8.57	33.8	8.27	33.0	7.98	30.6	7.36
13.0	11.8	39.4	9.48	37.2	8.86	35.0	8.27	33.8	7.98	33.0	7.68	30.6	7.11	
15.0	13.7	39.4	9.16	37.2	8.57	35.0	8.00	33.8	7.72	33.0	7.45	30.6	6.90	
19.0	14.2	39.4	8.84	37.2	8.29	35.0	7.72	33.8	7.47	33.0	7.22	30.6	6.69	
21.0	15.0	39.4	8.53	37.2	7.85	35.0	7.45	33.8	7.22	33.0	7.01	30.6	6.48	
60	-14.7	-15.0	31.8	14.40	31.8	18.45	30.0	13.22	29.0	12.73	28.0	12.24	26.2	11.14
	-12.6	-13.0	33.6	18.42	32.0	15.19	30.0	12.43	29.0	11.94	28.0	11.49	26.2	10.47
	-10.5	-11.0	33.8	16.72	32.0	13.46	30.0	11.71	29.0	11.26	28.0	10.72	26.2	9.88
	-9.5	-10.0	33.8	14.45	32.0	13.08	30.0	11.36	29.0	10.94	28.0	10.43	26.2	9.60
	-8.5	-9.1	33.8	13.67	32.0	12.21	30.0	10.97	29.0	10.55	28.0	10.17	26.2	9.37
	-7.0	-7.6	33.8	12.55	32.0	11.73	30.0	10.53	29.0	10.13	28.0	9.77	26.2	9.01
	-5.0	-5.6	33.8	11.72	32.0	10.95	30.0	10.00	29.0	9.64	28.0	9.29	26.2	8.57
	-3.0	-3.7	33.8	10.97	32.0	10.26	30.0	9.56	29.0	9.20	28.0	8.86	26.2	8.19
	0.0	0.7	33.8	10.24	32.0	9.56	30.0	8.93	29.0	8.61	28.0	8.29	26.2	7.66
	3.0	2.2	33.8	9.60	32.0	8.99	30.0	8.38	29.0	8.08	28.0	7.79	26.2	7.22
	5.0	4.1	33.8	9.22	32.0	8.63	30.0	8.06	29.0	7.79	28.0	7.49	26.2	6.94
	7.0	6.0	33.8	8.88	32.0	8.31	30.0	7.77	29.0	7.49	28.0	7.24	26.2	6.69

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	33.8	8.57	32.0	8.02	30.0	7.49	29.0	7.24	28.0	6.96	26.2	6.48
	11.0	9.8	33.8	8.27	32.0	7.74	30.0	7.24	29.0	6.96	28.0	6.75	26.2	6.27
	13.0	11.8	33.8	7.98	32.0	7.47	30.0	6.96	29.0	6.75	28.0	6.52	26.2	6.06
	15.0	13.7	33.8	7.72	32.0	7.24	30.0	6.75	29.0	6.54	28.0	6.31	26.2	5.87
	19.0	14.2	33.8	7.47	32.0	7.01	30.0	6.54	29.0	6.33	28.0	6.10	26.2	5.65
50	21.0	15.0	33.8	7.22	32.0	6.75	30.0	6.33	29.0	6.12	28.0	5.89	26.2	5.46
	-14.7	-15.0	28.2	12.39	26.6	11.57	25.0	10.55	24.2	10.19	23.4	9.79	21.8	9.03
	-12.6	-13.0	28.2	11.64	26.6	10.86	25.0	9.92	24.2	9.58	23.4	9.22	21.8	8.53
	-10.5	-11.0	28.2	10.76	26.6	10.07	25.0	9.39	24.2	9.05	23.4	8.72	21.8	8.06
	-9.5	-10.0	28.2	10.49	26.6	9.79	25.0	9.14	24.2	8.80	23.4	8.48	21.8	7.85
	-8.5	-9.1	28.2	10.21	26.6	9.56	25.0	8.91	24.2	8.59	23.4	8.27	21.8	7.66
	-7.0	-7.6	28.2	9.81	26.6	9.20	25.0	8.57	24.2	8.27	23.4	7.98	21.8	7.36
	-5.0	-5.6	28.2	9.33	26.6	8.74	25.0	8.17	24.2	7.87	23.4	7.60	21.8	7.03
	-3.0	-3.7	28.2	8.93	26.6	8.36	25.0	7.81	24.2	7.53	23.4	7.26	21.8	6.73
	0.0	-0.7	28.2	8.34	26.6	7.81	25.0	7.30	24.2	7.05	23.4	6.79	21.8	6.31
	3.0	2.2	28.2	7.83	26.6	7.34	25.0	6.82	24.2	6.65	23.4	6.41	21.8	5.95
	5.0	4.1	28.2	7.53	26.6	7.07	25.0	6.63	24.2	6.39	23.4	6.18	21.8	5.74
	7.0	6.0	28.2	7.26	26.6	6.82	25.0	6.39	24.2	6.18	23.4	5.97	21.8	5.55
	9.0	7.9	28.2	7.01	26.6	6.58	25.0	6.18	24.2	5.97	23.4	5.76	21.8	5.36
	11.0	9.8	28.2	9.92	26.6	6.37	25.0	5.97	24.2	5.78	23.4	5.57	21.8	5.19
	13.0	11.8	28.2	6.54	26.6	6.16	25.0	5.78	24.2	5.59	23.4	5.40	21.8	5.02
	15.0	13.7	28.2	6.33	26.6	5.97	25.0	5.59	24.2	5.42	23.4	5.23	21.8	4.85
19.0	14.2	28.2	6.12	26.6	5.78	25.0	5.40	24.2	5.21	23.4	5.06	21.8	4.68	
21.0	15.0	28.2	5.91	26.6	5.59	25.0	5.23	24.2	5.04	23.4	4.89	21.8	4.51	

D. AV18NMTAHA 50HZ

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	36.0	10.72	36.0	11.31	36.0	11.92	35.9	12.22	35.9	12.51	35.9	13.11
	-12.6	-13.0	37.9	11.26	37.9	11.81	37.9	12.39	37.9	12.66	37.9	12.96	37.9	13.52
	-10.5	-11.0	39.8	11.75	39.8	12.27	39.8	12.81	39.8	13.08	39.8	13.36	39.8	13.88
	-9.5	-10.0	40.9	11.97	40.9	12.49	40.9	13.02	40.9	13.27	40.9	13.54	40.9	14.04
	-8.5	-9.1	41.8	12.17	41.8	12.67	41.8	13.18	41.8	13.44	41.8	13.72	41.8	14.21
	-7.0	-7.6	43.3	12.46	43.3	12.96	43.3	13.46	43.3	13.70	43.3	13.95	43.3	14.45
	-5.0	-5.6	45.2	12.84	45.2	13.30	45.2	13.78	45.2	14.02	45.2	14.24	45.2	14.74
	-3.0	-3.7	47.0	13.16	47.0	13.61	47.0	14.08	47.0	14.30	47.0	14.53	47.0	14.97
	0.0	-0.7	50.0	13.61	50.0	14.04	50.0	14.49	50.0	14.69	50.0	14.90	50.0	15.32
	3.0	2.2	52.8	14.01	52.8	14.44	52.8	14.83	52.8	15.03	52.8	15.23	52.8	15.65
	5.0	4.1	54.7	14.25	54.7	14.65	54.7	15.03	54.7	15.23	54.7	15.43	54.7	15.83
	7.0	6.0	56.5	14.48	56.5	14.86	56.5	15.24	56.5	15.44	56.5	15.62	56.5	16.00
	9.0	7.9	58.4	14.98	58.3	15.35	58.3	15.73	58.3	15.91	58.3	16.09	58.3	16.47
	11.0	9.8	60.3	15.76	60.3	16.14	60.3	16.50	60.3	16.69	60.3	16.88	60.3	17.26
	13.0	11.8	62.2	16.31	62.2	16.69	62.2	17.06	62.2	17.24	62.2	17.43	62.2	17.81
	15.0	13.7	64.0	18.05	64.0	18.44	64.0	18.84	64.0	19.02	64.0	19.22	64.0	19.60
19.0	14.2	67.5	20.54	67.5	20.79	67.5	21.30	67.5	21.48	67.5	21.74	67.5	22.02	
21.0	15.0	69.9	22.03	69.9	22.25	69.9	22.77	69.9	22.88	69.9	23.18	69.9	23.50	
120	-14.7	-15.0	36.0	11.53	35.9	12.05	35.9	12.64	35.9	12.91	35.9	13.18	35.9	13.74
	-12.6	-13.0	37.9	12.02	37.9	12.55	37.9	13.06	37.9	13.33	37.9	13.59	37.9	14.11
	-10.5	-11.0	39.8	12.47	39.8	12.96	39.8	13.47	39.8	13.71	39.8	13.96	39.8	14.45
	-9.5	-10.0	40.9	12.67	40.9	13.16	40.9	13.65	40.9	13.89	40.9	14.13	40.9	14.60
	-8.5	-9.1	41.8	12.86	41.8	13.33	41.8	13.79	41.8	14.03	41.8	14.28	41.8	14.76
	-7.0	-7.6	43.3	13.13	43.3	13.59	43.3	14.04	43.3	14.29	43.3	14.51	43.3	14.97
	-5.0	-5.6	45.2	13.48	45.2	13.91	45.2	14.36	45.2	14.58	45.2	14.79	45.2	15.23
	-3.0	-3.7	47.0	13.78	47.0	14.20	47.0	14.61	47.0	14.83	47.0	15.03	47.0	15.46
	0.0	-0.7	50.0	14.20	50.0	14.60	50.0	15.00	50.0	15.20	50.0	15.40	50.0	15.79
	3.0	2.2	52.8	14.55	52.8	14.95	52.8	15.32	52.8	15.50	52.8	15.69	52.8	16.06
	5.0	4.1	54.7	14.78	54.7	15.15	54.7	15.50	54.7	15.69	54.7	15.87	54.7	16.23
	7.0	6.0	56.5	14.99	56.5	15.33	56.5	15.70	56.5	15.88	56.5	16.04	56.5	17.89
	9.0	7.9	58.3	15.48	58.3	15.83	58.3	16.17	58.3	16.35	58.3	16.33	58.3	20.18
	11.0	9.8	60.3	16.09	60.3	16.43	60.3	16.78	60.2	16.95	60.2	17.48	59.0	17.88
	13.0	11.8	62.2	16.81	62.2	17.16	62.2	17.49	62.2	17.67	62.2	20.05	59.0	16.34
	15.0	13.7	64.0	18.58	64.0	18.95	64.0	19.28	64.0	19.48	63.8	20.39	59.0	15.59
19.0	14.2	67.5	21.01	67.5	21.39	67.5	21.59	67.5	21.94	67.3	21.67	59.0	14.91	
21.0	15.0	69.9	22.47	69.9	22.86	69.9	23.02	69.9	23.38	69.7	19.37	59.0	14.41	
110	-14.7	-15.0	35.9	12.34	35.9	12.84	35.9	13.34	35.9	13.60	35.9	13.86	35.9	14.36
	-12.6	-13.0	37.9	12.79	37.9	13.27	37.9	13.75	37.9	13.98	37.9	14.23	37.9	14.71
	-10.5	-11.0	39.8	13.20	39.8	13.66	39.8	14.11	39.8	14.34	39.8	14.55	39.8	15.02
	-9.5	-10.0	40.9	13.38	40.9	13.84	40.9	14.28	40.9	14.51	40.9	14.73	40.9	15.16
	-8.5	-9.1	41.8	13.54	41.8	13.98	41.8	14.42	41.8	14.63	41.8	14.85	41.8	15.28
	-7.0	-7.6	43.3	13.79	43.3	14.22	43.3	14.65	43.3	14.85	43.3	15.07	43.3	15.48
	-5.0	-5.6	45.2	14.12	45.2	14.53	45.2	14.93	45.2	15.12	45.2	15.32	45.2	16.29
	-3.0	-3.7	47.0	14.39	47.0	14.78	47.0	15.16	47.0	15.36	47.0	15.57	47.0	17.40
	0.0	-0.7	50.0	14.78	49.9	15.15	49.9	15.50	49.9	15.69	49.9	16.45	49.9	19.07
	3.0	2.2	52.8	15.12	52.8	15.45	52.8	15.79	52.8	15.97	52.8	17.62	52.8	20.00

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	54.7	15.32	54.7	15.65	54.7	16.55	54.7	16.73	54.7	19.16	54.3	19.47
	7.0	6.0	56.5	15.51	56.5	15.82	56.5	16.73	56.5	16.88	56.5	19.80	54.3	16.35
	9.0	7.9	58.3	15.99	58.3	16.30	58.3	17.96	58.3	19.32	57.9	19.59	54.3	15.73
	11.0	9.8	60.3	16.59	60.2	16.92	60.2	21.58	60.1	19.90	57.9	16.48	54.3	15.13
	13.0	11.8	62.2	17.32	62.2	17.64	62.2	22.22	60.1	17.38	57.9	15.85	54.3	14.04
	15.0	13.7	64.0	18.37	64.0	18.68	62.2	17.62	60.1	15.93	57.9	15.29	54.3	13.58
	19.0	14.2	67.5	21.59	67.5	21.97	62.2	15.61	60.1	15.03	57.9	14.41	54.3	12.87
	21.0	15.0	69.9	22.58	69.9	23.40	62.2	14.84	60.1	14.30	57.9	13.67	54.3	12.29
100	-14.7	-15.0	35.9	13.14	35.9	13.60	35.9	14.04	35.9	14.29	35.9	14.53	35.9	14.98
	-12.6	-13.0	37.9	13.56	37.9	13.99	37.9	14.42	37.9	14.65	37.9	14.86	37.9	15.29
	-10.5	-11.0	39.8	13.93	39.8	14.34	39.8	14.76	39.8	14.96	39.8	15.16	39.8	15.58
	-9.5	-10.0	40.9	14.10	40.9	14.51	40.9	14.90	40.9	15.10	40.9	15.29	40.9	15.72
	-8.5	-9.1	41.8	14.23	41.8	14.63	41.8	15.03	41.8	15.23	41.8	15.43	41.8	15.83
	-7.0	-7.6	43.3	14.47	43.3	14.85	43.3	15.24	43.3	15.43	43.3	15.62	43.3	16.59
	-5.0	-5.6	45.2	14.76	45.2	15.12	45.2	15.49	45.2	15.67	45.2	15.85	45.2	17.71
	-3.0	-3.7	47.0	15.01	47.0	15.36	47.0	15.69	47.0	15.88	47.0	16.64	47.0	18.11
	0.0	-0.7	49.9	15.36	49.9	15.69	49.9	16.01	49.9	16.19	49.9	17.85	49.3	17.12
	3.0	2.2	52.8	15.67	52.8	15.97	52.8	16.28	52.8	17.95	52.8	19.68	49.3	15.84
	5.0	4.1	54.7	15.85	54.7	16.14	54.7	16.45	54.7	19.49	53.0	17.41	49.3	14.79
	7.0	6.0	56.5	16.02	56.5	16.30	56.5	16.60	54.7	17.41	53.0	15.88	49.3	14.21
	9.0	7.9	58.3	16.50	58.3	16.88	56.5	16.09	54.7	15.89	53.0	14.87	49.3	13.67
	11.0	9.8	60.2	17.10	60.1	19.45	56.5	15.49	54.7	14.91	53.0	14.20	49.3	13.06
	13.0	11.8	62.2	17.83	60.1	17.24	56.5	14.78	54.7	14.23	53.0	13.68	49.3	12.60
	15.0	13.7	63.7	18.75	60.1	16.20	56.5	14.28	54.7	13.74	53.0	13.22	49.3	12.18
19.0	14.2	66.9	20.23	60.1	15.27	56.5	13.58	54.7	13.41	53.0	12.92	49.3	11.76	
21.0	15.0	69.5	20.21	60.1	14.06	56.5	13.15	54.7	13.01	53.0	12.62	49.3	12.42	
90	-14.7	-15.0	35.9	13.95	35.9	14.36	35.9	14.78	35.9	14.98	35.9	15.20	35.9	15.61
	-12.6	-13.0	37.9	14.33	37.9	14.71	37.9	15.10	37.9	15.29	37.9	15.50	37.9	15.89
	-10.5	-11.0	39.8	14.65	39.8	14.72	39.8	15.40	39.8	15.58	39.8	15.78	39.8	16.14
	-9.5	-10.0	40.9	14.80	40.9	15.18	40.9	15.53	40.9	15.72	40.9	15.90	40.9	16.86
	-8.5	-9.1	41.8	14.94	41.8	15.28	41.8	15.65	41.8	15.83	41.8	16.01	41.8	17.86
	-7.0	-7.6	43.3	15.15	43.3	15.49	43.3	15.83	43.3	16.01	43.3	16.76	43.2	19.59
	-5.0	-5.6	45.2	15.40	45.2	15.73	45.2	16.06	45.2	16.23	45.2	17.89	44.2	16.86
	-3.0	-3.7	47.0	15.63	47.0	15.94	47.0	16.83	47.0	17.92	47.0	19.66	44.2	15.64
	0.0	-0.7	49.9	15.94	49.9	16.24	49.9	18.04	49.1	16.91	47.6	16.25	44.2	14.54
	3.0	2.2	52.8	16.22	52.8	20.30	50.8	16.45	49.1	15.83	47.6	14.80	44.2	13.63
	5.0	4.1	54.7	16.37	54.2	19.30	50.8	15.78	49.1	14.78	47.6	14.21	44.2	12.96
	7.0	6.0	56.5	20.34	54.2	17.06	50.8	14.76	49.1	14.09	47.6	13.54	44.2	12.47
	9.0	7.9	57.5	17.58	54.2	15.45	50.8	14.09	49.1	13.55	47.6	13.04	44.2	12.02
	11.0	9.8	57.5	16.95	54.2	14.60	50.8	13.56	49.1	13.06	47.6	12.56	44.2	11.60
	13.0	11.8	57.5	15.35	54.2	14.04	50.8	13.06	49.1	12.59	47.6	12.12	44.2	11.18
	15.0	13.7	57.5	14.54	54.2	13.56	50.8	12.64	49.1	12.17	47.6	11.71	44.2	10.81
19.0	14.2	57.5	14.01	54.2	13.06	50.8	12.15	49.1	11.75	47.6	11.34	44.2	10.45	
21.0	15.0	57.5	13.40	54.2	12.56	50.8	11.59	49.1	11.33	47.6	11.06	44.2	10.10	
80	-14.7	-15.0	35.9	14.76	35.9	15.12	35.9	15.49	35.9	15.68	35.9	15.87	35.9	17.71
	-12.6	-13.0	37.9	15.08	37.9	15.43	37.9	15.78	37.9	15.95	37.9	16.13	37.9	19.56

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
				KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
80	-10.5	-11.0	39.8	15.38	39.8	15.71	39.8	16.05	39.8	16.22	39.8	16.97	39.5	18.11
	-9.5	-10.0	40.9	15.51	40.9	15.85	40.9	16.16	40.9	16.32	40.9	18.00	39.5	16.53
	-8.5	-9.1	41.8	15.63	41.8	15.95	41.8	16.27	41.8	16.43	41.8	19.67	39.5	16.10
	-7.0	-7.6	43.3	16.00	43.3	16.31	43.2	17.01	43.2	18.10	42.3	17.72	39.5	15.05
	-5.0	-5.6	45.2	16.78	45.2	17.69	45.2	18.14	43.8	16.61	42.3	15.96	39.5	14.28
	-3.0	-3.7	47.0	17.59	47.0	20.34	45.2	16.45	43.8	15.39	42.3	14.79	39.5	13.49
	0.0	-0.7	49.9	20.34	48.1	17.21	45.2	14.88	43.8	14.32	42.3	13.77	39.5	12.57
	3.0	2.2	50.9	17.26	48.1	15.70	45.2	13.92	43.8	13.30	42.3	12.79	39.5	11.80
	5.0	4.1	50.9	16.13	48.1	14.55	45.2	13.27	43.8	12.79	42.3	12.29	39.5	11.34
	7.0	6.0	50.9	14.98	48.1	13.87	45.2	12.77	43.8	12.29	42.3	11.83	39.5	10.93
	9.0	7.9	50.9	14.14	48.1	13.21	45.2	12.29	43.8	11.84	42.3	11.40	39.5	10.53
	11.0	9.8	50.9	13.61	48.1	12.73	45.2	11.85	43.8	11.42	42.3	11.00	39.5	10.18
	13.0	11.8	50.9	13.12	48.1	12.27	45.2	11.43	43.8	11.02	42.3	10.62	39.5	9.82
	15.0	13.7	50.9	12.67	48.1	11.85	45.2	11.06	43.8	10.66	42.3	10.28	39.5	9.50
19.0	14.2	50.9	12.24	48.1	11.51	45.2	10.69	43.8	10.31	42.3	9.95	39.5	9.21	
21.0	15.0	50.9	11.83	48.1	11.08	45.2	10.33	43.8	9.98	42.3	9.77	39.5	8.94	
70	-14.7	-15.0	35.9	15.57	35.9	15.88	35.9	16.22	35.9	16.97	35.9	19.60	34.5	16.62
	-12.6	-13.0	37.9	15.85	37.9	16.15	37.9	17.06	37.9	18.12	37.1	17.68	34.5	15.42
	-10.5	-11.0	39.8	16.10	39.8	16.39	39.6	18.01	38.2	16.45	37.1	15.80	34.5	14.54
	-9.5	-10.0	40.9	16.98	40.9	17.87	39.6	16.61	38.2	15.55	37.1	14.93	34.5	13.75
	-8.5	-9.1	41.8	17.67	41.8	20.45	39.6	15.75	38.2	15.16	37.1	14.43	34.5	13.29
	-7.0	-7.6	43.2	20.30	42.1	17.48	39.6	15.12	38.2	14.42	37.1	13.87	34.5	13.82
	-5.0	-5.6	44.6	17.77	42.1	16.14	39.6	14.21	38.2	13.69	37.1	13.15	34.5	12.14
	-3.0	-3.7	44.6	16.49	42.1	14.88	39.6	13.56	38.2	13.06	37.1	12.56	34.5	11.57
	0.0	-0.7	44.6	14.83	42.1	13.58	39.6	12.64	38.2	12.17	37.1	11.71	34.5	10.81
	3.0	2.2	44.6	13.61	42.1	12.72	39.6	11.85	38.2	11.42	37.1	11.00	34.5	10.18
	5.0	4.1	44.6	13.08	42.1	12.23	39.6	11.40	38.2	10.97	37.1	10.57	34.5	9.79
	7.0	6.0	44.6	12.57	42.1	11.77	39.6	10.97	38.2	10.57	37.1	10.20	34.5	9.43
	9.0	7.9	44.6	12.12	42.1	11.35	39.6	10.57	38.2	10.21	37.1	9.83	34.5	9.09
	11.0	9.8	44.6	11.70	42.1	10.95	39.6	10.22	38.2	9.86	37.1	9.50	34.5	8.79
13.0	11.8	44.6	11.28	42.1	10.55	39.6	9.86	38.2	9.51	37.1	9.16	34.5	8.50	
15.0	13.7	44.6	10.90	42.1	10.22	39.6	9.55	38.2	9.21	37.1	8.89	34.5	8.25	
19.0	14.2	44.6	10.54	42.1	9.91	39.6	9.25	38.2	8.93	37.1	8.63	34.5	8.01	
21.0	15.0	44.6	10.21	42.1	9.55	39.6	8.98	38.2	8.66	37.1	8.39	34.5	7.80	
60	-14.7	-15.0	35.9	17.73	35.9	20.49	33.9	15.67	32.8	15.09	31.7	14.50	29.6	13.24
	-12.6	-13.0	37.9	20.45	36.1	17.01	33.9	14.73	32.8	14.17	31.7	13.63	29.6	12.43
	-10.5	-11.0	38.2	17.18	36.1	15.61	33.9	13.88	32.8	13.35	31.7	12.74	29.6	11.75
	-9.5	-10.0	38.2	16.26	36.1	14.67	33.9	13.48	32.8	12.98	31.7	12.39	29.6	11.42
	-8.5	-9.1	38.2	15.32	36.1	14.01	33.9	13.04	32.8	12.56	31.7	12.09	29.6	11.15
	-7.0	-7.6	38.2	14.41	36.1	13.46	33.9	12.52	32.8	12.06	31.7	11.62	29.6	10.73
	-5.0	-5.6	38.2	13.68	36.1	12.79	33.9	11.91	32.8	11.48	31.7	11.06	29.6	10.21
	-3.0	-3.7	38.2	13.05	36.1	12.20	33.9	11.37	32.8	10.96	31.7	10.56	29.6	9.77
	0.0	-0.7	38.2	12.17	36.1	11.38	33.9	10.62	32.8	10.25	31.7	9.88	29.6	9.14
	3.0	2.2	38.2	11.42	36.1	10.70	33.9	9.99	32.8	9.64	31.7	9.29	29.6	8.61
	5.0	4.1	38.2	10.97	36.1	10.29	33.9	9.61	32.8	9.28	31.7	8.95	29.6	8.30
	7.0	6.0	38.2	10.57	36.1	9.91	33.9	9.26	32.8	8.95	31.7	8.63	29.6	8.00

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	38.2	10.21	36.1	9.57	33.9	8.95	32.8	8.64	31.7	8.33	29.6	7.74
	11.0	9.8	38.2	9.85	36.1	9.24	33.9	8.64	32.8	8.34	31.7	8.07	29.6	7.49
	13.0	11.8	38.2	9.51	36.1	8.93	33.9	8.34	32.8	8.07	31.7	7.79	29.6	7.25
	15.0	13.7	38.2	9.21	36.1	8.64	33.9	8.09	32.8	7.83	31.7	7.55	29.6	7.03
	19.0	14.2	38.2	8.93	36.1	8.38	33.9	7.86	32.8	7.61	31.7	7.22	29.6	6.81
	21.0	15.0	38.2	8.66	36.1	8.12	33.9	7.65	32.8	7.41	31.7	7.03	29.6	6.59
50	-14.7	-15.0	31.9	15.13	30.1	14.14	28.3	12.56	27.3	12.12	26.4	11.65	24.6	10.76
	-12.6	-13.0	31.9	14.22	30.1	13.29	28.3	11.81	27.3	11.40	26.4	10.97	24.6	10.15
	-10.5	-11.0	31.9	12.96	30.1	12.12	28.3	11.17	27.3	10.77	26.4	10.38	24.6	9.61
	-9.5	-10.0	31.9	12.46	30.1	11.65	28.3	10.88	27.3	10.48	26.4	10.10	24.6	9.35
	-8.5	-9.1	31.9	12.15	30.1	11.38	28.3	10.61	27.3	10.24	26.4	9.86	24.6	9.14
	-7.0	-7.6	31.9	11.69	30.1	10.95	28.3	10.21	27.3	9.86	26.4	9.50	24.6	8.79
	-5.0	-5.6	31.9	11.11	30.1	10.41	28.3	9.73	27.3	9.39	26.4	9.05	24.6	8.39
	-3.0	-3.7	31.9	10.62	30.1	9.95	28.3	9.30	27.3	8.99	26.4	8.66	24.6	8.05
	0.0	-0.7	31.9	9.93	30.1	9.32	28.3	8.72	27.3	8.41	26.4	8.12	24.6	7.53
	3.0	2.2	31.9	9.34	30.1	8.77	28.3	8.21	27.3	7.94	26.4	7.67	24.6	7.12
	5.0	4.1	31.9	8.98	30.1	8.44	28.3	7.92	27.3	7.65	26.4	7.40	24.6	6.87
	7.0	6.0	31.9	8.68	30.1	8.15	28.3	7.65	27.3	7.40	26.4	7.14	24.6	6.65
	9.0	7.9	31.9	8.37	30.1	7.88	28.3	7.40	27.3	7.14	26.4	6.90	24.6	6.43
	11.0	9.8	31.9	11.25	30.1	7.63	28.3	7.15	27.3	6.92	26.4	6.68	24.6	6.23
	13.0	11.8	31.9	7.83	30.1	7.38	28.3	6.92	27.3	6.70	26.4	6.47	24.6	6.03
	15.0	13.7	31.9	7.58	30.1	7.15	28.3	6.71	27.3	6.50	26.4	6.28	24.6	5.85
19.0	14.2	31.9	7.35	30.1	6.94	28.3	6.53	27.3	6.29	26.4	6.10	24.6	5.68	
21.0	15.0	31.9	7.12	30.1	6.74	28.3	6.35	27.3	6.12	26.4	5.86	24.6	5.51	

E. AV20NMTAHA 50HZ

capacity factor %	outdoor temp.		indoor temp. (i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	40.2	12.04	40.2	12.71	40.2	13.38	40.0	13.72	40.0	14.04	40.0	14.71
	-12.6	-13.0	42.2	12.65	42.2	13.27	42.2	13.90	42.2	14.21	42.2	14.55	42.2	15.16
	-10.5	-11.0	44.4	13.19	44.4	13.78	44.4	14.39	44.4	14.67	44.4	15.00	44.4	15.56
	-9.5	-10.0	45.6	13.44	45.6	14.02	45.6	14.61	45.6	14.87	45.6	15.20	45.6	15.76
	-8.5	-9.1	46.6	13.66	46.6	14.23	46.6	14.79	46.6	15.08	46.6	15.40	46.6	15.95
	-7.0	-7.6	48.4	13.98	48.4	14.55	48.4	15.10	48.4	15.36	48.4	15.64	48.4	16.21
	-5.0	-5.6	50.4	14.41	50.4	14.93	50.4	15.46	50.4	15.72	50.4	15.97	50.4	16.53
	-3.0	-3.7	52.4	14.77	52.4	15.28	52.4	15.78	52.4	16.03	52.4	16.29	52.4	16.78
	0.0	-0.7	55.8	15.28	55.8	15.76	55.8	16.25	55.8	16.47	55.8	16.72	55.8	17.18
	3.0	2.2	58.6	15.72	58.6	16.21	58.6	16.64	58.6	16.86	58.6	17.08	58.6	17.55
	5.0	4.1	61.0	15.99	61.0	16.43	61.0	16.86	61.0	17.08	61.0	17.30	61.0	17.75
	7.0	6.0	63.0	16.23	63.0	16.66	63.0	17.08	63.0	17.30	63.0	17.51	63.0	17.93
	9.0	7.9	65.2	16.69	65.0	17.10	65.0	17.51	65.0	17.71	65.0	17.92	65.0	18.33
	11.0	9.8	67.2	16.92	67.2	17.34	67.2	17.73	67.2	17.91	67.2	18.12	67.2	18.55
	13.0	11.8	69.4	17.59	69.4	17.99	69.4	18.39	69.4	18.58	69.4	18.79	69.4	19.19
15.0	13.7	71.4	18.94	71.4	19.34	71.4	19.77	71.4	19.95	71.4	20.15	71.4	20.57	
19.0	14.2	75.2	20.75	75.2	20.83	75.2	21.47	75.2	21.61	75.2	21.85	75.2	22.21	
21.0	15.0	78.4	22.34	78.4	22.34	78.4	23.02	78.4	23.12	78.4	23.37	78.4	23.80	
120	-14.7	-15.0	40.2	12.95	40.0	13.54	40.0	14.19	40.0	14.49	40.0	14.79	40.0	15.42
	-12.6	-13.0	42.2	13.50	42.2	14.08	42.2	14.67	42.2	14.95	42.2	15.26	42.2	15.83
	-10.5	-11.0	44.4	14.00	44.4	14.55	44.4	15.12	44.4	15.38	44.4	15.66	44.4	16.21
	-9.5	-10.0	45.6	14.23	45.6	14.77	45.6	15.32	45.6	15.58	45.6	15.85	45.6	16.37
	-8.5	-9.1	46.6	14.43	46.6	14.95	46.6	15.48	46.6	15.74	46.6	16.01	46.6	16.55
	-7.0	-7.6	48.4	14.73	48.4	15.26	48.4	15.76	48.4	16.03	48.4	16.27	48.4	16.78
	-5.0	-5.6	50.4	15.12	50.4	15.60	50.4	16.11	50.4	16.35	50.4	16.57	50.4	17.08
	-3.0	-3.7	52.4	15.46	52.4	15.93	52.4	16.37	52.4	16.64	52.4	16.86	52.4	17.34
	0.0	-0.7	55.8	15.93	55.8	16.37	55.8	16.82	55.8	17.04	55.8	17.26	55.8	17.71
	3.0	2.2	58.6	16.31	58.6	16.76	58.6	17.18	58.6	17.38	58.6	17.59	58.6	17.99
	5.0	4.1	61.0	16.57	61.0	16.98	61.0	17.38	61.0	17.59	61.0	17.79	61.0	18.19
	7.0	6.0	63.0	16.82	63.0	17.18	63.0	17.59	63.0	17.79	63.0	17.97	63.0	18.38
	9.0	7.9	65.0	17.24	65.0	17.61	65.0	18.00	65.0	18.21	65.0	18.15	65.0	20.03
	11.0	9.8	67.2	17.14	67.2	17.50	67.2	17.87	67.2	18.05	67.2	19.38	65.8	18.54
	13.0	11.8	69.4	18.12	69.4	18.50	69.4	18.83	69.4	19.05	69.4	22.15	65.8	17.84
15.0	13.7	71.4	19.50	71.4	19.88	71.4	20.24	71.4	20.44	71.4	22.09	65.8	16.88	
19.0	14.2	75.2	21.23	75.2	21.56	75.2	21.71	75.2	22.11	75.2	22.54	65.8	16.27	
21.0	15.0	78.4	23.01	78.4	23.27	78.4	23.39	78.4	23.67	78.4	18.85	65.8	15.76	
110	-14.7	-15.0	40.0	13.84	40.0	14.41	40.0	14.97	40.0	15.26	40.0	15.54	40.0	16.11
	-12.6	-13.0	42.2	14.35	42.2	14.89	42.2	15.42	42.2	15.68	42.2	15.97	42.2	16.49
	-10.5	-11.0	44.4	14.81	44.4	15.32	44.4	15.83	44.4	16.09	44.4	16.33	44.4	16.84
	-9.5	-10.0	45.6	15.02	45.6	15.52	45.6	16.01	45.6	16.27	45.6	16.51	45.6	16.98
	-8.5	-9.1	46.6	15.20	46.6	15.68	46.6	16.17	46.6	16.41	46.6	16.66	46.6	17.14
	-7.0	-7.6	48.4	15.48	48.4	15.95	48.4	16.43	48.4	16.66	48.4	16.90	48.4	17.36
	-5.0	-5.6	50.4	15.85	50.4	16.29	50.4	16.74	50.4	16.96	50.4	17.18	50.4	17.63
	-3.0	-3.7	52.4	16.15	52.4	16.57	52.4	17.00	52.4	17.22	52.4	17.45	52.4	17.87
	0.0	-0.7	55.8	16.57	55.6	16.98	55.6	17.38	55.6	17.59	55.6	17.79	55.6	18.19
	3.0	2.2	58.6	16.96	58.6	17.32	58.6	17.71	58.6	17.91	58.6	18.09	58.6	18.83

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	61.0	17.18	61.0	17.55	61.0	17.91	61.0	18.09	61.0	18.28	60.4	18.77
	7.0	6.0	63.0	17.38	63.0	17.73	63.0	18.09	63.0	18.28	63.0	18.46	60.4	17.69
	9.0	7.9	65.0	17.80	65.0	18.14	65.0	18.62	65.0	18.44	64.6	18.89	60.4	17.02
	11.0	9.8	67.2	17.66	67.2	18.01	67.2	21.84	67.0	18.54	64.6	17.83	60.4	16.37
	13.0	11.8	69.4	18.67	69.4	19.00	69.4	22.64	67.0	17.85	64.6	17.16	60.4	15.76
	15.0	13.7	71.4	18.83	71.4	19.15	69.4	18.27	67.0	17.24	64.6	16.55	60.4	15.24
	19.0	14.2	75.2	21.74	75.2	22.29	69.4	16.62	67.0	16.03	64.6	15.34	60.4	14.19
	21.0	15.0	78.4	23.38	78.4	23.93	69.4	15.64	67.0	15.12	64.6	14.43	60.4	13.40
100	-14.7	-15.0	40.0	14.75	40.0	15.26	40.0	15.76	40.0	16.03	40.0	16.29	40.0	16.80
	-12.6	-13.0	42.2	15.22	42.2	15.70	42.2	16.17	42.2	16.43	42.2	16.68	42.2	17.16
	-10.5	-11.0	44.4	15.62	44.4	16.09	44.4	16.55	44.4	16.78	44.4	16.98	44.4	17.47
	-9.5	-10.0	45.6	15.81	45.6	16.27	45.6	16.72	45.6	16.94	45.6	17.16	45.6	17.63
	-8.5	-9.1	46.6	15.97	46.6	16.41	46.6	16.86	46.6	17.08	46.6	17.30	46.6	17.75
	-7.0	-7.6	48.4	16.23	48.4	16.66	48.4	17.08	48.4	17.30	48.4	17.51	48.4	17.95
	-5.0	-5.6	50.4	16.55	50.4	16.96	50.4	17.36	50.4	17.57	50.4	17.77	50.4	18.19
	-3.0	-3.7	52.4	16.84	52.4	17.22	52.4	17.59	52.4	17.79	52.4	17.99	52.4	18.77
	0.0	-0.7	55.6	17.22	55.6	17.59	55.6	17.93	55.6	18.15	55.6	18.34	55.0	18.69
	3.0	2.2	58.6	17.57	58.6	17.91	58.6	18.26	58.6	18.44	58.6	18.97	55.0	17.14
	5.0	4.1	61.0	17.77	61.0	18.09	61.0	18.44	61.0	18.60	59.0	17.89	55.0	16.45
	7.0	6.0	63.0	17.95	63.0	18.28	63.0	18.60	61.0	17.89	59.0	17.18	55.0	15.81
	9.0	7.9	65.0	18.37	65.0	21.73	63.0	17.77	61.0	17.06	59.0	16.42	55.0	15.11
	11.0	9.8	67.2	18.21	67.0	22.55	63.0	17.10	61.0	16.46	59.0	15.81	55.0	14.57
	13.0	11.8	69.4	19.21	67.0	19.15	63.0	16.46	61.0	15.86	59.0	15.23	55.0	14.04
	15.0	13.7	71.0	19.06	67.0	18.48	63.0	15.90	61.0	15.31	59.0	14.73	55.0	13.58
19.0	14.2	74.4	21.71	67.0	17.16	63.0	15.01	61.0	14.91	59.0	14.53	55.0	13.12	
21.0	15.0	78.0	21.48	67.0	15.29	63.0	14.61	61.0	14.51	59.0	14.29	55.0	12.68	
90	-14.7	-15.0	40.0	15.64	40.0	16.11	40.0	16.57	40.0	16.80	40.0	17.04	40.0	17.51
	-12.6	-13.0	42.2	16.07	42.2	16.49	42.2	16.94	42.2	17.16	42.2	17.38	42.2	17.81
	-10.5	-11.0	44.4	16.43	44.4	16.25	44.4	17.26	44.4	17.47	44.4	17.69	44.4	18.09
	-9.5	-10.0	45.6	16.62	45.6	17.02	45.6	17.43	45.6	17.63	45.6	17.83	45.6	18.24
	-8.5	-9.1	46.6	16.76	46.6	17.14	46.6	17.55	46.6	17.75	46.6	17.95	46.6	18.34
	-7.0	-7.6	48.4	16.98	48.4	17.36	48.4	17.75	48.4	17.95	48.4	18.13	48.2	18.89
	-5.0	-5.6	50.4	17.26	50.4	17.65	50.4	17.99	50.4	18.19	50.4	18.38	49.2	18.24
	-3.0	-3.7	52.4	17.53	52.4	17.87	52.4	18.19	52.4	18.40	52.4	18.95	49.2	17.38
	0.0	-0.7	55.6	17.87	55.6	18.19	55.6	18.54	54.6	18.30	53.0	17.59	49.2	16.17
	3.0	2.2	58.6	18.17	58.6	21.62	56.6	17.79	54.6	17.12	53.0	16.45	49.2	15.16
	5.0	4.1	61.0	18.36	60.6	22.33	56.6	17.08	54.6	16.43	53.0	15.81	49.2	14.55
	7.0	6.0	63.0	21.99	60.6	19.09	56.6	16.41	54.6	15.81	53.0	15.20	49.2	14.00
	9.0	7.9	64.0	19.66	60.6	17.32	56.6	15.81	54.6	15.22	53.0	14.63	49.2	13.50
	11.0	9.8	64.0	18.96	60.6	16.37	56.6	15.24	54.6	14.67	53.0	14.10	49.2	13.03
	13.0	11.8	64.0	17.22	60.6	15.76	56.6	14.67	54.6	14.12	53.0	13.60	49.2	12.56
	15.0	13.7	64.0	16.31	60.6	15.24	56.6	14.19	54.6	13.66	53.0	13.13	49.2	12.16
19.0	14.2	64.0	15.68	60.6	14.67	56.6	13.74	54.6	13.25	53.0	12.73	49.2	11.75	
21.0	15.0	64.0	14.85	60.6	14.10	56.6	13.27	54.6	12.89	53.0	12.42	49.2	11.39	
80	-14.7	-15.0	40.0	16.55	40.0	16.96	40.0	17.36	40.0	17.59	40.0	17.79	40.0	18.19
	-12.6	-13.0	42.2	16.92	42.2	17.30	42.2	17.69	42.2	17.89	42.2	18.09	42.2	18.85

