

## Up to 95% AFUE, Single Stage, Ultra Low NOx, ECM Gas Furnace

### EASIER TO SELL

- Up to 95% AFUE
- Approved for installations up to 5,400 ft.
- Fixed-Speeds, Constant Torque ECM blower motor
- Supports single-stage cooling units
- Insulated heat exchanger and blower compartment
- Ultra Low NOx – meets the nitrogen oxides (NOx) emission limit of 14 nanograms/joule for the South Coast Air Quality Management District and San Joaquin Valley Air Pollution Control District in California.
- Cabinet air leakage less than 2.0% at 1.0 in. W.C. and cabinet air leakage less than 1.4% at 0.5 in. W.C. when tested in accordance with ASHRAE standard 193

### TOUGHER

- Stainless steel tubular heat exchanger
- Stainless steel secondary heat exchanger
- Enclosed pre-mix burner with variable speed inducer
- Adjustable heating blower OFF delay
- Factory set blower ON delay
- High temperature limit control designed to prevent overheating
- Pilot free, hot surface ignitor
- High quality, corrosion-resistant, prepainted steel cabinet

### EASIER TO INSTALL AND SERVICE

- Direct vent (2-pipe), single-pipe venting or ventilated combustion air
- 35" (889mm) high, for ease of installation
- Quarter turn knobs for easy door removal and secure attachment
- Three position – upflow and horizontal (left/right) installation
- Factory configured to use with natural gas, not convertible to Liquid Propane
- Concentric vent available
- Self diagnostics with super bright LED
- Slide out blower assembly with extra long harness

### LIMITED WARRANTY \*

- 20 year heat exchanger limited warranty
- 5 year parts limited warranty
  - With timely registration, an additional 5 year parts limited warranty
- \* For residential applications only. See warranty certificate for complete details and restrictions, including warranty coverage for other applications.



Illustrations and photographs are only representative.  
Some product models may vary.

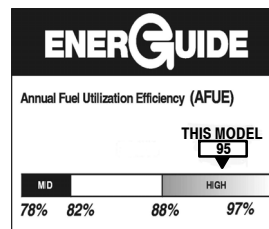
**WARNING**

**CARBON MONOXIDE POISONING AND FIRE HAZARD**

Failure to follow this warning could result in personal injury, death, and/or property damage.

This furnace is not designed for use in recreation vehicles or outdoors. This furnace is not designed for use in manufactured (Mobile) homes.

Failure to follow this warning could result in personal injury, death, and/or property damage.



ISO 9001  
Quality



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to [www.ahridirectory.org](http://www.ahridirectory.org).



| Model Number   | Input (BTUH) | AFUE (up to)          | ENERGY STAR® | Cooling Capacity CFM range @ .5 in. w.c. (125 Pa) | Dimensions H x W x D Inches (Millimeters) | Shipping Wt. Lbs (Kg) |
|----------------|--------------|-----------------------|--------------|---------------------------------------------------|-------------------------------------------|-----------------------|
|                |              | UPFLOW/<br>HORIZONTAL |              |                                                   |                                           |                       |
| N95ESU0601716A | 60,000       | 95.0%                 | ✓            | 765 - 1515                                        | 35 x 17-1/2 x 29-1/2 (889 x 445 x 750)    | 149.4 (67.8)          |
| N95ESU0802120A | 80,000       | 95.0%                 | ✓            | 570 - 2025                                        | 35 x 21 x 29-1/2 (889 x 533 x 750)        | 167.4 (75.9)          |
| N95ESU1002120A | 100,000      | 95.0%                 | ✓            | 475 - 2065                                        | 35 x 21 x 29-1/2 (889 x 533 x 750)        | 174.4 (79.1)          |
| N95ESU1002122A | 100,000      | 95.0%                 | ✓            | 445 - 2025                                        | 35 x 21 x 29-1/2 (889 x 533 x 750)        | 175.4 (79.6)          |

[illegible]

