

*Certified Drawing --- Type: NYWC --- Date: May 2016 --- Applied Comfort Products Inc.*

## **Applied Comfort Packaged Terminal Air Conditioner with Top-Mounted Hydronic Heat 16" x 42" Model NYWC Flat Top --- Size 9, 12, 15,000 Nominal Cooling --- R-410 Refrigerant**

### **General Specifications**

**Heating/Cooling Chassis.** – Factory-assembled and tested, self-contained, complete air cooled refrigeration system with R-410A refrigerant and filled with oil, two low noise high-static pressure dual-inlet evaporator blowers, and one dual-inlet condensate blower with efficient condensate removal system, and optional manual fresh air damper or optional automatic damper. Hydronic heat has a 24V valve signal, with hydronic coil mounting via brackets to top of sleeve above chassis. Power cord exists from under right side. The unit complies with ASHRAE 15 and UL 484B. Surfaces in contact with the airstream comply with requirements in ASHRAE 62.1-2004.

**Wall Sleeve** – Industry standard 16" x 42", made of 1.3mm (18 gauge) galvanized, phosphatized, steel. Coated with electrostatically applied, baked on, industry standard beige urethane powder paint for maximum corrosion protection. Completely insulated.

**Room Cabinet** – Top discharge with stamped one-piece grille. Control access door on right side. Enclosure completely encloses controls and piping. 4" nominal height, black kickplate adjustable from 3" to 5". Front panel is removable with use of tools to provide full access to filters and cooling unit. Made of 1.3mm (18 gauge) phosphatized steel. Coated with electrostatically applied, baked on, industry standard beige urethane powder paint. Surfaces in contact with the airstream comply with requirements in ASHRAE 62.1-2004.

**Louvers** – Architectural type extruded aluminum with silver powder-coating baked on.

**Power Cord** – LCDI power cord is supplied with 208/230V chassis, and standard non-LCDI with 265V chassis.

**Power Air Damper for Fresh Air (optional)** – A power motorized door for fresh air opens when evaporator blowers are 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.

**Condenser Fans:** One direct drive with permanent split capacitor two-speed motor. The condenser fan is a centrifugal dual-inlet blower type. The housing is phosphatized powder-coated for durability.

**Filters** -- Washable aluminum weave filter in a durable aluminum frame. Optional pleated MERV13 filters are available.

**Condensate Drain** -- Drain pan to direct condensate to outdoor coil for re-evaporation. Drain pan complies with ASHREA 62.1-2004 for construction and connections. Optional drain kit allows for industry standard connection to indoor or outdoor drains.

**Electric-Resistance Heating Coil** -- High-mass, low-temperature, electric resistance tube heating elements with contactor and high-temperature-limit switch.

**Digital Touchpad Control** – The NYWC 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: Prevent cooling-cycle operation below 5 degrees C (40 degrees F) outdoor air temperature.
- Temperature-Limit Control: Prevent occupant from exceeding preset, setback, or setup temperature.

