Precedent Packaged Rooftop

Unit Overview - YSK120A3S0H**0000000000000000000000000000

Application	Unit Size	Supply Fan		External Dimensions (in.)			Operating Weight	Elevation
		Airflow	Total Static Pressure	Height	Width	Length		
DX Cooling / Gas Heat	10 Ton	4000. cfm	0.750 in H2O	4.24 ft	4.44 ft	7.34 ft	1114.0 lb	0.00 ft

Unit Features

Unit Efficiency	Standard Efficiency
Refrigerant	R-454B Refrigerant
EER @ AHRI	11.00 Number
IEER @ AHRI	14.60 Number

Unit Electrical

Voltage/phase/hertz	208-230/60/3
MCA	57.00 A
MOP	80.00 A
Condenser Fan FLA	2.80 A
Evaporator Fan FLA	8.80 A
Compressor 1 RLA	25.20 A
Compressor 2 RLA	13.20 A
Compressor Power	8.76 kW
System Power	11.80 kW

Controls

Unit Controls	Symbio 700

Cooling Section

		Capacity	
Entering Dry Bulb	80.00 F	**Gross Total**	126.37 MBh
Entering Wet Bulb	67.00 F	**Gross Latent**	28.54 MBh
Ambient Temp	95.00 F	**Gross Sensible**	97.83 MBh
Leaving Coil Dry Bulb	57.38 F	**Net Total**	120.90 MBh
Leaving Coil Wet Bulb	56.75 F	**Net Sensible**	92.36 MBh
Leaving Unit Dry Bulb	59.13 F	**Net Sensible Heat Ratio**	76.39 %
Leaving Unit Wet Bulb	57.45 F	**Fan Motor Heat**	2.97 MBh
Saturated Discharge Temperature	121.69 F	**Refrig Charge-Circuit 1**	8.0 lb
Saturated Suction Temperature	54.26 F		

Heating Section

Heating	High Gas Heat
Input Heating Capacity	240.00 MBh
Output Heating Capacity	194.40 MBh
Heating EAT	60.00 F
Heating LAT	104.56 F
Heating Temp Rise	44.56 F
Heating Stages	2

Fan Section

Indoor Fan Data	
Airflow Application	Horizontal
Design ESP	0.750 in H2O
Component SP	0.000 in H2O
Heat SP	0.000 in H2O
Total SP	0.750 in H2O
Indoor Fan Drive Type	Variable Direct
Indoor Fan Quantity	1.00 Number
Indoor Fan Type	BC Plenum

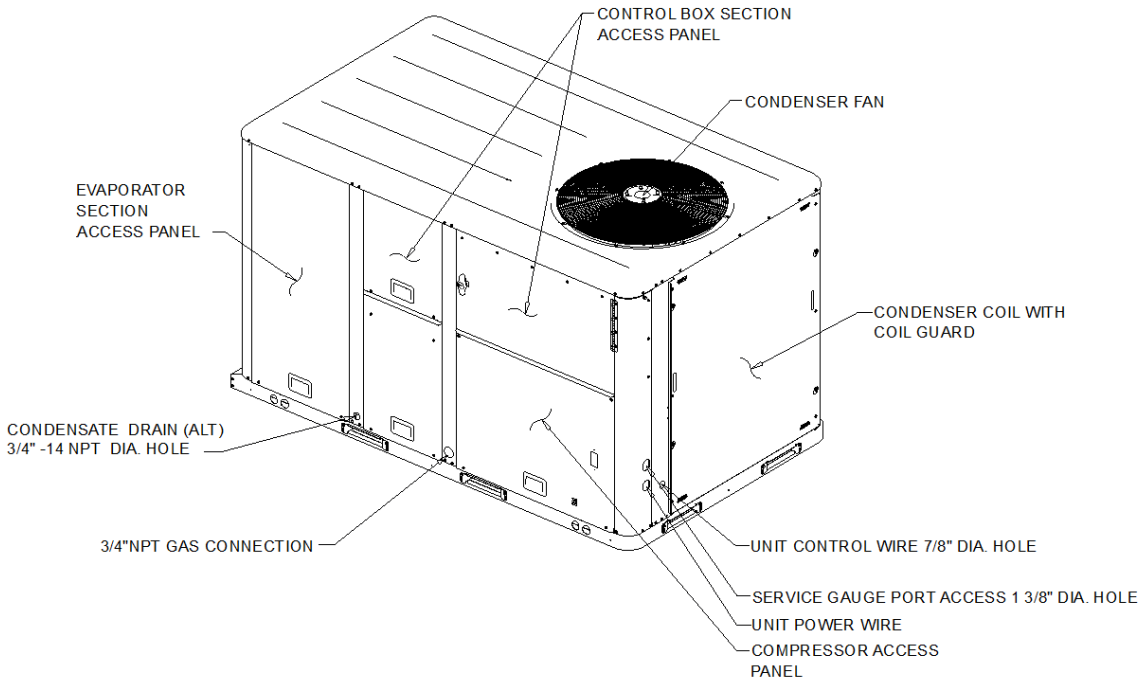
Indoor Fan Performance	
Airflow	4000. cfm
Supply Motor Horsepower	3.000 hp
Total Supply Motor Operating Power	1.710 hp
Indoor RPM	1360. rpm
Outdoor Fan Data	
Outdoor Fan Drive Type	Direct
Outdoor Fan Quantity	1
Outdoor Fan Type	Propeller
Filters	
1st Filter Size and Qty	2 - 18 x 24 x 2
2nd Filter Size and Qty	3 - 24 x 16 x 2

