

538B

Preferred™ Series Heat Pump  
with PURON® Refrigerant  
1-1/2 To 5 Nominal Tons



## Product Data



Bryant Heat Pumps with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 538B has been designed utilizing Bryant's Puron refrigerant. The environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

**NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory ([www.ahridirectory.org](http://www.ahridirectory.org)) for the most up-to-date ratings information.**

### INDUSTRY LEADING FEATURES / BENEFITS

#### Energy Efficiency

- 13 - 15.5 SEER/10.5 - 13.5 EER/7.7 - 9.0 HSPF

#### Sound

- Levels as low as 68 dBA

#### Design Features

- New aesthetics
- Small footprint
- DuraGuard™ cabinet
  - All steel cabinet construction
  - Baked on powder paint
  - Mesh coil guard

#### Reliability, Quality and Toughness

- Scroll compressor
- Factory-supplied filter drier
- High pressure switch
- Low pressure switch
- Accumulator
- Line lengths up to 250' (76.2 m)
- Low ambient operation (down to -20°F/-28.9°C)  
(with low ambient accessories)

# MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	14
N	N	N	A	A/N	N	N	N	N	A/N	A/N	N	A
5	3	8	B	N	R	0	3	6	0	0	0	A

Product Series  
538 = AC/HP

B= Horizontal Discharge Heat Pump

Voltage  
N= 208/230-1  
P = 208/230-3  
E= 460-3

Variations  
A = Standard

Cooling Capacity

Open  
0= Not Defined

Open  
0=Not Defined

Open  
0=Not Defined

Series  
A = Original Series



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



This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow all manufacturing refrigerant charging and air flow instructions. **Failure to confirm proper charge and air flow may reduce energy efficiency and shorten equipment life.**

## PHYSICAL DATA

UNIT 538B	018	024	030	036	048	060
<b>NOMINAL CAPACITY Tons (kg)</b>	1.5 (1360.8)	2.0 (1814.4)	2.5 (2268.0)	3.0 (2721.6)	4.0 (3628.8)	5.0 (4536.0)
<b>OPERATING WEIGHT lb (kg)</b>	167 (75.75)	176 (79.83)	187 (84.82)	232 (105.23)	278 (126.10)	306 (138.80)
<b>REFRIGERANT TYPE</b>	R-410A					
<b>METERING DEVICE</b>	TXV					
<b>CHARGE lb (kg)</b>	6.8 (3.08)	7.0 (3.18)	12.0 (5.44)	12.5 (5.67)	12.2 (5.53)	12.8 (5.81)
<b>COMPRESSOR</b>	Scroll					
Type	Scroll					
Oil Charge (POE -oz)	25.0	25.0	25.0	25.0	42.0	42.0
Crankcase Heater (watts)	—	—	40	40	40	40
<b>OUTDOOR FAN</b>						
Rpm/Cfm	840/1720	840/1720	850/3900	850/3900	850/3900	850/3900
Diameter in. (mm)	18 (457)	18 (457)	24 (610)	24 (610)	24 (610)	24 (610)
No. Blades	3	3	3	3	3	3
Motor (hp)	1/8	1/8	1/4	1/4	1/4	1/4
<b>OUTDOOR COIL</b>						
Face Area (sq ft)	5.8	7.3	12.1	12.1	14.1	14.1
No. Rows	3	3	2	3	3	3
FPI	20	20	20	20	20	20
<b>HIGH PRESSURE SWITCH</b>						
Cut-In (psig) Cutout (psig)	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10	420 ± 25 650 ± 10
<b>LOW PRESSURE SWITCH</b>						
Low Cutout (psig) Low Cut-in (psig)	20 ± 5 45 ± 25	20 ± 5 45 ± 25	20 ± 5 45 ± 25	20 ± 5 45 ± 25	20 ± 5 45 ± 25	20 ± 5 45 ± 25
<b>REFRIGERANT LINES</b>						
Connection Type	Sweat					
Max. Liquid Line (in.) OD	3/8	3/8	3/8	3/8	3/8	3/8
Rated Vapor Line* (in.) OD	5/8	5/8	3/4	3/4	7/8	7/8‡
<b>CONTROLS</b>						
Fusible Plug °F (°C)	210 (98.9)					
Control Voltage†	24 vac					
System Voltage	208/230 v	208/230 v	208/230 v	208/230 v, Single and 3 Phase, 460 v, 3 Phase		
<b>FINISH</b>	Gray					

\* Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss table when using other sizes and lengths of lineset.

† 24 v and a minimum of 40 va is provided in the fan coil unit.

‡ Valve connection size is 7/8 inch. Recommended line size is 1-1/8 inches.

FPI - Fins Per Inch

POE - Polyol Ester

# VAPOR LINE SIZING AND COOLING CAPACITY LOSS

**LONG LINE APPLICATION:** An application is considered "Long line" when the total equivalent tubing length exceeds 80 ft. (24.38 m) or when there is more than 20 ft. (6.09 m) vertical separation between indoor and outdoor units. These applications require additional accessories and system modifications for reliable system operation. The maximum allowable total equivalent length is up to 250 ft. (76.2 m). The maximum

vertical separation is 200 ft. (60.96 m) when outdoor unit is above indoor unit, and up to 80 ft. (24.38 m) when the outdoor unit is below the indoor unit. Refer to Accessory Usage Guideline below for required accessories. See Longline Application Guideline for required piping and system modifications. Also, refer to the table below for the vapor tube diameters based on the total length to minimize the cooling capacity loss.

Unit Nominal Size (Btuh)	Maximum Liquid Line Diameters (In.) OD	Vapor Line Diameters (In.) OD	Cooling Capacity Loss (%) Total Equivalent Line Length ft. (m)								
			Standard Application		Long Line Application Requires Accessories						
			26-50 (7.9-15.2)	51-80 (15.5-24.4)	81-100 (24.7-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-50.3)	176-200 (53.6-60.0)	201-225 (61.3-68.6)	226-250 (68.9-76.2)
18,000 1-Stage Puron HP	3/8	1/2	1	2	3	4	6	7	8	9	10
		5/8	0	0	1	1	1	2	2	3	3
24,000 1-Stage Puron HP		5/8	0	1	1	2	3	3	4	4	5
		3/4	0	0	0	0	1	1	1	1	1
30,000 1-Stage Puron HP		5/8	1	2	3	3	4	5	6	7	8
		3/4	0	0	1	1	1	2	2	2	3
		7/8	0	0	0	0	1	1	1	1	1
36,000 1-Stage Puron HP		5/8	1	2	4	5	6	7	9	10	11
		3/4	0	0	1	1	2	2	3	3	4
		7/8	0	0	0	0	1	1	1	1	2
48,000 1-Stage Puron HP		3/4	0	1	2	3	4	5	5	6	7
		7/8	0	0	1	1	2	2	2	3	3
60,000 1-Stage Puron HP		3/4	1	2	4	5	6	7	9	10	11
		7/8	0	1	2	2	3	4	4	5	5
		1-1/8	0	0	0	1	1	1	1	1	1

Applications in this area are long line. Accessories are required as shown recommended on Long Line Application Guidelines  
 Applications in this area may have height restrictions that limit allowable total equivalent length, when outdoor unit is below indoor unit. See Long Line Application Guidelines

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# ACCESSORIES

KIT NUMBER	KIT NAME	018	024	030	036	048	060
KAACH1401AAA	Crankcase Heater	X	X				
KAACS0201PTC	PTC Start Assist	X	X	X	X	X	X
KAFT0101AAA	Evaporator Freeze Stat	X	X	X	X	X	X
KAATD0101TDR	Time Delay Relay	X	X	X	X	X	X
KHAIR0101AAA	Isolation Relay	X	X	X	X	X	X
KSAHS1501AAA	Capacitor Relay Start Assist	X	X	X	X	X	X
53DS-900---086	Low Ambient Control (Puron)	X	X	X	X	X	X
53DS-900---070	Wind Baffle	X					
53DS-900---087	Wind Baffle		X				
53DS-900---071	Wind Baffle			X	X		
53DS-900---088	Wind Baffle					X	X
53DS-900---077	Wall Mounting Kit	X	X				
53DS-900---078	Wall Mounting Kit			X	X	X	X

X = Accessory, S = Standard

## THERMOSTATS

PART NO.	DESCRIPTION
T6-PRH01-A	Programmable Thermostat
T6-NRH01-A	Non-programmable Thermostat
T2-PAC01	Comfort Series Programmable AC Stat
T2-NAC01	Comfort Series Non-programmable AC Stat
T1-PAC01	Base Series Programmable AC Stat
T1-NAC01	Base Series Non-programmable AC Stat
TSTATXXSEN01-B*	Outdoor Air Temperature Sensor
TX-LBP01	Large Decorative Backplate
TX-MBP01	Medium Decorative Backplate
TX-SBP01	Small Decorative Backplate
TSTATXXCNV10†	Thermostat Conversion Kit (4 to 5 wires) – 10 Pack

\* Outdoor temperature sensor is an accessory for all Bryant electronic thermostats, except the non-programmable air conditioner version and builder's thermostats. It allows the temperature at a remote location (outdoors) to be displayed on the thermostat. The outdoor air temperature sensor must be used with the HybridHeat™ (dual fuel) thermostat. The outdoor air temperature sensor is included with the Thermostat Control and HybridHeat™ (dual fuel) thermostat.

