TORUS 400 DUAL FUEL

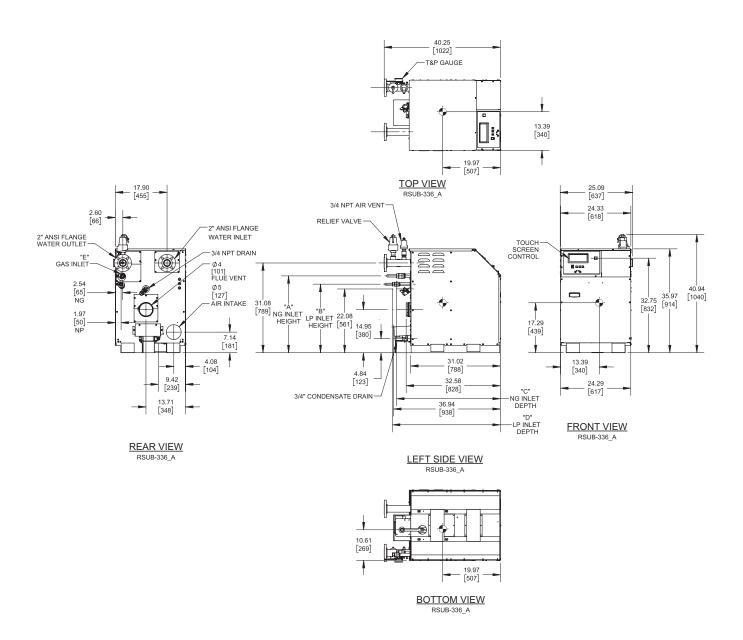
Category II or Category IV Appliance

(see Installation and Operation Manual for venting information)

CODE OPTIONS

FIRMWARE W/REMOTE CSD-1 TEST MANUAL RESET LWCO High and Low Gas Pressure Switches

INDOOR UNIT



Notes:

GAS OPTION	"A"	"A" "B"		"D"	"E"
NG	27.17 in / 690.12 mm	-	35.88 in / 911.35 mm	-	1 NPT
LP	-	23.16 in / 588.26 mm	-	37.31 in / 947.67 mm	3/4 NPT

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

BOILER CERTIFIED RATINGS & CAPACITIES

Fuel Type	Natural/Propane Gas	Boiler FLA	12.0*
Input BTU/hr.	399,000 / 116.93 kW	Boiler HP	11.50
Output BTU/hr.	385,035 / 112.84 kW	Min. Gas Pressure Required	4"W.C.
Electrical Requirements	120 VAC/60 Hz/1PH	Max. Gas Pressure Allowed	14" W.C.
		Operating Weight	418.20 lbs / 189.69 kg

BOILER TRIM & CONTROLS

Main Gas Valve	Dungs MBC	Air Switch	Huba	
Firing Valve	Apollo	Flow Switch	SIKA	
Ignition Control	Fenwal	Blocked Flue Switch	Cleveland NS2	
Operating Control	HeatNet®	Blower Motor	Ametek	
High Limit	Jumo	L.W.C.O.	800	
Main Ball Valve Apollo		Relief Valve (WB)	3/4" x 3/4" set @ 50 psi	
Pump contactor strongly recommended for	water heater applications.	Relief Valve (WW)	1" x 1" set @ 125 psi	

A.S.M.E.

ASME Sect IV Fire Side	34.8 Sq. Ft. / 3.23 Sq. M.	Design Data	Max. 160 psig & 210°F	
Htg Surface		Water Volume	3.8 gal. / 14.38 Liters	
ASME Sect IV Water Side	31.5 Sq. Ft. / 2.92 Sq. M.	pH Level	6.5-8.5	
Htg Surface				

^{*} Add circulator amps.

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

<u> </u>												
20°F / 11.1°C				30°F / 16.7°C				40°F / 22.2°C				
Flow Rate		e Drop	Flow Rate		Pressure Drop			Flow Rate		Pressure Drop		
L/s	Ft	kPa	GPM	L/s	Ft	kPa	a	GPM	L/s	Ft	:	kPa
2.4	10.9	32.7	25.7	1.6	4.9	14.7	7	19.3	1.2	2.8	3	8.4
ow GPM (Bo	iler)	Temp	. Rise (°F)	. Rise (°F) (Boiler**) Vent Leng		ent Length (Equiv. Ft.)		Air Inlet Length (Equiv. Ft.)				
	Max	Min		Max	Min			Max	Min			Max
	38.5	20		40	6			100	0			100
	L/s	DW pressure to the L/s Ft 2.4 10.9 Dw GPM (Boiler) Max	DW of the late Pressure Drop L/s Ft kPa 2.4 10.9 32.7 Dow GPM (Boiler) Temp Max Min	DW ofte Pressure Drop L/s Ft kPa GPM 2.4 10.9 32.7 25.7 Dow GPM (Boiler) Temp. Rise (°F) Max Min	DW of the late Pressure Drop Flow Rate L/s Ft kPa GPM L/s 2.4 10.9 32.7 25.7 1.6 Dow GPM (Boiler) Temp. Rise (*F) (Boiler**) Max Min Max	DW of the late Pressure Drop Flow Rate Pressure Drop Flow Rate Pressure Drop Pressure Drop Flow Rate Pressure Drop Pressure Drop	DW of the language Pressure Drop Flow Rate Pressure Drop L/s Ft kPa GPM L/s Ft kPa 2.4 10.9 32.7 25.7 1.6 4.9 14. Dow GPM (Boiler) Temp. Rise (*F) (Boiler**) Vent Length Max Min Max Min	DW of the language Pressure Drop Flow Rate Pressure Drop L/s Ft kPa GPM L/s Ft kPa 2.4 10.9 32.7 25.7 1.6 4.9 14.7 Dow GPM (Boiler) Temp. Rise (°F) (Boiler**) Vent Length (Equiv.) Max Min Max Min	DW of the late Pressure Drop Flow Rate Pressure Drop Flow Rate L/s Ft kPa GPM L/s Ft kPa GPM 2.4 10.9 32.7 25.7 1.6 4.9 14.7 19.3 Dow GPM (Boiler) Temp. Rise (*F) (Boiler**) Vent Length (Equiv. Ft.) Max Min Max Min Max	OW offer Pressure Drop Flow Rate Pressure Drop Flow Rate L/s Ft kPa GPM L/s Ft kPa GPM L/s 2.4 10.9 32.7 25.7 1.6 4.9 14.7 19.3 1.2 Dow GPM (Boiler) Temp. Rise (*F) (Boiler**) Vent Length (Equiv. Ft.) Air In Max Min Max Min Max Min	OW offer Pressure Drop Flow Rate Pressure Drop Pressure Drop Flow Rate Pressure Drop Pressure D	OW offer Pressure Drop Flow Rate Pressure Drop Press

