

# TORUS 4000 DUAL FUEL

## Category II or Category IV Appliance

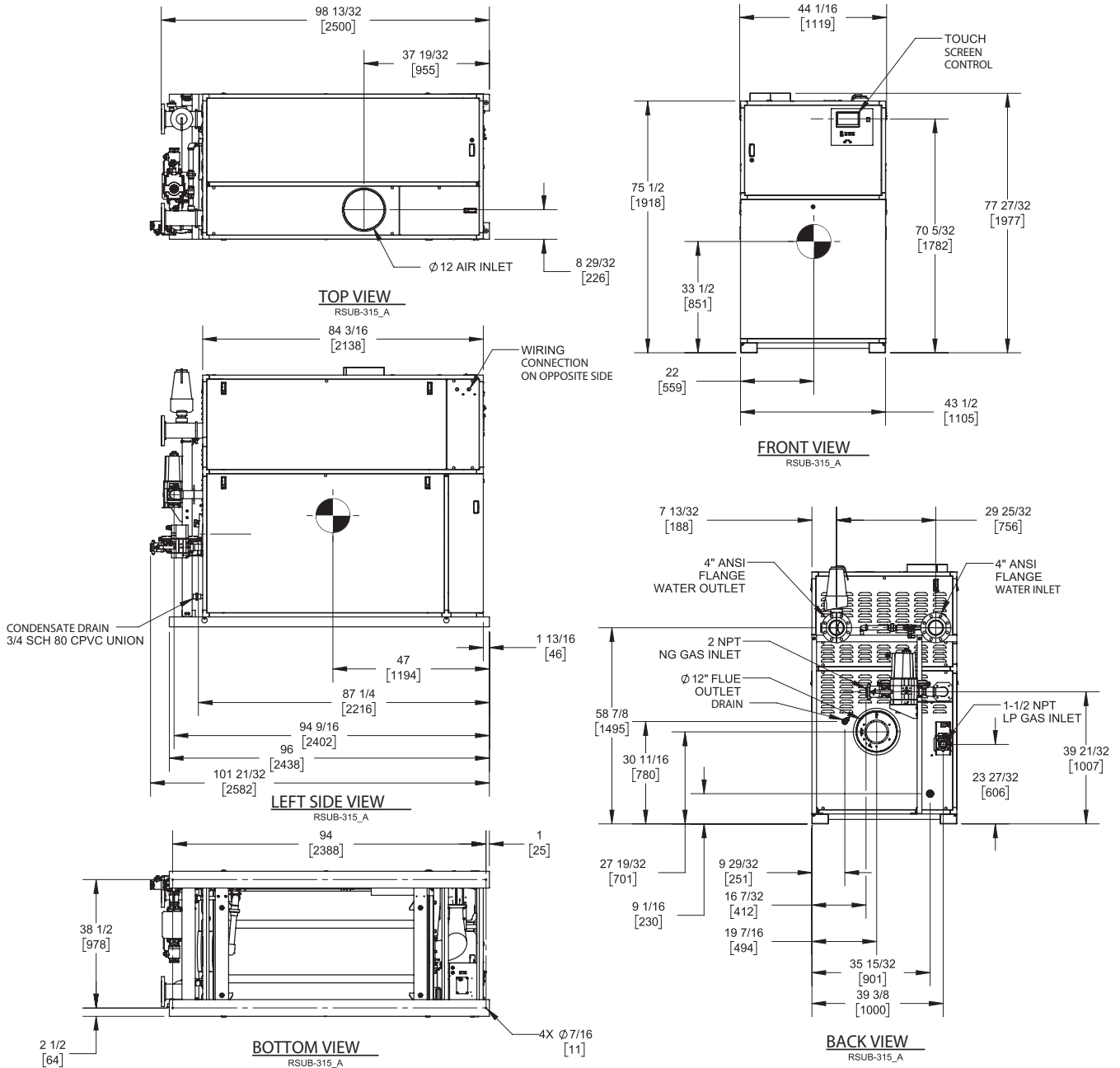
(see Installation and Operation Manual for venting information)

## CODE OPTIONS

CSD-1

FIRMWARE W/REMOTE TEST  
MANUAL RESET LWCO

## INDOOR UNIT



### Notes:

1. Dimensions are approximate and should not be used to "rough-in" equipment.
2. Dimensions are subject to change without notice.
3. All dimensions are in inches (mm).
4. ⦿ Symbol indicates center of gravity.

