

# Foundation Gas/Electric Rooftop

## Unit Overview - GBC150A4EHA\*\*00M000000000000000000000000

| Application  | Unit Size                              | Supply Fan |                          | External Dimensions (in.) |         |         | Operating Weight |           | EER      | IEER/SEER | Elevation |
|--------------|--|------------|--------------------------|---------------------------|---------|---------|------------------|-----------|----------|-----------|-----------|
|              |  | Airflow    | External Static Pressure | Height                    | Width   | Length  | Minimum          | Maximum   |          |           |           |
| Gas/Electric | 12.5 Ton - confirm inventory/maximum 2 | 5000 cfm   | 0.100 in H2O             | 4.09 ft                   | 4.96 ft | 7.35 ft | 1259.0 lb        | 1627.0 lb | 11.0 EER | 12.40     |           |

### Unit Features

### Unit Electrical

|                            |          |
|----------------------------|----------|
| <b>Voltage/phase/hertz</b> | 460/60/3 |
| <b>MCA</b>                 | 31.00 A  |
| <b>MOP</b>                 | 40.00 A  |



### Controls

**Unit Controls** Electro-mechanical

### Cooling Section

|                              |         |                                |            |
|------------------------------|---------|--------------------------------|------------|
| <b>Entering Dry Bulb</b>     | 80.00 F | <b>Capacity</b>                |            |
| <b>Entering Wet Bulb</b>     | 67.00 F | <b>Gross Total</b>             | 142.60 MBh |
| <b>Ambient Temp</b>          | 95.00 F | <b>Gross Sensible</b>          | 132.50 MBh |
| <b>Leaving Coil Dry Bulb</b> | 55.46 F | <b>Net Total</b>               | 134.95 MBh |
| <b>Leaving Coil Wet Bulb</b> | 55.46 F | <b>Net Sensible</b>            | 124.85 MBh |
| <b>Leaving Unit Dry Bulb</b> | 56.78 F | <b>Fan Motor Heat</b>          | 7.65 MBh   |
| <b>Leaving Unit Wet Bulb</b> | 55.98 F | <b>Refrig Charge-circuit 1</b> | 8.8 lb     |
|                              |         | <b>Refrig Charge-circuit 2</b> | 6.9 lb     |

### Heating Section

|   |            |
|---|------------|
| <b>Output Heating Capacity</b>          | 200.00 MBh |
| <b>Output Heating Capacity with Fan</b> | 200.00 MBh |
| <b>Heating EAT</b>                      | 70.00 F    |
| <b>Heating LAT</b>                      | 106.87 F   |
| <b>Heating Temp Rise</b>                | 36.87 F    |

