MULTI V™ WATER S

R410A(50Hz)
5CVW0-01E (Replaces 5CVW0-01D)

LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

LG
Life's Good

P/No. : MFL61741624

MULTI V™ WATER S

General Information

1. Model Names
2. External Appearance
3. Nomenclature
4. Outside Units information
5. Indoor Unit and Outside Unit Capacity Index
6. Outside Unit Function

1. Model Names

1.1 Outside Units

Power Supply	4HP	5HP	6HP
1Ø, 220-240V, 50Hz	40GA0	50GA0	60GA0

Heat Pump	ARWN

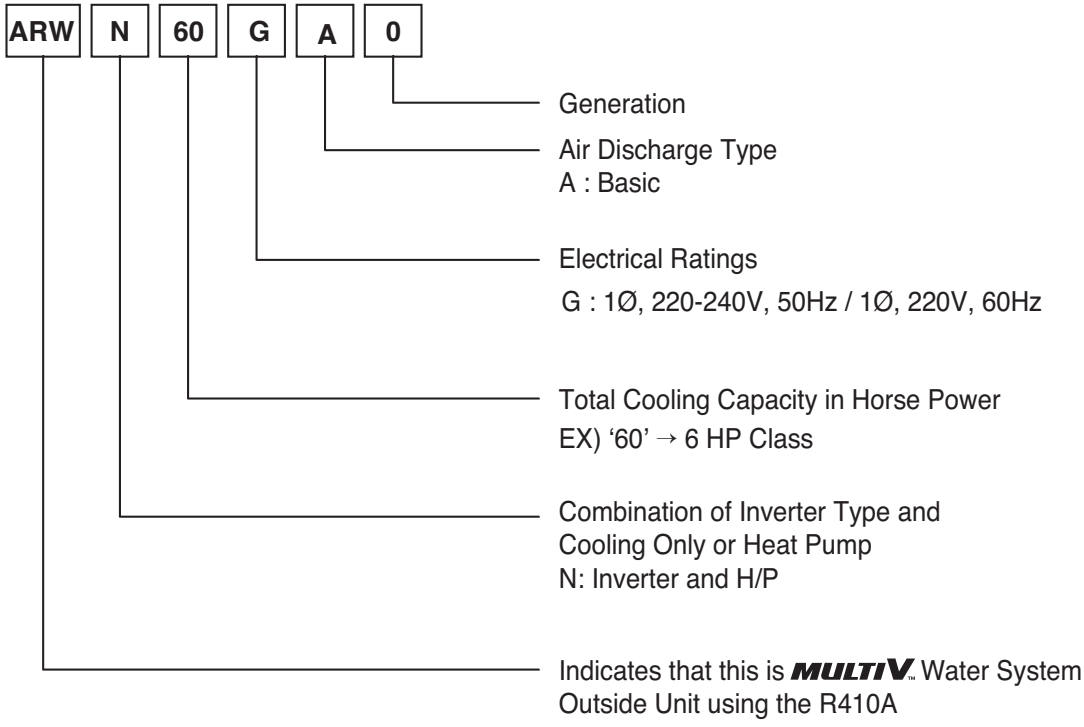
2. External Appearance

2.1 Outside Units

ARWN40GA0
ARWN50GA0
ARWN60GA0

3. Nomenclature

3.1 Outside Unit



4. Outside Units Information

⚠CAUTION

Ratio of the connectable Indoor Units to the Outside: Within 50 ~ 130% [1)]
A combination operation over 100% cause to reduce each indoor unit capacity.

[1)] (The combination of 18 kBtu/h indoor and 38 kBtu/h Outside unit is allowable.)

Power Supply: Outside Unit (1Ø, 220-240V, 50Hz)

Model (HP)			4	5	6
Model			ARWN40GA0	ARWN50GA0	ARWN60GA0
Refrigerant	Product charge	kg (lbs)	1.0 (2.2)	1.0 (2.2)	1.0 (2.2)
Number of maxmum connectable indoor units			6	8	9
Net Weight		kg (lbs)	76 (168)	76 (168)	76 (168)
Dimensions (WxHxD)		mm	520 X 1,080 X 330	520 X 1,080 X 330	520 X 1,080 X 330
		inch	20-1/2 × 42-1/2 × 13	20-1/2 × 42-1/2 × 13	20-1/2 × 42-1/2 × 13
Connecting Pipes	Liquid	Ø, mm(inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
	Gas	Ø, mm(inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)

5. Indoor Unit and Outside Unit Capacity Index

5.1 Indoor Unit Selection

See the indoor unit capacity tables for given Indoor and Outside temperature.
Select the unit whose capacity is the nearest to or greater than given load.

Note : Individual Indoor Unit capacity is subject to change by combination. Actual capacity has to be calculated according to the combination by using Outside unit capacity table.

5.2 Outside Unit Selection

Allowable combinations are indicated in INDOOR UNIT COMBINATION TOTAL CAPACITY INDEX TABLE. In general, Outside Unit can be selected depending on the location of the unit, zoning and usage of the rooms.
The Indoor and Outside Unit combination is determined where the sum of Indoor Unit capacity index is the nearest to and smaller than the capacity index at 100% combination ratio of each Outside Unit.
Indoor Units can be connected to one Outside Unit. It is recommended to choose a larger Outside Unit if the installation space is large enough.
If the combination ratio is greater than 100%, the Indoor Unit selection shall be reviewed by using actual capacity of each Indoor Unit.

INDOOR UNIT COMBINATION TOTAL CAPACITY INDEX TABLE

Oudoor Unit	Indoor Unit Combination Ratio								
Capacity(HP)	50%	60%	70%	80%	90%	100%	110%	120%	130%
4	5.6	6.7	7.8	9.0	10.1	11.2	12.3	13.4	14.6
5	7.0	8.4	9.8	11.2	12.6	14.0	15.4	16.8	18.2
6	7.8	9.3	10.9	12.4	14.0	15.5	17.1	18.6	20.2

❉ Capacity Index is same as the capacity kW.

INDOOR UNIT CAPACITY INDEX

Unit Capacity (Btu/h)	5k	7k	9k	12k	15k	18k	24k	28k	36k	42k	48k	54k
Capacity Index	1.6	2.2	2.8	3.6	4.5	5.6	7.1	8.2	10.6	12.3	14.1	15.8

❉ Capacity Index is same as the capacity kW.

6. Outside Unit Function

Category	Functions	Water Mini
Reliability	Defrost / Deicing	X
	High pressure switch	O
	Low pressure switch	X
	Phase protection	X
	Restart delay (3-minutes)	O
	Self diagnosis	O
	Soft start	O
Convenience	Test function	O
	Night Silent Operation	X
Network function	Network solution(LGAP)	O

Note :
O : Applied, X : Not applied
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

Device		Water Mini
Central Controller	AC Ez (Simple Controller)	PQCSZ250S0
	AC Smart II	PQCSW320A1E
	AC Smart Premium	X
	128 Unit Expansion Kit for AC Smart	PQCSE440U0
	Option Kit (SD card type) for AC Smart	PQCSE341A0 / PQCSE342A0
	ACP(Advanced Control Platform)	PQ'CPA11A0E / PQCPB11A0E
	AC Manager	PQCSS520A0E
	ACP(Advanced Control Platform) Standard	X
	ACP(Advanced Control Platform) Premium	X
	AC Manager Plus	X
	DO(Digital Output) Kit	PQNFP00T0
BNU (Building Network Unit)	LONWORKS Gateway (DC 12V Adapter)	PQNFB16A1
	LONWORKS Gateway (AC 24 V)	X
	BACnet Gateway (DC 12V Adapter)	PQNFB17B0
	BACnet Gateway (AC 24 V)	X
Installation	Refrigerant Charging Kit	PRAC1
	Variable Water Flow Control Kit	PRVC0
PDI(power distribution indicator)		PQNUD1S00
PDI(power distribution indicator) Premium		X

Note :
O : Applied, X : Not applied
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI V™ WATER S

Outside Units

1. Specifications

■ Heat Pump

Nominal Capacity		HP	4	5	6
Model Name		Independent Unit	**ARWN40GA0**	**ARWN50GA0**	**ARWN60GA0**
Capacity	Cooling	kW	11.2	14.0	15.5
		Btu/h	38,200	47,800	52,900
	Heating	kW	12.5	16.0	18.0
		Btu/h	42,600	54,600	61,400
Input *	Cooling	kW	2.10	2.70	3.20
	Heating	kW	2.20	2.90	3.50
Casing Color			Warm Gray	Warm Gray	Warm Gray
Compressor	Type		BLDC Inverter Twin Rotary	BLDC Inverter Twin Rotary	BLDC Inverter Twin Rotary
	Combination		-	-	-
	Piston Displacement	cm^3/rev	44.2	44.2	44.2
	Number of revolution	rev/min	Inverter 3,600 at 60Hz	Inverter 3,600 at 60Hz	Inverter 3,600 at 60Hz
	Motor Output	W x No.	4,000	4,000	4,000
	Starting Method		Direct On Line	Direct On Line	Inverter Starting
	Oil Type		FVC68D (PVE)	FVC68D (PVE)	FVC68D (PVE)
	Oil Charge Amount	cc	1,300	1,300	1,300
Heat Exchanger	Type		Cupro brazed Stainless Steel Plate	Cupro brazed Stainless Steel Plate	Cupro brazed Stainless Steel Plate
	Maximum Pressure Resistance	kPa(psi)	4,413(640)	4,413(640)	4,413(640)
	Head Loss	kPa(ft.wg)	14.0(4.7)	20.7(6.9)	28.4(9.5)
	Rated Water Flow	lpm (GPM)	40 (10.6)	50 (13.2)	60 (15.9)
Refrigerant Connecting Pipes	Liquid	Ø, mm(inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
	Gas	Ø, mm(inch)	19.05 (3/4)	19.05 (3/4)	19.05 (3/4)
Water Connecting Pipes	Inlet	mm(inch)	PT32(1-1/4)	PT32(1-1/4)	PT32(1-1/4)
	Outlet	mm(inch)	PT32(1-1/4)	PT32(1-1/4)	PT32(1-1/4)
	Drain Outlet	mm	-	-	-
Dimensions(WxHxD)		mm	520 X 1,080 X 330	520 X 1,080 X 330	520 X 1,080 X 330
		inch	20-15/32 x 42-17/32 x 13	20-15/32 x 42-17/32 x 13	20-15/32 x 42-17/32 x 13
Net Weight		kg	76	76	76
		lbs	168	168	168
Sound Pressure Level	Cooling	dBA	48	49	50
	Heating	dBA	48	49	50
Sound Power Level		dBA	-	-	-
Communication Cable		No. x mm^2 (VCTF-SB)	2C X 1.0 ~ 1.5	2C X 1.0 ~ 1.5	2C X 1.0 ~ 1.5
Refrigerant	Name		R410A	R410A	R410A
	Charge	kg (lbs)	1.0 (2.2)	1.0 (2.2)	1.0 (2.2)
	t-CO2 eq		2.1	2.1	2.1
	Control Device		Electronic Expansion Vavle	Electronic Expansion Vavle	Electronic Expansion Vavle
Power Supply		V, Ø, Hz	220 - 240, 1, 50	220 - 240, 1, 50	220 - 240, 1, 50
			220, 1, 60	220, 1, 60	220, 1, 60

Notes:

1. Capacities are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Water 30°C(86°F)
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Water 20°C(68°F)
   - Piping Length : Interconnected Pipe Length = 25ft
   - Difference Limit of Elevation (Outside ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notification.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.
   * Power input values are based on only outside unit.
5. This product contains Fluorinated greenhouse gases.(R410A, GWP(Global warming potential) = 2087.5)

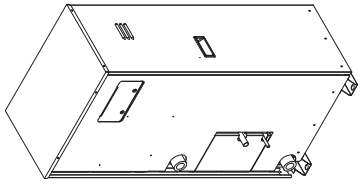
2. Dimensions & Gravity point

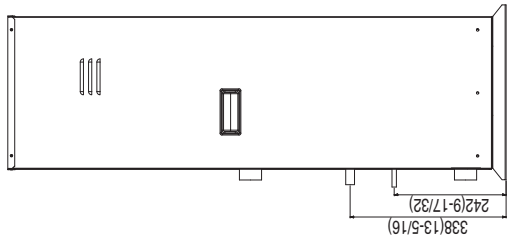
Outside Unit

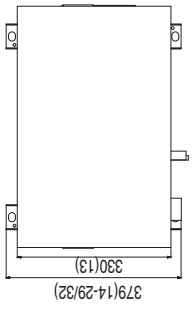
ARWN40GA0
ARWN50GA0
ARWN60GA0

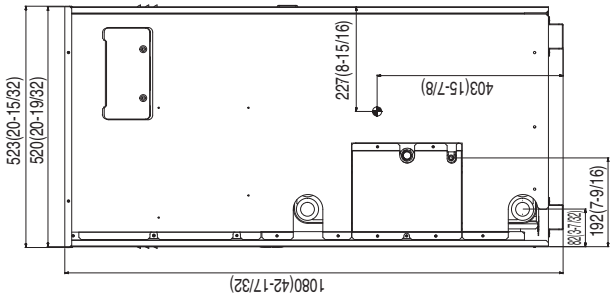
Gravity point

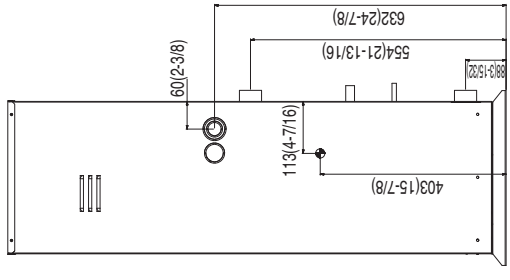
[Unit : mm (inch)]











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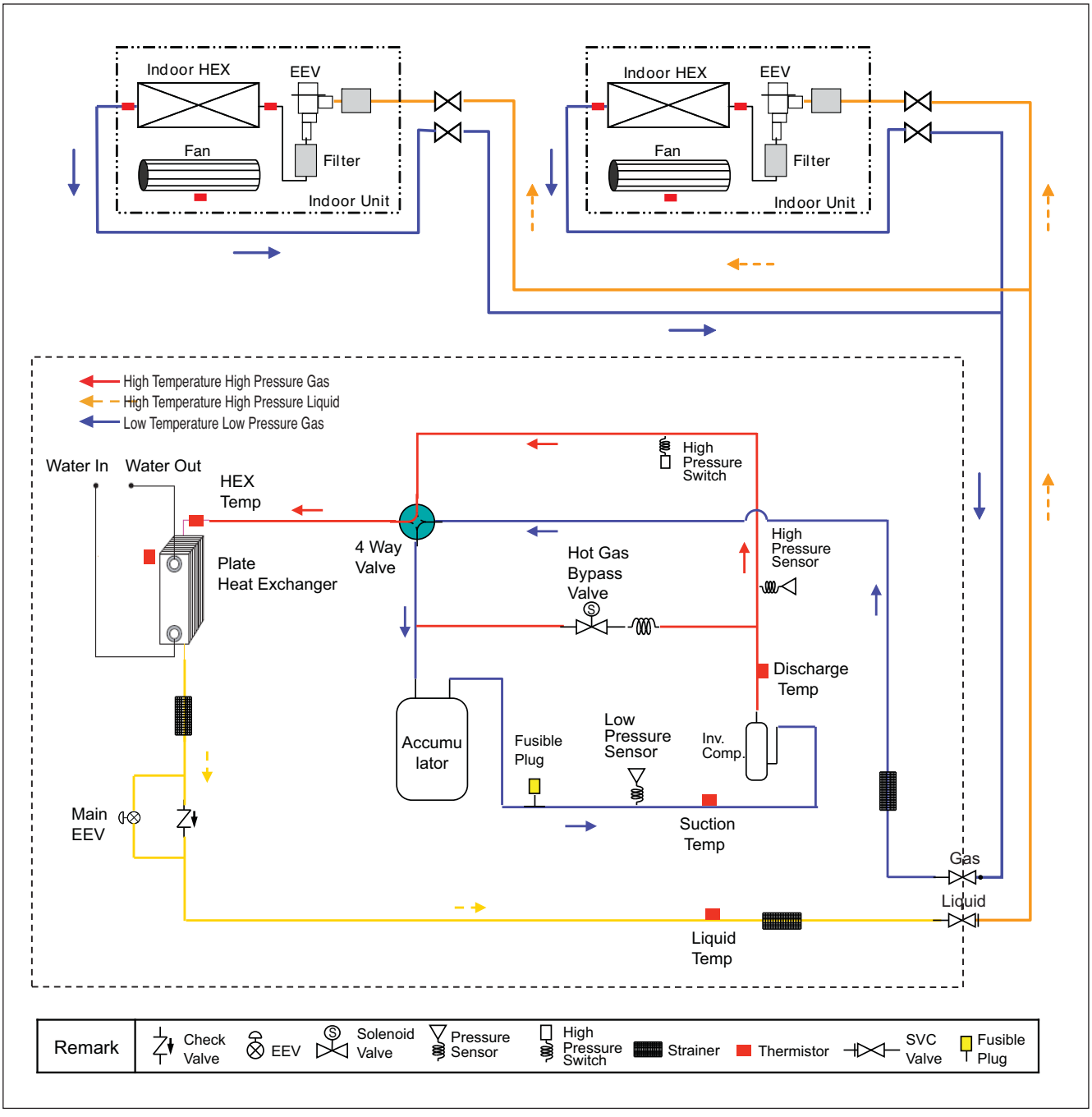
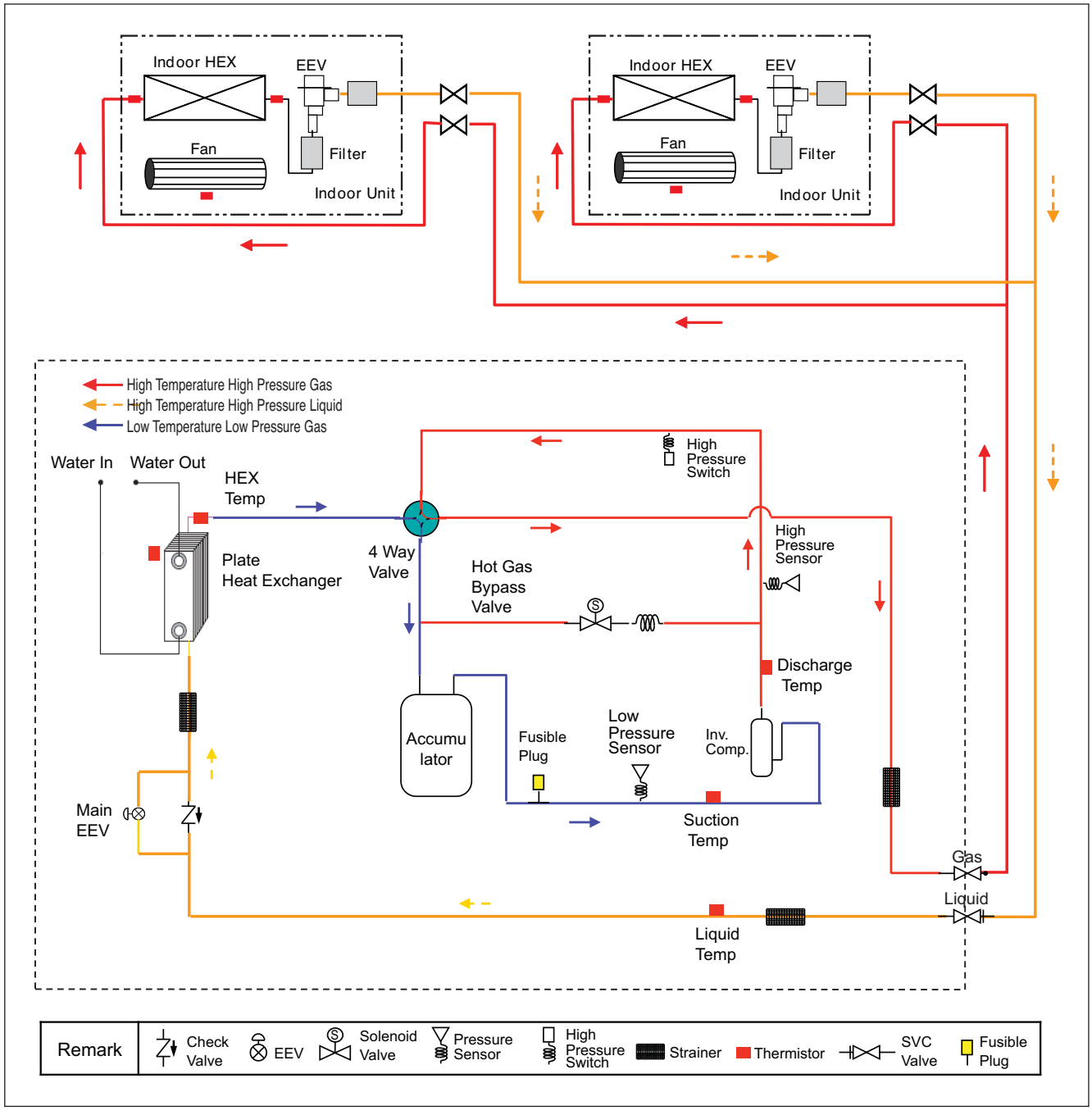
CHASSIS CODE: K3

3. Piping Diagrams

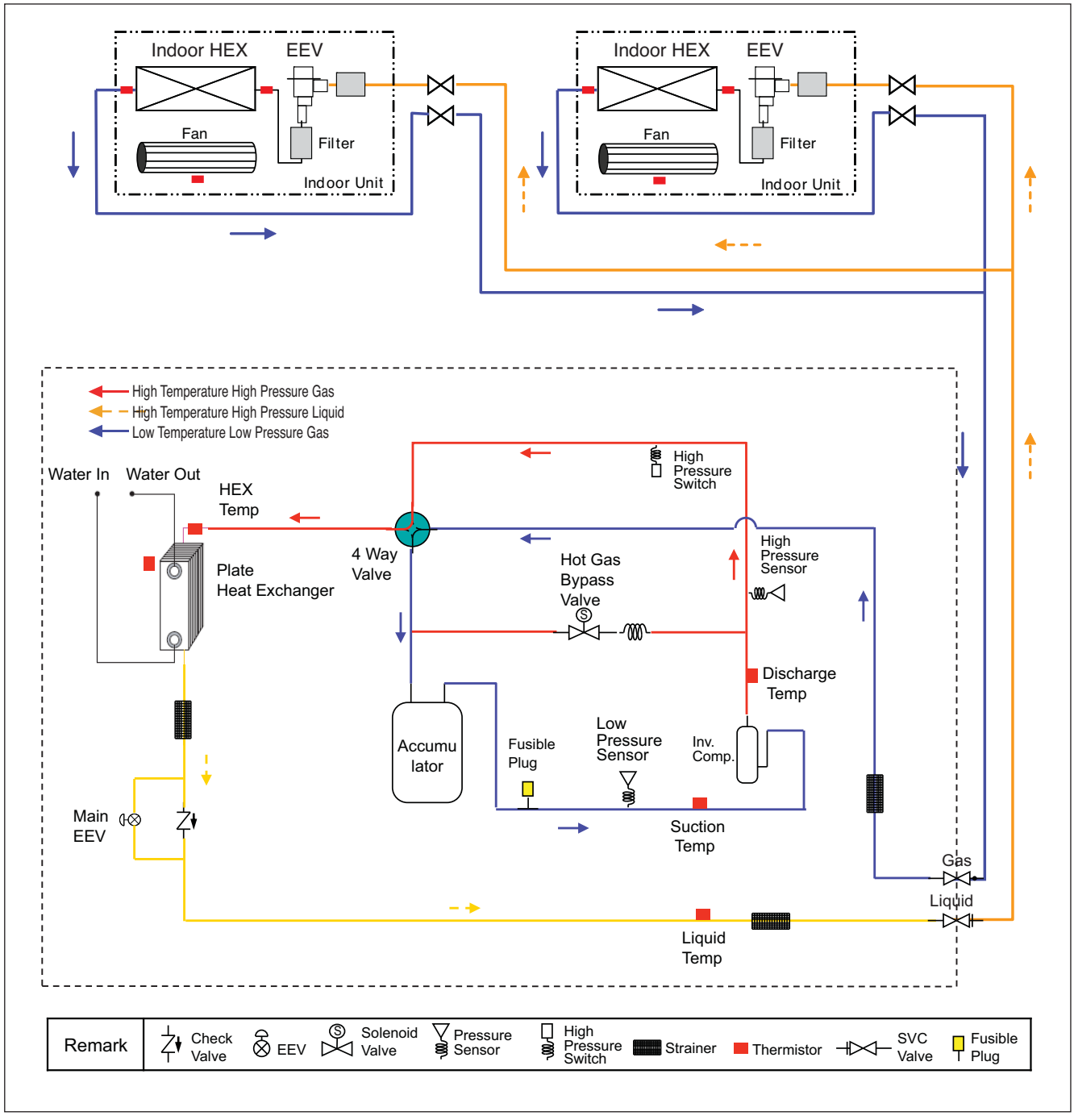
3.1 Cooling Operation



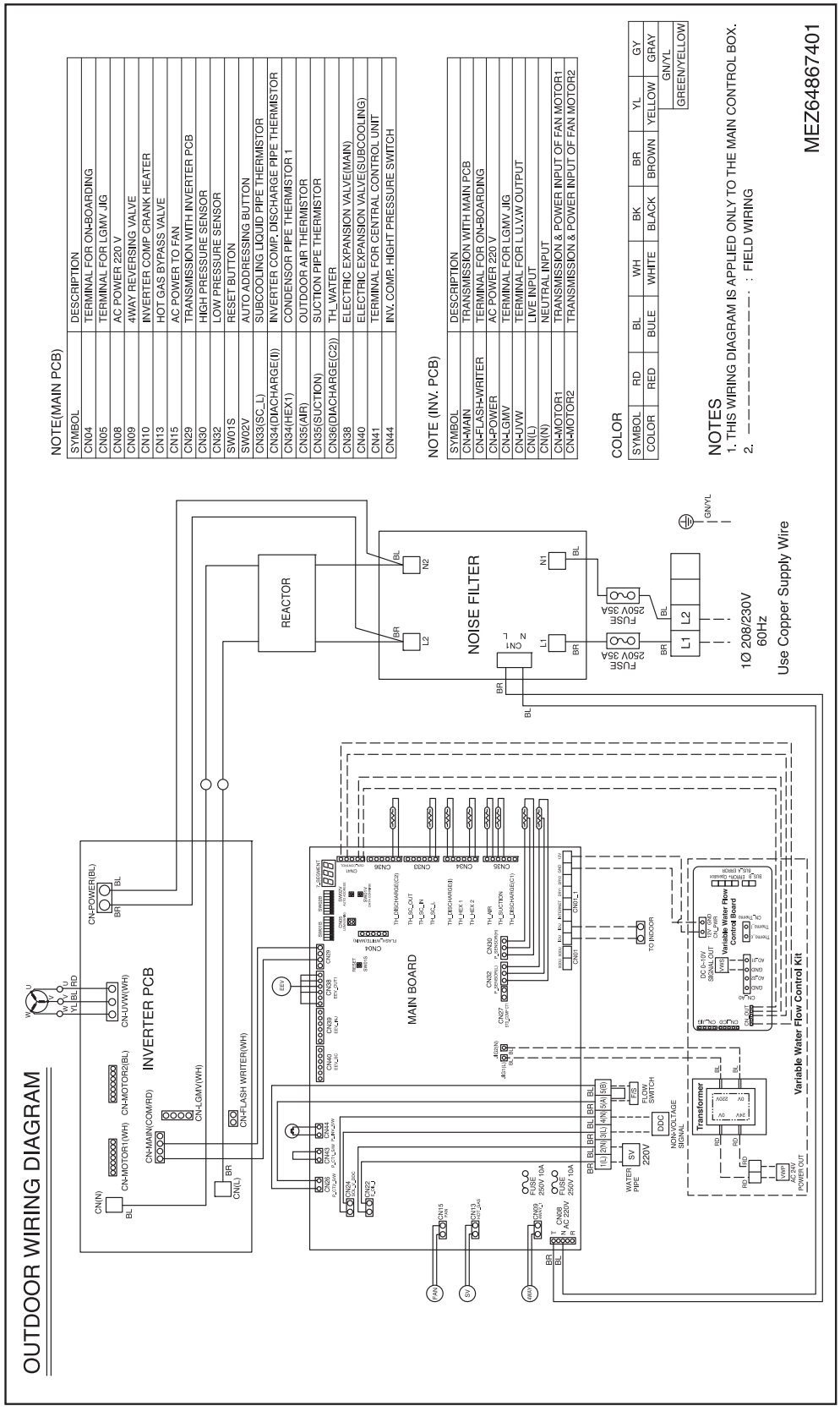
3.2 Heating Operation



3.3 Oil Return Operation



■ ARWN40GA0 / ARWN50GA0 / ARWN60GA0



NOTE(MAIN PCB)

SYMBOL	DESCRIPTION
CN04	TERMINAL FOR ON-BOARDING
CN05	TERMINAL FOR LGMV JIG
CN08	AC POWER 220 V
CN09	4WAY REVERSING VALVE
CN10	INVERTER COMP CRANK HEATER
CN13	HOT GAS BYPASS VALVE
CN15	AC POWER TO FAN
CN29	TRANSMISSION WITH INVERTER PCB
CN30	HIGH PRESSURE SENSOR
CN32	LOW PRESSURE SENSOR
SW01S	RESET BUTTON
SW02V	AUTO ADDRESSING BUTTON
CN33(SC_L)	SUBCOOLING LIQUID PIPE THERMISTOR
CN34(DIACHARGE(I))	INVERTER COMP. DISCHARGE PIPE THERMISTOR
CN34(HEX1)	CONDENSOR PIPE THERMISTOR 1
CN35(AIR)	OUTDOOR AIR THERMISTOR
CN35(SUCTION)	SUCTION PIPE THERMISTOR
CN36(DIACHARGE(C2))	TH_WATER
CN38	ELECTRIC EXPANSION VALVE(MAIN)
CN40	ELECTRIC EXPANSION VALVE(SUBCOOLING)
CN41	TERMINAL FOR CENTRAL CONTROL UNIT
CN44	INV. COMP. HIGHT PRESSURE SWITCH

NOTE (INV. PCB)

SYMBOL	DESCRIPTION
CN-MAIN	TRANSMISSION WITH MAIN PCB
CN-FLASH-WRITER	TERMINAL FOR ON-BOARDING
CN-POWER	AC POWER 220 V
CN-LGMV	TERMINAL FOR LGMV JIG
CN-UVW	TERMINAL FOR L U,V,W OUTPUT
CN(L)	LIVE INPUT
CN(N)	NEUTRAL INPUT
CN-MOTOR1	TRANSMISSION & POWER INPUT OF FAN MOTOR1
CN-MOTOR2	TRANSMISSION & POWER INPUT OF FAN MOTOR2

COLOR

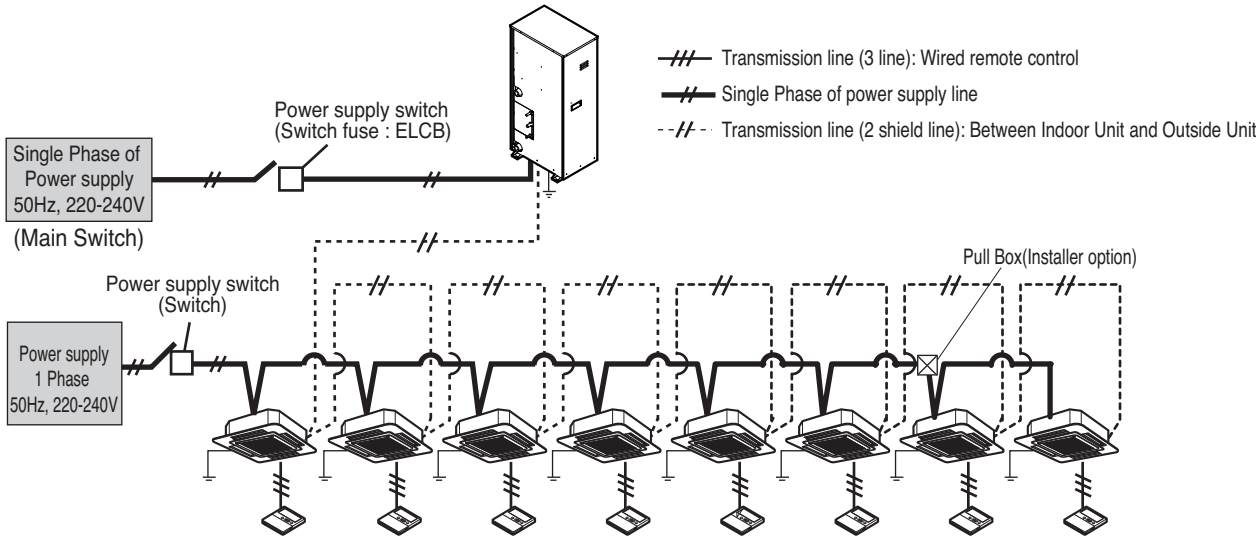
SYMBOL	RD	BL	WH	BK	BR	YL	GY
COLOR	RED	BULE	WHITE	BLACK	BROWN	YELLOW	GRAY
						GN/YL	
						GREEN/YELLOW	

NOTES
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE MAIN CONTROL BOX.
2. ---------- : FIELD WIRING

5. Field Wiring

■ 60Hz

■ 1 Outside Unit - 1Ø, 220-240V



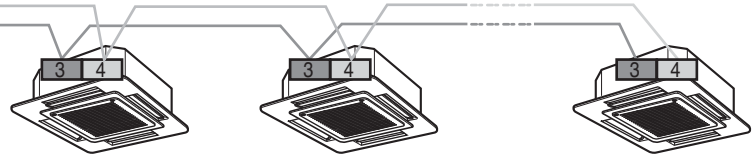
⚠ WARNING

- **Indoor Unit ground Lines are required for preventing electrical shock accident during current leakage, Transmission disorder by noise effect and motor current leakage (without connection to pipe).**
- **Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.**
- **Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.**
- **If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.**

Between Indoor and Outside unit

SODU		IDU		INTERNET		DRY1	DRY2	GND	12V
B	A			B	A				

Outside unit

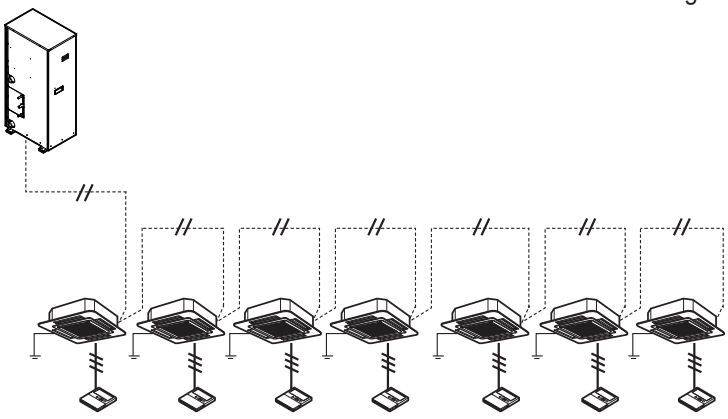


The GND terminal is a '–' terminal for the central controller, not Ground Line

◆ Example Connection of Communication Cable

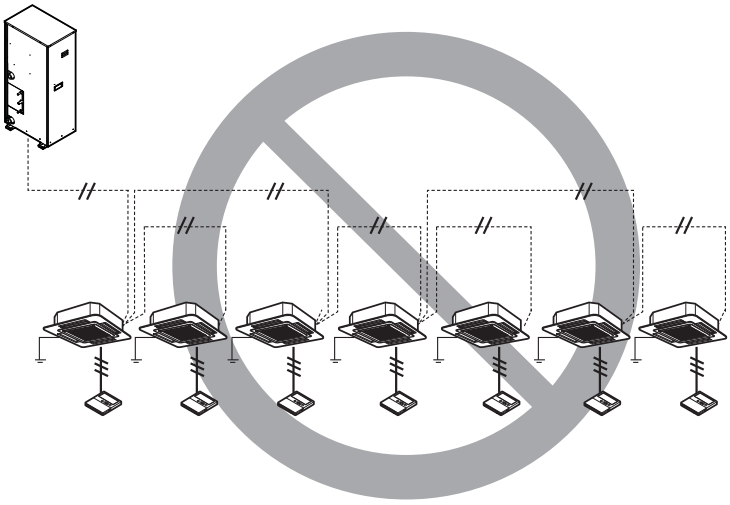
[BUS type]

• Connection of communication cable must be installed like below figure between indoor unit to outside unit.



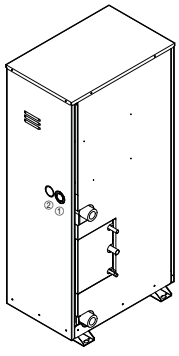
[STAR type]

• Abnormal operation can be caused by communication defect, when connection of communication cable is installed like below figure(STAR type).



◆ External wiring

External wires should be connected as follows.



① Main power cable
② Communication cable

6. Electric Characteristics

◆ Wiring of Main Power Supply and Equipment Capacity

1. Separate power supply lines for the indoor units from outside unit.
2. Bear in mind ambient conditions (ambient temperature,direct sunlight, rain water,etc.) when proceeding with the wiring and connections.
3. The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker taking into account the line voltage drops. Make sure the power-supply voltage does not drop more than 10%.
4. Specific wiring requirements should adhere to the wiring regulations of the region.
5. Power supply cords of parts of appliances for outside use should not be lighter than polychloroprene sheathed flexible cord.
6. Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.

⚠ WARNING

- **Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.**
- **Make sure to use specified wires for connections so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.**
- **Make sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.**

⚠ CAUTION

- **Some installation site may require attachment of an earth leakage breaker. If no earth leakage breaker is installed, it may cause an electric shock.**
- **Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.**

6. Electric Characteristics

■ Heat Pump

Model	Unit			Power supply		COMP		OFM	
	Hz	Volts	Voltage-range	MCA	MFA	MSC	RLA	kW	FLA
ARWN40GA0	50	220-240	Min:198, Max:264	26.0	30	-	20.8	-	-
ARWN50GA0	50	220-240	Min:198, Max:264	26.0	30		20.8		
ARWN60GA0	50	220-240	Min:198, Max:264	26.0	30		20.8		

Notes:

1. Voltage range
   Voltage supplied to the unit terminals should be within the minimum and maximum range
2. Maximum allowable voltage unbalance between phase is 2 %
3. OFM is measured as the outside unit test condition.
4. Select wire spec. based on MCA.
5. MSC means the Max. current during the starting of compressor.
6. Recommended circuit breaker is ELCB (Earth Leakage Circuit Breaker)
7. MFA is used to select the circuit breaker and ground fault circuit interrupter (earth leakage circuit breaker)
8. RLA is based on following conditions :
   Indoor temperature : 80.6 °F DB/66.2 °F WB
   Water source temperature : 104 °F

MCA : Minimum Circuit Amperes (A)
MSC : Maximum Starting Current
RLA : Rated Load Amperes (A)
OFM : Outside Fan Motor
kW : Fan Motor rated output (kW)
FLA : Full Load Amperes (A)
MOP : Maximum rating of Overcurrent Protective device
MFA: Maximum Fuse Amperes(A)

7. Capacity Tables

7.1 Cooling Capacity

Cooling Capacity(4HP)

ARWN40GA0

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	10	16.0	10.4	0.70	11.3	0.82	12.3	0.96	13.3	1.08	13.7	1.11	14.3	1.13	14.7	1.14
		20.0	10.4	0.69	11.3	0.81	12.3	0.95	13.3	1.07	13.7	1.09	14.3	1.12	14.7	1.13
		40.0	10.4	0.64	11.3	0.76	12.3	0.89	13.3	1.00	13.7	1.01	14.3	1.05	14.7	1.07
		50.0	10.4	0.62	11.3	0.74	12.3	0.87	13.3	0.97	13.7	1.00	14.3	1.02	14.7	1.04
		60.0	10.4	0.61	11.3	0.73	12.3	0.86	13.3	0.96	13.7	0.99	14.3	1.01	14.7	1.03
	15	16.0	10.2	0.93	11.1	1.08	12.1	1.26	13.1	1.42	13.5	1.46	14.0	1.49	14.4	1.51
		20.0	10.2	0.91	11.1	1.06	12.1	1.24	13.1	1.40	13.5	1.43	14.0	1.47	14.4	1.49
		40.0	10.2	0.84	11.1	1.00	12.1	1.16	13.1	1.31	13.5	1.34	14.0	1.37	14.4	1.40
		50.0	10.2	0.82	11.1	0.97	12.1	1.14	13.1	1.28	13.5	1.31	14.0	1.35	14.4	1.37
		60.0	10.2	0.80	11.1	0.96	12.1	1.12	13.1	1.26	13.5	1.30	14.0	1.33	14.4	1.35
	20	16.0	10.1	1.13	10.9	1.31	11.9	1.53	12.9	1.72	13.3	1.76	13.8	1.80	14.2	1.84
		20.0	10.1	1.11	10.9	1.29	11.9	1.50	12.9	1.69	13.3	1.73	13.8	1.78	14.2	1.81
		40.0	10.1	1.02	10.9	1.21	11.9	1.40	12.9	1.58	13.3	1.62	13.8	1.67	14.2	1.70
		50.0	10.1	0.99	10.9	1.18	11.9	1.37	12.9	1.55	13.3	1.59	13.8	1.63	14.2	1.66
		60.0	10.1	0.97	10.9	1.16	11.9	1.36	12.9	1.53	13.3	1.57	13.8	1.62	14.2	1.64
	25	16.0	10.1	1.39	10.9	1.61	11.9	1.88	12.9	2.12	13.3	2.17	13.8	2.23	14.2	2.26
		20.0	10.1	1.37	10.9	1.59	11.9	1.85	12.9	2.09	13.3	2.14	13.8	2.19	14.2	2.23
		40.0	10.1	1.26	10.9	1.49	11.9	1.73	12.9	1.95	13.3	2.00	13.8	2.05	14.2	2.10
		50.0	10.1	1.22	10.9	1.46	11.9	1.70	12.9	1.91	13.3	1.96	13.8	2.01	14.2	2.05
		60.0	10.1	1.21	10.9	1.44	11.9	1.68	12.9	1.89	13.3	1.94	13.8	2.00	14.2	2.02
	30	16.0	10.1	1.67	10.9	1.94	11.9	2.26	12.9	2.55	13.3	2.60	13.8	2.67	14.2	2.71
		20.0	10.1	1.64	10.9	1.91	11.9	2.22	12.9	2.51	13.3	2.56	13.8	2.63	14.2	2.67
		40.0	10.1	1.50	10.9	1.79	11.9	2.08	12.9	2.34	13.3	2.40	13.8	2.46	14.2	2.52
		50.0	10.1	1.47	10.9	1.75	11.9	2.04	12.9	2.30	13.3	2.36	13.8	2.42	14.2	2.46
		60.0	10.1	1.45	10.9	1.73	11.9	2.02	12.9	2.27	13.3	2.34	13.8	2.39	14.2	2.43
	35	16.0	9.1	1.69	9.8	1.97	10.7	2.28	11.7	2.58	12.0	2.63	12.5	2.70	12.8	2.75
		20.0	9.1	1.66	9.8	1.93	10.7	2.25	11.7	2.53	12.0	2.59	12.5	2.66	12.8	2.71
		40.0	9.1	1.52	9.8	1.80	10.7	2.10	11.7	2.37	12.0	2.43	12.5	2.49	12.8	2.54
		50.0	9.1	1.48	9.8	1.77	10.7	2.06	11.7	2.32	12.0	2.38	12.5	2.44	12.8	2.49
		60.0	9.1	1.46	9.8	1.75	10.7	2.04	11.7	2.30	12.0	2.36	12.5	2.42	12.8	2.46
	40	16.0	8.1	1.78	8.7	2.07	9.5	2.41	10.3	2.72	10.7	2.78	11.1	2.84	11.4	2.90
		20.0	8.1	1.75	8.7	2.04	9.5	2.37	10.3	2.67	10.7	2.73	11.1	2.80	11.4	2.85
		40.0	8.1	1.60	8.7	1.90	9.5	2.22	10.3	2.50	10.7	2.56	11.1	2.63	11.4	2.68
		50.0	8.1	1.56	8.7	1.86	9.5	2.17	10.3	2.45	10.7	2.51	11.1	2.58	11.4	2.62
		60.0	8.1	1.54	8.7	1.84	9.5	2.15	10.3	2.42	10.7	2.49	11.1	2.55	11.4	2.59
	45	16.0	7.1	1.88	7.7	2.18	8.3	2.54	9.0	2.86	9.3	2.93	9.7	2.99	10.0	3.05
		20.0	7.1	1.84	7.7	2.14	8.3	2.50	9.0	2.81	9.3	2.88	9.7	2.94	10.0	3.00
		40.0	7.1	1.68	7.7	2.00	8.3	2.33	9.0	2.63	9.3	2.69	9.7	2.77	10.0	2.83
		50.0	7.1	1.64	7.7	1.96	8.3	2.28	9.0	2.58	9.3	2.64	9.7	2.71	10.0	2.75
		60.0	7.1	1.62	7.7	1.93	8.3	2.26	9.0	2.55	9.3	2.62	9.7	2.68	10.0	2.72
	10	16.0	9.8	0.67	10.7	0.78	11.6	0.91	12.6	1.03	13.0	1.06	13.5	1.08	13.9	1.10
		20.0	9.8	0.66	10.7	0.76	11.6	0.90	12.6	1.01	13.0	1.04	13.5	1.06	13.9	1.08
		40.0	9.8	0.60	10.7	0.71	11.6	0.83	12.6	0.94	13.0	0.96	13.5	0.99	13.9	1.00
		50.0	9.8	0.59	10.7	0.70	11.6	0.83	12.6	0.93	13.0	0.94	13.5	0.97	13.9	0.99
		60.0	9.8	0.59	10.7	0.69	11.6	0.82	12.6	0.92	13.0	0.93	13.5	0.96	13.9	0.98
	15	16.0	9.7	0.89	10.5	1.03	11.5	1.21	12.5	1.36	12.9	1.39	13.4	1.43	13.7	1.45
		20.0	9.7	0.87	10.5	1.02	11.5	1.19	12.5	1.34	12.9	1.37	13.4	1.40	13.7	1.43
		40.0	9.7	0.80	10.5	0.95	11.5	1.11	12.5	1.25	12.9	1.28	13.4	1.31	13.7	1.34
		50.0	9.7	0.78	10.5	0.93	11.5	1.09	12.5	1.23	12.9	1.26	13.4	1.29	13.7	1.31
		60.0	9.7	0.77	10.5	0.92	11.5	1.08	12.5	1.21	12.9	1.24	13.4	1.28	13.7	1.29
	20	16.0	9.6	1.09	10.4	1.26	11.4	1.47	12.4	1.65	12.7	1.69	13.2	1.74	13.6	1.76
		20.0	9.6	1.06	10.4	1.24	11.4	1.45	12.4	1.63	12.7	1.67	13.2	1.71	13.6	1.74
		40.0	9.6	0.98	10.4	1.16	11.4	1.35	12.4	1.52	12.7	1.56	13.2	1.60	13.6	1.63
		50.0	9.6	0.95	10.4	1.14	11.4	1.32	12.4	1.49	12.7	1.53	13.2	1.57	13.6	1.59
		60.0	9.6	0.94	10.4	1.12	11.4	1.31	12.4	1.48	12.7	1.52	13.2	1.56	13.6	1.58
	25	16.0	9.6	1.33	10.4	1.55	11.4	1.80	12.4	2.03	12.7	2.08	13.2	2.13	13.6	2.17
		20.0	9.6	1.31	10.4	1.52	11.4	1.78	12.4	2.00	12.7	2.05	13.2	2.10	13.6	2.14
		40.0	9.6	1.20	10.4	1.43	11.4	1.66	12.4	1.87	12.7	1.91	13.2	1.97	13.6	2.00
		50.0	9.6	1.17	10.4	1.39	11.4	1.63	12.4	1.83	12.7	1.88	13.2	1.93	13.6	1.96
		60.0	9.6	1.15	10.4	1.38	11.4	1.61	12.4	1.81	12.7	1.86	13.2	1.91	13.6	1.93
	30	16.0	9.6	1.61	10.4	1.87	11.4	2.18	12.4	2.46	12.7	2.52	13.2	2.58	13.6	2.62
		20.0	9.6	1.58	10.4	1.84	11.4	2.15	12.4	2.42	12.7	2.48	13.2	2.54	13.6	2.58
		40.0	9.6	1.46	10.4	1.72	11.4	2.01	12.4	2.26	12.7	2.31	13.2	2.38	13.6	2.42
		50.0	9.6	1.41	10.4	1.68	11.4	1.97	12.4	2.21	12.7	2.27	13.2	2.33	13.6	2.37
		60.0	9.6	1.39	10.4	1.67	11.4	1.94	12.4	2.19	12.7	2.25	13.2	2.31	13.6	2.34

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	35	16.0	8.8	1.65	9.6	1.92	10.4	2.24	11.3	2.52	11.7	2.58	12.1	2.64	12.4	2.69
		20.0	8.8	1.62	9.6	1.89	10.4	2.20	11.3	2.48	11.7	2.54	12.1	2.60	12.4	2.65
		40.0	8.8	1.49	9.6	1.77	10.4	2.06	11.3	2.32	11.7	2.38	12.1	2.44	12.4	2.48
		50.0	8.8	1.45	9.6	1.73	10.4	2.01	11.3	2.27	11.7	2.33	12.1	2.39	12.4	2.42
		60.0	8.8	1.43	9.6	1.71	10.4	1.99	11.3	2.25	11.7	2.31	12.1	2.37	12.4	2.40
	40	16.0	8.0	1.78	8.7	2.07	9.4	2.41	10.3	2.71	10.6	2.77	11.0	2.84	11.3	2.89
		20.0	8.0	1.74	8.7	2.03	9.4	2.37	10.3	2.67	10.6	2.73	11.0	2.80	11.3	2.85
		40.0	8.0	1.60	8.7	1.90	9.4	2.21	10.3	2.50	10.6	2.55	11.0	2.62	11.3	2.67
		50.0	8.0	1.56	8.7	1.86	9.4	2.17	10.3	2.44	10.6	2.51	11.0	2.57	11.3	2.61
		60.0	8.0	1.54	8.7	1.84	9.4	2.15	10.3	2.42	10.6	2.48	11.0	2.55	11.3	2.58
	45	16.0	7.2	1.90	7.8	2.21	8.5	2.58	9.2	2.91	9.5	2.97	9.9	3.04	10.1	3.10
		20.0	7.2	1.87	7.8	2.18	8.5	2.53	9.2	2.86	9.5	2.92	9.9	2.99	10.1	3.05
		40.0	7.2	1.72	7.8	2.03	8.5	2.37	9.2	2.67	9.5	2.73	9.9	2.80	10.1	2.86
		50.0	7.2	1.67	7.8	2.00	8.5	2.33	9.2	2.62	9.5	2.68	9.9	2.75	10.1	2.80
		60.0	7.2	1.65	7.8	1.98	8.5	2.31	9.2	2.59	9.5	2.66	9.9	2.73	10.1	2.76
110	10	16.0	9.3	0.64	10.1	0.74	10.9	0.85	11.9	0.97	12.3	0.98	12.8	1.02	13.1	1.03
		20.0	9.3	0.63	10.1	0.73	10.9	0.84	11.9	0.95	12.3	0.97	12.8	1.00	13.1	1.01
		40.0	9.3	0.58	10.1	0.68	10.9	0.79	11.9	0.89	12.3	0.92	12.8	0.93	13.1	0.95
		50.0	9.3	0.56	10.1	0.66	10.9	0.77	11.9	0.87	12.3	0.89	12.8	0.91	13.1	0.93
		60.0	9.3	0.55	10.1	0.66	10.9	0.76	11.9	0.86	12.3	0.88	12.8	0.90	13.1	0.93
	15	16.0	9.2	0.85	10.0	0.99	10.9	1.15	11.8	1.29	12.2	1.32	12.7	1.36	13.0	1.38
		20.0	9.2	0.84	10.0	0.97	10.9	1.13	11.8	1.27	12.2	1.30	12.7	1.34	13.0	1.36
		40.0	9.2	0.77	10.0	0.91	10.9	1.06	11.8	1.19	12.2	1.22	12.7	1.25	13.0	1.27
		50.0	9.2	0.74	10.0	0.89	10.9	1.04	11.8	1.17	12.2	1.20	12.7	1.23	13.0	1.25
		60.0	9.2	0.73	10.0	0.88	10.9	1.02	11.8	1.16	12.2	1.19	12.7	1.21	13.0	1.23
	20	16.0	9.2	1.04	10.0	1.21	10.8	1.41	11.8	1.59	12.1	1.63	12.6	1.66	13.0	1.70
		20.0	9.2	1.02	10.0	1.19	10.8	1.39	11.8	1.56	12.1	1.60	12.6	1.64	13.0	1.67
		40.0	9.2	0.94	10.0	1.11	10.8	1.30	11.8	1.46	12.1	1.49	12.6	1.54	13.0	1.57
		50.0	9.2	0.91	10.0	1.09	10.8	1.27	11.8	1.43	12.1	1.47	12.6	1.51	13.0	1.52
		60.0	9.2	0.90	10.0	1.08	10.8	1.26	11.8	1.42	12.1	1.46	12.6	1.49	13.0	1.50
	25	16.0	9.2	1.28	10.0	1.48	10.8	1.73	11.8	1.95	12.1	1.99	12.6	2.04	13.0	2.08
		20.0	9.2	1.25	10.0	1.46	10.8	1.70	11.8	1.91	12.1	1.96	12.6	2.00	13.0	2.04
		40.0	9.2	1.15	10.0	1.37	10.8	1.59	11.8	1.79	12.1	1.83	12.6	1.88	13.0	1.91
		50.0	9.2	1.12	10.0	1.34	10.8	1.56	11.8	1.75	12.1	1.80	12.6	1.84	13.0	1.87
		60.0	9.2	1.10	10.0	1.32	10.8	1.54	11.8	1.73	12.1	1.78	12.6	1.82	13.0	1.84
	30	16.0	9.2	1.55	10.0	1.81	10.8	2.11	11.8	2.37	12.1	2.42	12.6	2.49	13.0	2.53
		20.0	9.2	1.52	10.0	1.78	10.8	2.07	11.8	2.33	12.1	2.39	12.6	2.45	13.0	2.49
		40.0	9.2	1.40	10.0	1.66	10.8	1.94	11.8	2.18	12.1	2.23	12.6	2.29	13.0	2.33
		50.0	9.2	1.37	10.0	1.63	10.8	1.89	11.8	2.14	12.1	2.19	12.6	2.25	13.0	2.28
		60.0	9.2	1.35	10.0	1.61	10.8	1.87	11.8	2.12	12.1	2.17	12.6	2.23	13.0	2.25
	35	16.0	8.6	1.62	9.3	1.88	10.1	2.19	11.0	2.46	11.3	2.52	11.7	2.58	12.1	2.63
		20.0	8.6	1.58	9.3	1.85	10.1	2.15	11.0	2.42	11.3	2.48	11.7	2.54	12.1	2.59
		40.0	8.6	1.46	9.3	1.73	10.1	2.01	11.0	2.27	11.3	2.32	11.7	2.38	12.1	2.42
		50.0	8.6	1.42	9.3	1.69	10.1	1.97	11.0	2.22	11.3	2.28	11.7	2.34	12.1	2.37
		60.0	8.6	1.40	9.3	1.67	10.1	1.95	11.0	2.20	11.3	2.25	11.7	2.32	12.1	2.34
	40	16.0	7.9	1.78	8.6	2.06	9.4	2.41	10.2	2.71	10.5	2.77	10.9	2.84	11.2	2.89
		20.0	7.9	1.74	8.6	2.03	9.4	2.37	10.2	2.66	10.5	2.73	10.9	2.79	11.2	2.84
		40.0	7.9	1.60	8.6	1.90	9.4	2.21	10.2	2.49	10.5	2.55	10.9	2.62	11.2	2.67
		50.0	7.9	1.56	8.6	1.86	9.4	2.17	10.2	2.44	10.5	2.50	10.9	2.57	11.2	2.60
		60.0	7.9	1.53	8.6	1.84	9.4	2.15	10.2	2.42	10.5	2.48	10.9	2.54	11.2	2.57
	45	16.0	7.3	1.94	7.9	2.24	8.6	2.63	9.4	2.95	9.6	3.02	10.0	3.09	10.3	3.14
		20.0	7.3	1.90	7.9	2.21	8.6	2.58	9.4	2.90	9.6	2.97	10.0	3.04	10.3	3.10
		40.0	7.3	1.74	7.9	2.07	8.6	2.41	9.4	2.72	9.6	2.77	10.0	2.85	10.3	2.91
		50.0	7.3	1.69	7.9	2.02	8.6	2.36	9.4	2.66	9.6	2.73	10.0	2.80	10.3	2.84
		60.0	7.3	1.67	7.9	2.00	8.6	2.34	9.4	2.64	9.6	2.70	10.0	2.77	10.3	2.80
100	10	16.0	8.7	0.59	9.5	0.70	10.3	0.81	11.2	0.90	11.5	0.93	12.0	0.96	12.3	0.98
		20.0	8.7	0.58	9.5	0.68	10.3	0.79	11.2	0.89	11.5	0.91	12.0	0.94	12.3	0.96
		40.0	8.7	0.54	9.5	0.63	10.3	0.74	11.2	0.84	11.5	0.86	12.0	0.88	12.3	0.89
		50.0	8.7	0.53	9.5	0.62	10.3	0.73	11.2	0.82	11.5	0.84	12.0	0.86	12.3	0.88
		60.0	8.7	0.52	9.5	0.61	10.3	0.72	11.2	0.80	11.5	0.83	12.0	0.85	12.3	0.87
	15	16.0	8.7	0.81	9.5	0.94	10.3	1.10	11.2	1.23	11.5	1.26	12.0	1.29	12.3	1.32
		20.0	8.7	0.79	9.5	0.93	10.3	1.08	11.2	1.21	11.5	1.24	12.0	1.27	12.3	1.30
		40.0	8.7	0.73	9.5	0.86	10.3	1.01	11.2	1.14	11.5	1.16	12.0	1.19	12.3	1.21
		50.0	8.7	0.71	9.5	0.84	10.3	0.99	11.2	1.11	11.5	1.14	12.0	1.17	12.3	1.18
		60.0	8.7	0.70	9.5	0.84	10.3	0.98	11.2	1.10	11.5	1.13	12.0	1.16	12.3	1.17

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	20	16.0	8.7	1.00	9.5	1.16	10.3	1.35	11.2	1.52	11.5	1.56	12.0	1.60	12.3	1.62
		20.0	8.7	0.98	9.5	1.14	10.3	1.33	11.2	1.50	11.5	1.53	12.0	1.57	12.3	1.60
		40.0	8.7	0.90	9.5	1.07	10.3	1.24	11.2	1.40	11.5	1.43	12.0	1.47	12.3	1.50
		50.0	8.7	0.87	9.5	1.05	10.3	1.22	11.2	1.37	11.5	1.41	12.0	1.44	12.3	1.46
		60.0	8.7	0.86	9.5	1.03	10.3	1.21	11.2	1.36	11.5	1.40	12.0	1.43	12.3	1.43
	25	16.0	8.7	1.22	9.5	1.42	10.3	1.65	11.2	1.86	11.5	1.90	12.0	1.94	12.3	1.98
		20.0	8.7	1.19	9.5	1.39	10.3	1.62	11.2	1.83	11.5	1.87	12.0	1.91	12.3	1.95
		40.0	8.7	1.10	9.5	1.30	10.3	1.52	11.2	1.71	11.5	1.75	12.0	1.79	12.3	1.82
		50.0	8.7	1.07	9.5	1.27	10.3	1.48	11.2	1.68	11.5	1.71	12.0	1.76	12.3	1.78
		60.0	8.7	1.05	9.5	1.26	10.3	1.47	11.2	1.66	11.5	1.70	12.0	1.74	12.3	1.75
	30	16.0	8.7	1.50	9.5	1.74	10.3	2.03	11.2	2.29	11.5	2.34	12.0	2.40	12.3	2.44
		20.0	8.7	1.47	9.5	1.71	10.3	2.00	11.2	2.25	11.5	2.30	12.0	2.36	12.3	2.40
		40.0	8.7	1.35	9.5	1.60	10.3	1.87	11.2	2.10	11.5	2.15	12.0	2.21	12.3	2.24
		50.0	8.7	1.31	9.5	1.57	10.3	1.83	11.2	2.06	11.5	2.11	12.0	2.16	12.3	2.19
		60.0	8.7	1.29	9.5	1.55	10.3	1.81	11.2	2.04	11.5	2.09	12.0	2.14	12.3	2.16
	35	16.0	8.3	1.58	9.0	1.84	9.8	2.14	10.6	2.41	11.0	2.47	11.4	2.53	11.7	2.57
		20.0	8.3	1.55	9.0	1.81	9.8	2.10	10.6	2.37	11.0	2.43	11.4	2.49	11.7	2.53
		40.0	8.3	1.43	9.0	1.69	9.8	1.97	10.6	2.21	11.0	2.27	11.4	2.33	11.7	2.37
		50.0	8.3	1.38	9.0	1.66	9.8	1.93	10.6	2.17	11.0	2.23	11.4	2.29	11.7	2.31
		60.0	8.3	1.36	9.0	1.64	9.8	1.91	10.6	2.15	11.0	2.21	11.4	2.26	11.7	2.27
	40	16.0	7.9	1.77	8.5	2.06	9.3	2.40	10.1	2.70	10.4	2.77	10.8	2.84	11.1	2.89
		20.0	7.9	1.74	8.5	2.03	9.3	2.36	10.1	2.66	10.4	2.73	10.8	2.79	11.1	2.84
		40.0	7.9	1.60	8.5	1.89	9.3	2.21	10.1	2.49	10.4	2.54	10.8	2.61	11.1	2.66
		50.0	7.9	1.56	8.5	1.86	9.3	2.16	10.1	2.44	10.4	2.50	10.8	2.56	11.1	2.59
		60.0	7.9	1.53	8.5	1.84	9.3	2.14	10.1	2.42	10.4	2.48	10.8	2.54	11.1	2.55
	45	16.0	7.4	1.96	8.0	2.29	8.8	2.66	9.5	2.99	9.8	3.07	10.2	3.15	10.5	3.20
		20.0	7.4	1.92	8.0	2.25	8.8	2.62	9.5	2.94	9.8	3.02	10.2	3.10	10.5	3.15
		40.0	7.4	1.77	8.0	2.10	8.8	2.45	9.5	2.76	9.8	2.82	10.2	2.89	10.5	2.95
		50.0	7.4	1.73	8.0	2.06	8.8	2.40	9.5	2.71	9.8	2.77	10.2	2.84	10.5	2.87
		60.0	7.4	1.71	8.0	2.04	8.8	2.37	9.5	2.68	9.8	2.75	10.2	2.81	10.5	2.83
90	10	16.0	7.9	0.51	8.5	0.60	9.3	0.69	10.1	0.78	10.4	0.80	10.8	0.83	11.1	0.84
		20.0	7.9	0.51	8.5	0.59	9.3	0.68	10.1	0.77	10.4	0.79	10.8	0.81	11.1	0.83
		40.0	7.9	0.47	8.5	0.55	9.3	0.64	10.1	0.73	10.4	0.74	10.8	0.76	11.1	0.77
		50.0	7.9	0.45	8.5	0.54	9.3	0.62	10.1	0.71	10.4	0.73	10.8	0.74	11.1	0.75
		60.0	7.9	0.44	8.5	0.54	9.3	0.61	10.1	0.70	10.4	0.72	10.8	0.74	11.1	0.74
	15	16.0	7.9	0.70	8.5	0.81	9.3	0.94	10.1	1.06	10.4	1.09	10.8	1.12	11.1	1.13
		20.0	7.9	0.68	8.5	0.80	9.3	0.93	10.1	1.05	10.4	1.07	10.8	1.10	11.1	1.12
		40.0	7.9	0.63	8.5	0.74	9.3	0.87	10.1	0.98	10.4	1.00	10.8	1.03	11.1	1.05
		50.0	7.9	0.61	8.5	0.73	9.3	0.85	10.1	0.96	10.4	0.98	10.8	1.01	11.1	1.02
		60.0	7.9	0.60	8.5	0.72	9.3	0.84	10.1	0.95	10.4	0.97	10.8	1.00	11.1	1.00
	20	16.0	7.9	0.86	8.5	1.00	9.3	1.16	10.1	1.31	10.4	1.34	10.8	1.37	11.1	1.40
		20.0	7.9	0.84	8.5	0.98	9.3	1.15	10.1	1.29	10.4	1.32	10.8	1.35	11.1	1.37
		40.0	7.9	0.77	8.5	0.92	9.3	1.07	10.1	1.20	10.4	1.24	10.8	1.26	11.1	1.29
		50.0	7.9	0.75	8.5	0.90	9.3	1.05	10.1	1.18	10.4	1.21	10.8	1.24	11.1	1.26
		60.0	7.9	0.74	8.5	0.89	9.3	1.04	10.1	1.17	10.4	1.20	10.8	1.23	11.1	1.24
	25	16.0	7.9	1.05	8.5	1.22	9.3	1.42	10.1	1.60	10.4	1.63	10.8	1.67	11.1	1.71
		20.0	7.9	1.03	8.5	1.20	9.3	1.39	10.1	1.57	10.4	1.61	10.8	1.65	11.1	1.68
		40.0	7.9	0.95	8.5	1.12	9.3	1.30	10.1	1.47	10.4	1.50	10.8	1.54	11.1	1.57
		50.0	7.9	0.92	8.5	1.10	9.3	1.28	10.1	1.44	10.4	1.47	10.8	1.51	11.1	1.53
		60.0	7.9	0.90	8.5	1.09	9.3	1.27	10.1	1.43	10.4	1.46	10.8	1.50	11.1	1.51
	30	16.0	7.9	1.29	8.5	1.50	9.3	1.75	10.1	1.96	10.4	2.01	10.8	2.06	11.1	2.10
		20.0	7.9	1.26	8.5	1.47	9.3	1.72	10.1	1.93	10.4	1.98	10.8	2.03	11.1	2.07
		40.0	7.9	1.16	8.5	1.38	9.3	1.60	10.1	1.81	10.4	1.85	10.8	1.90	11.1	1.93
		50.0	7.9	1.13	8.5	1.35	9.3	1.57	10.1	1.77	10.4	1.82	10.8	1.86	11.1	1.88
		60.0	7.9	1.12	8.5	1.34	9.3	1.55	10.1	1.75	10.4	1.80	10.8	1.84	11.1	1.85
	35	16.0	7.6	1.39	8.3	1.61	9.0	1.88	9.8	2.12	10.1	2.17	10.5	2.22	10.8	2.27
		20.0	7.6	1.37	8.3	1.59	9.0	1.85	9.8	2.09	10.1	2.13	10.5	2.19	10.8	2.23
		40.0	7.6	1.26	8.3	1.49	9.0	1.73	9.8	1.95	10.1	2.00	10.5	2.05	10.8	2.09
		50.0	7.6	1.22	8.3	1.46	9.0	1.69	9.8	1.91	10.1	1.96	10.5	2.01	10.8	2.03
		60.0	7.6	1.20	8.3	1.44	9.0	1.68	9.8	1.89	10.1	1.94	10.5	1.99	10.8	2.00
	40	16.0	7.4	1.60	8.0	1.86	8.8	2.16	9.5	2.44	9.8	2.49	10.2	2.56	10.5	2.60
		20.0	7.4	1.57	8.0	1.83	8.8	2.13	9.5	2.40	9.8	2.45	10.2	2.52	10.5	2.56
		40.0	7.4	1.44	8.0	1.71	8.8	1.99	9.5	2.24	9.8	2.30	10.2	2.35	10.5	2.40
		50.0	7.4	1.40	8.0	1.67	8.8	1.95	9.5	2.20	9.8	2.25	10.2	2.31	10.5	2.33
		60.0	7.4	1.38	8.0	1.65	8.8	1.93	9.5	2.17	9.8	2.23	10.2	2.29	10.5	2.30

