

38MG(R/H)B

Multi-zone Heat Pump Outdoor Unit Ductless System

Sizes 18R, 24HH, 30HH, 36R, 36HH, 48R, 48HH



Turn to the experts

Product Data

INDUSTRY LEADING FEATURES / BENEFITS

A competitively priced and creative solution to design problems.

The **38MG(R/H)B** ductless inverter driven multi-zone system provides individual comfort control for up to 5 separate zones. Match two, three, four or even five space-saving **High Wall, Cassette, Slim Ducted, Air Handler units** or **Floor Console** fan coils with one outdoor heat pump. The indoor fan coils are connected to the outdoor unit by refrigerant tubing and wires.

Mount different indoor unit styles in several locations to accommodate the application. This selection of fan coils permits inexpensive and creative solutions to design problems such as:

- Adding air conditioning to spaces that are heated by hydronic or electric heat and have no ductwork
- Historical renovations or any application where preserving the look of the original structure is essential
- Commercial add-on jobs where the existing air conditioning system cannot be stretched.

These compact indoor fan coil units take up very little space in the room and do not obstruct windows. The fan coils are attractively styled to blend with most room decors. Advanced system components incorporate innovative technology to provide reliable cooling and heating performance at low sound levels.

TABLE OF CONTENTS

	PAGE
INDUSTRY LEADING FEATURES / BENEFITS	1
MODEL NUMBER NOMENCLATURE.....	3
STANDARD FEATURES AND ACCESSORIES	4
DIMENSIONS	5
CLEARANCES	8
PHYSICAL DATA.....	9
PERFORMANCE.....	10
COOLING PERFORMANCE NON-DUCTED	11
HEATING PERFORMANCE NON-DUCTED	13
COOLING PERFORMANCE DUCTED	15
HEATING PERFORMANCE DUCTED	17
COOLING PERFORMANCE MIXED DUCTED/NON-DUCTED.....	19
HEATING PERFORMANCE MIXED DUCTED/NON-DUCTED.....	21
APPLICATION DATA	23
UNIT MOUNTING (OUTDOOR).....	36
WIRING	36
PIPING REQUIREMENTS.....	37
FAN AND MOTOR SPECIFICATIONS	40
ELECTRICAL DATA.....	40
WIRING DIAGRAMS.....	41
GUIDE SPECIFICATIONS	49



Fig. 1 — Size 18K



Fig. 2 — Sizes 24K HH, 30K HH, 36K



Fig. 3 — Sizes 36K HH, 48K, 48K HH

NOTE: Images are for illustration purposes only. Actual models may differ slightly.

Inverter Technology

The inverter driven compressor is designed to run at various input power frequencies (Hz) which controls the compressor's motor speed.

Even Temperature – The control package, including the inverter, monitors the outdoor and indoor temperatures as they relate to the selected indoor set point and adjusts the compressor speed to match the load and keep the system operating continuously rather than cycling and creating temperature swings. This translates to higher comfort levels for the occupants.

Rapid Pull Down/Warm-Up – Comfort is increased by the inverter system's ability to ramp up the compressor speed enabling the system to reach the user selected room temperature set point quicker.

Humidity Control – Running the system for longer periods and continuously changing the compressor speed enhances the humidity control.

Individual Room Comfort

Maximum comfort is provided because each space can be controlled individually based on the usage pattern.

Low Sound Levels

When noise is a concern, ductless systems are the answer. The indoor units are whisper quiet. There are no compressors indoors, either in the conditioned space or directly over it, and there is none of the noise usually generated by air being forced through the ductwork.

When sound ordinances and proximity to neighbors demand quiet operation, the **38MG(R/H)B** unit is the right choice. With the inverter technology, these units run at lower speeds, most of the time resulting in reduced sound levels.

Inverter Technology – Enhanced Economical Operation

Ductless systems are inherently economical to operate. Individual rooms are heated or cooled only when required, and since the air is delivered directly to the space, there is no need to use additional energy to move the air in the ductwork. This economical operation is enhanced further when the inverter system output matches the load resulting in a more efficient system.

Easy-To-Use Controls

The multi-zone systems have microprocessor-based controls to provide the ultimate in comfort and efficiency. The user friendly wired and wireless remote controls provide an interface between the user and the unit.

Secure Operation

If security is an issue, outdoor and indoor units are connected only by refrigerant piping and wiring to prevent intruders from crawling through ductwork or wall openings. Since the **38MG(R/H)B** can be installed close to an outside wall, coils are protected from vandals and severe weather.

Fast Installation

This compact ductless system is simple to install. A mounting bracket is included with the indoor units and only wires and piping need to run between the indoor and outdoor units. These units are fast and easy to install ensuring minimal disruption to customers in homes or the workplace. This makes **38MG(R/H)B** systems the equipment of choice for retrofit applications.

Simple Servicing and Maintenance

Removing the top panel of the outdoor unit provides immediate access to the control compartment, providing the service technician access to the diagnostic LEDs to facilitate the troubleshooting process. In addition, the draw-thru design of the outdoor unit means that dirt accumulates on the outside surface of the coil. Coils can be cleaned quickly from the inside using a pressure hose and detergent.

On the indoor units, service and maintenance expense is reduced due to the permanent easy to clean filters. Also, error codes appear on the front panel to alert the user to certain system malfunctions.

Built-in Reliability

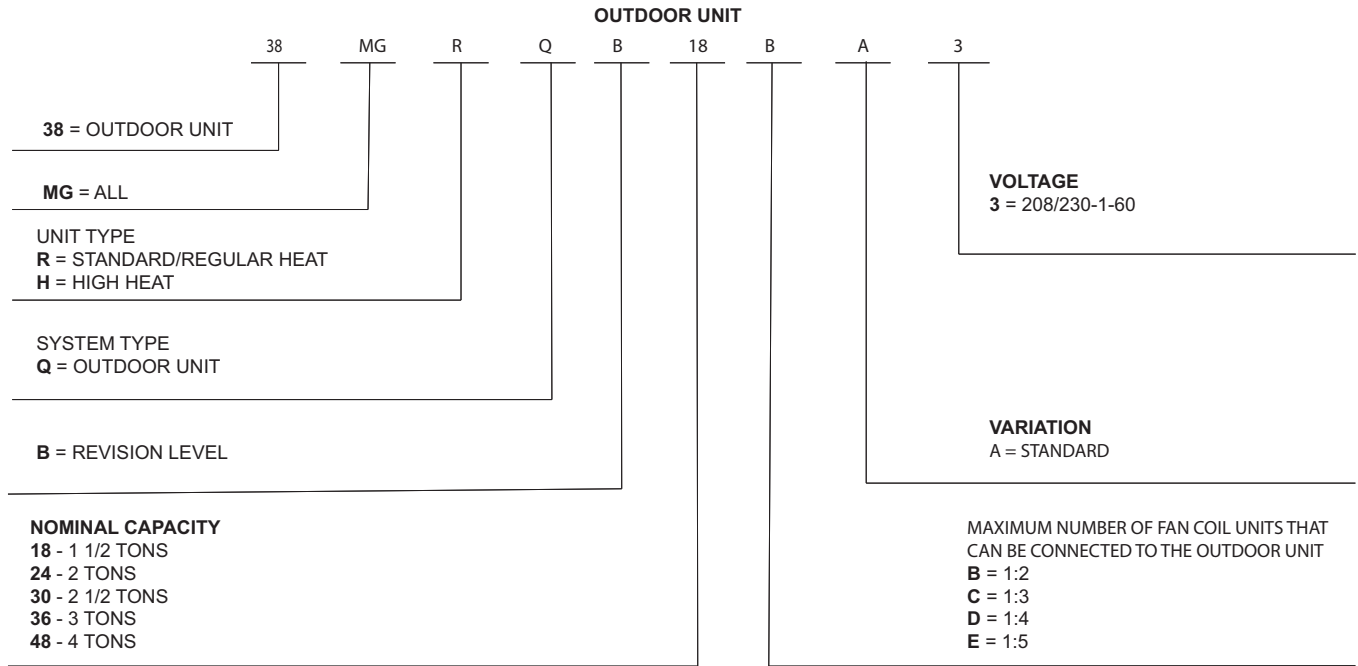
Ductless system indoor and outdoor units are designed to provide years of trouble-free operation. Both the indoor and outdoor units are well protected. Whenever the microprocessor detects abnormal conditions, the unit stops and an error code appears.

Inverter systems provide additional reliability due to the soft start. This refers to the ability of the inverter to start the compressor motor using reduced voltage and reduced current. This feature is beneficial from an electrical standpoint (eliminates current spikes) as well as an overall reliability standpoint due to reduced stress on all associated system components.

Agency Listings

All systems are listed with AHRI (Air conditioning, Heating, and Refrigeration Institute) and are UL/ETL certified per UL 60335-2-40 standard.

MODEL NUMBER NOMENCLATURE



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program For verification of certification for individual products, go to www.ahridirectory.org.



STANDARD FEATURES AND ACCESSORIES

Ease Of Installation	
Low Voltage Controls	S
Comfort Features	
Microprocessor Control	S
Auto Restart Function	S
Auto Changeover	S
Low Ambient Cooling	S
Low Ambient Heating	S
Energy Saving Features	
Inverter Driven Compressor	S
46° F Heating Mode (Heating Setback)	S
Safety And Reliability	
3 Minute Time Delay For Compressor	S
High Compressor Discharge Temperature	S
Low Voltage Protection	S
Compressor Overload Protection	S
Compressor Over Current Protection	S
IPM Module Protection	S
Aluminum Golden Hydrophilic pre-coated fins	S
Ease Of Service And Maintenance	
Diagnostics	S
Error Messages Displayed On Front Panel	S
Application Flexibility	
Crankcase Heater	S
Base pan Heater	S

Outdoor Units

Crankcase Heater

The crankcase heater is standard on all unit sizes. Heater clamps must be placed around the compressor oil stump.

Base pan Heater

The base pan heater is standard on all unit sizes.

Legend

S - Standard

A - Accessory

ACCESSORIES

Outdoor Unit Model Number	Sizes	Base Pan Base Rubber Plugs RCD Part No.	Qty. per Unit
38MGRBQ18BA3	18K (18R)	12600801A00077	25
38MGHBQ24CA3 38MGHBQ30DA3 38MGRBQ36DA3	24K (24HH) 30K (30HH) 36K (36R)	12600801A00117	5
38MGHBQ36DA3 38MGRBQ48EA3 38MGHBQ48EA3	36K (36HH) 48K (48R) 48K (48HH)	12600801A00118	5

NOTE: The basepan is built in with multiple holes for proper draining during defrost. For applications where it is required to seal these holes, and re-direct the condensate drain, rubber plugs are available through RCD.

DIMENSIONS

SYSTEM SIZE		18K	24K HIGH HEAT	30K HIGH HEAT	36K	36K HIGH HEAT	48K	48K HIGH HEAT
		(208/230 V)	(208/230 V)	(208/230 V)	(208/230 V)	(208/230 V)	(208/230 V)	(208/230 V)
Height (H)	in (mm)	26.50(673)	31.89(810)	31.89(810)	31.89(810)	52.48(1333)	52.48(1333)	52.48(1333)
Width (W)	in (mm)	35.04(890)	37.24(946)	37.24(946)	37.24(946)	37.48(952)	37.48(952)	37.48(952)
Depth (D)	in (mm)	13.46(342)	16.14(410)	16.14(410)	16.14(410)	16.34(415)	16.34(415)	16.34(415)
Weight - Net	lbs. (kg)	100.31(45.5)	139.77(63.4)	169.09(76.7)	169.09(76.7)	223.1(101.2)	225.5(102.3)	238.32(108.1)
PACKAGING								
Height	in (mm)	29.53(750)	34.84(885)	34.84(885)	34.84(885)	58.27(1480)	58.27(1480)	58.27(1480)
Width	in (mm)	40.55(1030)	42.91(1090)	42.91(1090)	42.91(1090)	43.11(1095)	43.11(1095)	43.11(1095)
Depth	in (mm)	17.24(438)	19.69(500)	19.69(500)	19.69(500)	19.49(495)	19.49(495)	19.49(495)
Weight-Gross	lbs. (kg)	108.69(49.3)	150.57(68.3)	181.44(82.3)	181.44(82.3)	254(115.2)	256.6(116.4)	269.84(122.4)
Carton Drawing No.	--	ZXW-1015*423*715S-NS(V4)	ZXW-1075*485*860S-NS(V4)	ZXW-1075*485*860S-NS(V4)	ZXW-1075*485*860S-NS(V4)	ZXW-1080*480*1365S-NS1	ZXW-1080*480*1365S-NS1	ZXW-1080*480*1365S-NS1
Carton Material	--	Corrugated fiber board						
Material Thickness	in (mm)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)

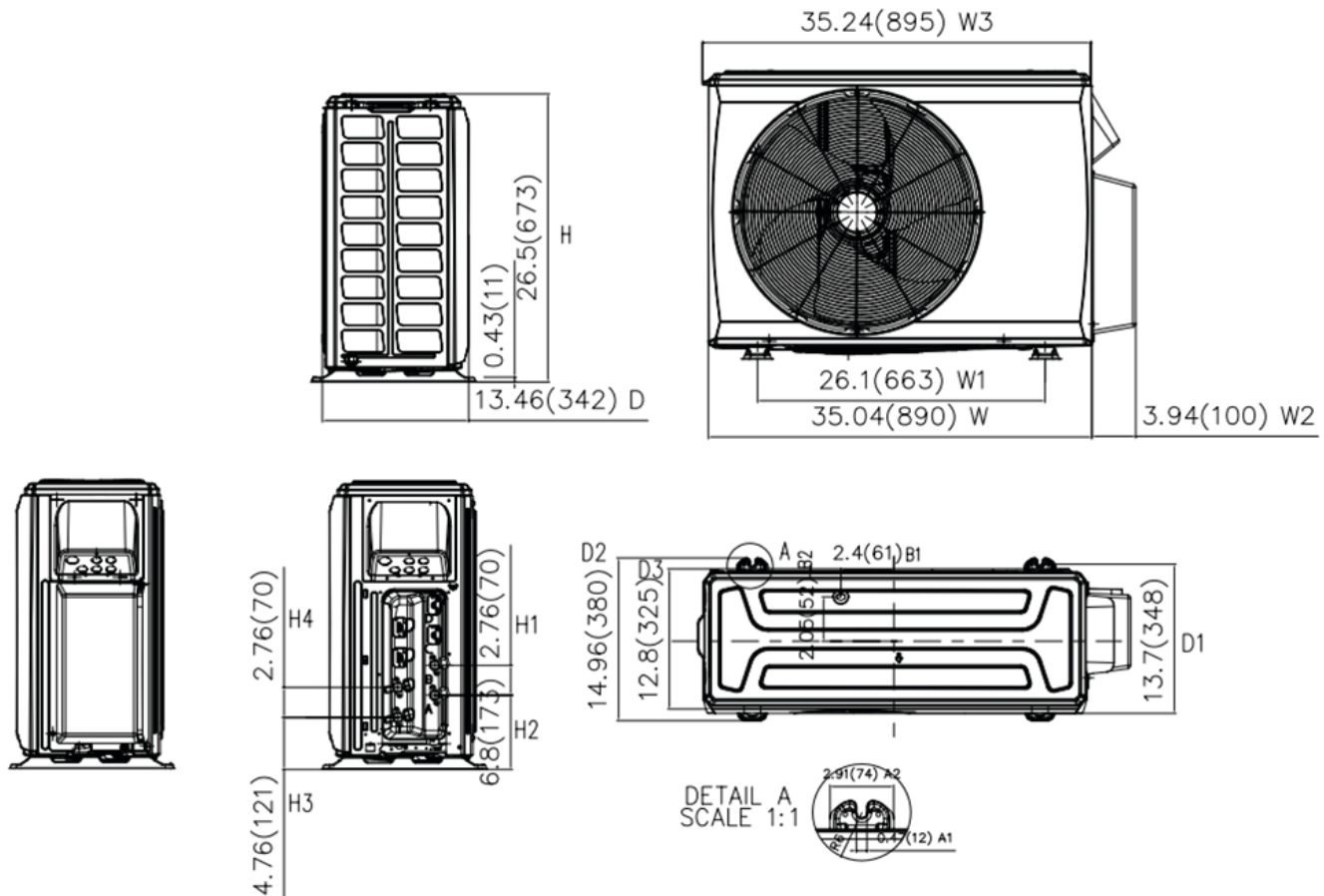


Fig. 4 — Outdoor Dimensions Size 18K (18R Standard)

NOTE: Master valves are not available on the 18K unit.

DIMENSIONS (CONT)

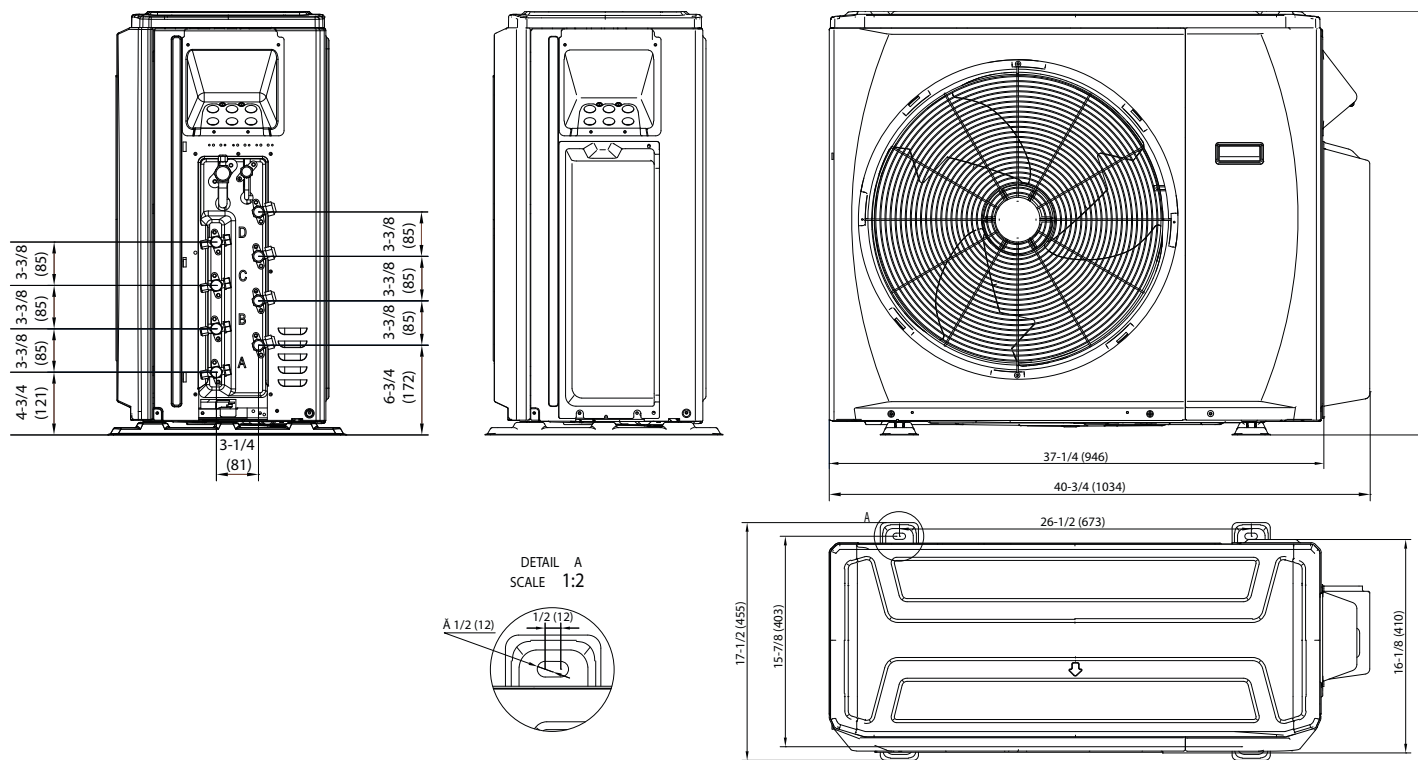


Fig. 5 — Outdoor Dimensions Size 24K (24R Standard), 30HH (30 High Heat), and 36K (36R Standard)

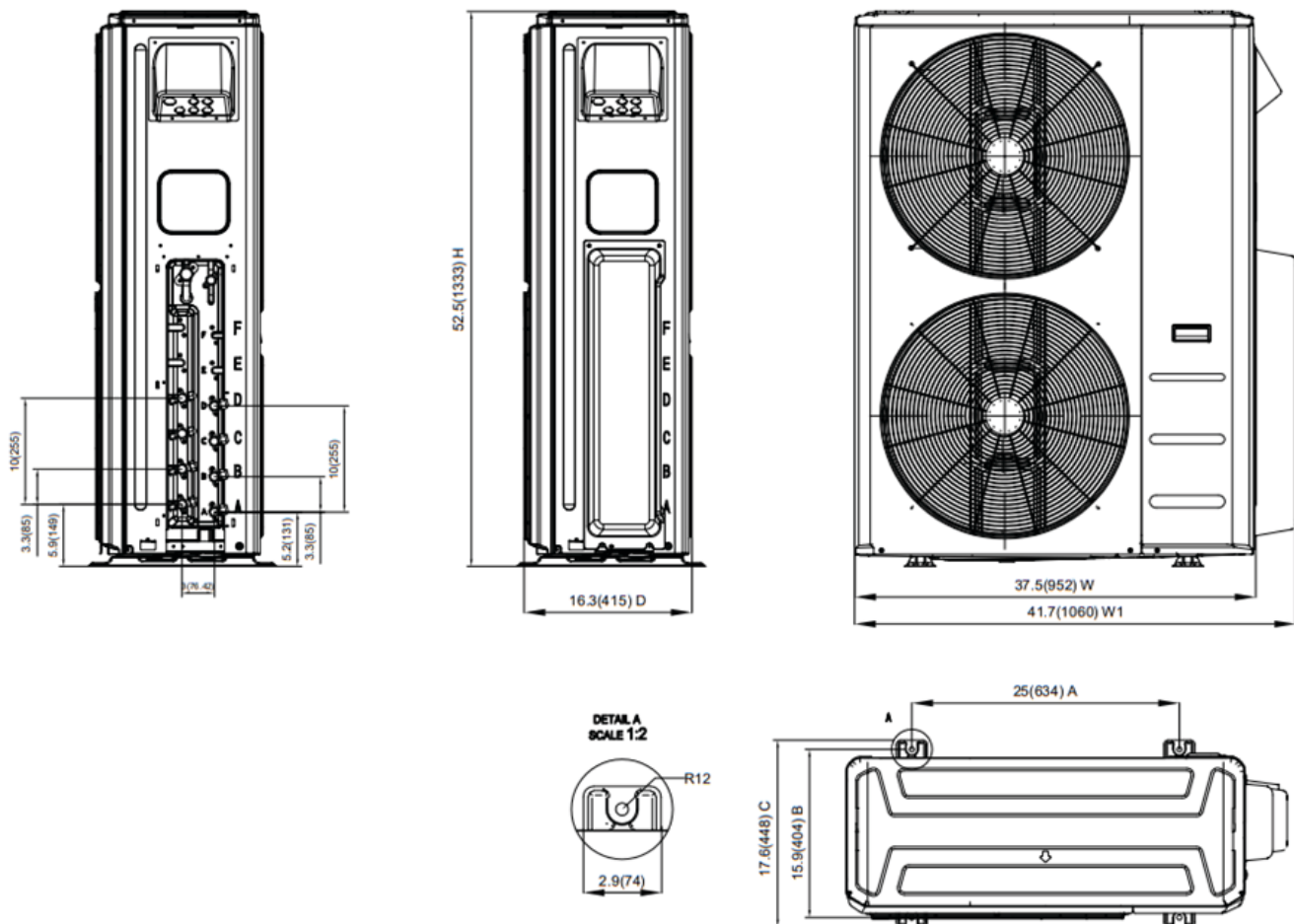


Fig. 6 — Outdoor Dimensions Size 36HH (36 High Heat)

DIMENSIONS (CONT)

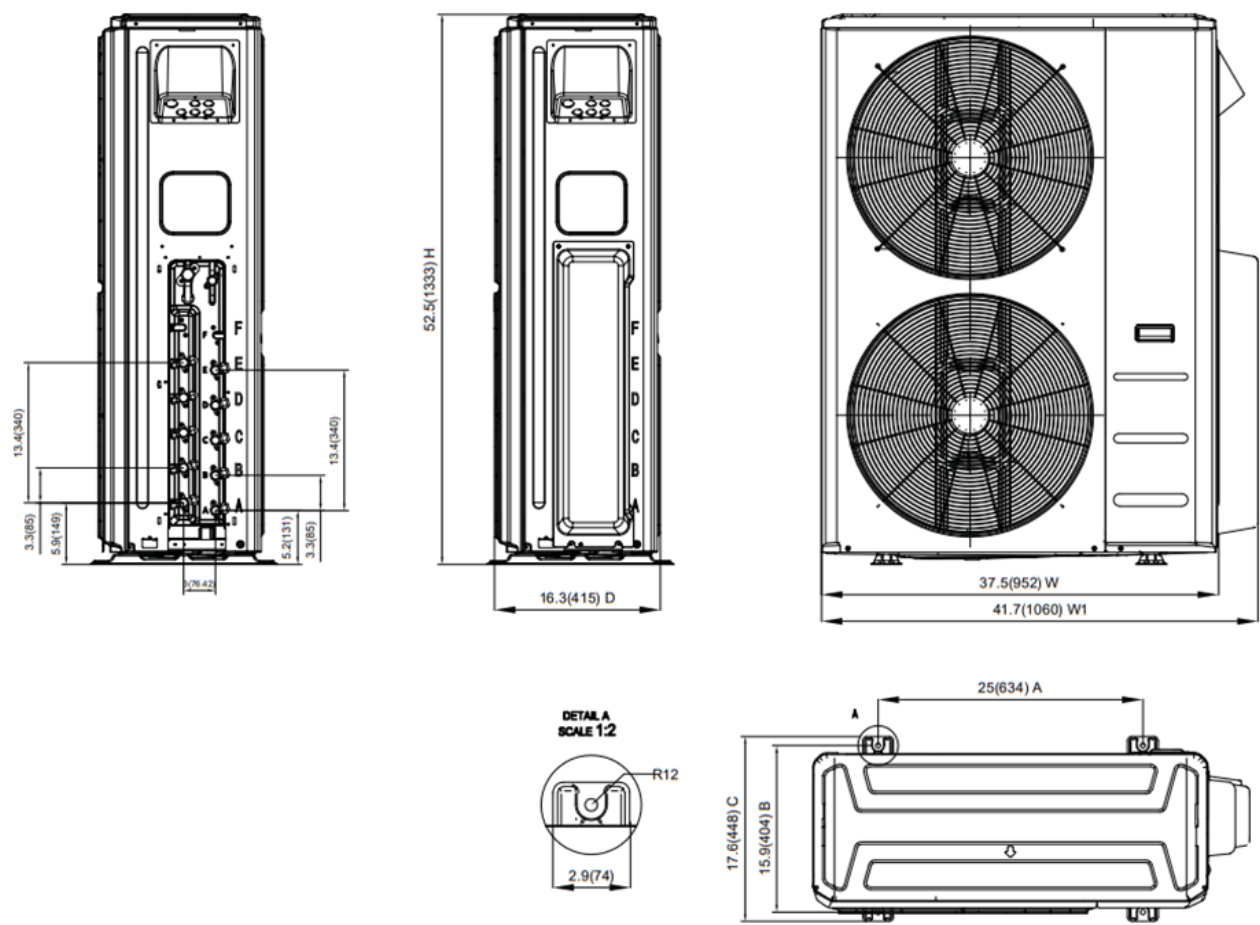


Fig. 7 — Outdoor Dimensions Size 48K and 48HH (48 Standard and High Heat)

CLEARANCES

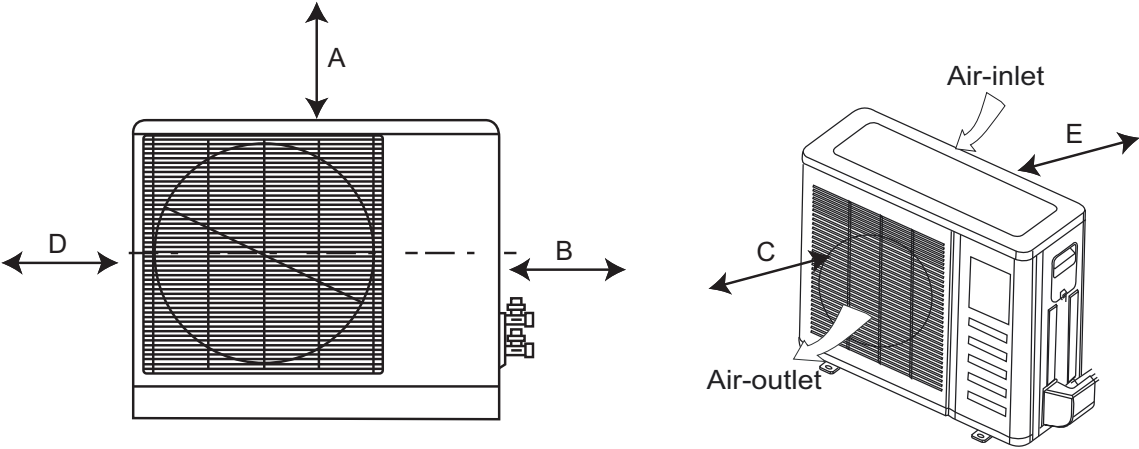


Fig. 8 — Clearances

UNIT	MINIMUM VALUE in. (mm)
A	24 (609)
B	24 (609)
C	24 (609)
D	4 (101)
E	6 (152)

NOTE: The outdoor unit must be mounted at least 2in (50mm) above the maximum anticipated snow depth.

