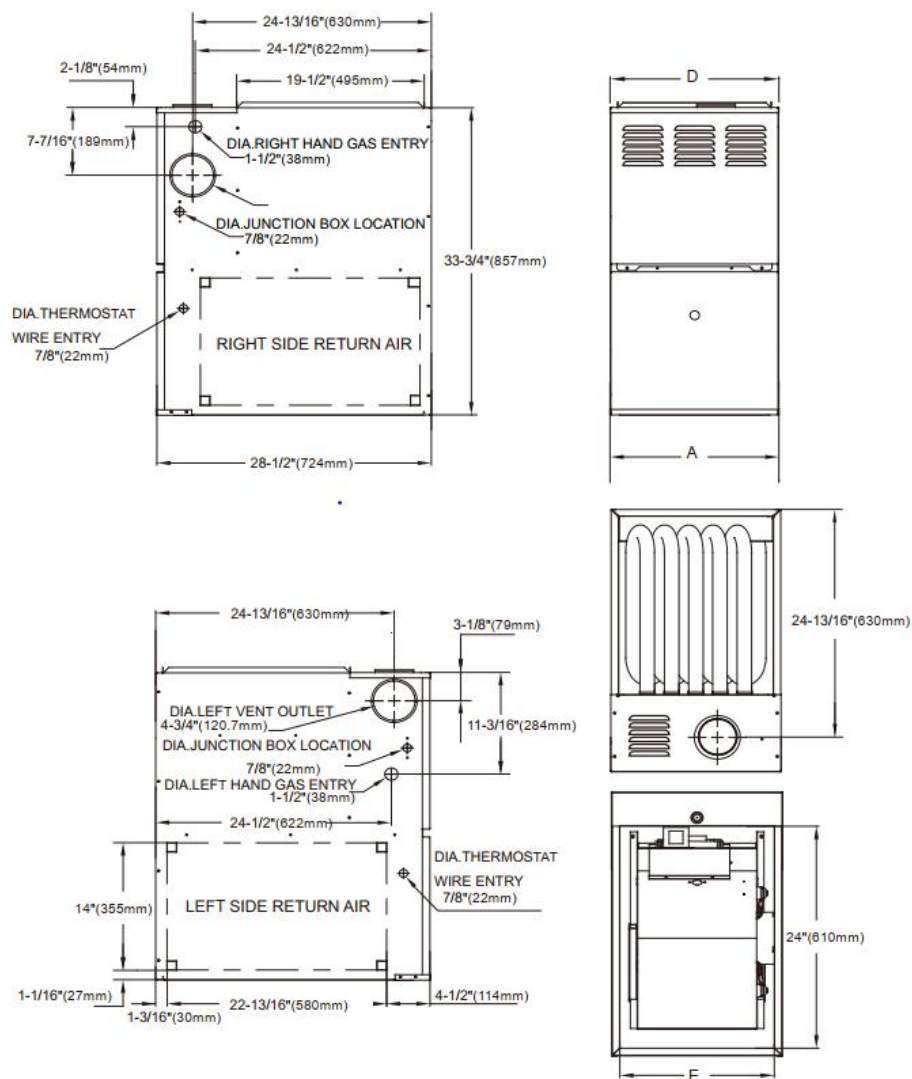


# Submittal

TAG:

## TGF80 Series

Heating capacity: 20–120 kBTU/h



| FURNACE SIZE | A<br>CABINET WIDTH IN. | D<br>SUPPLY AIR WIDTH IN. | E<br>RETURN AIR WIDTH IN. | SHIP WT (lbs) |
|--------------|------------------------|---------------------------|---------------------------|---------------|
| 40A3A        | 14.5                   | 13                        | 15-57/32                  | 119           |

