Submittal

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/21/17

Prepared For:
All Bidders

Date: *May 19, 2017*

Customer P.O. Number:
Customer Project Number:

Sold To:

Job Number:
Job Name:
HVAC Services - Brent - 64 India Street

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

Product Summary

Qty	Product
1	3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
1	Split System Air Conditioning Units (Small)

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

Product performance and submittal data is valid for a period of 6 months from the date of submittal generation. If six months or more has elapsed between submittal generation and equipment release, the product performance and submittal data will need to be verified. It is the customer's responsibility to obtain such verification.

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3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop 27

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Tag Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	5 Ton R410A PKGD Gas/Electric	YSC060G3RMA--C001C2A00300000000

Product Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Item: A1 Qty: 1 Tag(s): RTU-1

DX cooling, gas heat
Standard efficiency
Convertible configuration
5 Ton
Major design sequence
208-230/60/3
Microprocessor controls 3ph
Medium gas heat 3ph
Economizer Dry Bulb 0-100%
Standard condenser coil w/hail guard
Through the base gas & electrical 3ph
Circuit breaker
Unpowered convenience outlet (3ph units)
Frostat and crankcase heater 3ph
Roof curb (Fld)

Performance Data - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Tags	RTU-1
Design Airflow (cfm)	2000
Airflow Application	Horizontal
Cooling Entering DB (F)	80.00
Cooling Entering WB (F)	67.00
Ambient Temp (F)	95.00
Evap Coil Leaving Air Temp (DB) (F)	57.55
Evap Coil Leaving Air Temp (WB) (F)	57.55
Cooling Leaving Unit DB (F)	59.66
Cooling Leaving Unit WB (F)	58.36
Gross Total Capacity (MBh)	59.97
Gross Sensible Capacity (MBh)	49.29
Gross Latent Capacity (MBh)	10.68
Net Total Capacity (MBh)	57.03
Net Sensible Capacity (MBh)	46.35
Net Sensible Heat Ratio (Number)	0.81
Heating EAT (F)	65.00
Heating LAT (F)	95.70
Heating Delta T (F)	30.70
Input Heating Capacity (MBh)	80.00
Output Heating Capacity (MBh)	65.60
Output Heating Cap. w/Fan (MBh)	68.59
Design ESP (in H2O)	0.750
Component SP (in H2O)	0.180
Indoor mtr operating power (bhp)	0.99
Indoor RPM (rpm)	1148
Indoor Motor Power (kW)	0.74
Compressor Power (kW)	0.00
System Power (kW)	5.17
IPLV @ AHRI (IPLV)	14.0
MCA (A)	28.30
MOP (A)	40.00
Compressor 1 RLA (A)	15.90
Compressor 2 RLA (A)	0.00
Evaporator fan FLA (A)	6.90

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Tags	RTU-1
Condenser fan FLA (A)	1.40
Evaporator face area (sq ft)	6.98
Evaporator rows (Each)	2.00
Evaporator fin spacing (Per Foot)	192
Evaporator face velocity (ft/min)	287
Min. unit operating weight (lb)	522.0
Max. unit operating weight (lb)	797.0
Fan motor heat (MBh)	2.94
Dew Point (F)	57.56
Max Available ESP (in H2O)	1.070
Run Acoustics	Yes
Ducted Discharge Heating - 63 Hz (dB)	91
Ducted Discharge Heating - 125 Hz (dB)	80
Ducted Discharge Heating - 250 Hz (dB)	71
Ducted Discharge Heating - 500 Hz (dB)	67
Ducted Discharge Heating - 1 kHz (dB)	64
Ducted Discharge Heating - 2 kHz (dB)	61
Ducted Discharge Heating - 4 kHz (dB)	59
Ducted Discharge Heating - 8 kHz (dB)	53
Ducted Inlet Heating - 63 Hz (dB)	91
Ducted Inlet Heating - 125 Hz (dB)	75
Ducted Inlet Heating - 250 Hz (dB)	67
Ducted Inlet Heating - 500 Hz (dB)	59
Ducted Inlet Heating - 1 kHz (dB)	54
Ducted Inlet Heating - 2 kHz (dB)	53
Ducted Inlet Heating - 4 kHz (dB)	51
Ducted Inlet Heating - 8 kHz (dB)	45
Outdoor Noise Heating - 63 Hz (dB)	85
Outdoor Noise Heating - 125 Hz (dB)	82
Outdoor Noise Heating - 250 Hz (dB)	81
Outdoor Noise Heating - 500 Hz (dB)	81
Outdoor Noise Heating - 1 kHz (dB)	77
Outdoor Noise Heating - 2 kHz (dB)	72
Outdoor Noise Heating - 4 kHz (dB)	67
Outdoor Noise Heating - 8 kHz (dB)	61
Refrig charge (HFC-410A) - ckt 1 (lb)	4.4
Saturated Suction Temp Circuit 1 (F)	50.44
Saturated Discharge Temp Circuit 1 (F)	117.07
IEER ( )	14.00
EER @ AHRI Conditions (EER)	12.0
Total Static Pressure (in H2O)	0.930

