

### **General Specifications:**

#### **Heating/Cooling chassis.**

- **Safety Compliance** – The KEC/KWC is a listed product eligible to bear the CSA mark, cCSAus mark (US and Canada Safety compliance). The KEC/KWC is produced in a CSA inspected factory in Cambridge Ontario Canada.
- **3rd Party Energy Performance Verification** -- The Cooling-Capacity and Energy Performance Verification Testing for the K Series of chassis is conducted by Intertek Labs – certified Reports are available upon request – these tests cover the full range of cooling outputs available for the DM Series. The Cooling-Capacity Tests were conducted in accordance with ANSI/ASHRAE Standard 310 / 380
- **General Construction** –Complete air cooled refrigeration system with 410A refrigerant. Two low noise high static pressure dual inlet evaporator blowers tested and verified for performance. One High performance low speed prop fan with slinger ring condenser fan. Electric resistance heat (optional) uses high-mass, low temperature finned-tubular heaters. Unit can be hard wired to a junction box or supplied with a power cord.

**Digital Touchpad Control** – The KEC/KWC Digital Control is used to control the integral air conditioner and heat source via a touchpad, or optional remote 24-volt wall mounted thermostats. Unit-mounted digital panel with touchpad temperature control and with touchpad for heating, cooling, and fan operation. Includes the following features:

- Low Ambient Lockout Control: Prevents cycling in cooling operation below 6 degrees C (43 degrees F) outdoor air temperature.
- Temperature-Limit Control: Prevents occupant from exceeding preset, setback, or setup temperature.
- Remote Control Ready: -- Detachable Molex connector with 7-wire lead connection to wireless or wired 24 VAC wall thermostat. Standard 5 wire , plus one additional for low speed fan and on additional for energy management. Chassis can be enslaved to external control by a change of DIP-switch setting on the electronic board.

#### **Wall sleeve**

36.125"W x 24.75"H wall sleeve made of satin coat heavy gauge steel, coated with electrostatically applied, baked on urethane powder coat black paint for maximum corrosion protection.

#### **Room Cabinet**

**Room grille and control door**— Top discharge punched satin coat steel powder coated black. Enclosure completely encloses controls.

**Room cabinet**— Powder coated 18 gauge room enclosure.

#### **Electric heat section**

Consists of high mass, low surface temperature, finned tubular type electric heater(s) with high limit cut-out.

#### **Power air damper for outside air (optional)**

A power motorized door for fresh air opens when evaporator blower is energized, and automatically closes when the evaporator blower is not energized.

**Refrigeration System** -- Direct expansion indoor coil with capillary restrictor; and rotary compressor with vibration isolation and overload protection.

**Indoor and Outdoor Coils** -- Seamless copper tubes mechanically expanded into aluminum.

**Charge** -- R410A.

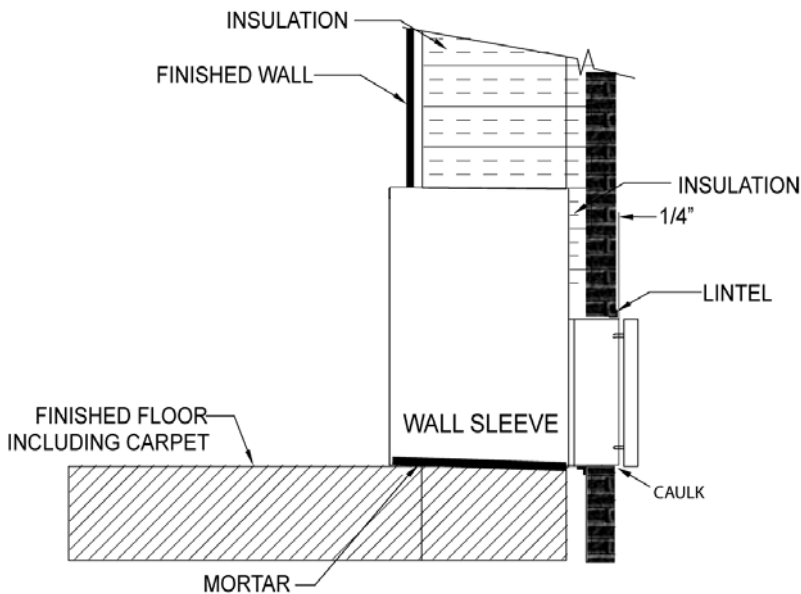
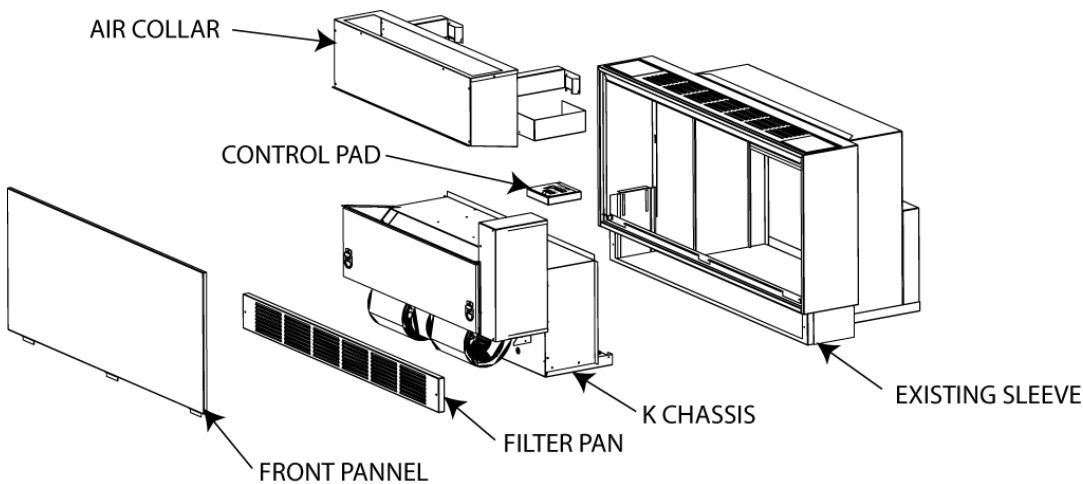
**Evaporator Fan**-- One direct drive, dual-shaft with permanent split capacitor two-speed motor. The evaporator fan consists of two centrifugal dual-inlet blower type.

