



Submittal

Prepared For:
Climate Control

Date: January 17, 2013

Customer P.O. Number:
Customer Project Number:

Sold To:

Job Number:
Job Name:
Pine Bluffs Veterinary Hospital

Trane U.S. Inc. dba Trane is pleased to provide the enclosed submittal for your review and approval.

Product Summary

Qty	Product
2	Split System Air Conditioning Units (Small)

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The attached information describes the equipment we propose to furnish for this project, and is submitted for your approval.

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Tag Data - Split System Air Conditioning Units (Small) (Qty: 2)

Item	Tag(s)	Qty	Description	Model Number
A1	No Tag	2	4 Ton Unitary Split Systems	4TTB4048E1-TUH1D120A9-TXCD050B

Product Data - Split System Air Conditioning Units (Small)**Item: A1 Qty: 2****Condensing Unit**

4 Ton Nominal Cooling Capacity

200 - 230 Volt 1 Phase 60 Hertz

Furnace

100,000 Heating input BTUH

Major Design

115 Volt/1 phase/60 hertz

5 Ton Airflow Capacity

Cased upflow/dnflow/horiz left

Coil

24.5"/23.3" cabinet

48,000 Nominal cooling capacity

TXV-Non bleed

Conv-upflow/dnflw,left airflow coil

Accessories

High Altitude Kit

Programmable 7 day , 3 heat/2 cool thermostat (Fld)

50' Brazed Refrigerant Line Set (Fld)

Mechanical Specifications - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2

4TTB4 - General

The 4TTB4 is fully charged from the factory for up to 180" of piping. This unit is designed to operate at outdoor ambient temperatures as high as 115.0 F. Cooling capacities are matched with a wide selection of air handlers and furnace coils that are A.R.I. certified. The unit is certified to UL 1995. Exterior is designed for outdoor application.

4TTB4 - Casing

Unit casing is constructed of heavy gauge, G90 galvanized steel and painted with a weather-resistant powder paint on all louvers, panels, prepaint on all other panels. Corrosion and weather-proof CMBP-G30 DuraTuff base.

4TTB4 - Compressor

The Climatuff compressor features internal over temperature and pressure protection and total dipped hermetic motor. Other features include: , centrifugal oil pump and low vibration and noise.

4TTB4 - Condenser Coil

The outdoor coil provides low airflow resistance and efficient heat transfer. The coil is protected on all four sides by louvered panels.

4TTB4 - Refrigerant Controls

Refrigeration system controls include condenser fan and compressor contactor. High and low pressure controls are inherent to the compressor. A factory installed liquid line drier is standard.

4TTB4 - Low Ambient Cooling

As manufactured, this unit has a cooling capability to 55.0 F. The addition of an evaporator defrost control with TXV permits low ambient cooling to 30.0 F.

TUH1 - GENERAL OPERATION

These High Efficiency, Direct Vent, Condensing Gas Furnaces employ a Hot Surface Ignition system, which eliminates the waste of a constantly burning pilot. They are convertible for HORIZONTAL use by rotating the unit to its left side. The integrated system control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

- a. Low energy power venter.
- b. Vent proving differential switch.

TUH1 - NATURAL GAS MODELS

Central heating furnace designs are certified by the American Gas Association for both natural and L.P. gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

TUH1 - SAFE OPERATION

The Integrated System Control has solid state devices, which continuously monitor for presence of flame, when the system is in the heating mode of operation. Slow opening, dual solenoid combination gas valve and regulator provide extra safety and quieter operation.

TUH1 - QUICK HEATING

Durable, cycle tested, heavy gauge **aluminized steel heat exchanger and stainless steel secondary heat exchanger** quickly transfer over 90% of the heat to provide warm conditioned air to the structure. **Low energy power vent blower**, to increase efficiency and provide a positive discharge of gas fumes to the outside as it draws outdoor air in for sealed combustion, which means it uses no indoor air for combustion.

TUH1 - BURNERS

Multi-port, in-shot burners will give years of quiet and efficient service. All models can be converted to **L.P. gas** without changing burners.