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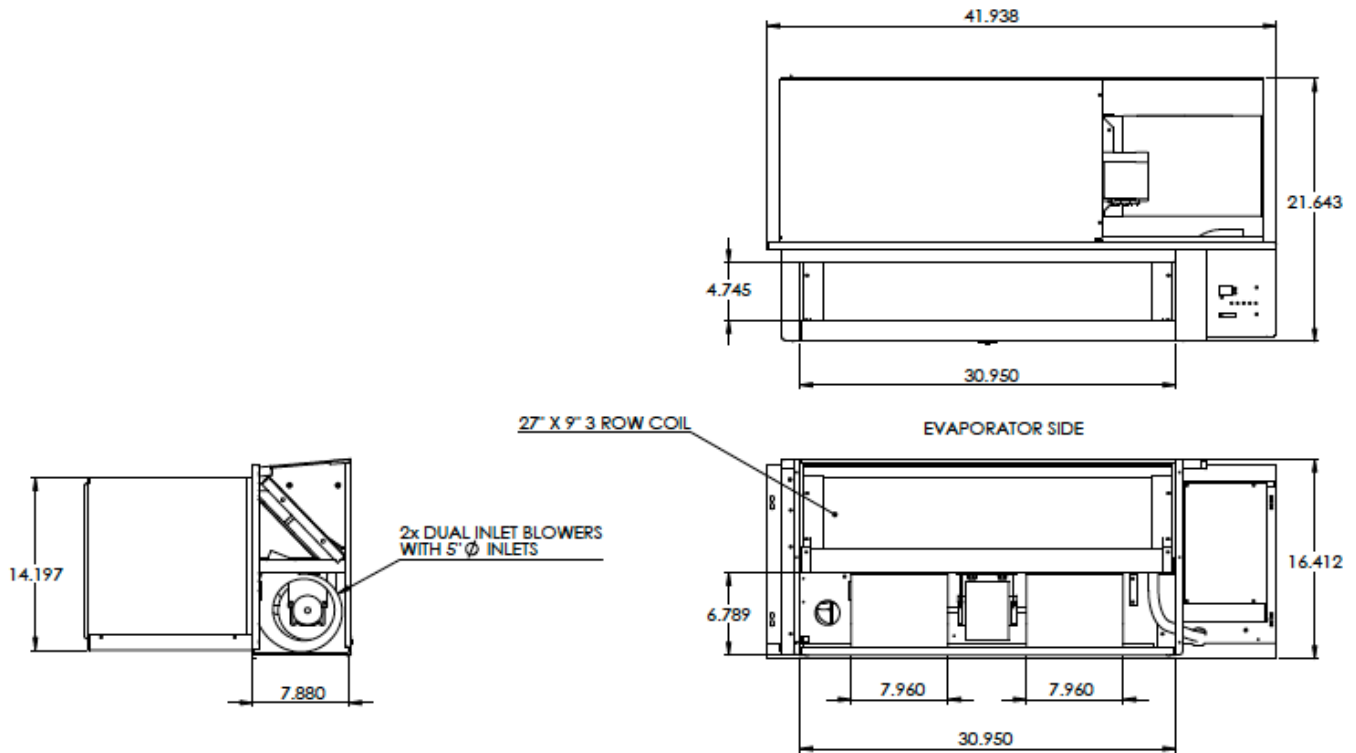
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- Remote Control Ready: -- moxex with standard 7-wire lead connection to wireless or wired thermostats. Chassis can be enslaved to external control by a change of DIP-switch setting.

**Sound-Power Level Ratings** -- OITC sound rating test performed by ETL labs (Intertek Labs USA) to comply with ARI 300 standards.

**Unit Performance Ratings** -- Factory test according to AHRI 310/380/CSA C744, "Packaged Terminal Air-Conditioners and Heat Pumps." 3<sup>rd</sup> Party energy performance verification tests conducted by ETL labs.

### Dimensional Data - Chassis



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**Performance Data – 3<sup>rd</sup> Party Lab Verified with Coil In-Place**

**NYWC Air Conditioner for use with TOP-MOUNTED Hydronic Heat Coil -- Separate Room Cabinet**

**CORD CONNECTED with LCDI Cord.**

Model	Voltage	Hz	Min. Circuit Amps	MOP Fuse Amps	Electrical Plug (NEMA)	Cooling					Resistance Heat			Indoor CFM HIGH°	Indoor CFM LOW°	Vent CFM	Net Wt. lbs.	Ship Wt. lbs.
						BTU/Hr.	EER	Amps	S/T	Pts./hr.	BTU/Hr.	kW	Amps					
NYWC09L00E6	115	60	11.9	15	#5-15P	9600	11.3	8.4	0.73	2.2	N/A	N/A	N/A	310	265	90	118	126
NYWC12L00E7	"	"	16.3	20	#5-20P	12600	10.6	12	0.7	3.4	N/A	N/A	N/A	360	310	"	"	"
NYWC09K00E7	230 - 208	"	6.2	15	#6-20P	9600	11.3	4.2/4.4	0.73	2.2	N/A	N/A	N/A	325/300	290/250	"	"	"
NYWC12K00E7	"	"	8.1	"	"	12600	10.6	6.0/6.2	0.7	3.4	N/A	N/A	N/A	370/350	325/300	"	"	"
NYWC15K00E7	"	"	9.9	"	"	14800	9.8	7.5/7.7	0.66	4.5	N/A	N/A	N/A	"	"	"	"	"