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Mechanical Specifications - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 1 Tag(s): RTU-1

General
The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as sta the factory for units with microprocessor controls. Operating range for units with electromechanical controls shall be between 115°F and 40°F. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing
Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8 inch, foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Unit Top
The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.

Filters
Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

Compressors
All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications. Dual compressors are available on 7½-10 ton models and allow for efficient cooling utilizing 3-stages of compressor operation for all high efficiency models.

Notes:
Crankcase heaters are optional on YSC (036, 048, 060, 072, 090, 102, 120); standard on YHC (036, 048, 060, 072, 092, 102, 120).

Indoor Fan
The following units shall be equipped with a direct drive plenum fan design (T/YSC120F,T/YHC074F, T/YHC092F,T/YHC102F, 120F). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

3 to 5 ton units (high efficiency 3-phase with optional motor) are belt driven, FC centrifugal fans with adjustable motor sheaves. 3 to 5 ton units (standard and high efficiency 3-phase) have multispeed, direct drive motors. All 6 to 8½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All 10 tons, 6 ton (074), 7½ to 8½ (high efficiency) units have variable speed direct drive motors. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans
The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Evaporator and Condenser Coils
Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Evaporator coils are standard for all 3 to 10 ton standard efficiency models. Microchannel condenser coils are standard

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for all 3 to 10 ton standard efficiency models and 4, 5, 6, 7.5, 8.5 ton high efficiency models. The microchan condenser coil is not offered on the 4 and 5 ton dehumidification model. Due to flat streamlined tubes with s and metallurgical tube-to-fin bond, microchannel coil has better heat transfer performance. Microchannel cor can reduce system refrigerant charge by up to 50% because of smaller internal volume, which leads to bett compressor reliability. Compact all-aluminum microchannel coils also help to reduce the unit weight. These aluminum coils are recyclable. Galvanic corrosion is also minimized due to all aluminum construction. Strong aluminum brazed structure provides better fin protection. In addition, flat streamlined tubes also make microchannel coils more dust resistant and easier to clean. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Tool-less Hail Guards
Tool-less, hail protection quality coil guards are available for condenser coil protection.

Controls
Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device. A choice of microprocessor or electromechanical controls shall be available. Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. 24-volt electromechanical control circuit shall include control transformer and contactor

High Pressure Control
All units include High Pressure Cutout as standard.

Phase monitor
Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator. There are no field adjustments. The module will automatically reset from a fault condition.

Refrigerant Circuits
Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Gas Heating Section
The heating section shall have a progressive tubular heat exchanger design using stainless steel burners and corrosion resistant steel throughout. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The heater shall use a direct spark ignition (DSI) system. On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat/zone sensor. Units shall be suitable for use with natural gas or propane (field-installed kit) and also comply with the California requirement for low NOx emissions (Gas/Electric Only).

Powered or Unpowered Convenience Outlet
This is a GFCI, 120v/15amp, 2 plug, convenience outlet, either powered or unpowered. When the convenience outlet is powered, a service receptacle disconnect will be available. The convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker. This option can only be ordered when the Through the Base Electrical with either the Disconnect Switch or Circuit Breaker option is ordered.

Economizer
This accessory shall be available with or without barometric relief. The assembly includes fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control. The barometric relief shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment off cycle. Optional solid state or differential enthalpy control shall be available for either factory or field installation. The economizer arrives in the shipping position and shall be moved to the operating position by the installing contractor.

