

**38/40BNC, BCC (AC),
38/40BNQ, BCQ (HP)
DUCT-FREE SPLIT SYSTEMS
COOLING ONLY AND HEAT PUMPS FOR
R-22 REFRIGERANT HIGH-WALL APPLICATIONS**



Product Data

The ideal compliment to your ducted system when it is impractical or prohibitively expensive to use ductwork.



Indoor Unit



Outdoor Unit

INDUSTRY LEADING FEATURES / BENEFITS

An inexpensive and creative solution to design problems.

The 38/40BNC(Q) series duct-free split systems are a matched combination of an outdoor condensing unit and an indoor fan coil unit connected only by refrigerant tubing and wires.

The fan coil is mounted on the wall, near the ceiling. This selection of fan coils permits inexpensive and creative solutions to design problems such as:

- Add-ons to current space (an office or family room addition)
- Special space requirements (a computer room)
- When changes in the load cannot be handled by the existing system.
- When adding air conditioning to spaces that are heating by hydronic or electric heat and have no ductwork.
- Historical renovations or any application where preserving the look of the original structure is essential.

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 performance at low sound levels.

The 38/40BN,BC duct-free split systems offer the solution of choice. The compressor is outdoors, linked by refrigerant lines to an indoor fan coil located directly in the room it will heat or cool. These systems have minimal impact on the existing structure, and the design and interior of the conditioned space is not compromised by bulky ductwork. Because of these features, this duct-free split system can be installed in places where conventional ducted systems simply cannot go.

Low sound levels

When noise is a concern, the duct-free split systems are the answer because you do not have to worry about duct design. 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 ductwork. The indoor units are whisper quiet. The outdoor units operate at low sound levels, and are the perfect answer to sound level ordinances.

When sound ordinances and proximity to neighbors demand quiet operation, the 38BN,BC unit is the right choice: The advanced, horizontal airflow design distributes air more evenly over the coil. The coil also acts as an extra sound-suppressing device before the air is discharged at a very low velocity.

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. In addition, since 38BN,BC units can be installed 6 in. away from outside walls, coils are protected from vandals and severe weather.

Fast installation

This compact duct-free split system is simple to install, since only wire and piping need to be run. The fast and easy installation ensures minimal disruption to customers in the home or workplace. This is an added advantage of the 38/40BN,BC duct-free split systems, especially in retrofit situations.

Features such as mounting brackets make the unit very easy to install.

Simple servicing and maintenance

Removing a panel on outdoor units provides immediate access to the isolated compressor and control compartment, allowing a service technician access to check unit operation without a loss of condenser airflow. In addition, the draw-thru design of the outdoor section 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 all indoor units, service and maintenance expense is reduced due to easy-to-change cleanable filters. In addition, these high wall systems have extensive self-diagnostics to assist in troubleshooting.

Built-in reliability

Duct-free split system indoor and outdoor units are designed to provide years of trouble-free operation.

The high wall indoor units include protection against freeze-up and high discharge temperatures. All systems include self-diagnostics to ensure reliability.

The condensing units have many safety features standard to ensure high performance and lasting reliability under the most demanding situations. For example, start capacitors and relays assure dependable start-ups, especially during low voltage conditions down to 187 v.

The totally enclosed condenser-fan motor means greater reliability under rain conditions, ensuring dependable performance for many years.

Individual room comfort

Maximum comfort is provided because each space can have individual set points and may be controlled based on actual usage. The air sweep feature provided permits optimal room air mixing to

eliminate hot and cold spots for occupant comfort. In addition, year-round comfort can be provided with heat pumps.

Economical operation

The duct-free split system design allows individual room heating or cooling where required. There is no need to run large supply-air fans or chilled water pumps to handle a few spaces with unique load patterns. In addition, because air is moved only in the space required, no energy is wasted moving air through ducts.

Features like the rifled copper tube with louvered aluminum plate fin coil provide maximum heat transfer.

Lightweight, compact size

The small footprint of these units provides additional benefits. The exclusive aero-acoustics make these units among the most compact in the industry. Because they require minimal service and airflow clearances, condensing units can be located virtually anywhere - on the ground, roof, balcony, or under a deck.

The outdoor unit can be mounted on almost any type or weight roof, and the indoor units take up little valuable, rentable space. There is no need to run large ductwork for these units which allows for additional space to be rented or utilized.

In addition, the small size makes these units easily moveable. When floor plans change, the units can be quickly reinstalled.

Easy-to-use controls

The microprocessor-based control in the high-wall unit is easy to use, permitting easy changes for maximum comfort. The microprocessor offers the ultimate in comfort and efficiency. All units automatically restart and retain their memories after a power failure, eliminating unnecessary service calls and service disruption. These high wall units are equipped with a wireless remote controller.

Accessories

Customizing these duct-free split systems to your application is easily accomplished. Low-ambient temperature capability (permitting cooling operation down to -20°F outdoor ambient) is easily added on all units.

Adding a condensate pump accessory to the high wall fan coil provides installation flexibility.

Agency listings

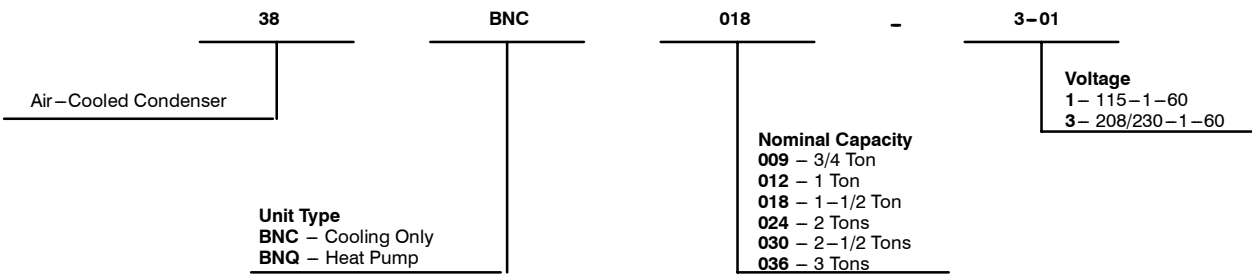
All systems are listed with ARI (Air Conditioning & Refrigeration Institute), and ETL.

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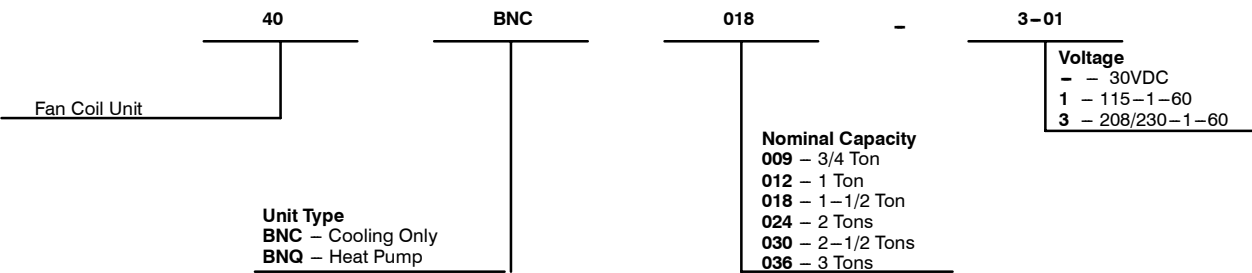
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MODEL NUMBER NOMENCLATURE

OUTDOOR UNIT



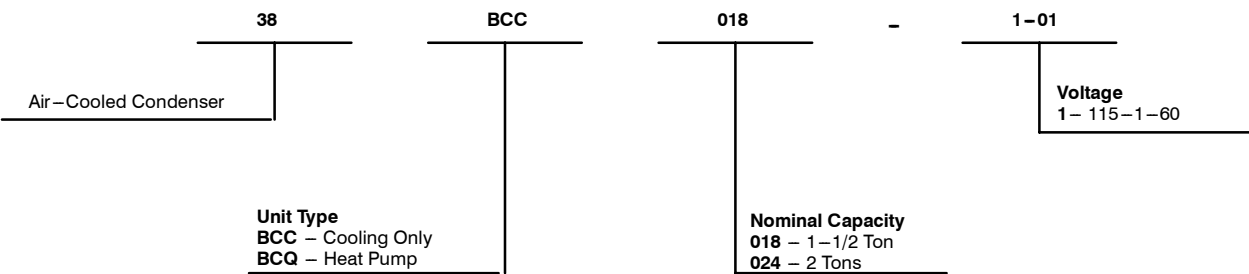
INDOOR UNIT



38/40BNC, BNQ, BCC, BCQ

OUTDOOR FOR DUAL UNITS

OUTDOOR UNIT



ARI* CAPACITY RATINGS

INDOOR SECTION	OUTDOOR SECTION	STD. CFM		NET COOLING BTUH	EER	SEER	HIGH HEAT			LOW HEAT		
		Indoor	Outdoor				BTUH	COP	HSPF	BTUH	COP	HSPF
40BNC009101	38BNC009101	350	1,100	9,000	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNC012101	38BNC012101	400	850	11,600	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNC018301	38BNC018301	700	2,200	19,000	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNC024301	38BNC024301	800	2,200	22,800	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNC030301	38BNC030301	850	2,300	28,400	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNC036301	38BNC036301	850	2,300	32,600	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
2X40BNC009101	38BCC018101	350	1,700	18,000	11.5	13	N/A	N/A	N/A	N/A	N/A	N/A
2X40BNC012101	38BCC024101	370	1,700	22,800	11.0	13	N/A	N/A	N/A	N/A	N/A	N/A
40BNQ009101	38BNQ009101	350	1100	9,000	11.0	13	8,600	3.3	7.7	5500	2.3	7.7
40BNQ012101	38BNQ012101	400	850	11,600	11.0	13	11,800	3.2	7.7	7400	2.2	7.7
40BNQ018301	38BNQ018301	700	2200	19,000	11.0	13	18,300	3.4	7.7	11,700	2.4	7.7
40BNQ024301	38BNQ024301	800	2200	22,800	11.0	13	22,600	3.3	7.7	13,700	2.3	7.7
40BNQ030301	38BNQ030301	850	2300	28,900	11.0	13	27,800	3.4	7.7	16,500	2.4	7.7
40BNQ036301	38BNQ036301	820	2300	32,600	11.0	13	31,200	3.2	7.7	19,500	2.5	7.7
2X40BNQ009101	38BCC018101	350	1700	18,000	11.5	13	18,000	3.5	7.7	11,000	2.5	7.7
2X40BNQ012101	38BCC024101	370	1700	23,200	11.0	13	24,000	3.4	7.7	16,000	2.2	7.7

*Air Conditioning & Refrigeration Institute

Legend

COP – Coefficient of Performance

db – Dry Bulb

EER – Energy Efficiency Ratio

HSPF – Heating Seasonal Performance Factor

SEER – Seasonal Energy Efficiency Ratio

wb – Wet Bulb

NOTES:

1. Ratings are net values reflecting the effects of circulating fan heat. Ratings are based on: Cooling Standard: 80°F db, 67°F wb air entering indoor unit and 95°F db air entering outdoor unit. High Temperature Heating Standard: 70°F db air entering indoor unit and 47°F db, 43°F wb air entering outdoor unit. Low Temperature Heating Standard: 70°F db air entering indoor unit and 17°F db, 15°F wb air entering outdoor unit.
2. Ratings are based on 25 ft. of interconnecting refrigerant lines.
3. All system ratings are based on fan coil units operating at high fan speed. Consult Physical Data tables for airflows at all available fan speeds.

SOUND RATINGS

UNIT	SOUND POWER (dBA)	SOUND PRESSURE (dBA)
40BNC009101	60	49
40BNC012101	63	52
40BNC018301	64	53
40BNC024301	65	54
40BNC030301	66	55
40BNC036301	66	55
2X40BNC009101	2 x 60	2 x 49
2X40BNC012101	2 x 63	2 x 52
40BNQ009101	60	49
40BNQ012101	63	52
40BNQ018301	64	53
40BNQ024301	65	54
40BNQ030301	66	55
40BNQ036301	66	55
2X40BNQ009101	2 x 60	2 x 49
2X40BNQ012101	2 x 63	2 x 52
38BNC009101	68	57
38BNC012101	70	59
38BNC018301	74	63
38BNC024301	77	66
38BNC030301	77	66
38BNC036301	77	66
38BCC018101	74	63
38BCC024101	74	63
38BNQ009101	68	57
38BNQ012101	70	59
38BNQ018301	74	63
38BNQ024301	77	66
38BNQ030301	77	66
38BNQ036301	77	66
38BCQ018101	74	63
38BCQ024101	74	63

38/40BNC, BNQ, BCC, BCQ

ACCESSORIES (FIELD INSTALLED)

STANDARD FEATURE/FIELD-INSTALLED ACCESSORY	BNC/BNQ/BCC/BCQ (High Wall)
Condensate Pump	A
Mounting Brackets	S
Microprocessor Controls	S
Cleanable Filters	S
3-Speed Indoor-Fan Motor	S
Automatic Indoor-Fan Speed Control	S
Diagnostics	S
Wireless Remote Controllers	S
Wired Remote Controllers	A
Fully Insulated Indoor Unit Cabinet	S
Automatic Air Sweep	S
Auto Restart Function	S
24-Hour Automatic Start/Stop Timer	S
Thermistor Cable Assembly	S
High- and Low-Voltage Terminal Blocks (Indoor)	S
AccuRater™ Refrigerant Metering Device	S
TXV in 030, 036	S
Demand Defrost	S
Warm Start (in heating)	S
Evaporator Coil Freeze Protection	S
Outdoor High- and Low-Voltage Terminal Block	S
Accumulator	S
Crankcase Heater (Reciprocating Compressors)	S
5-Year Compressor Warranty	S
Compressor Start Assistance†	S
Suction and Discharge Service Taps††	S
Totally Enclosed Outdoor Fan Motor	S
Acoustically-Lined Compressor Compartment	S
Low Ambient Temperature Controls (down to -20°F)	A
Heating Operation to 14°F	S
Auto Changeover from Cooling to Heating	S
Liquid Solenoid Valve†	A
FIELD FABRICATED AND FIELD INSTALLED ACCESSORIES	
Stacking Rails†	A
Condensing Unit Wall Mount Kit†	A
Wind Baffles	A
Snow Stand	A

Legend

- A** – Field Installed Accessory
S – Standard from the factory
W – Wired (24v)
WR – Wireless Remote
 — – Not available on this system

* Limited diagnostics through standard 24v control.

† For sizes 024, 030, 036

‡ For sizes 009 and 012 only.

**Crankcase heaters are standard on sizes 024, 030, 036

††The units are equipped with 2 taps; one each on compressor suction and discharge.

38/40BNC, BNQ, BCC, BCQ

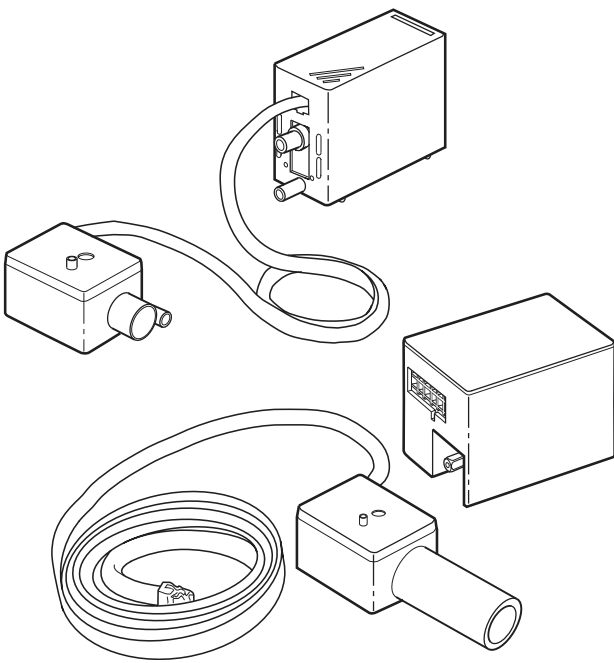


Fig. 1 – Condensate Pumps

On high wall fan coils, condensate pump has a lift capability of 1 to 10 ft. (009 unit) or 3 to 25 ft. (012-024 units). The pump mounts inside the unit with quick plug-in connections, and is recommended when adequate drain line pitch cannot be provided.

Outdoor Units

Low Ambient Kit

Includes a solid-state head pressure controller designed to control condenser fan cycling, and is activated by a pressure switch. It is specifically designed to control fan-motor cycles in response to saturated condensing pressure. This device maintains a constant saturated condensing temperature of $100^{\circ}\text{F} \pm 10^{\circ}\text{F}$ at outdoor-air temperatures between 55°F and -20°F , and can be used on all outdoor units without changing the outdoor fan motor.

Liquid Solenoid Valve

Electrically operated shutoff valve that is installed at the outdoor unit to stop and start refrigerant flow in response to compressor operation. The valve maintains a column of refrigerant in the liquid line between compressor operating cycles and is required for certain long line applications and to improve system performance. The valve should be used with all long line applications (over 100 ft.).

Crankcase Heater

Available for units with rotary compressors. Heater clamps onto compressor oil sump. Recommended for low-ambient applications on sizes 9, 12 and 18.

PHYSICAL DATA

INDOOR HIGH-WALL UNITS COOLING ONLY MODELS

INDOOR UNIT	40BNC009	40BNC012	40BNC018	40BNC024	40BNC030	40BNC036	2 x 40BNC009	2 x 40BNC012
NOMINAL CAPACITY (Tons)	3/4	1	1 1/2	2	2 1/2	3	1 1/2	2
NOMINAL SIZE (Btuh)	9,000	11,600	19,000	22,800	28,400	32,600	18,000	22,800
OPERATING WEIGHT (lb)	19.0	19.0	27.5	27.5	51.0	51.0	2 x 19	2 x 19
MOISTURE REMOVAL RATE (Pints/hr)	2.6	4.5	5.3	5.0	7.0	8.0	2 x 2.6	2 x 4.5
FINISH	White	White	White	White	White	White	White	White
REFRIGERANT TYPE	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22
Control (Cooling)	AccuRater Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater Piston at Outdoor Unit	
Control (Heating)	AccuRater Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater Piston at Outdoor Unit	
Factory Charge (lb)	2.7	2.7	4.1	4.2	6.06	5.9	2 x 2.7	2 x 2.7
INDOOR FAN	Direct Drive Centrifugal							
Rpm/Cfm High	1550 / 350	1650 / 400	1300 / 700	1500 / 800	1500 / 850	1500 / 850	2 x (1550/350)	2 x (1650/400)
Rpm/Cfm Medium	1350 / 280	1350 / 280	1100 / 570	1300 / 680	1300 / 800	1300 / 800	2 x (1350 / 280)	2 x (1350 / 280)
Rpm/Cfm Low	1150 / 220	1150 / 220	900 / 460	1100 / 580	1100 / 680	1100 / 680	2 x (1150 / 220)	2 x (1150 / 220)
Motor Watts	25	25	36	90	122	122	2 x 25	2 x 25
Blowers Quantity...Size (in.)	3.9	3.9	4.2	4.2	2 x 4.2	2 x 4.2	2 x 3.9	2 x 3.9
INDOOR COIL								
Face Area (in ^ 2)	246	246	424	424	480	480	2 x 246	2 x 246
No. of Rows	2	2	2	2	3	3	2 x 2	2 x 2
Fins/in.	17	17	16	16	16	16	2 x 17	2 x 17
Circuits	3	3	5	5	7	7	2 x 3	2 x 3
FILTERS	Cleanable							
Quantity...Size (in.)	2 X 5	2 X 5	2 X 8	2 X 8	3 X 8	3 X 8	2 x (2 X 5)	2 x (2 X 5)
AIRSWEEP								
Horizontal	Manual							
Vertical	Automatic							
CONTROLS	Integrated Microprocessor							
Remote Controller Options	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless
Diagnostics (Wireless-IR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Defrost Method	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timer Mode (Start/Stop)	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr
Warm Start Feature	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Test Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Freeze Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dehumidification Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fan Mode	High/Medium/Low/Auto							
Auto Changeover	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auto Restart	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Voltage	30VDC	30VDC	30VDC	24v	24v	24v	30VDC	30VDC
System Voltage	115VAC	115VAC	208-230VAC	208-230VAC	208-230VAC	208-230VAC	115VAC	115VAC
REFRIGERANT LINES								
Connection Type	Male Flare							
Mixed Phase Line OD (in.)	1/4	1/4	3/8	3/8	3/8	3/8	2 x 1/4	2 x 1/4
Vapor Line OD (in.)	1/2	1/2	5/8	5/8	5/8	5/8	2 x 1/2	2 x 1/2
Maximum Length (ft.)	50	50	50	130	130	130	50	50
Maximum Lift (Fan Coil Above) (ft.)	30	30	30	65	65	65	30	30
Maximum Lift (Fan Coil Below) (ft.)	30	30	30	65	65	65	30	30
CONDENSATE DRAIN SIZE (in.)	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63

*These units may only be matched with 38BNC/38BNQ outdoor units.

NOTES:

- Units are shipped with a full factory charge in the outdoor unit based on 25 ft. of refrigerant lines.
- See Application Data section for long line lengths.
- See matching outdoor unit for line lengths.

PHYSICAL DATA (CONT.)

INDOOR HIGH-WALL UNITS HEAT PUMP MODELS

INDOOR UNIT	40BNQ009	40BNQ012	40BNQ018	40BNQ024	40BNQ030	40BNQ036	2 x 40BNQ009	2 x 40BNQ012
NOMINAL CAPACITY (Tons)	3/4	1	1 1/2	2	2 1/2	3	1 1/2	2
NOMINAL SIZE (Btuh)	9,000	11,600	19,000	22,800	28,900	32,600	18,000	23,200
HEATING CAPACITY (Btuh)	8,600	11,800	18,300	22,600	27,800	31,200	18,000	24,000
OPERATING WEIGHT (lb)	19.0	19.0	27.5	27.5	51.0	51.0	2 x 19	2 x 19
MOISTURE REMOVAL RATE (Pints/hr)	2.6	4.5	5.3	5.0	7.0	8.0	2 x 2.6	2 x 4.5
FINISH	White	White	White	White	White	White	White	White
REFRIGERANT TYPE	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22
Control (Cooling)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Control (Heating)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Factory Charge (lb)	2.7	2.7	4.1	4.2	6.06	5.9	2 x 2.7	2 x 3.1
INDOOR FAN	Direct Drive Centrifugal							
Rpm/Cfm High	1550 / 350	1650 / 400	1300 / 700	1500 / 800	1500 / 850	1500 / 850	2 x (1550/350)	2 x (1650/400)
Rpm/Cfm Medium	1350 / 280	1350 / 280	1100 / 570	1300 / 680	1300 / 800	1300 / 800	2 x (1350/280)	2 x (1350/280)
Rpm/Cfm Low	1150 / 220	1150 / 220	900 / 460	1100 / 580	1100 / 680	1100 / 680	2 x (1150/220)	2 x (1150/220)
Motor Watts	25	25	36	90	122	122	2 x 25	2 x 25
Blowers Quantity...Size (in.)	3.9	3.9	4.2	4.2	2 x 4.2	2 x 4.2	2 x 3.9	2 x 3.9
INDOOR COIL	Copper Tube, Aluminum Fin							
Face Area (in ^ 2)	246	246	424	424	480	480	2 x 246	2 x 246
No. of Rows	2	2	2	2	3	3	2 x 2	2 x 2
Fins/in.	17	17	16	16	16	16	2 x 17	2 x 17
Circuits	3	3	5	5	7	7	2 x 3	2 x 3
FILTERS	Cleanable							
Quantity...Size (in.)	2 X 5	2 X 5	2 X 8	2 X 8	3 X 8	3 X 8	2 x (2 X 5)	2 x (2 X 5)
AIRSWEEP								
Horizontal	Manual							
Vertical	Automatic							
CONTROLS	Integrated Microprocessor							
Remote Controller Options	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless	Wireless
Diagnostics (Wireless-IR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Defrost Method	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
Timer Mode (Start/Stop)	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr	24 Hr
Warm Start Feature	N/A	N/A	N/A	Yes	Yes	Yes	N/A	N/A
Test Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Freeze Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dehumidification Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fan Mode	High/Medium/Low/Auto							
Auto Changeover	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Auto Restart	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Voltage	30vdc	30vdc	30vdc	24v	24v	24v	30vdc	30vdc
System Voltage	115v	115v	208-230v	208-230v	208-230v	208-230v	115v	115v
REFRIGERANT LINES								
Connection Type	Male Flare							
Mixed Phase Line OD (in.)	1/4	1/4	3/8	3/8	3/8	3/8	2 x 1/4	2 x 1/4
Vapor Line OD (in.)	1/2	1/2	5/8	5/8	5/8	5/8	2 x 1/2	2 x 1/2
Maximum Length (ft.)	50	50	50	130	130	130	50	50
Maximum Lift (Fan Coil Above) (ft.)	30	30	30	65	65	65	30	30
Maximum Lift (Fan Coil Below) (ft.)	30	30	30	65	65	65	30	30
CONDENSATE DRAIN SIZE (in.)	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63

NOTES:

- Units are shipped with a full factory charge in the outdoor unit based on 25 ft. of refrigerant lines.
- See Application Data section for long line lengths.
- See matching outdoor unit for line lengths.

38/40BNC, BNQ, BCC, BCQ

PHYSICAL DATA (CONT.)

OUTDOOR UNITS COOLING ONLY MODELS

OUTDOOR UNIT	38BNC009101	38BNC012101	38BNC018301	38BNC024301	38BNC030301	38BNC036301	38BCC018101	38BCC024101
NOMINAL CAPACITY (Tons)	3/4	1	1 1/2	2	2 1/2	3	1 1/2	2
OPERATING WEIGHT (lb)	73	114	136	187	198	198	226	228
REFRIGERANT TYPE	R-22							
Control (Cooling)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Control (Heating)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Factory Charge (lb)	2.7	2.7	4.1	4.2	6.06	5.9	2.5	2 x 2.7
COMPRESSOR TYPE	Panasonic Rotary				Bristol Recip		Panasonic Rotary	
Model	2R13S126A6F	2P17SR126B1A	2K25S236AHA	T21J225CBCA	T21J265CBCA	T21J334CBCA	2R13S126A6F	2P17SR126B1A
Oil (Recharge) (oz.)								
CRANKCASE HEATER (Watts)	No	No	No	30	30	30	No	No
OUTDOOR FAN								
RPM	1050	830	1000	1000	1000	1000	830	830
Diameter (in.)	(15) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3
Motor HP	0.135	0.154	0.289	0.289	0.289	0.289	0.154	0.154
Nominal Air CFM	1100	850	2200	2200	2300	2300	1700	1700
OUTDOOR COIL								
Face Area (sq. ft.) ...No. of Coils	3.65	5.77	7.1	7.1	7.8	7.8	2 x 5.77	2 x 5.77
Fins/in.	17	17	17	17	17	17	17	17
CONTROLS								
High-Pressure (psig)	No	No	No	No	No	No	No	No
Liquid Line Low-Pressure (psig)	yes	yes	yes	yes	yes	yes	yes	yes
Fusible Plug	yes	yes	yes	yes	yes	yes	yes	yes
Defrost Method	No	No	No	No	No	No	No	No
Accumulator	yes	yes	yes	yes	yes	yes	yes	yes
Control Voltage	30vdc	30vdc	30vdc	24v	24v	24v	30vdc	30vdc
System Voltage	115v	115v	208-230v	208-230v	208-230v	208-230v	115v	115v
REFRIGERANT LINES								
Connection Type	Male Flare							
Mixed Phase Line OD (in.)	1/4	1/4	3/8	3/8	3/8	3/8	2 x 1/4	2 x 1/4
Vapor Line OD (in.)	1/2	1/2	5/8	5/8	5/8	5/8	2 x 1/2	2 x 1/2
Maximum Length (ft.)	50	50	50	130	130	130	50	50
Maximum Lift (Fan Coil Above) (ft.)	30	30	30	65	65	65	30	30
Maximum Lift (Fan Coil Below) (ft.)	30	30	30	65	65	65	30	30

NOTES:

1. Available single-phase only.
2. Unit shipped with full factory charge.

38/40BNC, BNQ, BCC, BCQ

PHYSICAL DATA (CONT.)