**Non-LCDI Cord plugs into hard-wired receptacle in Subbase.**

Model	Voltage	Hz	Min. Circuit Amps	MOP Fuse Amps	Electrical Plug (NEMA)	Cooling					Resistance Heat			Indoor CFM HIGH°	Indoor CFM LOW°	Vent CFM	Net Wt. lbs.	Ship Wt. lbs.
						BTU/Hr.	EER	Amps	S/T	Pts./hr.	BTU/Hr.	kW	Amps					
NYWC09R00E2	277	"	5.7	15	#7-20P	9600	11.3	4	0.77	1.9	N/A	N/A	N/A	360	310	90	118	126
NYWC12R00E2	"	"	6.8	"	"	12600	10.6	5.3	0.75	3.4	N/A	N/A	N/A	"	"	"	"	"
NYWC15R00E2	"	"	8.4	"	"	14800	9.8	6.6	0.66	4.5	N/A	N/A	N/A	"	"	"	"	"

\*Time Delay Fuse or HCAR Circuit Breaker ---- °Dry Coil

Model	Voltage	Hz	Hot Water Heat HIGH SPEED	Hot Water Heat LOW SPEED	Water Flow Rate	Coil Pressure Drop (HIGH SPEED)	Steam Heat HIGH SPEED	Steam Heat LOW SPEED	Steam Pressure Drop	Heating Current
			BTU/Hr.	BTU/Hr.	USGPM	Ft of Water	BTU/Hr.	BTU/Hr.	psi	Amps
NYWC09L00E6	115	60	16500	15500	1.7	3.0	19900	18600	0.13	<1
NYWC12L00E7	"	"	17800	16700	1.8	3.4	21400	19600	"	"
NYWC09K00E7	230 - 208	"	16900/16300	16100/15100	1.8 - 1.7	3.1 - 2.9	20400/19600	19400/18100	"	"
NYWC12K00E7	"	"	18100/17600	17100/16500	1.9 - 1.8	3.5 - 3.3	21600/21100	20400/19600	"	"
NYWC15K00E7	"	"	18100/17600	17100/16500	1.9 - 1.8	3.5 - 3.3	21600/21100	20400/19600	"	"
NYWC09R00E2	277	"	17800	16700	1.8	3.4	21400	19900	"	"
NYWC12R00E2	"	"	"	"	"	"	"	"	"	"
NYWC15R00E2	"	"	"	"	"	"	"	"	"	"

Cooling performance is rated in accordance with ASHRAE/AHRI Standard 310/380 and tested with **HYDRONIC COIL IN PLACE**. Maximum Steam Pressure: 2 psig ----  
 Steam ratings based on 70°F entering air, and 2 psig steam pressure with heat output automatically adjusting for blower speed. Maximum Water Temperature: 210°F ----  
 HIGH SPEED Water ratings based on ASHRAE/AHRI conditions of 70°F entering air, 200°F entering water and 180°F leaving water temperatures. LOW SPEED Water ratings based on water flow rate set for HIGH SPEED rating condition operating point.