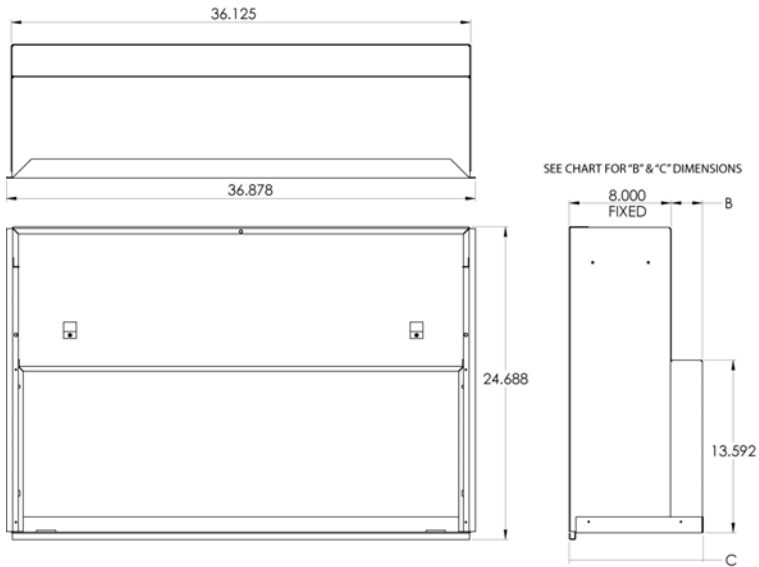
**Filters** -- Washable aluminum weave filter in a durable aluminum frame.

**Outdoor Louver**-- Architectural clear anodized aluminum

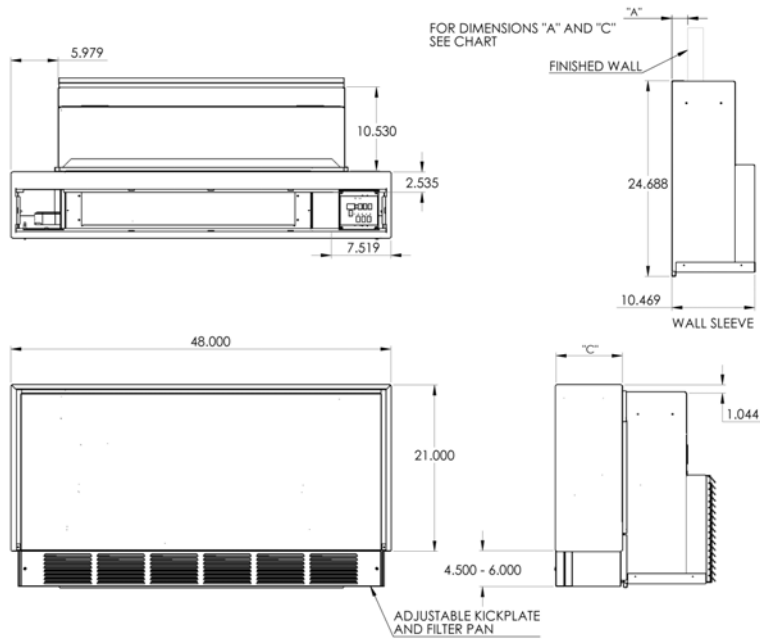
**Condensate Drain** -- Drain pan to direct condensate to outdoor coil for re-evaporation.

**Unit Performance Ratings** – Cooling capacity tested and rated according to AHRI 310/380/CSA C744, "Packaged Terminal Air-Conditioners and Heat Pumps."