## BOILER CERTIFIED RATINGS & CAPACITIES

|                                |                     |                                   |                    |
|--------------------------------|---------------------|-----------------------------------|--------------------|
| <b>Fuel Type</b>               | Natural/Propane Gas | <b>Boiler FLA</b>                 | 19.9*              |
| <b>Input BTU/hr.</b>           | 4,000,000 / 1172kW  | <b>Boiler HP</b>                  | 116.52             |
| <b>Output BTU/hr.</b>          | 3,900,000 / 1143kW  | <b>Min. Gas Pressure Required</b> | 4"W.C.             |
| <b>Electrical Requirements</b> | 230 VAC/60 Hz/3PH   | <b>Max. Gas Pressure Allowed</b>  | 14" W.C.           |
|                                |                     | <b>Operating Weight</b>           | 2866 lbs / 1300 kg |

## BOILER TRIM & CONTROLS

|                                                                    |           |                            |                               |
|--------------------------------------------------------------------|-----------|----------------------------|-------------------------------|
| <b>Main Gas Valve</b>                                              | Dungs MBC | <b>Air Switch</b>          | Huba                          |
| <b>Firing Valve</b>                                                | 2" Apollo | <b>Flow Switch</b>         | SIKA                          |
| <b>Ignition Control</b>                                            | Fenwal    | <b>Blocked Flue Switch</b> | Cleveland NS2                 |
| <b>Operating Control</b>                                           | HeatNet®  | <b>Blower Motor</b>        | Ametek                        |
| <b>High Limit</b>                                                  | Jumo      | <b>L.W.C.O.</b>            | 800                           |
| <b>Main Ball Valve</b>                                             | 2" Apollo | <b>Relief Valve (WB)</b>   | 1" x 1 1/2" set @ 50 psi      |
| Pump contactor strongly recommended for water heater applications. |           | <b>Relief Valve (WW)</b>   | 1 1/2" x 1 1/2" set @ 125 psi |

## A.S.M.E.

|                                |                               |                     |                          |
|--------------------------------|-------------------------------|---------------------|--------------------------|
| <b>ASME Sect IV Fire Side</b>  | 402.93 Sq. Ft. / 37.43 Sq. M. | <b>Design Data</b>  | Max. 160 psig & 210°F    |
| <b>Htg Surface</b>             |                               | <b>Water Volume</b> | 41.3 gal. / 156.3 Liters |
| <b>ASME Sect IV Water Side</b> | 371.25 Sq. Ft. / 34.49 Sq. M. | <b>pH Level</b>     | 6.5-8.5                  |
| <b>Htg Surface</b>             |                               |                     |                          |

\* Add circulator amps.

## BOILER TEMPERATURE RISE / PRESSURE DROP (Based on Full Input)

| 20°F / 11.1°C     |      |               |      | 30°F / 16.7°C              |      |               |      | 40°F / 22.2°C            |      |               |      | 50°F / 27.8°C                 |     |               |      | 60°F / 33.3°C |     |               |      |
|-------------------|------|---------------|------|----------------------------|------|---------------|------|--------------------------|------|---------------|------|-------------------------------|-----|---------------|------|---------------|-----|---------------|------|
| Flow Rate         |      | Pressure Drop |      | Flow Rate                  |      | Pressure Drop |      | Flow Rate                |      | Pressure Drop |      | Flow Rate                     |     | Pressure Drop |      | Flow Rate     |     | Pressure Drop |      |
| GPM               | L/s  | Ft            | kPa  | GPM                        | L/s  | Ft            | kPa  | GPM                      | L/s  | Ft            | kPa  | GPM                           | L/s | Ft            | kPa  | GPM           | L/s | Ft            | kPa  |
| 390.2             | 24.6 | 26.0          | 77.7 | 260.1                      | 16.4 | 11.5          | 34.5 | 195.1                    | 12.3 | 6.5           | 19.3 | 156.1                         | 9.8 | 4.7           | 14.0 | 130.1         | 8.2 | 3.7           | 10.9 |
| Flow GPM (Boiler) |      |               |      | Temp. Rise (°F) (Boiler**) |      |               |      | Vent Length (Equiv. Ft.) |      |               |      | Air Inlet Length (Equiv. Ft.) |     |               |      |               |     |               |      |
| Min               |      | Max           |      | Min                        |      | Max           |      | Min                      |      | Max           |      | Min                           |     | Max           |      |               |     |               |      |
| 130.1             |      | 390.2         |      | 20                         |      | 60            |      | 12                       |      | 160           |      | 0                             |     | 160           |      |               |     |               |      |