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| AIR DELIVERY – CFM (with filter) |                      |                                       |                                    |      |      |      |      |      |      |      |      |      |
|----------------------------------|----------------------|---------------------------------------|------------------------------------|------|------|------|------|------|------|------|------|------|
| UNIT SIZE                        | WIRE LEAD COLOR      | FUNCTION<br>SPEED TAP <sup>2, 3</sup> | EXTERNAL STATIC PRESSURE (IN.W.C.) |      |      |      |      |      |      |      |      |      |
|                                  |                      |                                       | 0.1                                | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1.0  |
| 0601716                          | Gray                 | Cooling. Do not use for Heating       | 1670                               | 1635 | 1595 | 1555 | 1515 | 1475 | 1435 | 1395 | 1360 | 1315 |
|                                  | Yellow               | Alt. Cooling. Do not use for Heating  | 1465                               | 1420 | 1385 | 1345 | 1310 | 1265 | 1225 | 1180 | 1135 | 1095 |
|                                  | Blue                 | Heating or Alt. Cooling               | 1215                               | 1170 | 1125 | 1085 | 1050 | 1005 | 965  | 925  | 880  | 830  |
|                                  | Orange               | Alt. Heating or Alt. Cooling          | 1120                               | 1065 | 1025 | 980  | 940  | 900  | 860  | 815  | 770  | 720  |
|                                  | Red                  | Alt. Cooling. Do not use for Heating  | 945                                | 895  | 855  | 805  | 765  | 715  | 670  | 625  | 570  | 530  |
| 0802120                          | Gray <sup>5, 6</sup> | Cooling. Do not use for Heating       | 2165                               | 2135 | 2115 | 2070 | 2025 | 1980 | 1930 | 1885 | 1835 | 1790 |
|                                  | Blue <sup>5, 6</sup> | Heating or Alt. Cooling               | 1800                               | 1755 | 1715 | 1670 | 1620 | 1575 | 1525 | 1475 | 1425 | 1380 |
|                                  | Yellow               | Alt. Heating or Alt. Cooling          | 1645                               | 1595 | 1550 | 1510 | 1460 | 1410 | 1365 | 1315 | 1265 | 1220 |
|                                  | Orange               | Alt. Cooling. Do not use for Heating  | 1505                               | 1450 | 1410 | 1360 | 1310 | 1265 | 1215 | 1170 | 1120 | 1080 |
|                                  | Red <sup>7</sup>     | Alt. Cooling. Do not use for Heating  | 885                                | 785  | 705  | 645  | 570  | 495  | 430  | 360  | 295  | –    |
| 1002120                          | Gray <sup>5, 6</sup> | Cooling Do not use for Heating        | 2215                               | 2180 | 2140 | 2100 | 2065 | 2035 | 1995 | 1960 | 1925 | 1890 |
|                                  | Blue <sup>5, 6</sup> | Heating or Alt Cooling                | 1890                               | 1850 | 1810 | 1770 | 1730 | 1690 | 1650 | 1610 | 1565 | 1520 |
|                                  | Yellow               | Alt Cooling. Do not use for Heating   | 1695                               | 1650 | 1605 | 1560 | 1515 | 1475 | 1425 | 1380 | 1325 | 1280 |
|                                  | Orange               | Alt Cooling. Do not use for Heating   | 1270                               | 1215 | 1155 | 1100 | 1040 | 980  | 925  | 865  | 810  | 765  |
|                                  | Red <sup>7</sup>     | Alt Cooling. Do not use for Heating   | 800                                | 715  | 630  | 550  | 475  | 390  | 320  | –    | –    | –    |
| 1002122                          | Gray <sup>5, 6</sup> | Cooling Do not use for Heating        | 2185                               | 2145 | 2110 | 2070 | 2025 | 1985 | 1950 | 1915 | 1880 | 1840 |
|                                  | Blue <sup>5, 6</sup> | Heating or Alt Cooling                | 1910                               | 1865 | 1820 | 1775 | 1730 | 1690 | 1645 | 1595 | 1545 | 1500 |
|                                  | Yellow               | Alt Cooling. Do not use for Heating   | 1705                               | 1655 | 1610 | 1560 | 1510 | 1460 | 1400 | 1345 | 1295 | 1245 |
|                                  | Orange               | Alt Cooling. Do not use for Heating   | 1495                               | 1440 | 1385 | 1330 | 1270 | 1205 | 1145 | 1090 | 1030 | 970  |
|                                  | Red <sup>7</sup>     | Alt Cooling. Do not use for Heating   | 845                                | 745  | 655  | 560  | 445  | –    | –    | –    | –    | –    |