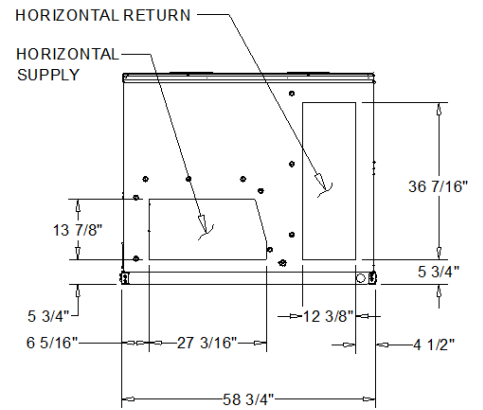
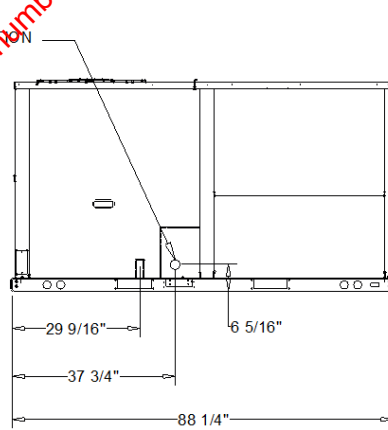
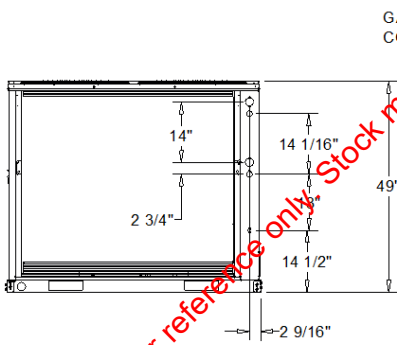
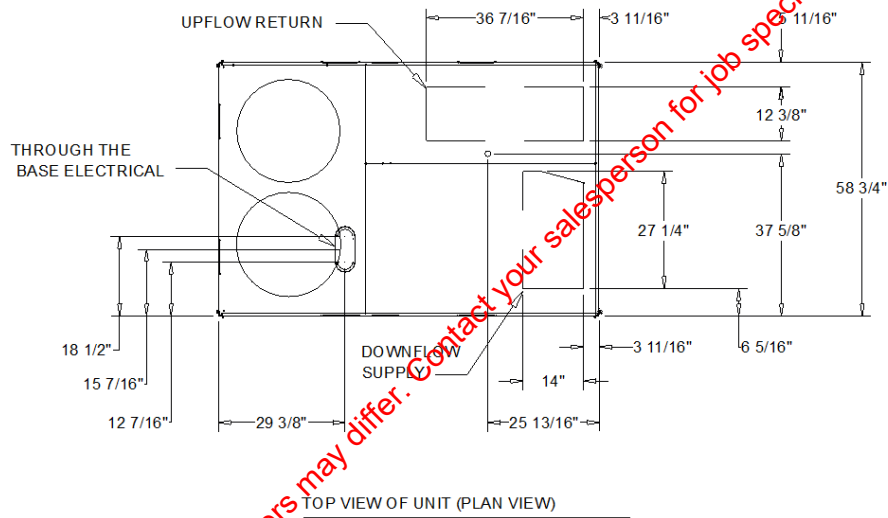
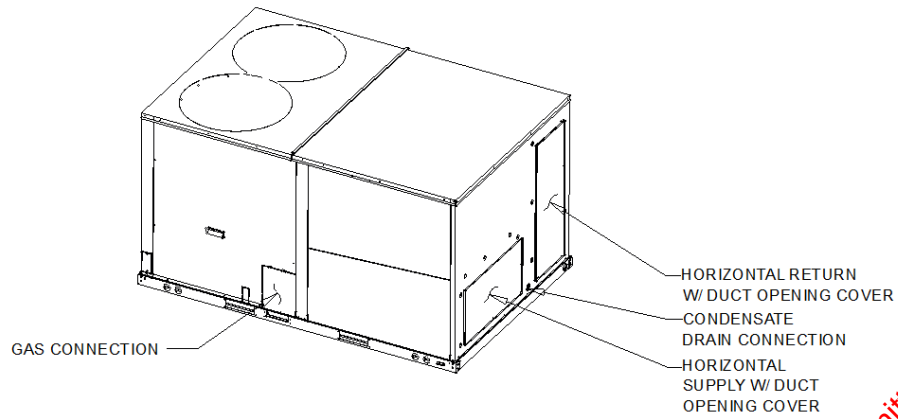
### Fan Section

| Indoor Fan Data                     |                | Outdoor Fan Data               |                |
|-------------------------------------|----------------|--------------------------------|----------------|
| <b>Type</b>                         | FC Centrifugal | <b>Type</b>                    | Propeller      |
| <b>Drive Type</b>                   | Belt           | <b>Fan Quantity</b>            | 2              |
| <b>Indoor Fan Performance</b>       |                | <b>Outdoor Fan Performance</b> |                |
| <b>Airflow</b>                      | 5000 cfm       | <b>Outdoor Motor Power</b>     | 1.15 kW        |
| <b>Design ESP</b>                   | 0.100 in H2O   | <b>Condenser Fan FLA</b>       | 4.60 A         |
| <b>Component SP</b>                 | 0.000 in H2O   | <b>Exhaust Fan Data</b>        |                |
| <b>Total SP</b>                     | 0.100 in H2O   | <b>Type</b>                    | FC Centrifugal |
| <b>Indoor Motor Operating Power</b> | 2.55 bhp       | <b>Drive Type</b>              | Direct         |
| <b>Indoor Motor Power</b>           | 1.90 kW        | <b>Exhaust Fan Performance</b> |                |
| <b>Indoor RPM</b>                   | 822 rpm        | <b>Exhaust Fan FLA</b>         | 4.50 A         |