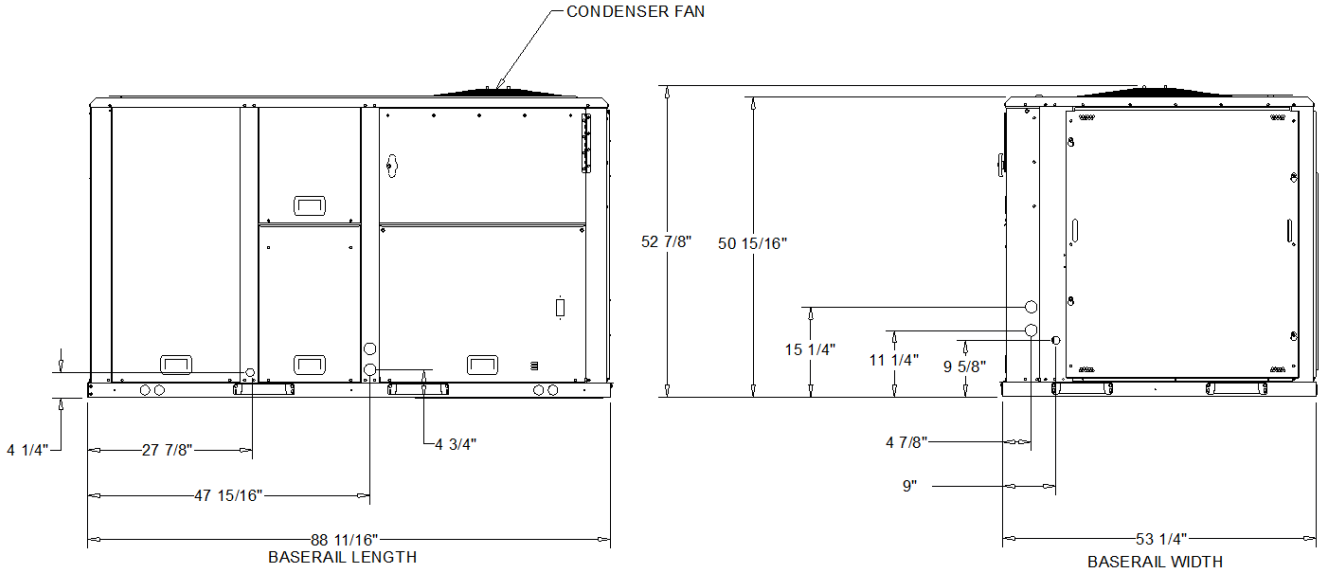
Acoustics

Sound Path	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Ducted Discharge	86 dB	86 dB	77 dB	73 dB	67 dB	64 dB	65 dB	65 dB
Ducted Inlet	82 dB	75 dB	72 dB	60. dB	57 dB	56 dB	56 dB	55 dB
Outdoor Noise	86 dB	87 dB	86 dB	83 dB	81 dB	77 dB	73 dB	67 dB