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	45	16.0	7.2	1.80	7.8	2.10	8.5	2.45	9.2	2.75	9.5	2.82	9.9	2.89	10.2	2.93
		20.0	7.2	1.77	7.8	2.07	8.5	2.41	9.2	2.71	9.5	2.77	9.9	2.84	10.2	2.89
		40.0	7.2	1.63	7.8	1.93	8.5	2.25	9.2	2.52	9.5	2.60	9.9	2.66	10.2	2.71
		50.0	7.2	1.58	7.8	1.89	8.5	2.20	9.2	2.48	9.5	2.54	9.9	2.61	10.2	2.64
		60.0	7.2	1.56	7.8	1.86	8.5	2.18	9.2	2.45	9.5	2.52	9.9	2.59	10.2	2.61
80	10	16.0	7.0	0.43	7.6	0.50	8.2	0.58	9.0	0.66	9.2	0.67	9.6	0.70	9.9	0.70
		20.0	7.0	0.42	7.6	0.49	8.2	0.57	9.0	0.65	9.2	0.66	9.6	0.68	9.9	0.69
		40.0	7.0	0.39	7.6	0.46	8.2	0.53	9.0	0.61	9.2	0.62	9.6	0.63	9.9	0.64
		50.0	7.0	0.38	7.6	0.45	8.2	0.52	9.0	0.59	9.2	0.60	9.6	0.62	9.9	0.63
		60.0	7.0	0.37	7.6	0.44	8.2	0.52	9.0	0.58	9.2	0.59	9.6	0.62	9.9	0.63
	15	16.0	7.0	0.58	7.6	0.68	8.2	0.79	9.0	0.89	9.2	0.91	9.6	0.94	9.9	0.95
		20.0	7.0	0.57	7.6	0.67	8.2	0.78	9.0	0.88	9.2	0.90	9.6	0.92	9.9	0.94
		40.0	7.0	0.53	7.6	0.63	8.2	0.73	9.0	0.82	9.2	0.84	9.6	0.86	9.9	0.87
		50.0	7.0	0.51	7.6	0.61	8.2	0.71	9.0	0.80	9.2	0.82	9.6	0.84	9.9	0.85
		60.0	7.0	0.50	7.6	0.60	8.2	0.70	9.0	0.79	9.2	0.81	9.6	0.84	9.9	0.84
	20	16.0	7.0	0.72	7.6	0.84	8.2	0.97	9.0	1.10	9.2	1.13	9.6	1.15	9.9	1.17
		20.0	7.0	0.71	7.6	0.83	8.2	0.96	9.0	1.08	9.2	1.11	9.6	1.13	9.9	1.16
		40.0	7.0	0.65	7.6	0.77	8.2	0.90	9.0	1.01	9.2	1.04	9.6	1.06	9.9	1.08
		50.0	7.0	0.63	7.6	0.75	8.2	0.88	9.0	0.99	9.2	1.02	9.6	1.04	9.9	1.05
		60.0	7.0	0.62	7.6	0.75	8.2	0.87	9.0	0.98	9.2	1.01	9.6	1.03	9.9	1.04
	25	16.0	7.0	0.88	7.6	1.02	8.2	1.19	9.0	1.34	9.2	1.37	9.6	1.41	9.9	1.43
		20.0	7.0	0.86	7.6	1.00	8.2	1.17	9.0	1.32	9.2	1.35	9.6	1.38	9.9	1.41
		40.0	7.0	0.79	7.6	0.94	8.2	1.09	9.0	1.23	9.2	1.26	9.6	1.29	9.9	1.32
		50.0	7.0	0.77	7.6	0.92	8.2	1.07	9.0	1.21	9.2	1.24	9.6	1.27	9.9	1.28
		60.0	7.0	0.76	7.6	0.91	8.2	1.06	9.0	1.20	9.2	1.22	9.6	1.26	9.9	1.27
	30	16.0	7.0	1.08	7.6	1.26	8.2	1.47	9.0	1.65	9.2	1.69	9.6	1.73	9.9	1.76
		20.0	7.0	1.06	7.6	1.24	8.2	1.44	9.0	1.62	9.2	1.66	9.6	1.70	9.9	1.73
		40.0	7.0	0.97	7.6	1.16	8.2	1.35	9.0	1.51	9.2	1.55	9.6	1.59	9.9	1.62
		50.0	7.0	0.95	7.6	1.13	8.2	1.32	9.0	1.48	9.2	1.52	9.6	1.56	9.9	1.58
		60.0	7.0	0.93	7.6	1.12	8.2	1.30	9.0	1.47	9.2	1.51	9.6	1.55	9.9	1.55
	35	16.0	7.0	1.20	7.6	1.40	8.2	1.63	9.0	1.83	9.2	1.87	9.6	1.92	9.9	1.95
		20.0	7.0	1.18	7.6	1.37	8.2	1.60	9.0	1.80	9.2	1.84	9.6	1.89	9.9	1.92
		40.0	7.0	1.08	7.6	1.28	8.2	1.49	9.0	1.68	9.2	1.72	9.6	1.77	9.9	1.80
		50.0	7.0	1.05	7.6	1.26	8.2	1.47	9.0	1.65	9.2	1.69	9.6	1.74	9.9	1.75
		60.0	7.0	1.04	7.6	1.24	8.2	1.45	9.0	1.63	9.2	1.67	9.6	1.72	9.9	1.73
	40	16.0	7.0	1.42	7.6	1.66	8.2	1.93	9.0	2.17	9.2	2.22	9.6	2.27	9.9	2.31
		20.0	7.0	1.39	7.6	1.63	8.2	1.89	9.0	2.13	9.2	2.18	9.6	2.24	9.9	2.28
		40.0	7.0	1.28	7.6	1.52	8.2	1.77	9.0	2.00	9.2	2.04	9.6	2.10	9.9	2.13
		50.0	7.0	1.25	7.6	1.49	8.2	1.73	9.0	1.96	9.2	2.00	9.6	2.05	9.9	2.08
		60.0	7.0	1.23	7.6	1.47	8.2	1.71	9.0	1.94	9.2	1.99	9.6	2.03	9.9	2.05
	45	16.0	7.0	1.64	7.6	1.91	8.2	2.23	9.0	2.51	9.2	2.56	9.6	2.63	9.9	2.67
		20.0	7.0	1.61	7.6	1.88	8.2	2.19	9.0	2.47	9.2	2.52	9.6	2.59	9.9	2.63
		40.0	7.0	1.48	7.6	1.75	8.2	2.05	9.0	2.31	9.2	2.36	9.6	2.42	9.9	2.47
		50.0	7.0	1.44	7.6	1.72	8.2	2.00	9.0	2.26	9.2	2.32	9.6	2.37	9.9	2.40
		60.0	7.0	1.41	7.6	1.71	8.2	1.98	9.0	2.24	9.2	2.30	9.6	2.34	9.9	2.37
70	10	16.0	6.1	0.36	6.6	0.41	7.2	0.49	7.8	0.55	8.1	0.55	8.4	0.57	8.6	0.58
		20.0	6.1	0.35	6.6	0.41	7.2	0.48	7.8	0.54	8.1	0.55	8.4	0.56	8.6	0.57
		40.0	6.1	0.33	6.6	0.39	7.2	0.45	7.8	0.51	8.1	0.51	8.4	0.53	8.6	0.54
		50.0	6.1	0.31	6.6	0.37	7.2	0.44	7.8	0.49	8.1	0.50	8.4	0.52	8.6	0.53
		60.0	6.1	0.30	6.6	0.36	7.2	0.43	7.8	0.48	8.1	0.49	8.4	0.51	8.6	0.52
	15	16.0	6.1	0.49	6.6	0.56	7.2	0.66	7.8	0.74	8.1	0.76	8.4	0.78	8.6	0.79
		20.0	6.1	0.48	6.6	0.55	7.2	0.65	7.8	0.73	8.1	0.74	8.4	0.76	8.6	0.78
		40.0	6.1	0.44	6.6	0.52	7.2	0.61	7.8	0.68	8.1	0.70	8.4	0.72	8.6	0.73
		50.0	6.1	0.42	6.6	0.51	7.2	0.59	7.8	0.67	8.1	0.68	8.4	0.70	8.6	0.71
		60.0	6.1	0.42	6.6	0.50	7.2	0.58	7.8	0.66	8.1	0.68	8.4	0.69	8.6	0.70
	20	16.0	6.1	0.60	6.6	0.69	7.2	0.81	7.8	0.91	8.1	0.94	8.4	0.95	8.6	0.97
		20.0	6.1	0.59	6.6	0.68	7.2	0.80	7.8	0.90	8.1	0.92	8.4	0.94	8.6	0.96
		40.0	6.1	0.54	6.6	0.64	7.2	0.74	7.8	0.84	8.1	0.86	8.4	0.88	8.6	0.90
		50.0	6.1	0.53	6.6	0.63	7.2	0.73	7.8	0.83	8.1	0.84	8.4	0.86	8.6	0.87
		60.0	6.1	0.52	6.6	0.62	7.2	0.72	7.8	0.82	8.1	0.84	8.4	0.85	8.6	0.86
	25	16.0	6.1	0.73	6.6	0.85	7.2	0.99	7.8	1.12	8.1	1.14	8.4	1.17	8.6	1.19
		20.0	6.1	0.72	6.6	0.84	7.2	0.97	7.8	1.10	8.1	1.12	8.4	1.15	8.6	1.17
		40.0	6.1	0.66	6.6	0.78	7.2	0.91	7.8	1.03	8.1	1.05	8.4	1.07	8.6	1.09
		50.0	6.1	0.64	6.6	0.76	7.2	0.89	7.8	1.00	8.1	1.03	8.4	1.05	8.6	1.06
		60.0	6.1	0.63	6.6	0.75	7.2	0.88	7.8	0.99	8.1	1.02	8.4	1.05	8.6	1.05

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	30	16.0	6.1	0.90	6.6	1.04	7.2	1.22	7.8	1.37	8.1	1.40	8.4	1.44	8.6	1.46
		20.0	6.1	0.88	6.6	1.03	7.2	1.20	7.8	1.35	8.1	1.38	8.4	1.41	8.6	1.44
		40.0	6.1	0.81	6.6	0.96	7.2	1.12	7.8	1.26	8.1	1.29	8.4	1.32	8.6	1.35
		50.0	6.1	0.79	6.6	0.94	7.2	1.10	7.8	1.24	8.1	1.26	8.4	1.30	8.6	1.31
		60.0	6.1	0.78	6.6	0.93	7.2	1.09	7.8	1.22	8.1	1.25	8.4	1.29	8.6	1.30
	35	16.0	6.1	1.00	6.6	1.16	7.2	1.35	7.8	1.52	8.1	1.56	8.4	1.60	8.6	1.62
		20.0	6.1	0.98	6.6	1.14	7.2	1.33	7.8	1.50	8.1	1.53	8.4	1.57	8.6	1.60
		40.0	6.1	0.90	6.6	1.07	7.2	1.24	7.8	1.40	8.1	1.43	8.4	1.47	8.6	1.50
		50.0	6.1	0.87	6.6	1.05	7.2	1.22	7.8	1.37	8.1	1.41	8.4	1.44	8.6	1.46
		60.0	6.1	0.86	6.6	1.03	7.2	1.21	7.8	1.36	8.1	1.40	8.4	1.43	8.6	1.43
	40	16.0	6.1	1.18	6.6	1.37	7.2	1.60	7.8	1.80	8.1	1.84	8.4	1.89	8.6	1.93
		20.0	6.1	1.16	6.6	1.35	7.2	1.58	7.8	1.77	8.1	1.81	8.4	1.86	8.6	1.89
		40.0	6.1	1.06	6.6	1.26	7.2	1.47	7.8	1.66	8.1	1.70	8.4	1.74	8.6	1.77
		50.0	6.1	1.04	6.6	1.24	7.2	1.44	7.8	1.63	8.1	1.67	8.4	1.71	8.6	1.73
		60.0	6.1	1.02	6.6	1.22	7.2	1.43	7.8	1.61	8.1	1.65	8.4	1.69	8.6	1.71
	45	16.0	6.1	1.37	6.6	1.59	7.2	1.85	7.8	2.08	8.1	2.13	8.4	2.19	8.6	2.23
		20.0	6.1	1.34	6.6	1.56	7.2	1.82	7.8	2.04	8.1	2.10	8.4	2.15	8.6	2.19
		40.0	6.1	1.23	6.6	1.46	7.2	1.70	7.8	1.91	8.1	1.97	8.4	2.01	8.6	2.04
		50.0	6.1	1.20	6.6	1.43	7.2	1.67	7.8	1.88	8.1	1.92	8.4	1.98	8.6	2.00
		60.0	6.1	1.18	6.6	1.41	7.2	1.65	7.8	1.86	8.1	1.90	8.4	1.96	8.6	1.98
60	10	16.0	5.2	0.29	5.7	0.34	6.2	0.39	6.7	0.44	6.9	0.45	7.2	0.46	7.4	0.47
		20.0	5.2	0.29	5.7	0.33	6.2	0.38	6.7	0.43	6.9	0.44	7.2	0.46	7.4	0.46
		40.0	5.2	0.26	5.7	0.31	6.2	0.35	6.7	0.40	6.9	0.40	7.2	0.42	7.4	0.43
		50.0	5.2	0.25	5.7	0.30	6.2	0.35	6.7	0.39	6.9	0.40	7.2	0.41	7.4	0.41
		60.0	5.2	0.24	5.7	0.29	6.2	0.35	6.7	0.39	6.9	0.40	7.2	0.40	7.4	0.40
	15	16.0	5.2	0.39	5.7	0.45	6.2	0.52	6.7	0.59	6.9	0.61	7.2	0.62	7.4	0.63
		20.0	5.2	0.38	5.7	0.44	6.2	0.52	6.7	0.58	6.9	0.60	7.2	0.61	7.4	0.62
		40.0	5.2	0.35	5.7	0.42	6.2	0.48	6.7	0.54	6.9	0.55	7.2	0.57	7.4	0.58
		50.0	5.2	0.34	5.7	0.41	6.2	0.47	6.7	0.53	6.9	0.54	7.2	0.56	7.4	0.56
		60.0	5.2	0.33	5.7	0.40	6.2	0.47	6.7	0.53	6.9	0.54	7.2	0.55	7.4	0.55
	20	16.0	5.2	0.48	5.7	0.55	6.2	0.64	6.7	0.73	6.9	0.75	7.2	0.76	7.4	0.78
		20.0	5.2	0.47	5.7	0.54	6.2	0.63	6.7	0.72	6.9	0.74	7.2	0.75	7.4	0.76
		40.0	5.2	0.43	5.7	0.51	6.2	0.60	6.7	0.67	6.9	0.69	7.2	0.70	7.4	0.72
		50.0	5.2	0.42	5.7	0.50	6.2	0.58	6.7	0.66	6.9	0.67	7.2	0.69	7.4	0.70
		60.0	5.2	0.42	5.7	0.50	6.2	0.58	6.7	0.65	6.9	0.67	7.2	0.69	7.4	0.69
	25	16.0	5.2	0.58	5.7	0.67	6.2	0.79	6.7	0.89	6.9	0.91	7.2	0.93	7.4	0.95
		20.0	5.2	0.57	5.7	0.66	6.2	0.77	6.7	0.87	6.9	0.89	7.2	0.92	7.4	0.93
		40.0	5.2	0.53	5.7	0.62	6.2	0.73	6.7	0.82	6.9	0.84	7.2	0.86	7.4	0.87
		50.0	5.2	0.51	5.7	0.61	6.2	0.71	6.7	0.80	6.9	0.82	7.2	0.84	7.4	0.85
		60.0	5.2	0.50	5.7	0.61	6.2	0.70	6.7	0.79	6.9	0.81	7.2	0.83	7.4	0.84
	30	16.0	5.2	0.72	5.7	0.84	6.2	0.97	6.7	1.09	6.9	1.12	7.2	1.14	7.4	1.16
		20.0	5.2	0.70	5.7	0.82	6.2	0.95	6.7	1.07	6.9	1.10	7.2	1.13	7.4	1.15
		40.0	5.2	0.64	5.7	0.76	6.2	0.89	6.7	1.00	6.9	1.03	7.2	1.05	7.4	1.07
		50.0	5.2	0.63	5.7	0.75	6.2	0.87	6.7	0.98	6.9	1.01	7.2	1.04	7.4	1.05
		60.0	5.2	0.62	5.7	0.74	6.2	0.86	6.7	0.97	6.9	1.00	7.2	1.03	7.4	1.03
	35	16.0	5.2	0.79	5.7	0.93	6.2	1.08	6.7	1.21	6.9	1.24	7.2	1.27	7.4	1.29
		20.0	5.2	0.78	5.7	0.91	6.2	1.06	6.7	1.19	6.9	1.22	7.2	1.25	7.4	1.27
		40.0	5.2	0.72	5.7	0.85	6.2	0.99	6.7	1.12	6.9	1.14	7.2	1.17	7.4	1.19
		50.0	5.2	0.70	5.7	0.83	6.2	0.97	6.7	1.09	6.9	1.12	7.2	1.15	7.4	1.16
		60.0	5.2	0.69	5.7	0.82	6.2	0.96	6.7	1.08	6.9	1.11	7.2	1.14	7.4	1.14
	40	16.0	5.2	0.95	5.7	1.10	6.2	1.28	6.7	1.44	6.9	1.47	7.2	1.51	7.4	1.53
		20.0	5.2	0.93	5.7	1.08	6.2	1.26	6.7	1.41	6.9	1.45	7.2	1.48	7.4	1.51
		40.0	5.2	0.85	5.7	1.01	6.2	1.17	6.7	1.32	6.9	1.35	7.2	1.39	7.4	1.41
		50.0	5.2	0.83	5.7	0.99	6.2	1.15	6.7	1.29	6.9	1.33	7.2	1.36	7.4	1.37
		60.0	5.2	0.81	5.7	0.98	6.2	1.14	6.7	1.28	6.9	1.31	7.2	1.35	7.4	1.36
	45	16.0	5.2	1.10	5.7	1.27	6.2	1.48	6.7	1.66	6.9	1.70	7.2	1.75	7.4	1.77
		20.0	5.2	1.07	5.7	1.25	6.2	1.45	6.7	1.63	6.9	1.67	7.2	1.72	7.4	1.74
		40.0	5.2	0.98	5.7	1.16	6.2	1.36	6.7	1.53	6.9	1.56	7.2	1.60	7.4	1.63
		50.0	5.2	0.95	5.7	1.15	6.2	1.33	6.7	1.49	6.9	1.53	7.2	1.57	7.4	1.59
		60.0	5.2	0.94	5.7	1.14	6.2	1.32	6.7	1.48	6.9	1.52	7.2	1.55	7.4	1.57
50	10	16.0	4.4	0.21	4.7	0.25	5.1	0.30	5.6	0.33	5.8	0.33	6.0	0.34	6.2	0.35
		20.0	4.4	0.21	4.7	0.24	5.1	0.29	5.6	0.32	5.8	0.33	6.0	0.34	6.2	0.34
		40.0	4.4	0.20	4.7	0.23	5.1	0.26	5.6	0.30	5.8	0.31	6.0	0.31	6.2	0.32
		50.0	4.4	0.19	4.7	0.22	5.1	0.26	5.6	0.29	5.8	0.30	6.0	0.30	6.2	0.31
		60.0	4.4	0.18	4.7	0.22	5.1	0.26	5.6	0.28	5.8	0.29	6.0	0.30	6.2	0.30

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	15	16.0	4.4	0.29	4.7	0.33	5.1	0.39	5.6	0.44	5.8	0.45	6.0	0.46	6.2	0.47
		20.0	4.4	0.28	4.7	0.33	5.1	0.39	5.6	0.43	5.8	0.44	6.0	0.45	6.2	0.46
		40.0	4.4	0.26	4.7	0.31	5.1	0.36	5.6	0.41	5.8	0.42	6.0	0.42	6.2	0.43
		50.0	4.4	0.25	4.7	0.30	5.1	0.35	5.6	0.40	5.8	0.41	6.0	0.42	6.2	0.42
		60.0	4.4	0.25	4.7	0.30	5.1	0.35	5.6	0.39	5.8	0.40	6.0	0.41	6.2	0.41
	20	16.0	4.4	0.36	4.7	0.41	5.1	0.48	5.6	0.54	5.8	0.56	6.0	0.57	6.2	0.58
		20.0	4.4	0.35	4.7	0.41	5.1	0.47	5.6	0.53	5.8	0.55	6.0	0.56	6.2	0.57
		40.0	4.4	0.32	4.7	0.38	5.1	0.44	5.6	0.50	5.8	0.51	6.0	0.53	6.2	0.53
		50.0	4.4	0.31	4.7	0.37	5.1	0.43	5.6	0.49	5.8	0.50	6.0	0.52	6.2	0.52
		60.0	4.4	0.31	4.7	0.37	5.1	0.43	5.6	0.49	5.8	0.50	6.0	0.51	6.2	0.51
	25	16.0	4.4	0.43	4.7	0.50	5.1	0.59	5.6	0.66	5.8	0.68	6.0	0.69	6.2	0.71
		20.0	4.4	0.42	4.7	0.50	5.1	0.58	5.6	0.65	5.8	0.67	6.0	0.68	6.2	0.70
		40.0	4.4	0.39	4.7	0.46	5.1	0.54	5.6	0.61	5.8	0.63	6.0	0.64	6.2	0.65
		50.0	4.4	0.38	4.7	0.45	5.1	0.53	5.6	0.60	5.8	0.61	6.0	0.63	6.2	0.63
		60.0	4.4	0.38	4.7	0.45	5.1	0.53	5.6	0.59	5.8	0.60	6.0	0.62	6.2	0.63
	30	16.0	4.4	0.54	4.7	0.62	5.1	0.72	5.6	0.82	5.8	0.83	6.0	0.85	6.2	0.87
		20.0	4.4	0.53	4.7	0.61	5.1	0.71	5.6	0.80	5.8	0.82	6.0	0.84	6.2	0.85
		40.0	4.4	0.48	4.7	0.57	5.1	0.66	5.6	0.75	5.8	0.77	6.0	0.79	6.2	0.80
		50.0	4.4	0.47	4.7	0.56	5.1	0.65	5.6	0.74	5.8	0.75	6.0	0.77	6.2	0.78
		60.0	4.4	0.46	4.7	0.55	5.1	0.64	5.6	0.73	5.8	0.75	6.0	0.77	6.2	0.77
	35	16.0	4.4	0.59	4.7	0.69	5.1	0.81	5.6	0.90	5.8	0.93	6.0	0.95	6.2	0.97
		20.0	4.4	0.58	4.7	0.68	5.1	0.79	5.6	0.89	5.8	0.91	6.0	0.94	6.2	0.95
		40.0	4.4	0.53	4.7	0.63	5.1	0.74	5.6	0.83	5.8	0.85	6.0	0.87	6.2	0.89
		50.0	4.4	0.52	4.7	0.62	5.1	0.73	5.6	0.82	5.8	0.84	6.0	0.86	6.2	0.86
		60.0	4.4	0.51	4.7	0.61	5.1	0.72	5.6	0.81	5.8	0.83	6.0	0.85	6.2	0.85
	40	16.0	4.4	0.70	4.7	0.82	5.1	0.95	5.6	1.07	5.8	1.10	6.0	1.13	6.2	1.14
		20.0	4.4	0.69	4.7	0.80	5.1	0.94	5.6	1.05	5.8	1.08	6.0	1.11	6.2	1.13
		40.0	4.4	0.63	4.7	0.75	5.1	0.87	5.6	0.98	5.8	1.01	6.0	1.04	6.2	1.05
		50.0	4.4	0.62	4.7	0.74	5.1	0.86	5.6	0.96	5.8	0.99	6.0	1.02	6.2	1.03
		60.0	4.4	0.61	4.7	0.73	5.1	0.85	5.6	0.95	5.8	0.98	6.0	1.01	6.2	1.01
	45	16.0	4.4	0.81	4.7	0.94	5.1	1.10	5.6	1.24	5.8	1.27	6.0	1.30	6.2	1.32
		20.0	4.4	0.79	4.7	0.93	5.1	1.08	5.6	1.22	5.8	1.25	6.0	1.28	6.2	1.30
		40.0	4.4	0.74	4.7	0.86	5.1	1.01	5.6	1.14	5.8	1.16	6.0	1.20	6.2	1.22
		50.0	4.4	0.71	4.7	0.85	5.1	0.99	5.6	1.11	5.8	1.14	6.0	1.17	6.2	1.19
		60.0	4.4	0.70	4.7	0.84	5.1	0.99	5.6	1.10	5.8	1.13	6.0	1.16	6.2	1.17

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

ARWN50GA0

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	10	20.0	13.0	0.91	14.1	1.06	15.4	1.24	16.7	1.39	17.2	1.43	17.8	1.46	18.3	1.47
		25.0	13.0	0.89	14.1	1.04	15.4	1.22	16.7	1.37	17.2	1.41	17.8	1.44	18.3	1.45
		50.0	13.0	0.82	14.1	0.98	15.4	1.14	16.7	1.28	17.2	1.30	17.8	1.35	18.3	1.38
		62.5	13.0	0.80	14.1	0.95	15.4	1.12	16.7	1.25	17.2	1.29	17.8	1.32	18.3	1.34
		75.0	13.0	0.79	14.1	0.94	15.4	1.10	16.7	1.24	17.2	1.28	17.8	1.30	18.3	1.32
	15	20.0	12.8	1.20	13.9	1.39	15.1	1.62	16.4	1.83	16.9	1.87	17.6	1.91	18.0	1.94
		25.0	12.8	1.17	13.9	1.37	15.1	1.60	16.4	1.80	16.9	1.84	17.6	1.88	18.0	1.91
		50.0	12.8	1.08	13.9	1.28	15.1	1.49	16.4	1.68	16.9	1.72	17.6	1.77	18.0	1.80
		62.5	12.8	1.05	13.9	1.25	15.1	1.46	16.4	1.64	16.9	1.69	17.6	1.73	18.0	1.76
		75.0	12.8	1.03	13.9	1.24	15.1	1.45	16.4	1.63	16.9	1.67	17.6	1.71	18.0	1.74
	20	20.0	12.6	1.45	13.7	1.68	14.9	1.97	16.2	2.21	16.7	2.26	17.3	2.32	17.8	2.36
		25.0	12.6	1.42	13.7	1.66	14.9	1.93	16.2	2.18	16.7	2.23	17.3	2.28	17.8	2.33
		50.0	12.6	1.31	13.7	1.55	14.9	1.80	16.2	2.04	16.7	2.09	17.3	2.14	17.8	2.18
		62.5	12.6	1.27	13.7	1.52	14.9	1.77	16.2	1.99	16.7	2.04	17.3	2.10	17.8	2.14
		75.0	12.6	1.25	13.7	1.50	14.9	1.75	16.2	1.97	16.7	2.02	17.3	2.08	17.8	2.11
	25	20.0	12.6	1.79	13.7	2.08	14.9	2.42	16.2	2.72	16.7	2.79	17.3	2.86	17.8	2.91
		25.0	12.6	1.76	13.7	2.04	14.9	2.38	16.2	2.68	16.7	2.75	17.3	2.82	17.8	2.87
		50.0	12.6	1.61	13.7	1.91	14.9	2.23	16.2	2.51	16.7	2.57	17.3	2.64	17.8	2.69
		62.5	12.6	1.57	13.7	1.87	14.9	2.18	16.2	2.46	16.7	2.52	17.3	2.59	17.8	2.63
		75.0	12.6	1.55	13.7	1.85	14.9	2.16	16.2	2.44	16.7	2.50	17.3	2.57	17.8	2.60
	30	20.0	12.6	2.15	13.7	2.49	14.9	2.91	16.2	3.27	16.7	3.35	17.3	3.44	17.8	3.49
		25.0	12.6	2.10	13.7	2.45	14.9	2.86	16.2	3.22	16.7	3.30	17.3	3.38	17.8	3.44
		50.0	12.6	1.93	13.7	2.30	14.9	2.68	16.2	3.01	16.7	3.09	17.3	3.17	17.8	3.23
		62.5	12.6	1.88	13.7	2.25	14.9	2.62	16.2	2.95	16.7	3.03	17.3	3.11	17.8	3.16
		75.0	12.6	1.86	13.7	2.22	14.9	2.59	16.2	2.92	16.7	3.00	17.3	3.07	17.8	3.12
	35	20.0	11.4	2.17	12.3	2.53	13.4	2.94	14.6	3.31	15.0	3.38	15.6	3.47	16.0	3.53
		25.0	11.4	2.13	12.3	2.49	13.4	2.89	14.6	3.26	15.0	3.33	15.6	3.42	16.0	3.48
		50.0	11.4	1.96	12.3	2.32	13.4	2.71	14.6	3.04	15.0	3.12	15.6	3.20	16.0	3.26
		62.5	11.4	1.90	12.3	2.27	13.4	2.65	14.6	2.98	15.0	3.06	15.6	3.14	16.0	3.20
		75.0	11.4	1.87	12.3	2.25	13.4	2.62	14.6	2.95	15.0	3.03	15.6	3.11	16.0	3.16
	40	20.0	10.1	2.29	10.9	2.66	11.9	3.10	12.9	3.49	13.3	3.57	13.8	3.66	14.2	3.73
		25.0	10.1	2.25	10.9	2.62	11.9	3.05	12.9	3.44	13.3	3.52	13.8	3.60	14.2	3.67
		50.0	10.1	2.06	10.9	2.45	11.9	2.85	12.9	3.21	13.3	3.29	13.8	3.38	14.2	3.45
		62.5	10.1	2.01	10.9	2.39	11.9	2.79	12.9	3.15	13.3	3.23	13.8	3.31	14.2	3.37
		75.0	10.1	1.98	10.9	2.37	11.9	2.76	12.9	3.12	13.3	3.20	13.8	3.28	14.2	3.33
	45	20.0	8.8	2.41	9.6	2.80	10.4	3.26	11.3	3.67	11.6	3.76	12.1	3.84	12.5	3.92
		25.0	8.8	2.36	9.6	2.76	10.4	3.21	11.3	3.61	11.6	3.70	12.1	3.79	12.5	3.86
		50.0	8.8	2.17	9.6	2.58	10.4	3.00	11.3	3.38	11.6	3.45	12.1	3.56	12.5	3.63
		62.5	8.8	2.11	9.6	2.52	10.4	2.93	11.3	3.31	11.6	3.39	12.1	3.49	12.5	3.54
		75.0	8.8	2.08	9.6	2.49	10.4	2.90	11.3	3.28	11.6	3.36	12.1	3.45	12.5	3.49
	10	20.0	12.3	0.86	13.3	1.00	14.5	1.18	15.8	1.32	16.3	1.36	16.9	1.38	17.4	1.41
		25.0	12.3	0.85	13.3	0.98	14.5	1.16	15.8	1.30	16.3	1.33	16.9	1.36	17.4	1.39
		50.0	12.3	0.78	13.3	0.92	14.5	1.07	15.8	1.21	16.3	1.24	16.9	1.27	17.4	1.29
		62.5	12.3	0.76	13.3	0.90	14.5	1.06	15.8	1.19	16.3	1.21	16.9	1.25	17.4	1.27
		75.0	12.3	0.76	13.3	0.89	14.5	1.06	15.8	1.18	16.3	1.20	16.9	1.24	17.4	1.26
	15	20.0	12.2	1.15	13.2	1.33	14.4	1.55	15.6	1.75	16.1	1.79	16.7	1.83	17.2	1.86
		25.0	12.2	1.12	13.2	1.31	14.4	1.53	15.6	1.72	16.1	1.76	16.7	1.80	17.2	1.83
		50.0	12.2	1.03	13.2	1.22	14.4	1.42	15.6	1.61	16.1	1.64	16.7	1.69	17.2	1.72
		62.5	12.2	1.01	13.2	1.20	14.4	1.40	15.6	1.58	16.1	1.61	16.7	1.66	17.2	1.68
		75.0	12.2	0.99	13.2	1.18	14.4	1.39	15.6	1.56	16.1	1.60	16.7	1.64	17.2	1.66
	20	20.0	12.1	1.40	13.0	1.62	14.2	1.89	15.5	2.13	15.9	2.18	16.5	2.23	17.0	2.27
		25.0	12.1	1.37	13.0	1.60	14.2	1.86	15.5	2.09	15.9	2.14	16.5	2.20	17.0	2.23
		50.0	12.1	1.26	13.0	1.49	14.2	1.74	15.5	1.96	15.9	2.01	16.5	2.06	17.0	2.10
		62.5	12.1	1.22	13.0	1.46	14.2	1.70	15.5	1.92	15.9	1.97	16.5	2.02	17.0	2.05
		75.0	12.1	1.20	13.0	1.45	14.2	1.68	15.5	1.90	15.9	1.95	16.5	2.00	17.0	2.03
	25	20.0	12.1	1.72	13.0	1.99	14.2	2.32	15.5	2.61	15.9	2.68	16.5	2.74	17.0	2.79
		25.0	12.1	1.68	13.0	1.96	14.2	2.28	15.5	2.57	15.9	2.63	16.5	2.70	17.0	2.75
		50.0	12.1	1.55	13.0	1.83	14.2	2.14	15.5	2.41	15.9	2.46	16.5	2.53	17.0	2.58
		62.5	12.1	1.50	13.0	1.79	14.2	2.09	15.5	2.36	15.9	2.42	16.5	2.48	17.0	2.52
		75.0	12.1	1.48	13.0	1.77	14.2	2.07	15.5	2.33	15.9	2.40	16.5	2.45	17.0	2.49
	30	20.0	12.1	2.07	13.0	2.41	14.2	2.81	15.5	3.16	15.9	3.24	16.5	3.32	17.0	3.37
		25.0	12.1	2.03	13.0	2.37	14.2	2.76	15.5	3.11	15.9	3.18	16.5	3.26	17.0	3.32
		50.0	12.1	1.87	13.0	2.22	14.2	2.58	15.5	2.91	15.9	2.98	16.5	3.06	17.0	3.12
		62.5	12.1	1.82	13.0	2.17	14.2	2.53	15.5	2.85	15.9	2.92	16.5	3.00	17.0	3.04
		75.0	12.1	1.79	13.0	2.14	14.2	2.50	15.5	2.82	15.9	2.89	16.5	2.97	17.0	3.01

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	35	20.0	11.0	2.12	11.9	2.47	13.0	2.88	14.1	3.24	14.6	3.32	15.1	3.40	15.6	3.46
		25.0	11.0	2.08	11.9	2.43	13.0	2.83	14.1	3.18	14.6	3.26	15.1	3.34	15.6	3.41
		50.0	11.0	1.91	11.9	2.27	13.0	2.64	14.1	2.98	14.6	3.06	15.1	3.14	15.6	3.19
		62.5	11.0	1.87	11.9	2.22	13.0	2.59	14.1	2.92	14.6	2.99	15.1	3.07	15.6	3.12
		75.0	11.0	1.84	11.9	2.20	13.0	2.56	14.1	2.89	14.6	2.96	15.1	3.04	15.6	3.08
	40	20.0	10.0	2.28	10.8	2.66	11.8	3.09	12.8	3.49	13.2	3.57	13.7	3.65	14.1	3.72
		25.0	10.0	2.24	10.8	2.61	11.8	3.04	12.8	3.43	13.2	3.51	13.7	3.60	14.1	3.66
		50.0	10.0	2.06	10.8	2.44	11.8	2.85	12.8	3.21	13.2	3.28	13.7	3.37	14.1	3.44
		62.5	10.0	2.01	10.8	2.39	11.8	2.79	12.8	3.14	13.2	3.22	13.7	3.31	14.1	3.36
		75.0	10.0	1.98	10.8	2.37	11.8	2.76	12.8	3.11	13.2	3.19	13.7	3.28	14.1	3.32
	45	20.0	9.0	2.45	9.7	2.84	10.6	3.31	11.5	3.74	11.8	3.82	12.3	3.91	12.7	3.98
		25.0	9.0	2.40	9.7	2.80	10.6	3.26	11.5	3.68	11.8	3.76	12.3	3.85	12.7	3.92
		50.0	9.0	2.21	9.7	2.61	10.6	3.05	11.5	3.44	11.8	3.51	12.3	3.60	12.7	3.68
		62.5	9.0	2.15	9.7	2.57	10.6	2.99	11.5	3.36	11.8	3.45	12.3	3.54	12.7	3.60
		75.0	9.0	2.12	9.7	2.54	10.6	2.97	11.5	3.33	11.8	3.42	12.3	3.51	12.7	3.55
110	10	20.0	11.6	0.82	12.6	0.95	13.7	1.10	14.9	1.24	15.3	1.26	16.0	1.31	16.4	1.32
		25.0	11.6	0.80	12.6	0.93	13.7	1.08	14.9	1.22	15.3	1.25	16.0	1.28	16.4	1.30
		50.0	11.6	0.74	12.6	0.87	13.7	1.02	14.9	1.15	15.3	1.18	16.0	1.19	16.4	1.22
		62.5	11.6	0.72	12.6	0.85	13.7	0.99	14.9	1.12	15.3	1.15	16.0	1.17	16.4	1.20
		75.0	11.6	0.70	12.6	0.84	13.7	0.98	14.9	1.11	15.3	1.13	16.0	1.16	16.4	1.19
	15	20.0	11.6	1.10	12.5	1.27	13.6	1.48	14.8	1.66	15.2	1.70	15.8	1.75	16.3	1.78
		25.0	11.6	1.07	12.5	1.25	13.6	1.45	14.8	1.64	15.2	1.68	15.8	1.72	16.3	1.75
		50.0	11.6	0.99	12.5	1.17	13.6	1.36	14.8	1.53	15.2	1.57	15.8	1.61	16.3	1.64
		62.5	11.6	0.96	12.5	1.14	13.6	1.33	14.8	1.50	15.2	1.54	15.8	1.58	16.3	1.60
		75.0	11.6	0.94	12.5	1.13	13.6	1.32	14.8	1.49	15.2	1.52	15.8	1.56	16.3	1.58
	20	20.0	11.5	1.34	12.4	1.56	13.6	1.82	14.7	2.04	15.2	2.09	15.8	2.14	16.2	2.18
		25.0	11.5	1.31	12.4	1.53	13.6	1.79	14.7	2.01	15.2	2.06	15.8	2.10	16.2	2.15
		50.0	11.5	1.21	12.4	1.43	13.6	1.67	14.7	1.88	15.2	1.92	15.8	1.98	16.2	2.01
		62.5	11.5	1.17	12.4	1.40	13.6	1.63	14.7	1.84	15.2	1.89	15.8	1.94	16.2	1.96
		75.0	11.5	1.15	12.4	1.38	13.6	1.61	14.7	1.82	15.2	1.87	15.8	1.92	16.2	1.93
	25	20.0	11.5	1.64	12.4	1.91	13.6	2.22	14.7	2.50	15.2	2.56	15.8	2.62	16.2	2.67
		25.0	11.5	1.61	12.4	1.88	13.6	2.18	14.7	2.46	15.2	2.52	15.8	2.58	16.2	2.63
		50.0	11.5	1.48	12.4	1.76	13.6	2.04	14.7	2.30	15.2	2.36	15.8	2.42	16.2	2.46
		62.5	11.5	1.44	12.4	1.72	13.6	2.00	14.7	2.25	15.2	2.31	15.8	2.37	16.2	2.40
		75.0	11.5	1.41	12.4	1.70	13.6	1.98	14.7	2.23	15.2	2.29	15.8	2.34	16.2	2.37
	30	20.0	11.5	2.00	12.4	2.33	13.6	2.71	14.7	3.05	15.2	3.12	15.8	3.20	16.2	3.25
		25.0	11.5	1.96	12.4	2.29	13.6	2.66	14.7	3.00	15.2	3.07	15.8	3.15	16.2	3.20
		50.0	11.5	1.80	12.4	2.14	13.6	2.49	14.7	2.80	15.2	2.87	15.8	2.95	16.2	3.00
		62.5	11.5	1.76	12.4	2.09	13.6	2.44	14.7	2.75	15.2	2.82	15.8	2.89	16.2	2.93
		75.0	11.5	1.73	12.4	2.07	13.6	2.41	14.7	2.72	15.2	2.79	15.8	2.86	16.2	2.89
	35	20.0	10.7	2.08	11.6	2.41	12.6	2.81	13.7	3.17	14.1	3.24	14.7	3.32	15.1	3.39
		25.0	10.7	2.04	11.6	2.37	12.6	2.77	13.7	3.12	14.1	3.19	14.7	3.27	15.1	3.33
		50.0	10.7	1.87	11.6	2.22	12.6	2.59	13.7	2.91	14.1	2.99	14.7	3.06	15.1	3.12
		62.5	10.7	1.82	11.6	2.17	12.6	2.53	13.7	2.86	14.1	2.93	14.7	3.01	15.1	3.04
		75.0	10.7	1.80	11.6	2.15	12.6	2.51	13.7	2.83	14.1	2.90	14.7	2.98	15.1	3.01
	40	20.0	9.9	2.29	10.7	2.65	11.7	3.09	12.7	3.48	13.1	3.56	13.6	3.65	14.0	3.71
		25.0	9.9	2.24	10.7	2.61	11.7	3.04	12.7	3.42	13.1	3.50	13.6	3.59	14.0	3.66
		50.0	9.9	2.06	10.7	2.44	11.7	2.84	12.7	3.20	13.1	3.28	13.6	3.36	14.0	3.43
		62.5	9.9	2.00	10.7	2.39	11.7	2.79	12.7	3.14	13.1	3.22	13.6	3.30	14.0	3.34
		75.0	9.9	1.97	10.7	2.36	11.7	2.76	12.7	3.11	13.1	3.18	13.6	3.27	14.0	3.30
	45	20.0	9.1	2.49	9.9	2.89	10.8	3.38	11.7	3.79	12.0	3.88	12.5	3.97	12.9	4.04
		25.0	9.1	2.44	9.9	2.84	10.8	3.32	11.7	3.73	12.0	3.82	12.5	3.91	12.9	3.98
		50.0	9.1	2.24	9.9	2.66	10.8	3.09	11.7	3.49	12.0	3.57	12.5	3.66	12.9	3.74
		62.5	9.1	2.18	9.9	2.60	10.8	3.04	11.7	3.42	12.0	3.50	12.5	3.60	12.9	3.65
		75.0	9.1	2.15	9.9	2.57	10.8	3.01	11.7	3.39	12.0	3.47	12.5	3.56	12.9	3.60
100	10	20.0	10.9	0.76	11.8	0.90	12.9	1.04	14.0	1.16	14.4	1.19	15.0	1.23	15.4	1.26
		25.0	10.9	0.75	11.8	0.88	12.9	1.02	14.0	1.14	14.4	1.17	15.0	1.21	15.4	1.23
		50.0	10.9	0.69	11.8	0.81	12.9	0.96	14.0	1.08	14.4	1.11	15.0	1.13	15.4	1.14
		62.5	10.9	0.68	11.8	0.80	12.9	0.94	14.0	1.05	14.4	1.08	15.0	1.11	15.4	1.13
		75.0	10.9	0.67	11.8	0.79	12.9	0.93	14.0	1.03	14.4	1.06	15.0	1.10	15.4	1.12
	15	20.0	10.9	1.04	11.8	1.21	12.9	1.41	14.0	1.58	14.4	1.62	15.0	1.66	15.4	1.70
		25.0	10.9	1.02	11.8	1.19	12.9	1.39	14.0	1.56	14.4	1.60	15.0	1.64	15.4	1.67
		50.0	10.9	0.94	11.8	1.11	12.9	1.29	14.0	1.46	14.4	1.50	15.0	1.53	15.4	1.56
		62.5	10.9	0.91	11.8	1.09	12.9	1.27	14.0	1.43	14.4	1.47	15.0	1.50	15.4	1.52
		75.0	10.9	0.90	11.8	1.07	12.9	1.26	14.0	1.41	14.4	1.45	15.0	1.49	15.4	1.50

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	20	20.0	10.9	1.28	11.8	1.49	12.9	1.74	14.0	1.96	14.4	2.00	15.0	2.05	15.4	2.09
		25.0	10.9	1.26	11.8	1.47	12.9	1.71	14.0	1.93	14.4	1.97	15.0	2.02	15.4	2.06
		50.0	10.9	1.16	11.8	1.37	12.9	1.60	14.0	1.80	14.4	1.84	15.0	1.89	15.4	1.93
		62.5	10.9	1.12	11.8	1.34	12.9	1.56	14.0	1.77	14.4	1.81	15.0	1.85	15.4	1.87
		75.0	10.9	1.10	11.8	1.33	12.9	1.55	14.0	1.75	14.4	1.79	15.0	1.83	15.4	1.84
	25	20.0	10.9	1.57	11.8	1.82	12.9	2.12	14.0	2.39	14.4	2.45	15.0	2.50	15.4	2.55
		25.0	10.9	1.53	11.8	1.79	12.9	2.09	14.0	2.35	14.4	2.41	15.0	2.46	15.4	2.51
		50.0	10.9	1.41	11.8	1.68	12.9	1.95	14.0	2.20	14.4	2.25	15.0	2.31	15.4	2.34
		62.5	10.9	1.37	11.8	1.64	12.9	1.91	14.0	2.15	14.4	2.20	15.0	2.26	15.4	2.28
		75.0	10.9	1.36	11.8	1.62	12.9	1.89	14.0	2.13	14.4	2.18	15.0	2.24	15.4	2.25
	30	20.0	10.9	1.93	11.8	2.24	12.9	2.61	14.0	2.94	14.4	3.01	15.0	3.08	15.4	3.14
		25.0	10.9	1.89	11.8	2.20	12.9	2.57	14.0	2.89	14.4	2.96	15.0	3.03	15.4	3.09
		50.0	10.9	1.74	11.8	2.06	12.9	2.40	14.0	2.70	14.4	2.76	15.0	2.84	15.4	2.88
		62.5	10.9	1.69	11.8	2.01	12.9	2.35	14.0	2.64	14.4	2.71	15.0	2.78	15.4	2.81
		75.0	10.9	1.66	11.8	1.99	12.9	2.33	14.0	2.62	14.4	2.69	15.0	2.75	15.4	2.77
	35	20.0	10.4	2.03	11.2	2.36	12.2	2.75	13.3	3.10	13.7	3.17	14.2	3.25	14.6	3.30
		25.0	10.4	1.99	11.2	2.33	12.2	2.71	13.3	3.05	13.7	3.12	14.2	3.20	14.6	3.25
		50.0	10.4	1.83	11.2	2.17	12.2	2.53	13.3	2.85	13.7	2.92	14.2	2.99	14.6	3.04
		62.5	10.4	1.78	11.2	2.13	12.2	2.48	13.3	2.79	13.7	2.87	14.2	2.94	14.6	2.96
		75.0	10.4	1.75	11.2	2.11	12.2	2.45	13.3	2.76	13.7	2.84	14.2	2.91	14.6	2.92
	40	20.0	9.8	2.28	10.6	2.65	11.6	3.09	12.6	3.47	13.0	3.56	13.5	3.65	13.9	3.71
		25.0	9.8	2.23	10.6	2.61	11.6	3.04	12.6	3.42	13.0	3.50	13.5	3.59	13.9	3.65
		50.0	9.8	2.06	10.6	2.44	11.6	2.84	12.6	3.20	13.0	3.27	13.5	3.36	13.9	3.42
		62.5	9.8	2.00	10.6	2.39	11.6	2.78	12.6	3.14	13.0	3.22	13.5	3.30	13.9	3.33
		75.0	9.8	1.97	10.6	2.36	11.6	2.75	12.6	3.11	13.0	3.19	13.5	3.26	13.9	3.28
	45	20.0	9.3	2.52	10.0	2.94	10.9	3.42	11.9	3.85	12.2	3.95	12.7	4.05	13.1	4.12
		25.0	9.3	2.47	10.0	2.89	10.9	3.37	11.9	3.79	12.2	3.88	12.7	3.98	13.1	4.05
		50.0	9.3	2.28	10.0	2.70	10.9	3.15	11.9	3.55	12.2	3.62	12.7	3.72	13.1	3.79
		62.5	9.3	2.22	10.0	2.64	10.9	3.08	11.9	3.48	12.2	3.57	12.7	3.65	13.1	3.69
		75.0	9.3	2.19	10.0	2.62	10.9	3.04	11.9	3.45	12.2	3.54	12.7	3.62	13.1	3.64
90	10	20.0	9.8	0.66	10.6	0.77	11.6	0.88	12.6	1.01	13.0	1.03	13.5	1.06	13.9	1.08
		25.0	9.8	0.65	10.6	0.76	11.6	0.87	12.6	0.99	13.0	1.02	13.5	1.05	13.9	1.06
		50.0	9.8	0.60	10.6	0.71	11.6	0.83	12.6	0.93	13.0	0.95	13.5	0.97	13.9	0.99
		62.5	9.8	0.58	10.6	0.70	11.6	0.80	12.6	0.91	13.0	0.93	13.5	0.96	13.9	0.96
		75.0	9.8	0.57	10.6	0.69	11.6	0.79	12.6	0.90	13.0	0.92	13.5	0.95	13.9	0.95
	15	20.0	9.8	0.89	10.6	1.04	11.6	1.21	12.6	1.37	13.0	1.40	13.5	1.43	13.9	1.46
		25.0	9.8	0.88	10.6	1.02	11.6	1.19	12.6	1.34	13.0	1.37	13.5	1.41	13.9	1.44
		50.0	9.8	0.81	10.6	0.96	11.6	1.12	12.6	1.26	13.0	1.29	13.5	1.32	13.9	1.34
		62.5	9.8	0.79	10.6	0.94	11.6	1.09	12.6	1.23	13.0	1.26	13.5	1.29	13.9	1.31
		75.0	9.8	0.77	10.6	0.93	11.6	1.08	12.6	1.22	13.0	1.25	13.5	1.28	13.9	1.29
	20	20.0	9.8	1.10	10.6	1.29	11.6	1.50	12.6	1.68	13.0	1.72	13.5	1.76	13.9	1.80
		25.0	9.8	1.08	10.6	1.26	11.6	1.47	12.6	1.66	13.0	1.69	13.5	1.74	13.9	1.77
		50.0	9.8	0.99	10.6	1.18	11.6	1.37	12.6	1.55	13.0	1.59	13.5	1.63	13.9	1.66
		62.5	9.8	0.97	10.6	1.15	11.6	1.35	12.6	1.52	13.0	1.56	13.5	1.60	13.9	1.61
		75.0	9.8	0.96	10.6	1.14	11.6	1.34	12.6	1.51	13.0	1.54	13.5	1.58	13.9	1.59
	25	20.0	9.8	1.35	10.6	1.57	11.6	1.82	12.6	2.05	13.0	2.10	13.5	2.15	13.9	2.20
		25.0	9.8	1.32	10.6	1.54	11.6	1.79	12.6	2.02	13.0	2.07	13.5	2.12	13.9	2.16
		50.0	9.8	1.22	10.6	1.44	11.6	1.68	12.6	1.89	13.0	1.93	13.5	1.98	13.9	2.02
		62.5	9.8	1.18	10.6	1.41	11.6	1.64	12.6	1.85	13.0	1.90	13.5	1.95	13.9	1.97
		75.0	9.8	1.16	10.6	1.40	11.6	1.63	12.6	1.83	13.0	1.88	13.5	1.93	13.9	1.95
	30	20.0	9.8	1.66	10.6	1.93	11.6	2.25	12.6	2.53	13.0	2.59	13.5	2.65	13.9	2.70
		25.0	9.8	1.63	10.6	1.90	11.6	2.21	12.6	2.49	13.0	2.55	13.5	2.61	13.9	2.66
		50.0	9.8	1.49	10.6	1.77	11.6	2.06	12.6	2.33	13.0	2.38	13.5	2.44	13.9	2.49
		62.5	9.8	1.45	10.6	1.74	11.6	2.02	12.6	2.28	13.0	2.34	13.5	2.39	13.9	2.42
		75.0	9.8	1.44	10.6	1.72	11.6	2.00	12.6	2.25	13.0	2.32	13.5	2.37	13.9	2.38
	35	20.0	9.5	1.79	10.3	2.08	11.3	2.42	12.3	2.72	12.6	2.79	13.1	2.86	13.5	2.91
		25.0	9.5	1.76	10.3	2.04	11.3	2.38	12.3	2.68	12.6	2.74	13.1	2.81	13.5	2.87
		50.0	9.5	1.61	10.3	1.91	11.3	2.23	12.3	2.51	12.6	2.57	13.1	2.63	13.5	2.68
		62.5	9.5	1.56	10.3	1.87	11.3	2.18	12.3	2.46	12.6	2.52	13.1	2.58	13.5	2.61
		75.0	9.5	1.54	10.3	1.85	11.3	2.15	12.3	2.44	12.6	2.50	13.1	2.56	13.5	2.57
	40	20.0	9.3	2.05	10.1	2.39	10.9	2.78	11.9	3.13	12.3	3.21	12.7	3.29	13.1	3.34
		25.0	9.3	2.01	10.1	2.35	10.9	2.74	11.9	3.08	12.3	3.15	12.7	3.23	13.1	3.29
		50.0	9.3	1.85	10.1	2.20	10.9	2.56	11.9	2.88	12.3	2.95	12.7	3.03	13.1	3.08
		62.5	9.3	1.80	10.1	2.15	10.9	2.50	11.9	2.82	12.3	2.90	12.7	2.97	13.1	3.00
		75.0	9.3	1.77	10.1	2.12	10.9	2.48	11.9	2.80	12.3	2.87	12.7	2.94	13.1	2.96

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	45	20.0	9.0	2.32	9.8	2.70	10.6	3.14	11.6	3.54	11.9	3.62	12.4	3.72	12.7	3.77
		25.0	9.0	2.27	9.8	2.66	10.6	3.09	11.6	3.48	11.9	3.57	12.4	3.66	12.7	3.71
		50.0	9.0	2.09	9.8	2.48	10.6	2.89	11.6	3.25	11.9	3.34	12.4	3.42	12.7	3.48
		62.5	9.0	2.03	9.8	2.42	10.6	2.83	11.6	3.18	11.9	3.27	12.4	3.36	12.7	3.39
		75.0	9.0	2.00	9.8	2.40	10.6	2.80	11.6	3.15	11.9	3.24	12.4	3.33	12.7	3.35
80	10	20.0	8.7	0.56	9.5	0.64	10.3	0.75	11.2	0.85	11.5	0.86	12.0	0.90	12.3	0.90
		25.0	8.7	0.54	9.5	0.63	10.3	0.74	11.2	0.84	11.5	0.85	12.0	0.88	12.3	0.89
		50.0	8.7	0.50	9.5	0.60	10.3	0.68	11.2	0.78	11.5	0.80	12.0	0.81	12.3	0.83
		62.5	8.7	0.48	9.5	0.58	10.3	0.67	11.2	0.75	11.5	0.77	12.0	0.80	12.3	0.82
		75.0	8.7	0.48	9.5	0.57	10.3	0.67	11.2	0.74	11.5	0.76	12.0	0.80	12.3	0.81
	15	20.0	8.7	0.75	9.5	0.87	10.3	1.02	11.2	1.15	11.5	1.17	12.0	1.20	12.3	1.22
		25.0	8.7	0.74	9.5	0.86	10.3	1.00	11.2	1.13	11.5	1.15	12.0	1.18	12.3	1.20
		50.0	8.7	0.68	9.5	0.80	10.3	0.93	11.2	1.06	11.5	1.08	12.0	1.10	12.3	1.12
		62.5	8.7	0.66	9.5	0.79	10.3	0.91	11.2	1.03	11.5	1.06	12.0	1.09	12.3	1.10
		75.0	8.7	0.65	9.5	0.78	10.3	0.91	11.2	1.02	11.5	1.04	12.0	1.08	12.3	1.09
	20	20.0	8.7	0.93	9.5	1.08	10.3	1.25	11.2	1.41	11.5	1.45	12.0	1.48	12.3	1.51
		25.0	8.7	0.91	9.5	1.06	10.3	1.23	11.2	1.39	11.5	1.42	12.0	1.45	12.3	1.49
		50.0	8.7	0.83	9.5	0.99	10.3	1.15	11.2	1.30	11.5	1.33	12.0	1.36	12.3	1.39
		62.5	8.7	0.81	9.5	0.97	10.3	1.13	11.2	1.28	11.5	1.31	12.0	1.34	12.3	1.35
		75.0	8.7	0.80	9.5	0.96	10.3	1.12	11.2	1.26	11.5	1.29	12.0	1.33	12.3	1.33
	25	20.0	8.7	1.13	9.5	1.31	10.3	1.53	11.2	1.72	11.5	1.77	12.0	1.81	12.3	1.84
		25.0	8.7	1.10	9.5	1.29	10.3	1.50	11.2	1.69	11.5	1.74	12.0	1.78	12.3	1.81
		50.0	8.7	1.02	9.5	1.21	10.3	1.41	11.2	1.58	11.5	1.62	12.0	1.66	12.3	1.69
		62.5	8.7	0.99	9.5	1.18	10.3	1.38	11.2	1.55	11.5	1.59	12.0	1.63	12.3	1.65
		75.0	8.7	0.97	9.5	1.17	10.3	1.37	11.2	1.54	11.5	1.57	12.0	1.62	12.3	1.63
	30	20.0	8.7	1.39	9.5	1.62	10.3	1.88	11.2	2.12	11.5	2.17	12.0	2.22	12.3	2.26
		25.0	8.7	1.36	9.5	1.59	10.3	1.85	11.2	2.09	11.5	2.14	12.0	2.18	12.3	2.23
		50.0	8.7	1.25	9.5	1.49	10.3	1.73	11.2	1.95	11.5	1.99	12.0	2.04	12.3	2.08
		62.5	8.7	1.22	9.5	1.45	10.3	1.69	11.2	1.91	11.5	1.96	12.0	2.01	12.3	2.03
		75.0	8.7	1.20	9.5	1.44	10.3	1.68	11.2	1.89	11.5	1.94	12.0	1.99	12.3	2.00
	35	20.0	8.7	1.55	9.5	1.80	10.3	2.09	11.2	2.35	11.5	2.41	12.0	2.47	12.3	2.51
		25.0	8.7	1.52	9.5	1.77	10.3	2.06	11.2	2.31	11.5	2.37	12.0	2.43	12.3	2.47
		50.0	8.7	1.39	9.5	1.65	10.3	1.92	11.2	2.17	11.5	2.22	12.0	2.27	12.3	2.31
		62.5	8.7	1.36	9.5	1.61	10.3	1.88	11.2	2.12	11.5	2.17	12.0	2.23	12.3	2.25
		75.0	8.7	1.34	9.5	1.60	10.3	1.87	11.2	2.10	11.5	2.15	12.0	2.22	12.3	2.22
	40	20.0	8.7	1.83	9.5	2.13	10.3	2.48	11.2	2.79	11.5	2.85	12.0	2.92	12.3	2.97
		25.0	8.7	1.79	9.5	2.09	10.3	2.44	11.2	2.74	11.5	2.80	12.0	2.88	12.3	2.93
		50.0	8.7	1.65	9.5	1.95	10.3	2.28	11.2	2.57	11.5	2.63	12.0	2.69	12.3	2.74
		62.5	8.7	1.60	9.5	1.91	10.3	2.23	11.2	2.52	11.5	2.58	12.0	2.64	12.3	2.67
		75.0	8.7	1.58	9.5	1.90	10.3	2.20	11.2	2.49	11.5	2.55	12.0	2.61	12.3	2.63
	45	20.0	8.7	2.11	9.5	2.46	10.3	2.86	11.2	3.23	11.5	3.29	12.0	3.38	12.3	3.43
		25.0	8.7	2.07	9.5	2.42	10.3	2.82	11.2	3.17	11.5	3.24	12.0	3.33	12.3	3.38
		50.0	8.7	1.91	9.5	2.25	10.3	2.63	11.2	2.96	11.5	3.04	12.0	3.12	12.3	3.17
		62.5	8.7	1.85	9.5	2.22	10.3	2.57	11.2	2.91	11.5	2.98	12.0	3.04	12.3	3.09
		75.0	8.7	1.82	9.5	2.20	10.3	2.54	11.2	2.88	11.5	2.95	12.0	3.01	12.3	3.04
70	10	20.0	7.6	0.46	8.3	0.53	9.0	0.63	9.8	0.71	10.1	0.71	10.5	0.74	10.8	0.75
		25.0	7.6	0.45	8.3	0.53	9.0	0.62	9.8	0.70	10.1	0.70	10.5	0.73	10.8	0.74
		50.0	7.6	0.42	8.3	0.50	9.0	0.58	9.8	0.65	10.1	0.66	10.5	0.68	10.8	0.70
		62.5	7.6	0.40	8.3	0.48	9.0	0.56	9.8	0.63	10.1	0.64	10.5	0.67	10.8	0.68
		75.0	7.6	0.39	8.3	0.47	9.0	0.55	9.8	0.62	10.1	0.63	10.5	0.66	10.8	0.67
	15	20.0	7.6	0.63	8.3	0.72	9.0	0.85	9.8	0.95	10.1	0.97	10.5	1.00	10.8	1.02
		25.0	7.6	0.61	8.3	0.71	9.0	0.83	9.8	0.94	10.1	0.96	10.5	0.98	10.8	1.00
		50.0	7.6	0.56	8.3	0.67	9.0	0.78	9.8	0.88	10.1	0.90	10.5	0.92	10.8	0.94
		62.5	7.6	0.55	8.3	0.65	9.0	0.76	9.8	0.86	10.1	0.88	10.5	0.90	10.8	0.91
		75.0	7.6	0.54	8.3	0.64	9.0	0.75	9.8	0.85	10.1	0.87	10.5	0.89	10.8	0.90
	20	20.0	7.6	0.77	8.3	0.89	9.0	1.04	9.8	1.17	10.1	1.20	10.5	1.23	10.8	1.25
		25.0	7.6	0.75	8.3	0.88	9.0	1.02	9.8	1.15	10.1	1.18	10.5	1.21	10.8	1.23
		50.0	7.6	0.69	8.3	0.82	9.0	0.96	9.8	1.08	10.1	1.10	10.5	1.14	10.8	1.15
		62.5	7.6	0.68	8.3	0.80	9.0	0.94	9.8	1.06	10.1	1.09	10.5	1.11	10.8	1.12
		75.0	7.6	0.67	8.3	0.79	9.0	0.93	9.8	1.05	10.1	1.08	10.5	1.10	10.8	1.11
	25	20.0	7.6	0.94	8.3	1.09	9.0	1.27	9.8	1.43	10.1	1.47	10.5	1.50	10.8	1.53
		25.0	7.6	0.92	8.3	1.07	9.0	1.25	9.8	1.41	10.1	1.44	10.5	1.48	10.8	1.50
		50.0	7.6	0.85	8.3	1.01	9.0	1.17	9.8	1.32	10.1	1.35	10.5	1.38	10.8	1.41
		62.5	7.6	0.82	8.3	0.98	9.0	1.15	9.8	1.29	10.1	1.33	10.5	1.36	10.8	1.37
		75.0	7.6	0.81	8.3	0.97	9.0	1.14	9.8	1.27	10.1	1.31	10.5	1.34	10.8	1.35

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	30	20.0	7.6	1.16	8.3	1.34	9.0	1.57	9.8	1.76	10.1	1.80	10.5	1.85	10.8	1.88
		25.0	7.6	1.14	8.3	1.32	9.0	1.54	9.8	1.73	10.1	1.77	10.5	1.82	10.8	1.85
		50.0	7.6	1.04	8.3	1.23	9.0	1.44	9.8	1.62	10.1	1.66	10.5	1.70	10.8	1.73
		62.5	7.6	1.01	8.3	1.21	9.0	1.41	9.8	1.59	10.1	1.63	10.5	1.67	10.8	1.69
		75.0	7.6	1.00	8.3	1.20	9.0	1.40	9.8	1.57	10.1	1.61	10.5	1.65	10.8	1.67
	35	20.0	7.6	1.28	8.3	1.49	9.0	1.74	9.8	1.96	10.1	2.00	10.5	2.05	10.8	2.09
		25.0	7.6	1.26	8.3	1.47	9.0	1.71	9.8	1.93	10.1	1.97	10.5	2.02	10.8	2.06
		50.0	7.6	1.16	8.3	1.37	9.0	1.60	9.8	1.80	10.1	1.84	10.5	1.89	10.8	1.93
		62.5	7.6	1.12	8.3	1.34	9.0	1.56	9.8	1.77	10.1	1.81	10.5	1.85	10.8	1.87
		75.0	7.6	1.10	8.3	1.33	9.0	1.55	9.8	1.75	10.1	1.79	10.5	1.83	10.8	1.84
	40	20.0	7.6	1.52	8.3	1.76	9.0	2.06	9.8	2.31	10.1	2.37	10.5	2.43	10.8	2.48
		25.0	7.6	1.49	8.3	1.74	9.0	2.03	9.8	2.28	10.1	2.33	10.5	2.39	10.8	2.44
		50.0	7.6	1.37	8.3	1.63	9.0	1.89	9.8	2.13	10.1	2.18	10.5	2.24	10.8	2.28
		62.5	7.6	1.33	8.3	1.59	9.0	1.85	9.8	2.09	10.1	2.14	10.5	2.20	10.8	2.22
		75.0	7.6	1.31	8.3	1.57	9.0	1.83	9.8	2.07	10.1	2.12	10.5	2.18	10.8	2.19
	45	20.0	7.6	1.76	8.3	2.04	9.0	2.38	9.8	2.67	10.1	2.74	10.5	2.81	10.8	2.86
		25.0	7.6	1.72	8.3	2.01	9.0	2.34	9.8	2.63	10.1	2.69	10.5	2.77	10.8	2.82
		50.0	7.6	1.58	8.3	1.88	9.0	2.18	9.8	2.46	10.1	2.53	10.5	2.59	10.8	2.63
		62.5	7.6	1.54	8.3	1.83	9.0	2.14	9.8	2.42	10.1	2.47	10.5	2.54	10.8	2.57
		75.0	7.6	1.52	8.3	1.81	9.0	2.12	9.8	2.40	10.1	2.45	10.5	2.52	10.8	2.54
60	10	20.0	6.6	0.38	7.1	0.43	7.7	0.50	8.4	0.56	8.7	0.58	9.0	0.60	9.2	0.60
		25.0	6.6	0.37	7.1	0.43	7.7	0.49	8.4	0.56	8.7	0.57	9.0	0.59	9.2	0.59
		50.0	6.6	0.33	7.1	0.40	7.7	0.45	8.4	0.52	8.7	0.52	9.0	0.54	9.2	0.56
		62.5	6.6	0.32	7.1	0.38	7.7	0.45	8.4	0.51	8.7	0.51	9.0	0.52	9.2	0.53
		75.0	6.6	0.31	7.1	0.38	7.7	0.45	8.4	0.50	8.7	0.51	9.0	0.52	9.2	0.52
	15	20.0	6.6	0.50	7.1	0.58	7.7	0.67	8.4	0.76	8.7	0.78	9.0	0.80	9.2	0.81
		25.0	6.6	0.49	7.1	0.57	7.7	0.66	8.4	0.75	8.7	0.77	9.0	0.79	9.2	0.80
		50.0	6.6	0.45	7.1	0.53	7.7	0.62	8.4	0.70	8.7	0.71	9.0	0.73	9.2	0.75
		62.5	6.6	0.44	7.1	0.52	7.7	0.61	8.4	0.69	8.7	0.70	9.0	0.72	9.2	0.72
		75.0	6.6	0.43	7.1	0.52	7.7	0.60	8.4	0.68	8.7	0.69	9.0	0.71	9.2	0.71
	20	20.0	6.6	0.61	7.1	0.71	7.7	0.83	8.4	0.94	8.7	0.96	9.0	0.98	9.2	1.00
		25.0	6.6	0.60	7.1	0.70	7.7	0.82	8.4	0.92	8.7	0.95	9.0	0.96	9.2	0.98
		50.0	6.6	0.55	7.1	0.66	7.7	0.77	8.4	0.86	8.7	0.88	9.0	0.90	9.2	0.92
		62.5	6.6	0.54	7.1	0.64	7.7	0.75	8.4	0.85	8.7	0.87	9.0	0.89	9.2	0.90
		75.0	6.6	0.53	7.1	0.64	7.7	0.74	8.4	0.84	8.7	0.86	9.0	0.88	9.2	0.88
	25	20.0	6.6	0.75	7.1	0.87	7.7	1.01	8.4	1.14	8.7	1.17	9.0	1.20	9.2	1.22
		25.0	6.6	0.74	7.1	0.85	7.7	0.99	8.4	1.12	8.7	1.15	9.0	1.18	9.2	1.20
		50.0	6.6	0.68	7.1	0.80	7.7	0.93	8.4	1.05	8.7	1.07	9.0	1.10	9.2	1.12
		62.5	6.6	0.66	7.1	0.79	7.7	0.91	8.4	1.03	8.7	1.06	9.0	1.08	9.2	1.09
		75.0	6.6	0.65	7.1	0.78	7.7	0.91	8.4	1.02	8.7	1.05	9.0	1.07	9.2	1.08
	30	20.0	6.6	0.92	7.1	1.07	7.7	1.25	8.4	1.40	8.7	1.43	9.0	1.47	9.2	1.50
		25.0	6.6	0.90	7.1	1.06	7.7	1.23	8.4	1.38	8.7	1.41	9.0	1.45	9.2	1.47
		50.0	6.6	0.83	7.1	0.98	7.7	1.15	8.4	1.29	8.7	1.32	9.0	1.36	9.2	1.38
		62.5	6.6	0.81	7.1	0.96	7.7	1.12	8.4	1.26	8.7	1.29	9.0	1.33	9.2	1.34
		75.0	6.6	0.80	7.1	0.95	7.7	1.11	8.4	1.25	8.7	1.28	9.0	1.32	9.2	1.33
	35	20.0	6.6	1.02	7.1	1.19	7.7	1.38	8.4	1.56	8.7	1.60	9.0	1.63	9.2	1.66
		25.0	6.6	1.00	7.1	1.17	7.7	1.36	8.4	1.53	8.7	1.57	9.0	1.61	9.2	1.64
		50.0	6.6	0.92	7.1	1.09	7.7	1.28	8.4	1.44	8.7	1.47	9.0	1.51	9.2	1.53
		62.5	6.6	0.90	7.1	1.07	7.7	1.25	8.4	1.41	8.7	1.44	9.0	1.48	9.2	1.49
		75.0	6.6	0.88	7.1	1.06	7.7	1.23	8.4	1.39	8.7	1.43	9.0	1.46	9.2	1.47
	40	20.0	6.6	1.22	7.1	1.41	7.7	1.64	8.4	1.85	8.7	1.89	9.0	1.94	9.2	1.97
		25.0	6.6	1.19	7.1	1.39	7.7	1.61	8.4	1.82	8.7	1.86	9.0	1.91	9.2	1.94
		50.0	6.6	1.09	7.1	1.29	7.7	1.51	8.4	1.70	8.7	1.74	9.0	1.79	9.2	1.82
		62.5	6.6	1.06	7.1	1.27	7.7	1.48	8.4	1.66	8.7	1.71	9.0	1.75	9.2	1.77
		75.0	6.6	1.05	7.1	1.26	7.7	1.46	8.4	1.64	8.7	1.69	9.0	1.73	9.2	1.74
	45	20.0	6.6	1.41	7.1	1.63	7.7	1.90	8.4	2.13	8.7	2.18	9.0	2.25	9.2	2.28
		25.0	6.6	1.38	7.1	1.60	7.7	1.87	8.4	2.10	8.7	2.15	9.0	2.21	9.2	2.24
		50.0	6.6	1.26	7.1	1.50	7.7	1.74	8.4	1.96	8.7	2.01	9.0	2.06	9.2	2.10
		62.5	6.6	1.23	7.1	1.47	7.7	1.71	8.4	1.92	8.7	1.97	9.0	2.02	9.2	2.04
		75.0	6.6	1.21	7.1	1.46	7.7	1.70	8.4	1.90	8.7	1.95	9.0	2.00	9.2	2.02
50	10	20.0	5.5	0.27	5.9	0.32	6.4	0.38	7.0	0.42	7.2	0.42	7.5	0.44	7.7	0.45
		25.0	5.5	0.27	5.9	0.31	6.4	0.37	7.0	0.41	7.2	0.42	7.5	0.43	7.7	0.44
		50.0	5.5	0.25	5.9	0.30	6.4	0.34	7.0	0.38	7.2	0.40	7.5	0.40	7.7	0.41
		62.5	5.5	0.24	5.9	0.28	6.4	0.34	7.0	0.37	7.2	0.38	7.5	0.39	7.7	0.40
		75.0	5.5	0.24	5.9	0.28	6.4	0.34	7.0	0.37	7.2	0.38	7.5	0.38	7.7	0.39

