

# TORUS 650

Category II or Category IV Appliance

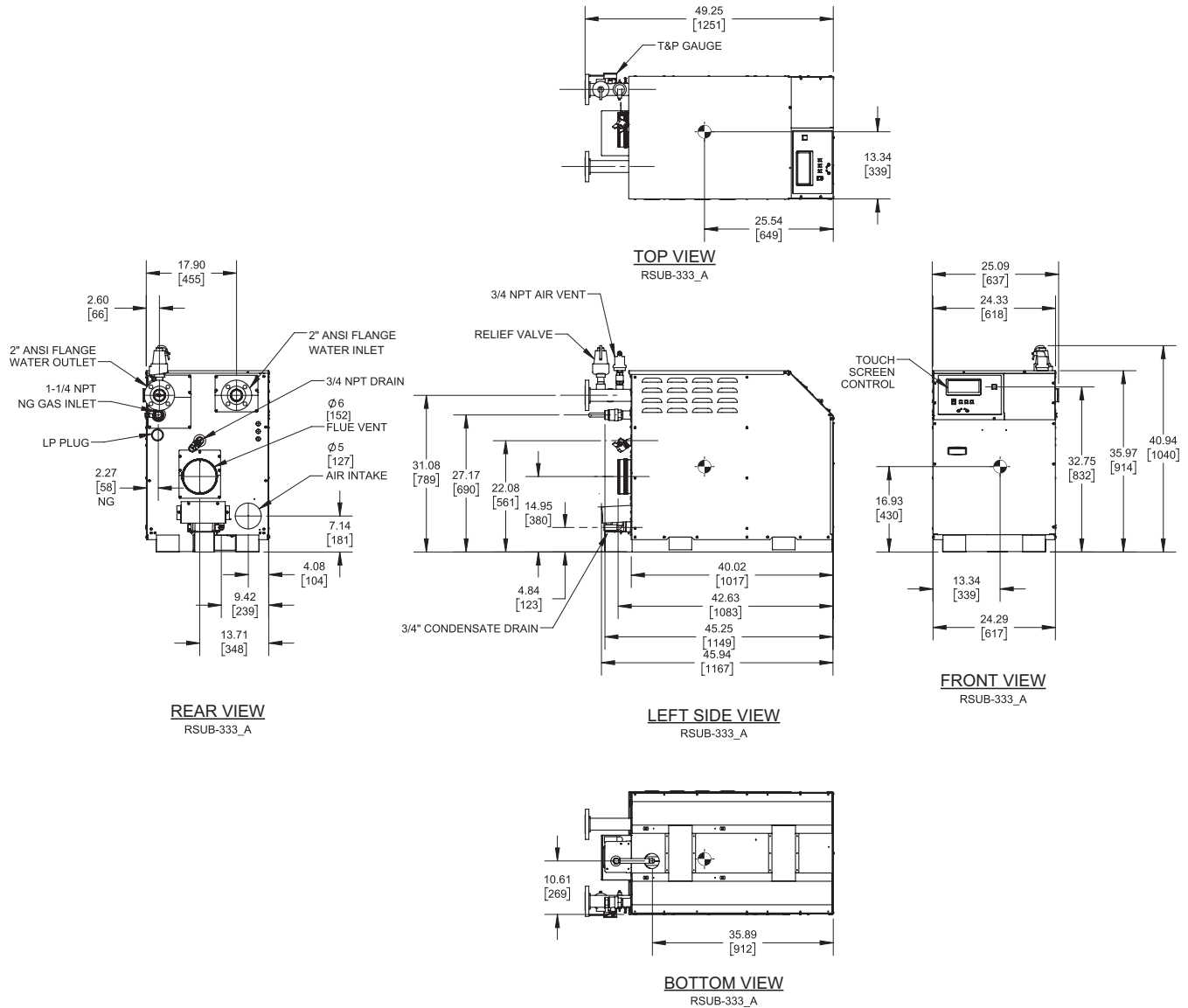
(see Installation and Operation Manual for venting information)

## CODE OPTIONS

CSD-1

FIRMWARE W/REMOTE  
TEST MANUAL RESET LWCO  
High and Low Gas Pressure Switches

## 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>	12.0*
<b>Input BTU/hr.</b>	650,000 / 190.49 kW	<b>Boiler HP</b>	18.70
<b>Output BTU/hr.</b>	625,950 / 183.45 kW	<b>Min. Gas Pressure Required</b>	4"W.C.
<b>Electrical Requirements</b>	120 VAC/60 Hz/1PH	<b>Max. Gas Pressure Allowed</b>	14" W.C.
		<b>Operating Weight</b>	486.3 lbs / 220.58 kg

## BOILER TRIM & CONTROLS

<b>Main Gas Valve</b>	Dungs MBC	<b>Air Switch</b>	Huba
<b>Firing Valve</b>	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>	Apollo	<b>Relief Valve (WB)</b>	3/4" x 3/4" set @ 50 psi
		<b>Relief Valve (WW)</b>	1" x 1" set @ 125 psi

Pump contactor strongly recommended for water heater applications.