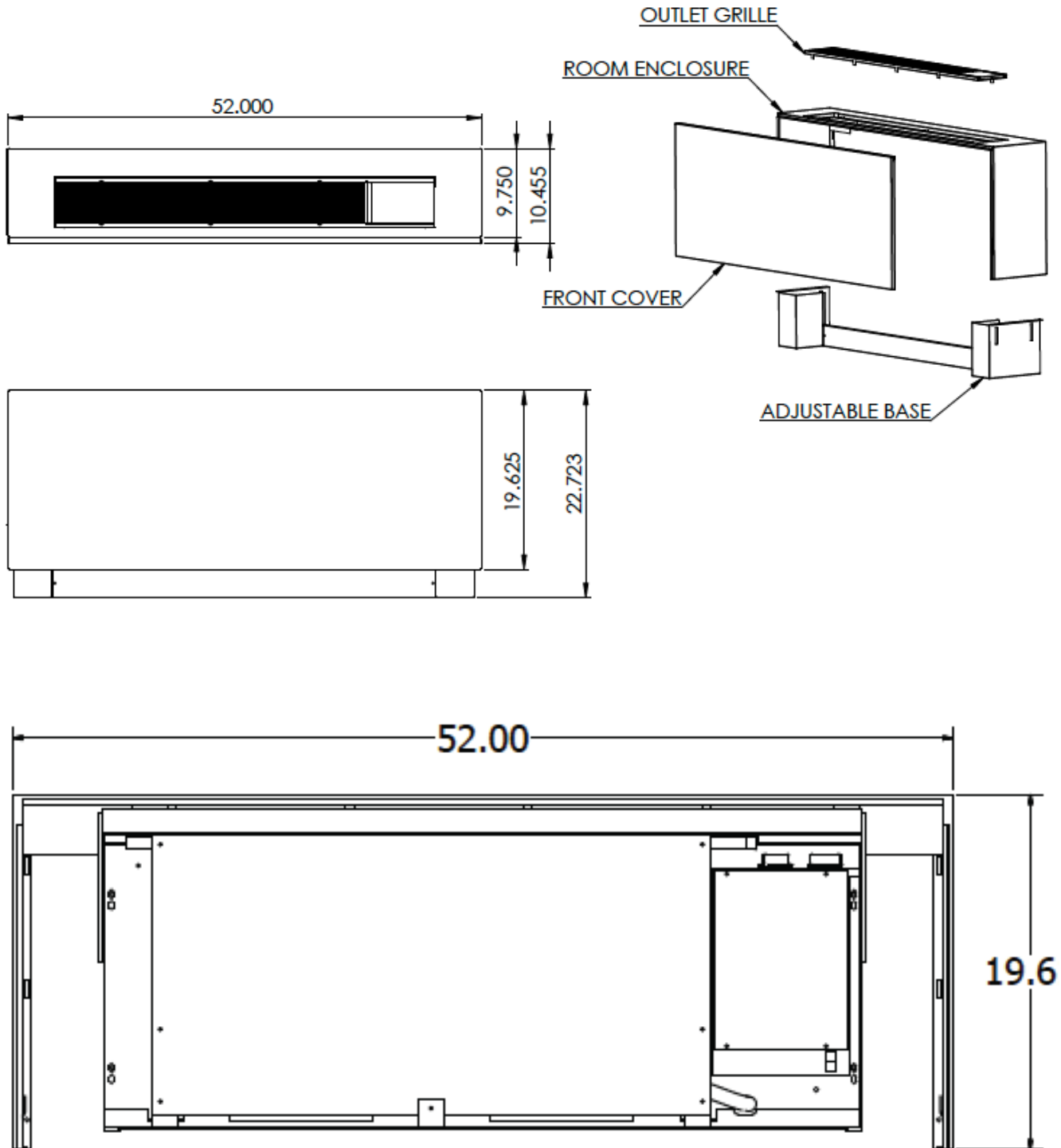
**Physical Data**

Heating/Cooling Chassis and Front Panel

Size Nominal 9000//12000//15000Btuh.....140//142//146lbs

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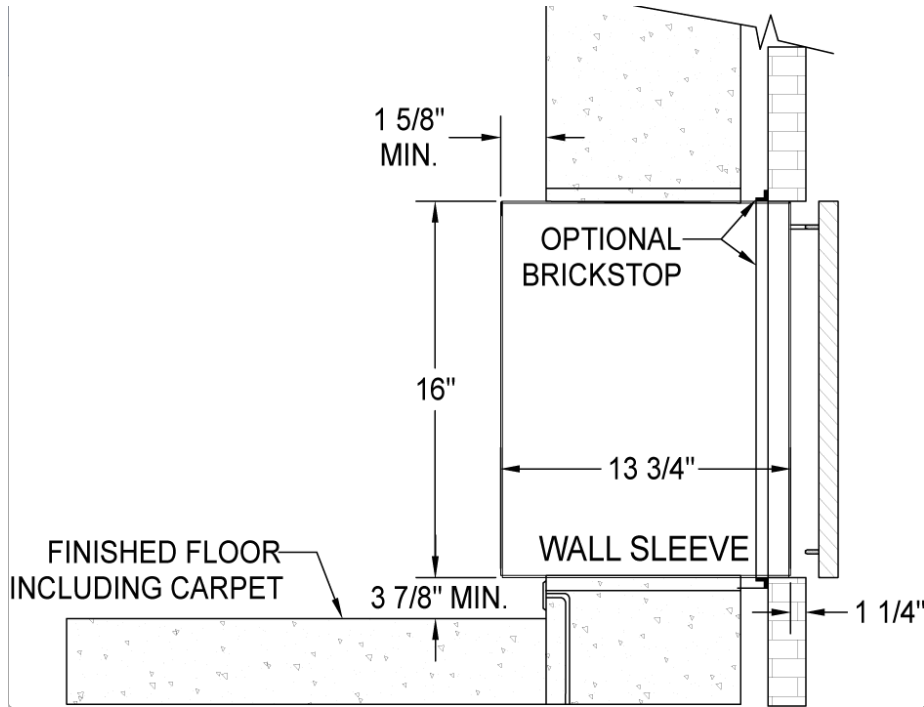