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	44.4	17.24	44.4	17.61	44.4	17.99	44.4	18.17	44.4	18.36	44.0	18.77
	-9.5	-10.0	45.6	17.38	45.6	17.77	45.6	18.11	45.6	18.30	45.6	18.48	44.0	17.89
	-8.5	-9.1	46.6	17.53	46.6	17.89	46.6	18.24	46.6	18.42	46.6	18.95	44.0	17.43
	-7.0	-7.6	48.4	18.09	48.4	18.44	48.2	18.40	48.2	18.58	47.2	18.19	44.0	16.74
	-5.0	-5.6	50.4	19.44	50.4	19.79	50.4	18.64	48.6	17.97	47.2	17.26	44.0	15.89
	-3.0	-3.7	52.4	19.68	52.4	22.99	50.4	17.79	48.6	17.12	47.2	16.45	44.0	15.14
	0.0	-0.7	55.6	22.99	53.6	19.25	50.4	16.55	48.6	15.93	47.2	15.32	44.0	14.12
	3.0	2.2	56.6	19.31	53.6	18.02	50.4	15.50	48.6	14.93	47.2	14.35	44.0	13.25
	5.0	4.1	56.6	18.53	53.6	16.33	50.4	14.89	48.6	14.35	47.2	13.80	44.0	12.73
	7.0	6.0	56.6	16.81	53.6	15.69	50.4	14.33	48.6	13.80	47.2	13.29	44.0	12.28
	9.0	7.9	56.6	15.87	53.6	14.81	50.4	13.80	48.6	13.29	47.2	12.81	44.0	11.84
	11.0	9.8	56.6	15.28	53.6	14.29	50.4	13.31	48.6	12.83	47.2	12.36	44.0	11.43
	13.0	11.8	56.6	14.73	53.6	13.78	50.4	12.85	48.6	12.38	47.2	11.94	44.0	11.05
	15.0	13.7	56.6	14.23	53.6	13.31	50.4	12.42	48.6	11.98	47.2	11.55	44.0	10.68
19.0	14.2	56.6	13.76	53.6	13.01	50.4	12.02	48.6	11.61	47.2	11.21	44.0	10.36	
21.0	15.0	56.6	13.33	53.6	12.73	50.4	11.63	48.6	11.29	47.2	10.90	44.0	10.07	
70	-14.7	-15.0	40.0	17.45	40.0	17.79	40.0	18.17	40.0	18.36	40.0	18.91	38.4	18.15
	-12.6	-13.0	42.2	17.77	42.2	18.11	42.2	18.46	42.2	18.60	41.2	18.15	38.4	16.70
	-10.5	-11.0	44.4	18.05	44.4	18.38	44.2	18.50	42.6	17.79	41.2	17.10	38.4	15.72
	-9.5	-10.0	45.6	19.66	45.6	19.99	44.2	17.97	42.6	17.28	41.2	16.62	38.4	15.30
	-8.5	-9.1	46.6	19.77	46.6	23.11	44.2	17.51	42.6	16.86	41.2	16.19	38.4	14.91
	-7.0	-7.6	48.2	22.94	47.0	19.55	44.2	16.82	42.6	16.17	41.2	15.56	38.4	14.33
	-5.0	-5.6	49.8	19.88	47.0	18.55	44.2	15.95	42.6	15.36	41.2	14.75	38.4	13.62
	-3.0	-3.7	49.8	18.94	47.0	16.68	44.2	15.22	42.6	14.65	41.2	14.10	38.4	13.01
	0.0	-0.7	49.8	16.64	47.0	15.24	44.2	14.19	42.6	13.66	41.2	13.13	38.4	12.16
	3.0	2.2	49.8	15.28	47.0	14.29	44.2	13.31	42.6	12.83	41.2	12.36	38.4	11.43
	5.0	4.1	49.8	14.67	47.0	13.74	44.2	12.81	42.6	12.32	41.2	11.90	38.4	11.01
	7.0	6.0	49.8	14.12	47.0	13.21	44.2	12.32	42.6	11.90	41.2	11.45	38.4	10.60
	9.0	7.9	49.8	13.60	47.0	12.75	44.2	11.90	42.6	11.47	41.2	11.07	38.4	10.22
	11.0	9.8	49.8	13.13	47.0	12.30	44.2	11.49	42.6	11.09	41.2	10.68	38.4	9.89
13.0	11.8	49.8	12.67	47.0	11.86	44.2	11.09	42.6	10.70	41.2	10.30	38.4	9.57	
15.0	13.7	49.8	12.24	47.0	11.49	44.2	10.74	42.6	10.36	41.2	9.99	38.4	9.28	
19.0	14.2	49.8	11.86	47.0	11.17	44.2	10.44	42.6	10.05	41.2	9.73	38.4	9.04	
21.0	15.0	49.8	11.51	47.0	10.88	44.2	10.18	42.6	9.79	41.2	9.47	38.4	8.84	
60	-14.7	-15.0	40.0	19.83	40.0	23.16	37.8	17.43	36.6	16.78	35.4	16.13	33.0	14.85
	-12.6	-13.0	42.2	23.11	40.2	19.03	37.8	16.37	36.6	15.76	35.4	15.16	33.0	13.94
	-10.5	-11.0	42.6	19.22	40.2	17.91	37.8	15.44	36.6	14.85	35.4	14.31	33.0	13.19
	-9.5	-10.0	42.6	18.68	40.2	16.46	37.8	15.00	36.6	14.45	35.4	13.90	33.0	12.83
	-8.5	-9.1	42.6	17.18	40.2	15.72	37.8	14.63	36.6	14.10	35.4	13.58	33.0	12.52
	-7.0	-7.6	42.6	16.17	40.2	15.10	37.8	14.06	36.6	13.56	35.4	13.05	33.0	12.06
	-5.0	-5.6	42.6	15.34	40.2	14.35	37.8	13.38	36.6	12.89	35.4	12.42	33.0	11.47
	-3.0	-3.7	42.6	14.65	40.2	13.70	37.8	12.77	36.6	12.32	35.4	11.88	33.0	10.99
	0.0	-0.7	42.6	13.66	40.2	12.79	37.8	11.92	36.6	11.51	35.4	11.11	33.0	10.28
	3.0	2.2	42.6	12.83	40.2	12.02	37.8	11.23	36.6	10.84	35.4	10.46	33.0	9.69
	5.0	4.1	42.6	12.32	40.2	11.57	37.8	10.80	36.6	10.44	35.4	10.07	33.0	9.34
7.0	6.0	42.6	11.88	40.2	11.15	37.8	10.42	36.6	10.07	35.4	9.71	33.0	9.02	

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	42.6	11.47	40.2	10.76	37.8	10.07	36.6	9.73	35.4	9.39	33.0	8.72
	11.0	9.8	42.6	11.07	40.2	10.40	37.8	9.73	36.6	9.41	35.4	9.08	33.0	8.43
	13.0	11.8	42.6	10.70	40.2	10.05	37.8	9.41	36.6	9.08	35.4	8.78	33.0	8.17
	15.0	13.7	42.6	10.36	40.2	9.73	37.8	9.12	36.6	8.82	35.4	8.51	33.0	7.93
	19.0	14.2	42.6	10.05	40.2	9.45	37.8	8.88	36.6	8.60	35.4	8.07	33.0	7.70
	21.0	15.0	42.6	9.79	40.2	9.18	37.8	8.68	36.6	8.41	35.4	7.91	33.0	7.46
50	-14.7	-15.0	35.6	17.52	33.6	16.39	31.6	14.10	30.4	13.60	29.4	13.09	27.4	12.10
	-12.6	-13.0	35.6	16.47	33.6	15.40	31.6	13.27	30.4	12.81	29.4	12.32	27.4	11.41
	-10.5	-11.0	35.6	14.68	33.6	13.73	31.6	12.54	30.4	12.10	29.4	11.67	27.4	10.80
	-9.5	-10.0	35.6	13.98	33.6	13.09	31.6	12.22	30.4	11.78	29.4	11.35	27.4	10.50
	-8.5	-9.1	35.6	13.64	33.6	12.79	31.6	11.92	30.4	11.51	29.4	11.09	27.4	10.28
	-7.0	-7.6	35.6	13.13	33.6	12.30	31.6	11.47	30.4	11.09	29.4	10.68	27.4	9.89
	-5.0	-5.6	35.6	12.48	33.6	11.69	31.6	10.94	30.4	10.56	29.4	10.18	27.4	9.45
	-3.0	-3.7	35.6	11.92	33.6	11.19	31.6	10.46	30.4	10.11	29.4	9.75	27.4	9.06
	0.0	-0.7	35.6	11.17	33.6	10.48	31.6	9.81	30.4	9.47	29.4	9.14	27.4	8.47
	3.0	2.2	35.6	10.50	33.6	9.87	31.6	9.24	30.4	8.94	29.4	8.64	27.4	8.03
	5.0	4.1	35.6	10.09	33.6	9.51	31.6	8.92	30.4	8.62	29.4	8.33	27.4	7.75
	7.0	6.0	35.6	9.77	33.6	9.18	31.6	8.62	30.4	8.33	29.4	8.05	27.4	7.50
	9.0	7.9	35.6	9.43	33.6	8.88	31.6	8.33	30.4	8.05	29.4	7.79	27.4	7.26
	11.0	9.8	35.6	9.12	33.6	8.60	31.6	8.07	30.4	7.81	29.4	7.54	27.4	7.04
	13.0	11.8	35.6	8.82	33.6	8.31	31.6	7.81	30.4	7.56	29.4	7.30	27.4	6.81
15.0	13.7	35.6	8.56	33.6	8.07	31.6	7.58	30.4	7.34	29.4	7.10	27.4	6.63	
19.0	14.2	35.6	8.31	33.6	7.85	31.6	7.40	30.4	7.14	29.4	6.89	27.4	6.45	
21.0	15.0	35.6	8.07	33.6	7.62	31.6	7.22	30.4	6.96	29.4	6.61	27.4	6.29	

F. AV242MTAHA 50HZ

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	47.7	13.51	47.7	14.24	47.7	15.03	47.7	15.41	47.7	15.79	47.7	16.55
	-12.6	-13.0	50.4	14.18	50.4	14.88	50.4	15.64	50.4	15.98	50.4	16.36	50.4	17.09
	-10.5	-11.0	52.8	14.81	52.8	15.48	52.8	16.14	52.8	16.52	52.8	16.87	52.8	17.54
	-9.5	-10.0	54.3	15.10	54.3	15.76	54.3	16.43	54.3	16.78	54.3	17.09	54.3	17.73
	-8.5	-9.1	55.5	15.35	55.5	15.98	55.5	16.65	55.5	16.97	55.5	17.31	55.5	17.95
	-7.0	-7.6	57.3	15.73	57.3	16.36	57.3	17.00	57.3	17.31	57.3	17.63	57.3	18.26
	-5.0	-5.6	60.0	16.21	60.0	16.78	60.0	17.41	60.0	17.73	60.0	18.01	60.0	18.61
	-3.0	-3.7	62.4	16.62	62.4	17.19	62.4	17.79	62.4	18.07	62.4	18.36	62.4	18.93
	0.0	-0.7	66.3	17.19	66.3	17.73	66.3	18.29	66.3	18.58	66.3	18.83	66.3	19.37
	3.0	2.2	70.5	17.69	70.5	18.23	70.5	18.74	70.5	18.99	70.5	19.24	70.5	19.78
	5.0	4.1	72.6	18.01	72.6	18.52	72.6	18.99	72.6	19.24	72.6	19.50	72.6	20.00
	7.0	6.0	75.0	18.31	75.0	18.78	75.0	19.26	75.0	19.51	75.0	19.76	75.0	20.24
	9.0	7.9	77.4	19.01	77.4	19.47	77.4	19.99	77.4	20.21	77.4	20.44	77.4	20.93
	11.0	9.8	80.1	20.32	80.1	20.79	80.1	21.27	80.1	21.54	80.1	21.78	80.1	22.22
	13.0	11.8	82.5	20.99	82.5	21.48	82.5	21.97	82.5	22.21	82.5	22.45	82.5	22.94
	15.0	13.7	84.9	22.93	84.9	23.90	84.9	24.40	84.9	24.66	84.9	24.93	84.9	25.39
19.0	14.2	89.7	26.04	89.7	27.08	89.7	28.95	89.7	29.26	89.7	29.65	89.7	29.92	
21.0	15.0	92.1	27.20	92.1	28.27	92.1	30.12	92.1	30.30	92.1	31.72	92.1	32.00	
120	-14.7	-15.0	47.7	14.53	47.7	15.19	47.7	15.95	47.7	16.30	47.7	16.65	47.7	17.35
	-12.6	-13.0	50.4	15.16	50.4	15.83	50.4	16.46	50.4	16.84	50.4	17.16	50.4	17.82
	-10.5	-11.0	52.8	15.73	52.8	16.36	52.8	17.00	52.8	17.31	52.8	17.63	52.8	18.26
	-9.5	-10.0	54.3	15.98	54.3	16.62	54.3	17.22	54.3	17.54	54.3	17.85	54.3	18.45
	-8.5	-9.1	55.5	16.24	55.5	16.84	55.5	17.41	55.5	17.73	55.5	18.04	55.5	18.64
	-7.0	-7.6	57.3	16.59	57.3	17.16	57.3	17.73	57.3	18.04	57.3	18.33	57.3	18.93
	-5.0	-5.6	60.0	17.03	60.0	17.57	60.0	18.14	60.0	18.42	60.0	18.71	60.0	19.24
	-3.0	-3.7	62.4	17.41	62.4	17.95	62.4	18.48	62.4	18.74	62.4	18.99	62.4	19.53
	0.0	-0.7	66.3	17.95	66.3	18.45	66.3	18.96	66.3	19.21	66.3	19.47	66.3	19.94
	3.0	2.2	70.5	18.39	70.5	18.90	70.5	19.37	70.5	19.59	70.5	19.85	70.5	20.32
	5.0	4.1	72.6	18.67	72.6	19.15	72.6	19.59	72.6	19.85	72.6	20.07	72.6	21.45
	7.0	6.0	75.0	18.94	75.0	19.38	75.0	19.86	75.0	20.08	75.0	20.30	75.0	25.16
	9.0	7.9	77.4	19.66	77.4	20.12	77.4	20.54	77.4	20.76	77.4	20.99	77.4	29.52
	11.0	9.8	80.1	20.96	80.1	21.41	80.1	21.88	79.8	22.09	79.8	22.33	78.3	24.38
	13.0	11.8	82.5	21.65	82.5	22.10	82.5	22.56	82.5	22.76	82.5	22.97	78.3	21.30
	15.0	13.7	84.9	24.05	84.9	24.55	84.9	24.97	84.9	25.23	84.3	25.12	78.3	20.52
19.0	14.2	89.7	27.08	89.7	29.08	89.7	29.43	89.7	29.83	89.1	29.49	78.3	19.02	
21.0	15.0	92.1	28.13	92.1	30.25	92.1	30.53	92.1	30.98	91.5	27.50	78.3	18.31	
110	-14.7	-15.0	47.7	15.57	47.7	16.21	47.7	16.84	47.7	17.19	47.7	17.50	47.7	18.14
	-12.6	-13.0	50.4	16.14	50.4	16.74	50.4	17.38	50.4	17.66	50.4	17.98	50.4	18.58
	-10.5	-11.0	52.8	16.65	52.8	17.25	52.8	17.82	52.8	18.11	52.8	18.36	52.8	18.99
	-9.5	-10.0	54.3	16.90	54.3	17.47	54.3	18.04	54.3	18.33	54.3	18.61	54.3	19.18
	-8.5	-9.1	55.5	17.09	55.5	17.66	55.5	18.23	55.5	18.48	55.5	18.77	55.5	19.31
	-7.0	-7.6	57.3	17.41	57.3	17.98	57.3	18.52	57.3	18.77	57.3	19.05	57.3	19.56
	-5.0	-5.6	60.0	17.82	60.0	18.36	60.0	18.86	60.0	19.12	60.0	19.37	60.0	21.02
	-3.0	-3.7	62.4	18.17	62.4	18.67	62.4	19.15	62.4	19.40	62.4	19.69	62.4	23.55
	0.0	-0.7	66.3	18.67	66.3	19.15	66.3	19.59	66.3	19.85	66.3	21.22	66.3	27.63
	3.0	2.2	70.5	19.12	70.5	19.53	70.5	19.94	70.5	20.19	70.5	23.84	70.5	30.39

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	5.0	4.1	72.6	19.37	72.6	19.78	72.6	21.35	72.6	22.05	72.6	27.75	72.3	27.92
	7.0	6.0	75.0	19.61	75.0	20.02	75.0	21.59	75.0	23.17	75.0	30.34	72.3	22.46
	9.0	7.9	77.4	20.31	77.4	20.70	77.4	23.79	77.4	29.39	76.8	28.09	72.3	21.61
	11.0	9.8	80.1	21.61	79.8	22.05	79.8	27.01	79.8	31.49	76.8	22.63	72.3	19.94
	13.0	11.8	82.5	22.31	82.5	22.73	82.5	29.09	79.8	25.82	76.8	20.86	72.3	18.13
	15.0	13.7	84.9	24.78	84.9	25.20	82.5	24.51	79.8	21.89	76.8	20.15	72.3	17.55
	19.0	14.2	89.7	29.52	89.7	29.79	82.5	24.12	79.8	21.04	76.8	18.95	72.3	16.65
	21.0	15.0	92.1	29.83	92.1	30.94	82.5	21.04	79.8	19.40	76.8	18.18	72.3	16.11
100	-14.7	-15.0	47.7	16.59	47.7	17.19	47.7	17.73	47.7	18.04	47.7	18.36	47.7	18.93
	-12.6	-13.0	50.4	17.12	50.4	17.66	50.4	18.23	50.4	18.52	50.4	18.77	50.4	19.31
	-10.5	-11.0	52.8	17.60	52.8	18.11	52.8	18.64	52.8	18.90	52.8	19.18	52.8	19.69
	-9.5	-10.0	54.3	17.82	54.3	18.33	54.3	18.83	54.3	19.09	54.3	19.31	54.3	19.88
	-8.5	-9.1	55.5	17.98	55.5	18.48	55.5	18.99	55.5	19.24	55.5	19.50	55.5	20.46
	-7.0	-7.6	57.3	18.29	57.3	18.77	57.3	19.28	57.3	19.50	57.3	19.75	57.3	22.78
	-5.0	-5.6	60.0	18.64	60.0	19.12	60.0	19.59	60.0	19.81	60.0	20.50	60.0	26.30
	-3.0	-3.7	62.4	18.96	62.4	19.40	62.4	19.85	62.4	20.10	62.4	21.95	62.4	27.57
	0.0	-0.7	66.3	19.40	66.3	19.85	66.3	20.26	66.3	20.95	66.3	25.08	65.4	25.64
	3.0	2.2	70.5	19.81	70.5	20.19	70.5	20.57	70.5	25.23	70.5	29.65	65.4	21.75
	5.0	4.1	72.6	20.04	72.6	20.42	72.6	20.80	72.6	30.61	70.5	24.47	65.4	19.19
	7.0	6.0	75.0	20.27	75.0	20.59	75.0	21.00	72.6	26.78	70.5	21.82	65.4	18.44
	9.0	7.9	77.4	20.96	77.4	22.03	75.0	20.44	72.6	23.19	70.5	19.33	65.4	17.33
	11.0	9.8	79.8	22.29	79.8	24.95	75.0	19.67	72.6	18.93	70.5	17.95	65.4	16.46
13.0	11.8	82.5	22.97	79.8	22.67	75.0	18.67	72.6	17.98	70.5	17.28	65.4	15.89	
15.0	13.7	84.6	25.26	79.8	20.56	75.0	18.04	72.6	17.35	70.5	16.68	65.4	15.35	
19.0	14.2	89.1	26.43	79.8	18.93	75.0	17.35	72.6	16.97	70.5	16.11	65.4	14.81	
21.0	15.0	91.5	27.17	79.8	18.22	75.0	16.68	72.6	16.40	70.5	15.57	65.4	17.47	
90	-14.7	-15.0	47.7	17.63	47.7	18.14	47.7	18.67	47.7	18.93	47.7	19.21	47.7	19.72
	-12.6	-13.0	50.4	18.11	50.4	18.58	50.4	19.09	50.4	19.31	50.4	19.59	50.4	20.10
	-10.5	-11.0	52.8	18.52	52.8	18.99	52.8	19.47	52.8	19.69	52.8	19.94	52.8	20.88
	-9.5	-10.0	54.3	18.67	54.3	19.18	54.3	19.62	54.3	19.88	54.3	20.10	54.3	23.17
	-8.5	-9.1	55.5	18.86	55.5	19.31	55.5	19.78	55.5	20.46	55.5	20.69	55.5	26.54
	-7.0	-7.6	57.3	19.15	57.3	19.59	57.3	20.00	57.3	21.62	57.3	23.02	57.3	30.48
	-5.0	-5.6	60.0	19.47	60.0	19.88	60.0	20.32	60.0	23.33	60.0	26.58	58.8	23.17
	-3.0	-3.7	62.4	19.75	62.4	20.16	62.4	21.72	62.4	27.57	62.4	30.57	58.8	20.31
	0.0	-0.7	66.3	20.16	66.3	21.48	66.3	24.15	65.4	24.65	63.3	22.32	58.8	18.45
	3.0	2.2	70.5	20.51	70.5	26.74	67.5	21.22	65.4	21.75	63.3	19.23	58.8	17.29
	5.0	4.1	72.6	20.70	71.7	23.38	67.5	20.35	65.4	19.19	63.3	18.44	58.8	16.36
	7.0	6.0	75.0	26.78	71.7	21.97	67.5	18.74	65.4	17.79	63.3	17.09	58.8	15.73
	9.0	7.9	76.5	24.54	71.7	19.85	67.5	17.79	65.4	17.09	63.3	16.46	58.8	15.16
	11.0	9.8	76.5	22.28	71.7	18.67	67.5	17.09	65.4	16.46	63.3	15.83	58.8	14.62
	13.0	11.8	76.5	20.12	71.7	17.73	67.5	16.46	65.4	15.89	63.3	15.29	58.8	14.08
	15.0	13.7	76.5	18.78	71.7	17.09	67.5	15.95	65.4	15.35	63.3	14.78	58.8	13.61
19.0	14.2	76.5	17.96	71.7	16.46	67.5	15.16	65.4	14.72	63.3	14.31	58.8	13.13	
21.0	15.0	76.5	17.19	71.7	15.83	67.5	14.21	65.4	14.02	63.3	13.93	58.8	12.66	
80	-14.7	-15.0	47.7	18.64	47.7	19.12	47.7	19.59	47.7	19.81	47.7	20.07	47.7	23.95
	-12.6	-13.0	50.4	19.05	50.4	19.50	50.4	19.94	50.4	20.16	50.4	20.85	50.4	29.48

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	52.8	19.43	52.8	19.88	52.8	20.29	52.8	20.98	52.8	23.31	52.5	25.20
	-9.5	-10.0	54.3	19.62	54.3	20.04	54.3	20.45	54.3	22.05	54.3	26.74	52.5	21.78
	-8.5	-9.1	55.5	19.75	55.5	20.16	55.5	20.57	55.5	23.62	55.5	30.61	52.5	20.98
	-7.0	-7.6	57.3	20.00	57.3	20.38	57.3	21.95	57.3	27.86	56.1	24.93	52.5	19.12
	-5.0	-5.6	60.0	20.26	60.0	22.33	60.0	24.30	58.5	24.20	56.1	21.93	52.5	18.13
	-3.0	-3.7	62.4	21.72	62.4	26.78	60.0	21.22	58.5	20.87	56.1	18.77	52.5	17.03
	0.0	-0.7	66.3	26.78	63.9	22.63	60.0	18.90	58.5	18.61	56.1	17.49	52.5	15.83
	3.0	2.2	67.8	24.09	63.9	19.92	60.0	17.65	58.5	16.78	56.1	16.14	52.5	14.88
	5.0	4.1	67.8	20.90	63.9	18.67	60.0	16.74	58.5	16.14	56.1	15.51	52.5	14.31
	7.0	6.0	67.8	19.65	63.9	17.51	60.0	16.11	58.5	15.51	56.1	14.91	52.5	13.77
	9.0	7.9	67.8	18.26	63.9	16.68	60.0	15.51	58.5	14.94	56.1	14.37	52.5	13.26
	11.0	9.8	67.8	17.39	63.9	16.08	60.0	14.94	58.5	14.40	56.1	13.86	52.5	12.82
	13.0	11.8	67.8	16.55	63.9	15.48	60.0	14.40	58.5	13.89	56.1	13.36	52.5	12.34
	15.0	13.7	67.8	15.98	63.9	14.94	60.0	13.93	58.5	13.42	56.1	12.94	52.5	11.96
19.0	14.2	67.8	15.41	63.9	14.37	60.0	13.45	58.5	12.94	56.1	12.50	52.5	11.58	
21.0	15.0	67.8	14.84	63.9	13.51	60.0	12.98	58.5	12.44	56.1	12.41	52.5	11.20	
70	-14.7	-15.0	47.7	19.69	47.7	20.10	47.7	20.51	47.7	24.73	47.7	29.52	45.9	21.19
	-12.6	-13.0	50.4	20.04	50.4	20.42	50.4	22.02	50.4	27.90	49.5	26.26	45.9	19.88
	-10.5	-11.0	52.8	20.35	52.8	20.97	52.5	24.12	50.7	23.98	49.5	21.71	45.9	18.75
	-9.5	-10.0	54.3	20.51	54.3	23.04	52.5	21.42	50.7	21.11	49.5	20.22	45.9	17.45
	-8.5	-9.1	55.5	21.82	55.5	26.94	52.5	20.02	50.7	19.69	49.5	18.65	45.9	16.78
	-7.0	-7.6	57.3	26.74	55.8	24.39	52.5	19.19	50.7	18.23	49.5	17.50	45.9	19.28
	-5.0	-5.6	59.1	24.80	55.8	20.46	52.5	17.95	50.7	17.28	49.5	16.62	45.9	15.32
	-3.0	-3.7	59.1	21.38	55.8	19.10	52.5	17.12	50.7	16.49	49.5	15.83	45.9	14.56
	0.0	-0.7	59.1	19.45	55.8	17.35	52.5	15.95	50.7	15.35	49.5	14.78	45.9	13.61
	3.0	2.2	59.1	17.58	55.8	16.05	52.5	14.94	50.7	14.40	49.5	13.86	45.9	12.82
	5.0	4.1	59.1	16.71	55.8	15.41	52.5	14.37	50.7	13.83	49.5	13.29	45.9	12.31
	7.0	6.0	59.1	15.83	55.8	14.84	52.5	13.83	50.7	13.29	49.5	12.85	45.9	11.87
	9.0	7.9	59.1	15.29	55.8	14.31	52.5	13.29	50.7	12.85	49.5	12.34	45.9	11.46
	11.0	9.8	59.1	14.75	55.8	13.80	52.5	12.85	50.7	12.41	49.5	11.96	45.9	11.04
13.0	11.8	59.1	14.21	55.8	13.29	52.5	12.41	50.7	11.96	49.5	11.52	45.9	10.66	
15.0	13.7	59.1	13.74	55.8	12.85	52.5	11.99	50.7	11.58	49.5	11.17	45.9	10.35	
19.0	14.2	59.1	13.26	55.8	12.44	52.5	11.58	50.7	11.20	49.5	10.82	45.9	10.03	
21.0	15.0	59.1	12.79	55.8	11.77	52.5	11.17	50.7	10.82	49.5	10.51	45.9	9.71	
60	-14.7	-15.0	47.7	21.89	47.7	26.98	45.0	19.89	43.5	19.15	42.0	18.42	39.3	16.71
	-12.6	-13.0	50.4	26.94	48.0	22.39	45.0	18.70	43.5	17.97	42.0	17.29	39.3	15.70
	-10.5	-11.0	50.7	23.98	48.0	19.82	45.0	17.61	43.5	16.94	42.0	16.08	39.3	14.81
	-9.5	-10.0	50.7	21.07	48.0	19.25	45.0	17.10	43.5	16.46	42.0	15.64	39.3	14.40
	-8.5	-9.1	50.7	20.12	48.0	18.10	45.0	16.46	43.5	15.83	42.0	15.26	39.3	14.05
	-7.0	-7.6	50.7	18.62	48.0	17.39	45.0	15.79	43.5	15.19	42.0	14.65	39.3	13.51
	-5.0	-5.6	50.7	17.48	48.0	16.33	45.0	15.00	43.5	14.46	42.0	13.93	39.3	12.85
	-3.0	-3.7	50.7	16.46	48.0	15.38	45.0	14.34	43.5	13.80	42.0	13.29	39.3	12.28
	0.0	-0.7	50.7	15.35	48.0	14.34	45.0	13.39	43.5	12.91	42.0	12.44	39.3	11.49
	3.0	2.2	50.7	14.40	48.0	13.48	45.0	12.56	43.5	12.12	42.0	11.68	39.3	10.82
	5.0	4.1	50.7	13.83	48.0	12.94	45.0	12.09	43.5	11.68	42.0	11.23	39.3	10.41
7.0	6.0	50.7	13.32	48.0	12.47	45.0	11.65	43.5	11.23	42.0	10.85	39.3	10.03	

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	50.7	12.85	48.0	12.03	45.0	11.23	43.5	10.85	42.0	10.44	39.3	9.71
	11.0	9.8	50.7	12.41	48.0	11.61	45.0	10.85	43.5	10.44	42.0	10.13	39.3	9.40
	13.0	11.8	50.7	11.96	48.0	11.20	45.0	10.44	43.5	10.13	42.0	9.78	39.3	9.08
	15.0	13.7	50.7	11.58	48.0	10.85	45.0	10.13	43.5	9.81	42.0	9.46	39.3	8.80
	19.0	14.2	50.7	11.20	48.0	10.51	45.0	9.81	43.5	9.49	42.0	9.14	39.3	8.48
	21.0	15.0	50.7	10.82	48.0	10.13	45.0	9.49	43.5	9.18	42.0	8.83	39.3	8.20
50	-14.7	-15.0	42.3	18.47	39.9	17.26	37.5	15.83	36.3	15.29	35.1	14.69	32.7	13.55
	-12.6	-13.0	42.3	17.35	39.9	16.20	37.5	14.88	36.3	14.37	35.1	13.83	32.7	12.79
	-10.5	-11.0	42.3	16.14	39.9	15.10	37.5	14.08	36.3	13.58	35.1	13.07	32.7	12.09
	-9.5	-10.0	42.3	15.73	39.9	14.69	37.5	13.70	36.3	13.20	35.1	12.72	32.7	11.77
	-8.5	-9.1	42.3	15.32	39.9	14.34	37.5	13.36	36.3	12.88	35.1	12.41	32.7	11.49
	-7.0	-7.6	42.3	14.72	39.9	13.80	37.5	12.85	36.3	12.41	35.1	11.96	32.7	11.04
	-5.0	-5.6	42.3	13.99	39.9	13.10	37.5	12.25	36.3	11.80	35.1	11.39	32.7	10.54
	-3.0	-3.7	42.3	13.39	39.9	12.53	37.5	11.71	36.3	11.30	35.1	10.89	32.7	10.09
	0.0	-0.7	42.3	12.50	39.9	11.71	37.5	10.95	36.3	10.57	35.1	10.19	32.7	9.46
	3.0	2.2	42.3	11.74	39.9	11.01	37.5	10.25	36.3	9.97	35.1	9.62	32.7	8.92
	5.0	4.1	42.3	11.30	39.9	10.60	37.5	9.94	36.3	9.59	35.1	9.27	32.7	8.61
	7.0	6.0	42.3	10.89	39.9	10.22	37.5	9.59	36.3	9.27	35.1	8.95	32.7	8.32
	9.0	7.9	42.3	10.51	39.9	9.87	37.5	9.27	36.3	8.95	35.1	8.64	32.7	8.04
	11.0	9.8	42.3	16.46	39.9	9.56	37.5	8.95	36.3	8.67	35.1	8.35	32.7	7.78
	13.0	11.8	42.3	9.81	39.9	9.24	37.5	8.67	36.3	8.39	35.1	8.10	32.7	7.53
	15.0	13.7	42.3	9.49	39.9	8.95	37.5	8.39	36.3	8.13	35.1	7.85	32.7	7.28
	19.0	14.2	42.3	9.18	39.9	8.67	37.5	8.10	36.3	7.82	35.1	7.59	32.7	7.02
21.0	15.0	42.3	8.86	39.9	8.39	37.5	7.85	36.3	7.56	35.1	7.34	32.7	6.77	

G. AV26NMTAHA 50HZ

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	51.9	15.22	51.9	16.05	51.9	16.93	51.8	17.36	51.8	17.78	51.8	18.63
	-12.6	-13.0	54.7	15.98	54.7	16.77	54.7	17.60	54.7	17.99	54.7	18.42	54.7	19.22
	-10.5	-11.0	57.4	16.68	57.4	17.43	57.4	18.19	57.4	18.59	57.4	18.98	57.4	19.72
	-9.5	-10.0	59.0	17.00	59.0	17.74	59.0	18.49	59.0	18.86	59.0	19.24	59.0	19.95
	-8.5	-9.1	60.3	17.28	60.3	18.00	60.3	18.73	60.3	19.09	60.3	19.49	60.3	20.19
	-7.0	-7.6	62.4	17.70	62.4	18.42	62.4	19.12	62.4	19.47	62.4	19.83	62.4	20.54
	-5.0	-5.6	65.2	18.24	65.2	18.89	65.2	19.58	65.2	19.93	65.2	20.25	65.2	20.94
	-3.0	-3.7	67.8	18.70	67.8	19.34	67.8	20.00	67.8	20.32	67.8	20.64	67.8	21.27
	0.0	-0.7	72.1	19.34	72.1	19.95	72.1	20.58	72.1	20.89	72.1	21.18	72.1	21.78
	3.0	2.2	76.3	19.91	76.3	20.52	76.3	21.08	76.3	21.36	76.3	21.64	76.3	22.24
	5.0	4.1	78.9	20.26	78.9	20.82	78.9	21.36	78.9	21.64	78.9	21.93	78.9	22.49
	7.0	6.0	81.5	20.58	81.5	21.12	81.5	21.66	81.5	21.94	81.5	22.21	81.5	22.75
	9.0	7.9	84.2	21.29	84.1	21.80	84.1	22.36	84.1	22.62	84.1	22.87	84.1	23.41
	11.0	9.8	87.0	22.57	87.0	23.10	87.0	23.63	87.0	23.91	87.0	24.18	87.0	24.70
	13.0	11.8	89.7	23.20	89.7	23.73	89.7	24.27	89.7	24.53	89.7	24.80	89.7	25.33
	15.0	13.7	92.3	25.86	92.3	26.43	92.3	26.99	92.3	27.27	92.3	27.56	92.3	28.09
19.0	14.2	97.4	29.83	97.4	30.28	97.4	30.95	97.4	31.23	97.4	31.62	97.4	31.99	
21.0	15.0	100.6	31.85	100.6	32.28	100.6	32.96	100.6	33.14	100.6	33.58	100.6	34.00	
120	-14.7	-15.0	51.9	16.37	51.8	17.11	51.8	17.96	51.8	18.34	51.8	18.73	51.8	19.52
	-12.6	-13.0	54.7	17.07	54.7	17.82	54.7	18.54	54.7	18.94	54.7	19.31	54.7	20.05
	-10.5	-11.0	57.4	17.71	57.4	18.42	57.4	19.13	57.4	19.48	57.4	19.84	57.4	20.54
	-9.5	-10.0	59.0	18.00	59.0	18.70	59.0	19.38	59.0	19.73	59.0	20.08	59.0	20.75
	-8.5	-9.1	60.3	18.27	60.3	18.94	60.3	19.59	60.3	19.94	60.3	20.29	60.3	20.97
	-7.0	-7.6	62.4	18.66	62.4	19.31	62.4	19.95	62.4	20.30	62.4	20.61	62.4	21.27
	-5.0	-5.6	65.2	19.15	65.2	19.76	65.2	20.40	65.2	20.72	65.2	21.02	65.2	21.64
	-3.0	-3.7	67.8	19.58	67.8	20.18	67.8	20.77	67.8	21.08	67.8	21.36	67.8	21.97
	0.0	-0.7	72.1	20.18	72.1	20.75	72.1	21.32	72.1	21.60	72.1	21.88	72.1	22.43
	3.0	2.2	76.3	20.68	76.3	21.24	76.3	21.78	76.3	22.03	76.3	22.30	76.3	22.83
	5.0	4.1	78.9	21.00	78.9	21.53	78.9	22.03	78.9	22.30	78.9	22.56	78.9	23.06
	7.0	6.0	81.5	21.31	81.5	21.79	81.5	22.32	81.5	22.57	81.5	22.81	81.5	26.30
	9.0	7.9	84.1	22.01	84.1	22.50	84.1	22.98	84.1	23.24	84.1	23.30	84.1	30.02
	11.0	9.8	87.0	23.12	87.0	23.60	87.0	24.11	86.8	24.35	86.8	24.96	85.1	26.18
	13.0	11.8	89.7	23.91	89.7	24.41	89.7	24.89	89.7	25.14	89.7	27.58	85.1	23.48
	15.0	13.7	92.3	26.62	92.3	27.16	92.3	27.63	92.3	27.92	91.9	28.78	85.1	22.46
19.0	14.2	97.4	30.50	97.4	31.09	97.4	31.40	97.4	31.88	97.0	31.57	85.1	21.42	
21.0	15.0	100.6	32.47	100.6	33.09	100.6	33.35	100.6	33.86	100.2	29.00	85.1	20.68	
110	-14.7	-15.0	51.8	17.52	51.8	18.24	51.8	18.95	51.8	19.33	51.8	19.69	51.8	20.40
	-12.6	-13.0	54.7	18.17	54.7	18.85	54.7	19.54	54.7	19.87	54.7	20.22	54.7	20.90
	-10.5	-11.0	57.4	18.74	57.4	19.40	57.4	20.05	57.4	20.37	57.4	20.67	57.4	21.35
	-9.5	-10.0	59.0	19.02	59.0	19.66	59.0	20.29	59.0	20.61	59.0	20.93	59.0	21.55
	-8.5	-9.1	60.3	19.24	60.3	19.87	60.3	20.50	60.3	20.79	60.3	21.11	60.3	21.72
	-7.0	-7.6	62.4	19.59	62.4	20.21	62.4	20.82	62.4	21.11	62.4	21.42	62.4	22.00
	-5.0	-5.6	65.2	20.06	65.2	20.64	65.2	21.21	65.2	21.50	65.2	21.78	65.2	23.49
	-3.0	-3.7	67.8	20.44	67.8	21.00	67.8	21.54	67.8	21.82	67.8	22.13	67.8	25.58
	0.0	-0.7	72.1	21.00	72.0	21.53	72.0	22.03	72.0	22.30	72.0	23.71	72.0	28.75
	3.0	2.2	76.3	21.50	76.3	21.96	76.3	22.43	76.3	22.70	76.3	25.90	76.3	30.29