\*\* Min/Max delta t reflects boiler operation at full input. For applications requiring operation above/below these parameters please consult factory.

## WATER HEATER HOURLY RECOVERY CAPACITY (GPH & LPH)

|       |       |      |       |      |       |       |       |       |       |       |       |
|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 40°F  | 22°C  | 60°F | 33°C  | 80°F | 44°C  | 100°F | 56°C  | 120°F | 67°C  | 140°F | 78°C  |
| 11765 | 44471 | 7843 | 29647 | 5882 | 22235 | 4706  | 17788 | 3922  | 14824 | 3361  | 12706 |

### Water Heater Min Flow Rates

| Normal (4 to 12) gpg |      |               |      | Hard (12 to 15) gpg |      |               |      |
|----------------------|------|---------------|------|---------------------|------|---------------|------|
| Flow Rate            |      | Pressure Drop |      | Flow Rate           |      | Pressure Drop |      |
| gpm                  | L/s  | Ft            | kPa  | gpm                 | L/s  | Ft            | kPa  |
| 294.7                | 18.6 | 14.8          | 44.2 | 392.9               | 24.8 | 26.4          | 78.9 |

**REP FIRM** \_\_\_\_\_  
**SUBMITTED BY** \_\_\_\_\_  
**JOB NAME** \_\_\_\_\_  
**ARCHITECT** \_\_\_\_\_  
**ENGINEER** \_\_\_\_\_  
**CONTRACTOR** \_\_\_\_\_  
**DATE** \_\_\_\_\_

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**Category II or Category IV Appliance**  
 (see Installation and Operation Manual for venting information)