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Through the Base Gas Piping
The unit shall include a standard through the base gas provision. This option shall have all piping necessar black steel, manual gas shut-off valve, elbows, and union. The manual shutoff valve shall include a 1/8" NP tap. This assembly will require minor field labor to install.

Through the Base Electrical Access
An electrical service entrance shall be provided allowing electrical access for both control and main power connections inside the curb and through the base of the unit. Option will allow for field installation of liquid-tight conduit and an external field-installed disconnect switch.

Through the Base Electrical with Circuit Breaker
This option is a thermal magnetic, molded case, HACR Circuit Breaker with provisions for through the base electrical connections. The circuit breaker will be installed in a water tight enclosure in the unit with access through a swinging door. Wiring will be provided from the switch to the unit high voltage terminal block. The circuit breaker will provide overcurrent protection, be sized per NEC and UL guidelines, and be agency recognized by UL/CSA.

Frostat
This option is to be utilized as a safety device. The Frostat opens when temperatures on the evaporator coil fall below 10°F. The temperature will need to rise to 50°F before closing. This option should be utilized in low airflow or high outside air applications. (Cooling with Electric Heat Only.)

Accessory - Roof Curb
The roof curb shall be designed to mate with the unit's downflow supply and return and provide support and a water tight installation when installed properly. The roof curb design shall allow field fabricated rectangular supply/return ductwork to be connected directly to the curb. Curb design shall comply with NRCA requirements. Curb shall be shipped knocked down for field assembly and shall include wood nailer strips.

Frostat
This option is to be utilized as a safety device.The Frostat opens when temperatures on the evaporator coil fall below 10°F.The temperature will need to rise to 50°F before closing.This feature should be utilized in low airflow or high outside air applications (cooling only).

Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Item: A1 Qty: 1 Tag(s): RTU-1

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NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD ON ALL UNITS.
2. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

PLAN VIEW UNIT

DIMENSION DRAWING

PACKAGED GAS / ELECTRICAL

DIMENSION DRAWING

Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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ISOMETRIC-PACKAGED COOLING

Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 1 Tag(s): RTU-1

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NOTES:
1. THRU -THE -BASE GAS AND ELECTRICAL IS NOT STANDARD. VERIFY OPTION IN PRODUCT DATA IN THIS DOCUMENT.
2. VERIFY WEIGHT, CONNECTION, OPTION CONFIGURATION AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

THRU THE BASE GAS / ELECTRICAL

PLAN / ISO VIEW DRAWING

Unit Dimensions - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 1 Tag(s): RTU-1

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ELECTRICAL / GENERAL DATA

GENERAL (2)(4)(6)

Model:	YSC060G	Oversized Motor	
Unit Operating Voltage:	187-253	MCA:	N/A
Unit Primary Voltage:	208	MFS:	N/A
Unit Secondary Voltage	230	MCB:	N/A
Unit Hertz:	60		
Unit Phase:	3		
EER/SEER	12.0/14.0		
Standard Motor		Field Installed Oversized Motor	
MCA:	28.2	MCA:	N/A
MFS:	40.0	MFS:	N/A
MCB:	40.0	MCB:	N/A

HEATING PERFORMANCE

HEATING - GENERAL DATA

Heating Model:	Medium
Heating Input (BTU):	80,000
Heating Output (BTU):	65,600
No. Burners:	2
No. Stages	1
Gas Inlet Pressure	
Natural Gas (Min/Mix):	4.5/14.0
LP (Min/Max)	11.0/14.0
Gas Pipe Connection Size:	1/2"

INDOOR MOTOR

Standard Motor		Oversized Motor		Field Installed Oversized Motor	
Number:	1	Number:	N/A	Number:	N/A
Horsepower:	1.0	Horsepower:	N/A	Horsepower:	N/A
Motor Speed (RPM):	--	Motor Speed (RPM):	N/A	Motor Speed (RPM):	N/A
Phase	1	Phase	N/A	Phase	N/A
Full Load Amps:	6.9	Full Load Amps:	N/A	Full Load Amps:	N/A
Locked Rotor Amps:	--	Locked Rotor Amps:	N/A	Locked Rotor Amps:	N/A

COMPRESSOR Circuit 1/2

Number:	1
Horsepower:	4.3
Phase:	3
Rated Load Amps:	15.9
Locked Rotor Amps:	110.0