### Compressor Section

|                      |         |
|----------------------|---------|
| <b>Power</b>         | 9.81 kW |
| <b>Circuit 1 RLA</b> | 11.20 A |
| <b>Circuit 2 RLA</b> | 7.80 A  |

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



10 TON PACKAGED GAS / ELECTRIC UNIT

DIMENSION DRAWING

These cut sheets are for reference only. Stock model numbers may differ. Contact your salesperson for job specific submittals for engineer approval.

**ELECTRICAL / GENERAL DATA**

|  |   |   |   |
|--|---|---|---|
| <b>GENERAL</b> (2)(4)(6)(7)(10)<br>Model: GBC150 Oversized Motor<br>Unit Operating Voltage: -<br>Unit Primary Voltage: 460 MCA:<br>Unit Secondary Voltage: - MFS:<br>Unit Hertz: 60 MCB:<br>Unit Phase: 3<br><br>EER: 11.0<br>IEER One Speed Fan:<br>IEER Multi Speed Fan:<br><br>Standard Motor Field Installed Oversized Motor<br>MCA: 31.0 MCA:<br>MFS: 40.0 MFS:<br>MCB: 40.0 MCB: |   | <b>HEATING PERFORMANCE</b><br><b>HEATING - GENERAL DATA</b><br>Heating Model: High<br>Heating Input (BTU): 250000<br>Heating Output (BTU): 200000<br>No. Burners: 6<br>No. Stages: 2<br><br>Gas Inlet Pressure<br>Natural Gas (Min/Max): 4.5 / 14.0 in. wc<br>LP (Min/Max): -<br>Gas Pipe Connection Size: 3/4" |   |
| <b>INDOOR MOTOR</b><br>Standard Motor Oversized Motor Field Installed Oversized Motor<br>Number: 1 Number: Number:<br>Horsepower: 3 Horsepower: Horsepower:<br>Motor Speed (RPM): 1725 Motor Speed (RPM): Motor Speed (RPM):<br>Phase 3 Phase Phase<br>Full Load Amps: 4.5 Full Load Amps: Full Load Amps:<br>Locked Rotor Amps: - Locked Rotor Amps: Locked Rotor Amps:               |   |   |   |
| <b>COMPRESSOR</b><br>Number: 2<br>Horsepower: -<br>Phase: 3<br>Rated Load Amps: 11.2/7.8<br>Locked Rotor Amps: 75.0/52.0   |   | <b>OUTDOOR MOTOR</b><br>Number: 2<br>Horsepower: -<br>Motor Speed (RPM): -<br>Phase: 3<br>Full Load Amps: 2.3<br>Locked Rotor Amps: -   |   |
| <b>POWER EXHAUST ACCESSORY</b> (3)<br>(Field Installed Power Exhaust)<br>Phase:<br>Horsepower:<br>Motor Speed (RPM):<br>Full Load Amps:<br>Locked Rotor Amps:  | <b>FILTERS</b><br>Type: Throwaway<br>Furnished: -<br>Number: 6<br>Recommended: 14"x25"x2" |   | <b>REFRIGERANT</b> (2)<br>Type: R-410A<br>Factory Charge:<br>Circuit #1 8.8 lb<br>Circuit #2 6 7/8" |

**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 does not include Heater.
5. Value include Standard Motor.
6. Value include Oversized Motor
7. EER is rated at AHRI conditions and in accordance with DOE test procedures.
8. For Compressor Motors and Condenser Fan Motors: Amp draw for each motor; multiply value by number of motors to determine total amps.
9. HP for each compressor.
10. Integrated Energy Efficiency Ratio (IEER) is rated in accordance with AHRI standard 210/240 or 360.
11. Full Load Amps (FLA) are the combined amps for outdoor motors.