TUH1 - INTEGRATED SYSTEM CONTROL

Exclusively designed operational program provides total control of furnace limit sensors, blowers, gas valve, flame

control and includes self diagnostics for ease of service. The built-in, selectable "**Cooling Fan Off**" feature provides time-delay capability like a BAY24X045 Time-Delay Kit for cooling operation. Also contains connection points for E.A.C./humidifier.

TUH1 - AIR DELIVERY

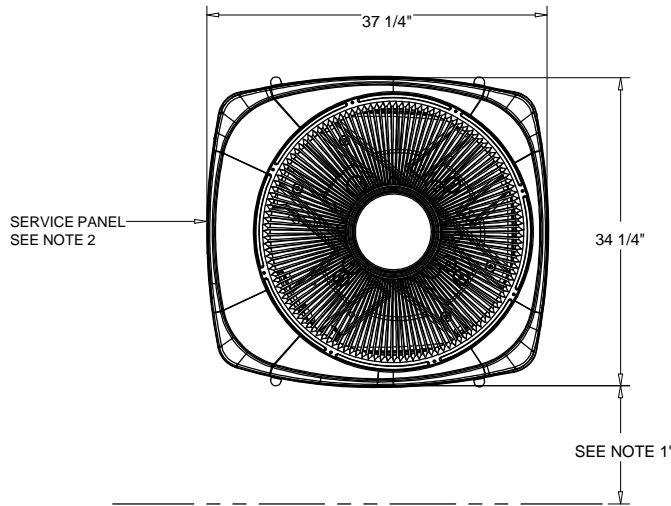
The multispeed, directdrive blower motor, with sufficient airflow range for most heating and cooling requirements, will switch from heating to cooling speeds on demand from room thermostat. The blower door safety switch will prevent or terminate furnace operation when the blower door is removed. (Fan relay and 35VA control transformer is standard).

TUH1 - STYLING

Heavy gauge steel and "wraparound" cabinet construction is used in the cabinet with baked-on enamel finish for strength and beauty. The heat exchanger section of the cabinet is completely lined with foil-faced fiberglass insulation. This results in quiet and efficient operation due to the excellent acoustical and insulating qualities of fiberglass.

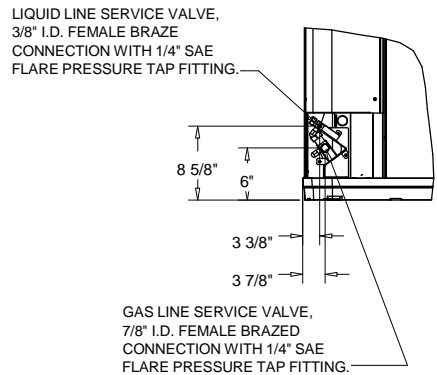
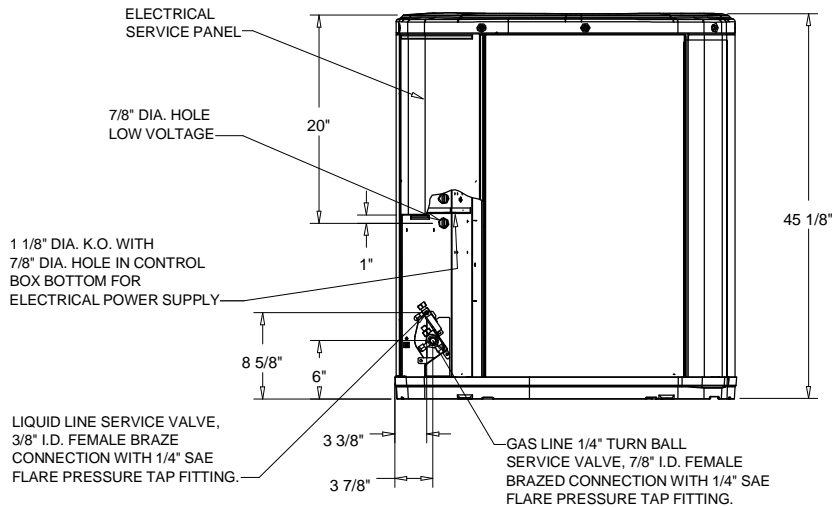
Unit Dimensions - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2