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	15	20.0	5.5	0.37	5.9	0.43	6.4	0.51	7.0	0.57	7.2	0.58	7.5	0.59	7.7	0.60
		25.0	5.5	0.36	5.9	0.42	6.4	0.50	7.0	0.56	7.2	0.57	7.5	0.58	7.7	0.60
		50.0	5.5	0.34	5.9	0.40	6.4	0.46	7.0	0.52	7.2	0.53	7.5	0.55	7.7	0.56
		62.5	5.5	0.33	5.9	0.39	6.4	0.45	7.0	0.51	7.2	0.52	7.5	0.53	7.7	0.54
		75.0	5.5	0.32	5.9	0.38	6.4	0.45	7.0	0.50	7.2	0.52	7.5	0.53	7.7	0.53
	20	20.0	5.5	0.46	5.9	0.53	6.4	0.62	7.0	0.70	7.2	0.72	7.5	0.73	7.7	0.74
		25.0	5.5	0.45	5.9	0.52	6.4	0.61	7.0	0.69	7.2	0.71	7.5	0.72	7.7	0.73
		50.0	5.5	0.41	5.9	0.49	6.4	0.57	7.0	0.64	7.2	0.66	7.5	0.68	7.7	0.69
		62.5	5.5	0.40	5.9	0.48	6.4	0.56	7.0	0.63	7.2	0.64	7.5	0.66	7.7	0.67
		75.0	5.5	0.39	5.9	0.47	6.4	0.55	7.0	0.63	7.2	0.64	7.5	0.66	7.7	0.66
	25	20.0	5.5	0.56	5.9	0.65	6.4	0.75	7.0	0.85	7.2	0.87	7.5	0.89	7.7	0.91
		25.0	5.5	0.55	5.9	0.64	6.4	0.74	7.0	0.83	7.2	0.86	7.5	0.88	7.7	0.90
		50.0	5.5	0.50	5.9	0.60	6.4	0.69	7.0	0.79	7.2	0.80	7.5	0.82	7.7	0.83
		62.5	5.5	0.49	5.9	0.58	6.4	0.68	7.0	0.77	7.2	0.79	7.5	0.80	7.7	0.82
		75.0	5.5	0.48	5.9	0.58	6.4	0.68	7.0	0.76	7.2	0.78	7.5	0.79	7.7	0.81
	30	20.0	5.5	0.69	5.9	0.80	6.4	0.93	7.0	1.05	7.2	1.07	7.5	1.10	7.7	1.12
		25.0	5.5	0.68	5.9	0.79	6.4	0.91	7.0	1.03	7.2	1.06	7.5	1.08	7.7	1.10
		50.0	5.5	0.62	5.9	0.74	6.4	0.85	7.0	0.96	7.2	0.99	7.5	1.01	7.7	1.03
		62.5	5.5	0.60	5.9	0.72	6.4	0.83	7.0	0.95	7.2	0.97	7.5	0.99	7.7	1.00
		75.0	5.5	0.59	5.9	0.71	6.4	0.83	7.0	0.94	7.2	0.96	7.5	0.98	7.7	0.98
	35	20.0	5.5	0.76	5.9	0.89	6.4	1.04	7.0	1.16	7.2	1.19	7.5	1.22	7.7	1.24
		25.0	5.5	0.75	5.9	0.87	6.4	1.02	7.0	1.14	7.2	1.17	7.5	1.20	7.7	1.22
		50.0	5.5	0.69	5.9	0.82	6.4	0.95	7.0	1.07	7.2	1.09	7.5	1.12	7.7	1.14
		62.5	5.5	0.67	5.9	0.80	6.4	0.93	7.0	1.05	7.2	1.07	7.5	1.10	7.7	1.11
		75.0	5.5	0.66	5.9	0.79	6.4	0.92	7.0	1.04	7.2	1.06	7.5	1.10	7.7	1.10
	40	20.0	5.5	0.90	5.9	1.05	6.4	1.22	7.0	1.38	7.2	1.41	7.5	1.45	7.7	1.47
		25.0	5.5	0.88	5.9	1.03	6.4	1.20	7.0	1.36	7.2	1.39	7.5	1.42	7.7	1.45
		50.0	5.5	0.82	5.9	0.96	6.4	1.12	7.0	1.26	7.2	1.29	7.5	1.33	7.7	1.36
		62.5	5.5	0.79	5.9	0.95	6.4	1.10	7.0	1.24	7.2	1.27	7.5	1.31	7.7	1.32
		75.0	5.5	0.78	5.9	0.94	6.4	1.10	7.0	1.23	7.2	1.26	7.5	1.29	7.7	1.30
	45	20.0	5.5	1.04	5.9	1.21	6.4	1.41	7.0	1.60	7.2	1.63	7.5	1.67	7.7	1.70
		25.0	5.5	1.02	5.9	1.19	6.4	1.39	7.0	1.57	7.2	1.60	7.5	1.64	7.7	1.68
		50.0	5.5	0.95	5.9	1.11	6.4	1.29	7.0	1.46	7.2	1.50	7.5	1.54	7.7	1.57
		62.5	5.5	0.91	5.9	1.09	6.4	1.28	7.0	1.43	7.2	1.47	7.5	1.51	7.7	1.53
		75.0	5.5	0.90	5.9	1.08	6.4	1.27	7.0	1.41	7.2	1.45	7.5	1.49	7.7	1.51

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

ARWN60GA0

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	10	24.0	14.4	1.07	15.6	1.26	17.0	1.46	18.5	1.65	19.0	1.70	19.8	1.73	20.3	1.74
		30.0	14.4	1.05	15.6	1.24	17.0	1.44	18.5	1.62	19.0	1.67	19.8	1.70	20.3	1.72
		60.0	14.4	0.98	15.6	1.16	17.0	1.35	18.5	1.52	19.0	1.55	19.8	1.60	20.3	1.63
		75.0	14.4	0.95	15.6	1.13	17.0	1.32	18.5	1.48	19.0	1.53	19.8	1.56	20.3	1.59
		90.0	14.4	0.94	15.6	1.12	17.0	1.31	18.5	1.47	19.0	1.52	19.8	1.54	20.3	1.57
	15	24.0	14.2	1.42	15.3	1.65	16.7	1.92	18.2	2.17	18.7	2.22	19.4	2.27	20.0	2.30
		30.0	14.2	1.39	15.3	1.62	16.7	1.89	18.2	2.13	18.7	2.18	19.4	2.23	20.0	2.27
		60.0	14.2	1.28	15.3	1.52	16.7	1.77	18.2	1.99	18.7	2.04	19.4	2.09	20.0	2.14
		75.0	14.2	1.24	15.3	1.48	16.7	1.73	18.2	1.95	18.7	2.00	19.4	2.05	20.0	2.09
		90.0	14.2	1.23	15.3	1.47	16.7	1.71	18.2	1.93	18.7	1.98	19.4	2.03	20.0	2.06
	20	24.0	14.0	1.72	15.1	1.99	16.5	2.33	17.9	2.62	18.4	2.68	19.2	2.75	19.7	2.80
		30.0	14.0	1.69	15.1	1.96	16.5	2.29	17.9	2.58	18.4	2.64	19.2	2.71	19.7	2.76
		60.0	14.0	1.55	15.1	1.84	16.5	2.14	17.9	2.41	18.4	2.47	19.2	2.54	19.7	2.59
		75.0	14.0	1.51	15.1	1.80	16.5	2.09	17.9	2.36	18.4	2.42	19.2	2.49	19.7	2.53
		90.0	14.0	1.48	15.1	1.77	16.5	2.07	17.9	2.34	18.4	2.40	19.2	2.46	19.7	2.50
	25	24.0	14.0	2.12	15.1	2.46	16.5	2.87	17.9	3.23	18.4	3.31	19.2	3.39	19.7	3.45
		30.0	14.0	2.08	15.1	2.42	16.5	2.82	17.9	3.18	18.4	3.26	19.2	3.34	19.7	3.40
		60.0	14.0	1.91	15.1	2.27	16.5	2.64	17.9	2.97	18.4	3.05	19.2	3.13	19.7	3.19
		75.0	14.0	1.86	15.1	2.22	16.5	2.59	17.9	2.92	18.4	2.99	19.2	3.07	19.7	3.12
		90.0	14.0	1.84	15.1	2.19	16.5	2.56	17.9	2.89	18.4	2.96	19.2	3.04	19.7	3.08
	30	24.0	14.0	2.55	15.1	2.96	16.5	3.44	17.9	3.88	18.4	3.97	19.2	4.07	19.7	4.13
		30.0	14.0	2.49	15.1	2.91	16.5	3.39	17.9	3.82	18.4	3.91	19.2	4.01	19.7	4.07
		60.0	14.0	2.29	15.1	2.72	16.5	3.17	17.9	3.57	18.4	3.66	19.2	3.75	19.7	3.83
		75.0	14.0	2.23	15.1	2.66	16.5	3.11	17.9	3.50	18.4	3.59	19.2	3.68	19.7	3.75
		90.0	14.0	2.20	15.1	2.63	16.5	3.07	17.9	3.46	18.4	3.56	19.2	3.64	19.7	3.70
	35	24.0	12.6	2.58	13.6	3.00	14.8	3.48	16.1	3.93	16.6	4.01	17.2	4.12	17.7	4.19
		30.0	12.6	2.52	13.6	2.95	14.8	3.43	16.1	3.86	16.6	3.95	17.2	4.05	17.7	4.12
		60.0	12.6	2.32	13.6	2.75	14.8	3.21	16.1	3.61	16.6	3.70	17.2	3.80	17.7	3.87
		75.0	12.6	2.25	13.6	2.69	14.8	3.14	16.1	3.53	16.6	3.63	17.2	3.72	17.7	3.79
		90.0	12.6	2.22	13.6	2.66	14.8	3.11	16.1	3.50	16.6	3.59	17.2	3.69	17.7	3.75
	40	24.0	11.2	2.72	12.1	3.16	13.2	3.67	14.3	4.14	14.7	4.24	15.3	4.34	15.8	4.42
		30.0	11.2	2.66	12.1	3.11	13.2	3.61	14.3	4.07	14.7	4.17	15.3	4.27	15.8	4.35
		60.0	11.2	2.44	12.1	2.90	13.2	3.38	14.3	3.80	14.7	3.90	15.3	4.01	15.8	4.09
		75.0	11.2	2.38	12.1	2.84	13.2	3.31	14.3	3.73	14.7	3.83	15.3	3.93	15.8	3.99
		90.0	11.2	2.35	12.1	2.80	13.2	3.27	14.3	3.69	14.7	3.79	15.3	3.89	15.8	3.95
	45	24.0	9.8	2.86	10.6	3.32	11.5	3.87	12.5	4.36	12.9	4.46	13.4	4.56	13.8	4.64
		30.0	9.8	2.80	10.6	3.27	11.5	3.80	12.5	4.28	12.9	4.39	13.4	4.49	13.8	4.57
		60.0	9.8	2.57	10.6	3.05	11.5	3.56	12.5	4.00	12.9	4.09	13.4	4.22	13.8	4.31
		75.0	9.8	2.50	10.6	2.98	11.5	3.48	12.5	3.93	12.9	4.02	13.4	4.13	13.8	4.20
		90.0	9.8	2.47	10.6	2.95	11.5	3.44	12.5	3.89	12.9	3.99	13.4	4.09	13.8	4.14
	10	24.0	13.6	1.02	14.8	1.18	16.1	1.39	17.5	1.56	18.0	1.61	18.7	1.64	19.2	1.67
		30.0	13.6	1.00	14.8	1.16	16.1	1.37	17.5	1.54	18.0	1.58	18.7	1.61	19.2	1.64
		60.0	13.6	0.92	14.8	1.09	16.1	1.27	17.5	1.44	18.0	1.47	18.7	1.51	19.2	1.53
		75.0	13.6	0.91	14.8	1.07	16.1	1.26	17.5	1.41	18.0	1.44	18.7	1.48	19.2	1.50
		90.0	13.6	0.90	14.8	1.06	16.1	1.25	17.5	1.40	18.0	1.42	18.7	1.47	19.2	1.49
	15	24.0	13.5	1.36	14.6	1.57	15.9	1.84	17.3	2.07	17.8	2.12	18.5	2.17	19.0	2.21
		30.0	13.5	1.33	14.6	1.55	15.9	1.81	17.3	2.04	17.8	2.09	18.5	2.14	19.0	2.17
		60.0	13.5	1.22	14.6	1.45	15.9	1.69	17.3	1.91	17.8	1.95	18.5	2.00	19.0	2.04
		75.0	13.5	1.19	14.6	1.42	15.9	1.66	17.3	1.87	17.8	1.91	18.5	1.96	19.0	1.99
		90.0	13.5	1.18	14.6	1.40	15.9	1.64	17.3	1.85	17.8	1.89	18.5	1.95	19.0	1.97
	20	24.0	13.3	1.65	14.4	1.92	15.7	2.24	17.1	2.52	17.6	2.58	18.3	2.65	18.8	2.69
		30.0	13.3	1.62	14.4	1.89	15.7	2.20	17.1	2.48	17.6	2.54	18.3	2.60	18.8	2.65
		60.0	13.3	1.49	14.4	1.77	15.7	2.06	17.1	2.32	17.6	2.38	18.3	2.44	18.8	2.49
		75.0	13.3	1.45	14.4	1.73	15.7	2.01	17.1	2.28	17.6	2.33	18.3	2.39	18.8	2.43
		90.0	13.3	1.43	14.4	1.71	15.7	1.99	17.1	2.25	17.6	2.31	18.3	2.37	18.8	2.40
	25	24.0	13.3	2.03	14.4	2.36	15.7	2.75	17.1	3.10	17.6	3.17	18.3	3.25	18.8	3.31
		30.0	13.3	1.99	14.4	2.32	15.7	2.71	17.1	3.05	17.6	3.12	18.3	3.20	18.8	3.26
		60.0	13.3	1.83	14.4	2.17	15.7	2.53	17.1	2.85	17.6	2.92	18.3	3.00	18.8	3.05
		75.0	13.3	1.78	14.4	2.12	15.7	2.48	17.1	2.79	17.6	2.87	18.3	2.94	18.8	2.98
		90.0	13.3	1.76	14.4	2.10	15.7	2.45	17.1	2.76	17.6	2.84	18.3	2.91	18.8	2.95
	30	24.0	13.3	2.46	14.4	2.85	15.7	3.33	17.1	3.75	17.6	3.84	18.3	3.93	18.8	4.00
		30.0	13.3	2.41	14.4	2.81	15.7	3.27	17.1	3.69	17.6	3.77	18.3	3.87	18.8	3.93
		60.0	13.3	2.22	14.4	2.63	15.7	3.06	17.1	3.45	17.6	3.53	18.3	3.62	18.8	3.69
		75.0	13.3	2.15	14.4	2.57	15.7	3.00	17.1	3.37	17.6	3.46	18.3	3.56	18.8	3.61
		90.0	13.3	2.12	14.4	2.54	15.7	2.96	17.1	3.34	17.6	3.43	18.3	3.52	18.8	3.56

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	35	24.0	12.2	2.52	13.2	2.93	14.4	3.41	15.7	3.84	16.1	3.93	16.7	4.03	17.2	4.10
		30.0	12.2	2.47	13.2	2.88	14.4	3.35	15.7	3.77	16.1	3.87	16.7	3.96	17.2	4.04
		60.0	12.2	2.27	13.2	2.69	14.4	3.13	15.7	3.53	16.1	3.62	16.7	3.72	17.2	3.78
		75.0	12.2	2.21	13.2	2.63	14.4	3.07	15.7	3.46	16.1	3.55	16.7	3.64	17.2	3.69
		90.0	12.2	2.18	13.2	2.60	14.4	3.04	15.7	3.43	16.1	3.51	16.7	3.61	17.2	3.65
	40	24.0	11.1	2.71	12.0	3.15	13.1	3.67	14.2	4.13	14.6	4.23	15.2	4.33	15.6	4.41
		30.0	11.1	2.65	12.0	3.10	13.1	3.61	14.2	4.07	14.6	4.16	15.2	4.26	15.6	4.34
		60.0	11.1	2.44	12.0	2.89	13.1	3.37	14.2	3.80	14.6	3.89	15.2	3.99	15.6	4.07
		75.0	11.1	2.38	12.0	2.84	13.1	3.31	14.2	3.72	14.6	3.82	15.2	3.92	15.6	3.98
		90.0	11.1	2.35	12.0	2.81	13.1	3.28	14.2	3.68	14.6	3.78	15.2	3.88	15.6	3.93
	45	24.0	10.0	2.90	10.8	3.37	11.7	3.92	12.8	4.43	13.1	4.52	13.6	4.63	14.0	4.72
		30.0	10.0	2.84	10.8	3.32	11.7	3.86	12.8	4.36	13.1	4.45	13.6	4.56	14.0	4.65
		60.0	10.0	2.62	10.8	3.10	11.7	3.61	12.8	4.07	13.1	4.16	13.6	4.27	14.0	4.36
		75.0	10.0	2.55	10.8	3.04	11.7	3.55	12.8	3.99	13.1	4.09	13.6	4.20	14.0	4.26
		90.0	10.0	2.51	10.8	3.01	11.7	3.52	12.8	3.94	13.1	4.05	13.6	4.16	14.0	4.21
110	10	24.0	12.9	0.97	13.9	1.13	15.1	1.30	16.5	1.47	17.0	1.50	17.7	1.55	18.1	1.57
		30.0	12.9	0.95	13.9	1.11	15.1	1.28	16.5	1.45	17.0	1.48	17.7	1.52	18.1	1.54
		60.0	12.9	0.88	13.9	1.03	15.1	1.21	16.5	1.36	17.0	1.40	17.7	1.41	18.1	1.44
		75.0	12.9	0.85	13.9	1.01	15.1	1.18	16.5	1.33	17.0	1.36	17.7	1.39	18.1	1.42
		90.0	12.9	0.83	13.9	1.00	15.1	1.16	16.5	1.32	17.0	1.34	17.7	1.37	18.1	1.41
	15	24.0	12.8	1.30	13.8	1.51	15.1	1.75	16.4	1.97	16.9	2.02	17.5	2.07	18.0	2.11
		30.0	12.8	1.27	13.8	1.48	15.1	1.72	16.4	1.94	16.9	1.99	17.5	2.04	18.0	2.07
		60.0	12.8	1.17	13.8	1.38	15.1	1.61	16.4	1.82	16.9	1.86	17.5	1.91	18.0	1.94
		75.0	12.8	1.13	13.8	1.35	15.1	1.58	16.4	1.78	16.9	1.83	17.5	1.87	18.0	1.90
		90.0	12.8	1.12	13.8	1.34	15.1	1.56	16.4	1.76	16.9	1.81	17.5	1.85	18.0	1.88
	20	24.0	12.7	1.59	13.8	1.85	15.0	2.15	16.3	2.42	16.8	2.48	17.4	2.53	17.9	2.59
		30.0	12.7	1.56	13.8	1.82	15.0	2.12	16.3	2.38	16.8	2.44	17.4	2.49	17.9	2.55
		60.0	12.7	1.43	13.8	1.69	15.0	1.98	16.3	2.23	16.8	2.28	17.4	2.34	17.9	2.39
		75.0	12.7	1.39	13.8	1.66	15.0	1.93	16.3	2.18	16.8	2.24	17.4	2.30	17.9	2.32
		90.0	12.7	1.37	13.8	1.64	15.0	1.91	16.3	2.16	16.8	2.22	17.4	2.28	17.9	2.29
	25	24.0	12.7	1.94	13.8	2.26	15.0	2.63	16.3	2.96	16.8	3.03	17.4	3.10	17.9	3.16
		30.0	12.7	1.91	13.8	2.23	15.0	2.59	16.3	2.92	16.8	2.98	17.4	3.05	17.9	3.11
		60.0	12.7	1.75	13.8	2.08	15.0	2.42	16.3	2.73	16.8	2.79	17.4	2.87	17.9	2.92
		75.0	12.7	1.70	13.8	2.04	15.0	2.37	16.3	2.67	16.8	2.74	17.4	2.81	17.9	2.84
		90.0	12.7	1.68	13.8	2.01	15.0	2.35	16.3	2.64	16.8	2.72	17.4	2.78	17.9	2.81
	30	24.0	12.7	2.37	13.8	2.76	15.0	3.21	16.3	3.62	16.8	3.70	17.4	3.79	17.9	3.86
		30.0	12.7	2.32	13.8	2.71	15.0	3.16	16.3	3.56	16.8	3.64	17.4	3.73	17.9	3.80
		60.0	12.7	2.14	13.8	2.53	15.0	2.95	16.3	3.32	16.8	3.40	17.4	3.49	17.9	3.56
		75.0	12.7	2.08	13.8	2.48	15.0	2.89	16.3	3.26	16.8	3.34	17.4	3.43	17.9	3.47
		90.0	12.7	2.05	13.8	2.45	15.0	2.85	16.3	3.23	16.8	3.31	17.4	3.39	17.9	3.43
	35	24.0	11.8	2.46	12.8	2.86	14.0	3.33	15.2	3.76	15.7	3.84	16.3	3.94	16.7	4.01
		30.0	11.8	2.41	12.8	2.81	14.0	3.28	15.2	3.69	15.7	3.78	16.3	3.88	16.7	3.95
		60.0	11.8	2.22	12.8	2.63	14.0	3.07	15.2	3.45	15.7	3.54	16.3	3.63	16.7	3.69
		75.0	11.8	2.16	12.8	2.57	14.0	3.00	15.2	3.39	15.7	3.47	16.3	3.56	16.7	3.61
		90.0	11.8	2.13	12.8	2.55	14.0	2.97	15.2	3.36	15.7	3.43	16.3	3.53	16.7	3.56
	40	24.0	11.0	2.71	11.9	3.14	13.0	3.67	14.1	4.12	14.5	4.22	15.1	4.32	15.5	4.40
		30.0	11.0	2.65	11.9	3.09	13.0	3.61	14.1	4.06	14.5	4.15	15.1	4.25	15.5	4.33
		60.0	11.0	2.44	11.9	2.89	13.0	3.37	14.1	3.80	14.5	3.88	15.1	3.99	15.5	4.07
		75.0	11.0	2.37	11.9	2.83	13.0	3.30	14.1	3.72	14.5	3.81	15.1	3.91	15.5	3.96
		90.0	11.0	2.34	11.9	2.80	13.0	3.27	14.1	3.69	14.5	3.77	15.1	3.88	15.5	3.91
	45	24.0	10.1	2.96	10.9	3.42	11.9	4.00	13.0	4.49	13.3	4.60	13.9	4.71	14.3	4.79
		30.0	10.1	2.89	10.9	3.37	11.9	3.93	13.0	4.42	13.3	4.52	13.9	4.63	14.3	4.72
		60.0	10.1	2.65	10.9	3.16	11.9	3.67	13.0	4.14	13.3	4.23	13.9	4.34	14.3	4.44
		75.0	10.1	2.58	10.9	3.08	11.9	3.60	13.0	4.06	13.3	4.15	13.9	4.26	14.3	4.32
		90.0	10.1	2.55	10.9	3.05	11.9	3.57	13.0	4.02	13.3	4.12	13.9	4.22	14.3	4.26
100	10	24.0	12.1	0.91	13.1	1.06	14.3	1.23	15.5	1.38	16.0	1.41	16.6	1.46	17.1	1.49
		30.0	12.1	0.89	13.1	1.04	14.3	1.21	15.5	1.36	16.0	1.39	16.6	1.43	17.1	1.46
		60.0	12.1	0.82	13.1	0.96	14.3	1.13	15.5	1.28	16.0	1.32	16.6	1.34	17.1	1.36
		75.0	12.1	0.81	13.1	0.94	14.3	1.11	15.5	1.24	16.0	1.28	16.6	1.32	17.1	1.34
		90.0	12.1	0.80	13.1	0.93	14.3	1.10	15.5	1.23	16.0	1.26	16.6	1.30	17.1	1.33
	15	24.0	12.1	1.23	13.1	1.43	14.3	1.67	15.5	1.88	16.0	1.92	16.6	1.97	17.1	2.01
		30.0	12.1	1.21	13.1	1.41	14.3	1.64	15.5	1.85	16.0	1.89	16.6	1.94	17.1	1.98
		60.0	12.1	1.11	13.1	1.32	14.3	1.53	15.5	1.73	16.0	1.77	16.6	1.82	17.1	1.85
		75.0	12.1	1.08	13.1	1.29	14.3	1.51	15.5	1.69	16.0	1.74	16.6	1.78	17.1	1.80
		90.0	12.1	1.07	13.1	1.27	14.3	1.49	15.5	1.68	16.0	1.72	16.6	1.76	17.1	1.78

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	20	24.0	12.1	1.52	13.1	1.77	14.3	2.06	15.5	2.32	16.0	2.37	16.6	2.43	17.1	2.47
		30.0	12.1	1.49	13.1	1.74	14.3	2.03	15.5	2.28	16.0	2.33	16.6	2.39	17.1	2.44
		60.0	12.1	1.37	13.1	1.63	14.3	1.89	15.5	2.13	16.0	2.18	16.6	2.24	17.1	2.28
		75.0	12.1	1.33	13.1	1.59	14.3	1.85	15.5	2.09	16.0	2.15	16.6	2.20	17.1	2.22
		90.0	12.1	1.31	13.1	1.57	14.3	1.84	15.5	2.08	16.0	2.13	16.6	2.17	17.1	2.19
	25	24.0	12.1	1.85	13.1	2.16	14.3	2.51	15.5	2.83	16.0	2.90	16.6	2.96	17.1	3.02
		30.0	12.1	1.82	13.1	2.12	14.3	2.47	15.5	2.79	16.0	2.85	16.6	2.92	17.1	2.97
		60.0	12.1	1.67	13.1	1.99	14.3	2.31	15.5	2.60	16.0	2.66	16.6	2.73	17.1	2.78
		75.0	12.1	1.63	13.1	1.94	14.3	2.26	15.5	2.55	16.0	2.61	16.6	2.68	17.1	2.71
		90.0	12.1	1.61	13.1	1.92	14.3	2.24	15.5	2.53	16.0	2.59	16.6	2.66	17.1	2.67
	30	24.0	12.1	2.29	13.1	2.65	14.3	3.09	15.5	3.48	16.0	3.56	16.6	3.65	17.1	3.72
		30.0	12.1	2.24	13.1	2.61	14.3	3.04	15.5	3.43	16.0	3.51	16.6	3.59	17.1	3.66
		60.0	12.1	2.06	13.1	2.44	14.3	2.84	15.5	3.20	16.0	3.27	16.6	3.36	17.1	3.42
		75.0	12.1	2.00	13.1	2.39	14.3	2.79	15.5	3.13	16.0	3.21	16.6	3.29	17.1	3.33
		90.0	12.1	1.97	13.1	2.36	14.3	2.76	15.5	3.10	16.0	3.19	16.6	3.26	17.1	3.29
	35	24.0	11.5	2.41	12.4	2.80	13.5	3.26	14.7	3.68	15.2	3.76	15.8	3.85	16.2	3.92
		30.0	11.5	2.36	12.4	2.76	13.5	3.21	14.7	3.61	15.2	3.70	15.8	3.79	16.2	3.85
		60.0	11.5	2.17	12.4	2.57	13.5	3.00	14.7	3.37	15.2	3.46	15.8	3.55	16.2	3.61
		75.0	11.5	2.11	12.4	2.52	13.5	2.94	14.7	3.31	15.2	3.40	15.8	3.48	16.2	3.51
		90.0	11.5	2.08	12.4	2.50	13.5	2.91	14.7	3.28	15.2	3.36	15.8	3.45	16.2	3.47
	40	24.0	10.9	2.70	11.8	3.14	12.8	3.66	14.0	4.12	14.4	4.22	14.9	4.32	15.3	4.40
		30.0	10.9	2.65	11.8	3.09	12.8	3.60	14.0	4.05	14.4	4.15	14.9	4.25	15.3	4.33
		60.0	10.9	2.44	11.8	2.89	12.8	3.37	14.0	3.79	14.4	3.88	14.9	3.98	15.3	4.05
		75.0	10.9	2.37	11.8	2.83	12.8	3.29	14.0	3.72	14.4	3.81	14.9	3.91	15.3	3.94
		90.0	10.9	2.34	11.8	2.80	12.8	3.26	14.0	3.68	14.4	3.78	14.9	3.87	15.3	3.89
	45	24.0	10.2	2.99	11.1	3.48	12.1	4.06	13.2	4.56	13.5	4.68	14.1	4.80	14.5	4.88
		30.0	10.2	2.93	11.1	3.43	12.1	3.99	13.2	4.49	13.5	4.60	14.1	4.72	14.5	4.80
		60.0	10.2	2.70	11.1	3.20	12.1	3.74	13.2	4.20	13.5	4.29	14.1	4.41	14.5	4.49
		75.0	10.2	2.63	11.1	3.13	12.1	3.65	13.2	4.12	13.5	4.23	14.1	4.33	14.5	4.37
		90.0	10.2	2.60	11.1	3.10	12.1	3.61	13.2	4.08	13.5	4.19	14.1	4.29	14.5	4.31
90	10	24.0	10.9	0.78	11.8	0.91	12.8	1.05	14.0	1.19	14.4	1.22	14.9	1.26	15.3	1.28
		30.0	10.9	0.77	11.8	0.90	12.8	1.03	14.0	1.18	14.4	1.20	14.9	1.24	15.3	1.26
		60.0	10.9	0.71	11.8	0.84	12.8	0.98	14.0	1.11	14.4	1.13	14.9	1.15	15.3	1.18
		75.0	10.9	0.69	11.8	0.83	12.8	0.95	14.0	1.08	14.4	1.11	14.9	1.13	15.3	1.14
		90.0	10.9	0.67	11.8	0.82	12.8	0.94	14.0	1.06	14.4	1.10	14.9	1.12	15.3	1.12
	15	24.0	10.9	1.06	11.8	1.23	12.8	1.43	14.0	1.62	14.4	1.65	14.9	1.70	15.3	1.73
		30.0	10.9	1.04	11.8	1.21	12.8	1.41	14.0	1.59	14.4	1.63	14.9	1.67	15.3	1.70
		60.0	10.9	0.96	11.8	1.13	12.8	1.32	14.0	1.49	14.4	1.53	14.9	1.56	15.3	1.59
		75.0	10.9	0.93	11.8	1.11	12.8	1.29	14.0	1.46	14.4	1.50	14.9	1.53	15.3	1.55
		90.0	10.9	0.92	11.8	1.10	12.8	1.28	14.0	1.45	14.4	1.48	14.9	1.52	15.3	1.53
	20	24.0	10.9	1.31	11.8	1.52	12.8	1.77	14.0	2.00	14.4	2.04	14.9	2.09	15.3	2.13
		30.0	10.9	1.28	11.8	1.50	12.8	1.75	14.0	1.96	14.4	2.01	14.9	2.06	15.3	2.09
		60.0	10.9	1.18	11.8	1.40	12.8	1.63	14.0	1.83	14.4	1.88	14.9	1.93	15.3	1.96
		75.0	10.9	1.15	11.8	1.37	12.8	1.60	14.0	1.80	14.4	1.85	14.9	1.89	15.3	1.91
		90.0	10.9	1.13	11.8	1.35	12.8	1.59	14.0	1.79	14.4	1.83	14.9	1.87	15.3	1.89
	25	24.0	10.9	1.59	11.8	1.85	12.8	2.16	14.0	2.43	14.4	2.49	14.9	2.55	15.3	2.60
		30.0	10.9	1.56	11.8	1.83	12.8	2.12	14.0	2.39	14.4	2.45	14.9	2.51	15.3	2.56
		60.0	10.9	1.44	11.8	1.71	12.8	1.99	14.0	2.24	14.4	2.29	14.9	2.35	15.3	2.39
		75.0	10.9	1.40	11.8	1.67	12.8	1.95	14.0	2.20	14.4	2.25	14.9	2.31	15.3	2.33
		90.0	10.9	1.37	11.8	1.65	12.8	1.93	14.0	2.17	14.4	2.23	14.9	2.28	15.3	2.31
	30	24.0	10.9	1.97	11.8	2.28	12.8	2.66	14.0	2.99	14.4	3.07	14.9	3.14	15.3	3.20
		30.0	10.9	1.93	11.8	2.25	12.8	2.62	14.0	2.95	14.4	3.02	14.9	3.09	15.3	3.15
		60.0	10.9	1.77	11.8	2.10	12.8	2.44	14.0	2.76	14.4	2.82	14.9	2.89	15.3	2.95
		75.0	10.9	1.72	11.8	2.06	12.8	2.39	14.0	2.70	14.4	2.77	14.9	2.84	15.3	2.87
		90.0	10.9	1.70	11.8	2.04	12.8	2.37	14.0	2.67	14.4	2.75	14.9	2.81	15.3	2.83
	35	24.0	10.6	2.12	11.5	2.46	12.5	2.87	13.6	3.23	14.0	3.30	14.5	3.38	14.9	3.45
		30.0	10.6	2.08	11.5	2.42	12.5	2.82	13.6	3.18	14.0	3.25	14.5	3.33	14.9	3.40
		60.0	10.6	1.91	11.5	2.27	12.5	2.64	13.6	2.97	14.0	3.04	14.5	3.12	14.9	3.18
		75.0	10.6	1.85	11.5	2.22	12.5	2.58	13.6	2.92	14.0	2.99	14.5	3.06	14.9	3.09
		90.0	10.6	1.83	11.5	2.19	12.5	2.55	13.6	2.89	14.0	2.96	14.5	3.03	14.9	3.05
	40	24.0	10.3	2.43	11.1	2.83	12.1	3.30	13.2	3.71	13.6	3.80	14.1	3.90	14.5	3.96
		30.0	10.3	2.39	11.1	2.79	12.1	3.24	13.2	3.65	13.6	3.74	14.1	3.83	14.5	3.90
		60.0	10.3	2.20	11.1	2.60	12.1	3.03	13.2	3.41	13.6	3.50	14.1	3.59	14.5	3.65
		75.0	10.3	2.13	11.1	2.55	12.1	2.97	13.2	3.35	13.6	3.43	14.1	3.52	14.5	3.56
		90.0	10.3	2.10	11.1	2.52	12.1	2.93	13.2	3.31	13.6	3.40	14.1	3.49	14.5	3.51

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	45	24.0	10.0	2.74	10.8	3.20	11.8	3.73	12.8	4.19	13.2	4.29	13.7	4.41	14.1	4.47
		30.0	10.0	2.69	10.8	3.15	11.8	3.67	12.8	4.12	13.2	4.23	13.7	4.33	14.1	4.40
		60.0	10.0	2.48	10.8	2.94	11.8	3.43	12.8	3.85	13.2	3.96	13.7	4.05	14.1	4.12
		75.0	10.0	2.41	10.8	2.87	11.8	3.35	12.8	3.77	13.2	3.88	13.7	3.98	14.1	4.02
		90.0	10.0	2.37	10.8	2.84	11.8	3.32	12.8	3.74	13.2	3.84	13.7	3.94	14.1	3.97
80	10	24.0	9.7	0.66	10.5	0.76	11.4	0.89	12.4	1.01	12.8	1.02	13.3	1.06	13.6	1.07
		30.0	9.7	0.64	10.5	0.75	11.4	0.87	12.4	0.99	12.8	1.01	13.3	1.04	13.6	1.05
		60.0	9.7	0.59	10.5	0.71	11.4	0.81	12.4	0.92	12.8	0.94	13.3	0.97	13.6	0.98
		75.0	9.7	0.57	10.5	0.69	11.4	0.80	12.4	0.89	12.8	0.92	13.3	0.95	13.6	0.97
		90.0	9.7	0.57	10.5	0.67	11.4	0.79	12.4	0.88	12.8	0.90	13.3	0.95	13.6	0.96
	15	24.0	9.7	0.89	10.5	1.03	11.4	1.21	12.4	1.36	12.8	1.39	13.3	1.43	13.6	1.45
		30.0	9.7	0.87	10.5	1.02	11.4	1.19	12.4	1.34	12.8	1.37	13.3	1.40	13.6	1.43
		60.0	9.7	0.80	10.5	0.95	11.4	1.11	12.4	1.25	12.8	1.28	13.3	1.31	13.6	1.33
		75.0	9.7	0.78	10.5	0.93	11.4	1.08	12.4	1.22	12.8	1.25	13.3	1.29	13.6	1.30
		90.0	9.7	0.77	10.5	0.92	11.4	1.07	12.4	1.21	12.8	1.24	13.3	1.28	13.6	1.29
	20	24.0	9.7	1.10	10.5	1.28	11.4	1.49	12.4	1.67	12.8	1.71	13.3	1.75	13.6	1.79
		30.0	9.7	1.08	10.5	1.26	11.4	1.46	12.4	1.64	12.8	1.69	13.3	1.72	13.6	1.76
		60.0	9.7	0.99	10.5	1.17	11.4	1.37	12.4	1.54	12.8	1.58	13.3	1.61	13.6	1.64
		75.0	9.7	0.96	10.5	1.15	11.4	1.34	12.4	1.51	12.8	1.55	13.3	1.59	13.6	1.60
		90.0	9.7	0.95	10.5	1.14	11.4	1.32	12.4	1.50	12.8	1.53	13.3	1.57	13.6	1.58
	25	24.0	9.7	1.33	10.5	1.55	11.4	1.81	12.4	2.04	12.8	2.09	13.3	2.14	13.6	2.18
		30.0	9.7	1.31	10.5	1.53	11.4	1.78	12.4	2.01	12.8	2.06	13.3	2.11	13.6	2.15
		60.0	9.7	1.21	10.5	1.43	11.4	1.67	12.4	1.88	12.8	1.92	13.3	1.97	13.6	2.01
		75.0	9.7	1.17	10.5	1.40	11.4	1.64	12.4	1.84	12.8	1.88	13.3	1.93	13.6	1.96
		90.0	9.7	1.15	10.5	1.39	11.4	1.62	12.4	1.82	12.8	1.87	13.3	1.92	13.6	1.93
	30	24.0	9.7	1.65	10.5	1.91	11.4	2.23	12.4	2.51	12.8	2.57	13.3	2.63	13.6	2.68
		30.0	9.7	1.61	10.5	1.88	11.4	2.20	12.4	2.47	12.8	2.53	13.3	2.59	13.6	2.64
		60.0	9.7	1.48	10.5	1.76	11.4	2.05	12.4	2.31	12.8	2.36	13.3	2.42	13.6	2.47
		75.0	9.7	1.44	10.5	1.72	11.4	2.01	12.4	2.26	12.8	2.32	13.3	2.38	13.6	2.40
		90.0	9.7	1.42	10.5	1.71	11.4	1.99	12.4	2.24	12.8	2.30	13.3	2.36	13.6	2.37
	35	24.0	9.7	1.83	10.5	2.13	11.4	2.48	12.4	2.79	12.8	2.85	13.3	2.93	13.6	2.98
		30.0	9.7	1.80	10.5	2.09	11.4	2.44	12.4	2.74	12.8	2.81	13.3	2.88	13.6	2.93
		60.0	9.7	1.65	10.5	1.96	11.4	2.28	12.4	2.57	12.8	2.63	13.3	2.69	13.6	2.74
		75.0	9.7	1.61	10.5	1.91	11.4	2.23	12.4	2.52	12.8	2.57	13.3	2.65	13.6	2.67
		90.0	9.7	1.59	10.5	1.89	11.4	2.21	12.4	2.49	12.8	2.55	13.3	2.63	13.6	2.63
	40	24.0	9.7	2.17	10.5	2.52	11.4	2.94	12.4	3.30	12.8	3.38	13.3	3.47	13.6	3.52
		30.0	9.7	2.12	10.5	2.48	11.4	2.89	12.4	3.25	12.8	3.32	13.3	3.41	13.6	3.47
		60.0	9.7	1.96	10.5	2.31	11.4	2.70	12.4	3.04	12.8	3.11	13.3	3.19	13.6	3.25
		75.0	9.7	1.90	10.5	2.27	11.4	2.64	12.4	2.98	12.8	3.05	13.3	3.13	13.6	3.16
		90.0	9.7	1.87	10.5	2.25	11.4	2.61	12.4	2.95	12.8	3.03	13.3	3.09	13.6	3.12
	45	24.0	9.7	2.50	10.5	2.92	11.4	3.39	12.4	3.82	12.8	3.90	13.3	4.00	13.6	4.07
		30.0	9.7	2.45	10.5	2.87	11.4	3.34	12.4	3.76	12.8	3.84	13.3	3.94	13.6	4.01
		60.0	9.7	2.26	10.5	2.67	11.4	3.12	12.4	3.51	12.8	3.60	13.3	3.69	13.6	3.76
		75.0	9.7	2.19	10.5	2.63	11.4	3.05	12.4	3.45	12.8	3.53	13.3	3.61	13.6	3.66
		90.0	9.7	2.15	10.5	2.60	11.4	3.01	12.4	3.41	12.8	3.50	13.3	3.56	13.6	3.61
70	10	24.0	8.5	0.55	9.2	0.63	10.0	0.75	10.9	0.84	11.2	0.84	11.6	0.88	11.9	0.89
		30.0	8.5	0.54	9.2	0.62	10.0	0.74	10.9	0.83	11.2	0.83	11.6	0.86	11.9	0.87
		60.0	8.5	0.50	9.2	0.59	10.0	0.69	10.9	0.77	11.2	0.78	11.6	0.80	11.9	0.83
		75.0	8.5	0.48	9.2	0.57	10.0	0.66	10.9	0.75	11.2	0.76	11.6	0.79	11.9	0.81
		90.0	8.5	0.46	9.2	0.56	10.0	0.65	10.9	0.74	11.2	0.75	11.6	0.78	11.9	0.80
	15	24.0	8.5	0.74	9.2	0.86	10.0	1.01	10.9	1.13	11.2	1.15	11.6	1.18	11.9	1.20
		30.0	8.5	0.73	9.2	0.84	10.0	0.99	10.9	1.11	11.2	1.13	11.6	1.16	11.9	1.19
		60.0	8.5	0.67	9.2	0.79	10.0	0.92	10.9	1.04	11.2	1.06	11.6	1.09	11.9	1.11
		75.0	8.5	0.65	9.2	0.77	10.0	0.90	10.9	1.02	11.2	1.04	11.6	1.07	11.9	1.08
		90.0	8.5	0.64	9.2	0.76	10.0	0.89	10.9	1.01	11.2	1.03	11.6	1.06	11.9	1.07
	20	24.0	8.5	0.91	9.2	1.06	10.0	1.23	10.9	1.39	11.2	1.43	11.6	1.45	11.9	1.49
		30.0	8.5	0.89	9.2	1.04	10.0	1.21	10.9	1.37	11.2	1.40	11.6	1.43	11.9	1.46
		60.0	8.5	0.82	9.2	0.97	10.0	1.13	10.9	1.28	11.2	1.31	11.6	1.35	11.9	1.37
		75.0	8.5	0.80	9.2	0.95	10.0	1.11	10.9	1.26	11.2	1.29	11.6	1.32	11.9	1.33
		90.0	8.5	0.79	9.2	0.94	10.0	1.10	10.9	1.25	11.2	1.28	11.6	1.30	11.9	1.31
	25	24.0	8.5	1.11	9.2	1.29	10.0	1.51	10.9	1.70	11.2	1.74	11.6	1.78	11.9	1.81
		30.0	8.5	1.09	9.2	1.27	10.0	1.48	10.9	1.67	11.2	1.71	11.6	1.75	11.9	1.78
		60.0	8.5	1.00	9.2	1.19	10.0	1.39	10.9	1.56	11.2	1.60	11.6	1.64	11.9	1.67
		75.0	8.5	0.97	9.2	1.16	10.0	1.36	10.9	1.53	11.2	1.57	11.6	1.61	11.9	1.62
		90.0	8.5	0.96	9.2	1.15	10.0	1.35	10.9	1.51	11.2	1.56	11.6	1.59	11.9	1.60

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
70	30	24.0	8.5	1.37	9.2	1.59	10.0	1.86	10.9	2.08	11.2	2.14	11.6	2.19	11.9	2.22
		30.0	8.5	1.35	9.2	1.56	10.0	1.83	10.9	2.05	11.2	2.10	11.6	2.15	11.9	2.19
		60.0	8.5	1.24	9.2	1.46	10.0	1.70	10.9	1.92	11.2	1.96	11.6	2.01	11.9	2.05
		75.0	8.5	1.20	9.2	1.43	10.0	1.67	10.9	1.88	11.2	1.93	11.6	1.98	11.9	2.00
		90.0	8.5	1.18	9.2	1.42	10.0	1.66	10.9	1.87	11.2	1.91	11.6	1.96	11.9	1.97
	35	24.0	8.5	1.52	9.2	1.77	10.0	2.06	10.9	2.32	11.2	2.37	11.6	2.43	11.9	2.47
		30.0	8.5	1.49	9.2	1.74	10.0	2.03	10.9	2.28	11.2	2.33	11.6	2.39	11.9	2.44
		60.0	8.5	1.37	9.2	1.63	10.0	1.89	10.9	2.13	11.2	2.18	11.6	2.24	11.9	2.28
		75.0	8.5	1.33	9.2	1.59	10.0	1.85	10.9	2.09	11.2	2.15	11.6	2.20	11.9	2.22
		90.0	8.5	1.31	9.2	1.57	10.0	1.84	10.9	2.08	11.2	2.13	11.6	2.17	11.9	2.19
	40	24.0	8.5	1.80	9.2	2.09	10.0	2.44	10.9	2.74	11.2	2.81	11.6	2.88	11.9	2.94
		30.0	8.5	1.77	9.2	2.06	10.0	2.40	10.9	2.70	11.2	2.76	11.6	2.84	11.9	2.89
		60.0	8.5	1.62	9.2	1.93	10.0	2.24	10.9	2.52	11.2	2.59	11.6	2.65	11.9	2.70
		75.0	8.5	1.58	9.2	1.88	10.0	2.20	10.9	2.48	11.2	2.54	11.6	2.60	11.9	2.63
		90.0	8.5	1.56	9.2	1.86	10.0	2.17	10.9	2.46	11.2	2.51	11.6	2.58	11.9	2.60
	45	24.0	8.5	2.09	9.2	2.42	10.0	2.82	10.9	3.16	11.2	3.24	11.6	3.33	11.9	3.40
		30.0	8.5	2.04	9.2	2.38	10.0	2.77	10.9	3.11	11.2	3.19	11.6	3.28	11.9	3.34
		60.0	8.5	1.87	9.2	2.23	10.0	2.59	10.9	2.92	11.2	3.00	11.6	3.07	11.9	3.11
		75.0	8.5	1.83	9.2	2.17	10.0	2.54	10.9	2.87	11.2	2.93	11.6	3.01	11.9	3.05
		90.0	8.5	1.80	9.2	2.15	10.0	2.51	10.9	2.84	11.2	2.90	11.6	2.98	11.9	3.01
60	10	24.0	7.3	0.45	7.9	0.51	8.5	0.59	9.3	0.67	9.6	0.69	9.9	0.71	10.2	0.71
		30.0	7.3	0.43	7.9	0.50	8.5	0.58	9.3	0.66	9.6	0.67	9.9	0.69	10.2	0.70
		60.0	7.3	0.39	7.9	0.47	8.5	0.54	9.3	0.62	9.6	0.61	9.9	0.64	10.2	0.66
		75.0	7.3	0.38	7.9	0.45	8.5	0.53	9.3	0.60	9.6	0.61	9.9	0.62	10.2	0.63
		90.0	7.3	0.37	7.9	0.45	8.5	0.53	9.3	0.59	9.6	0.61	9.9	0.61	10.2	0.61
	15	24.0	7.3	0.59	7.9	0.69	8.5	0.80	9.3	0.90	9.6	0.93	9.9	0.95	10.2	0.96
		30.0	7.3	0.58	7.9	0.68	8.5	0.79	9.3	0.89	9.6	0.91	9.9	0.93	10.2	0.95
		60.0	7.3	0.53	7.9	0.63	8.5	0.73	9.3	0.83	9.6	0.84	9.9	0.87	10.2	0.89
		75.0	7.3	0.52	7.9	0.62	8.5	0.72	9.3	0.81	9.6	0.83	9.9	0.85	10.2	0.86
		90.0	7.3	0.51	7.9	0.61	8.5	0.71	9.3	0.81	9.6	0.82	9.9	0.84	10.2	0.84
	20	24.0	7.3	0.73	7.9	0.84	8.5	0.98	9.3	1.11	9.6	1.14	9.9	1.16	10.2	1.18
		30.0	7.3	0.71	7.9	0.83	8.5	0.97	9.3	1.09	9.6	1.12	9.9	1.14	10.2	1.16
		60.0	7.3	0.65	7.9	0.78	8.5	0.91	9.3	1.02	9.6	1.05	9.9	1.07	10.2	1.09
		75.0	7.3	0.64	7.9	0.76	8.5	0.89	9.3	1.00	9.6	1.03	9.9	1.05	10.2	1.06
		90.0	7.3	0.63	7.9	0.76	8.5	0.88	9.3	1.00	9.6	1.01	9.9	1.05	10.2	1.05
	25	24.0	7.3	0.89	7.9	1.03	8.5	1.20	9.3	1.35	9.6	1.38	9.9	1.42	10.2	1.44
		30.0	7.3	0.87	7.9	1.01	8.5	1.18	9.3	1.33	9.6	1.36	9.9	1.40	10.2	1.42
		60.0	7.3	0.80	7.9	0.95	8.5	1.11	9.3	1.24	9.6	1.27	9.9	1.31	10.2	1.33
		75.0	7.3	0.78	7.9	0.93	8.5	1.08	9.3	1.22	9.6	1.25	9.9	1.28	10.2	1.29
		90.0	7.3	0.77	7.9	0.92	8.5	1.07	9.3	1.21	9.6	1.24	9.9	1.27	10.2	1.28
	30	24.0	7.3	1.09	7.9	1.27	8.5	1.48	9.3	1.66	9.6	1.70	9.9	1.74	10.2	1.77
		30.0	7.3	1.07	7.9	1.25	8.5	1.45	9.3	1.64	9.6	1.67	9.9	1.72	10.2	1.75
		60.0	7.3	0.98	7.9	1.16	8.5	1.36	9.3	1.53	9.6	1.56	9.9	1.61	10.2	1.64
		75.0	7.3	0.96	7.9	1.14	8.5	1.33	9.3	1.50	9.6	1.53	9.9	1.58	10.2	1.59
		90.0	7.3	0.95	7.9	1.13	8.5	1.32	9.3	1.48	9.6	1.52	9.9	1.56	10.2	1.57
	35	24.0	7.3	1.21	7.9	1.41	8.5	1.64	9.3	1.85	9.6	1.89	9.9	1.93	10.2	1.97
		30.0	7.3	1.19	7.9	1.39	8.5	1.61	9.3	1.82	9.6	1.86	9.9	1.91	10.2	1.94
		60.0	7.3	1.09	7.9	1.29	8.5	1.51	9.3	1.70	9.6	1.74	9.9	1.79	10.2	1.82
		75.0	7.3	1.06	7.9	1.27	8.5	1.48	9.3	1.67	9.6	1.71	9.9	1.75	10.2	1.77
		90.0	7.3	1.05	7.9	1.25	8.5	1.46	9.3	1.65	9.6	1.69	9.9	1.73	10.2	1.74
	40	24.0	7.3	1.44	7.9	1.67	8.5	1.94	9.3	2.19	9.6	2.24	9.9	2.30	10.2	2.33
		30.0	7.3	1.41	7.9	1.64	8.5	1.91	9.3	2.15	9.6	2.20	9.9	2.26	10.2	2.30
		60.0	7.3	1.29	7.9	1.53	8.5	1.79	9.3	2.01	9.6	2.06	9.9	2.12	10.2	2.15
		75.0	7.3	1.26	7.9	1.51	8.5	1.75	9.3	1.97	9.6	2.02	9.9	2.07	10.2	2.09
		90.0	7.3	1.24	7.9	1.49	8.5	1.73	9.3	1.95	9.6	2.00	9.9	2.05	10.2	2.07
	45	24.0	7.3	1.67	7.9	1.93	8.5	2.25	9.3	2.53	9.6	2.59	9.9	2.66	10.2	2.70
		30.0	7.3	1.64	7.9	1.90	8.5	2.21	9.3	2.49	9.6	2.55	9.9	2.62	10.2	2.65
		60.0	7.3	1.50	7.9	1.77	8.5	2.07	9.3	2.33	9.6	2.38	9.9	2.44	10.2	2.49
		75.0	7.3	1.45	7.9	1.75	8.5	2.03	9.3	2.28	9.6	2.33	9.9	2.39	10.2	2.42
		90.0	7.3	1.43	7.9	1.73	8.5	2.01	9.3	2.25	9.6	2.31	9.9	2.37	10.2	2.39
50	10	24.0	6.0	0.32	6.5	0.38	7.1	0.45	7.8	0.50	8.0	0.50	8.3	0.52	8.5	0.53
		30.0	6.0	0.31	6.5	0.37	7.1	0.44	7.8	0.49	8.0	0.50	8.3	0.51	8.5	0.53
		60.0	6.0	0.30	6.5	0.35	7.1	0.40	7.8	0.45	8.0	0.47	8.3	0.48	8.5	0.49
		75.0	6.0	0.29	6.5	0.34	7.1	0.40	7.8	0.44	8.0	0.45	8.3	0.46	8.5	0.47
		90.0	6.0	0.28	6.5	0.33	7.1	0.40	7.8	0.43	8.0	0.45	8.3	0.45	8.5	0.46

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Cooling Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water Flow Rate (L/min)	Indoor Air temperature (°CWB)													
			14		16		18		19		20		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	15	24.0	6.0	0.44	6.5	0.51	7.1	0.60	7.8	0.67	8.0	0.69	8.3	0.70	8.5	0.72
		30.0	6.0	0.43	6.5	0.50	7.1	0.59	7.8	0.66	8.0	0.68	8.3	0.69	8.5	0.71
		60.0	6.0	0.40	6.5	0.47	7.1	0.55	7.8	0.62	8.0	0.63	8.3	0.65	8.5	0.66
		75.0	6.0	0.39	6.5	0.46	7.1	0.54	7.8	0.60	8.0	0.62	8.3	0.63	8.5	0.64
		90.0	6.0	0.38	6.5	0.45	7.1	0.53	7.8	0.60	8.0	0.61	8.3	0.63	8.5	0.63
	20	24.0	6.0	0.54	6.5	0.63	7.1	0.73	7.8	0.83	8.0	0.85	8.3	0.86	8.5	0.88
		30.0	6.0	0.53	6.5	0.62	7.1	0.72	7.8	0.81	8.0	0.84	8.3	0.85	8.5	0.87
		60.0	6.0	0.49	6.5	0.58	7.1	0.68	7.8	0.76	8.0	0.78	8.3	0.80	8.5	0.81
		75.0	6.0	0.47	6.5	0.57	7.1	0.66	7.8	0.75	8.0	0.76	8.3	0.79	8.5	0.79
		90.0	6.0	0.47	6.5	0.56	7.1	0.65	7.8	0.74	8.0	0.76	8.3	0.78	8.5	0.78
	25	24.0	6.0	0.66	6.5	0.77	7.1	0.89	7.8	1.00	8.0	1.03	8.3	1.06	8.5	1.08
		30.0	6.0	0.65	6.5	0.76	7.1	0.88	7.8	0.99	8.0	1.02	8.3	1.04	8.5	1.06
		60.0	6.0	0.60	6.5	0.71	7.1	0.82	7.8	0.93	8.0	0.95	8.3	0.97	8.5	0.99
		75.0	6.0	0.58	6.5	0.69	7.1	0.81	7.8	0.91	8.0	0.93	8.3	0.95	8.5	0.97
		90.0	6.0	0.57	6.5	0.68	7.1	0.80	7.8	0.90	8.0	0.92	8.3	0.94	8.5	0.96
	30	24.0	6.0	0.82	6.5	0.95	7.1	1.10	7.8	1.24	8.0	1.27	8.3	1.30	8.5	1.32
		30.0	6.0	0.80	6.5	0.93	7.1	1.08	7.8	1.22	8.0	1.25	8.3	1.28	8.5	1.30
		60.0	6.0	0.73	6.5	0.87	7.1	1.01	7.8	1.14	8.0	1.17	8.3	1.20	8.5	1.22
		75.0	6.0	0.71	6.5	0.85	7.1	0.99	7.8	1.12	8.0	1.15	8.3	1.18	8.5	1.19
		90.0	6.0	0.70	6.5	0.84	7.1	0.98	7.8	1.11	8.0	1.14	8.3	1.17	8.5	1.17
	35	24.0	6.0	0.91	6.5	1.05	7.1	1.23	7.8	1.37	8.0	1.41	8.3	1.45	8.5	1.47
		30.0	6.0	0.89	6.5	1.03	7.1	1.21	7.8	1.35	8.0	1.39	8.3	1.43	8.5	1.45
		60.0	6.0	0.81	6.5	0.97	7.1	1.13	7.8	1.27	8.0	1.29	8.3	1.33	8.5	1.35
		75.0	6.0	0.79	6.5	0.95	7.1	1.11	7.8	1.24	8.0	1.27	8.3	1.31	8.5	1.32
		90.0	6.0	0.78	6.5	0.93	7.1	1.09	7.8	1.23	8.0	1.26	8.3	1.30	8.5	1.30
	40	24.0	6.0	1.07	6.5	1.24	7.1	1.45	7.8	1.63	8.0	1.67	8.3	1.71	8.5	1.74
		30.0	6.0	1.05	6.5	1.22	7.1	1.43	7.8	1.61	8.0	1.64	8.3	1.69	8.5	1.72
		60.0	6.0	0.97	6.5	1.14	7.1	1.33	7.8	1.50	8.0	1.53	8.3	1.58	8.5	1.61
		75.0	6.0	0.94	6.5	1.12	7.1	1.31	7.8	1.47	8.0	1.51	8.3	1.55	8.5	1.56
		90.0	6.0	0.92	6.5	1.11	7.1	1.30	7.8	1.45	8.0	1.49	8.3	1.53	8.5	1.54
	45	24.0	6.0	1.23	6.5	1.43	7.1	1.67	7.8	1.89	8.0	1.93	8.3	1.98	8.5	2.02
		30.0	6.0	1.21	6.5	1.41	7.1	1.64	7.8	1.86	8.0	1.90	8.3	1.95	8.5	1.99
		60.0	6.0	1.12	6.5	1.32	7.1	1.53	7.8	1.73	8.0	1.77	8.3	1.83	8.5	1.86
		75.0	6.0	1.08	6.5	1.29	7.1	1.51	7.8	1.69	8.0	1.74	8.3	1.79	8.5	1.81
		90.0	6.0	1.07	6.5	1.28	7.1	1.50	7.8	1.68	8.0	1.72	8.3	1.77	8.5	1.79

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7.2 Heating Capacity

ARWN40GA0

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-5	16.0	5.9	2.30	5.9	2.17	5.8	2.02	5.8	1.96	5.8	1.91	5.7	1.71
		20.0	6.1	2.34	6.1	2.21	6.0	2.06	6.0	2.00	6.0	1.95	5.9	1.75
		40.0	6.9	2.50	6.9	2.38	6.8	2.24	6.7	2.17	6.8	2.11	6.6	1.90
		50.0	7.7	2.66	7.6	2.54	7.5	2.41	7.4	2.35	7.5	2.28	7.3	2.04
		60.0	8.0	2.74	7.9	2.62	7.9	2.50	7.8	2.44	7.9	2.36	7.7	2.12
	0	16.0	10.6	3.15	10.3	3.06	10.1	2.96	9.9	2.87	9.9	2.80	9.5	2.50
		20.0	10.6	3.16	10.4	3.06	10.2	2.97	9.9	2.88	10.0	2.80	9.5	2.51
		40.0	10.9	3.19	10.6	3.10	10.4	3.00	10.2	2.92	10.2	2.83	9.8	2.54
		50.0	11.0	3.19	10.8	3.10	10.6	3.00	10.3	2.92	10.4	2.83	9.9	2.54
		60.0	11.1	3.19	10.9	3.10	10.6	3.00	10.4	2.92	10.4	2.83	10.0	2.54
	5	16.0	15.2	3.39	15.0	3.30	14.7	3.22	14.3	3.13	13.9	3.04	13.2	2.72
		20.0	15.3	3.40	15.0	3.32	14.7	3.24	14.3	3.14	13.9	3.06	13.2	2.74
		40.0	15.5	3.46	15.1	3.38	14.7	3.30	14.3	3.21	13.9	3.12	13.2	2.80
		50.0	15.6	3.49	15.2	3.40	14.7	3.32	14.3	3.23	13.9	3.14	13.2	2.81
		60.0	15.6	3.50	15.2	3.41	14.7	3.33	14.3	3.24	13.9	3.15	13.2	2.82
	10	16.0	15.2	3.08	15.0	2.98	14.6	2.92	14.2	2.86	13.9	2.76	13.1	2.49
		20.0	15.3	3.08	15.1	2.98	14.7	2.93	14.3	2.86	13.9	2.76	13.2	2.49
		40.0	15.7	3.05	15.3	2.99	14.9	2.95	14.5	2.85	14.1	2.75	13.4	2.48
		50.0	15.8	3.10	15.4	3.03	15.0	2.96	14.6	2.86	14.2	2.80	13.4	2.60
		60.0	15.8	3.12	15.5	3.06	15.1	2.97	14.6	2.87	14.3	2.82	13.5	2.66
	15	16.0	15.3	2.78	15.0	2.66	14.6	2.63	14.2	2.59	13.8	2.48	13.0	2.26
		20.0	15.4	2.75	15.1	2.65	14.7	2.62	14.3	2.57	13.9	2.46	13.2	2.24
		40.0	15.9	2.64	15.6	2.60	15.2	2.60	14.8	2.49	14.3	2.38	13.6	2.16
		50.0	16.0	2.70	15.7	2.66	15.3	2.60	14.9	2.49	14.5	2.45	13.7	2.38
		60.0	16.0	2.74	15.8	2.69	15.4	2.60	15.0	2.49	14.6	2.48	13.8	2.49
	20	16.0	15.8	2.55	15.5	2.43	15.1	2.38	14.7	2.30	14.3	2.25	13.4	2.18
		20.0	16.0	2.53	15.7	2.43	15.3	2.37	14.8	2.31	14.4	2.26	13.6	2.16
		40.0	16.5	2.46	16.2	2.42	15.7	2.37	15.3	2.35	14.9	2.33	14.1	2.09
		50.0	16.5	2.46	16.3	2.42	15.9	2.38	15.5	2.35	15.0	2.33	14.2	2.22
		60.0	16.6	2.46	16.3	2.42	16.0	2.39	15.5	2.35	15.1	2.33	14.2	2.29
	25	16.0	16.7	2.43	16.3	2.36	15.9	2.32	15.6	2.28	15.3	2.25	14.4	2.10
		20.0	16.7	2.42	16.3	2.36	15.9	2.31	15.6	2.27	15.3	2.24	14.4	2.09
		40.0	16.7	2.38	16.3	2.34	15.9	2.27	15.6	2.24	15.3	2.20	14.4	2.05
		50.0	16.7	2.35	16.3	2.28	15.9	2.24	15.6	2.20	15.3	2.16	14.4	2.02
		60.0	16.7	2.33	16.3	2.25	15.9	2.22	15.6	2.18	15.3	2.14	14.4	2.00
	30	16.0	16.7	2.37	16.3	2.25	15.9	2.23	15.6	2.17	15.3	2.15	14.4	2.00
		20.0	16.7	2.35	16.3	2.25	15.9	2.22	15.6	2.16	15.3	2.13	14.4	1.98
		40.0	16.7	2.27	16.3	2.23	15.9	2.16	15.6	2.13	15.3	2.05	14.4	1.91
		50.0	16.7	2.24	16.3	2.17	15.9	2.13	15.6	2.09	15.3	2.05	14.4	1.91
		60.0	16.7	2.22	16.3	2.14	15.9	2.11	15.6	2.07	15.3	2.05	14.4	1.91
	35	16.0	16.7	2.26	16.3	2.18	15.9	2.14	15.6	2.06	15.3	1.99	14.4	1.85
		20.0	16.7	2.24	16.3	2.17	15.9	2.13	15.6	2.05	15.3	1.98	14.4	1.83
		40.0	16.7	2.16	16.3	2.12	15.9	2.09	15.6	2.02	15.3	1.94	14.4	1.76
		50.0	16.7	2.16	16.3	2.10	15.9	2.05	15.6	1.98	15.3	1.91	14.4	1.76
		60.0	16.7	2.16	16.3	2.09	15.9	2.03	15.6	1.96	15.3	1.89	14.4	1.76
	40	16.0	16.7	2.18	16.3	2.11	15.9	2.07	15.6	2.00	15.3	1.93	14.4	1.74
		20.0	16.7	2.16	16.3	2.10	15.9	2.05	15.6	1.98	15.3	1.91	14.4	1.72
		40.0	16.7	2.09	16.3	2.04	15.9	1.98	15.6	1.91	15.3	1.83	14.4	1.65
		50.0	16.7	2.05	16.3	2.01	15.9	1.98	15.6	1.91	15.3	1.83	14.4	1.65
		60.0	16.7	2.03	16.3	1.99	15.9	1.98	15.6	1.91	15.3	1.83	14.4	1.65
	45	16.0	16.7	2.11	16.3	2.04	15.9	2.01	15.6	1.94	15.3	1.86	14.4	1.63
		20.0	16.7	2.09	16.3	2.03	15.9	1.98	15.6	1.91	15.3	1.83	14.4	1.61
		40.0	16.7	2.02	16.3	1.97	15.9	1.87	15.6	1.80	15.3	1.72	14.4	1.54
		50.0	16.7	1.94	16.3	1.92	15.9	1.91	15.6	1.83	15.3	1.76	14.4	1.54
		60.0	16.7	1.90	16.3	1.90	15.9	1.93	15.6	1.85	15.3	1.78	14.4	1.54
120	-5	16.0	5.6	2.30	5.6	2.17	5.5	2.02	5.5	1.93	5.5	1.88	5.4	1.68
		20.0	5.8	2.34	5.8	2.21	5.7	2.06	5.7	1.98	5.7	1.92	5.6	1.72
		40.0	6.6	2.50	6.5	2.38	6.5	2.24	6.4	2.14	6.5	2.08	6.3	1.87
		50.0	7.3	2.66	7.2	2.54	7.2	2.41	7.1	2.31	7.1	2.25	6.9	2.01
		60.0	7.6	2.74	7.6	2.62	7.5	2.50	7.4	2.40	7.5	2.33	7.3	2.08
	0	16.0	10.0	3.15	9.8	3.06	9.6	2.96	9.4	2.83	9.4	2.75	9.0	2.46
		20.0	10.1	3.16	9.9	3.06	9.7	2.97	9.5	2.84	9.5	2.76	9.0	2.47
		40.0	10.3	3.19	10.1	3.10	9.9	3.00	9.7	2.88	9.7	2.79	9.2	2.50
		50.0	10.5	3.19	10.3	3.10	10.0	3.00	9.8	2.88	9.8	2.79	9.4	2.50
		60.0	10.6	3.19	10.3	3.10	10.1	3.00	9.9	2.88	9.9	2.79	9.5	2.50