## A.S.M.E.

<b>ASME Sect IV Fire Side</b>	52.2 Sq. Ft. / 4.85 Sq. M.	<b>Design Data</b>	Max. 160 psig & 210°F
<b>Htg Surface</b>		<b>Water Volume</b>	5.6 gal. / 21.19 Liters
<b>ASME Sect IV Water Side</b>	47.25 Sq. Ft. / 4.39 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			
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
62.6	4.0	12.2	36.3	41.7	2.6	5.4	16.2	31.3	2.0	3.1	9.2
Flow GPM (Boiler)		Temp. Rise (°F) (Boiler**)		Vent Length (Equiv. Ft.)		Air Inlet Length (Equiv. Ft.)					
Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
31.3	62.6	20	40	6	100	0	100				

\*\* 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
1892	7153	1262	4768	946	3576	757	2861	631	2384	541	2044

### 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
48.7	3.1	7.4	22.0	65.0	4.1	13.1	39.2

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

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(see Installation and Operation Manual for venting information)



A Division of Mestek, Inc.  
Westfield, MA 01085  
(833) 265-5371

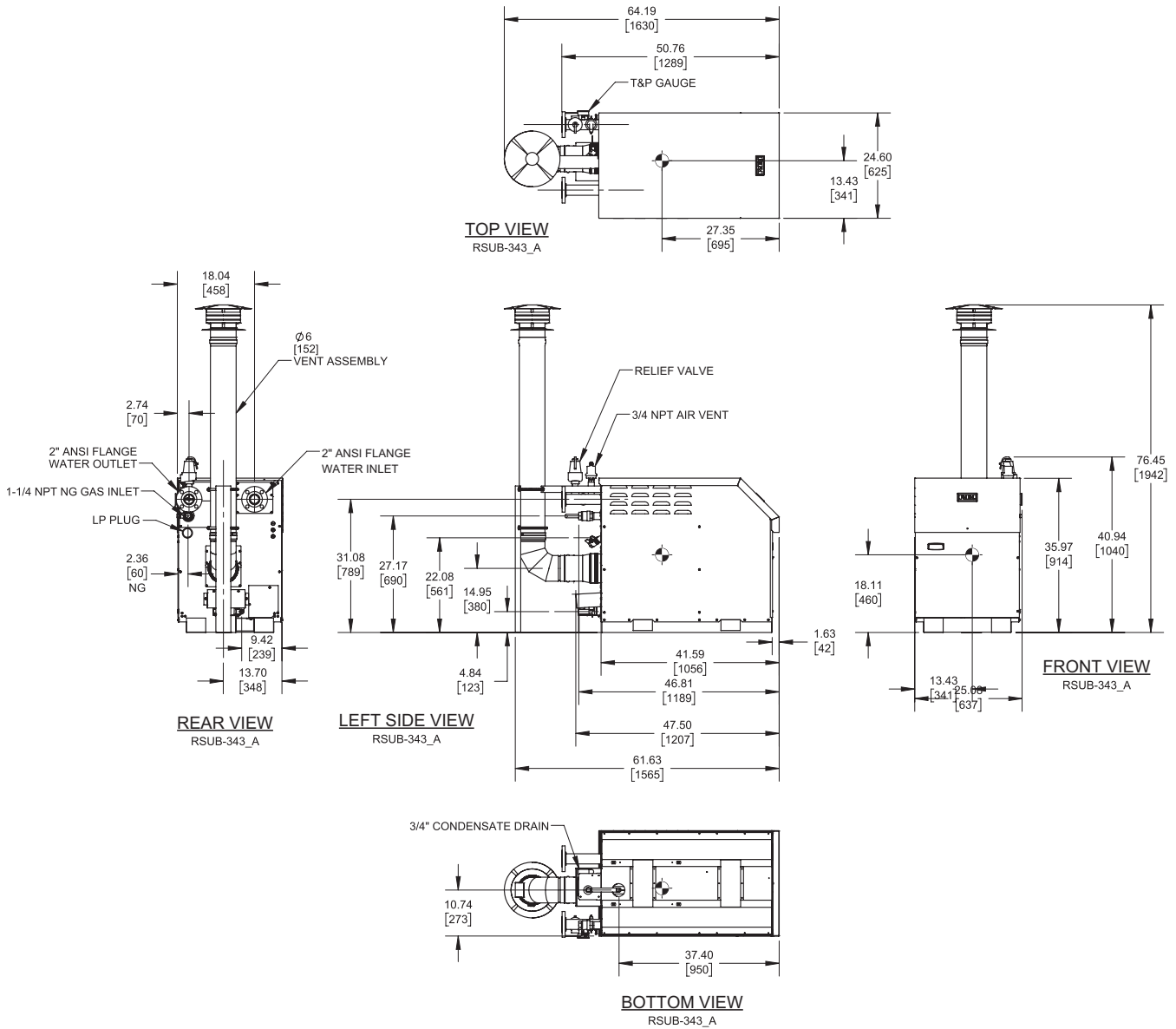
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<b>Electrical Requirements</b>	120 VAC/60 Hz/1PH	<b>Max. Gas Pressure Allowed</b>	14" W.C.
		<b>Operating Weight</b>	517.71 lbs / 234.83 kg

## BOILER TRIM & CONTROLS

<b>Main Gas Valve</b>	Dungs MBC	<b>Air Switch</b>	Huba
<b>Firing Valve</b>	Apollo	<b>Flow Switch</b>	SIKA
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Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
31.3	62.6	20	40	Factory Supplied		0					

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