NOTES

1. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR AT LEAST 60" ABOVE UNIT. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT, AND SHOULD BE AT LEAST 12" FROM WALL AND ALL SURROUNDING SHRUBBERY ON TWO SIDES. OTHER TWO SIDES UNRESTRICTED.
2. ELECTRICAL AND REFRIGERANT COMPONENT CLEARANCES PER PREVAILING CODES.



Unit Dimensions - Split System Air Conditioning Units (Small)

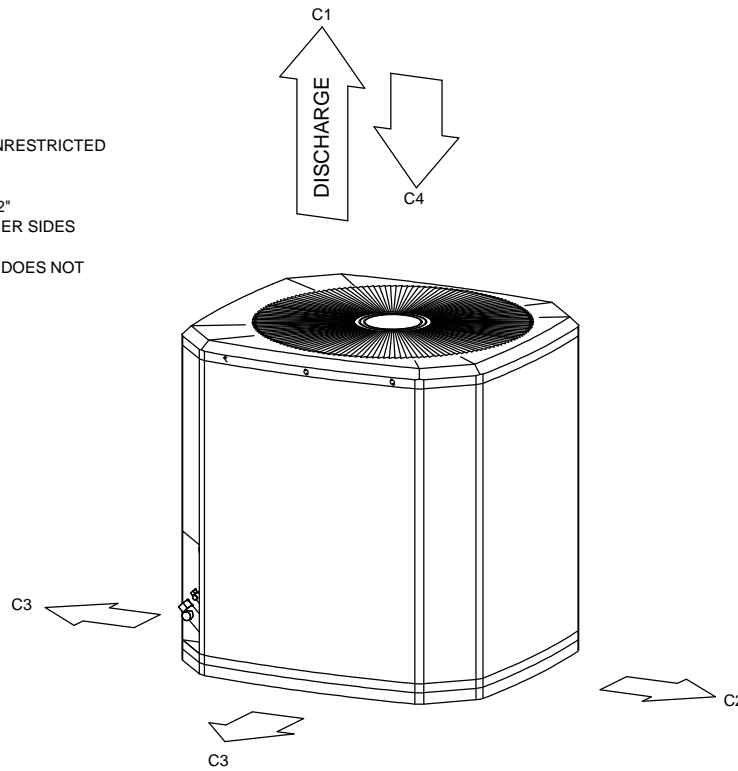
Item: A1 Qty: 2

ELECTRICAL / GENERAL DATA

<p>GENERAL</p> <p>Model: 4TTB4048 Voltage: 208 - 230 Unit Hertz: 60 Unit Phase: 1</p>	<p>POWER CONN.</p> <p>Minimum Circuit Ampacity: 26.0 Maximum Circuit Breaker: 45.0 Minimum Protection Rating: 45.0</p>	<p>COMPRESSOR</p> <p>Number: 1 Phase: 1 Rated Load Amps: 26.0 Locked Rotor Amps: 45.0</p>
<p>OUTDOOR MOTOR</p> <p>Number: 1 Horsepower: 0.20 Motor Speed (RPM): 825 Phase: 1 Full Load Amps: 1.1 Locked Rotor Amps: -</p>	<p>NOTES:</p> <ol style="list-style-type: none"> 1. Certified in accordance with the Unitary Air-Conditioner equipment certification program which is based on AHRI Standard 210/240. 2. Calculated in accordance with N.E.C. Use only HACR circuit breakers or fuses. 3. Standard line lengths - 60'. Standard lift - 60' Suction and Liquid line. For Greater lengths and lifts refer to refrigerant piping software Pub# 32-3312-0 4. * = 15, 20, 25, 30, 40 and 50 foot lineset available. 	
<p>REFRIGERANT</p> <p>Type: R-410 Charge: 8.3 lb Line Size O.D. Gas: 7/8" Line Size O.D. LIQ: 3/8"</p>		