† Thermostat conversion kit is a 24-vac accessory that can turn a 4-wire thermostat application into a 5-wire application. This kit can also be used to replace a broken thermostat wire, or add an extra wire when needed.

## CONTROLS

EVOLUTION™ * CONTROLS	DESCRIPTION
SYSTXBBUID01-A	Evolution Control Deluxe 7-Day Programmable (Wall-mounted system control.)
SYSTXBBUIZ01-A	Evolution Control Deluxe Zoning 7-Day Programmable (Wall-mounted control for a multi-zone system.)
SYSTXBB4ZC01	Evolution 4-Zone Damper Control Module (Wall-mounted control for a 4-zone system.)
SYSTXBBSMS01	Evolution Smart Sensor (Optional wall control used to monitor temperature and/or fan control in an individual zone.)
SYSTXBBRRS01	Evolution Remote Room Sensor (Monitors temperature in an individual zone.)
SYSTXBBSAM01	Evolution System Access Module (Hardware for wireless access and control via phone or internet.)
SYSTXBBNIM01	Evolution Network Interface Module (Connects Heat Recovery and Energy Recovery Ventilators or older two-speed outdoor models to system.)
SYSTXXXBPU01	Decorative Back Plate for Evolution Control (Decorative wall plate.)

\* When applied with Bryant's Perfect Humidity™ series variable speed Indoor Models.

## ACCESSORY USAGE GUIDELINE

Accessory	REQUIRED FOR LOW-AMBIENT COOLING APPLICATIONS (Below 55°F / 12.8°C)	REQUIRED FOR LONG LINE APPLICATIONS* (Over 80 ft. / 24.38 m)	REQUIRED FOR SEA COAST APPLICATIONS (Within 2 miles / 3.22 km)
Accumulator	Standard	Standard	Standard
Ball Bearing Fan Motor	Yes†	No	No
Compressor Start Assist Capacitor and Relay	Yes	Yes	No
Crankcase Heater	Yes	Yes	No
Evaporator Freeze Thermostat	Yes	No	No
Hard Shutoff TXV	Yes	Yes	Yes
Isolation Relay	Yes	No	No
Liquid Line Solenoid Valve	No	See Long-Line Application Guideline	No
Motor Master® Control or Low Ambient Switch	Yes	No	No
Support Feet	Recommended	No	Recommended

\* For tubing line sets between 80 and 200 ft. (24.38 and 60.96 m) and/or 20 ft. (6.09 m) vertical differential, refer to Residential Split-System Longline Application Guideline.

† Additional requirement for Low-Ambient Controller (full modulation feature) MotorMaster® Control.

### Accessory Description and Usage (Listed Alphabetically)

#### 1. Ball-Bearing Fan Motor

A fan motor with ball bearings which permits speed reduction while maintaining bearing lubrication.

Usage Guideline:

Required on all units when using MotorMaster®

#### 2. Compressor Start Assist - Capacitor and Relay

Start capacitor and relay gives a "hard" boost to compressor motor at each start up.

Usage Guideline:

Required for reciprocating compressors in the following applications:

- Long line
- Low ambient cooling
- Hard shut off expansion valve on indoor coil
- Liquid line solenoid on indoor coil

Required for single-phase scroll compressors in the following applications:

- Long line
- Low ambient cooling

Suggested for all compressors in areas with a history of low voltage problems.

#### 3. Compressor Start Assist — PTC Type

Solid state electrical device which gives a "soft" boost to the compressor at each start-up.

Usage Guideline:

Suggested in installations with marginal power supply.

#### 4. Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes the chance of liquid slugging.

Usage Guideline:

- Required in low ambient cooling applications.
- Required in long line applications.
- Suggested in all commercial applications.

#### 5. Evaporator Freeze Thermostat

An SPST temperature-actuated switch that stops unit operation when evaporator reaches freeze-up conditions.

Usage Guideline:

Required when low ambient kit has been added.

#### 6. Isolation Relay

An SPDT relay which switches the low-ambient controller out of the outdoor fan motor circuit when the heat pump switches to heating mode.

Usage Guideline:

Required in all heat pumps where low ambient kit has been added.

#### 7. Liquid-Line Solenoid Valve (LLS)

An electrically operated shutoff valve which stops and starts refrigerant liquid flow in response to compressor operation. It is to be installed at the outdoor unit to control refrigerant off cycle migration in the heating mode.

Usage Guideline:

An LLS is required in all long line heat pump applications to control refrigerant off cycle migration in the heating mode. See Long Line Guideline.

#### 8. Low-Ambient Pressure Switch Kit

A long life pressure switch which is mounted to outdoor unit service valve. It is designed to cycle the outdoor fan motor in order to maintain head pressure within normal operating limits. The control will maintain working head pressure at low-ambient temperatures down to 0°F (-18°C) when properly installed.

Usage Guideline:

A Low-Ambient Pressure Switch or MotorMaster® Low-Ambient Controller must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

#### 9. MotorMaster® Low-Ambient Controller

A fan-speed control device activated by a temperature sensor, designed to control condenser fan motor speed in response to the saturated, condensing temperature during operation in cooling mode only. For outdoor temperatures down to -20°F (-28.9°C), it maintains condensing temperature at 100°F ±10°F (37.8°C ± 5.6°C).

Usage Guideline:

A MotorMaster® Low Ambient Controller or Low-Ambient Pressure Switch must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

Suggested for all commercial applications.

## Accessory Description and Usage (Listed Alphabetically) - CONTINUED

### 10. Outdoor Air Temperature Sensor

Designed for use with Bryant Thermostats listed in this publication. This device enables the thermostat to display the outdoor temperature. This device also is required to enable special thermostat features such as auxiliary heat lock out.

Usage Guideline:

Suggested for all Bryant thermostats listed in this publication.

### 11. Outdoor Thermostat

An SPDT temperature-actuated switch which turns on supplemental electric heaters when outdoor air temperature drops below a user-selected set point.

Usage Guideline:

Electric supplemental heat applications in non-variable speed indoor units when electric heat staging is desired.

### 12. Secondary Outdoor Thermostat

An SPDT temperature-actuated switch which turns on third-stage of supplemental electric heaters when outdoor air temperature drops below the second-stage set point.

Usage Guideline:

Outdoor thermostat applications where electric heater is capable of 3-stage operation.

### 13. Snow Stand Rack

Coated wire rack which supports unit 18 in. (457.2 mm) above mounting pad to allow for drainage from unit base.

Usage Guideline:

Suggested in the following applications:

- Heat pump installations in heavy snowfall areas.
- Heat pump installations in snow drift locations.
- Heat pump installations in areas of prolonged subfreezing temperatures.
- All commercial installations.

### 14. Sound Hood

Wraparound sound reducing cover for the compressor. Reduces the sound level by about 2 dBA.

Usage Guideline:

Suggested when unit is installed closer than 15 ft. (4.577 m) to quiet areas, bedrooms, etc.

Suggested when unit is installed between two houses less than 10 ft. (3.05 m) apart.

### 15. Thermostatic Expansion Valve (TXV) Bi-Flow

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator.

Usage Guideline:

Accessory required to meet AHRI rating and system reliability, where indoor not equipped.

Required in all heat pump applications designed with Puron refrigerant.

### 16. Time-Delay Relay

An SPST delay relay which briefly continues operation of indoor blower motor to provide additional cooling after the compressor cycles off.

**Note:** Most indoor unit controls include this feature. For those that do not, use the guideline below.

Usage Guideline:

Accessory required to meet AHRI rating, where indoor not equipped.