Note:Ducted Discharge/Ducted Inlet prediction data conform to AHRI 260

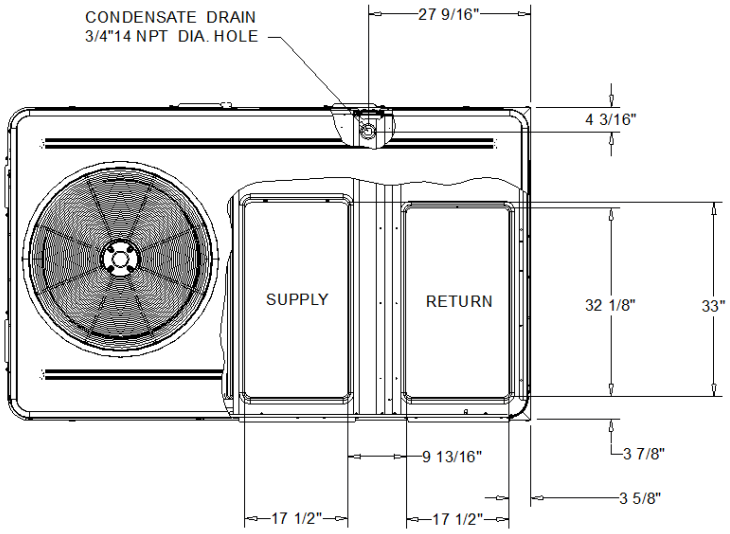
NOTES:
1. VERIFY WEIGHTS, CONNECTIONS, AND ALL DIMENSIONS WITH INSTALLER DOCUMENTS BEFORE INSTALLATION