OUTDOOR UNITS HEAT PUMP MODELS

OUTDOOR UNIT	38BNQ009101	38BNQ012101	38BNQ018301	38BNQ024301	38BNQ030301	38BNQ036301	38BCQ018101	38BCQ024101
NOMINAL CAPACITY (Tons)	3/4	1	1 1/2	2	2 1/2	3	1 1/2	2
OPERATING WEIGHT (lb)	73	114	136	187	198	198	226	228
REFRIGERANT TYPE	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22
Control (Cooling)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Control (Heating)	AccuRater® Piston at Outdoor Unit				TXV at Outdoor Unit		AccuRater® Piston at Outdoor Unit	
Factory Charge (lb)†	2.7	2.7	4.1	4.2	6.06	5.9	2.5	2 x 2.7
COMPRESSOR TYPE	Panasonic Rotary				Bristol Recip.		Panasonic Rotary	
Model	2R13S126A6F	2P17SR126B1A	2K25S236AHA	T21J225CBCA	T21J265CBCA	T21J334CBCA	2R13S126A6F	2P17SR126B1A
Oil (Recharge) (oz.)								
CRANKCASE HEATER (Watts)	No	No	No	30	30	30	No	No
OUTDOOR FAN								
RPM	1050	830	1000	1000	1000	1000	830	830
Diameter (in.)...No. of Blades	(15) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3	(19.7) 3
Motor HP	0.135	0.154	0.289	0.289	0.289	0.289	0.154	0.154
Nominal Air CFM	1100	850	2200	2200	2300	2300	1700	1700
OUTDOOR COIL								
Face Area (sq. ft.)...No. of Coils	3.65	5.77	7.1	7.1	7.8	7.8	2 x 5.77	2 x 5.77
Fins/in.	17	17	17	17	17	17	17	17
CONTROLS								
High-Pressure (psig)	No	No	No	No	No	No	No	No
Liquid Line Low-Pressure (psig)	yes	yes	yes	yes	yes	yes	yes	yes
Fusible Plug	yes	yes	yes	yes	yes	yes	yes	yes
Defrost Method	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
Accumulator	yes	yes	yes	yes	yes	yes	yes	yes
Control Voltage	30vdc	30vdc	30vdc	24v	24v	24v	30vdc	30vdc
System Voltage	115v	115v	208-230v	208-230v	208-230v	208-230v	115v	115v
REFRIGERANT LINES								
Connection Type	Male Flare							
Mixed Phase Line OD (in.)	1/4	1/4	3/8	3/8	3/8	3/8	2 x 1/4	2 x 1/4
Vapor Line OD (in.)	1/2	1/2	5/8	5/8	5/8	5/8	2 x 1/2	2 x 1/2
Maximum Length (ft.)	50	50	50	130	130	130	50	50
Maximum Lift (Fan Coil Above) (ft.)	30	30	30	65	65	65	30	30
Maximum Lift (Fan Coil Below) (ft.)	30	30	30	65	65	65	30	30

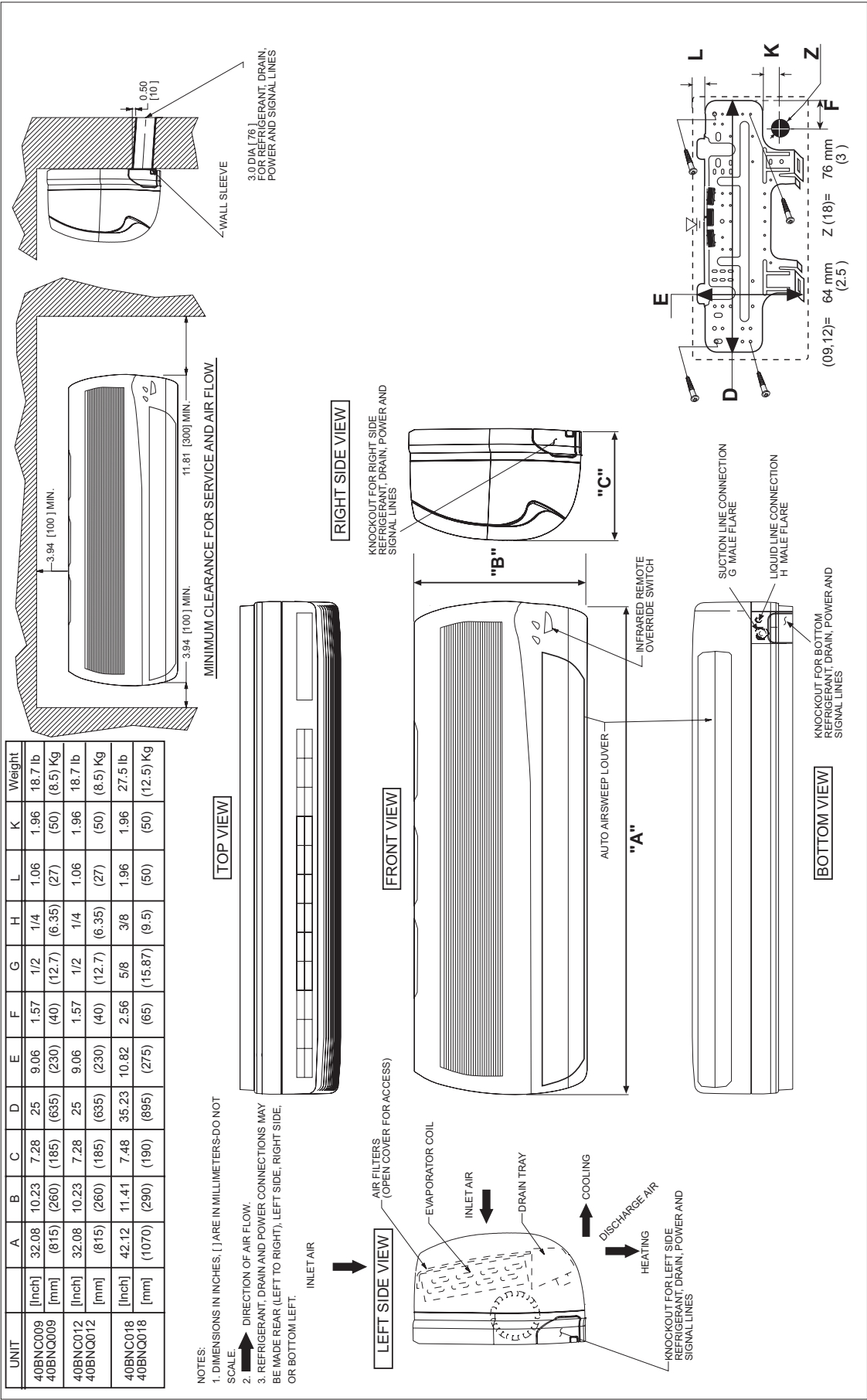
NOTES:

1. Available in single-phase only.
2. Unit shipped with full factory charge.

38/40BNC, BNQ, BCC, BCQ

BASE UNIT DIMENSIONS

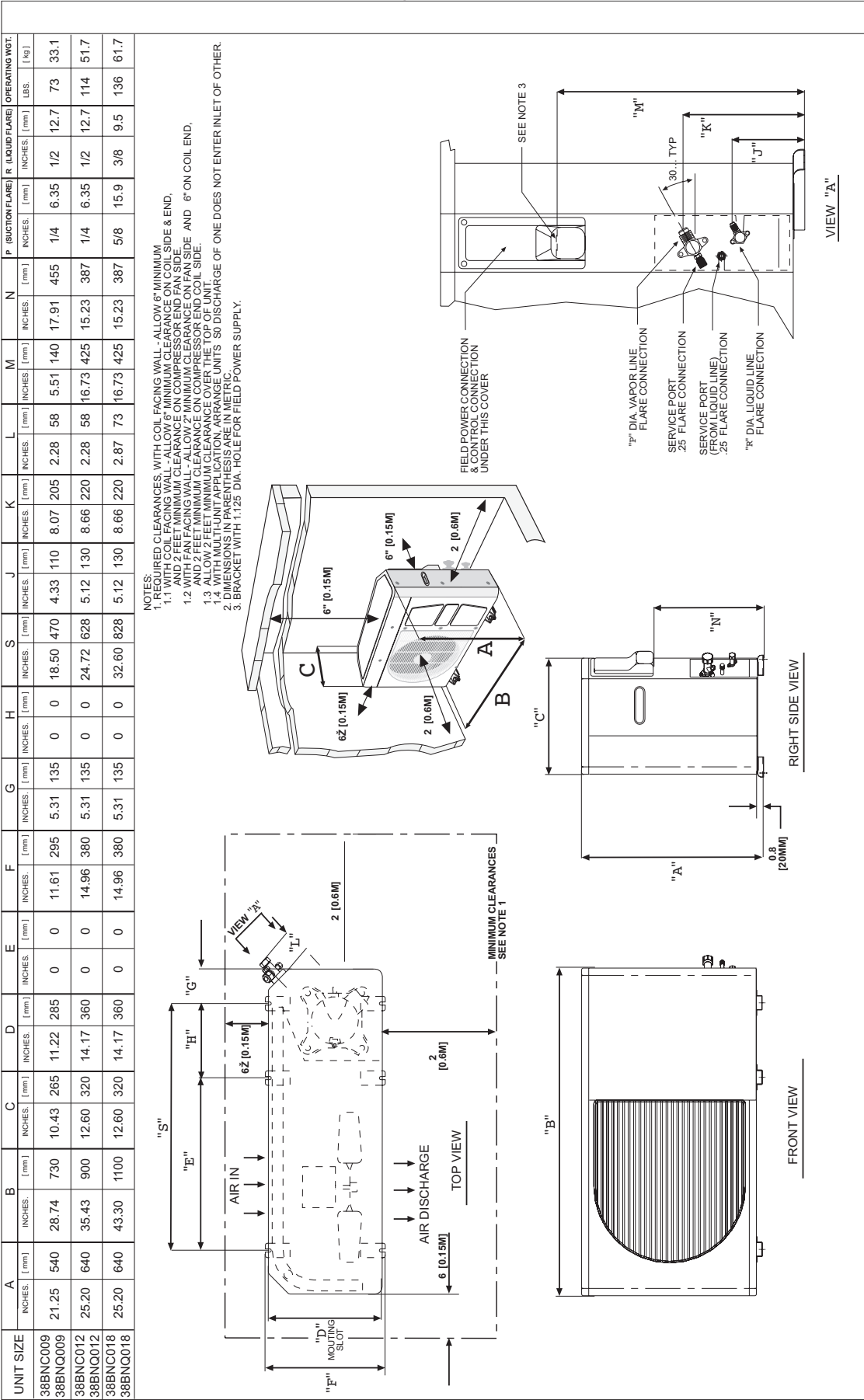
38/40BNC, BNQ, BCC, BCQ



40BNC/BNQ009-012 BASE UNIT DIMENSIONS

A06711

BASE UNIT DIMENSIONS (CONT.)

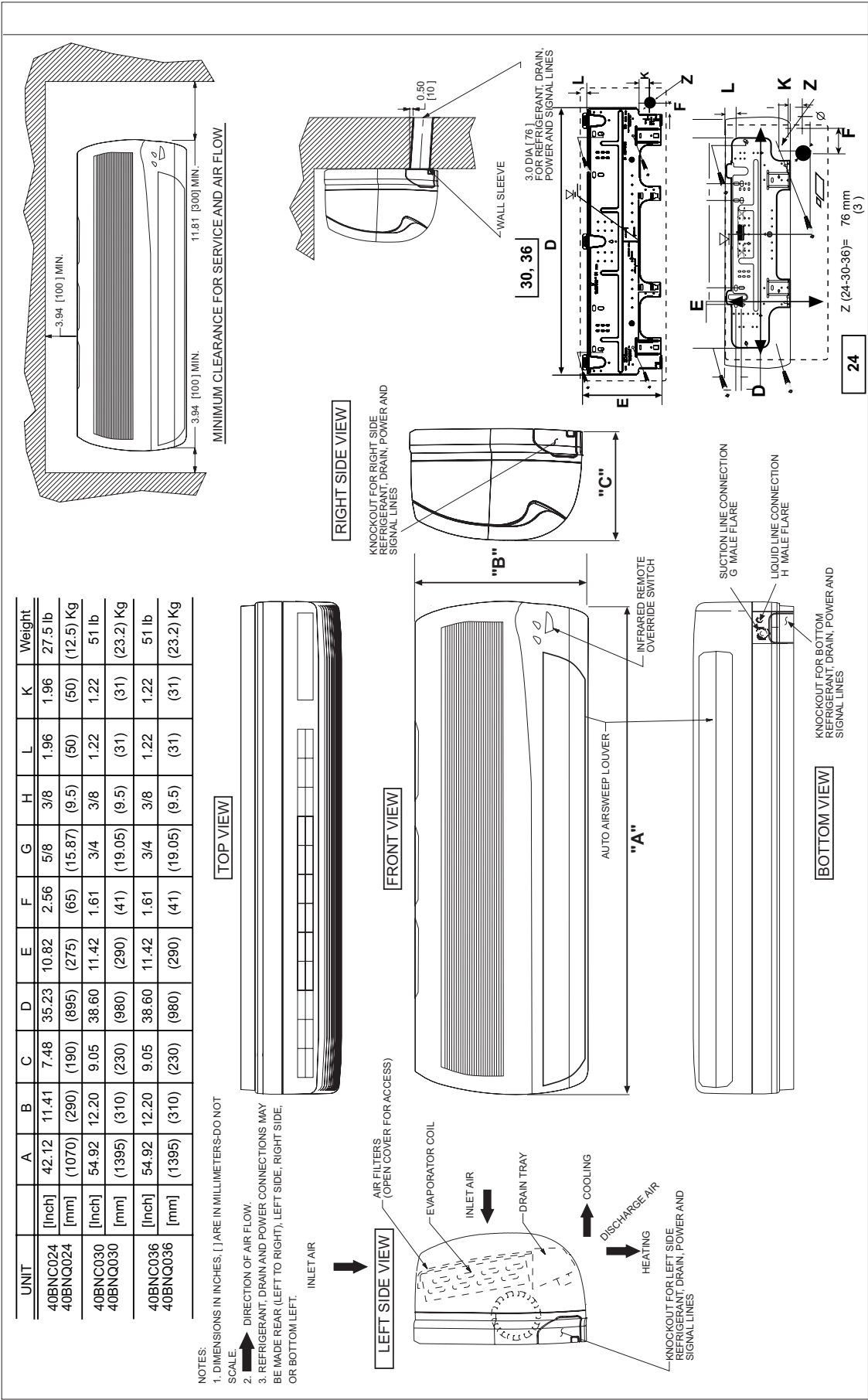


38BNC/BNQ009-018 BASE UNIT DIMENSIONS

38/40BNC, BNQ, BCC, BCQ

BASE UNIT DIMENSIONS (CONT.)

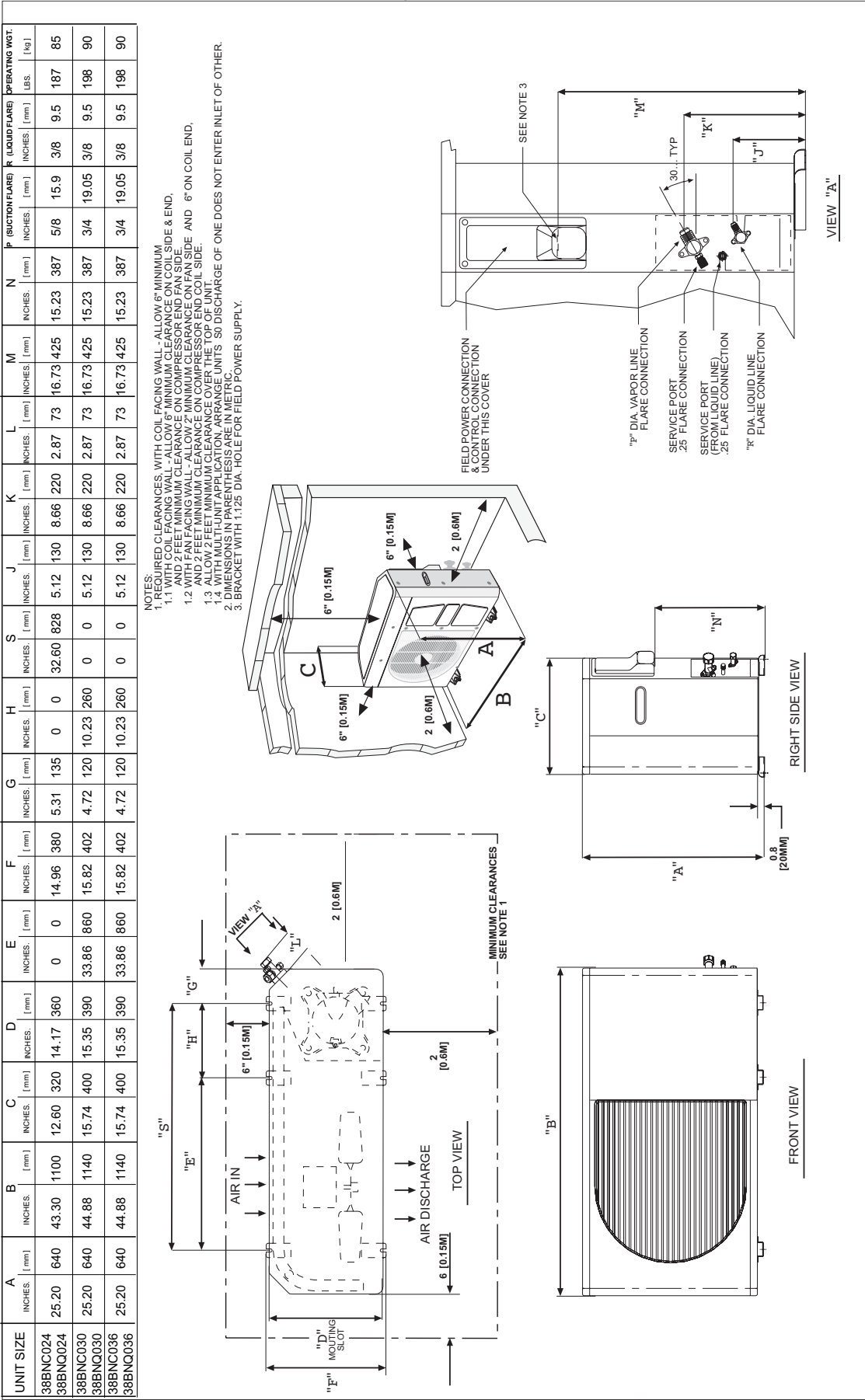
38/40BNC, BNQ, BCC, BCQ



40BNC/BNQ024-0036 BASE UNIT DIMENSIONS

A06713

BASE UNIT DIMENSIONS (CONT.)



A06714

38BNC/BNQ024-0036 BASE UNIT DIMENSIONS

38/40BNC, BNQ, BCC, BCQ

38/40BNC, BNQ, BCC, BCQ

NOTES:

1. REQUIRED CLEARANCES, WITH COIL FACING WALL - ALLOW 6" MINIMUM CLEARANCE ON COIL FACING WALL, 6" MINIMUM CLEARANCE ON PAN SIDE AND 6" MINIMUM CLEARANCE ON COMPRESSOR END COIL SIDE.

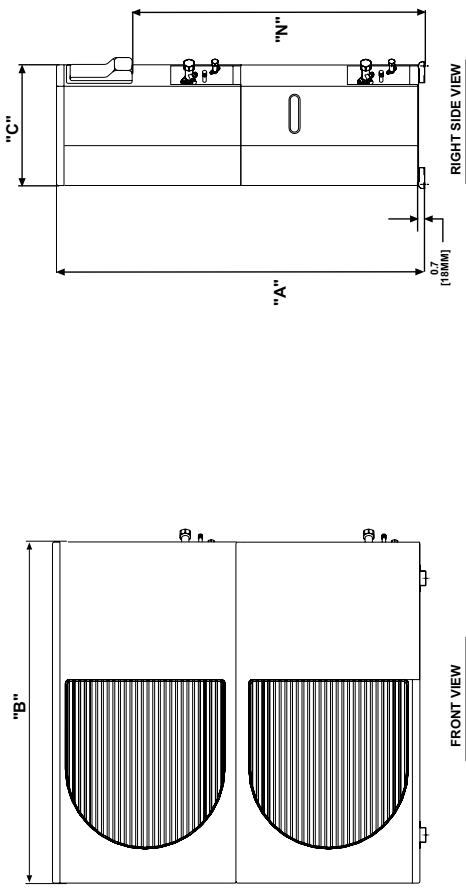
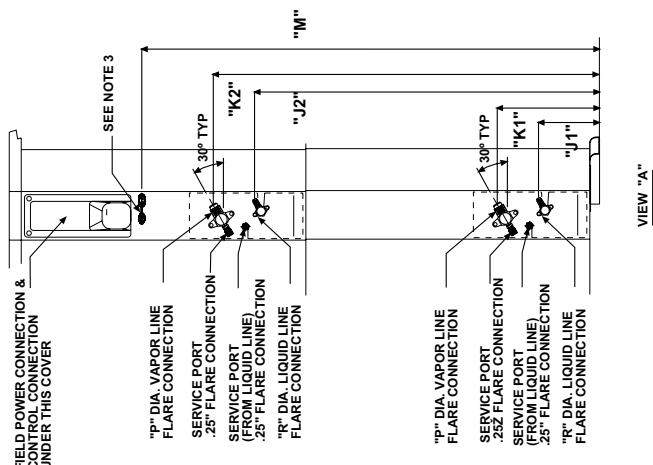
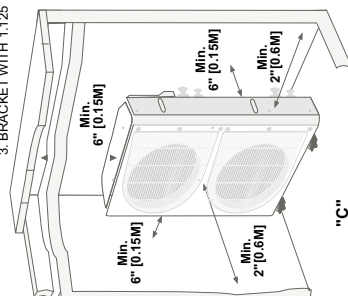
2. WITH COIL FACING WALL - ALLOW 2" MINIMUM CLEARANCE ON PAN SIDE AND 6" ON COIL END, AND 2" FREE MINIMUM CLEARANCE ON COMPRESSOR END COIL SIDE.

3. WITH COIL FACING WALL - ALLOW 2" MINIMUM CLEARANCE ON PAN SIDE AND 6" ON COIL END, AND 2" FREE MINIMUM CLEARANCE ON COMPRESSOR END COIL SIDE.

4. WITH MULTIPLE APPLICATION, ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INTO OTHER.

5. DIMENSIONS IN PARENTHESIS ARE IN METRIC.

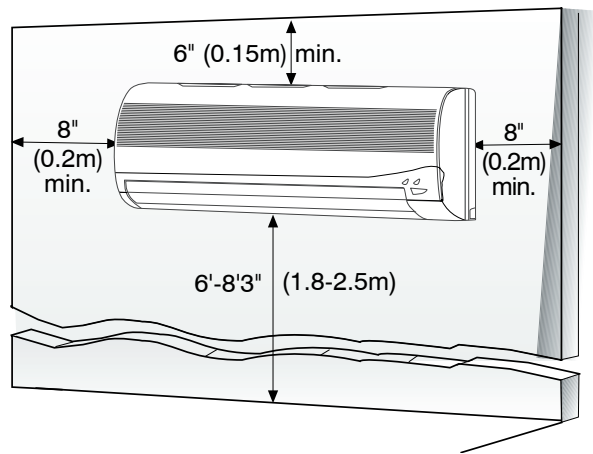
6. BRACKET WITH 1/25" DIA. HOLE FOR FIELD POWER SUPPLY.



338BCC/BCQ018-024 BASE UNIT DIMENSIONS

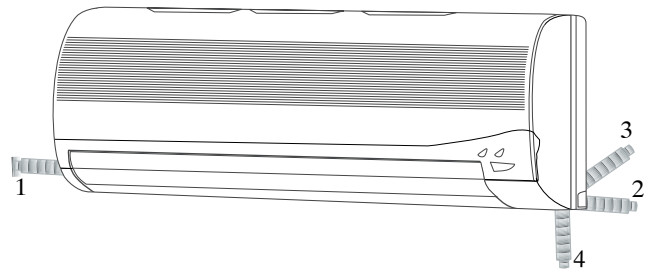
A06715

BASE UNIT DIMENSIONS (CONT.)



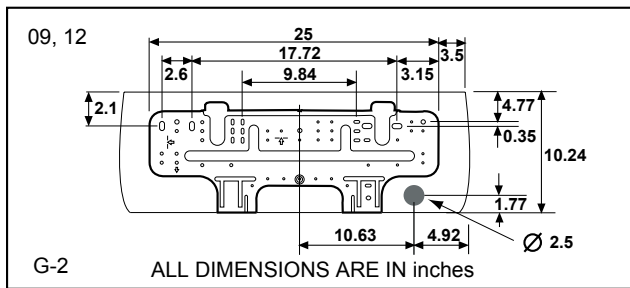
A06436

Fig. 2 – Indoor Unit Clearances



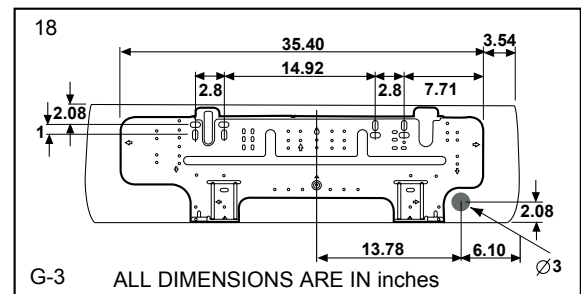
A06437

Fig. 3 – Refrigerant Lines



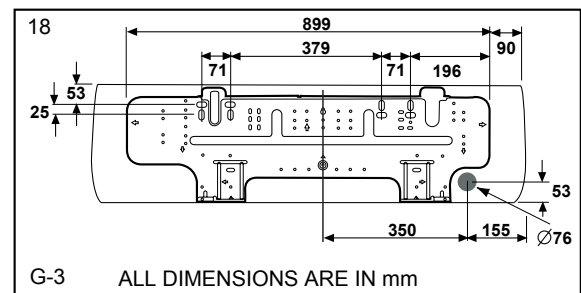
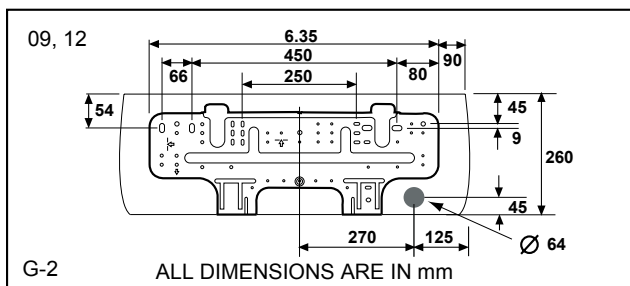
A06438

Fig. 4 – Mounting Bracket 38BNC/BNQ 009, 012



A06439

Fig. 5 – Mounting Bracket 38BNC/BNQ 018



38/40BNC, BNQ, BCC, BCQ

BASE UNIT DIMENSIONS (CONT.)