# ELECTRICAL DATA

UNIT SIZE	V-PH-Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			WIRE GAUGE 60°C/75°C	WIRE LENGTH 60°C/75°C	MIN CKT AMPS	FUSE/HACR CKT AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kw Out				
018	208/230-1-60	187	253	9.0	48.0	0.80	0.125	0.09	14/14	61/62	12.1	20
024	208/230-1-60	187	253	14.4	58.3	0.80	0.125	0.09	14/14	41/39	18.8	30
030	208/230-1-60	187	253	12.8	64.0	1.5	0.25	0.19	14/14	44/42	17.5	30
036	208/230-1-60	187	253	15.5	77.0	1.5	0.25	0.19	12/12	60/57	20.9	30
	208/230-3-60	187	253	10.1	71.0	1.5	0.25	0.19	14/14	53/50	14.1	20
	460-3-60	414	506	5.6	38.0	0.80	0.25	0.19	14/14	98/94	7.9	10
048	208/230-1-60	187	253	26.5	117.0	1.5	0.25	0.19	8/10	89/54	34.6	50
	208/230-3-60	187	253	16.7	83.1	1.5	0.25	0.19	12/12	55/52	22.4	30
	460-3-60	414	506	7.3	41.0	0.80	0.25	0.19	14/14	79/75	10.0	15
060	208/230-1-60	187	253	26.4	134.0	1.5	0.25	0.19	8/10	89/54	34.5	60
	208/230-3-60	187	253	17.7	110.0	1.5	0.25	0.19	12/12	52/50	23.6	40
	460-3-60	414	506	7.8	52.0	.80	0.25	0.19	14/14	72/68	10.6	15

**LEGEND:**

- FLA – Full Load Amps
- HACR – Heating, Air Conditioning, Refrigeration
- LRA – Locked Rotor Amps
- NEC – National Electrical Code
- RLA – Rated Load Amps (compressor)

\* Permissible limits of the voltage range at which the unit will operate satisfactorily

**NOTE:** Control circuit is 24-V on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

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## A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018	68	54.0	56.5	61.5	63.0	59.5	56.0	45.0
024	69	54.0	58.0	62.5	63.5	60.0	57.5	45.5
030	71	57.6	61.0	64.5	64.3	63.1	62.1	54.9
036	72	61.0	60.3	63.3	64.3	63.0	64.1	56.7
048	71	61.1	61.6	64.0	64.8	62.9	60.0	53.3
060	72	63.8	62.6	64.7	65.2	63.3	59.0	51.3

## CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

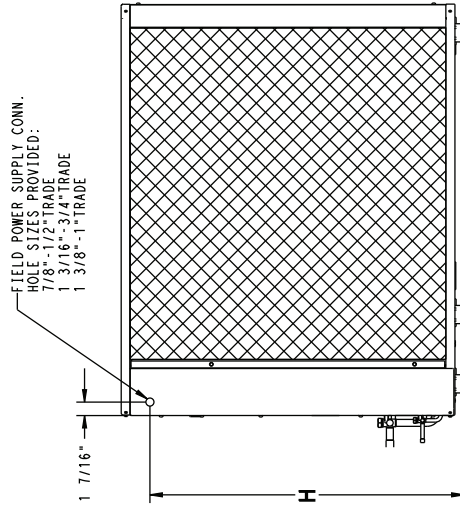
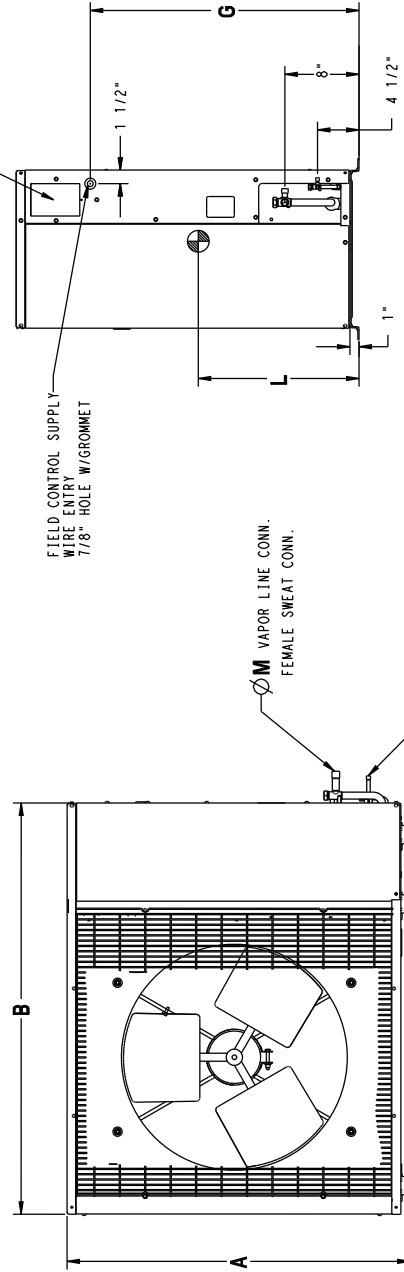
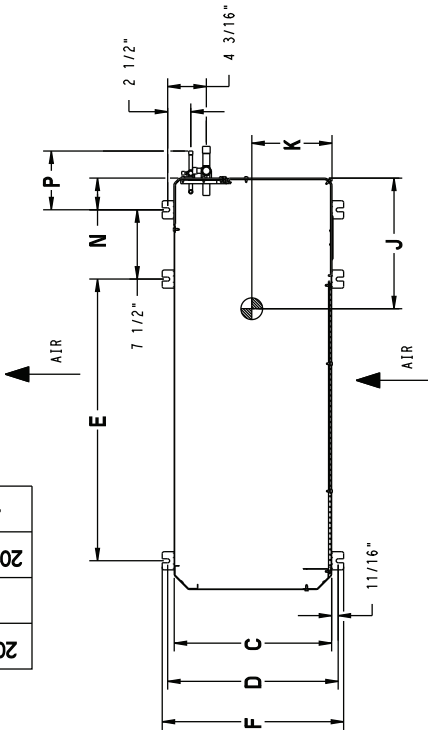
UNIT SIZE	REQUIRED SUBCOOLING °F (°C)	OUTDOOR HEATING PISTON #
018	12 (6.7)	EA52PJ040
024		EA52PJ049
030		EA52PJ055
036		EA52PJ063
048	13 (7.2)	EA52PJ073
060		EA52PJ080

**DIMENSIONS - ENGLISH**

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT(lbs)	SHIPPING WEIGHT(lbs)	SHIPPING DIMENSIONS (L x W x H)
538B018	A	X	0	0	25 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	17 1/8"	17 1/8"	11 1/4"	5/8"	2 15/16"	6"	167	183	42 9/10" X 18" X 28 1/10"
538B024	A	X	0	0	31 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	23 1/8"	17 1/8"	11 5/8"	5/8"	2 15/16"	6"	176	194	42 9/10" X 18" X 34 1/10"
538B030	A	X	0	0	37 3/16"	44 9/16"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 3/16"	29 3/16"	15 7/8"	3/4"	3 7/16"	6 1/2"	187	210	50 1/2" X 20 1/2" X 40 2/10"
538B036	A	X	0	X	37 3/16"	44 9/16"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 3/16"	29 3/16"	15 7/8"	3/4"	3 7/16"	6 1/2"	232	255	50 1/2" X 20 1/2" X 40 2/10"
538B048	A	X	0	X	43 3/16"	44 9/16"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	35 3/16"	35 3/16"	18 7/8"	7/8"	3 7/16"	6 1/2"	278	303	50 1/2" X 20 1/2" X 46 2/10"
538B060	A	X	0	X	43 3/16"	44 9/16"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	35 3/16"	35 3/16"	18 7/8"	7/8"	3 7/16"	6 1/2"	306	331	50 1/2" X 20 1/2" X 46 2/10"

- REQUIRED CLEARANCES: WITH COIL FACING WALL; ALLOW 6" MIN CLEARANCE ON COIL SIDE AND COIL END AND 36" MIN CLEARANCE ON COMPRESSOR END AND FAN SIDE. WITH FAN FACING WALL; ALLOW 8" MIN CLEARANCE ON FAN SIDE AND COIL END AND 36" MIN CLEARANCE ON COMPRESSOR END AND COIL SIDE. WITH MULTIPLE UNIT APPLICATION; ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER.
- MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
- SERIES DESIGNATION IS THE 14TH POSITION OF THE UNIT MODEL NUMBER.
- CENTER OF GRAVITY
- ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.

UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24	23" X 42"
30, 36, 48, 60	24" X 50"



FIELD, POWER, SUPPLY, CONN. HOLE SIZES PROVIDED:  
 1 7/8" - 3/4" TRADE  
 1 3/8" - 1" TRADE

JUNCTION BOX FOR POWER SUPPLY AND CONTROL CONNECTIONS

FIELD CONTROL SUPPLY WIRE ENTRY 7/8" HOLE W/GROMMET

M VAPOR LINE CONN. FEMALE SWEAT CONN.

Ø 3/8" LIQUID LINE MALE FLARE CONN.