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**Base Unit and Corner Weights only**

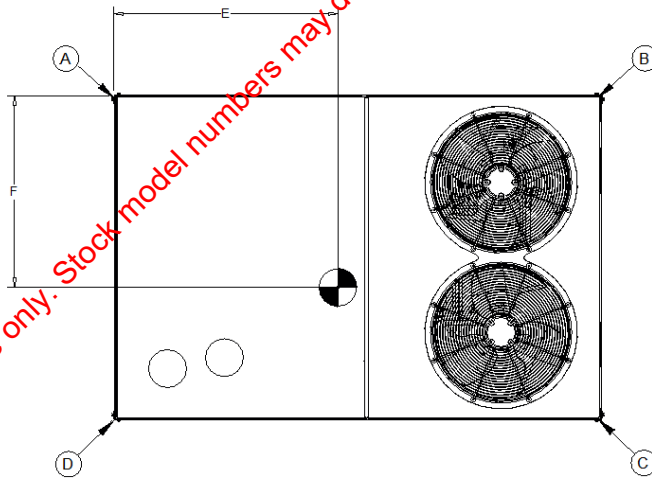
| Base unit weights |     | Corner Weights |     |     |     | Center of Gravity |   |
|-------------------|-----|----------------|-----|-----|-----|-------------------|---|
| SHIPPING          | NET | (A)            | (B) | (C) | (D) | E                 | F |
|                   |     |                |     |     |     |                   |   |

1. All weights are approximate.
2. The actual weight are listed on the unit nameplate.
3. Refer to unit nameplate and installation guide for weights before scheduling transportation and installation of unit.
4. The weight shown represents the typical unit operating weight for the configuration selected. Estimated at +/- 10 % of the nameplate weight.
5. Verify weight, connection, and all dimension with installer documents before installation.
6. Corner weights are given for information only.
7. Net/Shipping weight of optional accessories should be added to unit weight when ordering factory or field installed accessories.

**Installed Options Net Weight Data**

| Accessory   | Weight |
|---|--------|
| Economizer, Manual and Motorized Outside Air Damper |        |
| Barometric Relief                                   |        |
| Power Exhaust                                       |        |
| Roof Curb   |        |
| Oversized Motor                                     |        |
| Disconnect  |        |
| Hail Guard  |        |
| Through the Base                                    |        |
| Through the Gas                                     |        |
|   |        |
|   |        |