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
110	5.0	4.1	78.9	21.78	78.9	22.24	78.9	23.86	78.9	24.12	78.9	28.88	78.4	29.26
	7.0	6.0	81.5	22.04	81.5	22.50	81.5	24.12	81.5	24.32	81.5	30.07	78.4	23.56
	9.0	7.9	84.1	22.72	84.1	23.16	84.1	26.30	84.1	29.12	83.5	29.44	78.4	22.67
	11.0	9.8	87.0	23.83	86.8	24.30	86.8	31.38	86.7	30.23	83.5	23.75	78.4	21.81
	13.0	11.8	89.7	24.64	89.7	25.09	89.7	32.55	86.7	25.55	83.5	22.84	78.4	19.95
	15.0	13.7	92.3	26.65	92.3	27.10	89.7	25.82	86.7	22.97	83.5	22.04	78.4	19.30
	19.0	14.2	97.4	31.43	97.4	31.91	89.7	22.65	86.7	21.80	83.5	20.89	78.4	18.42
	21.0	15.0	100.6	32.52	100.6	33.87	89.7	21.60	86.7	20.80	83.5	19.90	78.4	17.65
100	-14.7	-15.0	51.8	18.67	51.8	19.33	51.8	19.95	51.8	20.30	51.8	20.64	51.8	21.29
	-12.6	-13.0	54.7	19.27	54.7	19.88	54.7	20.50	54.7	20.82	54.7	21.12	54.7	21.73
	-10.5	-11.0	57.4	19.79	57.4	20.37	57.4	20.97	57.4	21.25	57.4	21.55	57.4	22.14
	-9.5	-10.0	59.0	20.04	59.0	20.61	59.0	21.18	59.0	21.46	59.0	21.73	59.0	22.35
	-8.5	-9.1	60.3	20.22	60.3	20.79	60.3	21.36	60.3	21.64	60.3	21.93	60.3	22.49
	-7.0	-7.6	62.4	20.57	62.4	21.11	62.4	21.66	62.4	21.93	62.4	22.20	62.4	23.91
	-5.0	-5.6	65.2	20.97	65.2	21.50	65.2	22.02	65.2	22.27	65.2	22.53	65.2	26.03
	-3.0	-3.7	67.8	21.33	67.8	21.82	67.8	22.30	67.8	22.58	67.8	23.99	67.8	26.53
	0.0	-0.7	72.0	21.82	72.0	22.30	72.0	22.76	72.0	23.02	72.0	26.23	71.1	24.60
	3.0	2.2	76.3	22.27	76.3	22.70	76.3	23.13	76.3	26.39	76.3	29.57	71.1	22.83
	5.0	4.1	78.9	22.53	78.9	22.95	78.9	23.38	78.9	29.38	76.5	25.60	71.1	21.09
	7.0	6.0	81.5	22.78	81.5	23.16	81.5	23.60	78.9	25.60	76.5	22.89	71.1	20.26
	9.0	7.9	84.1	23.45	84.1	25.95	81.5	22.95	78.9	22.92	76.5	21.21	71.1	19.48
	11.0	9.8	86.8	24.57	86.7	27.01	81.5	22.08	78.9	21.26	76.5	20.18	71.1	18.54
	13.0	11.8	89.7	25.37	86.7	24.53	81.5	21.00	78.9	20.22	76.5	19.44	71.1	17.89
	15.0	13.7	91.9	27.20	86.7	22.80	81.5	20.29	78.9	19.52	76.5	18.77	71.1	17.29
19.0	14.2	96.6	28.69	86.7	21.62	81.5	19.36	78.9	19.06	76.5	18.29	71.1	16.69	
21.0	15.0	100.0	28.68	86.7	20.18	81.5	18.71	78.9	18.47	76.5	17.81	71.1	18.24	
90	-14.7	-15.0	51.8	19.83	51.8	20.40	51.8	21.00	51.8	21.29	51.8	21.60	51.8	22.18
	-12.6	-13.0	54.7	20.36	54.7	20.90	54.7	21.46	54.7	21.73	54.7	22.03	54.7	22.59
	-10.5	-11.0	57.4	20.82	57.4	21.05	57.4	21.88	57.4	22.14	57.4	22.42	57.4	22.95
	-9.5	-10.0	59.0	21.02	59.0	21.57	59.0	22.07	59.0	22.35	59.0	22.60	59.0	24.30
	-8.5	-9.1	60.3	21.22	60.3	21.72	60.3	22.24	60.3	22.49	60.3	22.75	60.3	26.26
	-7.0	-7.6	62.4	21.53	62.4	22.02	62.4	22.49	62.4	22.75	62.4	24.16	62.3	29.44
	-5.0	-5.6	65.2	21.88	65.2	22.36	65.2	22.83	65.2	23.06	65.2	26.30	63.8	24.30
	-3.0	-3.7	67.8	22.21	67.8	22.66	67.8	24.26	67.8	26.34	67.8	29.53	63.8	22.30
	0.0	-0.7	72.0	22.66	72.0	23.08	72.0	26.51	70.9	24.38	68.7	23.42	63.8	20.72
	3.0	2.2	76.3	23.05	76.3	28.76	73.3	23.71	70.9	22.82	68.7	21.11	63.8	19.43
	5.0	4.1	78.9	23.27	78.1	26.81	73.3	22.75	70.9	21.08	68.7	20.26	63.8	18.42
	7.0	6.0	81.5	28.81	78.1	24.27	73.3	21.04	70.9	20.01	68.7	19.24	63.8	17.71
	9.0	7.9	83.0	25.01	78.1	21.96	73.3	20.01	70.9	19.25	68.7	18.52	63.8	17.07
	11.0	9.8	83.0	24.11	78.1	20.75	73.3	19.26	70.9	18.54	68.7	17.83	63.8	16.47
	13.0	11.8	83.0	21.80	78.1	19.95	73.3	18.54	70.9	17.88	68.7	17.21	63.8	15.87
	15.0	13.7	83.0	20.66	78.1	19.26	73.3	17.96	70.9	17.28	68.7	16.63	63.8	15.35
19.0	14.2	83.0	19.93	78.1	18.54	73.3	17.20	70.9	16.65	68.7	16.11	63.8	14.82	
21.0	15.0	83.0	19.12	78.1	17.83	73.3	16.32	70.9	16.00	68.7	15.70	63.8	14.32	
80	-14.7	-15.0	51.8	20.97	51.8	21.50	51.8	22.02	51.8	22.28	51.8	22.56	51.8	26.03
	-12.6	-13.0	54.7	21.43	54.7	21.93	54.7	22.42	54.7	22.67	54.7	22.92	54.7	29.39

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	-10.5	-11.0	57.4	21.85	57.4	22.34	57.4	22.81	57.4	23.05	57.4	24.46	57.0	26.53
	-9.5	-10.0	59.0	22.05	59.0	22.53	59.0	22.98	59.0	23.20	59.0	26.46	57.0	23.83
	-8.5	-9.1	60.3	22.21	60.3	22.67	60.3	23.12	60.3	23.34	60.3	29.56	57.0	23.20
	-7.0	-7.6	62.4	22.67	62.4	23.10	62.3	24.52	62.3	26.61	61.0	26.06	57.0	21.47
	-5.0	-5.6	65.2	23.53	65.2	25.17	65.2	26.67	63.3	23.94	61.0	23.00	57.0	20.36
	-3.0	-3.7	67.8	25.03	67.8	28.81	65.2	23.71	63.3	21.95	61.0	21.09	57.0	19.16
	0.0	-0.7	72.0	28.81	69.4	24.48	65.2	21.22	63.3	20.43	61.0	19.64	57.0	17.84
	3.0	2.2	73.5	24.56	69.4	22.09	65.2	19.84	63.3	18.89	61.0	18.17	57.0	16.76
	5.0	4.1	73.5	22.69	69.4	20.68	65.2	18.85	63.3	18.17	61.0	17.46	57.0	16.11
	7.0	6.0	73.5	21.29	69.4	19.64	65.2	18.13	63.3	17.46	61.0	16.80	57.0	15.52
	9.0	7.9	73.5	20.09	69.4	18.76	65.2	17.46	63.3	16.82	61.0	16.19	57.0	14.95
	11.0	9.8	73.5	19.34	69.4	18.09	65.2	16.83	63.3	16.22	61.0	15.62	57.0	14.45
	13.0	11.8	73.5	18.64	69.4	17.43	65.2	16.23	63.3	15.65	61.0	15.07	57.0	13.93
	15.0	13.7	73.5	18.00	69.4	16.83	65.2	15.70	63.3	15.13	61.0	14.59	57.0	13.49
19.0	14.2	73.5	17.38	69.4	16.29	65.2	15.17	63.3	14.62	61.0	14.12	57.0	13.07	
21.0	15.0	73.5	16.78	69.4	15.58	65.2	14.66	63.3	14.12	61.0	13.90	57.0	12.67	
70	-14.7	-15.0	51.8	22.13	51.8	22.58	51.8	23.05	51.8	24.46	51.8	29.45	49.8	23.87
	-12.6	-13.0	54.7	22.53	54.7	22.96	54.7	24.60	54.7	26.65	53.6	25.99	49.8	22.23
	-10.5	-11.0	57.4	22.88	57.4	23.30	57.1	26.47	55.1	23.71	53.6	22.78	49.8	20.95
	-9.5	-10.0	59.0	23.82	59.0	25.43	57.1	23.94	55.1	22.18	53.6	21.28	49.8	19.61
	-8.5	-9.1	60.3	25.14	60.3	28.97	57.1	22.47	55.1	21.62	53.6	20.51	49.8	18.88
	-7.0	-7.6	62.3	28.76	60.7	24.87	57.1	21.55	55.1	20.50	53.6	19.70	49.8	20.24
	-5.0	-5.6	64.3	25.29	60.7	22.70	57.1	20.19	55.1	19.45	53.6	18.69	49.8	17.24
	-3.0	-3.7	64.3	23.21	60.7	21.14	57.1	19.27	55.1	18.55	53.6	17.83	49.8	16.42
	0.0	-0.7	64.3	21.07	60.7	19.30	57.1	17.96	55.1	17.28	53.6	16.63	49.8	15.35
	3.0	2.2	64.3	19.34	60.7	18.07	57.1	16.83	55.1	16.22	53.6	15.62	49.8	14.45
	5.0	4.1	64.3	18.59	60.7	17.37	57.1	16.19	55.1	15.58	53.6	15.00	49.8	13.89
	7.0	6.0	64.3	17.84	60.7	16.72	57.1	15.58	55.1	15.00	53.6	14.48	49.8	13.39
	9.0	7.9	64.3	17.21	60.7	16.12	57.1	15.00	55.1	14.49	53.6	13.94	49.8	12.91
	11.0	9.8	64.3	16.61	60.7	15.55	57.1	14.50	55.1	13.99	53.6	13.49	49.8	12.47
13.0	11.8	64.3	16.01	60.7	14.98	57.1	13.99	55.1	13.50	53.6	13.00	49.8	12.05	
15.0	13.7	64.3	15.48	60.7	14.50	57.1	13.54	55.1	13.07	53.6	12.61	49.8	11.69	
19.0	14.2	64.3	14.96	60.7	14.06	57.1	13.11	55.1	12.66	53.6	12.24	49.8	11.36	
21.0	15.0	64.3	14.47	60.7	13.47	57.1	12.70	55.1	12.27	53.6	11.89	49.8	11.04	
60	-14.7	-15.0	51.8	25.22	51.8	29.03	48.9	22.34	47.3	21.51	45.7	20.68	42.7	18.81
	-12.6	-13.0	54.7	28.97	52.1	24.21	48.9	21.00	47.3	20.19	45.7	19.43	42.7	17.66
	-10.5	-11.0	55.1	24.45	52.1	21.97	48.9	19.79	47.3	19.03	45.7	18.10	42.7	16.68
	-9.5	-10.0	55.1	22.88	52.1	20.85	48.9	19.22	47.3	18.50	45.7	17.60	42.7	16.22
	-8.5	-9.1	55.1	21.78	52.1	19.91	48.9	18.52	47.3	17.83	45.7	17.18	42.7	15.83
	-7.0	-7.6	55.1	20.48	52.1	19.12	48.9	17.79	47.3	17.13	45.7	16.51	42.7	15.23
	-5.0	-5.6	55.1	19.44	52.1	18.17	48.9	16.90	47.3	16.30	45.7	15.70	42.7	14.49
	-3.0	-3.7	55.1	18.53	52.1	17.32	48.9	16.15	47.3	15.56	45.7	14.99	42.7	13.86
	0.0	-0.7	55.1	17.28	52.1	16.16	48.9	15.08	47.3	14.55	45.7	14.03	42.7	12.96
	3.0	2.2	55.1	16.22	52.1	15.19	48.9	14.17	47.3	13.68	45.7	13.19	42.7	12.22
	5.0	4.1	55.1	15.58	52.1	14.60	48.9	13.64	47.3	13.17	45.7	12.69	42.7	11.77
7.0	6.0	55.1	15.01	52.1	14.07	48.9	13.14	47.3	12.69	45.7	12.25	42.7	11.35	

capacity factor %	outdoor temp.		indoor temp.(i DB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	(i DB)	(i WB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	9.0	7.9	55.1	14.49	52.1	13.57	48.9	12.69	47.3	12.26	45.7	11.81	42.7	10.98
	11.0	9.8	55.1	13.98	52.1	13.11	48.9	12.26	47.3	11.82	45.7	11.44	42.7	10.62
	13.0	11.8	55.1	13.50	52.1	12.66	48.9	11.82	47.3	11.44	45.7	11.05	42.7	10.28
	15.0	13.7	55.1	13.07	52.1	12.26	48.9	11.46	47.3	11.09	45.7	10.71	42.7	9.96
	19.0	14.2	55.1	12.66	52.1	11.88	48.9	11.13	47.3	10.77	45.7	10.27	42.7	9.63
	21.0	15.0	55.1	12.27	52.1	11.49	48.9	10.81	47.3	10.46	45.7	9.97	42.7	9.32
50	-14.7	-15.0	46.0	21.22	43.4	19.83	40.8	17.83	39.4	17.21	38.1	16.55	35.5	15.28
	-12.6	-13.0	46.0	19.94	43.4	18.63	40.8	16.77	39.4	16.19	38.1	15.58	35.5	14.41
	-10.5	-11.0	46.0	18.34	43.4	17.15	40.8	15.86	39.4	15.30	38.1	14.74	35.5	13.64
	-9.5	-10.0	46.0	17.70	43.4	16.55	40.8	15.44	39.4	14.88	38.1	14.34	35.5	13.27
	-8.5	-9.1	46.0	17.25	43.4	16.16	40.8	15.06	39.4	14.53	38.1	13.99	35.5	12.96
	-7.0	-7.6	46.0	16.59	43.4	15.55	40.8	14.49	39.4	13.99	38.1	13.49	35.5	12.47
	-5.0	-5.6	46.0	15.77	43.4	14.77	40.8	13.82	39.4	13.32	38.1	12.85	35.5	11.90
	-3.0	-3.7	46.0	15.08	43.4	14.13	40.8	13.21	39.4	12.75	38.1	12.29	35.5	11.41
	0.0	-0.7	46.0	14.10	43.4	13.22	40.8	12.37	39.4	11.94	38.1	11.51	35.5	10.69
	3.0	2.2	46.0	13.25	43.4	12.44	40.8	11.65	39.4	11.26	38.1	10.87	35.5	10.10
	5.0	4.1	46.0	12.74	43.4	11.98	40.8	11.23	39.4	10.84	38.1	10.49	35.5	9.74
	7.0	6.0	46.0	12.30	43.4	11.56	40.8	10.84	39.4	10.49	38.1	10.13	35.5	9.42
	9.0	7.9	46.0	11.87	43.4	11.17	40.8	10.49	39.4	10.13	38.1	9.78	35.5	9.11
	11.0	9.8	46.0	11.79	43.4	10.81	40.8	10.14	39.4	9.81	38.1	9.47	35.5	8.83
	13.0	11.8	46.0	11.09	43.4	10.45	40.8	9.81	39.4	9.50	38.1	9.17	35.5	8.54
	15.0	13.7	46.0	10.75	43.4	10.14	40.8	9.51	39.4	9.21	38.1	8.90	35.5	8.28
19.0	14.2	46.0	10.41	43.4	9.83	40.8	9.22	39.4	8.90	38.1	8.63	35.5	8.02	
21.0	15.0	46.0	10.08	43.4	9.53	40.8	8.96	39.4	8.64	38.1	8.31	35.5	7.76	

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capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	56.1	16.54	56.1	17.45	56.1	18.38	55.9	18.86	55.9	19.31	55.9	20.23
	-12.6	-13.0	59.0	17.37	59.0	18.23	59.0	19.11	59.0	19.53	59.0	20.00	59.0	20.85
	-10.5	-11.0	62.0	18.13	62.0	18.94	62.0	19.77	62.0	20.18	62.0	20.62	62.0	21.41
	-9.5	-10.0	63.7	18.47	63.7	19.28	63.7	20.08	63.7	20.46	63.7	20.89	63.7	21.67
	-8.5	-9.1	65.1	18.77	65.1	19.55	65.1	20.34	65.1	20.73	65.1	21.17	65.1	21.93
	-7.0	-7.6	67.5	19.22	67.5	20.00	67.5	20.76	67.5	21.13	67.5	21.52	67.5	22.30
	-5.0	-5.6	70.4	19.81	70.4	20.52	70.4	21.26	70.4	21.63	70.4	21.97	70.4	22.74
	-3.0	-3.7	73.2	20.31	73.2	21.01	73.2	21.71	73.2	22.05	73.2	22.41	73.2	23.08
	0.0	-0.7	77.9	21.01	77.9	21.67	77.9	22.35	77.9	22.66	77.9	22.99	77.9	23.64
	3.0	2.2	82.1	21.62	82.1	22.29	82.1	22.88	82.1	23.19	82.1	23.49	82.1	24.14
	5.0	4.1	85.2	21.99	85.2	22.60	85.2	23.19	85.2	23.49	85.2	23.80	85.2	24.42
	7.0	6.0	88.0	22.33	88.0	22.92	88.0	23.50	88.0	23.81	88.0	24.09	88.0	24.68
	9.0	7.9	91.0	23.00	90.8	23.56	90.8	24.14	90.8	24.42	90.8	24.70	90.8	25.27
	11.0	9.8	93.9	23.73	93.9	24.30	93.9	24.85	93.9	25.13	93.9	25.41	93.9	25.99
	13.0	11.8	96.9	24.48	96.9	25.04	96.9	25.60	96.9	25.87	96.9	26.16	96.9	26.72
	15.0	13.7	99.7	26.75	99.7	27.33	99.7	27.92	99.7	28.19	99.7	28.48	99.7	29.06
19.0	14.2	105.1	30.04	105.1	30.32	105.1	31.12	105.1	31.37	105.1	31.74	105.1	32.18	
21.0	15.0	109.1	32.17	109.1	32.38	109.1	33.21	109.1	33.38	109.1	33.78	109.1	34.30	
120	-14.7	-15.0	56.1	17.79	55.9	18.60	55.9	19.50	55.9	19.92	55.9	20.34	55.9	21.20
	-12.6	-13.0	59.0	18.55	59.0	19.36	59.0	20.16	59.0	20.57	59.0	20.97	59.0	21.76
	-10.5	-11.0	62.0	19.24	62.0	20.00	62.0	20.78	62.0	21.15	62.0	21.54	62.0	22.30
	-9.5	-10.0	63.7	19.55	63.7	20.31	63.7	21.06	63.7	21.43	63.7	21.79	63.7	22.52
	-8.5	-9.1	65.1	19.84	65.1	20.57	65.1	21.28	65.1	21.65	65.1	22.02	65.1	22.77
	-7.0	-7.6	67.5	20.26	67.5	20.97	67.5	21.67	67.5	22.04	67.5	22.38	67.5	23.08
	-5.0	-5.6	70.4	20.79	70.4	21.46	70.4	22.15	70.4	22.49	70.4	22.81	70.4	23.49
	-3.0	-3.7	73.2	21.26	73.2	21.91	73.2	22.53	73.2	22.88	73.2	23.19	73.2	23.85
	0.0	-0.7	77.9	21.91	77.9	22.52	77.9	23.14	77.9	23.44	77.9	23.75	77.9	24.35
	3.0	2.2	82.1	22.44	82.1	23.05	82.1	23.64	82.1	23.91	82.1	24.20	82.1	24.76
	5.0	4.1	85.2	22.80	85.2	23.36	85.2	23.91	85.2	24.20	85.2	24.48	85.2	25.03
	7.0	6.0	88.0	23.13	88.0	23.64	88.0	24.21	88.0	24.48	88.0	24.74	88.0	26.79
	9.0	7.9	90.8	23.76	90.8	24.28	90.8	24.81	90.8	25.09	90.8	25.12	90.8	29.87
	11.0	9.8	93.9	24.16	93.9	24.67	93.9	25.20	93.8	25.45	93.8	26.86	91.9	26.85
	13.0	11.8	96.9	25.22	96.9	25.75	96.9	26.23	96.9	26.51	96.9	29.69	91.9	24.98
	15.0	13.7	99.7	27.54	99.7	28.08	99.7	28.58	99.7	28.87	99.5	30.49	91.9	23.75
19.0	14.2	105.1	30.72	105.1	31.26	105.1	31.52	105.1	32.06	104.9	32.44	91.9	22.78	
21.0	15.0	109.1	33.01	109.1	33.51	109.1	33.72	109.1	34.16	108.9	28.49	91.9	22.03	
110	-14.7	-15.0	55.9	19.03	55.9	19.81	55.9	20.59	55.9	20.99	55.9	21.37	55.9	22.15
	-12.6	-13.0	59.0	19.73	59.0	20.47	59.0	21.21	59.0	21.57	59.0	21.96	59.0	22.69
	-10.5	-11.0	62.0	20.36	62.0	21.07	62.0	21.76	62.0	22.12	62.0	22.45	62.0	23.17
	-9.5	-10.0	63.7	20.65	63.7	21.34	63.7	22.02	63.7	22.38	63.7	22.72	63.7	23.37
	-8.5	-9.1	65.1	20.89	65.1	21.57	65.1	22.24	65.1	22.57	65.1	22.91	65.1	23.58
	-7.0	-7.6	67.5	21.28	67.5	21.94	67.5	22.60	67.5	22.91	67.5	23.25	67.5	23.88
	-5.0	-5.6	70.4	21.78	70.4	22.41	70.4	23.02	70.4	23.33	70.4	23.64	70.4	24.82
	-3.0	-3.7	73.2	22.20	73.2	22.80	73.2	23.38	73.2	23.69	73.2	24.01	73.2	26.05
	0.0	-0.7	77.9	22.80	77.7	23.36	77.7	23.91	77.7	24.20	77.7	25.05	77.7	27.88
	3.0	2.2	82.1	23.33	82.1	23.83	82.1	24.35	82.1	24.64	82.1	26.38	82.1	29.11
	5.0	4.1	85.2	23.64	85.2	24.14	85.2	25.22	85.2	25.48	85.2	28.00	84.5	28.55
	7.0	6.0	88.0	23.92	88.0	24.40	88.0	25.48	88.0	25.72	88.0	28.73	84.5	24.91
	9.0	7.9	90.8	24.53	90.8	25.01	90.8	26.97	90.8	28.24	90.2	28.73	84.5	23.96
	11.0	9.8	93.9	24.90	93.8	25.39	93.8	31.63	93.6	28.87	90.2	25.10	84.5	23.05
	13.0	11.8	96.9	25.99	96.9	26.46	96.9	32.97	93.6	26.02	90.2	24.15	84.5	21.67
	15.0	13.7	99.7	27.12	99.7	27.57	96.9	26.47	93.6	24.28	90.2	23.30	84.5	20.95
19.0	14.2	105.1	31.58	105.1	32.22	96.9	23.65	93.6	22.79	90.2	21.83	84.5	19.73	
21.0	15.0	109.1	33.32	109.1	34.40	96.9	22.40	93.6	21.61	90.2	20.65	84.5	18.76	
-14.7	-15.0	55.9	20.28	55.9	20.99	55.9	21.67	55.9	22.04	55.9	22.41	55.9	23.10	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	-12.6	-13.0	59.0	20.92	59.0	21.59	59.0	22.24	59.0	22.60	59.0	22.93	59.0	23.60
	-10.5	-11.0	62.0	21.49	62.0	22.12	62.0	22.77	62.0	23.07	62.0	23.37	62.0	24.03
	-9.5	-10.0	63.7	21.74	63.7	22.38	63.7	22.99	63.7	23.30	63.7	23.60	63.7	24.25
	-8.5	-9.1	65.1	21.96	65.1	22.57	65.1	23.19	65.1	23.49	65.1	23.80	65.1	24.42
	-7.0	-7.6	67.5	22.33	67.5	22.91	67.5	23.50	67.5	23.80	67.5	24.09	67.5	25.27
	-5.0	-5.6	70.4	22.77	70.4	23.33	70.4	23.89	70.4	24.17	70.4	24.45	70.4	26.52
	-3.0	-3.7	73.2	23.16	73.2	23.69	73.2	24.20	73.2	24.49	73.2	25.35	73.2	27.19
	0.0	-0.7	77.7	23.69	77.7	24.20	77.7	24.68	77.7	24.98	77.7	26.72	76.8	26.16
	3.0	2.2	82.1	24.17	82.1	24.64	82.1	25.11	82.1	26.87	82.1	28.86	76.8	24.13
	5.0	4.1	85.2	24.45	85.2	24.90	85.2	25.37	85.2	28.49	82.5	26.07	76.8	22.75
	7.0	6.0	88.0	24.71	88.0	25.14	88.0	25.60	85.2	26.07	82.5	24.19	76.8	21.85
	9.0	7.9	90.8	25.32	90.8	28.80	88.0	24.62	85.2	24.09	82.5	22.76	76.8	20.92
	11.0	9.8	93.8	25.68	93.6	30.11	88.0	23.70	85.2	22.81	82.5	21.80	76.8	20.05
	13.0	11.8	96.9	26.75	93.6	26.44	88.0	22.68	85.2	21.85	82.5	20.99	76.8	19.34
	15.0	13.7	99.2	27.51	93.6	25.08	88.0	21.91	85.2	21.09	82.5	20.29	76.8	18.70
	19.0	14.2	104.1	30.17	93.6	23.51	88.0	20.79	85.2	20.56	82.5	19.90	76.8	18.06
	21.0	15.0	108.5	29.95	93.6	21.41	88.0	20.17	85.2	19.97	82.5	19.47	76.8	18.50
90	-14.7	-15.0	55.9	21.52	55.9	22.15	55.9	22.80	55.9	23.10	55.9	23.44	55.9	24.08
	-12.6	-13.0	59.0	22.10	59.0	22.69	59.0	23.30	59.0	23.60	59.0	23.91	59.0	24.51
	-10.5	-11.0	62.0	22.60	62.0	22.58	62.0	23.75	62.0	24.03	62.0	24.33	62.0	24.90
	-9.5	-10.0	63.7	22.84	63.7	23.41	63.7	23.96	63.7	24.25	63.7	24.53	63.7	25.68
	-8.5	-9.1	65.1	23.04	65.1	23.58	65.1	24.14	65.1	24.42	65.1	24.69	65.1	26.73
	-7.0	-7.6	67.5	23.36	67.5	23.89	67.5	24.42	67.5	24.69	67.5	25.53	67.3	28.73
	-5.0	-5.6	70.4	23.75	70.4	24.27	70.4	24.76	70.4	25.03	70.4	26.79	68.8	25.68
	-3.0	-3.7	73.2	24.11	73.2	24.59	73.2	25.63	73.2	26.82	73.2	28.83	68.8	24.05
	0.0	-0.7	77.7	24.59	77.7	25.04	77.7	27.01	76.4	25.76	74.1	24.76	68.8	22.36
	3.0	2.2	82.1	25.01	82.1	30.08	79.1	25.05	76.4	24.11	74.1	22.76	68.8	20.96
	5.0	4.1	85.2	25.26	84.5	29.84	79.1	24.05	76.4	22.73	74.1	21.85	68.8	20.00
	7.0	6.0	88.0	30.47	84.5	26.30	79.1	22.70	76.4	21.73	74.1	20.89	68.8	19.24
	9.0	7.9	89.5	27.09	84.5	23.83	79.1	21.73	76.4	20.91	74.1	20.12	68.8	18.55
	11.0	9.8	89.5	26.12	84.5	22.52	79.1	20.93	76.4	20.16	74.1	19.38	68.8	17.90
	13.0	11.8	89.5	23.68	84.5	21.67	79.1	20.16	76.4	19.42	74.1	18.69	68.8	17.26
	15.0	13.7	89.5	22.43	84.5	20.93	79.1	19.50	76.4	18.77	74.1	18.06	68.8	16.69
	19.0	14.2	89.5	21.60	84.5	20.16	79.1	18.79	76.4	18.16	74.1	17.49	68.8	16.13
21.0	15.0	89.5	20.58	84.5	19.38	79.1	18.01	76.4	17.56	74.1	17.06	68.8	15.61	
80	-14.7	-15.0	55.9	22.77	55.9	23.33	55.9	23.89	55.9	24.19	55.9	24.48	55.9	26.52
	-12.6	-13.0	59.0	23.27	59.0	23.80	59.0	24.33	59.0	24.61	59.0	24.89	59.0	28.68
	-10.5	-11.0	62.0	23.72	62.0	24.23	62.0	24.75	62.0	25.01	62.0	25.85	61.5	27.19
	-9.5	-10.0	63.7	23.92	63.7	24.45	63.7	24.93	63.7	25.17	63.7	26.94	61.5	25.19
	-8.5	-9.1	65.1	24.11	65.1	24.61	65.1	25.09	65.1	25.34	65.1	28.84	61.5	24.53
	-7.0	-7.6	67.5	24.75	67.5	25.23	67.3	25.91	67.3	27.09	65.9	26.53	61.5	23.15
	-5.0	-5.6	70.4	26.19	70.4	27.27	70.4	27.16	68.1	25.30	65.9	24.31	61.5	21.97
	-3.0	-3.7	73.2	27.12	73.2	31.46	70.4	25.05	68.1	23.68	65.9	22.75	61.5	20.81
	0.0	-0.7	77.7	31.46	74.9	26.52	70.4	22.89	68.1	22.03	65.9	21.19	61.5	19.40
	3.0	2.2	79.2	26.61	74.9	24.42	70.4	21.42	68.1	20.52	65.9	19.73	61.5	18.21
	5.0	4.1	79.2	25.09	74.9	22.46	70.4	20.47	68.1	19.73	65.9	18.97	61.5	17.49
	7.0	6.0	79.2	23.11	74.9	21.46	70.4	19.70	68.1	18.97	65.9	18.26	61.5	16.87
	9.0	7.9	79.2	21.81	74.9	20.37	70.4	18.97	68.1	18.27	65.9	17.60	61.5	16.25
	11.0	9.8	79.2	21.01	74.9	19.64	70.4	18.29	68.1	17.63	65.9	16.98	61.5	15.70
	13.0	11.8	79.2	20.25	74.9	18.94	70.4	17.65	68.1	17.01	65.9	16.39	61.5	15.16
	15.0	13.7	79.2	19.55	74.9	18.29	70.4	17.06	68.1	16.45	65.9	15.87	61.5	14.67
	19.0	14.2	79.2	18.90	74.9	17.80	70.4	16.50	68.1	15.93	65.9	15.37	61.5	14.22
21.0	15.0	79.2	18.28	74.9	17.23	70.4	15.96	68.1	15.43	65.9	15.04	61.5	13.81	
70	-14.7	-15.0	55.9	24.01	55.9	24.49	55.9	25.01	55.9	25.85	55.9	28.76	53.7	25.40
	-12.6	-13.0	59.0	24.45	59.0	24.92	59.0	25.99	59.0	27.12	57.7	26.46	53.7	23.50
	-10.5	-11.0	62.0	24.84	62.0	25.29	61.7	26.96	59.5	25.05	57.7	24.08	53.7	22.14

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-9.5	-10.0	63.7	26.49	63.7	27.55	61.7	25.30	59.5	23.91	57.7	22.97	53.7	21.15
	-8.5	-9.1	65.1	27.24	65.1	31.64	61.7	24.22	59.5	23.32	57.7	22.27	53.7	20.50
	-7.0	-7.6	67.3	31.40	65.6	26.94	61.7	23.25	59.5	22.24	57.7	21.39	53.7	20.75
	-5.0	-5.6	69.5	27.39	65.6	25.11	61.7	21.93	59.5	21.12	57.7	20.29	53.7	18.72
	-3.0	-3.7	69.5	25.66	65.6	22.95	61.7	20.92	59.5	20.15	57.7	19.38	53.7	17.86
	0.0	-0.7	69.5	22.88	65.6	20.95	61.7	19.50	59.5	18.77	57.7	18.06	53.7	16.69
	3.0	2.2	69.5	21.01	65.6	19.63	61.7	18.29	59.5	17.63	57.7	16.98	53.7	15.70
	5.0	4.1	69.5	20.18	65.6	18.88	61.7	17.60	59.5	16.93	57.7	16.33	53.7	15.11
	7.0	6.0	69.5	19.40	65.6	18.16	61.7	16.93	59.5	16.33	57.7	15.73	53.7	14.56
	9.0	7.9	69.5	18.69	65.6	17.51	61.7	16.33	59.5	15.75	57.7	15.18	53.7	14.03
	11.0	9.8	69.5	18.05	65.6	16.90	61.7	15.77	59.5	15.22	57.7	14.67	53.7	13.57
	13.0	11.8	69.5	17.40	65.6	16.29	61.7	15.22	59.5	14.69	57.7	14.14	53.7	13.12
	15.0	13.7	69.5	16.82	65.6	15.77	61.7	14.74	59.5	14.22	57.7	13.72	53.7	12.73
60	19.0	14.2	69.5	16.27	65.6	15.31	61.7	14.30	59.5	13.79	57.7	13.34	53.7	12.38
	21.0	15.0	69.5	15.77	65.6	14.81	61.7	13.90	59.5	13.40	57.7	12.97	53.7	12.08
	-14.7	-15.0	55.9	27.33	55.9	31.70	52.8	24.10	51.1	23.20	49.4	22.31	46.1	20.42
	-12.6	-13.0	59.0	31.64	56.2	26.22	52.8	22.65	51.1	21.79	49.4	20.96	46.1	19.17
	-10.5	-11.0	59.5	26.49	56.2	24.27	52.8	21.35	51.1	20.54	49.4	19.66	46.1	18.13
	-9.5	-10.0	59.5	25.30	56.2	22.63	52.8	20.73	51.1	19.97	49.4	19.11	46.1	17.63
	-8.5	-9.1	59.5	23.64	56.2	21.62	52.8	20.12	51.1	19.38	49.4	18.66	46.1	17.21
	-7.0	-7.6	59.5	22.23	56.2	20.76	52.8	19.33	51.1	18.62	49.4	17.93	46.1	16.56
	-5.0	-5.6	59.5	21.10	56.2	19.73	52.8	18.37	51.1	17.71	49.4	17.06	46.1	15.75
	-3.0	-3.7	59.5	20.14	56.2	18.82	52.8	17.54	51.1	16.92	49.4	16.31	46.1	15.08
	0.0	-0.7	59.5	18.77	56.2	17.57	52.8	16.38	51.1	15.81	49.4	15.25	46.1	14.10
	3.0	2.2	59.5	17.63	56.2	16.51	52.8	15.42	51.1	14.88	49.4	14.35	46.1	13.30
	5.0	4.1	59.5	16.93	56.2	15.89	52.8	14.83	51.1	14.33	49.4	13.82	46.1	12.81
7.0	6.0	59.5	16.32	56.2	15.30	52.8	14.30	51.1	13.82	49.4	13.33	46.1	12.36	
9.0	7.9	59.5	15.75	56.2	14.77	52.8	13.82	51.1	13.35	49.4	12.87	46.1	11.95	
11.0	9.8	59.5	15.20	56.2	14.27	52.8	13.35	51.1	12.89	49.4	12.46	46.1	11.57	
13.0	11.8	59.5	14.69	56.2	13.79	52.8	12.89	51.1	12.46	49.4	12.04	46.1	11.20	
15.0	13.7	59.5	14.22	56.2	13.35	52.8	12.50	51.1	12.09	49.4	11.67	46.1	10.86	
19.0	14.2	59.5	13.79	56.2	12.95	52.8	12.15	51.1	11.76	49.4	11.12	46.1	10.53	
21.0	15.0	59.5	13.40	56.2	12.56	52.8	11.84	51.1	11.47	49.4	10.85	46.1	10.19	
50	-14.7	-15.0	49.7	23.61	46.9	22.07	44.1	19.38	42.5	18.69	41.1	17.99	38.3	16.61
	-12.6	-13.0	49.7	22.19	46.9	20.74	44.1	18.23	42.5	17.60	41.1	16.93	38.3	15.67
	-10.5	-11.0	49.7	20.06	46.9	18.76	44.1	17.24	42.5	16.62	41.1	16.03	38.3	14.83
	-9.5	-10.0	49.7	19.22	46.9	17.99	44.1	16.79	42.5	16.17	41.1	15.59	38.3	14.42
	-8.5	-9.1	49.7	18.74	46.9	17.57	44.1	16.37	42.5	15.80	41.1	15.22	38.3	14.10
	-7.0	-7.6	49.7	18.04	46.9	16.90	44.1	15.75	42.5	15.22	41.1	14.67	38.3	13.57
	-5.0	-5.6	49.7	17.15	46.9	16.06	44.1	15.03	42.5	14.49	41.1	13.97	38.3	12.96
	-3.0	-3.7	49.7	16.38	46.9	15.36	44.1	14.36	42.5	13.88	41.1	13.38	38.3	12.43
	0.0	-0.7	49.7	15.33	46.9	14.38	44.1	13.46	42.5	12.99	41.1	12.54	38.3	11.63
	3.0	2.2	49.7	14.41	46.9	13.54	44.1	12.68	42.5	12.26	41.1	11.84	38.3	11.00
	5.0	4.1	49.7	13.86	46.9	13.04	44.1	12.23	42.5	11.81	41.1	11.42	38.3	10.61
	7.0	6.0	49.7	13.40	46.9	12.59	44.1	11.81	42.5	11.42	41.1	11.03	38.3	10.27
	9.0	7.9	49.7	12.93	46.9	12.17	44.1	11.42	42.5	11.03	41.1	10.66	38.3	9.94
11.0	9.8	49.7	15.66	46.9	11.78	44.1	11.05	42.5	10.69	41.1	10.33	38.3	9.63	
13.0	11.8	49.7	12.09	46.9	11.39	44.1	10.69	42.5	10.36	41.1	10.00	38.3	9.32	
15.0	13.7	49.7	11.72	46.9	11.05	44.1	10.38	42.5	10.05	41.1	9.71	38.3	9.06	
19.0	14.2	49.7	11.37	46.9	10.74	44.1	10.10	42.5	9.74	41.1	9.42	38.3	8.79	
21.0	15.0	49.7	11.02	46.9	10.42	44.1	9.83	42.5	9.47	41.1	9.06	38.3	8.54	