**NOTE:**

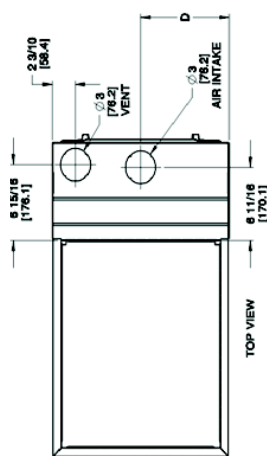
1. A filter is required for each return—air inlet. Airflow performance includes a 3/4-in. (19 mm) washable filter media such as contained in a factory—authorized accessory filter rack. See accessory list in Specification sheet. To determine airflow performance without this filter, assume an additional 0.1 in. w.c. available external static pressure.
2. **ADJUST THE BLOWER SPEED TAPS AS NECESSARY FOR THE PROPER AIR TEMPERATURE RISE FOR EACH INSTALLATION.**
3. The “Function” column identifies which speed taps can be used for heating.
4. If the same motor speed tap is needed for heating and cooling, a Jumper Wire accessory kit is available, see Specification sheet accessories for the current Jumper Wire accessory part number. Reference the “Start—up, Adjustments, and Safety Check” section for further Jumper Wire instructions.
5. Airflows over 1800 CFM require bottom return, two—side return, or bottom and side return. A minimum filter size of 20" x 25" (508 x 635 mm) is required.
6. For upflow applications, air entering from one side into both the side of the furnace and a return air base counts as a side and bottom return.
7. The “—” entry indicates an unstable operating condition.

| MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS FOR ALL UNITS   |           |
|-------------------------------------------------------------|-----------|
| POSITION                                                    | CLEARANCE |
| Rear                                                        | 1 in.     |
| Front (Combustion air openings in furnace and in structure) | 1 in.     |
| Required for service                                        | 24 in*    |
| All Sides of Supply Plenum                                  | 1 in      |
| Sides                                                       | 1 in.**   |
| Vent                                                        | 0         |
| Top of Furnace                                              | 1 in.     |

\*\* Additional clearance is required for condensate trap installation.

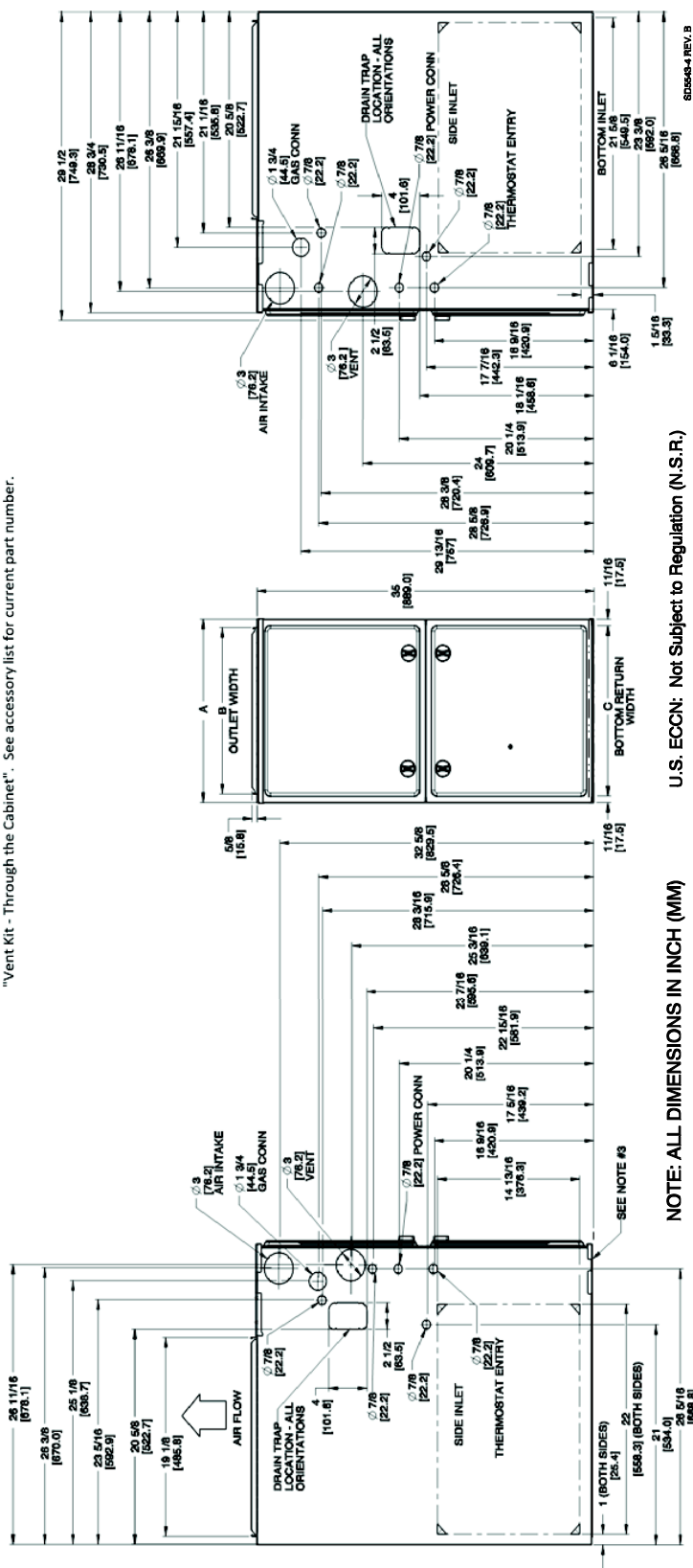
**NOTE:** Furnace edge contact is permissible with combustible materials unless local codes state otherwise.