**Unit Dimensions - Wall Sleeve, Cabinet**



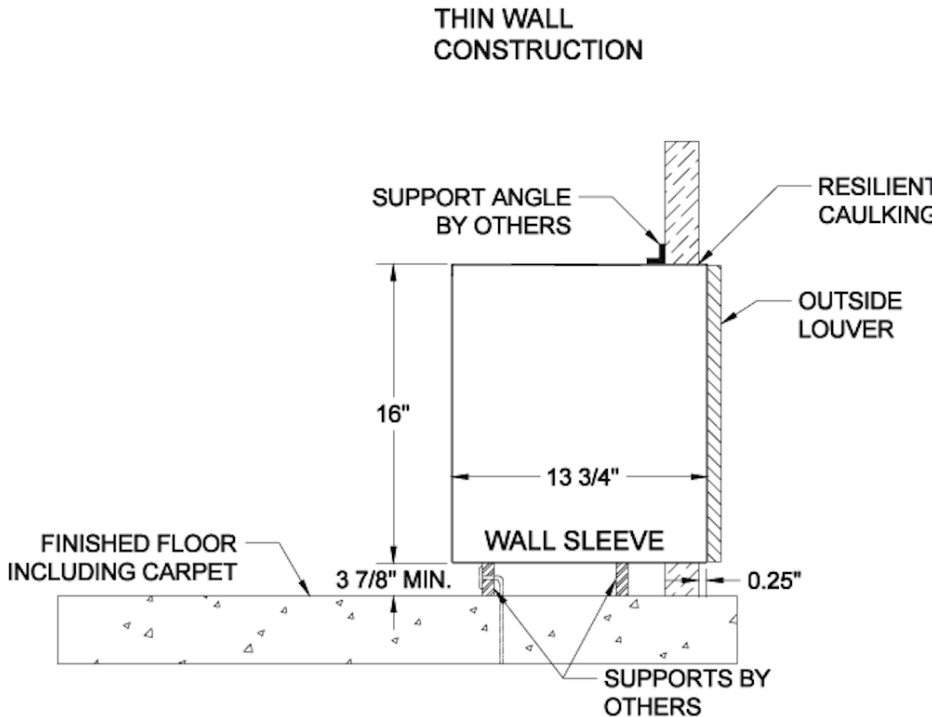
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**Unit Dimensions - Wall Profile**

NOTE: Sleeve must be installed a minimum of 3 7/8" off the floor.