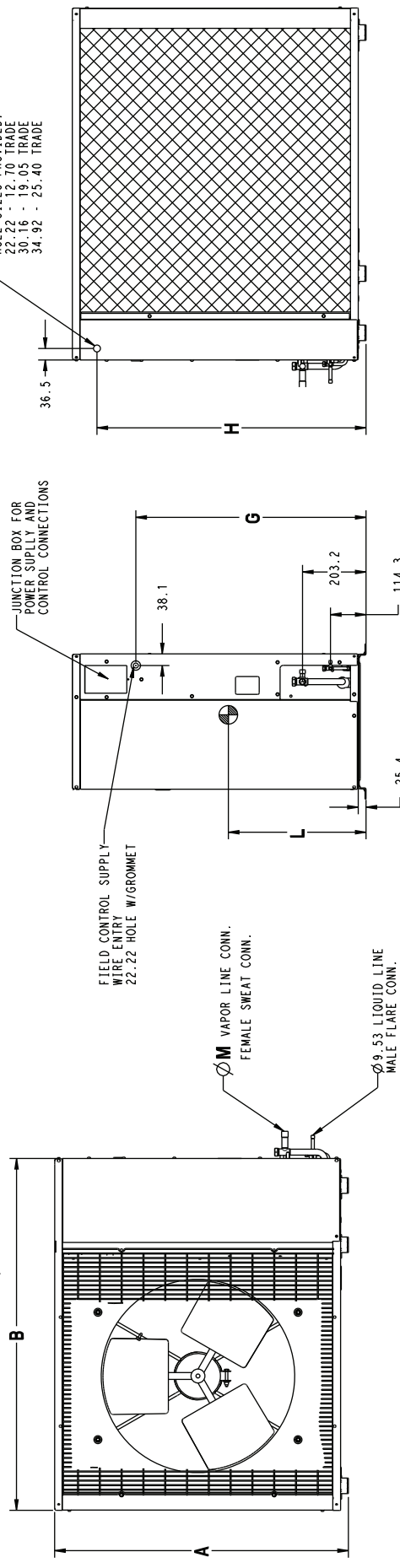
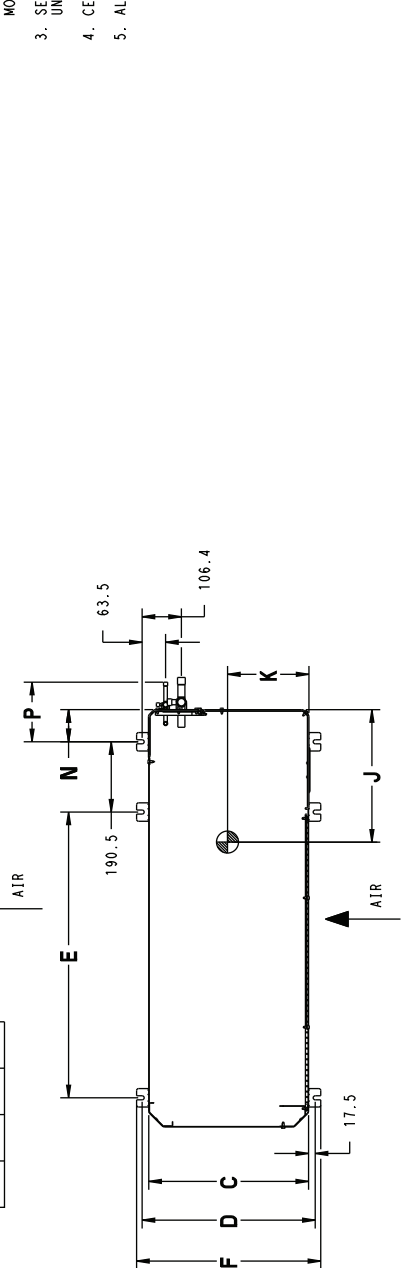


# DIMENSIONS - SI

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT(KG)	SHIPPING WEIGHT(KG)	SHIPPING DIMENSIONS (L x W x H)
5388018	A	X 0 0	638.2	938.2	369.9	406.4	595.3	436.6	435.0	558.8	330.2	168.3	285.8	15.9	74.6	152.4	75.9	83.2	1090.2 X 457.7 X 714.3
5388024	A	X 0 0	790.6	938.2	369.9	406.4	595.3	436.6	587.4	711.2	355.6	171.5	295.3	15.9	74.6	152.4	80.0	88.2	1090.2 X 457.7 X 866.7
5388030	A	X 0 0	944.6	1131.9	433.4	468.3	774.7	498.5	741.4	865.2	347.7	206.4	403.2	19.0	87.3	165.1	85.0	95.4	1282.7 X 520.7 X 1020.7
5388036	A	X 0 X	944.6	1131.9	433.4	468.3	774.7	498.5	741.4	865.2	347.7	206.4	403.2	19.0	87.3	165.1	105.4	115.9	1282.7 X 520.7 X 1020.7
5388048	A	X 0 X	1097.0	1131.9	433.4	468.3	774.7	498.5	893.8	1017.6	368.3	215.9	479.4	22.2	87.3	165.1	126.4	137.7	1282.7 X 520.7 X 1173.1
5388060	A	X 0 X	1097.0	1131.9	433.4	468.3	774.7	498.5	893.8	1017.6	368.3	215.9	479.4	22.2	87.3	165.1	139.0	150.4	1282.7 X 520.7 X 1173.1

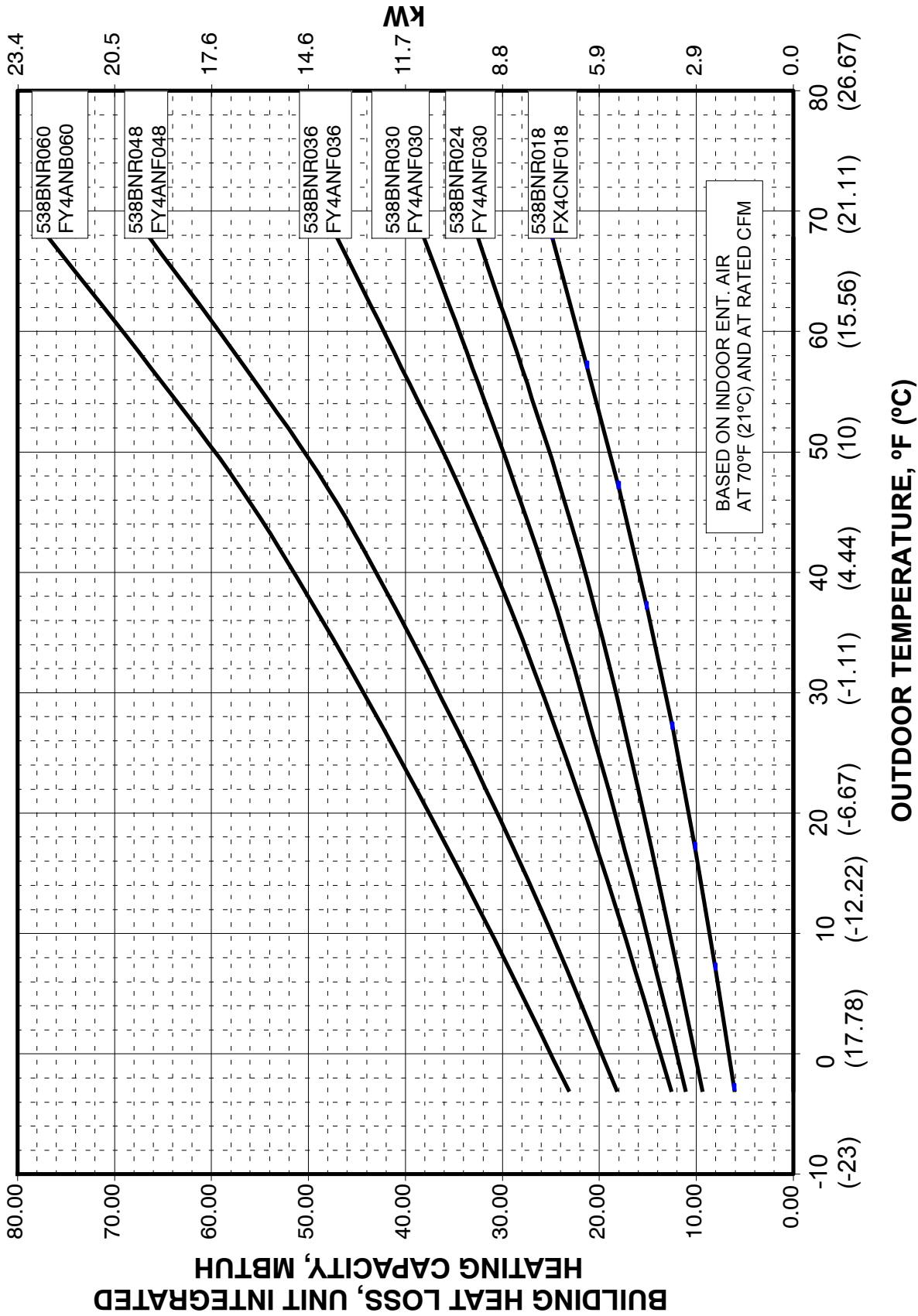
- REQUIRED CLEARANCES: WITH COIL FACING WALL; ALLOW 152.4 MIN CLEARANCE ON COIL SIDE AND COIL END AND 914.4 MIN CLEARANCE ON COMPRESSOR END AND FAN SIDE. WITH FAN FACING WALL; ALLOW 203.2 MIN CLEARANCE ON FAN SIDE AND COIL END AND 914.4 MIN CLEARANCE ON COMPRESSOR END AND COIL SIDE. WITH MULTI UNIT APPLICATION; ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER.
- MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 12.8°C, MAX. 51.7°C.
- SERIES DESIGNATION IS THE 14TH POSITION OF THE UNIT MODEL NUMBER.
- CENTER OF GRAVITY
- ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.

UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18.24	584.2 X 1066.8
30.36, 48.60	609.6 X 1270.0



538B

538BNR BALANCE POINT WORKSHEET



# TESTED AHRI COMBINATION RATINGS\*

NOTE: Ratings contained in this document are subject to change at any time.