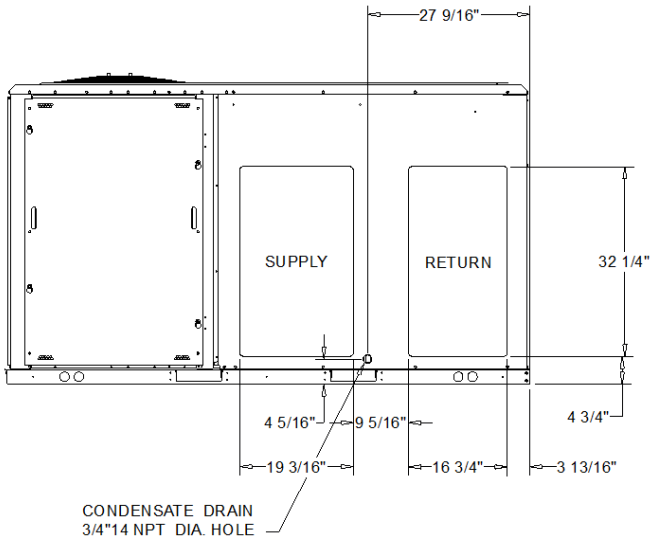


DX COOLING / GAS HEAT STANDARD EFFICIENCY

DIMENSION DRAWING



PLAN VIEW OF DOWNFLOW OPENINGS



HORIZONTAL AIR FLOW OPENING

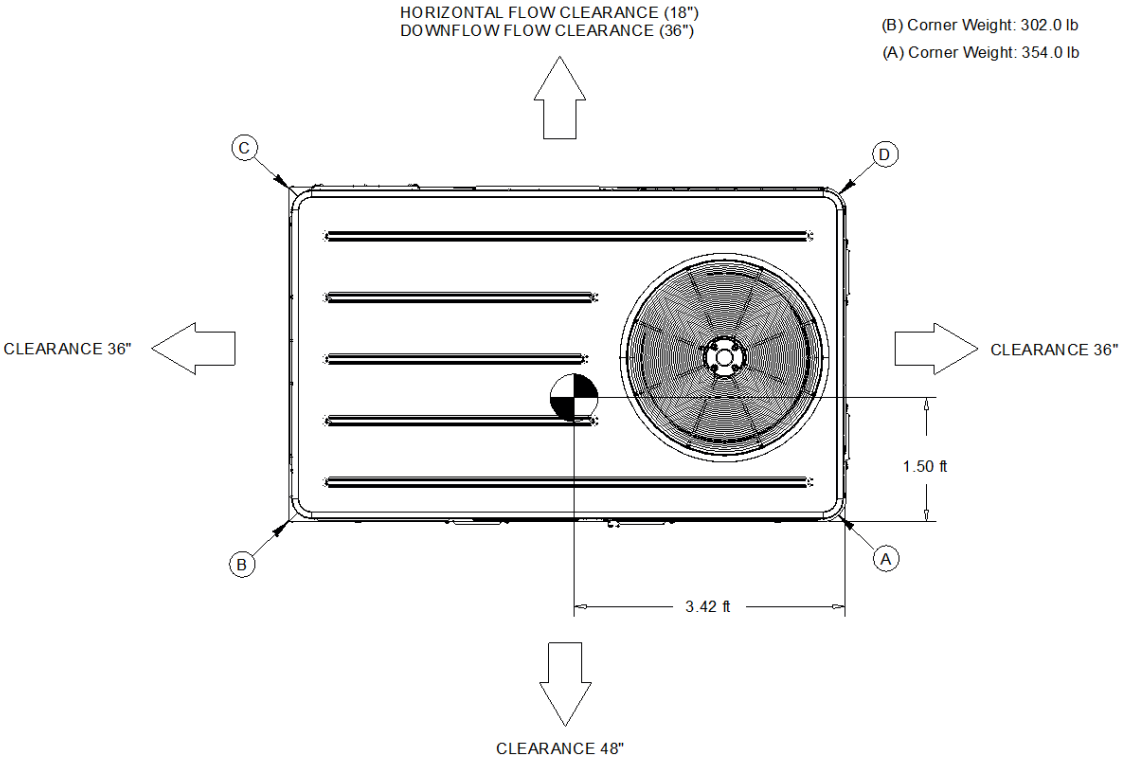
DX COOLING / GAS HEAT STANDARD EFFICIENCY

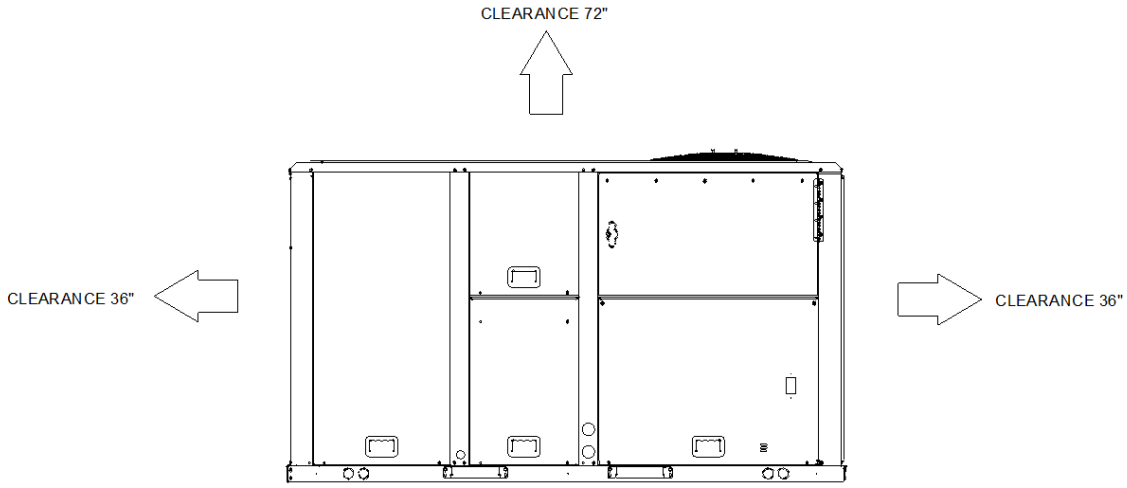
DIMENSION DRAWING

NOTES:
1. APPROX. INSTALLED WEIGHT INCLUDES ALL SELECTED OPTIONS AND ACCESSORIES.
2. CORNER WEIGHTS ARE FOR BASE UNIT ONLY AND DO NOT INCLUDE OPTIONS OR ACCESSORIES.
3. WEIGHT INCLUDES BOTH FACTORY AND FIELD INSTALLED ACCESSORY.