**THIN WALL CONSTRUCTION**

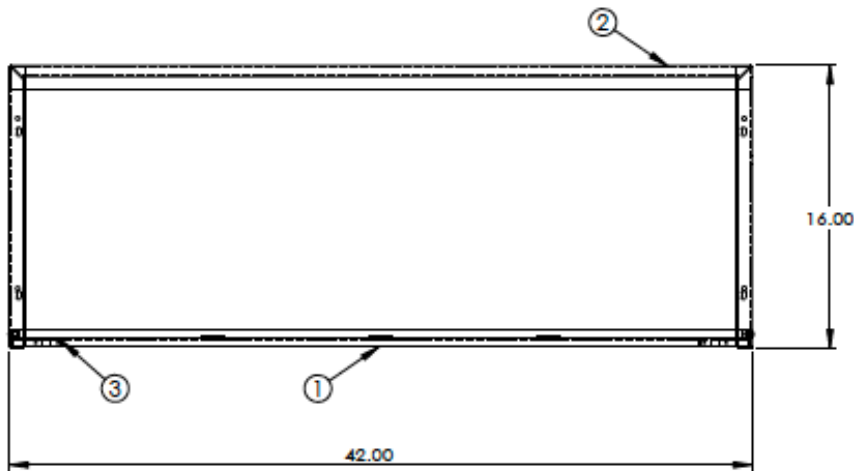


**Unit Dimensions - Sleeve**

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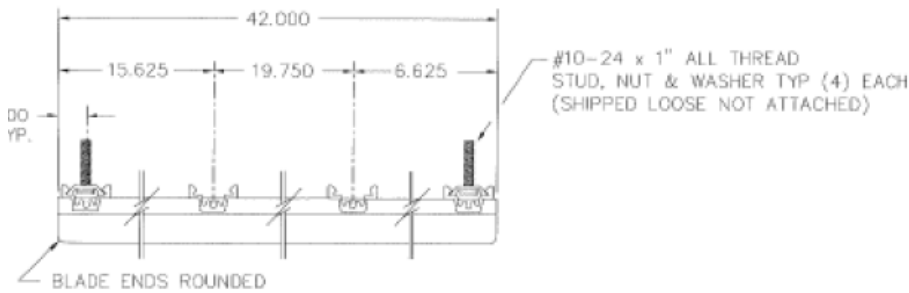
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NOTE: Sleeve must be installed a minimum of 4" off the floor.