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	5	16.0	14.5	3.39	14.3	3.30	14.0	3.22	13.6	3.08	13.2	3.00	12.5	2.68
		20.0	14.5	3.40	14.3	3.32	14.0	3.24	13.6	3.10	13.2	3.01	12.5	2.70
		40.0	14.7	3.46	14.4	3.38	14.0	3.30	13.6	3.16	13.2	3.07	12.5	2.75
		50.0	14.8	3.49	14.3	3.40	14.0	3.32	13.6	3.19	13.2	3.10	12.5	2.77
		60.0	14.9	3.50	14.3	3.41	14.0	3.33	13.6	3.20	13.2	3.11	12.5	2.78
	10	16.0	14.5	3.04	14.3	2.96	13.9	2.90	13.6	2.81	13.2	2.72	12.4	2.44
		20.0	14.6	3.05	14.3	2.97	14.0	2.91	13.6	2.81	13.2	2.72	12.5	2.45
		40.0	14.9	3.10	14.6	3.02	14.1	2.95	13.8	2.83	13.3	2.71	12.6	2.46
		50.0	15.0	3.08	14.5	3.02	14.2	2.96	13.8	2.84	13.4	2.72	12.7	2.54
		60.0	15.0	3.08	14.5	3.02	14.2	2.97	13.9	2.85	13.4	2.73	12.7	2.58
	15	16.0	14.6	2.70	14.3	2.62	13.9	2.58	13.5	2.54	13.1	2.44	12.4	2.21
		20.0	14.7	2.70	14.4	2.62	14.0	2.58	13.6	2.53	13.2	2.42	12.5	2.20
		40.0	15.0	2.73	14.7	2.65	14.3	2.60	13.9	2.49	13.5	2.35	12.7	2.16
		50.0	15.1	2.69	14.7	2.62	14.4	2.60	14.0	2.49	13.6	2.35	12.8	2.31
		60.0	15.1	2.66	14.7	2.61	14.4	2.60	14.1	2.49	13.6	2.35	12.9	2.38
	20	16.0	15.0	2.43	14.7	2.32	14.3	2.26	13.9	2.23	13.4	2.20	12.7	2.09
		20.0	15.1	2.43	14.8	2.33	14.3	2.27	14.0	2.24	13.5	2.20	12.8	2.08
		40.0	15.5	2.43	15.1	2.37	14.7	2.31	14.3	2.27	13.8	2.19	13.1	2.05
		50.0	15.5	2.40	15.1	2.35	14.8	2.31	14.4	2.27	13.9	2.20	13.2	2.13
		60.0	15.6	2.39	15.1	2.34	14.8	2.31	14.4	2.27	14.0	2.20	13.2	2.17
	25	16.0	15.7	2.30	15.3	2.19	14.8	2.15	14.5	2.10	14.1	2.06	13.3	1.92
		20.0	15.7	2.29	15.3	2.18	14.8	2.14	14.5	2.09	14.1	2.05	13.3	1.91
		40.0	15.8	2.25	15.3	2.17	14.8	2.13	14.5	2.05	14.1	2.02	13.3	1.87
		50.0	15.8	2.17	15.3	2.11	14.8	2.09	14.5	2.05	14.1	1.98	13.3	1.87
		60.0	15.8	2.13	15.3	2.08	14.8	2.07	14.5	2.05	14.1	1.96	13.3	1.87
	30	16.0	15.8	2.20	15.3	2.09	14.8	2.03	14.5	1.95	14.1	1.93	13.3	1.77
		20.0	15.8	2.18	15.3	2.07	14.8	2.02	14.5	1.94	14.1	1.91	13.3	1.76
		40.0	15.8	2.11	15.3	2.03	14.8	1.98	14.5	1.91	14.1	1.83	13.3	1.72
		50.0	15.8	2.04	15.3	1.98	14.8	1.94	14.5	1.91	14.1	1.83	13.3	1.69
		60.0	15.8	2.00	15.3	1.96	14.8	1.92	14.5	1.91	14.1	1.83	13.3	1.67
	35	16.0	15.8	2.10	15.3	1.98	14.8	1.93	14.5	1.85	14.1	1.78	13.3	1.62
		20.0	15.8	2.07	15.3	1.96	14.8	1.91	14.5	1.83	14.1	1.76	13.3	1.61
		40.0	15.8	1.95	15.3	1.89	14.8	1.83	14.5	1.76	14.1	1.69	13.3	1.58
		50.0	15.8	1.93	15.3	1.88	14.8	1.83	14.5	1.76	14.1	1.69	13.3	1.54
		60.0	15.8	1.92	15.3	1.87	14.8	1.83	14.5	1.76	14.1	1.69	13.3	1.52
	40	16.0	15.8	2.03	15.3	1.89	14.8	1.82	14.5	1.74	14.1	1.67	13.3	1.51
		20.0	15.8	2.00	15.3	1.87	14.8	1.80	14.5	1.72	14.1	1.65	13.3	1.50
		40.0	15.8	1.84	15.3	1.78	14.8	1.72	14.5	1.65	14.1	1.58	13.3	1.47
		50.0	15.8	1.82	15.3	1.76	14.8	1.72	14.5	1.65	14.1	1.58	13.3	1.43
		60.0	15.8	1.81	15.3	1.75	14.8	1.72	14.5	1.65	14.1	1.58	13.3	1.41
	45	16.0	15.8	1.97	15.3	1.80	14.8	1.71	14.5	1.63	14.1	1.56	13.3	1.40
		20.0	15.8	1.92	15.3	1.78	14.8	1.69	14.5	1.61	14.1	1.54	13.3	1.39
		40.0	15.8	1.73	15.3	1.67	14.8	1.61	14.5	1.54	14.1	1.47	13.3	1.36
		50.0	15.8	1.71	15.3	1.64	14.8	1.61	14.5	1.54	14.1	1.47	13.3	1.32
		60.0	15.8	1.70	15.3	1.63	14.8	1.61	14.5	1.54	14.1	1.47	13.3	1.30
110	-5	16.0	5.3	2.33	5.3	2.17	5.2	2.02	5.2	1.93	5.2	1.88	5.1	1.68
		20.0	5.5	2.37	5.5	2.21	5.4	2.06	5.4	1.98	5.4	1.92	5.3	1.72
		40.0	6.2	2.53	6.2	2.38	6.2	2.24	6.1	2.14	6.1	2.08	6.0	1.87
		50.0	6.9	2.70	6.8	2.54	6.8	2.41	6.7	2.31	6.7	2.25	6.6	2.01
		60.0	7.2	2.78	7.1	2.62	7.1	2.50	7.0	2.40	7.0	2.33	6.9	2.08
	0	16.0	9.5	3.19	9.3	3.06	9.1	2.96	8.9	2.83	8.8	2.75	8.5	2.46
		20.0	9.6	3.20	9.3	3.06	9.2	2.97	9.0	2.84	8.9	2.76	8.6	2.47
		40.0	9.8	3.23	9.6	3.10	9.4	3.00	9.2	2.88	9.1	2.79	8.8	2.50
		50.0	9.9	3.23	9.7	3.10	9.5	3.00	9.3	2.88	9.2	2.79	8.9	2.50
		60.0	10.0	3.23	9.8	3.10	9.6	3.00	9.4	2.88	9.3	2.79	8.9	2.50
	5	16.0	13.9	3.43	13.5	3.30	13.2	3.22	12.9	3.08	12.4	3.00	11.8	2.68
		20.0	13.9	3.45	13.6	3.32	13.2	3.24	12.9	3.10	12.4	3.01	11.8	2.70
		40.0	14.1	3.51	13.7	3.38	13.2	3.30	12.9	3.16	12.4	3.07	11.8	2.75
		50.0	14.2	3.53	13.7	3.40	13.2	3.32	12.9	3.19	12.4	3.10	11.8	2.77
		60.0	14.2	3.54	13.7	3.41	13.2	3.33	12.9	3.20	12.4	3.11	11.8	2.78
	10	16.0	13.9	3.08	13.6	2.97	13.2	2.91	12.9	2.81	12.4	2.72	11.8	2.44
		20.0	14.0	3.08	13.6	2.98	13.2	2.92	12.9	2.81	12.4	2.72	11.8	2.45
		40.0	14.2	3.11	13.7	3.02	13.3	2.95	13.0	2.83	12.5	2.71	11.9	2.46
		50.0	14.3	3.11	13.8	3.02	13.3	2.94	13.0	2.82	12.5	2.72	11.9	2.48
		60.0	14.3	3.11	13.8	3.02	13.4	2.94	13.0	2.82	12.5	2.73	11.9	2.50

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	15	16.0	14.0	2.72	13.6	2.65	13.2	2.60	12.9	2.54	12.4	2.44	11.8	2.21
		20.0	14.0	2.72	13.6	2.65	13.2	2.60	12.9	2.53	12.4	2.42	11.8	2.20
		40.0	14.2	2.70	13.8	2.65	13.4	2.60	13.1	2.49	12.6	2.35	11.9	2.16
		50.0	14.3	2.69	13.9	2.62	13.5	2.57	13.1	2.46	12.6	2.35	12.0	2.20
		60.0	14.4	2.68	13.9	2.61	13.5	2.55	13.1	2.44	12.6	2.35	12.0	2.22
	20	16.0	14.2	2.35	13.8	2.29	13.4	2.24	13.0	2.20	12.5	2.14	11.9	2.00
		20.0	14.3	2.36	13.9	2.29	13.4	2.24	13.1	2.20	12.6	2.13	11.9	2.00
		40.0	14.6	2.37	14.1	2.29	13.6	2.24	13.3	2.20	12.7	2.09	12.1	1.98
		50.0	14.7	2.37	14.2	2.29	13.7	2.24	13.3	2.16	12.8	2.09	12.2	1.98
		60.0	14.7	2.37	14.2	2.29	13.7	2.24	13.3	2.14	12.8	2.09	12.2	1.98
	25	16.0	14.7	2.14	14.2	2.06	13.7	2.03	13.3	1.95	12.9	1.88	12.2	1.72
		20.0	14.7	2.14	14.2	2.05	13.7	2.02	13.3	1.94	12.9	1.87	12.2	1.72
		40.0	14.8	2.12	14.2	2.02	13.7	1.98	13.3	1.91	12.9	1.83	12.2	1.72
		50.0	14.9	2.12	14.2	2.03	13.7	1.94	13.3	1.91	12.9	1.80	12.2	1.69
		60.0	14.9	2.12	14.2	2.03	13.7	1.92	13.3	1.91	12.9	1.78	12.2	1.67
	30	16.0	14.9	1.95	14.2	1.88	13.7	1.81	13.3	1.77	12.9	1.66	12.2	1.55
		20.0	14.9	1.94	14.2	1.87	13.7	1.80	13.3	1.76	12.9	1.65	12.2	1.54
		40.0	14.9	1.91	14.2	1.83	13.7	1.76	13.3	1.72	12.9	1.61	12.2	1.50
		50.0	14.9	1.89	14.2	1.80	13.7	1.72	13.3	1.69	12.9	1.61	12.2	1.50
		60.0	14.9	1.89	14.2	1.78	13.7	1.70	13.3	1.67	12.9	1.61	12.2	1.50
	35	16.0	14.9	1.85	14.2	1.73	13.7	1.66	13.3	1.59	12.9	1.51	12.2	1.40
		20.0	14.9	1.83	14.2	1.72	13.7	1.65	13.3	1.58	12.9	1.50	12.2	1.39
		40.0	14.9	1.76	14.2	1.69	13.7	1.61	13.3	1.54	12.9	1.47	12.2	1.36
		50.0	14.9	1.71	14.2	1.65	13.7	1.58	13.3	1.54	12.9	1.47	12.2	1.36
		60.0	14.9	1.69	14.2	1.63	13.7	1.56	13.3	1.54	12.9	1.47	12.2	1.36
	40	16.0	14.9	1.74	14.2	1.67	13.7	1.56	13.3	1.48	12.9	1.40	12.2	1.29
		20.0	14.9	1.72	14.2	1.65	13.7	1.54	13.3	1.47	12.9	1.39	12.2	1.28
		40.0	14.9	1.65	14.2	1.58	13.7	1.47	13.3	1.43	12.9	1.36	12.2	1.25
		50.0	14.9	1.63	14.2	1.54	13.7	1.47	13.3	1.39	12.9	1.32	12.2	1.21
		60.0	14.9	1.62	14.2	1.52	13.7	1.47	13.3	1.37	12.9	1.30	12.2	1.19
	45	16.0	14.9	1.63	14.2	1.61	13.7	1.46	13.3	1.37	12.9	1.29	12.2	1.18
		20.0	14.9	1.61	14.2	1.58	13.7	1.43	13.3	1.36	12.9	1.28	12.2	1.17
		40.0	14.9	1.54	14.2	1.47	13.7	1.32	13.3	1.32	12.9	1.25	12.2	1.14
		50.0	14.9	1.54	14.2	1.43	13.7	1.36	13.3	1.25	12.9	1.17	12.2	1.06
		60.0	14.9	1.54	14.2	1.41	13.7	1.38	13.3	1.21	12.9	1.13	12.2	1.02
100	-5	16.0	5.0	2.33	5.0	2.20	5.0	2.02	4.9	1.93	4.9	1.85	4.8	1.68
		20.0	5.2	2.37	5.2	2.24	5.1	2.06	5.1	1.98	5.0	1.89	5.0	1.72
		40.0	5.9	2.53	5.8	2.41	5.8	2.24	5.8	2.14	5.7	2.05	5.6	1.87
		50.0	6.5	2.70	6.5	2.58	6.4	2.41	6.4	2.31	6.3	2.21	6.2	2.01
		60.0	6.8	2.78	6.8	2.66	6.7	2.50	6.7	2.40	6.6	2.29	6.5	2.08
	0	16.0	9.0	3.19	8.8	3.10	8.6	2.96	8.5	2.83	8.3	2.71	8.0	2.46
		20.0	9.0	3.20	8.8	3.11	8.7	2.97	8.5	2.84	8.3	2.72	8.1	2.47
		40.0	9.2	3.23	9.0	3.14	8.8	3.00	8.7	2.88	8.5	2.75	8.2	2.50
		50.0	9.4	3.23	9.2	3.14	9.0	3.00	8.8	2.88	8.7	2.75	8.4	2.50
		60.0	9.5	3.23	9.3	3.14	9.1	3.00	8.9	2.88	8.7	2.75	8.4	2.50
	5	16.0	13.3	3.43	12.8	3.35	12.5	3.22	12.2	3.08	11.7	2.95	11.1	2.68
		20.0	13.3	3.45	12.8	3.36	12.5	3.24	12.2	3.10	11.7	2.97	11.1	2.70
		40.0	13.5	3.51	12.9	3.43	12.5	3.30	12.2	3.16	11.7	3.03	11.1	2.75
		50.0	13.6	3.53	13.0	3.45	12.5	3.32	12.2	3.19	11.7	3.05	11.1	2.77
		60.0	13.6	3.54	13.0	3.46	12.5	3.33	12.2	3.20	11.7	3.06	11.1	2.78
	10	16.0	13.3	3.07	12.9	3.00	12.5	2.91	12.2	2.81	11.7	2.67	11.1	2.44
		20.0	13.4	3.08	12.9	3.01	12.5	2.92	12.2	2.81	11.7	2.67	11.1	2.45
		40.0	13.5	3.14	12.9	3.05	12.5	2.95	12.2	2.83	11.7	2.69	11.1	2.46
		50.0	13.6	3.13	13.0	3.05	12.5	2.94	12.2	2.82	11.7	2.68	11.1	2.45
		60.0	13.6	3.12	13.0	3.05	12.5	2.94	12.2	2.82	11.7	2.67	11.1	2.44
	15	16.0	13.4	2.71	12.9	2.66	12.5	2.60	12.2	2.54	11.7	2.39	11.1	2.21
		20.0	13.4	2.72	12.9	2.66	12.5	2.60	12.2	2.53	11.7	2.38	11.1	2.20
		40.0	13.5	2.77	13.0	2.67	12.5	2.60	12.2	2.49	11.7	2.35	11.1	2.16
		50.0	13.6	2.73	13.0	2.65	12.5	2.57	12.2	2.46	11.7	2.31	11.1	2.13
		60.0	13.7	2.70	13.1	2.64	12.5	2.55	12.2	2.44	11.7	2.29	11.1	2.11
	20	16.0	13.5	2.31	13.0	2.25	12.5	2.20	12.2	2.17	11.7	2.03	11.1	1.93
		20.0	13.5	2.33	13.0	2.26	12.5	2.20	12.2	2.16	11.7	2.02	11.1	1.91
		40.0	13.7	2.37	13.0	2.26	12.5	2.20	12.2	2.13	11.7	1.98	11.1	1.83
		50.0	13.8	2.33	13.1	2.25	12.5	2.16	12.2	2.09	11.7	1.94	11.1	1.80
		60.0	13.8	2.30	13.2	2.24	12.5	2.14	12.2	2.07	11.7	1.92	11.1	1.78

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	25	16.0	13.6	2.02	13.2	1.96	12.5	1.88	12.2	1.81	11.7	1.70	11.1	1.54
		20.0	13.7	2.03	13.2	1.95	12.5	1.87	12.2	1.80	11.7	1.69	11.1	1.54
		40.0	13.9	2.03	13.2	1.91	12.5	1.83	12.2	1.76	11.7	1.65	11.1	1.54
		50.0	14.0	1.99	13.2	1.89	12.5	1.80	12.2	1.72	11.7	1.65	11.1	1.50
		60.0	14.0	1.96	13.2	1.89	12.5	1.78	12.2	1.70	11.7	1.65	11.1	1.48
	30	16.0	14.0	1.84	13.2	1.70	12.5	1.58	12.2	1.55	11.7	1.43	11.1	1.37
		20.0	14.0	1.83	13.2	1.69	12.5	1.58	12.2	1.54	11.7	1.43	11.1	1.36
		40.0	14.0	1.80	13.2	1.65	12.5	1.56	12.2	1.50	11.7	1.43	11.1	1.32
		50.0	14.0	1.76	13.2	1.65	12.5	1.54	12.2	1.50	11.7	1.39	11.1	1.32
		60.0	14.0	1.74	13.2	1.65	12.5	1.53	12.2	1.50	11.7	1.37	11.1	1.32
	35	16.0	14.0	1.71	13.2	1.56	12.5	1.40	12.2	1.37	11.7	1.29	11.1	1.18
		20.0	14.0	1.69	13.2	1.54	12.5	1.39	12.2	1.36	11.7	1.28	11.1	1.17
		40.0	14.0	1.61	13.2	1.47	12.5	1.38	12.2	1.32	11.7	1.25	11.1	1.14
		50.0	14.0	1.61	13.2	1.47	12.5	1.36	12.2	1.32	11.7	1.25	11.1	1.14
		60.0	14.0	1.61	13.2	1.47	12.5	1.35	12.2	1.32	11.7	1.25	11.1	1.14
	40	16.0	14.0	1.60	13.2	1.45	12.5	1.25	12.2	1.22	11.7	1.15	11.1	1.07
		20.0	14.0	1.58	13.2	1.43	12.5	1.25	12.2	1.21	11.7	1.14	11.1	1.06
		40.0	14.0	1.50	13.2	1.36	12.5	1.23	12.2	1.17	11.7	1.10	11.1	1.03
		50.0	14.0	1.47	13.2	1.36	12.5	1.21	12.2	1.17	11.7	1.10	11.1	1.03
		60.0	14.0	1.45	13.2	1.36	12.5	1.20	12.2	1.17	11.7	1.10	11.1	1.03
	45	16.0	14.0	1.49	13.2	1.34	12.5	1.10	12.2	1.07	11.7	1.00	11.1	0.96
		20.0	14.0	1.47	13.2	1.32	12.5	1.10	12.2	1.06	11.7	0.99	11.1	0.95
		40.0	14.0	1.39	13.2	1.25	12.5	1.08	12.2	1.03	11.7	0.95	11.1	0.92
		50.0	14.0	1.32	13.2	1.25	12.5	1.06	12.2	1.03	11.7	0.95	11.1	0.92
		60.0	14.0	1.28	13.2	1.25	12.5	1.05	12.2	1.03	11.7	0.95	11.1	0.92
90	-5	16.0	4.7	2.17	4.6	1.97	4.5	1.73	4.4	1.65	4.4	1.59	4.3	1.43
		20.0	4.9	2.20	4.8	2.01	4.6	1.77	4.6	1.69	4.5	1.63	4.5	1.46
		40.0	5.6	2.35	5.4	2.16	5.2	1.92	5.2	1.83	5.2	1.77	5.0	1.59
		50.0	6.1	2.50	5.9	2.31	5.8	2.07	5.7	1.98	5.7	1.90	5.6	1.71
		60.0	6.4	2.57	6.2	2.39	6.0	2.15	6.0	2.05	6.0	1.97	5.9	1.77
	0	16.0	8.5	2.95	8.1	2.77	7.7	2.54	7.6	2.42	7.5	2.33	7.2	2.10
		20.0	8.5	2.96	8.1	2.78	7.8	2.55	7.7	2.43	7.5	2.34	7.2	2.10
		40.0	8.7	2.99	8.3	2.81	8.0	2.58	7.8	2.46	7.7	2.37	7.4	2.12
		50.0	8.9	2.99	8.5	2.81	8.1	2.58	7.9	2.46	7.8	2.37	7.5	2.12
		60.0	8.9	2.99	8.5	2.81	8.1	2.58	8.0	2.46	7.9	2.37	7.6	2.12
	5	16.0	12.0	3.17	11.6	2.99	11.2	2.77	11.0	2.64	10.5	2.54	10.0	2.28
		20.0	12.0	3.18	11.6	3.00	11.2	2.78	11.0	2.65	10.5	2.55	10.0	2.29
		40.0	12.0	3.24	11.6	3.06	11.2	2.83	11.0	2.70	10.5	2.61	10.0	2.34
		50.0	12.1	3.26	11.6	3.08	11.2	2.86	11.0	2.72	10.5	2.62	10.0	2.36
		60.0	12.2	3.27	11.6	3.09	11.2	2.87	11.0	2.73	10.5	2.63	10.0	2.37
	10	16.0	12.1	2.80	11.6	2.66	11.2	2.50	11.0	2.40	10.5	2.30	10.0	2.08
		20.0	12.0	2.80	11.6	2.66	11.2	2.51	11.0	2.40	10.5	2.30	10.0	2.08
		40.0	12.0	2.81	11.6	2.67	11.2	2.52	11.0	2.42	10.5	2.29	10.0	2.09
		50.0	12.1	2.80	11.6	2.67	11.2	2.51	11.0	2.41	10.5	2.30	10.0	2.09
		60.0	12.1	2.80	11.6	2.66	11.2	2.51	11.0	2.40	10.5	2.31	10.0	2.10
	15	16.0	12.1	2.42	11.7	2.33	11.2	2.25	11.0	2.17	10.5	2.07	10.0	1.88
		20.0	12.1	2.41	11.7	2.33	11.2	2.24	11.0	2.16	10.5	2.05	10.0	1.87
		40.0	12.0	2.37	11.6	2.29	11.2	2.20	11.0	2.13	10.5	1.98	10.0	1.83
		50.0	12.1	2.34	11.6	2.25	11.2	2.16	11.0	2.09	10.5	1.98	10.0	1.83
		60.0	12.1	2.32	11.6	2.24	11.2	2.14	11.0	2.07	10.5	1.98	10.0	1.83
	20	16.0	12.2	2.04	11.7	1.99	11.2	1.92	11.0	1.84	10.5	1.78	10.0	1.67
		20.0	12.2	2.04	11.7	1.98	11.2	1.91	11.0	1.83	10.5	1.76	10.0	1.65
		40.0	12.1	2.04	11.6	1.96	11.2	1.87	11.0	1.80	10.5	1.69	10.0	1.58
		50.0	12.2	2.01	11.7	1.94	11.2	1.87	11.0	1.80	10.5	1.69	10.0	1.58
		60.0	12.2	1.99	11.7	1.93	11.2	1.87	11.0	1.80	10.5	1.69	10.0	1.58
	25	16.0	12.4	1.79	11.9	1.69	11.2	1.62	11.0	1.54	10.5	1.48	10.0	1.37
		20.0	12.4	1.78	11.9	1.69	11.2	1.61	11.0	1.54	10.5	1.47	10.0	1.36
		40.0	12.5	1.77	11.9	1.67	11.2	1.58	11.0	1.54	10.5	1.43	10.0	1.32
		50.0	12.6	1.72	11.9	1.63	11.2	1.58	11.0	1.50	10.5	1.43	10.0	1.32
		60.0	12.6	1.70	11.9	1.62	11.2	1.58	11.0	1.48	10.5	1.43	10.0	1.32
	30	16.0	12.6	1.62	11.9	1.51	11.2	1.40	11.0	1.37	10.5	1.29	10.0	1.17
		20.0	12.6	1.61	11.9	1.50	11.2	1.39	11.0	1.36	10.5	1.28	10.0	1.17
		40.0	12.6	1.58	11.9	1.47	11.2	1.36	11.0	1.32	10.5	1.25	10.0	1.17
		50.0	12.6	1.54	11.9	1.43	11.2	1.36	11.0	1.32	10.5	1.25	10.0	1.14
		60.0	12.6	1.52	11.9	1.41	11.2	1.36	11.0	1.32	10.5	1.25	10.0	1.12

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	35	16.0	12.6	1.48	11.9	1.37	11.2	1.26	11.0	1.22	10.5	1.15	10.0	1.07
		20.0	12.6	1.47	11.9	1.36	11.2	1.25	11.0	1.21	10.5	1.14	10.0	1.06
		40.0	12.6	1.43	11.9	1.32	11.2	1.21	11.0	1.17	10.5	1.10	10.0	1.03
		50.0	12.6	1.39	11.9	1.28	11.2	1.17	11.0	1.14	10.5	1.10	10.0	1.03
		60.0	12.6	1.37	11.9	1.26	11.2	1.15	11.0	1.12	10.5	1.10	10.0	1.03
	40	16.0	12.6	1.38	11.9	1.26	11.2	1.11	11.0	1.07	10.5	1.04	10.0	0.96
		20.0	12.6	1.36	11.9	1.25	11.2	1.10	11.0	1.06	10.5	1.03	10.0	0.95
		40.0	12.6	1.28	11.9	1.21	11.2	1.06	11.0	1.03	10.5	0.99	10.0	0.92
		50.0	12.6	1.28	11.9	1.21	11.2	1.06	11.0	1.03	10.5	0.99	10.0	0.92
		60.0	12.6	1.28	11.9	1.21	11.2	1.06	11.0	1.03	10.5	0.99	10.0	0.92
	45	16.0	12.6	1.28	11.9	1.15	11.2	0.96	11.0	0.93	10.5	0.93	10.0	0.85
		20.0	12.6	1.25	11.9	1.14	11.2	0.95	11.0	0.92	10.5	0.92	10.0	0.84
		40.0	12.6	1.14	11.9	1.10	11.2	0.92	11.0	0.88	10.5	0.88	10.0	0.81
		50.0	12.6	1.17	11.9	1.14	11.2	0.95	11.0	0.92	10.5	0.88	10.0	0.81
		60.0	12.6	1.19	11.9	1.16	11.2	0.97	11.0	0.94	10.5	0.88	10.0	0.81
80	-5	16.0	4.5	1.54	4.2	1.48	4.0	1.42	3.9	1.37	3.9	1.31	3.8	1.21
		20.0	4.6	1.58	4.3	1.52	4.1	1.45	4.1	1.40	4.0	1.34	4.0	1.23
		40.0	5.2	1.71	4.9	1.65	4.7	1.57	4.6	1.52	4.6	1.45	4.5	1.34
		50.0	5.8	1.85	5.4	1.78	5.1	1.70	5.1	1.64	5.1	1.57	5.0	1.44
		60.0	6.1	1.91	5.7	1.84	5.4	1.76	5.3	1.70	5.3	1.62	5.2	1.49
	0	16.0	8.0	2.27	7.4	2.17	6.9	2.08	6.7	2.01	6.7	1.92	6.4	1.77
		20.0	8.1	2.27	7.4	2.18	6.9	2.09	6.8	2.02	6.7	1.92	6.4	1.77
		40.0	8.3	2.30	7.6	2.21	7.1	2.11	7.0	2.04	6.9	1.95	6.6	1.79
		50.0	8.4	2.30	7.7	2.21	7.2	2.11	7.1	2.04	7.0	1.95	6.7	1.79
		60.0	8.4	2.30	7.8	2.21	7.3	2.11	7.1	2.04	7.0	1.95	6.8	1.79
	5	16.0	11.1	2.46	10.5	2.37	10.0	2.26	9.8	2.19	9.4	2.09	8.9	1.92
		20.0	11.1	2.48	10.5	2.38	10.0	2.28	9.8	2.20	9.4	2.10	8.9	1.93
		40.0	11.2	2.53	10.6	2.43	10.0	2.33	9.8	2.25	9.4	2.14	8.9	1.97
		50.0	11.2	2.55	10.5	2.45	10.0	2.34	9.8	2.26	9.4	2.15	8.9	1.98
		60.0	11.2	2.55	10.5	2.46	10.0	2.35	9.8	2.27	9.4	2.16	8.9	1.99
	10	16.0	11.1	2.27	10.5	2.16	10.0	2.05	9.8	2.00	9.4	1.89	8.9	1.75
		20.0	11.2	2.26	10.5	2.16	10.0	2.06	9.8	2.00	9.4	1.89	8.9	1.75
		40.0	11.2	2.25	10.6	2.15	10.0	2.06	9.8	2.00	9.4	1.90	8.9	1.76
		50.0	11.2	2.25	10.5	2.16	10.0	2.07	9.8	1.99	9.4	1.89	8.9	1.74
		60.0	11.2	2.24	10.5	2.16	10.0	2.07	9.8	1.99	9.4	1.88	8.9	1.74
	15	16.0	11.2	2.07	10.5	1.96	10.0	1.84	9.8	1.81	9.4	1.70	8.9	1.59
		20.0	11.2	2.05	10.5	1.94	10.0	1.83	9.8	1.80	9.4	1.69	8.9	1.58
		40.0	11.2	1.98	10.5	1.87	10.0	1.80	9.8	1.76	9.4	1.65	8.9	1.54
		50.0	11.2	1.94	10.5	1.87	10.0	1.80	9.8	1.72	9.4	1.61	8.9	1.50
		60.0	11.2	1.92	10.5	1.87	10.0	1.80	9.8	1.70	9.4	1.59	8.9	1.48
	20	16.0	11.2	1.73	10.5	1.66	10.0	1.58	9.8	1.55	9.4	1.48	8.9	1.37
		20.0	11.2	1.72	10.5	1.65	10.0	1.58	9.8	1.54	9.4	1.47	8.9	1.36
		40.0	11.2	1.69	10.5	1.61	10.0	1.58	9.8	1.50	9.4	1.43	8.9	1.32
		50.0	11.2	1.65	10.5	1.58	10.0	1.54	9.8	1.50	9.4	1.39	8.9	1.32
		60.0	11.2	1.63	10.5	1.56	10.0	1.52	9.8	1.50	9.4	1.37	8.9	1.32
	25	16.0	11.2	1.55	10.5	1.44	10.0	1.36	9.8	1.33	9.4	1.26	8.9	1.18
		20.0	11.2	1.54	10.5	1.43	10.0	1.36	9.8	1.32	9.4	1.25	8.9	1.17
		40.0	11.2	1.50	10.5	1.39	10.0	1.36	9.8	1.28	9.4	1.21	8.9	1.14
		50.0	11.2	1.47	10.5	1.39	10.0	1.32	9.8	1.28	9.4	1.21	8.9	1.14
		60.0	11.2	1.45	10.5	1.39	10.0	1.30	9.8	1.28	9.4	1.21	8.9	1.14
	30	16.0	11.2	1.37	10.5	1.29	10.0	1.22	9.8	1.18	9.4	1.11	8.9	1.04
		20.0	11.2	1.36	10.5	1.28	10.0	1.21	9.8	1.17	9.4	1.10	8.9	1.03
		40.0	11.2	1.32	10.5	1.25	10.0	1.17	9.8	1.14	9.4	1.06	8.9	0.99
		50.0	11.2	1.32	10.5	1.25	10.0	1.17	9.8	1.14	9.4	1.06	8.9	0.99
		60.0	11.2	1.32	10.5	1.25	10.0	1.17	9.8	1.14	9.4	1.06	8.9	0.99
	35	16.0	11.2	1.26	10.5	1.18	10.0	1.07	9.8	1.03	9.4	1.00	8.9	0.92
		20.0	11.2	1.25	10.5	1.17	10.0	1.06	9.8	1.03	9.4	0.99	8.9	0.92
		40.0	11.2	1.21	10.5	1.14	10.0	1.03	9.8	1.03	9.4	0.95	8.9	0.92
		50.0	11.2	1.21	10.5	1.10	10.0	1.03	9.8	0.99	9.4	0.95	8.9	0.88
		60.0	11.2	1.21	10.5	1.08	10.0	1.03	9.8	0.97	9.4	0.95	8.9	0.86
	40	16.0	11.2	1.19	10.5	1.07	10.0	0.95	9.8	0.96	9.4	0.88	8.9	0.85
		20.0	11.2	1.17	10.5	1.06	10.0	0.95	9.8	0.95	9.4	0.88	8.9	0.84
		40.0	11.2	1.10	10.5	1.03	10.0	0.95	9.8	0.92	9.4	0.88	8.9	0.81
		50.0	11.2	1.10	10.5	1.03	10.0	0.92	9.8	0.92	9.4	0.88	8.9	0.81
		60.0	11.2	1.10	10.5	1.03	10.0	0.90	9.8	0.92	9.4	0.88	8.9	0.81

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	45	16.0	11.2	1.13	10.5	0.96	10.0	0.83	9.8	0.90	9.4	0.76	8.9	0.79
		20.0	11.2	1.10	10.5	0.95	10.0	0.84	9.8	0.88	9.4	0.77	8.9	0.77
		40.0	11.2	0.99	10.5	0.92	10.0	0.88	9.8	0.81	9.4	0.81	8.9	0.70
		50.0	11.2	0.99	10.5	0.95	10.0	0.81	9.8	0.84	9.4	0.81	8.9	0.73
		60.0	11.2	0.99	10.5	0.97	10.0	0.77	9.8	0.86	9.4	0.81	8.9	0.75
70	-5	16.0	3.9	1.33	3.7	1.26	3.5	1.22	3.4	1.15	3.4	1.11	3.4	1.01
		20.0	4.0	1.35	3.8	1.29	3.6	1.25	3.6	1.18	3.5	1.13	3.5	1.03
		40.0	4.6	1.47	4.3	1.40	4.1	1.35	4.0	1.27	4.0	1.23	3.9	1.12
		50.0	5.1	1.59	4.8	1.51	4.5	1.46	4.5	1.37	4.4	1.33	4.3	1.21
		60.0	5.3	1.64	5.0	1.57	4.7	1.51	4.7	1.42	4.6	1.38	4.5	1.25
	0	16.0	7.0	1.94	6.5	1.85	6.0	1.79	5.9	1.68	5.8	1.63	5.6	1.48
		20.0	7.0	1.95	6.5	1.85	6.0	1.79	5.9	1.69	5.8	1.63	5.6	1.48
		40.0	7.2	1.97	6.7	1.87	6.2	1.82	6.1	1.71	6.0	1.65	5.8	1.50
		50.0	7.3	1.97	6.8	1.87	6.3	1.82	6.2	1.71	6.1	1.65	5.9	1.50
		60.0	7.4	1.97	6.8	1.87	6.3	1.82	6.2	1.71	6.1	1.65	5.9	1.50
	5	16.0	9.7	2.11	9.2	2.01	8.7	1.95	8.5	1.83	8.2	1.77	7.8	1.61
		20.0	9.7	2.12	9.2	2.02	8.7	1.96	8.5	1.84	8.2	1.78	7.8	1.62
		40.0	9.8	2.17	9.3	2.06	8.7	2.00	8.5	1.88	8.2	1.82	7.8	1.65
		50.0	9.8	2.18	9.2	2.08	8.7	2.01	8.5	1.89	8.2	1.83	7.8	1.66
		60.0	9.8	2.19	9.2	2.09	8.7	2.02	8.5	1.90	8.2	1.83	7.8	1.67
	10	16.0	9.7	1.95	9.2	1.84	8.7	1.77	8.5	1.67	8.2	1.60	7.8	1.47
		20.0	9.7	1.94	9.2	1.84	8.7	1.77	8.5	1.67	8.2	1.60	7.8	1.47
		40.0	9.8	1.93	9.2	1.82	8.7	1.75	8.5	1.67	8.2	1.60	7.8	1.47
		50.0	9.8	1.93	9.2	1.83	8.7	1.76	8.5	1.68	8.2	1.59	7.8	1.47
		60.0	9.8	1.94	9.2	1.83	8.7	1.76	8.5	1.68	8.2	1.59	7.8	1.47
	15	16.0	9.8	1.78	9.2	1.67	8.7	1.60	8.5	1.51	8.2	1.44	7.8	1.33
		20.0	9.8	1.76	9.2	1.65	8.7	1.58	8.5	1.50	8.2	1.43	7.8	1.32
		40.0	9.8	1.69	9.2	1.58	8.7	1.50	8.5	1.47	8.2	1.39	7.8	1.28
		50.0	9.8	1.69	9.2	1.58	8.7	1.50	8.5	1.47	8.2	1.36	7.8	1.28
		60.0	9.8	1.69	9.2	1.58	8.7	1.50	8.5	1.47	8.2	1.34	7.8	1.28
	20	16.0	9.8	1.48	9.2	1.40	8.7	1.37	8.5	1.33	8.2	1.26	7.8	1.18
		20.0	9.8	1.47	9.2	1.39	8.7	1.36	8.5	1.32	8.2	1.25	7.8	1.17
		40.0	9.8	1.43	9.2	1.36	8.7	1.32	8.5	1.28	8.2	1.21	7.8	1.14
		50.0	9.8	1.43	9.2	1.36	8.7	1.32	8.5	1.25	8.2	1.21	7.8	1.10
		60.0	9.8	1.43	9.2	1.36	8.7	1.32	8.5	1.23	8.2	1.21	7.8	1.08
	25	16.0	9.8	1.33	9.2	1.26	8.7	1.18	8.5	1.15	8.2	1.06	7.8	0.99
		20.0	9.8	1.32	9.2	1.25	8.7	1.17	8.5	1.14	8.2	1.06	7.8	0.99
		40.0	9.8	1.28	9.2	1.21	8.7	1.14	8.5	1.10	8.2	1.06	7.8	0.99
		50.0	9.8	1.25	9.2	1.17	8.7	1.14	8.5	1.10	8.2	1.03	7.8	0.99
		60.0	9.8	1.23	9.2	1.15	8.7	1.14	8.5	1.10	8.2	1.01	7.8	0.99
	30	16.0	9.8	1.18	9.2	1.11	8.7	1.04	8.5	0.99	8.2	0.96	7.8	0.88
		20.0	9.8	1.17	9.2	1.10	8.7	1.03	8.5	0.99	8.2	0.95	7.8	0.88
		40.0	9.8	1.14	9.2	1.06	8.7	0.99	8.5	0.99	8.2	0.92	7.8	0.88
		50.0	9.8	1.14	9.2	1.06	8.7	0.99	8.5	0.95	8.2	0.92	7.8	0.88
		60.0	9.8	1.14	9.2	1.06	8.7	0.99	8.5	0.93	8.2	0.92	7.8	0.88
	35	16.0	9.8	1.07	9.2	1.00	8.7	0.92	8.5	0.93	8.2	0.84	7.8	0.82
		20.0	9.8	1.06	9.2	0.99	8.7	0.92	8.5	0.92	8.2	0.84	7.8	0.81
		40.0	9.8	1.03	9.2	0.95	8.7	0.92	8.5	0.88	8.2	0.84	7.8	0.77
		50.0	9.8	1.03	9.2	0.95	8.7	0.88	8.5	0.88	8.2	0.84	7.8	0.77
		60.0	9.8	1.03	9.2	0.95	8.7	0.86	8.5	0.88	8.2	0.84	7.8	0.77
	40	16.0	9.8	1.00	9.2	0.93	8.7	0.85	8.5	0.81	8.2	0.77	7.8	0.74
		20.0	9.8	0.99	9.2	0.92	8.7	0.84	8.5	0.81	8.2	0.77	7.8	0.73
		40.0	9.8	0.95	9.2	0.88	8.7	0.81	8.5	0.81	8.2	0.77	7.8	0.70
		50.0	9.8	0.95	9.2	0.88	8.7	0.81	8.5	0.77	8.2	0.73	7.8	0.70
		60.0	9.8	0.95	9.2	0.88	8.7	0.81	8.5	0.75	8.2	0.71	7.8	0.70
	45	16.0	9.8	0.93	9.2	0.85	8.7	0.79	8.5	0.69	8.2	0.70	7.8	0.67
		20.0	9.8	0.92	9.2	0.84	8.7	0.77	8.5	0.70	8.2	0.70	7.8	0.66
		40.0	9.8	0.88	9.2	0.81	8.7	0.70	8.5	0.73	8.2	0.70	7.8	0.62
		50.0	9.8	0.88	9.2	0.81	8.7	0.73	8.5	0.66	8.2	0.62	7.8	0.62
		60.0	9.8	0.88	9.2	0.81	8.7	0.75	8.5	0.62	8.2	0.58	7.8	0.62
60	-5	16.0	3.4	1.08	3.1	1.04	3.0	0.99	2.9	0.92	2.9	0.91	2.9	0.81
		20.0	3.5	1.10	3.3	1.06	3.1	1.02	3.0	0.94	3.0	0.93	3.0	0.83
		40.0	3.9	1.19	3.7	1.15	3.5	1.10	3.5	1.02	3.4	1.01	3.4	0.90
		50.0	4.3	1.29	4.1	1.24	3.9	1.19	3.8	1.11	3.8	1.09	3.7	0.97
		60.0	4.6	1.33	4.3	1.29	4.0	1.23	4.0	1.15	4.0	1.13	3.9	1.01

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	0	16.0	6.0	1.58	5.5	1.52	5.2	1.46	5.1	1.35	5.0	1.34	4.8	1.19
		20.0	6.0	1.58	5.6	1.52	5.2	1.46	5.1	1.36	5.0	1.34	4.8	1.19
		40.0	6.2	1.60	5.7	1.54	5.3	1.48	5.2	1.37	5.1	1.35	4.9	1.21
		50.0	6.3	1.60	5.8	1.54	5.4	1.48	5.3	1.37	5.2	1.35	5.0	1.21
		60.0	6.3	1.60	5.8	1.54	5.4	1.48	5.3	1.37	5.3	1.35	5.1	1.21
	5	16.0	8.3	1.72	7.8	1.65	7.5	1.58	7.3	1.48	7.0	1.45	6.7	1.29
		20.0	8.3	1.73	7.8	1.66	7.5	1.59	7.3	1.48	7.0	1.46	6.7	1.30
		40.0	8.4	1.76	7.9	1.70	7.5	1.63	7.3	1.51	7.0	1.49	6.7	1.33
		50.0	8.4	1.78	7.9	1.71	7.5	1.64	7.3	1.52	7.0	1.50	6.7	1.34
		60.0	8.4	1.78	7.9	1.71	7.5	1.64	7.3	1.53	7.0	1.50	6.7	1.34
	10	16.0	8.4	1.58	7.9	1.51	7.5	1.44	7.3	1.34	7.0	1.32	6.7	1.18
		20.0	8.4	1.58	7.9	1.51	7.5	1.44	7.3	1.35	7.0	1.32	6.7	1.18
		40.0	8.4	1.58	7.9	1.51	7.5	1.44	7.3	1.36	7.0	1.31	6.7	1.19
		50.0	8.4	1.58	7.9	1.49	7.5	1.42	7.3	1.35	7.0	1.30	6.7	1.18
		60.0	8.4	1.58	7.9	1.49	7.5	1.41	7.3	1.34	7.0	1.30	6.7	1.18
	15	16.0	8.4	1.44	7.9	1.37	7.5	1.29	7.3	1.21	7.0	1.18	6.7	1.06
		20.0	8.4	1.43	7.9	1.36	7.5	1.28	7.3	1.21	7.0	1.17	6.7	1.06
		40.0	8.4	1.39	7.9	1.32	7.5	1.25	7.3	1.21	7.0	1.14	6.7	1.06
		50.0	8.4	1.39	7.9	1.28	7.5	1.21	7.3	1.17	7.0	1.10	6.7	1.03
		60.0	8.4	1.39	7.9	1.26	7.5	1.19	7.3	1.15	7.0	1.08	6.7	1.01
	20	16.0	8.4	1.26	7.9	1.18	7.5	1.11	7.3	1.07	7.0	1.04	6.7	0.96
		20.0	8.4	1.25	7.9	1.17	7.5	1.10	7.3	1.06	7.0	1.03	6.7	0.95
		40.0	8.4	1.21	7.9	1.14	7.5	1.06	7.3	1.03	7.0	0.99	6.7	0.92
		50.0	8.4	1.21	7.9	1.14	7.5	1.06	7.3	1.03	7.0	0.99	6.7	0.92
		60.0	8.4	1.21	7.9	1.14	7.5	1.06	7.3	1.03	7.0	0.99	6.7	0.92
	25	16.0	8.4	1.11	7.9	1.04	7.5	0.95	7.3	0.96	7.0	0.88	6.7	0.85
		20.0	8.4	1.10	7.9	1.03	7.5	0.95	7.3	0.95	7.0	0.88	6.7	0.84
		40.0	8.4	1.06	7.9	0.99	7.5	0.95	7.3	0.92	7.0	0.88	6.7	0.81
		50.0	8.4	1.06	7.9	0.99	7.5	0.92	7.3	0.92	7.0	0.88	6.7	0.81
		60.0	8.4	1.06	7.9	0.99	7.5	0.90	7.3	0.92	7.0	0.88	6.7	0.81
	30	16.0	8.4	1.00	7.9	0.93	7.5	0.89	7.3	0.85	7.0	0.82	6.7	0.78
		20.0	8.4	0.99	7.9	0.92	7.5	0.88	7.3	0.84	7.0	0.81	6.7	0.77
		40.0	8.4	0.95	7.9	0.88	7.5	0.84	7.3	0.81	7.0	0.77	6.7	0.73
		50.0	8.4	0.95	7.9	0.88	7.5	0.84	7.3	0.81	7.0	0.77	6.7	0.73
		60.0	8.4	0.95	7.9	0.88	7.5	0.84	7.3	0.81	7.0	0.77	6.7	0.73
	35	16.0	8.4	0.88	7.9	0.85	7.5	0.77	7.3	0.78	7.0	0.74	6.7	0.71
		20.0	8.4	0.88	7.9	0.84	7.5	0.77	7.3	0.77	7.0	0.73	6.7	0.70
		40.0	8.4	0.88	7.9	0.81	7.5	0.77	7.3	0.73	7.0	0.70	6.7	0.66
		50.0	8.4	0.88	7.9	0.81	7.5	0.73	7.3	0.73	7.0	0.70	6.7	0.66
		60.0	8.4	0.88	7.9	0.81	7.5	0.71	7.3	0.73	7.0	0.70	6.7	0.66
	40	16.0	8.4	0.81	7.9	0.78	7.5	0.70	7.3	0.71	7.0	0.67	6.7	0.62
		20.0	8.4	0.81	7.9	0.77	7.5	0.70	7.3	0.70	7.0	0.66	6.7	0.62
		40.0	8.4	0.81	7.9	0.73	7.5	0.70	7.3	0.66	7.0	0.62	6.7	0.62
		50.0	8.4	0.81	7.9	0.73	7.5	0.70	7.3	0.66	7.0	0.62	6.7	0.62
		60.0	8.4	0.81	7.9	0.73	7.5	0.70	7.3	0.66	7.0	0.62	6.7	0.62
	45	16.0	8.4	0.73	7.9	0.71	7.5	0.62	7.3	0.63	7.0	0.60	6.7	0.54
		20.0	8.4	0.73	7.9	0.70	7.5	0.62	7.3	0.62	7.0	0.59	6.7	0.55
		40.0	8.4	0.73	7.9	0.66	7.5	0.62	7.3	0.59	7.0	0.55	6.7	0.59
		50.0	8.4	0.73	7.9	0.66	7.5	0.66	7.3	0.59	7.0	0.55	6.7	0.59
		60.0	8.4	0.73	7.9	0.66	7.5	0.68	7.3	0.59	7.0	0.55	6.7	0.59
50	-5	16.0	2.8	0.86	2.6	0.81	2.5	0.77	2.4	0.73	2.4	0.68	2.4	0.65
		20.0	2.9	0.88	2.7	0.83	2.6	0.79	2.5	0.74	2.5	0.70	2.5	0.66
		40.0	3.3	0.95	3.1	0.90	2.9	0.85	2.9	0.81	2.9	0.76	2.8	0.71
		50.0	3.6	1.02	3.4	0.97	3.2	0.92	3.2	0.87	3.2	0.82	3.1	0.77
		60.0	3.8	1.06	3.6	1.01	3.4	0.95	3.3	0.90	3.3	0.84	3.3	0.80
	0	16.0	5.0	1.26	4.6	1.19	4.3	1.12	4.2	1.07	4.1	1.00	4.0	0.95
		20.0	5.0	1.26	4.7	1.19	4.3	1.13	4.2	1.07	4.2	1.01	4.0	0.95
		40.0	5.1	1.27	4.8	1.21	4.4	1.14	4.3	1.08	4.3	1.02	4.1	0.96
		50.0	5.2	1.27	4.8	1.21	4.5	1.14	4.4	1.08	4.3	1.02	4.2	0.96
		60.0	5.3	1.27	4.9	1.21	4.5	1.14	4.4	1.08	4.4	1.02	4.2	0.96
	5	16.0	6.9	1.37	6.5	1.29	6.2	1.22	6.1	1.16	5.8	1.09	5.6	1.03
		20.0	6.9	1.37	6.6	1.30	6.2	1.23	6.1	1.17	5.8	1.10	5.6	1.03
		40.0	7.0	1.40	6.6	1.33	6.3	1.26	6.1	1.19	5.8	1.12	5.6	1.05
		50.0	7.0	1.41	6.6	1.34	6.3	1.26	6.1	1.20	5.8	1.13	5.6	1.06
		60.0	7.0	1.42	6.6	1.34	6.3	1.27	6.1	1.20	5.8	1.13	5.6	1.07

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(4HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	10	16.0	6.9	1.26	6.6	1.18	6.2	1.11	6.1	1.06	5.8	0.98	5.6	0.94
		20.0	7.0	1.26	6.6	1.18	6.2	1.11	6.1	1.06	5.8	0.99	5.6	0.94
		40.0	7.0	1.25	6.6	1.18	6.3	1.10	6.1	1.05	5.8	1.00	5.6	0.93
		50.0	7.0	1.26	6.6	1.18	6.3	1.11	6.1	1.06	5.8	0.98	5.6	0.93
		60.0	7.0	1.26	6.6	1.19	6.3	1.11	6.1	1.06	5.8	0.97	5.6	0.94
	15	16.0	7.0	1.15	6.6	1.07	6.3	1.00	6.1	0.96	5.8	0.88	5.6	0.85
		20.0	7.0	1.14	6.6	1.06	6.3	0.99	6.1	0.95	5.8	0.88	5.6	0.84
		40.0	7.0	1.10	6.6	1.03	6.3	0.95	6.1	0.92	5.8	0.88	5.6	0.81
		50.0	7.0	1.10	6.6	1.03	6.3	0.95	6.1	0.92	5.8	0.84	5.6	0.81
		60.0	7.0	1.10	6.6	1.03	6.3	0.95	6.1	0.92	5.8	0.82	5.6	0.81
	20	16.0	7.0	1.00	6.6	0.93	6.3	0.89	6.1	0.85	5.8	0.82	5.6	0.73
		20.0	7.0	0.99	6.6	0.92	6.3	0.88	6.1	0.84	5.8	0.81	5.6	0.73
		40.0	7.0	0.95	6.6	0.88	6.3	0.84	6.1	0.81	5.8	0.77	5.6	0.73
		50.0	7.0	0.95	6.6	0.88	6.3	0.84	6.1	0.81	5.8	0.77	5.6	0.73
		60.0	7.0	0.95	6.6	0.88	6.3	0.84	6.1	0.81	5.8	0.77	5.6	0.73
	25	16.0	7.0	0.89	6.6	0.81	6.3	0.78	6.1	0.73	5.8	0.70	5.6	0.66
		20.0	7.0	0.88	6.6	0.81	6.3	0.77	6.1	0.73	5.8	0.70	5.6	0.66
		40.0	7.0	0.84	6.6	0.81	6.3	0.73	6.1	0.73	5.8	0.70	5.6	0.66
		50.0	7.0	0.84	6.6	0.81	6.3	0.73	6.1	0.73	5.8	0.70	5.6	0.66
		60.0	7.0	0.84	6.6	0.81	6.3	0.73	6.1	0.73	5.8	0.70	5.6	0.66
	30	16.0	7.0	0.82	6.6	0.74	6.3	0.71	6.1	0.66	5.8	0.67	5.6	0.63
		20.0	7.0	0.81	6.6	0.73	6.3	0.70	6.1	0.66	5.8	0.66	5.6	0.62
		40.0	7.0	0.77	6.6	0.70	6.3	0.66	6.1	0.66	5.8	0.62	5.6	0.59
		50.0	7.0	0.77	6.6	0.70	6.3	0.66	6.1	0.66	5.8	0.62	5.6	0.59
		60.0	7.0	0.77	6.6	0.70	6.3	0.66	6.1	0.66	5.8	0.62	5.6	0.59
	35	16.0	7.0	0.74	6.6	0.66	6.3	0.62	6.1	0.63	5.8	0.59	5.6	0.55
		20.0	7.0	0.73	6.6	0.66	6.3	0.62	6.1	0.62	5.8	0.59	5.6	0.55
		40.0	7.0	0.70	6.6	0.66	6.3	0.62	6.1	0.59	5.8	0.59	5.6	0.55
		50.0	7.0	0.70	6.6	0.66	6.3	0.62	6.1	0.59	5.8	0.59	5.6	0.55
		60.0	7.0	0.70	6.6	0.66	6.3	0.62	6.1	0.59	5.8	0.59	5.6	0.55
	40	16.0	7.0	0.67	6.6	0.63	6.3	0.60	6.1	0.55	5.8	0.56	5.6	0.51
		20.0	7.0	0.66	6.6	0.62	6.3	0.59	6.1	0.55	5.8	0.55	5.6	0.51
		40.0	7.0	0.62	6.6	0.59	6.3	0.55	6.1	0.55	5.8	0.51	5.6	0.51
		50.0	7.0	0.62	6.6	0.59	6.3	0.55	6.1	0.55	5.8	0.51	5.6	0.51
		60.0	7.0	0.62	6.6	0.59	6.3	0.55	6.1	0.55	5.8	0.51	5.6	0.51
	45	16.0	7.0	0.60	6.6	0.61	6.3	0.57	6.1	0.47	5.8	0.53	5.6	0.48
		20.0	7.0	0.59	6.6	0.59	6.3	0.55	6.1	0.48	5.8	0.51	5.6	0.48
		40.0	7.0	0.55	6.6	0.51	6.3	0.48	6.1	0.51	5.8	0.44	5.6	0.48
		50.0	7.0	0.55	6.6	0.51	6.3	0.48	6.1	0.51	5.8	0.44	5.6	0.48
		60.0	7.0	0.55	6.6	0.51	6.3	0.48	6.1	0.51	5.8	0.44	5.6	0.48

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

ARWN50GA0

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-5	20.0	7.6	3.04	7.5	2.86	7.5	2.66	7.4	2.58	7.5	2.52	7.2	2.26
		25.0	7.8	3.09	7.8	2.92	7.7	2.72	7.6	2.64	7.7	2.57	7.5	2.31
		50.0	8.9	3.30	8.8	3.14	8.7	2.95	8.6	2.87	8.7	2.79	8.5	2.50
		62.5	9.8	3.51	9.7	3.35	9.6	3.18	9.5	3.10	9.6	3.01	9.4	2.70
		75.0	10.3	3.62	10.2	3.46	10.1	3.30	10.0	3.21	10.1	3.12	9.8	2.79
	0	20.0	13.5	4.15	13.2	4.03	12.9	3.90	12.7	3.79	12.7	3.68	12.1	3.30
		25.0	13.6	4.17	13.3	4.04	13.0	3.91	12.7	3.80	12.8	3.70	12.2	3.31
		50.0	13.9	4.21	13.6	4.08	13.3	3.96	13.0	3.85	13.1	3.74	12.5	3.35
		62.5	14.1	4.21	13.8	4.08	13.5	3.96	13.2	3.85	13.3	3.74	12.7	3.35
		75.0	14.2	4.21	13.9	4.08	13.6	3.96	13.3	3.85	13.4	3.74	12.8	3.35
	5	20.0	19.5	4.46	19.2	4.35	18.8	4.24	18.3	4.12	17.8	4.01	16.8	3.59
		25.0	19.5	4.49	19.2	4.38	18.8	4.27	18.3	4.15	17.8	4.03	16.8	3.61
		50.0	19.8	4.57	19.3	4.46	18.8	4.35	18.3	4.23	17.8	4.11	16.8	3.69
		62.5	19.9	4.60	19.4	4.49	18.8	4.38	18.3	4.26	17.8	4.14	16.8	3.71
		75.0	20.0	4.61	19.4	4.50	18.8	4.40	18.3	4.28	17.8	4.16	16.8	3.72
	10	20.0	19.5	4.06	19.2	3.93	18.7	3.85	18.2	3.77	17.7	3.64	16.8	3.28
		25.0	19.6	4.06	19.3	3.93	18.8	3.86	18.3	3.77	17.8	3.64	16.8	3.28
		50.0	20.1	4.03	19.6	3.95	19.1	3.89	18.6	3.76	18.1	3.63	17.1	3.27
		62.5	20.2	4.08	19.8	4.00	19.2	3.91	18.7	3.78	18.2	3.69	17.2	3.43
		75.0	20.2	4.11	19.8	4.03	19.3	3.91	18.7	3.78	18.3	3.72	17.3	3.50
	15	20.0	19.5	3.66	19.2	3.51	18.6	3.47	18.2	3.41	17.7	3.27	16.7	2.98
		25.0	19.7	3.63	19.3	3.49	18.8	3.46	18.3	3.39	17.8	3.24	16.8	2.95
		50.0	20.3	3.48	19.9	3.43	19.4	3.43	18.9	3.29	18.4	3.14	17.4	2.85
		62.5	20.4	3.57	20.1	3.51	19.6	3.43	19.1	3.29	18.6	3.23	17.6	3.14
		75.0	20.5	3.61	20.2	3.55	19.8	3.43	19.2	3.29	18.7	3.28	17.7	3.29
	20	20.0	20.3	3.36	19.9	3.20	19.4	3.13	18.8	3.03	18.3	2.96	17.2	2.87
		25.0	20.4	3.34	20.1	3.20	19.5	3.13	19.0	3.05	18.5	2.99	17.4	2.85
		50.0	21.1	3.24	20.7	3.19	20.1	3.12	19.6	3.10	19.1	3.07	18.0	2.76
		62.5	21.2	3.24	20.9	3.19	20.4	3.14	19.8	3.10	19.2	3.07	18.2	2.93
		75.0	21.2	3.24	20.9	3.19	20.5	3.15	19.9	3.10	19.3	3.07	18.2	3.02
	25	20.0	21.4	3.20	20.9	3.11	20.4	3.06	20.0	3.01	19.5	2.96	18.4	2.77
		25.0	21.4	3.19	20.9	3.11	20.4	3.05	20.0	3.00	19.5	2.95	18.4	2.76
		50.0	21.4	3.14	20.9	3.09	20.4	3.00	20.0	2.95	19.5	2.90	18.4	2.71
		62.5	21.4	3.10	20.9	3.01	20.4	2.95	20.0	2.90	19.5	2.85	18.4	2.66
		75.0	21.4	3.07	20.9	2.96	20.4	2.93	20.0	2.87	19.5	2.82	18.4	2.64
	30	20.0	21.4	3.12	20.9	2.97	20.4	2.94	20.0	2.86	19.5	2.83	18.4	2.63
		25.0	21.4	3.10	20.9	2.96	20.4	2.92	20.0	2.85	19.5	2.81	18.4	2.61
		50.0	21.4	3.00	20.9	2.94	20.4	2.85	20.0	2.81	19.5	2.71	18.4	2.52
		62.5	21.4	2.95	20.9	2.86	20.4	2.81	20.0	2.76	19.5	2.71	18.4	2.52
		75.0	21.4	2.93	20.9	2.82	20.4	2.78	20.0	2.73	19.5	2.71	18.4	2.52
	35	20.0	21.4	2.98	20.9	2.88	20.4	2.82	20.0	2.72	19.5	2.62	18.4	2.44
		25.0	21.4	2.95	20.9	2.86	20.4	2.81	20.0	2.71	19.5	2.61	18.4	2.42
		50.0	21.4	2.85	20.9	2.80	20.4	2.76	20.0	2.66	19.5	2.56	18.4	2.32
		62.5	21.4	2.85	20.9	2.77	20.4	2.71	20.0	2.61	19.5	2.52	18.4	2.32
		75.0	21.4	2.85	20.9	2.75	20.4	2.68	20.0	2.58	19.5	2.49	18.4	2.32
	40	20.0	21.4	2.87	20.9	2.78	20.4	2.73	20.0	2.63	19.5	2.54	18.4	2.29
		25.0	21.4	2.85	20.9	2.77	20.4	2.71	20.0	2.61	19.5	2.52	18.4	2.27
		50.0	21.4	2.76	20.9	2.70	20.4	2.61	20.0	2.52	19.5	2.42	18.4	2.18
		62.5	21.4	2.71	20.9	2.65	20.4	2.61	20.0	2.52	19.5	2.42	18.4	2.18
		75.0	21.4	2.68	20.9	2.63	20.4	2.61	20.0	2.52	19.5	2.42	18.4	2.18
	45	20.0	21.4	2.78	20.9	2.69	20.4	2.65	20.0	2.55	19.5	2.45	18.4	2.15
		25.0	21.4	2.76	20.9	2.67	20.4	2.61	20.0	2.52	19.5	2.42	18.4	2.13
		50.0	21.4	2.66	20.9	2.60	20.4	2.47	20.0	2.37	19.5	2.27	18.4	2.03
		62.5	21.4	2.56	20.9	2.54	20.4	2.52	20.0	2.42	19.5	2.32	18.4	2.03
		75.0	21.4	2.51	20.9	2.50	20.4	2.54	20.0	2.44	19.5	2.35	18.4	2.03
120	-5	20.0	7.2	3.04	7.1	2.86	7.1	2.66	7.0	2.55	7.1	2.48	6.9	2.22
		25.0	7.4	3.09	7.4	2.92	7.3	2.72	7.2	2.61	7.3	2.53	7.1	2.27
		50.0	8.4	3.30	8.3	3.14	8.3	2.95	8.2	2.83	8.3	2.75	8.1	2.46
		62.5	9.3	3.51	9.2	3.35	9.2	3.18	9.1	3.05	9.1	2.96	8.9	2.65
		75.0	9.7	3.62	9.7	3.46	9.6	3.30	9.5	3.16	9.6	3.07	9.3	2.75
	0	20.0	12.9	4.15	12.5	4.03	12.3	3.90	12.0	3.73	12.0	3.63	11.5	3.24
		25.0	12.9	4.17	12.6	4.04	12.4	3.91	12.1	3.75	12.1	3.64	11.5	3.26
		50.0	13.2	4.21	12.9	4.08	12.7	3.96	12.4	3.79	12.4	3.68	11.8	3.30
		62.5	13.4	4.21	13.1	4.08	12.8	3.96	12.6	3.79	12.6	3.68	12.0	3.30
		75.0	13.5	4.21	13.2	4.08	12.9	3.96	12.7	3.79	12.7	3.68	12.1	3.30

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	5	20.0	18.5	4.46	18.3	4.35	17.9	4.24	17.4	4.06	16.9	3.95	16.0	3.54
		25.0	18.6	4.49	18.3	4.38	17.9	4.27	17.4	4.09	16.9	3.97	16.0	3.56
		50.0	18.9	4.57	18.4	4.46	17.9	4.35	17.4	4.17	16.9	4.05	16.0	3.63
		62.5	19.0	4.60	18.3	4.49	17.9	4.38	17.4	4.20	16.9	4.08	16.0	3.65
		75.0	19.0	4.61	18.3	4.50	17.9	4.40	17.4	4.22	16.9	4.10	16.0	3.66
	10	20.0	18.6	4.01	18.3	3.90	17.8	3.82	17.4	3.70	16.8	3.58	15.9	3.22
		25.0	18.7	4.03	18.3	3.92	17.9	3.84	17.4	3.71	16.9	3.58	16.0	3.23
		50.0	19.0	4.08	18.6	3.98	18.1	3.89	17.6	3.73	17.1	3.57	16.1	3.24
		62.5	19.1	4.07	18.6	3.98	18.1	3.91	17.7	3.75	17.1	3.59	16.2	3.35
		75.0	19.2	4.06	18.5	3.98	18.2	3.91	17.7	3.75	17.2	3.59	16.2	3.41
	15	20.0	18.7	3.56	18.3	3.45	17.8	3.40	17.3	3.35	16.8	3.21	15.9	2.91
		25.0	18.8	3.57	18.4	3.46	17.9	3.41	17.4	3.34	16.9	3.19	16.0	2.90
		50.0	19.2	3.60	18.8	3.49	18.3	3.43	17.8	3.29	17.2	3.10	16.3	2.85
		62.5	19.3	3.54	18.8	3.46	18.4	3.43	18.0	3.29	17.4	3.10	16.4	3.05
		75.0	19.4	3.51	18.8	3.44	18.5	3.43	18.0	3.29	17.4	3.10	16.5	3.14
	20	20.0	19.2	3.20	18.8	3.06	18.3	2.98	17.7	2.94	17.2	2.90	16.2	2.76
		25.0	19.3	3.20	18.9	3.08	18.4	3.00	17.9	2.95	17.3	2.90	16.3	2.75
		50.0	19.8	3.20	19.4	3.12	18.8	3.05	18.3	3.00	17.7	2.89	16.7	2.71
		62.5	19.9	3.17	19.4	3.10	18.9	3.05	18.4	3.00	17.8	2.90	16.8	2.81
		75.0	19.9	3.15	19.4	3.08	19.0	3.05	18.5	3.00	17.9	2.91	16.9	2.86
	25	20.0	20.1	3.03	19.5	2.89	18.9	2.83	18.5	2.77	18.0	2.72	17.0	2.53
		25.0	20.1	3.02	19.5	2.88	18.9	2.83	18.5	2.76	18.0	2.71	17.0	2.52
		50.0	20.2	2.97	19.5	2.86	18.9	2.81	18.5	2.71	18.0	2.66	17.0	2.47
		62.5	20.2	2.86	19.5	2.79	18.9	2.76	18.5	2.71	18.0	2.61	17.0	2.47
		75.0	20.3	2.80	19.5	2.75	18.9	2.73	18.5	2.71	18.0	2.58	17.0	2.47
	30	20.0	20.2	2.89	19.5	2.75	18.9	2.67	18.5	2.57	18.0	2.54	17.0	2.33
		25.0	20.2	2.87	19.5	2.74	18.9	2.66	18.5	2.56	18.0	2.52	17.0	2.32
		50.0	20.2	2.78	19.5	2.67	18.9	2.61	18.5	2.52	18.0	2.42	17.0	2.27
		62.5	20.2	2.69	19.5	2.61	18.9	2.56	18.5	2.52	18.0	2.42	17.0	2.23
		75.0	20.2	2.64	19.5	2.58	18.9	2.53	18.5	2.52	18.0	2.42	17.0	2.20
	35	20.0	20.2	2.76	19.5	2.61	18.9	2.54	18.5	2.44	18.0	2.34	17.0	2.14
		25.0	20.2	2.73	19.5	2.59	18.9	2.52	18.5	2.42	18.0	2.32	17.0	2.13
		50.0	20.2	2.57	19.5	2.50	18.9	2.42	18.5	2.32	18.0	2.23	17.0	2.08
		62.5	20.2	2.54	19.5	2.48	18.9	2.42	18.5	2.32	18.0	2.23	17.0	2.03
		75.0	20.2	2.52	19.5	2.46	18.9	2.42	18.5	2.32	18.0	2.23	17.0	2.00
	40	20.0	20.2	2.68	19.5	2.49	18.9	2.40	18.5	2.29	18.0	2.20	17.0	1.99
		25.0	20.2	2.63	19.5	2.47	18.9	2.37	18.5	2.27	18.0	2.18	17.0	1.98
		50.0	20.2	2.43	19.5	2.35	18.9	2.27	18.5	2.18	18.0	2.08	17.0	1.94
		62.5	20.2	2.40	19.5	2.32	18.9	2.27	18.5	2.18	18.0	2.08	17.0	1.89
		75.0	20.2	2.38	19.5	2.30	18.9	2.27	18.5	2.18	18.0	2.08	17.0	1.86
	45	20.0	20.2	2.60	19.5	2.37	18.9	2.25	18.5	2.15	18.0	2.05	17.0	1.85
		25.0	20.2	2.54	19.5	2.34	18.9	2.23	18.5	2.13	18.0	2.03	17.0	1.84
		50.0	20.2	2.28	19.5	2.21	18.9	2.13	18.5	2.03	18.0	1.94	17.0	1.79
		62.5	20.2	2.25	19.5	2.17	18.9	2.13	18.5	2.03	18.0	1.94	17.0	1.74
		75.0	20.2	2.23	19.5	2.14	18.9	2.13	18.5	2.03	18.0	1.94	17.0	1.71
110	-5	20.0	6.8	3.08	6.8	2.86	6.7	2.66	6.6	2.55	6.7	2.48	6.5	2.22
		25.0	7.0	3.13	7.0	2.92	7.0	2.72	6.9	2.61	6.9	2.53	6.7	2.27
		50.0	8.0	3.34	7.9	3.14	7.9	2.95	7.8	2.83	7.8	2.75	7.6	2.46
		62.5	8.8	3.56	8.7	3.35	8.7	3.18	8.6	3.05	8.6	2.96	8.4	2.65
		75.0	9.2	3.66	9.1	3.46	9.1	3.30	9.0	3.16	9.0	3.07	8.8	2.75
	0	20.0	12.2	4.21	11.9	4.03	11.6	3.90	11.4	3.73	11.3	3.63	10.9	3.24
		25.0	12.2	4.22	12.0	4.04	11.7	3.91	11.5	3.75	11.4	3.64	11.0	3.26
		50.0	12.5	4.26	12.2	4.08	12.0	3.96	11.8	3.79	11.7	3.68	11.2	3.30
		62.5	12.7	4.26	12.4	4.08	12.2	3.96	11.9	3.79	11.8	3.68	11.4	3.30
		75.0	12.8	4.26	12.5	4.08	12.3	3.96	12.0	3.79	11.9	3.68	11.5	3.30
	5	20.0	17.7	4.52	17.3	4.35	16.9	4.24	16.5	4.06	15.9	3.95	15.1	3.54
		25.0	17.8	4.55	17.4	4.38	16.9	4.27	16.5	4.09	15.9	3.97	15.1	3.56
		50.0	18.0	4.63	17.5	4.46	16.9	4.35	16.5	4.17	15.9	4.05	15.1	3.63
		62.5	18.1	4.66	17.5	4.49	16.9	4.38	16.5	4.20	15.9	4.08	15.1	3.65
		75.0	18.2	4.67	17.6	4.50	16.9	4.40	16.5	4.22	15.9	4.10	15.1	3.66
	10	20.0	17.8	4.06	17.4	3.92	16.9	3.83	16.5	3.70	15.9	3.58	15.1	3.22
		25.0	17.9	4.07	17.4	3.93	16.9	3.85	16.5	3.71	15.9	3.58	15.1	3.23
		50.0	18.1	4.10	17.6	3.98	17.0	3.89	16.6	3.73	16.0	3.57	15.2	3.24
		62.5	18.2	4.10	17.7	3.98	17.1	3.88	16.7	3.72	16.0	3.59	15.2	3.28
		75.0	18.3	4.10	17.7	3.98	17.1	3.87	16.7	3.71	16.0	3.59	15.3	3.29