I: AV30NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	60.3	17.86	60.3	18.85	60.3	19.84	60.0	20.35	60.0	20.84	60.0	21.83
	-12.6	-13.0	63.3	18.76	63.3	19.69	63.3	20.63	63.3	21.08	63.3	21.59	63.3	22.49
	-10.5	-11.0	66.6	19.57	66.6	20.45	66.6	21.35	66.6	21.77	66.6	22.25	66.6	23.09
	-9.5	-10.0	68.4	19.93	68.4	20.81	68.4	21.68	68.4	22.07	68.4	22.55	68.4	23.39
	-8.5	-9.1	69.9	20.26	69.9	21.11	69.9	21.95	69.9	22.37	69.9	22.85	69.9	23.66
	-7.0	-7.6	72.6	20.75	72.6	21.59	72.6	22.40	72.6	22.79	72.6	23.21	72.6	24.05
	-5.0	-5.6	75.6	21.38	75.6	22.16	75.6	22.94	75.6	23.33	75.6	23.69	75.6	24.53
	-3.0	-3.7	78.6	21.92	78.6	22.67	78.6	23.42	78.6	23.78	78.6	24.17	78.6	24.89
	0.0	-0.7	83.7	22.67	83.7	23.39	83.7	24.11	83.7	24.44	83.7	24.80	83.7	25.50
	3.0	2.2	87.9	23.33	87.9	24.05	87.9	24.68	87.9	25.01	87.9	25.35	87.9	26.04
	5.0	4.1	91.5	23.72	91.5	24.38	91.5	25.01	91.5	25.35	91.5	25.68	91.5	26.34
	7.0	6.0	94.5	24.08	94.5	24.71	94.5	25.35	94.5	25.68	94.5	25.98	94.5	26.61
	9.0	7.9	97.8	24.70	97.5	25.31	97.5	25.92	97.5	26.22	97.5	26.52	97.5	27.13
	11.0	9.8	100.8	24.89	100.8	25.50	100.8	26.07	100.8	26.34	100.8	26.65	100.8	27.28
	13.0	11.8	104.1	25.76	104.1	26.35	104.1	26.93	104.1	27.21	104.1	27.52	104.1	28.10
15.0	13.7	107.1	27.64	107.1	28.23	107.1	28.85	107.1	29.11	107.1	29.40	107.1	30.03	
19.0	14.2	112.8	30.25	112.8	30.35	112.8	31.29	112.8	31.50	112.8	31.85	112.8	32.37	
21.0	15.0	117.6	32.48	117.6	32.48	117.6	33.47	117.6	33.61	117.6	33.98	117.6	34.60	
120	-14.7	-15.0	60.3	19.21	60.0	20.08	60.0	21.05	60.0	21.50	60.0	21.95	60.0	22.88
	-12.6	-13.0	63.3	20.02	63.3	20.90	63.3	21.77	63.3	22.19	63.3	22.64	63.3	23.48
	-10.5	-11.0	66.6	20.78	66.6	21.59	66.6	22.43	66.6	22.82	66.6	23.24	66.6	24.05
	-9.5	-10.0	68.4	21.11	68.4	21.92	68.4	22.73	68.4	23.12	68.4	23.51	68.4	24.29
	-8.5	-9.1	69.9	21.41	69.9	22.19	69.9	22.97	69.9	23.36	69.9	23.75	69.9	24.56
	-7.0	-7.6	72.6	21.86	72.6	22.64	72.6	23.39	72.6	23.78	72.6	24.14	72.6	24.89
	-5.0	-5.6	75.6	22.43	75.6	23.15	75.6	23.90	75.6	24.26	75.6	24.59	75.6	25.35
	-3.0	-3.7	78.6	22.94	78.6	23.63	78.6	24.29	78.6	24.68	78.6	25.01	78.6	25.74
	0.0	-0.7	83.7	23.63	83.7	24.29	83.7	24.95	83.7	25.29	83.7	25.62	83.7	26.28
	3.0	2.2	87.9	24.20	87.9	24.86	87.9	25.50	87.9	25.80	87.9	26.10	87.9	26.70
	5.0	4.1	91.5	24.59	91.5	25.19	91.5	25.80	91.5	26.10	91.5	26.40	91.5	27.00
	7.0	6.0	94.5	24.95	94.5	25.50	94.5	26.10	94.5	26.40	94.5	26.67	94.5	27.27
	9.0	7.9	97.5	25.52	97.5	26.07	97.5	26.65	97.5	26.95	97.5	27.26	97.5	27.92
	11.0	9.8	100.8	25.21	100.8	25.74	100.8	26.28	100.8	26.55	100.8	26.85	100.8	27.51
	13.0	11.8	104.1	26.53	104.1	27.09	104.1	27.58	104.1	27.89	104.1	28.19	104.1	28.47
15.0	13.7	107.1	28.46	107.1	29.01	107.1	29.54	107.1	29.83	107.1	30.19	107.1	30.47	
19.0	14.2	112.8	30.94	112.8	31.43	112.8	31.64	112.8	32.23	112.8	33.31	112.8	34.14	
21.0	15.0	117.6	33.55	117.6	33.92	117.6	34.10	117.6	34.45	117.6	34.97	117.6	35.39	
110	-14.7	-15.0	60	20.54	60.0	21.38	60.0	22.22	60.0	22.64	60.0	23.06	60.0	23.90
	-12.6	-13.0	63.3	21.29	63.3	22.10	63.3	22.88	63.3	23.27	63.3	23.69	63.3	24.47
	-10.5	-11.0	66.6	21.98	66.6	22.73	66.6	23.48	66.6	23.87	66.6	24.23	66.6	24.98
	-9.5	-10.0	68.4	22.28	68.4	23.03	68.4	23.75	68.4	24.14	68.4	24.50	68.4	25.19
	-8.5	-9.1	69.9	22.55	69.9	23.27	69.9	23.99	69.9	24.35	69.9	24.71	69.9	25.44
	-7.0	-7.6	72.6	22.97	72.6	23.66	72.6	24.38	72.6	24.71	72.6	25.07	72.6	25.77
	-5.0	-5.6	75.6	23.51	75.6	24.17	75.6	24.83	75.6	25.16	75.6	25.50	75.6	26.16
	-3.0	-3.7	78.6	23.96	78.6	24.59	78.6	25.23	78.6	25.56	78.6	25.89	78.6	26.52
	0.0	-0.7	83.7	24.59	83.4	25.19	83.4	25.80	83.4	26.10	83.4	26.40	83.4	27.00
	3.0	2.2	87.9	25.16	87.9	25.71	87.9	26.28	87.9	26.58	87.9	26.85	87.9	27.94
	5.0	4.1	91.5	25.50	91.5	26.04	91.5	26.58	91.5	26.85	91.5	27.12	90.6	27.85
	7.0	6.0	94.5	25.80	94.5	26.31	94.5	26.85	94.5	27.12	94.5	27.39	90.6	28.25
	9.0	7.9	97.5	26.34	97.5	26.86	97.5	27.63	97.5	27.36	96.9	28.03	90.6	28.26
	11.0	9.8	100.8	25.98	100.8	26.49	100.8	31.89	100.5	27.51	96.9	26.46	90.6	28.29
	13.0	11.8	104.1	27.33	104.1	27.83	104.1	33.39	100.5	26.49	96.9	25.47	90.6	28.39
15.0	13.7	107.1	27.58	107.1	28.04	104.1	27.11	100.5	25.59	96.9	24.56	90.6	28.61	
19.0	14.2	112.8	31.73	112.8	32.53	104.1	24.65	100.5	23.78	96.9	22.76	90.6	28.05	
21.0	15.0	117.6	34.12	117.6	34.94	104.1	23.21	100.5	22.43	96.9	21.41	90.6	28.87	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	-14.7	-15.0	60	21.89	60.0	22.64	60.0	23.39	60.0	23.78	60.0	24.17	60.0	24.92
	-12.6	-13.0	63.3	22.58	63.3	23.30	63.3	23.99	63.3	24.38	63.3	24.74	63.3	25.47
	-10.5	-11.0	66.6	23.18	66.6	23.87	66.6	24.56	66.6	24.89	66.6	25.19	66.6	25.92
	-9.5	-10.0	68.4	23.45	68.4	24.14	68.4	24.80	68.4	25.13	68.4	25.47	68.4	26.16
	-8.5	-9.1	69.9	23.69	69.9	24.35	69.9	25.01	69.9	25.35	69.9	25.68	69.9	26.34
	-7.0	-7.6	72.6	24.08	72.6	24.71	72.6	25.35	72.6	25.68	72.6	25.98	72.6	26.64
	-5.0	-5.6	75.6	24.56	75.6	25.16	75.6	25.77	75.6	26.07	75.6	26.37	75.6	27.00
	-3.0	-3.7	78.6	24.98	78.6	25.56	78.6	26.10	78.6	26.40	78.6	26.70	78.6	27.85
	0.0	-0.7	83.4	25.56	83.4	26.10	83.4	26.61	83.4	26.94	83.4	27.21	82.5	27.73
	3.0	2.2	87.9	26.07	87.9	26.58	87.9	27.09	87.9	27.36	87.9	28.16	82.5	25.44
	5.0	4.1	91.5	26.37	91.5	26.85	91.5	27.36	91.5	27.60	88.5	26.55	82.5	24.41
	7.0	6.0	94.5	26.64	94.5	27.12	94.5	27.60	91.5	26.55	88.5	25.50	82.5	23.45
	9.0	7.9	97.5	27.19	97.5	31.65	94.5	26.30	91.5	25.25	88.5	24.30	82.5	22.37
	11.0	9.8	100.8	26.78	100.5	33.21	94.5	25.31	91.5	24.36	88.5	23.41	82.5	21.56
	13.0	11.8	104.1	28.13	100.5	28.35	94.5	24.36	91.5	23.47	88.5	22.54	82.5	20.79
	15.0	13.7	106.5	27.82	100.5	27.36	94.5	23.53	91.5	22.66	88.5	21.80	82.5	20.10
19.0	14.2	111.6	31.64	100.5	25.40	94.5	22.22	91.5	22.07	88.5	21.50	82.5	19.42	
21.0	15.0	117	31.22	100.5	22.64	94.5	21.62	91.5	21.47	88.5	21.14	82.5	18.76	
90	-14.7	-15.0	60	23.21	60.0	23.90	60.0	24.59	60.0	24.92	60.0	25.29	60.0	25.98
	-12.6	-13.0	63.3	23.84	63.3	24.47	63.3	25.13	63.3	25.47	63.3	25.80	63.3	26.43
	-10.5	-11.0	66.6	24.38	66.6	24.11	66.6	25.62	66.6	25.92	66.6	26.25	66.6	26.85
	-9.5	-10.0	68.4	24.65	68.4	25.26	68.4	25.86	68.4	26.16	68.4	26.46	68.4	27.06
	-8.5	-9.1	69.9	24.86	69.9	25.44	69.9	26.04	69.9	26.34	69.9	26.64	69.9	27.21
	-7.0	-7.6	72.6	25.19	72.6	25.77	72.6	26.34	72.6	26.64	72.6	26.91	72.3	28.03
	-5.0	-5.6	75.6	25.62	75.6	26.19	75.6	26.70	75.6	27.00	75.6	27.27	73.8	27.06
	-3.0	-3.7	78.6	26.01	78.6	26.52	78.6	27.00	78.6	27.30	78.6	28.12	73.8	25.80
	0.0	-0.7	83.4	26.52	83.4	27.00	83.4	27.51	81.9	27.15	79.5	26.10	73.8	23.99
	3.0	2.2	87.9	26.97	87.9	31.40	84.9	26.40	81.9	25.41	79.5	24.41	73.8	22.49
	5.0	4.1	91.5	27.24	90.9	32.87	84.9	25.35	81.9	24.38	79.5	23.45	73.8	21.59
	7.0	6.0	94.5	32.12	90.9	28.33	84.9	24.35	81.9	23.45	79.5	22.55	73.8	20.78
	9.0	7.9	96	29.17	90.9	25.70	84.9	23.45	81.9	22.58	79.5	21.71	73.8	20.02
	11.0	9.8	96	28.14	90.9	24.29	84.9	22.61	81.9	21.77	79.5	20.93	73.8	19.33
	13.0	11.8	96	25.55	90.9	23.39	84.9	21.77	81.9	20.96	79.5	20.17	73.8	18.64
	15.0	13.7	96	24.20	90.9	22.61	84.9	21.05	81.9	20.26	79.5	19.48	73.8	18.04
19.0	14.2	96	23.27	90.9	21.77	84.9	20.38	81.9	19.66	79.5	18.88	73.8	17.44	
21.0	15.0	96	22.04	90.9	20.93	84.9	19.69	81.9	19.12	79.5	18.43	73.8	16.90	
80	-14.7	-15.0	60	24.56	60.0	25.16	60.0	25.77	60.0	26.10	60.0	26.40	60.0	27.00
	-12.6	-13.0	63.3	25.10	63.3	25.68	63.3	26.25	63.3	26.55	63.3	26.85	63.3	27.97
	-10.5	-11.0	66.6	25.59	66.6	26.13	66.6	26.70	66.6	26.97	66.6	27.24	66.0	27.85
	-9.5	-10.0	68.4	25.80	68.4	26.37	68.4	26.88	68.4	27.15	68.4	27.42	66.0	26.55
	-8.5	-9.1	69.9	26.01	69.9	26.55	69.9	27.06	69.9	27.33	69.9	28.12	66.0	25.86
	-7.0	-7.6	72.6	26.84	72.6	27.36	72.3	27.30	72.3	27.57	70.8	27.00	66.0	24.83
	-5.0	-5.6	75.6	28.85	75.6	29.37	75.6	27.66	72.9	26.67	70.8	25.62	66.0	23.57
	-3.0	-3.7	78.6	29.21	78.6	34.11	75.6	26.40	72.9	25.41	70.8	24.41	66.0	22.46
	0.0	-0.7	83.4	34.11	80.4	28.56	75.6	24.56	72.9	23.63	70.8	22.73	66.0	20.96
	3.0	2.2	84.9	28.65	80.4	26.74	75.6	23.00	72.9	22.16	70.8	21.29	66.0	19.66
	5.0	4.1	84.9	27.49	80.4	24.23	75.6	22.10	72.9	21.29	70.8	20.48	66.0	18.88
	7.0	6.0	84.9	24.94	80.4	23.28	75.6	21.26	72.9	20.48	70.8	19.72	66.0	18.22
	9.0	7.9	84.9	23.54	80.4	21.98	75.6	20.48	72.9	19.72	70.8	19.00	66.0	17.56
	11.0	9.8	84.9	22.67	80.4	21.20	75.6	19.75	72.9	19.03	70.8	18.34	66.0	16.96
	13.0	11.8	84.9	21.86	80.4	20.45	75.6	19.06	72.9	18.37	70.8	17.71	66.0	16.39
	15.0	13.7	84.9	21.11	80.4	19.75	75.6	18.43	72.9	17.77	70.8	17.14	66.0	15.85
19.0	14.2	84.9	20.41	80.4	19.30	75.6	17.83	72.9	17.23	70.8	16.63	66.0	15.36	
21.0	15.0	84.9	19.78	80.4	18.88	75.6	17.26	72.9	16.75	70.8	16.18	66.0	14.94	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-14.7	-15.0	60	25.89	60.0	26.40	60.0	26.97	60.0	27.24	60.0	28.06	57.6	26.93
	-12.6	-13.0	63.3	26.37	63.3	26.88	63.3	27.39	63.3	27.60	61.8	26.94	57.6	24.77
	-10.5	-11.0	66.6	26.79	66.6	27.27	66.3	27.45	63.9	26.40	61.8	25.38	57.6	23.33
	-9.5	-10.0	68.4	29.17	68.4	29.66	66.3	26.67	63.9	25.65	61.8	24.65	57.6	22.70
	-8.5	-9.1	69.9	29.34	69.9	34.30	66.3	25.98	63.9	25.01	61.8	24.02	57.6	22.13
	-7.0	-7.6	72.3	34.04	70.5	29.01	66.3	24.95	63.9	23.99	61.8	23.09	57.6	21.26
	-5.0	-5.6	74.7	29.50	70.5	27.52	66.3	23.66	63.9	22.79	61.8	21.89	57.6	20.20
	-3.0	-3.7	74.7	28.10	70.5	24.75	66.3	22.58	63.9	21.74	61.8	20.93	57.6	19.30
	0.0	-0.7	74.7	24.69	70.5	22.61	66.3	21.05	63.9	20.26	61.8	19.48	57.6	18.04
	3.0	2.2	74.7	22.67	70.5	21.20	66.3	19.75	63.9	19.03	61.8	18.34	57.6	16.96
	5.0	4.1	74.7	21.77	70.5	20.38	66.3	19.00	63.9	18.28	61.8	17.65	57.6	16.33
	7.0	6.0	74.7	20.96	70.5	19.60	66.3	18.28	63.9	17.65	61.8	16.99	57.6	15.73
	9.0	7.9	74.7	20.17	70.5	18.91	66.3	17.65	63.9	17.02	61.8	16.42	57.6	15.15
	11.0	9.8	74.7	19.48	70.5	18.25	66.3	17.05	63.9	16.45	61.8	15.85	57.6	14.67
	13.0	11.8	74.7	18.79	70.5	17.59	66.3	16.45	63.9	15.88	61.8	15.27	57.6	14.19
	15.0	13.7	74.7	18.16	70.5	17.05	66.3	15.94	63.9	15.36	61.8	14.82	57.6	13.77
	19.0	14.2	74.7	17.59	70.5	16.57	66.3	15.48	63.9	14.91	61.8	14.43	57.6	13.41
21.0	15.0	74.7	17.08	70.5	16.15	66.3	15.09	63.9	14.52	61.8	14.04	57.6	13.11	
60	-14.7	-15.0	60.0	29.43	60.0	34.37	56.7	25.86	54.9	24.89	53.1	23.93	49.5	22.04
	-12.6	-13.0	63.3	34.30	60.3	28.23	56.7	24.29	54.9	23.39	53.1	22.49	49.5	20.69
	-10.5	-11.0	63.9	28.53	60.3	26.58	56.7	22.91	54.9	22.04	53.1	21.23	49.5	19.57
	-9.5	-10.0	63.9	27.72	60.3	24.42	56.7	22.25	54.9	21.44	53.1	20.63	49.5	19.03
	-8.5	-9.1	63.9	25.49	60.3	23.33	56.7	21.71	54.9	20.93	53.1	20.14	49.5	18.58
	-7.0	-7.6	63.9	23.99	60.3	22.40	56.7	20.87	54.9	20.11	53.1	19.36	49.5	17.89
	-5.0	-5.6	63.9	22.76	60.3	21.29	56.7	19.84	54.9	19.12	53.1	18.43	49.5	17.02
	-3.0	-3.7	63.9	21.74	60.3	20.32	56.7	18.94	54.9	18.28	53.1	17.62	49.5	16.30
	0.0	-0.7	63.9	20.26	60.3	18.97	56.7	17.68	54.9	17.08	53.1	16.48	49.5	15.24
	3.0	2.2	63.9	19.03	60.3	17.83	56.7	16.66	54.9	16.09	53.1	15.51	49.5	14.37
	5.0	4.1	63.9	18.28	60.3	17.17	56.7	16.03	54.9	15.48	53.1	14.94	49.5	13.86
	7.0	6.0	63.9	17.62	60.3	16.54	56.7	15.45	54.9	14.94	53.1	14.40	49.5	13.38
	9.0	7.9	63.9	17.02	60.3	15.97	56.7	14.94	54.9	14.43	53.1	13.92	49.5	12.93
	11.0	9.8	63.9	16.42	60.3	15.42	56.7	14.43	54.9	13.95	53.1	13.47	49.5	12.51
	13.0	11.8	63.9	15.88	60.3	14.91	56.7	13.95	54.9	13.47	53.1	13.02	49.5	12.12
	15.0	13.7	63.9	15.36	60.3	14.43	56.7	13.53	54.9	13.08	53.1	12.63	49.5	11.76
	19.0	14.2	63.9	14.91	60.3	14.01	56.7	13.17	54.9	12.75	53.1	11.97	49.5	11.43
21.0	15.0	63.9	14.52	60.3	13.62	56.7	12.87	54.9	12.48	53.1	11.73	49.5	11.07	
50	-14.7	-15.0	53.4	26.00	50.4	24.31	47.4	20.93	45.6	20.17	44.1	19.42	41.1	17.95
	-12.6	-13.0	53.4	24.44	50.4	22.86	47.4	19.69	45.6	19.00	44.1	18.28	41.1	16.93
	-10.5	-11.0	53.4	21.78	50.4	20.37	47.4	18.61	45.6	17.95	44.1	17.32	41.1	16.03
	-9.5	-10.0	53.4	20.75	50.4	19.42	47.4	18.13	45.6	17.47	44.1	16.84	41.1	15.57
	-8.5	-9.1	53.4	20.23	50.4	18.97	47.4	17.68	45.6	17.08	44.1	16.45	41.1	15.24
	-7.0	-7.6	53.4	19.48	50.4	18.25	47.4	17.02	45.6	16.45	44.1	15.85	41.1	14.67
	-5.0	-5.6	53.4	18.52	50.4	17.35	47.4	16.24	45.6	15.67	44.1	15.09	41.1	14.01
	-3.0	-3.7	53.4	17.68	50.4	16.60	47.4	15.51	45.6	15.00	44.1	14.46	41.1	13.44
	0.0	-0.7	53.4	16.57	50.4	15.54	47.4	14.55	45.6	14.04	44.1	13.56	41.1	12.57
	3.0	2.2	53.4	15.57	50.4	14.64	47.4	13.71	45.6	13.26	44.1	12.81	41.1	11.91
	5.0	4.1	53.4	14.97	50.4	14.10	47.4	13.23	45.6	12.78	44.1	12.36	41.1	11.49
	7.0	6.0	53.4	14.49	50.4	13.62	47.4	12.78	45.6	12.36	44.1	11.94	41.1	11.13
	9.0	7.9	53.4	13.98	50.4	13.17	47.4	12.36	45.6	11.94	44.1	11.55	41.1	10.76
	11.0	9.8	53.4	13.53	50.4	12.75	47.4	11.97	45.6	11.58	44.1	11.19	41.1	10.43
	13.0	11.8	53.4	13.08	50.4	12.33	47.4	11.58	45.6	11.22	44.1	10.82	41.1	10.10
	15.0	13.7	53.4	12.69	50.4	11.97	47.4	11.25	45.6	10.88	44.1	10.52	41.1	9.83
	19.0	14.2	53.4	12.33	50.4	11.64	47.4	10.98	45.6	10.58	44.1	10.22	41.1	9.56
21.0	15.0	53.4	11.97	50.4	11.31	47.4	10.70	45.6	10.31	44.1	9.80	41.1	9.32	

J: AV32NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	63.6	18.02	63.6	18.99	63.6	20.04	63.6	20.55	63.6	21.06	63.6	22.07
	-12.6	-13.0	67.2	18.90	67.2	19.83	67.2	20.85	67.2	21.31	67.2	21.82	67.2	22.79
	-10.5	-11.0	70.4	19.75	70.4	20.63	70.4	21.52	70.4	22.03	70.4	22.49	70.4	23.38
	-9.5	-10.0	72.4	20.13	72.4	21.01	72.4	21.90	72.4	22.37	72.4	22.79	72.4	23.63
	-8.5	-9.1	74.0	20.47	74.0	21.31	74.0	22.20	74.0	22.62	74.0	23.08	74.0	23.93
	-7.0	-7.6	76.4	20.97	76.4	21.82	76.4	22.66	76.4	23.08	76.4	23.50	76.4	24.35
	-5.0	-5.6	80.0	21.61	80.0	22.37	80.0	23.21	80.0	23.63	80.0	24.01	80.0	24.81
	-3.0	-3.7	83.2	22.15	83.2	22.91	83.2	23.72	83.2	24.10	83.2	24.48	83.2	25.24
	0.0	-0.7	88.4	22.91	88.4	23.63	88.4	24.39	88.4	24.77	88.4	25.11	88.4	25.83
	3.0	2.2	94.0	23.59	94.0	24.31	94.0	24.98	94.0	25.32	94.0	25.66	94.0	26.38
	5.0	4.1	96.8	24.01	96.8	24.69	96.8	25.32	96.8	25.66	96.8	26.00	96.8	26.67
	7.0	6.0	100.0	24.41	100.0	25.04	100.0	25.68	100.0	26.01	100.0	26.35	100.0	26.99
	9.0	7.9	103.2	25.32	103.2	25.93	103.2	26.62	103.2	26.92	103.2	27.22	103.2	27.87
	11.0	9.8	106.8	27.12	106.8	27.76	106.8	28.40	106.8	28.76	106.8	29.08	106.8	29.67
	13.0	11.8	110.0	27.88	110.0	28.52	110.0	29.17	110.0	29.49	110.0	29.82	110.0	30.46
	15.0	13.7	113.2	30.74	113.2	31.89	113.2	32.55	113.2	32.91	113.2	33.26	113.2	33.87
19.0	14.2	119.6	35.32	119.6	36.57	119.6	38.60	119.6	39.01	119.6	39.54	119.6	39.90	
21.0	15.0	122.8	37.03	122.8	38.30	122.8	40.31	122.8	40.55	122.8	42.13	122.8	42.50	
120	-14.7	-15.0	63.6	19.37	63.6	20.25	63.6	21.27	63.6	21.73	63.6	22.20	63.6	23.12
	-12.6	-13.0	67.2	20.21	67.2	21.10	67.2	21.94	67.2	22.45	67.2	22.87	67.2	23.76
	-10.5	-11.0	70.4	20.97	70.4	21.82	70.4	22.66	70.4	23.08	70.4	23.50	70.4	24.35
	-9.5	-10.0	72.4	21.31	72.4	22.15	72.4	22.96	72.4	23.38	72.4	23.80	72.4	24.60
	-8.5	-9.1	74.0	21.65	74.0	22.45	74.0	23.21	74.0	23.63	74.0	24.05	74.0	24.86
	-7.0	-7.6	76.4	22.11	76.4	22.87	76.4	23.63	76.4	24.05	76.4	24.43	76.4	25.24
	-5.0	-5.6	80.0	22.70	80.0	23.42	80.0	24.18	80.0	24.56	80.0	24.94	80.0	25.66
	-3.0	-3.7	83.2	23.21	83.2	23.93	83.2	24.64	83.2	24.98	83.2	25.32	83.2	26.04
	0.0	-0.7	88.4	23.93	88.4	24.60	88.4	25.28	88.4	25.62	88.4	25.95	88.4	26.59
	3.0	2.2	94.0	24.52	94.0	25.19	94.0	25.83	94.0	26.12	94.0	26.46	94.0	27.09
	5.0	4.1	96.8	24.90	96.8	25.53	96.8	26.12	96.8	26.46	96.8	26.76	96.8	28.29
	7.0	6.0	100.0	25.25	100.0	25.85	100.0	26.48	100.0	26.78	100.0	27.07	100.0	33.57
	9.0	7.9	103.2	26.18	103.2	26.79	103.2	27.35	103.2	27.65	103.2	27.95	103.2	39.37
	11.0	9.8	106.8	27.99	106.8	28.58	106.8	29.21	106.4	29.49	106.4	29.81	104.4	32.69
	13.0	11.8	110.0	28.76	110.0	29.36	110.0	29.96	110.0	30.23	110.0	30.51	104.4	28.44
	15.0	13.7	113.2	32.09	113.2	32.75	113.2	33.31	113.2	33.67	112.4	33.52	104.4	27.40
19.0	14.2	119.6	36.57	119.6	38.78	119.6	39.25	119.6	39.78	118.8	39.39	104.4	25.53	
21.0	15.0	122.8	38.13	122.8	40.49	122.8	40.86	122.8	41.47	122.0	37.14	104.4	24.58	
110	-14.7	-15.0	63.6	20.76	63.6	21.61	63.6	22.45	63.6	22.91	63.6	23.34	63.6	24.18
	-12.6	-13.0	67.2	21.52	67.2	22.32	67.2	23.17	67.2	23.55	67.2	23.97	67.2	24.77
	-10.5	-11.0	70.4	22.20	70.4	23.00	70.4	23.76	70.4	24.14	70.4	24.48	70.4	25.32
	-9.5	-10.0	72.4	22.53	72.4	23.29	72.4	24.05	72.4	24.43	72.4	24.81	72.4	25.57
	-8.5	-9.1	74.0	22.79	74.0	23.55	74.0	24.31	74.0	24.64	74.0	25.02	74.0	25.74
	-7.0	-7.6	76.4	23.21	76.4	23.97	76.4	24.69	76.4	25.02	76.4	25.40	76.4	26.08
	-5.0	-5.6	80.0	23.76	80.0	24.48	80.0	25.15	80.0	25.49	80.0	25.83	80.0	28.21
	-3.0	-3.7	83.2	24.22	83.2	24.90	83.2	25.53	83.2	25.87	83.2	26.25	83.2	31.73
	0.0	-0.7	88.4	24.90	88.4	25.53	88.4	26.12	88.4	26.46	88.4	26.88	88.4	37.31
	3.0	2.2	94.0	25.49	94.0	26.04	94.0	26.59	94.0	26.92	94.0	32.12	94.0	40.68
	5.0	4.1	96.8	25.83	96.8	26.38	96.8	26.66	96.8	29.44	96.8	37.48	96.4	37.71
	7.0	6.0	100.0	26.14	100.0	26.69	100.0	28.97	100.0	30.61	100.0	40.61	96.4	29.67
	9.0	7.9	103.2	27.05	103.2	27.57	103.2	32.14	103.2	39.19	102.4	37.93	96.4	28.55
	11.0	9.8	106.8	28.85	106.4	29.44	106.4	36.81	106.4	41.82	102.4	29.91	96.4	26.62
	13.0	11.8	110.0	29.63	110.0	30.19	110.0	39.42	106.4	33.99	102.4	27.85	96.4	24.04
	15.0	13.7	113.2	33.06	113.2	33.62	110.0	32.70	106.4	28.92	102.4	26.89	96.4	23.27
19.0	14.2	119.6	39.37	119.6	39.72	110.0	31.15	106.4	27.80	102.4	25.44	96.4	22.20	
21.0	15.0	122.8	39.78	122.8	41.40	110.0	27.80	106.4	25.89	102.4	24.41	96.4	21.48	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	-14.7	-15.0	63.6	22.11	63.6	22.91	63.6	23.63	63.6	24.05	63.6	24.48	63.6	25.24
	-12.6	-13.0	67.2	22.83	67.2	23.55	67.2	24.31	67.2	24.69	67.2	25.02	67.2	25.74
	-10.5	-11.0	70.4	23.46	70.4	24.14	70.4	24.86	70.4	25.19	70.4	25.57	70.4	26.25
	-9.5	-10.0	72.4	23.76	72.4	24.43	72.4	25.11	72.4	25.45	72.4	25.74	72.4	26.50
	-8.5	-9.1	74.0	23.97	74.0	24.64	74.0	25.32	74.0	25.66	74.0	26.00	74.0	27.13
	-7.0	-7.6	76.4	24.39	76.4	25.02	76.4	25.70	76.4	26.00	76.4	26.33	76.4	30.10
	-5.0	-5.6	80.0	24.86	80.0	25.49	80.0	26.12	80.0	26.42	80.0	27.17	80.0	34.62
	-3.0	-3.7	83.2	25.28	83.2	25.87	83.2	26.46	83.2	26.80	83.2	29.31	83.2	35.99
	0.0	-0.7	88.4	25.87	88.4	26.46	88.4	27.01	88.4	27.77	88.4	33.47	87.2	33.12
	3.0	2.2	94.0	26.42	94.0	26.92	94.0	27.43	94.0	33.67	94.0	39.54	87.2	28.74
	5.0	4.1	96.8	26.71	96.8	27.22	96.8	27.73	96.8	40.50	94.0	32.65	87.2	25.49
	7.0	6.0	100.0	27.03	100.0	27.45	100.0	28.00	96.8	34.96	94.0	28.83	87.2	24.49
	9.0	7.9	103.2	27.91	103.2	29.10	100.0	27.29	96.8	30.21	94.0	25.66	87.2	23.14
	11.0	9.8	106.4	29.76	106.4	32.51	100.0	26.26	96.8	25.28	94.0	23.93	87.2	21.94
	13.0	11.8	110.0	30.51	106.4	29.96	100.0	24.90	96.8	23.97	94.0	23.04	87.2	21.18
15.0	13.7	112.8	33.71	106.4	27.15	100.0	24.05	96.8	23.12	94.0	22.24	87.2	20.47	
19.0	14.2	118.8	34.89	106.4	25.28	100.0	23.12	96.8	22.62	94.0	21.48	87.2	19.75	
21.0	15.0	122.0	35.65	106.4	24.34	100.0	22.24	96.8	21.86	94.0	20.76	87.2	23.29	
90	-14.7	-15.0	63.6	23.50	63.6	24.18	63.6	24.90	63.6	25.24	63.6	25.62	63.6	26.29
	-12.6	-13.0	67.2	24.14	67.2	24.77	67.2	25.45	67.2	25.74	67.2	26.12	67.2	26.80
	-10.5	-11.0	70.4	24.69	70.4	25.32	70.4	25.95	70.4	26.25	70.4	26.59	70.4	27.69
	-9.5	-10.0	72.4	24.90	72.4	25.57	72.4	26.16	72.4	26.50	72.4	26.80	72.4	30.61
	-8.5	-9.1	74.0	25.15	74.0	25.74	74.0	26.38	74.0	27.13	74.0	27.43	74.0	34.94
	-7.0	-7.6	76.4	25.53	76.4	26.12	76.4	26.67	76.4	28.36	76.4	30.42	76.4	40.32
	-5.0	-5.6	80.0	25.95	80.0	26.50	80.0	27.09	80.0	30.16	80.0	34.99	78.4	30.61
	-3.0	-3.7	83.2	26.33	83.2	26.88	83.2	29.15	83.2	35.99	83.2	40.44	78.4	26.97
	0.0	-0.7	88.4	26.88	88.4	28.33	88.4	32.63	87.2	32.12	84.4	29.49	78.4	24.64
	3.0	2.2	94.0	27.35	94.0	35.20	90.0	28.48	87.2	28.74	84.4	25.53	78.4	23.09
	5.0	4.1	96.8	27.60	95.6	30.89	90.0	27.32	87.2	25.49	84.4	24.49	78.4	21.82
	7.0	6.0	100.0	35.25	95.6	29.17	90.0	25.02	87.2	23.72	84.4	22.79	78.4	20.97
	9.0	7.9	102.0	31.98	95.6	26.36	90.0	23.72	87.2	22.79	84.4	21.94	78.4	20.21
	11.0	9.8	102.0	29.44	95.6	24.81	90.0	22.79	87.2	21.94	84.4	21.10	78.4	19.49
	13.0	11.8	102.0	26.58	95.6	23.63	90.0	21.94	87.2	21.18	84.4	20.38	78.4	18.78
15.0	13.7	102.0	24.90	95.6	22.79	90.0	21.27	87.2	20.47	84.4	19.71	78.4	18.14	
19.0	14.2	102.0	23.88	95.6	21.94	90.0	20.21	87.2	19.62	84.4	19.07	78.4	17.51	
21.0	15.0	102.0	22.91	95.6	21.10	90.0	18.95	87.2	18.69	84.4	18.57	78.4	16.88	
80	-14.7	-15.0	63.6	24.86	63.6	25.49	63.6	26.12	63.6	26.42	63.6	26.76	63.6	32.27
	-12.6	-13.0	67.2	25.40	67.2	26.00	67.2	26.59	67.2	26.88	67.2	27.64	67.2	39.31
	-10.5	-11.0	70.4	25.91	70.4	26.50	70.4	27.05	70.4	27.82	70.4	30.80	70.0	33.62
	-9.5	-10.0	72.4	26.16	72.4	26.71	72.4	27.26	72.4	28.93	72.4	35.20	70.0	29.08
	-8.5	-9.1	74.0	26.33	74.0	26.88	74.0	27.43	74.0	30.53	74.0	40.50	70.0	28.08
	-7.0	-7.6	76.4	26.67	76.4	27.18	76.4	29.47	76.4	36.37	74.8	33.26	70.0	25.54
	-5.0	-5.6	80.0	27.01	80.0	29.81	80.0	32.82	78.0	31.54	74.8	28.97	70.0	24.21
	-3.0	-3.7	83.2	29.15	83.2	35.25	80.0	28.48	78.0	27.42	74.8	25.06	70.0	22.70
	0.0	-0.7	88.4	35.25	85.2	29.91	80.0	25.24	78.0	24.71	74.8	23.35	70.0	21.10
	3.0	2.2	90.4	31.39	85.2	26.31	80.0	23.57	78.0	22.37	74.8	21.52	70.0	19.83
	5.0	4.1	90.4	27.47	85.2	24.79	80.0	22.32	78.0	21.52	74.8	20.68	70.0	19.07
	7.0	6.0	90.4	25.96	85.2	23.28	80.0	21.48	78.0	20.68	74.8	19.87	70.0	18.36
	9.0	7.9	90.4	24.21	85.2	22.24	80.0	20.68	78.0	19.92	74.8	19.16	70.0	17.68
	11.0	9.8	90.4	23.11	85.2	21.44	80.0	19.92	78.0	19.20	74.8	18.48	70.0	17.09
	13.0	11.8	90.4	22.07	85.2	20.63	80.0	19.20	78.0	18.52	74.8	17.81	70.0	16.46
15.0	13.7	90.4	21.31	85.2	19.92	80.0	18.57	78.0	17.89	74.8	17.26	70.0	15.95	
19.0	14.2	90.4	20.55	85.2	19.16	80.0	17.93	78.0	17.26	74.8	16.67	70.0	15.44	
21.0	15.0	90.4	19.79	85.2	18.02	80.0	17.30	78.0	16.58	74.8	16.54	70.0	14.94	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-14.7	-15.0	63.6	26.25	63.6	26.80	63.6	27.35	63.6	32.22	63.6	39.37	61.2	28.44
	-12.6	-13.0	67.2	26.71	67.2	27.22	67.2	29.56	67.2	36.43	66.0	34.57	61.2	26.69
	-10.5	-11.0	70.4	27.14	70.4	27.88	70.0	32.58	67.6	31.24	66.0	28.69	61.2	25.17
	-9.5	-10.0	72.4	27.35	72.4	30.60	70.0	28.75	67.6	27.73	66.0	26.57	61.2	23.31
	-8.5	-9.1	74.0	29.29	74.0	35.47	70.0	26.73	67.6	26.14	66.0	24.73	61.2	22.37
	-7.0	-7.6	76.4	35.20	74.4	31.78	70.0	25.62	67.6	24.31	66.0	23.34	61.2	25.70
	-5.0	-5.6	78.8	32.32	74.4	27.02	70.0	23.93	67.6	23.04	66.0	22.15	61.2	20.42
	-3.0	-3.7	78.8	28.09	74.4	25.36	70.0	22.83	67.6	21.99	66.0	21.10	61.2	19.41
	0.0	-0.7	78.8	25.70	74.4	23.07	70.0	21.27	67.6	20.47	66.0	19.71	61.2	18.14
	3.0	2.2	78.8	23.31	74.4	21.39	70.0	19.92	67.6	19.20	66.0	18.48	61.2	17.09
	5.0	4.1	78.8	22.22	74.4	20.55	70.0	19.16	67.6	18.44	66.0	17.72	61.2	16.41
	7.0	6.0	78.8	21.10	74.4	19.79	70.0	18.44	67.6	17.72	66.0	17.13	61.2	15.82
	9.0	7.9	78.8	20.38	74.4	19.07	70.0	17.72	67.6	17.13	66.0	16.46	61.2	15.27
	11.0	9.8	78.8	19.66	74.4	18.40	70.0	17.13	67.6	16.54	66.0	15.95	61.2	14.72
	13.0	11.8	78.8	18.95	74.4	17.72	70.0	16.54	67.6	15.95	66.0	15.36	61.2	14.22
	15.0	13.7	78.8	18.31	74.4	17.13	70.0	15.99	67.6	15.44	66.0	14.89	61.2	13.80
19.0	14.2	78.8	17.68	74.4	16.58	70.0	15.44	67.6	14.94	66.0	14.43	61.2	13.37	
21.0	15.0	78.8	17.05	74.4	15.70	70.0	14.89	67.6	14.43	66.0	14.01	61.2	12.95	
60	-14.7	-15.0	63.6	29.38	63.6	35.52	60.0	26.56	58.0	25.58	56.0	24.59	52.4	22.28
	-12.6	-13.0	67.2	35.47	64.0	29.58	60.0	24.98	58.0	23.99	56.0	23.09	52.4	20.93
	-10.5	-11.0	67.6	31.24	64.0	26.18	60.0	23.52	58.0	22.62	56.0	21.44	52.4	19.75
	-9.5	-10.0	67.6	27.69	64.0	25.43	60.0	22.84	58.0	21.98	56.0	20.85	52.4	19.20
	-8.5	-9.1	67.6	26.58	64.0	24.00	60.0	21.94	58.0	21.10	56.0	20.34	52.4	18.73
	-7.0	-7.6	67.6	24.68	64.0	23.05	60.0	21.06	58.0	20.25	56.0	19.54	52.4	18.02
	-5.0	-5.6	67.6	23.24	64.0	21.71	60.0	20.00	58.0	19.28	56.0	18.57	52.4	17.13
	-3.0	-3.7	67.6	21.94	64.0	20.51	60.0	19.11	58.0	18.40	56.0	17.72	52.4	16.37
	0.0	-0.7	67.6	20.47	64.0	19.11	60.0	17.85	58.0	17.22	56.0	16.58	52.4	15.32
	3.0	2.2	67.6	19.20	64.0	17.98	60.0	16.75	58.0	16.16	56.0	15.57	52.4	14.43
	5.0	4.1	67.6	18.44	64.0	17.26	60.0	16.12	58.0	15.57	56.0	14.98	52.4	13.88
	7.0	6.0	67.6	17.76	64.0	16.62	60.0	15.53	58.0	14.98	56.0	14.47	52.4	13.37
	9.0	7.9	67.6	17.13	64.0	16.03	60.0	14.98	58.0	14.47	56.0	13.92	52.4	12.95
	11.0	9.8	67.6	16.54	64.0	15.48	60.0	14.47	58.0	13.92	56.0	13.50	52.4	12.53
	13.0	11.8	67.6	15.95	64.0	14.94	60.0	13.92	58.0	13.50	56.0	13.04	52.4	12.11
	15.0	13.7	67.6	15.44	64.0	14.47	60.0	13.50	58.0	13.08	56.0	12.61	52.4	11.73
19.0	14.2	67.6	14.94	64.0	14.01	60.0	13.08	58.0	12.66	56.0	12.19	52.4	11.31	
21.0	15.0	67.6	14.43	64.0	13.50	60.0	12.66	58.0	12.23	56.0	11.77	52.4	10.93	
50	-14.7	-15.0	56.4	24.56	53.2	22.94	50.0	21.10	48.4	20.38	46.8	19.58	43.6	18.06
	-12.6	-13.0	56.4	23.07	53.2	21.54	50.0	19.83	48.4	19.16	46.8	18.44	43.6	17.05
	-10.5	-11.0	56.4	21.52	53.2	20.13	50.0	18.78	48.4	18.10	46.8	17.43	43.6	16.12
	-9.5	-10.0	56.4	20.97	53.2	19.58	50.0	18.27	48.4	17.60	46.8	16.96	43.6	15.70
	-8.5	-9.1	56.4	20.42	53.2	19.11	50.0	17.81	48.4	17.17	46.8	16.54	43.6	15.32
	-7.0	-7.6	56.4	19.62	53.2	18.40	50.0	17.13	48.4	16.54	46.8	15.95	43.6	14.72
	-5.0	-5.6	56.4	18.65	53.2	17.47	50.0	16.33	48.4	15.74	46.8	15.19	43.6	14.05
	-3.0	-3.7	56.4	17.85	53.2	16.71	50.0	15.61	48.4	15.06	46.8	14.51	43.6	13.46
	0.0	-0.7	56.4	16.67	53.2	15.61	50.0	14.60	48.4	14.09	46.8	13.59	43.6	12.61
	3.0	2.2	56.4	15.65	53.2	14.68	50.0	13.69	48.4	13.29	46.8	12.83	43.6	11.90
	5.0	4.1	56.4	15.06	53.2	14.13	50.0	13.25	48.4	12.78	46.8	12.36	43.6	11.47
	7.0	6.0	56.4	14.51	53.2	13.63	50.0	12.78	48.4	12.36	46.8	11.94	43.6	11.09
	9.0	7.9	56.4	14.01	53.2	13.16	50.0	12.36	48.4	11.94	46.8	11.52	43.6	10.71
	11.0	9.8	56.4	23.00	53.2	12.74	50.0	11.94	48.4	11.56	46.8	11.14	43.6	10.38
	13.0	11.8	56.4	13.08	53.2	12.32	50.0	11.56	48.4	11.18	46.8	10.80	43.6	10.04
	15.0	13.7	56.4	12.66	53.2	11.94	50.0	11.18	48.4	10.84	46.8	10.46	43.6	9.70
19.0	14.2	56.4	12.23	53.2	11.56	50.0	10.80	48.4	10.42	46.8	10.12	43.6	9.36	
21.0	15.0	56.4	11.81	53.2	11.18	50.0	10.46	48.4	10.08	46.8	9.79	43.6	9.03	