## Specifications

|                                          | <b>TGF80M040A3A</b> |     |
|------------------------------------------|---------------------|-----|
| <b>FUEL TYPE</b>                         | Natural/Propane Gas |     |
| <b>GAS HEATING PERFORMANCE</b>           |                     |     |
| Input (BTU/h)                            | 40,000              |     |
| Natural Gas                              | 32,000              |     |
| LP Gas                                   | 32,000              |     |
| AFUE                                     | 80                  |     |
| Available AC @ 0.5" ESP                  | 1/1.5/2/2.5         |     |
| Temperature Rise Range (° F)             | 20-50               |     |
| <b>ELECTRICAL DATA</b>                   |                     |     |
| Voltage/Phase (60Hz)                     | 115                 |     |
| Min. / Max. Voltage (V)                  | 104/127             |     |
| Min. Circuit Ampacity (MCA)<br>(A)       | 6                   |     |
| Max. Overcurrent Protection<br>(MOP) (A) | 15                  |     |
| <b>FAN MOTOR</b>                         |                     |     |
| Motor Type                               | ECM                 |     |
| Horsepower (HP)                          | 1/2                 |     |
| Rated RPM                                | 1050                |     |
| Full Load Amps (FLA) (A)                 | 8                   |     |
| Capacitor (uF)                           | \                   |     |
| <b>CIRCULATOR BLOWER</b>                 |                     |     |
| Material                                 | Metal               |     |
| Type                                     | Centrifugal         |     |
| Size (D x H) (in.)                       | 11-3/16 x 6-9/64    |     |
|                                          | Vent Diameter (in.) | 3/4 |
|                                          | No. of Burners      | 3   |
|                                          | Speed Mode Number   | 5   |



## Consumption system specifications

| Model                                             |                  |               | 040A3A  |
|---------------------------------------------------|------------------|---------------|---------|
| Max. Inlet Gas Press                              | Natural Gas      | in.w.c        | 10.5    |
|                                                   | Propane Gas (LP) | in.w.c        | 13      |
| Min. Inlet Gas Press                              | Natural Gas      | in.w.c        | 4.5     |
|                                                   | Propane Gas (LP) | in.w.c        | 11      |
| Natural Gas Manifold Pressure<br>(High/Low fire)  |                  | in.w.c        | 3.0     |
| Propane Gas Manifold<br>Pressure (High/Low fire)  |                  | in.w.c        | 10      |
| Natural Gas Factory Orifice (0-2000 feet)         |                  | #             | 50      |
| Propane Gas (LP) Factory Orifice (0-2000<br>feet) |                  | #             | 59      |
| Gas Connection Size                               |                  | in. NPT       | 3/4     |
| Igniton Device    Hot surface                     |                  |               |         |
| Number of Burners                                 |                  | #             | 3       |
| Primary Heat exchanger Diameter                   |                  | Inch          | 1-1/2   |
| Primary Heat exchanger                            |                  | # tubes       | 3       |
| Flue Vent Diameter                                |                  | Inch          | 1-3/16  |
| Safety Switch Settings                            |                  |               |         |
| Pressure Switch Factory Setting                   |                  | Low in.w.c    | 0.55    |
| Rollout switch - resettable                       |                  | Off/<br>On °F | 300     |
| Inlet High Temperature Limit switch -<br>fixed    |                  | Off/<br>On °F | 180/150 |

# Airflow Data

## Air Delivery - CFM without filter

| FURNACE<br>SIZE | SPEED | STATIC<br>PRESSURE | 0    | 0.2  | 0.4  | 0.6  | 0.8  | 1    |
|-----------------|-------|--------------------|------|------|------|------|------|------|
| 40A             | H     | [SCFM]             | 1149 | 1121 | 1160 | 1153 | 1143 | 1169 |
|                 |       | Temp.Rise °F       | 26   | 27   | 26   | 26   | 26   | 26   |
|                 | MH    | [SCFM]             | 999  | 1008 | 994  | 1030 | 990  | 972  |
|                 |       | Temp.Rise °F       | 30   | 30   | 30   | 29   | 30   | 31   |
|                 | M     | [SCFM]             | 799  | 777  | 797  | 782  | 828  | 809  |
|                 |       | Temp.Rise °F       | 37   | 38   | 37   | 38   | 36   | 37   |
|                 | ML    | [SCFM]             | 600  | 611  | 622  | 611  | 577  | 632  |
|                 |       | Temp.Rise °F       | /    | /    | /    | /    | /    | /    |
|                 | L     | [SCFM]             | 450  | 483  | 460  | 469  | 437  | 454  |
|                 |       | Temp.Rise °F       | /    | /    | /    | /    | /    | /    |