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	15	20.0	17.9	3.59	17.4	3.49	16.9	3.43	16.5	3.35	15.8	3.21	15.1	2.91
		25.0	17.9	3.59	17.5	3.49	16.9	3.43	16.5	3.34	15.9	3.19	15.1	2.90
		50.0	18.2	3.57	17.7	3.49	17.1	3.43	16.7	3.29	16.1	3.10	15.3	2.85
		62.5	18.3	3.54	17.8	3.46	17.2	3.39	16.8	3.24	16.1	3.10	15.4	2.90
		75.0	18.4	3.53	17.8	3.44	17.3	3.36	16.8	3.22	16.2	3.10	15.4	2.93
	20	20.0	18.2	3.10	17.7	3.03	17.1	2.95	16.7	2.90	16.1	2.82	15.2	2.64
		25.0	18.3	3.11	17.8	3.03	17.2	2.95	16.7	2.90	16.1	2.81	15.3	2.63
		50.0	18.7	3.13	18.0	3.03	17.4	2.95	17.0	2.90	16.3	2.76	15.5	2.61
		62.5	18.8	3.13	18.1	3.03	17.5	2.95	17.0	2.85	16.4	2.76	15.6	2.61
		75.0	18.8	3.13	18.2	3.03	17.5	2.95	17.0	2.82	16.4	2.76	15.6	2.61
	25	20.0	18.8	2.82	18.2	2.72	17.5	2.67	17.1	2.57	16.5	2.48	15.6	2.27
		25.0	18.8	2.82	18.2	2.71	17.5	2.66	17.1	2.56	16.5	2.47	15.6	2.27
		50.0	18.9	2.80	18.2	2.66	17.5	2.61	17.1	2.52	16.5	2.42	15.6	2.27
		62.5	19.0	2.80	18.2	2.67	17.5	2.56	17.1	2.52	16.5	2.37	15.6	2.23
		75.0	19.1	2.80	18.2	2.68	17.5	2.53	17.1	2.52	16.5	2.35	15.6	2.20
	30	20.0	19.0	2.57	18.2	2.48	17.5	2.38	17.1	2.33	16.5	2.19	15.6	2.04
		25.0	19.0	2.56	18.2	2.47	17.5	2.37	17.1	2.32	16.5	2.18	15.6	2.03
		50.0	19.0	2.52	18.2	2.42	17.5	2.32	17.1	2.27	16.5	2.13	15.6	1.98
		62.5	19.0	2.50	18.2	2.37	17.5	2.27	17.1	2.23	16.5	2.13	15.6	1.98
		75.0	19.0	2.48	18.2	2.35	17.5	2.24	17.1	2.20	16.5	2.13	15.6	1.98
	35	20.0	19.0	2.44	18.2	2.28	17.5	2.19	17.1	2.09	16.5	1.99	15.6	1.85
		25.0	19.0	2.42	18.2	2.27	17.5	2.18	17.1	2.08	16.5	1.98	15.6	1.84
		50.0	19.0	2.32	18.2	2.23	17.5	2.13	17.1	2.03	16.5	1.94	15.6	1.79
		62.5	19.0	2.26	18.2	2.18	17.5	2.08	17.1	2.03	16.5	1.94	15.6	1.79
		75.0	19.0	2.23	18.2	2.15	17.5	2.06	17.1	2.03	16.5	1.94	15.6	1.79
	40	20.0	19.0	2.29	18.2	2.20	17.5	2.05	17.1	1.95	16.5	1.85	15.6	1.70
		25.0	19.0	2.27	18.2	2.18	17.5	2.03	17.1	1.94	16.5	1.84	15.6	1.69
		50.0	19.0	2.18	18.2	2.08	17.5	1.94	17.1	1.89	16.5	1.79	15.6	1.65
		62.5	19.0	2.15	18.2	2.03	17.5	1.94	17.1	1.84	16.5	1.74	15.6	1.60
		75.0	19.0	2.13	18.2	2.00	17.5	1.94	17.1	1.81	16.5	1.71	15.6	1.57
	45	20.0	19.0	2.15	18.2	2.12	17.5	1.92	17.1	1.80	16.5	1.70	15.6	1.56
		25.0	19.0	2.13	18.2	2.08	17.5	1.89	17.1	1.79	16.5	1.69	15.6	1.55
		50.0	19.0	2.03	18.2	1.94	17.5	1.74	17.1	1.74	16.5	1.65	15.6	1.50
		62.5	19.0	2.03	18.2	1.89	17.5	1.79	17.1	1.65	16.5	1.55	15.6	1.40
		75.0	19.0	2.03	18.2	1.86	17.5	1.82	17.1	1.60	16.5	1.49	15.6	1.35
100	-5	20.0	6.4	3.08	6.4	2.90	6.4	2.66	6.3	2.55	6.2	2.44	6.1	2.22
		25.0	6.7	3.13	6.6	2.96	6.6	2.72	6.5	2.61	6.5	2.49	6.3	2.27
		50.0	7.5	3.34	7.5	3.18	7.4	2.95	7.4	2.83	7.3	2.71	7.2	2.46
		62.5	8.3	3.56	8.3	3.40	8.2	3.18	8.1	3.05	8.1	2.92	7.9	2.65
		75.0	8.7	3.66	8.7	3.51	8.6	3.30	8.5	3.16	8.5	3.02	8.3	2.75
	0	20.0	11.5	4.21	11.2	4.08	11.0	3.90	10.8	3.73	10.6	3.57	10.3	3.24
		25.0	11.6	4.22	11.3	4.10	11.1	3.91	10.9	3.75	10.7	3.59	10.3	3.26
		50.0	11.8	4.26	11.6	4.14	11.3	3.96	11.1	3.79	10.9	3.63	10.6	3.30
		62.5	12.0	4.26	11.8	4.14	11.5	3.96	11.3	3.79	11.1	3.63	10.7	3.30
		75.0	12.1	4.26	11.8	4.14	11.6	3.96	11.4	3.79	11.2	3.63	10.8	3.30
	5	20.0	17.0	4.52	16.4	4.41	16.0	4.24	15.7	4.06	14.9	3.89	14.2	3.54
		25.0	17.0	4.55	16.4	4.44	16.0	4.27	15.7	4.09	14.9	3.91	14.2	3.56
		50.0	17.3	4.63	16.6	4.52	16.0	4.35	15.7	4.17	14.9	3.99	14.2	3.63
		62.5	17.4	4.66	16.6	4.55	16.0	4.38	15.7	4.20	14.9	4.02	14.2	3.65
		75.0	17.4	4.67	16.6	4.56	16.0	4.40	15.7	4.22	14.9	4.03	14.2	3.66
	10	20.0	17.1	4.05	16.5	3.96	16.0	3.83	15.7	3.70	14.9	3.52	14.2	3.22
		25.0	17.1	4.07	16.5	3.97	16.0	3.85	15.7	3.71	14.9	3.53	14.2	3.23
		50.0	17.3	4.14	16.6	4.02	16.0	3.89	15.7	3.73	14.9	3.54	14.2	3.24
		62.5	17.4	4.13	16.6	4.02	16.0	3.88	15.7	3.72	14.9	3.53	14.2	3.23
		75.0	17.4	4.12	16.7	4.02	16.0	3.87	15.7	3.71	14.9	3.52	14.2	3.22
	15	20.0	17.2	3.57	16.5	3.51	16.0	3.43	15.7	3.35	14.9	3.15	14.2	2.91
		25.0	17.2	3.59	16.5	3.51	16.0	3.43	15.7	3.34	14.9	3.14	14.2	2.90
		50.0	17.3	3.66	16.6	3.52	16.0	3.43	15.7	3.29	14.9	3.10	14.2	2.85
		62.5	17.4	3.60	16.7	3.49	16.0	3.39	15.7	3.24	14.9	3.05	14.2	2.81
		75.0	17.5	3.56	16.7	3.47	16.0	3.36	15.7	3.22	14.9	3.02	14.2	2.78
	20	20.0	17.2	3.05	16.6	2.97	16.0	2.90	15.7	2.86	14.9	2.67	14.2	2.54
		25.0	17.3	3.07	16.6	2.98	16.0	2.90	15.7	2.85	14.9	2.66	14.2	2.52
		50.0	17.6	3.12	16.7	2.99	16.0	2.90	15.7	2.81	14.9	2.61	14.2	2.42
		62.5	17.7	3.07	16.8	2.96	16.0	2.85	15.7	2.76	14.9	2.56	14.2	2.37
		75.0	17.7	3.04	16.9	2.95	16.0	2.82	15.7	2.73	14.9	2.53	14.2	2.35

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	25	20.0	17.5	2.67	16.9	2.58	16.0	2.48	15.7	2.38	14.9	2.24	14.2	2.03
		25.0	17.5	2.67	16.9	2.57	16.0	2.47	15.7	2.37	14.9	2.23	14.2	2.03
		50.0	17.8	2.68	16.9	2.52	16.0	2.42	15.7	2.32	14.9	2.18	14.2	2.03
		62.5	17.9	2.62	16.9	2.50	16.0	2.37	15.7	2.27	14.9	2.18	14.2	1.98
		75.0	17.9	2.59	16.9	2.48	16.0	2.35	15.7	2.24	14.9	2.18	14.2	1.95
	30	20.0	17.9	2.43	16.9	2.24	16.0	2.09	15.7	2.04	14.9	1.89	14.2	1.80
		25.0	17.9	2.42	16.9	2.23	16.0	2.08	15.7	2.03	14.9	1.89	14.2	1.79
		50.0	17.9	2.37	16.9	2.18	16.0	2.06	15.7	1.98	14.9	1.89	14.2	1.74
		62.5	17.9	2.32	16.9	2.18	16.0	2.03	15.7	1.98	14.9	1.84	14.2	1.74
		75.0	17.9	2.29	16.9	2.18	16.0	2.01	15.7	1.98	14.9	1.81	14.2	1.74
	35	20.0	17.9	2.25	16.9	2.05	16.0	1.84	15.7	1.80	14.9	1.70	14.2	1.56
		25.0	17.9	2.23	16.9	2.03	16.0	1.84	15.7	1.79	14.9	1.69	14.2	1.55
		50.0	17.9	2.13	16.9	1.94	16.0	1.82	15.7	1.74	14.9	1.65	14.2	1.50
		62.5	17.9	2.13	16.9	1.94	16.0	1.79	15.7	1.74	14.9	1.65	14.2	1.50
		75.0	17.9	2.13	16.9	1.94	16.0	1.78	15.7	1.74	14.9	1.65	14.2	1.50
	40	20.0	17.9	2.11	16.9	1.91	16.0	1.65	15.7	1.61	14.9	1.51	14.2	1.41
		25.0	17.9	2.08	16.9	1.89	16.0	1.65	15.7	1.60	14.9	1.50	14.2	1.40
		50.0	17.9	1.98	16.9	1.79	16.0	1.63	15.7	1.55	14.9	1.45	14.2	1.36
		62.5	17.9	1.94	16.9	1.79	16.0	1.60	15.7	1.55	14.9	1.45	14.2	1.36
		75.0	17.9	1.91	16.9	1.79	16.0	1.58	15.7	1.55	14.9	1.45	14.2	1.36
	45	20.0	17.9	1.96	16.9	1.76	16.0	1.46	15.7	1.41	14.9	1.32	14.2	1.27
		25.0	17.9	1.94	16.9	1.74	16.0	1.45	15.7	1.40	14.9	1.31	14.2	1.26
		50.0	17.9	1.84	16.9	1.65	16.0	1.43	15.7	1.36	14.9	1.26	14.2	1.21
		62.5	17.9	1.74	16.9	1.65	16.0	1.40	15.7	1.36	14.9	1.26	14.2	1.21
		75.0	17.9	1.69	16.9	1.65	16.0	1.38	15.7	1.36	14.9	1.26	14.2	1.21
90	-5	20.0	6.1	2.86	5.9	2.60	5.7	2.28	5.7	2.18	5.6	2.10	5.5	1.88
		25.0	6.3	2.91	6.1	2.65	5.9	2.34	5.9	2.23	5.8	2.15	5.7	1.93
		50.0	7.1	3.10	6.9	2.85	6.7	2.54	6.6	2.42	6.6	2.33	6.5	2.09
		62.5	7.9	3.30	7.6	3.05	7.4	2.74	7.3	2.61	7.3	2.51	7.1	2.26
		75.0	8.2	3.39	8.0	3.15	7.7	2.84	7.7	2.70	7.6	2.60	7.5	2.34
	0	20.0	10.9	3.89	10.4	3.65	9.9	3.35	9.7	3.20	9.6	3.08	9.2	2.76
		25.0	10.9	3.90	10.4	3.66	9.9	3.36	9.8	3.21	9.6	3.09	9.3	2.77
		50.0	11.2	3.94	10.7	3.70	10.2	3.40	10.0	3.24	9.9	3.12	9.5	2.80
		62.5	11.3	3.94	10.8	3.70	10.3	3.40	10.2	3.24	10.0	3.12	9.6	2.80
		75.0	11.4	3.94	10.9	3.70	10.4	3.40	10.2	3.24	10.1	3.12	9.7	2.80
	5	20.0	15.3	4.18	14.9	3.94	14.4	3.65	14.1	3.48	13.5	3.35	12.8	3.00
		25.0	15.4	4.20	14.8	3.96	14.4	3.67	14.1	3.50	13.5	3.37	12.8	3.02
		50.0	15.4	4.27	14.8	4.04	14.4	3.74	14.1	3.57	13.5	3.44	12.8	3.08
		62.5	15.5	4.30	14.8	4.06	14.4	3.77	14.1	3.59	13.5	3.46	12.8	3.11
		75.0	15.6	4.31	14.9	4.07	14.4	3.78	14.1	3.60	13.5	3.47	12.8	3.12
	10	20.0	15.4	3.69	14.9	3.51	14.4	3.30	14.1	3.17	13.5	3.04	12.8	2.74
		25.0	15.4	3.69	14.9	3.51	14.4	3.31	14.1	3.17	13.5	3.04	12.8	2.74
		50.0	15.4	3.70	14.8	3.53	14.4	3.32	14.1	3.19	13.5	3.03	12.8	2.75
		62.5	15.5	3.69	14.9	3.52	14.4	3.31	14.1	3.18	13.5	3.04	12.8	2.76
		75.0	15.5	3.68	14.9	3.51	14.4	3.30	14.1	3.17	13.5	3.04	12.8	2.77
	15	20.0	15.5	3.19	15.0	3.08	14.4	2.96	14.1	2.86	13.5	2.73	12.8	2.48
		25.0	15.5	3.18	14.9	3.07	14.4	2.95	14.1	2.85	13.5	2.71	12.8	2.47
		50.0	15.4	3.13	14.8	3.02	14.4	2.90	14.1	2.81	13.5	2.61	12.8	2.42
		62.5	15.5	3.09	14.9	2.97	14.4	2.85	14.1	2.76	13.5	2.61	12.8	2.42
		75.0	15.5	3.06	14.9	2.95	14.4	2.82	14.1	2.73	13.5	2.61	12.8	2.42
	20	20.0	15.6	2.70	15.0	2.62	14.4	2.53	14.1	2.43	13.5	2.34	12.8	2.20
		25.0	15.6	2.70	15.0	2.61	14.4	2.52	14.1	2.42	13.5	2.32	12.8	2.18
		50.0	15.5	2.70	14.9	2.58	14.4	2.47	14.1	2.37	13.5	2.23	12.8	2.08
		62.5	15.6	2.65	14.9	2.56	14.4	2.47	14.1	2.37	13.5	2.23	12.8	2.08
		75.0	15.6	2.63	14.9	2.55	14.4	2.47	14.1	2.37	13.5	2.23	12.8	2.08
	25	20.0	15.9	2.36	15.2	2.23	14.4	2.14	14.1	2.03	13.5	1.95	12.8	1.80
		25.0	15.9	2.35	15.2	2.23	14.4	2.13	14.1	2.03	13.5	1.94	12.8	1.79
		50.0	16.0	2.33	15.2	2.21	14.4	2.08	14.1	2.03	13.5	1.89	12.8	1.74
		62.5	16.1	2.27	15.2	2.16	14.4	2.08	14.1	1.98	13.5	1.89	12.8	1.74
		75.0	16.1	2.24	15.2	2.13	14.4	2.08	14.1	1.95	13.5	1.89	12.8	1.74
	30	20.0	16.1	2.14	15.2	1.99	14.4	1.85	14.1	1.80	13.5	1.70	12.8	1.55
		25.0	16.1	2.13	15.2	1.98	14.4	1.84	14.1	1.79	13.5	1.69	12.8	1.55
		50.0	16.1	2.08	15.2	1.94	14.4	1.79	14.1	1.74	13.5	1.65	12.8	1.55
		62.5	16.1	2.03	15.2	1.89	14.4	1.79	14.1	1.74	13.5	1.65	12.8	1.50
		75.0	16.1	2.00	15.2	1.86	14.4	1.79	14.1	1.74	13.5	1.65	12.8	1.48

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	35	20.0	16.1	1.95	15.2	1.80	14.4	1.66	14.1	1.61	13.5	1.51	12.8	1.41
		25.0	16.1	1.94	15.2	1.79	14.4	1.65	14.1	1.60	13.5	1.50	12.8	1.40
		50.0	16.1	1.89	15.2	1.74	14.4	1.60	14.1	1.55	13.5	1.45	12.8	1.36
		62.5	16.1	1.84	15.2	1.69	14.4	1.55	14.1	1.50	13.5	1.45	12.8	1.36
		75.0	16.1	1.81	15.2	1.66	14.4	1.52	14.1	1.48	13.5	1.45	12.8	1.36
	40	20.0	16.1	1.82	15.2	1.66	14.4	1.46	14.1	1.41	13.5	1.37	12.8	1.27
		25.0	16.1	1.79	15.2	1.65	14.4	1.45	14.1	1.40	13.5	1.36	12.8	1.26
		50.0	16.1	1.69	15.2	1.60	14.4	1.40	14.1	1.36	13.5	1.31	12.8	1.21
		62.5	16.1	1.69	15.2	1.60	14.4	1.40	14.1	1.36	13.5	1.31	12.8	1.21
		75.0	16.1	1.69	15.2	1.60	14.4	1.40	14.1	1.36	13.5	1.31	12.8	1.21
	45	20.0	16.1	1.68	15.2	1.51	14.4	1.27	14.1	1.22	13.5	1.22	12.8	1.12
		25.0	16.1	1.65	15.2	1.50	14.4	1.26	14.1	1.21	13.5	1.21	12.8	1.11
		50.0	16.1	1.50	15.2	1.45	14.4	1.21	14.1	1.16	13.5	1.16	12.8	1.07
		62.5	16.1	1.55	15.2	1.50	14.4	1.26	14.1	1.21	13.5	1.16	12.8	1.07
		75.0	16.1	1.57	15.2	1.53	14.4	1.28	14.1	1.24	13.5	1.16	12.8	1.07
80	-5	20.0	5.7	2.03	5.4	1.96	5.1	1.87	5.0	1.81	5.0	1.73	4.9	1.59
		25.0	5.9	2.08	5.6	2.00	5.3	1.92	5.2	1.85	5.2	1.77	5.1	1.63
		50.0	6.7	2.26	6.3	2.17	6.0	2.08	5.9	2.01	5.9	1.92	5.7	1.76
		62.5	7.4	2.44	7.0	2.34	6.6	2.24	6.5	2.17	6.5	2.07	6.3	1.90
		75.0	7.8	2.52	7.3	2.43	6.9	2.32	6.8	2.25	6.8	2.14	6.6	1.97
	0	20.0	10.3	2.99	9.5	2.87	8.8	2.75	8.6	2.65	8.5	2.53	8.2	2.33
		25.0	10.3	3.00	9.5	2.88	8.9	2.76	8.7	2.66	8.6	2.54	8.2	2.34
		50.0	10.6	3.03	9.7	2.91	9.1	2.79	8.9	2.69	8.8	2.57	8.4	2.36
		62.5	10.7	3.03	9.9	2.91	9.2	2.79	9.0	2.69	8.9	2.57	8.6	2.36
		75.0	10.8	3.03	10.0	2.91	9.3	2.79	9.1	2.69	9.0	2.57	8.6	2.36
	5	20.0	14.2	3.25	13.4	3.12	12.8	2.98	12.5	2.88	12.0	2.75	11.4	2.53
		25.0	14.2	3.27	13.4	3.14	12.8	3.00	12.5	2.90	12.0	2.77	11.4	2.55
		50.0	14.3	3.34	13.5	3.20	12.8	3.07	12.5	2.96	12.0	2.82	11.4	2.60
		62.5	14.3	3.36	13.5	3.23	12.8	3.09	12.5	2.98	12.0	2.84	11.4	2.62
		75.0	14.3	3.37	13.5	3.24	12.8	3.10	12.5	2.99	12.0	2.85	11.4	2.62
	10	20.0	14.3	2.99	13.4	2.85	12.8	2.71	12.5	2.63	12.0	2.49	11.4	2.31
		25.0	14.3	2.99	13.5	2.85	12.8	2.71	12.5	2.64	12.0	2.50	11.4	2.31
		50.0	14.3	2.97	13.5	2.84	12.8	2.72	12.5	2.64	12.0	2.50	11.4	2.32
		62.5	14.3	2.96	13.5	2.85	12.8	2.73	12.5	2.63	12.0	2.49	11.4	2.30
		75.0	14.3	2.95	13.5	2.85	12.8	2.73	12.5	2.62	12.0	2.48	11.4	2.29
	15	20.0	14.3	2.73	13.5	2.58	12.8	2.43	12.5	2.38	12.0	2.24	11.4	2.09
		25.0	14.3	2.71	13.5	2.56	12.8	2.42	12.5	2.37	12.0	2.23	11.4	2.08
		50.0	14.3	2.61	13.5	2.47	12.8	2.37	12.5	2.32	12.0	2.18	11.4	2.03
		62.5	14.3	2.56	13.5	2.47	12.8	2.37	12.5	2.27	12.0	2.13	11.4	1.98
		75.0	14.3	2.53	13.5	2.47	12.8	2.37	12.5	2.24	12.0	2.10	11.4	1.95
	20	20.0	14.3	2.28	13.5	2.19	12.8	2.08	12.5	2.04	12.0	1.95	11.4	1.80
		25.0	14.3	2.27	13.5	2.18	12.8	2.08	12.5	2.03	12.0	1.94	11.4	1.79
		50.0	14.3	2.23	13.5	2.13	12.8	2.08	12.5	1.98	12.0	1.89	11.4	1.74
		62.5	14.3	2.18	13.5	2.08	12.8	2.03	12.5	1.98	12.0	1.84	11.4	1.74
		75.0	14.3	2.15	13.5	2.06	12.8	2.00	12.5	1.98	12.0	1.81	11.4	1.74
	25	20.0	14.3	2.04	13.5	1.90	12.8	1.79	12.5	1.75	12.0	1.66	11.4	1.56
		25.0	14.3	2.03	13.5	1.89	12.8	1.79	12.5	1.74	12.0	1.65	11.4	1.55
		50.0	14.3	1.98	13.5	1.84	12.8	1.79	12.5	1.69	12.0	1.60	11.4	1.50
		62.5	14.3	1.94	13.5	1.84	12.8	1.74	12.5	1.69	12.0	1.60	11.4	1.50
		75.0	14.3	1.91	13.5	1.84	12.8	1.71	12.5	1.69	12.0	1.60	11.4	1.50
	30	20.0	14.3	1.80	13.5	1.70	12.8	1.61	12.5	1.56	12.0	1.46	11.4	1.37
		25.0	14.3	1.79	13.5	1.69	12.8	1.60	12.5	1.55	12.0	1.45	11.4	1.36
		50.0	14.3	1.74	13.5	1.65	12.8	1.55	12.5	1.50	12.0	1.40	11.4	1.31
		62.5	14.3	1.74	13.5	1.65	12.8	1.55	12.5	1.50	12.0	1.40	11.4	1.31
		75.0	14.3	1.74	13.5	1.65	12.8	1.55	12.5	1.50	12.0	1.40	11.4	1.31
	35	20.0	14.3	1.66	13.5	1.56	12.8	1.41	12.5	1.36	12.0	1.32	11.4	1.21
		25.0	14.3	1.65	13.5	1.55	12.8	1.40	12.5	1.36	12.0	1.31	11.4	1.21
		50.0	14.3	1.60	13.5	1.50	12.8	1.36	12.5	1.36	12.0	1.26	11.4	1.21
		62.5	14.3	1.60	13.5	1.45	12.8	1.36	12.5	1.31	12.0	1.26	11.4	1.16
		75.0	14.3	1.60	13.5	1.42	12.8	1.36	12.5	1.28	12.0	1.26	11.4	1.13
	40	20.0	14.3	1.57	13.5	1.41	12.8	1.26	12.5	1.27	12.0	1.16	11.4	1.12
		25.0	14.3	1.55	13.5	1.40	12.8	1.26	12.5	1.26	12.0	1.16	11.4	1.11
		50.0	14.3	1.45	13.5	1.36	12.8	1.26	12.5	1.21	12.0	1.16	11.4	1.07
		62.5	14.3	1.45	13.5	1.36	12.8	1.21	12.5	1.21	12.0	1.16	11.4	1.07
		75.0	14.3	1.45	13.5	1.36	12.8	1.19	12.5	1.21	12.0	1.16	11.4	1.07

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	45	20.0	14.3	1.49	13.5	1.27	12.8	1.10	12.5	1.18	12.0	1.00	11.4	1.04
		25.0	14.3	1.45	13.5	1.26	12.8	1.11	12.5	1.16	12.0	1.02	11.4	1.02
		50.0	14.3	1.31	13.5	1.21	12.8	1.16	12.5	1.07	12.0	1.07	11.4	0.92
		62.5	14.3	1.31	13.5	1.26	12.8	1.07	12.5	1.11	12.0	1.07	11.4	0.97
		75.0	14.3	1.31	13.5	1.28	12.8	1.02	12.5	1.13	12.0	1.07	11.4	0.99
70	-5	20.0	5.0	1.75	4.7	1.66	4.4	1.61	4.4	1.52	4.4	1.46	4.3	1.33
		25.0	5.2	1.79	4.9	1.70	4.6	1.65	4.6	1.55	4.5	1.50	4.5	1.36
		50.0	5.9	1.94	5.5	1.85	5.2	1.79	5.1	1.68	5.1	1.62	5.0	1.48
		62.5	6.5	2.09	6.1	1.99	5.7	1.93	5.7	1.81	5.7	1.75	5.6	1.59
		75.0	6.8	2.17	6.4	2.06	6.0	2.00	6.0	1.88	5.9	1.82	5.8	1.65
	0	20.0	9.0	2.56	8.3	2.44	7.7	2.36	7.6	2.22	7.4	2.14	7.2	1.95
		25.0	9.0	2.57	8.3	2.45	7.7	2.37	7.6	2.23	7.5	2.15	7.2	1.96
		50.0	9.2	2.60	8.5	2.47	7.9	2.40	7.8	2.25	7.7	2.18	7.4	1.98
		62.5	9.4	2.60	8.7	2.47	8.0	2.40	7.9	2.25	7.8	2.18	7.5	1.98
		75.0	9.4	2.60	8.7	2.47	8.1	2.40	8.0	2.25	7.8	2.18	7.6	1.98
	5	20.0	12.4	2.79	11.7	2.65	11.2	2.57	10.9	2.42	10.4	2.33	10.0	2.12
		25.0	12.4	2.80	11.8	2.67	11.2	2.58	10.9	2.43	10.4	2.35	10.0	2.13
		50.0	12.5	2.86	11.8	2.72	11.2	2.64	10.9	2.48	10.4	2.40	10.0	2.18
		62.5	12.5	2.88	11.8	2.74	11.2	2.66	10.9	2.50	10.4	2.41	10.0	2.19
		75.0	12.5	2.89	11.8	2.75	11.2	2.67	10.9	2.51	10.4	2.42	10.0	2.20
	10	20.0	12.4	2.57	11.8	2.43	11.2	2.34	10.9	2.21	10.4	2.12	10.0	1.94
		25.0	12.5	2.56	11.8	2.42	11.2	2.33	10.9	2.21	10.4	2.12	10.0	1.94
		50.0	12.5	2.54	11.8	2.40	11.2	2.31	10.9	2.21	10.4	2.12	10.0	1.94
		62.5	12.5	2.55	11.8	2.41	11.2	2.32	10.9	2.22	10.4	2.10	10.0	1.94
		75.0	12.5	2.56	11.8	2.42	11.2	2.33	10.9	2.22	10.4	2.09	10.0	1.94
	15	20.0	12.5	2.34	11.8	2.20	11.2	2.11	10.9	1.99	10.4	1.90	10.0	1.75
		25.0	12.5	2.32	11.8	2.18	11.2	2.08	10.9	1.98	10.4	1.89	10.0	1.74
		50.0	12.5	2.23	11.8	2.08	11.2	1.98	10.9	1.94	10.4	1.84	10.0	1.69
		62.5	12.5	2.23	11.8	2.08	11.2	1.98	10.9	1.94	10.4	1.79	10.0	1.69
		75.0	12.5	2.23	11.8	2.08	11.2	1.98	10.9	1.94	10.4	1.77	10.0	1.69
	20	20.0	12.5	1.95	11.8	1.85	11.2	1.80	10.9	1.75	10.4	1.66	10.0	1.56
		25.0	12.5	1.94	11.8	1.84	11.2	1.79	10.9	1.74	10.4	1.65	10.0	1.55
		50.0	12.5	1.89	11.8	1.79	11.2	1.74	10.9	1.69	10.4	1.60	10.0	1.50
		62.5	12.5	1.89	11.8	1.79	11.2	1.74	10.9	1.65	10.4	1.60	10.0	1.45
		75.0	12.5	1.89	11.8	1.79	11.2	1.74	10.9	1.62	10.4	1.60	10.0	1.42
	25	20.0	12.5	1.75	11.8	1.66	11.2	1.56	10.9	1.51	10.4	1.40	10.0	1.31
		25.0	12.5	1.74	11.8	1.65	11.2	1.55	10.9	1.50	10.4	1.40	10.0	1.31
		50.0	12.5	1.69	11.8	1.60	11.2	1.50	10.9	1.45	10.4	1.40	10.0	1.31
		62.5	12.5	1.65	11.8	1.55	11.2	1.50	10.9	1.45	10.4	1.36	10.0	1.31
		75.0	12.5	1.62	11.8	1.52	11.2	1.50	10.9	1.45	10.4	1.33	10.0	1.31
	30	20.0	12.5	1.56	11.8	1.46	11.2	1.37	10.9	1.31	10.4	1.27	10.0	1.16
		25.0	12.5	1.55	11.8	1.45	11.2	1.36	10.9	1.31	10.4	1.26	10.0	1.16
		50.0	12.5	1.50	11.8	1.40	11.2	1.31	10.9	1.31	10.4	1.21	10.0	1.16
		62.5	12.5	1.50	11.8	1.40	11.2	1.31	10.9	1.26	10.4	1.21	10.0	1.16
		75.0	12.5	1.50	11.8	1.40	11.2	1.31	10.9	1.23	10.4	1.21	10.0	1.16
	35	20.0	12.5	1.41	11.8	1.32	11.2	1.21	10.9	1.22	10.4	1.11	10.0	1.08
		25.0	12.5	1.40	11.8	1.31	11.2	1.21	10.9	1.21	10.4	1.11	10.0	1.07
		50.0	12.5	1.36	11.8	1.26	11.2	1.21	10.9	1.16	10.4	1.11	10.0	1.02
		62.5	12.5	1.36	11.8	1.26	11.2	1.16	10.9	1.16	10.4	1.11	10.0	1.02
		75.0	12.5	1.36	11.8	1.26	11.2	1.13	10.9	1.16	10.4	1.11	10.0	1.02
	40	20.0	12.5	1.32	11.8	1.22	11.2	1.12	10.9	1.07	10.4	1.02	10.0	0.98
		25.0	12.5	1.31	11.8	1.21	11.2	1.11	10.9	1.07	10.4	1.02	10.0	0.97
		50.0	12.5	1.26	11.8	1.16	11.2	1.07	10.9	1.07	10.4	1.02	10.0	0.92
		62.5	12.5	1.26	11.8	1.16	11.2	1.07	10.9	1.02	10.4	0.97	10.0	0.92
		75.0	12.5	1.26	11.8	1.16	11.2	1.07	10.9	0.99	10.4	0.94	10.0	0.92
	45	20.0	12.5	1.22	11.8	1.12	11.2	1.04	10.9	0.91	10.4	0.92	10.0	0.88
		25.0	12.5	1.21	11.8	1.11	11.2	1.02	10.9	0.92	10.4	0.92	10.0	0.87
		50.0	12.5	1.16	11.8	1.07	11.2	0.92	10.9	0.97	10.4	0.92	10.0	0.82
		62.5	12.5	1.16	11.8	1.07	11.2	0.97	10.9	0.87	10.4	0.82	10.0	0.82
		75.0	12.5	1.16	11.8	1.07	11.2	0.99	10.9	0.82	10.4	0.77	10.0	0.82
60	-5	20.0	4.3	1.42	4.0	1.36	3.8	1.31	3.8	1.22	3.8	1.20	3.7	1.07
		25.0	4.5	1.45	4.2	1.40	3.9	1.34	3.9	1.25	3.9	1.23	3.8	1.10
		50.0	5.0	1.58	4.7	1.52	4.5	1.46	4.4	1.35	4.4	1.33	4.3	1.19
		62.5	5.6	1.70	5.2	1.64	4.9	1.57	4.9	1.46	4.9	1.44	4.8	1.28
		75.0	5.8	1.76	5.5	1.70	5.2	1.63	5.1	1.52	5.1	1.49	5.0	1.33

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	0	20.0	7.7	2.08	7.1	2.00	6.6	1.92	6.5	1.78	6.4	1.76	6.2	1.57
		25.0	7.7	2.09	7.1	2.01	6.7	1.93	6.5	1.79	6.4	1.77	6.2	1.58
		50.0	7.9	2.11	7.3	2.03	6.8	1.95	6.7	1.81	6.6	1.79	6.3	1.59
		62.5	8.0	2.11	7.4	2.03	6.9	1.95	6.8	1.81	6.7	1.79	6.4	1.59
		75.0	8.1	2.11	7.5	2.03	7.0	1.95	6.8	1.81	6.7	1.79	6.5	1.59
	5	20.0	10.6	2.26	10.0	2.18	9.6	2.09	9.4	1.94	9.0	1.91	8.5	1.71
		25.0	10.7	2.28	10.0	2.19	9.6	2.10	9.4	1.96	9.0	1.93	8.5	1.72
		50.0	10.7	2.32	10.1	2.24	9.6	2.15	9.4	2.00	9.0	1.97	8.5	1.75
		62.5	10.7	2.34	10.1	2.25	9.6	2.16	9.4	2.01	9.0	1.98	8.5	1.77
		75.0	10.7	2.35	10.1	2.26	9.6	2.17	9.4	2.02	9.0	1.98	8.5	1.77
	10	20.0	10.7	2.08	10.1	1.99	9.6	1.90	9.4	1.77	9.0	1.74	8.5	1.56
		25.0	10.7	2.08	10.1	1.99	9.6	1.90	9.4	1.78	9.0	1.74	8.5	1.56
		50.0	10.7	2.08	10.1	1.99	9.6	1.90	9.4	1.80	9.0	1.73	8.5	1.58
		62.5	10.7	2.09	10.1	1.97	9.6	1.88	9.4	1.78	9.0	1.72	8.5	1.56
		75.0	10.7	2.09	10.1	1.96	9.6	1.86	9.4	1.76	9.0	1.71	8.5	1.55
	15	20.0	10.7	1.90	10.1	1.80	9.6	1.70	9.4	1.60	9.0	1.56	8.5	1.40
		25.0	10.7	1.89	10.1	1.79	9.6	1.69	9.4	1.60	9.0	1.55	8.5	1.40
		50.0	10.7	1.84	10.1	1.74	9.6	1.65	9.4	1.60	9.0	1.50	8.5	1.40
		62.5	10.7	1.84	10.1	1.69	9.6	1.60	9.4	1.55	9.0	1.45	8.5	1.36
		75.0	10.7	1.84	10.1	1.66	9.6	1.57	9.4	1.52	9.0	1.42	8.5	1.33
	20	20.0	10.7	1.66	10.1	1.56	9.6	1.46	9.4	1.41	9.0	1.37	8.5	1.27
		25.0	10.7	1.65	10.1	1.55	9.6	1.45	9.4	1.40	9.0	1.36	8.5	1.26
		50.0	10.7	1.60	10.1	1.50	9.6	1.40	9.4	1.36	9.0	1.31	8.5	1.21
		62.5	10.7	1.60	10.1	1.50	9.6	1.40	9.4	1.36	9.0	1.31	8.5	1.21
		75.0	10.7	1.60	10.1	1.50	9.6	1.40	9.4	1.36	9.0	1.31	8.5	1.21
	25	20.0	10.7	1.46	10.1	1.37	9.6	1.26	9.4	1.27	9.0	1.16	8.5	1.12
		25.0	10.7	1.45	10.1	1.36	9.6	1.26	9.4	1.26	9.0	1.16	8.5	1.11
		50.0	10.7	1.40	10.1	1.31	9.6	1.26	9.4	1.21	9.0	1.16	8.5	1.07
		62.5	10.7	1.40	10.1	1.31	9.6	1.21	9.4	1.21	9.0	1.16	8.5	1.07
		75.0	10.7	1.40	10.1	1.31	9.6	1.19	9.4	1.21	9.0	1.16	8.5	1.07
	30	20.0	10.7	1.32	10.1	1.22	9.6	1.17	9.4	1.12	9.0	1.08	8.5	1.03
		25.0	10.7	1.31	10.1	1.21	9.6	1.16	9.4	1.11	9.0	1.07	8.5	1.02
		50.0	10.7	1.26	10.1	1.16	9.6	1.11	9.4	1.07	9.0	1.02	8.5	0.97
		62.5	10.7	1.26	10.1	1.16	9.6	1.11	9.4	1.07	9.0	1.02	8.5	0.97
		75.0	10.7	1.26	10.1	1.16	9.6	1.11	9.4	1.07	9.0	1.02	8.5	0.97
	35	20.0	10.7	1.16	10.1	1.12	9.6	1.02	9.4	1.03	9.0	0.98	8.5	0.93
		25.0	10.7	1.16	10.1	1.11	9.6	1.02	9.4	1.02	9.0	0.97	8.5	0.92
		50.0	10.7	1.16	10.1	1.07	9.6	1.02	9.4	0.97	9.0	0.92	8.5	0.87
		62.5	10.7	1.16	10.1	1.07	9.6	0.97	9.4	0.97	9.0	0.92	8.5	0.87
		75.0	10.7	1.16	10.1	1.07	9.6	0.94	9.4	0.97	9.0	0.92	8.5	0.87
	40	20.0	10.7	1.07	10.1	1.03	9.6	0.92	9.4	0.93	9.0	0.88	8.5	0.82
		25.0	10.7	1.07	10.1	1.02	9.6	0.92	9.4	0.92	9.0	0.87	8.5	0.82
		50.0	10.7	1.07	10.1	0.97	9.6	0.92	9.4	0.87	9.0	0.82	8.5	0.82
		62.5	10.7	1.07	10.1	0.97	9.6	0.92	9.4	0.87	9.0	0.82	8.5	0.82
		75.0	10.7	1.07	10.1	0.97	9.6	0.92	9.4	0.87	9.0	0.82	8.5	0.82
	45	20.0	10.7	0.97	10.1	0.93	9.6	0.82	9.4	0.83	9.0	0.79	8.5	0.71
		25.0	10.7	0.97	10.1	0.92	9.6	0.82	9.4	0.82	9.0	0.78	8.5	0.73
		50.0	10.7	0.97	10.1	0.87	9.6	0.82	9.4	0.78	9.0	0.73	8.5	0.78
		62.5	10.7	0.97	10.1	0.87	9.6	0.87	9.4	0.78	9.0	0.73	8.5	0.78
		75.0	10.7	0.97	10.1	0.87	9.6	0.90	9.4	0.78	9.0	0.73	8.5	0.78
50	-5	20.0	3.6	1.13	3.4	1.07	3.2	1.01	3.1	0.96	3.1	0.90	3.1	0.85
		25.0	3.7	1.16	3.5	1.10	3.3	1.04	3.2	0.98	3.2	0.92	3.2	0.87
		50.0	4.2	1.25	3.9	1.19	3.7	1.12	3.7	1.07	3.7	1.00	3.6	0.94
		62.5	4.6	1.35	4.3	1.28	4.1	1.21	4.1	1.15	4.0	1.08	4.0	1.02
		75.0	4.9	1.40	4.6	1.33	4.3	1.26	4.3	1.19	4.2	1.11	4.2	1.05
	0	20.0	6.4	1.66	5.9	1.57	5.5	1.48	5.4	1.40	5.3	1.32	5.1	1.25
		25.0	6.4	1.66	6.0	1.58	5.5	1.49	5.4	1.41	5.3	1.33	5.1	1.25
		50.0	6.6	1.68	6.1	1.59	5.7	1.51	5.6	1.43	5.5	1.34	5.3	1.27
		62.5	6.7	1.68	6.2	1.59	5.7	1.51	5.6	1.43	5.6	1.34	5.4	1.27
		75.0	6.7	1.68	6.2	1.59	5.8	1.51	5.7	1.43	5.6	1.34	5.4	1.27
	5	20.0	8.8	1.80	8.4	1.71	8.0	1.61	7.8	1.53	7.5	1.44	7.1	1.35
		25.0	8.9	1.81	8.4	1.72	8.0	1.62	7.8	1.54	7.5	1.45	7.1	1.36
		50.0	8.9	1.85	8.5	1.75	8.0	1.66	7.8	1.57	7.5	1.47	7.1	1.39
		62.5	8.9	1.86	8.4	1.77	8.0	1.67	7.8	1.58	7.5	1.49	7.1	1.40
		75.0	8.9	1.87	8.4	1.77	8.0	1.67	7.8	1.59	7.5	1.49	7.1	1.41

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(5HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	10	20.0	8.9	1.66	8.4	1.56	8.0	1.47	7.8	1.40	7.5	1.30	7.1	1.24
		25.0	8.9	1.66	8.4	1.56	8.0	1.47	7.8	1.40	7.5	1.30	7.1	1.24
		50.0	8.9	1.65	8.5	1.56	8.0	1.46	7.8	1.39	7.5	1.32	7.1	1.23
		62.5	8.9	1.66	8.4	1.56	8.0	1.46	7.8	1.40	7.5	1.30	7.1	1.23
		75.0	8.9	1.66	8.4	1.56	8.0	1.46	7.8	1.40	7.5	1.28	7.1	1.23
	15	20.0	8.9	1.51	8.4	1.41	8.0	1.32	7.8	1.27	7.5	1.16	7.1	1.12
		25.0	8.9	1.50	8.4	1.40	8.0	1.31	7.8	1.26	7.5	1.16	7.1	1.11
		50.0	8.9	1.45	8.4	1.36	8.0	1.26	7.8	1.21	7.5	1.16	7.1	1.07
		62.5	8.9	1.45	8.4	1.36	8.0	1.26	7.8	1.21	7.5	1.11	7.1	1.07
		75.0	8.9	1.45	8.4	1.36	8.0	1.26	7.8	1.21	7.5	1.08	7.1	1.07
	20	20.0	8.9	1.32	8.4	1.22	8.0	1.17	7.8	1.12	7.5	1.08	7.1	0.97
		25.0	8.9	1.31	8.4	1.21	8.0	1.16	7.8	1.11	7.5	1.07	7.1	0.97
		50.0	8.9	1.26	8.4	1.16	8.0	1.11	7.8	1.07	7.5	1.02	7.1	0.97
		62.5	8.9	1.26	8.4	1.16	8.0	1.11	7.8	1.07	7.5	1.02	7.1	0.97
		75.0	8.9	1.26	8.4	1.16	8.0	1.11	7.8	1.07	7.5	1.02	7.1	0.97
	25	20.0	8.9	1.17	8.4	1.07	8.0	1.03	7.8	0.97	7.5	0.92	7.1	0.87
		25.0	8.9	1.16	8.4	1.07	8.0	1.02	7.8	0.97	7.5	0.92	7.1	0.87
		50.0	8.9	1.11	8.4	1.07	8.0	0.97	7.8	0.97	7.5	0.92	7.1	0.87
		62.5	8.9	1.11	8.4	1.07	8.0	0.97	7.8	0.97	7.5	0.92	7.1	0.87
		75.0	8.9	1.11	8.4	1.07	8.0	0.97	7.8	0.97	7.5	0.92	7.1	0.87
	30	20.0	8.9	1.08	8.4	0.98	8.0	0.93	7.8	0.87	7.5	0.88	7.1	0.83
		25.0	8.9	1.07	8.4	0.97	8.0	0.92	7.8	0.87	7.5	0.87	7.1	0.82
		50.0	8.9	1.02	8.4	0.92	8.0	0.87	7.8	0.87	7.5	0.82	7.1	0.78
		62.5	8.9	1.02	8.4	0.92	8.0	0.87	7.8	0.87	7.5	0.82	7.1	0.78
		75.0	8.9	1.02	8.4	0.92	8.0	0.87	7.8	0.87	7.5	0.82	7.1	0.78
	35	20.0	8.9	0.98	8.4	0.87	8.0	0.82	7.8	0.83	7.5	0.78	7.1	0.73
		25.0	8.9	0.97	8.4	0.87	8.0	0.82	7.8	0.82	7.5	0.78	7.1	0.73
		50.0	8.9	0.92	8.4	0.87	8.0	0.82	7.8	0.78	7.5	0.78	7.1	0.73
		62.5	8.9	0.92	8.4	0.87	8.0	0.82	7.8	0.78	7.5	0.78	7.1	0.73
		75.0	8.9	0.92	8.4	0.87	8.0	0.82	7.8	0.78	7.5	0.78	7.1	0.73
	40	20.0	8.9	0.88	8.4	0.83	8.0	0.79	7.8	0.73	7.5	0.74	7.1	0.68
		25.0	8.9	0.87	8.4	0.82	8.0	0.78	7.8	0.73	7.5	0.73	7.1	0.68
		50.0	8.9	0.82	8.4	0.78	8.0	0.73	7.8	0.73	7.5	0.68	7.1	0.68
		62.5	8.9	0.82	8.4	0.78	8.0	0.73	7.8	0.73	7.5	0.68	7.1	0.68
		75.0	8.9	0.82	8.4	0.78	8.0	0.73	7.8	0.73	7.5	0.68	7.1	0.68
	45	20.0	8.9	0.79	8.4	0.80	8.0	0.75	7.8	0.62	7.5	0.70	7.1	0.63
		25.0	8.9	0.78	8.4	0.78	8.0	0.73	7.8	0.63	7.5	0.68	7.1	0.63
		50.0	8.9	0.73	8.4	0.68	8.0	0.63	7.8	0.68	7.5	0.58	7.1	0.63
		62.5	8.9	0.73	8.4	0.68	8.0	0.63	7.8	0.68	7.5	0.58	7.1	0.63
		75.0	8.9	0.73	8.4	0.68	8.0	0.63	7.8	0.68	7.5	0.58	7.1	0.63

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

ARWN60GA0

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
130	-5	24.0	8.5	3.67	8.5	3.45	8.4	3.21	8.3	3.12	8.4	3.04	8.2	2.72
		30.0	8.8	3.73	8.7	3.52	8.7	3.28	8.6	3.19	8.7	3.10	8.4	2.78
		60.0	10.0	3.98	9.9	3.78	9.8	3.56	9.7	3.46	9.8	3.36	9.6	3.02
		75.0	11.0	4.24	10.9	4.04	10.9	3.84	10.7	3.74	10.9	3.63	10.6	3.25
		90.0	11.5	4.36	11.4	4.17	11.4	3.98	11.2	3.88	11.4	3.76	11.1	3.37
	0	24.0	15.2	5.01	14.9	4.86	14.5	4.71	14.2	4.57	14.3	4.45	13.6	3.98
		30.0	15.3	5.03	15.0	4.88	14.6	4.72	14.3	4.59	14.4	4.46	13.7	3.99
		60.0	15.7	5.08	15.3	4.92	15.0	4.77	14.7	4.64	14.7	4.51	14.0	4.04
		75.0	15.9	5.08	15.5	4.92	15.2	4.77	14.9	4.64	14.9	4.51	14.2	4.04
		90.0	16.0	5.08	15.6	4.92	15.3	4.77	15.0	4.64	15.0	4.51	14.4	4.04
	5	24.0	21.9	5.39	21.6	5.26	21.1	5.12	20.6	4.98	20.0	4.84	18.9	4.33
		30.0	22.0	5.41	21.6	5.28	21.1	5.15	20.6	5.00	20.0	4.86	18.9	4.36
		60.0	22.3	5.51	21.8	5.38	21.1	5.25	20.6	5.11	20.0	4.96	18.9	4.45
		75.0	22.4	5.55	21.8	5.41	21.1	5.29	20.6	5.14	20.0	5.00	18.9	4.48
		90.0	22.5	5.56	21.9	5.43	21.1	5.30	20.6	5.16	20.0	5.01	18.9	4.49
	10	24.0	21.9	4.90	21.6	4.74	21.1	4.65	20.5	4.55	20.0	4.39	18.9	3.96
		30.0	22.1	4.89	21.7	4.74	21.1	4.66	20.6	4.54	20.0	4.39	18.9	3.96
		60.0	22.6	4.86	22.1	4.76	21.5	4.69	20.9	4.54	20.3	4.38	19.2	3.95
		75.0	22.7	4.92	22.2	4.83	21.6	4.71	21.0	4.56	20.5	4.45	19.4	4.13
		90.0	22.8	4.96	22.3	4.86	21.7	4.72	21.1	4.57	20.5	4.48	19.4	4.23
	15	24.0	22.0	4.42	21.6	4.23	21.0	4.19	20.4	4.12	19.9	3.94	18.8	3.59
		30.0	22.2	4.38	21.8	4.21	21.1	4.18	20.6	4.09	20.0	3.91	18.9	3.56
		60.0	22.9	4.20	22.4	4.14	21.8	4.14	21.3	3.96	20.6	3.79	19.5	3.44
		75.0	23.0	4.30	22.6	4.24	22.1	4.14	21.5	3.96	20.9	3.90	19.8	3.79
		90.0	23.0	4.35	22.7	4.28	22.2	4.14	21.6	3.96	21.1	3.95	19.9	3.97
	20	24.0	22.8	4.05	22.4	3.87	21.8	3.78	21.2	3.66	20.6	3.58	19.4	3.47
		30.0	23.0	4.03	22.6	3.86	22.0	3.78	21.4	3.68	20.8	3.60	19.5	3.44
		60.0	23.7	3.91	23.3	3.85	22.6	3.77	22.0	3.74	21.5	3.70	20.3	3.33
		75.0	23.8	3.91	23.5	3.85	22.9	3.79	22.3	3.74	21.7	3.70	20.4	3.54
		90.0	23.9	3.91	23.5	3.85	23.0	3.80	22.4	3.74	21.7	3.70	20.5	3.64
	25	24.0	24.1	3.87	23.5	3.75	22.9	3.69	22.5	3.63	22.0	3.58	20.7	3.34
		30.0	24.1	3.85	23.5	3.75	22.9	3.68	22.5	3.61	22.0	3.56	20.7	3.33
		60.0	24.1	3.79	23.5	3.72	22.9	3.61	22.5	3.56	22.0	3.50	20.7	3.26
		75.0	24.1	3.74	23.5	3.63	22.9	3.56	22.5	3.50	22.0	3.44	20.7	3.21
		90.0	24.1	3.71	23.5	3.58	22.9	3.53	22.5	3.47	22.0	3.41	20.7	3.18
	30	24.0	24.1	3.77	23.5	3.58	22.9	3.55	22.5	3.45	22.0	3.42	20.7	3.18
		30.0	24.1	3.74	23.5	3.57	22.9	3.52	22.5	3.44	22.0	3.39	20.7	3.15
		60.0	24.1	3.61	23.5	3.55	22.9	3.44	22.5	3.39	22.0	3.26	20.7	3.04
		75.0	24.1	3.56	23.5	3.45	22.9	3.39	22.5	3.33	22.0	3.26	20.7	3.04
		90.0	24.1	3.53	23.5	3.40	22.9	3.36	22.5	3.29	22.0	3.26	20.7	3.04
	35	24.0	24.1	3.59	23.5	3.47	22.9	3.40	22.5	3.28	22.0	3.17	20.7	2.94
		30.0	24.1	3.56	23.5	3.45	22.9	3.39	22.5	3.26	22.0	3.15	20.7	2.91
		60.0	24.1	3.44	23.5	3.37	22.9	3.33	22.5	3.21	22.0	3.09	20.7	2.80
		75.0	24.1	3.44	23.5	3.34	22.9	3.26	22.5	3.15	22.0	3.04	20.7	2.80
		90.0	24.1	3.44	23.5	3.32	22.9	3.23	22.5	3.12	22.0	3.01	20.7	2.80
	40	24.0	24.1	3.47	23.5	3.36	22.9	3.29	22.5	3.18	22.0	3.07	20.7	2.77
		30.0	24.1	3.44	23.5	3.34	22.9	3.26	22.5	3.15	22.0	3.04	20.7	2.74
		60.0	24.1	3.33	23.5	3.25	22.9	3.15	22.5	3.04	22.0	2.91	20.7	2.63
		75.0	24.1	3.26	23.5	3.20	22.9	3.15	22.5	3.04	22.0	2.91	20.7	2.63
		90.0	24.1	3.23	23.5	3.17	22.9	3.15	22.5	3.04	22.0	2.91	20.7	2.63
	45	24.0	24.1	3.35	23.5	3.24	22.9	3.19	22.5	3.08	22.0	2.96	20.7	2.59
		30.0	24.1	3.33	23.5	3.22	22.9	3.15	22.5	3.04	22.0	2.91	20.7	2.56
		60.0	24.1	3.21	23.5	3.14	22.9	2.98	22.5	2.86	22.0	2.74	20.7	2.45
		75.0	24.1	3.09	23.5	3.06	22.9	3.04	22.5	2.91	22.0	2.80	20.7	2.45
		90.0	24.1	3.03	23.5	3.02	22.9	3.07	22.5	2.94	22.0	2.83	20.7	2.45
120	-5	24.0	8.1	3.67	8.0	3.45	8.0	3.21	7.9	3.08	7.9	2.99	7.7	2.67
		30.0	8.4	3.73	8.3	3.52	8.3	3.28	8.2	3.14	8.2	3.05	8.0	2.73
		60.0	9.5	3.98	9.4	3.78	9.3	3.56	9.2	3.41	9.3	3.31	9.1	2.97
		75.0	10.5	4.24	10.4	4.04	10.3	3.84	10.2	3.68	10.3	3.57	10.0	3.20
		90.0	11.0	4.36	10.9	4.17	10.8	3.98	10.7	3.82	10.8	3.70	10.5	3.31
	0	24.0	14.5	5.01	14.1	4.86	13.8	4.71	13.5	4.51	13.5	4.38	12.9	3.92
		30.0	14.6	5.03	14.2	4.88	13.9	4.72	13.6	4.52	13.6	4.39	13.0	3.93
		60.0	14.9	5.08	14.5	4.92	14.2	4.77	13.9	4.57	13.9	4.44	13.3	3.98
		75.0	15.1	5.08	14.8	4.92	14.5	4.77	14.1	4.57	14.1	4.44	13.5	3.98
		90.0	15.2	5.08	14.9	4.92	14.6	4.77	14.3	4.57	14.2	4.44	13.6	3.98

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
120	5	24.0	20.9	5.39	20.5	5.26	20.1	5.12	19.6	4.90	19.0	4.77	17.9	4.27
		30.0	20.9	5.41	20.6	5.28	20.1	5.15	19.6	4.93	19.0	4.79	17.9	4.29
		60.0	21.2	5.51	20.7	5.38	20.1	5.25	19.6	5.03	19.0	4.89	17.9	4.38
		75.0	21.3	5.55	20.6	5.41	20.1	5.29	19.6	5.07	19.0	4.92	17.9	4.41
		90.0	21.4	5.56	20.6	5.43	20.1	5.30	19.6	5.09	19.0	4.94	17.9	4.42
	10	24.0	20.9	4.84	20.5	4.71	20.0	4.61	19.6	4.47	18.9	4.32	17.9	3.89
		30.0	21.0	4.86	20.6	4.73	20.1	4.63	19.6	4.48	19.0	4.32	17.9	3.89
		60.0	21.4	4.92	21.0	4.80	20.3	4.69	19.8	4.50	19.2	4.31	18.1	3.91
		75.0	21.5	4.91	20.9	4.80	20.4	4.71	19.9	4.52	19.3	4.33	18.2	4.04
		90.0	21.6	4.90	20.9	4.80	20.4	4.72	20.0	4.53	19.3	4.34	18.3	4.11
	15	24.0	21.0	4.29	20.6	4.17	20.0	4.10	19.5	4.04	18.9	3.88	17.9	3.52
		30.0	21.1	4.30	20.7	4.18	20.1	4.11	19.6	4.03	19.0	3.85	17.9	3.50
		60.0	21.6	4.34	21.2	4.21	20.5	4.14	20.0	3.96	19.4	3.74	18.3	3.44
		75.0	21.7	4.27	21.2	4.18	20.7	4.14	20.2	3.96	19.5	3.74	18.5	3.68
		90.0	21.8	4.24	21.2	4.16	20.8	4.14	20.3	3.96	19.6	3.74	18.6	3.79
	20	24.0	21.6	3.86	21.2	3.70	20.5	3.60	20.0	3.55	19.3	3.50	18.3	3.33
		30.0	21.7	3.86	21.3	3.71	20.6	3.61	20.1	3.56	19.4	3.50	18.4	3.31
		60.0	22.3	3.86	21.8	3.77	21.1	3.68	20.6	3.61	19.9	3.49	18.8	3.26
		75.0	22.4	3.83	21.8	3.74	21.3	3.68	20.7	3.61	20.0	3.50	18.9	3.39
		90.0	22.4	3.81	21.8	3.72	21.3	3.68	20.8	3.61	20.1	3.51	19.0	3.45
	25	24.0	22.6	3.65	22.0	3.48	21.3	3.42	20.8	3.34	20.3	3.28	19.2	3.05
		30.0	22.6	3.64	22.0	3.48	21.3	3.41	20.8	3.33	20.3	3.26	19.2	3.04
		60.0	22.7	3.58	22.0	3.45	21.3	3.39	20.8	3.26	20.3	3.21	19.2	2.98
		75.0	22.8	3.45	22.0	3.36	21.3	3.33	20.8	3.26	20.3	3.15	19.2	2.98
		90.0	22.8	3.38	22.0	3.32	21.3	3.29	20.8	3.26	20.3	3.12	19.2	2.98
	30	24.0	22.8	3.49	22.0	3.32	21.3	3.23	20.8	3.10	20.3	3.07	19.2	2.82
		30.0	22.8	3.46	22.0	3.30	21.3	3.21	20.8	3.09	20.3	3.04	19.2	2.80
		60.0	22.8	3.35	22.0	3.22	21.3	3.15	20.8	3.04	20.3	2.91	19.2	2.74
		75.0	22.8	3.24	22.0	3.15	21.3	3.09	20.8	3.04	20.3	2.91	19.2	2.69
		90.0	22.8	3.19	22.0	3.11	21.3	3.06	20.8	3.04	20.3	2.91	19.2	2.66
	35	24.0	22.8	3.34	22.0	3.15	21.3	3.07	20.8	2.94	20.3	2.83	19.2	2.58
		30.0	22.8	3.29	22.0	3.13	21.3	3.04	20.8	2.91	20.3	2.80	19.2	2.56
		60.0	22.8	3.10	22.0	3.01	21.3	2.91	20.8	2.80	20.3	2.69	19.2	2.51
		75.0	22.8	3.07	22.0	2.99	21.3	2.91	20.8	2.80	20.3	2.69	19.2	2.45
		90.0	22.8	3.05	22.0	2.97	21.3	2.91	20.8	2.80	20.3	2.69	19.2	2.42
	40	24.0	22.8	3.24	22.0	3.01	21.3	2.89	20.8	2.77	20.3	2.65	19.2	2.40
		30.0	22.8	3.17	22.0	2.98	21.3	2.86	20.8	2.74	20.3	2.63	19.2	2.39
		60.0	22.8	2.93	22.0	2.84	21.3	2.74	20.8	2.63	20.3	2.51	19.2	2.34
		75.0	22.8	2.89	22.0	2.80	21.3	2.74	20.8	2.63	20.3	2.51	19.2	2.28
		90.0	22.8	2.87	22.0	2.78	21.3	2.74	20.8	2.63	20.3	2.51	19.2	2.24
	45	24.0	22.8	3.14	22.0	2.87	21.3	2.72	20.8	2.59	20.3	2.48	19.2	2.23
		30.0	22.8	3.06	22.0	2.82	21.3	2.69	20.8	2.56	20.3	2.45	19.2	2.21
		60.0	22.8	2.75	22.0	2.66	21.3	2.56	20.8	2.45	20.3	2.34	19.2	2.16
		75.0	22.8	2.72	22.0	2.61	21.3	2.56	20.8	2.45	20.3	2.34	19.2	2.10
		90.0	22.8	2.70	22.0	2.59	21.3	2.56	20.8	2.45	20.3	2.34	19.2	2.07
110	-5	24.0	7.7	3.71	7.6	3.45	7.6	3.21	7.5	3.08	7.5	2.99	7.3	2.67
		30.0	7.9	3.78	7.9	3.52	7.8	3.28	7.7	3.14	7.8	3.05	7.6	2.73
		60.0	9.0	4.03	8.9	3.78	8.9	3.56	8.8	3.41	8.8	3.31	8.6	2.97
		75.0	9.9	4.29	9.8	4.04	9.8	3.84	9.7	3.68	9.7	3.57	9.5	3.20
		90.0	10.4	4.42	10.3	4.17	10.2	3.98	10.1	3.82	10.1	3.70	9.9	3.31
	0	24.0	13.7	5.08	13.4	4.86	13.1	4.71	12.9	4.51	12.7	4.38	12.3	3.92
		30.0	13.8	5.09	13.5	4.88	13.2	4.72	12.9	4.52	12.8	4.39	12.3	3.93
		60.0	14.1	5.14	13.8	4.92	13.5	4.77	13.2	4.57	13.1	4.44	12.6	3.98
		75.0	14.3	5.14	14.0	4.92	13.7	4.77	13.4	4.57	13.3	4.44	12.8	3.98
		90.0	14.4	5.14	14.1	4.92	13.8	4.77	13.5	4.57	13.4	4.44	12.9	3.98
	5	24.0	20.0	5.46	19.5	5.26	19.0	5.12	18.6	4.90	17.9	4.77	17.0	4.27
		30.0	20.0	5.49	19.5	5.28	19.0	5.15	18.6	4.93	17.9	4.79	17.0	4.29
		60.0	20.3	5.58	19.7	5.38	19.1	5.25	18.6	5.03	17.9	4.89	17.0	4.38
		75.0	20.4	5.62	19.7	5.41	19.1	5.29	18.6	5.07	17.9	4.92	17.0	4.41
		90.0	20.5	5.64	19.7	5.43	19.1	5.30	18.6	5.09	17.9	4.94	17.0	4.42
	10	24.0	20.0	4.90	19.5	4.73	19.0	4.63	18.6	4.47	17.9	4.32	17.0	3.89
		30.0	20.1	4.91	19.6	4.74	19.0	4.64	18.6	4.48	17.9	4.32	17.0	3.89
		60.0	20.4	4.94	19.8	4.80	19.2	4.69	18.7	4.50	18.0	4.31	17.1	3.91
		75.0	20.5	4.94	19.9	4.80	19.2	4.68	18.8	4.49	18.0	4.33	17.1	3.95
		90.0	20.6	4.94	19.9	4.80	19.3	4.68	18.8	4.48	18.1	4.34	17.2	3.97