OUTDOOR MOTOR

Number:	1
Horsepower:	0.40
Motor Speed (RPM):	1100
Phase:	1
Full Load Amps:	1.4
Locked Rotor Amps:	5.2

POWER EXHAUST ACCESSORY (3)

(Field Installed Power Exhaust)

Phase:	N/A
Horsepower:	N/A
Motor Speed (RPM):	N/A
Full Load Amps:	N/A
Locked Rotor Amps:	N/A

FILTERS

Type:	Throwaway
Furnished:	Yes
Number	2
Recommended	20"x35"x2"

REFRIGERANT (2)

Type	R-410
Factory Charge	
Circuit #1	4.8 lb
Circuit #2	N/A

NOTES:
1. Maximum (HACR) Circuit Breaker sizing is for installations in the United States only.
2. Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.
3. Value does not include Power Exhaust Accessory.
4. Value includes oversized motor.
5. Value does not include Power Exhaust Accessory.
6. EER is rated at AHRI conditions and in accordance with DOE test procedures.

Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
Item: A1 Qty: 1 Tag(s): RTU-1

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PACKAGED GAS / ELECTRICAL

CORNER WEIGHT

INSTALLED ACCESSORIES NET WEIGHT DAT

ACCESSORY	WEIGHTS
ECONOMIZER	26.0 lb
MOTORIZED OUTSIDE AIR DAMPER	
MANUAL OUTSIDE AIR DAMPER	
BAROMETRIC RELIEF	
OVERSIZED MOTOR	
BELT DRIVE MOTOR	
POWER EXHAUST	
THROUGHT THE BASE ELECTRICAL/GAS (FIOPS)	13.0 lb
UNIT MOUNTED CIRCUIT BREAKER (FIOPS)	5.0 lb
UNIT MOUNTED DISCONNECT (FIOPS)	
POWERED CONVENIENCE OUTLET (FIOPS)	
HINGED DOORS (FIOPS)	
HAIL GUARD	12.0 lb
SMOKE DETECTOR, SUPPLY / RETURN	
NOVAR CONTROL	
STAINLESS STEEL HEAT EXCHANGER	
REHEAT	
ROOF CURB	

BASIC UNIT WEIGHTS		CORNER WEIGHTS				CENTER OF GRAVITIY	
SHIPPING	NET	A	214.0 lb	C	52.0 lb	(E) LENGHT	(F) WIDTH
627.0 lb	522.0 lb	B	193.0 lb	D	63.0 lb	33"	10"

NOTE:
1. All weights are approximate.
2. Weights for options that are not list refer to Installation guide.
3. The actual weight are listed on the unit nameplate.
4. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
5. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight. .
6. Verify weight, connection, and all dimension with installer documents before installation.
7. Corner weights are given for information only.
8. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.

PACKAGED GAS / ELECTRICAL

RIGGING AND CENTER OF GRAVITY

Weight, Clearance & Rigging Diagram - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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CLEARANCE FROM TOP OF UNI

PACKAGED GAS / ELECTRIC

CLEARANCE

PACKAGED GAS / ELECTRIC

DOWNFLOW TYPICAL ROOF OPENING

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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NOTES:
1. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

ROOF TOP CURB (BAYCURB042)

ACCESSORY

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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Downflow Duct Connections - Field Fabricated
All Flanges - 1 1/4"

DUCT CONNECTIONS

ACCESSORY

Accessory - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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ACCESSORY - ECONOMIZER HOOD

Field Wiring - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop
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ZONE SENSOR WIRE TABLE

WIRE SIZE	MAXIMUM WIRE LENGTH
22 GAUGE	1800"
20 GAUGE	3000"
18 GAUGE	4500"
16 GAUGE	7200"
14 GAUGE	11700"

NOTE:

1. All wiring and devices shown dashed to be supplied and installed by the customer in accordance with national and local electrical codes.
2. Low voltage control wiring must not be run in conduit with power wiring.