1. Weights for options are approximate.
2. Weights for options that are not list refer to Installation guide.

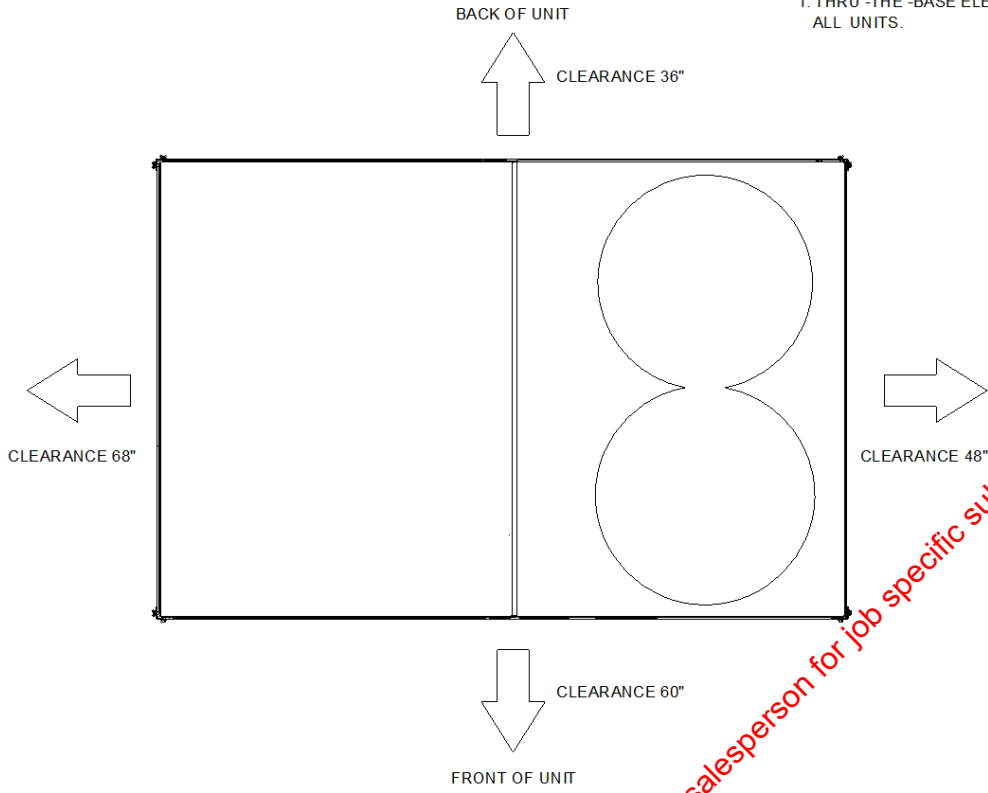


PACKAGED GAS/ELECTRIC PLAN VIEW

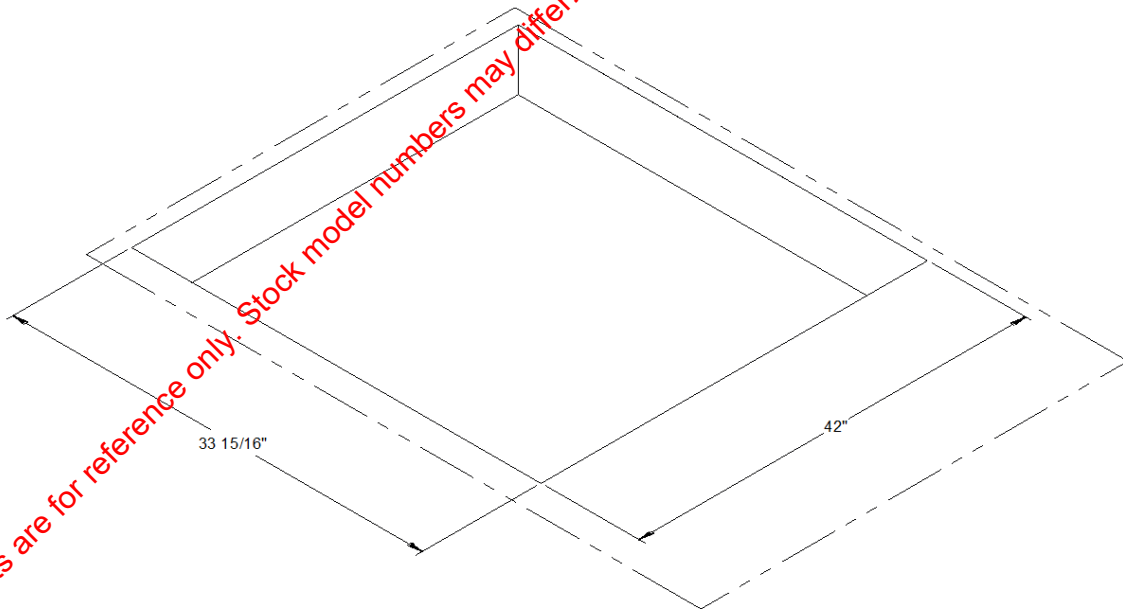
CENTER OF GRAVITY DRAWING

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NOTES:  
1. THRU-THE-BASE ELECTRICAL IS NOT STANDARD ON ALL UNITS.