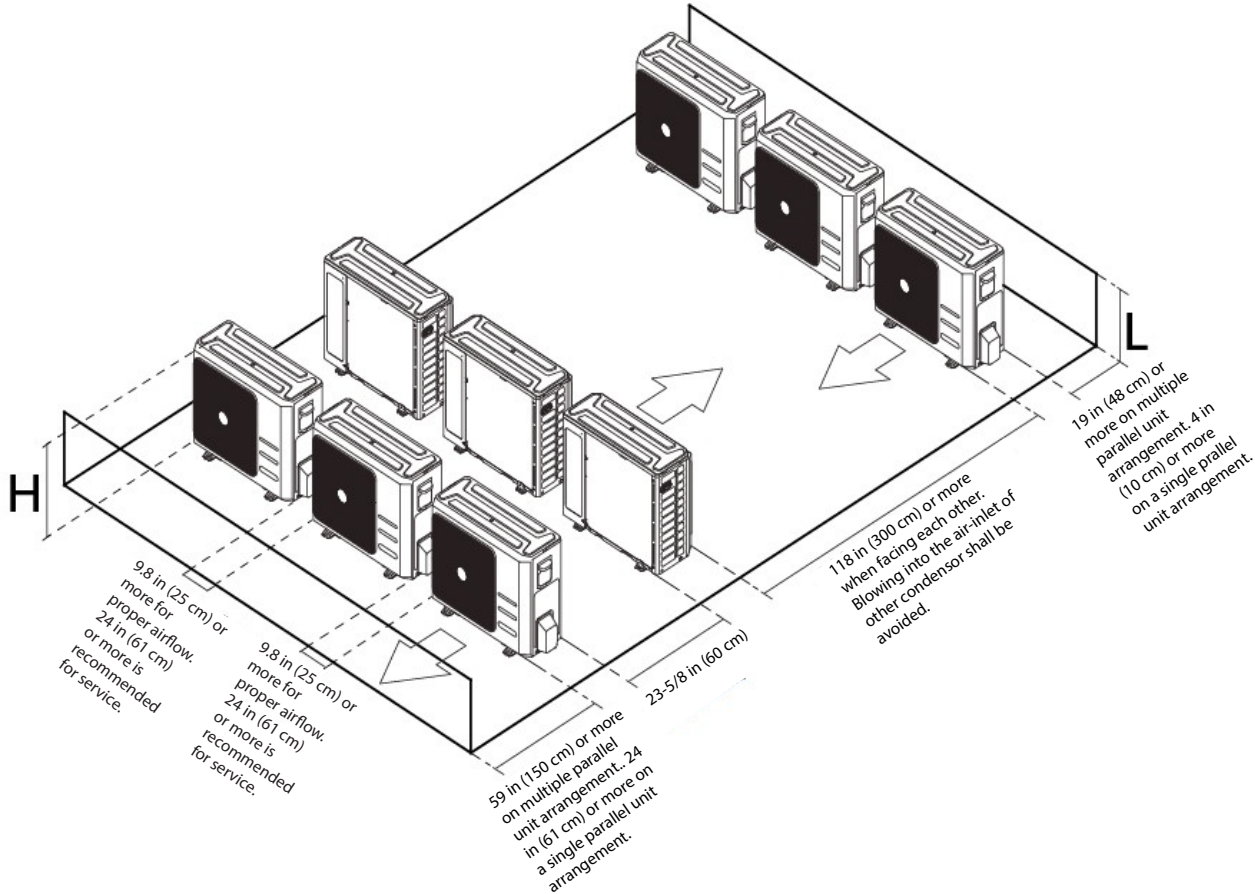


Fig. 9 — Clearances for multiple units

PHYSICAL DATA

SYSTEM	SIZE		18R	24HH	30HH	36R	36HH	48R	48HH
	Max Zone Number		2	3	4	4	4	5	5
OPERATING RANGE	Cooling Outdoor DB Min - Max	°F(°C)	-22~122 (-30~50)						
	Heating Outdoor DB Min - Max	°F(°C)	-22~75 (-30~24)						
PIPING	Total Piping Length	ft (m)	131 (40)	197 (60)	262 (80)	262 (80)	262 (80)	328 (100)	328 (100)
	Piping to furthest FCU	ft (m)	82 (25)	98 (30)	115 (35)	115 (35)	115 (35)	115 (35)	115 (35)
	Drop (OD above ID)	ft (m)	49 (15)	49 (15)	49 (15)	49 (15)	65 (20)	65 (20)	65 (20)
	Lift (OD below ID)	ft (m)	49 (15)	49 (15)	49 (15)	49 (15)	65 (20)	65 (20)	65 (20)
	Pipe Connection Size - Liquid	in (mm)	1/4*2 (6.35*2)	1/4*3 (6.35*3)	1/4*4 (6.35*4)	1/4*4 (6.35*4)	1/4*4 (6.35*4)	1/4*5 (6.35*5)	1/4*5 (6.35*5)
	Pipe Connection Size - Suction	in (mm)	3/8*2 (9.52*2)	3/8*3 (9.52*3)	1/2 *1+ 3/8*3 (12.7*1+9.52*3)		1/2 *2+ 3/8*2 (12.7*2+9.52*2)		1/2 *2+ 3/8*3 (12.7*2+9.52*3)
REFRIGERANT	Type		R410A						
	Charge	lbs (kg)	4.08 (1.85)	5.73 (2.6)	8.38 (3.8)	8.38 (3.8)	10.14 (4.6)	10.14 (4.6)	10.14 (4.6)
	Metering Device		EXV						
ELECTRICAL	Voltage, Phase, Cycle	V/Ph/Hz	208/230-1-60						
	Power Supply		Indoor unit powered from outdoor unit						
	MCA	A.	18	24.5	25	25	40	40	40
	Recommended Fuse Size	A.	20	25	30	30	45	45	45
	MOPA - Fuse Rating	A.	25	30	40	40	60	60	60
COMPRESSOR	Type		Rotary Inverter						
	Model		KTN150D30UFZA	KTM240D43UKT	KTF310D43UMT	KTF310D43UMT	ATQ360D1UMU	ATQ360D1UMU	EAPQ420D1U-MUA
	Oil Type		ESTER OIL VG74						
	Oil Charge	Fl. Oz.	15.2	21	33.8	33.8	47.4	47.4	49.4
	Rated Current	RLA	11	14	18	18	24	24	30
OUTDOOR	Unit Width	in (mm)	35.04 (890)	37.24 (946)	37.24 (946)	37.24 (946)	37.48 (952)	37.48 (952)	37.48 (952)
	Unit Height	in (mm)	26.50 (673)	31.89 (810)	31.89 (810)	31.89 (810)	52.48 (1333)	52.48 (1333)	52.48 (1333)
	Unit Depth	in (mm)	13.46 (342)	16.14 (410)	16.14 (410)	16.14 (410)	16.34 (415)	16.34 (415)	16.34 (415)
	Net Weight	lbs (kg)	100.31 (45.5)	139.77 (63.4)	169.09 (76.7)	169.09 (76.7)	223.1 (101.2)	225.5 (102.3)	238.32 (108.1)
	Airflow	CFM	1,765	2,129	2,147	2,147	4,500	4,500	4,500
	Sound Pressure	dB(A)	59	61	63	63	64	64	65

PERFORMANCE

SYSTEM	SIZE		18R	24HH	30HH	36R	36HH	48R	48HH
	Max Number of Zones		2	3	4	4	4	5	5
PERFORMANCE NON-DUCTED	Energy Star		YES	YES	YES	NO	YES	YES	NO
	Cooling System Tons		1.5	2.0	2.5	3.0	3.0	4.0	4.0
	Cooling Rated Capacity	Btu/h	18,000	24,000	30,000	36,000	36,000	48,000	48,000
	Cooling Cap. Range Min - Max	Btu/h	5,650~22,000	9,573~32,100	9,429~40,800	8,209~40,555	17,900~42,000	19,000~50,000	19,300~51,000
	SEER		22.5	24.1	25.0	23.0	21.8	22.4	21.5
	EER		13.3	13.1	12.5	11.5	13.6	12.5	11.6
	Heating Rated Capacity (47°F)	Btu/h	19,000	25,000	30,000	37,000	36,500	48,000	49,000
	Heating Rated Capacity (17°F)	Btu/h	11,000	16,300	17,500	23,500	23,200	29,600	30,000
	Heating Rated Capacity (5°F)	Btu/h	12,400	18,300	23,300	23,900	29,500	29,500	48,000
	Heating Maximum Capacity (5°F)	Btu/h	12,400	23,000	29,400	23,900	36,000	36,000	48,000
	Heating Cap. Range Min - Max	Btu/h	5,050~24,400	8,439~33,930	8,118~41,400	8,008~44,632	12,500~49,000	12,500~52,000	11,500~58,000
	HSPF		10.6	11.0	11.3	11.3	11.0	11.0	11.0
	COP (47°F)	W/W	3.92	4.10	3.81	3.61	3.85	3.60	3.59
	COP (17°F)	W/W	2.78	2.80	2.82	2.64	2.78	2.60	2.50
PERFORMANCE COMBINATION DUCTED AND NON-DUCTED	COP (5°F) - Rated	W/W	1.80	1.80	1.90	1.80	1.80	1.80	2.00
	COP (5°F) - Maximum	W/W	1.75	1.75	1.90	1.75	1.75	1.75	2.00
	Energy Star		YES	YES	NO	NO	YES	NO	NO
	Cooling System Tons		1.5	2.0	2.5	3.0	3.0	4.0	4.0
	Cooling Rated Capacity	Btu/h	18,000	24,000	30,000	36,000	36,000	48,000	48,000
	Cooling Cap. Range Min - Max	Btu/h	4,750~22,200	7,883~31,399	8,777~39,650	8,499~40,422	17,500~43,000	19,200~50,500	18,900~51,000
	SEER		20.8	22.6	22.4	21.3	20.4	21.5	20.9
	EER		12.7	12.8	12.1	11.3	12.5	11.3	11.5
	Heating Rated Capacity (47°F)	Btu/h	19,000	24,500	30,000	37,000	36,750	49,000	49,500
	Heating Rated Capacity (17°F)	Btu/h	11,350	15,650	17,900	23,250	23,100	29,300	29,000
	Heating Rated Capacity (5°F)	Btu/h	12,700	18,000	23,500	23,900	28,700	28,700	48,000
	Heating Maximum Capacity (5°F)	Btu/h	12,700	22,000	29,000	23,900	36,000	36,000	48,000
	Heating Cap. Range Min - Max	Btu/h	4,700~25,100	7,917~33,815	7,385~42,300	7,454~45,628	12,900~48,000	14,000~54,000	11,750~58,500
	HSPF		10.7	10.8	10.7	11.0	11.0	10.6	10.8
PERFORMANCE DUCTED	COP (47°F)	W/W	3.86	3.96	3.81	3.61	3.80	3.59	3.73
	COP (17°F)	W/W	2.78	2.85	2.79	2.64	2.65	2.61	2.48
	COP (5°F) - Rated	W/W	1.75	1.85	1.88	1.72	1.70	1.70	1.90
	COP (5°F) - Maximum	W/W	1.75	1.85	1.88	1.72	1.80	1.80	1.90
	Energy Star		NO	YES	NO	NO	NO	NO	NO
	Cooling System Tons		1.5	2.0	2.5	3.0	3.0	4.0	4.0
	Cooling Rated Capacity	Btu/h	18,000	24,000	30,000	36,000	36,000	48,000	48,000
	Cooling Cap. Range Min - Max	Btu/h	3,850~22,400	6,193~30,697	8,124~38,500	8,789~40,288	17,400~44,000	19,400~51,000	18,500~51,000
	SEER		19.0	21.1	19.8	19.5	19.0	20.5	20.2
	EER		12.0	12.5	11.6	11.0	11.3	10.1	11.4
	Heating Rated Capacity (47°F)	Btu/h	19,000	24,000	30,000	37,000	37,000	50,000	50,000
	Heating Rated Capacity (17°F)	Btu/h	11,700	15,000	18,300	23,000	23,000	29,000	28,000
	Heating Rated Capacity (5°F)	Btu/h	13,000	17,500	23,600	24,000	28,000	28,000	48,000
	Heating Maximum Capacity (5°F)	Btu/h	13,000	21,500	28,600	24,000	36,000	36,000	48,000
	Heating Cap. Range Min - Max	Btu/h	4,350~25,800	7,394~33,700	6,652~43,200	6,900~46,624	13,300~47,000	15,500~56,000	12,000~59,000
	HSPF		10.8	10.5	10.0	10.7	11.0	10.1	10.5
	COP (47°F)	W/W	3.80	3.81	3.81	3.60	3.74	3.57	3.86
	COP (17°F)	W/W	2.78	2.85	2.75	2.64	2.52	2.62	2.45
	COP (5°F) - Rated	W/W	1.75	1.95	1.85	1.68	1.70	1.70	1.85
	COP (5°F) - Maximum	W/W	1.75	1.95	1.85	1.68	1.80	1.80	1.85

NOTE: See the current compatibility chart for a list of the indoor and outdoor unit match ups.

COOLING PERFORMANCE NON-DUCTED

Cooling Performance Non-Ducted (Sheet 1 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions			(-22°F) (-25°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	47°F (8°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)	104°F (40°C)	113°F (45°C)	122°F (50°C)
	DB	WB														
18R	69.8°F (21°C)	59°F (15°C)	TC	14.45	15.87	17.04	17.28	17.67	19.49	18.27	16.07	16.31	19.79	14.72	9.66	9.66
			SC	11.93	13.10	14.07	14.21	14.55	16.05	15.50	14.53	14.56	16.35	13.62	9.66	9.66
			Input	6.92	6.33	5.74	5.50	5.13	4.38	1.14	0.92	1.18	1.94	1.50	1.36	1.36
	75.2°F (24°C)	62.6°F (17°C)	TC	14.83	16.24	17.42	17.66	18.05	19.87	18.65	16.45	16.68	20.17	15.10	10.04	10.04
			SC	12.78	14.00	15.01	15.22	15.55	17.12	16.08	14.17	14.38	17.39	13.02	8.65	8.65
			Input	6.93	6.34	5.76	5.51	5.14	4.39	1.16	0.93	1.19	1.96	1.51	1.38	1.38
	80.6°F (27°C)	66.2°F (19°C)	TC	15.44	16.85	18.02	18.27	18.65	20.47	19.26	17.05	17.29	20.78	15.71	10.65	10.65
			SC	13.80	15.06	16.11	16.33	16.67	18.30	17.21	15.24	15.45	18.57	14.04	9.52	9.52
			Input	6.95	6.36	5.77	5.53	5.16	4.41	1.18	0.95	1.21	1.98	1.53	1.40	1.40
	89.6°F (32°C)	73.4°F (23°C)	TC	16.75	18.17	19.34	19.58	19.97	21.79	20.57	18.37	18.61	22.09	17.02	11.96	11.96
			SC	15.04	16.31	17.37	17.59	17.93	19.57	18.48	16.50	16.71	19.84	15.29	10.74	10.74
			Input	6.99	6.40	5.81	5.57	5.20	4.45	1.22	0.99	1.25	2.02	1.57	1.44	1.44
24KHH	69.8°F (21°C)	59°F (15°C)	TC	27.85	28.50	29.10	29.35	29.55	29.33	30.36	28.76	30.15	28.60	23.06	15.10	15.10
			SC	21.95	22.46	22.93	22.98	22.93	23.15	23.28	22.58	23.26	22.53	19.81	15.10	15.10
			Input	1.37	1.42	1.47	1.49	1.52	1.58	1.64	1.81	2.02	2.81	2.35	2.36	2.36
	75.2°F (24°C)	62.6°F (17°C)	TC	28.79	29.43	30.04	30.28	30.49	30.26	31.29	29.69	31.08	29.53	23.99	16.03	16.03
			SC	24.05	24.59	25.09	25.30	25.47	25.28	26.14	24.80	25.97	24.67	20.04	13.39	13.39
			Input	1.30	1.35	1.39	1.41	1.44	1.50	1.57	1.74	1.94	2.73	2.27	2.29	2.29
	80.6°F (27°C)	66.2°F (19°C)	TC	30.51	31.16	31.76	32.00	32.21	31.98	33.01	31.41	32.81	31.25	25.71	17.75	17.75
			SC	26.20	26.76	27.28	27.49	27.66	27.47	28.35	26.98	28.18	26.84	22.08	15.25	15.25
			Input	1.40	1.44	1.49	1.51	1.54	1.60	1.66	1.83	2.04	2.83	2.37	2.38	2.38
	89.6°F (32°C)	73.4°F (23°C)	TC	34.80	35.45	36.05	36.30	36.50	36.27	37.30	35.70	37.10	35.54	30.00	22.04	22.04
			SC	29.20	29.75	30.25	30.46	30.63	30.44	31.30	29.96	31.13	29.83	25.18	18.50	18.50
			Input	1.75	1.79	1.84	1.86	1.89	1.95	2.01	2.18	2.39	3.18	2.72	2.73	2.73
30KHH	69.8°F (21°C)	59°F (15°C)	TC	30.76	33.06	31.12	36.82	41.82	36.49	38.80	37.80	33.63	35.45	26.89	19.69	19.69
			SC	24.07	25.87	24.35	28.40	32.35	28.28	29.39	28.84	26.82	27.74	23.66	19.69	19.69
			Input	5.05	4.52	3.99	3.72	3.51	2.74	2.31	3.20	2.86	3.94	3.25	3.09	3.09
	75.2°F (24°C)	62.6°F (17°C)	TC	30.41	32.71	30.77	36.47	41.47	36.14	38.45	37.45	33.28	35.10	26.54	19.34	19.34
			SC	25.88	27.85	26.19	31.04	35.30	30.77	32.73	31.88	28.33	29.88	22.59	16.46	16.46
			Input	4.67	4.14	3.61	3.34	3.13	2.36	1.93	2.82	2.48	3.56	2.87	2.71	2.71
	80.6°F (27°C)	66.2°F (19°C)	TC	31.77	34.07	32.13	37.83	42.83	37.50	39.81	38.81	34.64	36.46	27.90	20.70	20.70
			SC	28.32	30.37	28.64	33.72	38.18	33.43	35.49	34.60	30.88	32.50	24.87	18.45	18.45
			Input	4.63	4.10	3.57	3.30	3.09	2.32	1.89	2.77	2.44	3.52	2.83	2.67	2.67
	89.6°F (32°C)	73.4°F (23°C)	TC	35.51	37.82	35.87	41.57	46.58	41.25	43.56	42.56	38.39	40.20	31.65	24.45	24.45
			SC	31.96	34.04	32.29	37.42	41.92	37.13	39.20	38.31	34.55	36.19	28.48	22.00	22.00
			Input	4.73	4.20	3.67	3.40	3.20	2.42	1.99	2.88	2.54	3.62	2.93	2.77	2.77
36R	69.8°F (21°C)	59°F (15°C)	TC	30.76	33.06	31.12	36.82	41.82	36.49	38.80	37.80	33.63	35.45	26.89	19.69	19.69
			SC	24.07	25.87	24.35	28.40	32.35	28.28	29.39	28.84	26.82	27.74	23.66	19.69	19.69
			Input	5.05	4.52	3.99	3.72	3.51	2.74	2.31	3.20	2.86	3.94	3.25	3.09	3.09
	75.2°F (24°C)	62.6°F (17°C)	TC	30.41	32.71	30.77	36.47	41.47	36.14	38.45	37.45	33.28	35.10	26.54	19.34	19.34
			SC	25.88	27.85	26.19	31.04	35.30	30.77	32.73	31.88	28.33	29.88	22.59	16.46	16.46
			Input	4.67	4.14	3.61	3.34	3.13	2.36	1.93	2.82	2.48	3.56	2.87	2.71	2.71
	80.6°F (27°C)	66.2°F (19°C)	TC	31.77	34.07	32.13	37.83	42.83	37.50	39.81	38.81	34.64	36.46	27.90	20.70	20.70
			SC	28.32	30.37	28.64	33.72	38.18	33.43	35.49	34.60	30.88	32.50	24.87	18.45	18.45
			Input	4.63	4.10	3.57	3.30	3.09	2.32	1.89	2.77	2.44	3.52	2.83	2.67	2.67
	89.6°F (32°C)	73.4°F (23°C)	TC	35.51	37.82	35.87	41.57	46.58	41.25	43.56	42.56	38.39	40.20	31.65	24.45	24.45
			SC	31.96	34.04	32.29	37.42	41.92	37.13	39.20	38.31	34.55	36.19	28.48	22.00	22.00
			Input	4.73	4.20	3.67	3.40	3.20	2.42	1.99	2.88	2.54	3.62	2.93	2.77	2.77

Cooling Performance Non-Ducted (Sheet 2 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions			(-22°F) (-25°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	47°F (8°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)	104°F (40°C)	113°F (45°C)	122°F (50°C)
	DB	WB														
36HH	69.8°F (21°C)	59°F (15°C)	TC	34.47	35.38	35.64	36.82	37.82	36.49	38.80	37.80	37.63	35.45	26.89	15.85	15.85
			SC	26.98	27.69	27.89	28.40	28.35	28.28	29.39	28.84	29.82	27.74	23.66	15.85	15.85
			Input	2.00	2.17	2.34	2.42	2.51	2.74	2.31	3.20	2.86	3.24	3.25	3.29	3.29
	75.2°F (24°C)	62.6°F (17°C)	TC	34.12	35.03	35.29	36.47	37.47	36.14	38.45	37.45	37.28	35.10	26.54	15.50	15.50
			SC	29.04	29.82	30.04	31.04	31.90	30.77	32.73	31.88	31.74	29.88	22.59	13.19	13.19
			Input	2.44	2.61	2.78	2.86	2.95	3.18	2.75	3.63	3.30	3.68	3.69	3.73	3.73
	80.6°F (27°C)	66.2°F (19°C)	TC	35.48	36.39	36.65	37.83	38.83	37.50	39.81	38.81	38.64	36.46	27.90	16.86	16.86
			SC	31.63	32.44	32.67	33.72	34.61	33.43	35.49	34.60	34.44	32.50	24.87	15.03	15.03
			Input	2.75	2.92	3.09	3.17	3.26	3.49	3.06	3.94	3.61	3.99	4.00	4.04	4.04
	89.6°F (32°C)	73.4°F (23°C)	TC	39.23	40.14	40.40	41.57	42.58	41.25	43.56	42.56	42.39	40.20	31.65	20.61	20.61
			SC	35.31	36.13	36.36	37.42	38.32	37.13	39.20	38.31	38.15	36.19	28.48	18.55	18.55
			Input	3.44	3.61	3.78	3.86	3.95	4.17	3.75	4.63	4.30	4.68	4.69	4.73	4.73
48R	69.8°F (21°C)	59°F (15°C)	TC	39.49	40.30	40.58	41.28	41.93	41.79	41.56	39.83	39.41	35.85	30.66	23.11	23.11
			SC	34.80	35.52	35.77	34.87	35.05	36.73	37.46	33.18	32.70	31.60	26.13	17.72	17.72
			Input	2.13	2.22	2.31	2.37	2.38	2.53	2.44	2.55	3.08	3.26	3.90	3.47	3.47
	75.2°F (24°C)	62.6°F (17°C)	TC	46.54	47.35	47.63	48.33	48.98	48.84	48.61	46.88	46.46	42.90	37.71	30.16	30.16
			SC	39.54	40.24	40.48	41.07	41.62	41.50	41.31	39.84	39.48	36.46	32.05	25.63	25.63
			Input	2.88	2.97	3.06	3.11	3.12	3.27	3.18	3.29	3.82	4.00	4.64	4.21	4.21
	80.6°F (27°C)	66.2°F (19°C)	TC	53.42	54.23	54.51	55.21	55.86	55.72	55.49	53.76	53.34	49.78	44.59	37.04	37.04
			SC	42.48	43.13	43.35	43.91	44.42	44.31	44.13	42.75	42.42	39.59	35.46	29.46	29.46
			Input	3.68	3.77	3.86	3.92	3.93	4.08	3.99	4.10	4.63	4.81	5.45	5.02	5.02
	89.6°F (32°C)	73.4°F (23°C)	TC	65.88	66.70	66.98	67.68	68.33	68.19	67.96	66.23	65.81	62.25	57.06	49.51	49.51
			SC	44.69	45.24	45.43	45.90	46.34	46.25	46.09	44.92	44.63	42.22	38.70	33.58	33.58
			Input	5.11	5.20	5.29	5.35	5.36	5.51	5.42	5.53	6.06	6.24	6.88	6.45	6.45
48 HH	69.8°F (21°C)	59°F (15°C)	TC	37.00	36.88	36.48	37.28	37.74	34.39	37.56	35.83	35.41	32.35	26.25	23.11	23.11
			SC	30.43	30.33	30.00	29.87	30.05	27.93	33.46	28.18	27.70	26.60	24.07	17.72	17.72
			Input	2.39	2.09	1.80	1.60	1.61	1.09	1.26	2.39	2.88	2.89	2.70	3.47	3.47
	75.2°F (24°C)	62.6°F (17°C)	TC	48.65	48.53	48.13	48.93	49.39	46.04	49.21	47.48	47.06	44.00	37.90	30.16	30.16
			SC	40.92	40.82	40.48	41.15	41.54	38.73	41.39	39.93	39.58	37.01	31.87	25.63	25.63
			Input	3.28	2.98	2.69	2.49	2.50	1.98	2.15	3.28	3.77	3.78	3.59	4.21	4.21
	80.6°F (27°C)	66.2°F (19°C)	TC	57.38	57.27	56.86	57.66	58.12	54.78	57.95	56.21	55.80	52.73	46.63	37.04	37.04
			SC	47.80	47.70	47.36	48.03	48.41	45.63	48.27	46.82	46.47	43.92	38.84	29.46	29.46
			Input	4.15	3.85	3.56	3.36	3.37	2.85	3.02	4.15	4.64	4.65	4.46	5.02	5.02
	89.6°F (32°C)	73.4°F (23°C)	TC	72.14	72.02	71.62	72.42	72.88	69.53	72.70	70.97	70.55	67.49	61.39	49.51	49.51
			SC	55.80	55.71	55.39	56.01	56.37	53.78	56.23	54.89	54.57	52.20	47.48	33.58	33.58
			Input	5.59	5.30	5.01	4.81	4.82	4.30	4.47	5.59	6.09	6.09	5.91	6.45	6.45

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Capacity (1000 Btu/hour)

SC - Sensible Capacity (1000 Btu/hour)

Input - Total Power (kW)