Approximate Installed Weight: 1,114.0 lb

(B) Corner Weight: 302.0 lb
(C) Corner Weight: 168.0 lb
(A) Corner Weight: 354.0 lb
(D) Corner Weight: 193.0 lb





DX COOLING / GAS HEAT STANDARD EFFICIENCY

WEIGHTS AND CLEARANCES

NOTES:
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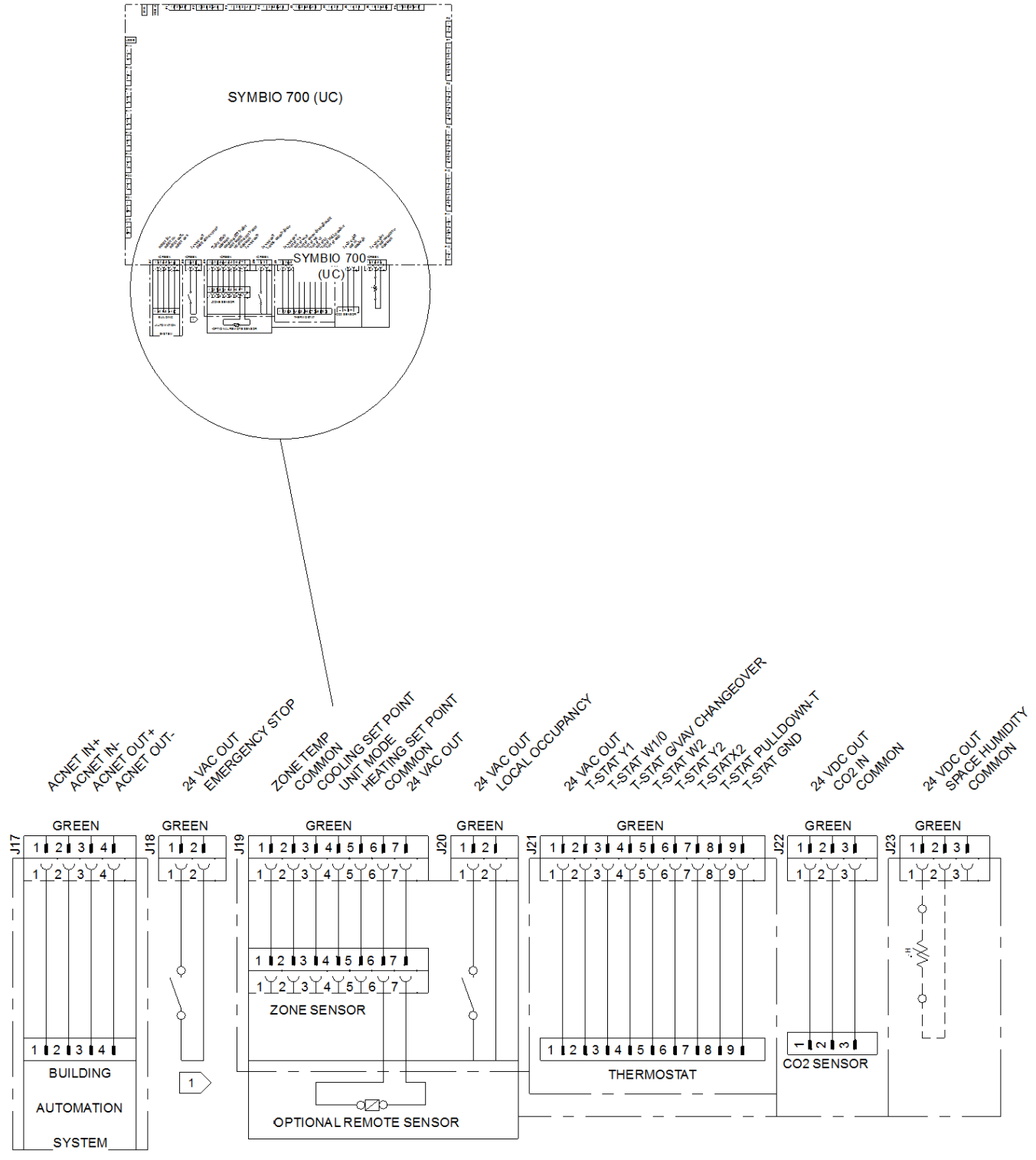