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Tag Data - Split System Air Conditioning Units (Small) (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
B1	SS-1	1	5 Ton Unitary Split Systems (SSC	4TTA4060A4----------0-0000000000--------0-TUH1D12 601----------4TXCD010DS3HC

CU-(1-3)

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Product Data - Split System Air Conditioning Units (Small)

Item: B1 Qty: 1 Tag(s): SS-1

Split System Cooling Outdoor Unit
5 Ton Nominal Cooling Capacity
460 Volt 3 Phase 60 Hertz
Furnace unit
120,000 Heating input BTUH
Major Design
115 Volt/1 phase/60 hertz
5 Ton Airflow Cooling Capacity
Cased upflow/dnflow/horiz left
24.5"/23.3" cabinet
60,000 Nominal cooling capacity
Hi efficiency
TXV-Non bleed
Heat pump
Conv-upflow/dnflw,left airflow coil

Performance Data - Split System Air Conditioning Units (Small)

Tags	SS-1
Design clg outdoor DB (F)	95.00
Cooling EDB (F)	78.00
Cooling EWB (F)	65.00
Rated gross capacity (AHRI) (Btuh)	57500.00
Clg net total capacity (Btuh)	57911.00
Clg net sensible capacity (Btuh)	46737.00
Clg net latent capacity (Btuh)	11173.00
Calc clg LDB (F)	56.10
Calc clg LWB (F)	55.10
SEER @ AHRI (btuh/watt)	14.00
EER @ AHRI (EER)	11.8
Cooling airflow (cfm)	2000
Min system airflow clg (cfm)	1575
Max system airflow clg (cfm)	2025
AHRI airflow (cfm)	1600
AHRI reference number ( )	9130297
Compressor power @ (specific Ambient) (W)	4074.0
Condenser fan power @ (specific SP) (W)	236.0
Supply fan power @ (specified SP) (W)	584.0
ASHRAE 90.1 S6.4.1 compliant	Yes
Htg outdoor DB (F)	50.00
Heating airflow (cfm)	2000
Heating EDB (F)	65.00
80 to 90 second blower off delay	Not Required
OD AHRI Model (Each)	-1.00
Annual Fuel Utilization Efficiency (%)	95.00
Heating input @ sea level (Btuh)	97000.00
Heating output @ sea level (Btuh)	92150.00

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Mechanical Specifications - Split System Air Conditioning Units (Small)
Item: B1 Qty: 1 Tag(s): SS-1

TUH1 - GENERAL OPERATION
These High Efficiency, Direct Vent, Condensing Gas Furnaces employ a Hot Surface Ignition system, which 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.

4TXC - General
Upflow, Downflow, or Horizontal coils shall be designed for cooling and heat pump applications. The coil shall be 3/8" seamless aluminum tubing me-chanically bonded to aluminum plate fin.
Refrigerant for the TXC coils shall be controlled with factory installed Non-Bleed TXV refrigerant control. Refrigerant connections are brazed fittings with an additional Schrader Valve for system service.
The coil cabinet shall have a removable front and interior access panel for evaporator coil entering air surface cleaning.
The coil includes a drain pan with drain connections for vertical or horizontal operation and a horizontal auxiliary drain pan.
These coils are A.R.I. certified with Trane's matching condensing units.

4TXC - Accessories
Evaporator Defrost Control installed on coil for lower ambient operating conditions.

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4TTA4 - General

The Outdoor Units are fully charged from the factory for up to 15 feet of piping. This unit is designed to oper outdoor ambient temperatures as high as 115°F. Cooling capacities are matched with a wide selection of a and furnace coils that are AHRI certified. The unit is certified to UL 1995. Exterior is designed for outdoor ap

4TTA4 - Casing

Unit casing is constructed of heavy gauge, galvanized steel and painted with a weather-resistant powder paint finish on all louvered panels and the fan top panel. The corner panels are prepainted. All panels are subjected to our 1,000 hour salt spray test . The base is made of a CMBP-G30 weatherproof material to resist corrosion.

4TTA4 - Refrigerant Controls

Refrigeration system controls include condenser fan, compressor contactor and high pressure switch. High and low pressure controls are inherent to the compressor. A factory supplied liquid line drier is standard. Some models may require field installation.