HEATING PERFORMANCE NON-DUCTED

Heating Performance Non-Ducted (Sheet 1 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
18R	59°F (15°C)	TC	8.10	9.58	11.89	12.88	13.87	17.23	18.23	19.99	20.29	22.68	23.86	23.88
		Input	1.69	1.71	1.70	1.71	1.77	1.73	1.73	1.84	1.67	1.73	1.80	1.60
		COP	1.40	1.64	2.05	2.20	2.30	2.91	3.09	3.18	3.56	3.83	3.89	4.37
	64.4°F (18°C)	TC	8.39	9.87	12.18	13.17	14.16	17.52	18.52	20.28	20.58	22.97	24.15	24.17
		Input	1.75	1.77	1.76	1.77	1.83	1.79	1.79	1.90	1.73	1.79	1.86	1.66
		COP	1.41	1.63	2.03	2.18	2.27	2.86	3.03	3.12	3.48	3.75	3.81	4.26
	69°F (20.5°C)	TC	8.64	10.12	12.43	13.42	14.41	17.76	18.77	20.53	20.83	23.22	24.40	24.42
		Input	1.69	1.71	1.70	1.71	1.77	1.73	1.73	1.84	1.67	1.73	1.80	1.60
		COP	1.40	1.64	2.05	2.20	2.30	2.91	3.09	3.18	3.56	3.83	3.89	4.37
	71.6°F (22°C)	TC	7.87	9.36	11.66	12.65	13.64	17.00	18.01	19.76	20.06	22.45	23.63	23.65
		Input	1.83	1.85	1.84	1.85	1.91	1.87	1.87	1.98	1.81	1.87	1.94	1.74
		COP	1.26	1.48	1.86	2.00	2.09	2.66	2.82	2.92	3.25	3.51	3.58	3.98
24 HH	59°F (15°C)	TC	11.18	13.63	16.13	18.58	19.75	19.47	24.17	27.36	28.17	29.69	34.74	35.23
		Input	2.17	2.37	2.40	2.48	2.57	2.29	2.66	2.78	2.54	2.58	2.78	2.72
		COP	1.51	1.68	1.97	2.20	2.25	2.49	2.66	2.89	3.25	3.38	3.66	3.80
	64.4°F (18°C)	TC	11.75	14.20	16.70	19.15	20.32	20.04	24.74	27.93	28.74	30.27	35.32	35.80
		Input	2.28	2.48	2.51	2.59	2.68	2.40	2.77	2.89	2.65	2.68	2.89	2.83
		COP	1.51	1.68	1.95	2.17	2.22	2.45	2.62	2.84	3.18	3.30	3.58	3.71
	69°F (20.5°C)	TC	12.24	14.69	17.19	19.64	20.81	20.53	25.23	28.42	29.23	30.76	35.81	36.29
		Input	2.17	2.37	2.40	2.48	2.57	2.29	2.66	2.78	2.54	2.58	2.78	2.72
		COP	1.51	1.68	1.97	2.20	2.25	2.49	2.66	2.89	3.25	3.38	3.66	3.80
	71.6°F (22°C)	TC	9.69	12.14	14.64	17.09	18.26	17.98	22.68	25.87	26.68	28.21	33.26	33.74
		Input	2.42	2.62	2.65	2.73	2.83	2.54	2.92	3.03	2.79	2.83	3.03	2.97
		COP	1.17	1.36	1.62	1.83	1.89	2.07	2.28	2.50	2.80	2.92	3.21	3.33
30HH	59°F (15°C)	TC	12.76	16.61	20.41	21.63	26.08	31.52	29.84	35.60	34.70	40.11	44.37	50.33
		Input	4.01	3.98	3.78	3.86	4.15	3.88	3.82	4.31	3.68	3.64	3.87	4.06
		COP	0.93	1.22	1.58	1.64	1.84	2.38	2.29	2.42	2.77	3.23	3.36	3.64
	64.4°F (18°C)	TC	14.07	17.92	21.72	22.94	27.39	32.83	31.15	36.91	36.01	41.42	45.68	51.64
		Input	4.17	4.14	3.94	4.02	4.31	4.04	3.98	4.47	3.83	3.80	4.02	4.21
		COP	0.99	1.27	1.62	1.67	1.86	2.38	2.30	2.42	2.75	3.19	3.33	3.59
	69°F (20.5°C)	TC	15.19	19.04	22.83	24.06	28.51	33.94	32.27	38.02	37.13	42.53	46.79	52.76
		Input	4.01	3.98	3.78	3.86	4.15	3.88	3.82	4.31	3.68	3.64	3.87	4.06
		COP	0.93	1.22	1.58	1.64	1.84	2.38	2.29	2.42	2.77	3.23	3.36	3.64
	71.6°F (22°C)	TC	11.06	14.91	18.70	19.93	24.38	29.82	28.14	33.90	33.00	38.41	42.67	48.63
		Input	4.37	4.35	4.15	4.22	4.52	4.25	4.18	4.67	4.04	4.01	4.23	4.42
		COP	0.74	1.00	1.32	1.38	1.58	2.06	1.97	2.13	2.39	2.81	2.95	3.22
36R	59°F (15°C)	TC	12.76	16.61	20.41	21.63	26.08	31.52	29.84	35.60	34.70	40.11	44.37	50.33
		Input	4.01	3.98	3.78	3.86	4.15	3.88	3.82	4.31	3.68	3.64	3.87	4.06
		COP	0.93	1.22	1.58	1.64	1.84	2.38	2.29	2.42	2.77	3.23	3.36	3.64
	64.4°F (18°C)	TC	14.07	17.92	21.72	22.94	27.39	32.83	31.15	36.91	36.01	41.42	45.68	51.64
		Input	4.17	4.14	3.94	4.02	4.31	4.04	3.98	4.47	3.83	3.80	4.02	4.21
		COP	0.99	1.27	1.62	1.67	1.86	2.38	2.30	2.42	2.75	3.19	3.33	3.59
	69°F (20.5°C)	TC	15.19	19.04	22.83	24.06	28.51	33.94	32.27	38.02	37.13	42.53	46.79	52.76
		Input	4.01	3.98	3.78	3.86	4.15	3.88	3.82	4.31	3.68	3.64	3.87	4.06
		COP	0.93	1.22	1.58	1.64	1.84	2.38	2.29	2.42	2.77	3.23	3.36	3.64
	71.6°F (22°C)	TC	11.06	14.91	18.70	19.93	24.38	29.82	28.14	33.90	33.00	38.41	42.67	48.63
		Input	4.37	4.35	4.15	4.22	4.52	4.25	4.18	4.67	4.04	4.01	4.23	4.42
		COP	0.74	1.00	1.32	1.38	1.58	2.06	1.97	2.13	2.39	2.81	2.95	3.22

Heating Performance Non-Ducted (Sheet 2 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
36HH	59°F (15°C)	TC	16.76	20.61	25.41	26.63	31.08	33.52	32.84	35.60	34.70	40.11	44.37	50.33
		Input	4.01	4.28	4.70	4.86	5.52	4.87	4.93	4.31	3.68	3.64	3.87	4.06
		COP	1.22	1.41	1.58	1.61	1.65	2.02	1.95	2.42	2.77	3.23	3.36	3.64
	64.4°F (18°C)	TC	18.07	21.92	26.72	27.94	32.39	34.83	34.15	36.91	36.01	41.42	45.68	51.64
		Input	4.17	4.44	4.86	5.02	5.68	5.03	5.09	4.47	3.83	3.80	4.02	4.21
		COP	1.27	1.45	1.61	1.63	1.67	2.03	1.97	2.42	2.75	3.19	3.33	3.59
	69°F (20.5°C)	TC	19.19	23.04	27.84	29.06	33.51	35.95	35.27	38.02	37.13	42.53	46.79	52.76
		Input	4.01	4.28	4.70	4.86	5.52	4.87	4.93	4.31	3.68	3.64	3.87	4.06
		COP	1.22	1.41	1.58	1.61	1.65	2.02	1.95	2.42	2.77	3.23	3.36	3.64
	71.6°F (22°C)	TC	15.06	18.91	23.71	24.93	29.38	31.82	31.14	33.90	33.00	38.41	42.67	48.63
		Input	4.37	4.64	5.06	5.22	5.88	5.23	5.29	4.67	4.04	4.01	4.23	4.42
		COP	1.01	1.19	1.37	1.40	1.46	1.78	1.72	2.13	2.39	2.81	2.95	3.22
48R	59°F (15°C)	TC	18.02	24.05	29.46	35.06	36.10	35.90	37.69	38.38	39.33	44.14	46.53	57.00
		Input	4.15	4.73	4.95	5.01	5.10	5.18	5.54	5.24	4.48	4.53	4.47	4.54
		COP	1.27	1.49	1.74	2.05	2.08	2.03	1.99	2.15	2.57	2.86	3.05	3.68
	64.4°F (18°C)	TC	18.21	24.24	29.65	35.25	36.29	36.09	37.88	38.57	39.52	44.33	46.72	57.19
		Input	4.42	5.00	5.22	5.28	5.37	5.45	5.81	5.51	4.75	4.80	4.74	4.81
		COP	1.21	1.42	1.66	1.96	1.98	1.94	1.91	2.05	2.44	2.71	2.89	3.48
	69°F (20.5°C)	TC	18.37	24.40	29.81	35.41	36.45	36.25	38.04	38.73	39.68	44.49	46.88	57.35
		Input	4.15	4.73	4.95	5.01	5.10	5.18	5.54	5.24	4.48	4.53	4.47	4.54
		COP	1.27	1.49	1.74	2.05	2.08	2.03	1.99	2.15	2.57	2.86	3.05	3.68
	71.6°F (22°C)	TC	25.90	31.93	37.34	42.94	43.98	43.78	45.57	46.26	47.21	52.02	54.41	64.88
		Input	4.78	5.36	5.59	5.65	5.73	5.82	6.18	5.88	5.12	5.17	5.10	5.18
		COP	1.59	1.74	1.96	2.23	2.25	2.21	2.16	2.31	2.70	2.95	3.13	3.67
48HH	59°F (15°C)	TC	18.02	28.05	39.46	45.06	45.81	47.34	49.69	50.38	54.45	54.14	49.53	59.00
		Input	4.15	4.73	5.45	5.70	5.78	5.72	5.74	6.24	5.21	5.13	4.47	4.45
		COP	1.27	1.52	1.99	2.32	2.32	2.42	2.54	2.37	3.06	3.10	3.25	3.89
	64.4°F (18°C)	TC	18.14	28.16	39.58	45.18	45.93	47.46	49.81	50.50	54.57	54.26	49.65	59.12
		Input	4.36	4.95	5.67	5.92	5.99	5.94	5.96	6.46	5.43	5.34	4.68	4.66
		COP	1.22	1.67	2.05	2.24	2.25	2.34	2.45	2.29	2.95	2.98	3.11	3.72
	69°F (20.5°C)	TC	18.25	28.27	39.68	45.28	46.03	47.56	49.91	50.60	54.67	54.36	49.75	59.22
		Input	4.15	4.73	5.45	5.70	5.78	5.72	5.74	6.24	5.21	5.13	4.47	4.45
		COP	1.27	1.52	1.99	2.32	2.32	2.42	2.54	2.37	3.06	3.10	3.25	3.89
	71.6°F (22°C)	TC	24.64	34.66	46.08	51.67	52.43	53.96	56.31	56.99	61.07	60.76	56.14	65.62
		Input	4.65	5.23	5.96	6.21	6.28	6.22	6.25	6.75	5.71	5.63	4.97	4.95
		COP	1.55	1.94	2.27	2.44	2.45	2.54	2.64	2.48	3.13	3.16	3.31	3.88

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Heating Capacity (1000 Btu/hour)

Input - Total Power (kW)

COP - W/W

COOLING PERFORMANCE DUCTED

Cooling Performance Ducted (Sheet 1 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions DB	WB		(-22°F) (-25°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	47°F (8°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)	104°F (40°C)	113°F (45°C)	122°F (50°C)
18R	69.8°F (21°C)	59°F (15°C)	TC	15.33	15.87	16.21	16.50	16.80	17.10	17.17	16.57	14.71	15.25	10.45	10.02	9.07
			SC	11.96	12.38	12.64	14.05	13.65	13.60	13.56	12.53	12.11	11.90	9.74	9.48	9.07
			Input	4.49	4.51	4.52	4.52	4.56	4.56	4.57	4.55	3.89	1.38	1.13	1.35	1.48
	75.2°F (24°C)	62.6°F (17°C)	TC	17.38	17.92	18.26	18.55	18.85	19.15	19.22	18.62	16.76	17.30	12.50	12.07	11.12
			SC	14.24	14.68	14.96	15.20	15.44	15.69	15.75	15.26	13.74	14.18	10.24	9.89	9.11
			Input	4.80	4.82	4.83	4.83	4.87	4.87	4.88	4.85	4.20	1.69	1.44	1.66	1.79
	80.6°F (27°C)	66.2°F (19°C)	TC	19.49	20.03	20.38	20.66	20.96	21.26	21.34	20.74	18.88	19.42	14.62	14.18	13.24
			SC	16.20	16.65	16.93	17.17	17.42	17.67	17.73	17.23	15.69	16.13	12.15	11.78	11.00
			Input	5.11	5.12	5.14	5.14	5.18	5.18	5.19	5.16	4.51	2.00	1.74	1.97	2.10
	89.6°F (32°C)	73.4°F (23°C)	TC	23.46	24.00	24.34	24.63	24.93	25.23	25.31	24.70	22.84	23.38	18.58	18.15	17.20
			SC	19.59	20.04	20.33	20.57	20.82	21.07	21.14	20.63	19.08	19.53	15.52	15.16	14.37
			Input	5.63	5.64	5.66	5.66	5.70	5.70	5.71	5.68	5.03	2.52	2.26	2.49	2.62
24HH	69.8°F (21°C)	59°F (15°C)	TC	29.05	27.52	26.59	25.69	24.80	24.39	24.11	26.53	26.79	27.66	21.32	16.67	15.25
			SC	22.67	21.47	20.75	20.44	19.99	19.70	19.78	20.88	21.10	21.58	18.81	16.67	15.25
			Input	1.34	1.43	1.51	1.56	1.59	1.71	1.38	1.74	2.18	2.93	2.41	2.17	1.81
	75.2°F (24°C)	62.6°F (17°C)	TC	31.12	29.59	28.66	27.76	26.87	26.46	26.18	28.60	28.86	29.73	23.39	18.74	17.32
			SC	15.55	14.79	14.32	13.87	13.43	13.22	13.08	14.29	14.42	14.85	11.69	9.36	8.65
			Input	1.10	1.19	1.27	1.31	1.35	1.47	1.14	1.50	1.94	2.69	2.16	1.93	1.57
	80.6°F (27°C)	66.2°F (19°C)	TC	33.33	31.80	30.87	29.97	29.08	28.67	28.39	30.81	31.07	31.94	25.60	20.95	19.53
			SC	6.61	6.30	6.12	5.94	5.76	5.68	5.63	6.11	6.16	6.33	5.07	4.15	3.87
			Input	0.97	1.06	1.14	1.18	1.22	1.34	1.01	1.37	1.81	2.56	2.03	1.80	1.44
	89.6°F (32°C)	73.4°F (23°C)	TC	38.14	36.60	35.68	34.78	33.89	33.48	33.19	35.62	35.88	36.74	30.40	25.75	24.33
			SC	7.73	7.42	7.23	7.04	6.87	6.78	6.72	7.22	7.27	7.44	6.16	5.22	4.93
			Input	0.93	1.01	1.10	1.14	1.18	1.30	0.96	1.32	1.76	2.51	1.99	1.75	1.39
30HH	69.8°F (21°C)	59°F (15°C)	TC	27.64	27.36	27.28	27.18	27.04	26.47	27.76	28.49	29.44	30.03	24.25	19.69	17.49
			SC	21.58	21.37	21.30	21.86	21.93	21.71	22.26	22.64	23.10	23.45	21.77	19.66	17.41
			Input	2.63	2.48	2.34	2.25	2.23	1.99	2.12	2.22	2.77	3.57	3.37	3.18	3.10
	75.2°F (24°C)	62.6°F (17°C)	TC	29.59	29.31	29.23	29.13	28.99	28.42	29.71	30.44	31.39	31.98	26.20	21.64	19.44
			SC	24.66	24.43	24.36	24.28	24.16	23.69	24.76	25.37	26.16	26.65	21.83	18.03	16.21
			Input	2.73	2.59	2.44	2.35	2.33	2.09	2.22	2.32	2.87	3.67	3.47	3.28	3.20
	80.6°F (27°C)	66.2°F (19°C)	TC	31.97	31.70	31.61	31.52	31.38	30.81	32.09	32.82	33.78	34.37	28.58	24.02	21.83
			SC	27.51	27.28	27.21	27.12	27.00	26.51	27.62	28.24	29.07	29.57	24.60	20.67	18.79
			Input	2.92	2.78	2.63	2.54	2.52	2.28	2.41	2.51	3.06	3.86	3.66	3.47	3.39
	89.6°F (32°C)	73.4°F (23°C)	TC	37.50	37.23	37.15	37.05	36.91	36.34	37.63	38.35	39.31	39.90	34.12	29.55	27.36
			SC	32.44	32.20	32.13	32.05	31.93	31.44	32.55	33.18	34.00	34.51	29.51	25.57	23.67
			Input	3.44	3.29	3.15	3.06	3.03	2.79	2.92	3.03	3.58	4.38	4.18	3.99	3.91
36R	69.8°F (21°C)	59°F (15°C)	TC	27.64	27.36	27.28	27.18	27.04	26.47	27.76	28.49	29.44	30.03	24.25	19.69	17.49
			SC	21.58	21.37	21.30	21.86	21.93	21.71	22.26	22.64	23.10	23.45	21.77	19.66	17.41
			Input	2.63	2.48	2.34	2.25	2.23	1.99	2.12	2.22	2.77	3.57	3.37	3.18	3.10
	75.2°F (24°C)	62.6°F (17°C)	TC	29.59	29.31	29.23	29.13	28.99	28.42	29.71	30.44	31.39	31.98	26.20	21.64	19.44
			SC	24.66	24.43	24.36	24.28	24.16	23.69	24.76	25.37	26.16	26.65	21.83	18.03	16.21
			Input	2.73	2.59	2.44	2.35	2.33	2.09	2.22	2.32	2.87	3.67	3.47	3.28	3.20
	80.6°F (27°C)	66.2°F (19°C)	TC	31.97	31.70	31.61	31.52	31.38	30.81	32.09	32.82	33.78	34.37	28.58	24.02	21.83
			SC	27.51	27.28	27.21	27.12	27.00	26.51	27.62	28.24	29.07	29.57	24.60	20.67	18.79
			Input	2.92	2.78	2.63	2.54	2.52	2.28	2.41	2.51	3.06	3.86	3.66	3.47	3.39
	89.6°F (32°C)	73.4°F (23°C)	TC	37.50	37.23	37.15	37.05	36.91	36.34	37.63	38.35	39.31	39.90	34.12	29.55	27.36
			SC	32.44	32.20	32.13	32.05	31.93	31.44	32.55	33.18	34.00	34.51	29.51	25.57	23.67
			Input	3.44	3.29	3.15	3.06	3.03	2.79	2.92	3.03	3.58	4.38	4.18	3.99	3.91

Cooling Performance Ducted (Sheet 2 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions DB WB			(-22°F (-25°C))	(-13°F (-25°C))	(-4°F (-20°C))	(0°F (-17°C))	(5°F (-15°C))	(17°F (-8°C))	(47°F (8°C))	(77°F (25°C))	(86°F (30°C))	(95°F (35°C))	(104°F (40°C))	(113°F (45°C))	(122°F (50°C))
36HH	69.8°F (21°C)	59°F (15°C)	TC	37.63	37.36	37.28	37.18	37.04	36.47	37.76	38.49	37.44	36.03	24.25	19.69	14.75
			SC	32.85	32.61	32.54	31.86	31.93	31.71	32.26	32.64	33.10	31.45	21.77	19.66	14.75
			Input	2.63	2.48	2.34	2.25	2.23	1.99	2.12	2.22	2.77	3.57	3.37	3.18	3.29
	75.2°F (24°C)	62.6°F (17°C)	TC	37.03	36.75	36.67	36.58	36.44	35.87	37.16	37.89	36.84	35.43	23.64	19.08	14.15
			SC	32.47	32.23	32.16	32.07	31.95	31.45	32.58	33.22	32.30	31.07	20.73	16.73	12.41
			Input	2.54	2.39	2.25	2.16	2.13	1.89	2.02	2.13	2.68	3.48	3.28	3.09	3.20
	80.6°F (27°C)	66.2°F (19°C)	TC	38.52	38.24	38.16	38.06	37.92	37.35	38.64	39.37	38.32	36.91	25.13	20.57	15.63
			SC	32.65	32.41	32.34	32.26	32.14	31.66	32.75	33.37	32.48	31.29	21.30	17.43	13.25
			Input	2.69	2.55	2.40	2.31	2.29	2.05	2.18	2.28	2.83	3.64	3.44	3.25	3.35
	89.6°F (32°C)	73.4°F (23°C)	TC	42.39	42.12	42.04	41.94	41.80	41.23	42.52	43.25	42.20	40.79	29.01	24.44	19.51
			SC	36.01	35.78	35.71	35.63	35.51	35.03	36.12	36.74	35.85	34.65	24.64	20.77	16.57
			Input	3.07	2.93	2.78	2.69	2.67	2.43	2.56	2.66	3.21	4.02	3.82	3.63	3.73
48R	69.8°F (21°C)	59°F (15°C)	TC	39.30	39.22	39.59	38.87	38.27	39.37	38.08	37.36	36.75	36.54	30.45	27.52	23.44
			SC	34.20	34.13	34.46	31.28	31.47	31.98	33.46	29.60	29.39	31.80	24.55	23.46	16.71
			Input	2.53	2.49	2.44	2.49	2.29	2.36	2.64	2.93	2.93	3.48	3.99	3.85	3.26
	75.2°F (24°C)	62.6°F (17°C)	TC	45.04	44.96	45.33	44.61	44.01	45.11	43.82	43.09	42.48	42.28	36.19	33.26	29.18
			SC	38.06	37.99	38.30	37.69	37.19	38.11	37.02	36.41	35.90	35.72	30.58	28.10	24.65
			Input	3.26	3.21	3.16	3.21	3.01	3.08	3.36	3.65	3.65	4.20	4.71	4.57	3.98
	80.6°F (27°C)	66.2°F (19°C)	TC	51.79	51.71	52.08	51.36	50.76	51.86	50.57	49.85	49.24	49.03	42.94	40.01	35.93
			SC	43.16	43.09	43.40	42.80	42.30	43.22	42.14	41.54	41.03	40.86	35.78	33.34	29.94
			Input	4.07	4.02	3.98	4.03	3.83	3.90	4.18	4.47	4.47	5.02	5.53	5.39	4.80
	89.6°F (32°C)	73.4°F (23°C)	TC	63.87	63.79	64.16	63.43	62.83	63.93	62.64	61.92	61.31	61.10	55.01	52.08	48.00
			SC	53.44	53.37	53.69	53.08	52.58	53.50	52.42	51.81	51.30	51.13	46.04	43.58	40.17
			Input	5.52	5.48	5.43	5.48	5.28	5.35	5.63	5.92	5.92	6.47	6.98	6.84	6.25
48HH	69.8°F (21°C)	59°F (15°C)	TC	35.50	35.22	36.63	34.87	33.27	34.37	37.08	37.36	36.75	33.54	26.41	27.52	23.44
			SC	29.42	29.19	30.36	28.28	27.47	27.98	33.46	29.60	29.39	27.80	24.55	23.46	16.71
			Input	1.83	1.67	1.51	1.49	1.29	1.16	1.19	2.93	2.93	3.23	2.99	3.85	3.26
	75.2°F (24°C)	62.6°F (17°C)	TC	43.69	43.40	44.81	43.05	41.45	42.55	45.26	45.54	44.93	41.73	34.60	33.26	29.18
			SC	37.08	36.84	38.03	36.54	35.18	36.11	38.41	38.65	38.13	35.41	29.36	28.10	24.65
			Input	2.54	2.38	2.22	2.20	2.00	1.87	1.90	3.64	3.64	3.94	3.70	4.57	3.98
	80.6°F (27°C)	66.2°F (19°C)	TC	50.89	50.61	52.02	50.26	48.66	49.76	52.46	52.74	52.13	48.93	41.80	40.01	35.93
			SC	43.49	43.25	44.45	42.95	41.58	42.52	44.83	45.07	44.55	41.81	35.72	33.34	29.94
			Input	3.17	3.01	2.86	2.83	2.64	2.51	2.53	4.27	4.27	4.57	4.33	5.39	4.80
	89.6°F (32°C)	73.4°F (23°C)	TC	63.70	63.42	64.83	63.07	61.47	62.57	65.28	65.55	64.94	61.74	54.61	52.08	48.00
			SC	54.66	54.41	55.62	54.11	52.74	53.68	56.01	56.25	55.72	52.98	46.86	43.58	40.17
			Input	4.32	4.16	4.00	3.98	3.78	3.65	3.68	5.42	5.42	5.72	5.48	6.84	6.25

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Heating Capacity (1000 Btu/hour)

SC - Sensible Capacity (1000 Btu/hour)

Input - Total Power (kW)

HEATING PERFORMANCE DUCTED

Heating Performance Ducted (Sheet 1 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
18R	59°F (15°C)	TC	8.10	9.96	12.03	12.94	13.92	17.19	17.75	19.65	19.98	22.65	24.86	26.19
		Input	1.72	1.73	1.78	1.73	1.78	1.71	1.74	1.83	1.66	1.78	1.88	1.89
		COP	1.26	1.63	1.98	2.20	2.29	2.94	2.99	3.14	3.53	3.74	3.89	4.06
	64.4°F (18°C)	TC	8.61	10.46	12.54	13.45	14.43	17.70	18.26	20.16	20.49	23.16	25.37	26.70
		Input	1.76	1.77	1.82	1.77	1.82	1.75	1.78	1.87	1.70	1.82	1.92	1.93
		COP	1.43	1.73	2.02	2.23	2.32	2.96	3.00	3.15	3.53	3.74	3.88	4.05
	69°F (20.5°C)	TC	9.04	10.90	12.98	13.88	14.87	18.14	18.69	20.60	20.93	23.60	25.81	27.13
		Input	1.80	1.81	1.85	1.80	1.86	1.79	1.82	1.91	1.74	1.85	1.95	1.97
		COP	1.47	1.77	2.05	2.26	2.35	2.97	3.01	3.16	3.53	3.74	3.88	4.04
	71.6°F (22°C)	TC	9.29	11.14	13.22	14.12	15.11	18.38	18.93	20.84	21.17	23.84	26.05	27.38
		Input	1.82	1.83	1.87	1.82	1.88	1.81	1.84	1.93	1.75	1.87	1.97	1.99
		COP	1.50	1.79	2.07	2.27	2.36	2.98	3.02	3.17	3.54	3.73	3.88	4.04
24HH	59°F (15°C)	TC	10.47	12.76	15.27	18.09	19.73	22.55	22.36	23.91	27.12	32.88	32.54	37.51
		Input	2.19	2.40	2.51	2.54	2.64	2.77	2.70	2.59	2.57	2.67	2.81	2.69
		COP	1.40	1.56	1.78	2.09	2.19	2.39	2.43	2.71	3.09	3.62	3.39	4.09
	64.4°F (18°C)	TC	11.50	13.79	16.30	19.12	20.76	23.58	23.39	24.94	28.15	33.91	33.57	38.54
		Input	2.24	2.44	2.56	2.58	2.69	2.81	2.74	2.63	2.62	2.71	2.86	2.73
		COP	1.51	1.65	1.87	2.17	2.26	2.46	2.50	2.78	3.15	3.67	3.44	4.14
	69°F (20.5°C)	TC	12.37	14.67	17.18	20.00	21.64	24.46	24.27	25.82	29.02	34.79	34.44	39.41
		Input	2.28	2.48	2.60	2.62	2.73	2.85	2.78	2.67	2.66	2.75	2.90	2.77
		COP	1.59	1.73	1.94	2.23	2.32	2.51	2.56	2.83	3.20	3.71	3.49	4.17
	71.6°F (22°C)	TC	12.87	15.16	17.67	20.50	22.13	24.95	24.77	26.31	29.52	35.28	34.94	39.91
		Input	2.30	2.51	2.62	2.65	2.75	2.88	2.80	2.69	2.68	2.77	2.92	2.79
		COP	1.64	1.77	1.98	2.27	2.36	2.54	2.59	2.86	3.23	3.73	3.51	4.19
30HH	59°F (15°C)	TC	12.11	15.93	20.44	22.57	23.46	29.52	30.45	35.29	33.67	36.14	39.34	42.01
		Input	3.65	3.85	4.02	4.15	4.05	4.21	4.01	4.12	3.86	3.70	3.88	3.63
		COP	0.91	1.21	1.49	1.59	1.70	2.06	2.23	2.51	2.56	2.86	2.97	3.39
	64.4°F (18°C)	TC	13.24	17.06	21.57	23.70	24.59	30.65	31.58	36.42	34.80	37.27	40.47	43.14
		Input	3.70	3.90	4.07	4.20	4.10	4.26	4.06	4.17	3.91	3.75	3.93	3.68
		COP	1.05	1.28	1.55	1.65	1.76	2.11	2.28	2.56	2.61	2.91	3.02	3.43
	69°F (20.5°C)	TC	14.21	18.02	22.54	24.66	25.55	31.61	32.54	37.38	35.76	38.23	41.44	44.11
		Input	3.74	3.95	4.12	4.24	4.15	4.30	4.10	4.21	3.95	3.79	3.98	3.73
		COP	1.11	1.34	1.60	1.70	1.81	2.16	2.33	2.60	2.65	2.95	3.06	3.47
	71.6°F (22°C)	TC	14.75	18.56	23.08	25.21	26.10	32.16	33.08	37.93	36.31	38.78	41.98	44.65
		Input	3.76	3.97	4.14	4.27	4.17	4.32	4.12	4.23	3.98	3.82	4.00	3.75
		COP	1.15	1.37	1.63	1.73	1.83	2.18	2.35	2.63	2.68	2.98	3.08	3.49
36R	59°F (15°C)	TC	12.11	15.93	20.44	22.57	23.46	29.52	30.45	35.29	33.67	36.14	39.34	42.01
		Input	3.65	3.85	4.02	4.15	4.05	4.21	4.01	4.12	3.86	3.70	3.88	3.63
		COP	0.91	1.21	1.49	1.59	1.70	2.06	2.23	2.51	2.56	2.86	2.97	3.39
	64.4°F (18°C)	TC	13.24	17.06	21.57	23.70	24.59	30.65	31.58	36.42	34.80	37.27	40.47	43.14
		Input	3.70	3.90	4.07	4.20	4.10	4.26	4.06	4.17	3.91	3.75	3.93	3.68
		COP	1.05	1.28	1.55	1.65	1.76	2.11	2.28	2.56	2.61	2.91	3.02	3.43
	69°F (20.5°C)	TC	14.21	18.02	22.54	24.66	25.55	31.61	32.54	37.38	35.76	38.23	41.44	44.11
		Input	3.74	3.95	4.12	4.24	4.15	4.30	4.10	4.21	3.95	3.79	3.98	3.73
		COP	1.11	1.34	1.60	1.70	1.81	2.16	2.33	2.60	2.65	2.95	3.06	3.47
	71.6°F (22°C)	TC	14.75	18.56	23.08	25.21	26.10	32.16	33.08	37.93	36.31	38.78	41.98	44.65
		Input	3.76	3.97	4.14	4.27	4.17	4.32	4.12	4.23	3.98	3.82	4.00	3.75
		COP	1.15	1.37	1.63	1.73	1.83	2.18	2.35	2.63	2.68	2.98	3.08	3.49