WEIGHT	
NET	245.0 lb
SHIPPING	282.0 lb

- NOTES:**
- C1. TOP DISCHARGE SHOULD BE UNRESTRICTED FOR AT LEAST 60" ABOVE UNIT
 - C2. PLACE UNIT FROM WALL
 - C3. PLACE SHRUBBERY AT LEAST 12" FROM UNIT ON TWO SIDES, OTHER SIDES UNRESTRICTED
 - C4. PLACE UNIT SO ROOF RUN-OFF DOES NOT FALL DIRECTLY ON UNIT



WEIGHT AND CLEARANCE

Unit Dimensions - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2

ELECTRICAL / GENERAL DATA

<p>GENERAL - POWER CONN ⁽⁴⁾</p> <p>Model: TUH1D100A9601A</p> <p>Voltage: 115/1/60</p> <p>Ampacity (Amps): 12.9</p> <p>Max Over. Pro. (Amps): 20.0</p>	<p>COMBUSTION FAN</p> <p>Type: Centrifugal</p> <p>Motor HP: 0.05</p> <p>Motor Speed RPM: 3450</p> <p>Phase: 1</p> <p>Full Load Amps: 0.71</p>	<p>BLOWER DRIVE</p> <p>Drive: Direct *</p> <p>No. Used: 1</p> <p>Motor HP: 0.75</p> <p>Speed RPM: 1100</p> <p>Phase: 1</p>
<p>ORIFICES</p> <p>Nat. Gas Qty - Drill Size: 5 - 45</p> <p>L.P. Gas Qty. - Drill Size: 5 - 56</p> <p>Gas Valve: Redundant - single Stage</p>	<p>Heat ⁽²⁾⁽³⁾</p> <p>Input BTUH: 97,000</p> <p>Capacity BTUH (ICS): 92,150</p> <p>AFUE (ICS): 95.0</p> <p>Temp. Rise (Min.-Max): 35-65</p>	<p>FILTERS</p> <p>Type: High Velocity</p> <p>Furnished: No</p> <p>Number: 1</p> <p>Recommended: 24"x25"x1"</p>

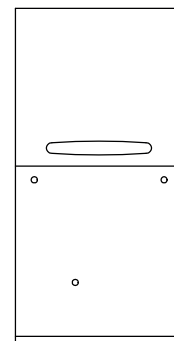
NOTES:

1. Central Furnace heating designs are certified by AGA and CSA.
2. For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4 percent per 1,000 feet for elevations above 2,000 feet above sea level. For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4 percent per 1,000 feet for elevations above 4,500 feet above sea level.
3. Based on U.S. government standard tests.
4. The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

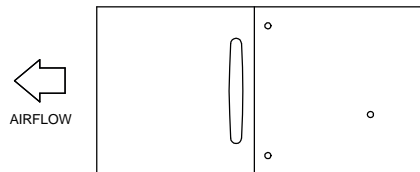
WEIGHT (AIR HANDLER ONLY)	
SHIPPING:	197.0 lb
NET:	185.0 lb

UNIT CLEARANCE TABLE			
MINMIUM CLEARANCE TO COMBUSTIBLE MATERIALS			
SIDE	0	TOP	1"
REAR	0	FLUE	0
FRONT	3"		
HORIZONTAL (FLUE DISCHARGE ON LEFT) ALCOVE			
SIDE RIGHT	0	FRONT	18"
SIDE LEFT	0	TOP	1"
REAR	6"	FLUE	0
CLOSET			
SIDE RIGHT	1"	FRONT	3"
SIDE LEFT	1"	TOP	1"
REAR	3"	FLUE	0

NOTES:
 *UH1B080A9H31A, *UH1C100A9H41, & *UH1D120A9H51 REQUIRES 3" DIAMETER VENT PIPE.
 DIAMETER OF VENT PIPE MAY BE LIMITED TO 2 1/2" OR 3"
 ON SOME MODELS AT DIFFERENT ALTITUDES. REFER TO THE VENT LENGTH TABLE FOR PROPER APPLICATION.