For AHRI ratings certificates, please refer to the AHRI directory [www.ahridirectory.org](http://www.ahridirectory.org)

Additional ratings and system combinations can be accessed via the Bryant database at:

[http://cactaxcredits.info/bryant-ratings/hp\\_ratings\\_srch.php](http://cactaxcredits.info/bryant-ratings/hp_ratings_srch.php)

Equipment performance calculator can be accessed at: <http://rpmobbry.wrightsoft.com/>

Model Number	Coil Model Number	Furnace Model Number	Cooling Capacity	EER	SEER	High Temp		HSPF	Low Temp	
						E Capacity	E COP		H Capacity	H COP
538BNR018****A	FY5BNF018+TXV		18,000	11.0	13.0	18,000	3.60	7.8	10,100	2.32
538BNR024****A	FY5BNF024+TXV		23,000	10.5	13.0	23,400	3.86	8.0	14,600	2.52
538BNR030****A	FB4CNF030+TXV		27,600	11.0	13.0	28,400	3.92	7.8	17,400	2.42
538BNR036****A	FY5BNF036+TXV		34,000	11.0	13.0	34,200	3.72	7.8	20,200	2.34
538BPR036****A	FY5BNF036+TXV		34,000	11.0	13.0	34,000	3.72	7.8	19,800	2.34
538BER036****A	FY5BNF036+TXV		34,000	11.0	13.0	34,000	3.72	7.8	19,800	2.34
538BNR048****A	FY5BNF048+TXV		48,000	11.0	13.0	48,000	3.78	7.8	28,800	2.46
538BPR048****A	FY5BNF048+TXV		48,000	11.0	13.0	47,000	3.78	7.8	28,200	2.46
538BER048****A	FY5BNF048+TXV		48,000	11.0	13.0	47,000	3.78	7.8	28,200	2.46
538BNR060****A	FY5BNB060+TXV		55,500	10.5	13.0	57,000	3.58	8.0	35,600	2.50

\* AHRI ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:

**Cooling Standard:** 80°F (27°C) db 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.

**High-Temp Heating Standard:** 70°F (21°C) db indoor entering air temperature and 47°F (8°C) db 43°F (6°C) wb air entering outdoor unit.

**Low-Temp Heating Standard:** 70°F (21°C) db indoor entering air temperature and 17°F (-8°C) db 15°F (-9°C) wb air entering outdoor unit.

**COP** — Coefficient of Performance

**EER** — Energy Efficiency Ratio

**HSPF** — Heating Seasonal Performance Factor

**SEER** — Seasonal Energy Efficiency Ratio

538B

# DETAILED COOLING CAPACITIES

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	
538B*RO18 Outdoor Section With F14CNF018 Indoor Section																			
525	57 (13.9)	17.41	17.41	16.66	16.66	1.44	15.87	15.87	1.64	15.04	15.04	1.86	14.15	14.15	2.10	13.17	13.17	2.36	2.36
	62 (16.7)	18.03	15.46	17.08	15.01	1.43	16.10	14.55	1.64	14.04	14.04	1.86	14.15	14.15	2.10	13.17	13.17	2.36	2.36
	67 (19.4)	19.83	13.02	18.78	12.59	1.42	17.89	12.16	1.62	16.55	11.71	1.84	15.35	11.24	2.09	14.06	10.74	2.35	2.35
	72 (22.2)	21.81	10.56	20.67	10.15	1.40	19.47	9.71	1.60	18.22	9.27	1.82	16.90	8.81	2.07	15.48	8.32	2.33	2.33
600	57 (13.9)	18.14	18.14	17.33	17.33	1.45	16.49	16.49	1.65	15.60	15.60	1.87	14.66	14.66	2.11	13.62	13.62	2.38	2.38
	62 (16.7)	18.44	16.55	17.47	16.06	1.45	16.50	16.50	1.65	15.60	15.60	1.87	14.66	14.66	2.11	13.61	13.61	2.38	2.38
	67 (19.4)	20.24	13.84	19.14	13.40	1.43	18.00	12.96	1.64	16.82	12.50	1.86	15.57	12.02	2.10	14.24	11.51	2.37	2.37
	72 (22.2)	22.25	11.07	21.05	10.64	1.41	19.80	10.20	1.62	18.50	9.75	1.84	17.13	9.28	2.09	15.65	8.78	2.35	2.35
675	57 (13.9)	18.75	18.75	17.90	17.90	1.46	17.01	17.01	1.67	16.07	16.07	1.89	15.07	15.07	2.13	13.97	13.97	2.39	2.39
	62 (16.7)	18.82	18.64	17.90	17.90	1.46	17.01	17.01	1.67	16.07	16.07	1.89	15.07	15.07	2.13	13.97	13.97	2.39	2.39
	67 (19.4)	20.55	14.63	19.41	14.18	1.45	18.23	13.73	1.65	17.01	13.25	1.88	15.74	12.76	2.12	14.37	12.23	2.39	2.39
	72 (22.2)	22.58	11.55	21.34	11.12	1.43	20.05	10.67	1.63	18.71	10.21	1.86	17.30	9.74	2.10	15.78	9.23	2.37	2.37

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	
538B*RO24 Outdoor Section With F14ANF024 Indoor Section																			
700	57 (13.9)	22.45	22.45	21.50	21.50	1.90	20.47	20.47	2.15	19.37	19.37	2.43	18.17	18.17	2.72	16.82	16.82	3.04	3.04
	62 (16.7)	23.21	20.45	19.87	19.87	1.90	20.75	19.26	2.15	19.45	18.58	2.43	18.17	18.17	2.72	16.82	16.82	3.04	3.04
	67 (19.4)	25.40	17.12	24.08	16.57	1.90	22.68	15.99	2.15	21.18	15.39	2.43	19.59	14.75	2.72	17.84	14.06	3.04	3.04
	72 (22.2)	27.81	13.77	26.37	13.23	1.90	24.81	12.85	2.15	23.19	12.07	2.42	21.44	11.44	2.72	19.50	10.76	3.03	3.03
800	57 (13.9)	23.31	23.31	22.28	22.28	1.94	21.19	21.19	2.19	20.02	20.02	2.46	18.74	18.74	2.76	17.30	17.30	3.08	3.08
	62 (16.7)	23.67	21.86	22.45	21.23	1.94	21.19	21.19	2.19	20.01	20.01	2.46	18.73	18.73	2.76	17.30	17.30	3.07	3.07
	67 (19.4)	25.84	18.17	24.47	17.61	1.94	23.00	17.02	2.19	21.45	16.40	2.46	19.80	15.75	2.76	17.99	15.03	3.07	3.07
	72 (22.2)	28.28	14.40	26.78	13.85	1.94	25.15	13.26	2.19	23.48	12.66	2.46	21.66	12.03	2.76	19.66	11.39	3.07	3.07
900	57 (13.9)	24.01	24.01	22.93	22.93	1.98	21.77	21.77	2.23	20.54	20.54	2.50	19.19	19.19	2.80	17.67	17.67	3.11	3.11
	62 (16.7)	24.08	23.91	22.93	22.93	1.98	21.77	21.77	2.23	20.53	20.53	2.50	19.18	19.18	2.80	17.67	17.67	3.11	3.11
	67 (19.4)	26.17	19.17	24.75	18.60	1.98	23.23	18.00	2.23	21.64	17.37	2.50	19.85	16.69	2.79	18.09	15.95	3.11	3.11
	72 (22.2)	28.64	14.99	27.08	14.43	1.98	25.41	13.84	2.23	23.67	13.23	2.50	21.81	12.59	2.79	19.76	11.89	3.11	3.11

See notes on pg. 14

# DETAILED COOLING CAPACITIES CONTINUED

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB °F (°C)	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	
Total	Sens†			Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		
<b>538B*RO36 Outdoor Section With F14ANF036 Indoor Section</b>																			
	57 (13.9)	26.74	26.74	25.68	25.68	2.21	24.55	24.55	2.47	23.36	23.36	2.76	22.07	22.07	3.07	20.64	20.64	3.42	
	62 (16.7)	27.42	23.68	26.11	23.06	2.21	24.75	22.39	2.47	23.37	23.37	2.76	22.07	22.07	3.07	20.64	20.64	3.42	
	67 (19.4)	30.16	19.83	28.71	19.26	2.20	27.19	18.67	2.46	25.59	18.05	2.75	23.87	17.40	3.07	22.01	16.89	3.42	
	72 (22.2)	33.26	15.93	31.70	15.37	2.20	30.06	14.80	2.46	28.33	14.20	2.75	26.47	13.57	3.07	24.44	12.88	3.41	
	57 (13.9)	27.74	27.74	26.61	26.61	2.25	25.43	25.43	2.51	24.16	24.16	2.80	22.80	22.80	3.12	21.29	21.29	3.47	
	62 (16.7)	27.99	25.24	26.64	25.64	2.25	25.42	25.42	2.51	24.16	24.16	2.80	22.80	22.80	3.12	21.29	21.29	3.47	
	67 (19.4)	30.68	21.05	29.17	20.47	2.25	27.60	19.87	2.51	25.94	19.24	2.80	24.17	18.57	3.12	22.25	17.84	3.46	
	72 (22.2)	33.84	16.67	32.22	16.10	2.24	30.52	15.52	2.50	28.73	14.91	2.79	26.80	14.27	3.11	24.70	13.58	3.46	
	57 (13.9)	28.58	28.58	27.40	27.40	2.30	26.15	26.15	2.56	24.82	24.82	2.85	23.40	23.39	3.16	21.82	21.82	3.51	
	62 (16.7)	28.60	28.58	27.39	27.39	2.30	26.15	26.15	2.56	24.82	24.82	2.85	23.39	23.39	3.16	21.82	21.82	3.51	
	67 (19.4)	31.08	22.24	29.53	21.64	2.29	27.91	21.03	2.55	26.21	20.38	2.84	24.39	19.68	3.16	22.43	18.91	3.51	
	72 (22.2)	34.29	17.38	32.62	16.80	2.29	30.87	16.21	2.55	29.02	15.59	2.84	27.04	14.95	3.16	24.89	14.25	3.50	