Heating Performance Ducted (Sheet 2 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
36HH	59°F (15°C)	TC	16.11	20.93	24.44	26.57	32.66	34.32	31.45	35.29	36.73	39.14	44.34	48.01
		Input	3.65	4.28	4.76	4.92	5.59	5.13	5.01	4.12	3.53	3.74	3.88	4.63
		COP	1.29	1.43	1.50	1.58	1.71	1.96	1.84	2.51	3.05	3.07	3.35	3.04
	64.4°F (18°C)	TC	17.08	21.90	25.41	27.54	33.63	35.29	32.42	36.26	37.70	40.11	45.31	48.98
		Input	3.70	4.33	4.81	4.97	5.64	5.18	5.06	4.16	3.58	3.79	3.93	4.68
		COP	1.35	1.48	1.55	1.62	1.75	2.00	1.88	2.55	3.09	3.10	3.38	3.07
	69°F (20.5°C)	TC	17.91	22.73	26.24	28.37	34.46	36.12	33.25	37.09	38.53	40.94	46.14	49.81
		Input	3.74	4.37	4.85	5.01	5.68	5.22	5.10	4.21	3.62	3.83	3.97	4.72
		COP	1.40	1.52	1.59	1.66	1.78	2.03	1.91	2.58	3.12	3.13	3.40	3.09
	71.6°F (22°C)	TC	18.38	23.20	26.71	28.84	34.93	36.59	33.72	37.56	39.00	41.41	46.61	50.28
		Input	3.76	4.39	4.87	5.03	5.70	5.24	5.12	4.23	3.64	3.85	4.00	4.74
		COP	1.43	1.55	1.61	1.68	1.79	2.05	1.93	2.60	3.14	3.15	3.42	3.11
48R	59°F (15°C)	TC	24.57	25.46	27.42	35.45	36.31	37.66	37.17	38.23	41.30	42.86	47.10	57.25
		Input	4.91	4.91	4.91	5.59	5.63	4.84	4.92	5.29	4.46	4.59	4.83	4.54
		COP	1.47	1.52	1.64	1.86	1.89	2.28	2.21	2.12	2.71	2.73	3.46	3.70
	64.4°F (18°C)	TC	24.65	25.54	27.50	35.53	36.39	37.74	37.25	38.31	41.38	42.94	47.18	57.33
		Input	4.98	4.98	4.98	5.66	5.70	4.91	4.99	5.36	4.53	4.66	4.90	4.61
		COP	1.45	1.50	1.62	1.84	1.87	2.25	2.19	2.09	2.68	2.70	2.82	3.64
	69°F (20.5°C)	TC	24.72	25.61	27.57	35.60	36.46	37.81	37.32	38.38	41.45	43.01	47.25	57.40
		Input	5.04	5.04	5.04	5.72	5.76	4.97	5.05	5.42	4.59	4.72	4.96	4.67
		COP	1.44	1.49	1.60	1.82	1.86	2.23	2.17	2.08	2.65	2.67	2.79	3.60
	71.6°F (22°C)	TC	24.76	25.65	27.61	35.64	36.50	37.85	37.36	38.42	41.49	43.05	47.29	57.44
		Input	5.07	5.07	5.07	5.75	5.79	5.00	5.08	5.45	4.62	4.76	4.99	4.71
		COP	1.43	1.48	1.59	1.82	1.85	2.22	2.15	2.06	2.63	2.65	2.78	3.58
48HH	59°F (15°C)	TC	24.57	25.46	37.42	41.45	41.80	44.27	45.17	42.23	48.27	42.86	57.10	59.25
		Input	4.91	4.91	5.51	5.79	5.74	5.93	5.98	5.89	5.68	4.59	4.83	4.54
		COP	1.47	1.52	1.99	2.10	2.14	2.19	2.21	2.10	2.49	2.73	3.46	3.82
	64.4°F (18°C)	TC	24.91	25.81	37.76	41.79	42.14	44.61	45.51	42.57	48.61	43.21	57.45	59.59
		Input	4.85	4.85	5.45	5.73	5.68	5.87	5.92	5.83	5.62	4.54	4.77	4.49
		COP	1.50	1.56	2.03	2.14	2.17	2.23	2.25	2.14	2.53	2.79	3.53	3.89
	69°F (20.5°C)	TC	25.20	26.10	38.05	42.09	42.44	44.91	45.81	42.87	48.91	43.50	57.74	59.89
		Input	4.80	4.80	5.41	5.68	5.63	5.83	5.88	5.79	5.58	4.49	4.73	4.44
		COP	1.54	1.59	2.06	2.17	2.21	2.26	2.28	2.17	2.57	2.84	3.58	3.95
	71.6°F (22°C)	TC	25.37	26.27	38.22	42.25	42.60	45.07	45.97	43.03	49.07	43.66	57.91	60.05
		Input	4.78	4.78	5.38	5.65	5.60	5.80	5.85	5.76	5.55	4.46	4.70	4.41
		COP	1.56	1.61	2.08	2.19	2.23	2.28	2.30	2.19	2.59	2.87	3.61	3.99

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Heating Capacity (1000 Btu/hour)

Input - Total Power (kW)

COP - (W/W)

COOLING PERFORMANCE MIXED DUCTED/NON-DUCTED

Cooling Performance Mixed Ducted & Non-Ducted (Sheet 1 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions DB			(-22°F (-25°C))	(-13°F (-25°C))	(-4°F (-20°C))	(0°F (-17°C))	(5°F (-15°C))	(17°F (-8°C))	(47°F (8°C))	(77°F (25°C))	(86°F (30°C))	(95°F (35°C))	(104°F (40°C))	(113°F (45°C))	(122°F (50°C))
18R	69.8°F (21°C)	59°F (15°C)	TC	14.89	15.87	16.62	16.89	17.23	18.29	17.72	16.32	15.51	17.52	12.59	9.84	9.37
			SC	11.95	12.74	13.36	14.13	14.10	14.82	14.53	13.34	14.12	11.68	9.57	9.37	
			Input	5.70	5.42	5.13	5.01	4.84	4.47	2.86	2.73	2.53	1.66	1.31	1.36	1.42
	75.2°F (24°C)	62.6°F (17°C)	TC	16.10	17.08	17.84	18.11	18.45	19.51	18.94	17.53	16.72	18.74	13.80	11.05	10.58
			SC	13.51	14.34	14.99	15.21	15.50	16.41	15.91	14.72	14.06	15.78	11.63	9.27	8.88
			Input	5.86	5.58	5.29	5.17	5.01	4.63	3.02	2.89	2.70	1.82	1.47	1.52	1.58
	80.6°F (27°C)	66.2°F (19°C)	TC	17.47	18.44	19.20	19.47	19.81	20.87	20.30	18.89	18.09	20.10	15.16	12.41	11.94
			SC	15.00	15.85	16.52	16.75	17.04	17.98	17.47	16.23	15.57	17.35	13.09	10.65	10.26
			Input	6.03	5.74	5.46	5.33	5.17	4.79	3.18	3.06	2.86	1.99	1.64	1.68	1.75
	89.6°F (32°C)	73.4°F (23°C)	TC	20.11	21.08	21.84	22.11	22.45	23.51	22.94	21.53	20.73	22.74	17.80	15.06	14.58
			SC	17.32	18.18	18.85	19.08	19.38	20.32	19.81	18.56	17.89	19.69	15.40	12.95	12.56
			Input	6.31	6.02	5.74	5.61	5.45	5.07	3.46	3.34	3.14	2.27	1.92	1.96	2.03
24HH	69.8°F (21°C)	59°F (15°C)	TC	28.45	28.01	27.85	27.52	27.18	26.86	27.23	27.64	28.47	28.13	22.19	15.88	15.17
			SC	22.31	21.97	21.84	21.71	21.46	21.42	21.53	21.73	22.18	22.06	19.31	15.88	15.17
			Input	1.36	1.43	1.49	1.52	1.56	1.65	1.51	1.78	2.10	2.87	2.38	2.27	2.09
	75.2°F (24°C)	62.6°F (17°C)	TC	29.95	29.51	29.35	29.02	28.68	28.36	28.73	29.15	29.97	29.63	23.69	17.38	16.67
			SC	19.80	19.69	19.71	19.58	19.45	19.25	19.61	19.55	20.20	19.76	15.86	11.38	11.02
			Input	1.20	1.27	1.33	1.36	1.40	1.49	1.35	1.62	1.94	2.71	2.22	2.11	1.93
	80.6°F (27°C)	66.2°F (19°C)	TC	31.92	31.48	31.32	30.99	30.65	30.33	30.70	31.11	31.94	31.59	25.65	19.35	18.64
			SC	16.40	16.53	16.70	16.71	16.71	16.58	16.99	16.54	17.17	16.58	13.58	9.70	9.56
			Input	1.18	1.25	1.32	1.35	1.38	1.47	1.34	1.60	1.92	2.69	2.20	2.09	1.91
	89.6°F (32°C)	73.4°F (23°C)	TC	36.47	36.03	35.86	35.54	35.19	34.88	35.25	35.66	36.49	36.14	30.20	23.90	23.19
			SC	18.46	18.58	18.74	18.75	18.75	18.61	19.01	18.59	19.20	18.63	15.67	11.86	11.71
			Input	1.34	1.40	1.47	1.50	1.53	1.62	1.49	1.75	2.08	2.85	2.35	2.24	2.06
30HH	69.8°F (21°C)	59°F (15°C)	TC	29.20	30.21	29.20	32.00	34.43	31.48	33.28	33.14	31.54	32.74	25.57	19.69	18.59
			SC	22.83	23.62	22.83	25.13	27.14	24.99	25.83	25.74	24.96	25.60	22.71	19.68	18.55
			Input	3.84	3.50	3.16	2.98	2.87	2.36	2.21	2.71	2.81	3.76	3.31	3.14	3.10
	75.2°F (24°C)	62.6°F (17°C)	TC	30.00	31.01	30.00	32.80	35.23	32.28	34.08	33.94	32.34	33.54	26.37	20.49	19.39
			SC	25.27	26.14	25.28	27.66	29.73	27.23	28.75	28.62	27.25	28.27	22.21	17.25	16.33
			Input	3.70	3.36	3.03	2.84	2.73	2.22	2.08	2.57	2.68	3.62	3.17	3.00	2.96
	80.6°F (27°C)	66.2°F (19°C)	TC	31.87	32.88	31.87	34.67	37.10	34.16	35.95	35.82	34.21	35.41	28.24	22.36	21.26
			SC	27.92	28.82	27.92	30.42	32.59	29.97	31.55	31.42	29.97	31.04	24.73	19.56	18.62
			Input	3.77	3.44	3.10	2.92	2.80	2.30	2.15	2.64	2.75	3.69	3.25	3.07	3.03
	89.6°F (32°C)	73.4°F (23°C)	TC	36.51	37.52	36.51	39.31	41.74	38.80	40.59	40.46	38.85	40.05	32.88	27.00	25.90
			SC	32.20	33.12	32.21	34.73	36.93	34.28	35.88	35.74	34.28	35.35	29.00	23.78	22.84
			Input	4.09	3.75	3.41	3.23	3.12	2.61	2.46	2.95	3.06	4.00	3.56	3.38	3.34
36R	69.8°F (21°C)	59°F (15°C)	TC	29.20	30.21	29.20	32.00	34.43	31.48	33.28	33.14	31.54	32.74	25.57	19.69	18.59
			SC	22.83	23.62	22.83	25.13	27.14	24.99	25.83	25.74	24.96	25.60	22.71	19.68	18.55
			Input	3.84	3.50	3.16	2.98	2.87	2.36	2.21	2.71	2.81	3.76	3.31	3.14	3.10
	75.2°F (24°C)	62.6°F (17°C)	TC	30.00	31.01	30.00	32.80	35.23	32.28	34.08	33.94	32.34	33.54	26.37	20.49	19.39
			SC	25.27	26.14	25.28	27.66	29.73	27.23	28.75	28.62	27.25	28.27	22.21	17.25	16.33
			Input	3.70	3.36	3.03	2.84	2.73	2.22	2.08	2.57	2.68	3.62	3.17	3.00	2.96
	80.6°F (27°C)	66.2°F (19°C)	TC	31.87	32.88	31.87	34.67	37.10	34.16	35.95	35.82	34.21	35.41	28.24	22.36	21.26
			SC	27.92	28.82	27.92	30.42	32.59	29.97	31.55	31.42	29.97	31.04	24.73	19.56	18.62
			Input	3.77	3.44	3.10	2.92	2.80	2.30	2.15	2.64	2.75	3.69	3.25	3.07	3.03
	89.6°F (32°C)	73.4°F (23°C)	TC	36.51	37.52	36.51	39.31	41.74	38.80	40.59	40.46	38.85	40.05	32.88	27.00	25.90
			SC	32.20	33.12	32.21	34.73	36.93	34.28	35.88	35.74	34.28	35.35	29.00	23.78	22.84
			Input	4.09	3.75	3.41	3.23	3.12	2.61	2.46	2.95	3.06	4.00	3.56	3.38	3.34
36HH	69.8°F (21°C)	59°F (15°C)	TC	36.05	36.37	36.46	37.00	37.43	36.48	38.28	38.15	37.54	35.74	25.57	17.77	15.30
			SC	29.91	30.15	30.22	30.13	30.14	29.99	30.82	30.74	31.46	29.60	22.71	17.76	15.30
			Input	2.32	2.33	2.34	2.33	2.37	2.36	2.21	2.71	2.81	3.41	3.31	3.24	3.29
	75.2°F (24°C)	62.6°F (17°C)	TC	35.58	35.89	35.98	36.52	36.95	36.00	37.80	37.67	37.06	35.26	25.09	17.29	14.82
			SC	30.76	31.03	31.10	31.56	31.92	31.11	32.66	32.55	32.02	30.47	21.66	14.96	12.80
			Input	2.49	2.50	2.51	2.51	2.54	2.54	2.39	2.88	2.99	3.58	3.49	3.41	3.46
	80.6°F (27°C)	66.2°F (19°C)	TC	37.00	37.32	37.40	37.94	38.38	37.43	39.23	39.09	38.48	36.68	26.51	18.71	16.25
			SC	32.14	32.43	32.51	32.99	33.38	32.54	34.12	33.98	33.46	31.89	23.08	16.23	14.14
			Input	2.72	2.73	2.75	2.74	2.77	2.77	2.62	3.11	3.22	3.81	3.72	3.64	3.70
	89.6°F (32°C)	73.4°F (23°C)	TC	40.81	41.13	41.22	41.76	42.19	41.24	43.04	42.90	42.29	40.50	30.33	22.53	20.06
			SC	35.66	35.95	36.04	36.52	36.92	36.08	37.66	37.52	37.00	35.42	26.56	19.66	17.56
			Input	3.26	3.27	3.28	3.27	3.31	3.30	3.15	3.65	3.75	4.35	4.25	4.18	4.23

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Cooling Performance Mixed Ducted & Non-Ducted (Sheet 2 of 2)

MODEL	COOLING			OUTDOOR CONDITIONS (DB)												
	Indoor Conditions DB			(-22°F (-25°C))	(-13°F (-25°C))	(-4°F (-20°C))	(0°F (-17°C))	(5°F (-15°C))	(17°F (-8°C))	(47°F (8°C))	(77°F (25°C))	(86°F (30°C))	(95°F (35°C))	(104°F (40°C))	(113°F (45°C))	(122°F (50°C))
48R	69.8°F (21°C)	59°F (15°C)	TC	39.39	39.76	40.09	40.08	40.10	40.58	39.82	38.59	38.08	36.20	30.56	25.32	23.28
			SC	34.50	34.83	35.11	33.08	33.26	34.36	35.46	31.39	31.05	31.70	25.34	20.59	17.22
			Input	2.33	2.35	2.38	2.43	2.34	2.45	2.54	2.74	3.00	3.37	3.95	3.66	3.37
	75.2°F (24°C)	62.6°F (17°C)	TC	45.79	46.16	46.48	46.47	46.50	46.98	46.22	44.99	44.47	42.59	36.95	31.71	29.67
			SC	38.80	39.11	39.39	39.38	39.40	39.81	39.17	38.13	37.69	36.09	31.31	26.87	25.14
			Input	3.07	3.09	3.11	3.16	3.07	3.18	3.27	3.47	3.74	4.10	4.68	4.39	4.10
	80.6°F (27°C)	66.2°F (19°C)	TC	52.61	52.97	53.30	53.29	53.31	53.79	53.03	51.80	51.29	49.41	43.77	38.53	36.49
			SC	42.82	43.11	43.38	43.35	43.36	43.76	43.14	42.15	41.72	40.22	35.62	31.40	29.70
			Input	3.88	3.90	3.92	3.97	3.88	3.99	4.08	4.28	4.55	4.91	5.49	5.20	4.91
	89.6°F (32°C)	73.4°F (23°C)	TC	64.87	65.24	65.57	65.56	65.58	66.06	65.30	64.07	63.56	61.68	56.04	50.80	48.76
			SC	49.06	49.31	49.56	49.49	49.46	49.87	49.26	48.37	47.97	46.68	42.37	38.58	36.87
			Input	5.32	5.34	5.36	5.41	5.32	5.43	5.52	5.72	5.99	6.35	6.93	6.64	6.35
48HH	69.8°F (21°C)	59°F (15°C)	TC	36.25	36.05	36.55	36.07	35.50	34.38	37.32	36.59	36.08	32.94	26.33	25.32	23.28
			SC	29.92	29.76	30.18	29.07	28.76	27.95	33.46	28.89	28.54	27.20	24.31	20.59	17.22
			Input	2.11	1.88	1.66	1.54	1.45	1.13	1.22	2.66	2.90	3.06	2.84	3.66	3.37
	75.2°F (24°C)	62.6°F (17°C)	TC	46.17	45.97	46.47	45.99	45.42	44.30	47.24	46.51	45.99	42.86	36.25	31.71	29.67
			SC	39.00	38.83	39.26	38.85	38.36	37.42	39.90	39.29	38.86	36.21	30.62	26.87	25.14
			Input	2.91	2.68	2.46	2.34	2.25	1.93	2.03	3.46	3.71	3.86	3.65	4.39	4.10
	80.6°F (27°C)	66.2°F (19°C)	TC	54.14	53.94	54.44	53.96	53.39	52.27	55.21	54.48	53.96	50.83	44.22	38.53	36.49
			SC	45.64	45.47	45.91	45.49	45.00	44.07	46.55	45.95	45.51	42.87	37.28	31.40	29.70
			Input	3.66	3.43	3.21	3.10	3.00	2.68	2.78	4.21	4.46	4.61	4.40	5.20	4.91
	89.6°F (32°C)	73.4°F (23°C)	TC	67.92	67.72	68.22	67.74	67.17	66.05	68.99	68.26	67.75	64.61	58.00	50.80	48.76
			SC	55.23	55.06	55.51	55.06	54.55	53.73	56.12	55.57	55.15	52.59	47.17	38.58	36.87
			Input	4.96	4.73	4.51	4.39	4.30	3.97	4.07	5.51	5.75	5.90	5.69	6.64	6.35

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Capacity (1000 Btu/hour)

SC - Sensible Capacity (1000 Btu/hour)

Input - Total Power (kW)

HEATING PERFORMANCE MIXED DUCTED/NON-DUCTED

Heating Performance Mixed Ducted & Non-Ducted (Sheet 1 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
18R	59°F (15°C)	TC	8.10	9.96	12.03	12.94	13.92	17.19	17.75	19.65	19.98	22.65	24.86	26.19
		Input	1.72	1.73	1.78	1.73	1.78	1.71	1.74	1.83	1.66	1.78	1.88	1.89
		COP	1.26	1.63	1.98	2.20	2.29	2.94	2.99	3.14	3.53	3.74	3.89	4.06
	64.4°F (18°C)	TC	8.61	10.46	12.54	13.45	14.43	17.70	18.26	20.16	20.49	23.16	25.37	26.70
		Input	1.76	1.77	1.82	1.77	1.82	1.75	1.78	1.87	1.70	1.82	1.92	1.93
		COP	1.43	1.73	2.02	2.23	2.32	2.96	3.00	3.15	3.53	3.74	3.88	4.05
	69°F (20.5°C)	TC	9.04	10.90	12.98	13.88	14.87	18.14	18.69	20.60	20.93	23.60	25.81	27.13
		Input	1.80	1.81	1.85	1.80	1.86	1.79	1.82	1.91	1.74	1.85	1.95	1.97
		COP	1.47	1.77	2.05	2.26	2.35	2.97	3.01	3.16	3.53	3.74	3.88	4.04
	71.6°F (22°C)	TC	9.29	11.14	13.22	14.12	15.11	18.38	18.93	20.84	21.17	23.84	26.05	27.38
		Input	1.82	1.83	1.87	1.82	1.88	1.81	1.84	1.93	1.75	1.87	1.97	1.99
		COP	1.50	1.79	2.07	2.27	2.36	2.98	3.02	3.17	3.54	3.73	3.88	4.04
24HH	59°F (15°C)	TC	10.47	12.76	15.27	18.09	19.73	22.55	22.36	23.91	27.12	32.88	32.54	37.51
		Input	2.19	2.40	2.51	2.54	2.64	2.77	2.70	2.59	2.57	2.67	2.81	2.69
		COP	1.40	1.56	1.78	2.09	2.19	2.39	2.43	2.71	3.09	3.62	3.39	4.09
	64.4°F (18°C)	TC	11.50	13.79	16.30	19.12	20.76	23.58	23.39	24.94	28.15	33.91	33.57	38.54
		Input	2.24	2.44	2.56	2.58	2.69	2.81	2.74	2.63	2.62	2.71	2.86	2.73
		COP	1.51	1.65	1.87	2.17	2.26	2.46	2.50	2.78	3.15	3.67	3.44	4.14
	69°F (20.5°C)	TC	12.37	14.67	17.18	20.00	21.64	24.46	24.27	25.82	29.02	34.79	34.44	39.41
		Input	2.28	2.48	2.60	2.62	2.73	2.85	2.78	2.67	2.66	2.75	2.90	2.77
		COP	1.59	1.73	1.94	2.23	2.32	2.51	2.56	2.83	3.20	3.71	3.49	4.17
	71.6°F (22°C)	TC	12.87	15.16	17.67	20.50	22.13	24.95	24.77	26.31	29.52	35.28	34.94	39.91
		Input	2.30	2.51	2.62	2.65	2.75	2.88	2.80	2.69	2.68	2.77	2.92	2.79
		COP	1.64	1.77	1.98	2.27	2.36	2.54	2.59	2.86	3.23	3.73	3.51	4.19
30HH	59°F (15°C)	TC	12.11	15.93	20.44	22.57	23.46	29.52	30.45	35.29	33.67	36.14	39.34	42.01
		Input	3.65	3.85	4.02	4.15	4.05	4.21	4.01	4.12	3.86	3.70	3.88	3.63
		COP	0.91	1.21	1.49	1.59	1.70	2.06	2.23	2.51	2.56	2.86	2.97	3.39
	64.4°F (18°C)	TC	13.24	17.06	21.57	23.70	24.59	30.65	31.58	36.42	34.80	37.27	40.47	43.14
		Input	3.70	3.90	4.07	4.20	4.10	4.26	4.06	4.17	3.91	3.75	3.93	3.68
		COP	1.05	1.28	1.55	1.65	1.76	2.11	2.28	2.56	2.61	2.91	3.02	3.43
	69°F (20.5°C)	TC	14.21	18.02	22.54	24.66	25.55	31.61	32.54	37.38	35.76	38.23	41.44	44.11
		Input	3.74	3.95	4.12	4.24	4.15	4.30	4.10	4.21	3.95	3.79	3.98	3.73
		COP	1.11	1.34	1.60	1.70	1.81	2.16	2.33	2.60	2.65	2.95	3.06	3.47
	71.6°F (22°C)	TC	14.75	18.56	23.08	25.21	26.10	32.16	33.08	37.93	36.31	38.78	41.98	44.65
		Input	3.76	3.97	4.14	4.27	4.17	4.32	4.12	4.23	3.98	3.82	4.00	3.75
		COP	1.15	1.37	1.63	1.73	1.83	2.18	2.35	2.63	2.68	2.98	3.08	3.49
36R	59°F (15°C)	TC	12.11	15.93	20.44	22.57	23.46	29.52	30.45	35.29	33.67	36.14	39.34	42.01
		Input	3.65	3.85	4.02	4.15	4.05	4.21	4.01	4.12	3.86	3.70	3.88	3.63
		COP	0.91	1.21	1.49	1.59	1.70	2.06	2.23	2.51	2.56	2.86	2.97	3.39
	64.4°F (18°C)	TC	13.24	17.06	21.57	23.70	24.59	30.65	31.58	36.42	34.80	37.27	40.47	43.14
		Input	3.70	3.90	4.07	4.20	4.10	4.26	4.06	4.17	3.91	3.75	3.93	3.68
		COP	1.05	1.28	1.55	1.65	1.76	2.11	2.28	2.56	2.61	2.91	3.02	3.43
	69°F (20.5°C)	TC	14.21	18.02	22.54	24.66	25.55	31.61	32.54	37.38	35.76	38.23	41.44	44.11
		Input	3.74	3.95	4.12	4.24	4.15	4.30	4.10	4.21	3.95	3.79	3.98	3.73
		COP	1.11	1.34	1.60	1.70	1.81	2.16	2.33	2.60	2.65	2.95	3.06	3.47
	71.6°F (22°C)	TC	14.75	18.56	23.08	25.21	26.10	32.16	33.08	37.93	36.31	38.78	41.98	44.65
		Input	3.76	3.97	4.14	4.27	4.17	4.32	4.12	4.23	3.98	3.82	4.00	3.75
		COP	1.15	1.37	1.63	1.73	1.83	2.18	2.35	2.63	2.68	2.98	3.08	3.49
36HH	59°F (15°C)	TC	16.11	20.93	24.44	26.57	32.66	34.32	31.45	35.29	36.73	39.14	44.34	48.01
		Input	3.65	4.28	4.76	4.92	5.59	5.13	5.01	4.12	3.53	3.74	3.88	4.63
		COP	1.29	1.43	1.50	1.58	1.71	1.96	1.84	2.51	3.05	3.07	3.35	3.04
	64.4°F (18°C)	TC	17.08	21.90	25.41	27.54	33.63	35.29	32.42	36.26	37.70	40.11	45.31	48.98
		Input	3.70	4.33	4.81	4.97	5.64	5.18	5.06	4.16	3.58	3.79	3.93	4.68
		COP	1.35	1.48	1.55	1.62	1.75	2.00	1.88	2.55	3.09	3.10	3.38	3.07
	69°F (20.5°C)	TC	17.91	22.73	26.24	28.37	34.46	36.12	33.25	37.09	38.53	40.94	46.14	49.81
		Input	3.74	4.37	4.85	5.01	5.68	5.22	5.10	4.21	3.62	3.83	3.97	4.72
		COP	1.40	1.52	1.59	1.66	1.78	2.03	1.91	2.58	3.12	3.13	3.40	3.09
	71.6°F (22°C)	TC	18.38	23.20	26.71	28.84	34.93	36.59	33.72	37.56	39.00	41.41	46.61	50.28
		Input	3.76	4.39	4.87	5.03	5.70	5.24	5.12	4.23	3.64	3.85	4.00	4.74
		COP	1.43	1.55	1.61	1.68	1.79	2.05	1.93	2.60	3.14	3.15	3.42	3.11