FIXED	DIM "B"	DIM "C"
8"	2.5	10.5
8"	3.5	11.5
8"	4	12
8"	5	13
8"	6	14
8"	7	15
8"	8	16
8"	9	17
8"	10	18



WALL BOX DIMENSIONS			
DIMENSION "A"		DIMENSION "C"	
inches	mm	inches	mm
0	0	8.375	213
0 to 1	0 - 25	9.375	238
1 to 2	25 - 51	10.375	263
2 to 3	51 - 76	11.375	289
3 to 4	76 - 102	12.375	314
4 to 5	102 - 127	13.375	340
5 to 6	127 - 152	14.375	365
6 to 7	152 - 178	15.375	390
7 to 8	178 - 203	16.375	416
8 to 9	203-228	17.375	441
9 to 10	228-254	18.375	467

### KED Air Conditioner with Electric Resistance Heat

Model	Voltage	Hz	MCA	MOP*	NEMA Plug	Cooling					Resistance Heating			Indoor SCFM	Indoor SCFM	Vent CFM	Net Wt. lbs.
			AMPS	AMPS	LCDI	BTU / hr	EER	AMPS	S/T	Pints/hr	BTU / hr	KW	AMPS	HIGH*	LOW*		
KED07L00E6	115	60	8.6	15	5-15P	6700	10.6	6.1	.88	0.6	N/A	N/A	N/A	310	260	90	128
KED09L00E6	"	"	12.4	"	"	9600	10.7	8.8	.80	1.7	N/A	N/A	N/A	370	325	"	"
KED12L00E7	"	"	15.4	20	5-20P	11600	9.0	12.4	.72	2.9	N/A	N/A	N/A	"	"	"	"
KED07K16E7*	230-208	"	9.4	"	6-20P	6700	10.6	3.0/3.2	.88	0.6	5700/4700	1.6/1.3	7.5/6.9	315/305	265/250	"	"
KED07K25E6	"	"	14.3	15	6-15P	"	"	"	"	"	8900/7300	2.5/2.1	11.4/10.4	"	"	"	"
KED07K34E7	"	"	19.2	20	6-20P	"	"	"	"	"	12000/9900	3.4/2.8	15.3/14.0	"	"	"	"
KED09K25E6	"	"	14.3	15	6-15P	9600	10.7	4.4/4.6	.80	1.7	8900/7300	2.5/2.1	11.4/10.4	380/365	335/315	"	"
KED09K34E7	"	"	19.2	20	6-20P	"	"	"	"	"	12000/9900	3.4/2.8	15.3/14.0	"	"	"	"
KED09K50E8	"	"	27.9	30	6-30P	"	"	"	"	"	17400/14300	5.0/4.1	22.3/20.3	"	"	"	"
KED12K34E7	"	"	19.2	20	6-20P	11600	9.0	6.2/6.5	.72	2.9	12000/9900	3.4/2.8	15.3/14.0	"	"	"	"
KED12K50E8	"	"	27.9	30	6-30P	"	"	"	"	"	17400/14300	5.0/4.1	22.3/20.3	"	"	"	"
KED15K25E6	"	"	14.3	15	6-15P	13600	8.3	8.0/8.4	.69	3.8	8900/7300	2.5/2.1	11.4/10.4	"	"	"	"
KED15K34E7	"	"	19.2	20	6-20P	"	"	"	"	"	12000/9900	3.4/2.8	15.3/14.0	"	"	"	"
KED15K50E8	"	"	27.9	30	6-30P	"	"	"	"	"	17400/14300	5.0/4.1	22.3/20.3	"	"	"	"
KED07R20E2	277	"	9.5	15	7-20P	6700	10.6	2.7	.90	0.4	7000	2.0	7.6	370	325	"	"
KED07R30E2	"	"	14.0	"	"	"	"	"	"	"	10400	3.0	11.2	"	"	"	"
KED07R40E2	"	"	18.5	20	"	"	"	"	"	"	13800	4.0	14.8	"	"	"	"
KED09R20E2	"	"	9.5	15	"	9600	10.7	3.9	.80	1.7	7000	2.0	7.6	"	"	"	"
KED09R30E2	"	"	14.0	"	"	"	"	"	"	"	10400	3.0	11.2	"	"	"	"
KED09R40E2	"	"	18.5	20	"	"	"	"	"	"	13800	4.0	14.8	"	"	"	"
KED12R20E2	"	"	9.5	15	"	11600	9.0	5.4	.72	2.9	7000	2.0	7.6	"	"	"	"
KED12R30E2	"	"	14.0	"	"	"	"	"	"	"	10400	3.0	11.2	"	"	"	"
KED12R40E2	"	"	18.5	20	"	"	"	"	"	"	13800	4.0	14.8	"	"	"	"
KED15R20E2	"	"	9.5	15	"	13600	8.3	7.0	.69	3.8	7000	2.0	7.6	"	"	"	"
KED15R30E2	"	"	14.0	"	"	"	"	"	"	"	10400	3.0	11.2	"	"	"	"

\*Time Delay Fuse or HACR Circuit Breaker

•Dry Coil

\*Certification allows two of these units to be run off one 20 Amp circuit as cord-connected.