PACKAGED GAS / ELECTRIC PLAN VIEW  
CLEARANCE DRAWING



PACKAGED GAS / ELECTRIC PLAN VIEW  
DOWNFLOW CLEARANCE DRAWING

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## General

- Packaged rooftop units cooling, heating capacities, and efficiencies are AHRI Certified within scope of AHRI Standard (I-P) and ANSIZ21.47 and 10 CFR Part 431 pertaining to Commercial Warm Air Furnaces
- Packaged rooftop units are dedicated downflow or horizontal airflow
- Operating range between 125°F and 40°F in cooling standard from the factory
- 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
- Colored and numbered wiring internal to the unit for simplified identification
- Units cULus listed and labeled, classified in accordance

## Casing

- Zinc coated, heavy gauge, galvanized steel
- Weather-resistant baked enamel finish on phosphatized exterior surfaces
- 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 no more than 11 fasteners while providing a water and air tight seal)
- Exposed vertical panels and top covers in the indoor air section shall be insulated with a 1/2-inch, 1-pound density foil-faced, fire-resistant, permanent, odorless, glass fiber material
- Base of unit shall be insulated with 1/2-inch, 1-pound density, foil-faced, glass fiber material
- 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
- Downflow unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8-inch high supply/return openings to provide an added water integrity precaution, if the condensate drain backs up
- Base of unit shall have provisions for forklift and crane lifting

## 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 models have phase monitors and Low and High Pressure Controls as standard

## Discharge Line Thermostat

- A bi-metal element discharge line thermostat is installed as a standard option on the discharge line of each system
- Provides extra protection to the compressors against high discharge temperatures in case of loss of charge, extremely high ambient and other conditions which could drive the discharge temperature higher
- Wired in series with high pressure control
- When discharge temperature rises above the protection limit, the bi-metal disc in the thermostat switches to the off position, opening the 24 Vac circuit
- When temperature on the discharge line cools down, the bi-metal disc closes the contactor circuit, providing power to the compressor

## Evaporator and Condenser Coils

- Microchannel coils burst tested by manufacturer
- Microchannel evaporator and condenser coils standard on all units
- Coils leak tested to ensure the pressure integrity
- Evaporator coil and condenser coil leak tested to 225 psig and pressure tested to 450 psig
- Sloped condensate drain pans are standard

## Filters

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

### **Gas Heat Section**

- Progressive tubular heat exchanger, stainless steel burners and corrosion resistant steel
- 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**

- Belt driven, FC centrifugal fans with adjustable motor sheaves
- Motors thermally protected
- Oversized motors available for high static application
- Indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT)

### **Locking Safety Device**

- Pressure switch monitoring allows for lockout in a situation where the switch is opened
- By monitoring the Y input as well as the pressure switches, advanced decision making can be made to identify situations where faults/errors occur

### **Outdoor Fans**

- Outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position
- Fan motor(s) shall be permanently lubricated and shall have built-in thermal overload protection

### **Phase Monitor**

- 3-phase line monitor module
- Protects against phase loss, phase imbalance and phase reversal indication
- Intended to protect compressors from reverse rotation
- Operating input voltage range of 180-632 Vac
- LED indicators for ON and FAULT
- No field adjustments
- Module will automatically reset from a fault condition

### **Refrigerant Circuits**

- Each refrigerant circuit shall have thermostatic expansion valves, service pressure ports, and refrigerant line filter driers factory installed as standard
- An area shall be provided for replacement suction line driers

### **Refrigerant Pressure Control**

All units include High and Low Pressure Cutouts as standard.

### **Unit Top**

The top cover shall be double hemmed and gasket sealed to prevent water leakage.

### **Stainless Steel Heat Exchanger**

- Gas heat exchanger shall be of tubular heat exchanger design
- Constructed from a minimum 304 grade stainless steel tubes and 439 stainless steel burners
- Shall have a 10-year warranty as standard (Gas/Electric only)

### **Filters**

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