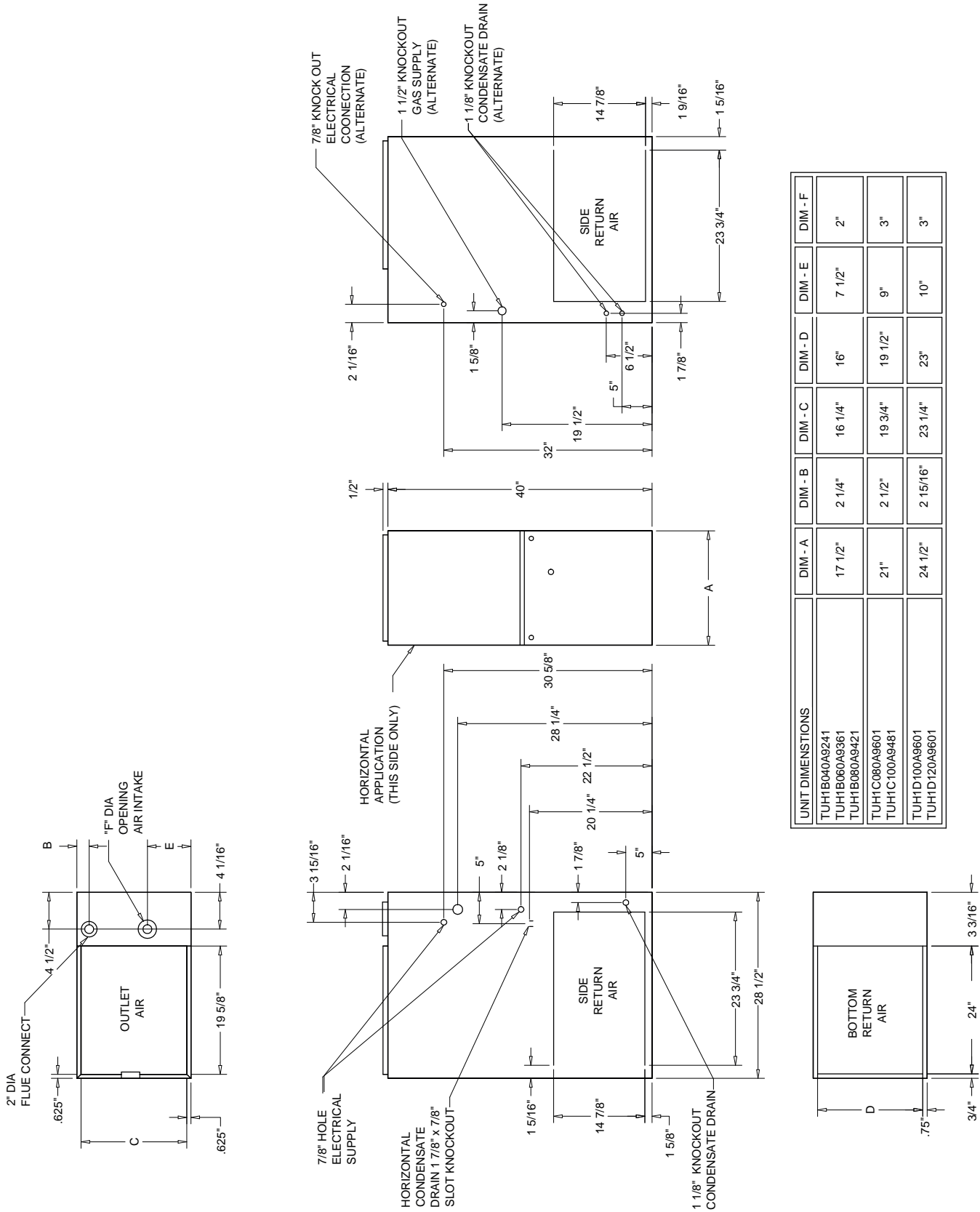


TUH1 - H UPFLOW / HORIZONTAL



Unit Dimensions - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2



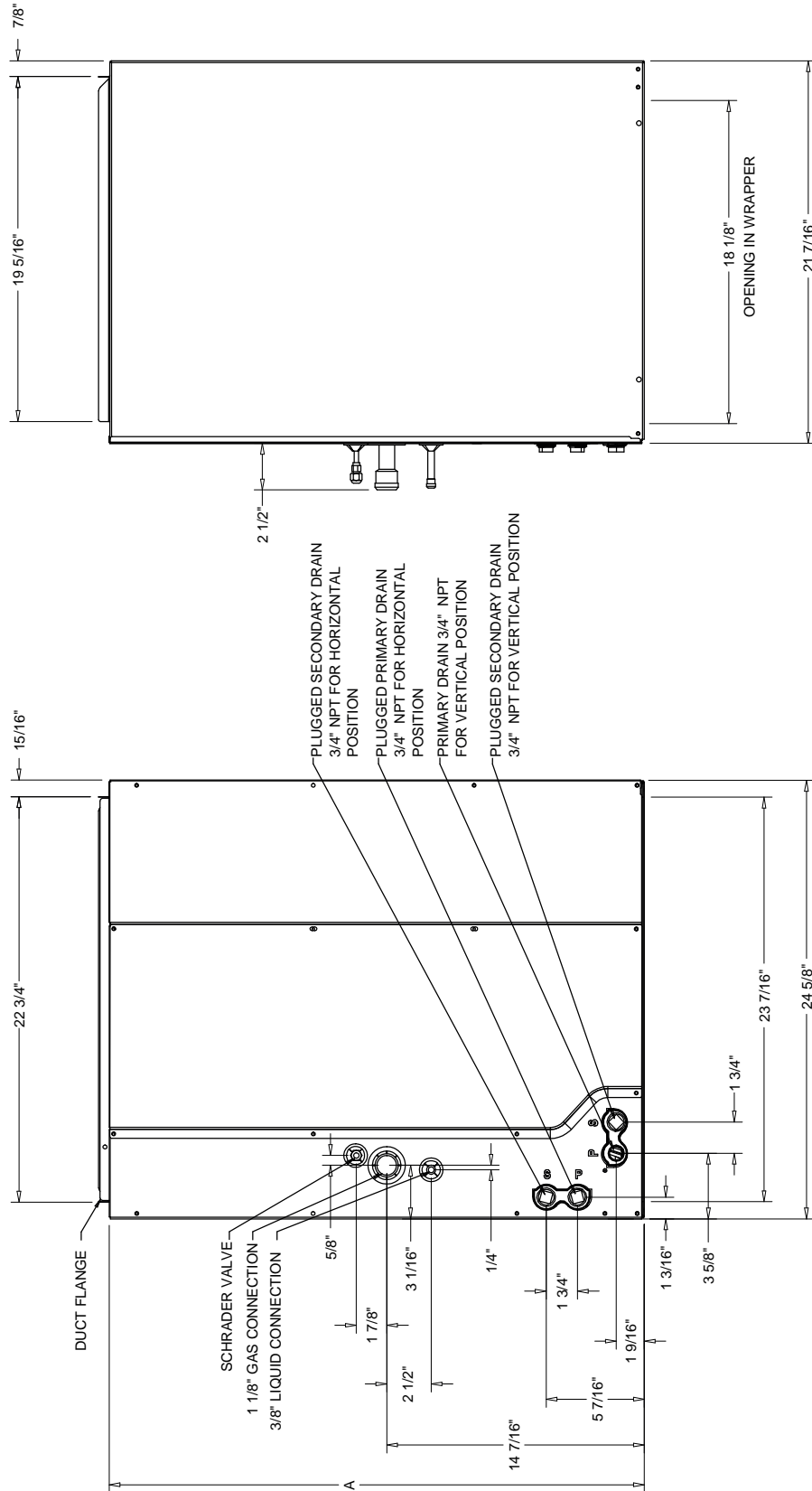
UNIT DIMENSIONS	DIM - A	DIM - B	DIM - C	DIM - D	DIM - E	DIM - F
TUH1B040A9241	17 1/2"	2 1/4"	16 1/4"	16"	7 1/2"	2"
TUH1B060A9361	21"	2 1/2"	19 3/4"	19 1/2"	9"	3"
TUH1B080A9421	24 1/2"	2 15/16"	23 1/4"	23"	10"	3"