UNIT DIMENSIONS



NOTES:

1. Doors may vary by model.
2. Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations or equivalent diameters.
  - a. For 800 CFM-16-in. (406 mm) round or 14 1/2 x 12-in. (368 x 305 mm) rectangle.
  - b. For 1200 CFM-20-in. (508 mm) round or 14 1/2 x 19 1/2-in. (368 x 495 mm) rectangle.
  - c. For 1600 CFM-22-in. (508 mm) round or 14 1/2 x 22 1/2-in. (368 x 560 mm) rectangle.
  - d. Return air above 1800 CFM at 0.5 in. w.c. ESP on 24.5" casing, requires one of the following configurations: 2 sides, 1 side and a bottom or bottom only. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace.
3. Vent and Combustion air pipes through blower compartment must use accessory "Vent Kit - Through the Cabinet". See accessory list for current part number.



NOTE: ALL DIMENSIONS IN INCH (MM)

U.S. ECCN: Not Subject to Regulation (N.S.R.)

825648-4 REV. B

A190253

| FURNACE SIZE  | A             | B            | C                     | D            | SHIP WT.<br>LB (KG) |
|---------------|---------------|--------------|-----------------------|--------------|---------------------|
|               | CABINET WIDTH | OUTLET WIDTH | BOTTOM<br>INLET WIDTH | AIR INTAKE   |                     |
| N95ESU0601716 | 17-1/2 (445)  | 15-7/8 (403) | 16 (406)              | 8-3/4 (222)  | 149.4 (67.8)        |
| N95ESU0802120 | 21 (533)      | 19-3/8 (492) | 19-1/2 (495)          | 10-1/2 (267) | 167.4 (75.9)        |
| N95ESU1002120 | 21 (533)      | 19-3/8 (492) | 19-1/2 (495)          | 10-1/2 (267) | 174.4 (79.1)        |
| N95ESU1002122 | 21 (533)      | 19-3/8 (492) | 19-1/2 (495)          | 10-1/2 (267) | 175.4 (79.6)        |