| FURNACE CASING WIDTH<br>(IN.) | FILTER SIZE       |                     | FILTER TYPE             |
|-------------------------------|-------------------|---------------------|-------------------------|
|                               | SIDE RETURN (IN.) | BOTTOM RETURN (IN.) |                         |
| 14-1/2                        | 16 X 25           | 14 X 25             | High Velocity (600 FPM) |
| 17-1/2                        | 16 X 25           | 16 X 25             |                         |
| 21                            | 16 X 25           | 20 X 25             |                         |
| 24.5                          | 16 X 25           | 24 X 25             |                         |

| BTUH Input Rating | Minimum Free Area in Square<br>Inch Required for Each Opening |
|-------------------|---------------------------------------------------------------|
| 40,000            | 40 in <sup>2</sup>                                            |
| 60,000            | 60 in <sup>2</sup>                                            |
| 80,000            | 80 in <sup>2</sup>                                            |
| 100,000           | 100 in <sup>2</sup>                                           |
| 120,000           | 120 in <sup>2</sup>                                           |

| BTUH Input Rating | Minimum Free Area Required for Each Opening |                                                  |                         |
|-------------------|---------------------------------------------|--------------------------------------------------|-------------------------|
|                   | Horizontal Duct (2,000 BTUH)                | Vertical Duct or Opening to Outside (4,000 BTUH) | Round Duct (4,000 BTUH) |
| 40,000            | 20 in <sup>2</sup>                          | 10 in <sup>2</sup>                               | 4"                      |
| 60,000            | 30 in <sup>2</sup>                          | 15 in <sup>2</sup>                               | 5"                      |
| 80,000            | 40 in <sup>2</sup>                          | 20 in <sup>2</sup>                               | 5"                      |
| 100,000           | 50 in <sup>2</sup>                          | 25 in <sup>2</sup>                               | 6"                      |
| 120,000           | 60 in <sup>2</sup>                          | 30 in <sup>2</sup>                               | 7"                      |

Appliance      1 Appliance      2 Total Input  
100,000 + 30,000 = (130,000 ÷ 4,000) = 32.5 Sq. In. Vertical

Appliance      1 Appliance      2 Total Input  
100,000 + 30,000 = (130,000 ÷ 2,000) = 65 Sq. In. Horizontal

# Piston

**High Altitude Derate Orifice Size Chart (Natural and LP Gas\*)**

| Input Rate<br>kBTU/H | Number of<br>Burner | Elevation<br>(Ft) |    |           |    |           |    |           |    |            |    |
|----------------------|---------------------|-------------------|----|-----------|----|-----------|----|-----------|----|------------|----|
|                      |                     | 0-2000            |    | 2000-4000 |    | 4000-6000 |    | 6000-8000 |    | 8000-10000 |    |
|                      |                     | Nat               | LP | Nat       | LP | Nat       | LP | Nat       | LP | Nat        | LP |
| 40A                  | 3                   | 50                | 59 | 51        | 61 | 52        | 62 | 53        | 64 | 54         | 65 |

\*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

**High Altitude Derate Orifice Size Chart (Natural and LP Gas\*)**

| Input Rate kBTU/H | Number of<br>Burner | Elevation<br>(Ft) |    |           |    |           |    |           |    |            |    |
|-------------------|---------------------|-------------------|----|-----------|----|-----------|----|-----------|----|------------|----|
|                   |                     | 0-2000            |    | 2000-4000 |    | 4000-6000 |    | 6000-8000 |    | 8000-10000 |    |
|                   |                     | Nat               | LP | Nat       | LP | Nat       | LP | Nat       | LP | Nat        | LP |
| 40A               | 3                   | 50                | 59 | 51        | 61 | 52        | 62 | 53        | 64 | 54         | 65 |

\*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

## Features

- Durable aluminized steel tubular heat exchanger.
- Hot-surface ignition for dependable operation.
- Quiet multi-speed direct-drive Blower.
- Natural gas and propane (LP) convertible.
- R454b refrigerant leakage sensor adaptable
- UL60335-2-40 certified.
- Designed for multi-position installation: Up flow, down flow, horizontal.
- Industry-standard cabinet sizes for easy replacement, installation and add-on cooling.
- Convenient left or right connection for gas and electric service.
- Removable bottom for side or bottom return application.