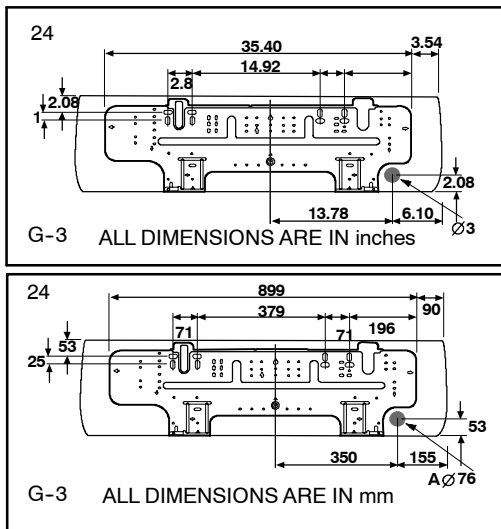


Fig. 6 – Mounting Bracket 40BNC/BNQ024

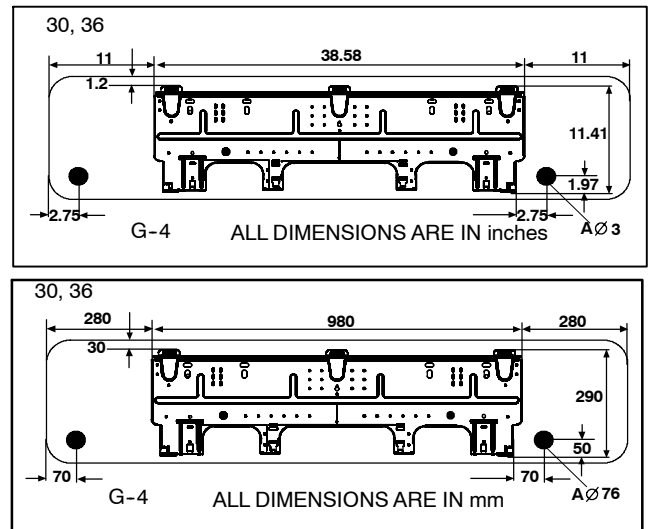


Fig. 7 – Mounting Bracket 40BNC/BNQ030-036

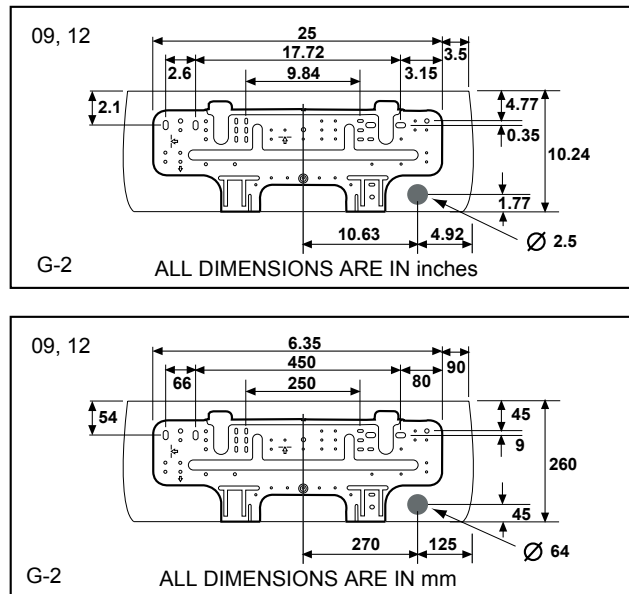


Fig. 8 – Mounting Bracket 40BNC/BNQ009, 012

PERFORMANCE DATA

COOLING CAPACITIES SYSTEM - BNC/BNQ009 HIGH WALL SYSTEM (38BNC/BNQ009 WITH 40BNC/BNQ009)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT –CFM/BF											
		220/0.1				280/0.11				350/0.12			
		AIR ENTERING INDOOR UNIT –EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	8.60	9.06	9.53	9.99	8.99	9.46	9.92	10.39	9.45	9.92	10.38	10.85
	SHG	8.52	7.26	6.02	4.88	8.99	7.70	6.34	5.10	9.45	8.18	6.70	5.36
	TC	8.45	8.91	9.38	9.84	8.84	9.31	9.77	10.24	9.30	9.77	10.23	10.70
	KW	0.47	0.48	0.49	0.50	0.48	0.48	0.49	0.51	0.48	0.48	0.50	0.51
	CMP	0.34	0.35	0.36	0.37	0.35	0.35	0.36	0.38	0.35	0.35	0.37	0.38
	LDB	44.3	49.6	54.8	59.6	50.4	54.7	59.1	63.2	55.1	58.5	62.4	65.9
65	LWB	41.54	47.48	53.06	59	44.6	50.36	55.94	61.7	46.76	52.52	57.92	63.5
	TCG	8.58	9.05	9.51	9.98	8.98	9.44	9.91	10.37	9.44	9.91	10.37	10.84
	SHG	8.58	7.37	6.08	4.89	8.98	7.83	6.42	5.08	9.44	8.38	6.81	5.37
	TC	8.43	8.90	9.36	9.83	8.83	9.29	9.76	10.22	9.29	9.76	10.22	10.69
	KW	0.53	0.54	0.55	0.56	0.54	0.54	0.56	0.57	0.54	0.54	0.56	0.57
	CMP	0.40	0.41	0.42	0.43	0.41	0.41	0.43	0.44	0.41	0.41	0.43	0.44
75	LDB	44.0	49.1	54.5	59.5	50.4	54.2	58.9	63.3	55.1	57.9	62.1	65.8
	LWB	41.7	47.6	53.4	59.3	44.6	50	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	8.39	8.86	9.32	9.79	8.79	9.25	9.72	10.18	9.25	9.71	10.18	10.64
	SHG	8.39	7.34	6.03	4.79	8.79	7.84	6.39	5.03	9.25	8.40	6.80	5.31
	TC	8.24	8.71	9.17	9.64	8.64	9.10	9.57	10.03	9.10	9.56	10.03	10.49
	KW	0.59	0.60	0.62	0.63	0.60	0.61	0.62	0.63	0.61	0.61	0.63	0.63
85	CMP	0.46	0.47	0.49	0.50	0.47	0.48	0.49	0.50	0.48	0.48	0.50	0.50
	LDB	44.9	49.3	54.8	59.9	51.1	54.2	59.0	63.4	55.6	57.9	62.1	66.0
	LWB	41.9	47.5	53.6	59.7	45.0	50.0	55.4	62.6	48.2	53.6	59.0	64.4
	TCG	8.02	8.48	8.95	9.41	8.41	8.88	9.34	9.81	8.88	9.34	9.81	10.27
	SHG	8.02	7.17	5.87	4.64	8.41	7.68	6.25	4.89	8.88	8.28	6.68	5.18
	TC	7.87	8.33	8.80	9.26	8.26	8.73	9.19	9.66	8.73	9.19	9.66	10.12
95	KW	0.66	0.67	0.69	0.70	0.67	0.68	0.69	0.71	0.68	0.68	0.70	0.71
	CMP	0.53	0.54	0.56	0.57	0.54	0.55	0.56	0.58	0.55	0.55	0.57	0.58
	LDB	46.4	49.9	55.4	60.6	52.3	54.7	59.4	63.9	56.6	58.2	62.4	66.4
	LWB	43	48.7	54	60.2	46.4	51.8	57.2	62.6	48.2	53.6	59	64.4
	TCG	7.46	7.93	8.39	8.86	7.86	8.33	8.79	9.26	8.32	8.79	9.25	9.72
	SHG	7.46	6.85	5.59	4.40	7.86	7.38	5.97	4.66	8.32	7.99	6.42	4.95
105	TC	7.31	7.78	8.24	8.71	7.71	8.18	8.64	9.11	8.17	8.64	9.00	9.57
	KW	0.74	0.75	0.77	0.79	0.75	0.75	0.77	0.79	0.75	0.75	0.82	0.79
	CMP	0.61	0.62	0.64	0.66	0.62	0.62	0.64	0.66	0.62	0.62	0.65	0.66
	LDB	48.7	51.3	56.6	61.6	54.1	55.7	60.3	64.7	58.1	59.0	63.1	67.0
	LWB	44.6	50	55.4	60.8	46.4	51.8	57.2	62.6	48.2	53.6	59	64.4
	TCG	6.73	7.20	7.66	8.13	7.13	7.59	8.06	8.52	7.59	8.05	8.52	8.98
115	SHG	6.73	6.45	5.19	4.08	7.13	6.99	5.60	4.34	7.59	7.59	6.04	4.65
	TC	6.58	7.05	7.51	7.98	6.98	7.44	7.91	8.37	7.44	7.90	8.37	8.83
	KW	0.82	0.82	0.86	0.87	0.82	0.83	0.86	0.88	0.83	0.84	0.86	0.88
	CMP	0.69	0.69	0.73	0.74	0.69	0.70	0.73	0.75	0.70	0.71	0.73	0.75
	LDB	51.8	53.0	58.2	62.9	56.5	57.0	61.6	65.7	60.0	60.0	64.1	67.8
	LWB	45.3	50.7	56.3	61.9	47.5	52.9	58.3	63.7	49.1	54.3	59.7	65.1
125	TCG	5.82	6.28	6.75	7.21	6.21	6.68	7.14	7.61	6.68	7.14	7.61	8.07
	SHG	5.82	5.89	4.74	3.66	6.21	6.43	5.13	3.93	6.68	7.03	5.59	4.24
	TC	5.67	6.13	6.60	7.06	6.06	6.53	6.99	7.46	6.53	6.99	7.46	7.92
	KW	0.91	0.91	0.94	0.97	0.92	0.92	0.95	0.98	0.93	0.93	0.96	0.99
	CMP	0.78	0.78	0.81	0.84	0.79	0.79	0.82	0.85	0.80	0.80	0.83	0.86
	LDB	55.6	55.3	60.1	64.6	59.5	58.8	63.1	67.1	62.4	61.5	65.3	68.8
135	LWB	47	52.3	57.7	63	49.1	54.5	59.9	65.3	50	55.4	60.8	66.2
	TCG	4.73	5.19	5.66	6.12	5.12	5.59	6.05	6.52	5.58	6.05	6.51	6.98
	SHG	4.73	5.12	4.15	3.19	5.12	5.59	4.56	3.46	5.58	6.05	5.04	3.78
	TC	4.58	5.04	5.51	5.97	4.97	5.44	5.90	6.37	5.43	5.90	6.36	6.83
	KW	1.01	1.01	1.04	1.08	1.02	1.02	1.04	1.08	1.03	1.03	1.05	1.09
	CMP	0.88	0.88	0.91	0.95	0.89	0.89	0.91	0.95	0.90	0.90	0.92	0.96
145	LDB	60.2	58.6	62.6	66.6	63.1	61.6	65.0	68.6	65.3	64.1	66.7	70.1
	LWB	49.1	53.6	59	64.4	50	55.4	60.8	66.2	51.8	56.3	60.8	66.2

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA

COOLING CAPACITIES SYSTEM - BNC/BNQ012 HIGH WALL SYSTEM (38BNC/BNQ012 WITH 40BNC/BNQ012)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT –CFM/BF											
		230/0.1				280/0.11				400/0.12			
		AIR ENTERING INDOOR UNIT –EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	10.8	11.8	12.8	13.7	11.2	12.2	13.2	14.1	12.0	12.9	13.9	14.9
	SHG	10.8	9.5	7.7	5.6	11.2	10.2	8.4	6.2	12.0	11.7	9.8	7.5
	TC	10.7	11.6	12.6	13.6	11.1	12.0	13.0	14.0	11.8	12.8	13.8	14.7
	KW	0.65	0.65	0.66	0.66	0.65	0.65	0.66	0.66	0.66	0.66	0.67	0.67
	CMP	0.47	0.48	0.49	0.49	0.48	0.48	0.49	0.49	0.49	0.49	0.50	0.50
	LDB	36.7	42.0	49.0	57.7	43.1	46.3	52.2	59.5	50.2	50.9	55.6	61.3
65	LWB	36.7	41.7	48.2	53.6	42.8	44.6	48.2	53.6	35.6	41.0	46.4	51.8
	TCG	10.3	11.2	12.2	13.2	10.7	11.7	12.6	13.6	11.4	12.4	13.4	14.4
	SHG	10.3	9.2	7.5	5.5	10.7	9.9	8.2	6.1	11.4	11.3	9.6	7.4
	TC	10.1	11.1	12.1	13.1	10.5	11.5	12.5	13.5	11.3	12.3	13.2	14.2
	KW	0.71	0.72	0.73	0.74	0.72	0.73	0.74	0.75	0.73	0.73	0.75	0.75
	CMP	0.54	0.55	0.55	0.56	0.55	0.55	0.56	0.57	0.55	0.55	0.57	0.57
75	LDB	38.9	43.2	49.8	58.0	44.9	47.3	52.9	59.8	51.6	51.8	56.2	61.6
	LWB	38.7	42.8	48.2	55.4	37.4	42.8	48.2	53.6	37.4	41.0	48.2	52.9
	TCG	9.7	10.7	11.7	12.7	10.1	11.1	12.1	13.1	10.9	11.9	12.8	13.8
	SHG	9.7	8.8	7.3	5.4	10.1	9.6	8.0	6.0	10.9	11.0	9.3	7.2
	TC	9.6	10.6	11.6	12.5	10.0	11.0	12.0	12.9	10.7	11.7	12.7	13.7
	KW	0.80	0.81	0.81	0.83	0.81	0.81	0.82	0.84	0.81	0.81	0.82	0.84
85	CMP	0.62	0.63	0.64	0.66	0.63	0.63	0.65	0.67	0.63	0.64	0.65	0.67
	LDB	41.0	44.5	50.7	58.4	46.6	48.5	53.7	60.1	52.9	52.7	56.8	62.0
	LWB	39.2	42.8	50.0	55.4	39.2	44.6	50.0	55.4	37.4	42.8	48.2	53.6
	TCG	9.2	10.2	11.2	12.1	9.6	10.6	11.6	12.6	10.4	11.3	12.3	13.3
	SHG	9.2	8.5	8.0	5.3	9.6	9.2	7.8	5.9	11.0	10.6	8.8	7.1
	TC	9.1	10.0	11.0	12.0	9.5	10.5	11.4	12.4	10.9	11.2	12.6	13.2
95	KW	0.88	0.89	0.91	0.92	0.89	0.90	0.92	0.93	0.90	0.91	0.92	0.93
	CMP	0.71	0.72	0.73	0.74	0.72	0.72	0.74	0.75	0.72	0.73	0.74	0.76
	LDB	43.1	45.9	47.9	58.8	48.4	49.6	54.4	60.5	52.6	53.6	58.1	62.3
	LWB	41.0	46.4	51.8	57.2	41.0	46.4	50.0	55.4	37.4	44.6	50.0	55.4
	TCG	8.7	9.6	10.6	11.6	9.1	10.1	11.0	12.0	9.8	10.8	11.8	12.8
	SHG	8.7	8.2	6.9	5.2	9.1	8.9	7.5	5.8	9.8	10.2	8.9	6.9
105	TC	8.5	9.5	10.5	11.5	8.9	9.9	10.9	11.9	9.7	10.7	11.6	12.6
	KW	0.98	0.98	1.01	1.02	0.98	1.00	1.01	1.03	0.99	1.00	1.05	1.03
	CMP	0.80	0.81	0.84	0.84	0.81	0.83	0.84	0.85	0.82	0.83	0.84	0.85
	LDB	45.3	47.3	52.5	59.3	50.1	50.8	55.2	61.0	55.5	54.6	60.2	62.7
	LWB	41.0	46.4	51.8	57.2	41.0	46.4	51.8	57.2	39.2	44.6	50.0	55.4
	TCG	8.1	9.1	10.1	11.1	8.6	9.5	10.5	11.5	9.3	10.3	11.3	12.2
115	SHG	8.1	7.8	6.6	5.1	8.6	8.5	7.3	5.6	9.3	9.8	8.5	6.8
	TC	8.0	9.0	10.0	10.9	8.4	9.4	10.4	11.4	9.2	10.1	11.1	12.1
	KW	1.08	1.09	1.11	1.13	1.09	1.10	1.12	1.14	1.10	1.11	1.13	1.15
	CMP	0.90	0.92	0.94	0.95	0.92	0.93	0.95	0.96	0.93	0.94	0.95	0.97
	LDB	47.4	48.7	53.5	59.8	51.8	52.0	56.1	61.4	56.8	55.6	58.9	63.1
	LWB	42.8	46.4	53.6	59.0	42.8	48.2	51.8	57.2	41.0	46.4	51.8	57.2
125	TCG	7.6	8.6	9.6	10.5	8.0	9.0	10.0	11.0	8.8	9.7	10.7	11.7
	SHG	7.6	7.4	6.4	4.9	8.0	8.1	7.0	5.5	8.8	9.4	8.2	6.6
	TC	7.5	8.4	9.4	10.4	7.9	8.9	9.8	10.8	8.6	9.6	10.6	11.6
	KW	1.20	1.21	1.23	1.26	1.21	1.21	1.24	1.26	1.21	1.22	1.25	1.26
	CMP	1.02	1.03	1.06	1.08	1.03	1.04	1.06	1.08	1.04	1.05	1.07	1.09
	LDB	49.5	50.2	54.5	60.3	53.6	53.3	57.0	61.9	58.2	56.6	59.6	63.6
135	LWB	44.6	48.2	53.6	59.0	42.8	48.2	53.6	59.0	41.0	46.4	51.8	57.2
	TCG	7.1	8.1	9.0	10.0	7.5	8.5	9.4	10.4	8.2	9.2	10.2	11.2
	SHG	7.1	7.1	6.1	4.8	7.5	7.7	6.7	5.3	8.2	9.0	7.9	6.4
	TC	6.9	7.9	8.9	9.9	7.4	8.3	9.3	10.3	8.1	9.1	10.1	11.0
	KW	1.32	1.33	1.36	1.38	1.33	1.34	1.37	1.39	1.34	1.35	1.37	1.40
	CMP	1.15	1.16	1.18	1.21	1.16	1.17	1.19	1.22	1.17	1.17	1.20	1.23
145	LDB	51.6	51.7	55.5	60.9	55.3	54.6	57.9	62.5	59.5	57.6	60.3	64.0
	LWB	44.6	48.2	53.6	59.0	44.6	48.2	53.6	59.0	42.8	46.4	51.8	57.2

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

PERFORMANCE DATA

COOLING CAPACITIES SYSTEM - BNC/BNQ018 HIGH WALL SYSTEM (38BNC/BNQ018 WITH 40BNC/BNQ018)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT—CFM/BF											
		460/0.08				570/0.09				700/0.1			
		AIR ENTERING INDOOR UNIT—EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	16.2	17.7	19.2	20.7	17.5	19.0	20.5	22.0	18.7	20.2	21.7	23.2
	SHG	14.5	12.8	10.6	8.0	16.6	14.8	12.5	9.7	18.7	16.8	14.3	11.4
	TC	16.0	17.5	19.0	20.5	17.3	18.8	20.3	21.8	18.5	20.0	21.5	23.0
	KW	1.01	1.01	1.01	1.02	1.01	1.01	1.01	1.01	1.00	1.01	1.01	1.01
	CMP	0.74	0.74	0.74	0.75	0.74	0.74	0.74	0.74	0.73	0.74	0.74	0.74
	LDB	51.4	54.7	59.1	64.4	53.4	56.4	60.1	64.7	54.5	57.2	60.6	64.6
65	LWB	42.8	48.2	53.6	59.0	44.6	50.0	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	15.8	17.3	18.8	20.3	17.2	18.7	20.2	21.7	18.4	19.9	21.4	22.9
	SHG	14.5	12.9	10.8	8.2	16.6	14.9	12.7	10.0	18.4	16.9	14.5	11.7
	TC	15.6	17.1	18.6	20.1	17.0	18.5	20.0	21.5	18.2	19.7	21.2	22.7
	KW	1.12	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.12	1.12	1.13	1.13
	CMP	0.85	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.85	0.85	0.86	0.86
75	LDB	51.4	54.5	58.7	63.9	53.4	56.2	59.8	64.2	55.0	57.1	60.3	64.2
	LWB	42.8	48.2	53.6	59.0	44.6	50.0	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	15.3	16.8	18.3	19.8	16.6	18.1	19.6	21.1	17.8	19.3	20.8	22.3
	SHG	14.3	12.8	10.9	8.4	16.4	14.9	12.7	10.1	17.8	16.8	14.6	11.8
	TC	15.1	16.6	18.1	19.6	16.4	17.9	19.4	20.9	17.6	19.1	20.6	22.1
	KW	1.25	1.26	1.26	1.27	1.26	1.26	1.27	1.27	1.25	1.26	1.26	1.27
85	CMP	0.98	0.99	0.99	1.00	0.99	0.99	1.00	1.00	0.98	0.99	0.99	1.00
	LDB	51.7	54.7	58.6	63.5	53.7	56.3	59.7	63.9	55.8	57.2	60.2	64.0
	LWB	44.6	50.0	55.4	59.0	46.4	50.0	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	14.6	16.1	17.6	19.1	15.9	17.4	18.9	20.4	17.1	18.6	20.1	21.6
	SHG	13.9	12.6	10.8	8.5	15.9	14.6	12.7	10.2	17.1	16.6	14.5	11.9
	TC	14.4	15.9	17.4	18.9	15.7	17.2	18.7	20.2	16.9	18.4	19.9	21.4
95	KW	1.39	1.40	1.41	1.41	1.40	1.41	1.41	1.42	1.41	1.41	1.41	1.42
	CMP	1.12	1.13	1.14	1.14	1.13	1.14	1.14	1.15	1.14	1.14	1.14	1.15
	LDB	52.5	55.1	58.7	63.4	54.6	56.7	59.8	63.8	56.8	57.5	60.4	63.9
	LWB	44.6	50.0	55.4	59.0	46.4	50.0	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	13.7	15.2	16.7	18.2	15.0	16.5	18.0	19.5	16.2	17.7	19.2	20.7
	SHG	13.3	12.2	10.6	8.5	15.0	14.2	12.4	10.1	16.2	16.1	14.2	11.8
105	TC	13.5	15.0	16.5	18.0	14.8	16.3	17.8	19.3	16.0	17.5	19.0	20.5
	KW	1.54	1.56	1.57	1.57	1.56	1.56	1.57	1.57	1.57	1.57	1.73	1.66
	CMP	1.27	1.29	1.30	1.30	1.29	1.29	1.30	1.30	1.30	1.30	1.38	1.39
	LDB	53.7	55.9	59.2	63.5	56.1	57.4	60.2	63.9	58.0	58.1	60.7	64.0
	LWB	46.4	50.0	55.4	60.8	46.4	51.8	57.2	62.6	48.2	51.8	57.2	62.6
	TCG	12.6	14.1	15.6	17.1	13.9	15.4	16.9	18.4	15.1	16.6	18.1	19.6
115	SHG	12.5	11.6	10.2	8.3	13.9	13.6	12.0	10.0	15.1	15.5	13.8	11.6
	TC	12.4	13.9	15.4	16.9	13.7	15.2	16.7	18.2	14.9	16.4	17.9	19.4
	KW	1.71	1.72	1.74	1.75	1.72	1.73	1.74	1.75	1.74	1.74	1.75	1.75
	CMP	1.44	1.45	1.47	1.48	1.45	1.46	1.47	1.48	1.47	1.47	1.48	1.48
	LDB	55.3	57.1	59.9	63.8	57.8	58.4	60.9	64.2	59.5	59.0	61.3	64.3
	LWB	47.3	50.9	56.3	61.7	47.3	52.7	58.1	63.5	48.2	52.7	58.1	63.5
125	TCG	11.4	12.9	14.4	15.9	12.7	14.2	15.7	17.2	13.9	15.4	16.9	18.4
	SHG	11.4	10.9	9.7	8.0	12.7	12.8	11.4	9.6	13.9	14.6	13.2	11.2
	TC	11.2	12.7	14.2	15.7	12.5	14.0	15.5	17.0	13.7	15.2	16.7	18.2
	KW	1.89	1.89	1.91	1.94	1.90	1.90	1.92	1.94	1.92	1.92	1.93	1.94
	CMP	1.62	1.62	1.64	1.67	1.63	1.63	1.65	1.67	1.65	1.65	1.66	1.67
	LDB	57.6	58.6	61.0	64.4	59.8	59.7	61.8	64.8	61.2	60.2	62.2	64.9
125	LWB	48.2	51.8	57.2	62.6	48.2	53.6	59.0	64.4	49.1	53.6	59.0	64.4
	TCG	9.9	11.4	12.9	14.4	11.2	12.7	14.2	15.7	12.4	13.9	15.4	16.9
	SHG	9.9	9.9	9.0	7.6	11.2	11.7	10.7	9.1	12.4	13.5	12.4	10.7
	TC	9.7	11.2	12.7	14.2	11.0	12.5	14.0	15.5	12.2	13.7	15.2	16.7
	KW	2.08	2.08	2.10	2.14	2.09	2.09	2.11	2.14	2.11	2.12	2.12	2.14
	CMP	1.81	1.81	1.83	1.87	1.82	1.82	1.84	1.87	1.84	1.85	1.85	1.87
125	LDB	60.5	60.6	62.4	65.2	62.1	61.4	63.1	65.6	63.2	61.7	63.3	65.6
	LWB	49.1	53.6	59.0	62.6	50.0	54.5	59.0	63.5	50.0	55.4	59.9	64.4

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA

COOLING CAPACITIES SYSTEM - BNC/BNQ024 HIGH WALL SYSTEM (38BNC/BNQ024 WITH 40BNC/BNQ024)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT – CFM/BF											
		460/0.08				570/0.09				700/0.1			
		AIR ENTERING INDOOR UNIT – EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	20.1	22.1	24.1	26.1	21.6	23.6	25.6	27.6	23.1	25.1	27.1	29.1
	SHG	18.0	16.0	13.4	10.1	20.0	17.8	15.0	11.5	22.1	19.7	16.7	13.0
	TC	19.8	21.8	23.8	25.8	21.3	23.3	25.3	27.3	22.8	24.8	26.8	28.8
	KW	1.50	1.53	1.55	1.57	1.51	1.54	1.56	1.57	1.54	1.56	1.57	1.59
	CMP	1.20	1.23	1.25	1.27	1.21	1.24	1.26	1.27	1.24	1.26	1.27	1.29
	LDB	51.9	55.0	59.2	64.5	53.3	56.2	60.1	64.8	54.3	57.0	60.6	65.0
65	LWB	42.8	48.2	53.6	59.0	44.6	50.0	55.4	60.8	46.4	50.0	55.4	60.8
	TCG	19.1	21.1	23.1	25.1	20.6	22.6	24.6	26.6	22.1	24.1	26.1	28.1
	SHG	17.5	15.7	13.3	10.2	19.5	17.5	14.9	11.6	21.6	19.4	16.6	13.1
	TC	18.8	20.8	22.8	24.8	20.3	22.3	24.3	26.3	21.8	23.8	25.8	27.8
	KW	1.62	1.66	1.70	1.72	1.65	1.67	1.71	1.74	1.66	1.70	1.74	1.75
	CMP	1.32	1.36	1.40	1.42	1.35	1.37	1.41	1.44	1.36	1.40	1.44	1.45
75	LDB	52.7	55.5	59.3	64.3	54.0	56.6	60.2	64.7	54.9	57.4	60.7	64.9
	LWB	43.7	49.1	54.5	59.9	44.6	50.0	55.4	60.8	46.4	50.9	56.3	60.8
	TCG	18.1	20.1	22.2	24.2	19.6	21.7	23.7	25.7	21.2	23.2	25.2	27.3
	SHG	17.0	15.4	13.2	10.3	19.0	17.3	14.8	11.7	21.1	19.2	16.6	13.3
	TC	17.8	19.8	21.9	23.9	19.3	21.4	23.4	25.4	20.9	22.9	24.9	27.0
	KW	1.75	1.80	1.85	1.88	1.76	1.81	1.86	1.90	1.80	1.84	1.88	1.92
85	CMP	1.45	1.50	1.55	1.58	1.46	1.51	1.56	1.60	1.50	1.54	1.58	1.62
	LDB	53.5	56.0	59.5	64.1	54.7	57.0	60.3	64.5	55.4	57.7	60.8	64.7
	LWB	44.6	50.0	55.4	60.8	44.6	50.0	55.4	60.8	46.4	51.8	57.2	62.6
	TCG	17.1	19.1	21.1	23.1	18.6	20.6	22.6	24.6	20.1	22.1	24.1	26.1
	SHG	16.3	15.0	13.0	10.3	18.3	16.8	14.6	11.7	20.1	18.7	16.3	13.2
	TC	16.8	18.8	20.8	22.8	18.3	20.3	22.3	24.3	19.8	21.8	23.8	25.8
95	KW	1.86	1.92	2.00	2.03	1.88	1.95	2.01	2.06	1.92	1.97	2.03	2.07
	CMP	1.56	1.62	1.70	1.73	1.58	1.65	1.71	1.76	1.62	1.67	1.73	1.77
	LDB	54.5	56.6	59.8	64.1	55.5	57.6	60.6	64.5	56.6	58.3	61.1	64.7
	LWB	46.4	50.0	55.4	60.8	45.5	50.9	56.3	61.7	46.4	51.8	57.2	62.6
	TCG	16.1	18.1	20.1	22.1	17.6	19.6	21.6	23.6	19.1	21.1	23.1	25.1
	SHG	15.7	14.6	12.8	10.3	17.6	16.4	14.4	11.7	19.1	18.3	16.1	13.2
105	TC	15.8	17.8	19.8	21.8	17.3	19.3	21.3	23.3	18.8	20.8	22.8	24.8
	KW	1.98	2.05	2.12	2.19	2.01	2.06	2.15	2.21	2.05	2.10	2.07	2.23
	CMP	1.68	1.75	1.82	1.89	1.71	1.76	1.85	1.91	1.75	1.80	1.87	1.93
	LDB	55.5	57.3	60.2	64.1	56.6	58.2	60.9	64.5	57.8	58.8	60.8	64.8
	LWB	46.4	50.0	55.4	60.8	46.4	51.8	57.2	62.6	48.2	51.8	57.2	62.6
	TCG	15.1	17.1	19.1	21.1	16.6	18.6	20.6	22.6	18.1	20.1	22.1	24.1
115	SHG	15.0	14.1	12.5	10.3	16.6	15.9	14.1	11.7	18.1	17.8	15.8	13.2
	TC	14.8	16.8	18.8	20.8	16.3	18.3	20.3	22.3	17.8	19.8	21.8	23.8
	KW	2.10	2.16	2.24	2.33	2.12	2.17	2.27	2.36	2.17	2.21	2.29	2.38
	CMP	1.80	1.86	1.94	2.03	1.82	1.87	1.97	2.06	1.87	1.91	1.99	2.08
	LDB	56.6	58.0	60.6	64.2	57.9	58.8	61.3	64.6	59.0	59.3	61.7	64.8
	LWB	46.4	51.8	56.3	61.7	47.3	52.7	58.1	63.5	49.1	52.7	58.1	64.4
125	TCG	14.1	16.1	18.1	20.1	15.6	17.6	19.6	21.6	17.1	19.1	21.1	23.1
	SHG	14.1	13.6	12.2	10.2	15.6	15.4	13.8	11.6	17.1	17.3	15.5	13.1
	TC	13.8	15.8	17.8	19.8	15.3	17.3	19.3	21.3	16.8	18.8	20.8	22.8
	KW	2.21	2.26	2.37	2.47	2.24	2.28	2.38	2.49	2.28	2.32	2.42	2.52
	CMP	1.91	1.96	2.07	2.17	1.94	1.98	2.08	2.19	1.98	2.02	2.12	2.22
	LDB	58.1	58.8	61.0	64.3	59.3	59.5	61.7	64.7	60.1	59.9	62.0	64.9
125	LWB	48.2	53.6	57.2	62.6	48.2	53.6	59.0	64.4	48.2	53.6	59.0	64.4
	TCG	13.1	15.1	17.1	19.1	14.6	16.6	18.6	20.6	16.1	18.1	20.1	22.1
	SHG	13.1	13.1	11.9	10.0	14.6	14.9	13.5	11.5	16.1	16.8	15.2	13.0
	TC	12.8	14.8	16.8	18.8	14.3	16.3	18.3	20.3	15.8	17.8	19.8	21.8
	KW	2.32	2.36	2.48	2.59	2.36	2.38	2.49	2.62	2.39	2.42	2.53	2.64
	CMP	2.02	2.06	2.18	2.29	2.06	2.08	2.19	2.32	2.09	2.12	2.23	2.34
125	LDB	59.7	59.7	61.6	64.5	60.6	60.2	62.1	64.9	61.3	60.5	62.4	65.1
	LWB	48.2	51.8	57.2	62.6	48.2	53.6	59.0	64.4	48.2	53.6	59.0	64.4