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
110	15	24.0	20.1	4.33	19.6	4.21	19.0	4.14	18.5	4.04	17.8	3.88	17.0	3.52
		30.0	20.2	4.33	19.6	4.21	19.1	4.14	18.6	4.03	17.9	3.85	17.0	3.50
		60.0	20.5	4.30	19.9	4.21	19.3	4.14	18.8	3.96	18.1	3.74	17.2	3.44
		75.0	20.6	4.27	20.0	4.18	19.4	4.09	18.9	3.91	18.2	3.74	17.3	3.50
		90.0	20.7	4.26	20.1	4.16	19.4	4.06	18.9	3.88	18.2	3.74	17.3	3.53
	20	24.0	20.5	3.74	19.9	3.65	19.3	3.56	18.7	3.50	18.1	3.40	17.1	3.18
		30.0	20.6	3.75	20.0	3.65	19.3	3.56	18.8	3.50	18.1	3.39	17.2	3.17
		60.0	21.0	3.78	20.2	3.65	19.5	3.56	19.1	3.50	18.3	3.33	17.4	3.15
		75.0	21.1	3.78	20.4	3.65	19.7	3.56	19.2	3.44	18.4	3.33	17.5	3.15
		90.0	21.2	3.78	20.5	3.65	19.7	3.56	19.2	3.41	18.5	3.33	17.5	3.15
	25	24.0	21.1	3.40	20.5	3.28	19.7	3.23	19.2	3.10	18.6	2.99	17.6	2.74
		30.0	21.1	3.40	20.5	3.26	19.7	3.21	19.2	3.09	18.6	2.98	17.6	2.74
		60.0	21.3	3.37	20.5	3.21	19.7	3.15	19.2	3.04	18.6	2.91	17.6	2.74
		75.0	21.4	3.37	20.5	3.22	19.7	3.09	19.2	3.04	18.6	2.86	17.6	2.69
		90.0	21.5	3.37	20.5	3.23	19.7	3.06	19.2	3.04	18.6	2.83	17.6	2.66
	30	24.0	21.4	3.10	20.5	2.99	19.7	2.88	19.2	2.82	18.6	2.64	17.6	2.47
		30.0	21.4	3.09	20.5	2.98	19.7	2.86	19.2	2.80	18.6	2.63	17.6	2.45
		60.0	21.4	3.04	20.5	2.91	19.7	2.80	19.2	2.74	18.6	2.56	17.6	2.39
		75.0	21.4	3.01	20.5	2.86	19.7	2.74	19.2	2.69	18.6	2.56	17.6	2.39
		90.0	21.4	3.00	20.5	2.83	19.7	2.71	19.2	2.66	18.6	2.56	17.6	2.39
	35	24.0	21.4	2.94	20.5	2.75	19.7	2.64	19.2	2.53	18.6	2.40	17.6	2.23
		30.0	21.4	2.91	20.5	2.74	19.7	2.63	19.2	2.51	18.6	2.39	17.6	2.21
		60.0	21.4	2.80	20.5	2.69	19.7	2.56	19.2	2.45	18.6	2.34	17.6	2.16
		75.0	21.4	2.73	20.5	2.63	19.7	2.51	19.2	2.45	18.6	2.34	17.6	2.16
		90.0	21.4	2.69	20.5	2.59	19.7	2.48	19.2	2.45	18.6	2.34	17.6	2.16
	40	24.0	21.4	2.77	20.5	2.65	19.7	2.48	19.2	2.35	18.6	2.23	17.6	2.05
		30.0	21.4	2.74	20.5	2.63	19.7	2.45	19.2	2.34	18.6	2.21	17.6	2.04
		60.0	21.4	2.63	20.5	2.51	19.7	2.34	19.2	2.28	18.6	2.16	17.6	1.99
		75.0	21.4	2.59	20.5	2.45	19.7	2.34	19.2	2.21	18.6	2.10	17.6	1.93
		90.0	21.4	2.57	20.5	2.42	19.7	2.34	19.2	2.18	18.6	2.07	17.6	1.89
	45	24.0	21.4	2.59	20.5	2.55	19.7	2.32	19.2	2.18	18.6	2.05	17.6	1.88
		30.0	21.4	2.56	20.5	2.51	19.7	2.28	19.2	2.16	18.6	2.04	17.6	1.86
		60.0	21.4	2.45	20.5	2.34	19.7	2.10	19.2	2.10	18.6	1.99	17.6	1.81
		75.0	21.4	2.45	20.5	2.28	19.7	2.16	19.2	1.99	18.6	1.86	17.6	1.69
		90.0	21.4	2.45	20.5	2.24	19.7	2.19	19.2	1.93	18.6	1.80	17.6	1.63
100	-5	24.0	7.2	3.71	7.2	3.50	7.2	3.21	7.1	3.08	7.0	2.94	6.9	2.67
		30.0	7.5	3.78	7.4	3.57	7.4	3.28	7.3	3.14	7.3	3.01	7.1	2.73
		60.0	8.5	4.03	8.4	3.83	8.4	3.56	8.3	3.41	8.2	3.26	8.1	2.97
		75.0	9.4	4.29	9.3	4.10	9.2	3.84	9.2	3.68	9.1	3.52	8.9	3.20
		90.0	9.8	4.42	9.7	4.23	9.7	3.98	9.6	3.82	9.5	3.65	9.3	3.31
	0	24.0	12.9	5.08	12.6	4.93	12.4	4.71	12.2	4.51	12.0	4.31	11.5	3.92
		30.0	13.0	5.09	12.7	4.94	12.5	4.72	12.2	4.52	12.0	4.33	11.6	3.93
		60.0	13.3	5.14	13.0	4.99	12.7	4.77	12.5	4.57	12.3	4.38	11.9	3.98
		75.0	13.5	5.14	13.2	4.99	12.9	4.77	12.7	4.57	12.5	4.38	12.1	3.98
		90.0	13.6	5.14	13.3	4.99	13.0	4.77	12.8	4.57	12.6	4.38	12.1	3.98
	5	24.0	19.1	5.46	18.5	5.33	18.0	5.12	17.6	4.90	16.8	4.69	16.0	4.27
		30.0	19.2	5.49	18.5	5.35	18.0	5.15	17.6	4.93	16.8	4.72	16.0	4.29
		60.0	19.4	5.58	18.6	5.45	18.0	5.25	17.6	5.03	16.8	4.82	16.0	4.38
		75.0	19.5	5.62	18.7	5.49	18.0	5.29	17.6	5.07	16.8	4.85	16.0	4.41
		90.0	19.6	5.64	18.7	5.50	18.0	5.30	17.6	5.09	16.8	4.86	16.0	4.42
	10	24.0	19.2	4.88	18.5	4.78	18.0	4.63	17.6	4.47	16.8	4.25	16.0	3.89
		30.0	19.2	4.91	18.5	4.79	18.0	4.64	17.6	4.48	16.8	4.25	16.0	3.89
		60.0	19.4	5.00	18.6	4.85	18.0	4.69	17.6	4.50	16.8	4.27	16.0	3.91
		75.0	19.6	4.98	18.7	4.85	18.0	4.68	17.6	4.49	16.8	4.26	16.0	3.89
		90.0	19.6	4.97	18.8	4.85	18.0	4.68	17.6	4.48	16.8	4.25	16.0	3.88
	15	24.0	19.3	4.31	18.6	4.23	18.0	4.14	17.6	4.04	16.8	3.80	16.0	3.52
		30.0	19.3	4.33	18.6	4.24	18.0	4.14	17.6	4.03	16.8	3.79	16.0	3.50
		60.0	19.4	4.41	18.7	4.25	18.0	4.14	17.6	3.96	16.8	3.74	16.0	3.44
		75.0	19.6	4.34	18.8	4.21	18.0	4.09	17.6	3.91	16.8	3.68	16.0	3.39
		90.0	19.7	4.30	18.8	4.19	18.0	4.06	17.6	3.88	16.8	3.64	16.0	3.36
	20	24.0	19.4	3.68	18.7	3.59	18.0	3.50	17.6	3.45	16.8	3.23	16.0	3.07
		30.0	19.5	3.70	18.7	3.59	18.0	3.50	17.6	3.44	16.8	3.21	16.0	3.04
		60.0	19.8	3.77	18.8	3.60	18.0	3.50	17.6	3.39	16.8	3.15	16.0	2.91
		75.0	19.9	3.70	18.9	3.57	18.0	3.44	17.6	3.33	16.8	3.09	16.0	2.86
		90.0	19.9	3.67	19.0	3.56	18.0	3.41	17.6	3.29	16.8	3.06	16.0	2.83

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100	25	24.0	19.6	3.22	19.0	3.12	18.0	2.99	17.6	2.88	16.8	2.70	16.0	2.45
		30.0	19.7	3.22	19.0	3.10	18.0	2.98	17.6	2.86	16.8	2.69	16.0	2.45
		60.0	20.0	3.23	19.0	3.04	18.0	2.91	17.6	2.80	16.8	2.63	16.0	2.45
		75.0	20.1	3.16	19.0	3.01	18.0	2.86	17.6	2.74	16.8	2.63	16.0	2.39
		90.0	20.1	3.13	19.0	3.00	18.0	2.83	17.6	2.71	16.8	2.63	16.0	2.36
	30	24.0	20.1	2.93	19.0	2.70	18.0	2.52	17.6	2.47	16.8	2.28	16.0	2.18
		30.0	20.1	2.91	19.0	2.69	18.0	2.51	17.6	2.45	16.8	2.28	16.0	2.16
		60.0	20.1	2.86	19.0	2.63	18.0	2.49	17.6	2.39	16.8	2.28	16.0	2.10
		75.0	20.1	2.80	19.0	2.63	18.0	2.45	17.6	2.39	16.8	2.21	16.0	2.10
		90.0	20.1	2.77	19.0	2.63	18.0	2.43	17.6	2.39	16.8	2.18	16.0	2.10
	35	24.0	20.1	2.72	19.0	2.48	18.0	2.22	17.6	2.18	16.8	2.05	16.0	1.88
		30.0	20.1	2.69	19.0	2.45	18.0	2.21	17.6	2.16	16.8	2.04	16.0	1.86
		60.0	20.1	2.56	19.0	2.34	18.0	2.19	17.6	2.10	16.8	1.99	16.0	1.81
		75.0	20.1	2.56	19.0	2.34	18.0	2.16	17.6	2.10	16.8	1.99	16.0	1.81
		90.0	20.1	2.56	19.0	2.34	18.0	2.15	17.6	2.10	16.8	1.99	16.0	1.81
	40	24.0	20.1	2.54	19.0	2.30	18.0	1.99	17.6	1.94	16.8	1.83	16.0	1.70
		30.0	20.1	2.51	19.0	2.28	18.0	1.99	17.6	1.93	16.8	1.81	16.0	1.69
		60.0	20.1	2.39	19.0	2.16	18.0	1.96	17.6	1.86	16.8	1.75	16.0	1.64
		75.0	20.1	2.34	19.0	2.16	18.0	1.93	17.6	1.86	16.8	1.75	16.0	1.64
		90.0	20.1	2.31	19.0	2.16	18.0	1.91	17.6	1.86	16.8	1.75	16.0	1.64
	45	24.0	20.1	2.37	19.0	2.13	18.0	1.76	17.6	1.70	16.8	1.59	16.0	1.53
		30.0	20.1	2.34	19.0	2.10	18.0	1.75	17.6	1.69	16.8	1.58	16.0	1.51
		60.0	20.1	2.21	19.0	1.99	18.0	1.73	17.6	1.64	16.8	1.51	16.0	1.46
		75.0	20.1	2.10	19.0	1.99	18.0	1.69	17.6	1.64	16.8	1.51	16.0	1.46
		90.0	20.1	2.04	19.0	1.99	18.0	1.67	17.6	1.64	16.8	1.51	16.0	1.46
90	-5	24.0	6.8	3.45	6.6	3.14	6.4	2.76	6.4	2.63	6.3	2.53	6.2	2.27
		30.0	7.1	3.51	6.8	3.20	6.6	2.82	6.6	2.69	6.5	2.59	6.4	2.32
		60.0	8.0	3.74	7.8	3.43	7.5	3.06	7.5	2.91	7.4	2.81	7.3	2.52
		75.0	8.8	3.98	8.6	3.68	8.3	3.30	8.2	3.14	8.2	3.03	8.0	2.72
		90.0	9.3	4.10	9.0	3.80	8.7	3.42	8.6	3.26	8.6	3.14	8.4	2.82
	0	24.0	12.2	4.69	11.7	4.41	11.1	4.04	11.0	3.86	10.8	3.71	10.4	3.33
		30.0	12.3	4.71	11.7	4.42	11.2	4.06	11.0	3.87	10.8	3.72	10.4	3.34
		60.0	12.6	4.76	12.0	4.47	11.5	4.10	11.3	3.91	11.1	3.77	10.7	3.38
		75.0	12.8	4.76	12.2	4.47	11.6	4.10	11.4	3.91	11.3	3.77	10.9	3.38
		90.0	12.9	4.76	12.3	4.47	11.7	4.10	11.5	3.91	11.4	3.77	10.9	3.38
	5	24.0	17.3	5.04	16.7	4.76	16.2	4.40	15.8	4.20	15.1	4.04	14.4	3.63
		30.0	17.3	5.06	16.7	4.78	16.2	4.42	15.8	4.22	15.1	4.06	14.4	3.64
		60.0	17.3	5.15	16.6	4.87	16.2	4.51	15.8	4.30	15.1	4.15	14.4	3.72
		75.0	17.4	5.18	16.7	4.90	16.2	4.54	15.8	4.33	15.1	4.18	14.4	3.75
		90.0	17.5	5.20	16.7	4.92	16.2	4.56	15.8	4.35	15.1	4.19	14.4	3.76
	10	24.0	17.4	4.45	16.8	4.23	16.2	3.98	15.8	3.82	15.1	3.67	14.4	3.30
		30.0	17.3	4.45	16.7	4.24	16.2	3.99	15.8	3.83	15.1	3.66	14.4	3.31
		60.0	17.3	4.47	16.7	4.25	16.2	4.01	15.8	3.84	15.1	3.65	14.4	3.32
		75.0	17.4	4.45	16.7	4.24	16.2	3.99	15.8	3.83	15.1	3.66	14.4	3.33
		90.0	17.5	4.45	16.7	4.24	16.2	3.99	15.8	3.83	15.1	3.67	14.4	3.34
	15	24.0	17.4	3.85	16.8	3.71	16.2	3.58	15.8	3.45	15.1	3.29	14.4	2.99
		30.0	17.4	3.84	16.8	3.70	16.2	3.56	15.8	3.44	15.1	3.26	14.4	2.98
		60.0	17.3	3.78	16.7	3.64	16.2	3.50	15.8	3.39	15.1	3.15	14.4	2.91
		75.0	17.4	3.72	16.7	3.58	16.2	3.44	15.8	3.33	15.1	3.15	14.4	2.91
		90.0	17.5	3.70	16.8	3.56	16.2	3.41	15.8	3.29	15.1	3.15	14.4	2.91
	20	24.0	17.5	3.25	16.9	3.16	16.2	3.05	15.8	2.93	15.1	2.83	14.4	2.65
		30.0	17.5	3.25	16.9	3.15	16.2	3.04	15.8	2.91	15.1	2.80	14.4	2.63
		60.0	17.5	3.25	16.7	3.11	16.2	2.98	15.8	2.86	15.1	2.69	14.4	2.51
		75.0	17.5	3.20	16.8	3.09	16.2	2.98	15.8	2.86	15.1	2.69	14.4	2.51
		90.0	17.5	3.17	16.8	3.08	16.2	2.98	15.8	2.86	15.1	2.69	14.4	2.51
	25	24.0	17.8	2.84	17.1	2.69	16.2	2.58	15.8	2.45	15.1	2.35	14.4	2.18
		30.0	17.9	2.84	17.1	2.69	16.2	2.56	15.8	2.45	15.1	2.34	14.4	2.16
		60.0	18.1	2.81	17.1	2.66	16.2	2.51	15.8	2.45	15.1	2.28	14.4	2.10
		75.0	18.1	2.74	17.1	2.60	16.2	2.51	15.8	2.39	15.1	2.28	14.4	2.10
		90.0	18.2	2.70	17.1	2.57	16.2	2.51	15.8	2.36	15.1	2.28	14.4	2.10
	30	24.0	18.1	2.58	17.1	2.40	16.2	2.23	15.8	2.18	15.1	2.05	14.4	1.86
		30.0	18.1	2.56	17.1	2.39	16.2	2.21	15.8	2.16	15.1	2.04	14.4	1.86
		60.0	18.1	2.51	17.1	2.34	16.2	2.16	15.8	2.10	15.1	1.99	14.4	1.86
		75.0	18.1	2.45	17.1	2.28	16.2	2.16	15.8	2.10	15.1	1.99	14.4	1.81
		90.0	18.1	2.42	17.1	2.24	16.2	2.16	15.8	2.10	15.1	1.99	14.4	1.78

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90	35	24.0	18.1	2.35	17.1	2.18	16.2	2.00	15.8	1.94	15.1	1.83	14.4	1.70
		30.0	18.1	2.34	17.1	2.16	16.2	1.99	15.8	1.93	15.1	1.81	14.4	1.69
		60.0	18.1	2.28	17.1	2.10	16.2	1.93	15.8	1.86	15.1	1.75	14.4	1.64
		75.0	18.1	2.21	17.1	2.04	16.2	1.86	15.8	1.81	15.1	1.75	14.4	1.64
		90.0	18.1	2.18	17.1	2.01	16.2	1.83	15.8	1.78	15.1	1.75	14.4	1.64
	40	24.0	18.1	2.19	17.1	2.00	16.2	1.77	15.8	1.70	15.1	1.65	14.4	1.53
		30.0	18.1	2.16	17.1	1.99	16.2	1.75	15.8	1.69	15.1	1.64	14.4	1.51
		60.0	18.1	2.04	17.1	1.93	16.2	1.69	15.8	1.64	15.1	1.58	14.4	1.46
		75.0	18.1	2.04	17.1	1.93	16.2	1.69	15.8	1.64	15.1	1.58	14.4	1.46
		90.0	18.1	2.04	17.1	1.93	16.2	1.69	15.8	1.64	15.1	1.58	14.4	1.46
	45	24.0	18.1	2.03	17.1	1.83	16.2	1.53	15.8	1.48	15.1	1.48	14.4	1.35
		30.0	18.1	1.99	17.1	1.81	16.2	1.51	15.8	1.46	15.1	1.46	14.4	1.34
		60.0	18.1	1.81	17.1	1.75	16.2	1.46	15.8	1.40	15.1	1.40	14.4	1.29
		75.0	18.1	1.86	17.1	1.81	16.2	1.51	15.8	1.46	15.1	1.40	14.4	1.29
		90.0	18.1	1.89	17.1	1.84	16.2	1.54	15.8	1.49	15.1	1.40	14.4	1.29
80	-5	24.0	6.5	2.46	6.1	2.36	5.7	2.26	5.7	2.19	5.6	2.08	5.5	1.92
		30.0	6.7	2.51	6.3	2.41	5.9	2.31	5.9	2.23	5.8	2.13	5.7	1.96
		60.0	7.6	2.73	7.1	2.62	6.7	2.50	6.6	2.42	6.6	2.31	6.5	2.12
		75.0	8.4	2.94	7.8	2.82	7.4	2.70	7.3	2.61	7.3	2.49	7.1	2.29
		90.0	8.8	3.05	8.2	2.93	7.8	2.80	7.7	2.71	7.6	2.58	7.5	2.38
	0	24.0	11.5	3.60	10.6	3.46	9.9	3.32	9.7	3.20	9.6	3.05	9.2	2.81
		30.0	11.6	3.61	10.7	3.47	10.0	3.33	9.8	3.21	9.6	3.06	9.3	2.82
		60.0	11.9	3.66	11.0	3.51	10.2	3.36	10.0	3.25	9.9	3.10	9.5	2.85
		75.0	12.1	3.66	11.1	3.51	10.4	3.36	10.2	3.25	10.0	3.10	9.6	2.85
		90.0	12.1	3.66	11.2	3.51	10.4	3.36	10.2	3.25	10.1	3.10	9.7	2.85
	5	24.0	16.0	3.92	15.1	3.77	14.4	3.60	14.1	3.48	13.5	3.32	12.8	3.05
		30.0	16.0	3.94	15.1	3.79	14.4	3.62	14.1	3.50	13.5	3.34	12.8	3.07
		60.0	16.1	4.03	15.2	3.86	14.4	3.70	14.1	3.57	13.5	3.40	12.8	3.14
		75.0	16.1	4.05	15.2	3.89	14.4	3.72	14.1	3.60	13.5	3.43	12.8	3.16
		90.0	16.1	4.06	15.2	3.91	14.4	3.74	14.1	3.61	13.5	3.44	12.8	3.17
	10	24.0	16.0	3.61	15.1	3.44	14.4	3.27	14.1	3.18	13.5	3.01	12.8	2.79
		30.0	16.1	3.60	15.1	3.44	14.4	3.27	14.1	3.18	13.5	3.01	12.8	2.79
		60.0	16.1	3.58	15.2	3.42	14.4	3.28	14.1	3.19	13.5	3.02	12.8	2.79
		75.0	16.1	3.57	15.2	3.43	14.4	3.29	14.1	3.17	13.5	3.00	12.8	2.78
		90.0	16.1	3.57	15.2	3.44	14.4	3.29	14.1	3.16	13.5	2.99	12.8	2.77
	15	24.0	16.1	3.29	15.2	3.12	14.4	2.93	14.1	2.88	13.5	2.70	12.8	2.53
		30.0	16.1	3.26	15.2	3.09	14.4	2.91	14.1	2.86	13.5	2.69	12.8	2.51
		60.0	16.1	3.15	15.2	2.98	14.4	2.86	14.1	2.80	13.5	2.63	12.8	2.45
		75.0	16.1	3.09	15.2	2.98	14.4	2.86	14.1	2.74	13.5	2.56	12.8	2.39
		90.0	16.1	3.06	15.2	2.98	14.4	2.86	14.1	2.71	13.5	2.53	12.8	2.36
	20	24.0	16.1	2.75	15.2	2.64	14.4	2.51	14.1	2.47	13.5	2.35	12.8	2.18
		30.0	16.1	2.74	15.2	2.63	14.4	2.51	14.1	2.45	13.5	2.34	12.8	2.16
		60.0	16.1	2.69	15.2	2.56	14.4	2.51	14.1	2.39	13.5	2.28	12.8	2.10
		75.0	16.1	2.63	15.2	2.51	14.4	2.45	14.1	2.39	13.5	2.21	12.8	2.10
		90.0	16.1	2.59	15.2	2.48	14.4	2.42	14.1	2.39	13.5	2.18	12.8	2.10
	25	24.0	16.1	2.47	15.2	2.29	14.4	2.16	14.1	2.12	13.5	2.00	12.8	1.88
		30.0	16.1	2.45	15.2	2.28	14.4	2.16	14.1	2.10	13.5	1.99	12.8	1.86
		60.0	16.1	2.39	15.2	2.21	14.4	2.16	14.1	2.04	13.5	1.93	12.8	1.81
		75.0	16.1	2.34	15.2	2.21	14.4	2.10	14.1	2.04	13.5	1.93	12.8	1.81
		90.0	16.1	2.31	15.2	2.21	14.4	2.07	14.1	2.04	13.5	1.93	12.8	1.81
	30	24.0	16.1	2.18	15.2	2.05	14.4	1.94	14.1	1.88	13.5	1.77	12.8	1.65
		30.0	16.1	2.16	15.2	2.04	14.4	1.93	14.1	1.86	13.5	1.75	12.8	1.64
		60.0	16.1	2.10	15.2	1.99	14.4	1.86	14.1	1.81	13.5	1.69	12.8	1.58
		75.0	16.1	2.10	15.2	1.99	14.4	1.86	14.1	1.81	13.5	1.69	12.8	1.58
		90.0	16.1	2.10	15.2	1.99	14.4	1.86	14.1	1.81	13.5	1.69	12.8	1.58
	35	24.0	16.1	2.00	15.2	1.88	14.4	1.70	14.1	1.64	13.5	1.59	12.8	1.46
		30.0	16.1	1.99	15.2	1.86	14.4	1.69	14.1	1.64	13.5	1.58	12.8	1.46
		60.0	16.1	1.93	15.2	1.81	14.4	1.64	14.1	1.64	13.5	1.51	12.8	1.46
		75.0	16.1	1.93	15.2	1.75	14.4	1.64	14.1	1.58	13.5	1.51	12.8	1.40
		90.0	16.1	1.93	15.2	1.72	14.4	1.64	14.1	1.54	13.5	1.51	12.8	1.37
	40	24.0	16.1	1.89	15.2	1.70	14.4	1.51	14.1	1.53	13.5	1.40	12.8	1.35
		30.0	16.1	1.86	15.2	1.69	14.4	1.51	14.1	1.51	13.5	1.40	12.8	1.34
		60.0	16.1	1.75	15.2	1.64	14.4	1.51	14.1	1.46	13.5	1.40	12.8	1.29
		75.0	16.1	1.75	15.2	1.64	14.4	1.46	14.1	1.46	13.5	1.40	12.8	1.29
		90.0	16.1	1.75	15.2	1.64	14.4	1.43	14.1	1.46	13.5	1.40	12.8	1.29

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80	45	24.0	16.1	1.79	15.2	1.53	14.4	1.32	14.1	1.43	13.5	1.21	12.8	1.25
		30.0	16.1	1.75	15.2	1.51	14.4	1.34	14.1	1.40	13.5	1.23	12.8	1.23
		60.0	16.1	1.58	15.2	1.46	14.4	1.40	14.1	1.29	13.5	1.29	12.8	1.11
		75.0	16.1	1.58	15.2	1.51	14.4	1.29	14.1	1.34	13.5	1.29	12.8	1.16
		90.0	16.1	1.58	15.2	1.54	14.4	1.23	14.1	1.37	13.5	1.29	12.8	1.19
70	-5	24.0	5.6	2.11	5.3	2.01	5.0	1.94	5.0	1.83	4.9	1.77	4.8	1.61
		30.0	5.8	2.15	5.5	2.05	5.2	1.99	5.1	1.87	5.1	1.80	5.0	1.64
		60.0	6.6	2.34	6.2	2.23	5.8	2.15	5.8	2.03	5.8	1.96	5.7	1.78
		75.0	7.3	2.52	6.8	2.40	6.5	2.32	6.4	2.18	6.4	2.11	6.2	1.92
		90.0	7.7	2.62	7.2	2.49	6.8	2.41	6.7	2.26	6.7	2.19	6.5	1.99
	0	24.0	10.1	3.09	9.3	2.94	8.7	2.85	8.5	2.68	8.4	2.59	8.1	2.35
		30.0	10.1	3.10	9.4	2.95	8.7	2.85	8.6	2.69	8.4	2.59	8.1	2.36
		60.0	10.4	3.13	9.6	2.98	8.9	2.89	8.8	2.72	8.6	2.63	8.3	2.38
		75.0	10.5	3.13	9.7	2.98	9.0	2.89	8.9	2.72	8.8	2.63	8.4	2.38
		90.0	10.6	3.13	9.8	2.98	9.1	2.89	9.0	2.72	8.8	2.63	8.5	2.38
	5	24.0	13.9	3.36	13.2	3.20	12.6	3.10	12.3	2.92	11.8	2.81	11.2	2.56
		30.0	14.0	3.38	13.2	3.22	12.6	3.11	12.3	2.93	11.8	2.83	11.2	2.57
		60.0	14.1	3.45	13.3	3.28	12.6	3.18	12.3	2.99	11.8	2.89	11.2	2.63
		75.0	14.1	3.47	13.3	3.31	12.6	3.20	12.3	3.01	11.8	2.91	11.2	2.64
		90.0	14.1	3.48	13.3	3.32	12.6	3.22	12.3	3.02	11.8	2.92	11.2	2.65
	10	24.0	14.0	3.10	13.2	2.93	12.6	2.82	12.3	2.66	11.8	2.55	11.2	2.34
		30.0	14.0	3.09	13.3	2.92	12.6	2.81	12.3	2.66	11.8	2.55	11.2	2.34
		60.0	14.1	3.07	13.3	2.90	12.6	2.79	12.3	2.66	11.8	2.55	11.2	2.34
		75.0	14.1	3.08	13.3	2.91	12.6	2.80	12.3	2.67	11.8	2.53	11.2	2.34
		90.0	14.1	3.08	13.3	2.91	12.6	2.81	12.3	2.68	11.8	2.53	11.2	2.34
	15	24.0	14.1	2.83	13.3	2.65	12.6	2.54	12.3	2.40	11.8	2.29	11.2	2.12
		30.0	14.1	2.80	13.3	2.63	12.6	2.51	12.3	2.39	11.8	2.28	11.2	2.10
		60.0	14.1	2.69	13.3	2.51	12.6	2.39	12.3	2.34	11.8	2.21	11.2	2.04
		75.0	14.1	2.69	13.3	2.51	12.6	2.39	12.3	2.34	11.8	2.16	11.2	2.04
		90.0	14.1	2.69	13.3	2.51	12.6	2.39	12.3	2.34	11.8	2.13	11.2	2.04
	20	24.0	14.1	2.35	13.3	2.23	12.6	2.18	12.3	2.12	11.8	2.00	11.2	1.88
		30.0	14.1	2.34	13.3	2.21	12.6	2.16	12.3	2.10	11.8	1.99	11.2	1.86
		60.0	14.1	2.28	13.3	2.16	12.6	2.10	12.3	2.04	11.8	1.93	11.2	1.81
		75.0	14.1	2.28	13.3	2.16	12.6	2.10	12.3	1.99	11.8	1.93	11.2	1.75
		90.0	14.1	2.28	13.3	2.16	12.6	2.10	12.3	1.96	11.8	1.93	11.2	1.72
	25	24.0	14.1	2.12	13.3	2.00	12.6	1.88	12.3	1.83	11.8	1.69	11.2	1.58
		30.0	14.1	2.10	13.3	1.99	12.6	1.86	12.3	1.81	11.8	1.69	11.2	1.58
		60.0	14.1	2.04	13.3	1.93	12.6	1.81	12.3	1.75	11.8	1.69	11.2	1.58
		75.0	14.1	1.99	13.3	1.86	12.6	1.81	12.3	1.75	11.8	1.64	11.2	1.58
		90.0	14.1	1.96	13.3	1.83	12.6	1.81	12.3	1.75	11.8	1.61	11.2	1.58
	30	24.0	14.1	1.88	13.3	1.77	12.6	1.65	12.3	1.58	11.8	1.53	11.2	1.40
		30.0	14.1	1.86	13.3	1.75	12.6	1.64	12.3	1.58	11.8	1.51	11.2	1.40
		60.0	14.1	1.81	13.3	1.69	12.6	1.58	12.3	1.58	11.8	1.46	11.2	1.40
		75.0	14.1	1.81	13.3	1.69	12.6	1.58	12.3	1.51	11.8	1.46	11.2	1.40
		90.0	14.1	1.81	13.3	1.69	12.6	1.58	12.3	1.48	11.8	1.46	11.2	1.40
	35	24.0	14.1	1.70	13.3	1.59	12.6	1.46	12.3	1.48	11.8	1.34	11.2	1.30
		30.0	14.1	1.69	13.3	1.58	12.6	1.46	12.3	1.46	11.8	1.34	11.2	1.29
		60.0	14.1	1.64	13.3	1.51	12.6	1.46	12.3	1.40	11.8	1.34	11.2	1.23
		75.0	14.1	1.64	13.3	1.51	12.6	1.40	12.3	1.40	11.8	1.34	11.2	1.23
		90.0	14.1	1.64	13.3	1.51	12.6	1.37	12.3	1.40	11.8	1.34	11.2	1.23
	40	24.0	14.1	1.59	13.3	1.48	12.6	1.35	12.3	1.29	11.8	1.23	11.2	1.18
		30.0	14.1	1.58	13.3	1.46	12.6	1.34	12.3	1.29	11.8	1.23	11.2	1.16
		60.0	14.1	1.51	13.3	1.40	12.6	1.29	12.3	1.29	11.8	1.23	11.2	1.11
		75.0	14.1	1.51	13.3	1.40	12.6	1.29	12.3	1.23	11.8	1.16	11.2	1.11
		90.0	14.1	1.51	13.3	1.40	12.6	1.29	12.3	1.19	11.8	1.13	11.2	1.11
	45	24.0	14.1	1.48	13.3	1.35	12.6	1.25	12.3	1.10	11.8	1.11	11.2	1.07
		30.0	14.1	1.46	13.3	1.34	12.6	1.23	12.3	1.11	11.8	1.11	11.2	1.05
		60.0	14.1	1.40	13.3	1.29	12.6	1.11	12.3	1.16	11.8	1.11	11.2	0.99
		75.0	14.1	1.40	13.3	1.29	12.6	1.16	12.3	1.05	11.8	0.99	11.2	0.99
		90.0	14.1	1.40	13.3	1.29	12.6	1.19	12.3	0.99	11.8	0.93	11.2	0.99
60	-5	24.0	4.8	1.71	4.5	1.65	4.3	1.58	4.2	1.47	4.2	1.45	4.1	1.29
		30.0	5.0	1.75	4.7	1.68	4.4	1.62	4.4	1.50	4.4	1.48	4.3	1.32
		60.0	5.7	1.90	5.3	1.83	5.0	1.76	5.0	1.63	5.0	1.61	4.9	1.44
		75.0	6.3	2.05	5.9	1.97	5.6	1.89	5.5	1.76	5.5	1.73	5.4	1.54
		90.0	6.6	2.12	6.1	2.05	5.8	1.96	5.8	1.83	5.7	1.80	5.6	1.60

Notes:

TC: Total Capacity(kW) PI : Power Input(kW)

1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
60	0	24.0	8.7	2.51	8.0	2.42	7.4	2.32	7.3	2.15	7.2	2.12	6.9	1.90
		30.0	8.7	2.52	8.0	2.43	7.5	2.32	7.3	2.16	7.2	2.13	7.0	1.90
		60.0	8.9	2.55	8.2	2.45	7.7	2.35	7.5	2.18	7.4	2.15	7.1	1.92
		75.0	9.0	2.55	8.3	2.45	7.8	2.35	7.6	2.18	7.5	2.15	7.2	1.92
		90.0	9.1	2.55	8.4	2.45	7.8	2.35	7.7	2.18	7.6	2.15	7.3	1.92
	5	24.0	12.0	2.73	11.3	2.63	10.8	2.52	10.5	2.35	10.1	2.31	9.6	2.06
		30.0	12.0	2.75	11.3	2.64	10.8	2.53	10.5	2.36	10.1	2.32	9.6	2.07
		60.0	12.1	2.80	11.4	2.70	10.8	2.59	10.5	2.41	10.1	2.37	9.6	2.11
		75.0	12.1	2.82	11.4	2.72	10.8	2.61	10.5	2.43	10.1	2.38	9.6	2.13
		90.0	12.1	2.84	11.4	2.72	10.8	2.62	10.5	2.43	10.1	2.39	9.6	2.14
	10	24.0	12.0	2.51	11.3	2.40	10.8	2.29	10.5	2.14	10.1	2.10	9.6	1.88
		30.0	12.0	2.51	11.3	2.40	10.8	2.29	10.5	2.14	10.1	2.09	9.6	1.88
		60.0	12.1	2.51	11.4	2.40	10.8	2.29	10.5	2.17	10.1	2.09	9.6	1.90
		75.0	12.1	2.52	11.4	2.38	10.8	2.26	10.5	2.14	10.1	2.07	9.6	1.88
		90.0	12.1	2.52	11.4	2.37	10.8	2.25	10.5	2.13	10.1	2.06	9.6	1.87
	15	24.0	12.1	2.29	11.4	2.18	10.8	2.05	10.5	1.93	10.1	1.88	9.6	1.69
		30.0	12.1	2.28	11.4	2.16	10.8	2.04	10.5	1.93	10.1	1.86	9.6	1.69
		60.0	12.1	2.21	11.4	2.10	10.8	1.99	10.5	1.93	10.1	1.81	9.6	1.69
		75.0	12.1	2.21	11.4	2.04	10.8	1.93	10.5	1.86	10.1	1.75	9.6	1.64
		90.0	12.1	2.21	11.4	2.01	10.8	1.89	10.5	1.83	10.1	1.72	9.6	1.61
	20	24.0	12.1	2.00	11.4	1.88	10.8	1.77	10.5	1.70	10.1	1.65	9.6	1.53
		30.0	12.1	1.99	11.4	1.86	10.8	1.75	10.5	1.69	10.1	1.64	9.6	1.51
		60.0	12.1	1.93	11.4	1.81	10.8	1.69	10.5	1.64	10.1	1.58	9.6	1.46
		75.0	12.1	1.93	11.4	1.81	10.8	1.69	10.5	1.64	10.1	1.58	9.6	1.46
		90.0	12.1	1.93	11.4	1.81	10.8	1.69	10.5	1.64	10.1	1.58	9.6	1.46
	25	24.0	12.1	1.77	11.4	1.65	10.8	1.51	10.5	1.53	10.1	1.40	9.6	1.35
		30.0	12.1	1.75	11.4	1.64	10.8	1.51	10.5	1.51	10.1	1.40	9.6	1.34
		60.0	12.1	1.69	11.4	1.58	10.8	1.51	10.5	1.46	10.1	1.40	9.6	1.29
		75.0	12.1	1.69	11.4	1.58	10.8	1.46	10.5	1.46	10.1	1.40	9.6	1.29
		90.0	12.1	1.69	11.4	1.58	10.8	1.43	10.5	1.46	10.1	1.40	9.6	1.29
	30	24.0	12.1	1.59	11.4	1.48	10.8	1.42	10.5	1.35	10.1	1.30	9.6	1.24
		30.0	12.1	1.58	11.4	1.46	10.8	1.40	10.5	1.34	10.1	1.29	9.6	1.23
		60.0	12.1	1.51	11.4	1.40	10.8	1.34	10.5	1.29	10.1	1.23	9.6	1.16
		75.0	12.1	1.51	11.4	1.40	10.8	1.34	10.5	1.29	10.1	1.23	9.6	1.16
		90.0	12.1	1.51	11.4	1.40	10.8	1.34	10.5	1.29	10.1	1.23	9.6	1.16
	35	24.0	12.1	1.40	11.4	1.35	10.8	1.23	10.5	1.24	10.1	1.18	9.6	1.13
		30.0	12.1	1.40	11.4	1.34	10.8	1.23	10.5	1.23	10.1	1.16	9.6	1.11
		60.0	12.1	1.40	11.4	1.29	10.8	1.23	10.5	1.16	10.1	1.11	9.6	1.05
		75.0	12.1	1.40	11.4	1.29	10.8	1.16	10.5	1.16	10.1	1.11	9.6	1.05
		90.0	12.1	1.40	11.4	1.29	10.8	1.13	10.5	1.16	10.1	1.11	9.6	1.05
	40	24.0	12.1	1.29	11.4	1.24	10.8	1.11	10.5	1.13	10.1	1.07	9.6	0.99
		30.0	12.1	1.29	11.4	1.23	10.8	1.11	10.5	1.11	10.1	1.05	9.6	0.99
		60.0	12.1	1.29	11.4	1.16	10.8	1.11	10.5	1.05	10.1	0.99	9.6	0.99
		75.0	12.1	1.29	11.4	1.16	10.8	1.11	10.5	1.05	10.1	0.99	9.6	0.99
		90.0	12.1	1.29	11.4	1.16	10.8	1.11	10.5	1.05	10.1	0.99	9.6	0.99
	45	24.0	12.1	1.16	11.4	1.13	10.8	0.99	10.5	1.00	10.1	0.95	9.6	0.86
		30.0	12.1	1.16	11.4	1.11	10.8	0.99	10.5	0.99	10.1	0.94	9.6	0.88
		60.0	12.1	1.16	11.4	1.05	10.8	0.99	10.5	0.94	10.1	0.88	9.6	0.94
		75.0	12.1	1.16	11.4	1.05	10.8	1.05	10.5	0.94	10.1	0.88	9.6	0.94
		90.0	12.1	1.16	11.4	1.05	10.8	1.08	10.5	0.94	10.1	0.88	9.6	0.94
50	-5	24.0	4.0	1.37	3.8	1.29	3.6	1.22	3.5	1.16	3.5	1.09	3.4	1.03
		30.0	4.2	1.39	3.9	1.32	3.7	1.25	3.7	1.18	3.6	1.11	3.6	1.05
		60.0	4.7	1.51	4.4	1.44	4.2	1.35	4.1	1.29	4.1	1.21	4.0	1.13
		75.0	5.2	1.63	4.9	1.54	4.6	1.46	4.6	1.39	4.5	1.30	4.5	1.23
		90.0	5.5	1.69	5.1	1.60	4.8	1.52	4.8	1.44	4.7	1.34	4.7	1.27
	0	24.0	7.2	2.00	6.7	1.90	6.2	1.79	6.1	1.70	6.0	1.59	5.8	1.50
		30.0	7.2	2.00	6.7	1.90	6.2	1.79	6.1	1.70	6.0	1.60	5.8	1.51
		60.0	7.4	2.02	6.8	1.92	6.4	1.82	6.2	1.73	6.2	1.62	5.9	1.53
		75.0	7.5	2.02	6.9	1.92	6.5	1.82	6.3	1.73	6.2	1.62	6.0	1.53
		90.0	7.6	2.02	7.0	1.92	6.5	1.82	6.4	1.73	6.3	1.62	6.1	1.53
	5	24.0	9.9	2.17	9.4	2.06	9.0	1.94	8.8	1.85	8.4	1.74	8.0	1.63
		30.0	10.0	2.18	9.4	2.07	9.0	1.96	8.8	1.86	8.4	1.74	8.0	1.64
		60.0	10.0	2.23	9.5	2.11	9.0	2.00	8.8	1.89	8.4	1.77	8.0	1.68
		75.0	10.0	2.24	9.5	2.13	9.0	2.01	8.8	1.91	8.4	1.79	8.0	1.69
		90.0	10.0	2.25	9.5	2.14	9.0	2.02	8.8	1.91	8.4	1.80	8.0	1.70

Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7. Capacity Tables

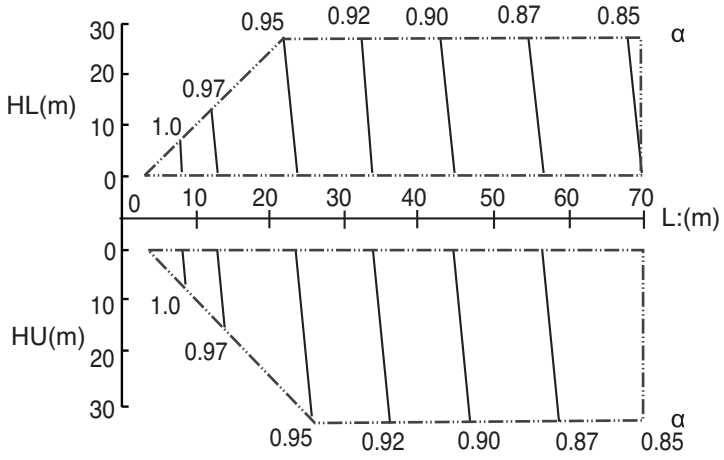
Heating Capacity(6HP)

Combination (%)	Inlet water Temp.(°C)	Water flow rate [L/min]	Indoor Air temperature (°CDB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
50	10	24.0	10.0	2.00	9.4	1.88	9.0	1.77	8.8	1.69	8.4	1.56	8.0	1.49
		30.0	10.0	2.00	9.5	1.88	9.0	1.77	8.8	1.69	8.4	1.57	8.0	1.49
		60.0	10.0	1.99	9.5	1.88	9.0	1.76	8.8	1.68	8.4	1.59	8.0	1.48
		75.0	10.0	2.00	9.5	1.88	9.0	1.76	8.8	1.68	8.4	1.56	8.0	1.48
		90.0	10.0	2.00	9.5	1.89	9.0	1.77	8.8	1.69	8.4	1.55	8.0	1.49
	15	24.0	10.0	1.83	9.5	1.70	9.0	1.59	8.8	1.53	8.4	1.40	8.0	1.35
		30.0	10.0	1.81	9.5	1.69	9.0	1.58	8.8	1.51	8.4	1.40	8.0	1.34
		60.0	10.0	1.75	9.5	1.64	9.0	1.51	8.8	1.46	8.4	1.40	8.0	1.29
		75.0	10.0	1.75	9.5	1.64	9.0	1.51	8.8	1.46	8.4	1.34	8.0	1.29
		90.0	10.0	1.75	9.5	1.64	9.0	1.51	8.8	1.46	8.4	1.31	8.0	1.29
	20	24.0	10.0	1.59	9.5	1.48	9.0	1.42	8.8	1.35	8.4	1.30	8.0	1.16
		30.0	10.0	1.58	9.5	1.46	9.0	1.40	8.8	1.34	8.4	1.29	8.0	1.16
		60.0	10.0	1.51	9.5	1.40	9.0	1.34	8.8	1.29	8.4	1.23	8.0	1.16
		75.0	10.0	1.51	9.5	1.40	9.0	1.34	8.8	1.29	8.4	1.23	8.0	1.16
		90.0	10.0	1.51	9.5	1.40	9.0	1.34	8.8	1.29	8.4	1.23	8.0	1.16
	25	24.0	10.0	1.42	9.5	1.29	9.0	1.24	8.8	1.16	8.4	1.11	8.0	1.05
		30.0	10.0	1.40	9.5	1.29	9.0	1.23	8.8	1.16	8.4	1.11	8.0	1.05
		60.0	10.0	1.34	9.5	1.29	9.0	1.16	8.8	1.16	8.4	1.11	8.0	1.05
		75.0	10.0	1.34	9.5	1.29	9.0	1.16	8.8	1.16	8.4	1.11	8.0	1.05
		90.0	10.0	1.34	9.5	1.29	9.0	1.16	8.8	1.16	8.4	1.11	8.0	1.05
	30	24.0	10.0	1.30	9.5	1.18	9.0	1.13	8.8	1.05	8.4	1.07	8.0	1.00
		30.0	10.0	1.29	9.5	1.16	9.0	1.11	8.8	1.05	8.4	1.05	8.0	0.99
		60.0	10.0	1.23	9.5	1.11	9.0	1.05	8.8	1.05	8.4	0.99	8.0	0.94
		75.0	10.0	1.23	9.5	1.11	9.0	1.05	8.8	1.05	8.4	0.99	8.0	0.94
		90.0	10.0	1.23	9.5	1.11	9.0	1.05	8.8	1.05	8.4	0.99	8.0	0.94
	35	24.0	10.0	1.18	9.5	1.05	9.0	0.99	8.8	1.00	8.4	0.94	8.0	0.88
		30.0	10.0	1.16	9.5	1.05	9.0	0.99	8.8	0.99	8.4	0.94	8.0	0.88
		60.0	10.0	1.11	9.5	1.05	9.0	0.99	8.8	0.94	8.4	0.94	8.0	0.88
		75.0	10.0	1.11	9.5	1.05	9.0	0.99	8.8	0.94	8.4	0.94	8.0	0.88
		90.0	10.0	1.11	9.5	1.05	9.0	0.99	8.8	0.94	8.4	0.94	8.0	0.88
	40	24.0	10.0	1.07	9.5	1.00	9.0	0.95	8.8	0.88	8.4	0.89	8.0	0.81
		30.0	10.0	1.05	9.5	0.99	9.0	0.94	8.8	0.88	8.4	0.88	8.0	0.81
		60.0	10.0	0.99	9.5	0.94	9.0	0.88	8.8	0.88	8.4	0.81	8.0	0.81
		75.0	10.0	0.99	9.5	0.94	9.0	0.88	8.8	0.88	8.4	0.81	8.0	0.81
		90.0	10.0	0.99	9.5	0.94	9.0	0.88	8.8	0.88	8.4	0.81	8.0	0.81
	45	24.0	10.0	0.95	9.5	0.97	9.0	0.90	8.8	0.75	8.4	0.84	8.0	0.76
		30.0	10.0	0.94	9.5	0.94	9.0	0.88	8.8	0.76	8.4	0.81	8.0	0.76
		60.0	10.0	0.88	9.5	0.81	9.0	0.76	8.8	0.81	8.4	0.70	8.0	0.76
		75.0	10.0	0.88	9.5	0.81	9.0	0.76	8.8	0.81	8.4	0.70	8.0	0.76
		90.0	10.0	0.88	9.5	0.81	9.0	0.76	8.8	0.81	8.4	0.70	8.0	0.76

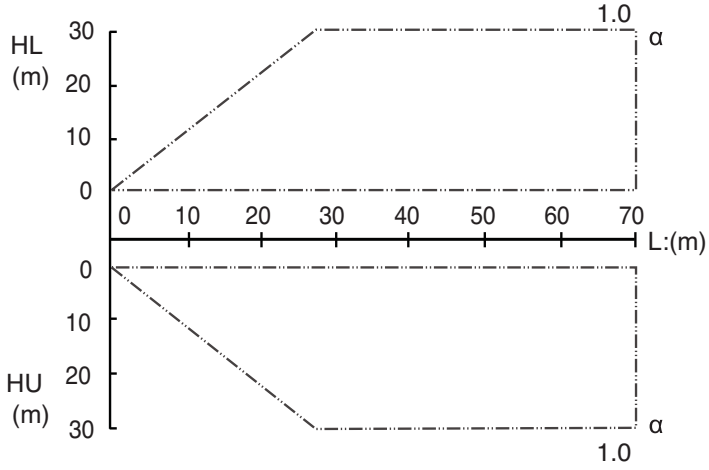
Notes:
TC: Total Capacity(kW) PI : Power Input(kW)
1. Capacity tables show the average value of conditions which may occur.

7.2 Capacity Correction Factor

7.2.1 Rate of change in Cooling capacity



7.2.2 Rate of change in Heating capacity



Description of symbols:

HL : Level difference between outside and indoor units where indoor units are at a lower position.
HU : Level difference between outside and indoor units where indoor units are in an upper position.
L : Equivalent piping length
α : Capacity correction factor

7. Capacity Tables

Notes

1. These figures shows the rate change in capacity of a standard indoor unit system at max. load (with the thermostat set to the max.) under the standard conditions.
2. With this outside unit during cooling operation, the evaporating pressure is controlled to be constant and during heating condensing pressure is controlled to be constant.
3. Method of calculating the cooling/heating capacity (max. capacity for combination with the standard indoor unit)

   Cooling/Heating capacity = Cooling/Heating capacity obtained from the performance characteristics table x each capacity rate of change.

   When the piping length is different depending upon the indoor unit, the max. capacity of each unit during simultaneous operation is as follows.

   Cooling/Heating Capacity = Cooling/Heating Capacity of each unit x capacity rate of change for each piping length
4. If the main sections of the gas pipe sizes are bigger, the all equivalent length should be figured out as below.

   Overall equivalent length = Equivalent length to main pipe + Equivalent length after branching.
5. Equivalent piping length for Y Branch and other pipes can be calculated with following table

mm (inch)	Ø6.35 (1/4)	Ø9.52 (3/8)	Ø12.7 (1/2)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø22.2 (7/8)	Ø25.4 (1)	Ø28.58 (1-1/8)	Ø31.8 (1-1/4)	Ø34.9 (1-3/8)	Ø38.1 (1-1/2)	Ø41.3 (1-5/8)	Ø44.5 (1-3/4)	Ø53.98 (2-1/8)
Elbow m(inch)	0.16 (6.3)	0.18 (7.1)	0.2 (7.9)	0.25 (9.8)	0.35 (13.8)	0.4 (15.7)	0.45 (17.7)	0.5 (19.7)	0.55 (21.7)	0.6 (23.6)	0.65 (25.6)	0.7 (27.6)	0.75 (29.5)	0.85 (33.5)
Y Branch m(inch)	0.5(19.7)													
Header m(inch)	1(39.4)													

6. When the equivalent length between the outside unit and a indoor unit is 90 m or more, the size of main pipes (Liquid pipe and Gas pipe) must be increased one grade.

Gas pipe

4, 5HP.....Ø15.88(5/8) → Ø19.05(3/4)

6HP.....Ø19.05(3/4) → Ø22.2(7/8)

Liquid pipe

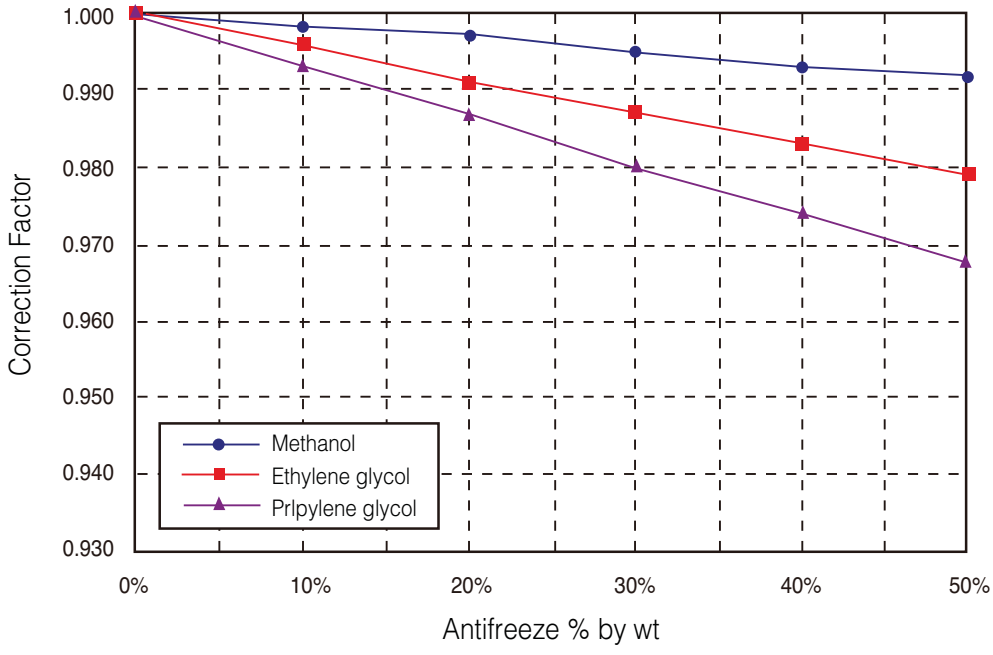
4,5,6HP.....Ø9.52(3/8)→ Not increased

* If available on site, it use this size. Otherwise it can't be increased.

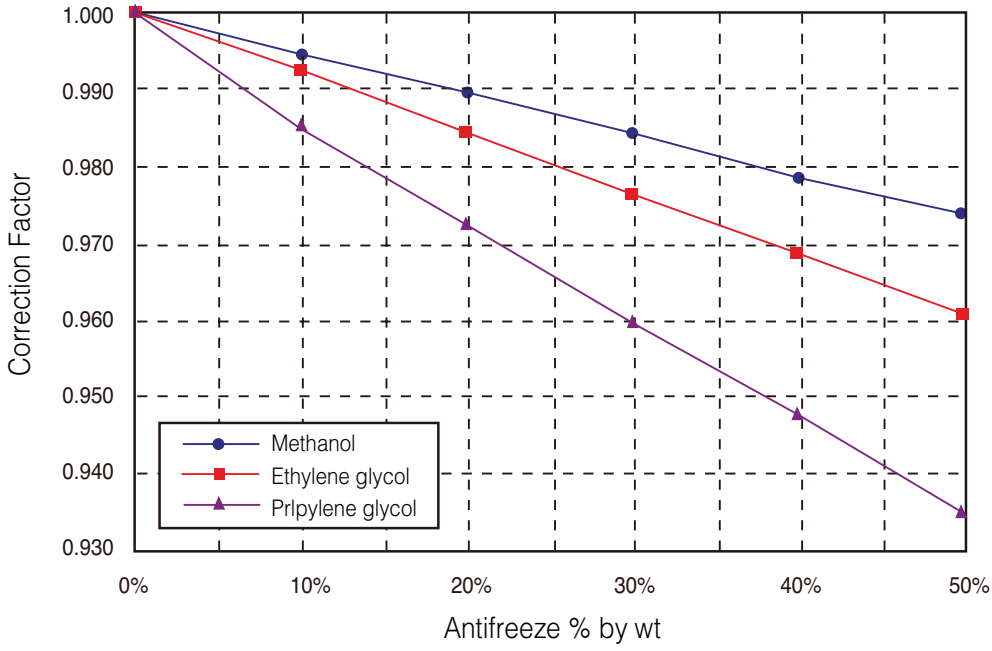
7.3 Antifreeze Corrections

Antifreeze Type	Item	Antifreeze % by wt				
		10%	20%	30%	40%	50%
Methanol	Cooling	0.998	0.997	0.995	0.993	0.992
	Heating	0.995	0.99	0.985	0.979	0.974
	Pressure Drop	1.023	1.057	1.091	1.122	1.160
Ethylene glycol	Cooling	0.996	0.991	0.987	0.983	0.979
	Heating	0.993	0.985	0.997	0.969	0.961
	Pressure Drop	1.024	1.068	1.124	1.188	1.263
Propylene glycol	Cooling	0.993	0.987	0.98	0.974	0.968
	Heating	0.986	0.973	0.96	0.948	0.935
	Pressure Drop	1.040	1.098	1.174	1.273	1.405

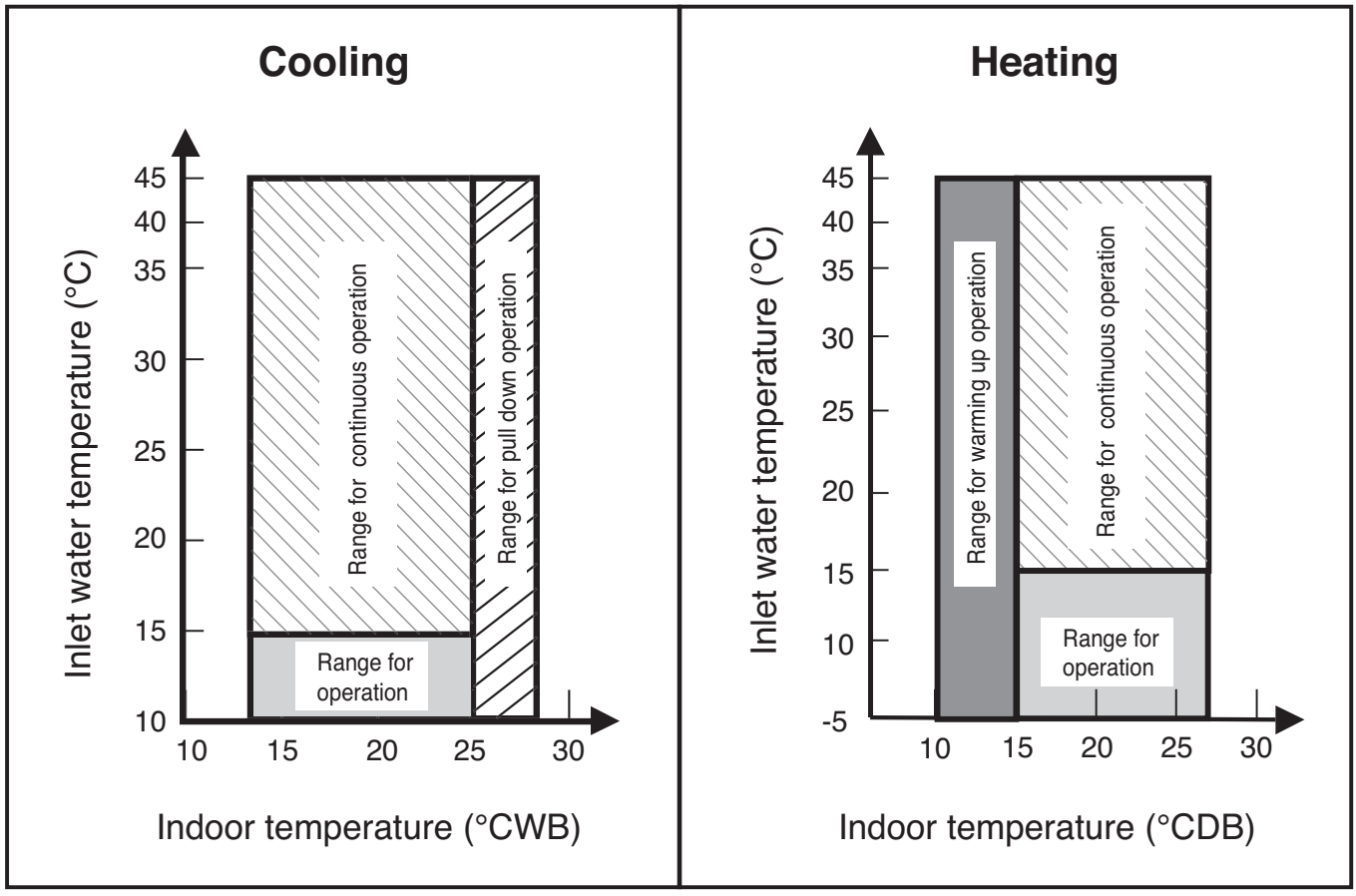
Correction factor of cooling capacity



Correction factor of heating capacity



8. Operation Limits



Notes:

These figures assume the following operating conditions:

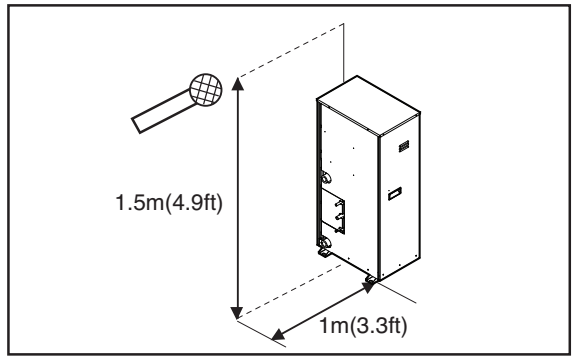
Equivalent piping length:7.5m

Level difference:0m

9. Sound Levels

Unit:dB(A)

Model	Sound pressure levels	
	Cooling	Heating
ARWN40GA0	48	48
ARWN50GA0	49	49
ARWN60GA0	50	50

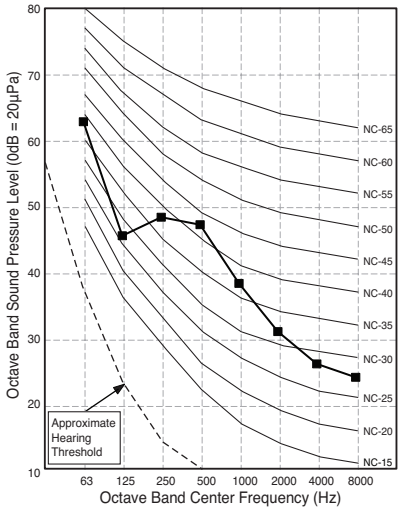


Notes:
- Data is valid at free field condition
- Data is valid at nominal operating condition
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed

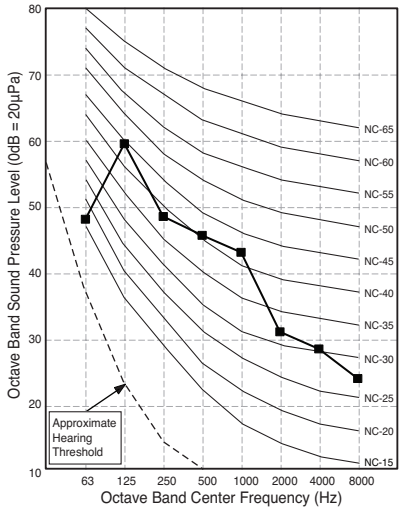
Sound Pressure Level

■ Cooling

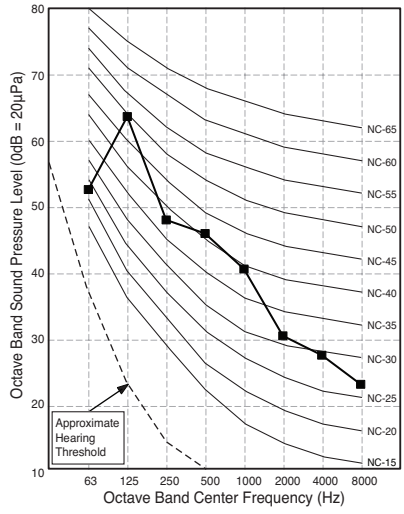
ARWN40GA0



ARWN50GA0



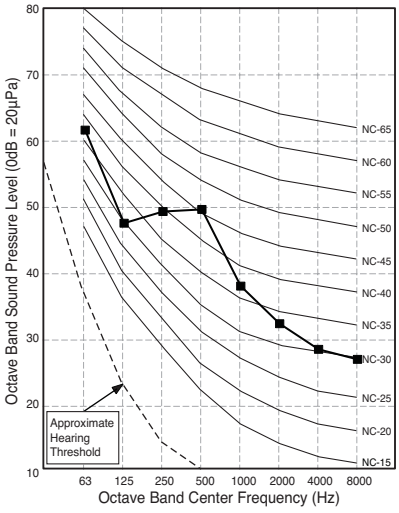
ARWN60GA0



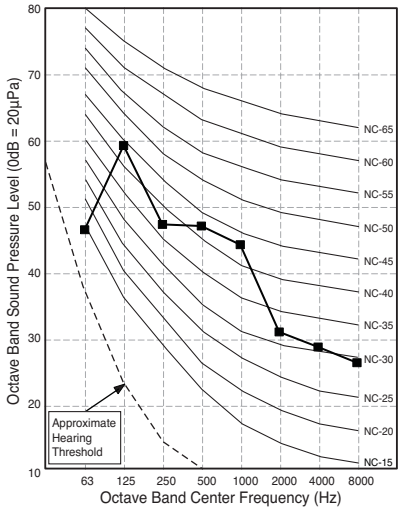
9. Sound Levels

■ Heating

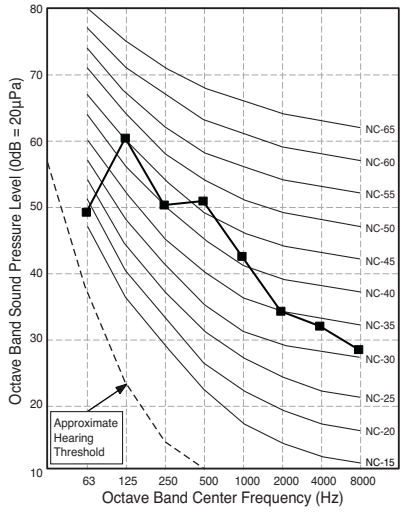
ARWN40GA0



ARWN50GA0



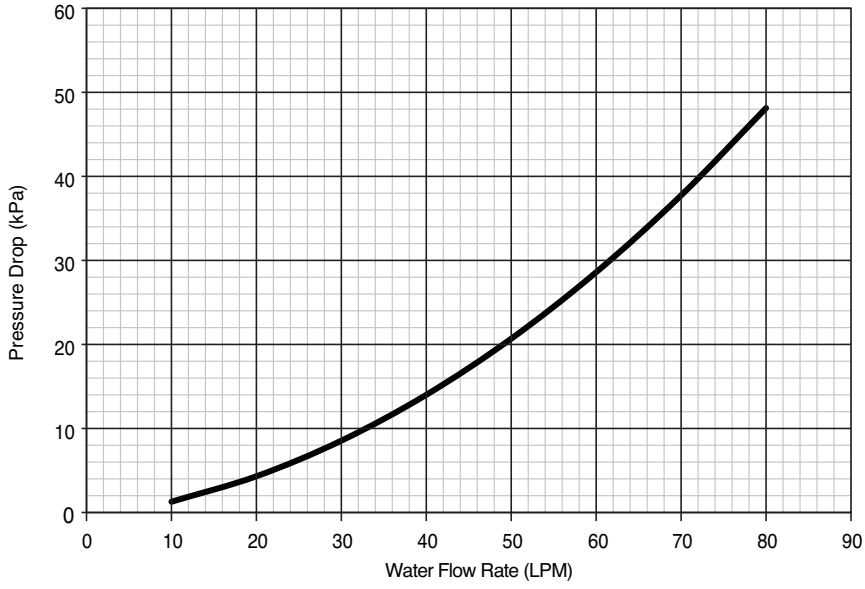
ARWN60GA0



Outside Units

10. Head loss by Water flow

■ ARWN40GA0 / ARWN50GA0 / ARWN60GA0



11. Accessories

Optional Accessories

No.	Name	Model
1	Y branch pipe	ARBLN01621
		ARBLN03321
		ARBLN07121
		ARBLN14521
2	Header	ARBL054
		ARBL057
		ARBL104
		ARBL107
		ARBL1010
		ARBL2010

MULTI V™ WATER S

Installation of Outside Units

1. Select the Installation Location
2. Installation Space
3. Water Control
4. Lifting Method
5. Installation
6. Device protection unit
7. Refrigerant Piping System
8. Y Branch and Header Branch Pipe type
9. Electrical Wiring
10. Test Run
11. Cooling tower applied method
12. Water Solenoid Valve Control
13. Variable Water Flow Control KIT(Accessory)

1. Select the Installation Location

1.1 Precaution when selecting the installation location

- Select space for installation outside unit, which will meet the following conditions.
- With strength which bears weight of unit
- With space for air passage and service work
  Don't install the unit at the space where generation, inflow, stagnation, and leak of combustible gas is expected.
- Avoid unit installation in a place where acidic solution and spray (sulfur) are often used.
- Location with no leakage of combustible gas
- Recommend the outside unit to be installed within 0~40°C (32~104°F).
- Location with installation or service work space (Refer to required space)
- Do not use the outside unit under any special environment where oil, steam and sulfuric gas exist.
- Install in a separate machine room not exposed to external air
  - Establish an anti-freeze plan for the water supply when the product is stopped during the winter.
  - Install the product so that the noise from the machine room is not transferred outsides
- The floor of the machine room must be water proof.
- Drainage must be installed in the machine room to process the water drainage.
- Install a floor slope to make the drainage smooth.
- Avoid installing the outside unit in the location with following conditions.
- Location where corrosive gas such as acidic gas is generated. (It may cause the refrigerant leakage by corrosion of the pipe.)
- Location where electromagnetic waves happen. (It may cause the abnormal operation by control parts disorder.)
- Location to be able to leak the combustible gas
- Location with carbon fiber or combustible dust.
- Location with the combustible material like thinner or gasoline. (It may cause a fire by leaking the gas near the product.)

⚠CAUTION

1. Do not install Multi V water outside. Always install indoor like machine room.

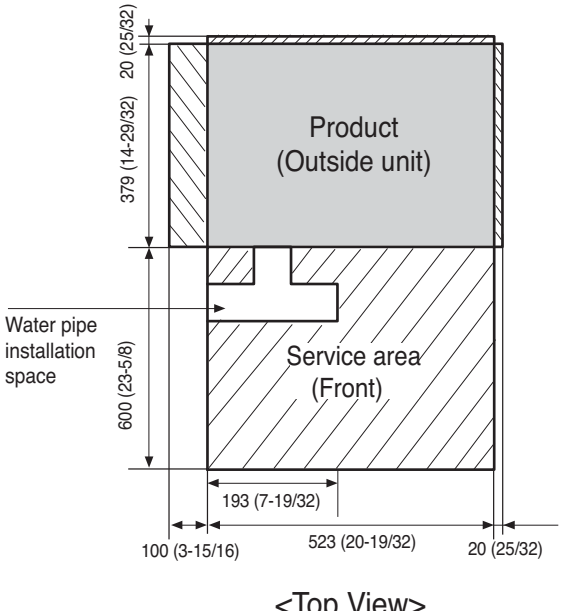
2. Inverter product may generate electric noise. Keep the body from computer, stereo etc. at enough distance. Specially leave space from indoor remote controller to shoes electric devices at the above 3m (9.8ft) in weak electric wave area. Insert the power cable and other wire into separate conduit.