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Heating Performance Mixed Ducted & Non-Ducted (Sheet 2 of 2)

MODEL	HEATING		OUTDOOR CONDITIONS (DB)											
	Indoor Conditions DB		-22°F (-30°C)	-13°F (-25°C)	-4°F (-20°C)	0°F (-17°C)	5°F (-15°C)	17°F (-8°C)	19.4°F (-7°C)	24.8°F (-4°C)	32°F (0°C)	39.2°F (4°C)	44.6°F (7°C)	53.6°F (12°C)
48R	59°F (15°C)	TC	24.57	25.46	27.42	35.45	36.31	37.66	37.17	38.23	41.30	42.86	47.10	57.25
		Input	4.91	4.91	4.91	5.59	5.63	4.84	4.92	5.29	4.46	4.59	4.83	4.54
		COP	1.47	1.52	1.64	1.86	1.89	2.28	2.21	2.12	2.71	2.73	3.46	3.70
	64.4°F (18°C)	TC	24.65	25.54	27.50	35.53	36.39	37.74	37.25	38.31	41.38	42.94	47.18	57.33
		Input	4.98	4.98	4.98	5.66	5.70	4.91	4.99	5.36	4.53	4.66	4.90	4.61
		COP	1.45	1.50	1.62	1.84	1.87	2.25	2.19	2.09	2.68	2.70	2.82	3.64
	69°F (20.5°C)	TC	24.72	25.61	27.57	35.60	36.46	37.81	37.32	38.38	41.45	43.01	47.25	57.40
		Input	5.04	5.04	5.04	5.72	5.76	4.97	5.05	5.42	4.59	4.72	4.96	4.67
		COP	1.44	1.49	1.60	1.82	1.86	2.23	2.17	2.08	2.65	2.67	2.79	3.60
	71.6°F (22°C)	TC	24.76	25.65	27.61	35.64	36.50	37.85	37.36	38.42	41.49	43.05	47.29	57.44
		Input	5.07	5.07	5.07	5.75	5.79	5.00	5.08	5.45	4.62	4.76	4.99	4.71
		COP	1.43	1.48	1.59	1.82	1.85	2.22	2.15	2.06	2.63	2.65	2.78	3.58
48HH	59°F (15°C)	TC	24.57	25.46	37.42	41.45	41.80	44.27	45.17	42.23	48.27	42.86	57.10	59.25
		Input	4.91	4.91	5.51	5.79	5.74	5.93	5.98	5.89	5.68	4.59	4.83	4.54
		COP	1.47	1.52	1.99	2.10	2.14	2.19	2.21	2.10	2.49	2.73	3.46	3.82
	64.4°F (18°C)	TC	24.91	25.81	37.76	41.79	42.14	44.61	45.51	42.57	48.61	43.21	57.45	59.59
		Input	4.85	4.85	5.45	5.73	5.68	5.87	5.92	5.83	5.62	4.54	4.77	4.49
		COP	1.50	1.56	2.03	2.14	2.17	2.23	2.25	2.14	2.53	2.79	3.53	3.89
	69°F (20.5°C)	TC	25.20	26.10	38.05	42.09	42.44	44.91	45.81	42.87	48.91	43.50	57.74	59.89
		Input	4.80	4.80	5.41	5.68	5.63	5.83	5.88	5.79	5.58	4.49	4.73	4.44
		COP	1.54	1.59	2.06	2.17	2.21	2.26	2.28	2.17	2.57	2.84	3.58	3.95
	71.6°F (22°C)	TC	25.37	26.27	38.22	42.25	42.60	45.07	45.97	43.03	49.07	43.66	57.91	60.05
		Input	4.78	4.78	5.38	5.65	5.60	5.80	5.85	5.76	5.55	4.46	4.70	4.41
		COP	1.56	1.61	2.08	2.19	2.23	2.28	2.30	2.19	2.59	2.87	3.61	3.99

LEGEND

DB - Dry Bulb

WB - Wet Bulb

TC - Total Net Capacity (1000 Btu/hour)

Input - Total Power (kW)

COP - W/W

APPLICATION DATA

Unit Selection

When selecting a variable speed system, match the system capacity range to the anticipated load range. Since a variable speed system can accommodate a wide range of loads it is important to understand the percentage of time that the system will be required to run at both the maximum and the minimum load points. This differential is most evident when a residential application is compared with a commercial application.

Generally there is more load diversification in the residential application (shifting from a low load to a high load). The commercial application tends to be steadier during the normal day time hours, and will drop to low load levels after normal business hours. If it is anticipated that the system needs to run at the maximum load point for the majority of the time, the next larger system capacity should be selected.

The Application table below provides a guideline for selecting the appropriate size for the application.

NOTE: See the note on page 37 regarding selection of 30K or 36K Air Handling Units (AHUs) in multi-zone applications.

NOTE: Refer to the most current version of the compatibility chart for a list of the approved indoor units for each outdoor size.

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
18K - Regular Heat											
6+6	2 - Zone	6,000	6,000				6,300	6,300			
6+9		6,000	9,000				6,300	9,500			
6+12		6,000	12,000				6,300	12,700			
9+9		9,000	9,000				9,500	9,500			
9+12		9,000	12,000				9,500	12,700			
12+12		11,200	11,200				11,800	11,800			
24K - High Heat											
6+6	2 - Zone	8,000	8,000				8,200	8,200			
6+9		6,400	9,500				6,500	9,700			
6+12		6,000	12,000				6,100	12,300			
6+18		6,000	18,000				6,100	18,400			
9+9		9,000	9,000				9,200	9,200			
9+12		9,000	12,000				9,200	12,300			
9+18		9,000	18,000				9,200	18,400			
12+12		12,000	12,000				12,300	12,300			
12+18		12,000	18,000				12,300	18,400			
18+18		15,600	15,600				15,900	15,900			
6+6+6	3 - Zone	6,000	6,000	6,000			6,100	6,100	6,100		
6+6+9		6,000	6,000	9,000			6,100	6,100	9,200		
6+6+12		6,000	6,000	12,000			6,100	6,100	12,300		
6+6+18		6,000	6,000	18,000			6,100	6,100	18,400		
6+9+9		6,000	9,000	9,000			6,100	9,200	9,200		
6+9+12		6,000	9,000	12,000			6,100	9,200	12,300		
6+9+18		5,700	8,500	17,000			5,800	8,700	17,400		
6+12+12		6,000	12,000	12,000			6,100	12,300	12,300		
9+9+9		9,000	9,000	9,000			9,200	9,200	9,200		
9+9+12		9,000	9,000	12,000			9,200	9,200	12,300		
9+9+18		7,800	7,800	15,600			8,000	8,000	15,900		
9+12+12		8,500	11,400	11,400			8,700	11,600	11,600		
12+12+12		10,400	10,400	10,400			10,600	10,600	10,600		
30K - High Heat											
6+9	2 - Zone	7,900	11,900				7,900	11,900			
6+12		6,600	13,200				6,600	13,200			
6+18		6,000	18,000				6,000	18,000			
6+24		6,000	24,000				6,000	24,000			
9+9		9,900	9,900				9,900	9,900			
9+12		9,000	12,000				9,000	12,000			
9+18		9,000	18,000				9,000	18,000			
9+24		9,000	24,000				9,000	24,000			
12+12		12,000	12,000				12,000	12,000			
12+18		12,000	18,000				12,000	18,000			
12+24		12,000	24,000				12,000	24,000			
18+18		18,000	18,000				18,000	18,000			

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6	3 - Zone	6,600	6,600	6,600			6,600	6,600	6,600		
6+6+9		6,000	6,000	9,000			6,000	6,000	9,000		
6+6+12		6,000	6,000	12,000			6,000	6,000	12,000		
6+6+18		6,000	6,000	18,000			6,000	6,000	18,000		
6+6+24		6,000	6,000	24,000			6,000	6,000	24,000		
6+9+9		6,000	9,000	9,000			6,000	9,000	9,000		
6+9+12		6,000	9,000	12,000			6,000	9,000	12,000		
6+9+18		6,000	9,000	18,000			6,000	9,000	18,000		
6+9+24		6,000	9,000	24,000			6,000	9,000	24,000		
6+12+12		6,000	12,000	12,000			6,000	12,000	12,000		
6+12+18		6,000	12,000	18,000			6,000	12,000	18,000		
6+12+24		5,700	11,400	22,800			5,700	11,400	22,800		
6+18+18		5,700	17,100	17,100			5,700	17,100	17,100		
6+18+24		4,900	14,800	19,700			4,900	14,800	19,700		
9+9+9		9,000	9,000	9,000			9,000	9,000	9,000		
9+9+12		9,000	9,000	12,000			9,000	9,000	12,000		
9+9+18		9,000	9,000	18,000			9,000	9,000	18,000		
9+9+24		8,600	8,600	17,100			8,600	8,600	17,100		
9+12+12		9,000	12,000	12,000			9,000	12,000	12,000		
9+12+18		9,000	12,000	18,000			9,000	12,000	18,000		
9+12+24		8,000	10,600	5,300			8,000	10,600	5,300		
9+18+18		8,000	16,000	5,300			8,000	16,000	5,300		
12+12+12		12,000	12,000	12,000			12,000	12,000	12,000		
12+12+18		11,300	11,300	16,900			11,300	11,300	16,900		
12+18+18		9,900	14,800	14,800			9,900	14,800	14,800		
12+12+24		9,900	9,900	19,700			9,900	9,900	19,700		
6+6+6+6	4 - Zone	6,000	6,000	6,000	6,000		6,000	6,000	6,000	6,000	
6+6+6+9		6,000	6,000	6,000	9,000		6,000	6,000	6,000	9,000	
6+6+6+12		6,000	6,000	6,000	12,000		6,000	6,000	6,000	12,000	
6+6+6+18		6,000	6,000	6,000	18,000		6,000	6,000	6,000	18,000	
6+6+6+24		5,700	5,700	5,700	22,800		5,700	5,700	5,700	22,800	
6+6+9+9		6,000	6,000	9,000	9,000		6,000	6,000	9,000	9,000	
6+6+9+12		6,000	6,000	9,000	12,000		6,000	6,000	9,000	12,000	
6+6+9+18		6,000	6,000	9,000	18,000		6,000	6,000	9,000	18,000	
6+6+9+24		5,300	5,300	7,900	21,000		5,300	5,300	7,900	21,000	
6+6+12+12		6,000	6,000	12,000	12,000		6,000	6,000	12,000	12,000	
6+6+12+18		5,600	5,600	11,300	16,900		5,600	5,600	11,300	16,900	
6+6+12+24		4,900	4,900	9,900	19,700		4,900	4,900	9,900	19,700	
6+6+18+18		4,900	4,900	14,800	14,800		4,900	4,900	14,800	14,800	
6+9+9+9		6,000	9,000	9,000	9,000		6,000	9,000	9,000	9,000	
6+9+9+12		6,000	9,000	9,000	12,000		6,000	9,000	9,000	12,000	
6+9+9+18		5,600	8,500	8,500	16,900		5,600	8,500	8,500	16,900	
6+9+9+24		4,900	7,400	7,400	19,700		4,900	7,400	7,400	19,700	
6+12+12+12		5,600	11,300	11,300	11,300		5,600	11,300	11,300	11,300	
6+12+12+18		4,900	9,900	9,900	14,800		4,900	9,900	9,900	14,800	
9+9+9+9		9,000	9,000	9,000	9,000		9,000	9,000	9,000	9,000	
9+9+9+12		9,000	9,000	9,000	12,000		9,000	9,000	9,000	12,000	
9+9+9+18		7,900	7,900	7,900	15,800		7,900	7,900	7,900	15,800	
9+9+12+12		8,500	8,500	11,300	11,300		8,500	8,500	11,300	11,300	
9+9+12+18		7,400	7,400	9,900	14,800		7,400	7,400	9,900	14,800	
9+12+12+12		7,900	10,500	10,500	10,500		7,900	10,500	10,500	10,500	
12+12+12+12		9,900	9,900	9,900	9,900		9,900	9,900	9,900	9,900	

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
36K - Regular											
6+9	2 - Zone	9,700	14,700				10,000	15,100			
6+12		8,100	16,300				8,300	16,800			
6+18		6,000	18,000				6,200	18,500			
6+24		6,000	24,000				6,200	24,700			
9+9		12,200	12,200				12,500	12,500			
9+12		10,500	14,000				10,800	14,400			
9+18		9,000	18,000				9,300	18,500			
9+24		9,000	24,000				9,300	24,700			
12+12		12,000	12,000				12,300	12,300			
12+18		12,000	18,000				12,300	18,500			
12+24		12,000	24,000				12,300	24,700			
18+18		18,000	18,000				18,500	18,500			
6+6+6	3 - Zone	8,200	8,200	8,200			8,400	8,400	8,400		
6+6+9		7,000	7,000	10,500			7,200	7,200	10,800		
6+6+12		6,000	6,000	12,000			6,200	6,200	12,300		
6+6+18		6,000	6,000	18,000			6,200	6,200	18,500		
6+6+24		6,000	6,000	24,000			6,200	6,200	24,700		
6+9+9		6,000	9,000	9,000			6,200	9,300	9,300		
6+9+12		6,000	9,000	12,000			6,200	9,300	12,300		
6+9+18		6,000	9,000	18,000			6,200	9,300	18,500		
6+9+24		6,000	9,000	24,000			6,200	9,300	24,700		
6+12+12		6,000	12,000	12,000			6,200	12,300	12,300		
6+12+18		6,000	12,000	18,000			6,200	12,300	18,500		
6+12+24		5,700	11,400	22,800			5,900	11,700	23,400		
6+18+18		5,700	17,100	17,100			5,900	17,600	17,600		
6+18+24		4,900	14,800	19,700			5,000	15,200	20,200		
9+9+9		9,000	9,000	9,000			9,300	9,300	9,300		
9+9+12		9,000	9,000	12,000			9,300	9,300	12,300		
9+9+18		9,000	9,000	18,000			9,300	9,300	18,500		
9+9+24		8,600	8,600	17,100			8,800	8,800	17,600		
9+12+12		9,000	12,000	12,000			9,300	12,300	12,300		
9+12+18		9,000	12,000	18,000			9,300	12,300	18,500		
9+12+24		8,000	10,600	5,300			8,200	10,900	5,400		
9+18+18		8,000	16,000	5,300			8,200	16,400	5,400		
12+12+12		12,000	12,000	12,000			12,300	12,300	12,300		
12+12+18		11,300	11,300	16,900			11,600	11,600	17,400		
12+18+18		9,900	14,800	14,800			10,200	15,200	15,200		
12+12+24		9,900	9,900	19,700			10,200	10,200	20,200		

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+6	4 - Zone	6,000	6,000	6,000	6,000		6,200	6,200	6,200	6,200	
6+6+6+9		6,000	6,000	6,000	9,000		6,200	6,200	6,200	9,300	
6+6+6+12		6,000	6,000	6,000	12,000		6,200	6,200	6,200	12,300	
6+6+6+18		6,000	6,000	6,000	18,000		6,200	6,200	6,200	18,500	
6+6+6+24		5,700	5,700	5,700	22,800		5,900	5,900	5,900	23,400	
6+6+9+9		6,000	6,000	9,000	9,000		6,200	6,200	9,300	9,300	
6+6+9+12		6,000	6,000	9,000	12,000		6,200	6,200	9,300	12,300	
6+6+9+18		6,000	6,000	9,000	18,000		6,200	6,200	9,300	18,500	
6+6+9+24		5,300	5,300	7,900	21,000		5,400	5,400	8,100	21,600	
6+6+12+12		6,000	6,000	12,000	12,000		6,200	6,200	12,300	12,300	
6+6+12+18		5,600	5,600	11,300	16,900		5,800	5,800	11,600	17,400	
6+6+12+24		4,900	4,900	9,900	19,700		5,000	5,000	10,200	20,200	
6+6+18+18		4,900	4,900	14,800	14,800		5,000	5,000	15,200	15,200	
6+9+9+9		6,000	9,000	9,000	9,000		6,200	9,300	9,300	9,300	
6+9+9+12		6,000	9,000	9,000	12,000		6,200	9,300	9,300	12,300	
6+9+9+18		5,600	8,500	8,500	16,900		5,800	8,700	8,700	17,400	
6+9+9+24		4,900	7,400	7,400	19,700		5,000	7,600	7,600	20,200	
6+12+12+12		5,600	11,300	11,300	11,300		5,800	11,600	11,600	11,600	
6+12+12+18		4,900	9,900	9,900	14,800		5,000	10,200	10,200	15,200	
9+9+9+9		9,000	9,000	9,000	9,000		9,300	9,300	9,300	9,300	
9+9+9+12		9,000	9,000	9,000	12,000		9,300	9,300	9,300	12,300	
9+9+9+18		7,900	7,900	7,900	15,800		8,100	8,100	8,100	16,200	
9+9+12+12		8,500	8,500	11,300	11,300		8,700	8,700	11,600	11,600	
9+9+12+18		7,400	7,400	9,900	14,800		7,600	7,600	10,200	15,200	
9+12+12+12		7,900	10,500	10,500	10,500		8,100	10,800	10,800	10,800	
12+12+12+12		9,900	9,900	9,900	9,900		10,200	10,200	10,200	10,200	
36K - High Heat											
9+18	2 - Zone	9,000	18,000				9,200	18,400			
9+24		9,000	24,000				9,200	24,500			
12+12		12,000	12,000				12,300	12,300			
12+18		12,000	18,000				12,300	18,400			
12+24		12,000	24,000				12,300	24,500			
18+18		18,000	18,000				18,400	18,400			
18+24		18,000	24,000				18,400	24,500			
24+24		24,000	24,000				24,500	24,500			
6+6+24	3 - Zone	6,000	6,000	24,000			6,100	6,100	24,500		
6+9+12		6,000	9,000	12,000			6,100	9,200	12,300		
6+9+18		6,000	9,000	18,000			6,100	9,200	18,400		
6+9+24		6,000	9,000	24,000			6,100	9,200	24,500		
6+12+18		6,000	12,000	18,000			6,100	12,300	18,400		
6+12+24		6,000	12,000	24,000			6,100	12,300	24,500		
6+18+18		6,000	18,000	18,000			6,100	18,400	18,400		
6+18+24		6,000	18,000	24,000			6,100	18,400	24,500		
6+24+24		6,000	24,000	24,000			6,000	24,100	24,100		
9+9+9		9,000	9,000	9,000			9,200	9,200	9,200		
9+9+12		9,000	9,000	12,000			9,200	9,200	12,300		
9+9+18		9,000	9,000	18,000			9,200	9,200	18,400		
9+9+24		9,000	9,000	24,000			9,200	9,200	24,500		
9+12+12		9,000	12,000	12,000			9,200	12,300	12,300		
9+12+18		9,000	12,000	18,000			9,200	12,300	18,400		
9+12+24		9,000	12,000	24,000			9,200	12,300	24,500		
9+18+18		9,000	18,000	18,000			9,200	18,400	18,400		
9+18+24		9,000	18,000	24,000			9,200	18,400	24,500		
9+24+24		8,300	22,300	22,300			8,500	22,800	22,800		
12+12+12		12,000	12,000	12,000			12,300	12,300	12,300		
12+12+18		12,000	12,000	18,000			12,300	12,300	18,400		
12+12+24		12,000	12,000	24,000			12,300	12,300	24,500		
12+18+18		12,000	18,000	18,000			12,300	18,400	18,400		
12+18+24		12,000	18,000	24,000			12,000	18,100	24,100		
12+24+24		10,400	20,900	20,900			10,600	21,300	21,300		
18+18+18		17,500	17,500	17,500			17,900	17,900	17,900		
18+18+24		16,800	16,800	18,700			17,200	17,200	19,100		

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+18	4 - Zone	6,000	6,000	6,000	18,000		6,100	6,100	6,100	18,400	
6+6+6+24		6,000	6,000	6,000	24,000		6,100	6,100	6,100	24,500	
6+6+6+30		6,000	6,000	6,000	30,000		6,100	6,100	6,100	30,600	
6+6+6+36		6,000	6,000	6,000	36,000		6,000	6,000	6,000	36,200	
6+6+9+12		6,000	6,000	9,000	12,000		6,100	6,100	9,200	12,300	
6+6+9+18		6,000	6,000	9,000	18,000		6,100	6,100	9,200	18,400	
6+6+9+24		6,000	6,000	9,000	24,000		6,100	6,100	9,200	24,500	
6+6+9+30		6,000	6,000	9,000	30,000		6,100	6,100	9,200	30,600	
6+6+9+36		5,500	5,500	8,300	33,000		5,600	5,600	8,500	33,700	
6+6+12+12		6,000	6,000	12,000	12,000		6,100	6,100	12,300	12,300	
6+6+12+18		6,000	6,000	12,000	18,000		6,100	6,100	12,300	18,400	
6+6+12+24		6,000	6,000	12,000	24,000		6,100	6,100	12,300	24,500	
6+6+12+30		6,000	6,000	12,000	30,000		6,000	6,000	12,100	30,100	
6+6+12+36		5,200	5,200	10,400	31,300		5,300	5,300	10,600	32,000	
6+6+18+18		6,000	6,000	18,000	18,000		6,100	6,100	18,400	18,400	
6+6+18+24		6,000	6,000	18,000	24,000		6,000	6,000	18,100	24,100	
6+6+18+30		5,200	5,200	15,700	26,100		5,300	5,300	16,000	26,600	
6+6+24+24		5,200	5,200	20,900	20,900		5,300	5,300	21,300	21,300	
6+9+9+9		6,000	9,000	9,000	9,000		6,100	9,200	9,200	9,200	
6+9+9+12		6,000	9,000	9,000	12,000		6,100	9,200	9,200	12,300	
6+9+9+18		6,000	9,000	9,000	18,000		6,100	9,200	9,200	18,400	
6+9+9+24		6,000	9,000	9,000	24,000		6,100	9,200	9,200	24,500	
6+9+9+30		6,000	9,000	9,000	30,000		6,100	9,100	9,100	30,500	
6+9+9+36		5,200	7,800	7,800	31,300		5,300	8,000	8,000	32,000	
6+9+12+12		6,000	9,000	12,000	12,000		6,100	9,200	12,300	12,300	
6+9+12+18		6,000	9,000	12,000	18,000		6,100	9,200	12,300	18,400	
6+9+12+24		6,000	9,000	12,000	24,000		6,100	9,200	12,300	24,500	
6+9+12+30		5,500	8,300	11,000	27,500		5,600	8,500	11,200	28,100	
6+9+12+36		5,000	7,400	9,900	29,800		5,100	7,600	10,100	30,400	
6+9+18+18		6,000	9,000	18,000	18,000		6,100	9,200	18,400	18,400	
6+9+18+24		5,500	8,300	16,500	22,000		5,600	8,500	16,800	22,500	
6+9+18+30		5,000	7,400	14,900	24,800		5,100	7,600	15,200	25,300	
6+12+12+12		6,000	12,000	12,000	12,000		6,100	12,300	12,300	12,300	
6+12+12+18		6,000	12,000	12,000	18,000		6,100	12,300	12,300	18,400	
6+12+12+24		5,800	11,600	11,600	23,300		5,900	11,800	11,800	23,800	
6+12+12+30		5,200	10,400	10,400	26,100		5,300	10,600	10,600	26,600	
6+12+18+18		5,800	11,600	17,500	17,500		5,900	11,800	17,900	17,900	
6+12+18+24		5,200	10,400	15,700	20,900		5,300	10,600	16,000	21,300	
9+9+9+9		9,000	9,000	9,000	9,000		9,200	9,200	9,200	9,200	
9+9+9+12		9,000	9,000	9,000	12,000		9,200	9,200	9,200	12,300	
9+9+9+18		9,000	9,000	9,000	18,000		9,200	9,200	9,200	18,400	
9+9+9+24		9,000	9,000	9,000	24,000		9,200	9,200	9,200	24,500	
9+9+12+12		9,000	9,000	12,000	12,000		9,200	9,200	12,300	12,300	
9+9+12+18		9,000	9,000	12,000	18,000		9,200	9,200	12,300	18,400	
9+9+12+24		8,700	8,700	11,600	23,300		8,900	8,900	11,800	23,800	
9+9+18+18		8,700	8,700	17,500	17,500		8,900	8,900	17,900	17,900	
9+9+18+24		7,800	7,800	15,700	20,900		8,000	8,000	16,000	21,300	
9+12+12+12		9,000	12,000	12,000	12,000		9,200	12,300	12,300	12,300	
9+12+12+18		9,000	12,000	12,000	18,000		9,200	12,300	12,300	18,400	
9+12+12+24		8,300	11,000	11,000	22,000		8,500	11,200	11,200	22,500	
9+12+18+18		8,300	11,000	16,500	16,500		8,500	11,200	16,800	16,800	
9+18+18+18		7,400	14,900	14,900	14,900		7,600	15,200	15,200	15,200	
12+12+12+12		12,000	12,000	12,000	12,000		12,300	12,300	12,300	12,300	
12+12+12+18		11,600	11,600	11,600	17,500		11,800	11,800	11,800	17,900	
12+12+12+24		10,400	10,400	10,400	20,900		10,600	10,600	10,600	21,300	
12+12+18+18		10,400	10,400	15,700	15,700		10,600	10,600	16,000	16,000	

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
48K - Regular Heat											
6+30	2 - Zone	6,000	30,000				6,000	30,000			
6+36		6,000	36,000				6,000	36,000			
9+18		10,600	21,100				10,600	21,100			
9+24		9,000	24,000				9,000	24,000			
9+30		9,000	30,000				9,000	30,000			
9+36		9,000	36,000				9,000	36,000			
12+12		15,900	15,900				15,900	15,900			
12+18		12,700	19,000				12,700	19,000			
12+24		12,000	24,000				12,000	24,000			
12+30		12,000	30,000				12,000	30,000			
12+36		12,000	36,000				12,000	36,000			
18+18		18,000	18,000				18,000	18,000			
18+24		18,000	24,000				18,000	24,000			
18+30		18,000	30,000				18,000	30,000			
18+36		18,000	36,000				18,000	36,000			
24+24		24,000	24,000				24,000	24,000			
24+30		24,000	30,000				24,000	30,000			
24+36		24,000	36,000				24,000	36,000			
30+30		30,000	30,000				30,000	30,000			