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

PERFORMANCE DATA

COOLING CAPACITIES SYSTEM - BNC/BNQ030 HIGH WALL SYSTEM (38BNC/BNQ030 WITH 40BNC/BNQ030)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT—CFM/BF											
		620/0.12				800/0.14				850/0.15			
		AIR ENTERING INDOOR UNIT—EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	23.5	26.0	28.5	31.0	27.1	29.6	32.1	34.6	29.5	32.0	34.5	37.0
	SHG	20.6	18.4	15.3	14.3	24.9	22.1	18.5	16.3	27.9	24.8	20.8	17.8
	TC	23.2	25.7	28.2	30.7	26.8	29.3	31.8	34.3	29.2	31.7	34.2	36.7
	KW	1.52	1.53	1.54	1.55	1.53	1.53	1.54	1.54	1.53	1.54	1.55	1.54
	CMP	1.22	1.22	1.23	1.24	1.22	1.23	1.24	1.24	1.23	1.23	1.24	1.24
	LDB	49.8	53.1	57.7	59.2	51.7	54.8	59.0	61.6	52.4	55.5	59.4	62.5
65	LWB	42.4	46.5	51.2	56.7	43.9	48.4	53.3	59.2	44.5	49.2	54.3	60.4
	TCG	22.2	24.7	27.2	29.7	25.8	28.3	30.8	33.3	28.2	30.7	33.2	35.7
	SHG	19.9	18.0	15.2	14.3	24.2	21.7	18.4	16.3	27.2	24.4	20.7	17.9
	TC	21.9	24.4	26.9	29.4	25.5	28.0	30.5	33.0	27.9	30.4	32.9	35.4
	KW	1.70	1.70	1.71	1.72	1.70	1.70	1.71	1.72	1.70	1.71	1.72	1.73
	CMP	1.39	1.39	1.40	1.41	1.39	1.40	1.41	1.42	1.40	1.40	1.41	1.42
75	LDB	50.8	53.7	57.9	59.2	52.5	55.3	59.1	61.5	53.1	55.9	59.5	62.4
	LWB	43.1	47.3	51.9	57.5	44.5	49.0	53.9	59.8	45.1	49.7	54.8	60.9
	TCG	20.9	23.4	25.9	28.4	24.5	27.0	29.5	32.0	26.9	29.4	31.9	34.4
	SHG	19.2	17.5	15.0	14.2	23.5	21.3	18.2	16.3	26.5	23.9	20.5	17.9
	TC	20.6	23.1	25.6	28.1	24.2	26.7	29.2	31.7	26.6	29.1	31.6	34.1
	KW	1.89	1.89	1.90	1.91	1.89	1.89	1.90	1.91	1.89	1.90	1.91	1.92
85	CMP	1.58	1.59	1.59	1.60	1.58	1.59	1.60	1.61	1.59	1.59	1.60	1.61
	LDB	51.9	54.4	58.2	59.3	53.3	55.8	59.4	61.5	53.8	56.3	59.7	62.4
	LWB	43.9	48.1	52.7	58.3	45.1	49.6	54.5	60.4	45.6	50.3	55.4	61.4
	TCG	19.6	22.1	24.6	27.1	23.2	25.7	28.2	30.7	25.6	28.1	30.6	33.1
	SHG	18.4	17.0	14.7	13.6	22.7	20.8	18.0	15.7	25.6	23.4	20.3	17.6
	TC	19.3	21.8	24.3	26.8	22.9	25.4	27.9	30.4	25.3	27.8	30.3	32.8
95	KW	2.09	2.10	2.11	2.12	2.10	2.11	2.12	2.13	2.11	2.11	2.12	2.13
	CMP	1.79	1.80	1.81	1.82	1.79	1.80	1.81	1.82	1.80	1.80	1.81	1.83
	LDB	53.1	55.2	58.6	60.3	54.2	56.4	59.6	62.3	54.6	56.8	59.9	62.7
	LWB	44.7	48.9	53.5	59.1	45.7	50.2	55.2	61.0	46.1	50.8	55.9	61.9
	TCG	18.3	20.8	23.3	25.8	21.9	24.4	26.9	29.4	24.3	26.8	29.3	31.8
	SHG	17.5	16.4	14.4	13.2	21.9	20.2	17.7	15.6	24.3	22.9	20.0	17.2
105	TC	18.0	20.5	23.0	25.5	21.6	24.1	26.6	29.1	24.0	26.5	28.4	31.5
	KW	2.31	2.33	2.34	2.36	2.33	2.33	2.35	2.36	2.34	2.34	2.35	2.36
	CMP	2.00	2.02	2.04	2.05	2.02	2.03	2.04	2.06	2.03	2.04	2.05	2.06
	LDB	54.4	56.1	59.0	60.9	55.2	57.1	60.0	62.4	55.9	57.4	59.3	61.1
	LWB	45.5	49.7	54.3	59.8	46.3	50.8	55.8	61.7	46.6	51.3	56.4	62.5
	TCG	17.0	19.5	22.0	24.5	20.6	23.1	25.6	28.1	23.0	25.5	28.0	30.5
115	SHG	16.6	15.8	14.0	12.5	20.6	19.6	17.4	14.6	23.0	22.3	19.7	16.5
	TC	16.7	19.2	21.7	24.2	20.3	22.8	25.3	27.8	22.7	25.2	27.7	30.2
	KW	2.54	2.56	2.59	2.62	2.56	2.57	2.60	2.62	2.59	2.59	2.61	2.63
	CMP	2.24	2.25	2.29	2.31	2.25	2.27	2.30	2.31	2.28	2.29	2.30	2.32
	LDB	55.7	57.0	59.6	61.8	56.6	57.8	60.4	63.5	57.2	58.0	60.5	63.8
	LWB	46.3	50.4	55.1	60.6	46.9	51.4	56.4	62.3	47.2	51.8	56.9	63.0
125	TCG	15.7	18.2	20.7	23.2	19.3	21.8	24.3	26.8	21.7	24.2	26.7	29.2
	SHG	15.7	15.1	13.6	12.1	19.3	18.9	17.0	14.1	21.7	21.6	19.3	16.2
	TC	15.4	17.9	20.4	22.9	19.0	21.5	24.0	26.5	21.4	23.9	26.4	28.9
	KW	2.79	2.81	2.85	2.89	2.81	2.82	2.86	2.90	2.84	2.84	2.88	2.90
	CMP	2.49	2.50	2.55	2.59	2.51	2.52	2.56	2.59	2.53	2.53	2.57	2.60
	LDB	57.1	58.0	60.2	62.5	58.1	58.5	60.8	64.1	58.5	58.6	60.9	64.1
125	LWB	47.0	51.2	55.8	61.4	47.5	52.0	57.0	62.9	47.7	52.4	57.5	63.5
	TCG	14.4	16.9	19.4	21.9	18.0	20.5	23.0	25.5	20.4	22.9	25.4	27.9
	SHG	14.4	14.3	13.2	11.4	18.0	18.2	16.5	14.0	20.4	20.9	18.9	16.0
	TC	14.1	16.6	19.1	21.6	17.7	20.2	22.7	25.2	20.1	22.6	25.1	27.6
	KW	3.07	3.08	3.12	3.18	3.09	3.09	3.13	3.19	3.12	3.12	3.15	3.20
	CMP	2.76	2.77	2.82	2.87	2.79	2.79	2.83	2.88	2.81	2.81	2.84	2.89
125	LDB	59.0	59.1	60.9	63.5	59.6	59.4	61.3	64.3	59.8	59.3	61.4	64.3
	LWB	47.8	52.0	56.6	62.2	48.1	52.6	57.6	63.5	48.2	52.9	58.0	64.0

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA (CONT.)

COOLING CAPACITIES SYSTEM - BNC/BNQ036 HIGH WALL SYSTEM (38BNC/BNQ036 WITH 40BNC/BNQ036)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT—CFM/BF											
		620/0.12				800/0.14				850/0.15			
		AIR ENTERING INDOOR UNIT—EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	27.3	30.3	33.3	36.3	30.9	33.9	36.9	39.9	33.3	36.3	39.3	42.3
	SHG	22.9	20.3	16.6	12.0	27.1	23.9	19.8	14.6	30.0	26.5	22.0	16.5
	TC	27.0	30.0	33.0	36.0	30.6	33.6	36.6	39.6	33.0	36.0	39.0	42.0
	KW	1.95	1.95	1.97	1.98	1.95	1.96	1.97	1.98	1.96	1.97	1.98	1.99
	CMP	1.64	1.65	1.66	1.67	1.64	1.65	1.67	1.68	1.65	1.66	1.67	1.69
	LDB	46.3	50.3	55.7	62.7	49.1	52.8	57.6	63.5	50.3	53.8	58.3	63.8
65	LWB	39.8	44.2	48.7	53.2	41.8	46.7	51.5	56.4	42.7	47.8	52.8	57.9
	TCG	25.8	28.8	31.8	34.8	29.4	32.4	35.4	38.4	31.8	34.8	37.8	40.8
	SHG	22.3	20.0	16.7	12.3	26.5	23.7	19.9	15.0	29.4	26.3	22.1	16.9
	TC	25.5	28.5	31.5	34.5	29.1	32.1	35.1	38.1	31.5	34.5	37.5	40.5
	KW	2.18	2.19	2.20	2.21	2.18	2.19	2.20	2.22	2.19	2.20	2.21	2.23
	CMP	1.87	1.88	1.89	1.91	1.88	1.89	1.90	1.91	1.88	1.89	1.91	1.92
75	LDB	47.3	50.7	55.6	62.1	49.8	53.1	57.5	63.1	50.8	54.0	58.1	63.3
	LWB	40.7	45.1	49.6	54.1	42.5	47.4	52.2	57.1	43.3	48.4	53.4	58.5
	TCG	24.3	27.3	30.3	33.3	27.9	30.9	33.9	36.9	30.3	33.3	36.3	39.3
	SHG	21.6	19.7	16.7	12.6	25.8	23.4	19.9	15.3	28.8	26.0	22.1	17.3
	TC	24.0	27.0	30.0	33.0	27.6	30.6	33.6	36.6	30.0	33.0	36.0	39.0
	KW	2.43	2.44	2.46	2.47	2.44	2.45	2.46	2.48	2.45	2.46	2.47	2.49
85	CMP	2.12	2.14	2.15	2.17	2.13	2.14	2.16	2.18	2.14	2.15	2.17	2.18
	LDB	48.3	51.2	55.7	61.6	50.6	53.4	57.5	62.7	51.5	54.3	58.1	63.0
	LWB	41.6	46.0	50.5	55.0	43.2	48.1	52.9	57.8	43.9	49.0	54.0	59.1
	TCG	22.8	25.8	28.8	31.8	26.4	29.4	32.4	35.4	28.8	31.8	34.8	37.8
	SHG	20.9	19.2	16.6	12.9	25.1	23.0	19.8	15.6	28.1	25.6	22.1	17.6
	TC	22.5	25.5	28.5	31.5	26.1	29.1	32.1	35.1	28.5	31.5	34.5	37.5
95	KW	2.69	2.72	2.74	2.76	2.71	2.73	2.75	2.77	2.73	2.74	2.76	2.78
	CMP	2.38	2.42	2.44	2.46	2.40	2.43	2.44	2.46	2.43	2.44	2.45	2.47
	LDB	49.4	51.9	55.8	61.3	51.4	53.9	57.5	62.4	52.2	54.6	58.2	62.7
	LWB	42.5	46.9	51.4	55.9	43.9	48.8	53.6	58.5	44.5	49.6	54.6	59.7
	TCG	21.3	24.3	27.3	30.3	24.9	27.9	30.9	33.9	27.3	30.3	33.3	36.3
	SHG	20.0	18.7	16.4	13.0	24.3	22.5	19.7	15.8	27.3	25.2	22.0	17.8
105	TC	21.0	24.0	27.0	30.0	24.6	27.6	30.6	33.6	27.0	30.0	32.6	36.0
	KW	2.97	3.01	3.06	3.08	2.99	3.03	3.06	3.08	3.03	3.05	2.96	3.13
	CMP	2.67	2.70	2.75	2.77	2.69	2.72	2.76	2.78	2.72	2.74	2.81	2.83
	LDB	50.7	52.6	56.1	61.1	52.3	54.4	57.7	62.1	52.9	55.1	56.5	62.5
	LWB	43.4	47.8	52.3	56.8	44.6	49.5	54.3	59.2	45.1	50.2	54.6	60.3
	TCG	19.8	22.8	25.8	28.8	23.4	26.4	29.4	32.4	25.8	28.8	31.8	34.8
115	SHG	19.1	18.1	16.1	13.1	23.4	22.0	19.4	15.9	25.8	24.6	21.8	17.9
	TC	19.5	22.5	25.5	28.5	23.1	26.1	29.1	32.1	25.5	28.5	31.5	34.5
	KW	3.29	3.32	3.38	3.41	3.31	3.33	3.39	3.42	3.34	3.36	3.41	3.43
	CMP	2.98	3.01	3.07	3.10	3.00	3.03	3.09	3.12	3.04	3.05	3.10	3.13
	LDB	52.0	53.5	56.5	61.0	53.4	55.1	58.0	62.0	54.4	55.6	58.5	62.3
	LWB	44.3	48.7	53.2	57.7	45.3	50.2	55.0	59.9	45.7	50.8	55.8	60.9
125	TCG	18.3	21.3	24.3	27.3	21.9	24.9	27.9	30.9	24.3	27.3	30.3	33.3
	SHG	18.1	17.5	15.8	13.1	21.9	21.3	19.1	15.9	24.3	24.0	21.5	18.0
	TC	18.0	21.0	24.0	27.0	21.6	24.6	27.6	30.6	24.0	27.0	30.0	33.0
	KW	3.62	3.65	3.71	3.78	3.65	3.66	3.73	3.79	3.69	3.70	3.76	3.80
	CMP	3.32	3.34	3.40	3.47	3.34	3.36	3.42	3.48	3.38	3.39	3.45	3.49
	LDB	53.5	54.5	57.0	61.0	55.1	55.8	58.3	62.0	55.9	56.2	58.7	62.3
125	LWB	45.2	49.6	54.1	58.6	46.0	50.8	55.7	60.6	46.3	51.4	56.4	61.5
	TCG	16.8	19.8	22.8	25.8	20.4	23.4	26.4	29.4	22.8	25.8	28.8	31.8
	SHG	16.8	16.7	15.4	13.0	20.4	20.6	18.8	15.9	22.8	23.4	21.2	18.0
	TC	16.5	19.5	22.5	25.5	20.1	23.1	26.1	29.1	22.5	25.5	28.5	31.5
	KW	3.99	4.00	4.06	4.15	4.01	4.02	4.08	4.17	4.05	4.05	4.11	4.18
	CMP	3.68	3.69	3.76	3.84	3.70	3.72	3.78	3.86	3.75	3.75	3.80	3.87
125	LDB	55.4	55.6	57.6	61.1	56.8	56.6	58.7	62.0	57.4	56.9	59.1	62.3
	LWB	46.1	50.5	55.0	59.5	46.7	51.5	56.4	61.3	46.9	52.0	57.1	62.1

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

PERFORMANCE DATA (CONT.)

COOLING CAPACITIES SYSTEM - BCC/BCQ018 HIGH WALL SYSTEM (38BCC/BCQ018 WITH 2 X 40BNC/BNQ009)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT—CFM/BF											
		440/0.1				560/0.11				700/0.12			
		AIR ENTERING INDOOR UNIT—EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	15.1	16.6	18.1	19.6	16.7	18.2	19.7	21.2	18.5	20.0	21.5	23.0
	SHG	15.0	13.3	11.5	9.6	16.7	14.8	12.6	10.4	18.5	16.5	13.9	11.4
	TC	14.8	16.3	17.8	19.3	16.4	17.9	19.4	20.9	18.2	19.7	21.2	22.7
	KW	0.92	0.94	0.95	0.97	0.94	0.94	0.95	0.98	0.94	0.94	0.97	0.98
	CMP	0.62	0.63	0.65	0.66	0.63	0.63	0.65	0.68	0.63	0.63	0.66	0.68
	LDB	49.3	52.7	56.6	60.6	53.0	56.1	59.8	63.4	56.0	58.7	62.1	65.4
65	LWB	43.4	48.4	53.4	58.4	45.1	50.4	55.6	60.9	46.3	51.8	57.3	62.8
	TCG	14.3	15.8	17.3	18.8	15.9	17.4	18.9	20.4	17.7	19.2	20.7	22.2
	SHG	14.3	12.9	11.1	9.2	15.9	14.4	12.2	10.0	17.7	16.2	13.6	11.0
	TC	14.0	15.5	17.0	18.5	15.6	17.1	18.6	20.1	17.4	18.9	20.4	21.9
	KW	1.03	1.04	1.07	1.09	1.04	1.06	1.09	1.10	1.04	1.06	1.09	1.10
	CMP	0.72	0.74	0.77	0.78	0.74	0.75	0.78	0.80	0.74	0.75	0.78	0.80
75	LDB	50.6	53.6	57.4	61.3	54.4	58.8	60.3	64.1	57.1	59.0	62.5	65.9
	LWB	44.1	49.1	54.1	59.1	45.6	50.9	56.2	61.4	46.8	52.2	57.7	63.2
	TCG	13.5	15.0	16.5	18.0	15.1	16.6	18.1	19.6	16.9	18.4	19.9	21.4
	SHG	13.5	12.4	10.7	8.8	15.1	14.0	11.9	9.7	16.9	15.9	13.3	10.7
	TC	13.2	14.7	16.2	17.7	14.8	16.3	17.8	19.3	16.6	18.1	19.6	21.1
	KW	1.15	1.16	1.21	1.22	1.16	1.18	1.21	1.22	1.18	1.18	1.22	1.22
85	CMP	0.84	0.86	0.90	0.92	0.86	0.87	0.90	0.92	0.87	0.87	0.92	0.92
	LDB	52.3	54.6	58.3	62.1	55.7	57.4	60.9	64.6	58.1	59.4	62.9	66.3
	LWB	44.7	49.7	54.7	59.7	46.2	51.4	56.7	62.0	47.2	52.7	58.1	63.6
	TCG	12.7	14.2	15.7	17.2	14.3	15.8	17.3	18.8	16.1	17.6	19.1	20.6
	SHG	12.7	12.0	10.3	8.5	14.3	13.7	11.6	9.4	16.1	15.6	13.0	10.4
	TC	12.4	13.9	15.4	16.9	14.0	15.5	17.0	18.5	15.8	17.3	18.8	20.3
95	KW	1.28	1.30	1.34	1.36	1.30	1.31	1.34	1.37	1.31	1.31	1.36	1.37
	CMP	0.98	0.99	1.04	1.05	0.99	1.01	1.04	1.07	1.01	1.01	1.05	1.07
	LDB	54.0	55.4	59.0	62.9	57.0	58.0	61.5	65.1	59.2	59.8	63.3	66.7
	LWB	45.4	50.4	55.4	60.4	46.7	52.0	57.2	62.5	47.6	53.1	58.6	64.0
	TCG	11.9	13.4	14.9	16.4	13.5	15.0	16.5	18.0	15.3	16.8	18.3	19.8
	SHG	11.9	11.6	9.9	8.2	13.5	13.3	11.2	9.1	15.3	15.3	12.7	10.1
105	TC	11.6	13.1	14.6	16.1	13.2	14.7	16.2	17.7	15.0	16.5	18.0	19.5
	KW	1.43	1.45	1.49	1.53	1.45	1.46	1.49	1.53	1.46	1.46	1.57	1.53
	CMP	1.13	1.14	1.19	1.22	1.14	1.16	1.19	1.22	1.16	1.16	1.25	1.22
	LDB	55.7	56.3	59.8	63.5	58.3	58.6	62.1	65.6	60.3	60.3	63.2	67.1
	LWB	46.1	51.1	56.1	61.1	47.2	52.5	57.8	63.0	48.0	53.5	59.0	64.5
	TCG	11.1	12.6	14.1	15.6	12.7	14.2	15.7	17.2	14.5	16.0	17.5	19.0
115	SHG	11.1	11.3	9.6	7.8	12.7	13.1	10.9	8.7	14.5	15.1	12.4	9.8
	TC	10.8	12.3	13.8	15.3	12.4	13.9	15.4	16.9	14.2	15.7	17.2	18.7
	KW	1.59	1.60	1.66	1.69	1.60	1.62	1.68	1.71	1.62	1.63	1.68	1.71
	CMP	1.28	1.30	1.36	1.39	1.30	1.31	1.37	1.40	1.31	1.33	1.37	1.40
	LDB	57.3	56.9	60.6	64.2	59.6	59.0	62.6	66.1	61.3	60.5	64.1	67.5
	LWB	46.8	51.8	56.8	61.8	47.8	53.0	58.3	63.6	48.5	53.9	59.4	64.9
125	TCG	10.3	11.8	13.3	14.8	11.9	13.4	14.9	16.4	13.7	15.2	16.7	18.2
	SHG	10.3	11.1	9.4	7.5	11.9	12.9	10.7	8.5	13.7	15.0	12.3	9.6
	TC	10.0	11.5	13.0	14.5	11.6	13.1	14.6	16.1	13.4	14.9	16.4	17.9
	KW	1.77	1.77	1.83	1.89	1.78	1.78	1.84	1.90	1.80	1.80	1.86	1.92
	CMP	1.46	1.46	1.52	1.58	1.48	1.48	1.54	1.60	1.49	1.49	1.55	1.61
	LDB	59.0	57.4	61.0	64.9	60.9	59.3	62.9	66.6	62.4	60.7	64.2	67.8
125	LWB	47.4	52.4	57.5	62.5	48.3	53.6	58.8	64.1	48.9	54.4	59.8	65.3
	TCG	9.5	11.0	12.5	14.0	11.1	12.6	14.1	15.6	12.9	14.4	15.9	17.4
	SHG	9.5	10.9	9.2	7.3	11.1	12.6	10.6	8.3	12.9	14.4	12.3	9.4
	TC	9.2	10.7	12.2	13.7	10.8	12.3	13.8	15.3	12.6	14.1	15.6	17.1
	KW	1.96	1.96	2.02	2.10	1.98	1.98	2.02	2.10	1.99	1.99	2.04	2.11
	CMP	1.66	1.66	1.72	1.79	1.67	1.67	1.72	1.79	1.69	1.69	1.73	1.81
125	LDB	60.7	57.9	61.4	65.3	62.3	59.8	63.0	66.9	63.4	61.4	64.2	68.0
	LWB	48.1	53.1	58.1	63.1	48.8	54.1	59.4	64.6	49.3	54.8	60.3	65.7

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA (CONT.)