Unit Dimensions - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2

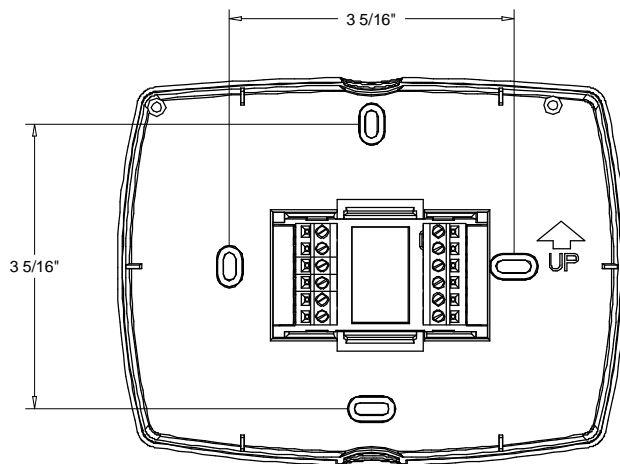
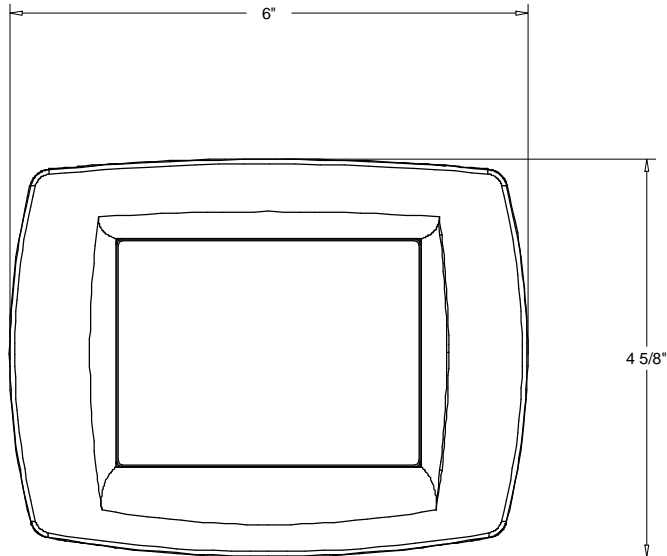
TABLE 1	
HEIGHT (A)	26 7/8"
MATCHED FURNACE WIDTH	24 1/2"
R410 GAS REDUCER	7/8" x 1 1/8"
DRAIN PAN	PLASTIC
WEIGHT NET	81.0 lb

NOTE:
1. REDUCER SUPPLIED WITH R410 MODLES



Accessory - Split System Air Conditioning Units (Small)

Item: A1 Qty: 2



TCONT200
ACCESSORY - THERMOSTAT

Field Installed Options - Part/Order Number Summary

This is a report to help you locate field installed options that arrive at the jobsite. This report provides part or order numbers for each field installed option, and references it to a specific product tag. It is NOT intended as a bill of material for the job.

Product Family - Split System Air Conditioning Units (Small)

Item	Tag(s)	Qty	Description	Model Number
A1	No Tag	2	4 Ton Unitary Split Systems	4TTB4048E1000-0 U00000000-0014T XCD050BC3-C

Field Installed Option Description	Part/Ordering Number
Programmable 7 day , 3 heat/2 cool thermostat	TCONT802AS32DA
50' Brazed Refrigerant Line Set	TAYREFLN350