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+24	3 - Zone	6,000	6,000	24,000			6,000	6,000	24,000		
6+6+30		6,000	6,000	30,000			6,000	6,000	30,000		
6+6+36		6,000	6,000	36,000			6,000	6,000	36,000		
6+9+12		7,000	10,600	14,100			7,000	10,600	14,100		
6+9+18		6,000	9,000	18,000			6,000	9,000	18,000		
6+9+24		6,000	9,000	24,000			6,000	9,000	24,000		
6+9+30		6,000	9,000	30,000			6,000	9,000	30,000		
6+9+36		6,000	9,000	36,000			6,000	9,000	36,000		
6+12+18		6,000	12,000	18,000			6,000	12,000	18,000		
6+12+24		6,000	12,000	24,000			6,000	12,000	24,000		
6+12+30		6,000	12,000	30,000			6,000	12,000	30,000		
6+12+36		6,000	12,000	36,000			6,000	12,000	36,000		
6+18+18		6,000	18,000	18,000			6,000	18,000	18,000		
6+18+24		6,000	18,000	24,000			6,000	18,000	24,000		
6+18+30		6,000	18,000	30,000			6,000	18,000	30,000		
6+18+36		6,000	18,000	36,000			6,000	18,000	36,000		
6+24+24		6,000	24,000	24,000			6,000	24,000	24,000		
6+24+30		6,000	24,000	30,000			6,000	24,000	30,000		
9+9+9		10,600	10,600	10,600			10,600	10,600	10,600		
9+9+12		9,500	9,500	12,700			9,500	9,500	12,700		
9+9+18		9,000	9,000	18,000			9,000	9,000	18,000		
9+9+24		9,000	9,000	24,000			9,000	9,000	24,000		
9+9+30		9,000	9,000	30,000			9,000	9,000	30,000		
9+9+36		9,000	9,000	36,000			9,000	9,000	36,000		
9+12+12		9,000	12,000	12,000			9,000	12,000	12,000		
9+12+18		9,000	12,000	18,000			9,000	12,000	18,000		
9+12+24		9,000	12,000	24,000			9,000	12,000	24,000		
9+12+30		9,000	12,000	30,000			9,000	12,000	30,000		
9+12+36		9,000	12,000	36,000			9,000	12,000	36,000		
9+18+18		9,000	18,000	18,000			9,000	18,000	18,000		
9+18+24		9,000	18,000	24,000			9,000	18,000	24,000		
9+18+30		9,000	18,000	30,000			9,000	18,000	30,000		
9+18+36		9,000	18,000	36,000			9,000	18,000	36,000		
9+24+24		9,000	24,000	24,000			9,000	24,000	24,000		
12+12+12		12,000	12,000	12,000			12,000	12,000	12,000		
12+12+18		12,000	12,000	18,000			12,000	12,000	18,000		
12+12+24		12,000	12,000	24,000			12,000	12,000	24,000		
12+12+30		12,000	12,000	30,000			12,000	12,000	30,000		
12+12+36		12,000	12,000	36,000			12,000	12,000	36,000		
12+18+18		12,000	16,500	16,500			12,000	16,500	16,500		
12+18+24		12,000	18,000	24,000			12,000	18,000	24,000		
12+18+30		12,000	18,000	30,000			12,000	18,000	30,000		
12+24+24		12,000	24,000	24,000			12,000	24,000	24,000		
18+18+18		18,000	18,000	18,000			18,000	18,000	18,000		
18+18+24		18,000	18,000	24,000			18,000	18,000	24,000		

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+18	4-Zone	6,000	6,000	6,000	18,000		6,000	6,000	6,000	18,000	
6+6+6+24		6,000	6,000	6,000	24,000		6,000	6,000	6,000	24,000	
6+6+6+30		6,000	6,000	6,000	30,000		6,000	6,000	6,000	30,000	
6+6+6+36		6,000	6,000	6,000	36,000		6,000	6,000	6,000	36,000	
6+6+9+12		6,000	6,000	9,000	12,000		6,000	6,000	9,000	12,000	
6+6+9+18		6,000	6,000	9,000	18,000		6,000	6,000	9,000	18,000	
6+6+9+24		6,000	6,000	9,000	24,000		6,000	6,000	9,000	24,000	
6+6+9+30		6,000	6,000	9,000	30,000		6,000	6,000	9,000	30,000	
6+6+9+36		6,000	6,000	9,000	36,000		6,000	6,000	9,000	36,000	
6+6+12+12		6,000	6,000	12,000	12,000		6,000	6,000	12,000	12,000	
6+6+12+18		6,000	6,000	12,000	18,000		6,000	6,000	12,000	18,000	
6+6+12+24		6,000	6,000	12,000	24,000		6,000	6,000	12,000	24,000	
6+6+12+30		6,000	6,000	12,000	30,000		6,000	6,000	12,000	30,000	
6+6+12+36		6,000	6,000	12,000	36,000		6,000	6,000	12,000	36,000	
6+6+18+18		6,000	6,000	18,000	18,000		6,000	6,000	18,000	18,000	
6+6+18+24		6,000	6,000	18,000	24,000		6,000	6,000	18,000	24,000	
6+6+18+30		6,000	6,000	18,000	30,000		6,000	6,000	18,000	30,000	
6+6+24+24		6,000	6,000	24,000	24,000		6,000	6,000	24,000	24,000	
6+9+9+9		6,000	9,000	9,000	9,000		6,000	9,000	9,000	9,000	
6+9+9+12		6,000	9,000	9,000	12,000		6,000	9,000	9,000	12,000	
6+9+9+18		6,000	9,000	9,000	18,000		6,000	9,000	9,000	18,000	
6+9+9+24		6,000	9,000	9,000	24,000		6,000	9,000	9,000	24,000	
6+9+9+30		6,000	9,000	9,000	30,000		6,000	9,000	9,000	30,000	
6+9+9+36		6,000	9,000	9,000	36,000		6,000	9,000	9,000	36,000	
6+9+12+12		6,000	9,000	12,000	12,000		6,000	9,000	12,000	12,000	
6+9+12+18		6,000	9,000	12,000	18,000		6,000	9,000	12,000	18,000	
6+9+12+24		6,000	9,000	12,000	24,000		6,000	9,000	12,000	24,000	
6+9+12+30		6,000	9,000	12,000	30,000		6,000	9,000	12,000	30,000	
6+9+12+36		6,000	9,000	12,000	36,000		6,000	9,000	12,000	36,000	
6+9+18+18		6,000	9,000	18,000	18,000		6,000	9,000	18,000	18,000	
6+9+18+24		6,000	9,000	18,000	24,000		6,000	9,000	18,000	24,000	
6+9+18+30		6,000	9,000	18,000	30,000		6,000	9,000	18,000	30,000	
6+9+24+24		6,000	9,000	24,000	24,000		6,000	9,000	24,000	24,000	
6+12+12+12		6,000	12,000	12,000	12,000		6,000	12,000	12,000	12,000	
6+12+12+18		6,000	12,000	12,000	18,000		6,000	12,000	12,000	18,000	
6+12+12+24		6,000	12,000	12,000	24,000		6,000	12,000	12,000	24,000	
6+12+12+30		6,000	12,000	12,000	30,000		6,000	12,000	12,000	30,000	
6+12+18+18		6,000	12,000	18,000	18,000		6,000	12,000	18,000	18,000	
6+12+18+24		6,000	12,000	18,000	24,000		6,000	12,000	18,000	24,000	
6+18+18+18		6,000	18,000	18,000	18,000		6,000	18,000	18,000	18,000	
9+9+9+9		9,000	9,000	9,000	9,000		9,000	9,000	9,000	9,000	
9+9+9+12		9,000	9,000	9,000	12,000		9,000	9,000	9,000	12,000	
9+9+9+18		9,000	9,000	9,000	18,000		9,000	9,000	9,000	18,000	
9+9+9+24		9,000	9,000	9,000	24,000		9,000	9,000	9,000	24,000	
9+9+9+30		9,000	9,000	9,000	30,000		9,000	9,000	9,000	30,000	
9+9+9+36		9,000	9,000	9,000	36,000		9,000	9,000	9,000	36,000	
9+9+12+12		9,000	9,000	12,000	12,000		9,000	9,000	12,000	12,000	
9+9+12+18		9,000	9,000	12,000	18,000		9,000	9,000	12,000	18,000	
9+9+12+24		9,000	9,000	12,000	24,000		9,000	9,000	12,000	24,000	
9+9+12+30		9,000	9,000	12,000	30,000		9,000	9,000	12,000	30,000	
9+9+18+18		9,000	9,000	18,000	18,000		9,000	9,000	18,000	18,000	
9+9+18+24		9,000	9,000	18,000	24,000		9,000	9,000	18,000	24,000	
9+12+12+12		9,000	12,000	12,000	12,000		9,000	12,000	12,000	12,000	
9+12+12+18		9,000	12,000	12,000	18,000		9,000	12,000	12,000	18,000	
9+12+12+24		9,000	12,000	12,000	24,000		9,000	12,000	12,000	24,000	
9+12+18+18		9,000	12,000	18,000	18,000		9,000	12,000	18,000	18,000	
9+18+18+18		9,000	18,000	18,000	18,000		9,000	18,000	18,000	18,000	
12+12+12+12		12,000	12,000	12,000	12,000		12,000	12,000	12,000	12,000	
12+12+12+18		12,000	12,000	12,000	18,000		12,000	12,000	12,000	18,000	
12+12+12+24		12,000	12,000	12,000	24,000		12,000	12,000	12,000	24,000	
12+12+18+18		12,000	12,000	18,000	18,000		12,000	12,000	18,000	18,000	

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+6+6	5-Zone	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400
6+6+6+6+9		6,000	6,000	6,000	6,000	9,000	6,000	6,000	6,000	6,000	9,000
6+6+6+6+12		6,000	6,000	6,000	6,000	12,000	6,000	6,000	6,000	6,000	12,000
6+6+6+6+18		6,000	6,000	6,000	6,000	18,000	6,000	6,000	6,000	6,000	18,000
6+6+6+6+24		6,000	6,000	6,000	6,000	24,000	6,000	6,000	6,000	6,000	24,000
6+6+6+6+30		6,000	6,000	6,000	6,000	30,000	6,000	6,000	6,000	6,000	30,000
6+6+6+6+36		6,000	6,000	6,000	6,000	36,000	6,000	6,000	6,000	6,000	36,000
6+6+6+9+9		6,000	6,000	6,000	9,000	9,000	6,000	6,000	6,000	9,000	9,000
6+6+6+9+12		6,000	6,000	6,000	9,000	12,000	6,000	6,000	6,000	9,000	12,000
6+6+6+9+18		6,000	6,000	6,000	9,000	18,000	6,000	6,000	6,000	9,000	18,000
6+6+6+9+24		6,000	6,000	6,000	9,000	24,000	6,000	6,000	6,000	9,000	24,000
6+6+6+9+30		6,000	6,000	6,000	9,000	30,000	6,000	6,000	6,000	9,000	30,000
6+6+6+9+36		6,000	6,000	6,000	9,000	36,000	6,000	6,000	6,000	9,000	36,000
6+6+6+12+12		6,000	6,000	6,000	12,000	12,000	6,000	6,000	6,000	12,000	12,000
6+6+6+12+18		6,000	6,000	6,000	12,000	18,000	6,000	6,000	6,000	12,000	18,000
6+6+6+12+24		6,000	6,000	6,000	12,000	24,000	6,000	6,000	6,000	12,000	24,000
6+6+6+12+30		6,000	6,000	6,000	12,000	30,000	6,000	6,000	6,000	12,000	30,000
6+6+6+18+18		6,000	6,000	6,000	18,000	18,000	6,000	6,000	6,000	18,000	18,000
6+6+6+18+24		6,000	6,000	6,000	18,000	24,000	6,000	6,000	6,000	18,000	24,000
6+6+9+9+9		6,000	6,000	9,000	9,000	9,000	6,000	6,000	9,000	9,000	9,000
6+6+9+9+12		6,000	6,000	9,000	9,000	12,000	6,000	6,000	9,000	9,000	12,000
6+6+9+9+18		6,000	6,000	9,000	9,000	18,000	6,000	6,000	9,000	9,000	18,000
6+6+9+9+24		6,000	6,000	9,000	9,000	24,000	6,000	6,000	9,000	9,000	24,000
6+6+9+9+30		6,000	6,000	9,000	9,000	30,000	6,000	6,000	9,000	9,000	30,000
6+6+9+12+12		6,000	6,000	9,000	12,000	12,000	6,000	6,000	9,000	12,000	12,000
6+6+9+12+18		6,000	6,000	9,000	12,000	18,000	6,000	6,000	9,000	12,000	18,000
6+6+9+12+24		6,000	6,000	9,000	12,000	24,000	6,000	6,000	9,000	12,000	24,000
6+6+9+12+30		6,000	6,000	9,000	12,000	30,000	6,000	6,000	9,000	12,000	30,000
6+6+9+18+18		6,000	6,000	9,000	18,000	18,000	6,000	6,000	9,000	18,000	18,000
6+6+9+18+24		6,000	6,000	9,000	18,000	24,000	6,000	6,000	9,000	18,000	24,000
6+6+12+12+12		6,000	6,000	12,000	12,000	12,000	6,000	6,000	12,000	12,000	12,000
6+6+12+12+18		6,000	6,000	12,000	12,000	18,000	6,000	6,000	12,000	12,000	18,000
6+6+12+12+24		6,000	6,000	12,000	12,000	24,000	6,000	6,000	12,000	12,000	24,000
6+6+12+18+18		6,000	6,000	12,000	18,000	18,000	6,000	6,000	12,000	18,000	18,000
6+9+9+9+9		6,000	9,000	9,000	9,000	9,000	6,000	9,000	9,000	9,000	9,000
6+9+9+9+12		6,000	9,000	9,000	9,000	12,000	6,000	9,000	9,000	9,000	12,000
6+9+9+9+18		6,000	9,000	9,000	9,000	18,000	6,000	9,000	9,000	9,000	18,000
6+9+9+9+24		6,000	9,000	9,000	9,000	24,000	6,000	9,000	9,000	9,000	24,000
6+9+9+9+30		6,000	9,000	9,000	9,000	24,000	6,000	9,000	9,000	9,000	24,000
6+9+9+12+12		6,000	9,000	9,000	12,000	12,000	6,000	9,000	9,000	12,000	12,000
6+9+9+12+18		6,000	9,000	9,000	12,000	18,000	6,000	9,000	9,000	12,000	18,000
6+9+9+12+24		6,000	9,000	9,000	12,000	24,000	6,000	9,000	9,000	12,000	24,000
6+9+9+18+18		6,000	9,000	9,000	18,000	18,000	6,000	9,000	9,000	18,000	18,000
6+9+12+12+12		6,000	9,000	12,000	12,000	12,000	6,000	9,000	12,000	12,000	12,000
6+9+12+12+18		6,000	9,000	12,000	12,000	18,000	6,000	9,000	12,000	12,000	18,000
6+9+12+12+24		6,000	9,000	12,000	12,000	24,000	6,000	9,000	12,000	12,000	24,000
6+9+12+18+18		6,000	9,000	12,000	18,000	18,000	6,000	9,000	12,000	18,000	18,000
6+12+12+12+12		6,000	12,000	12,000	12,000	12,000	6,000	12,000	12,000	12,000	12,000
6+12+12+12+18		6,000	12,000	12,000	12,000	18,000	6,000	12,000	12,000	12,000	18,000
9+9+9+9+9		9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
9+9+9+9+12		9,000	9,000	9,000	9,000	12,000	9,000	9,000	9,000	9,000	12,000
9+9+9+9+18		9,000	9,000	9,000	9,000	18,000	9,000	9,000	9,000	9,000	18,000
9+9+9+9+24		9,000	9,000	9,000	9,000	24,000	9,000	9,000	9,000	9,000	24,000
9+9+9+12+12		9,000	9,000	9,000	12,000	12,000	9,000	9,000	9,000	12,000	12,000
9+9+9+12+18		9,000	9,000	9,000	12,000	18,000	9,000	9,000	9,000	12,000	18,000
9+9+9+18+18		9,000	9,000	9,000	18,000	18,000	9,000	9,000	9,000	18,000	18,000
9+9+12+12+12		9,000	9,000	12,000	12,000	12,000	9,000	9,000	12,000	12,000	12,000
9+9+12+12+18		9,000	9,000	12,000	12,000	18,000	9,000	9,000	12,000	12,000	18,000
9+12+12+12+12		9,000	12,000	12,000	12,000	12,000	9,000	12,000	12,000	12,000	12,000
9+12+12+12+18		9,000	12,000	12,000	12,000	18,000	9,000	12,000	12,000	12,000	18,000
12+12+12+12+12		12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
48K - High Heat											
6+30	2-Zone	6,000	30,000				6,100	30,600			
6+36		6,000	36,000				6,100	36,800			
9+18		10,600	21,100				10,900	21,800			
9+24		9,000	24,000				9,200	24,500			
9+30		9,000	30,000				9,200	30,600			
9+36		9,000	36,000				9,200	36,800			
12+12		15,900	15,900				16,200	16,200			
12+18		12,700	19,000				13,000	19,400			
12+24		12,000	24,000				12,300	24,500			
12+30		12,000	30,000				12,300	30,600			
12+36		12,000	36,000				12,300	36,800			
18+18		18,000	18,000				18,400	18,400			
18+24		18,000	24,000				18,400	24,500			
18+30		18,000	30,000				18,400	30,600			
18+36		18,000	36,000				18,400	36,800			
24+24		24,000	24,000				24,500	24,500			
24+30		24,000	30,000				24,500	30,600			
24+36		24,000	36,000				24,500	36,800			
30+30		30,000	30,000				30,600	30,600			

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+24	3-Zone	6,000	6,000	24,000			6,100	6,100	24,500		
6+6+30		6,000	6,000	30,000			6,100	6,100	30,600		
6+6+36		6,000	6,000	36,000			6,100	6,100	36,800		
6+9+12		7,000	10,600	14,100			7,200	10,900	14,600		
6+9+18		6,000	9,000	18,000			6,100	9,200	18,400		
6+9+24		6,000	9,000	24,000			6,100	9,200	24,500		
6+9+30		6,000	9,000	30,000			6,100	9,200	30,600		
6+9+36		6,000	9,000	36,000			6,100	9,200	36,800		
6+12+18		6,000	12,000	18,000			6,100	12,300	18,400		
6+12+24		6,000	12,000	24,000			6,100	12,300	24,500		
6+12+30		6,000	12,000	30,000			6,100	12,300	30,600		
6+12+36		6,000	12,000	36,000			6,100	12,300	36,800		
6+18+18		6,000	18,000	18,000			6,100	18,400	18,400		
6+18+24		6,000	18,000	24,000			6,100	18,400	24,500		
6+18+30		6,000	18,000	30,000			6,100	18,400	30,600		
6+18+36		6,000	18,000	36,000			6,100	18,400	36,800		
6+24+24		6,000	24,000	24,000			6,100	24,500	24,500		
6+24+30		6,000	24,000	30,000			6,100	24,500	30,600		
9+9+9		10,600	10,600	10,600			10,800	10,800	10,800		
9+9+12		9,500	9,500	12,700			9,700	9,700	13,000		
9+9+18		9,000	9,000	18,000			9,200	9,200	18,400		
9+9+24		9,000	9,000	24,000			9,200	9,200	24,500		
9+9+30		9,000	9,000	30,000			9,200	9,200	30,600		
9+9+36		9,000	9,000	36,000			9,200	9,200	36,800		
9+12+12		9,000	12,000	12,000			9,200	12,300	12,300		
9+12+18		9,000	12,000	18,000			9,200	12,300	18,400		
9+12+24		9,000	12,000	24,000			9,200	12,300	24,500		
9+12+30		9,000	12,000	30,000			9,200	12,300	30,600		
9+12+36		9,000	12,000	36,000			9,200	12,300	36,800		
9+18+18		9,000	18,000	18,000			9,200	18,400	18,400		
9+18+24		9,000	18,000	24,000			9,200	18,400	24,500		
9+18+30		9,000	18,000	30,000			9,200	18,400	30,600		
9+18+36		9,000	18,000	36,000			9,200	18,400	36,800		
9+24+24		9,000	24,000	24,000			9,200	24,500	24,500		
12+12+12		12,000	12,000	12,000			12,300	12,300	12,300		
12+12+18		12,000	12,000	18,000			12,300	12,300	18,400		
12+12+24		12,000	12,000	24,000			12,300	12,300	24,500		
12+12+30		12,000	12,000	30,000			12,300	12,300	30,600		
12+12+36		12,000	12,000	36,000			12,300	12,300	36,800		
12+18+18		12,000	16,500	16,500			12,300	16,800	16,800		
12+18+24		12,000	18,000	24,000			12,300	18,400	24,500		
12+18+30		12,000	18,000	30,000			12,300	18,400	30,600		
12+24+24		12,000	24,000	24,000			12,300	24,500	24,500		
18+18+18		18,000	18,000	18,000			18,400	18,400	18,400		
18+18+24		18,000	18,000	24,000			18,400	18,400	24,500		

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+18	4-Zone	6,000	6,000	6,000	18,000		6,100	6,100	6,100	18,400	
6+6+6+24		6,000	6,000	6,000	24,000		6,100	6,100	6,100	24,500	
6+6+6+30		6,000	6,000	6,000	30,000		6,100	6,100	6,100	30,600	
6+6+6+36		6,000	6,000	6,000	36,000		6,100	6,100	6,100	36,800	
6+6+9+12		6,000	6,000	9,000	12,000		6,100	6,100	9,200	12,300	
6+6+9+18		6,000	6,000	9,000	18,000		6,100	6,100	9,200	18,400	
6+6+9+24		6,000	6,000	9,000	24,000		6,100	6,100	9,200	24,500	
6+6+9+30		6,000	6,000	9,000	30,000		6,100	6,100	9,200	30,600	
6+6+9+36		6,000	6,000	9,000	36,000		6,100	6,100	9,200	36,800	
6+6+12+12		6,000	6,000	12,000	12,000		6,100	6,100	12,300	12,300	
6+6+12+18		6,000	6,000	12,000	18,000		6,100	6,100	12,300	18,400	
6+6+12+24		6,000	6,000	12,000	24,000		6,100	6,100	12,300	24,500	
6+6+12+30		6,000	6,000	12,000	30,000		6,100	6,100	12,300	30,600	
6+6+12+36		6,000	6,000	12,000	36,000		6,100	6,100	12,300	36,800	
6+6+18+18		6,000	6,000	18,000	18,000		6,100	6,100	18,400	18,400	
6+6+18+24		6,000	6,000	18,000	24,000		6,100	6,100	18,400	24,500	
6+6+18+30		6,000	6,000	18,000	30,000		6,100	6,100	18,400	30,600	
6+6+24+24		6,000	6,000	24,000	24,000		6,100	6,100	24,500	24,500	
6+9+9+9		6,000	9,000	9,000	9,000		6,100	9,200	9,200	9,200	
6+9+9+12		6,000	9,000	9,000	12,000		6,100	9,200	9,200	12,300	
6+9+9+18		6,000	9,000	9,000	18,000		6,100	9,200	9,200	18,400	
6+9+9+24		6,000	9,000	9,000	24,000		6,100	9,200	9,200	24,500	
6+9+9+30		6,000	9,000	9,000	30,000		6,100	9,200	9,200	30,600	
6+9+9+36		6,000	9,000	9,000	36,000		6,100	9,200	9,200	36,800	
6+9+12+12		6,000	9,000	12,000	12,000		6,100	9,200	12,300	12,300	
6+9+12+18		6,000	9,000	12,000	18,000		6,100	9,200	12,300	18,400	
6+9+12+24		6,000	9,000	12,000	24,000		6,100	9,200	12,300	24,500	
6+9+12+30		6,000	9,000	12,000	30,000		6,100	9,200	12,300	30,600	
6+9+12+36		6,000	9,000	12,000	36,000		6,100	9,200	12,300	36,800	
6+9+18+18		6,000	9,000	18,000	18,000		6,100	9,200	18,400	18,400	
6+9+18+24		6,000	9,000	18,000	24,000		6,100	9,200	18,400	24,500	
6+9+18+30		6,000	9,000	18,000	30,000		6,100	9,200	18,400	30,600	
6+9+24+24		6,000	9,000	24,000	24,000		6,100	9,200	24,500	24,500	
6+12+12+12		6,000	12,000	12,000	12,000		6,100	12,300	12,300	12,300	
6+12+12+18		6,000	12,000	12,000	18,000		6,100	12,300	12,300	18,400	
6+12+12+24		6,000	12,000	12,000	24,000		6,100	12,300	12,300	24,500	
6+12+12+30		6,000	12,000	12,000	30,000		6,100	12,300	12,300	30,600	
6+12+18+18		6,000	12,000	18,000	18,000		6,100	12,300	18,400	18,400	
6+12+18+24		6,000	12,000	18,000	24,000		6,100	12,300	18,400	24,500	
6+18+18+18		6,000	18,000	18,000	18,000		6,100	18,400	18,400	18,400	
9+9+9+9		9,000	9,000	9,000	9,000		9,200	9,200	9,200	9,200	
9+9+9+12		9,000	9,000	9,000	12,000		9,200	9,200	9,200	12,300	
9+9+9+18		9,000	9,000	9,000	18,000		9,200	9,200	9,200	18,400	
9+9+9+24		9,000	9,000	9,000	24,000		9,200	9,200	9,200	24,500	
9+9+9+30		9,000	9,000	9,000	30,000		9,200	9,200	9,200	30,600	
9+9+9+36		9,000	9,000	9,000	36,000		9,200	9,200	9,200	36,800	
9+9+12+12		9,000	9,000	12,000	12,000		9,200	9,200	12,300	12,300	
9+9+12+18		9,000	9,000	12,000	18,000		9,200	9,200	12,300	18,400	
9+9+12+24		9,000	9,000	12,000	24,000		9,200	9,200	12,300	24,500	
9+9+12+30		9,000	9,000	12,000	30,000		9,200	9,200	12,300	30,600	
9+9+18+18		9,000	9,000	18,000	18,000		9,200	9,200	18,400	18,400	
9+9+18+24		9,000	9,000	18,000	24,000		9,200	9,200	18,400	24,500	
9+12+12+12		9,000	12,000	12,000	12,000		9,200	12,300	12,300	12,300	
9+12+12+18		9,000	12,000	12,000	18,000		9,200	12,300	12,300	18,400	
9+12+12+24		9,000	12,000	12,000	24,000		9,200	12,300	12,300	24,500	
9+12+18+18		9,000	12,000	18,000	18,000		9,200	12,300	18,400	18,400	
9+18+18+18		9,000	18,000	18,000	18,000		9,200	18,400	18,400	18,400	
12+12+12+12		12,000	12,000	12,000	12,000		12,300	12,300	12,300	12,300	
12+12+12+18		12,000	12,000	12,000	18,000		12,300	12,300	12,300	18,400	
12+12+12+24		12,000	12,000	12,000	24,000		12,300	12,300	12,300	24,500	
12+12+18+18		12,000	12,000	18,000	18,000		12,300	12,300	18,400	18,400	