COOLING CAPACITIES SYSTEM - BCC/BCQ024 HIGH WALL SYSTEM (38BCC/BCQ024 WITH 2 X 40BNC/BNQ012)

TEMP (°F) AIR ENTERING OUTDOOR UNIT(EDB)		AIR ENTERING INDOOR UNIT—CFM/BF											
		440/0.1				560/0.11				800/0.12			
		AIR ENTERING INDOOR UNIT—EWB (°F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	18.4	20.4	22.4	24.4	20.4	22.4	24.4	26.4	23.5	25.5	27.5	29.5
	SHG	14.9	13.1	10.6	11.0	17.8	15.7	13.0	12.2	22.6	20.2	17.1	14.2
	TC	18.1	20.1	22.1	24.1	20.1	22.1	24.1	26.1	23.2	25.2	27.2	29.2
	KW	1.30	1.32	1.34	1.34	1.32	1.32	1.34	1.34	1.34	1.34	1.35	1.35
	CMP	0.99	1.01	1.03	1.03	1.01	1.01	1.03	1.03	1.03	1.03	1.04	1.04
	LDB	48.6	52.5	57.8	56.9	50.6	54.0	58.5	59.9	51.7	54.7	58.6	62.3
65	LWB	40.6	45.2	49.8	54.4	42.6	47.5	52.5	57.4	44.4	49.6	54.9	60.2
	TCG	17.4	19.4	21.4	23.4	19.4	21.4	23.4	25.4	22.5	24.5	26.5	28.5
	SHG	14.5	12.8	10.9	10.5	17.3	15.5	12.9	11.9	22.1	19.9	17.0	14.0
	TC	17.1	19.1	21.1	23.1	19.1	21.1	23.1	25.1	22.2	24.2	26.2	28.2
	KW	1.44	1.46	1.47	1.49	1.46	1.47	1.49	1.51	1.47	1.47	1.51	1.51
	CMP	1.13	1.15	1.16	1.18	1.15	1.16	1.18	1.20	1.16	1.16	1.20	1.20
75	LDB	49.6	53.0	57.1	57.9	51.4	54.4	58.6	60.2	52.4	55.1	58.7	62.5
	LWB	41.5	46.1	50.6	55.2	43.3	48.2	53.2	58.1	44.9	50.1	55.4	60.7
	TCG	16.4	18.4	20.4	22.4	18.4	20.4	22.4	24.4	21.5	23.5	25.5	27.5
	SHG	14.0	12.5	10.6	10.5	16.8	15.2	12.8	11.0	21.5	19.5	16.9	14.0
	TC	16.1	18.1	20.1	22.1	18.1	20.1	22.1	24.1	21.2	23.2	25.2	27.2
	KW	1.61	1.63	1.65	1.68	1.63	1.63	1.66	1.70	1.63	1.65	1.66	1.70
85	CMP	1.30	1.32	1.34	1.37	1.32	1.32	1.35	1.39	1.32	1.34	1.35	1.39
	LDB	50.6	53.6	57.7	57.9	52.2	54.9	58.8	61.8	53.1	55.6	58.9	62.5
	LWB	42.3	46.9	51.5	56.1	43.9	48.9	53.8	58.8	45.4	50.6	55.9	61.2
	TCG	15.4	17.4	19.4	21.4	17.4	19.4	21.4	23.4	20.5	22.5	24.5	26.5
	SHG	13.4	12.2	10.3	9.8	16.2	14.8	12.7	11.2	20.5	19.2	16.7	13.8
	TC	15.1	17.1	19.1	21.1	17.1	19.1	21.1	23.1	20.2	22.2	24.2	26.2
95	KW	1.78	1.80	1.83	1.85	1.80	1.82	1.85	1.87	1.82	1.83	1.85	1.89
	CMP	1.47	1.49	1.52	1.54	1.49	1.51	1.54	1.56	1.51	1.52	1.54	1.58
	LDB	51.8	54.3	58.3	59.3	53.2	55.5	59.0	61.4	54.4	56.0	59.1	62.8
	LWB	43.2	47.7	52.3	56.9	44.6	49.5	54.5	59.4	45.9	51.1	56.4	61.7
	TCG	14.4	16.4	18.4	20.4	16.4	18.4	20.4	22.4	19.5	21.5	23.5	25.5
	SHG	0.9	0.7	0.6	0.5	1.0	0.8	0.6	0.5	1.0	0.9	0.7	0.5
105	TC	14.1	16.1	18.1	20.1	16.1	18.1	20.1	22.1	19.2	21.2	23.2	25.2
	KW	1.97	1.99	2.04	2.06	1.99	2.02	2.04	2.07	2.01	2.02	2.11	2.07
	CMP	1.66	1.68	1.73	1.75	1.68	1.71	1.73	1.76	1.70	1.71	1.73	1.76
	LDB	53.0	55.1	58.6	59.8	54.2	56.2	59.3	61.5	55.6	56.6	58.9	62.8
	LWB	44.0	48.6	53.2	57.7	45.3	50.2	55.1	60.1	46.4	51.6	56.5	62.2
	TCG	13.4	15.4	17.4	19.4	15.4	17.4	19.4	21.4	18.5	20.5	22.5	24.5
115	SHG	0.9	0.7	0.6	0.5	1.0	0.8	0.6	0.5	1.0	0.9	0.7	0.6
	TC	13.1	15.1	17.1	19.1	15.1	17.1	19.1	21.1	18.2	20.2	22.2	24.2
	KW	2.18	2.21	2.25	2.28	2.21	2.23	2.26	2.30	2.23	2.25	2.28	2.31
	CMP	1.87	1.90	1.94	1.97	1.90	1.92	1.95	1.99	1.92	1.94	1.97	2.00
	LDB	54.3	56.0	59.1	60.4	55.2	56.9	59.7	62.6	56.9	57.1	59.7	63.1
	LWB	44.9	49.4	54.0	58.6	45.9	50.9	55.8	60.8	46.9	52.1	57.4	62.7
125	TCG	12.4	14.4	16.4	18.4	14.4	16.4	18.4	20.4	17.5	19.5	21.5	23.5
	SHG	11.5	11.0	9.7	8.8	14.3	13.5	12.0	10.2	17.5	17.8	15.9	13.4
	TC	12.1	14.1	16.1	18.1	14.1	16.1	18.1	20.1	17.2	19.2	21.2	23.2
	KW	2.42	2.43	2.49	2.54	2.43	2.45	2.50	2.54	2.45	2.47	2.52	2.55
	CMP	2.11	2.12	2.18	2.23	2.12	2.14	2.19	2.23	2.14	2.16	2.21	2.24
	LDB	55.7	56.9	59.6	61.4	56.3	57.7	60.1	63.1	58.1	57.8	60.1	63.2
125	LWB	45.7	50.3	54.9	59.4	46.6	51.5	56.5	61.4	47.4	52.7	57.9	63.2
	TCG	11.4	13.4	15.4	17.4	13.4	15.4	17.4	19.4	16.5	18.5	20.5	22.5
	SHG	10.8	10.5	9.4	8.3	13.4	13.0	11.7	9.9	16.5	17.2	15.6	13.3
	TC	11.1	13.1	15.1	17.1	13.1	15.1	17.1	19.1	16.2	18.2	20.2	22.2
	KW	2.67	2.69	2.74	2.79	2.69	2.71	2.76	2.81	2.71	2.73	2.78	2.83
	CMP	2.36	2.38	2.43	2.48	2.38	2.40	2.45	2.50	2.40	2.42	2.47	2.52
125	LDB	57.2	58.0	60.2	62.4	57.8	58.5	60.6	63.6	59.4	58.4	60.5	63.3
	LWB	46.6	51.1	55.7	60.3	47.3	52.2	57.1	62.1	47.9	53.2	58.4	63.7

Rating Condition.

Not recommended for long-term operation

BF – Bypass Factor

CMP – Compressor

Edb – Entering Dry Bulb

Ewb – Entering Wet Bulb

kW – Total Power

LDB – Leaving Dry Bulb

LWB – Leaving Wet Bulb

SHG – Gross Sensible Capacity (1000 Btuh)

TC – Total Net Cooling Capacity (1000 Btuh)

TCG – Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. The SHG is based on 80°F edb temperature of air entering indoor coil.

Below 80°F edb, subtract (corr factor x cfm) from SHG.

Above 80°F edb, add (corr factor x cfm) to SHG.

Correction Factor = $1.10 \times (1 - BF) \times (edb - 80)$.

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS SYSTEM - BNQ009 HIGH WALL SYSTEM (38BNQ009 WITH 40BNQ009)

TEMP (°F) AIR ENTERING INDOOR UNIT	AIR ENTERING INDOOR UNIT (CFM)	Air Temperature Entering Outdoor Coil (°F)									
		17	27	37	47	57	67	77	87	97	107
55	220	4.97	6.07	7.17	8.27	9.37	10.47	11.57	12.67	13.77	14.87
	Cap	0.65	0.68	0.70	0.72	0.74	0.76	0.78	0.80	0.82	0.84
	280	5.33	6.43	7.53	8.63	9.73	10.83	11.93	13.03	14.13	15.23
	Cap	0.64	0.66	0.69	0.71	0.73	0.75	0.77	0.79	0.81	0.83
60	350	5.75	6.85	7.95	9.05	10.15	11.25	12.35	13.45	14.55	15.65
	Cap	0.63	0.65	0.67	0.70	0.72	0.74	0.76	0.78	0.80	0.82
	220	4.82	5.92	7.02	8.12	9.22	10.32	11.42	12.52	13.62	14.72
	Cap	0.68	0.70	0.72	0.75	0.77	0.79	0.81	0.83	0.85	0.87
65	280	5.18	6.28	7.38	8.48	9.58	10.68	11.78	12.88	13.98	15.08
	Cap	0.67	0.69	0.71	0.73	0.75	0.77	0.79	0.81	0.83	0.85
	350	5.60	6.70	7.80	8.90	10.00	11.10	12.20	13.30	14.40	15.50
	Cap	0.65	0.67	0.70	0.72	0.74	0.76	0.78	0.80	0.82	0.84
70	220	4.67	5.77	6.87	7.97	9.07	10.17	11.27	12.37	13.47	14.57
	Cap	0.70	0.73	0.75	0.77	0.79	0.81	0.83	0.85	0.87	0.89
	280	5.03	6.13	7.23	8.33	9.43	10.53	11.63	12.73	13.83	14.93
	Cap	0.69	0.71	0.74	0.76	0.78	0.80	0.82	0.84	0.86	0.88
75	350	5.45	6.55	7.65	8.75	9.85	10.95	12.05	13.15	14.25	15.35
	Cap	0.68	0.70	0.72	0.75	0.77	0.79	0.81	0.83	0.85	0.87
	220	4.52	5.62	6.72	7.82	8.92	10.02	11.12	12.22	13.32	14.42
	Cap	0.73	0.75	0.77	0.80	0.82	0.84	0.86	0.88	0.90	0.92
80	280	4.88	5.98	7.08	8.18	9.28	10.38	11.48	12.58	13.68	14.78
	Cap	0.72	0.74	0.76	0.78	0.80	0.82	0.84	0.86	0.88	0.90
	350	5.50	6.60	7.70	8.80	9.90	11.00	12.10	13.20	14.30	15.40
	Cap	0.70	0.72	0.75	0.76	0.78	0.80	0.82	0.84	0.86	0.88
85	220	4.37	5.47	6.57	7.67	8.77	9.87	10.97	12.07	13.17	14.27
	Cap	0.75	0.78	0.80	0.82	0.84	0.86	0.88	0.90	0.92	0.94
	280	4.73	5.83	6.93	8.03	9.13	10.23	11.33	12.43	13.53	14.63
	Cap	0.74	0.76	0.79	0.81	0.83	0.85	0.87	0.89	0.91	0.93
90	350	5.15	6.25	7.35	8.45	9.55	10.65	11.75	12.85	13.95	15.05
	Cap	0.73	0.75	0.77	0.80	0.82	0.84	0.86	0.88	0.90	0.92
	220	4.22	5.32	6.42	7.52	8.62	9.72	10.82	11.92	13.02	14.12
	Cap	0.78	0.80	0.82	0.85	0.87	0.89	0.91	0.93	0.95	0.97
95	280	4.58	5.68	6.78	7.88	8.98	10.08	11.18	12.28	13.38	14.48
	Cap	0.77	0.79	0.81	0.83	0.85	0.87	0.89	0.91	0.93	0.95
	350	5.00	6.10	7.20	8.30	9.40	10.50	11.60	12.70	13.80	14.90
	Cap	0.75	0.77	0.80	0.82	0.84	0.86	0.88	0.90	0.92	0.94

Indicates Rating Condition

Indicates Integrated Rating

Cap - Heating Capacity (1000 Btu/h), includes indoor fan motor heat.

kW - Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS
SYSTEM – BNQ012 HIGH WALL SYSTEM (38BNQ012 WITH 40BNQ012)

TEMP (°F) AIR ENTERING INDOOR UNIT	AIR ENTERING INDOOR UNIT (CFM)	Air Temperature Entering Outdoor Coil (°F)												
		17			27			37			47			57
55	220	Cap	7.12	6.33	8.58	7.15	10.04	8.37	11.50	11.50	12.96	12.96		
		kW	0.84		0.89			0.95	1.01		1.06			
	280	Cap	7.48	6.65	8.94	7.45	10.40	8.67	11.86	11.86	13.32	13.32		
		kW	0.82		0.88			0.94	0.99		1.05			
	400	Cap	8.02	7.13	9.48	7.90	10.94	9.12	12.40	12.40	13.86	13.86		
		kW	0.81		0.86			0.92	0.98		1.03			
	220	Cap	6.92	6.15	8.38	6.98	9.84	8.20	11.30	11.30	12.76	12.76		
		kW	0.87		0.93			0.98	1.04		1.10			
60	280	Cap	7.28	6.47	8.74	7.28	10.20	8.50	11.66	11.66	13.12	13.12		
		kW	0.86		0.91			0.97	1.03		1.08			
	400	Cap	7.82	6.95	9.28	7.73	10.74	8.95	12.20	12.20	13.66	13.66		
		kW	0.84		0.90			0.95	1.01		1.07			
	220	Cap	6.72	5.97	8.18	6.82	9.64	8.03	11.10	11.10	12.56	12.56		
		kW	0.91		0.96			1.02	1.08		1.13			
	280	Cap	7.08	6.29	8.54	7.12	10.00	8.33	11.46	11.46	12.92	12.92		
		kW	0.89		0.95			1.01	1.06		1.12			
65	400	Cap	7.62	6.77	9.08	7.57	10.54	8.78	12.00	12.00	13.46	13.46		
		kW	0.88		0.93			0.99	1.05		1.10			
	220	Cap	6.52	5.80	7.98	6.65	9.44	7.87	10.90	10.90	12.36	12.36		
		kW	0.94		1.00			1.05	1.11		1.17			
70	280	Cap	6.88	6.12	8.34	6.95	9.80	8.17	11.26	11.26	12.72	12.72		
		kW	0.93		0.98			1.04	1.10		1.15			
	400	Cap	7.40	6.58	8.88	7.40	10.34	8.62	11.80	11.80	13.26	13.26		
		kW	0.91		0.97			1.02	1.02		1.14			
	220	Cap	6.32	5.62	7.78	6.48	9.24	7.70	10.70	10.70	12.16	12.16		
		kW	0.98		1.03			1.09	1.15		1.20			
	280	Cap	6.68	5.94	8.14	6.78	9.60	8.00	11.06	11.06	12.52	12.52		
		kW	0.96		1.02			1.08	1.13		1.19			
75	400	Cap	7.22	6.42	8.68	7.23	10.14	8.45	11.60	11.60	13.06	13.06		
		kW	0.95		1.00			1.06	1.12		1.17			
	220	Cap	6.12	5.44	7.58	6.32	9.04	7.53	10.50	10.50	11.96	11.96		
		kW	1.01		1.07			1.12	1.18		1.24			
80	280	Cap	6.48	5.76	7.94	6.62	9.40	7.83	10.86	10.86	12.32	12.32		
		kW	1.00		1.05			1.11	1.17		1.22			
	400	Cap	7.02	6.24	8.48	7.07	9.94	8.28	11.40	11.40	12.86	12.86		
		kW	0.98		1.04			1.09	1.15		1.21			

Cap – Heating Capacity (1000 Btu/h), includes indoor fan motor heat.

kW – Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS SYSTEM - BNQ018 HIGH WALL SYSTEM (38BNQ018 WITH 40BNQ018)

TEMP (°F) AIR ENTERING INDOOR UNIT	AIR ENTERING INDOOR UNIT (CFM)	AIR TEMPERATURE ENTERING OUTDOOR COIL (°F)									
		17	27	37	47	57					
55	460	Cap	11.5	10.2	13.5	11.3	15.6	13.0	17.6	17.6	19.6
		kW	1.27		1.32		1.37		1.41		1.46
	570	Cap	12.2	10.8	14.2	11.8	16.2	13.5	18.3	18.3	20.3
		kW	1.25		1.30		1.34		1.39		1.44
	700	Cap	12.8	11.3	14.8	12.3	16.8	14.0	18.9	18.9	20.9
60	460	Cap	11.1	9.9	13.2	11.0	15.2	12.7	17.2	17.2	19.3
		kW	1.33		1.38		1.43		1.47		1.52
	570	Cap	11.8	10.5	13.8	11.5	15.9	13.2	17.9	17.9	19.9
		kW	1.31		1.36		1.40		1.45		1.50
	700	Cap	12.4	11.0	14.4	12.0	16.5	13.7	18.5	18.5	20.5
65	460	Cap	10.8	9.6	12.8	10.7	14.9	12.4	16.9	16.9	18.9
		kW	1.39		1.44		1.49		1.53		1.58
	570	Cap	11.5	10.2	13.5	11.2	15.5	12.9	17.6	17.6	19.6
		kW	1.37		1.42		1.46		1.51		1.56
	700	Cap	12.1	10.7	14.1	11.7	16.1	13.4	18.2	18.2	20.2
70	460	Cap	10.4	9.3	12.5	10.4	14.5	12.1	16.5	16.5	18.6
		kW	1.45		1.50		1.55		1.59		1.64
	570	Cap	11.1	9.9	13.1	10.9	15.2	12.6	17.2	17.2	19.2
		kW	1.43		1.48		1.52		1.57		1.62
	700	Cap	11.7	10.4	13.7	11.4	15.8	13.1	18.0	18.0	19.8
75	460	Cap	10.1	9.0	12.1	10.1	14.2	11.8	16.2	16.2	18.2
		kW	1.51		1.56		1.61		1.65		1.70
	570	Cap	10.8	9.6	12.8	10.7	14.8	12.3	16.9	16.9	18.9
		kW	1.49		1.54		1.58		1.63		1.68
	700	Cap	11.4	10.1	13.4	11.2	15.4	12.8	17.5	17.5	19.5
80	460	Cap	9.7	8.7	11.8	9.8	13.8	11.5	15.8	15.8	17.9
		kW	1.57		1.62		1.67		1.71		1.76
	570	Cap	10.4	9.2	12.4	10.4	14.5	12.1	16.5	16.5	18.5
		kW	1.55		1.60		1.64		1.69		1.74
	700	Cap	11.0	9.8	13.0	10.9	15.1	12.6	17.1	17.1	19.1
Indicates Rating Condition			1.53		1.58		1.62		1.67		1.72

Indicates Rating Condition

Indicates Integrated Rating

Cap – Heating Capacity (1000 Btu/h), includes indoor fan motor heat.

kW – Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS
SYSTEM – BNQ024 HIGH WALL SYSTEM (38BNQ024 WITH 40BNQ024)

TEMP (°F) AIR EN- TERING IN- DOOR UNIT	AIR ENTERING INDOOR UNIT (CFM)	AIR TEMPERATURE ENTERING OUTDOOR COIL (°F)							
		17	27	37	47	57			
55	580	13.9	12.4	16.9	19.8	16.5	22.8	22.8	25.7
		1.57	1.68	1.80	1.91		1.91		2.02
	680	14.5	12.9	17.5	20.4	17.0	23.4	23.4	26.3
60	580	15.1	13.4	18.1	21.0	17.5	24.0	24.0	26.9
		1.53	1.64	1.76	1.87		1.87		1.98
	680	14.1	12.5	17.0	20.0	16.6	22.9	22.9	25.9
65	580	13.5	12.0	16.4	19.4	16.1	22.3	22.3	25.3
		1.64	1.75	1.87	1.98		1.98		2.09
	680	14.7	13.0	17.6	20.6	17.1	23.5	23.5	26.5
70	580	13.0	11.6	16.0	18.9	15.8	21.9	21.9	24.8
		1.71	1.82	1.94	2.05		2.05		2.16
	680	13.6	12.1	16.6	19.5	16.3	22.5	22.5	25.4
75	580	12.1	10.8	15.1	18.0	15.0	21.0	21.0	23.9
		1.85	1.96	2.08	2.19		2.19		2.30
	680	12.7	11.3	15.7	18.6	15.5	21.6	21.6	24.5
80	580	11.7	10.4	14.6	17.6	14.6	20.5	20.5	23.5
		1.92	2.03	2.15	2.26		2.26		2.37
	680	12.3	10.9	15.2	18.2	15.1	21.1	21.1	24.1
85	580	12.9	11.4	15.8	18.8	15.6	21.7	21.7	24.7
		1.88	1.99	2.11	2.22		2.22		2.33

Indicates Rating Condition

Indicates Integrated Rating

Cap – Heating Capacity (1000 Btuh), includes indoor fan motor heat.

kW – Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS SYSTEM - BNQ030 HIGH WALL SYSTEM (38BNQ030 WITH 40BNQ030)

TEMP (°F) AIR EN- TERING IN- DOOR UNIT	AIR ENTERING INDOOR UNIT (CFM)	AIR TEMPERATURE ENTERING OUTDOOR COIL (°F)									
		17	27	37	47	57					
55	680	Cap kW	16.7 1.64	20.5 1.79	24.3 1.95	28.1 2.11	31.8 2.26				
	800	Cap kW	17.4 1.61	21.2 1.77	25.0 1.93	28.8 2.08	32.6 2.24				
	850	Cap kW	18.2 1.59	21.9 1.75	25.7 1.90	29.5 2.06	33.3 2.22				
	680	Cap kW	16.2 1.74	20.0 1.89	23.8 2.05	27.6 2.21	31.3 2.36				
60	800	Cap kW	16.9 1.71	20.7 1.87	24.5 2.03	28.3 2.18	32.1 2.34				
	850	Cap kW	17.7 1.69	21.4 1.85	25.2 2.00	29.0 2.16	32.8 2.32				
	680	Cap kW	15.7 1.84	19.5 1.99	23.3 2.15	27.1 2.31	30.8 2.46				
	800	Cap kW	16.4 1.81	20.2 1.97	24.0 2.13	27.8 2.28	31.6 2.44				
65	850	Cap kW	17.2 1.79	20.9 1.95	24.7 2.10	28.5 2.26	32.3 2.42				
	680	Cap kW	15.2 1.94	19.0 2.09	22.8 2.25	26.6 2.41	30.3 2.56				
	800	Cap kW	15.9 1.91	19.7 2.07	23.5 2.23	27.3 2.38	31.1 2.54				
	850	Cap kW	16.5 2.01	20.4 2.05	24.2 2.20	27.8 2.40	31.8 2.52				
70	680	Cap kW	14.7 2.04	18.5 2.19	22.3 2.35	26.1 2.51	29.8 2.66				
	800	Cap kW	15.4 2.01	19.2 2.17	23.0 2.33	26.8 2.48	30.6 2.64				
	850	Cap kW	16.2 1.99	19.9 2.15	23.7 2.30	27.5 2.46	31.3 2.62				
	680	Cap kW	14.2 2.14	18.0 2.29	21.8 2.45	25.6 2.61	29.3 2.76				
75	800	Cap kW	14.9 2.11	18.7 2.27	22.5 2.43	26.3 2.58	30.1 2.74				
	850	Cap kW	15.7 2.09	19.4 2.25	23.2 2.40	27.0 2.56	30.8 2.72				
	680	Cap kW	13.1 2.04	15.4 2.19	18.6 2.35	21.9 2.51	25.2 2.66				
	800	Cap kW	13.7 2.01	16.0 2.17	19.2 2.33	22.5 2.48	25.8 2.64				
80	850	Cap kW	14.4 1.99	16.6 2.15	19.8 2.30	23.1 2.46	26.4 2.62				
	680	Cap kW	12.6 2.14	15.0 2.29	18.2 2.45	21.5 2.61	24.8 2.76				
	800	Cap kW	13.3 2.11	15.6 2.27	18.8 2.43	22.1 2.58	25.4 2.74				
	850	Cap kW	13.9 2.09	16.2 2.25	19.4 2.40	22.7 2.56	26.0 2.72				

Indicates Rating Condition

Indicates Integrated Rating

Cap - Heating Capacity (1000 Btu/h), includes indoor fan motor heat.

kW - Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS
SYSTEM – BNQ036 HIGH WALL SYSTEM (38BNQ036 WITH 40BNQ036)

TEMP (°F) AIR EN- TERING IN- DOOR UNIT	AIR ENTERNG INDOOR UNIT (CFM)	Air Temperature Entering Outdoor Coil (°F)									
		17	27	37	47	57					
55	680	19.8	17.6	23.9	20.0	28.1	23.4	32.2	36.3	37.1	2.75
		2.02		2.20		2.38		2.57			
	800	20.5	18.2	24.7	20.6	28.8	24.0	32.9	37.1	37.1	2.73
		1.99		2.18		2.36		2.54			
60	850	21.3	18.9	25.4	21.2	29.5	24.6	33.7	37.8	37.8	2.70
		1.97		2.15		2.34		2.52			
	680	19.3	17.1	23.4	19.5	27.5	22.9	31.7	35.8	35.8	2.86
		2.13		2.31		2.49		2.68			
65	800	20.0	17.8	24.1	20.1	28.2	23.5	32.4	36.5	36.5	2.84
		2.10		2.29		2.47		2.65			
	850	20.7	18.4	24.8	20.7	29.0	24.1	33.1	37.2	37.2	2.81
		2.08		2.26		2.45		2.63			
70	680	18.7	16.6	22.8	19.0	27.0	22.5	31.1	35.2	35.2	2.97
		2.24		2.42		2.60		2.79			
	800	19.4	17.3	23.6	19.6	27.7	23.1	31.8	36.0	36.0	2.95
		2.21		2.40		2.58		2.76			
75	850	20.2	17.9	24.3	20.2	28.4	23.7	32.6	36.7	36.7	2.92
		2.19		2.37		2.56		2.74			
	680	18.2	16.1	22.3	18.6	26.4	22.0	30.6	34.7	34.7	3.08
		2.35		2.53		2.71		2.90			
80	800	18.9	16.8	23.0	19.2	27.1	22.6	31.3	35.4	35.4	3.06
		2.32		2.51		2.69		2.87			
	850	19.5	17.3	23.7	19.8	27.9	23.2	31.2	36.1	36.1	3.03
		2.29		2.48		2.67		2.86			
75	680	17.6	15.7	21.7	18.1	25.9	21.6	30.0	34.1	34.1	3.19
		2.46		2.64		2.82		3.01			
	800	18.3	16.3	22.5	18.7	26.6	22.2	30.7	34.9	34.9	3.17
		2.43		2.62		2.80		2.98			
80	850	19.1	16.9	23.2	19.3	27.3	22.8	31.5	35.6	35.6	3.14
		2.41		2.59		2.78		2.96			
	680	17.1	15.2	21.2	17.7	25.3	21.1	29.5	33.6	33.6	3.30
		2.57		2.75		2.93		3.12			
80	800	17.8	15.8	21.9	18.3	26.0	21.7	30.2	34.3	34.3	3.28
		2.54		2.73		2.91		3.09			
	850	18.5	16.4	22.6	18.9	26.8	22.3	30.9	35.0	35.0	3.25
		2.52		2.70		2.89		3.07			

Indicates Rating Condition

Indicates Integrated Rating

Cap – Heating Capacity (1000 Btu/h), includes indoor fan motor heat.

kW – Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS SYSTEM - BCQ018 HIGH WALL SYSTEM (38BCQ018 WITH 40NCQ018)

TEMP (°F) AIR ENTERING INDOOR UNIT		Air Temperature Entering Outdoor Coil (°F)													
IR ENTERING INDOOR UNIT (CFM)		17			27			37			47			57	
		Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating
55	220	Cap	10.1	9.0	12.3	10.2	14.5	12.1	16.7	18.9	18.9	18.9	18.9	18.9	18.9
		kW	1.27		1.31		1.34		1.37		1.41		1.41	1.41	
	280	Cap	10.8	9.6	13.0	10.8	15.2	12.7	17.4	19.6	19.6	19.6	19.6	19.6	19.6
		kW	1.25		1.28		1.31		1.35		1.38		1.38	1.38	
	350	Cap	11.7	10.4	13.9	11.5	16.1	13.4	18.3	20.5	20.5	20.5	20.5	20.5	20.5
60	220	Cap	9.7	8.7	11.9	10.0	14.1	11.8	16.3	18.5	18.5	18.5	18.5	18.5	18.5
		kW	1.33		1.37		1.40		1.43		1.47		1.47	1.47	
	280	Cap	10.5	9.3	12.7	10.6	14.9	12.4	17.1	19.3	19.3	19.3	19.3	19.3	19.3
		kW	1.31		1.34		1.37		1.41		1.44		1.44	1.44	
	350	Cap	11.3	10.0	13.5	11.3	15.7	13.1	17.9	20.1	20.1	20.1	20.1	20.1	20.1
65	220	Cap	9.4	8.3	11.6	9.7	13.8	11.5	16.0	18.2	18.2	18.2	18.2	18.2	18.2
		kW	1.39		1.43		1.46		1.49		1.53		1.53	1.53	
	280	Cap	10.1	9.0	12.3	10.3	14.5	12.1	16.7	18.9	18.9	18.9	18.9	18.9	18.9
		kW	1.37		1.40		1.43		1.47		1.50		1.50	1.50	
	350	Cap	11.0	9.7	13.2	11.0	15.4	12.8	17.6	19.8	19.8	19.8	19.8	19.8	19.8
70	220	Cap	9.0	8.0	11.2	9.4	13.4	11.2	15.6	17.8	17.8	17.8	17.8	17.8	17.8
		kW	1.45		1.49		1.52		1.55		1.59		1.59	1.59	
	280	Cap	9.8	8.7	12.0	10.0	14.2	11.8	16.4	18.6	18.6	18.6	18.6	18.6	18.6
		kW	1.43		1.46		1.49		1.53		1.56		1.56	1.56	
	350	Cap	11.0	9.8	12.8	10.7	15.0	12.5	18.0	19.4	19.4	19.4	19.4	19.4	19.4
75	220	Cap	8.7	7.7	10.9	9.1	13.1	10.9	15.3	17.5	17.5	17.5	17.5	17.5	17.5
		kW	1.51		1.55		1.58		1.61		1.65		1.65	1.65	
	280	Cap	9.4	8.4	11.6	9.7	13.8	11.5	16.0	18.2	18.2	18.2	18.2	18.2	18.2
		kW	1.49		1.52		1.55		1.59		1.62		1.62	1.62	
	350	Cap	10.3	9.1	12.5	10.4	14.7	12.2	16.9	19.1	19.1	19.1	19.1	19.1	19.1
80	220	Cap	8.3	7.4	10.5	8.8	12.7	10.6	14.9	17.1	17.1	17.1	17.1	17.1	17.1
		kW	1.57		1.61		1.64		1.67		1.71		1.71	1.71	
	280	Cap	9.1	8.1	11.3	9.4	13.5	11.2	15.7	17.9	17.9	17.9	17.9	17.9	17.9
		kW	1.55		1.58		1.61		1.65		1.68		1.68	1.68	
	350	Cap	9.9	8.8	12.1	10.1	14.3	11.9	16.5	18.7	18.7	18.7	18.7	18.7	18.7
		kW	1.52		1.55		1.59		1.62		1.65		1.65	1.65	