4TTA4 - Compressor

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

4TTA4 - Condenser Coil

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

Unit Dimensions - Split System Air Conditioning Units (Small)

Item: B1 Qty: 1 Tag(s): SS-1

CU-(1-3)

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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.
3. VERIFY WEIGHT, CONNECTION, AND ALL DIMENSION WITH INSTALLER DOCUMENTS BEFORE INSTALLATION

4TTA4060

OUTLINE DRAWING

Unit Dimensions - Split System Air Conditioning Units (Small)

Item: B1 Qty: 1 Tag(s): SS-1

CU-(1-3)

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ELECTRICAL / GENERAL DATA

GENERAL	
Model:	4TTA4060A4000A
Operating Voltage:	414-506
Unit Primary Voltage:	460
Unit Secondary Voltage	-
Unit Hertz:	60
Unit Phase:	3

POWER CONN.	
Minimum Circuit Ampacity:	9.0
Maximum Circuit Breaker:	15.0
Minimum Protection Rating:	15.0

COMPRESSOR	
Number:	1
Phase:	3
Rated Load Amps:	7.1
Locked Rotor Amps:	52.0

OUTDOOR MOTOR	
Number:	1
Horsepower:	0.20
Motor Speed (RPM):	-
Phase:	1
Full Load Amps:	1.05
Locked Rotor Amps:	-

REFRIGERANT	
Type:	R-410A
Charge:	7.6 lb
Line Size O.D. Gas:	7/8"
Line Size O.D. LIQ:	3/8"

NOTES:
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.

WEIGHT	
NET	211.0 lb
SHIPPING	246.0 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: B1 Qty: 1 Tag(s): SS-1

AH-(1-3)

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ELECTRICAL / GENERAL DATA

GENERAL - POWER CONN (4)		COMBUSTION FAN		BLOWER DRIVE	
Model:	TUH1D120A9601A	Type:	Centrifugal	Drive:	Direct
Voltage:	115/1/60	Motor HP:	0.05	No. Used:	1
Ampacity (Amps):	12.9	Motor Speed RPM:	3450	Motor HP:	0.75
Max Over. Pro. (Amps):	20.0	Phase:	1	Speed RPM:	1100
		Full Load Amps:	0.71	Phase:	1
ORIFICES		**Heat (2)(3)**		**FILTERS**	
Nat. Gas Qty - Drill Size:	6 - 45	Input BTUH:	110,000	Type:	High Velocity
L.P. Gas Qty. - Drill Size:	6 - 56	Capacity BTUH (ICS):	104,500	Furnished:	No
		AFUE (ICS):	95.0	Number	1
Gas Valve:	Redundant - single Stage	Temp. Rise (Min.-Max):	40-70	Recommended	24"x25"x1"

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:	205.0 lb
NET:	193.0 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 LIMTTED TO 2 1/2" OR 3" ON SOME MODELS AT DIFFERENT ALTITUDES. REFER TO THE VENT LENGTH TABLE FOR PROPER APPLICATION.

TUH1 - H
UPFLOW

TUH1 - H
UPFLOW / HORIZONTAL

Unit Dimensions - Split System Air Conditioning Units (Small)

Item: B1 Qty: 1 Tag(s): SS-1

AH-(1-3)

UNIT DIMENSTIONS	DIM - A	DIM - B	DIM - C	DIM - D	DIM - E	DIM - F
TUH1B040A9241 TUH1B060A9361 TUH1B080A9421	17 1/2"	2 1/4"	16 1/4"	16"	7 1/2"	2"
TUH1C080A9601 TUH1C100A9481	21"	2 1/2"	19 3/4"	19 1/2"	9"	3"
TUH1D100A9601 TUH1D120A9601	24 1/2"	2 15/16"	23 1/4"	23"	10"	3"

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Unit Dimensions - Split System Air Conditioning Units (Small)
Item: B1 Qty: 1 Tag(s): SS-1

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4TXCD010	
DIMENSION (A)	30 11/16"
DIMENSION (B)	24 1/2"
DIMENSION (C)	23 7/16"
DIMENSION (D)	22 3/4"
MATCHED FURNACE WIDTH	24 1/2"
GAS CONNECTION	3/4" BRAZE
LIQUID CONNECTION	3/8" BRAZE
REFRIGERANT CONTROL	TXV (NON-BLEED)
DRAIN PAN	PLASTIC
WEIGHT NET	68.0 lb

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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 numbers for each field installed option, and references it to a specific product tag. It is NOT intended as a material for the job.

Product Family - 3-10 Ton R410A PKGD Unitary Gas/Electric Rooftop

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1	1	5 Ton R410A PKGD Unitary Gas/Electric	YSC060G3RMA--C001C2A0030000 0000000000000

Field Installed Option Description	Part/Ordering Number
Roof curb	BAYCURB042A