SYMBIO 700 (J17, j18, J19, J20, J21, J22, AND J23)

FIELD WIRING DRAWING

General
Packaged rooftop unit cooling capacities, heating capacities, and efficiencies are certified to the following standards:
  - 3 to 5 ton units: AHRI Standard 210/240.
  - 6 to 25 ton units: AHRI Standard 340/360.
- Gas Heating Units: ANSI Z21.47 and 10 CFR Part 431 for Commercial Warm Air.
- Convertible airflow.
- Symbio? controls operating range between 40°F and 125°F in cooling mode standard from the factory. Field-installed low ambient kit extends operating range down to 0°F.
- Factory assembled, internally wired, fully charged, and 100 percent run tested to verify cooling operation, fan and blower rotation, and control sequence.
- Colored and numbered wiring internal to the unit for simplified identification.
- cULus listed and classified in accordance for Central Cooling Air Conditioners.
- Unit shall be furnished with a leak detection system from the fact

Casing
- Zinc coated, heavy gauge, galvanized steel.
- Weather resistant pre-painted metal with galvanized substrate.
- Meets ASTM B117, 672 hour salt spray test.
- Removable single side maintenance access panels.
- Lifting handles in maintenance access panels (can be removed and reinstalled by removing fasteners while providing a water and air tight seal).
- Exposed vertical panels and top covers in the indoor air section insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material.
- Base pan shall have no penetrations within the perimeter of the curb other than the raised 1 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up.
- Base of the unit insulated with 1/8 inch, foil-faced, closed-cell insulation.
- Unit base provisions for forklift and/or crane lifting on three sides of unit.

Hail Guards
- Provides condenser coil protection.

Microchannel Coils
- Optimal heat transfer performance due to flat, streamlined tubes with small ports, and metallurgical tube-to-fin bond.
- Reduce system refrigerant charge by up to 50% leading to better compressor reliability.
- Compact all-aluminum microchannel coils reduce the unit weight.
- Recyclable all aluminum coils All aluminium construction minimizes galvanic corrosion.
- Strong aluminum brazed structure provides better fin protection.
- Flat streamlined tubes more dust resistant and easy to clean.
- Coils leak tested at the factory to ensure the pressure integrity.

Compressors
- All units have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps.
- Suction gas-cooled motor with voltage utilization range of plus or minus 10 percent of unit nameplate voltage.
- Internal overloads standard with scroll compressors.
- All units have dual compressors.
-Three stages of cooling available on 6 to 17.5 tons units and four stages of cooling available on 20 and 25 tons units.

Filters
-Two inch standard filters shall be factory supplied on all units.

Frostat
- Utilized as a safety device.
- Opens to prevent freezing temperatures on evaporator coil.
- Temperature will need to rise to 50°F before closing.
- Utilized in low airflow or high outside air applications (cooling only).

Gas Heating Section

-The heating section shall have a progressive tubular heat exchanger with corrosion-resistant aluminized steel tubes and burners as standard on all models.
-Stainless steel heat exchanger with 409 stainless steel tubes and 439 stainless steel burners shall be optional.
- Induced draft combustion blower shall be used to pull the combustion products through the firing tubes.
- 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, 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).

Indoor Fan
- Direct drive plenum fan design - 6 to 25 tons units.
- Plenum fan design - backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor.
- Supply fan speed adjustments can be made using the Symbio 700 or Mobile App.
- Motors are thermally protected.
- Variable speed direct drive motors are high efficiency - 6 to 25 tons.

Heat Exchanger
- Compact cabinet features a tubular heat exchanger in low, medium and high heat capacities.
- Corrosion-resistant aluminized steel tubes and burners are standard on all models.
- Induced draft blower to pull the gas mixture through the burner tubes.
- Direct spark ignition and a flame sensor as a safety device to validate the flame.