Indicates Rating Condition

Indicates Integrated Rating

Cap – Heating Capacity (1000 Btu/h), Includes indoor fan motor heat.

kW – Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

38/40BNC, BNQ, BCC, BCQ

PERFORMANCE DATA (CONT.)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS
SYSTEM - BCQ024 HIGH WALL SYSTEM (38BCQ024 WITH 40BNQ024)

TEMP (°F) AIR ENTERING INDOOR UNIT	IR ENTERING INDOOR UNIT (CFM)	Air Temperature Entering Outdoor Coil (°F)						37			47			57	
		Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	Instant. Rating	Instant. Rating	Integrated Rating	Instant. Rating	Integrated Rating	
55	580	Cap	13.9	12.4	16.9	1.57	1.68	19.8	16.5	22.8	22.8	1.91	25.7	25.7	2.02
		kW	14.5	12.9	17.5			20.4	17.0	23.4	23.4		26.3	26.3	2.00
	680	Cap	15.1	13.4	18.1	1.55	1.66	21.0	17.5	24.0	24.0	1.89	26.9	26.9	1.98
		kW	15.3	12.0	16.4	1.53	1.64	19.4	16.1	22.3	22.3	1.87	25.3	25.3	2.09
	580	Cap	13.5	12.0	16.4	1.64	1.75	19.4	16.1	22.3	22.3	1.98	25.3	25.3	2.07
		kW	14.1	12.5	17.0	1.62	1.73	20.0	16.6	22.9	22.9	1.96	25.9	25.9	2.05
60	680	Cap	14.1	12.5	17.0	1.62	1.73	20.0	16.6	22.9	22.9	1.96	25.9	25.9	2.07
		kW	14.7	13.0	17.6	1.60	1.71	20.6	17.1	23.5	23.5	1.94	26.5	26.5	2.05
	780	Cap	13.0	11.6	16.0	1.71	1.82	18.9	15.8	21.9	21.9	2.05	24.8	24.8	2.16
		kW	13.6	12.1	16.6	1.69	1.80	19.5	16.3	22.5	22.5	2.03	25.4	25.4	2.14
	680	Cap	14.2	12.6	17.2	1.67	1.78	20.1	16.8	23.1	23.1	2.01	26.0	26.0	2.12
		kW	12.6	11.2	15.5	1.78	1.89	18.5	15.4	21.4	21.4	2.12	24.4	24.4	2.23
70	580	Cap	13.2	11.7	16.1	1.76	1.87	19.1	15.9	22.0	22.0	2.10	25.0	25.0	2.21
		kW	13.8	12.2	16.7	1.74	1.85	19.7	16.4	22.6	22.6	2.08	25.6	25.6	2.19
	680	Cap	12.1	10.8	15.1	1.85	1.96	18.0	15.0	21.0	21.0	2.19	23.9	23.9	2.30
		kW	12.7	11.3	15.7	1.83	1.94	18.6	15.5	21.6	21.6	2.17	24.5	24.5	2.28
	780	Cap	13.3	11.8	16.3	1.81	1.92	19.2	16.0	22.2	22.2	2.15	25.1	25.1	2.26
		kW	11.7	10.4	14.6	1.92	2.03	17.6	14.6	20.5	20.5	2.26	23.5	23.5	2.37
75	580	Cap	12.3	10.9	15.2	1.90	2.01	18.2	15.1	21.1	21.1	2.24	24.1	24.1	2.35
		kW	12.9	11.4	15.8	1.88	1.99	18.8	15.6	21.7	21.7	2.22	24.7	24.7	2.33
	680	Cap	12.9	11.4	15.8	1.88	1.99	18.8	15.6	21.7	21.7	2.22	24.7	24.7	2.33
		kW	12.9	11.4	15.8	1.88	1.99	18.8	15.6	21.7	21.7	2.22	24.7	24.7	2.33
	780	Cap	12.9	11.4	15.8	1.88	1.99	18.8	15.6	21.7	21.7	2.22	24.7	24.7	2.33
		kW	12.9	11.4	15.8	1.88	1.99	18.8	15.6	21.7	21.7	2.22	24.7	24.7	2.33

Indicates Rating Condition

Indicates Integrated Rating

Cap - Heating Capacity (1000 Btuh), includes indoor fan motor heat.

kW - Total power input. Includes compressor motor power input, outdoor fan motor power input, and indoor fan motor power input.

NOTE: Integrated Capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat to defrost it.

ELECTRICAL DATA

INDOOR UNITS - 30VDC

UNIT		VOLTAGE	MCA*	MOCP*	FULL LOAD AMPS	FAN MOTOR AMPS	MIN. WIRE SIZE
40BNC 40BNQ	009	30VDC	N/A	N/A	1.1	1.1	18
	012	30VDC	N/A	N/A	1.5	1.5	18
	018	30VDC	N/A	N/A	0.84	0.84	18

OUTDOOR UNITS - 115, 208/230-1-60

UNIT		VOLTAGE	MIN. OPERATING VOLTAGE	MAX. OPERATING VOLTAGE	MCA	MOCP	FULL LOAD AMPS	FAN MOTOR AMPS	COMPRESSOR RL (RATED LOAD) AMPS	COMPRESSOR LOCKED ROTOR AMPS
38BNC 38BNQ	009	115VAC	104VAC	127VAC	9.6	15	7.0	0.90	6.1	42
	012	115VAC			12.0	20	8.6	1.00	7.6	58
	018	208-230VAC	187VAC	253VAC	9.8	15	7.4	0.88	6.5	42

INDOOR UNITS - 208/230-1-60

UNIT		VOLTAGE	MIN. OPERATING VOLTAGE	MAX. OPERATING VOLTAGE	MCA	MOCP	FULL LOAD AMPS	FAN MOTOR AMPS	MIN. WIRE SIZE
40BNC 40BNQ	0024	208–230VAC	187VAC	253VAC	0.46	15	0.57	0.37	18
	030	208–230VAC			0.58	15	0.46	0.46	
	036	208–230VAC			0.58	15			

OUTDOOR UNITS - 208/230-1-60

UNIT		VOLTAGE	MIN. OPERATING VOLTAGE	MAX. OPERATING VOLTAGE	MCA	MOCP	FULL LOAD AMPS	FAN MOTOR AMPS	COMPRESSOR RL (RATED LOAD) AMPS	COMPRESSOR LOCKED ROTOR AMPS
38BNC	024	208-230VAC	187VAC	253VAC	11.6	20	9.5	0.87	8.6	60
	030	208-230VAC			13.4	20	10.9	0.94	10.0	76
	036	208-230VAC			17.1	25	13.8	0.94	12.9	73
38BNQ	024	208-230VAC			11.6	20	9.5	0.87	8.6	60
	030	208-230VAC			13.4	20	10.9	0.94	10.0	76
	036	208-230VAC			17.1	25	13.8	0.94	12.9	73

OUTDOOR UNITS - 115, 1-60†

UNIT		VOLTAGE	MIN. OPERATING VOLTAGE	MAX. OPERATING VOLTAGE	MCA	MOCP	FULL LOAD AMPS	FAN MOTOR AMPS	COMPRESSOR RL (RATED LOAD) AMPS	COMPRESSOR LOCKED ROTOR AMPS
38BCC	018	115VAC	104VAC	127VAC	12.2	20	8.2	1.00	7.2	42
38BCQ	024	115VAC			14.6	25	10.3	1.00	9.3	58

LEGEND

*The indoor unit is powered from outdoor terminal block.

MOCP for the outdoor unit is for both sections

† Ratings are per circuit.

MCA – Minimum Circuit Amps

MOCP – Maximum Overcurrent Protection

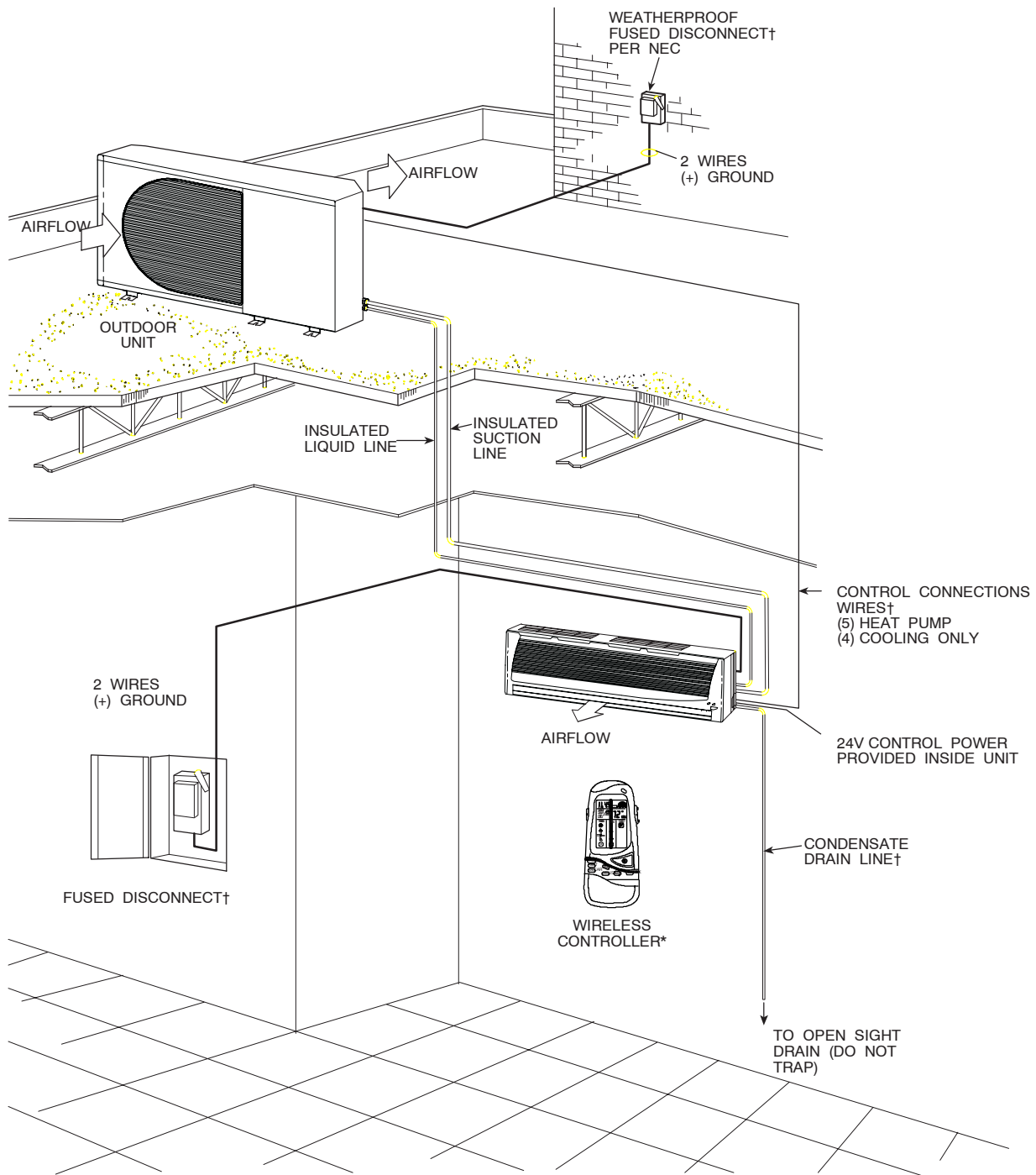
NOTE: Specifications and performance data are subject to change without notice.



38/40BNC, BNQ, BCC, BCQ

Typical piping and wiring — high-wall

38/40BNC, BNQ, BCC, BCQ



LEGEND

NEC — National Electrical Code

— Piping

— Line Voltage

— 24 V

--- Thermistor

*Standard.
†Field supplied.

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
4. Insulate condensate drain if installed in a conditioned space.
5. If local code permits, power connections may be run from the outdoor unit to the indoor unit as shown on schematic drawings.

APPLICATION DATA

Unit selection

Select equipment to either match or be slightly less than anticipated peak load. This provides better humidity control, fewer unit cycles, and less part-load operation.

For units used in spaces with high sensible loads, base equipment selection on unit sensible load, not on total anticipated load. Adjust for anticipated room wet bulb temperature to avoid undersizing equipment.

Unit mounting (outdoor)

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

Clearance – Adequate clearance must be provided for airflow. See dimensional drawings for proper clearances. The condensing units are designed for free-blow application. Air inlets and outlets should not be restricted. Outdoor fan external static pressure available is less than 0.1 in. wg.

Unit location – Cooling unit model sizes 024–036 may be stacked 2 high. Model size 009 may be stacked 3 high. Units may be wall mounted, pad mounted at ground level, roof mounted, or mounted on or under a deck or patio. Be sure water from roof does not drain directly onto the unit.

Unit mounting (indoor)

Clearance – Provide adequate clearance for airflow. The unit return and discharge should not be obstructed by furniture, curtains, or anything which may cause unit short cycling or air recirculation. See base unit dimensional drawings on pages 8–10 for required clearances.

Unit location – When selecting unit location, select a location which will provide the best air circulation for the room.

Units should be positioned as high as possible on the wall for best air circulation. Allow adequate clearances above the unit for servicing (removing unit covers). Place the unit in the middle of the wall selected (if possible). Select an outside wall if available to make piping easier, and place the unit so it faces the normal location of room occupants.

Support

Adequate support must be provided to support the weight of all fan coils. Refer to the Physical Data section on page 6 for fan coil weights, and the base unit dimensional drawings on pages 8–10 for the location of mounting brackets.

System operating conditions Operating limits:

OUTDOOR CONDENSING UNITS

CONDITION	
Maximum Cooling Ambient (°F)	125
Minimum Cooling Ambient °F (without accessory low-ambient kit)	55/64*
Minimum Cooling Ambient (°F) (with accessory low-ambient kit)	–20
Minimum Cooling Return–Air Temperature (°F)	55
Maximum Cooling Return–Air Temperature (°F)	95
Saturated Suction Temperature Range	
Minimum (°F)	–15
Maximum (°F)	55
Saturated Condensing Temperature Range	
Minimum (°F)	80
Maximum (°F)	150
Maximum Compressor Discharge Temperature (°F)	275
Minimum Discharge Superheat (°F)	60

* For size 009, 012, 018

FAN COIL UNITS

CONDITION	
Maximum Room Temperature (°F)	84
Minimum Room Temperature (°F)	60
Maximum Return Air (°F)	
Dry–Bulb	85
Wet–Bulb	72
Maximum Saturated Suction Temperature (°F)	55
Minimum Saturated Suction Temperature (°F)	27

Low-ambient operation

Units can operate in cooling down to 55 °F under all conditions without a low-ambient kit.

Units equipped with accessory low-ambient kits should also be equipped with an accessory crankcase heater.

Metering devices

Factory-installed piston-type devices are used as a metering device.

Drain connections

Install drains to meet local sanitation codes. If adequate gravity drainage cannot be provided, unit should be equipped with accessory condensate pump. High wall fan coil unit condensate pumps have an 6.5 ft. suction lift.

See base unit dimensional drawings on pages 8–10 for drain location and size.

Drain connections may be routed through alternate locations. See base unit dimensional drawing on pages 8–10 for possible alternate locations.

Refrigerant lines

General refrigerant line sizing:

1. All charges, line sizing, and capacities are based on runs of 10 to 50 ft.
2. Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, not more than 36 in. should be buried. Provide a minimum 6-in. vertical rise to the service valves to prevent refrigerant migration.
3. Both lines must be insulated. Use a minimum of 1/2-in. thick insulation. Closed-cell insulation is recommended in all long-line applications.
4. Special consideration should be given to isolating interconnecting tubing from the building structure. Isolate the tubing so that vibration or noise is not transmitted into the structure.
5. Units are shipped with a full charge of R-22 refrigerant. Charge is based on 10 to 50 ft of line. Add additional charge by weight as necessary and check the charge with a superheat calculator.

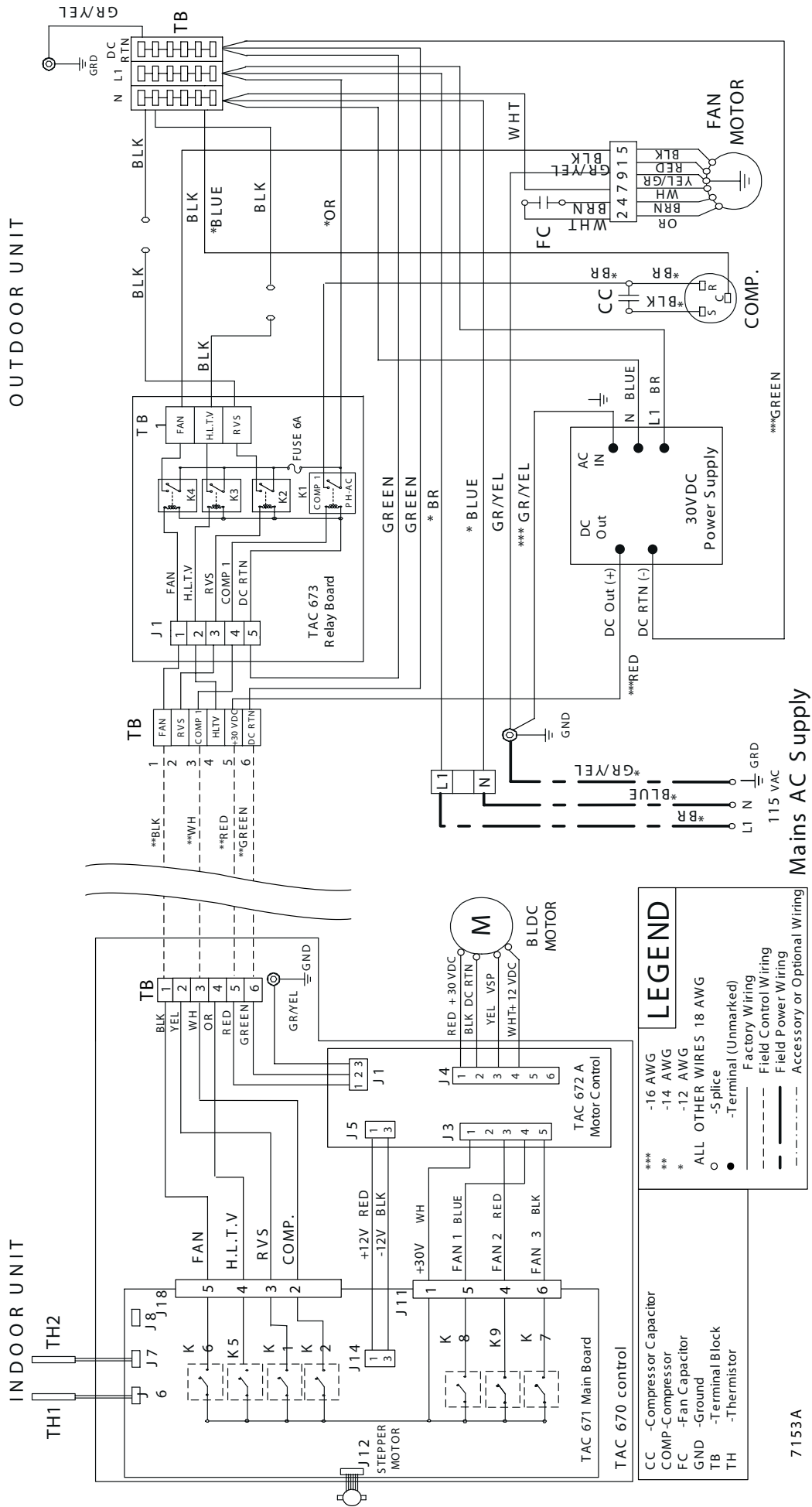
Long-line applications:

1. Mixed phase lines on all units should be 3/8 in. only. **DO NOT** resize mixed phase lines for additional length.
2. Adjust charge to required amount by adding charge and checking superheat.

For line lengths over 50 ft.:

A crankcase heater should be added to the compressor. Crankcase heaters help prevent refrigerant migration to the compressor during the off cycle.

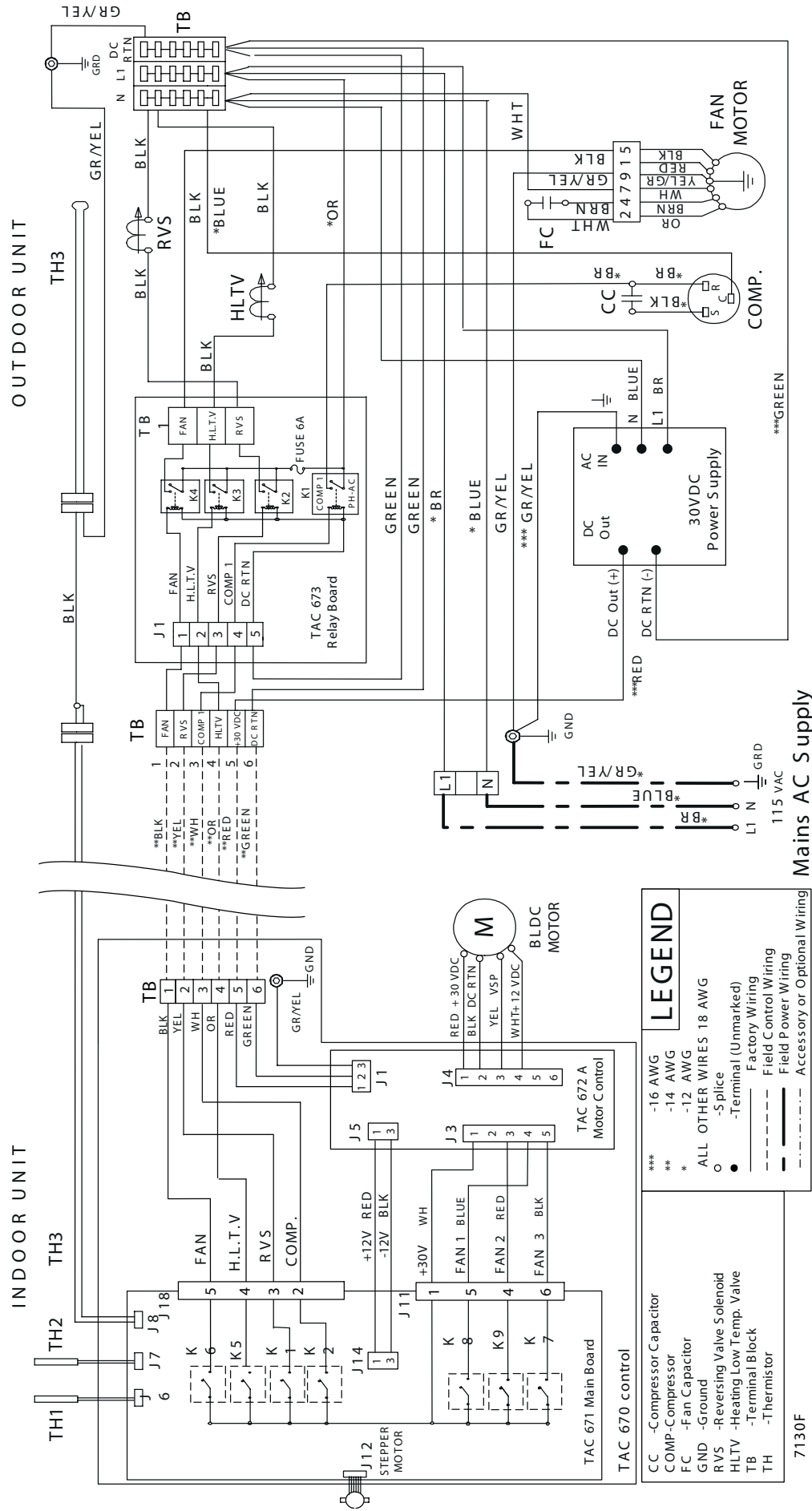
TYPICAL WIRING SCHEMATIC - MODEL 09 WIRING DIAGRAM COOLING ONLY



- Notes:**
1. If any of the original wire furnished must be replaced, it must be replaced with type 90°C wire or its equivalent.
 2. Wire in accordance with National Electrical Code (NEC) and local codes.
 3. Thermistor wiring cable 32 ft. long provided with indoor unit.
 4. Compressor and fan motors are protected by internal thermal overloads.

Fig. 9 – System Wiring Schematic 40BNC009 Fan Coil with 38BNC009 Condensing Unit

TYPICAL WIRING SCHEMATIC - MODEL 09 WIRING DIAGRAM HEAT PUMP



Notes:

1. If any of the original wire furnished must be replaced, it must be replaced with type 90°C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Thermistor wiring cable 32 ft. long provided with indoor unit.
4. Compressor and fan motors are protected by internal thermal overloads.