	NO. ZONES	COOLING CAPACITY (BTU/H)					HEATING CAPACITY (BTU/H)				
		ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
6+6+6+6+6	5-Zone	6,400	6,400	6,400	6,400	6,400	6,500	6,500	6,500	6,500	6,500
6+6+6+6+9		6,000	6,000	6,000	6,000	9,000	6,100	6,100	6,100	6,100	9,200
6+6+6+6+12		6,000	6,000	6,000	6,000	12,000	6,100	6,100	6,100	6,100	12,300
6+6+6+6+18		6,000	6,000	6,000	6,000	18,000	6,100	6,100	6,100	6,100	18,400
6+6+6+6+24		6,000	6,000	6,000	6,000	24,000	6,100	6,100	6,100	6,100	24,500
6+6+6+6+30		6,000	6,000	6,000	6,000	30,000	6,100	6,100	6,100	6,100	30,600
6+6+6+6+36		6,000	6,000	6,000	6,000	36,000	6,100	6,100	6,100	6,100	36,800
6+6+6+9+9		6,000	6,000	6,000	9,000	9,000	6,100	6,100	6,100	9,200	9,200
6+6+6+9+12		6,000	6,000	6,000	9,000	12,000	6,100	6,100	6,100	9,200	12,300
6+6+6+9+18		6,000	6,000	6,000	9,000	18,000	6,100	6,100	6,100	9,200	18,400
6+6+6+9+24		6,000	6,000	6,000	9,000	24,000	6,100	6,100	6,100	9,200	24,500
6+6+6+9+30		6,000	6,000	6,000	9,000	30,000	6,100	6,100	6,100	9,200	30,600
6+6+6+9+36		6,000	6,000	6,000	9,000	36,000	6,100	6,100	6,100	9,200	36,800
6+6+6+12+12		6,000	6,000	6,000	12,000	12,000	6,100	6,100	6,100	12,300	12,300
6+6+6+12+18		6,000	6,000	6,000	12,000	18,000	6,100	6,100	6,100	12,300	18,400
6+6+6+12+24		6,000	6,000	6,000	12,000	24,000	6,100	6,100	6,100	12,300	24,500
6+6+6+12+30		6,000	6,000	6,000	12,000	30,000	6,100	6,100	6,100	12,300	30,600
6+6+6+18+18		6,000	6,000	6,000	18,000	18,000	6,100	6,100	6,100	18,400	18,400
6+6+6+18+24		6,000	6,000	6,000	18,000	24,000	6,100	6,100	6,100	18,400	24,500
6+6+9+9+9		6,000	6,000	9,000	9,000	9,000	6,100	6,100	9,200	9,200	9,200
6+6+9+9+12		6,000	6,000	9,000	9,000	12,000	6,100	6,100	9,200	9,200	12,300
6+6+9+9+18		6,000	6,000	9,000	9,000	18,000	6,100	6,100	9,200	9,200	18,400
6+6+9+9+24		6,000	6,000	9,000	9,000	24,000	6,100	6,100	9,200	9,200	24,500
6+6+9+9+30		6,000	6,000	9,000	9,000	30,000	6,100	6,100	9,200	9,200	30,600
6+6+9+12+12		6,000	6,000	9,000	12,000	12,000	6,100	6,100	9,200	12,300	12,300
6+6+9+12+18		6,000	6,000	9,000	12,000	18,000	6,100	6,100	9,200	12,300	18,400
6+6+9+12+24		6,000	6,000	9,000	12,000	24,000	6,100	6,100	9,200	12,300	24,500
6+6+9+12+30		6,000	6,000	9,000	12,000	30,000	6,100	6,100	9,200	12,300	30,600
6+6+9+18+18		6,000	6,000	9,000	18,000	18,000	6,100	6,100	9,200	18,400	18,400
6+6+9+18+24		6,000	6,000	9,000	18,000	24,000	6,100	6,100	9,200	18,400	24,500
6+6+12+12+12		6,000	6,000	12,000	12,000	12,000	6,100	6,100	12,300	12,300	12,300
6+6+12+12+18		6,000	6,000	12,000	12,000	18,000	6,100	6,100	12,300	12,300	18,400
6+6+12+12+24		6,000	6,000	12,000	12,000	24,000	6,100	6,100	12,300	12,300	24,500
6+6+12+18+18		6,000	6,000	12,000	18,000	18,000	6,100	6,100	12,300	18,400	18,400
6+9+9+9+9		6,000	9,000	9,000	9,000	9,000	6,100	9,200	9,200	9,200	9,200
6+9+9+9+12		6,000	9,000	9,000	9,000	12,000	6,100	9,200	9,200	9,200	12,300
6+9+9+9+18		6,000	9,000	9,000	9,000	18,000	6,100	9,200	9,200	9,200	18,400
6+9+9+9+24		6,000	9,000	9,000	9,000	24,000	6,100	9,200	9,200	9,200	24,500
6+9+9+9+30		6,000	9,000	9,000	9,000	30,000	6,100	9,200	9,200	9,200	30,600
6+9+9+12+12		6,000	9,000	9,000	12,000	12,000	6,100	9,200	9,200	12,300	12,300
6+9+9+12+18		6,000	9,000	9,000	12,000	18,000	6,100	9,200	9,200	12,300	18,400
6+9+9+12+24		6,000	9,000	9,000	12,000	24,000	6,100	9,200	9,200	12,300	24,500
6+9+9+18+18		6,000	9,000	9,000	18,000	18,000	6,100	9,200	9,200	18,400	18,400
6+9+12+12+12		6,000	9,000	12,000	12,000	12,000	6,100	9,200	12,300	12,300	12,300
6+9+12+12+18		6,000	9,000	12,000	12,000	18,000	6,100	9,200	12,300	12,300	18,400
6+9+12+12+24		6,000	9,000	12,000	12,000	24,000	6,100	9,200	12,300	12,300	24,500
6+9+12+18+18		6,000	9,000	12,000	18,000	18,000	6,100	9,200	12,300	18,400	18,400
6+12+12+12+12		6,000	12,000	12,000	12,000	12,000	6,100	12,300	12,300	12,300	12,300
6+12+12+12+18		6,000	12,000	12,000	12,000	18,000	6,100	12,300	12,300	12,300	18,400
9+9+9+9+9		9,000	9,000	9,000	9,000	9,000	9,200	9,200	9,200	9,200	9,200
9+9+9+9+12		9,000	9,000	9,000	9,000	12,000	9,200	9,200	9,200	9,200	12,300
9+9+9+9+18		9,000	9,000	9,000	9,000	18,000	9,200	9,200	9,200	9,200	18,400
9+9+9+9+24		9,000	9,000	9,000	9,000	24,000	9,200	9,200	9,200	9,200	24,500
9+9+9+12+12		9,000	9,000	9,000	12,000	12,000	9,200	9,200	9,200	12,300	12,300
9+9+9+12+18		9,000	9,000	9,000	12,000	18,000	9,200	9,200	9,200	12,300	18,400
9+9+9+18+18		9,000	9,000	9,000	18,000	18,000	9,200	9,200	9,200	18,400	18,400
9+9+12+12+12		9,000	9,000	12,000	12,000	12,000	9,200	9,200	12,300	12,300	12,300
9+9+12+12+18		9,000	9,000	12,000	12,000	18,000	9,200	9,200	12,300	12,300	18,400
9+12+12+12+12		9,000	12,000	12,000	12,000	12,000	9,200	12,300	12,300	12,300	12,300
9+12+12+12+18		9,000	12,000	12,000	12,000	18,000	9,200	12,300	12,300	12,300	18,400
12+12+12+12+12		12,000	12,000	12,000	12,000	12,000	12,300	12,300	12,300	12,300	12,300

UNIT MOUNTING (OUTDOOR)

Refer to the unit's installation instructions for further details.

Support – A location which can bear the weight of outdoor unit.

See “” on page 9 for weights, and “DIMENSIONS” on page 5.

Unit Leveling – For reliable operation, units should be level in all planes.

Clearances – Minimum clearances (See Figs. 8 and 9 on page 9), must be provided for airflow. The outdoor units are designed for free-blow applications. Air inlets and outlets should not be restricted.

Unit location – A location which is convenient to installation and not exposed to strong wind.

NOTE: Do not install the indoor or outdoor units in a location with special environmental conditions. For those applications, contact your sales representative.

System Operating Conditions

	COOLING	HEATING
Outdoor DB	-22 / 122°F (30/ 50°C)	-22 / 75°F (-30 / 24°C)

Metering Devices

The outdoor unit has multiple electronic expansion valves to manage the refrigerant flow to the different indoor fan coils connected to that unit.

WIRING

All wires must be sized per NEC (National Electrical Code) or CEC (Canadian Electrical Code) and local codes. Use Electrical Data table MCA (minimum circuit amps) and MOCP (maximum over current protection) to correctly size the wires and the disconnect fuse or breakers respectively.

RECOMMENDED CONNECTION METHOD FOR POWER AND COMMUNICATION WIRING:

The main power is supplied to the outdoor unit. The field supplied 14/3 stranded wire with ground with a 600 volt insulation rating, power/ communication wiring from the outdoor unit to indoor unit consists of four (4) wires and provides the power for the indoor unit. Two wires are line voltage AC power, one is communication wiring (S) and the other is a ground wire. Wiring between indoor and outdoor unit is polarity sensitive. The use of BX wire is **NOT** recommended.

If installed in a high Electromagnetic field (EMF) area and communication issues exists, a 14/2 stranded shielded wire can be used to replace L2 and (S) between outdoor unit and indoor unit landing the shield onto ground in the outdoor unit only.

CABLE	CABLE SIZE	REMARKS
Connection Cable	14AWG	3 wire + Ground 1Φ 208/230 V



WARNING

EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.

Wires should be sized based on NEC and local codes.



WARNING

EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.

Be sure to comply with local codes while running wire from the indoor unit to the outdoor unit.

Every wire must be connected firmly. Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Ensure all wiring is tightly connected.

No wire should touch the refrigerant tubing, compressor or any moving parts.

Disconnecting means must be provided and shall be located within sight and readily accessible from the air conditioner.

Connecting cable with conduit shall be routed through the hole in the conduit panel.

PIPING REQUIREMENTS

IMPORTANT: Both refrigerant lines must be insulated separately.

The minimum refrigerant line length between the indoor and outdoor units is 10 ft. (3 m). The following lengths are allowed. The following **Refrigerant Piping Table** lists the pipe sizes for the outdoor unit. For the indoor unit pipe sizes refer to the indoor unit installation instructions.

Refrigerant Piping:

Line sets to be sized based on the connection size of the indoor unit. Each pipe should be insulated individually.

38MGR SIZE		18K	24K HH	30K HH	36K	36K HH	48K	48K
		(208/230 V)						
Min. Piping Length per each indoor unit	ft. (m)	10 (3)						
Standard Piping Length per each indoor unit	ft. (m)	25 (7.5)						
Max. outdoor-indoor height difference (OU higher than IU)	ft. (m)	49(15)	49(15)	49(15)	49(15)	65(20)	65(20)	65(20)
Max. outdoor-indoor height difference (IU higher than OU)	ft. (m)	49(15)	49(15)	49(15)	49(15)	65(20)	65(20)	65(20)
Max. height different between indoor units	ft. (m)	32 (10)						
Max. Length per each indoor unit	ft. (m)	82 (25)	98 (30)	115(35)	115(35)	115(35)	115 (35)	115 (35)
Max. Piping Length with no additional refrigerant charge per System (Standard Piping length x No. of Zones)	ft. (m)	49 (15)	74 (22)	98 (30)	98 (30)	98 (30)	123 (37.5)	123 (37.5)
Total Maximum Piping Length per system	ft. (m)	131(40)	197(60)	262(80)	262(80)	262(80)	328(100)	328(100)
Additional refrigerant charge (between Standard – Max piping length)	Oz/ft (g/m)	0.16 (15)						
Number of IDU		2	3	4	4	4	5	5
Suction Pipe (size - connection type)	in	3/8*2	3/8*3	1/2 *1+ 3/8*3	1/2 *1+ 3/8*3	1/2 *2+ 3/8*2	1/2 *2+ 3/8*3	1/2 *2+ 3/8*3
	(mm)	9.52*2	9.52*3	12.7*1+9.52*3	12.7*1+9.52*3	12.7*2+9.52*2	12.7*2+9.52*3	12.7*2+9.52*3
Liquid Pipe (size - connection type)	in	1/4*2	1/4*3	1/4*4	1/4*4	1/4*4	1/4*5	1/4*5
	(mm)	6.35*2	6.35*3	6.35*4	6.35*4	6.35*4	6.35*5	6.35*5
Refrigerant Type Heat Pump Models Charge Amount		R410A						
	Lbs (kg)	4.08(1.85)	5.73(2.6)	8.38(3.8)	8.38(3.8)	10.14 (4.6)	10.14 (4.6)	10.14(4.6)

NOTE: For piping runs greater than the “Maximum Piping Length with no additional refrigerant charge per System”, see the Additional Refrigerant Charge note in the Long-Line Applications section.

General Guidelines:

1. The outdoor units are shipped with a full charge of R-410A refrigerant. For runs over the Maximum Piping Length with no additional refrigerant charge per system, consult “Refrigerant Piping:” on page 37 for proper charge adjustments.
2. Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, do not bury more than 36 inches (914 mm). Provide a minimum of 6 inch (152 mm) vertical rise to the service valves to prevent refrigerant migration.
3. Both lines must be insulated. Use a minimum of ½-inch (12.7 mm) thick insulation. Closed-cell insulation is recommended in all long-line applications.
4. Special consideration should be given to isolating the interconnecting tubing from the building structure. Isolate the tubing so vibration or noise does not transmit into the structure.

Long-Line Applications

- No change in line sizing is required.

NOTE: Multi-zone outdoor unit compatibility can support up to two (2) AHUs per unit. The combination of up to two (2) AHUs extends to only the 18K and 24K AHU models. In the case that two (2) AHUs are connected to any multi-zone system, no other units may be connected to the outdoor unit, regardless of remaining ports or capacity availability. See “APPLICATION DATA” on page 23 for unit selection guide criteria. When the 30K or 36K AHU is utilized in multi-zone 48K ODU applications, 500 grams (17.6 oz) of additional refrigerant charge must be added to the system.

NOTE: If the calculation results in a negative number, no additional refrigerant is required.

Drain Connections

Install drains that meet the local sanitation codes.

Control System

The **38MG(R/H)B** unit is equipped with a microprocessor control to operate the system and give optimum levels of comfort and operating efficiency. There are microprocessor boards and thermistors located in both the indoor and outdoor units. The thermistors monitor the system operation and control the operating mode.

Sequence of Operation

NOTE: Simultaneous heating and cooling is not allowed.

The **HEATING** mode is the system's primary mode and the mode controls the operation mode for the remaining indoor units connected to the same outdoor unit. If any unit in the system is set to the **HEATING** mode, the system switches to heat. If any unit is in the **COOLING** mode, while any unit in the system is set to the **HEATING** mode, the units set to **COOLING** enter the **CONFLICT** mode and an error message appears on the units in the **COOLING** mode.

All units must be set to the **COOLING** or **FAN** mode for the system to cool. When a unit is set to the **COOL**, **HEAT** or **DRY** mode, the electronic expansion valve is initialized first (closed) and then it is opened to a preset position.

SUPERHEAT heating for each fan coil (the ones that are energized) is monitored and the position of the electronic expansion valve is adjusted to ensure that each fan coil gets the appropriate amount of refrigerant to maintain the required superheat. In the **COOLING** mode, after the set point is satisfied, the electronic expansion valve remains open for a specified time to ensure the system pressures equalize. In the **HEATING** mode, after the set point is satisfied, the electronic expansion valve remains open to ensure proper oil flow back and to maintain a low pressure.

When the system is set for the **COOL**, **HEAT** or **DRY** mode, the compressor speed is varied by comparing the indoor air temperature with the set point and continuously adjusting the compressor speed (to keep the compressor running as long as possible) in an effort to maintain the greatest comfort possible.

The indoor fan can run in either the **MANUAL** or **AUTO** mode. When the fan runs in the **AUTO** mode, the speed is determined by comparing the room temperature to the set point.

For High Walls and Floor Console Fan Coils, when the set point is satisfied, the fan speed is reduced. For Cassettes and Ducted Fan Coils when the set point is satisfied, the fan continues to run. The Fan Coils are not de-energized.

When the unit goes through the defrost cycle, the indoor fans are de-energized and the refrigerant is circulated through all the fan coils (even if they are off or were in the standby mode before the defrost cycle) to maximize the heat transfer surface area available for defrost operation.



WARNING

AUTO mode is recommended for use on single zone applications **ONLY**. **AUTO** mode is **NOT** recommended for use on multi-zone applications.

Using **AUTO** changeover on multi-zone applications could set an indoor unit to **Standby** mode, indicated as (--) on the display, and turn off the indoor unit until all the indoor units are on the same mode (**COOLING** or **HEATING**).

HEATING mode is the priority for the system. Simultaneous **HEATING** and **COOLING** is not allowed.

AIRFLOW DATA

UNIT SIZE	18R	24HH	30HH	36R	36HH	48R	48K
	(208/230V)						
OUTDOOR (CFM)	1765	2129	2147	2147	4500	4500	4500

SOUND PRESSURE

SYSTEM SIZE		18R	24HH	30HH	30R	36HH	48R	48K
		(208/230 V)						
Outdoor Sound Pressure Level	dB(A)	58.5	61.0	63.0	63.0	64.0	64.0	65.0
Outdoor Sound Power Level	dB(A)	67.0	68.0	70.5	70.5	72.0	72.0	73.0

SOUND POWER IN OCTAVE BANDS

	Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
2 ZONE 18K (18R)	Cooling dB(A)	53.6	60.4	54.8	53.3	50	44.4	39.8	36.5
	Heating dB(A)	56.3	63.5	59.2	55.8	55	48.2	43.9	40.8
3 ZONE High Heat 24K (24HH)	Cooling dB(A)	59.2	60.6	58.3	52.9	53.5	48.2	44.7	38.5
	Heating dB(A)	60.6	61.8	60.1	57.1	55.9	52.3	48	43.3
4 ZONE High Heat 30K and Standard 36K (30HH and 36R)	Cooling dB(A)	60.8	62.7	59.5	55.8	54.2	50.1	46.9	40.7
	Heating dB(A)	63.9	64.2	63	57.9	57.6	53.5	50.9	45.1
4 ZONE High Heat 36K (36HH)	Cooling dB(A)	47.4	49.8	52.2	53.4	56.9	52.3	48.5	45.1
	Heating dB(A)	47.4	46.1	50.1	57.7	57.2	51.8	47.6	45.5
5 ZONE Standard 48K (48R)	Cooling dB(A)	43.7	49.9	49.2	53.9	57.3	51.9	46.8	42.6
	Heating dB(A)	49.2	48.2	48.5	53.4	58.3	53.2	47.8	43.7
5 ZONE High Heat 48K (48HH)	Cooling dB(A)	62.4	62.0	57.1	57.1	53.8	47.7	44	39.9
	Heating dB(A)	68.5	65.2	67.6	59.2	58.6	53.3	49.8	45.9

OUTDOOR UNIT SOUND PRESSURE TEST CONDITIONS

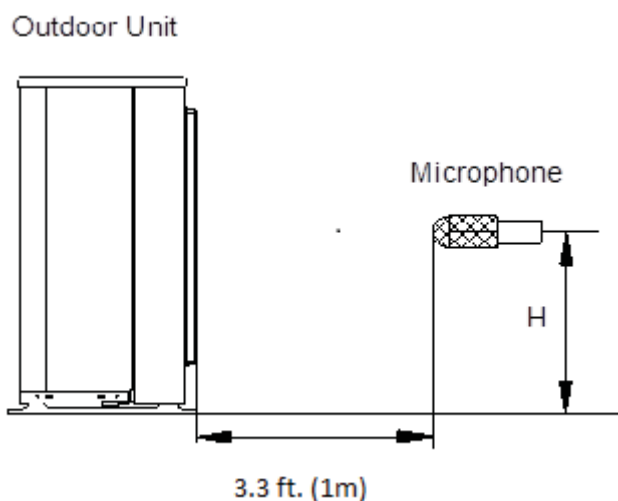


Fig. 10 — Outdoor Unit Sound Pressure Test Conditions

NOTE: $H = 0.5 \times \text{Height of the outdoor unit.}$

	INDOOR CONDITION		OUTDOOR CONDITION	
	DB	WB	DB	WB
COOLING	80.6°F (27°C)	66.2°F (19°C)	95°F (35°C)	75.2°F (24°C)
HEATING	68°F (20°C)	59°F (15°C)	44.6°F (7°C)	42.8°F (6°C)

FAN AND MOTOR SPECIFICATIONS

38MG(R/H)			18R	24HH	30HH	36R	36HH	48R	48K
			(208/230 V)						
OUTDOOR FAN	Material		AS						
	Type		ZL-535*133*12-3KFN	ZL560*139*12-3KN	ZL560*139*12-3KN	ZL560*139*12-3KN	ZL554*148*12-3KFN	ZL554*148*12-3KFN	ZL554*148*12-3KFN
	Diameter	inch	21(535)	22(560)	22(560)	22(560)	21.81(554)	21.81(554)	21.81(554)
	Height	inch	5.24(133)	5.47(139)	5.47(139)	5.47(139)	5.83(148)	5.83(148)	5.83(148)
OUTDOOR FAN MOTOR	Model		ZKFN-80-8-3	ZKFN-120-8-2	ZKFN-120-8-2	ZKFN-120-8-2	ZKFN-85-8-22-5	ZKFN-85-8-22-5	ZKFN-85-8-22-5
	Volts	V	208/230						
	Phase		1						
	Hertz	Hz	60						
	FLA		1.0	1.7	1.0	1.0	2.5x2	2.5x2	2.5x2
	Rated HP	HP	0.1	0.16	0.16	0.16	0.11	0.11	0.11
	Output	W	80	120	120	120	85	85	85
	Type		DC						
	Insulation class		E						
	Safe class		IPX4						
	Input	W	88	156	156	156	108	108	108
	Range of current	Amps	0.73±10%	1.34±10%	1.34±10%	1.34±10%	0.92±10%	0.92±10%	0.92±10%
	Rated current	Amps	0.73	1.34	1.34	1.34	0.92	0.92	0.92
	Speed	rev/min	850~200	900~150	1000~150	1000~150	870~300	870~300	850~320
	Rated RPM	rev/min	750.0	850.0	900.0	900.0	800.0	800.0	800.0
	Max. input	W	120.0	170.0	170.0	170.0	126.0	126.0	126.0

ELECTRICAL DATA

Outdoor Unit		18R	24HH	30HH	36R	36HH	48R	48K
Minimum Circuit Ampacity (MCA)	A	18	24.5	25	25	40	40	40
Maximum Overcurrent Protection Ampacity (MOPA)	A	25	30	40	40	60	60	60
Voltage-Phase-Frequency		208/230-1-60						
Max – Min Voltage Range	V	253-187						
COOLING								
Running current	(A)	6.2	11	13.6	18	12	17.4	18
Power consumption	(W)	1355	2240	3125	3125	2660	3840	4150
Power factor	(%)	0.971	0.954	0.972	0.972	0.96	0.96	0.984
HEATING								
Running current range	(A)	6.3	10.5	13	13	12.7	17.7	17.8
Power consumption	(W)	1420	2200	3000	3000	2800	3900	4000
Power factor	(%)	0.971	0.954	0.972	0.972	0.96	0.96	0.984

*Permissible limits of the voltage range at which the unit operates satisfactorily.

LEGEND

FLA - Full Load Amps
MCA - Minimum Circuit Amps
MOCP - Maximum Over Current Protection
RLA - Rated Load Amps

WIRING DIAGRAMS

18K - 2 Zone (18R) Standard

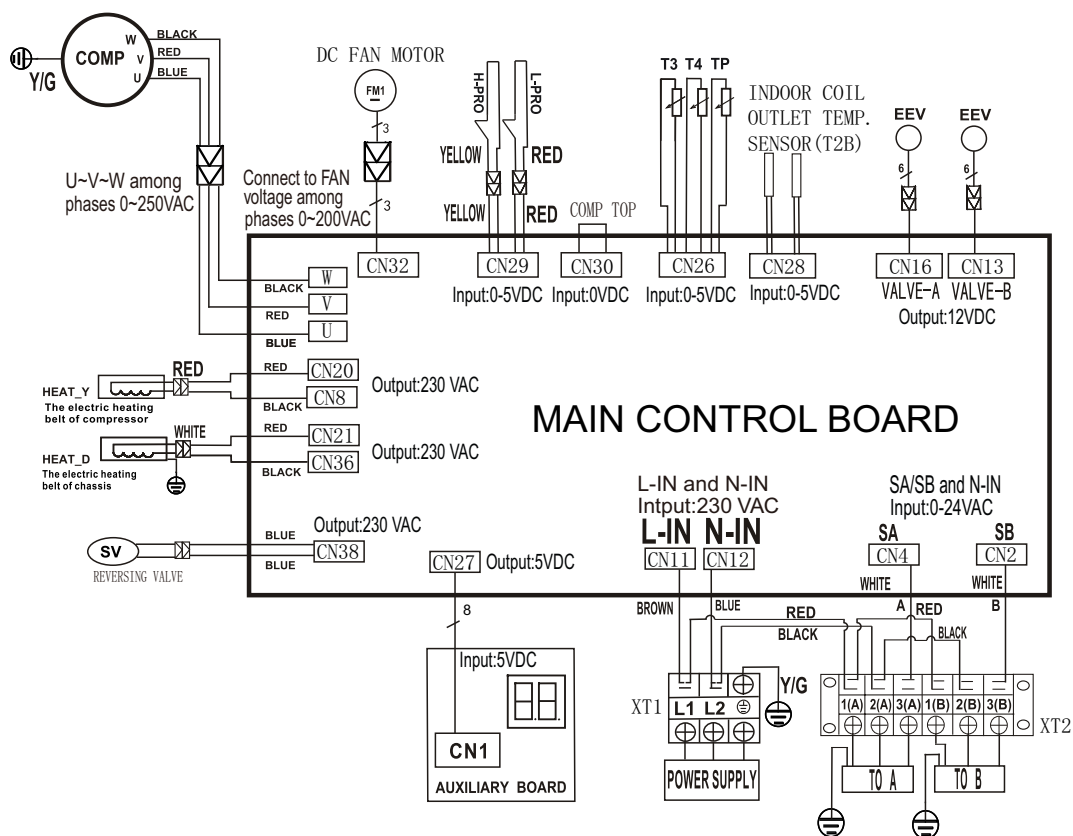


Fig. 11 — Wiring Diagram 18K - 2 Zone (18R) Standard

CODE	PART NAME
COMP	Compressor
EEV	Electric Expansion Valve
FM1	DC Fan Motor
HEAT_D	Chassis Heater
HEAT_Y	Crankcase Heater
H-PRO	High Pressure Switch
L-PRO	Low Pressure Switch
SV	Reversing Valve
TP	Comp. Discharge Temperature Sensor
T3	Outdoor Coil Temperature Sensor
T4	Outdoor Ambient Temperature Sensor
COMP TOP	Compressor TOP OLP Temperature Sensor

WIRING DIAGRAMS (CONT)

24K - 3 Zone Max (24HH)

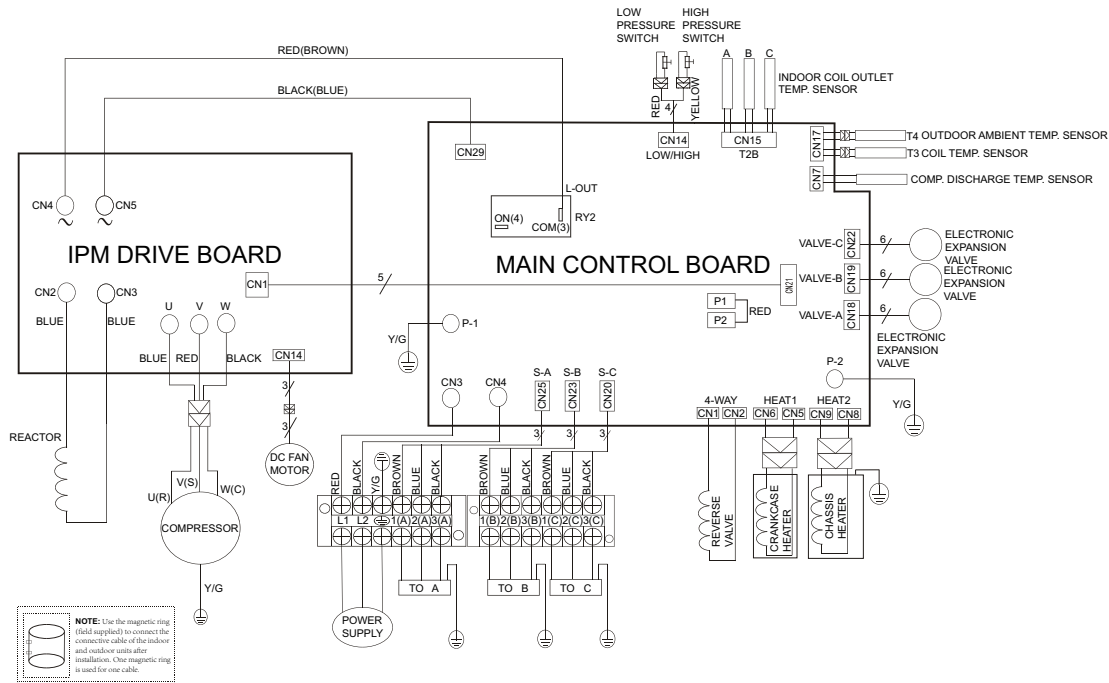


Fig. 12 — Wiring Diagram 24K - 3 Zone Max (24HH)