K: AV34NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	67.8	19.73	67.8	20.80	67.8	21.94	67.7	22.49	67.7	23.04	67.7	24.14
	-12.6	-13.0	71.5	20.70	71.5	21.72	71.5	22.81	71.5	23.34	71.5	23.87	71.5	24.91
	-10.5	-11.0	75.0	21.62	75.0	22.59	75.0	23.56	75.0	24.09	75.0	24.61	75.0	25.56
	-9.5	-10.0	77.1	22.03	77.1	23.00	77.1	23.96	77.1	24.45	77.1	24.93	77.1	25.86
	-8.5	-9.1	78.8	22.40	78.8	23.32	78.8	24.28	78.8	24.77	78.8	25.26	78.8	26.17
	-7.0	-7.6	81.5	22.94	81.5	23.87	81.5	24.78	81.5	25.24	81.5	25.70	81.5	26.63
	-5.0	-5.6	85.2	23.64	85.2	24.48	85.2	25.38	85.2	25.82	85.2	26.25	85.2	27.14
	-3.0	-3.7	88.6	24.24	88.6	25.07	88.6	25.93	88.6	26.35	88.6	26.76	88.6	27.58
	0.0	-0.7	94.2	25.07	94.2	25.86	94.2	26.68	94.2	27.07	94.2	27.46	94.2	28.23
	3.0	2.2	99.8	25.80	99.8	26.59	99.8	27.32	99.8	27.69	99.8	28.06	99.8	28.83
	5.0	4.1	103.1	26.26	103.1	26.99	103.1	27.69	103.1	28.06	103.1	28.42	103.1	29.16
	7.0	6.0	106.5	26.69	106.5	27.38	106.5	28.07	106.5	28.44	106.5	28.80	106.5	29.50
	9.0	7.9	110.0	27.60	109.9	28.26	109.9	28.99	109.9	29.32	109.9	29.65	109.9	30.35
	11.0	9.8	113.7	29.37	113.7	30.07	113.7	30.76	113.7	31.12	113.7	31.48	113.7	32.15
	13.0	11.8	117.2	30.08	117.2	30.78	117.2	31.47	117.2	31.82	117.2	32.16	117.2	32.86
	15.0	13.7	120.6	33.67	120.6	34.42	120.6	35.15	120.6	35.52	120.6	35.89	120.6	36.58
	19.0	14.2	127.3	39.11	127.3	39.77	127.3	40.60	127.3	41.06	127.3	41.51	127.3	41.97
21.0	15.0	131.3	41.68	131.3	42.32	131.3	43.15	131.3	43.57	131.3	43.99	131.3	44.50	
120	-14.7	-15.0	67.8	21.21	67.7	22.18	67.7	23.27	67.7	23.78	67.7	24.28	67.7	25.30
	-12.6	-13.0	71.5	22.12	71.5	23.09	71.5	24.03	71.5	24.53	71.5	25.03	71.5	25.98
	-10.5	-11.0	75.0	22.96	75.0	23.87	75.0	24.80	75.0	25.25	75.0	25.71	75.0	26.63
	-9.5	-10.0	77.1	23.32	77.1	24.24	77.1	25.12	77.1	25.57	77.1	26.03	77.1	26.90
	-8.5	-9.1	78.8	23.68	78.8	24.55	78.8	25.39	78.8	25.85	78.8	26.30	78.8	27.18
	-7.0	-7.6	81.5	24.19	81.5	25.03	81.5	25.86	81.5	26.29	81.5	26.72	81.5	27.58
	-5.0	-5.6	85.2	24.83	85.2	25.62	85.2	26.45	85.2	26.85	85.2	27.26	85.2	28.06
	-3.0	-3.7	88.6	25.38	88.6	26.16	88.6	26.93	88.6	27.31	88.6	27.69	88.6	28.48
	0.0	-0.7	94.2	26.16	94.2	26.90	94.2	27.63	94.2	28.00	94.2	28.37	94.2	29.08
	3.0	2.2	99.8	26.80	99.8	27.54	99.8	28.23	99.8	28.58	99.8	28.92	99.8	29.60
	5.0	4.1	103.1	27.22	103.1	27.91	103.1	28.56	103.1	28.90	103.1	29.24	103.1	29.90
	7.0	6.0	106.5	27.62	106.5	28.25	106.5	28.94	106.5	29.26	106.5	29.58	106.5	34.71
	9.0	7.9	109.9	28.53	109.9	29.17	109.9	29.79	109.9	30.03	109.9	30.26	109.9	39.87
	11.0	9.8	113.7	30.14	113.7	30.78	113.7	31.45	113.4	31.94	113.4	32.44	111.2	34.49
	13.0	11.8	117.2	31.02	117.2	31.66	117.2	32.29	117.2	33.70	117.2	35.12	111.2	30.62
	15.0	13.7	120.6	34.66	120.6	35.36	120.6	35.97	120.6	36.58	120.0	37.18	111.2	29.34
	19.0	14.2	127.3	39.99	127.3	40.78	127.3	41.21	127.3	41.34	126.7	41.47	111.2	27.93
21.0	15.0	131.3	42.46	131.3	43.33	131.3	43.68	131.3	41.16	130.7	38.64	111.2	26.95	
110	-14.7	-15.0	67.7	22.71	67.7	23.64	67.7	24.56	67.7	25.04	67.7	25.52	67.7	26.45
	-12.6	-13.0	71.5	23.54	71.5	24.43	71.5	25.33	71.5	25.77	71.5	26.22	71.5	27.09
	-10.5	-11.0	75.0	24.29	75.0	25.15	75.0	25.98	75.0	26.38	75.0	26.78	75.0	27.68
	-9.5	-10.0	77.1	24.65	77.1	25.48	77.1	26.30	77.1	26.71	77.1	27.13	77.1	27.94
	-8.5	-9.1	78.8	24.93	78.8	25.75	78.8	26.57	78.8	26.97	78.8	27.36	78.8	28.15
	-7.0	-7.6	81.5	25.39	81.5	26.20	81.5	26.99	81.5	27.38	81.5	27.77	81.5	28.52
	-5.0	-5.6	85.2	25.99	85.2	26.76	85.2	27.50	85.2	27.87	85.2	28.23	85.2	30.68
	-3.0	-3.7	88.6	26.50	88.6	27.22	88.6	27.92	88.6	28.30	88.6	28.69	88.6	33.76
	0.0	-0.7	94.2	27.22	94.1	27.91	94.1	28.56	94.1	29.77	94.1	30.97	94.1	38.44
	3.0	2.2	99.8	27.87	99.8	28.47	99.8	29.08	99.8	31.63	99.8	34.19	99.8	40.57
	5.0	4.1	103.1	28.23	103.1	28.83	103.1	31.17	103.1	34.89	103.1	38.61	102.5	39.04
	7.0	6.0	106.5	28.58	106.5	29.17	106.5	31.50	106.5	35.92	106.5	40.34	102.5	30.78
	9.0	7.9	109.9	29.46	109.9	30.03	109.9	34.65	109.9	36.96	109.1	39.28	102.5	29.62
	11.0	9.8	113.7	31.07	113.4	31.69	113.4	41.18	113.3	36.10	109.1	31.03	102.5	28.49
	13.0	11.8	117.2	31.96	117.2	32.55	117.2	42.88	113.3	36.35	109.1	29.83	102.5	25.86
	15.0	13.7	120.6	34.94	120.6	35.53	117.2	34.01	113.3	31.40	109.1	28.79	102.5	25.02
	19.0	14.2	127.3	41.28	127.3	41.84	117.2	29.68	113.3	28.53	109.1	27.38	102.5	23.97
21.0	15.0	131.3	42.47	131.3	44.34	117.2	28.36	113.3	27.24	109.1	26.12	102.5	23.02	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
100	-14.7	-15.0	67.7	24.20	67.7	25.06	67.7	25.86	67.7	26.31	67.7	26.76	67.7	27.59
	-12.6	-13.0	71.5	24.97	71.5	25.76	71.5	26.57	71.5	26.97	71.5	27.37	71.5	28.16
	-10.5	-11.0	75.0	25.66	75.0	26.40	75.0	27.18	75.0	27.56	75.0	27.94	75.0	28.70
	-9.5	-10.0	77.1	25.97	77.1	26.72	77.1	27.46	77.1	27.81	77.1	28.16	77.1	28.97
	-8.5	-9.1	78.8	26.22	78.8	26.95	78.8	27.69	78.8	28.06	78.8	28.42	78.8	29.16
	-7.0	-7.6	81.5	26.67	81.5	27.36	81.5	28.09	81.5	28.43	81.5	28.78	81.5	31.23
	-5.0	-5.6	85.2	27.18	85.2	27.87	85.2	28.55	85.2	28.88	85.2	29.20	85.2	34.35
	-3.0	-3.7	88.6	27.65	88.6	28.29	88.6	28.92	88.6	30.13	88.6	31.35	88.6	34.95
	0.0	-0.7	94.1	28.29	94.1	28.92	94.1	29.51	94.1	32.06	94.1	34.62	92.9	32.08
	3.0	2.2	99.8	28.88	99.8	29.43	99.8	29.99	99.8	34.72	99.8	39.46	92.9	29.81
	5.0	4.1	103.1	29.20	103.1	29.75	103.1	30.31	103.1	32.04	100.0	33.78	92.9	27.38
	7.0	6.0	106.5	29.54	106.5	30.02	106.5	30.60	103.1	30.25	100.0	29.90	92.9	26.31
	9.0	7.9	109.9	30.40	109.9	33.02	106.5	29.80	103.1	28.68	100.0	27.55	92.9	25.29
	11.0	9.8	113.4	32.04	113.3	34.57	106.5	28.68	103.1	27.42	100.0	26.16	92.9	24.03
	13.0	11.8	117.2	32.90	113.3	31.81	106.5	27.22	103.1	26.21	100.0	25.20	92.9	23.19
	15.0	13.7	120.1	35.65	113.3	29.40	106.5	26.30	103.1	25.32	100.0	24.33	92.9	22.41
19.0	14.2	126.3	37.15	113.3	27.97	106.5	25.14	103.1	24.40	100.0	23.66	92.9	21.63	
21.0	15.0	130.5	37.15	113.3	26.29	106.5	24.27	103.1	23.63	100.0	23.00	92.9	24.06	
90	-14.7	-15.0	67.7	25.70	67.7	26.45	67.7	27.22	67.7	27.61	67.7	28.00	67.7	28.75
	-12.6	-13.0	71.5	26.39	71.5	27.09	71.5	27.82	71.5	28.19	71.5	28.56	71.5	29.29
	-10.5	-11.0	75.0	26.99	75.0	27.37	75.0	28.37	75.0	28.72	75.0	29.06	75.0	29.75
	-9.5	-10.0	77.1	27.25	77.1	27.96	77.1	28.61	77.1	28.95	77.1	29.30	77.1	31.75
	-8.5	-9.1	78.8	27.51	78.8	28.15	78.8	28.83	78.8	29.16	78.8	29.49	78.8	34.65
	-7.0	-7.6	81.5	27.91	81.5	28.55	81.5	29.16	81.5	30.36	81.5	31.56	81.4	39.28
	-5.0	-5.6	85.2	28.37	85.2	28.98	85.2	29.60	85.2	32.16	85.2	34.71	83.4	31.75
	-3.0	-3.7	88.6	28.79	88.6	29.38	88.6	31.69	88.6	35.55	88.6	39.40	83.4	28.96
	0.0	-0.7	94.1	29.38	94.1	29.93	94.1	34.99	92.7	32.79	89.8	30.59	83.4	26.91
	3.0	2.2	99.8	29.89	99.8	37.22	95.8	30.97	92.7	29.19	89.8	27.41	83.4	25.23
	5.0	4.1	103.1	30.17	102.0	34.33	95.8	29.71	92.7	28.01	89.8	26.31	83.4	23.87
	7.0	6.0	106.5	37.28	102.0	31.47	95.8	27.33	92.7	26.13	89.8	24.93	83.4	22.96
	9.0	7.9	108.5	32.45	102.0	28.48	95.8	25.94	92.7	24.97	89.8	24.01	83.4	22.12
	11.0	9.8	108.5	31.27	102.0	26.90	95.8	24.95	92.7	24.03	89.8	23.10	83.4	21.35
	13.0	11.8	108.5	28.26	102.0	25.86	95.8	24.03	92.7	23.17	89.8	22.30	83.4	20.57
	15.0	13.7	108.5	26.77	102.0	24.95	95.8	23.27	92.7	22.41	89.8	21.56	83.4	19.88
19.0	14.2	108.5	25.85	102.0	24.03	95.8	22.25	92.7	21.56	89.8	20.87	83.4	19.20	
21.0	15.0	108.5	24.85	102.0	23.10	95.8	21.06	92.7	20.70	89.8	20.34	83.4	18.54	
80	-14.7	-15.0	67.7	27.18	67.7	27.87	67.7	28.55	67.7	28.90	67.7	29.24	67.7	34.35
	-12.6	-13.0	71.5	27.78	71.5	28.42	71.5	29.06	71.5	29.39	71.5	29.72	71.5	39.22
	-10.5	-11.0	75.0	28.33	75.0	28.96	75.0	29.57	75.0	30.76	75.0	31.95	74.5	34.95
	-9.5	-10.0	77.1	28.59	77.1	29.20	77.1	29.79	77.1	32.35	77.1	34.92	74.5	31.13
	-8.5	-9.1	78.8	28.79	78.8	29.39	78.8	29.98	78.8	34.71	78.8	39.44	74.5	30.30
	-7.0	-7.6	81.5	29.33	81.5	29.89	81.4	32.04	81.4	33.21	79.7	34.39	74.5	27.88
	-5.0	-5.6	85.2	30.29	85.2	32.65	85.2	35.19	82.8	32.62	79.7	30.05	74.5	26.44
	-3.0	-3.7	88.6	32.46	88.6	37.28	85.2	30.97	82.8	29.18	79.7	27.38	74.5	24.84
	0.0	-0.7	94.1	37.28	90.7	31.76	85.2	27.56	82.8	26.53	79.7	25.51	74.5	23.11
	3.0	2.2	96.1	31.86	90.7	28.48	85.2	25.76	82.8	24.65	79.7	23.54	74.5	21.71
	5.0	4.1	96.1	29.26	90.7	26.80	85.2	24.43	82.8	23.53	79.7	22.63	74.5	20.87
	7.0	6.0	96.1	27.60	90.7	25.41	85.2	23.50	82.8	22.63	79.7	21.77	74.5	20.11
	9.0	7.9	96.1	26.04	90.7	24.32	85.2	22.63	82.8	21.80	79.7	20.98	74.5	19.37
	11.0	9.8	96.1	25.07	90.7	23.45	85.2	21.81	82.8	21.03	79.7	20.24	74.5	18.72
	13.0	11.8	96.1	24.15	90.7	22.59	85.2	21.03	82.8	20.27	79.7	19.52	74.5	18.04
	15.0	13.7	96.1	23.32	90.7	21.81	85.2	20.34	82.8	19.62	79.7	18.91	74.5	17.48
19.0	14.2	96.1	22.51	90.7	21.08	85.2	19.65	82.8	18.97	79.7	18.29	74.5	16.93	
21.0	15.0	96.1	21.72	90.7	20.08	85.2	18.98	82.8	18.51	79.7	18.03	74.5	16.40	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-14.7	-15.0	67.7	28.69	67.7	29.28	67.7	29.89	67.7	34.59	67.7	39.29	65.1	31.12
	-12.6	-13.0	71.5	29.20	71.5	29.76	71.5	32.14	71.5	33.21	70.1	34.29	65.1	29.04
	-10.5	-11.0	75.0	29.66	75.0	30.21	74.6	34.93	72.0	32.34	70.1	29.76	65.1	27.37
	-9.5	-10.0	77.1	30.65	77.1	32.99	74.6	31.27	72.0	29.45	70.1	27.63	65.1	25.46
	-8.5	-9.1	78.8	32.61	78.8	37.50	74.6	29.18	72.0	27.88	70.1	26.58	65.1	24.47
	-7.0	-7.6	81.4	37.22	79.3	32.25	74.6	27.99	72.0	26.76	70.1	25.53	65.1	26.67
	-5.0	-5.6	84.0	32.80	79.3	29.27	74.6	26.17	72.0	25.20	70.1	24.23	65.1	22.35
	-3.0	-3.7	84.0	29.92	79.3	27.40	74.6	24.97	72.0	24.04	70.1	23.10	65.1	21.27
	0.0	-0.7	84.0	27.32	79.3	25.02	74.6	23.27	72.0	22.41	70.1	21.56	65.1	19.88
	3.0	2.2	84.0	25.07	79.3	23.42	74.6	21.81	72.0	21.03	70.1	20.24	65.1	18.72
	5.0	4.1	84.0	24.09	79.3	22.50	74.6	20.98	72.0	20.21	70.1	19.43	65.1	17.99
	7.0	6.0	84.0	23.11	79.3	21.66	74.6	20.19	72.0	19.47	70.1	18.76	65.1	17.34
	9.0	7.9	84.0	22.30	79.3	20.88	74.6	19.43	72.0	18.74	70.1	18.05	65.1	16.73
	11.0	9.8	84.0	21.53	79.3	20.15	74.6	18.78	72.0	18.13	70.1	17.48	65.1	16.15
	13.0	11.8	84.0	20.75	79.3	19.41	74.6	18.13	72.0	17.48	70.1	16.83	65.1	15.60
	15.0	13.7	84.0	20.05	79.3	18.78	74.6	17.54	72.0	16.93	70.1	16.33	65.1	15.14
19.0	14.2	84.0	19.38	79.3	18.20	74.6	16.97	72.0	16.41	70.1	15.85	65.1	14.70	
21.0	15.0	84.0	18.73	79.3	17.39	74.6	16.42	72.0	15.91	70.1	15.39	65.1	14.28	
60	-14.7	-15.0	67.7	32.71	67.7	37.56	63.9	29.01	61.8	27.94	59.7	26.86	55.8	24.37
	-12.6	-13.0	71.5	37.50	68.1	31.40	63.9	27.28	61.8	26.25	59.7	25.23	55.8	22.89
	-10.5	-11.0	72.0	31.71	68.1	28.33	63.9	25.70	61.8	24.58	59.7	23.46	55.8	21.62
	-9.5	-10.0	72.0	29.50	68.1	27.03	63.9	24.95	61.8	23.88	59.7	22.81	55.8	21.02
	-8.5	-9.1	72.0	28.24	68.1	25.80	63.9	24.01	61.8	23.13	59.7	22.26	55.8	20.52
	-7.0	-7.6	72.0	26.54	68.1	24.78	63.9	23.05	61.8	22.22	59.7	21.39	55.8	19.74
	-5.0	-5.6	72.0	25.20	68.1	23.54	63.9	21.90	61.8	21.12	59.7	20.34	55.8	18.77
	-3.0	-3.7	72.0	24.02	68.1	22.45	63.9	20.93	61.8	20.17	59.7	19.42	55.8	17.95
	0.0	-0.7	72.0	22.40	68.1	20.94	63.9	19.54	61.8	18.85	59.7	18.17	55.8	16.79
	3.0	2.2	72.0	21.02	68.1	19.68	63.9	18.36	61.8	17.72	59.7	17.08	55.8	15.83
	5.0	4.1	72.0	20.19	68.1	18.92	63.9	17.67	61.8	17.05	59.7	16.44	55.8	15.24
	7.0	6.0	72.0	19.45	68.1	18.22	63.9	17.02	61.8	16.45	59.7	15.87	55.8	14.69
	9.0	7.9	72.0	18.77	68.1	17.58	63.9	16.44	61.8	15.86	59.7	15.29	55.8	14.22
	11.0	9.8	72.0	18.12	68.1	16.98	63.9	15.88	61.8	15.35	59.7	14.82	55.8	13.75
	13.0	11.8	72.0	17.49	68.1	16.39	63.9	15.30	61.8	14.81	59.7	14.31	55.8	13.30
	15.0	13.7	72.0	16.93	68.1	15.88	63.9	14.84	61.8	14.35	59.7	13.86	55.8	12.89
19.0	14.2	72.0	16.39	68.1	15.38	63.9	14.39	61.8	13.85	59.7	13.31	55.8	12.46	
21.0	15.0	72.0	15.88	68.1	14.87	63.9	13.97	61.8	13.44	59.7	12.91	55.8	12.05	
50	-14.7	-15.0	60.1	27.30	56.7	25.51	53.3	23.10	51.5	22.27	49.8	21.44	46.4	19.79
	-12.6	-13.0	60.1	25.65	56.7	23.96	53.3	21.72	51.5	20.96	49.8	20.19	46.4	18.68
	-10.5	-11.0	60.1	23.72	56.7	22.18	53.3	20.56	51.5	19.83	49.8	19.10	46.4	17.67
	-9.5	-10.0	60.1	22.94	56.7	21.44	53.3	20.01	51.5	19.30	49.8	18.58	46.4	17.19
	-8.5	-9.1	60.1	22.36	56.7	20.94	53.3	19.51	51.5	18.82	49.8	18.13	46.4	16.79
	-7.0	-7.6	60.1	21.49	56.7	20.15	53.3	18.77	51.5	18.12	49.8	17.48	46.4	16.15
	-5.0	-5.6	60.1	20.43	56.7	19.14	53.3	17.90	51.5	17.27	49.8	16.65	46.4	15.42
	-3.0	-3.7	60.1	19.54	56.7	18.31	53.3	17.11	51.5	16.51	49.8	15.92	46.4	14.77
	0.0	-0.7	60.1	18.27	56.7	17.12	53.3	16.01	51.5	15.46	49.8	14.91	46.4	13.84
	3.0	2.2	60.1	17.16	56.7	16.11	53.3	15.09	51.5	14.58	49.8	14.08	46.4	13.07
	5.0	4.1	60.1	16.51	56.7	15.51	53.3	14.54	51.5	14.06	49.8	13.57	46.4	12.61
	7.0	6.0	60.1	15.93	56.7	14.96	53.3	14.04	51.5	13.57	49.8	13.11	46.4	12.20
	9.0	7.9	60.1	15.37	56.7	14.46	53.3	13.57	51.5	13.12	49.8	12.66	46.4	11.79
	11.0	9.8	60.1	24.33	56.7	14.00	53.3	13.12	51.5	12.69	49.8	12.25	46.4	11.42
	13.0	11.8	60.1	14.36	56.7	13.53	53.3	12.70	51.5	12.29	49.8	11.87	46.4	11.05
	15.0	13.7	60.1	13.91	56.7	13.12	53.3	12.30	51.5	11.91	49.8	11.51	46.4	10.70
19.0	14.2	60.1	13.47	56.7	12.72	53.3	11.92	51.5	11.54	49.8	11.16	46.4	10.36	
21.0	15.0	60.1	13.03	56.7	12.32	53.3	11.58	51.5	11.17	49.8	10.76	46.4	10.02	