Fig. 10 – System Wiring Schematic 40BNQ009 Fan Coil with 38BNQ009 Condensing Unit

38/40BNC, BNQ, BCC, BCQ

TYPICAL WIRING SCHEMATIC - MODEL 12 WIRING DIAGRAM COOLING ONLY

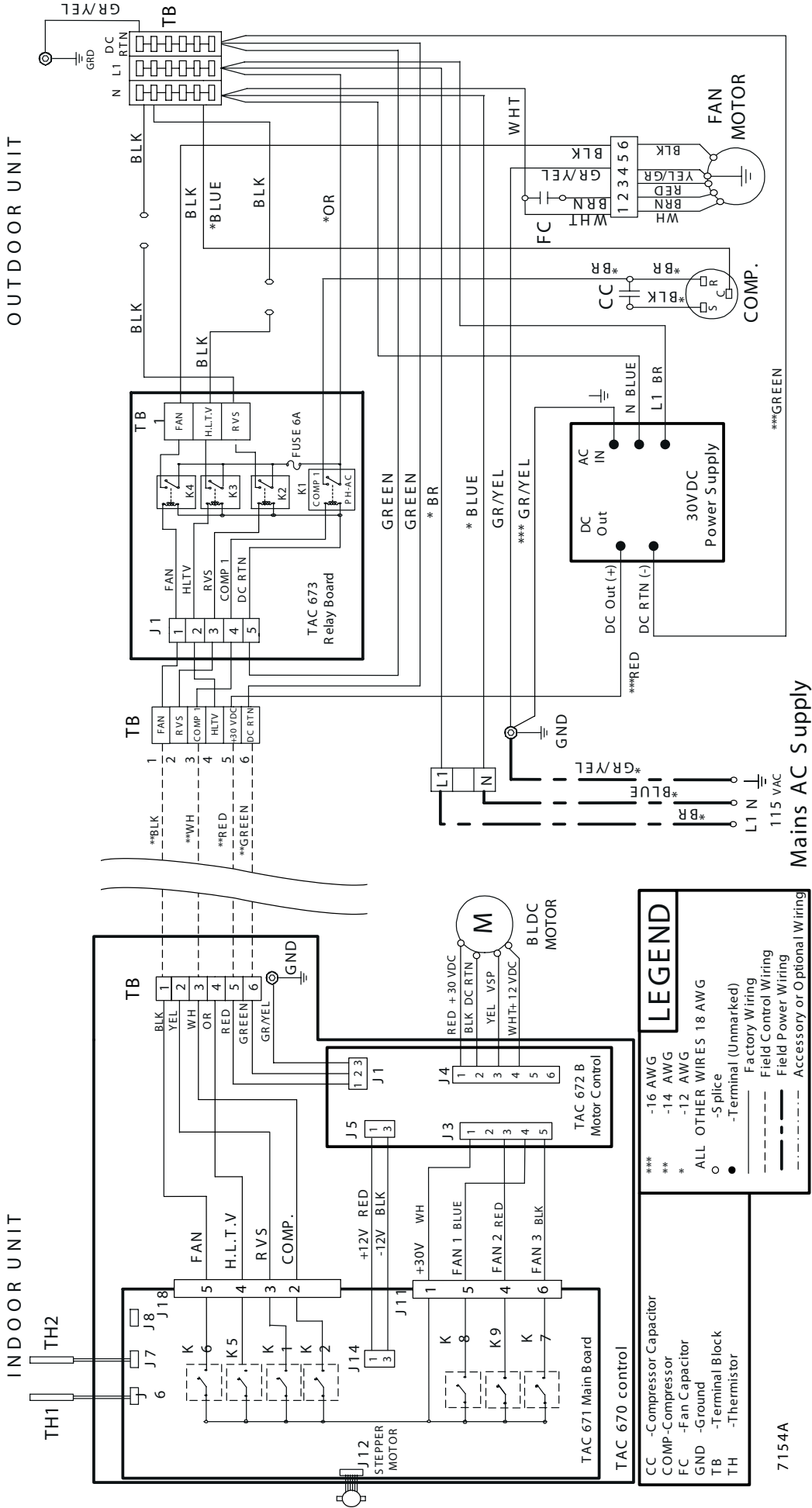


Fig. 11 – System Wiring Schematic 40BNC012 Fan Coil with 38BNC012 Condensing Unit

[illegible]

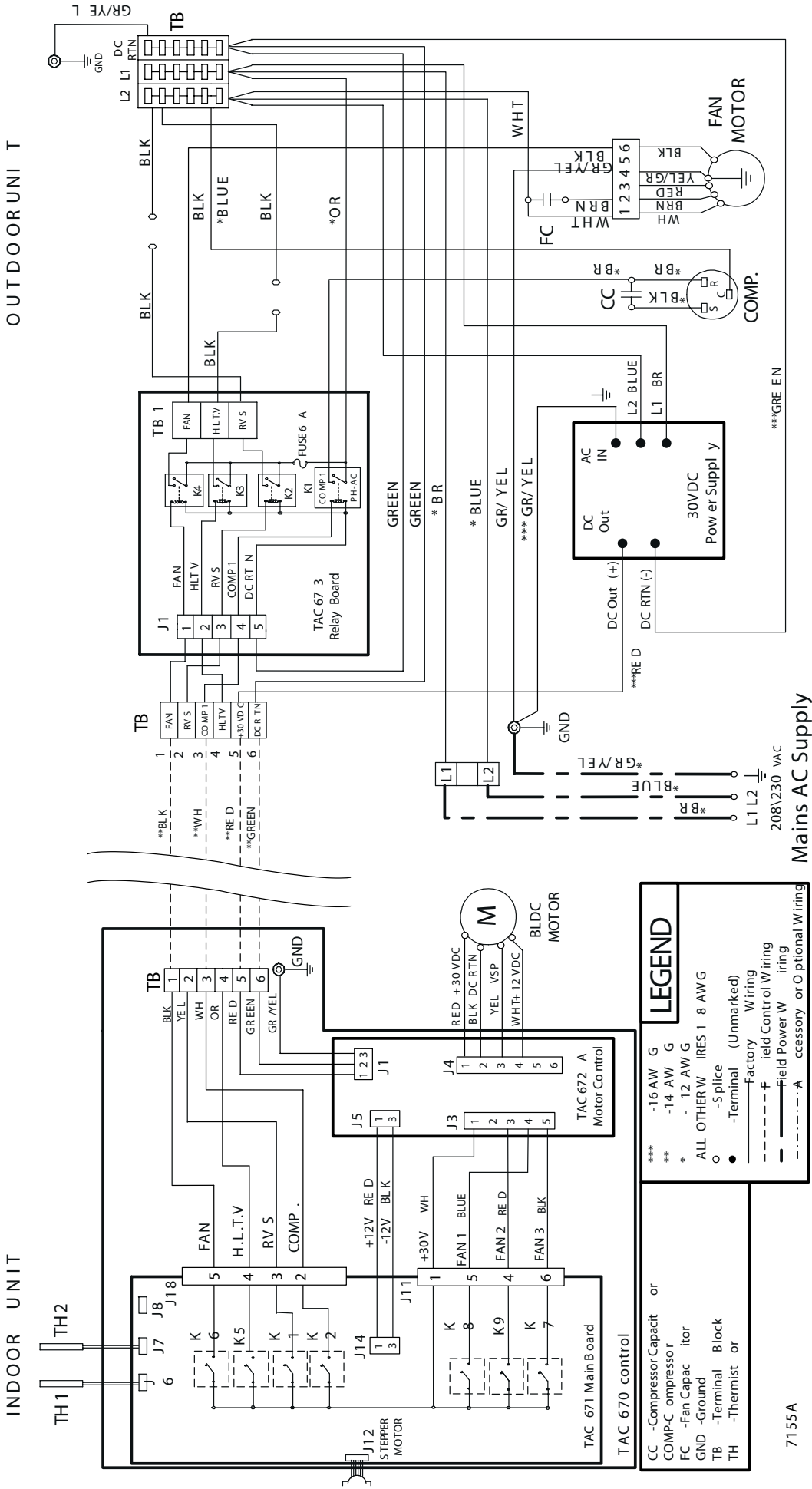
1. If any of the original wire furnished must be replaced, it must be replaced with 90°C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Thermistor wiring cable 32 ft. long provided with indoor unit.
4. Compressor and fan motors are protected by internal thermal overloads.

Fig. 12 – System Wiring Schematic 40BNQ012 Fan Coil with 38BNQ12 Condensing Unit

38/40BNC, BNQ, BCC, BCQ

38/40BNC, BNQ, BCC, BCQ

TYPICAL WIRING SCHEMATIC - MODEL 18 WIRING DIAGRAM COOLING ONLY



- Notes:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90°C wire or its equivalent.
 2. Wire in accordance with National Electrical Code (NEC) and local codes.
 3. Thermistor wiring cable 32 ft. long provided with indoor unit.
 4. Compressor and fan motors are protected by internal thermal overloads.

The diagram illustrates a 3-phase motor control system, divided into an **INDOOR UNIT** and an **OUTDOOR UNIT**.

INDOOR UNIT:

- Power Entry:** Three-phase power (TH1, TH2, TH3) enters the unit.
- Terminal Blocks (TB):** TB1 and TB2 are used for power distribution. TB1 includes terminals for BLK, YEL, WH, OR, RED, GREEN, and GR/YEL. TB2 includes terminals for FAN, RVS, H.L.T.V, COMP, and DC RTN.
- Control Components:**
 - TAC 671 Main Board:** Receives control signals from the outdoor unit (FAN, H.L.T.V, RVS, COMP) and provides output to the stepper motor (J12).
 - TAC 672 A Motor Control:** Controls the BLDC motor (M) and provides feedback signals (J3, J4) to the main board.
 - TAC 670 control:** Manages the compressor capacitor (CC), compressor (COMP), fan capacitor (FC), ground (GND), reversing valve solenoid (RVS), heating low temp. valve (HLTV), terminal block (TB), and thermistor (TH).
- Wiring:** Various colored wires (RED, BLK, WH, BLUE, RED, BLK) connect the components, with specific voltage labels like +12V, -12V, and +30V.

OUTDOOR UNIT:

- Power Entry:** Three-phase power (TH3) enters the unit.
- Terminal Blocks (TB):** TB1 and TB2 are used for power distribution. TB1 includes terminals for FAN, H.L.T.V, RVS, and DC RTN. TB2 includes terminals for FAN, H.L.T.V, RVS, and DC RTN.
- Control Components:**
 - TAC 673 Relay Board:** Controls the fan motor (FAN), heating low temp. valve (HLTV), reversing valve solenoid (RVS), and compressor (COMP).
 - 30VDC Power Supply:** Provides power to the control circuit.
 - Compressor (COMP):** The main refrigerant compressor.
 - Fan Motor (FAN):** Provides cooling for the condenser.
- Wiring:** Various colored wires (BLK, YEL, WH, OR, RED, GREEN, GR/YEL, GRN, BRN, WHT) connect the components, with specific voltage labels like +30VDC and -30VDC.

LEGEND:

- *** -16 AWG
- ** -14 AWG
- * -12 AWG
- ALL OTHER WIRES 18 AWG
- o -5splice
- -Terminal (Unmarked)
- Factory Wiring
- Field Control Wiring
- Field Power Wiring
- - - - - Accessory or Optional Wiring

7137F

1. If any of the original wire furnished must be replaced, it must be replaced with type 90°C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Thermistor wiring cable 32 ft. long provided with indoor unit.
4. Compressor and fan motors are protected by internal thermal overloads.

38/40BNC, BNQ, BCC, BCQ

TYPICAL WIRING SCHEMATIC - MODEL 24 WIRING DIAGRAM

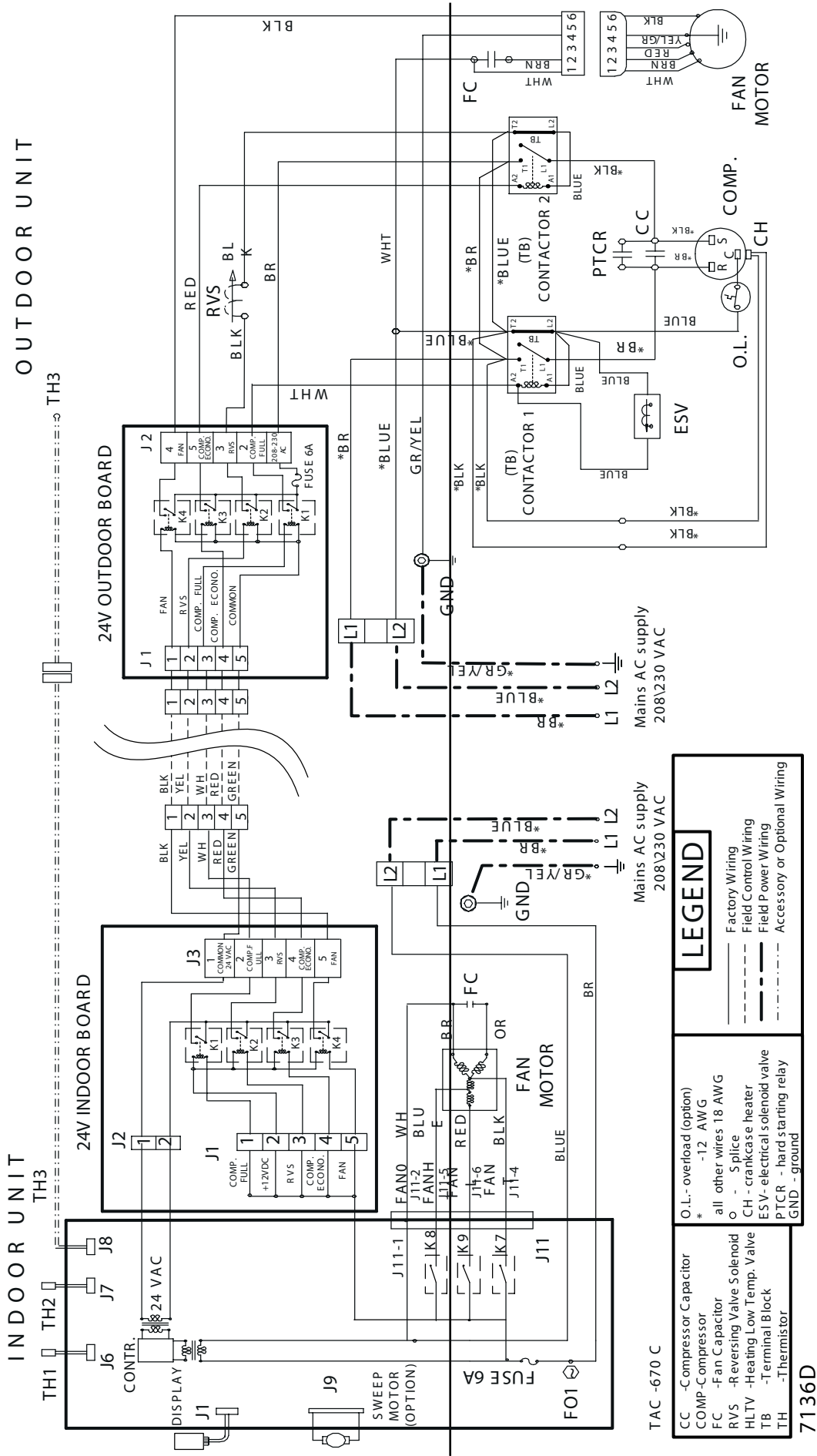
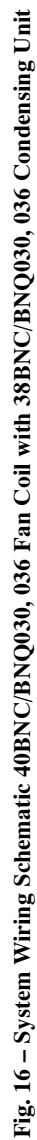


Fig. 15 – System Wiring Schematic 40BNC/BNQ024 Fan Coil with 38BNC/BNQ024 Condensing Unit

OUTDOOR UNIT



38/40BNC, BNQ, BCC, BCQ

TYPICAL WIRING SCHEMATIC - MODELS 2 X 09 / 2 X 12 WIRING DIAGRAM HEAT PUMP

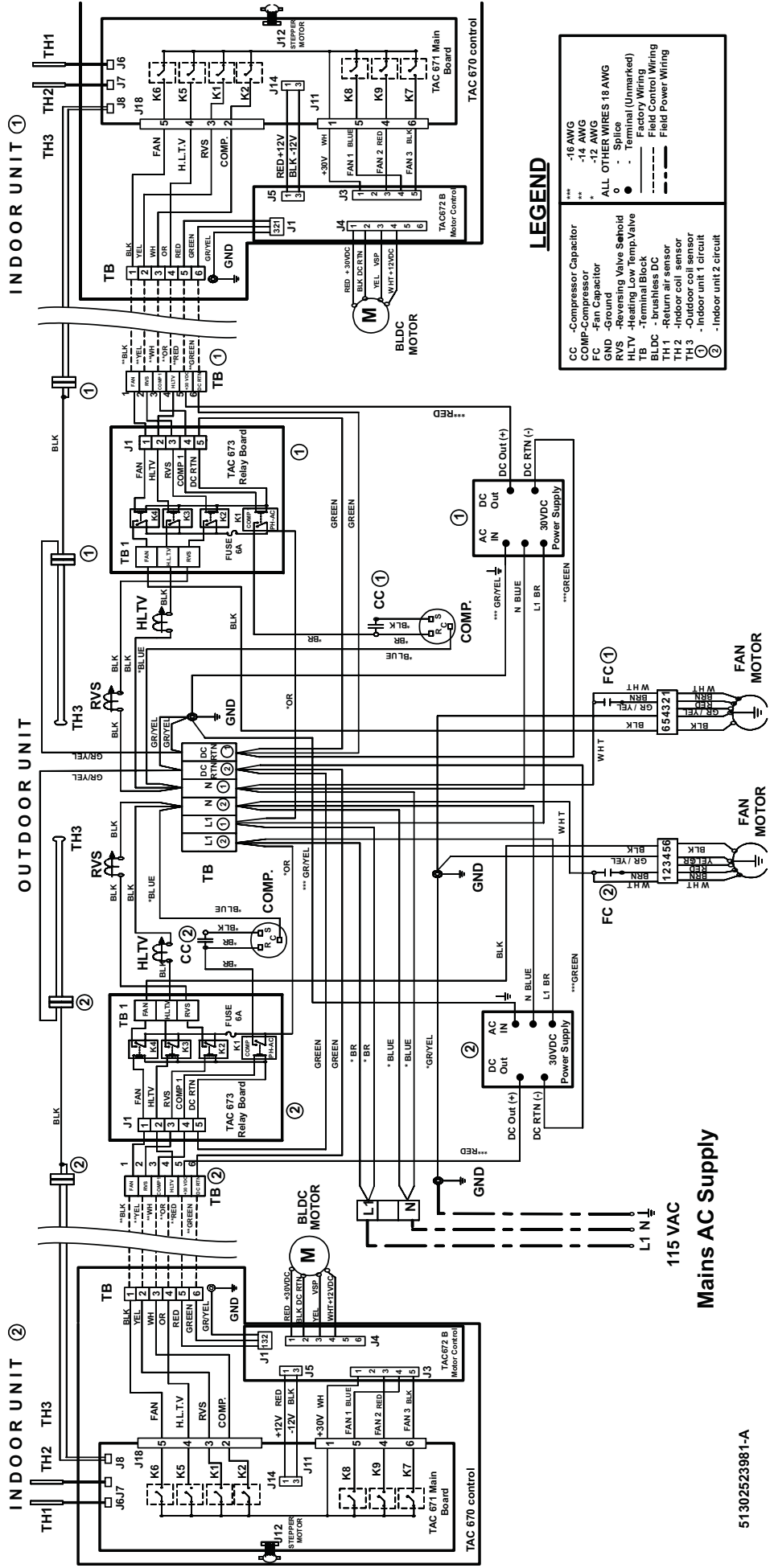


Fig. 17 – System Wiring Schematic 40BNQ009, 012 Fan Coil with 38BCQ018, 036 Condensing Unit

CONTROLS - SYSTEMS USING HIGH WALL FAN COILS

INTRODUCTION

Thank you for choosing a Bryant Duct Free System. The same pride in craftsmanship and engineering knowledge that goes into equipment cooling the Astrodome in Texas, the Sistine Chapel in Rome, the U.S. Capitol Hall of Congress and thousands of other installations worldwide has gone into the construction of this unit.

Duct Free Systems provide quiet, maximum comfort. In addition to cooling and/or heating, the Duct Free System will filter and dehumidify the air in the room to provide maximum comfort.

IMPORTANT: Duct Free Systems should be installed by authorized personnel only, using approved tubing and accessories. If technical assistance, service or repair is needed, contact the installer or call 1-800-227-7437.

GENERAL

The Duct Free System can be set up and operated from the remote control (provided). If the remote is misplaced, the system can be operated from the "Auto" setting on the unit.

Operating Modes

The duct free system has 5 operating modes:

1. Cooling
2. Fan Only
3. heating (if applicable)
4. Dehumidification
5. Auto

Cooling: In cooling mode, the system cools, dries and filters room air.

Fan Only: In Fan Only mode, the system filters and circulates room air without changing room air temperature.

Heating: In Heating mode, the system heats and filters room air.

IMPORTANT: The units are designed to work in heat mode only down to -10°C (14°F) outdoor ambient temperature. If, at starting

time, outdoor temperature is equal to or lower than -10°C (14°F), the unit will not start and the filter LED will flash five (5) times to indicate that low temperature protection is activated.

Dehumidification: In Dehumidification mode, the system dries, filters and slightly cools room air temperature. this mode *does not* take the place of a dehumidifier.

Auto: In Auto mode, the system will automatically cool or heat room air according to a selected temperature (set point). If temperature of room air is lower than set point, the system will operate in Heating mode. If temperature of room air is higher than set point, the system will operate in Cooling mode.

Remote Control

The remote control transmits commands to set up and operate the system. The controller has a window display panel that shows the current system status. The controller can be secured to a surface when used with the mounting rack provided. See Fig. 19.



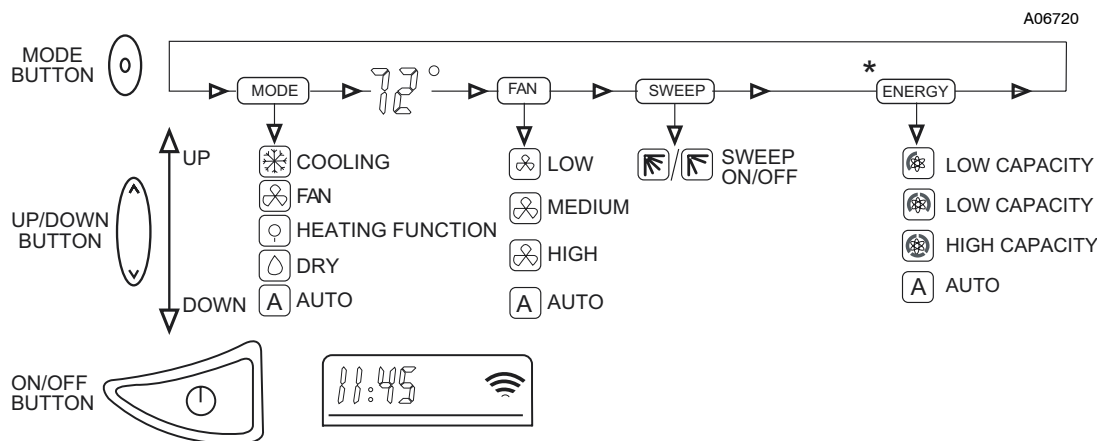
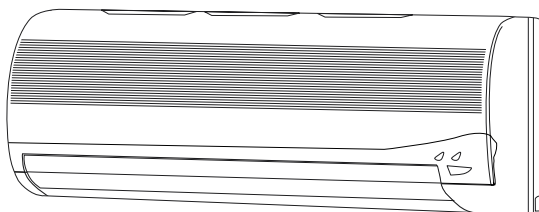
CAUTION

UNIT DAMAGE HAZARD

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

Do not leave remote control in a drawer or near a warm or hot appliance as the system will try to cool the environment around the controller.

IMPORTANT: When using the local sense function, the remote control and unit continually exchange information regarding room air temperature. When operating the remote control from the mounting rack, be sure there is a direct line of sight between the controller and the unit. The controller can operate the unit from a distance of up to 23 ft. as long as there are no obstructions.



*For models with variable capacity.

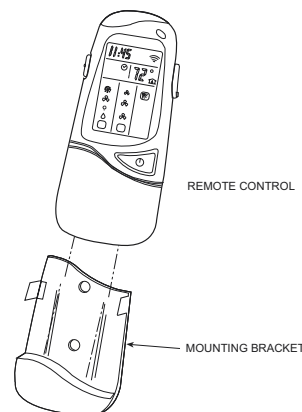


Fig. 19 – Duct Free System Remote Control Buttons and Programming Options

The remote control can perform the following functions:

- Turn the system ON and OFF
- Select operating mode.
- Adjust room air temperature setpoint and fan speed
- Set time periods for automatic system operation.

Battery Installation – Two AAA 1.5 v alkaline batteries (included) are required for operation of the remote control. See Fig. 20 for battery location.

To install batteries:

1. Remove battery compartment cover by sliding off of remote.
2. Insert batteries being sure to follow polarity markings inside battery compartment
3. Replace battery compartment cover.

NOTE: Replace batteries whenever “Low Battery” indicator appears on remote control display panel.

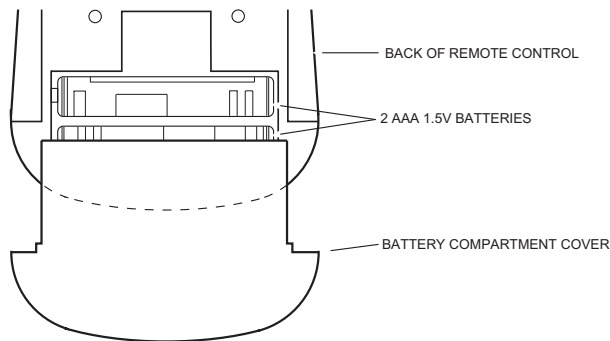
Display Screen – There are five operating mode indicators that appear on the remote control display screen. See Fig. 21.

OPERATION

Remote Control Operation:

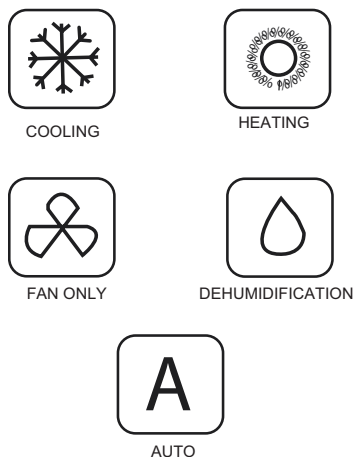
The remote control has 3 buttons (see Fig. 22) used for operating and controlling the system.

- MODE button – Changes operating mode.
- UP/DOWN button – Selects desired operating mode.
- ON/OFF button – Turns the system on or off and transmits programming selections to unit.



A06721

Fig. 20 – Location of Batteries on Remote Control



A06722

Fig. 21 – Operating Mode Indicators on Remote Control

NOTE: When transmitting a command from the controller to the unit, be sure to point the controller toward the right side of the unit. See Fig. 23. The unit will confirm receipt of a command by sounding 2 audible beeps.

IMPORTANT: If no changes are made within 10 seconds, the remote control will return to its previous setting.

Fan Speed – to select the Fan mode and change the Fan speed, follow the steps below:

1. Press MODE button to select the Fan mode.
2. Press UP/DOWN button to select desired fan speed or to Auto.
3. Press ON/OFF button to send changes to unit from remote control.

NOTE: If unit is operating in DEHUMIDIFICATION mode, the fan will only operate in Low speed and cannot be changed.

Temperature Settings – The temperature settings can be easily changed by pointing the controller toward the unit and pressing the UP/DOWN button until desired temperature appears on screen.

The  symbol appears each time the ON/OFF button is pressed.

Another way of changing the temperature is as follows:

1. Select the temperature display by pressing the MODE button. The degree symbol will flash next to the digits on the screen.
2. Press UP/DOWN button to select the desired temperature. the available temperature range is from 54°F to 90°F.

Airflow Direction – Perform the following steps to change the direction of airflow from the unit:

1. Press MODE button to select the SWEEP function.
2. Press the **top** of the UP/DOWN button to move the air deflector on the unit in an up and down motion. the airflow symbol displays motion.
3. Press the **bottom** of the UP/DOWN button. The airflow deflector stops at a given angle. The airflow symbol display remains in a fixed position.
4. Press ON/OFF button to send changes to unit from remote control.

NOTE: If air deflector is placed in a fixed position, the deflector stops at the angle in which it was located when the ON/OFF button was pressed.

Energy Management

IMPORTANT: Energy management is optional and exists only in 24k, 30k and 36k models.

You have three (3) optional energy modes:

1.  Auto mode – when using this mode, the control will automatically choose energy state (econo or full), according to room temperature and weather conditions.
2.  Full capacity – when using this mode, the unit will work continuously in full capacity.
3.  Econo mode – when using this mode, the unit will work continuously in half capacity.

IMPORTANT: In these models, the symbols  and  will set the unit to run at the same capacity level of 50%.

IMPORTANT: The air conditioner will operate according to the last energy level that set.

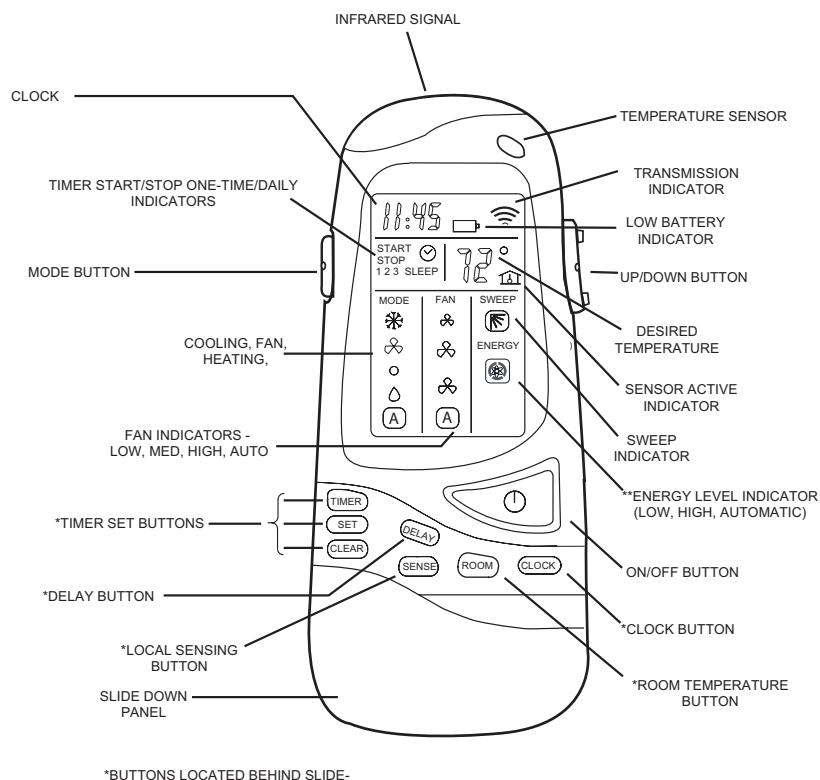
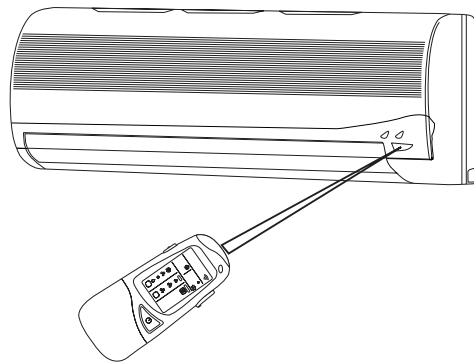
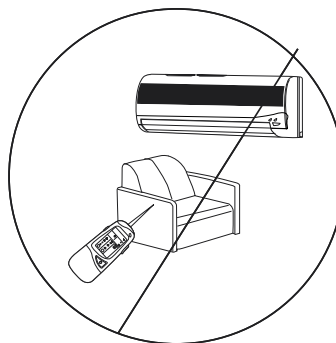


Fig. 22 – Remote Control

A06723



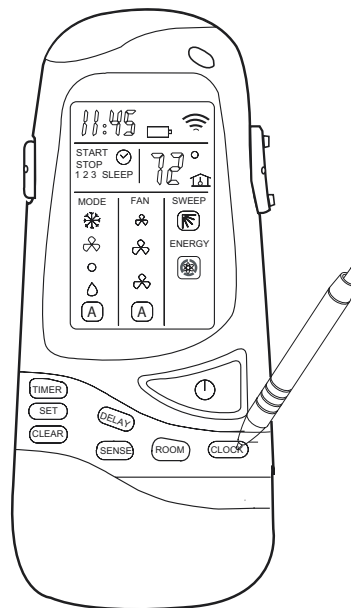
A06724



A06725

SETTING CLOCK

1. Slide down front cover of controller below ON/OFF button.
See Fig. 22.
2. Press CLOCK button using the tip of a pen or paper clip.
See Fig. 23.
3. Press UP/DOWN button to set minutes.
4. Press MODE button. The hour digits will flash.
5. Press UP/DOWN button to set the hour.
6. To confirm current clock settings, press CLOCK button once again using the tip of a pen or paper clip. The remote control will automatically go back to previous display and the clock is displayed.