2. Installation Space

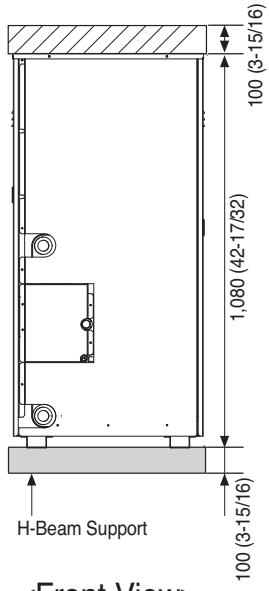
Required the minimum space as shown below for installation and check. If the space is not fit on this drawing, consult with LG.

: Service area

[Unit : mm(inch)]



<Top View>



<Front View>

3. Water Control

3.1 Water control

- Keep the water temperature between 10~45°C (50~113°F). Other it may cause the breakdown.
  - Standard water supply temperature is 30°C (86°F) for Cooling and 20°C (68°F) for heating.
- Properly control the water velocity. Otherwise it may cause the noise, pipe vibration or pipe contraction, expansion according to the temperature. Use the same water pipe size connected with the product or more.
- Refer to the water source pipe diameter and water velocity table below. As the water velocity is fast, air bubble will increase.

Diameter [mm(inch)]	Velocity range (m/s)
< 50(1-31/32)	0.6 ~ 1.2
50(1-31/32) ~ 100(5-7/8)	1.2 ~ 2.1
100(5-7/8)<	2.1 ~ 2.7

- Be careful of the water purity control. Otherwise it may cause the breakdown due to water pipe corrosion. (Refer to 'Standard Table for Water Purity Control')
- In case the water temperature is above 40°C (104°F), it is good to prevent the corrosion by adding The anticorrosive agent.
- Install the pipe, valve and gauge sensor in the space where it is easy to maintain. Install the water valve in the low position for drain, if required.
- Be careful not to let air in. If so, the water velocity will be unstable in the circulation, pump efficiency will also decrease and may cause the piping vibration. Therefore, install the air purge where it may generate the air.
- Choose the following anti freezing methods. Otherwise, it will be dangerous for the pipe to break in the winter.
  - Circulate the water with the pump before dropping the temperature.
  - Keep the normal temperature by boiler.
  - When the cooling tower is not operated for a long time, drain the water in the cooling tower.
  - Use an anti-freeze(For using an anti freeze, change the DIP switch on main PCB in outside unit.)
  - Refer to the additive amount about freezing temperature as in the table given below.

Anti freeze type	Minimum temperature for anti freezing (°C(°F))					
	0	-5(23)	-10(14)	-15(5)	-20(-4)	-25
Ethylene glycol (%)	0	12	20	30	-	-
Propylene glycol (%)	0	17	25	33	-	-
Methanol (%)	0	6	12	16	24	30

- In addition to anti freeze, it may cause the change of the pressure in the water system and the low performance of the product.
- Make sure to use the closed cooling type tower.
  When applying the open type cooling tower, use a middle heat exchanger to make the water supply system a closed type system.

3.2 Standard table for water purity control

The water may contain many foreign substances and hence may influence the performance and lifetime of the product due to the corrosion of the condenser and water pipe. (Use water source that complies with the below standard table for water purity control.)

If you use water supply other than the tap water to supply the water for the cooling tower, you must do a water quality inspection.

- If you use the closed cooling tower, the water quality must be controlled in accordance with the following standard table.
  If you do not control the water quality in accordance with the following standard water quality table, it can cause performance deterioration to the air conditioner and severe problem to the product

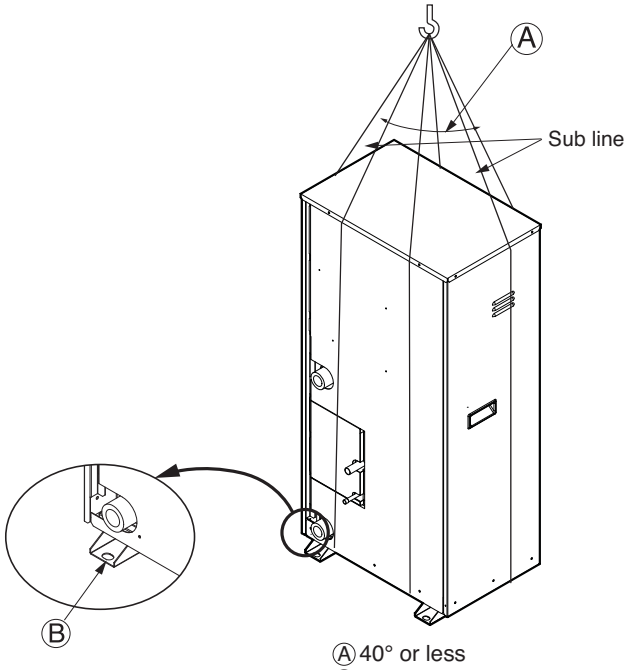
Items	Closed type		Effect	
	Circulating water	Supplemented water	Corrosion	Scale
Basic Item				
pH [25C]	7.0~8.0	7.0~8.0	O	O
Conductivity [25C] (mS/m)	Below 30	Below 30	O	O
Chlorine ions (mg Cl^- /ℓ)	Below 50	Below 50	O	-
Sulfate ions (mg SO_4^{2-}/ℓ)	Below 50	Below 50	O	O
Acid consumption (pH4.8) (mg $CaCO_3$ /ℓ)	Below 50	Below 50	-	O
Total hardness (mg $CaCO_3$ /ℓ)	Below 70	Below 70	-	O
Calcium hardness (mg $CaCO_3$ /ℓ)	Below 50	Below 50	-	O
Ionic-static silica (mg SiO_2 /ℓ)	Below 30	Below 30	-	O
Reference Item				
Iron (mg Fe /ℓ)	Below 1.0	Below 0.3	O	O
Copper (mg Cu /ℓ)	Below 1.0	Below 0.1	O	-
Sulfate ion (mg SO_4^{2-} /ℓ)	Must not be detected	Must not be detected	O	-
Ammonium ion (mg NH_4^+ /ℓ)	Below 0.3	Below 0.1	O	-
Residual chlorine (mg Cl /ℓ)	Below 0.25	Below 0.3	O	-
Free carbon dioxide (mg CO_2 /ℓ)	Below 0.4	Below 4.0	O	-
Stability index	-	-	O	O

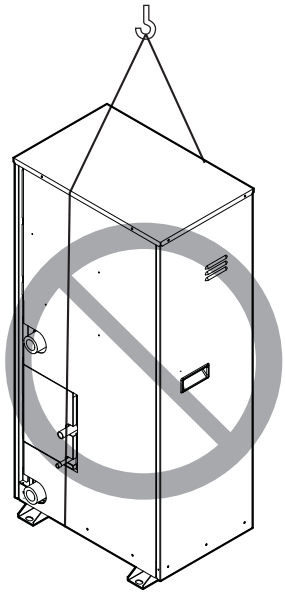
[Reference]

(1) The "O" mark for corrosion and scale means that there is possibility of occurrence.
(2) When the water temperature is 40°C (104°F) or above or when uncoated iron is exposed to the water, it can result in corrosion. Therefore adding anti-corrosion agent or removing the air can be very effective.
(3) In case of using the closed type cooling tower, the cooling water and supplementing water must satisfy the water quality criteria of closed type system in the table.
(4) Supplementing water and supplied water must be supplied with tap water, industrial water and underground water excluding filtered water, neutral water, soft water etc.
(5) 15 items in the table are general causes of corrosion and scale.

4. Lifting Method

- When carrying the unit suspended, pass the ropes under the unit and use the two suspension points each at the front and rear.
- Always lift the unit with ropes attached at fours points so that impact is not applied to the unit.
- Attach the ropes to the unit at an angle of 40° or less





WARNING

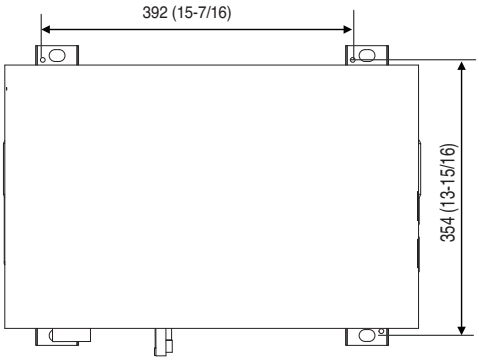
⚠CAUTION

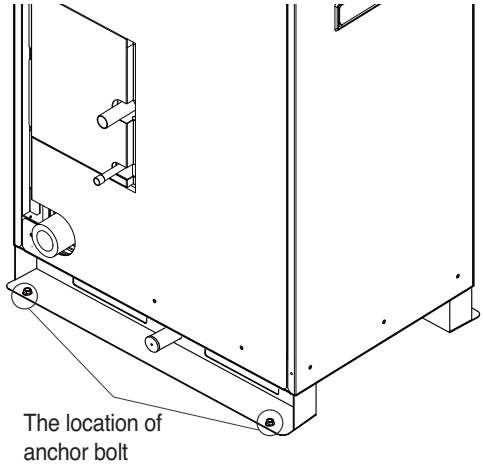
- Do not have only one person carry product if it is more than 20kg (44.1 lbs).
- PP bands are used to pack some products. Do not use them as a means for transportation because they are dangerous.
- Tear the plastic packaging bag and scrap it so that children cannot play with it. Otherwise plastic packaging bag may suffocate children.
- When carrying in outside unit, be sure to support it at four points. Carrying in and lifting with 3-point support may make outside unit unstable, resulting in a fall of it.
- When carrying with the forklift, be careful not to drop the product.

5. Installation

5.1 Location of anchor bolt

[Unit : mm(inch)]



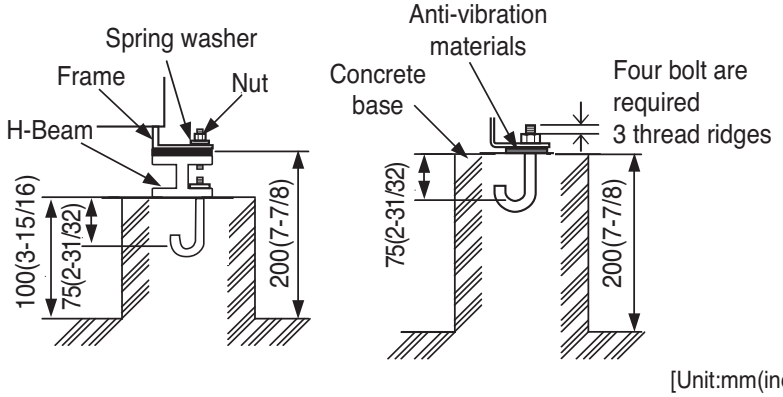


⚠WARNING

- **Be sure to install unit in a place strong enough to withstand its weight. Any lack of strength may cause unit to fall down, resulting in a personal injury.**
- **Have installation work in order to protect against a strong wind and earthquake. Any installation deficiency may cause unit to fall down, resulting in a personal injury.**
- **Especially take care for support strength of the floor surface, water drain processing (processing of water flown out from the outside unit during operation) and paths of the pipe and wiring when making a base support.**

5.2 Foundation for Installation

- Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installation.
- Fix the unit securely by means of the foundation bolts. (Prepare 4sets of M12 foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their length are 20mm(25/32inch) from the foundation surface.



[Unit:mm(inch)]

Foundation bolt executing method

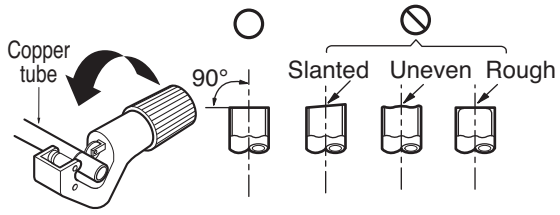
Installation of Outdoor Units

5.3 Preparation of Piping

Main cause of gas leakage is defect in flaring work. Carry out correct flaring work in the following procedure.

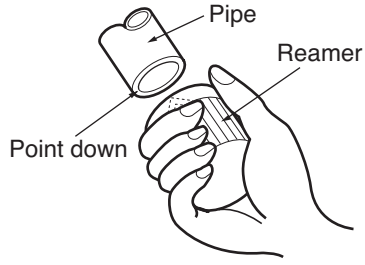
1) Cut the pipes and the cable.

- Use the accessory piping kit or the pipes purchased locally.
- Measure the distance between the indoor and the outside unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5m(4.9ft) longer than the pipe length.



2) Burrs removal

- Completely remove all burrs from the cut cross section of pipe/tube.
- Put the end of the copper tube/pipe to downward direction as you remove burrs in order to avoid to let burrs drop in the tubing.



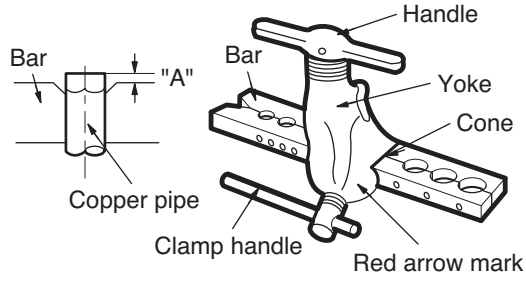
3) Flaring work

- Carry out flaring work using flaring tool as shown below.

[Unit: mm(inch)]

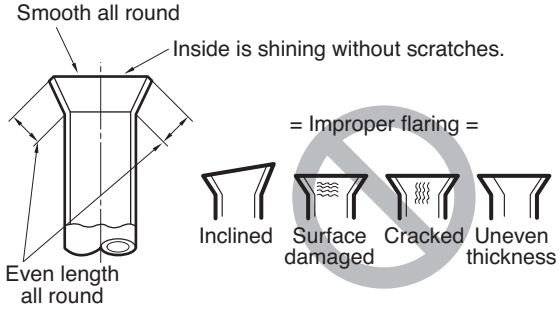
Indoor unit [kW(Btu/h]	Pipe		" A "	
	Gas	Liquid	Gas	Liquid
≤ 5.6(19,100)	12.7(1/2)	6.35(1/4)	1.6~1.8 (0.63~0.71)	1.1~1.3 (0.43~0.51)
<16.0(54,600)	15.88(5/8)	9.52(3/8)	1.6~1.8 (0.63~0.71)	1.5~1.7 (0.59~0.67)
≤ 22.4(76,400)	19.05(3/4)	9.52(3/8)	1.9~2.1 (0.75~0.83)	1.5~1.7 (0.59~0.67)

Firmly hold copper tube in a bar(or die) as indicated dimension in the table above.



4) Check

- Compare the flared work with figure below.
- If flare is noted to be defective, cut off the flared section and do flaring work again.



5) Pipe connection

1. Follow the pipe path. Bend the pipe more than 3 times in 1 location and do not bend in the opposite direction. (This will strengthen the pipe.)
2. After deforming the pipe, align the union fitting and center of the pipe, and tighten it with the wrench.
3. Connect the pipe to the service valve of the outside unit.
4. After finishing the piping work, check if there is any gas leakage
5. For the flare nut, always use the material that complies with Standard or better.
6. After completing the connection of the pipe, vacuum dry the indoor unit and the connecting pipe.
   For the vacuum drying, you must use service ports of both the gas and liquid pipes.

Pipe Size [mm(inch)]	Tightening Torque	
	(N·m)	(kgf·cm)
Ø6.35(1/4)	18~25	180~250
Ø9.52(3/8)	34~42	340~420
Ø12.7(1/2)	55~66	550~660
Ø15.88(5/8)	63~82	630~820
Ø19.05(3/4)	99~121	990~1,210

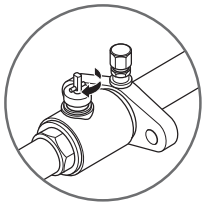
⚠ CAUTION

When using two wrenches, tighten at regulated torque

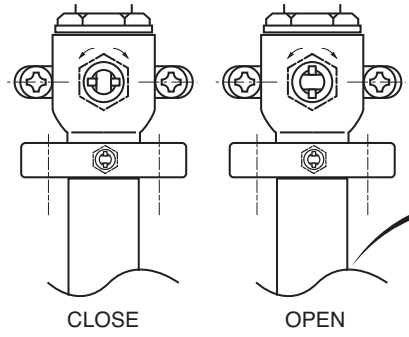
* For the pipe connection, use the method of connecting the end of the pipe to the branch pipe. The refrigerant pipe coming out from the outside unit is branched out at the end and is individually connected to the indoor unit.

⚠ WARNING

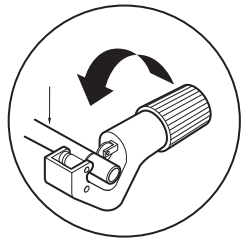
- Always be careful not to leak the refrigerant during the welding.
- When the refrigerant is combusted, it generates a toxic poisonous gas.
- Do not execute the welding work in a closed location.
- Always do a leakage test after welding the pipes.



Open status when both the pipe and the valve are in a straight line.



Cut both the pipe and the valve with a cutter to suit the length
(Don't cut the length of less than 70mm(2-3/4 inch))



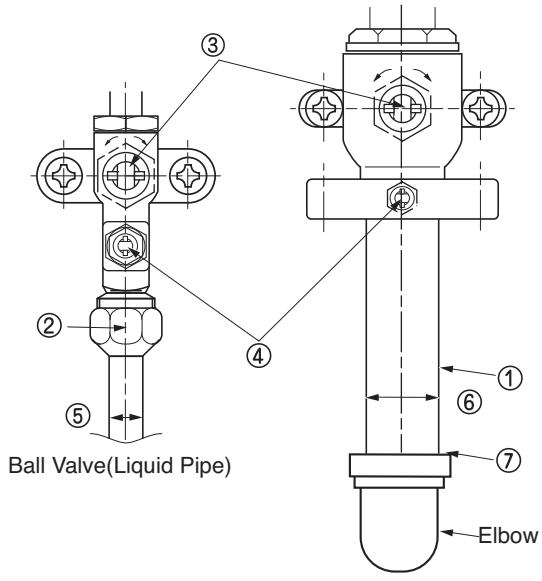
⚠ WARNING

After completing work, securely tighten both service ports and caps so that gas does not leak.

5. Installation

* High/low pressure side is the ball valve that is opened and closed by 1/4 rotation

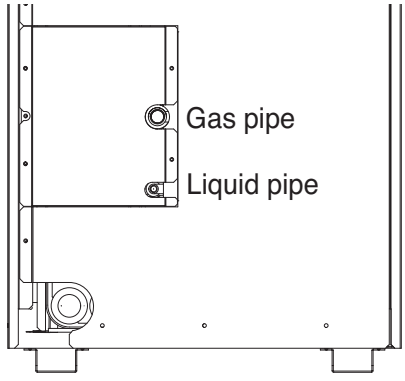
① Pipe joint (auxiliary parts): Securely perform brazing with a nitrogen blow into the service valve port.(Releasing pressure : 0.29 psi or less)
② Flare nut: Loose or tighten flare nut by using the wrench with both ends. Coat the flare connection part with oil for the compressor.
③ Cap: Remove caps and operate valve, etc. After operation, always reattach caps (tightening torque of valve cap: 18 lbf · ft or more).. (Don't remove the internal part of the port)
④ Service port: Make the refrigerant pipe vacuum and charge it using the service port. Always reattach caps after completing work (tightening torque of service cap: 10 lbf · ft or more).
⑤ Liquid pipe
⑥ Gas pipe
⑦ Elbow joint (field supply)



CAUTION

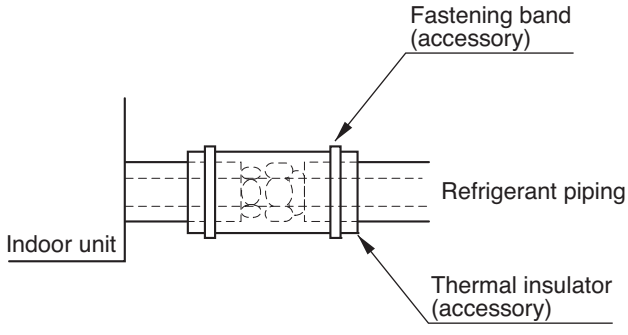
After installing the pipe, block the pipe escape of front and side panel. (It can cause mouse or other animals to enter and cause damage to the wire.)

❊ Remove the front panel before pipe connection
❊ Must check the pipe (liquid pipe, gas pipe, high/low pressure common pipe) before pipe connection



6) Heat Insulation

1. Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (Over 120°C(248°F))
2. When installing in a humid environment, use thicker heat insulation material.
   * Consult with LG on detailed technical specification.



7) Standard refrigerant pipe EPDM heat insulation material thickness

[mm(inch)]

Classification		Air conditioned location		Non-air conditioned location	
		Note1) General location	Note2) Special location	Note3) General location	Note4) Negative condition
Liquid pipe	Ø6.35(1/4)	Above t9(3/8)	Above t9(3/8)	Above t9(3/8)	Above t9(3/8)
	Ø9.52(3/8)				
	Above Ø12.7(1/2)	Above t13(1/2)	Above t13(1/2)	Above t13(1/2)	Above t13(1/2)
Gas pipe	Ø9.52(3/8)	Above t13(1/2)	Above t19(3/4)	Above t19(3/4)	Above t25(1)
	Ø12.7(1/2)				
	Ø15.88(5/8)				
	Ø19.05(3/4)				
	Ø22.22(7/8)				
	Ø25.4(1)				
	Ø28.58(1-1/8)	Above t19(3/4)	Above t25(1)	Above t25(1)	
	Ø31.75(1-1/4)				
	Ø34.9(1-3/8)				
	Ø38.1(1-1/2)				
	Ø44.45(1-3/4)				

Note 1) General location: When the pipe passes through indoors in which the indoor unit is operated
- Apartment, classroom, office, mall, hospital, office-tel etc.

Note 2) Special location
1. When the location is air conditioned but has severe temperature/humidity difference due to high ceiling
   - Church, auditorium, theater, lobby etc.
2. When the location is air conditioned but the internal temperature/humidity of the ceiling finishing is high
   - Bathroom/swimming pool locker room etc. (Building with roof ceiling of sandwich assembly type)

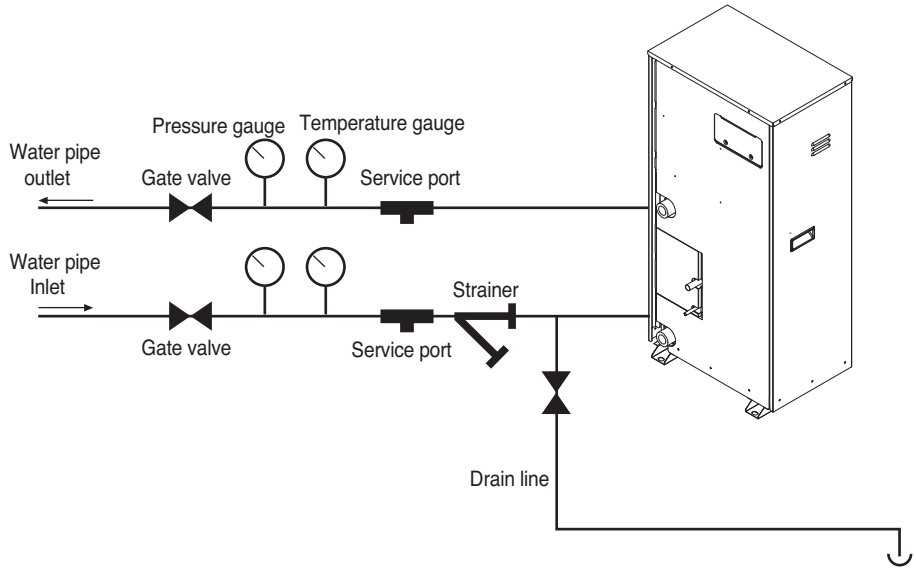
Note 3) General location: When the pipe passes indoors where the indoor unit is not operated
- Hall way etc. (Dormitory, school, office-tel)

Note 4) Negative condition: When below conditions 1 and 2 are met.
1. When the pipe passes indoors where the indoor unit is not operated
2. When the humidity is high, regionally, and there is no air flow in the pipe passing area
   - When installing the outside unit within the outside pipe tray or at a location where it is ok to have freezes, apply 13t.
   - If you are not sure with the selection of heat insulation material, coordinate with the supervision or HQ.
   - The thickness of the above heat insulation material is based on the heat conductivity of 0.088W/m°C.

8) Installation of water pipe

1. Water pipe system diagram

- The water pressure resistance of the water pipe system of this product is 1.98MPa
- When the water pipe passes indoors, make sure to execute heat insulation on the pipe so that water drops do not form on the outer side of the water pipe.
- The size of the drain pipe must be equal to or larger than the diameter of the connecting product.
  - Always install a trap so that the drained water does not back flush.
- Always install a strainer (50Mesh or above) at the entrance of the water pipe. (When sand, trash, rusted pieces get mixed into the water supply, it can cause problems to the product due to blocking)
  - If On/Off valve is applied, by interlocking with outside unit, it can save the energy consumption of pump by blocking the water supply to the outside unit not operating. Select appropriate valve and install on site if necessary.
- Install a pressure gauge and temperature gauge at the inlet and outlet of the water pipe.
- Flexible joints must be installed not to cause any leakage from the vibration of pipes.
- Install a service port to clean the heat exchanger at the each end of the water inlet and outlet.
- For the components of the water pipe system, always use components above the designed water pressure.



⚠CAUTION

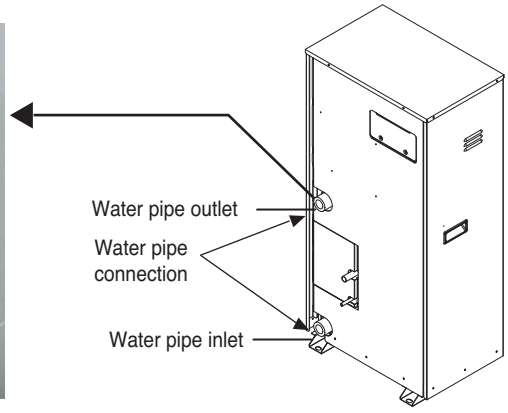
Do not directly connect the drain outlet to the water pipe outlet.
(It can cause problems to the product.)

2. Water pipe connection

- The water pipe should be the same size of the connection on the product or more.
- If necessary install the insulation material in the water pipe inlet/outlet to prevent water drop, freeze and to save energy. (Use the above 20mm(3/4inch) thickness Pe insulation material.)
- Tightly connect the socket to the water pipe refer to below table for recommended specification. (Too much torque may cause the damage of the facility.)

5. Installation

Pipe thickness		Shear stress		Tensile stress		Bending moment		Torque	
mm	inch	(kN)	(kgf)	(kN)	(kgf)	(N·m)	(kgf·m)	(N·m)	(kgf·m)
12.7	1/2	3.5	350	2.5	250	20	2	35	3.5
19.05	3/4	12	1,200	2.5	250	20	2	115	11.5
25.4	1	11.2	1,120	4	400	45	4.5	155	15.5
31.8	1 1/4	14.5	1,450	6.5	650	87.5	8.75	265	26.5
38.1	1 1/2	16.5	1,700	9.5	950	155	16	350	35.5
50.8	2	21.5	2,200	13.5	1,400	255	26	600	61

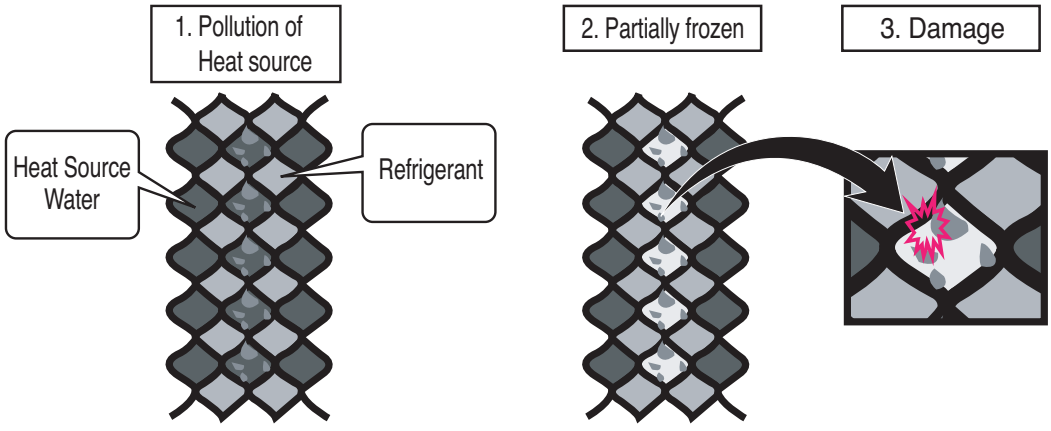


6. Device protection unit

6.1 Strainer on water pipe

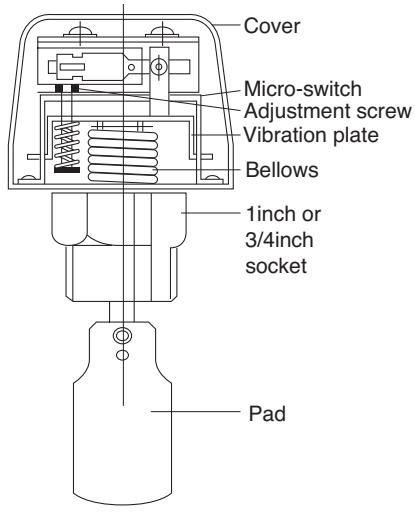
To protect the water cooling type product, you must install a strainer with 50 mesh or more on the heat water supply pipe.
If not installed, it can result in damage of heat exchanger by the following situation.

1. Heat water supply within the plate type heat exchanger is composed of multiple small paths.
2. If you do not use a strainer with 50 mesh or more, alien particles can partially block the water paths.
3. When running the heater, the plate type heat exchanger plays the role of the evaporator, and at this time, the temperature of the coolant side drops to drop the temperature of the heat water supply, which can result in icing point in the water paths.
4. And as the heating process progresses, the water paths can be partially frozen to lead to damage in plate type heat exchanger.
5. As a result of the damage of the heat exchanger from the freezing, the coolant side and the heat water source side will be mixed to make the product unusable.



6.2 Flow switch work

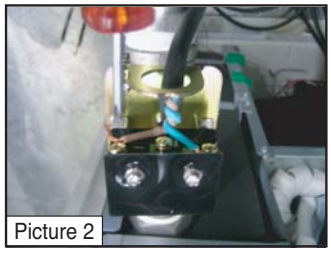
- It is recommended to install the flow switch to the water collection pipe system connecting to the outside unit.
  (Flow switch acts as the 1st protection device when the heat water is not supplied. If a certain level of water does not flow after installing the flow switch, an error sign of CH24 error will be displayed on the product and the product will stop operating.)
- When setting the flow switch, it is recommended to use the product with default set value to satisfy the minimum flow rate of this product. (The minimum flow rate range of this product is 50%. Reference flow rate : 4HP-40 LPM (10.6 GPM), 5HP-50 LPM (13.2 GPM), 6HP-60 LPM (15.9 GPM)
- Select the flow switch with the permitted pressure specification considering the pressure specification of the heat water supply system. (Control signal from outside unit is AC 220V.)

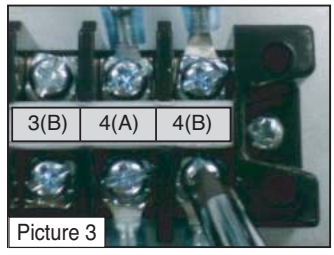


6.3 Installation of flow switch

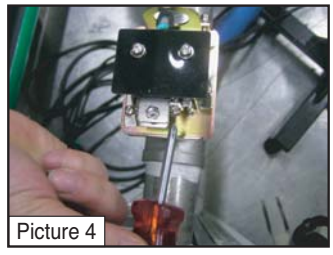
- The flow switch must be installed at the horizontal pipe of the heat water supply outlet of the product and check the direction of the heat water flow before the installation. (Picture 1)
- When connecting the flow switch to the product, remove the jump wire to connect to the communication terminal (4(A) and 4(B)) of the outside unit control box. (Picture 2, 3) (Open the cover of the flow switch and check the wiring diagram before connecting the wires. The wiring method can differ by the manufacturer of the flow switch.)
- If necessary, adjust the flow rate detection screw after consulting with an expert and adjust to the minimum flow rate range. (Picture 4) (Minimum flow rate range of this product is 50%. Adjust the flow switch to touch the contact point when the flow rate reaches 50% of the flow rate.)
  - Reference flow rate : 4HP-40 LPM (10.6 GPM), 5HP-50 LPM (13.2 GPM), 6HP-60 LPM (15.9 GPM)


Picture 1


Picture 2



Picture 3


Picture 4

⚠CAUTION

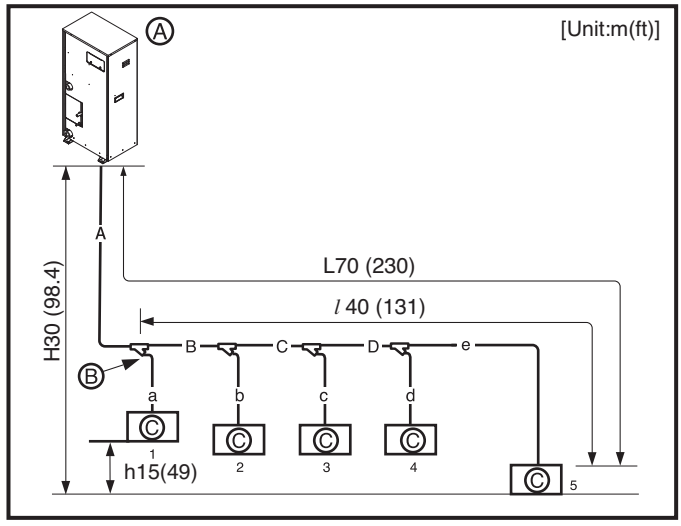
- If the set value does not satisfy the minimum flow rate or if the set value is changed by the user arbitrarily, it can result in product performance deterioration or serious product problem.
- If the product is operated with the heat water supply not flowing smoothly, it can damage the heat exchanger or cause serious product problems.
- In case of CH24 or CH180 error, there is a possibility that the plate type heat exchanger is partially frozen inside. In this case resolve the issue of partial freezing and then operate the product again. (Cause of partial freezing : Insufficient heat water flow rate, water not supplied, insufficient coolant, alien particle penetrated inside plate type heat exchanger)
- When the product operates while the flow switch touches the contact point at the flow rate range out of the permitted range, it can cause product performance deterioration or serious product problem.
- Must use the normal closed type flow switch
  - Circuit of outside unit is normal closed type
- When installing variable flow control kit , set the flow switch from 50% to 40%
- Don't remove jump cable in case of no use flow switch

7.1 Allowable length/height difference of refrigerant piping

■ Y Branch Method

Example : 5 Indoor Units connected

Ⓐ : Outside Unit
Ⓑ : 1st branch (Y branch)
Ⓒ : Indoor Units



➲ Total pipe length = A+B+C+D+a+b+c+d+e ≤ 145 m (475.7 ft)

L	Longest pipe length	Equivalent pipe length
	A+B+C+D+e ≤ 70 m (230 ft)	* A+B+C+D+e ≤ 90 m (295.2 ft)
l	Longest pipe length after 1st branch	
	B+C+D+e ≤ 40m(131ft)	
H	Difference in height(Outside Unit ↔ Indoor Unit)	
	H ≤ 30 m (98.4 ft)	
h	Difference in height (Indoor Unit ↔ Indoor Unit)	
	h ≤ 15 m (49 ft)	

• * : Assume equivalent pipe length of Y branch to be 0.5m(1.6ft), that of header to be 1m(3.3ft), calculation purpose

CAUTION

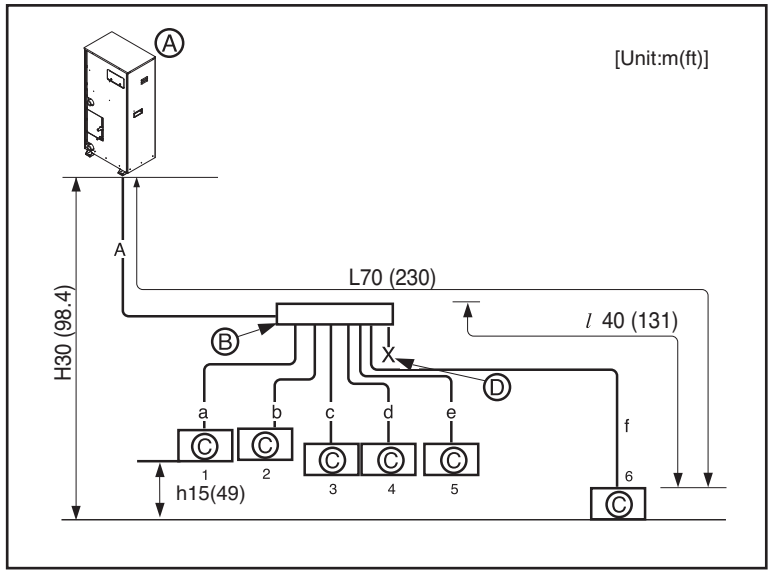
Indoor Unit should be installed at lower position than the header

7. Refrigerant Piping System

■ Header Method

Example : 6 Indoor Units connected

Ⓐ : Outside Unit
Ⓑ : 1st branch
Ⓒ : Indoor Units
Ⓓ : Sealed piping



➲ Total pipe length = A+a+b+c+d+e+f ≤ 145 m (475.7 ft)

L	Longest pipe length	* Equivalent pipe length
	A+f ≤ 70 m (230 ft)	A+f ≤ 90 m (295.2 ft)
l	Longest pipe length after 1st branch	
	f ≤ 40m(131ft)	
H	Difference in height(Outside Unit ↔ Indoor Unit)	
	H ≤ 30 m (98.4 ft)	
h	Difference in height (Indoor Unit ↔ Indoor Unit)	
	h ≤ 15 m (49 ft)	

• * : Assume equivalent pipe length of Y branch to be 0.5m(1.6ft), that of header to be 1m(3.3ft), calculation purpose

⚠ WARNING

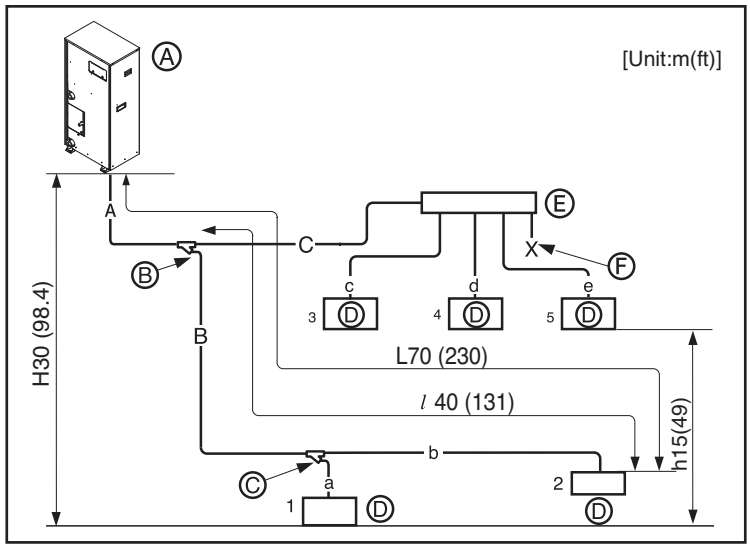
Pipe length after header branching (a~f)
It is recommended that difference in length of the pipes connected to the Indoor Units is minimized. Performance difference between Indoor Units may occur.

7. Refrigerant Piping System

■ Combination of Y branch/header method

Example : 5 Indoor Units connected

Ⓐ : Outside Unit
Ⓑ : 1st branch (Y branch)
Ⓒ : Y branch
Ⓓ : Indoor Unit
Ⓔ : Header
Ⓕ : Sealed piping



Branch pipe can not be used after header

➲ Refrigerant pipe diameter from branch to branch (B,C)

Downward Indoor Unit total capacity [kW(Btu/h)]	Liquid pipe [mm(inch)]	Gas pipe [mm(inch)]
≤ 5.6(19,100)	Ø6.35(1/4)	Ø12.7(1/2)
< 16(54,600)	Ø9.52(3/8)	Ø15.88(5/8)
≤ 22.4(76,400)	Ø9.52(3/8)	Ø19.05(3/4)

➲ Total pipe length = A+B+C+a+b+c+d+e ≤ 145 m (475.7 ft)

L	Longest pipe length	* Equivalent pipe length
	A+B+b ≤ 70 m (230 ft)	A+B+b ≤ 90 m (295.2 ft)
l	Longest pipe length after 1st branch	
	B+b ≤ 40m(131ft)	
H	Difference in height(Outside Unit ↔ Indoor Unit)	
	H ≤ 30 m (98.4 ft)	
h	Difference in height (Indoor Unit ↔ Indoor Unit)	
	h ≤ 15 m (49 ft)	

* : Assume equivalent pipe length of Y branch to be0.5m(1.6ft), that of header to be 1m(3.3ft), calculation purpose

⚠ CAUTION

It is recommended that indoor unit is installed at lower position than the header.

⚠ WARNING

It is recommended that difference of piping length for pipes connected to the Indoor Unit is minimized. Performance difference between Indoor Units may occur.

7.2 The Amount of Refrigerant

The calculation of the additional charge should take into account the length of pipe.

Product charge(kg)			
Additional charge(kg)	=	Length(m) of liquid pipe of Ø9.52mm	x 0.061(kg/m)
	+	Length(m) of liquid pipe of Ø6.35mm	x 0.022(kg/m)
	+	Correction factor of Outside unit	
	+	Correction factor of Indoor unit	
Total charge(kg)	=	Product charge(kg)	+ Additional charge(kg)

Note:

Please refer to the additional refrigerant table for indoor units of installation manual.

7. Refrigerant Piping System

⚠ CAUTION

If a negative result is obtained from the calculation, no refrigerant needs to be added.

⚠ WARNING

Regulation for refrigerant leakage

: the amount of refrigerant leakage should satisfy the following equation for human safety.

$$\frac{\text{Total amount of refrigerant in the system}}{\text{Volume of the room at which Indoor Unit of the least capacity is installed}} \leq 0.44 \text{ (kg / m}^3\text{)(0.028(lbs/ft}^3\text{))}$$

If the above equation can not be satisfied, then follow the following steps.

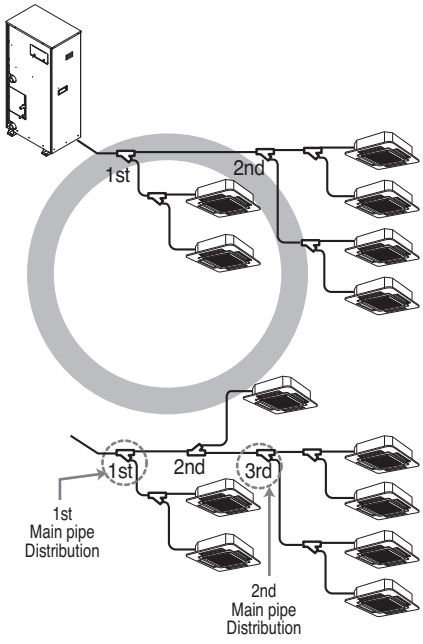
- Selection of air conditioning system: select one of the next
  1. Installation of effective opening part
  2. Reconfirmation of Outside Unit capacity and piping length
  3. Reduction of the amount of refrigerant
  4. Installation of 2 or more security device (alarm for gas leakage)
- Change Indoor Unit type
  : installation position should be over 2m(6.6ft) from the floor (Wall mounted type → Cassette type)
- Adoption of ventilation system
  : choose ordinary ventilation system or building ventilation system
- Limitation in piping work
  : Prepare for earthquake and thermal stress

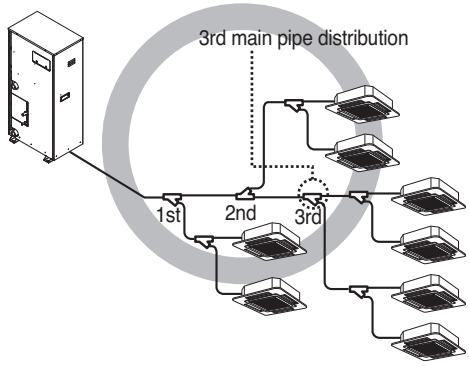
⚠ WARNING

Refer to model information since the CF Value of correction factor differs depending on model.

7.3 Distribution Method

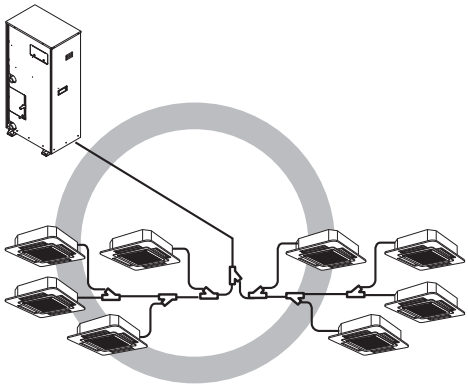
1. Line Distribution

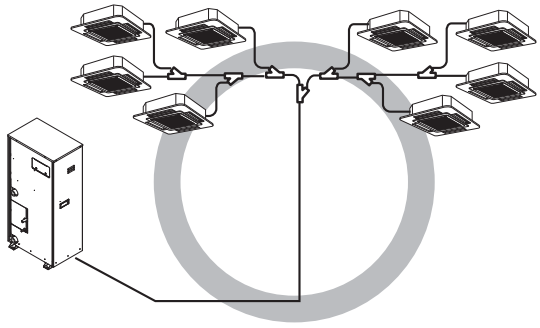




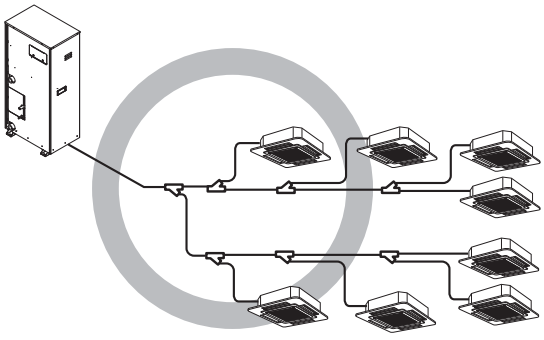
2. Vertical Distribution

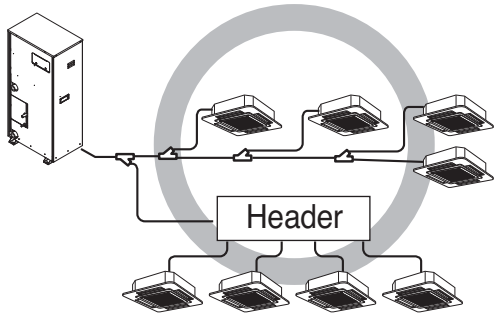
Ensure that the branch pipes are attached vertically.





3. The others





7.4 Caution

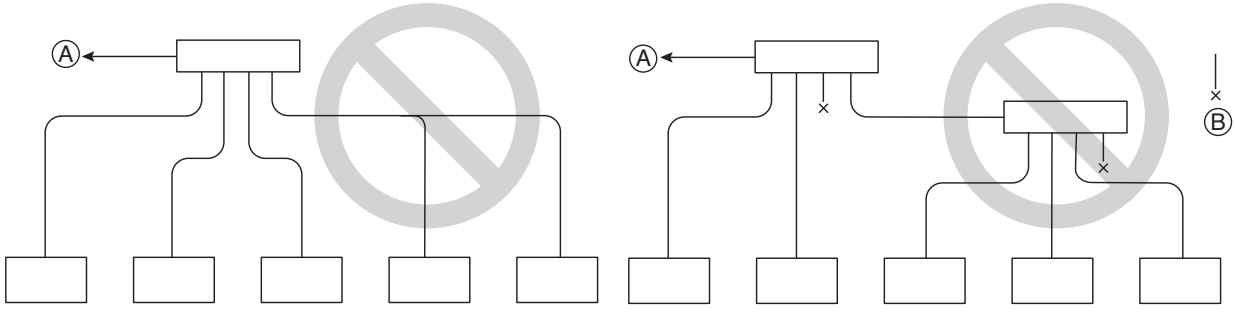
1. Use the following materials for refrigerant piping.
   • Material: Seamless phosphorous deoxidized copper pipe
   • Wall thickness : Comply with the relevant local and national regulations for the designed pressure 3.8MPa.
   We recommend the following table as the minimum wall thickness.

Outer diameter [mm(inch)]	6.35(1/4)	9.52(3/8)	12.7(1/2)	15.88(5/8)	19.05(3/4)	22.2(7/8)	25.4(1)	28.58(1-1/8)	31.8(1-1/4)	34.9(1-3/8)	38.1(1-1/2)	41.3(1-5/8)
Minimum thickness [mm(inch)]	0.8(0.03)	0.8(0.03)	0.8(0.03)	0.99(0.03)	0.99(0.03)	0.99(0.03)	0.99(0.03)	0.99(0.03)	1.1(0.04)	1.21(0.04)	1.35(0.05)	1.43(0.05)

2. Commercially available piping often contains dust and other materials. Always blow it clean with a dry inert gas.
3. Use care to prevent dust, water or other contaminants from entering the piping during installation.
4. Reduce the number of bending portions as much as possible, and make bending radius as big as possible.
5. Always use the branch piping set shown below, which are sold separately.

Y branch		Header		
		4 branch	7 branch	10 branch
ARBLN01621	ARBLN03321	ARBL054	ARBL057	ARBL1010
ARBLN07121	ARBLN14521	ARBL104	ARBL107	ARBL2010

6. If the diameters of the branch piping of the designated refrigerant piping differs, use a pipe cutter to cut the connecting section and then use an adapter for connecting different diameters to connect the piping.
7. Always observe the restrictions on the refrigerant piping (such as rated length, difference in height, and piping diameter).
   Failure to do so can result in equipment failure or a decline in heating/cooling performance.
8. A second branch cannot be made after a header. (These are shown by ⃠.)

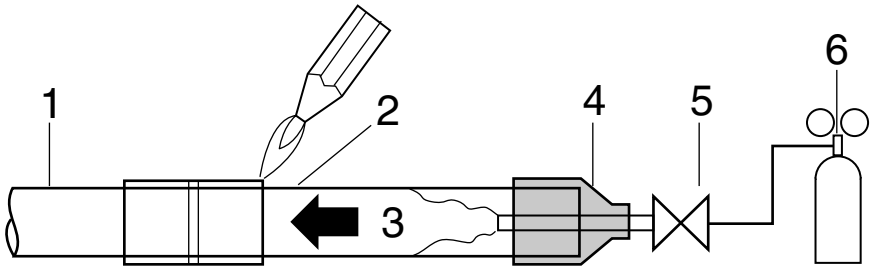


Ⓐ To Outside Unit
Ⓑ Sealed Piping

9. The Multi V will stop due to an abnormality like excessive or insufficient refrigerant. At such a time, always properly charge the unit. When servicing, always check the notes concerning both the piping length and the amount of additional refrigerant.
10. Never use refrigerant to perform an air purge. Always evacuate using a vacuum pump.
11. Always insulate the piping properly. Insufficient insulation will result in a decline in heating/cooling performance, drip of condensate and other such problems.

7. Refrigerant Piping System

12. When connecting the refrigerant piping, make sure the service valves of the Outside Unit is completely closed (the factory setting) and do not operate it until the refrigerant piping for the Outside and Indoor Units has been connected, a refrigerant leakage test has been performed and the evacuation process has been completed.
13. Always use a non-oxidizing brazing material for brazing the parts and do not use flux. If not, oxidized film can cause clogging or damage to the compressor unit and flux can harm the copper piping or refrigerant oil.
14. Take care so that there is no thermal damage on the service valves of the outside unit. (Especially packing part of service port.) Wrap the service valve with a wet towel when brazing it.



1	Refrigerant piping	4	Taping
2	Pipe to be brazed	5	Valve
3	Nitrogen	6	Pressure-reducing valve

WARNING

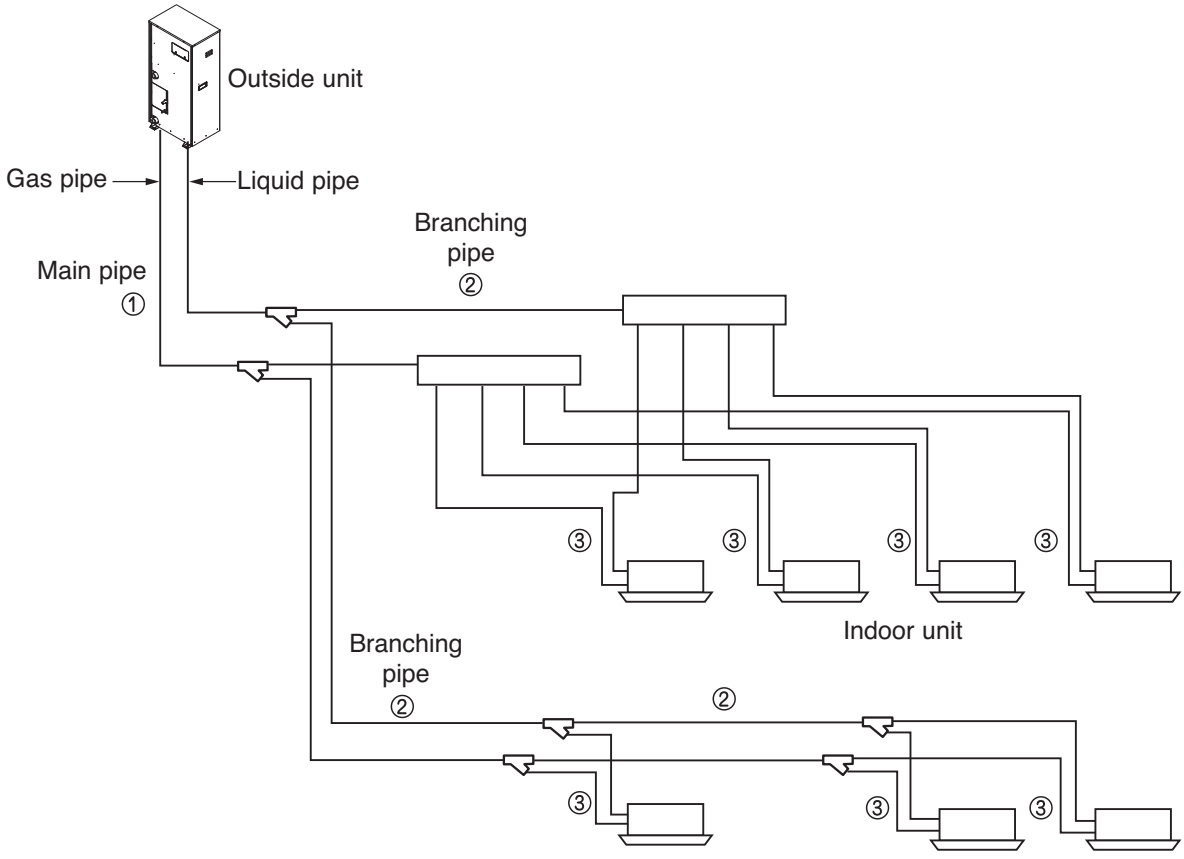
When installing and moving the air conditioner to another site, be sure to make recharge refrigerant after perfect evacuation.

- If a different refrigerant or air is mixed with the original refrigerant, the refrigerant cycle may malfunction and the unit may be damaged.
- After selecting diameter of the refrigerant pipe to suit total capacity of the indoor unit connected after branching, use an appropriate branch pipe set according to the pipe diameter of the indoor unit and the installation pipe drawing.

WARNING

Do not use anti-oxidants when brazing the pipe joints.
Residue can clog pipes and break equipment.

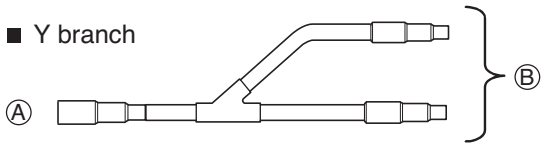
7.5 Selection of refrigerant piping



No.	Piping parts	Name	Selection of pipe size
①	Outside unit ↓ 1st branching section	Main pipe	Size of main pipe Outside unit capacity / Liquid pipe [mm (inch)] / Gas pipe [mm (inch)] 4HP / Ø9.52 (3/8) / Ø19.05 (3/4) 5HP / Ø9.52 (3/8) / Ø19.05 (3/4) 6HP / Ø9.52 (3/8) / Ø19.05 (3/4)
②	Branching section ↓ Branching section	Branching pipe	Pipe size of between branching sections Indoor unit capacity[kW (Btu/h)] / Liquid pipe [mm (inch)] / Gas pipe [mm (inch)] ≤ 5.6 (19,100) / Ø6.35 (1/4) / Ø12.7 (1/2) < 16.0 (54,600) / Ø9.52 (3/8) / Ø15.88 (5/8) < 22.4 (76,400) / Ø9.52 (3/8) / Ø19.05 (3/4)
③	Branching section ↓ Indoor unit	Indoor unit connecting pipe	Connecting pipe size of indoor unit Indoor unit capacity[kW (Btu/h)] / Liquid pipe [mm (inch)] / Gas pipe [mm (inch)] ≤ 5.6 (19,100) / Ø6.35 (1/4) / Ø12.7 (1/2) < 16.0 (54,600) / Ø9.52 (3/8) / Ø15.88 (5/8)

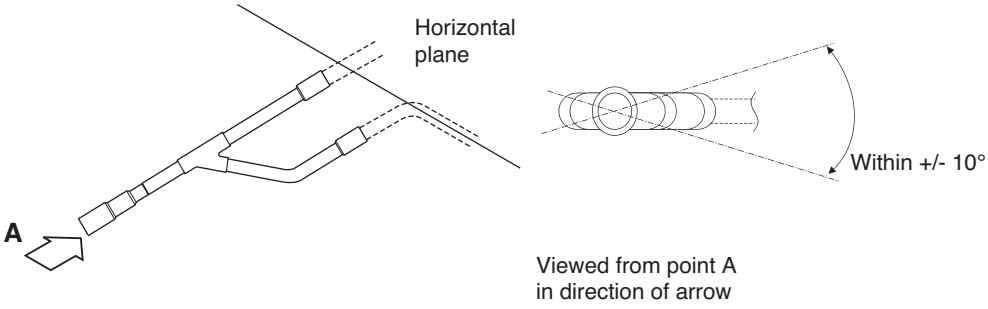
7.6 Branch pipe Fitting

■ Y branch

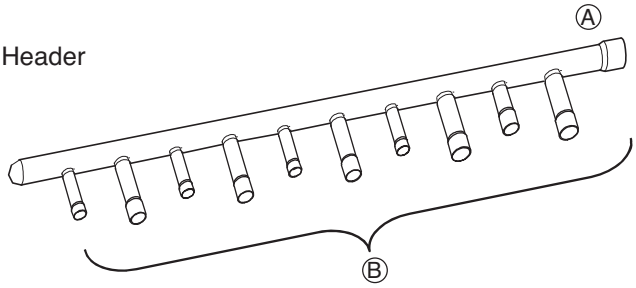


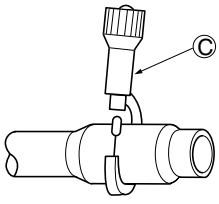
Ⓐ To Outside Unit
Ⓑ To Branch Piping or Indoor Unit

• Ensure that the branch pipes are attached horizontally or vertically (see the diagram below.)



■ Header





Ⓐ To outside unit
Ⓑ To indoor unit

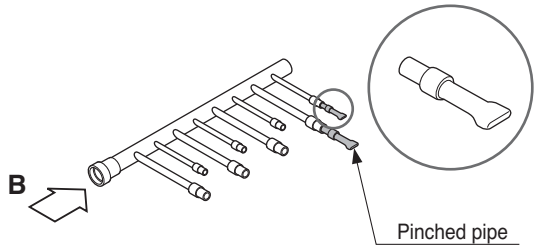
• The indoor unit having larger capacity must be installed closer to Ⓐ than smaller one.
• If the diameter of the refrigerant piping selected by the procedures described is different from the size of the joint, the connecting section should be cut with a pipe cutter.

ⓒ Pipe cutter

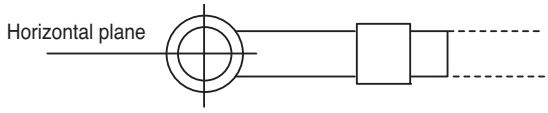
• When the number of pipes to be connected is smaller than the number of header branches, install a cap to the unconnected branches.

7. Refrigerant Piping System

• When the number of indoor units to be connected to the branch pipes is less than the number of branch pipes available for connection then cap pipes should be fitted to the surplus branches.

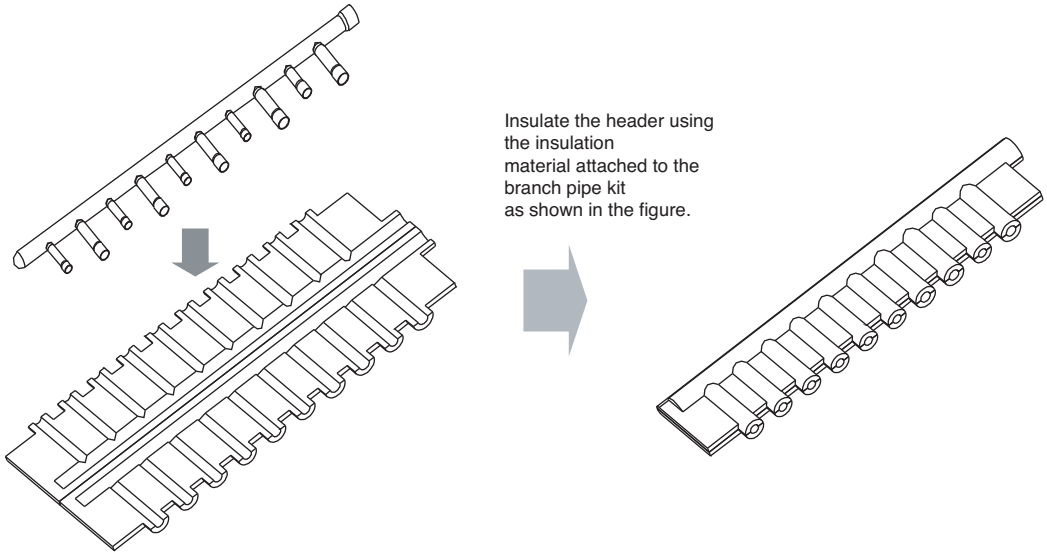


• Fit branch pipe lie in a horizontal plane.

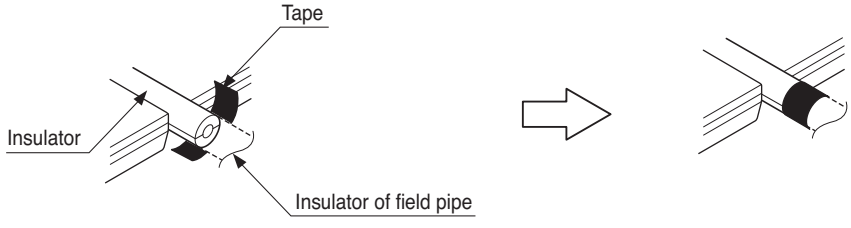


View from point B in the direction of the arrow

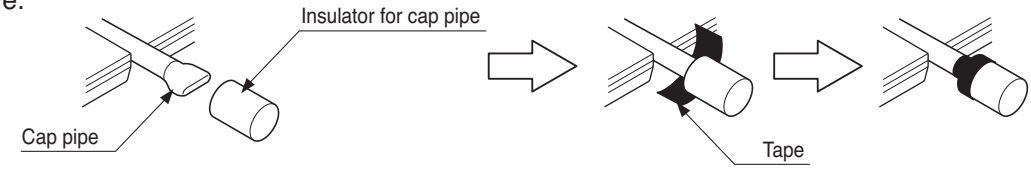
• Header should be insulated with the insulator in each kit.



• Joints between branch and pipe should be sealed with the tape included in each kit.

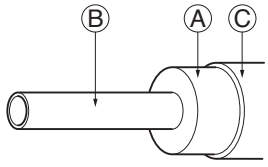


• Any cap pipe should be insulated using the insulator provided with each kit and then taped as described above.



7.7 Thermal Insulation of Refrigerant Piping

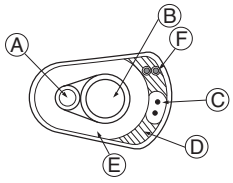
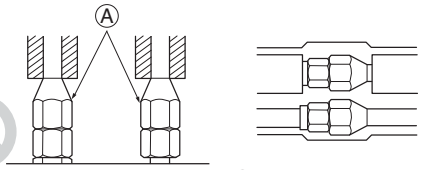
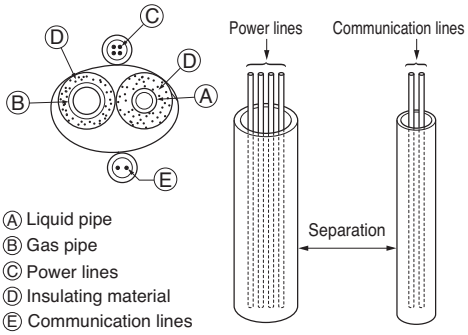
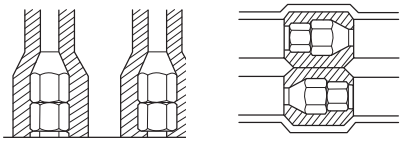
Be sure to give insulation work to refrigerant piping by covering liquid pipe and gas pipe separately with enough thickness heat-resistant polyethylene, so that no gap is observed in the joint between indoor unit and insulating material, and insulating materials themselves. When insulation work is insufficient, there is a possibility of condensation drip, etc. Pay special attention to insulation work to ceiling plenum.



Ⓐ Heat insulation material
Ⓑ Pipe
Ⓒ Outer covering
(Wind the connection part and cutting part of heat insulation material with a finishing tape.)

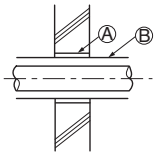
Heat insulation material	Adhesive + Heat - resistant polyethylene foam + Adhesive tape	
Outer covering	Indoor	Vinyl tape
	Floor exposed	Water-proof hemp cloth + Bronze asphalt
	Outside	Water-proof hemp cloth + Zinc plate + Oily paint

Note:
When using polyethylene cover as covering material, asphalt roofing shall not be required.