Not to be used with a duct system

### KWD Air Conditioner with Hydronic Heat

Model	Voltage	Hz	MCA	MOP*	NEMA Plug	Cooling					Resistance Heating			Indoor SCFM	Indoor SCFM	Net Wt. lbs.
			AMPS	AMPS	LCDI	BTU / hr	EER	AMPS	S/T	Pints/hr	BTU / hr	KW	AMPS	HIGH*	LOW*	
KWD07L00E7	115	60	8.6	20	5-20P	6700	10.6	6.1	.85	0.7	n/a	n/a	n/a	345	305	128
KWD09L00E7	"	"	12.4	"	"	9600	10.7	8.8	.80	1.7	"	"	"	"	"	"
KWD12L00E7	"	"	15.4	"	"	11600	9.0	12.4	.72	2.9	"	"	"	"	"	"
KWD07K00E7	230 - 208	"	4.2	"	6-20P	6700	10.6	3.0/3.2	.85	1.0	"	"	"	355 / 340	315 / 295	"
KWD09K00E7	"	"	5.8	"	"	9600	10.7	4.4/4.6	.80	1.7	"	"	"	"	"	"
KWD12K00E7	"	"	7.7	"	"	11600	9.0	6.2/6.5	.72	2.9	"	"	"	"	"	"
KWD15K00E7	"	"	9.4	"	"	13600	8.3	8.0/8.4	.68	3.8	"	"	"	"	"	"
KWD07R00E2	277	"	3.8	15	7-20P	6700	10.6	2.7	.88	0.50	"	"	"	345	305	"
KWD09R00E2	"	"	5.5	"	"	9600	10.7	3.9	.80	1.7	"	"	"	"	"	"
KWD12R00E2	"	"	6.5	"	"	11600	9.0	5.4	.72	2.9	"	"	"	"	"	"
KWD15R00E2	"	"	8.1	"	"	13600	8.3	7.0	.69	3.8	"	"	"	"	"	"

\*Time Delay Fuse or HACR Circuit Breaker

•Dry Coil

Model	Voltage	Hz	Hot Water Heat HIGH SPEED	Hot Water Heat LOW SPEED	Water Flow Rate	Water Pressure Drop	Steam Heat HIGH SPEED	Steam Heat LOW SPEED	Heating Current
			Btu / hr	Btu / hr	USGPM	Ft of H2O	Btu / hr	Btu / hr	Amps
KWD07L00	115	60	15100	14100	1.56	0.4	20600	19000	<1
KWD09L00	115	60	16200	15400	1.66	0.4	22000	20800	<1
KWD12L00	115	60	16200	15400	1.66	0.4	22000	20800	<1
KWD07K00	230 - 208	60	15500 / 14800	14800 / 13600	1.68 / 1.65	0.4	21000 / 20300	19900 / 18500	<1
KWD09K00	230 - 208	60	16400 / 16000	15600 / 15100	1.68 / 1.65	0.4	22300 / 21800	21100 / 20400	<1
KWD12K00	230 - 208	60	16400 / 16000	15600 / 15100	1.68 / 1.65	0.4	22300 / 21800	21100 / 20400	<1
KWD15K00	230 - 208	60	16400 / 16000	15600 / 15100	1.68 / 1.65	0.4	22300 / 21800	21100 / 20400	<1
KWD07R00	277	60	16200	15400	1.66	0.4	22000	20800	<1
KWD09R00	277	60	16200	15400	1.66	0.4	22000	20800	<1
KWD12R00	277	60	16200	15400	1.66	0.4	22000	20800	<1
KWD15R00	277	60	16200	15400	1.66	0.4	22000	20800	<1