| PHYSICAL DATA                                        |                       |                                              |                   |                   |                   |
|------------------------------------------------------|-----------------------|----------------------------------------------|-------------------|-------------------|-------------------|
| Heating Capacity and Efficiency                      |                       | 0601716                                      | 0802120           | 1002120           | 1002122           |
| Input                                                | Heating (BTUH)        | 60,000                                       | 80,000            | 100,000           | 100,000           |
| Output                                               | Heating (BTUH)        | 58,000                                       | 78,000            | 96,000            | 97,000            |
| Certified Temperature Rise Range °F (°C)             | Heating               | 30 - 60 (17 - 33)                            | 30 - 60 (17 - 33) | 35 – 65 (19 – 36) | 35 – 65 (19 – 36) |
|                                                      |                       |                                              |                   |                   |                   |
| Airflow Capacity and Blower Data                     |                       |                                              |                   |                   |                   |
| Rated External Static Pressure (in. w.c.)            | Heating               | 0.12                                         | 0.12              | 0.15              | 0.15              |
|                                                      | Cooling               | 0.5                                          | 0.5               | 0.5               | 0.5               |
| Airflow Delivery @ Rated ESP (CFM)                   | Heating               | 1205                                         | 1790              | 1880              | 1885              |
|                                                      | Cooling               | 1515                                         | 2025              | 2065              | 2025              |
| Cooling Capacity (tons) @ CFM/ton                    | 400 CFM/ton           | 3.5                                          | 5                 | 5                 | 5                 |
|                                                      | 350 CFM/ton           | 4                                            | 5.5               | 5.5               | 5.5               |
| Direct – Drive Motor Type                            |                       | Electronically Commutated Motor (ECM)        |                   |                   |                   |
| Direct – Drive Motor HP                              |                       | 3/4                                          | 1                 | 1                 | 1                 |
| Motor Full Load Amps                                 |                       | 8.8                                          | 11.5              | 11.7              | 11.0              |
| RPM Range                                            |                       | 570 – 1400                                   | 570 – 1400        | 400 – 1300        | 400 – 1300        |
| Speed Selections                                     |                       | 5                                            | 5                 | 5                 | 5                 |
| Blower Wheel Dia x Width                             | in.                   | 11 x 8                                       | 11 x 10           | 11 x 10           | 11 x 10           |
| Filter Used for Certified Watt Data                  |                       | NAHB00*06FB                                  |                   |                   |                   |
|                                                      |                       |                                              |                   |                   |                   |
| Electrical Data                                      |                       |                                              |                   |                   |                   |
| Input Voltage                                        | Volts – Hertz – Phase | 115 – 60 – 1                                 |                   |                   |                   |
| Operating Voltage Range                              | Min – Max             | 104 – 127                                    |                   |                   |                   |
| Maximum Input Amps                                   | Amps                  | 10.9                                         | 13.6              | 13.8              | 13.8              |
| Unit Ampacity                                        | Amps                  | 14.2                                         | 17.6              | 17.8              | 17.7              |
| Minimum Wire Size                                    | AWG                   | 14                                           | 12                | 12                | 12                |
| Maximum Wire Length@ Minimum Wire Size               | Feet                  | 26.2                                         | 32.8              | 32.3              | 32.8              |
| Maximum Fuse/Ckt Bkr (Time – Delay Type Recommended) | Amps                  | 15                                           | 20                | 20                | 20                |
| Transformer Capacity (24 VAC output)                 |                       | 40 VA                                        |                   |                   |                   |
| External Control Power Available                     | Heating               | 21.8 VA                                      |                   |                   |                   |
|                                                      | Cooling               | 34 VA                                        |                   |                   |                   |
|                                                      |                       |                                              |                   |                   |                   |
| Controls                                             |                       |                                              |                   |                   |                   |
| Gas Connection Size                                  |                       | 1/2" - NPT                                   |                   |                   |                   |
| Gas Valve (Redundant)                                | Manufacturer          | White Rodgers                                |                   |                   |                   |
| Minimum Inlet Gas pressure (in. wc)                  |                       | 4.50                                         |                   |                   |                   |
| Maximum Inlet Gas pressure (in. wc)                  |                       | 13.60                                        |                   |                   |                   |
| Manufactured (Mobile) Home Kit                       |                       | Not approved for Manufactured Home use       |                   |                   |                   |
| Ignition Device                                      |                       | Silicon Nitride                              |                   |                   |                   |
| Heating Blower Control (Heating Off-Delay)           |                       | Adjustable: 90, 120, 150, 180 seconds        |                   |                   |                   |
| Cooling Blower Control (Time Delay Relay)            |                       | 90 seconds                                   |                   |                   |                   |
| Communication System                                 |                       | none                                         |                   |                   |                   |
| Thermostat Connections                               |                       | Com 24V, R, W, G, Y                          |                   |                   |                   |
| Accessory Connections                                |                       | EAC (115vac); HUM (115vac); 1-stg AC (via Y) |                   |                   |                   |

## INSTALLATION CONSIDERATIONS

Refer to Installation Instructions for complete installation requirements.