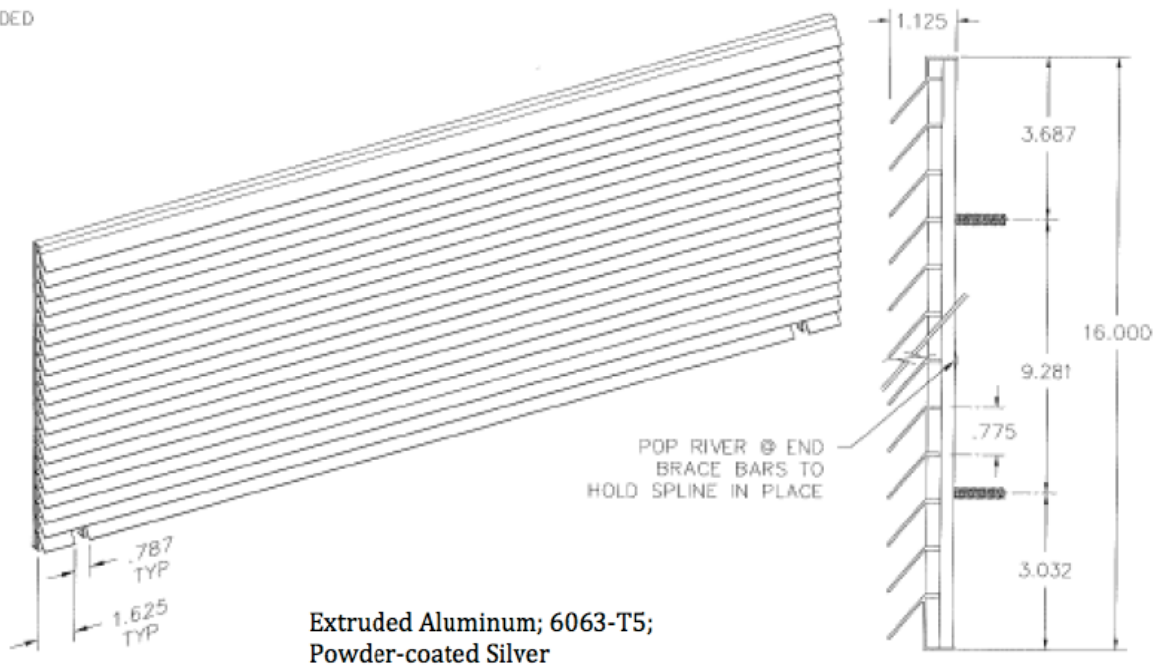


ITEM NO.	PART NUMBER	QTY.
1	802820	1
2	802822	1
3	802821	2
4	85589 SM SCREW	4

**Unit Dimensions - Architectural Grille**

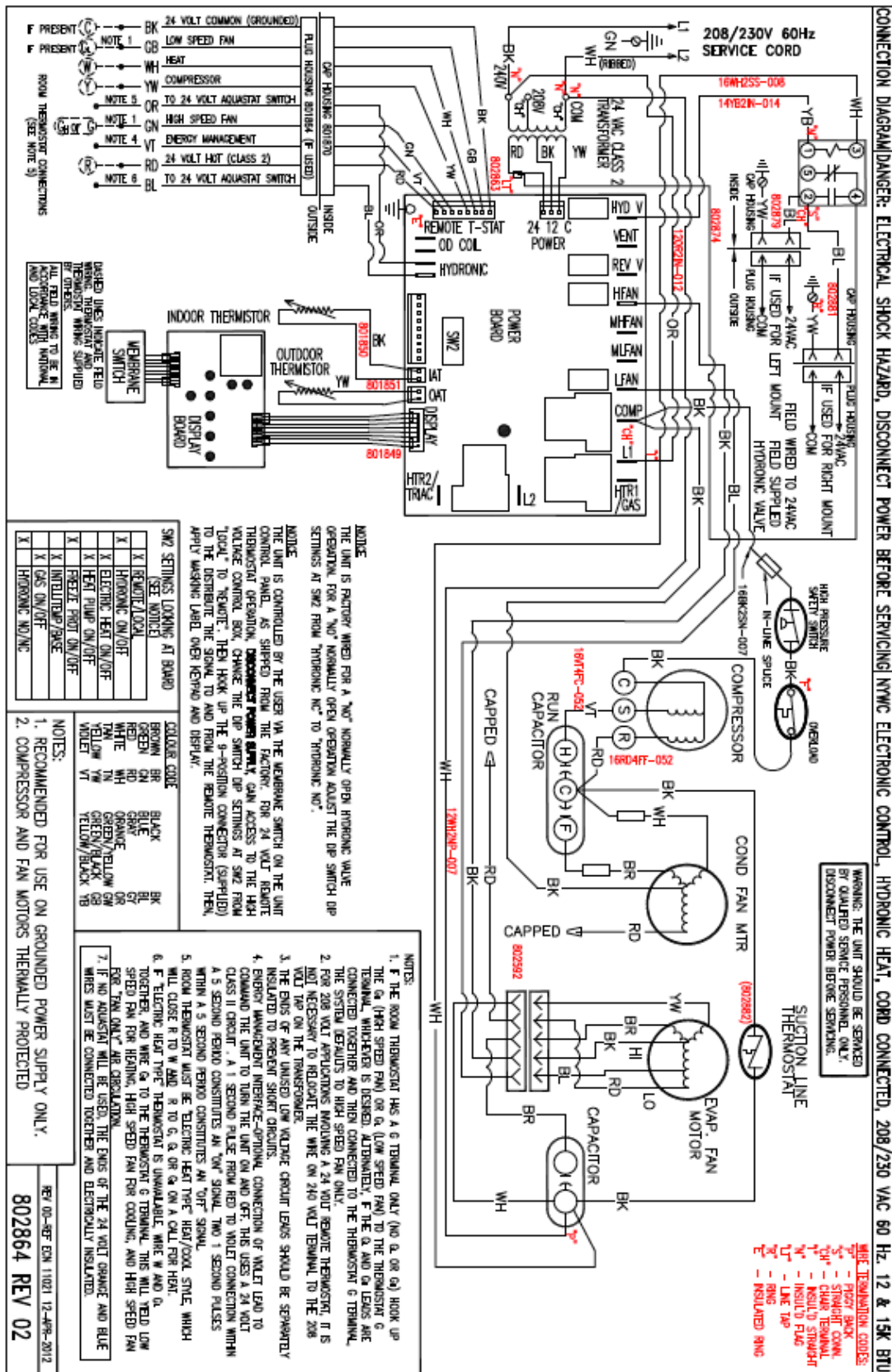


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**Wiring Diagram**

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**ROOM THERMOSTAT CONNECTIONS**