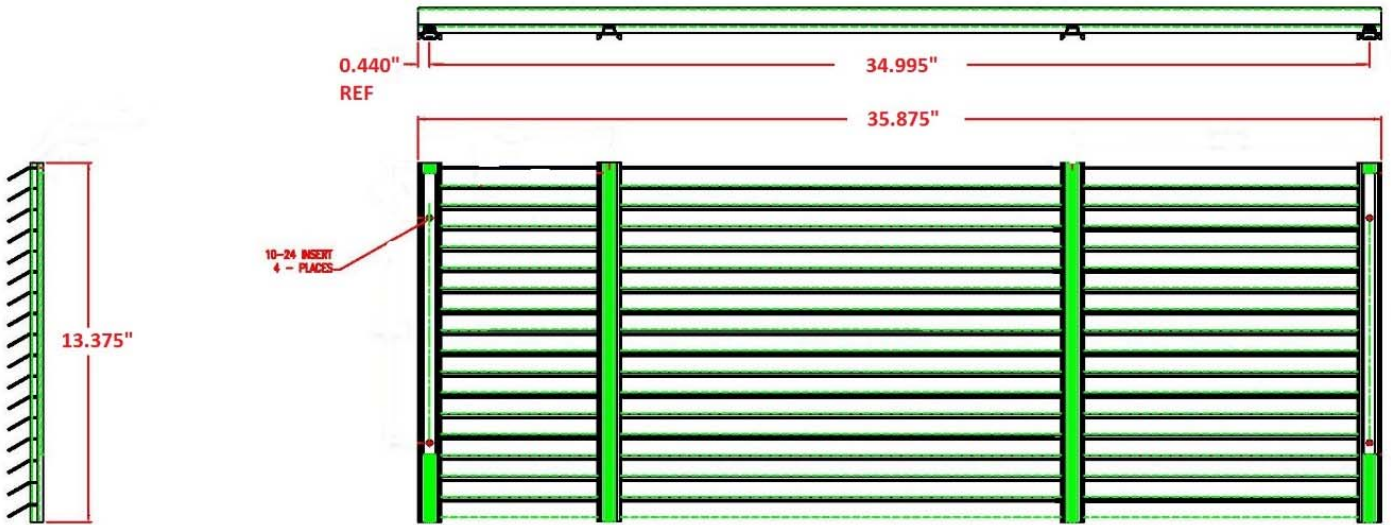
Maximum Steam Pressure: 2 psig Maximum Water Temperature: 210 °F

HIGH SPEED Hot Water Ratings based on ASHRAE/AHPI conditions of 85°F entering air, 200°F entering water and 180°F leaving water temperatures LOW SPEED Hot Water Ratings based on water flow rate set for HIGH SPEED rating condition.

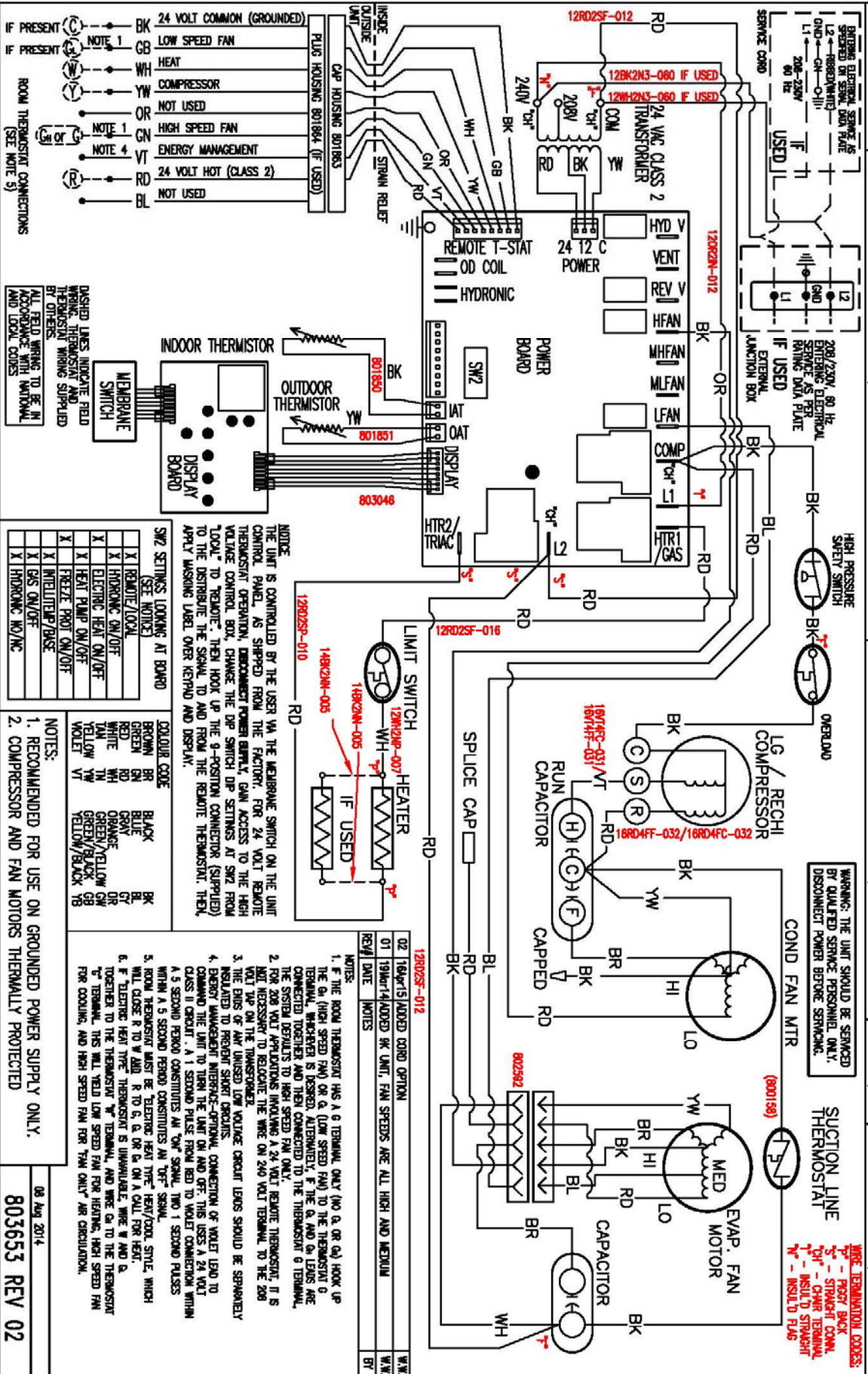
Steam ratings based on conditions of 85°F entering air, and 2 psig steam pressure with heat output automatically adjusting for blower speed