L: AV36NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	72.0	21.04	72.0	22.20	72.0	23.39	71.80	23.99	71.8	24.57	71.8	25.74
	-12.6	-13.0	75.8	22.10	75.8	23.19	75.8	24.32	75.80	24.86	75.8	25.46	75.8	26.55
	-10.5	-11.0	79.6	23.06	79.6	24.09	79.6	25.15	79.60	25.68	79.6	26.24	79.6	27.25
	-9.5	-10.0	81.8	23.50	81.8	24.53	81.8	25.56	81.80	26.05	81.8	26.59	81.8	27.58
	-8.5	-9.1	83.6	23.89	83.6	24.88	83.6	25.89	83.60	26.38	83.6	26.94	83.6	27.91
	-7.0	-7.6	86.6	24.47	86.6	25.46	86.6	26.42	86.60	26.90	86.6	27.39	86.6	28.38
	-5.0	-5.6	90.4	25.21	90.4	26.11	90.4	27.06	90.40	27.54	90.4	27.97	90.4	28.94
	-3.0	-3.7	94.0	25.85	94.0	26.73	94.0	27.64	94.00	28.07	94.0	28.53	94.0	29.39
	0.0	-0.7	100.0	26.73	100.0	27.58	100.0	28.44	100.00	28.86	100.0	29.27	100.0	30.09
	3.0	2.2	105.6	27.52	105.6	28.36	105.6	29.12	105.60	29.52	105.6	29.91	105.6	30.73
	5.0	4.1	109.4	27.99	109.4	28.77	109.4	29.52	109.40	29.91	109.4	30.30	109.4	31.08
	7.0	6.0	113.0	28.44	113.0	29.18	113.0	29.92	113.00	30.31	113.0	30.68	113.0	31.42
	9.0	7.9	116.7	29.30	116.6	30.01	116.6	30.77	116.60	31.12	116.6	31.48	116.6	32.21
	11.0	9.8	120.6	30.54	120.6	31.27	120.6	31.98	120.60	32.34	120.6	32.71	120.6	33.44
	13.0	11.8	124.4	31.36	124.4	32.08	124.4	32.80	124.40	33.15	124.4	33.52	124.4	34.24
15.0	13.7	128.0	34.56	128.0	35.32	128.0	36.08	128.00	36.43	128.0	36.81	128.0	37.54	
19.0	14.2	135.0	39.32	135.0	39.81	135.0	40.77	135.00	41.12	135.0	41.62	135.0	42.16	
21.0	15.0	139.8	41.99	139.8	42.42	139.8	43.41	139.80	43.63	139.8	44.19	139.8	44.80	
120	-14.7	-15.0	71.9	22.63	71.8	23.66	71.8	24.82	71.80	25.35	71.8	25.89	71.8	26.98
	-12.6	-13.0	75.8	23.60	75.8	24.63	75.8	25.64	75.80	26.18	75.8	26.69	75.8	27.70
	-10.5	-11.0	79.6	24.49	79.6	25.46	79.6	26.44	79.60	26.92	79.6	27.41	79.6	28.38
	-9.5	-10.0	81.8	24.88	81.8	25.85	81.8	26.79	81.80	27.27	81.8	27.74	81.8	28.67
	-8.5	-9.1	83.6	25.25	83.6	26.18	83.6	27.08	83.60	27.56	83.6	28.03	83.6	28.98
	-7.0	-7.6	86.6	25.79	86.6	26.69	86.6	27.58	86.60	28.05	86.6	28.48	86.6	29.39
	-5.0	-5.6	90.4	26.47	90.4	27.31	90.4	28.20	90.40	28.63	90.4	29.04	90.4	29.91
	-3.0	-3.7	94.0	27.06	94.0	27.89	94.0	28.69	94.00	29.12	94.0	29.52	94.0	30.36
	0.0	-0.7	100.0	27.89	100.0	28.67	100.0	29.45	100.00	29.85	100.0	30.24	100.0	31.00
	3.0	2.2	105.6	28.57	105.6	29.35	105.6	30.09	105.60	30.44	105.6	30.81	105.6	31.54
	5.0	4.1	109.4	29.02	109.4	29.74	109.4	30.44	109.40	30.81	109.4	31.16	109.4	31.86
	7.0	6.0	113.0	29.44	113.0	30.11	113.0	30.83	113.00	31.18	113.0	31.51	113.0	35.20
	9.0	7.9	116.6	30.29	116.6	30.96	116.6	31.63	116.60	31.98	116.6	32.08	116.6	39.72
	11.0	9.8	120.6	31.19	120.6	31.85	120.6	32.53	120.40	32.85	120.4	34.34	118.0	35.16
	13.0	11.8	124.4	32.32	124.4	33.00	124.4	33.63	124.40	33.98	124.4	37.22	118.0	32.11
15.0	13.7	128.0	35.58	128.0	36.29	128.0	36.93	128.00	37.31	127.6	38.88	118.0	30.63	
19.0	14.2	135.0	40.21	135.0	40.96	135.0	41.33	135.00	42.00	134.6	42.34	118.0	29.29	
21.0	15.0	139.8	43.00	139.8	43.74	139.8	44.05	139.80	44.64	139.4	38.13	118.0	28.30	
110	-14.7	-15.0	71.8	24.22	71.8	25.21	71.8	26.20	71.80	26.71	71.8	27.21	71.8	28.20
	-12.6	-13.0	75.8	25.10	75.8	26.05	75.8	27.00	75.80	27.45	75.8	27.95	75.8	28.88
	-10.5	-11.0	79.6	25.91	79.6	26.82	79.6	27.70	79.60	28.15	79.6	28.57	79.6	29.49
	-9.5	-10.0	81.8	26.28	81.8	27.17	81.8	28.03	81.80	28.48	81.8	28.92	81.8	29.76
	-8.5	-9.1	83.6	26.59	83.6	27.45	83.6	28.32	83.60	28.73	83.6	29.16	83.6	30.01
	-7.0	-7.6	86.6	27.08	86.6	27.93	86.6	28.77	86.60	29.16	86.6	29.60	86.6	30.40
	-5.0	-5.6	90.4	27.72	90.4	28.53	90.4	29.31	90.40	29.70	90.4	30.09	90.4	32.02
	-3.0	-3.7	94.0	28.26	94.0	29.02	94.0	29.76	94.00	30.15	94.0	30.57	94.0	34.23
	0.0	-0.7	99.9	29.02	99.8	29.74	99.8	30.44	99.80	30.81	99.8	32.32	99.8	37.56
	3.0	2.2	105.6	29.70	105.6	30.34	105.6	31.00	105.60	31.37	105.6	34.66	105.6	39.40
	5.0	4.1	109.4	30.09	109.4	30.73	109.4	32.53	109.40	32.87	109.4	37.73	108.6	38.34
	7.0	6.0	113.0	30.46	113.0	31.07	113.0	32.87	113.00	33.17	113.0	39.00	108.6	32.12
	9.0	7.9	116.6	31.27	116.6	31.88	116.6	35.31	116.60	38.04	115.8	38.58	108.6	30.91
	11.0	9.8	120.6	32.14	120.4	32.78	120.4	41.43	120.20	39.20	115.8	32.38	108.6	29.73
	13.0	11.8	124.4	33.31	124.4	33.92	124.4	43.30	120.20	34.19	115.8	31.14	108.6	27.58
15.0	13.7	128.0	35.40	128.0	35.99	124.4	34.66	120.20	31.31	115.8	30.05	108.6	26.67	
19.0	14.2	135.0	41.42	135.0	42.15	124.4	30.68	120.20	29.55	115.8	28.31	108.6	25.28	
21.0	15.0	139.8	43.27	139.8	44.87	124.4	29.16	120.20	28.11	115.8	26.88	108.6	24.13	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	-14.7	-15.0	71.8	25.81	71.8	26.71	71.8	27.58	71.80	28.05	71.8	28.53	71.8	29.41
	-12.6	-13.0	75.8	26.63	75.8	27.47	75.8	28.32	75.80	28.77	75.8	29.19	75.8	30.03
	-10.5	-11.0	79.6	27.35	79.6	28.15	79.6	28.98	79.60	29.37	79.6	29.76	79.6	30.59
	-9.5	-10.0	81.8	27.68	81.8	28.48	81.8	29.27	81.80	29.66	81.8	30.03	81.8	30.88
	-8.5	-9.1	83.6	27.95	83.6	28.73	83.6	29.52	83.60	29.91	83.6	30.30	83.6	31.08
	-7.0	-7.6	86.6	28.42	86.6	29.16	86.6	29.93	86.60	30.30	86.6	30.67	86.6	32.59
	-5.0	-5.6	90.4	28.98	90.4	29.70	90.4	30.42	90.40	30.77	90.4	31.12	90.4	34.84
	-3.0	-3.7	94.0	29.47	94.0	30.15	94.0	30.81	94.00	31.19	94.0	32.70	94.0	35.61
	0.0	-0.7	99.8	30.15	99.8	30.81	99.8	31.43	99.80	31.80	99.8	35.10	98.6	33.64
	3.0	2.2	105.6	30.77	105.6	31.37	105.6	31.97	105.60	35.31	105.6	38.75	98.6	31.12
	5.0	4.1	109.4	31.12	109.4	31.70	109.4	32.30	109.40	38.38	106.0	34.25	98.6	29.05
	7.0	6.0	113.0	31.47	113.0	32.00	113.0	32.60	109.40	34.25	106.0	31.21	98.6	27.90
	9.0	7.9	116.6	32.27	116.6	35.87	113.0	31.48	109.40	31.11	106.0	29.10	98.6	26.74
	11.0	9.8	120.3	33.14	120.2	37.67	113.0	30.30	109.40	29.16	106.0	27.78	98.6	25.54
	13.0	11.8	123.2	34.29	120.2	33.73	113.0	28.90	109.40	27.84	106.0	26.75	98.6	24.63
15.0	13.7	125.4	35.96	120.2	31.68	113.0	27.92	109.40	26.87	106.0	25.85	98.6	23.81	
19.0	14.2	130.1	38.63	120.2	29.86	113.0	26.57	109.40	26.22	106.0	25.26	98.6	22.99	
21.0	15.0	133.5	38.42	120.2	27.52	113.0	25.72	109.40	25.43	106.0	24.66	98.6	24.32	
90	-14.7	-15.0	71.8	27.39	71.8	28.20	71.8	29.02	71.80	29.41	71.8	29.85	71.8	30.65
	-12.6	-13.0	75.8	28.13	75.8	28.88	75.8	29.66	75.80	30.03	75.8	30.44	75.8	31.21
	-10.5	-11.0	79.6	28.77	79.6	28.91	79.6	30.24	79.60	30.59	79.6	30.98	79.6	31.70
	-9.5	-10.0	81.8	29.06	81.8	29.80	81.8	30.50	81.80	30.88	81.8	31.23	81.8	33.13
	-8.5	-9.1	83.6	29.33	83.6	30.01	83.6	30.73	83.60	31.08	83.6	31.43	83.6	35.13
	-7.0	-7.6	86.6	29.74	86.6	30.42	86.6	31.08	86.60	31.43	86.6	32.93	86.4	38.58
	-5.0	-5.6	90.4	30.24	90.4	30.90	90.4	31.54	90.40	31.86	90.4	35.20	88.4	33.13
	-3.0	-3.7	94.0	30.69	94.0	31.31	94.0	33.06	94.00	35.24	94.0	38.70	88.4	30.71
	0.0	-0.7	99.8	31.31	99.8	31.89	99.8	35.49	98.20	33.23	95.2	31.93	88.4	28.55
	3.0	2.2	105.6	31.84	105.6	38.54	101.6	32.32	98.20	31.10	95.2	29.07	88.4	26.76
	5.0	4.1	109.2	32.15	108.4	37.35	101.6	31.01	98.20	29.03	95.2	27.90	88.4	25.46
	7.0	6.0	111.8	38.94	108.4	33.50	101.6	28.98	98.20	27.66	95.2	26.59	88.4	24.49
	9.0	7.9	113.3	34.53	108.4	30.34	101.6	27.66	98.20	26.61	95.2	25.60	88.4	23.60
	11.0	9.8	113.3	33.28	108.4	28.67	101.6	26.63	98.20	25.64	95.2	24.65	88.4	22.78
	13.0	11.8	113.3	30.13	108.4	27.58	101.6	25.64	98.20	24.71	95.2	23.79	88.4	21.95
15.0	13.7	113.3	28.55	108.4	26.63	101.6	24.82	98.20	23.89	95.2	22.98	88.4	21.23	
19.0	14.2	113.3	27.52	108.4	25.64	101.6	23.84	98.20	23.06	95.2	22.26	88.4	20.51	
21.0	15.0	113.3	26.31	108.4	24.65	101.6	22.74	98.20	22.23	95.2	21.70	88.4	19.83	
80	-14.7	-15.0	71.8	28.98	71.8	29.70	71.8	30.42	71.80	30.79	71.8	31.16	71.8	34.84
	-12.6	-13.0	75.8	29.62	75.8	30.30	75.8	30.98	75.80	31.33	75.8	31.68	75.8	38.51
	-10.5	-11.0	79.6	30.20	79.6	30.86	79.6	31.51	79.60	31.84	79.6	33.34	79.0	35.61
	-9.5	-10.0	81.8	30.46	81.8	31.12	81.8	31.74	81.80	32.05	81.8	35.40	79.0	32.49
	-8.5	-9.1	83.6	30.69	83.6	31.33	83.6	31.95	83.60	32.26	83.6	38.73	79.0	31.63
	-7.0	-7.6	86.6	31.42	86.6	32.02	86.4	33.43	86.40	35.60	84.6	34.86	79.0	29.57
	-5.0	-5.6	90.4	32.94	90.4	34.75	90.4	35.69	87.60	32.63	84.6	31.36	79.0	28.05
	-3.0	-3.7	94.0	34.55	94.0	39.93	90.4	32.32	87.60	30.23	84.6	29.05	79.0	26.49
	0.0	-0.7	98.8	39.93	96.2	33.79	90.4	29.23	87.60	28.13	84.6	27.05	79.0	24.67
	3.0	2.2	100.3	33.90	96.2	30.81	90.4	27.34	87.60	26.11	84.6	25.10	79.0	23.17
	5.0	4.1	100.3	31.66	96.2	28.58	90.4	26.05	87.60	25.10	84.6	24.14	79.0	22.26
	7.0	6.0	100.3	29.42	96.2	27.23	90.4	25.06	87.60	24.14	84.6	23.23	79.0	21.46
	9.0	7.9	100.3	27.76	96.2	25.93	90.4	24.14	87.60	23.25	84.6	22.38	79.0	20.67
	11.0	9.8	100.3	26.73	96.2	25.00	90.4	23.27	87.60	22.43	84.6	21.60	79.0	19.97
	13.0	11.8	100.3	25.76	96.2	24.09	90.4	22.45	87.60	21.64	84.6	20.84	79.0	19.27
15.0	13.7	100.3	24.88	96.2	23.27	90.4	21.70	87.60	20.92	84.6	20.18	79.0	18.65	
19.0	14.2	100.3	24.03	96.2	22.59	90.4	20.98	87.60	20.24	84.6	19.54	79.0	18.08	
21.0	15.0	100.3	23.23	96.2	21.73	90.4	20.28	87.60	19.58	84.6	19.17	79.0	17.54	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
70	-14.7	-15.0	71.8	30.57	71.8	31.19	71.8	31.84	71.80	33.34	71.8	38.60	69.0	32.65
	-12.6	-13.0	75.8	31.12	75.8	31.72	75.8	33.53	75.80	35.65	74.2	34.77	69.0	30.31
	-10.5	-11.0	79.6	31.62	79.6	32.19	79.2	35.42	76.40	32.32	74.2	31.06	69.0	28.56
	-9.5	-10.0	81.8	33.33	81.8	35.11	79.2	32.63	76.40	30.54	74.2	29.32	69.0	27.01
	-8.5	-9.1	83.6	34.71	83.6	40.16	79.2	30.94	76.40	29.77	74.2	28.34	69.0	26.09
	-7.0	-7.6	85.8	39.86	84.2	34.33	79.2	29.69	76.40	28.32	74.2	27.23	69.0	27.17
	-5.0	-5.6	87.8	34.91	84.2	31.68	79.2	27.91	76.40	26.88	74.2	25.83	69.0	23.83
	-3.0	-3.7	87.8	32.37	84.2	29.21	79.2	26.63	76.40	25.64	74.2	24.65	69.0	22.71
	0.0	-0.7	87.8	29.13	84.2	26.67	79.2	24.82	76.40	23.89	74.2	22.98	69.0	21.23
	3.0	2.2	87.8	26.73	84.2	24.98	79.2	23.27	76.40	22.43	74.2	21.60	69.0	19.97
	5.0	4.1	87.8	25.68	84.2	24.01	79.2	22.38	76.40	21.54	74.2	20.76	69.0	19.21
	7.0	6.0	87.8	24.67	84.2	23.11	79.2	21.54	76.40	20.76	74.2	20.01	69.0	18.51
	9.0	7.9	87.8	23.79	84.2	22.28	79.2	20.76	76.40	20.03	74.2	19.29	69.0	17.85
	11.0	9.8	87.8	22.96	84.2	21.50	79.2	20.05	76.40	19.35	74.2	18.65	69.0	17.25
13.0	11.8	87.8	22.14	84.2	20.71	79.2	19.35	76.40	18.67	74.2	17.97	69.0	16.67	
15.0	13.7	87.8	21.40	84.2	20.05	79.2	18.74	76.40	18.08	74.2	17.44	69.0	16.18	
19.0	14.2	87.8	20.69	84.2	19.46	79.2	18.16	76.40	17.52	74.2	16.94	69.0	15.73	
21.0	15.0	87.8	20.03	84.2	18.73	79.2	17.62	76.40	17.00	74.2	16.47	69.0	15.31	
60	-14.7	-15.0	71.8	34.82	71.8	40.24	67.8	30.77	65.60	29.63	63.4	28.48	59.2	25.99
	-12.6	-13.0	74.8	40.16	72.2	33.42	67.8	28.92	65.60	27.82	63.4	26.76	59.2	24.40
	-10.5	-11.0	75.2	33.75	72.2	30.64	67.8	27.26	65.60	26.22	63.4	25.02	59.2	23.06
	-9.5	-10.0	75.2	31.92	72.2	28.81	67.8	26.47	65.60	25.49	63.4	24.32	59.2	22.43
	-8.5	-9.1	75.2	30.09	72.2	27.52	67.8	25.60	65.60	24.65	63.4	23.74	59.2	21.89
	-7.0	-7.6	75.2	28.30	72.2	26.42	67.8	24.59	65.60	23.68	63.4	22.82	59.2	21.07
	-5.0	-5.6	75.2	26.86	72.2	25.10	67.8	23.37	65.60	22.53	63.4	21.70	59.2	20.03
	-3.0	-3.7	75.2	25.62	72.2	23.95	67.8	22.32	65.60	21.52	63.4	20.74	59.2	19.17
	0.0	-0.7	75.2	23.89	72.2	22.34	67.8	20.84	65.60	20.12	63.4	19.40	59.2	17.93
	3.0	2.2	75.2	22.43	72.2	21.00	67.8	19.60	65.60	18.92	63.4	18.24	59.2	16.90
	5.0	4.1	75.2	21.54	72.2	20.20	67.8	18.86	65.60	18.22	63.4	17.56	59.2	16.28
	7.0	6.0	75.2	20.76	72.2	19.46	67.8	18.18	65.60	17.56	63.4	16.94	59.2	15.71
	9.0	7.9	75.2	20.03	72.2	18.78	67.8	17.56	65.60	16.96	63.4	16.35	59.2	15.19
	11.0	9.8	75.2	19.33	72.2	18.14	67.8	16.96	65.60	16.37	63.4	15.83	59.2	14.70
13.0	11.8	75.2	18.67	72.2	17.52	67.8	16.37	65.60	15.83	63.4	15.29	59.2	14.22	
15.0	13.7	75.2	18.08	72.2	16.96	67.8	15.87	65.60	15.36	63.4	14.82	59.2	13.79	
19.0	14.2	75.2	17.52	72.2	16.45	67.8	15.42	65.60	14.92	63.4	14.16	59.2	13.36	
21.0	15.0	75.2	17.00	72.2	15.93	67.8	15.00	65.60	14.53	63.4	13.79	59.2	12.92	
50	-14.7	-15.0	62.8	29.69	60.2	27.76	56.6	24.65	54.60	23.79	52.8	22.88	49.2	21.13
	-12.6	-13.0	62.8	27.91	60.2	26.08	56.6	23.19	54.60	22.38	52.8	21.54	49.2	19.93
	-10.5	-11.0	62.8	25.44	60.2	23.79	56.6	21.93	54.60	21.15	52.8	20.38	49.2	18.86
	-9.5	-10.0	62.8	24.47	60.2	22.88	56.6	21.35	54.60	20.57	52.8	19.83	49.2	18.35
	-8.5	-9.1	62.8	23.85	60.2	22.34	56.6	20.82	54.60	20.10	52.8	19.35	49.2	17.93
	-7.0	-7.6	62.8	22.94	60.2	21.50	56.6	20.03	54.60	19.35	52.8	18.65	49.2	17.25
	-5.0	-5.6	62.8	21.81	60.2	20.43	56.6	19.11	54.60	18.43	52.8	17.77	49.2	16.47
	-3.0	-3.7	62.8	20.84	60.2	19.54	56.6	18.26	54.60	17.64	52.8	17.00	49.2	15.79
	0.0	-0.7	62.8	19.50	60.2	18.28	56.6	17.11	54.60	16.51	52.8	15.93	49.2	14.78
	3.0	2.2	62.8	18.32	60.2	17.21	56.6	16.12	54.60	15.58	52.8	15.05	49.2	13.98
	5.0	4.1	62.8	17.62	60.2	16.57	56.6	15.54	54.60	15.01	52.8	14.51	49.2	13.48
	7.0	6.0	62.8	17.03	60.2	15.99	56.6	15.01	54.60	14.51	52.8	14.02	49.2	13.05
	9.0	7.9	62.8	16.43	60.2	15.46	56.6	14.51	54.60	14.02	52.8	13.54	49.2	12.61
	11.0	9.8	62.8	22.20	60.2	14.96	56.6	14.04	54.60	13.58	52.8	13.11	49.2	12.22
13.0	11.8	62.8	15.36	60.2	14.47	56.6	13.58	54.60	13.15	52.8	12.70	49.2	11.83	
15.0	13.7	62.8	14.88	60.2	14.04	56.6	13.17	54.60	12.76	52.8	12.33	49.2	11.48	
19.0	14.2	62.8	14.43	60.2	13.62	56.6	12.80	54.60	12.35	52.8	11.95	49.2	11.13	
21.0	15.0	62.8	13.97	60.2	13.21	56.6	12.45	54.60	11.99	52.8	11.50	49.2	10.80	

M: AV38NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI	KW	PI
130	-14.7	-15.0	76.2	22.36	76.2	22.20	76.2	24.85	75.9	25.49	75.9	26.10	75.9	27.34
	-12.6	-13.0	80.1	23.49	80.1	23.19	80.1	25.84	80.1	26.40	80.1	27.04	80.1	28.18
	-10.5	-11.0	84.2	24.51	84.2	24.09	84.2	26.73	84.2	27.27	84.2	27.87	84.2	28.93
	-9.5	-10.0	86.5	24.96	86.5	24.53	86.5	27.15	86.5	27.66	86.5	28.24	86.5	29.30
	-8.5	-9.1	88.4	25.38	88.4	24.88	88.4	27.50	88.4	28.02	88.4	28.62	88.4	29.64
	-7.0	-7.6	91.7	25.99	91.7	25.46	91.7	28.06	91.7	28.56	91.7	29.09	91.7	30.14
	-5.0	-5.6	95.6	26.78	95.6	26.11	95.6	28.74	95.6	29.24	95.6	29.69	95.6	30.74
	-3.0	-3.7	99.4	27.46	99.4	26.73	99.4	29.35	99.4	29.80	99.4	30.29	99.4	31.20
	0.0	-0.7	105.8	28.40	105.8	27.58	105.8	30.21	105.8	30.63	105.8	31.08	105.8	31.95
	3.0	2.2	111.4	29.23	111.4	28.36	111.4	30.93	111.4	31.34	111.4	31.76	111.4	32.63
	5.0	4.1	115.7	29.72	115.7	28.77	115.7	31.34	115.7	31.76	115.7	32.17	115.7	33.00
	7.0	6.0	119.5	30.19	119.5	29.18	119.5	31.76	119.5	32.18	119.5	32.56	119.5	33.35
	9.0	7.9	123.6	31.01	123.3	30.01	123.3	32.55	123.3	32.92	123.3	33.30	123.3	34.07
	11.0	9.8	127.5	31.70	127.5	31.27	127.5	33.20	127.5	33.56	127.5	33.94	127.5	34.73
	13.0	11.8	131.6	32.65	131.6	32.08	131.6	34.14	131.6	34.49	131.6	34.88	131.6	35.63
15.0	13.7	135.4	35.45	135.4	35.32	135.4	37.00	135.4	37.35	135.4	37.74	135.4	38.51	
17.0	14.2	142.7	39.54	142.7	39.81	142.7	40.94	142.7	41.26	142.7	41.73	142.7	42.34	
19.0	15.0	148.3	42.31	148.3	42.42	148.3	43.66	148.3	43.87	148.3	44.39	148.3	45.10	
120	-14.7	-15.0	76.2	24.05	75.9	23.66	75.9	26.36	75.9	26.93	75.9	27.50	75.9	28.66
	-12.6	-13.0	80.1	25.08	80.1	24.63	80.1	27.25	80.1	27.80	80.1	28.36	80.1	29.42
	-10.5	-11.0	84.2	26.02	84.2	25.46	84.2	28.09	84.2	28.59	84.2	29.12	84.2	30.14
	-9.5	-10.0	86.5	26.43	86.5	25.85	86.5	28.47	86.5	28.96	86.5	29.46	86.5	30.44
	-8.5	-9.1	88.4	26.82	88.4	26.18	88.4	28.77	88.4	29.27	88.4	29.76	88.4	30.78
	-7.0	-7.6	91.7	27.38	91.7	26.69	91.7	29.30	91.7	29.79	91.7	30.25	91.7	31.20
	-5.0	-5.6	95.6	28.10	95.6	27.31	95.6	29.95	95.6	30.40	95.6	30.83	95.6	31.76
	-3.0	-3.7	99.4	28.74	99.4	27.89	99.4	30.45	99.4	30.93	99.4	31.34	99.4	32.24
	0.0	-0.7	105.8	29.61	105.8	28.67	105.8	31.27	105.8	31.69	105.8	32.10	105.8	32.92
	3.0	2.2	111.4	30.33	111.4	29.35	111.4	31.95	111.4	32.33	111.4	32.71	111.4	33.47
	5.0	4.1	115.7	30.82	115.7	29.74	115.7	32.33	115.7	32.71	115.7	33.08	115.7	33.83
	7.0	6.0	119.5	31.27	119.5	30.11	119.5	32.72	119.5	33.09	119.5	33.44	119.5	35.68
	9.0	7.9	123.3	32.04	123.3	30.96	123.3	33.46	123.3	33.84	123.3	33.90	123.3	39.57
	11.0	9.8	127.5	32.23	127.5	31.85	127.5	33.61	127.4	33.95	127.4	36.23	124.8	35.82
	13.0	11.8	131.6	33.63	131.6	33.00	131.6	34.98	131.6	35.36	131.6	39.33	124.8	33.61
15.0	13.7	135.4	36.50	135.4	36.29	135.4	37.88	135.4	38.26	135.2	40.59	124.8	31.92	
17.0	14.2	142.7	40.44	142.7	40.96	142.7	41.45	142.7	42.18	142.5	43.21	124.8	30.65	
19.0	15.0	148.3	43.54	148.3	43.74	148.3	44.43	148.3	44.94	148.1	47.61	124.8	29.66	
110	-14.7	-15.0	75.9	25.72	75.9	25.21	75.9	27.83	75.9	28.37	75.9	28.89	75.9	29.95
	-12.6	-13.0	80.1	26.67	80.1	26.05	80.1	28.67	80.1	29.16	80.1	29.68	80.1	30.66
	-10.5	-11.0	84.2	27.53	84.2	26.82	84.2	29.42	84.2	29.91	84.2	30.35	84.2	31.31
	-9.5	-10.0	86.5	27.91	86.5	27.17	86.5	29.76	86.5	30.25	86.5	30.71	86.5	31.59
	-8.5	-9.1	88.4	28.24	88.4	27.45	88.4	30.07	88.4	30.51	88.4	30.97	88.4	31.87
	-7.0	-7.6	91.7	28.77	91.7	27.93	91.7	30.55	91.7	30.97	91.7	31.42	91.7	32.28
	-5.0	-5.6	95.6	29.45	95.6	28.53	95.6	31.12	95.6	31.54	95.6	31.95	95.6	33.35
	-3.0	-3.7	99.4	30.02	99.4	29.02	99.4	31.61	99.4	32.02	99.4	32.45	99.4	34.70
	0.0	-0.7	105.8	30.82	105.5	29.74	105.5	32.33	105.5	32.71	105.5	33.66	105.5	36.68
	3.0	2.2	111.4	31.54	111.4	30.34	111.4	32.92	111.4	33.31	111.4	35.13	111.4	38.23
	5.0	4.1	115.7	31.95	115.7	30.73	115.7	33.89	115.7	34.24	115.7	36.84	114.7	37.63
	7.0	6.0	119.5	32.33	119.5	31.07	119.5	34.24	119.5	34.56	119.5	37.66	114.7	33.46
	9.0	7.9	123.3	33.08	123.3	31.88	123.3	35.98	123.3	37.16	122.5	37.88	114.7	32.20
	11.0	9.8	127.5	33.22	127.4	32.78	127.4	41.68	127.1	37.84	122.5	33.73	114.7	30.97
	13.0	11.8	131.6	34.65	131.6	33.92	131.6	43.72	127.1	34.66	122.5	32.45	114.7	29.30
15.0	13.7	135.4	35.86	135.4	35.99	131.6	35.31	127.1	32.62	122.5	31.31	114.7	28.33	
17.0	14.2	142.7	41.57	142.7	42.15	131.6	31.69	127.1	30.54	122.5	29.25	114.7	26.59	
19.0	15.0	148.3	44.07	148.3	44.87	131.6	29.97	127.1	28.93	122.5	27.63	114.7	25.24	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
			KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
100	-14.7	-15.0	75.9	27.41	75.9	26.71	75.9	29.30	75.9	29.79	75.9	30.29	75.9	31.23
	-12.6	-13.0	80.1	28.29	80.1	27.47	80.1	30.07	80.1	30.55	80.1	31.00	80.1	31.90
	-10.5	-11.0	84.2	29.04	84.2	28.15	84.2	30.78	84.2	31.19	84.2	31.59	84.2	32.48
	-9.5	-10.0	86.5	29.39	86.5	28.48	86.5	31.08	86.5	31.49	86.5	31.90	86.5	32.78
	-8.5	-9.1	88.4	29.68	88.4	28.73	88.4	31.34	88.4	31.76	88.4	32.17	88.4	33.00
	-7.0	-7.6	91.7	30.18	91.7	29.16	91.7	31.77	91.7	32.17	91.7	32.56	91.7	33.96
	-5.0	-5.6	95.6	30.78	95.6	29.70	95.6	32.30	95.6	32.67	95.6	33.04	95.6	35.32
	-3.0	-3.7	99.4	31.30	99.4	30.15	99.4	32.71	99.4	33.10	99.4	34.05	99.4	36.27
	0.0	-0.7	105.5	32.02	105.5	30.81	105.5	33.36	105.5	33.76	105.5	35.59	104.3	35.21
	3.0	2.2	111.4	32.67	111.4	31.37	111.4	33.94	111.4	35.79	111.4	38.04	104.3	32.42
	5.0	4.1	115.7	33.04	115.7	31.70	115.7	34.29	115.7	37.49	112	34.73	104.3	30.71
	7.0	6.0	119.5	33.40	119.5	32.00	119.5	34.60	115.7	34.73	112	32.51	104.3	29.50
	9.0	7.9	123.3	34.14	123.3	35.87	119.5	33.15	115.7	32.28	112	30.64	104.3	28.18
	11.0	9.8	127.4	34.25	127.1	37.67	119.5	31.91	115.7	30.71	112	29.39	104.3	27.05
	13.0	11.8	131.6	35.67	127.1	33.73	119.5	30.58	115.7	29.46	112	28.30	104.3	26.08
15.0	13.7	134.7	36.27	127.1	31.68	119.5	29.54	115.7	28.44	112	27.36	104.3	25.22	
19.0	14.2	141.3	40.10	127.1	29.86	119.5	28.00	115.7	27.72	112	26.87	104.3	24.35	
21.0	15.0	147.5	39.69	127.1	27.52	119.5	27.18	115.7	26.93	112	26.33	104.3	24.58	
90	-14.7	-15.0	75.9	29.09	75.9	28.20	75.9	30.82	75.9	31.23	75.9	31.69	75.9	32.55
	-12.6	-13.0	80.1	29.88	80.1	28.88	80.1	31.49	80.1	31.90	80.1	32.33	80.1	33.13
	-10.5	-11.0	84.2	30.55	84.2	28.91	84.2	32.10	84.2	32.48	84.2	32.89	84.2	33.65
	-9.5	-10.0	86.5	30.88	86.5	29.80	86.5	32.40	86.5	32.78	86.5	33.16	86.5	34.50
	-8.5	-9.1	88.4	31.15	88.4	30.01	88.4	32.63	88.4	33.00	88.4	33.38	88.4	35.61
	-7.0	-7.6	91.7	31.58	91.7	30.42	91.7	33.00	91.7	33.38	91.7	34.31	91.4	37.88
	-5.0	-5.6	95.6	32.10	95.6	30.90	95.6	33.47	95.6	33.83	95.6	35.68	93.4	34.50
	-3.0	-3.7	99.4	32.59	99.4	31.31	99.4	34.43	99.4	35.72	99.4	38.00	93.4	32.46
	0.0	-0.7	105.5	33.24	105.5	31.89	105.5	35.98	103.7	34.62	100.6	33.27	93.4	30.18
	3.0	2.2	111.4	33.80	111.4	38.54	107.4	33.66	103.7	32.39	100.6	30.72	93.4	28.29
	5.0	4.1	115.7	34.14	114.8	37.35	107.4	32.31	103.7	30.68	100.6	29.50	93.4	27.04
	7.0	6.0	119.5	40.60	114.8	33.50	107.4	30.64	103.7	29.38	100.6	28.24	93.4	26.02
	9.0	7.9	121.5	36.61	114.8	30.34	107.4	29.38	103.7	28.27	100.6	27.19	93.4	25.08
	11.0	9.8	121.5	35.30	114.8	28.67	107.4	28.30	103.7	27.25	100.6	26.20	93.4	24.21
	13.0	11.8	121.5	32.01	114.8	27.58	107.4	27.25	103.7	26.25	100.6	25.27	93.4	23.33
15.0	13.7	121.5	30.32	114.8	26.63	107.4	26.36	103.7	25.38	100.6	24.41	93.4	22.57	
19.0	14.2	121.5	29.19	114.8	25.64	107.4	25.44	103.7	24.57	100.6	23.65	93.4	21.82	
21.0	15.0	121.5	27.77	114.8	24.65	107.4	24.43	103.7	23.79	100.6	23.07	93.4	21.12	
80	-14.7	-15.0	75.9	30.78	75.9	29.70	75.9	32.30	75.9	32.70	75.9	33.08	75.9	35.32
	-12.6	-13.0	80.1	31.45	80.1	30.30	80.1	32.89	80.1	33.27	80.1	33.64	80.1	37.80
	-10.5	-11.0	84.2	32.06	84.2	30.86	84.2	33.46	84.2	33.80	84.2	34.73	83.5	36.27
	-9.5	-10.0	86.5	32.34	86.5	31.12	86.5	33.69	86.5	34.03	86.5	35.88	83.5	33.84
	-8.5	-9.1	88.4	32.59	88.4	31.33	88.4	33.91	88.4	34.25	88.4	38.01	83.5	32.96
	-7.0	-7.6	91.7	33.50	91.7	32.02	91.4	34.81	91.4	36.08	89.5	35.33	83.5	31.25
	-5.0	-5.6	95.6	35.60	95.6	34.75	95.6	36.18	92.4	34.00	89.5	32.66	83.5	29.65
	-3.0	-3.7	99.4	36.64	99.4	39.93	95.6	33.66	92.4	31.96	89.5	30.71	83.5	28.13
	0.0	-0.7	105.5	42.59	101.7	33.79	95.6	30.90	92.4	29.73	89.5	28.60	83.5	26.23
	3.0	2.2	107.5	35.95	101.7	30.81	95.6	28.92	92.4	27.75	89.5	26.67	83.5	24.62
	5.0	4.1	107.5	34.05	101.7	28.58	95.6	27.68	92.4	26.67	89.5	25.64	83.5	23.65
	7.0	6.0	107.5	31.24	101.7	27.23	95.6	26.63	92.4	25.64	89.5	24.69	83.5	22.81
	9.0	7.9	107.5	29.49	101.7	25.93	95.6	25.64	92.4	24.70	89.5	23.79	83.5	21.98
	11.0	9.8	107.5	28.40	101.7	25.00	95.6	24.73	92.4	23.83	89.5	22.96	83.5	21.23
	13.0	11.8	107.5	27.37	101.7	24.09	95.6	23.86	92.4	23.00	89.5	22.16	83.5	20.50
15.0	13.7	107.5	26.43	101.7	23.27	95.6	23.07	92.4	22.24	89.5	21.45	83.5	19.83	
19.0	14.2	107.5	25.55	101.7	22.59	95.6	22.31	92.4	21.54	89.5	20.79	83.5	19.22	
21.0	15.0	107.5	24.73	101.7	21.73	95.6	21.58	92.4	20.89	89.5	20.31	83.5	18.68	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-14.7	-15.0	75.9	32.45	75.9	31.19	75.9	33.80	75.9	34.73	75.9	37.91	72.9	34.18
	-12.6	-13.0	80.1	33.04	80.1	31.72	80.1	34.93	80.1	36.12	78.3	35.25	72.9	31.58
	-10.5	-11.0	84.2	33.57	84.2	32.19	83.8	35.91	80.8	33.66	78.3	32.35	72.9	29.75
	-9.5	-10.0	86.5	36.01	86.5	35.11	83.8	34.00	80.8	32.28	78.3	31.00	72.9	28.55
	-8.5	-9.1	88.4	36.80	88.4	40.16	83.8	32.69	80.8	31.47	78.3	30.10	72.9	27.72
	-7.0	-7.6	91.4	42.50	89.1	34.33	83.8	31.39	80.8	30.07	78.3	28.92	72.9	27.68
	-5.0	-5.6	94.4	37.01	89.1	31.68	83.8	29.64	80.8	28.55	78.3	27.43	72.9	25.31
	-3.0	-3.7	94.4	34.82	89.1	29.21	83.8	28.29	80.8	27.23	78.3	26.20	72.9	24.15
	0.0	-0.7	94.4	30.93	89.1	26.67	83.8	26.36	80.8	25.38	78.3	24.41	72.9	22.57
	3.0	2.2	94.4	28.40	89.1	24.98	83.8	24.73	80.8	23.83	78.3	22.96	72.9	21.23
	5.0	4.1	94.4	27.27	89.1	24.01	83.8	23.79	80.8	22.89	78.3	22.08	72.9	20.43
	7.0	6.0	94.4	26.23	89.1	23.11	83.8	22.89	80.8	22.08	78.3	21.27	72.9	19.68
	9.0	7.9	94.4	25.27	89.1	22.28	83.8	22.08	80.8	21.30	78.3	20.53	72.9	18.97
	11.0	9.8	94.4	24.40	89.1	21.50	83.8	21.33	80.8	20.58	78.3	19.83	72.9	18.35
	13.0	11.8	94.4	23.53	89.1	20.71	83.8	20.58	80.8	19.86	78.3	19.11	72.9	17.75
15.0	13.7	94.4	22.74	89.1	20.05	83.8	19.93	80.8	19.22	78.3	18.55	72.9	17.22	
19.0	14.2	94.4	22.01	89.1	19.46	83.8	19.34	80.8	18.65	78.3	18.04	72.9	16.75	
21.0	15.0	94.4	21.34	89.1	18.73	83.8	18.82	80.8	18.13	78.3	17.54	72.9	16.35	
60	-14.7	-15.0	75.9	36.92	75.9	40.24	71.7	32.53	69.4	31.32	67.1	30.11	62.6	27.61
	-12.6	-13.0	80.1	42.82	76.3	33.42	71.7	30.57	69.4	29.42	67.1	28.29	62.6	25.92
	-10.5	-11.0	80.8	35.79	76.3	30.64	71.7	28.82	69.4	27.72	67.1	26.58	62.6	24.51
	-9.5	-10.0	80.8	34.33	76.3	28.81	71.7	27.99	69.4	26.96	67.1	25.84	62.6	23.83
	-8.5	-9.1	80.8	31.95	76.3	27.52	71.7	27.19	69.4	26.20	67.1	25.23	62.6	23.26
	-7.0	-7.6	80.8	30.06	76.3	26.42	71.7	26.13	69.4	25.18	67.1	24.25	62.6	22.39
	-5.0	-5.6	80.8	28.52	76.3	25.10	71.7	24.84	69.4	23.94	67.1	23.07	62.6	21.30
	-3.0	-3.7	80.8	27.22	76.3	23.95	71.7	23.72	69.4	22.88	67.1	22.05	62.6	20.39
	0.0	-0.7	80.8	25.38	76.3	22.34	71.7	22.14	69.4	21.38	67.1	20.62	62.6	19.07
	3.0	2.2	80.8	23.83	76.3	21.00	71.7	20.84	69.4	20.12	67.1	19.41	62.6	17.98
	5.0	4.1	80.8	22.89	76.3	20.20	71.7	20.05	69.4	19.38	67.1	18.69	62.6	17.33
	7.0	6.0	80.8	22.06	76.3	19.46	71.7	19.34	69.4	18.69	67.1	18.02	62.6	16.72
	9.0	7.9	80.8	21.30	76.3	18.78	71.7	18.69	69.4	18.05	67.1	17.40	62.6	16.17
	11.0	9.8	80.8	20.55	76.3	18.14	71.7	18.05	69.4	17.43	67.1	16.84	62.6	15.64
	13.0	11.8	80.8	19.86	76.3	17.52	71.7	17.43	69.4	16.84	67.1	16.28	62.6	15.14
15.0	13.7	80.8	19.22	76.3	16.96	71.7	16.90	69.4	16.35	67.1	15.78	62.6	14.69	
19.0	14.2	80.8	18.65	76.3	16.45	71.7	16.44	69.4	15.91	67.1	15.01	62.6	14.25	
21.0	15.0	80.8	18.13	76.3	15.93	71.7	16.03	69.4	15.54	67.1	14.67	62.6	13.80	
50	-14.7	-15.0	67.5	32.08	63.7	27.76	59.9	26.20	57.7	25.27	55.8	24.32	52	22.46
	-12.6	-13.0	67.5	30.16	63.7	26.08	59.9	24.65	57.7	23.79	55.8	22.89	52	21.19
	-10.5	-11.0	67.5	27.16	63.7	23.79	59.9	23.30	57.7	22.47	55.8	21.67	52	20.05
	-9.5	-10.0	67.5	25.99	63.7	22.88	59.9	22.70	57.7	21.87	55.8	21.08	52	19.50
	-8.5	-9.1	67.5	25.34	63.7	22.34	59.9	22.13	57.7	21.37	55.8	20.58	52	19.07
	-7.0	-7.6	67.5	24.39	63.7	21.50	59.9	21.30	57.7	20.58	55.8	19.83	52	18.35
	-5.0	-5.6	67.5	23.18	63.7	20.43	59.9	20.32	57.7	19.60	55.8	18.89	52	17.52
	-3.0	-3.7	67.5	22.14	63.7	19.54	59.9	19.42	57.7	18.77	55.8	18.09	52	16.80
	0.0	-0.7	67.5	20.73	63.7	18.28	59.9	18.20	57.7	17.56	55.8	16.96	52	15.72
	3.0	2.2	67.5	19.49	63.7	17.21	59.9	17.15	57.7	16.58	55.8	16.01	52	14.88
	5.0	4.1	67.5	18.74	63.7	16.57	59.9	16.54	57.7	15.97	55.8	15.45	52	14.35
	7.0	6.0	67.5	18.12	63.7	15.99	59.9	15.97	57.7	15.45	55.8	14.92	52	13.90
	9.0	7.9	67.5	17.48	63.7	15.46	59.9	15.45	57.7	14.92	55.8	14.42	52	13.44
	11.0	9.8	67.5	20.07	63.7	14.96	59.9	14.95	57.7	14.47	55.8	13.97	52	13.03
	13.0	11.8	67.5	16.35	63.7	14.47	59.9	14.47	57.7	14.01	55.8	13.52	52	12.61
15.0	13.7	67.5	15.85	63.7	14.04	59.9	14.04	57.7	13.59	55.8	13.14	52	12.26	
19.0	14.2	67.5	15.39	63.7	13.62	59.9	13.67	57.7	13.19	55.8	12.75	52	11.90	
21.0	15.0	67.5	14.92	63.7	13.21	59.9	13.32	57.7	12.83	55.8	12.25	52	11.58	