A Division of Mestek, Inc.  
 Westfield, MA 01085  
 (413) 564-5515

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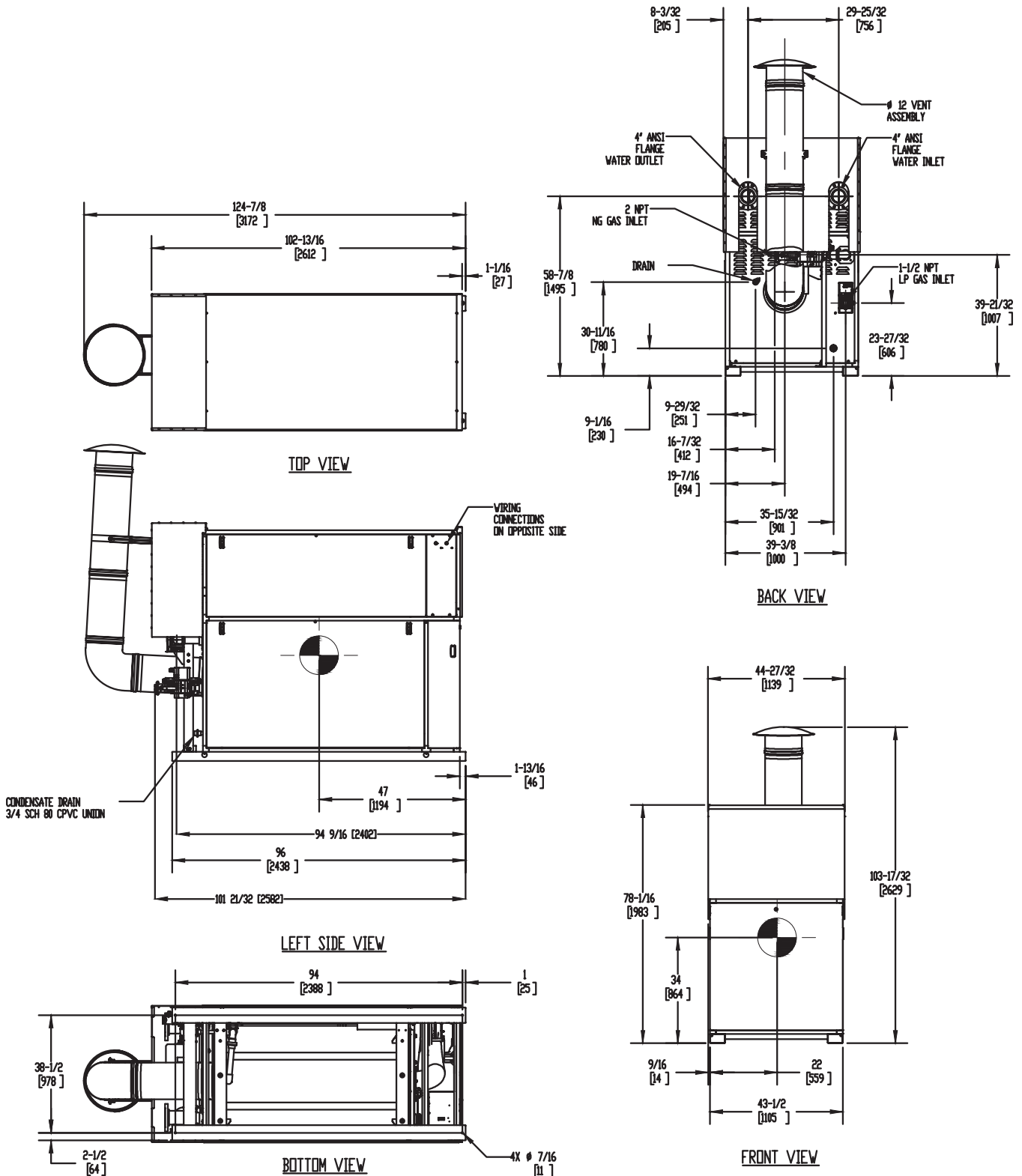
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| <b>Ignition Control</b>                                            | Fenwal    | <b>Blocked Flue Switch</b> | Cleveland NS2                 |
| <b>Operating Control</b>                                           | HeatNet®  | <b>Blower Motor</b>        | Ametek                        |
| <b>High Limit</b>                                                  | Jumo      | <b>L.W.C.O.</b>            | 800                           |
| <b>Main Ball Valve</b>                                             | 2" Apollo | <b>Relief Valve (WB)</b>   | 1" x 1 1/2" set @ 50 psi      |
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| Flow Rate         |      | Pressure Drop |      | Flow Rate                  |      | Pressure Drop |      | Flow Rate                |      | Pressure Drop |      | Flow Rate                     |     | Pressure Drop |      | Flow Rate     |     | Pressure Drop |      |
| GPM               | L/s  | Ft            | kPa  | GPM                        | L/s  | Ft            | kPa  | GPM                      | L/s  | Ft            | kPa  | GPM                           | L/s | Ft            | kPa  | GPM           | L/s | Ft            | kPa  |
| 389.4             | 24.6 | 25.9          | 77.4 | 259.6                      | 16.4 | 11.5          | 34.4 | 194.7                    | 12.3 | 6.4           | 19.2 | 155.7                         | 9.8 | 4.7           | 13.9 | 129.8         | 8.2 | 3.7           | 10.9 |
| Flow GPM (Boiler) |      |               |      | Temp. Rise (°F) (Boiler**) |      |               |      | Vent Length (Equiv. Ft.) |      |               |      | Air Inlet Length (Equiv. Ft.) |     |               |      |               |     |               |      |
| Min               |      | Max           |      | Min                        |      | Max           |      | Min                      |      | Max           |      | Min                           |     | Max           |      |               |     |               |      |
| 129.8             |      | 389.4         |      | 20                         |      | 60            |      | 12                       |      | 160           |      | 0                             |     | 160           |      |               |     |               |      |

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