NOT TO BE USED WITH A DUCT SYSTEM

# Outdoor Architectural Aluminum Grille



**CONNECTION DIAGRAM DANGER: ELECTRICAL SHOCK HAZARD. DISCONNECT POWER BEFORE SERVICING. REC - ELECTRONIC BASE CONTROL, 208/230 VAC 60 Hz. 9.12 & 15K BTU**



**WARNING: THE UNIT SHOULD BE SERVICED BY QUALIFIED SERVICE PERSONNEL ONLY. DISCONNECT POWER BEFORE SERVICING.**

**WIRE TERMINATION CODES:**  
 REC - RECYCLED  
 ST - STRAIGHT CABLE  
 CH - CHARTER TERMINAL  
 NS - INSULATED STRAIGHT  
 NSL - INSULATED STRAIGHT  
 NSLD - INSULATED STRAIGHT

- ROOM THERMOSTAT CONNECTIONS (SEE NOTE 5)**
- IF PRESENT BK 24 VOLT COMMON (GROUNDED)
  - IF PRESENT GB LOW SPEED FAN
  - WH HEAT
  - YH COMPRESSOR
  - YV NOT USED
  - OR HIGH SPEED FAN
  - GN ENERGY MANAGEMENT
  - VT 24 VOLT HOT (CLASS 2)
  - RD NOT USED
  - BL NOT USED

DASHED LINES INDICATE FIELD WIRING. THERMOSTAT AND THERMOSTAT WIRING SUPPLIED BY OTHERS.

**SW2 SETTINGS LOOKING AT BOARD (SEE NOTICE)**

X	BROWN	LOCAL
X	GREEN	ON/OFF
X	RED	ON/OFF
X	WHITE	ON/OFF
X	TAN	ON/OFF
X	YELLOW	ON/OFF
X	WOLFT	ON/OFF
X	INTELLIHEAT/BISE	
X	GS	ON/OFF
X	HDRONIC	NO/NC

**NOTES:**

1. RECOMMENDED FOR USE ON GROUNDED POWER SUPPLY ONLY.
2. COMPRESSOR AND FAN MOTORS THERMALLY PROTECTED

**RECOLOR CODE**

BK	BLACK
BR	BROWN
GN	GREEN
RD	RED
WH	WHITE
YH	YELLOW
YV	YELLOW
VT	WOLFT
BL	BLUE
GR	GRAY
OR	ORANGE
OV	OLIVE
GB	GREEN/YELLOW
YB	YELLOW/BLACK