A06726

Fig. 23 – Setting Clock Using Remote Control

Programming Time Periods:

The duct free system can be programmed to operate at desired levels. Be sure to set the clock before programming the system.

- Increments of time are in 10-minute intervals.
- The Timer Start/Stop indicator light on the unit is on when a time period is set. See Fig. 22
- The remote control displays the Start/Stop time of the time period that is closest to the current time. If the unit is on, the time period and “STOP” will be displayed. If the unit is off, the time period and “START” will be displayed.

IMPORTANT: Be sure to point the remote control toward the unit while pressing the TIMER or SET buttons.

Setting Start/Stop Time - Timer feature is used to set unit operation Start/Stop times. Three different time periods up to 10 hours apart and within 24 hours can be programmed using this feature.

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the TIMER button. Each time the button is pressed, the next Start or Stop set-time appears on the display. See Fig. 24 and 25.
3. Press UP/DOWN button to set the time.
4. To set another time period, press the TIMER button to go to another time period and repeat steps 2 and 3 above.
5. Press the SET button to set the displayed time when done. See Fig. 22.

NOTE: If changes are not made within 10 seconds, the remote control will return to its previous display. To correct an error, the programmed Timer settings must be cancelled and re-entered. See Canceling Daily Timer section.

Sleep Timer - The Sleep Timer function allows the desired temperature to be updated while the occupant is sleeping. The temperature in the room air gradually rises until this time period is exited. The unit will then return to the previous temperature set point. To set the Sleep Timer, follow the steps below:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press TIMER button until Sleep function is reached.
3. Select the “SLEEP” timer period. See Fig. 26.
4. Press UP/DOWN button to set the start time and press TIMER button to set stop time.
5. Press the SET button to set the display time when done. See Fig. 22.

Setting Daily Timer - Time periods can be programmed to operate the system at set times during a 24-hour period. This timer function can be used for all 3 time periods and sleep period described above.

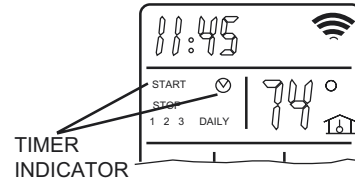
NOTE: The daily timer operates only when there is a direct line of sight between the controller and the unit.

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the TIMER button to select the time period that will be activated daily.
3. Press and hold the SET button until the word “DAILY” appears on the display. See Fig. 27.
4. Press the SET button again to confirm the daily operation for the selected time period. Be sure to point remote control toward the unit while pressing the SET button.



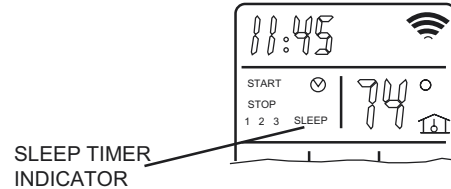
A06727

Fig. 24 – Timer Display Setup on Remote



A06728

Fig. 25 – Set Timer Indicator on Remote Control Display



A06729

Fig. 26 – Sleep Timer Indicator on Remote Control Display

Canceling Daily Timer - This function will cancel the selected Daily Timer Program.

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the TIMER button to select the time period that will be activated daily.
3. Press the SET button and hold until the word “DAILY” disappears on the display.
4. Press the SET button again to remove the daily operation from the selected time period. Be sure to point remote control toward the unit while pressing the SET button.

Canceling Specific Start/Stop Time Period - One or more timers can be cancelled by performing the following steps:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the TIMER button and select desired Timer to cancel (1, 2, 3, or Sleep)
3. Press CLEAR button to cancel the selected Timer period. The Start/Stop times will disappear from the display.
4. Press the SET button to confirm the cancellation. Be sure to point remote control toward the unit while pressing the SET button.

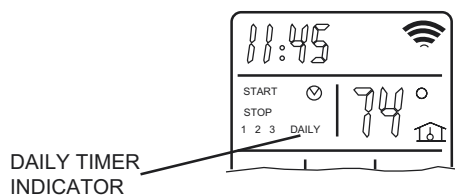
Canceling All Time Periods - All timers can be cancelled by performing the following steps:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the TIMER button.
3. Press and hold the CLEAR button until all Start/Stop times disappear from the display.
4. Check to be sure timer light is off on unit.
5. Press the SET button to confirm the cancellation. Be sure to point the remote control toward the unit while pressing the SET button.

Room Air Temperature Display:

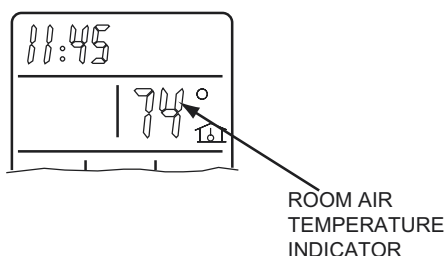
The current room air temperature is automatically displayed when the remote controller is powered off. To display the room air temperature when the unit is powered on:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the ROOM button. The current room air temperature will be displayed for several seconds, then disappear. See Fig. 28.



A06730

Fig. 27 – Daily Timer Indicator on Remote Control Display



A06731

Fig. 28 – Room Air Temperature Indicator on Remote Control Display

Delayed Start/Stop:

This function will delay the Start/Stop function in increments of 1 hour. Delayed Start/Stop can be programmed with the unit turned ON or OFF.

While the unit is turned ON:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the DELAY button. The clock will advance 1 hour and the word “STOP” and number “3” will flash.
3. Press the DELAY button once to advance the clock an additional hour until desired delayed time is reached. Be sure to point the remote control toward the unit while pressing the DELAY button.
4. The word “STOP” will stop flashing when the command has been transmitted and received by the unit.

While the unit is turned OFF:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the DELAY button. The clock will advance 1 hour and the word “START” and number “3” will flash.
3. Press the DELAY button once to advance the clock an additional hour until desired delayed time is reached. Be sure to point the remote control toward the unit while pressing the DELAY button.
4. The word “START” will stop flashing when the command has been transmitted and received by the unit.

Canceling Delayed Start/Stop – To cancel the Delayed Start/Stop function, follow the instructions in Canceling Specific Start/Stop Time Period section.

NOTE: The Delay setting is stored in Time period 3.

Local Sense Function (2-Way Remote Control)

The local sense function allows the remote control to operate by transmitting the room air temperature to the unit at regular intervals from where ever the controller is located in the room. The unit will then operate to make the air near the remote control reach the desired temperature.

To set Local Sense Function:

1. Slide down front cover of controller below ON/OFF button. See Fig. 22.
2. Press the SENSE button. The “House” symbol will appear on the display screen.
3. Place the remote control in desired location in room. Be sure there is a direct line between the remote control and the unit.

To cancel Local Sense Function – While in “Local Sense” function, press the SENSE button. The “House” symbol will disappear from the display screen and Local Sense function will be canceled.

Unit Operation

In the event that the remote control is not working or has been misplaced, the unit will operate as follows:

Units always operate by the remote control. If you lose or break the remote, the unit will continue to operate but settings cannot be changed until you get a new remote control.

To turn unit OFF – Push the Operation Push Button located under the front cover. See item I, Fig. 29. The AUTO/OFF indicator light will go off.

To turn unit ON– Push the Operation Push Button located under the front cover. See item I, Fig. 29. The AUTO/OFF indicator will light. The unit will operate at the settings that have been programmed using the remote control.

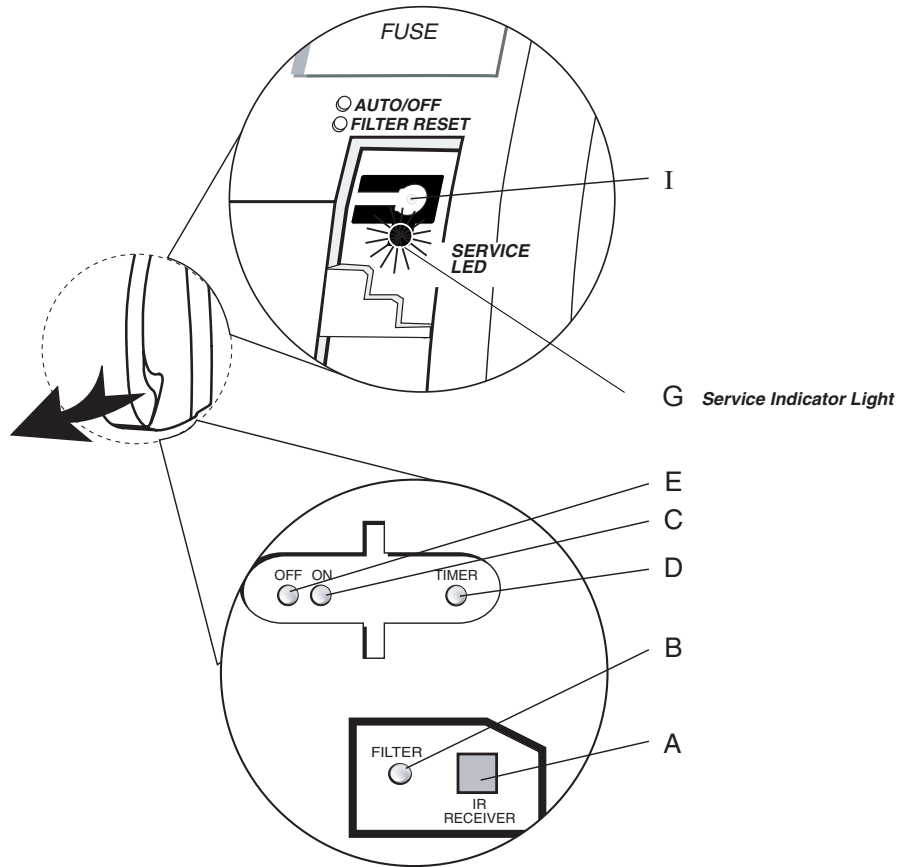


Fig. 29 – Indoor Unit Display Panel Features

A06735

The LEDs on the display panel provide alerts regarding various operations and malfunctions. The display panel features are described in the following table:

CALLOUT LETTER	FEATURE	DESCRIPTION
A	Infrared Receiver	Receives transmissions from the remote controller.
B	FILTER Indicator Light	- Lights every 250 hours of unit operation to remind you to check the air filters' cleanliness. - Flashes five (5) times to indicate that low temperature protection is activated.
C	(ON)/(AIR) COND Indicator Light	Lights when the air conditioner operates. Flashing steady when defrosting.
D	TIMER Indicator Light	Lights when a TIMER Start or Stop time is set.
E	POWER Indicator Light	Lights when the air conditioner is connected to the electricity supply of the proper line voltage.
G	SERVICE Indicator Light	Lights or flashes accordingly to the malfunction.
I	Operation Push Button	- Turns the air conditioner ON (Auto) Mode and OFF without Remote Control. - Resets unit after malfunctions and resets the Filter indicator light. (Press the button continuously for 5 seconds.)

CARE AND MAINTENANCE



WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Always turn off power to the system before performing any cleaning or maintenance to the system. Turn off the outdoor disconnect switch located near outdoor unit. Be sure to disconnect indoor unit if on a separate switch.



CAUTION

PROPERTY DAMAGE HAZARD

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

Operating the system with dirty air filters may damage the indoor unit and could cause reduced cooling performance. Intermittent system operation, frost build-up on indoor coil and blown fuses may also result from system operation with dirty air filters.

Air Filters

Remove and clean the air filters when the Filter indicator light on the unit display panel is lit. See Fig. 29.

NOTE: If air filters show signs of excessive wear or are torn, they must be replaced. Contact your local dealer for replacement filters.

1. Open front panel on unit.
2. Pull filters down to remove. (See Fig. 30.)
3. Vacuum filters.

4. Clean with warm water.
5. Shake filter to remove excess water and dry thoroughly.
6. Replace filter by sliding filter behind front grille until filter snaps in place.
7. Slide Operation Switch on unit to OFF position to reset filter status indicator light on 40BN036 units, or press the ON/OFF button for 5 seconds on 40BN009-024 units.
8. Slide Operation Switch on unit to REMOTE position to resume remote control operation.



CAUTION

PROPERTY DAMAGE HAZARD

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

When cleaning the front panel, **do not** use water hotter than 105°F and do not pour water onto the fan coil.

Do not use abrasive or petroleum based cleaners as they may damage the front panel.

Indoor Unit Coil

To clean the indoor unit coil, remove the front panel and vacuum the coil fins. Avoid bending or damaging the fins.



CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Sharp fins and other metal parts on the outdoor unit coil can cause personal injury during cleaning.

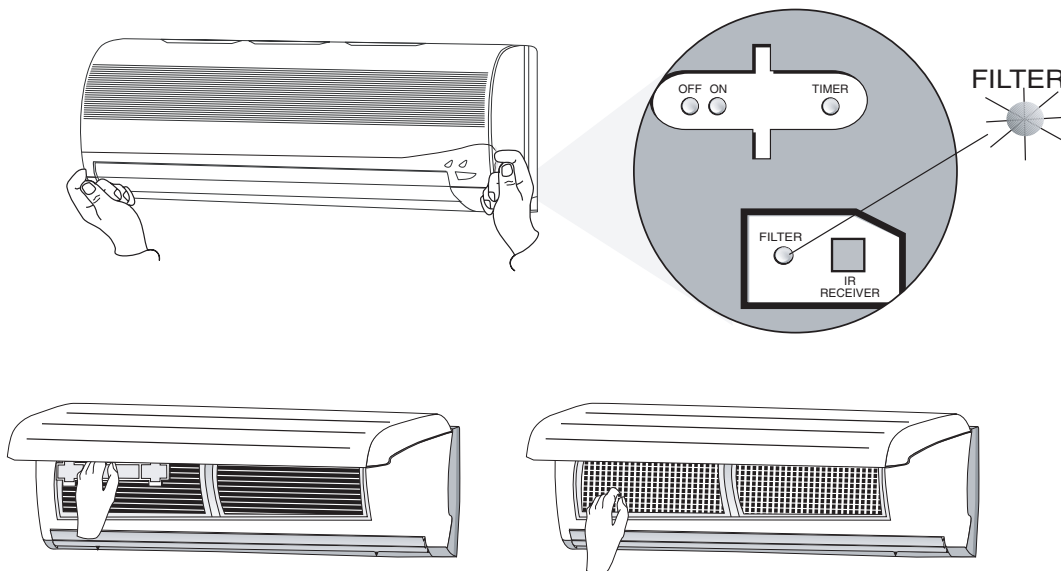


Fig. 30 – Removing Air Filters

A06736

System Operation Checklist

The items outlined in the following list will help to assure proper system operation.

- Be sure unit is connected directly to electrical supply.
- Replace both remote control batteries at the same time when the Low Battery symbol appears.
- Point the remote control toward the unit display panel when transmitting a command.
- Place the remote control in a location where there is a direct line for transmission of data to the unit.
- Select a moderate temperature setting. Extreme temperatures waste electricity.
- Keep doors and windows closed while unit is operating.
- Close air vents in unoccupied rooms to save electricity.
- Contact an authorized service representative if a problem arises that cannot be easily resolved.
- Do not perform cleaning or maintenance activities while unit is on.
- Keep remote control out of direct sunlight and heat.
- Keep display panel on unit away from direct sunlight and heat as this may interfere with remote control transmissions.
- Do not block air intakes and outlets on the indoor or outdoor units.

DIP Switch Settings

The remote control contains seven DIP switches located in the battery compartment, two of which control special system characteristics. See Fig. 31. The DIP switch default positions are set according to the model air conditioner installed, as per the following table.

SWITCH	1	2	3	4	5	6	7
POSITION	ON	OFF	OFF	OFF	OFF	ON	OFF

Switch No. 3 should be set as follows:

OFF (default) - When only one air conditioner is installed in the room

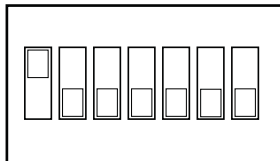
ON - When there are two air conditioners with remote controllers installed in the room, in one of the remote controllers this switch must be in the ON position. To activate the new switch setting, simultaneously press the MODE and ROOM buttons.

Switch No. 4 should be set as follows:

OFF - Displays temperature in °C, with a 24-hour clock format.

For Variable Capacity Units

SWITCH	1	2	3	4	5	6	7
POSITION	ON	OFF	OFF	OFF	OFF	OFF	OFF



A06737

ON - Displays temperature in °F, with a 12-hour clock (PM indicator) format.

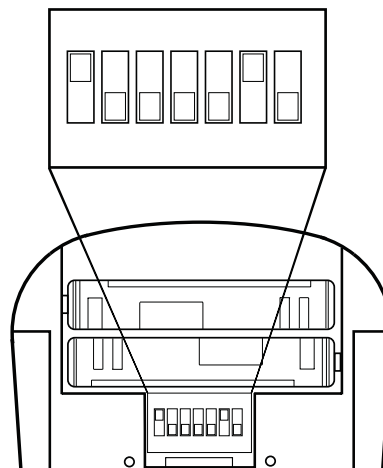
To operate the special systems characteristics:

1. Remove the batteries.
2. Set the DIP switches to the required positions.
3. Wait approximately 2 minutes and return batteries to proper position.

Energy Saving Recommendations

The following recommendations will add greater efficiency to the duct free system:

- Select a comfortable thermostat setting and leave it at chosen setting. Avoid continually raising and lowering the setting.
- Keep unit filter clean. Frequent cleaning may be necessary depending on indoor air quality.
- Use drapes, curtains or shades to keep direct sunlight from heating room on very hot days.
- Do not obstruct front grille air intake on front panel.
- Turn on air conditioning before indoor air becomes too uncomfortable.



A06738

Fig. 31 – DIP Switch Location in Remote Control

GUIDE SPECIFICATIONS - INDOOR HIGH WALL UNITS

Commercial High Wall Fan Coil Units

HVAC Guide Specifications

Size Range: 3/4 to 3 Ton Cooling Capacity

9000 to 31,200 Btuh Heating Capacity

Carrier Model Number: 40BNC/BNQ

Part 1 - General

1.01 System Description

Indoor, wall-mounted, direct-expansion fan coil to be matched with the cooling only or heat pump units.

1.02 Quality Assurance

Unit shall be rated per ARI Standards 210/240 and listed in the ARI directory as a matched system.

1.03 Delivery, Storage, And Handling

Units shall be stored and handled per unit manufacturer's recommendations.

1.04 Warranty (For Inclusion By Specifying Engineer)

Part 2 - Products

2.01 Equipment

A. General:

Indoor, direct-expansion, wall-mounted fan coil. Unit shall be complete with cooling/heating coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Unit shall be furnished with integral wall mounting bracket, mounting hardware, and thermistor interconnection cable.

B. Unit Cabinet:

Cabinet discharge and inlet grilles shall be attractively styled, high-impact polystyrene. Cabinet shall be fully insulated for improved thermal and acoustic performance.

C. Fans:

1. Fan shall be tangential direct-drive blower type with air intake at the upper front face of the unit and discharge at the bottom front. Automatic, motor-driven vertical air sweep shall be provided standard.
2. Air sweep operation shall be user selectable. Horizontal direction may be manually adjusted (using remote controller) and vertical air sweep may be manually set.

D. Coil:

Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for hose attachment to remove condensate. Condensate pan shall have internal trap and auxiliary drip pan under coil header.

E. Motors:

Motors shall be open drip-proof, permanently lubricated ball bearing with inherent overload protection. Fan motors shall be 3-speed.

F. Controls:

Controls shall consist of a microprocessor-based control system which shall control space temperature, determine optimum fan speed, and run self diagnostics. the temperature control range shall be from 54°F to 90°F.

The unit shall have the following functions as a minimum:

1. An automatic restart after power failure at the same operating conditions as at failure.
2. A timer function to provide a minimum 24-hour timer cycle for system Auto Start/Stop.
3. Temperature-sensing controls shall sense return air temperature.
4. Indoor coil freeze protection.
5. Wireless infrared remote control to enter set points and operating conditions.
6. Automatic air sweep control to provide on or off activation of air sweep louvers.
7. Dehumidification mode shall provide increased latent removal capability by modulating system operation and set point temperature.
8. Fan-only operation to provide room air circulation when no cooling is required.
9. Diagnostics shall provide continuous checks of unit operation and warn of possible malfunctions. Error messages shall be displayed at the unit.
10. An indoor to outdoor thermistor connection cable shall be provided with the heat pump fan coil unit.
11. Fan speed control shall be user-selectable: high, medium, low, or microprocessor automatic operation during all operating modes.
12. Automatic heating-to-cooling changeover to provide automatic heating and cooling operation. Control shall include deadband to prevent rapid mode cycling.
13. Demand defrost shall be provided and shall minimize defrost cycles by internally adjusting defrost timing based on frost accumulation.
14. Indoor coil high temperature protection shall be provided to detect excessive indoor discharge temperature when unit is in heat pump mode.

G. Filters:

Unit shall have filter track with factory-supplied cleanable filters.

H. Electrical Requirements:

Unit shall operate on 30VDC (009-018) or 208-230v (024-036), 60 Hz power supply as specified on the equipment schedule. Power and control connections shall have terminal block connections.

I. Operating Characteristics:

The 40BNC/BNQ system shall have a minimum listed SEER (seasonal energy efficiency ratio) of 13 at ARI conditions, and a minimum HSPF of 7.7.

J. Refrigerant Lines:

All units shall have rotatable refrigerant lines for penetration through the wall using flare connections. All units shall have flare connections.

K. Special Features (Field Installed):

1. Condensate Pump:

- The condensate pump shall remove condensate from the drain pan when gravity drainage cannot be used. Pump shall be designed for quiet operation. Pump shall consist of two parts: an internal reservoir/sensor assembly, and a remote sound-shielded pump assembly. The lift capability of the condensate pump shall be 1 to 10 ft. (009 size unit) or 3 to 25 ft. (012-036 size units). A level sensor on the condensate pan shall stop cooling operation if the level in the condensate pan is unacceptable.

GUIDE SPECIFICATIONS - OUTDOOR UNITS

Commercial Heat Pump Units

HVAC Guide Specifications

Size Range: 3/4 to 3 Ton Cooling Capacity

9000 to 31,200 Btu/h

Heating Capacity

Carrier Model Number: 38BNC, 38BNQ, 38BCC, 38BCQ

Part 1 - General

1.01 System Description

- A. Outdoor-mounted, air-cooled split system outdoor section suitable for on-the-ground, rooftop, wall hung, balcony, or under-deck installation. Unit shall consist of a hermetic reciprocating, or rotary compressor, an air-cooled coil, propeller-type draw-through outdoor fans, reversing valve, accumulator, metering device(s), and control box. Unit shall discharge air horizontally as shown on the contract drawings. Units shall function as the outdoor component of an air-to-air cooling and heating system.
- B. Units shall be used in a refrigeration circuit matched to a duct-free cooling and heat pump fan coil unit.

1.02 Quality Assurance

- A. Unit construction shall comply with ANSI/ASHRAE 15, latest revision, and with the NEC.
- B. Units shall be constructed in accordance with UL standards.
- C. Units shall be listed in the CEC directory.
- D. Unit cabinet shall be capable of withstanding Federal Test Standard No. 141 (method 6061) 500-hour salt spray test.
- E. Air-cooled condenser coils shall be leak tested at 573 psig air pressure with the coil submerged in water.

1.03 Delivery, Storage, And Handling

Units shall be shipped in one piece and shall be stored and handled per unit manufacturer's recommendations.

1.04 Warranty (For Inclusion By Specifying Engineer)

Part 2 - Products

2.01 Equipment

A. General:

Factory assembled, single piece, air-cooled outdoor unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and compressors. R-22 refrigerant, and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked-enamel finish or polypropylene.
2. Unit access panels shall be removable with minimal screws and shall provide full access to the compressor, fan, and control components.
3. Outdoor compartment shall be isolated and have an acoustic lining to assure quiet operation.

C. Fans:

1. Outdoor fans shall be direct-drive propeller type, and shall discharge air horizontally. Fans shall draw air through the outdoor coil.
2. Outdoor fan motors shall be totally-enclosed, single phase motors with class B insulation and permanently-lubricated sleeve bearings. Motor shall be protected by internal thermal overload protection.
3. Shaft shall have inherent corrosion resistance.
4. Fan blades shall be corrosion resistant and shall be statically and dynamically balanced.

5. Outdoor fan openings shall be equipped with PVC metal/mesh coated protection grille over fan.

D. Compressor:

1. Compressor shall be fully hermetic reciprocating or rotary type.
2. Compressor shall be equipped with oil system, operating oil charge, and motor. Internal overloads shall protect the compressor from over-temperature and over-current. Reciprocating compressors shall also have high discharge gas temperature protection if required.
3. Motor shall be NEMA rated class F, suitable for operation in a refrigerant atmosphere.
4. Reciprocating compressors shall be equipped with crankcase heaters to minimize liquid refrigerant accumulation in compressor during shutdown and to prevent refrigerant dilution of oil.
5. Compressor assembly shall be installed on rubber vibration isolators and shall have internal spring isolation.
6. Compressors shall be single phase or 2-phase as specified on the contract drawings.

E. Outdoor Coil:

Coil shall be constructed of aluminum fins mechanically bonded to internally enhanced, seamless copper tubes, which are cleaned, dehydrated, and sealed.

F. Refrigeration Components:

Refrigerant circuit components shall include brass external liquid line service valve with service gage port connections, suction line service valve with service gage connection port, service gage port connections on compressor suction and discharge lines with Schrader type fittings with brass caps, accumulator, reversing valve.

G. Controls and Safeties:

Operating controls and safeties shall be factory selected, assembled, and tested. The minimum control functions shall include the following:

1. Controls:

- a. A time delay control sequence is also provided standard through the fan coil board, thermostat, or controller.
- b. Automatic outdoor-fan motor protection.
- c. Start capacitor and relay (single-phase units with reciprocating compressors).

2. Safeties:

- a. System diagnostics.
- b. Compressor motor current and temperature overload protection.
- c. Outdoor fan failure protection.

H. Electrical Requirements:

1. Unit shall operate on single-phase, 60 Hz power at 115 v (38BNC, BNQ009-018 only) or 208/230v, as specified.
2. Unit electrical power shall be a single point connection.
3. Unit control voltage to the indoor-fan coil shall be 24v or 30VDC for 38BNC/BNQ009-018.
4. All power and control wiring must be installed per NEC and all local building codes.
5. Unit shall have high- and low-voltage terminal block connections.

38/40BNC, BNQ, BCC, BCQ

GUIDE SPECIFICATIONS - OUTDOOR UNITS (CONT.)

I. Special Features (Field Installed):

1. Low-Ambient Kit: Control shall regulate fan-motor cycles in response to saturated condensing pressure of the unit. The control shall be capable of maintaining a condensing

temperature of $100^{\circ}\text{F} \pm 10^{\circ}\text{F}$ with outdoor temperatures to -20°F . Installation of kit shall not require changing the outdoor fan motor.

2. Crankcase Heater (units with rotary compressors only)

38/40BNC, BNQ, BCC, BCQ