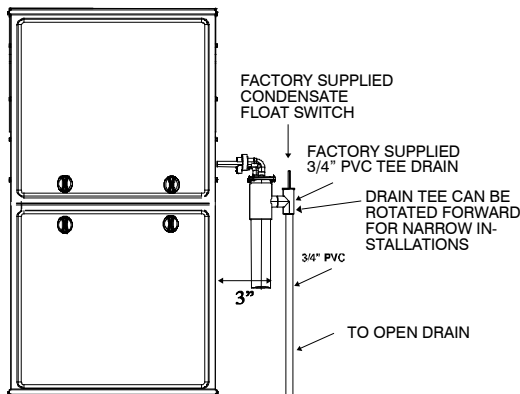
### Evaporator Coil Spacer or Shield Requirements

| Type of Coil                                   | Install Flush to Furnace | Install with 8-in. Spacer                                                      | Install with Metal Shield |
|------------------------------------------------|--------------------------|--------------------------------------------------------------------------------|---------------------------|
| Furnace Manufacturer's N Coil                  | Allowed                  | Not Required                                                                   | Not Required              |
| Furnace Manufacturer's A Coil                  | Not Allowed              | Allowed<br>(Except 100k BTU size in Horizontal Right – <b>MUST</b> use shield) | Allowed<br>(See Note 2)   |
| 3rd Party Coil – Factory Shielded (See Note 1) | Allowed                  | Not Required                                                                   | Not Required              |
| 3rd Party Coil – Unshielded                    | Not Allowed              | Allowed<br>(Except 100k BTU size in Horizontal Right – <b>MUST</b> use shield) | Allowed<br>(See Note 3)   |

#### NOTE:

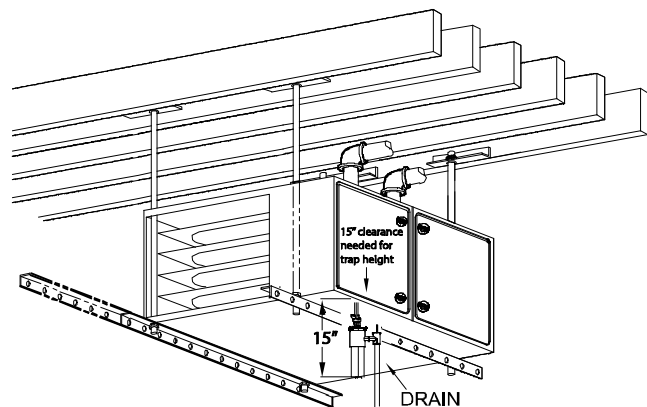
- 3rd Party Coils that are factory-supplied with a metallic shield over the plastic composite drain pan must completely shield all plastic composite materials from direct exposure to any part of the heat exchanger. Consult with 3rd Party Manufacturer to ensure coil is properly shielded. Coils that are only partially shielded should be treated as un-shielded and require a spacer.
- Field-fabricated metallic shield must completely shield all plastic composite materials from direct exposure to any part of the heat exchanger. Coils that are only partially shielded should be treated as un-shielded and require a spacer.
- For 3rd party unshielded coils, consult manufacturer for design of a field-fabricated shield that completely shields all plastic composite materials from direct exposure to any part of the heat exchanger.

## CONDENSATE TRAP CLEARANCES



Representative drawing only, some models may vary.

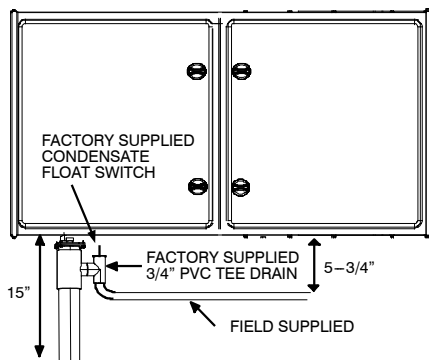
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Representative drawing only, some models may vary.

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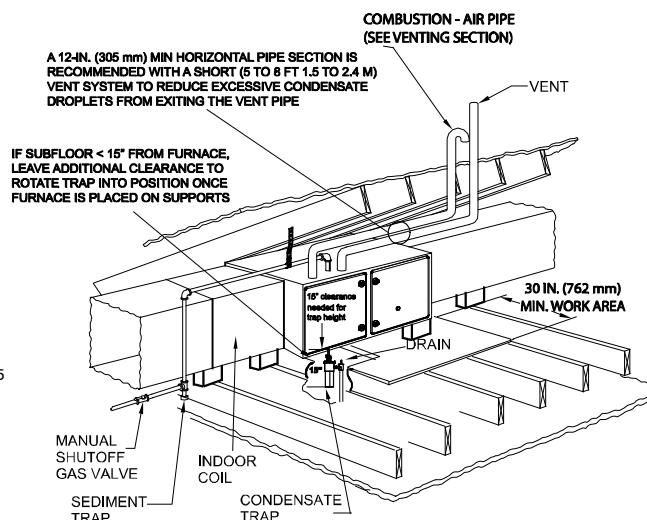
### Trap Clearance in Upflow Application



Representative drawing only, some models may vary.