06 Aug 2014  
**803653 REV 02**

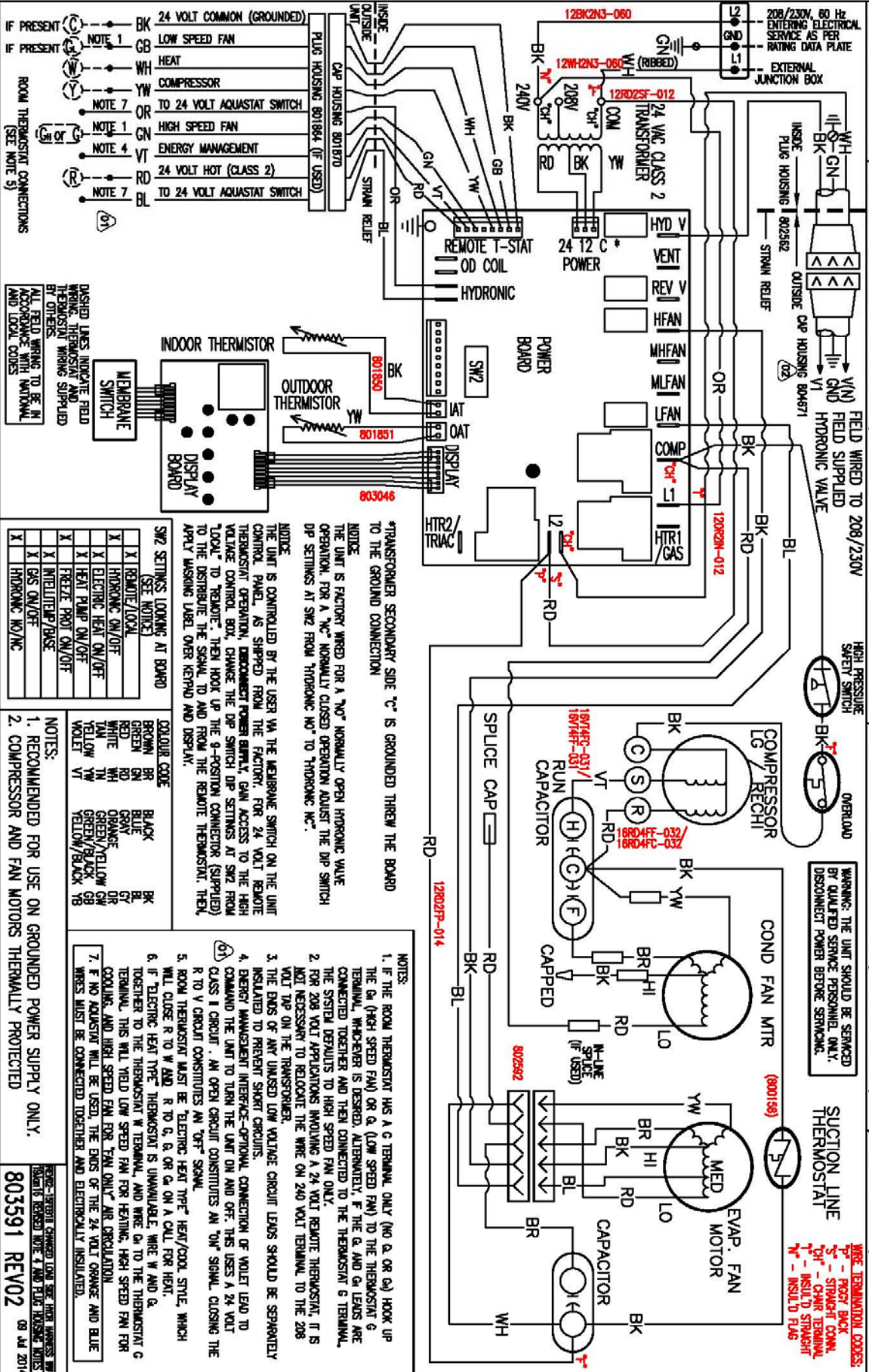
**12R02SF-012**

REV#	DATE	NOTES	W.W.	BY
02	15AUG15	ADDED COORD OPTION		
01	19MAY14	ADDED REC UNIT, FAN SPEEDS ARE ALL HIGH AND MEDIUM		

**NOTES:**

1. IF THE ROOM THERMOSTAT HAS A 6 TERMINAL ONLY (NO G, OR RD) HOOK UP THE G, (HIGH SPEED FAN) OR G, (LOW SPEED FAN) TO THE THERMOSTAT G TERMINAL, WHATEVER IS DESIRED. ALTERNATELY, IF THE G, AND G, LEADS ARE CONNECTED TOGETHER AND THEN CONNECTED TO THE THERMOSTAT G TERMINAL, THE SYSTEM DEFAULTS TO HIGH SPEED FAN ONLY.
2. FOR 208 VOLT APPLICATIONS INSTALLING A 24 VOLT REMOTE THERMOSTAT, IT IS NOT NECESSARY TO RELOCATE THE WIRE ON 240 VOLT TERMINAL TO THE 208 VOLT WIRE ON THE THERMOSTAT.
3. THE ENDS OF AIR USED LOW VOLTAGE CIRCUIT LEADS SHOULD BE SEPARATELY INSULATED TO PREVENT SHORTS/ARCS.
4. ENERGY MANAGEMENT INTERVENE-2-OPTION CONNECTION OF WOLFT LEAD TO COMMON OF CIRCUIT. A 1 SECOND PULSE FROM RED TO WOLFT CONNECTION WITHIN A 5 SECOND PERIOD CONSTITUTES AN "ON" SIGNAL. TWO 1 SECOND PULSES WITHIN A 5 SECOND PERIOD CONSTITUTES AN "OFF" SIGNAL.
5. ROOM THERMOSTAT MUST BE TIGHTER HEAT TYPE HEAT/COOL STYLE WHICH WILL CLOSE R TO W AND R TO G, OR G, ON A COIL FOR HEAT.
6. IF TIGHTER HEAT TYPE THERMOSTAT IS UNAVAILABLE, WIRE W AND G, TOGETHER TO THE THERMOSTAT "W" TERMINAL, AND WIRE G, TO THE THERMOSTAT "T" TERMINAL. THIS WILL YIELD LOW SPEED FAN FOR HEATING, HIGH SPEED FAN FOR COOLING, AND HIGH SPEED FAN FOR FAN ONLY AIR CIRCULATION.