CODE	PART NAME
CN3~CN4	Input: 230VAC High voltage
CN20,CN23,CN25	Output: Pin1 (Connection of the high voltage)---"S" Pin2~Pin3 (230VAC High voltage)---"L1&L2"
P1~P2	Output: Short Circuit with Red Wire
CN1~CN2	Output: 230VAC High voltage --- 4 Way Valve
CN5~CN6	Output: 230VAC High voltage --- Compressor Crankcase Heater
CN8~CN9	Output: 230VAC High voltage --- Chassis Crankcase Heater
P-1~P-2	Ground wire
CN18,CN19,CN22	Output: Pin1-Pin4: Pulse waveform (0-12VDC), Pin5, Pin6 (12VDC)---EEV
CN7	Input: Pin1 (0-5VDC), Pin2 (5VDC) --- Discharge Sensor
CN17	Input: Pin3, Pin4 (5VDC), Pin2 (0VDC), Pin1, Pin5 (0-5VDC)-OUD Conditioner Temperature
CN15	Input: Pin1, Pin3, Pin5 (5VDC) Pin2, Pin4, Pin6 (0-5VDC) --- IDU Pipe Temp
CN14	Input: Pin2, Pin4 (0VDC), Pin1, Pin3 (0-5VDC) --- H/L Pressure Switch
CN12	Input: Pin1 (5VDC), Pin2 (0-5VDC) --- Compressor Temp
CN29~L-OUT	Output: 230VAC High voltage to IPM Board
CN21	Connect to the IPM BOARD

CODE	OUTDOOR UNIT IPM DRIVE BOARD
CN4~CN5	Input: 230VAC High voltage - from main board
CN2~CN3	Output: Connection of the REACTOR
U~V~W	Connect to compressor voltage among phases 0~200VAC
CN14	Connect to the DC FAN
CN1	Connect to the MAIN BOARD

WIRING DIAGRAMS (CONT)

30 HH (High Heat) 36R (Regular) - 4 Zone Max

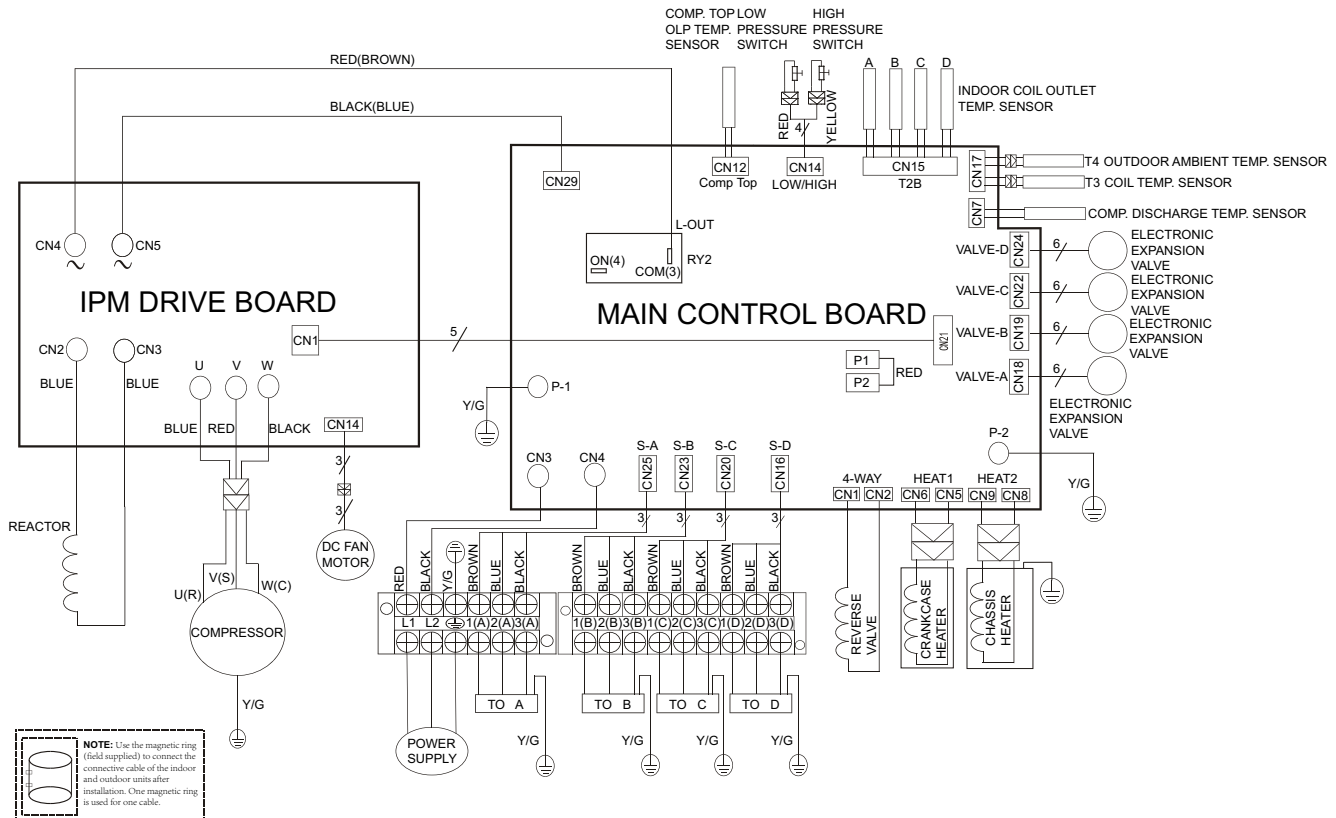


Fig. 13 — Wiring Diagram 30 HH (High Heat) 36R (Regular) - 4 Zone Max

CODE	PART NAME
CN3~CN4	Input: 230VAC High voltage
CN16~CN20, CN23, CN25	Output: Pin1(Connection of the high voltage)---"S" Pin2~Pin3(230VAC High Voltage)---"L1&L2"
P-1~P2	Output: Short Circuit with RED WIRE
CN1~CN2	Output: 230VAC High voltage---4-WAY VALVE
CN5~CN6	Output: 230VAC High voltage -- COMPRESSOR CRANKCASE HEATER
CN8~CN9	Output: 230VAC High voltage -- CHASSIS CRANKCASE HEATER
P-1~P-2	Connection to the earth
CN18,CN19, CN22,CN24	Output: Pin-Pin4:Pulse waveform (0-12VDC),Pin5,Pin6(12VDC)--EEV
CN7	Input: Pin1 (0-5VDC)---Discharge Sensor
CN17	Input:Pin3,Pin4(5VDC),Pin5(0-5VDC)---OUD Cond. Temperature
CN15	Input:Pin1,Pin3,Pin5,Pin7(5VDC)Pin2,Pin4,Pin6Pin8,(0-5VDC)---IDO PIPE TEMP
CN14	Input:Pin2,Pin4(0-5VDC,Pin1,Pin3(0VDC)---H/L Pressure Switch
CN12	Input:Pin1(5VDC),Pin2(0-5VDC)---Compressor Temp.
CN29-L-OUT	Output:230VAC High Voltage--To IPM Board
CN21	Connect to IPM Board

CODE	OUTDOOR UNIT PFC AND IPM BOARD
CN4~CN5	Input: 230VAC High voltage---From Main Board
CN2~CN3	Output: Connection to the REACTOR
U~V~W	Connect to compressor voltage among phases 0~200VAC
CN14	Connection the DC FAN
CN1	Connection to MAIN BOARD

WIRING DIAGRAMS (CONT)

36K - 4 Zone Max

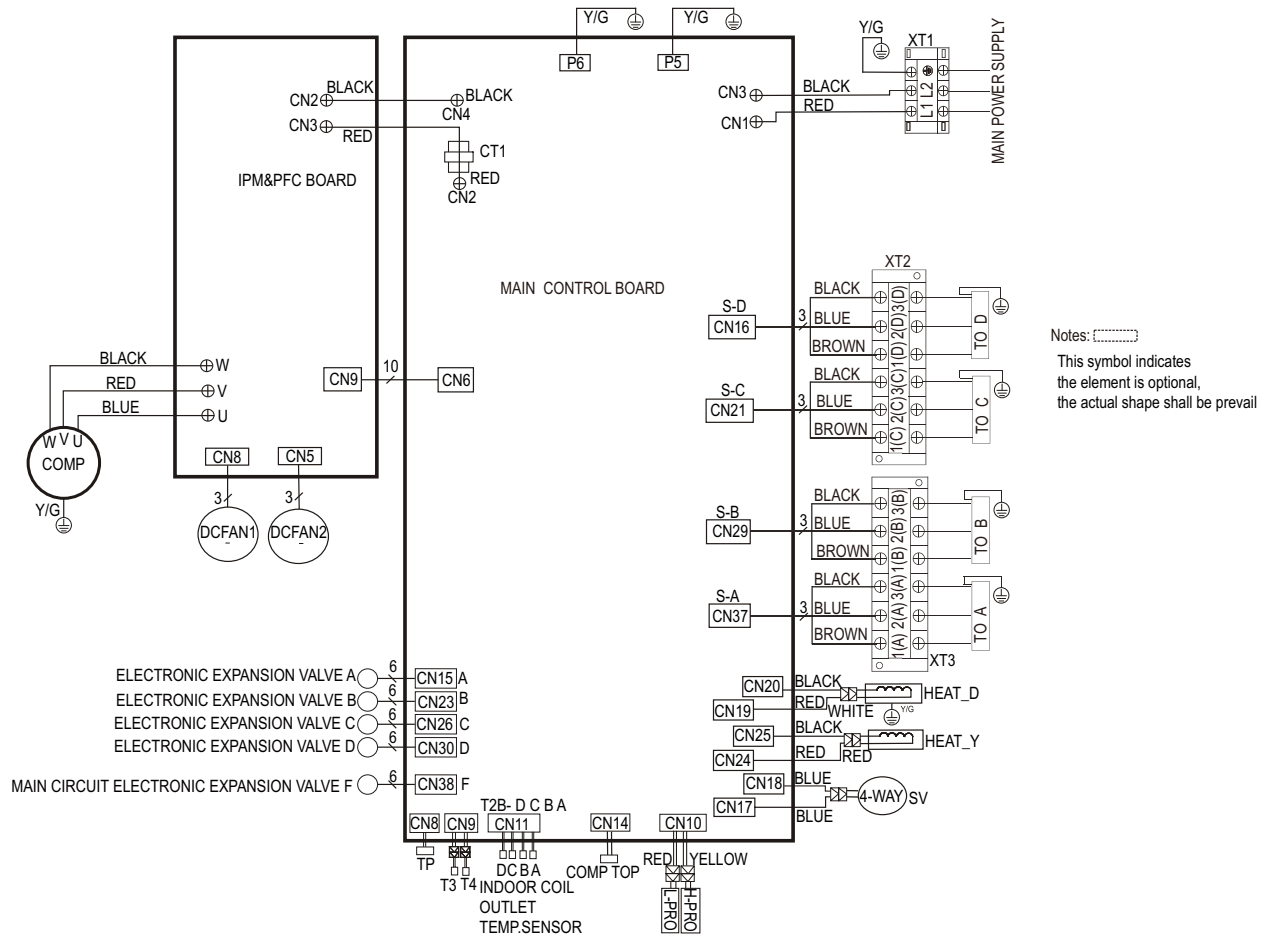


Fig. 14 — Wiring Diagram 36K - 4 Zone Max

CODE	OUTDOOR UNIT MAIN BOARD SIZE 36K
CN1~ CN3	Input: 230VAC High voltage
CN16, CN21, CN29, CN37	Output: Pin1(Connection of the high voltage) "S" Pin2~ Pin3 (230VAC High voltage)"L1& L2"
P5, P6	Connection to the earth
CN17~ CN18	Output: 230VAC High voltage --- REVERSING VALVE
CN24~CN25	Output: 230VAC High voltage --- CRANKCASE HEATER
CN19~ CN20	Output: 230VAC High voltage --- CHASSIS HEATER
CN11	Input: Pin1, Pin3, Pin5, Pin7, Pin9 (5VDC) Pin2, Pin4, Pin6, Pin8, Pin10 (0-5VDC) indoor coil outlet TEMP. SENSOR
CN8	Input: Pin1 (0-5VDC), Pin2 (5VDC)
CN9	Input: Pin3, Pin4 (5VDC), Pin2 (0VDC), Pin1, Pin5 (0-5VDC)
CN15, CN23, CN26 CN30, CN33, CN38	Output: Pin1-Pin4: Pulse waveform (0-12VDC), Pin5, Pin6 (12VDC) to EEV
CN6	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC), Pin8 (0-5VDC), Pin10 (5VDC)--to IPM & PFC board
CN2~ CN4	Output: 230VAC High voltage to IPM & PFC Board
CN10	Input: Pin2, Pin4 (0VDC), Pin1, Pin3 (0-5VDC)--H/L Pressure switch
CN14	Input:Pin1(5VDC),Pin2(0-5VDC--COMP. TOP OLP TEMP SENSOR

CODE	OUTDOOR UNIT PFC AND IPM BOARD SIZE 36K
CN2~CN3	Input230VAC High voltage
CN9	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC), Pin10 (5VDC) to outdoor main control board
U~V~W	Connect to compressor voltage among phases 0~250VAC
CN8, CN5	Connect to DCFAN voltage among phases 0~200VAC

WIRING DIAGRAM (CONT)

48K - 5 Zone Max

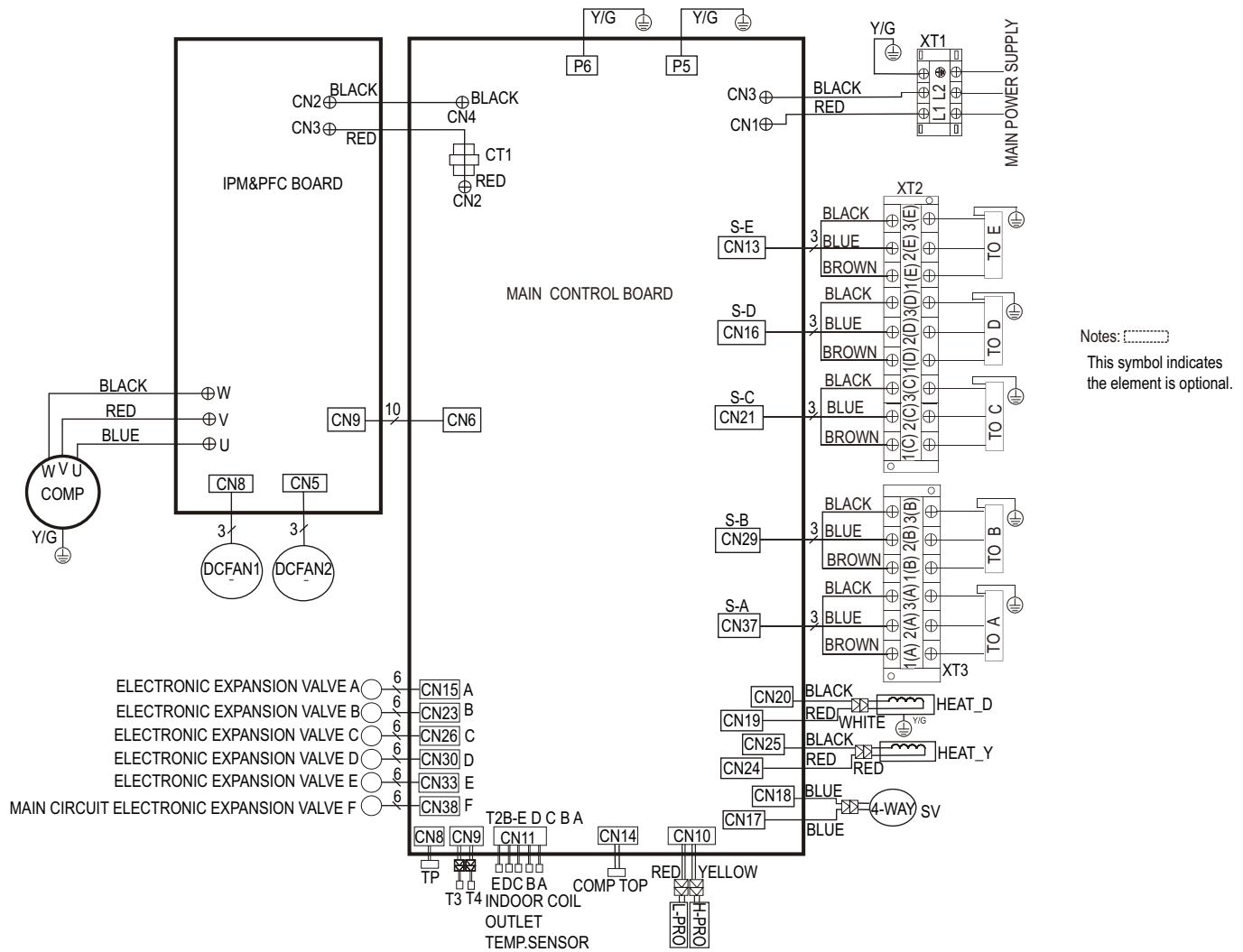


Fig. 15 — Wiring Diagram 48K - 5 Zone Max

CODE	OUTDOOR UNIT MAIN BOARD SIZE 48K
CN1~CN3	Input: 230VAC High voltage
CN13,CN16,CN21,CN29,CN37	Output: Pin1 (Connection of the high voltage) "S" Pin2~Pin3 (230VAC High voltage) "L1 & L2"
P5,P6,P9	Connection to the earth
CN17~CN18	Output: 230VAC High voltage --- REVERSING VALVE
CN24~CN25	Output: 230VAC High voltage --- CRANKCASE HEATER
CN19~CN20	Output: 230VAC High voltage --- CHASSIS HEATER
CN11	Input: Pin1, Pin3, Pin5, Pin7, Pin9 (5VDC) Pin2, Pin4, Pin6, Pin8, Pin10 (0-5VDC) indoor coil outlet sensor
CN8	Input: Pin1 (0-5VDC), Pin2 (5VDC)
CN9	Input: Pin3, Pin4 (5VDC), Pin2 (0VDC), Pin1, Pin5 (0-5VDC)
CN15,CN23,CN26 CN30,CN33,CN38	Output: Pin1-Pin4: Pulse waveform (0-12VDC), Pin5, Pin6 (12VDC) to EEV
CN6	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC) Pin8 (0-5VDC), Pin10 (5VDC)--to IPM & PFC board
CN2~CN4	Output: 230VAC High voltage to IPM & PFC Board
CN10	Input: Pin2, Pin4 (0VDC), Pin1, Pin3 (0-5VDC)--H/L Pressure switch
CN14	Input:Pin1(5VDC),Pin2(0-4VDC)--COMP.TOP OLP TEMP.SENSOR

WIRING DIAGRAM (CONT)

48K - 5 Zone Max

CODE	OUTDOOR UNIT PFC AND IPM BOARD SIZE 48K
CN2~CN6	Output: 224-380VDC High voltage
CN9	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC), Pin8 (0-5VDC), Pin10 (5VDC) to the main board
U~V~W	Connect to compressor voltage among phases 0~250VAC
CN8 CN5	Connect to DC FAN voltage among phases 0-200VAC

CODE	PART NAME
COMP	COMPRESSOR
EEV	ELECTRONIC EXPANSION VALVE
DCFAN1, DCFAN2	OUTDOOR DC FAN MOTOR
HEAT_D	CHASSIS HEATER
HEAT_Y	CRANKCASE HEATER
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
SV	REVERSING VALVE
TP	COMP. DISCHARGE TEMP. SENSOR
T3	COIL DISCHARGE SENSOR
T4	OUTDOOR AMBIENT TEMP. SENSOR
COMP TOP	COMP.TOP OLP TEMP. SENSOR
T2B	INDOOR COIL OUTLET TEMP SENSOR

WIRING DIAGRAMS (CONT)

Size 48K HH

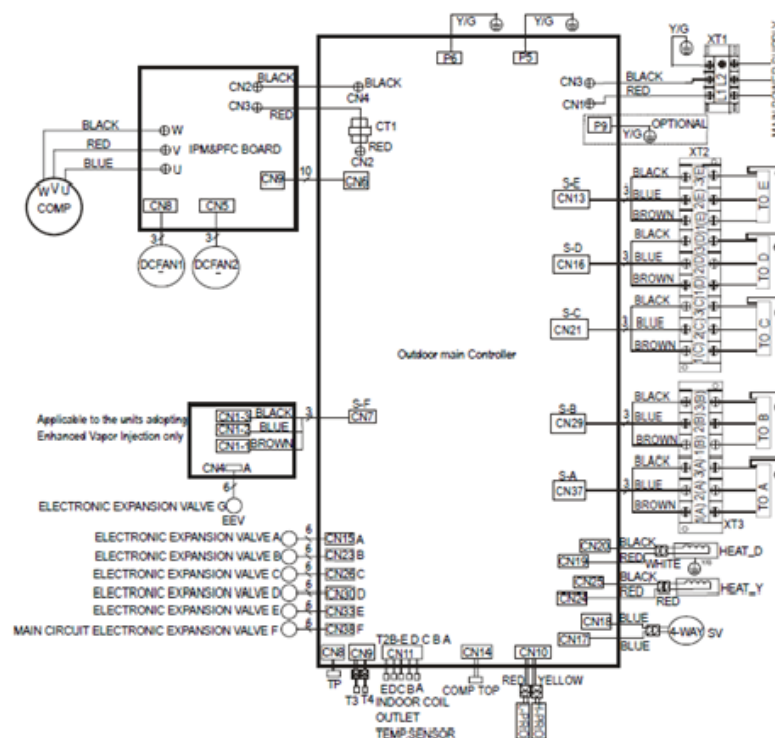


Fig. 16 — Wiring Diagram 48K - 5 Zone Max

CODE	OUTDOOR UNIT MAIN BOARD SIZE 48K
CN1~CN3	Input: 230VAC High voltage
CN13,CN16,CN21,CN29,CN37	Output: Pin1 (Connection of the high voltage) "S" Pin2~Pin3 (230VAC High voltage) "L1 & L2"
P5,P6,P9	Connection to the earth
CN17~CN18	Output: 230VAC High voltage --- REVERSING VALVE
CN24~CN25	Output: 230VAC High voltage --- CRANKCASE HEATER
CN19~CN20	Output: 230VAC High voltage --- CHASSIS HEATER
CN11	Input: Pin1, Pin3, Pin5, Pin7, Pin9 (5VDC) Pin2, Pin4, Pin6, Pin8, Pin10 (0-5VDC) indoor coil outlet sensor
CN8	Input: Pin1 (0-5VDC), Pin2 (5VDC)
CN9	Input: Pin3, Pin4 (5VDC), Pin2 (0VDC), Pin1, Pin5 (0-5VDC)
CN15,CN23,CN26 CN30,CN33,CN38	Output: Pin1-Pin4: Pulse waveform (0-12VDC), Pin5, Pin6 (12VDC) to EEV
CN6	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC) Pin8 (0-5VDC), Pin10 (5VDC)--to IPM & PFC board
CN2~CN4	Output: 230VAC High voltage to IPM & PFC Board
CN10	Input: Pin2, Pin4 (0VDC), Pin1, Pin3 (0-5VDC)--H/L Pressure switch
CN14	Input:Pin1(5VDC),Pin2(0-4VDC)--COMP.TOP OLP TEMP.SENSOR
CN7	OutputPin1(Connector of the high voltage) "S"Pin2-Pin3(230VAC) High voltage)"L1&L2"

CODE	OUTDOOR UNIT PFC AND IPM BOARD SIZE 48K
CN2~CN3	Input: 224-380VAC High voltage
CN9	Communication: Pin1-Pin6: Pulse waveform (0-5VDC), Pin7, Pin9 (0VDC), Pin8 (0-5VDC), Pin10 (5VDC) to the main board
U~V~W	Connect to compressor voltage among phases 0~250VAC
CN8 CN5	Connect to DC FAN voltage among phases 0-200VAC

CODE	OUTDOOR UNIT
CN1-1-CN1-2	Input: 230VAC High voltage
CN1-3	Input: (Connection of the high voltage) "S"
CN4	Output:Pin1,Pin4 Pulse waveform(0-12VDC),Pin5,Pin6(12VDC) to EEV

WIRING DIAGRAMS (CONT)

Size 48K HH

CODE	PART NAME
COMP	COMPRESSOR
CT1	AC CURRENT DETECTOR
EEV	ELECTRONIC EXPANSION VALVE
DC FAN1	OUTDOOR DC FAN MOTOR
HEAT_D	CHASSIS HEATER
HEAT_Y	CRANKCASE HEATER
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
SV	REVERSING VALVE
TP	COMP. DISCHARGE TEMP. SENSOR
COMP TOP	COMP. TOP OLP TEMP SENSOR
T2B	INDOOR COIL OUTLET TEMP SENSOR

MULTI-ZONE HEAT PUMP HORIZONTAL DISCHARGE OUTDOOR DUCTLESS SYSTEM

Size Range: 1 1/2, 2, 2 1/2, 3 and 4 Ton Nominal Cooling and Heating Capacity
Model Number: **38MG(R/H)B**

Part 1 - General

1.01 System Description

- a. Outdoor air-cooled split system compressor sections suitable for on-the-ground, rooftop, wall hung or balcony mounting. Units consist of a variable speed rotary compressor, an air-cooled coil, propeller-type draw-through outdoor fan, reversing valve, accumulator, electronic expansion valves, multiple service valves, and controls that allow multiple indoor units to be connected to the outdoor unit. Units discharge horizontally as shown on the contract drawings. Units function as the outdoor component of an air-to-air heat pump system.
- b. Units are designed for use in a refrigeration circuit matched to two, three, four, or five multi style heat pump fan coil units.

1.02 Agency Listings

- a. Unit construction complies with ANSI/ASHRAE 15, latest revision, and with the NEC.
- b. Units are evaluated in accordance with the UL standard 1995.
- c. Units are listed in CEC directory.
- d. Unit cabinet is capable of withstanding the 500-hour salt spray test per Federal Test Standard no. 141 (method 6061).
- e. Air-cooled condenser coils are leak tested at 550 psig.

1.03 Delivery, Storage, And Handling

Units are shipped in one piece and are stored and handled per the manufacturer's recommendations.

1.04 Warranty (For Inclusion By Specifying Engineer)

Part 2 - Products

2.01 Equipment

1. General:

Factory assembled, single piece, air-cooled outdoor unit. Contained within the enclosure are the factory wiring, piping, controls, and the compressor.

2. Unit Cabinet:

- a. The unit cabinet is constructed of galvanized steel, bonderized and coated with baked-enamel finish on the inside and outside.
- b. The unit access panel is removable and provides full access to the compressor, fan, and the control components.
- c. The outdoor compartment is isolated and has an acoustic lining to assure a quiet operation.

3. Fans:

- a. The outdoor fans are direct-drive propeller type, and discharge air horizontally. The fan draws air through the outdoor coil.
- b. Outdoor fan motors are multi-speed, totally-enclosed, single phase motors with permanently lubricated ball bearings. The motor is protected by internal thermal overload protection.
- c. The shaft has an inherent corrosion resistance.
- d. Outdoor fan openings are equipped with a metal/mesh PVC coated protection grille over the fan.

4. Compressor:

- a. The compressor is the fully hermetic variable speed rotary type.
- b. The compressor is inverter driven.
- c. The compressor is equipped with an oil system, operating oil charge, and motor.
- d. The motor is suitable for operation in a refrigerant and oil atmosphere.
- e. The compressor assembly is installed on rubber vibration isolators.
- f. The inverter and compressor are protected against over temperature and over current.

5. Outdoor Coil:

The coil is constructed of aluminum golden hydrophilic pre-coated fins mechanically bonded to seamless copper tubes, which are cleaned, dehydrated and sealed.

6. Refrigerant Components:

Refrigerant circuit components include multiple brass external liquid line service valves with a service gauge connection port, multiple suction line service valves with a service gauge connection port, accumulator, reversing valve, and electronic expansion valves.

7. Safeties:

Operating safeties are factory selected, assembled, and tested. The minimum functions include the following:

- a. Compressor discharge over temperature protection.
- b. System low voltage protection.
- c. Compressor overload protection.
- d. Compressor over current protection.
- e. IPM module protection.

8. Electrical Requirements:

- a. Units operate on single-phase, 60 Hz power at 208/230v.
- b. The unit electrical power is a single point connection.
- c. All power and control wiring must be installed per NEC and all local electrical codes.
- d. Units have multiple terminal blocks to connect to multiple indoor units.