N: AV40NMTAHA 50HZ

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-14.7	-15.0	80.4	23.68	80.4	25.00	80.4	26.31	80.0	26.99	80.0	27.63	80.0	28.94
	-12.6	-13.0	84.4	24.88	84.4	26.11	84.4	27.35	84.4	27.95	84.4	28.63	84.4	29.82
	-10.5	-11.0	88.8	25.95	88.8	27.11	88.8	28.31	88.8	28.86	88.8	29.50	88.8	30.62
	-9.5	-10.0	91.2	26.43	91.2	27.59	91.2	28.74	91.2	29.26	91.2	29.90	91.2	31.02
	-8.5	-9.1	93.2	26.87	93.2	27.99	93.2	29.10	93.2	29.66	93.2	30.30	93.2	31.38
	-7.0	-7.6	96.8	27.51	96.8	28.63	96.8	29.70	96.8	30.22	96.8	30.78	96.8	31.89
	-5.0	-5.6	100.8	28.35	100.8	29.38	100.8	30.42	100.8	30.94	100.8	31.42	100.8	32.53
	-3.0	-3.7	104.8	29.06	104.8	30.06	104.8	31.06	104.8	31.54	104.8	32.05	104.8	33.01
	0.0	-0.7	111.6	30.06	111.6	31.02	111.6	31.97	111.6	32.41	111.6	32.89	111.6	33.81
	3.0	2.2	117.2	30.94	117.2	31.89	117.2	32.73	117.2	33.17	117.2	33.61	117.2	34.53
	5.0	4.1	122	31.46	122	32.33	122.0	33.17	122.0	33.61	122.0	34.05	122.0	34.93
	7.0	6.0	126	31.93	126.0	32.77	126.0	33.61	126.0	34.05	126.0	34.45	126.0	35.28
	9.0	7.9	130.4	32.71	130	33.52	130.0	34.32	130.0	34.73	130.0	35.13	130.0	35.93
	11.0	9.8	134.4	32.86	134.4	33.66	134.4	34.42	134.4	34.78	134.4	35.18	134.4	36.02
	13.0	11.8	138.8	33.93	138.8	34.70	138.8	35.47	138.8	35.84	138.8	36.24	138.8	37.02
	15.0	13.7	142.8	36.34	142.8	37.11	142.8	37.93	142.8	38.27	142.8	38.66	142.8	39.48
19.0	14.2	150.4	39.75	150.4	39.88	150.4	41.12	150.4	41.39	150.4	41.85	150.4	42.53	
21.0	15.0	156.8	42.62	156.8	42.62	156.8	43.91	156.8	44.11	156.8	44.58	156.8	45.40	
120	-14.7	-15.0	80.4	25.48	80	26.63	80.0	27.91	80.0	28.51	80.0	29.10	80.0	30.34
	-12.6	-13.0	84.4	26.55	84.4	27.71	84.4	28.86	84.4	29.42	84.4	30.02	84.4	31.14
	-10.5	-11.0	88.8	27.55	88.8	28.63	88.8	29.74	88.8	30.26	88.8	30.82	88.8	31.89
	-9.5	-10.0	91.2	27.99	91.2	29.06	91.2	30.14	91.2	30.66	91.2	31.18	91.2	32.21
	-8.5	-9.1	93.2	28.39	93.2	29.42	93.2	30.46	93.2	30.98	93.2	31.50	93.2	32.57
	-7.0	-7.6	96.8	28.98	96.8	30.02	96.8	31.02	96.8	31.54	96.8	32.01	96.8	33.01
	-5.0	-5.6	100.8	29.74	100.8	30.70	100.8	31.70	100.8	32.17	100.8	32.61	100.8	33.61
	-3.0	-3.7	104.8	30.42	104.8	31.34	104.8	32.21	104.8	32.73	104.8	33.17	104.8	34.13
	0.0	-0.7	111.6	31.34	111.6	32.21	111.6	33.09	111.6	33.53	111.6	33.97	111.6	34.85
	3.0	2.2	117.2	32.09	117.2	32.97	117.2	33.81	117.2	34.21	117.2	34.61	117.2	35.40
	5.0	4.1	122	32.61	122	33.41	122.0	34.21	122.0	34.61	122.0	35.01	122.0	35.80
	7.0	6.0	126.0	33.09	126.0	33.81	126.0	34.61	126.0	35.01	126.0	35.36	126.0	36.16
	9.0	7.9	130	33.80	130	34.53	130.0	35.29	130.0	35.69	130.0	35.72	130.0	39.42
	11.0	9.8	134.4	33.28	134.4	33.99	134.4	34.69	134.4	35.04	134.4	38.13	131.6	36.48
	13.0	11.8	138.8	34.94	138.8	35.67	138.8	36.32	138.8	36.73	138.8	41.43	131.6	35.10
	15.0	13.7	142.8	37.42	142.8	38.15	142.8	38.83	142.8	39.22	142.8	42.29	131.6	33.21
19.0	14.2	150.4	40.66	150.4	41.30	150.4	41.57	150.4	42.35	150.4	44.08	131.6	32.01	
21.0	15.0	156.8	44.08	156.8	44.57	156.8	44.81	156.8	45.23	156.8	37.09	131.6	31.02	
110	-14.7	-15.0	80	27.23	80	28.35	80.0	29.46	80.0	30.02	80.0	30.58	80.0	31.70
	-12.6	-13.0	84.4	28.23	84.4	29.30	84.4	30.34	84.4	30.86	84.4	31.42	84.4	32.45
	-10.5	-11.0	88.8	29.14	88.8	30.14	88.8	31.14	88.8	31.66	88.8	32.13	88.8	33.13
	-9.5	-10.0	91.2	29.54	91.2	30.54	91.2	31.50	91.2	32.01	91.2	32.49	91.2	33.41
	-8.5	-9.1	93.2	29.90	93.2	30.86	93.2	31.82	93.2	32.29	93.2	32.77	93.2	33.73
	-7.0	-7.6	96.8	30.46	96.8	31.38	96.8	32.33	96.8	32.77	96.8	33.25	96.8	34.17
	-5.0	-5.6	100.8	31.18	100.8	32.05	100.8	32.93	100.8	33.37	100.8	33.81	100.8	34.69
	-3.0	-3.7	104.8	31.78	104.8	32.61	104.8	33.45	104.8	33.89	104.8	34.33	104.8	35.16
	0.0	-0.7	111.6	32.61	111.2	33.41	111.2	34.21	111.2	34.61	111.2	35.01	111.2	35.80
	3.0	2.2	117.2	33.37	117.2	34.09	117.2	34.85	117.2	35.24	117.2	35.60	117.2	37.05
	5.0	4.1	122	33.81	122	34.53	122.0	35.24	122.0	35.60	122.0	35.96	120.8	36.93
	7.0	6.0	126.0	34.21	126.0	34.89	126.0	35.60	126.0	35.96	126.0	36.32	120.8	34.81
	9.0	7.9	130	34.89	130	35.57	130.0	36.65	130.0	36.28	129.2	37.17	120.8	33.49
	11.0	9.8	134.4	34.30	134.4	34.97	134.4	41.94	134.0	36.48	129.2	35.08	120.8	32.21
	13.0	11.8	138.8	36.00	138.8	36.65	138.8	44.14	134.0	35.12	129.2	33.77	120.8	31.02
	15.0	13.7	142.8	36.32	142.8	36.93	138.8	35.95	134.0	33.93	129.2	32.57	120.8	29.98
19.0	14.2	150.4	41.72	150.4	42.77	138.8	32.69	134.0	31.54	129.2	30.18	120.8	27.91	
21.0	15.0	156.8	44.87	156.8	45.94	138.8	30.78	134.0	29.74	129.2	28.39	120.8	26.35	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	-14.7	-15.0	80	29.02	80	30.02	80.0	31.02	80.0	31.54	80.0	32.05	80.0	33.05
	-12.6	-13.0	84.4	29.94	84.4	30.90	84.4	31.82	84.4	32.33	84.4	32.81	84.4	33.77
	-10.5	-11.0	88.8	30.74	88.8	31.66	88.8	32.57	88.8	33.01	88.8	33.41	88.8	34.37
	-9.5	-10.0	91.2	31.10	91.2	32.01	91.2	32.89	91.2	33.33	91.2	33.77	91.2	34.69
	-8.5	-9.1	93.2	31.42	93.2	32.29	93.2	33.17	93.2	33.61	93.2	34.05	93.2	34.93
	-7.0	-7.6	96.8	31.93	96.8	32.77	96.8	33.61	96.8	34.05	96.8	34.45	96.8	35.32
	-5.0	-5.6	100.8	32.57	100.8	33.37	100.8	34.17	100.8	34.57	100.8	34.97	100.8	35.80
	-3.0	-3.7	104.8	33.13	104.8	33.89	104.8	34.61	104.8	35.01	104.8	35.40	104.8	36.93
	0.0	-0.7	111.2	33.89	111.2	34.61	111.2	35.28	111.2	35.72	111.2	36.08	110.0	36.77
	3.0	2.2	117.2	34.57	117.2	35.24	117.2	35.92	117.2	36.28	117.2	37.34	110.0	33.73
	5.0	4.1	122	34.97	122	35.60	122.0	36.28	122.0	36.60	118.0	35.20	110.0	32.37
	7.0	6.0	126.0	35.32	126.0	35.96	126.0	36.60	122.0	35.20	118.0	33.81	110.0	31.10
	9.0	7.9	130	36.01	130	41.57	126.0	34.83	122.0	33.45	118.0	32.18	110.0	29.62
	11.0	9.8	134.4	35.36	134	43.87	126.0	33.53	122.0	32.26	118.0	31.00	110.0	28.55
	13.0	11.8	138.8	37.06	134	37.55	126.0	32.26	122.0	31.08	118.0	29.86	110.0	27.53
15.0	13.7	142	36.57	134	36.23	126.0	31.16	122.0	30.01	118.0	28.87	110.0	26.62	
19.0	14.2	148.8	41.57	134	33.64	126.0	29.42	122.0	29.22	118.0	28.47	110.0	25.71	
21.0	15.0	156	40.96	134	29.98	126.0	28.63	122.0	28.44	118.0	28.00	110.0	24.84	
90	-14.7	-15.0	80	30.78	80	31.70	80.0	32.61	80.0	33.05	80.0	33.53	80.0	34.45
	-12.6	-13.0	84.4	31.62	84.4	32.45	84.4	33.33	84.4	33.77	84.4	34.21	84.4	35.04
	-10.5	-11.0	88.8	32.33	88.8	31.97	88.8	33.97	88.8	34.37	88.8	34.81	88.8	35.60
	-9.5	-10.0	91.2	32.69	91.2	33.49	91.2	34.29	91.2	34.69	91.2	35.08	91.2	35.88
	-8.5	-9.1	93.2	32.97	93.2	33.73	93.2	34.53	93.2	34.93	93.2	35.32	93.2	36.08
	-7.0	-7.6	96.8	33.41	96.8	34.17	96.8	34.93	96.8	35.32	96.8	35.68	96.4	37.17
	-5.0	-5.6	100.8	33.97	100.8	34.73	100.8	35.40	100.8	35.80	100.8	36.16	98.4	35.88
	-3.0	-3.7	104.8	34.49	104.8	35.16	104.8	35.80	104.8	36.20	104.8	37.30	98.4	34.21
	0.0	-0.7	111.2	35.16	111.2	35.80	111.2	36.48	109.2	36.00	106.0	34.61	98.4	31.82
	3.0	2.2	117.2	35.76	117.2	41.18	113.2	35.01	109.2	33.69	106.0	32.37	98.4	29.82
	5.0	4.1	122	36.12	121.2	43.41	113.2	33.61	109.2	32.33	106.0	31.10	98.4	28.63
	7.0	6.0	126.0	42.25	121.2	37.57	113.2	32.29	109.2	31.10	106.0	29.90	98.4	27.55
	9.0	7.9	128	38.69	121.2	34.08	113.2	31.10	109.2	29.94	106.0	28.78	98.4	26.55
	11.0	9.8	128	37.31	121.2	32.21	113.2	29.98	109.2	28.86	106.0	27.75	98.4	25.63
	13.0	11.8	128	33.88	121.2	31.02	113.2	28.86	109.2	27.79	106.0	26.75	98.4	24.72
15.0	13.7	128	32.09	121.2	29.98	113.2	27.91	109.2	26.87	106.0	25.83	98.4	23.92	
19.0	14.2	128	30.86	121.2	28.86	113.2	27.03	109.2	26.07	106.0	25.04	98.4	23.12	
21.0	15.0	128	29.22	121.2	27.75	113.2	26.11	109.2	25.36	106.0	24.44	98.4	22.40	
80	-14.7	-15.0	80	32.57	80	33.37	80.0	34.17	80.0	34.61	80.0	35.01	80.0	35.80
	-12.6	-13.0	84.4	33.29	84.4	34.05	84.4	34.81	84.4	35.20	84.4	35.60	84.4	37.09
	-10.5	-11.0	88.8	33.93	88.8	34.65	88.8	35.40	88.8	35.76	88.8	36.12	88.0	36.93
	-9.5	-10.0	91.2	34.21	91.2	34.97	91.2	35.64	91.2	36.00	91.2	36.36	88.0	35.20
	-8.5	-9.1	93.2	34.49	93.2	35.20	93.2	35.88	93.2	36.24	93.2	37.30	88.0	34.29
	-7.0	-7.6	96.8	35.59	96.8	36.28	96.4	36.20	96.4	36.56	94.4	35.80	88.0	32.93
	-5.0	-5.6	100.8	38.26	100.8	38.94	100.8	36.68	97.2	35.36	94.4	33.97	88.0	31.26
	-3.0	-3.7	104.8	38.73	104.8	45.24	100.8	35.01	97.2	33.69	94.4	32.37	88.0	29.78
	0.0	-0.7	111.2	45.24	107.2	37.87	100.8	32.57	97.2	31.34	94.4	30.14	88.0	27.79
	3.0	2.2	113.2	38.00	107.2	35.46	100.8	30.50	97.2	29.38	94.4	28.23	88.0	26.07
	5.0	4.1	113.2	36.45	107.2	32.13	100.8	29.30	97.2	28.23	94.4	27.15	88.0	25.04
	7.0	6.0	113.2	33.07	107.2	30.87	100.8	28.19	97.2	27.15	94.4	26.15	88.0	24.16
	9.0	7.9	113.2	31.22	107.2	29.14	100.8	27.15	97.2	26.15	94.4	25.20	88.0	23.28
	11.0	9.8	113.2	30.06	107.2	28.11	100.8	26.19	97.2	25.24	94.4	24.32	88.0	22.48
	13.0	11.8	113.2	28.98	107.2	27.11	100.8	25.28	97.2	24.36	94.4	23.48	88.0	21.73
15.0	13.7	113.2	27.99	107.2	26.19	100.8	24.44	97.2	23.56	94.4	22.72	88.0	21.01	
19.0	14.2	113.2	27.07	107.2	25.59	100.8	23.64	97.2	22.84	94.4	22.05	88.0	20.37	
21.0	15.0	113.2	26.23	107.2	25.04	100.8	22.88	97.2	22.21	94.4	21.45	88.0	19.81	
-14.7	-15.0	80	34.33	80	35.01	80.0	35.76	80.0	36.12	80.0	37.21	76.8	35.71	

capacity factor(%)	outdoor temp.		indoor temp.(°CDB)											
			16.0		18.0		20.0		21.0		22.0		24.0	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	-12.6	-13.0	84.4	34.97	84.4	35.64	84.4	36.32	84.4	36.60	82.4	35.72	76.8	32.85
	-10.5	-11.0	88.8	35.52	88.8	36.16	88.4	36.40	85.2	35.01	82.4	33.65	76.8	30.94
	-9.5	-10.0	91.2	38.69	91.2	39.33	88.4	35.36	85.2	34.01	82.4	32.69	76.8	30.10
	-8.5	-9.1	93.2	38.90	93.2	45.49	88.4	34.45	85.2	33.17	82.4	31.85	76.8	29.34
	-7.0	-7.6	96.4	45.14	94.0	38.47	88.4	33.09	85.2	31.82	82.4	30.62	76.8	28.19
	-5.0	-5.6	99.6	39.12	94	36.50	88.4	31.38	85.2	30.22	82.4	29.02	76.8	26.79
	-3.0	-3.7	99.6	37.27	94	32.82	88.4	29.94	85.2	28.82	82.4	27.75	76.8	25.59
	0.0	-0.7	99.6	32.74	94	29.98	88.4	27.91	85.2	26.87	82.4	25.83	76.8	23.92
	3.0	2.2	99.6	30.06	94	28.11	88.4	26.19	85.2	25.24	82.4	24.32	76.8	22.48
	5.0	4.1	99.6	28.86	94	27.03	88.4	25.20	85.2	24.24	82.4	23.40	76.8	21.65
	7.0	6.0	99.6	27.79	94	25.99	88.4	24.24	85.2	23.40	82.4	22.52	76.8	20.85
	9.0	7.9	99.6	26.75	94	25.08	88.4	23.40	85.2	22.56	82.4	21.77	76.8	20.09
	11.0	9.8	99.6	25.83	94	24.20	88.4	22.60	85.2	21.81	82.4	21.01	76.8	19.45
	13.0	11.8	99.6	24.92	94	23.32	88.4	21.81	85.2	21.05	82.4	20.25	76.8	18.82
	15.0	13.7	99.6	24.08	94	22.60	88.4	21.13	85.2	20.37	82.4	19.65	76.8	18.26
19.0	14.2	99.6	23.32	94	21.97	88.4	20.53	85.2	19.77	82.4	19.14	76.8	17.78	
21.0	15.0	99.6	22.64	94	21.41	88.4	20.01	85.2	19.25	82.4	18.62	76.8	17.38	
60	-14.7	-15.0	80.0	39.03	80.0	45.59	75.6	34.29	73.2	33.01	70.8	31.74	66.0	29.22
	-12.6	-13.0	84.4	45.49	80.4	37.44	75.6	32.21	73.2	31.02	70.8	29.82	66.0	27.43
	-10.5	-11.0	85.2	37.83	80.4	35.25	75.6	30.38	73.2	29.22	70.8	28.15	66.0	25.95
	-9.5	-10.0	85.2	36.75	80.4	32.38	75.6	29.50	73.2	28.43	70.8	27.35	66.0	25.24
	-8.5	-9.1	85.2	33.80	80.4	30.94	75.6	28.78	73.2	27.75	70.8	26.71	66.0	24.64
	-7.0	-7.6	85.2	31.82	80.4	29.70	75.6	27.67	73.2	26.67	70.8	25.67	66.0	23.72
	-5.0	-5.6	85.2	30.18	80.4	28.23	75.6	26.31	73.2	25.36	70.8	24.44	66.0	22.56
	-3.0	-3.7	85.2	28.82	80.4	26.95	75.6	25.12	73.2	24.24	70.8	23.36	66.0	21.61
	0.0	-0.7	85.2	26.87	80.4	25.16	75.6	23.44	73.2	22.64	70.8	21.85	66.0	20.21
	3.0	2.2	85.2	25.24	80.4	23.64	75.6	22.09	73.2	21.33	70.8	20.57	66.0	19.06
	5.0	4.1	85.2	24.24	80.4	22.76	75.6	21.25	73.2	20.53	70.8	19.81	66.0	18.38
	7.0	6.0	85.2	23.36	80.4	21.93	75.6	20.49	73.2	19.81	70.8	19.10	66.0	17.74
	9.0	7.9	85.2	22.56	80.4	21.17	75.6	19.81	73.2	19.14	70.8	18.46	66.0	17.14
	11.0	9.8	85.2	21.77	80.4	20.45	75.6	19.14	73.2	18.50	70.8	17.86	66.0	16.58
	13.0	11.8	85.2	21.05	80.4	19.77	75.6	18.50	73.2	17.86	70.8	17.26	66.0	16.06
15.0	13.7	85.2	20.37	80.4	19.14	75.6	17.94	73.2	17.34	70.8	16.74	66.0	15.59	
19.0	14.2	85.2	19.77	80.4	18.58	75.6	17.46	73.2	16.90	70.8	15.87	66.0	15.15	
21.0	15.0	85.2	19.25	80.4	18.06	75.6	17.06	73.2	16.54	70.8	15.55	66.0	14.67	
50	-14.7	-15.0	71.2	34.48	67.2	32.24	63.2	27.75	60.8	26.75	58.8	25.75	54.8	23.80
	-12.6	-13.0	71.2	32.41	67.2	30.31	63.2	26.11	60.8	25.20	58.8	24.24	54.8	22.44
	-10.5	-11.0	71.2	28.88	67.2	27.01	63.2	24.68	60.8	23.80	58.8	22.96	54.8	21.25
	-9.5	-10.0	71.2	27.51	67.2	25.75	63.2	24.04	60.8	23.16	58.8	22.33	54.8	20.65
	-8.5	-9.1	71.2	26.83	67.2	25.16	63.2	23.44	60.8	22.64	58.8	21.81	54.8	20.21
	-7.0	-7.6	71.2	25.83	67.2	24.20	63.2	22.56	60.8	21.81	58.8	21.01	54.8	19.45
	-5.0	-5.6	71.2	24.56	67.2	23.00	63.2	21.53	60.8	20.77	58.8	20.01	54.8	18.58
	-3.0	-3.7	71.2	23.44	67.2	22.01	63.2	20.57	60.8	19.89	58.8	19.18	54.8	17.82
	0.0	-0.7	71.2	21.97	67.2	20.61	63.2	19.29	60.8	18.62	58.8	17.98	54.8	16.66
	3.0	2.2	71.2	20.65	67.2	19.41	63.2	18.18	60.8	17.58	58.8	16.98	54.8	15.79
	5.0	4.1	71.2	19.85	67.2	18.70	63.2	17.54	60.8	16.94	58.8	16.38	54.8	15.23
	7.0	6.0	71.2	19.21	67.2	18.06	63.2	16.94	60.8	16.38	58.8	15.83	54.8	14.75
	9.0	7.9	71.2	18.54	67.2	17.46	63.2	16.38	60.8	15.83	58.8	15.31	54.8	14.27
	11.0	9.8	71.2	17.94	67.2	16.90	63.2	15.87	60.8	15.35	58.8	14.83	54.8	13.83
	13.0	11.8	71.2	17.34	67.2	16.34	63.2	15.35	60.8	14.87	58.8	14.35	54.8	13.39
15.0	13.7	71.2	16.82	67.2	15.87	63.2	14.91	60.8	14.43	58.8	13.95	54.8	13.03	
19.0	14.2	71.2	16.34	67.2	15.43	63.2	14.55	60.8	14.03	58.8	13.55	54.8	12.68	
21.0	15.0	71.2	15.87	67.2	14.99	63.2	14.19	60.8	13.67	58.8	12.99	54.8	12.36	

5. Indoor performance with different temperature

Cooling:

1) Low static pressure duct type

Model	outdoor temp.	indoor temp.													
		21.5; DB 15; WB		23; DB 16; WB		25; DB 18; WB		27; DB 19; WB		28; DB 20; WB		30; DB 22; WB		32; DB 24; WB	
	i DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
22	20.0	2.2	1.8	2.2	1.9	2.3	1.9	2.3	1.9	2.4	2.0	2.5	1.9	2.6	1.9
	22.5	2.1	1.8	2.2	1.9	2.3	1.8	2.3	1.9	2.4	1.9	2.4	1.9	2.5	1.9
	25.0	2.1	1.8	2.2	1.9	2.2	1.8	2.3	1.9	2.3	1.9	2.4	1.9	2.5	1.9
	27.5	2.1	1.8	2.1	1.9	2.2	1.8	2.3	1.9	2.3	1.9	2.4	1.9	2.5	1.8
	30.0	2.1	1.8	2.1	1.9	2.2	1.8	2.2	1.9	2.3	1.9	2.4	1.9	2.5	1.8
	32.5	2.0	1.8	2.1	1.8	2.2	1.8	2.2	1.8	2.3	1.9	2.4	1.9	2.4	1.8
	35.0	2.0	1.8	2.1	1.8	2.2	1.8	2.2	1.8	2.2	1.9	2.3	1.9	2.4	1.8
	37.5	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.8	2.2	1.9	2.3	1.9	2.4	1.8
	40.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.8	2.2	1.9	2.3	1.8	2.4	1.8
43.0	2.0	1.7	2.0	1.8	2.1	1.8	2.1	1.8	2.2	1.9	2.3	1.8	2.3	1.8	
28	20.0	2.7	2.2	2.8	2.2	2.9	2.2	3.0	2.2	3.0	2.3	3.1	2.2	3.2	2.2
	22.5	2.7	2.2	2.8	2.2	2.9	2.2	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.2
	25.0	2.7	2.1	2.7	2.2	2.9	2.2	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.1
	27.5	2.7	2.1	2.7	2.2	2.8	2.1	2.9	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	30.0	2.6	2.1	2.7	2.2	2.8	2.1	2.9	2.2	2.9	2.2	3.0	2.2	3.1	2.1
	32.5	2.6	2.1	2.7	2.2	2.8	2.1	2.8	2.1	2.9	2.2	3.0	2.2	3.1	2.1
	35.0	2.6	2.1	2.6	2.1	2.7	2.1	2.8	2.1	2.9	2.2	3.0	2.2	3.1	2.1
	37.5	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.1	2.8	2.2	2.9	2.2	3.1	2.1
	40.0	2.5	2.1	2.6	2.1	2.7	2.1	2.7	2.1	2.8	2.2	2.9	2.1	3.0	2.1
43.0	2.5	2.0	2.5	2.1	2.7	2.1	2.7	2.1	2.8	2.2	2.9	2.1	3.0	2.1	
36	20.0	3.5	2.7	3.6	2.8	3.7	2.7	3.8	2.7	3.9	2.8	4.0	2.7	4.2	2.7
	22.5	3.5	2.7	3.6	2.7	3.7	2.7	3.8	2.7	3.9	2.8	4.0	2.7	4.1	2.7
	25.0	3.5	2.7	3.5	2.7	3.7	2.7	3.7	2.7	3.8	2.8	4.0	2.7	4.1	2.6
	27.5	3.4	2.6	3.5	2.7	3.6	2.7	3.7	2.7	3.8	2.8	3.9	2.7	4.1	2.6
	30.0	3.4	2.6	3.5	2.7	3.6	2.6	3.7	2.7	3.7	2.8	3.9	2.7	4.0	2.6
	32.5	3.3	2.6	3.4	2.7	3.6	2.6	3.6	2.7	3.7	2.7	3.9	2.7	4.0	2.6
	35.0	3.3	2.6	3.4	2.7	3.5	2.6	3.6	2.6	3.7	2.7	3.8	2.7	4.0	2.6
	37.5	3.3	2.6	3.3	2.6	3.5	2.6	3.6	2.6	3.6	2.7	3.8	2.7	3.9	2.6
	40.0	3.2	2.6	3.3	2.6	3.5	2.6	3.5	2.6	3.6	2.7	3.7	2.6	3.9	2.6
43.0	3.2	2.5	3.3	2.6	3.4	2.6	3.5	2.6	3.6	2.7	3.7	2.6	3.8	2.6	
40	20.0	3.9	2.9	4.0	2.9	4.2	2.9	4.3	2.9	4.3	3.0	4.5	2.9	4.7	2.8
	22.5	3.9	2.9	4.0	2.9	4.1	2.9	4.2	2.9	4.3	3.0	4.5	2.9	4.6	2.8
	25.0	3.9	2.8	3.9	2.9	4.1	2.8	4.2	2.9	4.3	2.9	4	2.9	4.6	2.8
	27.5	3.8	2.8	3.9	2.9	4.1	2.8	4.1	2.8	4.2	2.9	4.4	2.9	4.5	2.8
	30.0	3.8	2.8	3.9	2.9	4.0	2.8	4.1	2.8	4.2	2.9	4.3	2.8	4.5	2.8
	32.5	3.7	2.8	3.8	2.8	4.0	2.8	4.1	2.8	4.1	2.9	4.3	2.8	4.5	2.7
	35.0	3.7	2.8	3.8	2.8	3.9	2.8	4.0	2.8	4.1	2.9	4.3	2.8	4.4	2.7
	37.5	3.7	2.7	3.7	2.8	3.9	2.8	4.0	2.8	4.1	2.9	4.2	2.8	4.4	2.7
	40.0	3.6	2.7	3.7	2.8	3.9	2.7	3.9	2.8	4.0	2.8	4.2	2.8	4.3	2.7
43.0	3.6	2.7	3.7	2.8	3.8	2.7	3.9	2.7	4.0	2.8	4.1	2.8	4.3	2.7	

Model	outdoor temp.	indoor temp.													
		21.5; DB 15; WB		23; DB 16; WB		25; DB 18; WB		27; DB 19; WB		28; DB 20; WB		30; DB 22; WB		32; DB 24; WB	
	i DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
45	20.0	4.4	3.3	4.5	3.4	4.7	3.3	4.8	3.4	4.9	3.5	5.0	3.4	5.2	3.3
	22.5	4.4	3.3	4.5	3.4	4.6	3.3	4.7	3.3	4.8	3.4	5.0	3.4	5.2	3.3
	25.0	4.3	3.3	4.4	3.4	4.6	3.3	4.7	3.3	4.8	3.4	5.0	3.3	5.1	3.2
	27.5	4.3	3.3	4.4	3.3	4.5	3.3	4.6	3.3	4.7	3.4	4.9	3.3	5.1	3.2
	30.0	4.2	3.2	4.3	3.3	4.5	3.2	4.6	3.3	4.7	3.4	4.9	3.3	5.0	3.2
	32.5	4.2	3.2	4.3	3.3	4.5	3.2	4.5	3.3	4.6	3.4	4.8	3.3	5.0	3.2
	35.0	4.1	3.2	4.2	3.3	4.4	3.2	4.5	3.2	4.6	3.3	4.8	3.3	5.0	3.2
	37.5	4.1	3.2	4.2	3.2	4.4	3.2	4.5	3.2	4.5	3.3	4.7	3.3	4.9	3.2
	40.0	4.1	3.1	4.1	3.2	4.3	3.2	4.4	3.2	4.5	3.3	4.7	3.2	4.9	3.2
43.0	4.0	3.1	4.1	3.2	4.3	3.1	4.4	3.2	4.4	3.3	4.6	3.2	4.8	3.1	
56	20.0	5.5	3.9	5.6	4.0	5.8	3.9	5.9	3.9	6.0	4.0	6.3	3.9	6.5	3.8
	22.5	5.4	3.9	5.5	3.9	5.8	3.9	5.9	3.9	6.0	4.0	6.2	3.9	6.4	3.8
	25.0	5.4	3.8	5.5	3.9	5.7	3.8	5.8	3.8	5.9	4.0	6.2	3.8	6.4	3.7
	27.5	5.3	3.8	5.4	3.9	5.7	3.8	5.8	3.8	5.9	3.9	6.1	3.8	6.3	3.7
	30.0	5.3	3.8	5.4	3.9	5.6	3.8	5.7	3.8	5.8	3.9	6.0	3.8	6.3	3.7
	32.5	5.2	3.8	5.3	3.8	5.5	3.7	5.7	3.8	5.8	3.9	6.0	3.8	6.2	3.7
	35.0	5.2	3.7	5.3	3.8	5.5	3.7	5.6	3.7	5.7	3.9	5.9	3.8	6.2	3.7
	37.5	5.1	3.7	5.2	3.8	5.4	3.7	5.5	3.7	5.7	3.8	5.9	3.7	6.1	3.6
	40.0	5.0	3.7	5.2	3.8	5.4	3.7	5.5	3.7	5.6	3.8	5.8	3.7	6.0	3.6
43.0	5.0	3.6	5.1	3.7	5.3	3.6	5.4	3.7	5.5	3.8	5.8	3.7	6.0	3.6	
71	20.0	7.0	5.1	7.1	5.2	7.4	5.1	7.5	5.1	7.7	5.3	8.0	5.2	8.2	5.0
	22.5	6.9	5.1	7.0	5.2	7.3	5.1	7.5	5.1	7.6	5.3	7.9	5.1	8.2	5.0
	25.0	6.8	5.0	7.0	5.2	7.2	5.0	7.4	5.1	7.5	5.2	7.8	5.1	8.1	5.0
	27.5	6.7	5.0	6.9	5.1	7.2	5.0	7.3	5.1	7.5	5.2	7.7	5.1	8.0	4.9
	30.0	6.7	5.0	6.8	5.1	7.1	5.0	7.2	5.0	7.4	5.2	7.7	5.0	8.0	4.9
	32.5	6.6	4.9	6.7	5.1	7.0	4.9	7.2	5.0	7.3	5.2	7.6	5.0	7.9	4.9
	35.0	6.5	4.9	6.7	5.0	7.0	4.9	7.1	5.0	7.2	5.1	7.5	5.0	7.8	4.9
	37.5	6.5	4.9	6.6	5.0	6.9	4.9	7.0	4.9	7.2	5.1	7.5	5.0	7.7	4.8
	40.0	6.4	4.8	6.5	5.0	6.8	4.9	7.0	4.9	7.1	5.1	7.4	4.9	7.7	4.8
43.0	6.3	4.8	6.4	4.9	6.7	4.8	6.9	4.9	7.0	5.0	7.3	4.9	7.6	4.8	

2) Middle static pressure duct type

Model	outdoor temp.	indoor temp.													
		21.5 DB 15i WB		23i DB 16i WB		25i DB 18i WB		27i DB 19i WB		28i DB 20i WB		30i DB 22i WB		32i DB 24i WB	
	i DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
90	20.0	8.8	6.2	9.0	6.4	9.4	6.2	9.5	6.2	9.7	6.4	10.1	6.2	10.4	6.0
	22.5	8.7	6.2	8.9	6.1	9.3	6.2	9.5	6.2	9.6	6.4	10.0	6.2	10.4	6.0
	25.0	8.6	6.1	8.8	6.3	9.2	6.1	9.4	6.1	9.5	6.3	9.9	6.1	10.3	6.0
	27.5	8.6	6.1	8.7	6.2	9.1	6.1	9.3	6.1	9.5	6.3	9.8	6.1	10.2	5.9
	30.0	8.5	6.1	8.6	6.2	9.0	6.0	9.2	6.1	9.4	6.2	9.7	6.1	10.1	5.9
	32.5	8.4	6.0	8.6	6.1	8.9	6.0	9.1	6.0	9.3	6.2	9.6	6.0	10.0	5.9
	35.0	8.3	6.0	8.5	6.1	8.8	5.9	9.0	6.0	9.2	6.2	9.5	6.0	9.9	5.8
	37.5	8.2	5.9	8.4	6.0	8.7	5.9	8.9	5.9	9.1	6.1	9.5	6.0	9.8	5.8
	40.0	8.1	5.9	8.3	6.0	8.6	5.9	8.8	5.9	9.0	6.1	9.4	5.9	9.7	5.8
43.0	8.0	5.8	8.2	5.9	8.5	5.8	8.7	5.9	8.9	6.0	9.3	5.9	9.6	5.7	
112	20.0	11.0	8.5	11.2	8.7	11.6	8.5	11.9	8.6	12.1	8.9	12.5	8.6	13.0	8.4
	22.5	10.9	8.4	11.1	8.6	11.5	8.4	11.8	8.5	12.0	8.8	12.4	8.6	12.9	8.4
	25.0	10.8	8.3	11.0	8.6	11.4	8.4	11.6	8.5	11.9	8.8	12.3	8.5	12.8	8.3
	27.5	10.6	8.3	10.9	8.5	11.3	8.3	11.5	8.4	11.8	8.7	12.2	8.5	12.7	8.3
	30.0	10.5	8.2	10.8	8.5	11.2	8.3	11.4	8.4	11.6	8.7	12.1	8.5	12.5	8.2
	32.5	10.4	8.2	10.6	8.4	11.1	8.2	11.3	8.3	11.5	8.6	12.0	8.4	12.4	8.2
	35.0	10.3	8.1	10.5	8.4	11.0	8.2	11.2	8.3	11.4	8.6	11.9	8.4	12.3	8.2
	37.5	10.2	8.1	10.4	8.3	10.9	8.1	11.1	8.2	11.3	8.5	11.8	8.3	12.2	8.1
	40.0	10.1	8.0	10.3	8.2	10.8	8.1	11.0	8.2	11.2	8.5	11.6	8.3	12.1	8.1
43.0	9.9	8.0	10.2	8.2	10.6	8.0	10.8	8.2	11.1	8.4	11.5	8.3	12.0	8.1	
140	20.0	13.7	10.4	14.0	10.6	14.6	10.4	14.8	10.5	15.1	10.8	15.7	10.5	16.2	10.2
	22.5	13.6	10.3	13.9	10.5	14.4	10.3	14.7	10.4	15.0	10.7	15.5	10.5	16.1	10.2
	25.0	13.4	10.2	13.7	10.5	14.3	10.2	14.6	10.3	14.8	10.7	15.4	10.4	16.0	10.1
	27.5	13.3	10.2	13.6	10.4	14.1	10.2	14.4	10.3	14.7	10.6	15.3	10.4	15.8	10.1
	30.0	13.2	10.1	13.4	10.3	14.0	10.1	14.3	10.2	14.6	10.6	15.1	10.3	15.7	10.0
	32.5	13.0	10.0	13.3	10.3	13.9	10.1	14.1	10.2	14.4	10.5	15.0	10.3	15.5	10.0
	35.0	12.9	10.0	13.2	10.2	13.7	10.0	14.0	10.1	14.3	10.5	14.8	10.2	15.4	9.9
	37.5	12.7	9.9	13.0	10.1	13.6	9.9	13.9	10.1	14.1	10.4	14.7	10.2	15.3	9.9
	40.0	12.6	9.8	12.9	10.1	13.4	9.9	13.7	10.0	14.0	10.3	14.6	10.1	15.1	9.9
43.0	12.4	9.7	12.7	10.0	13.3	9.8	13.6	9.9	13.8	10.3	14.4	10.0	15.0	9.8	