A190315

### 15" Trap Clearance in Horizontal Application



Representative drawing only, some models may vary.

A190315

### 15" Trap Clearance in Horizontal Application (Note: Drain line can be run horizontally or vertically)

### Working Platform for Attic Installation

| ACCESSORIES                                                                    |                                  |                                             |         |         |         |         |
|--------------------------------------------------------------------------------|----------------------------------|---------------------------------------------|---------|---------|---------|---------|
| PART NUMBER                                                                    | COMPONENT NAME                   | DESCRIPTION                                 | 0601716 | 0802120 | 1002120 | 1002122 |
| NAHA00110DA                                                                    | DRAIN ACCESSORY                  | 1/2" CPVC to 3/4" PVC (10 PACK)             | X       | X       | X       | X       |
| NAHA002CV                                                                      | VENT TERMINATION KIT             | 2" CONCENTRIC VENT                          | X       | X       | X       | X       |
| NAHA001CV                                                                      |                                  | 3" CONCENTRIC VENT                          | X       | X       | X       | X       |
| NAHA00101VC                                                                    | INTERNAL VENT KIT                | THROUGH THE CABINET                         | X       | X       | X       | X       |
| NAHA00301VT                                                                    | DIRECT VENT TERMINATION KIT      | 2" BRACKET                                  | X       | X       | X       | X       |
| NAHA00401VT                                                                    |                                  | 3" BRACKET                                  | X       | X       | X       | X       |
| NAHA00101CK                                                                    | INLET AIR PIPE COUPLING          | COUPLING FOR POLYPROPYLENE VENT SYSTEMS     | X       | X       | X       | X       |
| NAHA00101HV                                                                    | HORIZONTAL INSTALLATION KIT      | TRAP GROMMET (direct Vent application only) | X       | X       | X       | X       |
| NAHA00101HH                                                                    | CONDENSATE FREEZE PROTECT KIT    | CONDENSATE DRAIN LINE TAPE                  | X       | X       | X       | X       |
| NAHA01101SB                                                                    | FLOOR BASE KIT                   | COMBUSTIBLE FLOOR                           | X       | X       | X       | X       |
| 1188594‡                                                                       | GAS VALVE TOWER PORT ADAPTER KIT | ADAPTER FOR GAS VALVE                       | X       | X       | X       | X       |
| NAHA00506FB†                                                                   | WASHABLE FILTER PACK             | WASHABLE FILTER 1" X 16" x 25" (6 pack)     | X       |         |         |         |
| NAHA00706FB                                                                    |                                  | WASHABLE FILTER 1" X 24" x 25" (6 pack)     |         | X       | X       | X       |
| NAHB00601FF                                                                    | EXTERNAL BOTTOM FILTER RACK      | 17 – 1/2" x 25" washable filter included    | X       |         |         |         |
| NAHB00701FF                                                                    |                                  | 21" x 25" washable filter included          |         | X       | X       | X       |
| NAHA01701RA                                                                    | RETURN AIR KIT                   | 17 – 1/2" wide                              | X       |         |         |         |
| NAHA02101RA                                                                    |                                  | 21" wide                                    |         | X       | X       | X       |
| NAHA001NK                                                                      | CONDENSATE NEUTRALIZER KIT       | NEUTRALIZES CONDENSATE                      | X       | X       | X       | X       |
| <b>Coil Adapter Kits (see Installation Instructions for coil requirements)</b> |                                  |                                             |         |         |         |         |
| NAHB00101CA                                                                    | COIL ADAPTER KIT                 | WITH NO OFFSET                              | X       | X       | X       | X       |
| NAHB00201CA                                                                    | COIL ADAPTER KIT                 | WITH SINGLE OFFSET                          | X       | X       | X       | X       |
| NAHB00301CA                                                                    |                                  | WITH DOUBLE OFFSET                          | X       | X       | X       | X       |

X Accessory available  
 † Suitable for 17 inch external bottom filter rack.  
 ‡ Order through FAST Parts.