F PRESENT BK 24 VOLT COMMON (GROUNDED)  
 F PRESENT GB LOW SPEED FAN  
 HEAT WH HEAT  
 COMPRESSOR YW  
 TO 24 VOLT AQUASTAT SWITCH OR  
 HIGH SPEED FAN OR  
 ENERGY MANAGEMENT OR  
 24 VOLT HOT (CLASS 2) OR  
 TO 24 VOLT AQUASTAT SWITCH OR  
 NOTE 1  
 NOTE 2  
 NOTE 3  
 NOTE 4  
 NOTE 5  
 NOTE 6  
 (SEE NOTE 5)

**INDOOR THERMISTOR**

DASHED LINES INDICATE FIELD WIRING. THERMISTAT AND THERMISTOR WIRING SUPPLIED BY USER. WIRING TO BE AT DISCRETE AND LOCAL CODES.

**SN2 SETTINGS LOOKING AT BOARD (SEE WIRING)**

X	REMOTE LOCAL
X	HYDRONIC ON/OFF
X	ELECTRIC HEAT ON/OFF
X	HEAT PUMP ON/OFF
X	FREEZE PROT ON/OFF
X	INTELLIPLUSE
X	UPS ON/OFF
X	HYDRONIC NO/NC

**NOTES:**

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

**COLOR CODE**

BROWN	BR	BLACK	BL
GREEN	CN	BLUE	BL
RED	RD	GRAY	GR
WHITE	WH	ORANGE	OR
YELLOW	YW	GREEN/YELLOW	GY
YELLOW/BLACK	GB	BLACK/GRAY	GR
WHITE	VT	YELLOW/BLACK	YB

**NOTES:**

1. F THE ROOM THERMOSTAT HAS A 6 TERMINAL ONLY (NO G, OR G) HOOK UP THE G (HIGH SPEED FAN) OR G (LOW SPEED FAN) TO THE THERMOSTAT G TERMINAL, WHICHEVER IS DESIRED. ALTERNATELY, F THE G AND G ARE CONNECTED TOGETHER AND THEN CONNECTED TO THE THERMOSTAT G TERMINAL, THE SYSTEM DEFAULTS TO HIGH SPEED FAN ONLY.
2. 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.
3. THE ENDS OF ANY UNUSED LOW VOLTAGE CIRCUIT LEADS SHOULD BE SEPARATELY INSULATED TO PREVENT SHORT CIRCUITS.
4. ENERGY MANAGEMENT INTERFACE-OPTIONAL CONNECTION OF WIRE LEAD TO COMMAND THE UNIT TO TURN THE UNIT ON AND OFF. THIS USES A 24 VOLT CLASS II CIRCUIT. A 1 SECOND PULSE FROM RED TO WHITE 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 THERMISTAT MUST BE THERMISTAT HEAT TYPE HEAT/COOL STYLE WHICH WILL CLOSE R TO W AND R TO G, G OR G ON A CALL FOR HEAT.
6. F ELECTRIC HEAT TYPE THERMISTAT IS UNAVAILABLE, WIRE W AND G TOGETHER, AND WIRE G TO THE THERMOSTAT G TERMINAL. THIS WILL YIELD LOW SPEED FAN FOR HEATING, HIGH SPEED FAN FOR COOLING, AND HIGH SPEED FAN FOR TANK ONLY AIR CIRCULATION.
7. IF NO AQUASTAT WILL BE USED, THE ENDS OF THE 24 VOLT GRANGE AND BLUE WIRES MUST BE CONNECTED TOGETHER AND ELECTRICALLY INSULATED.