^{**} 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
1174	4436	782	2957	587	2218	469	1774	391	1479	335	1267

Water Heater Min Flow Rates

	Normal (4	to 12) gpg		Hard (12 to 15) gpg				
Flow	Rate	Pressur	re Drop	Flow	Rate	Pressure Drop		
gpm	L/s	Ft	kPa	gpm	L/s	Ft	kPa	
30.7	1.9	7.0	20.9	41.0	2.6	12.4	37.0	

REP FIRM

SUBMITTED BY

JOB NAME

ARCHITECT

ENGINEER

CONTRACTOR

DATE

TORUS 400 DUAL FUEL

Category IV Appliance

(see Installation and Operation Manual for venting information)



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

TORUS 400 DUAL FUEL

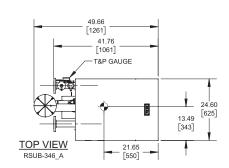
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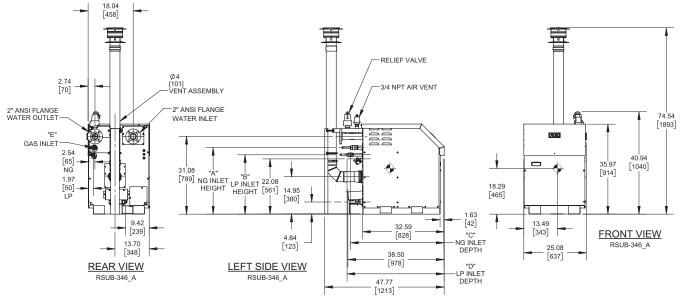
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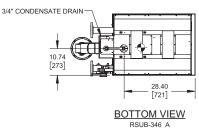
CODE OPTIONS

CSD-1 FIRMWARE W/REMOTE
TEST MANUAL RESET LWCO
High and Low Gas Pressure Switches

OUTDOOR UNIT







RSUB-346_A

Notes:

GAS OPTION	"A"	"B"	"C"	"D"	"E"
NG	26.61 in / 675.89 mm	-	37.47 in / 951.74 mm	-	1 NPT
LP	-	27.72 in / 704.09 mm	-	38.84 in / 986.54 mm	3/4 NPT

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 Symbol indicates center of gravity.

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Fuel Type	Natural/Propane Gas	Boiler FLA	12.0*
Input BTU/hr.	399,000 / 116.93 kW	Boiler HP	11.50
Output BTU/hr.	385,035 / 112.84 kW	Min. Gas Pressure Required	4"W.C.
Electrical Requirements	120 VAC/60 Hz/1PH	Max. Gas Pressure Allowed	14" W.C.
		Operating Weight	443.69 lbs / 201.25 kg

BOILER TRIM & CONTROLS

Main Gas Valve	Dungs MBC	Air Switch	Huba
Firing Valve	Apollo	Flow Switch	SIKA
Ignition Control	Fenwal	Blocked Flue Switch	Cleveland NS2
Operating Control	HeatNet®	Blower Motor	Ametek
High Limit	Jumo	L.W.C.O.	800
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Htg Surface				

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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		Pressur	e Drop	Flow Rate		Pressure Drop		Flow Rate		Pressure Drop	
GPM	L/s	Ft	kPa	GPM	L/s	Ft	kPa	GPM	L/s	Ft	kPa
38.5	2.4	10.9	32.7	25.7	1.6	4.9	14.7	19.3	1.2	2.8	8.4
Flow GPM (Boiler) Temp			. Rise (°F) (Boiler**) Vent Lei		Vent Length (Equiv. Ft.)		Air In	Air Inlet Length (Equiv. Ft.)			
Min M		Max	Min		Max			Max	Min		Max
19.3		38.5	20		40	Factory Supplied		ed	0		

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WATER HEATER HOURLY RECOVERY CAPACITY (GPH & LPH)

40°F	22°C	60°F	33℃	80°F	44°C	100°F	56°C	120°F	67°C	140°F	78°C
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REP FIRM	
SUBMITTED BY	
JOB NAME	
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