**CONNECTION DIAGRAM DANGER: ELECTRICAL SHOCK HAZARD. DISCONNECT POWER BEFORE SERVICING HVAC ELECTRONIC BASE CONTROL, HYDRONIC HEAT, 208/230V 60 Hz, 9.12 & 15K BTU**



**WARNING: THE UNIT SHOULD BE SERVICED BY QUALIFIED SERVICE PERSONNEL ONLY. DISCONNECT POWER BEFORE SERVICING.**

**WIRE TERMINATION COLOURS:**  
 BK - ROOF BACK  
 WH - STRAIGHT COND. COIL TERMINAL  
 YW - OPEN TERMINAL  
 RD - INSULATED STRAIGHT  
 N - INSULATED FLUES

\*TRANSFORMER SECONDARY SIDE "C" IS GROUNDING THROUGH THE BOARD TO THE GROUND CONNECTION

NOTE:  
 THE UNIT IS FACTORY WIRED FOR A "N" NORMALLY OPEN HYDRONIC VALVE OPERATION. FOR A "C" NORMALLY CLOSED OPERATOR ADJUST THE DIP SWITCH DP SETTINGS AT SW2 FROM HYDRONIC "N" TO HYDRONIC "C".

NOTE:  
 THE UNIT IS CONTROLLED BY THE USER VIA THE MEMBRANE SWITCH ON THE UNIT CONTROL PANEL. AS SHIPPED FROM THE FACTORY, FOR 24 VOLT REMOTE THERMOSTAT OPERATION, DISCONNECT POWER BUNDLE, GAIN ACCESS TO THE HIGH VOLTAGE CONTROL BOX, CHANGE THE DIP SWITCH DP SETTINGS AT SW2 FROM "LOCAL" TO "REMOTE". THEN HOOK UP THE 9-POSITION CONNECTOR (SUPPLIED TO THE DISTRIBUTOR) THE SIGNAL TO AND FROM THE REMOTE THERMOSTAT. THEN APPLY MISSING LABEL OVER KEYPAD AND DISPLAY.

SW2 SETTINGS LOOKING AT BOARD (SEE NOTICE)

X	HYDRONIC/LOCAL
X	HYDRONIC ON/OFF
X	ELECTRIC HEAT ON/OFF
X	HEAT PUMP ON/OFF
X	FREZE PROT ON/OFF
X	INTELLIHEAT/BISE
X	HEAT ON/OFF
X	HYDRONIC NO/NC

NOTES:

1.	RECOMMENDED FOR USE ON GROUNDED POWER SUPPLY ONLY.
2.	COMPRESSOR AND FAN MOTORS THERMALLY PROTECTED

- NOTES:**
- IF THE ROOM THERMOSTAT HAS A G TERMINAL ONLY (NO G OR G2) HOOK UP THE G1 (HIGH SPEED FAN) OR G2 (LOW SPEED FAN) TO THE THERMOSTAT G TERMINAL, WHICHEVER IS DESIRED. ALTERNATIVELY, IF THE G1 AND G2 LEADS ARE CONNECTED TOGETHER AND THEN CONNECTED TO THE THERMOSTAT G TERMINAL, THE SYSTEM DEFAULTS TO HIGH SPEED FAN ONLY.
  - FOR 208 VOLT APPLICATIONS INVOLVING A 24 VOLT REMOTE THERMOSTAT, IT IS NOT NECESSARY TO RELOCATE THE WIRE ON 240 VOLT TERMINAL TO THE 208 VOLT TAP ON THE TRANSFORMER.
  - THE ENDS OF ANY UNUSED LOW VOLTAGE CIRCUIT LEADS SHOULD BE SEPARATELY INSULATED TO PREVENT SHORT CIRCUITS.
  - ENERGY MANAGEMENT INTERFACE-OPTIONAL CONNECTION OF VOLET LEAD TO COMMAND THE UNIT TO TURN THE UNIT ON AND OFF. THIS USES A 24 VOLT CLASS I CIRCUIT. AN OPEN CIRCUIT CONSTITUTES AN "ON" SIGNAL. CLOSING THE R TO V CIRCUIT CONSTITUTES AN "OFF" SIGNAL.
  - ROOM THERMOSTAT MUST BE "ELECTRIC HEAT TYPE" HEAT/COOL STYLE, WHICH WILL CLOSE R TO W AND R TO G1 OR G2 ON A CALL FOR HEAT.
  - IF "ELECTRIC HEAT TYPE" THERMOSTAT IS UNAVAILABLE, WIRE W AND G2 TOGETHER TO THE THERMOSTAT W TERMINAL, AND WIRE G1 TO THE THERMOSTAT G TERMINAL. THIS WILL YIELD LOW SPEED FAN FOR HEATING, HIGH SPEED FAN FOR COOLING, AND HIGH SPEED FAN FOR "FAN ONLY" AIR CIRCULATION.
  - IF NO AQUASTAT WILL BE USED, THE ENDS OF THE 24 VOLT ORANGE AND BLUE WIRES MUST BE CONNECTED TOGETHER AND ELECTRICALLY INSULATED.

REVISIONS: CHANGED LOW SPEED FAN WIRING FROM 208/230V TO 240V. SEE NOTICE FOR WIRING DETAILS. REVISED NOTE 1 AND BLUE HOUSING ADDRESS.

**803591 REV02** 09 04 2014