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB °F (°C)	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	Capacity MBtuht		Total System KW**	
Total	Sens†			Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		
<b>538B*RO36 Outdoor Section With F14ANF036 Indoor Section</b>																			
	57 (13.9)	32.85	32.85	31.56	31.56	2.71	30.20	30.20	3.03	28.74	28.74	3.39	27.17	27.17	3.78	25.42	25.42	4.20	
	62 (16.7)	33.74	30.42	29.63	29.63	2.71	30.50	28.77	3.03	28.76	28.76	3.39	27.16	27.16	3.78	25.42	25.42	4.20	
	67 (19.4)	37.12	25.47	35.36	24.74	2.70	33.51	23.98	3.03	31.56	23.19	3.38	29.46	22.95	3.78	27.18	21.44	4.20	
	72 (22.2)	40.95	20.46	39.05	19.75	2.70	37.05	19.01	3.02	34.93	18.24	3.38	32.66	17.42	3.77	30.18	16.54	4.20	
	57 (13.9)	34.07	34.07	32.70	32.70	2.77	31.25	31.25	3.09	29.71	29.71	3.45	28.05	28.05	3.84	26.21	26.21	4.27	
	62 (16.7)	34.43	32.41	32.82	32.51	2.77	31.25	31.25	3.09	29.71	29.71	3.45	28.04	28.04	3.84	26.20	26.20	4.27	
	67 (19.4)	37.75	27.01	35.92	26.27	2.77	34.00	25.50	3.09	31.98	24.69	3.45	29.81	23.83	3.84	27.46	22.89	4.27	
	72 (22.2)	41.65	21.38	39.67	20.66	2.77	37.60	19.91	3.09	35.41	19.13	3.45	33.05	18.31	3.84	30.49	17.41	4.27	
	57 (13.9)	35.07	35.07	33.64	33.64	2.83	32.12	32.12	3.16	30.51	30.51	3.51	28.76	28.76	3.90	26.84	26.84	4.33	
	62 (16.7)	35.09	35.09	33.63	33.63	2.83	32.12	32.12	3.16	30.50	30.50	3.51	28.76	28.76	3.90	26.84	26.84	4.33	
	67 (19.4)	38.24	28.52	36.34	27.76	2.83	34.37	26.97	3.15	32.29	26.14	3.51	30.07	25.24	3.90	27.67	24.25	4.33	
	72 (22.2)	42.20	22.28	40.15	21.54	2.83	38.01	20.79	3.15	35.76	20.00	3.51	33.34	19.16	3.90	30.71	18.25	4.33	

See notes on pg. 14



# DETAILED COOLING CAPACITIES CONTINUED

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	
538B/R048 Outdoor Section With F14ANF048 Indoor Section																			
	57 (13.9)	46.23	46.23	3.37	44.43	44.43	3.81	42.50	42.50	4.29	40.40	40.40	4.83	38.09	38.09	5.41	35.46	35.46	6.03
	62 (16.7)	47.80	41.89	3.37	45.53	40.81	3.81	43.15	39.85	4.29	40.62	38.37	4.82	38.09	38.09	5.41	35.46	35.46	6.03
	67 (19.4)	52.47	35.06	3.35	49.98	34.03	3.79	47.31	32.84	4.28	44.44	31.78	4.81	41.33	30.54	5.39	37.84	29.17	6.02
	72 (22.2)	57.60	28.20	3.34	54.86	27.18	3.78	51.92	26.10	4.26	48.75	24.95	4.79	45.28	23.71	5.37	41.40	22.34	5.98
	57 (13.9)	48.01	48.01	3.46	46.08	46.08	3.89	44.02	44.02	4.38	41.77	41.77	4.91	39.30	39.30	5.49	36.49	36.49	6.11
	62 (16.7)	48.76	44.78	3.45	46.44	43.60	3.89	44.03	44.03	4.38	41.77	41.77	4.91	39.30	39.30	5.49	36.49	36.49	6.11
	67 (19.4)	53.40	37.21	3.44	50.78	36.15	3.88	48.00	35.04	4.36	45.01	33.86	4.90	41.77	32.59	5.48	38.17	31.18	6.10
	72 (22.2)	58.60	29.47	3.43	55.73	29.43	3.86	52.66	27.33	4.35	49.35	26.16	4.88	45.75	24.90	5.46	41.71	23.51	6.08
	57 (13.9)	49.48	49.48	3.54	47.44	47.44	3.98	45.26	45.26	4.46	42.88	42.88	4.99	40.27	40.27	5.57	37.29	37.29	6.20
	62 (16.7)	49.61	49.28	3.54	47.44	47.44	3.98	45.25	45.25	4.46	42.88	42.88	4.99	40.27	40.27	5.57	37.29	37.29	6.20
	67 (19.4)	54.07	39.26	3.53	51.36	38.18	3.96	48.49	37.05	4.45	45.40	35.84	4.98	42.07	34.53	5.56	38.37	33.06	6.19
	72 (22.2)	59.33	30.67	3.51	56.36	29.62	3.95	53.17	28.50	4.43	49.76	27.31	4.96	46.04	26.03	5.54	41.89	24.62	6.16

Evaporator Air		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**	Capacity MBtu/h		Total System KW**
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†	
538B/R060 Outdoor Section With F14ANF060 Indoor Section																			
	57 (13.9)	55.23	55.23	4.02	52.89	52.89	4.46	50.39	50.39	4.94	47.68	47.68	5.48	44.70	44.70	6.06	41.27	41.27	6.69
	62 (16.7)	56.78	50.07	4.03	53.89	48.69	4.47	50.86	47.21	4.95	47.70	47.70	5.48	44.70	44.70	6.06	41.27	41.27	6.69
	67 (19.4)	62.09	41.69	4.06	58.84	40.36	4.49	55.38	38.97	4.97	51.69	37.50	5.50	47.71	35.94	6.07	43.29	34.22	6.69
	72 (22.2)	67.81	33.20	4.09	64.18	31.87	4.52	60.30	30.47	5.00	56.16	28.99	5.52	51.73	27.44	6.09	46.71	25.71	6.70
	57 (13.9)	57.21	57.21	4.15	54.70	54.70	4.59	52.01	52.01	5.07	49.09	49.09	5.60	45.87	45.87	6.18	42.20	42.20	6.81
	62 (16.7)	57.83	53.47	4.15	54.88	54.40	4.59	52.00	52.00	5.07	49.08	49.08	5.60	45.87	45.87	6.18	42.20	42.19	6.81
	67 (19.4)	63.02	44.22	4.18	59.82	42.87	4.61	56.00	41.44	5.09	52.16	39.93	5.61	48.03	38.53	6.19	43.46	36.54	6.81
	72 (22.2)	68.76	34.66	4.21	64.97	33.31	4.64	60.91	31.87	5.11	56.61	30.37	5.63	52.03	28.80	6.20	46.83	27.04	6.81
	57 (13.9)	58.83	58.83	4.27	56.16	56.16	4.71	53.29	53.29	5.19	50.18	50.18	5.72	46.77	46.77	6.30	42.85	42.85	6.92
	62 (16.7)	58.83	58.83	4.27	56.15	56.15	4.71	53.29	53.29	5.19	50.18	50.18	5.72	46.76	46.76	6.30	42.85	42.85	6.92
	67 (19.4)	63.66	46.64	4.30	60.14	45.25	4.73	56.40	43.79	5.21	52.44	42.24	5.73	48.21	40.88	6.30	43.52	38.70	6.92
	72 (22.2)	69.43	36.04	4.33	65.50	34.67	4.76	61.30	33.21	5.23	56.88	31.70	5.75	52.11	30.08	6.31	46.77	28.31	6.92

† Total and sensible capacities are net capacities. Blower motor heat has been subtracted.

‡ Sensible capacities shown are based on 80°F (27°C) entering air at the indoor coil. For sensible capacities at other than 80°F (27°C), deduct 835 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80°F (27°C), or add 835 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air per degree above 80°F (27°C).