3) High static pressure duct type

Model	outdoor temp. i DB	indoor temp.													
		21.5 _i DB 15 _j WB		23 _i DB 16 _j WB		25 _i DB 18 _j WB		27 _i DB 19 _j WB		28 _i DB 20 _j WB		30 _i DB 22 _j WB		32 _i DB 24 _j WB	
		CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
56	20.0	5.5	3.9	5.6	4.0	5.8	3.9	5.9	3.9	6.0	4.0	6.3	3.9	6.5	3.8
	22.5	5.4	3.9	5.5	3.9	5.8	3.9	5.9	3.9	6.0	4.0	6.2	3.9	6.4	3.8
	25.0	5.4	3.8	5.5	3.9	5.7	3.8	5.8	3.8	5.9	4.0	6.2	3.8	6.4	3.7
	27.5	5.3	3.8	5.4	3.9	5.7	3.8	5.8	3.8	5.9	3.9	6.1	3.8	6.3	3.7
	30.0	5.3	3.8	5.4	3.9	5.6	3.8	5.7	3.8	5.8	3.9	6.0	3.8	6.3	3.7
	32.5	5.2	3.8	5.3	3.8	5.5	3.7	5.7	3.8	5.8	3.9	6.0	3.8	6.2	3.7
	35.0	5.2	3.7	5.3	3.8	5.5	3.7	5.6	3.7	5.7	3.9	5.9	3.8	6.2	3.7
	37.5	5.1	3.7	5.2	3.8	5.4	3.7	5.5	3.7	5.7	3.8	5.9	3.7	6.1	3.6
	40.0	5.0	3.7	5.2	3.8	5.4	3.7	5.5	3.7	5.6	3.8	5.8	3.7	6.0	3.6
43.0	5.0	3.6	5.1	3.7	5.3	3.6	5.4	3.7	5.5	3.8	5.8	3.7	6.0	3.6	
71	20.0	7.0	5.1	7.1	5.2	7.4	5.1	7.5	5.1	7.7	5.3	8.0	5.2	8.2	5.0
	22.5	6.9	5.1	7.0	5.2	7.3	5.1	7.5	5.1	7.6	5.3	7.9	5.1	8.2	5.0
	25.0	6.8	5.0	7.0	5.2	7.2	5.0	7.4	5.1	7.5	5.2	7.8	5.1	8.1	5.0
	27.5	6.7	5.0	6.9	5.1	7.2	5.0	7.3	5.1	7.5	5.2	7.7	5.1	8.0	4.9
	30.0	6.7	5.0	6.8	5.1	7.1	5.0	7.2	5.0	7.4	5.2	7.7	5.0	8.0	4.9
	32.5	6.6	4.9	6.7	5.1	7.0	4.9	7.2	5.0	7.3	5.2	7.6	5.0	7.9	4.9
	35.0	6.5	4.9	6.7	5.0	7.0	4.9	7.1	5.0	7.2	5.1	7.5	5.0	7.8	4.9
	37.5	6.5	4.9	6.6	5.0	6.9	4.9	7.0	4.9	7.2	5.1	7.5	5.0	7.7	4.8
	40.0	6.4	4.8	6.5	5.0	6.8	4.9	7.0	4.9	7.1	5.1	7.4	4.9	7.7	4.8
43.0	6.3	4.8	6.4	4.9	6.7	4.8	6.9	4.9	7.0	5.0	7.3	4.9	7.6	4.8	
80	20.0	7.8	5.7	8.0	5.8	8.3	5.7	8.5	5.7	8.6	5.9	9.0	5.8	9.3	5.6
	22.5	7.8	5.7	7.9	5.8	8.2	5.7	8.4	5.7	8.6	5.9	8.9	5.7	9.2	5.6
	25.0	7.7	5.6	7.8	5.8	8.2	5.6	8.3	5.7	8.5	5.8	8.8	5.7	9.1	5.5
	27.5	7.6	5.6	7.8	5.7	8.1	5.6	8.2	5.6	8.4	5.8	8.7	5.7	9.0	5.5
	30.0	7.5	5.6	7.7	5.7	8.0	5.6	8.2	5.6	8.3	5.8	8.6	5.6	9.0	5.5
	32.5	7.4	5.5	7.6	5.6	7.9	5.5	8.1	5.6	8.2	5.7	8.6	5.6	8.9	5.4
	35.0	7.4	5.5	7.5	5.6	7.8	5.5	8.0	5.5	8.2	5.7	8.5	5.6	8.8	5.4
	37.5	7.3	5.4	7.4	5.6	7.8	5.5	7.9	5.5	8.1	5.7	8.4	5.5	8.7	5.4
	40.0	7.2	5.4	7.4	5.5	7.7	5.4	7.8	5.5	8.0	5.6	8.3	5.5	8.6	5.4
43.0	7.1	5.4	7.3	5.5	7.6	5.4	7.7	5.4	7.9	5.6	8.2	5.5	8.5	5.3	
90	20.0	8.8	6.5	9.0	6.6	9.4	6.5	9.5	6.5	9.7	6.7	10.1	6.5	10.4	6.3
	22.5	8.7	6.4	8.9	6.6	9.3	6.4	9.5	6.5	9.6	6.7	10.0	6.5	10.4	6.3
	25.0	8.6	6.4	8.8	6.5	9.2	6.4	9.4	6.4	9.5	6.6	9.9	6.4	10.3	6.3
	27.5	8.6	6.3	8.7	6.5	9.1	6.3	9.3	6.4	9.5	6.6	9.8	6.4	10.2	6.2
	30.0	8.5	6.3	8.6	6.4	9.0	6.3	9.2	6.3	9.4	6.5	9.7	6.4	10.1	6.2
	32.5	8.4	6.2	8.6	6.4	8.9	6.2	9.1	6.3	9.3	6.5	9.6	6.3	10.0	6.2
	35.0	8.3	6.2	8.5	6.3	8.8	6.2	9.0	6.3	9.2	6.5	9.5	6.3	9.9	6.1
	37.5	8.2	6.2	8.4	6.3	8.7	6.2	8.9	6.2	9.1	6.4	9.5	6.3	9.8	6.1
	40.0	8.1	6.1	8.3	6.3	8.6	6.1	8.8	6.2	9.0	6.4	9.4	6.2	9.7	6.1
43.0	8.0	6.1	8.2	6.2	8.5	6.1	8.7	6.1	8.9	6.3	9.3	6.2	9.6	6.0	
112	20.0	11.0	8.7	11.2	8.9	11.6	8.7	11.9	8.8	12.1	9.1	12.5	8.9	13.0	8.7
	22.5	10.9	8.6	11.1	8.9	11.5	8.7	11.8	8.8	12.0	9.1	12.4	8.9	12.9	8.6
	25.0	10.8	8.6	11.0	8.8	11.4	8.6	11.6	8.7	11.9	9.0	12.3	8.8	12.8	8.6
	27.5	10.6	8.5	10.9	8.8	11.3	8.6	11.5	8.7	11.8	9.0	12.2	8.8	12.7	8.6
	30.0	10.5	8.5	10.8	8.7	11.2	8.5	11.4	8.6	11.6	9.0	12.1	8.7	12.5	8.5
	32.5	10.4	8.4	10.6	8.6	11.1	8.5	11.3	8.6	11.5	8.9	12.0	8.7	12.4	8.5
	35.0	10.3	8.4	10.5	8.6	11.0	8.4	11.2	8.6	11.4	8.9	11.9	8.7	12.3	8.5
	37.5	10.2	8.3	10.4	8.5	10.9	8.4	11.1	8.5	11.3	8.8	11.8	8.6	12.2	8.4
	40.0	10.1	8.3	10.3	8.5	10.8	8.3	11.0	8.5	11.2	8.8	11.6	8.6	12.1	8.4
43.0	9.9	8.2	10.2	8.4	10.6	8.3	10.8	8.4	11.1	8.7	11.5	8.5	12.0	8.3	
140	20.0	13.7	10.0	14.0	10.2	14.6	10.0	14.8	10.1	15.1	10.4	15.7	10.1	16.2	9.8
	22.5	13.6	10.0	13.9	10.2	14.4	9.9	14.7	10.0	15.0	10.3	15.5	10.0	16.1	9.8
	25.0	13.4	9.9	13.7	10.1	14.3	9.9	14.6	10.0	14.8	10.3	15.4	10.0	16.0	9.7
	27.5	13.3	9.8	13.6	10.0	14.1	9.8	14.4	9.9	14.7	10.2	15.3	9.9	15.8	9.7
	30.0	13.2	9.8	13.4	10.0	14.0	9.8	14.3	9.8	14.6	10.1	15.1	9.9	15.7	9.6
	32.5	13.0	9.7	13.3	9.9	13.9	9.7	14.1	9.8	14.4	10.1	15.0	9.8	15.5	9.6
	35.0	12.9	9.6	13.2	9.8	13.7	9.6	14.0	9.7	14.3	10.0	14.8	9.8	15.4	9.5
	37.5	12.7	9.5	13.0	9.8	13.6	9.6	13.9	9.7	14.1	10.0	14.7	9.7	15.3	9.5
	40.0	12.6	9.5	12.9	9.7	13.4	9.5	13.7	9.6	14.0	9.9	14.6	9.7	15.1	9.4
43.0	12.4	9.4	12.7	9.6	13.3	9.4	13.6	9.5	13.8	9.8	14.4	9.6	15.0	9.4	

4) 4-way cassette type

Model	outdoor temp.	indoor temp.													
		21.5 _i DB 15 _i WB		23 _i DB 16 _i WB		25 _i DB 18 _i WB		27 _i DB 19 _i WB		28 _i DB 20 _i WB		30 _i DB 22 _i WB		32 _i DB 24 _i WB	
	i DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
22	20.0	2.2	1.6	2.2	1.6	2.3	1.6	2.3	1.6	2.4	1.6	2.5	1.6	2.6	1.5
	22.5	2.1	1.5	2.2	1.6	2.3	1.5	2.3	1.6	2.4	1.6	2.4	1.6	2.5	1.5
	25.0	2.1	1.5	2.2	1.6	2.2	1.5	2.3	1.5	2.3	1.6	2.4	1.5	2.5	1.5
	27.5	2.1	1.5	2.1	1.6	2.2	1.5	2.3	1.5	2.3	1.6	2.4	1.5	2.5	1.5
	30.0	2.1	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.6	2.4	1.5	2.5	1.5
	32.5	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.6	2.4	1.5	2.4	1.5
	35.0	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.2	1.6	2.3	1.5	2.4	1.5
	37.5	2.0	1.5	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.4	1.5
	40.0	2.0	1.5	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.4	1.5
43.0	2.0	1.5	2.0	1.5	2.1	1.5	2.1	1.5	2.2	1.5	2.3	1.5	2.3	1.5	
28	20.0	2.7	2.0	2.8	2.1	2.9	2.0	3.0	2.0	3.0	2.1	3.1	2.0	3.2	2.0
	22.5	2.7	2.0	2.8	2.0	2.9	2.0	2.9	2.0	3.0	2.1	3.1	2.0	3.2	2.0
	25.0	2.7	2.0	2.7	2.0	2.9	2.0	2.9	2.0	3.0	2.1	3.1	2.0	3.2	1.9
	27.5	2.7	2.0	2.7	2.0	2.8	2.0	2.9	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	30.0	2.6	2.0	2.7	2.0	2.8	2.0	2.9	2.0	2.9	2.0	3.0	2.0	3.1	1.9
	32.5	2.6	1.9	2.7	2.0	2.8	1.9	2.8	2.0	2.9	2.0	3.0	2.0	3.1	1.9
	35.0	2.6	1.9	2.6	2.0	2.7	1.9	2.8	1.9	2.9	2.0	3.0	2.0	3.1	1.9
	37.5	2.5	1.9	2.6	2.0	2.7	1.9	2.8	1.9	2.8	2.0	2.9	1.9	3.1	1.9
	40.0	2.5	1.9	2.6	1.9	2.7	1.9	2.7	1.9	2.8	2.0	2.9	1.9	3.0	1.9
43.0	2.5	1.9	2.5	1.9	2.7	1.9	2.7	1.9	2.8	2.0	2.9	1.9	3.0	1.9	
36	20.0	3.5	2.7	3.6	2.7	3.7	2.7	3.8	2.7	3.9	2.8	4.0	2.7	4.2	2.6
	22.5	3.5	2.7	3.6	2.7	3.7	2.7	3.8	2.7	3.9	2.8	4.0	2.7	4.1	2.6
	25.0	3.5	2.6	3.5	2.7	3.7	2.6	3.7	2.7	3.8	2.8	4.0	2.7	4.1	2.6
	27.5	3.4	2.6	3.5	2.7	3.6	2.6	3.7	2.7	3.8	2.7	3.9	2.7	4.1	2.6
	30.0	3.4	2.6	3.5	2.7	3.6	2.6	3.7	2.6	3.7	2.7	3.9	2.7	4.0	2.6
	32.5	3.3	2.6	3.4	2.7	3.6	2.6	3.6	2.6	3.7	2.7	3.9	2.7	4.0	2.6
	35.0	3.3	2.6	3.4	2.7	3.5	2.6	3.6	2.6	3.7	2.7	3.8	2.6	4.0	2.6
	37.5	3.3	2.6	3.3	2.6	3.5	2.6	3.6	2.6	3.6	2.7	3.8	2.6	3.9	2.6
	40.0	3.2	2.5	3.3	2.6	3.5	2.6	3.5	2.6	3.6	2.7	3.7	2.6	3.9	2.5
43.0	3.2	2.5	3.3	2.6	3.4	2.5	3.5	2.6	3.6	2.7	3.7	2.6	3.8	2.5	
40	20.0	3.9	2.9	4.0	2.9	4.2	2.9	4.3	2.9	4.3	3.0	4.5	2.9	4.7	2.8
	22.5	3.9	2.9	4.0	2.9	4.1	2.9	4.2	2.9	4.3	3.0	4.5	2.9	4.6	2.8
	25.0	3.9	2.8	3.9	2.9	4.1	2.8	4.2	2.9	4.3	2.9	4.4	2.9	4.6	2.8
	27.5	3.8	2.8	3.9	2.9	4.1	2.8	4.1	2.8	4.2	2.9	4.4	2.9	4.5	2.8
	30.0	3.8	2.8	3.9	2.9	4.0	2.8	4.1	2.8	4.2	2.9	4.3	2.8	4.5	2.8
	32.5	3.7	2.8	3.8	2.8	4.0	2.8	4.1	2.8	4.1	2.9	4.3	2.8	4.5	2.7
	35.0	3.7	2.8	3.8	2.8	3.9	2.8	4.0	2.8	4.1	2.9	4.3	2.8	4.4	2.7
	37.5	3.7	2.7	3.7	2.8	3.9	2.8	4.0	2.8	4.1	2.9	4.2	2.8	4.4	2.7
	40.0	3.6	2.7	3.7	2.8	3.9	2.7	3.9	2.8	4.0	2.8	4.2	2.8	4.3	2.7
43.0	3.6	2.7	3.7	2.8	3.8	2.7	3.9	2.7	4.0	2.8	4.1	2.8	4.3	2.7	
45	20.0	4.4	3.4	4.5	3.5	4.7	3.4	4.8	3.4	4.9	3.5	5.0	3.4	5.2	3.3
	22.5	4.4	3.4	4.5	3.4	4.6	3.4	4.7	3.4	4.8	3.5	5.0	3.4	5.2	3.3
	25.0	4.3	3.3	4.4	3.4	4.6	3.3	4.7	3.4	4.8	3.5	5.0	3.4	5.1	3.3
	27.5	4.3	3.3	4.4	3.4	4.5	3.3	4.6	3.4	4.7	3.5	4.9	3.4	5.1	3.3
	30.0	4.2	3.3	4.3	3.4	4.5	3.3	4.6	3.3	4.7	3.5	4.9	3.4	5.0	3.3
	32.5	4.2	3.3	4.3	3.4	4.5	3.3	4.5	3.3	4.6	3.4	4.8	3.4	5.0	3.3
	35.0	4.1	3.2	4.2	3.3	4.4	3.3	4.5	3.3	4.6	3.4	4.8	3.3	5.0	3.3
	37.5	4.1	3.2	4.2	3.3	4.4	3.3	4.5	3.3	4.5	3.4	4.7	3.3	4.9	3.2
	40.0	4.1	3.2	4.1	3.3	4.3	3.2	4.4	3.3	4.5	3.4	4.7	3.3	4.9	3.2
43.0	4.0	3.2	4.1	3.3	4.3	3.2	4.4	3.2	4.4	3.4	4.6	3.3	4.8	3.2	

Model	outdoor temp.	indoor temp.													
		21.5; DB 15; WB		23; DB 16; WB		25; DB 18; WB		27; DB 19; WB		28; DB 20; WB		30; DB 22; WB		32; DB 24; WB	
	i DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
56	20.0	5.5	4.0	5.6	4.1	5.8	4.0	5.9	4.0	6.0	4.1	6.3	4.0	6.5	3.9
	22.5	5.4	3.9	5.5	4.0	5.8	3.9	5.9	4.0	6.0	4.1	6.2	4.0	6.4	3.9
	25.0	5.4	3.9	5.5	4.0	5.7	3.9	5.8	3.9	5.9	4.1	6.2	3.9	6.4	3.8
	27.5	5.3	3.9	5.4	4.0	5.7	3.9	5.8	3.9	5.9	4.0	6.1	3.9	6.3	3.8
	30.0	5.3	3.9	5.4	3.9	5.6	3.9	5.7	3.9	5.8	4.0	6.0	3.9	6.3	3.8
	32.5	5.2	3.8	5.3	3.9	5.5	3.8	5.7	3.9	5.8	4.0	6.0	3.9	6.2	3.8
	35.0	5.2	3.8	5.3	3.9	5.5	3.8	5.6	3.8	5.7	4.0	5.9	3.9	6.2	3.8
	37.5	5.1	3.8	5.2	3.9	5.4	3.8	5.5	3.8	5.7	3.9	5.9	3.8	6.1	3.7
	40.0	5.0	3.7	5.2	3.8	5.4	3.8	5.5	3.8	5.6	3.9	5.8	3.8	6.0	3.7
43.0	5.0	3.7	5.1	3.8	5.3	3.7	5.4	3.8	5.5	3.9	5.8	3.8	6.0	3.7	
71	20.0	7.0	4.9	7.1	5.0	7.4	4.9	7.5	4.9	7.7	5.0	8.0	4.9	8.2	4.7
	22.5	6.9	4.9	7.0	4.9	7.3	4.8	7.5	4.8	7.6	5.0	7.9	4.8	8.2	4.7
	25.0	6.8	4.8	7.0	4.9	7.2	4.8	7.4	4.8	7.5	4.9	7.8	4.8	8.1	4.7
	27.5	6.7	4.8	6.9	4.9	7.2	4.8	7.3	4.8	7.5	4.9	7.7	4.8	8.0	4.6
	30.0	6.7	4.7	6.8	4.8	7.1	4.7	7.2	4.7	7.4	4.9	7.7	4.7	8.0	4.6
	32.5	6.6	4.7	6.7	4.8	7.0	4.7	7.2	4.7	7.3	4.8	7.6	4.7	7.9	4.6
	35.0	6.5	4.7	6.7	4.8	7.0	4.7	7.1	4.7	7.2	4.8	7.5	4.7	7.8	4.6
	37.5	6.5	4.6	6.6	4.7	6.9	4.6	7.0	4.6	7.2	4.8	7.5	4.7	7.7	4.5
	40.0	6.4	4.6	6.5	4.7	6.8	4.6	7.0	4.6	7.1	4.8	7.4	4.6	7.7	4.5
43.0	6.3	4.6	6.4	4.6	6.7	4.6	6.9	4.6	7.0	4.7	7.3	4.6	7.6	4.5	
80	20.0	7.8	5.5	8.0	5.6	8.3	5.5	8.5	5.5	8.6	5.7	9.0	5.5	9.3	5.3
	22.5	7.8	5.5	7.9	5.5	8.2	5.4	8.4	5.4	8.6	5.6	8.9	5.4	9.2	5.3
	25.0	7.7	5.4	7.8	5.5	8.2	5.4	8.3	5.4	8.5	5.5	8.8	5.4	9.1	5.3
	27.5	7.6	5.4	7.8	5.5	8.1	5.4	8.3	5.4	8.4	5.5	8.7	5.4	9.0	5.2
	30.0	7.5	5.3	7.7	5.4	8.0	5.3	8.2	5.3	8.3	5.4	8.6	5.3	9.0	5.2
	32.5	7.4	5.3	7.6	5.4	7.9	5.3	8.1	5.3	8.2	5.4	8.6	5.3	8.9	5.1
	35.0	7.4	5.3	7.5	5.4	7.8	5.3	8.0	5.3	8.2	5.4	8.5	5.3	8.8	5.1
	37.5	7.3	5.2	7.4	5.3	7.8	5.2	7.9	5.2	8.1	5.4	8.4	5.3	8.7	5.1
	40.0	7.2	5.1	7.4	5.3	7.7	5.1	7.8	5.2	8.0	5.4	8.3	5.2	8.6	5.1
43.0	7.1	5.1	7.3	5.2	7.6	5.1	7.7	5.1	7.9	5.3	8.2	5.2	8.5	5.0	
90	20.0	8.8	6.4	9.0	6.5	9.4	6.4	9.5	6.4	9.7	6.6	10.1	6.4	10.4	6.2
	22.5	8.7	6.4	8.9	6.5	9.3	6.3	9.5	6.4	9.6	6.6	10.0	6.4	10.4	6.2
	25.0	8.6	6.3	8.8	6.4	9.2	6.3	9.4	6.3	9.5	6.5	9.9	6.4	10.3	6.2
	27.5	8.6	6.3	8.7	6.4	9.1	6.3	9.3	6.3	9.5	6.5	9.8	6.3	10.2	6.1
	30.0	8.5	6.2	8.6	6.4	9.0	6.2	9.2	6.3	9.4	6.5	9.7	6.3	10.1	6.1
	32.5	8.4	6.2	8.6	6.3	8.9	6.2	9.1	6.2	9.3	6.4	9.6	6.3	10.0	6.1
	35.0	8.3	6.1	8.5	6.3	8.8	6.1	9.0	6.2	9.2	6.4	9.5	6.2	9.9	6.0
	37.5	8.2	6.1	8.4	6.2	8.7	6.1	8.9	6.1	9.1	6.3	9.5	6.2	9.8	6.0
	40.0	8.1	6.0	8.3	6.2	8.6	6.1	8.8	6.1	9.0	6.3	9.4	6.1	9.7	6.0
43.0	8.0	6.0	8.2	6.1	8.5	6.0	8.7	6.1	8.9	6.3	9.3	6.1	9.6	5.9	
112	20.0	11.0	8.0	11.2	8.2	11.6	8.0	11.9	8.1	12.1	8.3	12.5	8.1	13.0	7.9
	22.5	10.9	8.0	11.1	8.2	11.5	8.0	11.8	8.0	12.0	8.3	12.4	8.1	12.9	7.8
	25.0	10.8	7.9	11.0	8.1	11.4	7.9	11.6	8.0	11.9	8.2	12.3	8.0	12.8	7.8
	27.5	10.6	7.9	10.9	8.1	11.3	7.9	11.5	7.9	11.8	8.2	12.2	8.0	12.7	7.8
	30.0	10.5	7.8	10.8	8.0	11.2	7.8	11.4	7.9	11.6	8.1	12.1	7.9	12.5	7.7
	32.5	10.4	7.8	10.6	7.9	11.1	7.8	11.3	7.8	11.5	8.1	12.0	7.9	12.4	7.7
	35.0	10.3	7.7	10.5	7.9	11.0	7.7	11.2	7.8	11.4	8.1	11.9	7.9	12.3	7.6
	37.5	10.2	7.7	10.4	7.8	10.9	7.7	11.1	7.8	11.3	8.0	11.8	7.8	12.2	7.6
	40.0	10.1	7.6	10.3	7.8	10.8	7.6	11.0	7.7	11.2	8.0	11.6	7.8	12.1	7.6
43.0	9.9	7.5	10.2	7.7	10.6	7.6	10.8	7.6	11.1	7.9	11.5	7.7	12.0	7.5	
140	20.0	13.7	9.6	14.0	9.8	14.6	9.6	14.8	9.6	15.1	9.9	15.7	9.6	16.2	9.3
	22.5	13.6	9.6	13.9	9.7	14.4	9.5	14.7	9.5	15.0	9.8	15.5	9.5	16.1	9.2
	25.0	13.4	9.5	13.7	9.7	14.3	9.4	14.6	9.5	14.8	9.7	15.4	9.5	16.0	9.2
	27.5	13.3	9.4	13.6	9.6	14.1	9.4	14.4	9.4	14.7	9.6	15.3	9.4	15.8	9.1
	30.0	13.2	9.3	13.4	9.5	14.0	9.3	14.3	9.3	14.6	9.5	15.1	9.3	15.7	9.1
	32.5	13.0	9.3	13.3	9.4	13.9	9.2	14.1	9.3	14.4	9.5	15.0	9.3	15.5	9.0
	35.0	12.9	9.2	13.2	9.4	13.7	9.2	14.0	9.2	14.3	9.5	14.8	9.2	15.4	9.0
	37.5	12.7	9.1	13.0	9.3	13.6	9.1	13.9	9.1	14.1	9.4	14.7	9.2	15.3	8.9
	40.0	12.6	9.0	12.9	9.2	13.4	9.0	13.7	9.1	14.0	9.4	14.6	9.1	15.1	8.9
43.0	12.4	9.0	12.7	9.1	13.3	9.0	13.6	9.0	13.8	9.3	14.4	9.1	15.0	8.8	

5) Wall mounted type

A. Cooling:

Mode	outdoor temp. i DB	indoor temp.													
		21.5; DB 15; WB		23; DB 16; WB		25; DB 18; WB		27; DB 19; WB		28; DB 20; WB		30; DB 22; WB		32; DB 24; WB	
		CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
07	20.0	2.2	1.5	2.2	1.5	2.3	1.5	2.3	1.5	2.4	1.6	2.5	1.5	2.6	1.5
	22.5	2.1	1.5	2.2	1.5	2.3	1.5	2.3	1.5	2.4	1.5	2.4	1.5	2.5	1.5
	25.0	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.3	1.5	2.4	1.5	2.5	1.5
	27.5	2.1	1.5	2.1	1.5	2.2	1.5	2.3	1.5	2.3	1.5	2.4	1.5	2.5	1.4
	30.0	2.1	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.4	1.5	2.5	1.4
	32.5	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.4	1.5	2.4	1.4
	35.0	2.0	1.5	2.1	1.5	2.2	1.5	2.2	1.5	2.2	1.5	2.3	1.5	2.4	1.4
	37.5	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.4	2.2	1.5	2.3	1.5	2.4	1.4
	40.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.4	2.2	1.5	2.3	1.4	2.4	1.4
43.0	2.0	1.4	2.0	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.3	1.4	2.3	1.4	
09	20.0	2.7	1.9	2.8	1.9	2.9	1.9	3.0	1.9	3.0	1.9	3.1	1.9	3.2	1.8
	22.5	2.7	1.9	2.8	1.9	2.9	1.9	2.9	1.9	3.0	1.9	3.1	1.9	3.2	1.8
	25.0	2.7	1.9	2.7	1.9	2.9	1.9	2.9	1.9	3.0	1.9	3.1	1.9	3.2	1.8
	27.5	2.7	1.9	2.7	1.9	2.8	1.8	2.9	1.9	2.9	1.9	3.1	1.9	3.2	1.8
	30.0	2.6	1.8	2.7	1.9	2.8	1.8	2.9	1.8	2.9	1.9	3.0	1.8	3.1	1.8
	32.5	2.6	1.8	2.7	1.9	2.8	1.8	2.8	1.8	2.9	1.9	3.0	1.8	3.1	1.8
	35.0	2.6	1.8	2.6	1.9	2.7	1.8	2.8	1.8	2.9	1.9	3.0	1.8	3.1	1.8
	37.5	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.8	2.8	1.9	2.9	1.8	3.1	1.8
	40.0	2.5	1.8	2.6	1.8	2.7	1.8	2.7	1.8	2.8	1.8	2.9	1.8	3.0	1.7
43.0	2.5	1.8	2.5	1.8	2.7	1.8	2.7	1.8	2.8	1.8	2.9	1.8	3.0	1.7	
12	20.0	3.5	2.8	3.6	2.9	3.7	2.8	3.8	2.9	3.9	3.0	4.0	2.9	4.2	2.8
	22.5	3.5	2.8	3.6	2.9	3.7	2.8	3.8	2.9	3.9	3.0	4.0	2.9	4.1	2.8
	25.0	3.5	2.8	3.5	2.9	3.7	2.8	3.7	2.9	3.8	3.0	4.0	2.9	4.1	2.8
	27.5	3.4	2.8	3.5	2.9	3.6	2.8	3.7	2.8	3.8	2.9	3.9	2.9	4.1	2.8
	30.0	3.4	2.8	3.5	2.8	3.6	2.8	3.7	2.8	3.7	2.9	3.9	2.9	4.0	2.8
	32.5	3.3	2.7	3.4	2.8	3.6	2.8	3.6	2.8	3.7	2.9	3.9	2.9	4.0	2.8
	35.0	3.3	2.7	3.4	2.8	3.5	2.8	3.6	2.8	3.7	2.9	3.8	2.8	4.0	2.8
	37.5	3.3	2.7	3.3	2.8	3.5	2.7	3.6	2.8	3.6	2.9	3.8	2.8	3.9	2.8
	40.0	3.2	2.7	3.3	2.8	3.5	2.7	3.5	2.8	3.6	2.9	3.7	2.8	3.9	2.7
43.0	3.2	2.7	3.3	2.8	3.4	2.7	3.5	2.8	3.6	2.9	3.7	2.8	3.8	2.7	
14	20.0	3.9	2.9	4.0	3.0	4.2	2.9	4.3	3.0	4.3	3.2	4.5	3.0	4.7	2.9
	22.5	3.9	2.9	4.0	3.0	4.1	2.9	4.2	3.0	4.3	3.2	4.5	3.0	4.6	2.9
	25.0	3.9	2.9	3.9	3.0	4.1	2.9	4.2	3.0	4.3	3.2	4.4	3.0	4.6	2.9
	27.5	3.8	2.9	3.9	3.0	4.1	2.9	4.1	2.9	4.2	3.0	4.4	3.0	4.5	2.9
	30.0	3.8	2.9	3.9	2.9	4.0	2.9	4.1	2.9	4.2	3.0	4.3	3.0	4.5	2.9
	32.5	3.7	2.8	3.8	2.9	4.0	2.9	4.1	2.9	4.1	3.0	4.3	3.0	4.5	2.9
	35.0	3.7	2.8	3.8	2.9	3.9	2.9	4.0	2.9	4.1	3.0	4.3	2.9	4.4	2.9
	37.5	3.7	2.8	3.7	2.9	3.9	2.8	4.0	2.9	4.1	3.0	4.2	2.9	4.4	2.9
	40.0	3.6	2.8	3.7	2.9	3.9	2.8	3.9	2.9	4.0	3.0	4.2	2.9	4.3	2.8
43.0	3.6	2.8	3.7	2.9	3.8	2.8	3.9	2.9	4.0	3.0	4.1	2.9	4.3	2.8	
16	20.0	4.4	3.2	4.5	3.3	4.7	3.2	4.8	3.2	4.9	3.3	5.0	3.3	5.2	3.2
	22.5	4.4	3.2	4.5	3.3	4.6	3.2	4.7	3.2	4.8	3.3	5.0	3.2	5.2	3.2
	25.0	4.3	3.2	4.4	3.3	4.6	3.2	4.7	3.2	4.8	3.3	5.0	3.2	5.1	3.1
	27.5	4.3	3.2	4.4	3.2	4.5	3.2	4.6	3.2	4.7	3.3	4.9	3.2	5.1	3.1
	30.0	4.2	3.1	4.3	3.2	4.5	3.1	4.6	3.2	4.7	3.3	4.9	3.2	5.0	3.1
	32.5	4.2	3.1	4.3	3.2	4.5	3.1	4.5	3.2	4.6	3.3	4.8	3.2	5.0	3.1
	35.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.1	4.6	3.2	4.8	3.2	5.0	3.1
	37.5	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.1	4.5	3.2	4.7	3.1	4.9	3.1
	40.0	4.1	3.1	4.1	3.1	4.3	3.1	4.4	3.1	4.5	3.2	4.7	3.1	4.9	3.0
43.0	4.0	3.0	4.1	3.1	4.3	3.0	4.4	3.1	4.4	3.2	4.6	3.1	4.8	3.0	
18	20.0	5.5	3.8	5.6	3.9	5.8	3.8	5.9	3.8	6.0	3.9	6.3	3.7	6.5	3.6
	22.5	5.4	3.8	5.5	3.8	5.8	3.7	5.9	3.7	6.0	3.8	6.2	3.7	6.4	3.6
	25.0	5.4	3.7	5.5	3.8	5.7	3.7	5.8	3.7	5.9	3.8	6.2	3.7	6.4	3.6
	27.5	5.3	3.7	5.4	3.8	5.7	3.7	5.8	3.7	5.9	3.8	6.1	3.7	6.3	3.6
	30.0	5.3	3.7	5.4	3.7	5.6	3.7	5.7	3.7	5.8	3.8	6.0	3.7	6.3	3.5
	32.5	5.2	3.6	5.3	3.7	5.5	3.6	5.7	3.6	5.8	3.7	6.0	3.6	6.2	3.5
	35.0	5.2	3.6	5.3	3.7	5.5	3.6	5.6	3.6	5.7	3.7	5.9	3.6	6.2	3.5
	37.5	5.1	3.6	5.2	3.7	5.4	3.6	5.5	3.6	5.7	3.7	5.9	3.6	6.1	3.5
	40.0	5.0	3.6	5.2	3.6	5.4	3.5	5.5	3.6	5.6	3.7	5.8	3.6	6.0	3.5
43.0	5.0	3.5	5.1	3.6	5.3	3.5	5.4	3.5	5.5	3.6	5.8	3.5	6.0	3.4	

B. Heating:

Model	outdoor temp. i WB	indoor temp. : i DB			
		15.0	20.0	25.0	27.0
		SHC	SHC	SHC	SHC
07 (low static pressure duct type is not contained)	-15.0	1.7	1.6	1.6	1.6
	-10.0	1.9	1.9	1.9	1.7
	-5.0	2.1	2.1	1.9	1.7
	0.0	2.4	2.4	1.9	1.7
	2.5	2.5	2.5	1.9	1.7
	6.0	2.5	2.5	1.9	1.7
	7.5	2.6	2.5	1.9	1.7
	10.0	2.8	2.5	1.9	1.7
	12.5	3.0	2.5	1.9	1.7
07 (low static pressure duct type is contained)	15.5	3.0	2.5	1.9	1.7
	-15.0	1.8	1.7	1.7	1.7
	-10.0	2.0	2.0	2.0	1.8
	-5.0	2.2	2.2	2.0	1.8
	0.0	2.5	2.5	2.0	1.8
	2.5	2.6	2.6	2.0	1.8
	6.0	2.6	2.6	2.0	1.8
	7.5	2.7	2.6	2.0	1.8
	10.0	2.9	2.6	2.0	1.8
09	12.5	3.1	2.6	2.0	1.8
	15.5	3.1	2.6	2.0	1.8
	-15.0	2.1	2.1	2.1	2.1
	-10.0	2.4	2.4	2.4	2.2
	-5.0	2.7	2.7	2.5	2.2
	0.0	3.1	3.0	2.5	2.2
	2.5	3.2	3.2	2.5	2.2
	6.0	3.2	3.2	2.5	2.2
	7.5	3.4	3.2	2.5	2.2
12	10.0	3.6	3.2	2.5	2.2
	12.5	3.8	3.2	2.5	2.2
	15.5	3.9	3.2	2.5	2.2
	-15.0	2.7	2.6	2.6	2.6
	-10.0	3.1	3.0	3.0	2.8
	-5.0	3.4	3.4	3.1	2.8
	0.0	3.8	3.8	3.1	2.8
	2.5	4.0	4.0	3.1	2.8
	6.0	4.0	4.0	3.1	2.8
14	7.5	4.2	4.0	3.1	2.8
	10.0	4.5	4.0	3.1	2.8
	12.5	4.8	4.0	3.1	2.8
	15.5	4.8	4.0	3.1	2.8
	-15.0	3.0	3.0	3.0	3.0
	-10.0	3.5	3.4	3.4	3.1
	-5.0	3.9	3.8	3.5	3.1
	0.0	4.3	4.3	3.5	3.1
	2.5	4.5	4.5	3.5	3.1
16	6.0	4.6	4.5	3.5	3.1
	7.5	4.8	4.5	3.5	3.1
	10.0	5.1	4.5	3.5	3.1
	12.5	5.4	4.5	3.5	3.1
	15.5	5.5	4.5	3.5	3.1
	-15.0	3.3	3.3	3.3	3.3
	-10.0	3.8	3.8	3.7	3.5
	-5.0	4.3	4.2	3.9	3.5
	0.0	4.8	4.7	3.9	3.5
16	2.5	5.0	5.0	3.9	3.5
	6.0	5.1	5.0	3.9	3.5
	7.5	5.3	5.0	3.9	3.5
	10.0	5.6	5.0	3.9	3.5
	12.5	6.0	5.0	3.9	3.5
	15.5	6.1	5.0	3.9	3.5

Model	outdoor temp. : j WB	indoor temp. : j DB			
		15.0	20.0	25.0	27.0
		SHC	SHC	SHC	SHC
18	-15.0	4.2	4.2	4.1	4.1
	-10.0	4.8	4.8	4.7	4.3
	-5.0	5.4	5.3	4.9	4.3
	0.0	6.0	5.9	4.9	4.3
	2.5	6.3	6.2	4.9	4.3
	6.0	6.4	6.3	4.9	4.3
	7.5	6.6	6.3	4.9	4.3
	10.0	7.1	6.3	4.9	4.3
	12.5	7.5	6.3	4.9	4.3
15.5	7.6	6.3	4.9	4.3	
24	-15.0	5.4	5.3	5.2	5.2
	-10.0	6.1	6.0	6.0	5.5
	-5.0	6.9	6.8	6.2	5.5
	0.0	7.6	7.5	6.2	5.5
	2.5	8.0	7.9	6.2	5.5
	6.0	8.1	8.0	6.2	5.5
	7.5	8.4	8.0	6.2	5.5
	10.0	9.0	8.0	6.2	5.5
	12.5	9.6	8.0	6.2	5.5
15.5	9.7	8.0	6.2	5.5	
28	-15.0	6.0	5.9	5.9	5.9
	-10.0	6.9	6.8	6.7	6.2
	-5.0	7.7	7.6	7.0	6.2
	0.0	8.6	8.5	7.0	6.2
	2.5	9.0	8.9	7.0	6.2
	6.0	9.1	9.0	7.0	6.2
	7.5	9.5	9.0	7.0	6.2
	10.0	10.1	9.0	7.0	6.2
	12.5	10.8	9.0	7.0	6.2
15.5	10.9	9.0	7.0	6.2	
32	-15.0	6.7	6.6	6.5	6.5
	-10.0	7.6	7.5	7.4	6.9
	-5.0	8.6	8.5	7.8	6.9
	0.0	9.5	9.4	7.8	6.9
	2.5	10.0	9.9	7.8	6.9
	6.0	10.1	10.0	7.8	6.9
	7.5	10.5	10.0	7.8	6.9
	10.0	11.2	10.0	7.8	6.9
	12.5	12.0	10.0	7.8	6.9
15.5	12.1	10.0	7.8	6.9	
38	-15.0	8.4	8.2	8.2	8.1
	-10.0	9.6	9.4	9.3	8.6
	-5.0	10.7	10.6	9.8	8.6
	0.0	11.9	11.8	9.8	8.6
	2.5	12.5	12.4	9.8	8.6
	6.0	12.6	12.5	9.8	8.6
	7.5	13.2	12.5	9.8	8.6
	10.0	14.1	12.5	9.8	8.6
	12.5	15.0	12.5	9.8	8.6
15.5	15.1	12.5	9.8	8.6	
48	-15.0	10.7	10.6	10.5	10.4
	-10.0	12.2	12.1	11.9	11.0
	-5.0	13.7	13.6	12.5	11.0
	0.0	15.3	15.1	12.5	11.0
	2.5	16.0	15.8	12.5	11.0
	6.0	16.2	16.0	12.5	11.0
	7.5	16.8	16.0	12.5	11.0
	10.0	18.0	16.0	12.5	11.0
	12.5	19.1	16.0	12.5	11.0
15.5	19.4	16.0	12.5	11.0	

MRVII R22

Haier



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