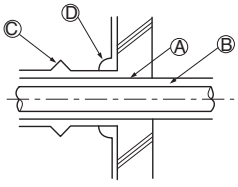
Bad example	• Do not insulate gas or low pressure pipe and liquid or high pressure pipe together.  Ⓐ Liquid pipe Ⓑ Gas pipe Ⓒ Power lines Ⓓ Finishing tape Ⓔ Insulating material Ⓕ Communication lines	• Be sure to fully insulate connecting portion.  Ⓐ These parts are not insulated.
Good example	 Ⓐ Liquid pipe Ⓑ Gas pipe Ⓒ Power lines Ⓓ Insulating material Ⓔ Communication lines	

Penetrations

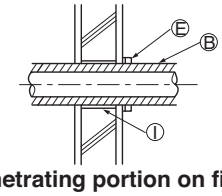
Inner wall (concealed)



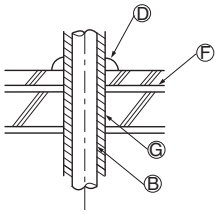
Outer wall



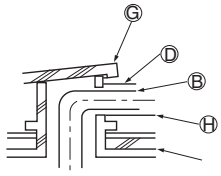
Outer wall (exposed)



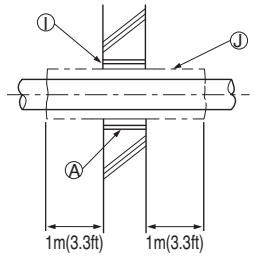
Floor (fireproofing)



Roof pipe shaft



Penetrating portion on fire limit and boundary wall



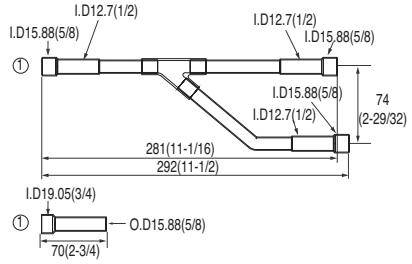
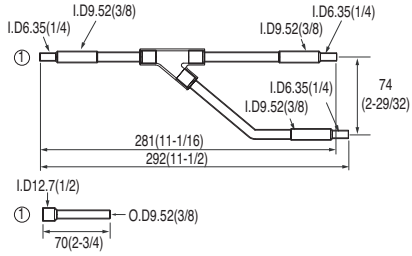
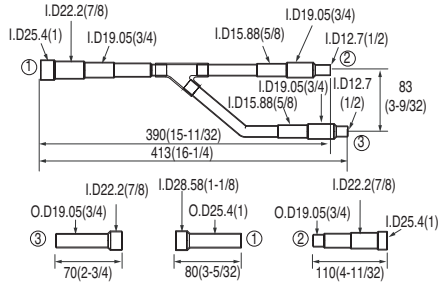
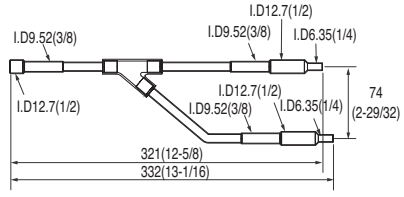
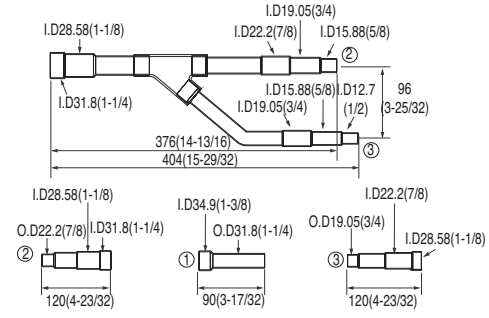
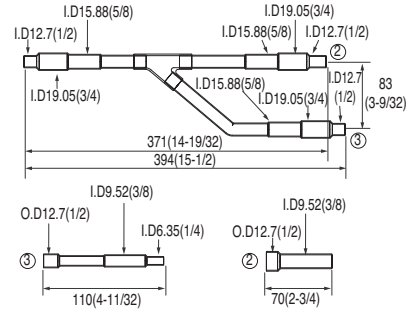
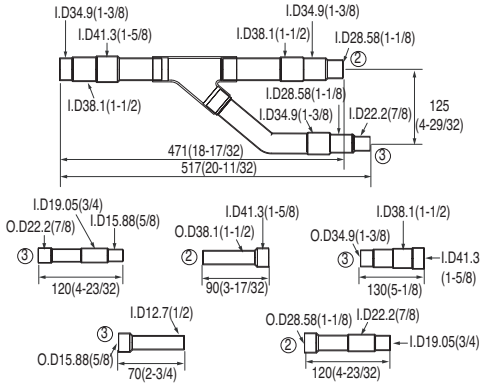
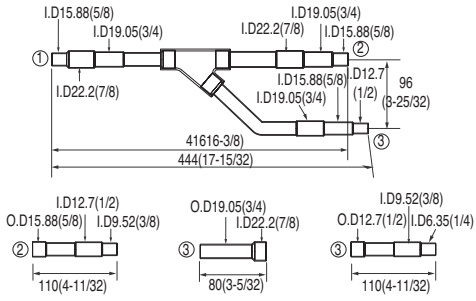
Ⓐ Sleeve
Ⓑ Heat insulating material
Ⓒ Lagging
Ⓓ Caulking material
Ⓔ Band
Ⓕ Waterproofing layer
Ⓖ Sleeve with edge
Ⓗ Lagging material
Ⓘ Mortar or other incombustible caulking
Ⓙ Incombustible heat insulation material

When filling a gap with mortar, cover the penetration part with steel plate so that the insulation material will not be caved in. For this part, use incombustible materials for both insulation and covering.(Vinyl covering should not be used.)

8.8 Selection of Y Branch and Header

8.8.1 Y Branch

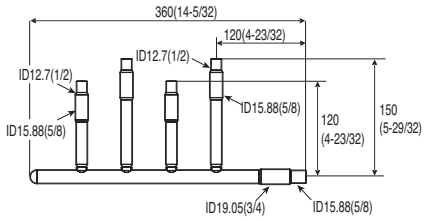
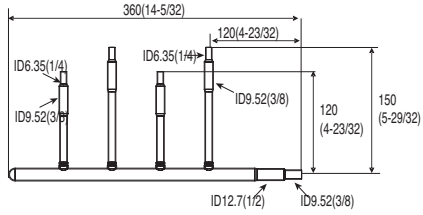
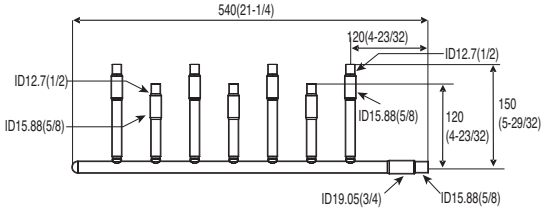
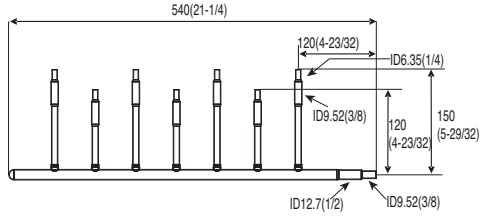
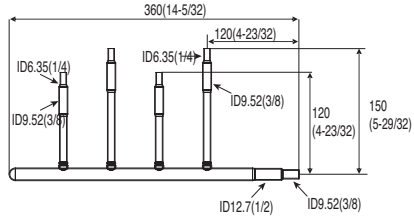
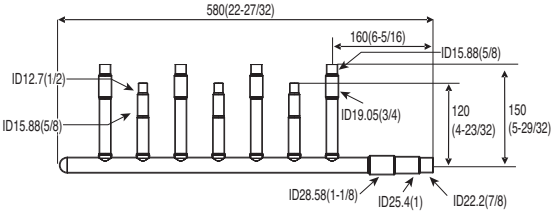
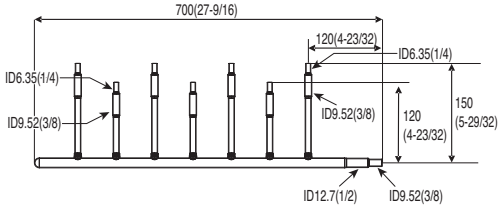
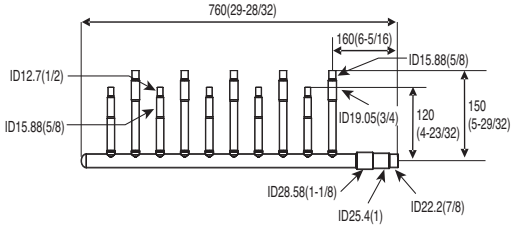
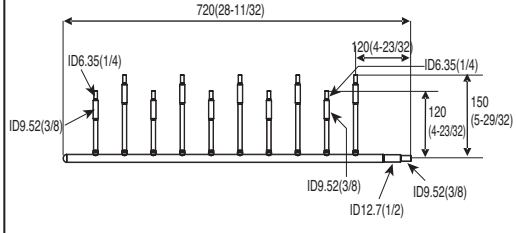
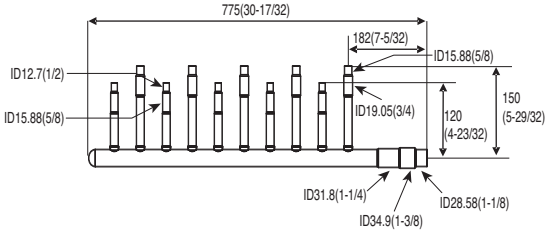
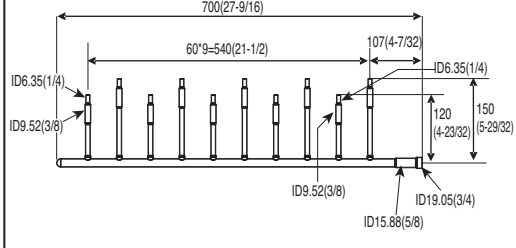
[Unit:mm(inch)]

Models	Gas pipe	Liquid pipe
ARBLN01621		
ARBLN03321		
ARBLN07121		
ARBLN14521		

8. Y Branch and Header Branch Pipe type

8.8.2 Header

[Unit:mm(inch)]

Models	Gas pipe	Liquid pipe
4 branch ARBL054		
7 branch ARBL057		
4 branch ARBL104		
7 branch ARBL107		
10 branch ARBL1010		
10 branch ARBL2010		

9. Electrical Wiring

9.1 Electrical Wiring

9.1.1 Caution

1) Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.

⚠ WARNING

Be sure to have authorized electrical engineers do the electric work using special circuits in accordance with regulations and this installation manual. If power supply circuit has a lack of capacity or electric work deficiency, it may cause an electric shock or fire.

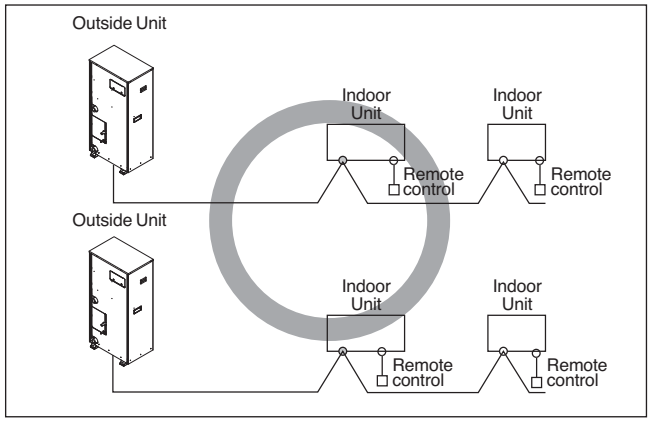
2) Install the Outside Unit communication line away from the power source wiring so that it is not affected by electric noise from the power source. (Do not run it through the same conduit.)
3) Be sure to provide designated grounding work to Outside Unit.

⚠ CAUTION

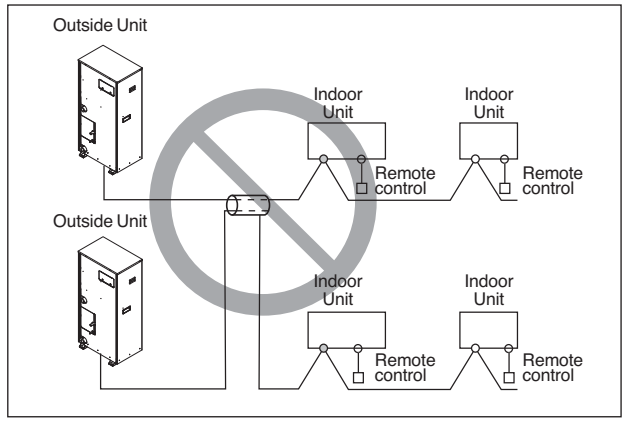
Be sure to connect the Outside Unit to earth. Do not connect earth line to any gas pipe, water pipe, lightening rod or telephone earth line. If earth is incomplete, it may cause an electric shock.

4) Give some allowance to wiring for electrical part box of Indoor and Outside Units, because the box is sometimes removed at the time of service work.
5) Never connect the main power source to terminal block of communication line. If connected, electrical parts will be burnt out.
6) Use 2-core shield cable for communication line.(O mark in the figure below) If communication lines of different systems are wired with the same multiplecore cable, the resultant poor transmitting and receiving will cause erroneous operations. (⃠ mark in the figure below)
7) Only the communication line specified should be connected to the terminal block for Outside Unit communication.

9. Electrical Wiring



2-Core Shield Cable



Multi-Core Cable

CAUTION

- **This product have reversed phase protection detector that only works when the power is turned on. If there exists black out or the power goes on and off which the product is operating, attach a reversed phase protection circuit locally. running the product in reversed phase may break the compressor and other parts.**
- **Use the 2-core shield cables for communication lines. Never use them together with power cables.**
- **The conductive shielding layer of cable should be grounded to the metal part of both units.**
- **Never use multi-core cable**
- **As this unit is equipped with an inverter, to install a phase leading capacitor not only will deteriorate power factor improvement effect, but also may cause capacitor abnormal heating. Therefore, never install a phase leading capacitor.**
- **Make sure that the power unbalance ratio is not greater than 2%. If it is greater, the unit's lifespan will be reduced.**
- **Introducing with a missing N-phase or with a mistaken N-phase will break the equipment.**

9.1.2 Communication and Power Lines

1) Communication cable

- Types : shielding wire
- Cross section : over 1.0 ~ 1.5mm²
- Insulation material : PVC
- Maximum allowable temperature: 140°F
- Maximum allowable line length: 300m(984ft)

2) Remote control cable

- Types : 3-core cable

3) Simple central control cable

- Types : 4-core cable (Shielding wire)
- Use wires of size : over 1.0 ~ 1.5mm²
- Insulation material : PVC

4) Separation of communication and power lines

- If communication and power lines are run alongside each other then there is a strong likelihood of operational faults developing due to interference in the signal wiring caused by electrostatic and electromagnetic coupling.
- The tables below indicates our recommendation as to appropriate spacing of communication and power lines where these are to be run side by side.
- In case of install communication and power line together, the distance should be over 500mm.

Current capacity of power line		Spacing
100V or more	10A	300mm(11-7/8inch)
	50A	500mm(19-5/8inch)
	100A	1,000mm(39-1/4inch)
	Exceed 100A	1,500mm(59inch)

Note:

1. The figures are based on assumed length of parallel cabling up to 100m(328ft). For length in excess of 100m(328ft) the figures will have to be recalculated in direct proportion to the additional length of line involved.
2. If the power supply waveform continues to exhibit some distortion the recommended spacing in the table should be increased.

- If the lines are laid inside conduits then the following point must also be taken into account when grouping various lines together for introduction into the conduits
- Power lines(including power supply to air conditioner) and signal lines must not be laid inside the same
- In the same way, when grouping the lines power and signal lines should not be bunched together.

CAUTION

- If apparatus is not properly earthed then there is always a risk of electric shocks, the earthing of the apparatus must be carried out by a qualified person.
- Use a power wire pipe for the power wiring.

9. Electrical Wiring

◆ Wiring of Main Power Supply and Equipment Capacity

1. Use a separate power supply for the outside unit and indoor unit.
2. Bear in mind ambient conditions (ambient temperature,direct sunlight, rain water,etc.) when proceeding with the wiring and connections.
3. The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker taking into account the line voltage drops. Make sure the power-supply voltage does not drop more than 10%.
4. Specific wiring requirements should adhere to the wiring regulations of the region.
5. Power supply cords of parts of appliances for outside use should not be lighter than polychloroprene sheathed flexible cord.
6. Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.

⚠ WARNING

- **Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.**
- **Be sure to use specified wires for connections so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.**
- **Be sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.**

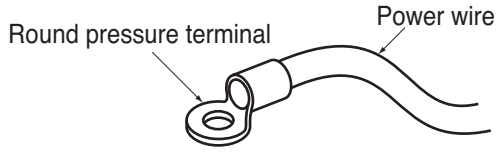
⚠ CAUTION

- **Some installation site may require attachment of an earth leakage breaker. If no earth leakage breaker is installed, it may cause an electric shock.**
- **Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.**

9. Electrical Wiring

◆ Precautions when laying power wiring

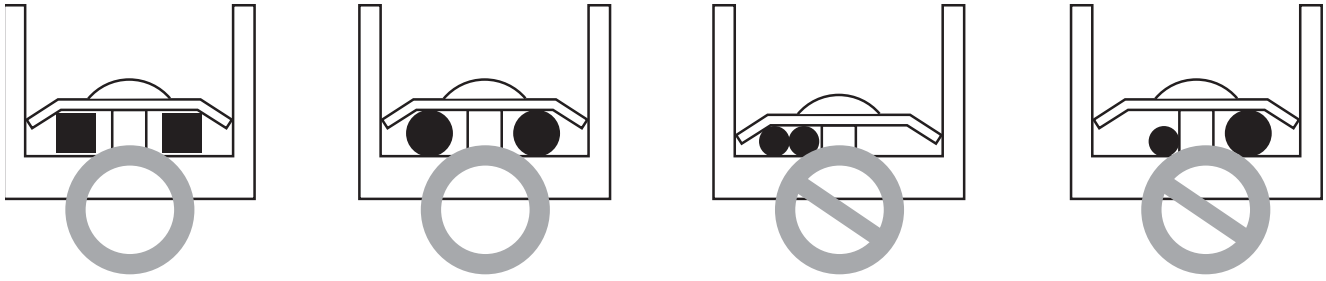
Use round pressure terminals for connections to the power terminal block.



When none are available, follow the instructions below.

- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.

■ : O-ring ● : Copper wire

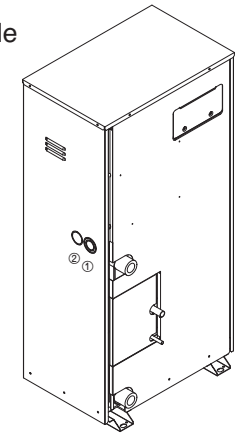


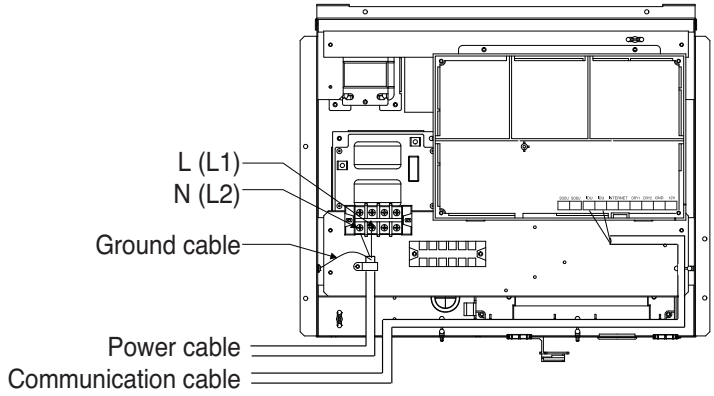
- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal block.
- Use an appropriate screwdriver for tightening the terinal screws.
  A screwdriver with a small head will strip the head and make proper tighterning impossible.
- Over-tightening the terminal screws may break them.

◆ How to connect wiring

1. Connect power supply wire to terminal block of control case using clamps on the supporter and control case as shown figure right.
2. Connect communication wire to main PCB terminal block using clamps on the supporter and main PCB case as shown figure right.

① Main power cable
② Communication cable

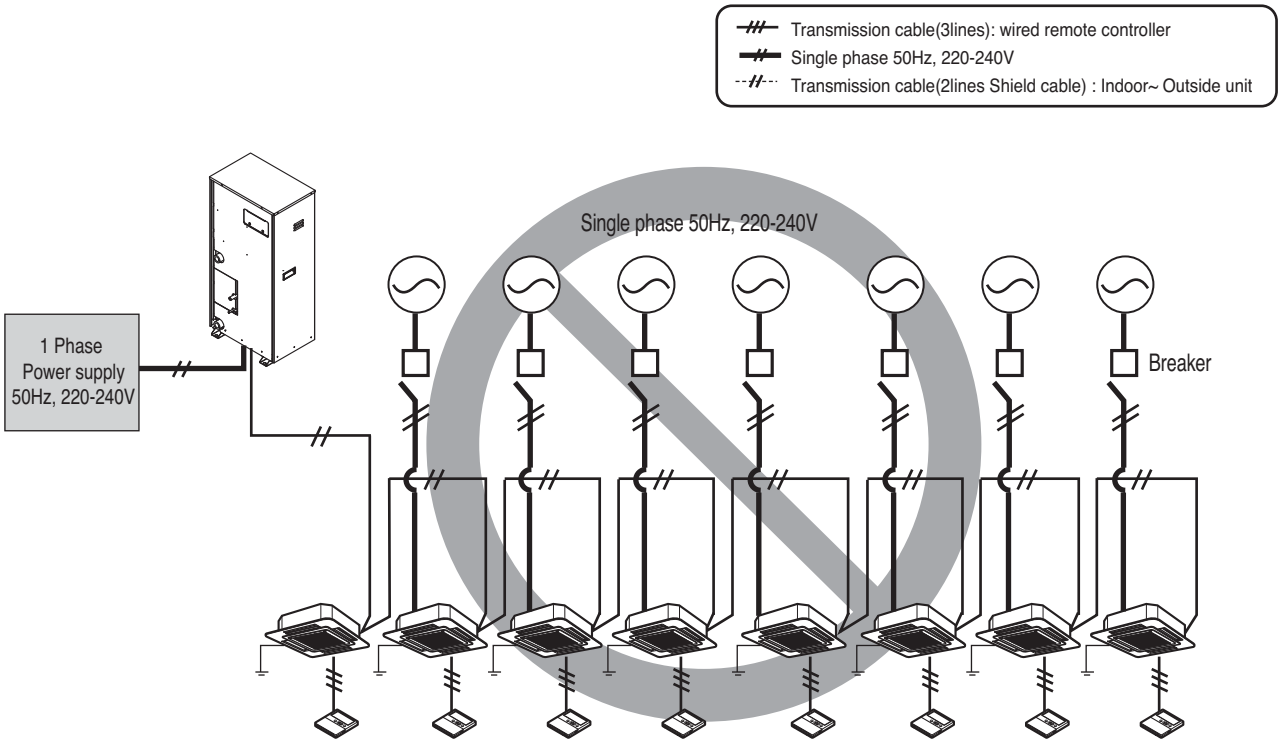




9. Electrical Wiring

◆ Example for mistake of wiring

• Do not separately connect the power of the indoor unit.

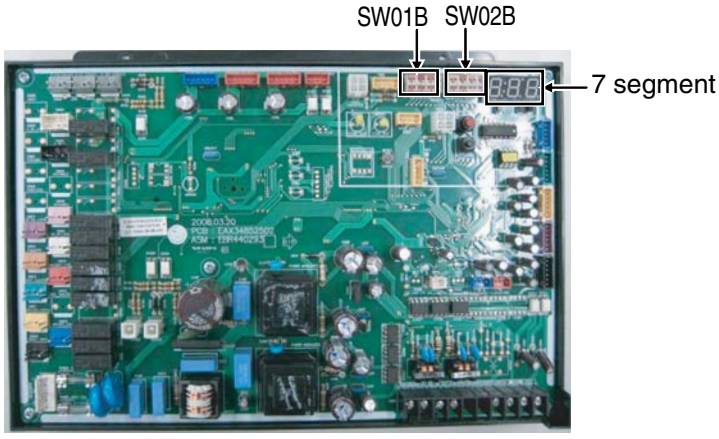


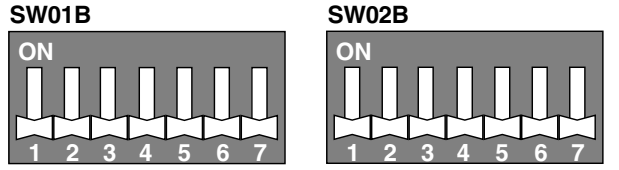
⚠CAUTION

Never install individual switch or individual outlet to cut the power connecting the indoor unit.

9.2 DIP Switch Setting

9.2.1 Location of setting Switch





⚠CAUTION

If the applicable dip switch is not set correctly, the product may not operate properly.

9.2.2 Dip switch setting

1. Set the dip switch and turn on the power of the outside unit to check whether the set value is correctly entered in the 7 segment.
2. This function is shown for only 2 seconds after the power is connected.

■ Check outside unit setting

• The number on the 7 segment is displayed in order after the power is connected.
• This number represents the setting condition.

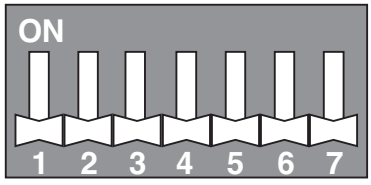
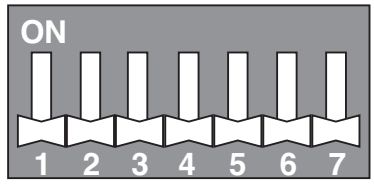
Order	Number	Item
1	-	Model code
2	-	Total capacity(HP)
3	2	Heat pump model
4	25	Normal mode display (If the dip switch is set incorrectly, it is not displayed.)
5	136	Model Type (Water Mini)

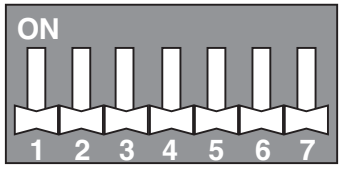
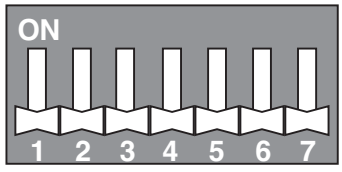
■ Model Code

Model Code	Unit(HP)	Powersupply	Ref.
120	4	1Ø, 220-240V	R410A
121	5		
122	6		

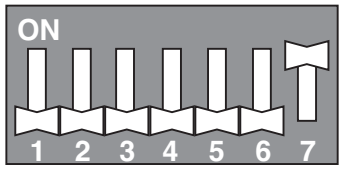
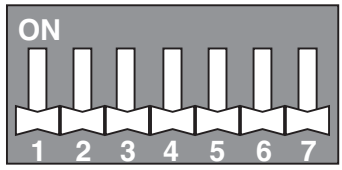
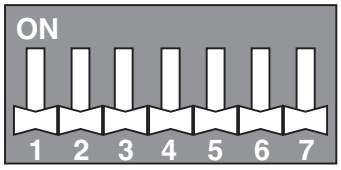
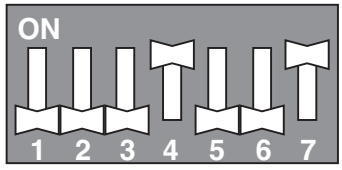
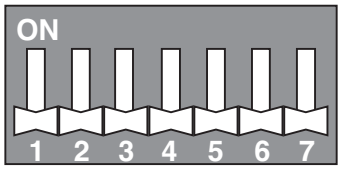
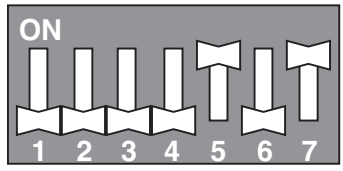
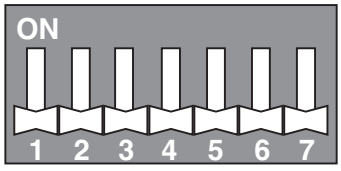
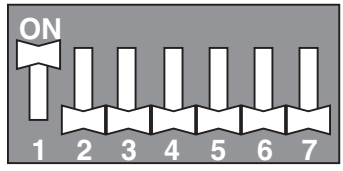
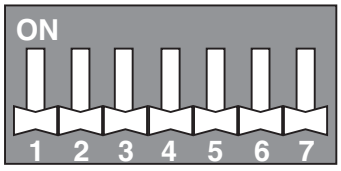
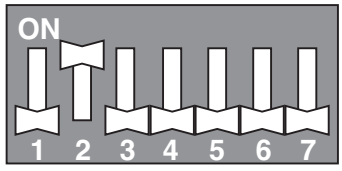
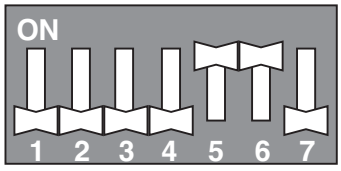
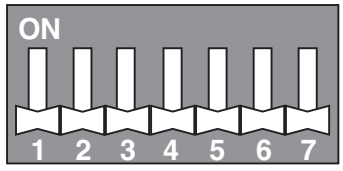
■ Setting the DIP switch (SW01B, SW02B)

• If you set the Dip switch when power is on, the changed setting will not be applied immediately.
The changed setting will be enabled only when Power is reset or by pressing Reset button.

SW01B Setting	SW02B Setting	Remark
		Normal mode at shipping factory

Function	SW01B Setting	SW02B Setting	Remark
Standard			Standard mode at shipping factory

9. Electrical Wiring

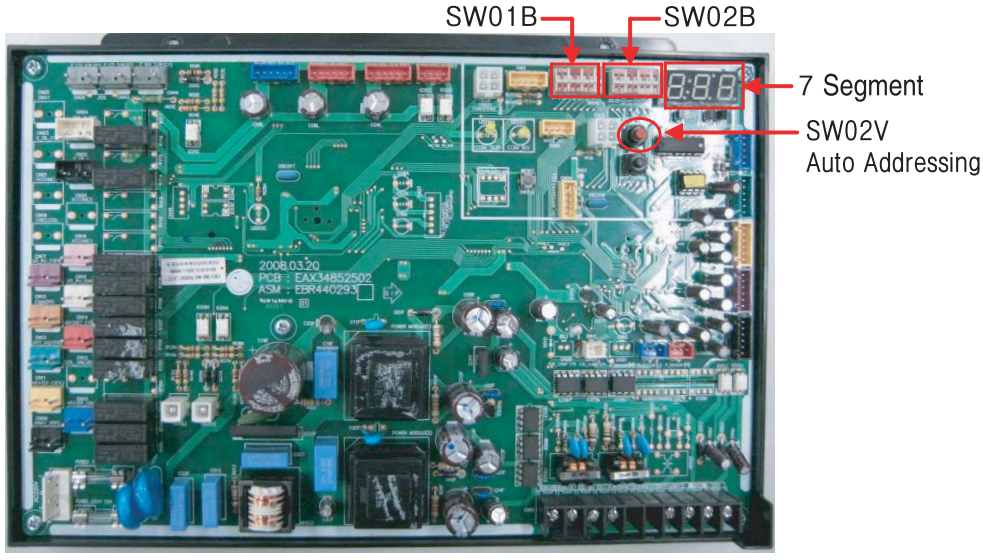
Function	SW01B Setting	SW02B Setting	Remark
Forced Oil Return			
Vacuum Mode			
Water Pipe Solenoid Valve 220V Functions			For water pipe Solenoid Valve 220V power
Ground source mode			Use this mode when temperature of circulation inlet water is under 10°C (50°F) (You should use an anti freeze)
Variable water Flow Control Mode			You should install the variable water flow valve control kit before using this mode.
Dry contact Mode			

⚠CAUTION

- After operating the dip switch to set the additional function, you must reset the power of the main PCB to reflect the changed function. (After recovering the dip switch to cancel the additional function, you must reset the power of the main PCB to reflect the change.)
- If the dip switch is not set accurately, it can have excessive load on the product operation. Set the dip switch properly.

9.5 Indoor unit auto addressing

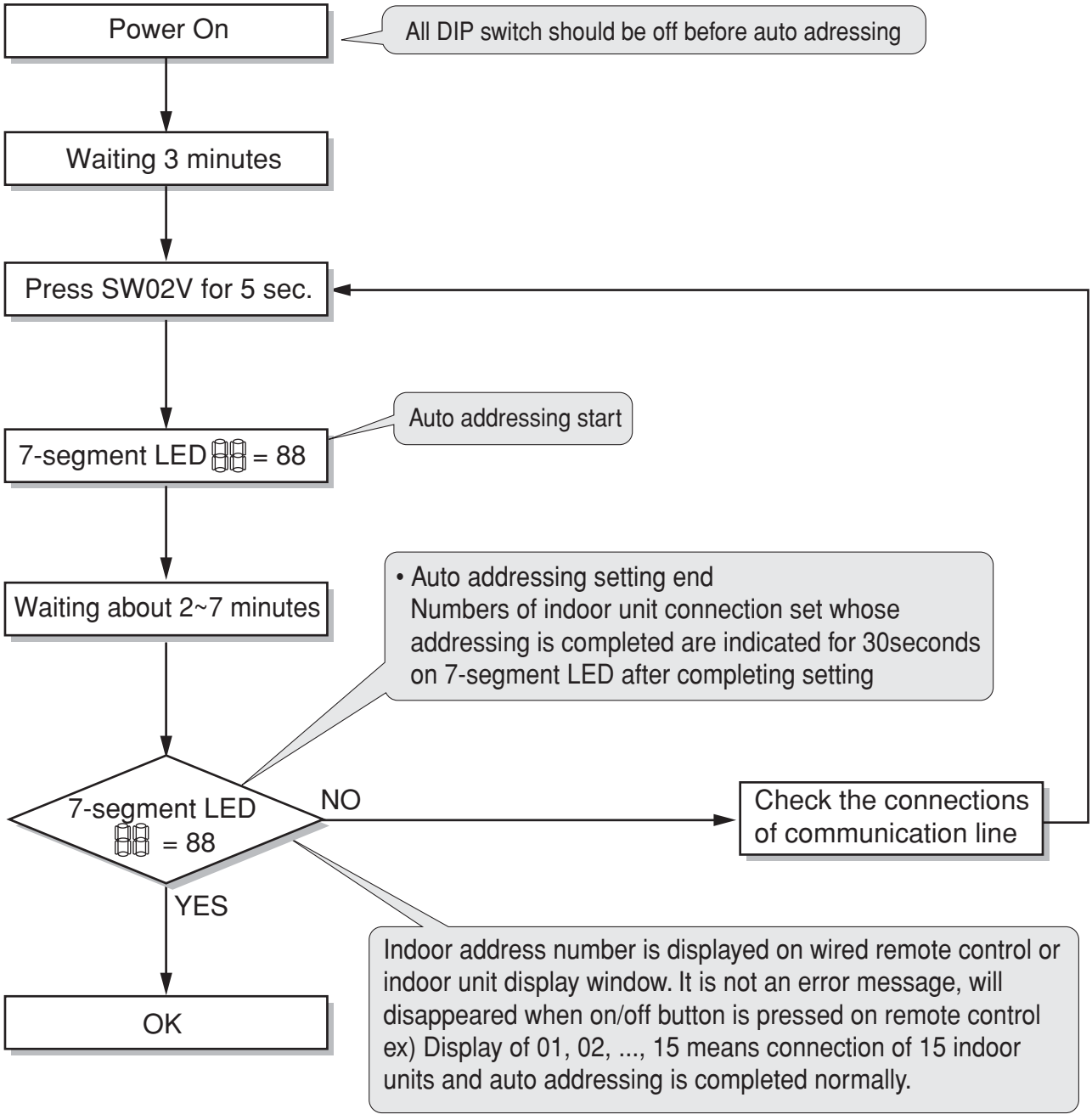
- The address of the indoor units would be set by auto addressing.
  1) Wait for 3 minutes after applying power supply (master and slave outside unit, indoor unit)
  2) Press the switch of the outside unit (SW02V) for 5 seconds.
  3) A "88" is indicated on 7-segment LED of the outside unit PCB.
  4) For completing addressing, 2~7 minutes are required depending on numbers of indoor unit connection set.
  5) Numbers of indoor unit connection set whose addressing is completed are indicated for 30 seconds on 7-segment LED of the outside unit PCB.
  6) After completing addressing, address of each indoor unit is indicated on the wired remote controller display window. (CH01, CH02, CH03, ... CH06 : Indicated as number of indoor unit connection set.)



⚠WARNING

- **When replacing the indoor unit PCB, you must execute the auto addressing again. Always execute this with all the power of indoor units and outside units connected. If the power is not connected to the indoor unit, it can generate an operation error.**
- **When power is connected to the Multi V Water II for the first time, it will standby for more than 3 minutes to improve the indoor unit communication, and then the address must be set.**

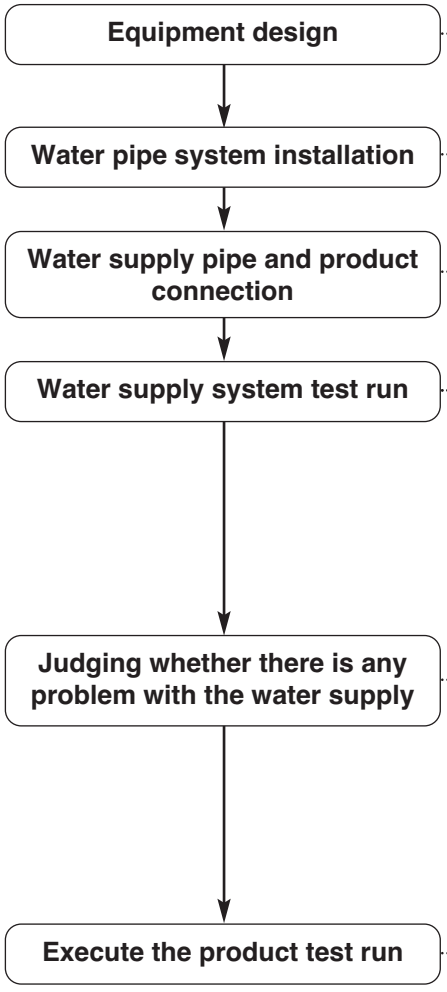
◆ The Procedure of Auto Addressing



10. Test Run

10.1 Water supply system test run

• Before executing the test run for the product, you must first test the heat source water system.
The test run for the product must be executed after checking the flow rate and temperature of the heat source water supplied.



Equipment design
Design the system including cooling tower, boiler, pump etc.
- Check the equipment capacity (Water volume, temperature control range).

Water pipe system installation
Install the water pipe

Water supply pipe and product connection
Connect the water pipe to the inlet/outlet of the product so that the water can be supplied to the product.

Water supply system test run
Execute water supply system test run
- The product does not operate but the pump and water supply equipment will operate to flow the Heat source water to the heat exchanger on the product side.
- Flow the water to all water piping system to clean any alien particles inside the pipes and execute an air purge to remove an air within the pipes to make the water supply smoother.
- Clean all the strainers of water pipe including around outside units.

Judging whether there is any problem with the water supply
Execute the test of water supply system without operating the product.
- Check whether outside unit inlet/outlet flow rate complies to the product specification.
  Standard water volume is 60 LPM (15.9 GPM), 50 LPM (13.2 GPM), 40 LPM (10.6 GPM) based on 6 HP, 5 HP, 4 HP
- Check the water supply temperature. whether is OK

Execute the product test run
After checking the normal condition of the water supply, execute the test run of the product.
To prevent the freezing of the heat exchanger when the refrigerant is discharged with the water supply blocked, discharge the refrigerant after draining out around the outside unit.

10.2 Precaution before test run

1	Check whether the air is completely removed and the water supply is flowing smoothly.
2	Check whether there is any refrigerant leakage of any disconnected or loose communication or power wire, or use the electric wiring diagram to check the wiring connection condition. Check whether the power and communication wire are connected.
3	Check whether the power cable are correctly connected. Check the insulation resistance with the DB mega tester device (DC 500V) between the power terminal block and grounding, and check whether it is 2.0MΩ or above when measured. If the resistance is 2.0MΩ or less, do not operate the product. Precaution) - Never check the insulation resistance for the terminal control board. (The control board can be damaged.) - If you leave the system turned off right after the installation or for a long period of time, the refrigerant gets accumulated within the compressor and the insulation resistance reduces to less than 2.0 MΩ. When the insulation resistance is 2.0 MΩ or less, turn on the power and let the electricity be supplied to the crank case heater of the compressor and let the refrigerant including the oil inside the compressor to evaporate. Then the insulation resistance value will increase to more than 2.0 MΩ.
4	Check whether the liquid and gas pipes are open. Firmly close the wrench part cap of the service valve.
5	Precaution when blocking the water cooling type Multi V main power - While using the product (Air conditioning season/Heating season), always connect the main power of the outside unit. - During the test run operation after installing the product or during the operation after blocking the outside unit main power (Power outage etc.), you must always connect the power 6 hours prior heat the compressor.

⚠WARNING

- **Always check whether the water supply is flowing smoothly before the test run. (If sufficient amount of water is not flowing, it can burn the product.)**
- **During the initial test run after installing the product, leaving the product for more than 3 days or after replacing the compressor, power must be connected 6 hours prior to the operation to heat the compressor. (If the product is not heated sufficiently, it can burn the product.)**

10.3 How to Cope with Abnormal Test Run

The phenomena from main component failure

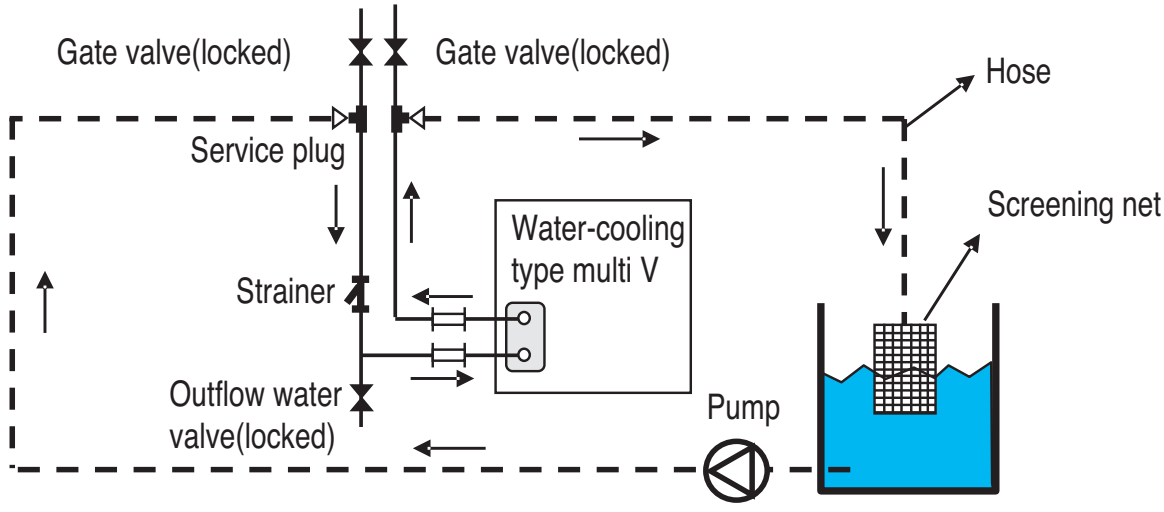
Item	Phenomenon	Cause	Checkpoint and resolution
Whether heat water is supplied	CH24	When connecting the flow switch, heat-sourced water doesn't flow or the amount of its flow lacks due to the checked error related to heat-sourced water.	Check whether the heat source water supply pump is operating.
			Check whether the heat source water supply pipe is clogged. (Clean strainer, valve locked, valve issue, air trapped etc.)
			Check whether the flow switch is normal condition. (Flow switch problem, arbitrary control, disconnection etc.)
	CH32	Heat water not supplied or flow rate is insufficient	Check whether heat source water supply pump is operating.
			Check whether the heat source water supply pipe is clogged. (Clean strainer, valve locked, valve issue, air trapped etc.)
	CH34	Heat water not supplied or flow rate is insufficient (During cooling)	Check whether heat source water supply pump is operating.
			Check whether the heat source water supply pipe is clogged. (Clean strainer, valve locked, valve issue, air trapped etc.)
	CH180	Heat water not supplied or flow rate is insufficient (During heating)	Check whether heat source water supply pump is operating.
			Check whether the heat source water supply pipe is clogged. (Clean strainer, valve locked, valve issue, air trapped etc.)

❊ When CH24 or CH180 error occurs during the test operation of the heater, the inside of the panel heat exchanger may be partially frozen and therefore, be sure to get rid of its cause and then, re-operate the device.
(The root cause of partial freezing: The lack of flow of heat-sourced water, suspension of water, lack of cooling medium, infiltration of foreign substance inside of panel heat exchanger)

10.4 Maintenance of plate type heat exchanger

As the scales are created in the panel heat exchanger, its efficiency may decrease or damage may occur due to winter-sowing due to the decrease in its flow.
Due to this reason, regular maintenance is necessary so that the scales shouldn't be created.

1. Before the season of use, check below points.(Once a year)
   1) inspection on water quality to check if this is within the standard condition.
   2) Clean the strainer.
   3) Check if the flow is appropriate.
   4) Check if the operation environment is appropriate.(Pressure, flow, output temperature)
2. Below procedure should be abided by in order to clean the panel heat exchanger. (Once every 5 years)
   1) Check if the service port is equipped with the water pipe in order to clean the chemical solution.
      5% diluted formic acid, citric acid, oxalic acid, acetate acid, phosphoric acid and etc. are appropriate for the chemical solution for wiping out the scales.(Hydrochloric acid, sulphuric acid, nitric acid and etc. shouldn't be used due to its corrosion.)
   2) Be sure to check if the gate valve of inflow/outflow pipe and the valve for outflow pipe are properly closed when cleaning.
   3) Connect the water pipe for cleaning with the chemical solvent through the service plug of the pipe and fill up the panel heat exchanger with 50°C~60°C(122°F~140°F) of cleaning solvent and circulate it with the pump for 2~5 hours. The circulation time may depend on the temperature of the cleaning solvent or the creation of the scales. Therefore, observe change in the color of the chemical solvent to set the circulation time for removing the scales.
   4) After the circulation of the solvent, extract the solvent inside of the panel heat exchanger and fill up 1~2% of NaOH or $NaHCO_3$ and then, circulate it for 15~20 minutes to neutralize the heat exchanger.
   5) Once the neutralization is completed, clean the inside of the panel heat exchanger with clean water.
      Measure the water pH to check if the chemical solvent is properly removed or not.
   6) When using a different kind of chemical solvent in the market, be sure to check if there is any corrosive action to stainless or copper in advance or not.
   7) For details on the cleaning chemical solvent, be sure to consult the specialists of the related corporation.
3. After cleaning, operate the device to see if it works properly once again.



[Cleaning the panel heat exchanger]

10.5 Daily check/management

1. Water quality control

The plate type heat exchanger is not structured to be disassembled, cleaned or replaced with parts.
To prevent corrosion or scaling on the plate type heat exchanger, special care must be taken to control the water quality.
Water quality must satisfy the minimum criteria of the reference water quality items.
When anti-corrosion agent or corrosion inhibitor is added, the substance must not have any corrosive effect on stainless steel and copper.
Even if the circulating water is not contaminated by the external air, it is recommended to empty the water flowing in the pipe and to resupply the water.

2. Flow rate control

If the flow rate is insufficient, it can cause freezing on the plate type heat exchanger.
Check whether the strainer is clogged or whether the pipe is filled with air and then check the temperature and pressure difference of the inlet and outlet pipe to check whether the flow rate is insufficient.
If the temperature and pressure difference is above the appropriate level, it means that the flow rate is reduced. In this case, the operation must immediately be stopped and re-operated when the root cause is resolved. (*If air is trapped in the pipe, the air must be purged. Air inside the water pipe interferes with the circulation of the heat water supply and can cause insufficient flow rate or freezing.)

3. Brine density management

When using the brine (Anti-freeze) in the heat water supply, designated type and density must be used. Calcium chloride brine can cause corrosion on the plate type heat exchanger and must not be used.
If the anti-freeze liquid is left as is, it absorbs the moisture from the air to cause a drop in the density, leading to freezing of plate type heat exchanger. Therefore minimize the contact surface with the atmosphere and periodically measure the density of the brine to supplement the brine as needed to maintain the density.

10.6 Maintenance/Repair checklist (● : Check mark)

Checkpoint \ Period (Year)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Product operating condition	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Heat exchanger cleaning (Wash)					●					●					●
Strainer cleaning	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Water quality check	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Refrigerant leakage check	●														●
Indoor unit filter cleaning	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

⚠CAUTION

- The above checklist is set based on the minimum period and more frequent checking can be required depending on the operating condition/water quality condition.
- When cleaning the heat exchanger, make sure to take parts out or lock the value so that chemical detergent does not penetrate into the pressure gauge etc.
- When cleaning the heat exchanger, check the connecting part of the water pipes prior to cleaning so that the chemical detergent does not leak.
- After sufficiently mixing the chemical detergent with water, start cleaning.
- Cleaning the heat exchanger is easier at the initial stage and becomes difficult after the scaling has accumulated.
- In areas where the water quality is poor, cleaning is required periodically.
  Because chemical detergent has strong acidity, it must be washed off thoroughly with water.
- To check whether it is cleaned well inside, remove the hose and check the inside.
- Purge the air to remove any air inside the water pipe.
- After checking, always check whether the heat water supply is flowing normally flowing before operating the product.

10.7 Self-Diagnosis Function

Error Indicator

- This function indicates type of failure in self-diagnosis and occurrence of failure for air condition.
- Error mark is displayed on display window of indoor units and wired remote controller, and 7-segment LED of outside unit control board as shown in the table.
- If more than two troubles occur simultaneously, low number of error code is first displayed.
- After error occurrence, if error is released, error LED is also released simultaneously.

Error display method

1st and 2nd LED of 7-segment refers to the error number and the 3rd LED refers to the outside unit number.

Ex) 011: Error No. 1 of outside unit No. 1

011 ➡ 051: Error No. 105 of outside unit No. 1

❊ Refer to the DX-Venitilation manual for DX-Venitilation error code

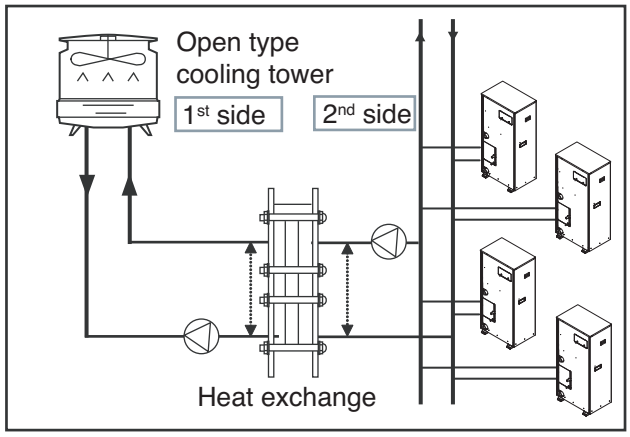
Display				Error item	Root cause of error
Indoor unit	0	1	-	Indoor unit air temperature sensor error	Indoor unit air temperature sensor disconnection or short circuit
	0	2	-	Inlet pipe temperature sensor of indoor unit	Indoor unit pipe inlet temperature sensor disconnection or short circuit
	0	3	-	Communication error between wired remote controller and indoor unit	Occurs when indoor unit communication signal is not received from the wired remote controller
	0	4	-	Indoor unit drain error	Drain pump and float switch error
	0	5	-	Communication error between outside unit and indoor unit	When the indoor unit does not receive the outside communication signal continuously for 5minutes or more
	0	6	-	Indoor unit pipe outlet temperature sensor error	Indoor unit pipe outlet temperature sensor disconnection or short circuit
	0	9	-	Indoor unit EEPROM error	Communication error between MICOM and EEPROM or when there is no indoor unit EEPROM data
	1	0	-	Indoor unit BLDC motor feedback signal error	When motor connector is removed or defective
	1	7	-	Inlet Air temperature sensor of FAU	Air temperature sensor of indoor unit is open or short
Outside unit	2	1	1	Outside unit inverter compressor IPM fault	Outside unit inverter compressor drive IPM error
	2	2	1	Inverter Board Input Over Current(RMS) of Outside Unit	Outside Unit Inverter Board Input Current excess (RMS)
	2	3	1	Outside unit inverter compressor DC link under-voltage	DC voltage is not charged after master outside unit operating relay is turned on
	2	4	1	Outside unit high pressure switch	Compressor maintenance by master outside unit high pressure switch Flow rate insufficiency or flow switch trouble of master outside unit
	2	6	1	Outside unit inverter compressor operation failure error	Outside unit input voltage is 487V and above or less than 270V

Display				Error item	Root cause of error
Outside unit	2	8	1	Outside unit inverter DC link over-voltage error	Compressor turned off due to master outside unit inverter DC voltage over-charge
	2	9	1	Outside unit inverter compressor over-current	Outside unit inverter compressor error or operating component (IPM) error operation
	3	1	1	Outside unit inverter CT under-current error	Compressor turned off due to master outside unit inverter CT under-Current
	3	2	1	Outside unit inverter compressor dis-chrage temperature ove-rise	Compressor turned off due to master outside unit inverter comppressor discharge temperature over-rise Flow rate insufficiency or flow switch trouble of master outside unit
	3	4	1	Outside unit high pressure over-rise	Compressor turned off due to master outside unit high pressure over-rise Flow rate insufficiency or flow switch trouble of master outside unit
	3	5	1	Outside unit low pressure over-drop	Compressor turned off due to master outside unit low pressure over-drop
	3	6	1	Low pressure ratio	Pressure ratio is under limit
	3	9	1	Communication error between Outside unit PFC and inverter board	Outside unit inverter compressor current detection (CT) sensor disconnection or short circuit
	4	0	1	Outside unit inverter compressor CT sen-sor error	Outside unit inverter compressor current detection (CT) sensor disconnection or short circuit
	4	1	1	Outside unit inverter compressor dis-charge temperature sensor error	Outside unit inverter compressor discharge temperature sensor disconnection or short circuit
	4	2	1	Outside unit under-voltage sensor error	Outside unit under-vlotage sensor disconnection or short circuit
	4	3	1	Outside unit over-voltage sensor error	Outside unit over-vlotage sensor disconnection or short circuit
	4	4	1	Outside unit air temperature sensor error	Outside unit air temperature sensor disconnection or short circuit
	4	5	1	Outside Unit Heat Exchanger Temperature Sensor(A) Fault	Outside Unit Heat Exchanger Temperature Sensor(A) Open or Short
	4	6	1	Outside unit suction temperature sensor error	Outside unit suction temperature sensor disconnection or short circuit
	5	1	1	Over-capacity (Indoor unit capacity sum is excessive) connection	Excessive connection f indoor unit connection display value(Different from outside unit)
	5	2	1	Communication error with master outside unit inverter contrller	When the inverter controller signal is not received from the master outside unit inverter controller

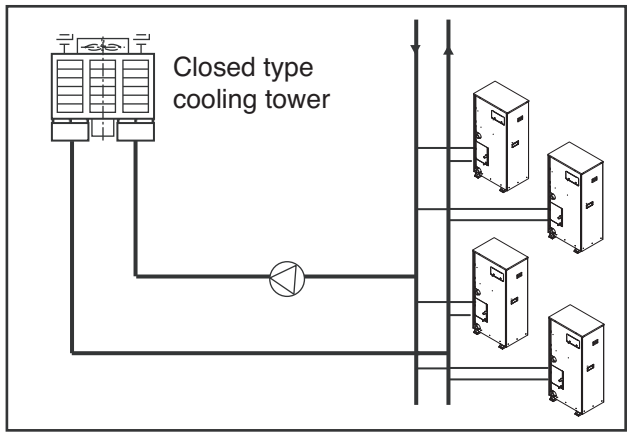
Display				Error item	Root cause of error
Outside unit	5	3	1	Communication error with master outside unit contrller and indoor unit	When the indoor uint control signal is not received from the master outside unit inverter controller
	5	7	1	Communication error between outside unit inverter controller	Failing to receive inverter contoroller signal at Outside Unit controller
	6	0	1	Outside unit inverter PCB EEPROM error	Outside unit inverter PCB EEPROM ACCESS error
	6	2	1	Outside unit inverter IGBT over-rise error	Outside unit inverter IGBT when the temperature rises above 110°C
	6	5	1	Outside unit inverter IGBT temperature sensor error	Outside unit inverter IGBT temperature sensor disconnection or short circuit
	7	0	1	Outside unit static speed CT sensor error	Outside unit static speed CT sensor disconnection or short circuit
	7	1	1	PFC CT Sensor Error of Outside Unit	Outside Unit PFC CT Sensor open or short
	7	3	1	Outside unit inverter PCB input instant over-current (Peak)	Outside unit inverter PCB input instant over-current (Peak) exceeded
	7	4	1	Outside unit inverter PCB phase imbalance	When the master outside unit inverter PCB input current is different
	8	6	1	Outside unit master PCB EEPROM error	Communication error between master outside unit master MICOM and EEPROM or EEPROM missing
	8	8	1	PFC PCB EEPROM error	Communication error between Outside unit PFC and EEPROM or EEPROM missing
	1	1	3	1	Outside unit liquid pipe temperature sensor error	Outside unit liquid pipe temperature sensor disconnection or short circuit
	1	5	1	1	Outside unit 4 way valve switch failure	Outside unit 4 way valve switch error
	1	8	0	1	Plate type heat exchanger freeze prevention	Plate type heat exchanger freeze prevention error
	1	8	1	1	Water temperature sensor error	Water temperature sensor open/short
	1	8	2	1	Communication error between MICOMs	Communication error between main MICOM and sub MICOM

■ **Refer to the troubleshooting guide of service technical manual for each error.**

11. Cooling tower applied method



[Open type cooling tower + Middle heat exchanger]
Heat exchanger is installed between the cooling tower and outside unit system piping, and the temperature difference between 1st side and 2nd side is maintained constantly



[Closed type cooling tower]
Heat source water of the cooling tower is supplied directly to the outside unit system.

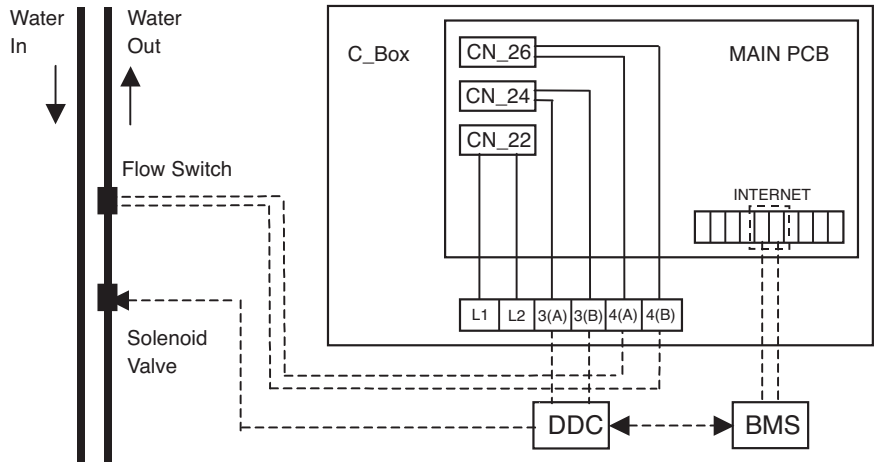
⚠CAUTION

When the open type cooling tower is used and the water supply is directly connected to the 2nd heat exchanger, product damage by alien particle cannot be repaired for free.

- Always use the 2nd heat exchanger.

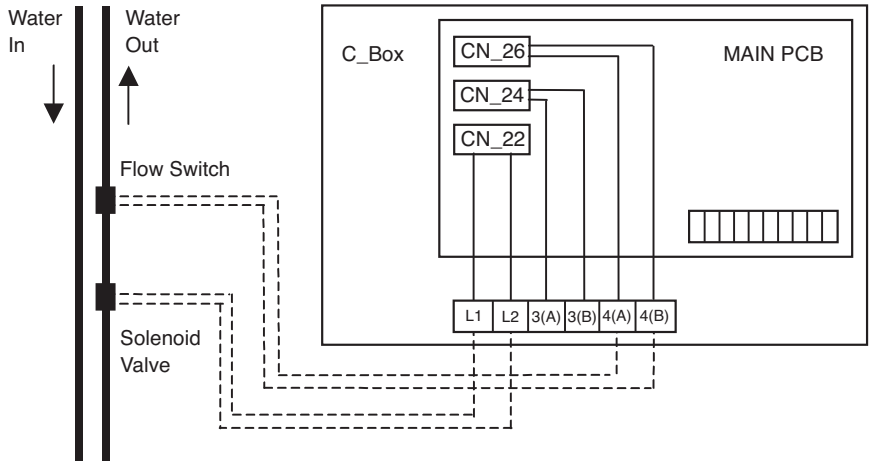
12. Water Solenoid Valve Control

12.1 Central Control (Use DDC Port)



❊ BMS : Building Management System

12.2 Individual Control (Use 220V Out Port)



Set the dip switch refer to Fig.1 and turn on the power when you individual control for water solenoid valve control.

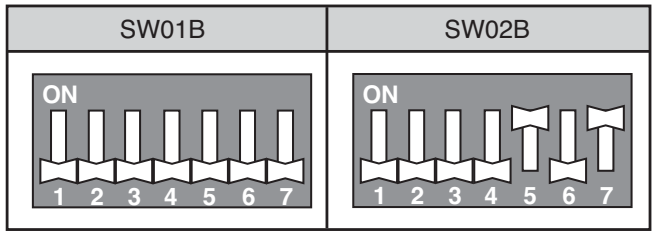
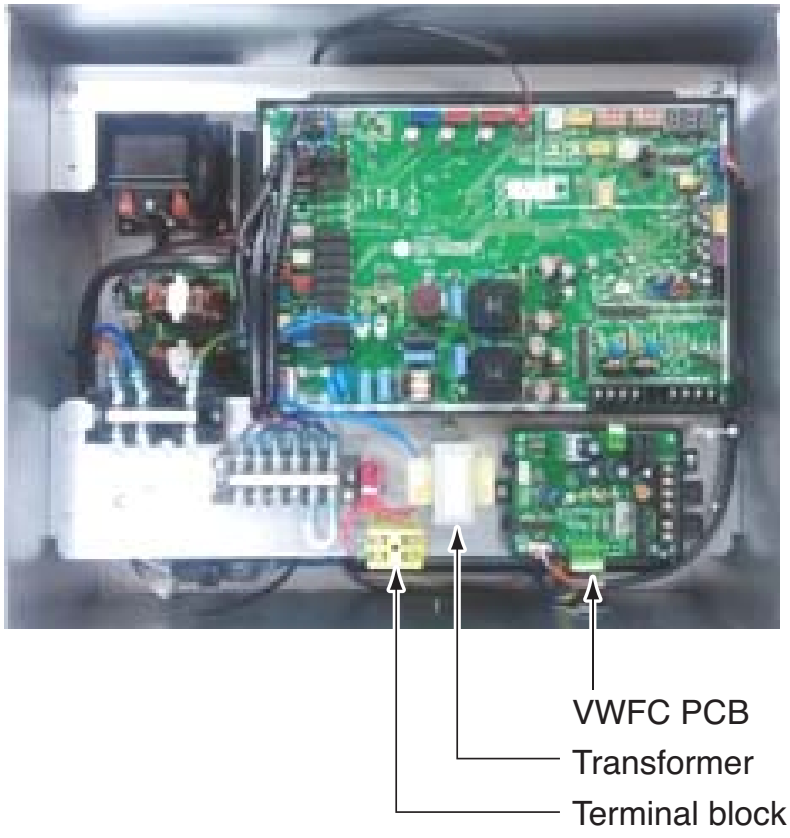


Fig.1

13. Variable Water Flow Control KIT(Accessory)

13.1 Installation Method

1. Shut off the main power line of outside unit.
2. Install the VWFC(Variable Water Flow Control) PCB in the C/BOX by using screws.
3. Install the transformer in the C/BOX by using screws.
4. Install the terminal block in the C/BOX by using screws.
5. Connect the Main PCB(CN41) to VWFC(CN_OUT) by using the cable assy.
6. Connect the blue wire of transformer to the Main PCB (JIG1(L), JIG2(N)).
7. Connect the red wire of transformer to the terminal block (2Pin Yellow terminal block).
8. Connect a power cable (DC 12V) to CN_PWR(12V, GND) of VWFC.
9. Connect a signal cable (DC 0~10V) of water flow control valve to CN_AO(AO_01(A+), GND(A-)) of VWFC.
10. Case of two water flow control valve, Connect a signal cable (DC 0~10V) of water flow control valve to CN_AO(AO_02(B+), GND(B-)) of VWFC.
11. Connect a power cable (AC 24V) of water flow control valve to the terminal block (2Pin Yellow terminal block, Max current 0.42A).
12. Connect the RS-485 communication cable to CN_COMM(BUS_A, BUS_B) of VWFC
13. Set up the main function Dip S/W of VWFC PCB.
14. Set up the Dip SW of outside main PCB.
15. Turn on the main power line of outside unit.
16. Check the signal of water flow control valve to CN_AO(AO_01, GND) of VWFC and the water flow rate.



⚠CAUTION

1. Install the product on flat surface and screw at least 2 places. Otherwise the VWFC PCB may not be anchored properly.
2. Do not deform the case at random. It may cause malfunction of the Variable Water Flow Control PCB
3. This is a class A product. In a non-industrial environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

MULTI V™ WATER S

Special Guide

1. Cautions for Refrigerant Leaks

1. Caution For Refrigerant Leaks

The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.

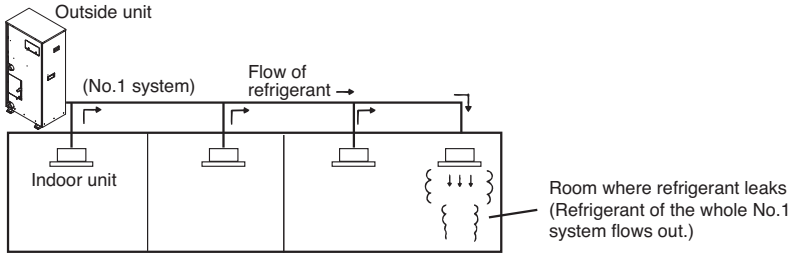
1.1 Introduction

Though the R410A refrigerant is harmless and incombustible itself , the room to equip the air conditioner should be large enough to such an extent that the refrigerant gas will not exceed the limiting concentration even if the refrigerant gas leaks in the room.

■ Limiting concentration

Limiting concentration is the limit of Freon gas concentration where immediate measures can be taken without hurting human body when refrigerant leaks in the air. The limiting concentration shall be described in the unit of Kg/m³(lbs/ft³) (Freon gas weight per unit air volume) for facilitating calculation.

Limiting concentration: 0.44kg/m³(0.028(lbs/ft³))(R410A)



1.2 Checking procedure of limiting concentration

Check limiting concentration along following steps and take appropriate measure depending on the situation.

1.2.1 Calculate amount of all the replenished refrigerant (kg(lbs)) per each refrigerant system.

Amount of replenished refrigerant per one outside unit system + Amount of additional replenished refrigerant = Total amount of replenished refrigerant in refrigerant facility (kg(lbs))

Amount of replenished refrigerant at factory shipment

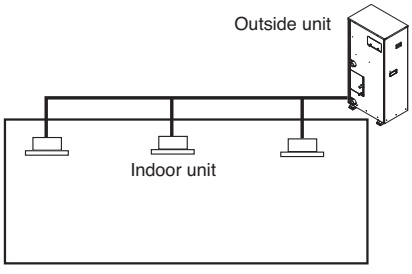
Amount of additionally replenished refrigerant depending on piping length or piping diameter at customer

Note : In case one refrigerant facility is divided into 2 or more refrigerant systems and each system is independent, amount of replenished refrigerant of each system shall be adopted.

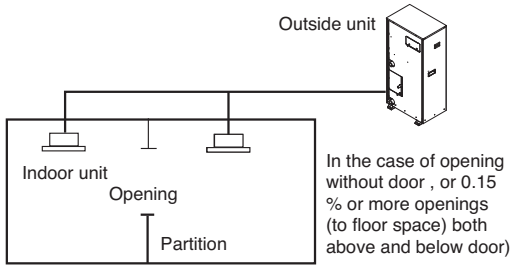
1.2.2 Calculate minimum room capacity

Calculate room capacity by regarding a portion as one room or the smaller room.

(1) Without partition

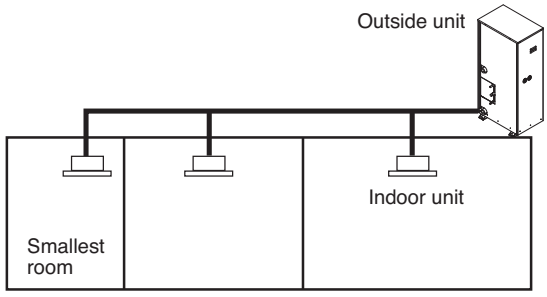


(2) With partition and with opening which serve as passage of air to adjoining room



1. Caution For Refrigerant Leaks

(3) With partition and without opening which serve as passage of air to adjoining room



1.2.3 Calculate refrigerant concentration

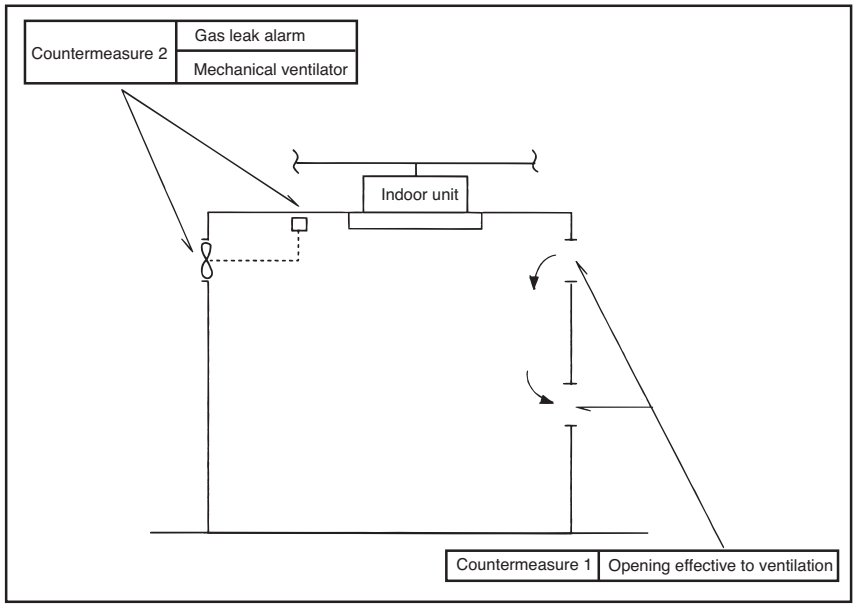
$$\frac{\text{Total amount of replenished refrigerant in refrigerant facility (kg(lbs))}}{\text{Capacity of smallest room where indoor unit is installed (ft}^3\text{)}} \leq \text{Refrigerant concentration (lbs/ft}^3\text{) (R410A)}$$

In case the result of calculation exceeds the limiting concentration, perform the same calculations by shifting to the second smallest, and the third smallest rooms until at last the result is below the limiting concentration.

1.2.4 In case the concentration exceeds the limit

When the concentration exceeds the limit, change original plan or take one of the counter measure shown below:

- **Counter measure 1**
  Provide opening for ventilation.
  Provide 0.15% or more opening to floor space both above and below door, or provide opening without door.
- **Counter measure 2**
  Provide gas leak alarm linked with mechanical ventilator.



Pay special attention to the place, such as a basement, etc. where refrigerant can be present, since refrigerant is heavier than air.

LG
Life's Good

P/No.: MFL61741624

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