\*\* System kw is total of indoor and outdoor unit kilowatts.

**NOTES:**

1. Detailed cooling capacities are based on indoor and outdoor unit at the same elevation per AHRI standard 210/240–2008. If additional tubing length and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.
2. When the required data falls between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.

# HEAT PUMP HEATING PERFORMANCE

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES *F (°C)																							
EDB *F (°C)	CFM	-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)			47 (8.3)			57 (13.9)			67 (19.4)		
		Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt			
65 (18.3)	525	6.23	5.73	1.13	8.15	7.49	1.17	10.20	9.30	1.22	12.54	11.14	1.27	15.17	13.81	1.33	18.09	18.09	1.42	21.35	21.35	1.52	24.96	24.96	1.61
	600	6.35	5.84	1.13	8.28	7.61	1.17	10.36	9.44	1.21	12.73	11.31	1.25	15.39	14.01	1.31	18.35	18.35	1.39	21.60	21.60	1.47	25.12	25.12	1.57
	675	6.45	5.94	1.14	8.38	7.71	1.18	10.50	9.57	1.21	12.89	11.45	1.25	15.59	14.18	1.30	18.56	18.56	1.38	21.73	21.73	1.45	25.15	25.15	1.55
70 (21.1)	525	5.94	5.47	1.18	7.88	7.24	1.23	9.95	9.08	1.28	12.24	10.87	1.34	14.86	13.52	1.41	17.74	17.74	1.49	20.95	20.95	1.60	24.58	24.58	1.70
	600	6.06	5.57	1.18	8.01	7.36	1.23	10.10	9.21	1.28	12.43	11.04	1.32	15.08	13.72	1.39	18.00	18.00	1.46	21.23	21.23	1.55	24.80	24.80	1.65
	675	6.16	5.67	1.19	8.12	7.47	1.24	10.23	9.33	1.27	12.59	11.19	1.32	15.26	13.89	1.37	18.19	18.19	1.45	21.41	21.41	1.52	24.89	24.89	1.63
75 (23.4)	525	5.63	5.18	1.23	7.61	6.99	1.29	9.69	8.84	1.35	11.94	10.60	1.41	14.55	13.24	1.48	17.39	17.39	1.57	20.54	20.54	1.68	24.18	24.18	1.79
	600	5.75	5.29	1.24	7.74	7.11	1.29	9.84	8.97	1.34	12.13	10.77	1.39	14.77	13.44	1.46	17.65	17.65	1.54	20.85	20.85	1.65	24.44	24.44	1.74
	675	5.85	5.39	1.25	7.86	7.22	1.30	9.97	9.09	1.34	12.29	10.92	1.39	14.95	13.60	1.45	17.86	17.86	1.52	21.06	21.06	1.61	24.58	24.58	1.71
INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES *F (°C)																							
EDB *F (°C)	CFM	-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)			47 (8.3)			57 (13.9)			67 (19.4)		
		Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt	Capacity Total	MBtuh Integ*	Total Sys. KWt			
65 (18.3)	700	9.57	8.81	1.60	12.07	11.10	1.64	14.70	13.41	1.67	17.48	15.53	1.71	20.55	18.70	1.77	24.05	24.05	1.84	28.04	28.04	1.93	32.57	32.57	2.01
	800	9.77	8.99	1.61	12.29	11.29	1.65	14.92	13.60	1.67	17.73	15.75	1.71	20.86	18.99	1.75	24.42	24.42	1.81	28.50	28.50	1.89	32.95	32.95	1.96
	900	9.95	9.16	1.64	12.48	11.47	1.66	15.13	13.79	1.68	17.94	15.94	1.71	21.14	19.23	1.74	24.73	24.73	1.80	28.85	28.85	1.87	33.18	33.18	1.93
70 (21.1)	700	9.18	8.44	1.67	11.73	10.78	1.72	14.38	13.11	1.76	17.18	15.26	1.81	20.17	18.35	1.86	23.64	23.64	1.94	27.55	27.55	2.03	32.04	32.04	2.13
	800	9.40	8.64	1.69	11.96	10.99	1.73	14.60	13.31	1.77	17.43	15.48	1.80	20.48	18.64	1.85	24.00	24.00	1.91	28.00	28.00	1.99	32.52	32.52	2.07
	900	9.58	8.81	1.72	12.15	11.17	1.75	14.81	13.50	1.78	17.65	15.68	1.80	20.75	18.89	1.84	24.31	24.31	1.90	28.37	28.37	1.97	32.79	32.79	2.03
75 (23.4)	700	8.77	8.07	1.75	11.37	10.45	1.81	14.02	12.79	1.86	16.84	14.96	1.91	19.84	18.06	1.97	23.24	23.24	2.04	27.07	27.07	2.14	31.49	31.49	2.26
	800	8.97	8.25	1.77	11.59	10.65	1.82	14.26	13.00	1.86	17.10	15.19	1.90	20.23	18.41	1.99	23.59	23.59	2.01	27.51	27.51	2.10	32.01	32.01	2.18
	900	9.16	8.42	1.80	11.79	10.84	1.84	14.50	13.22	1.87	17.35	15.41	1.90	20.37	18.54	1.94	23.89	23.89	2.00	27.88	27.88	2.08	32.37	32.37	2.14

See notes on pg. 17



538B

# HEAT PUMP HEATING PERFORMANCE CONTINUED

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
EDB °F (°C)	CFM	-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)			47 (8.3)			57 (13.9)			67 (19.4)		
		Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†
65 (18.3)	875	11.35	10.44	2.08	14.36	13.20	2.09	17.52	15.87	2.09	20.91	18.57	2.10	24.53	22.32	2.11	28.67	26.67	2.15	33.12	33.12	2.19	38.07	36.07	2.25
	1000	11.60	10.68	2.11	14.63	13.44	2.10	17.82	16.25	2.10	21.21	18.84	2.09	24.90	22.66	2.10	29.11	29.11	2.12	33.65	33.65	2.16	38.68	36.68	2.21
	1125	11.83	10.89	2.14	14.87	13.67	2.13	18.08	16.48	2.11	21.49	19.09	2.10	25.25	22.98	2.10	29.48	29.48	2.12	34.09	34.09	2.15	39.18	37.18	2.19
70 (21.1)	875	10.86	9.99	2.17	13.91	12.78	2.18	17.10	15.59	2.19	20.49	18.20	2.20	24.07	21.90	2.22	28.17	28.17	2.25	32.56	32.56	2.29	37.41	37.41	2.35
	1000	11.11	10.22	2.20	14.19	13.04	2.20	17.40	15.86	2.20	20.82	18.49	2.20	24.44	22.24	2.20	28.60	28.60	2.23	33.08	33.08	2.28	38.03	36.03	2.31
	1125	11.35	10.44	2.23	14.43	13.26	2.22	17.65	16.09	2.21	21.08	18.73	2.20	24.77	22.54	2.20	28.97	28.97	2.22	33.50	33.50	2.25	38.53	36.53	2.29
75 (23.4)	875	10.33	9.51	2.26	13.43	12.34	2.28	16.65	15.18	2.29	20.05	17.81	2.31	23.64	21.51	2.33	27.58	27.58	2.36	31.99	31.99	2.40	36.77	36.77	2.46
	1000	10.58	9.74	2.29	13.71	12.59	2.30	16.96	15.46	2.30	20.37	18.09	2.30	23.99	21.83	2.31	28.10	28.10	2.34	32.51	32.51	2.37	37.38	37.38	2.42
	1125	10.82	9.96	2.32	13.95	12.82	2.32	17.21	15.69	2.32	20.68	18.37	2.31	24.31	22.12	2.31	28.47	28.47	2.33	32.94	32.94	2.35	37.88	37.88	2.39
INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
EDB °F (°C)	CFM	-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)			47 (8.3)			57 (13.9)			67 (19.4)		
		Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†	Capacity Total	MBtuh Integ*	Total Sys. KW†
65 (18.3)	1050	12.91	11.88	2.36	16.52	15.18	2.43	20.35	18.56	2.48	24.61	21.86	2.54	29.25	26.61	2.61	34.46	34.46	2.69	40.41	40.41	2.80	46.94	46.94	2.93
	1200	13.20	12.14	2.41	16.82	15.45	2.45	20.74	18.91	2.50	25.03	22.23	2.54	29.72	27.05	2.60	35.14	35.14	2.67	41.10	41.10	2.76	47.76	47.76	2.88
	1350	13.45	12.37	2.45	17.12	15.73	2.49	21.09	19.22	2.52	25.41	22.57	2.56	30.14	27.42	2.60	35.63	35.63	2.67	41.66	41.66	2.75	48.48	48.48	2.85
70 (21.1)	1050	12.29	11.30	2.48	15.93	14.64	2.54	19.80	18.05	2.60	24.08	21.39	2.67	28.71	26.13	2.74	33.81	33.81	2.82	39.71	39.71	2.94	46.15	46.15	3.07
	1200	12.61	11.60	2.52	16.34	15.01	2.57	20.20	18.42	2.62	24.51	21.76	2.67	29.19	26.56	2.73	34.40	34.40	2.80	40.39	40.39	2.90	46.97	46.97	3.01
	1350	12.90	11.87	2.56	16.70	15.34	2.61	20.55	18.74	2.64	24.89	22.10	2.68	29.60	26.93	2.73	34.90	34.90	2.79	40.96	40.96	2.88	47.62	47.62	2.98
75 (23.4)	1050	11.65	10.72	2.59	15.30	14.06	2.66	19.23	17.53	2.73	23.51	20.88	2.80	28.15	25.62	2.88	33.19	33.19	2.96	39.02	39.02	3.08	45.37	45.37	3.22
	1200	11.98	11.02	2.63	15.67	14.40	2.69	19.63	17.89	2.74	23.95	21.27	2.80	28.63	26.06	2.86	33.74	33.74	2.94	39.69	39.69	3.04	46.17	46.17	3.16
	1350	12.27	11.29	2.67	15.99	14.69	2.72	19.98	18.22	2.77	24.33	21.61	2.81	29.05	26.44	2.87	34.24	34.24	2.93	40.25	40.25	3.02	46.83	46.83	3.13

538B\*RC038 Outdoor Section With F4YANF038 Indoor Section

538B\*RC038 Outdoor Section With F4YANF038 Indoor Section

See notes on pg. 17



# HEAT PUMP HEATING PERFORMANCE CONTINUED

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		-3 (-19.4)		7 (-13.9)		17 (-8.3)		27 (-2.8)		37 (2.8)		47 (8.3)		57 (13.9)		67 (19.4)									
		Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*								
65 (18.3)	1400	18.54	17.06	3.16	23.54	21.63	3.26	28.92	26.37	3.36	34.75	30.86	3.46	41.04	37.35	3.57	48.01	48.01	3.71	56.46	56.46	3.89	66.21	66.21	4.11
	1600	18.98	17.46	3.20	24.01	22.06	3.29	29.43	26.83	3.37	35.28	31.34	3.46	41.63	37.88	3.55	48.90	48.90	3.67	57.41	57.41	3.82	67.39	67.39	4.02
	1800	19.41	17.86	3.26	24.45	22.47	3.33	29.87	27.24	3.40	35.76	31.76	3.47	42.14	38.35	3.55	49.54	49.54	3.65	58.20	58.20	3.79	68.36	68.36	3.97
70 (21.1)	1400	17.79	16.36	3.30	22.85	21.00	3.42	28.28	25.79	3.53	34.15	30.33	3.65	40.45	36.81	3.77	47.29	47.29	3.91	55.57	55.57	4.10	65.13	65.13	4.33
	1600	18.24	16.78	3.35	23.34	21.45	3.45	28.80	26.26	3.54	34.70	30.82	3.64	41.04	37.35	3.75	48.00	48.00	3.86	56.49	56.49	4.03	66.28	66.28	4.23
	1800	18.65	17.16	3.41	23.77	21.84	3.50	29.26	26.68	3.57	35.18	31.24	3.66	41.56	37.82	3.74	48.64	48.64	3.85	57.27	57.27	3.99	67.24	67.24	4.18
75 (23.4)	1400	16.95	15.59	3.44	22.10	20.31	3.58	27.58	25.15	3.71	33.49	29.75	3.84	38.82	36.24	3.98	46.65	46.65	4.13	54.69	54.69	4.32	64.05	64.05	4.56
	1600	17.40	16.01	3.49	22.59	20.76	3.61	28.12	25.64	3.72	34.06	30.25	3.83	40.43	36.79	3.95	47.31	47.31	4.07	55.58	55.58	4.25	65.19	65.19	4.46
	1800	17.81	16.39	3.55	23.03	21.16	3.66	28.57	26.05	3.75	34.55	30.69	3.85	40.95	37.27	3.95	47.90	47.90	4.05	56.36	56.36	4.21	66.14	66.14	4.40

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		-3 (-19.4)		7 (-13.9)		17 (-8.3)		27 (-2.8)		37 (2.8)		47 (8.3)		57 (13.9)		67 (19.4)									
		Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*	Capacity MBtuh Total	Total Sys. KWt Integ*								
65 (18.3)	1750	23.58	21.70	3.66	29.51	27.12	3.80	35.74	32.59	3.94	42.30	37.57	4.10	48.30	44.86	4.27	57.00	57.00	4.46	66.22	66.22	4.71	76.76	76.76	4.96
	2000	24.16	22.24	3.73	30.13	27.69	3.86	36.40	33.19	3.99	42.98	38.18	4.13	50.08	45.57	4.28	57.85	57.85	4.45	67.33	67.33	4.68	77.76	77.76	4.88
	2250	24.74	22.76	3.82	30.70	28.21	3.94	37.00	33.73	4.05	43.61	38.73	4.18	50.76	46.19	4.31	58.77	58.77	4.47	68.32	68.32	4.69	78.45	78.45	4.86
70 (21.1)	1750	22.60	20.79	3.81	28.66	26.33	3.97	34.94	31.85	4.12	41.55	36.90	4.29	48.50	44.13	4.47	56.14	56.14	4.68	65.14	65.14	4.94	75.49	75.49	5.21
	2000	23.20	21.34	3.89	29.26	26.89	4.03	35.60	32.46	4.17	42.25	37.52	4.32	49.28	44.84	4.48	57.00	57.00	4.66	66.23	66.23	4.90	76.69	76.69	5.12
	2250	23.76	21.88	3.98	29.82	27.41	4.11	36.20	33.01	4.23	42.87	38.08	4.37	49.98	45.47	4.52	57.78	57.78	4.68	67.18	67.18	4.90	77.49	77.49	5.09
75 (23.4)	1750	21.54	19.81	3.96	27.71	25.47	4.14	34.08	31.07	4.32	40.75	36.19	4.49	47.94	43.63	4.70	55.26	55.26	4.91	64.10	64.10	5.18	74.23	74.23	5.47
	2000	22.14	20.37	4.04	28.35	26.05	4.21	34.75	31.69	4.36	41.46	36.82	4.52	48.46	44.10	4.70	56.15	56.15	4.89	65.15	65.15	5.14	75.54	75.54	5.38
	2250	22.69	20.88	4.13	28.93	26.58	4.28	35.36	32.24	4.42	42.10	37.39	4.57	49.15	44.73	4.73	56.90	56.90	4.90	66.07	66.07	5.13	76.45	76.45	5.33

† The kW values include the compressor, outdoor fan motor, and indoor blower motor. The kW from supplement heaters should be added to these values to obtain total system kilowatts.

‡ The Btuh heating capacity values shown are net integrated values from which the defrost effect has been subtracted. The Btuh heating from supplement heaters should be added to those values to obtain total system capacity.

NOTE: When the required data falls between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.

EDB — Entering Dry Bulb

# GUIDE SPECIFICATIONS

## GENERAL

### System Description

Outdoor-mounted, air-cooled, split-system heat pump unit suitable for ground or rooftop installation. Unit consists of a scroll-type hermetic compressor, an air-cooled coil, propeller-type condenser fan, and a control box. Unit will discharge supply air horizontally as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a packaged fan coil or furnace.

### Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210.
- Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL approval.
- Unit cabinet will be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hr salt spray test.
- Air-cooled condenser coils will be leak tested and pressure tested
- Unit constructed in ISO9001 approved facility.

### Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

### Warranty (for inclusion by specifying engineer)

- U.S. and Canada only.

## PRODUCTS

### Equipment

- Factory assembled, single piece, air-cooled heat pump unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge Puron® (R-410A), and special features required prior to field start-up.

### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.

### Fans

- Condenser fan will be direct-drive propeller type, discharging air horizontally.

## AIR-COOLED, SPLIT-SYSTEM HEAT PUMP

538BNR

1-1/2 TO 5 NOMINAL TONS

- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

### Compressor

- Compressor will be a scroll-type, hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

### Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes which are then cleaned, dehydrated, and sealed.

### Refrigeration Components

- Refrigeration circuit components will include liquid-line front-seating shutoff valve with sweat connections, vapor-line front-seating shutoff valve with sweat connections, system charge of Puron® (R-410A) refrigerant, and compressor oil.
- Unit will be equipped with high-pressure switch, low pressure switch and filter drier for Puron refrigerant.

### Operating Characteristics

- The capacity of the unit will meet or exceed \_\_\_\_\_ Btuh at a suction temperature of \_\_\_\_\_ °F/°C. The power consumption at full load will not exceed \_\_\_\_\_ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_\_ Btuh or greater at conditions of \_\_\_\_\_ CFM entering air temperature at the evaporator at \_\_\_\_\_ °F/°C wet bulb and \_\_\_\_\_ °F/°C dry bulb, and air entering the unit at \_\_\_\_\_ °F/°C.
- The system will have a SEER of \_\_\_\_\_ Btuh/watt or greater at DOE conditions.

### Electrical Requirements

- Nominal unit electrical characteristics will be \_\_\_\_\_ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Nominal unit electrical characteristics will be \_\_\_\_\_ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

### Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.