

# PRODUCT DATA

PDRTS-1

## Smith Water Boilers [RTS Series] Pressurized Wet Base Water Boiler/Burner Unit

# Smith

CAST IRON BOILERS

Designed to provide the highest efficiencies possible with forced draft firing. This new product line of Smith cast iron boilers is available in fifteen basic sizes, with gross output ratings from 900 to 4,629 MBH. RTS Series boilers are used in water systems, and may be fired with light oil, gas or gas/light oil.

### STANDARD FEATURES

- Cast iron wet base sections tested for 80 psi water working pressure.
- Return temperature stabilizer (RTS)
- Insulated metal jacket
- Burner mounting plate with insulation block
- Front and rear flame observation ports
- Steel angle floor rails
- Ceramic fiber rope seal between sections

- Graphite port connectors
- Flue brush
- Manual reset hi-limit
- Operating control

### ADDITIONAL FEATURES FOR WATER BOILERS

- A.S.M.E. relief valve, 40 psi
- Theraltimer



## I B R Ratings, Burner Capacities

Designed and tested to the A.S.M.E. boiler and pressure vessel code, section IV for maximum allowable working pressure, water 80 PSIG.

Boiler Number (Note 1)	Boiler Horsepower	I=B=R Gross Output (MBH)	Net I=B=R Ratings (Note 2)			Heating Surface (Sq. Ft.)	Furnace Volume (Cu. Ft.)	Water Contents (Gals.)	Water Working Weight (Lbs.)
			Water	I=B=R Burner Capacity					
				MBH	Oil GPH (Note 3)			Gas MBH (Note 4)	
†RTS/28-4	27	900	783	8.0	1154	81.2	12.04	123.4	4,215
†RTS/28-5	35	1166	1014	10.4	1491	105.3	16.14	150.3	5,038
†RTS/28-6	43	1433	1246	12.6	1827	129.4	20.24	177.2	5,861
†RTS/28-7	51	1699	1477	15.0	2163	153.5	24.34	204.1	6,684
†RTS/28-8	59	1965	1709	17.4	2499	177.6	28.44	231.0	7,507
†RTS/28-9	67	2232	1941	19.6	2836	201.7	32.54	257.9	8,331
†RTS/28-10	75	2498	2172	22.0	3172	225.8	36.64	284.8	9,169
†RTS/28-11	83	2764	2403	24.5	3508	249.9	40.74	311.7	9,992
†RTS/28-12	91	3031	2636	26.5	3844	274.0	44.84	338.6	10,815
†RTS/28-13	98	3297	2867	29.0	4180	289.1	48.94	365.5	11,649
†RTS/28-14	106	3563	3098	31.5	4517	322.2	53.04	392.4	12,467
†RTS/28-15	114	3830	3330	33.5	4853	346.3	57.14	419.3	13,511
†RTS/28-16	122	4096	3562	36.0	5189	370.4	61.24	446.2	14,375
†RTS/28-17	130	4362	3793	38.5	5525	394.5	65.34	473.1	15,239
†RTS/28-18	138	4629	4025	40.5	5862	418.6	69.44	500.0	16,103

(Note 1) Important Ordering information

(†) Add Prefix for type of fuel to be burned. "LO" for light oil, "G" for Gas or "GO" for gas/oil.

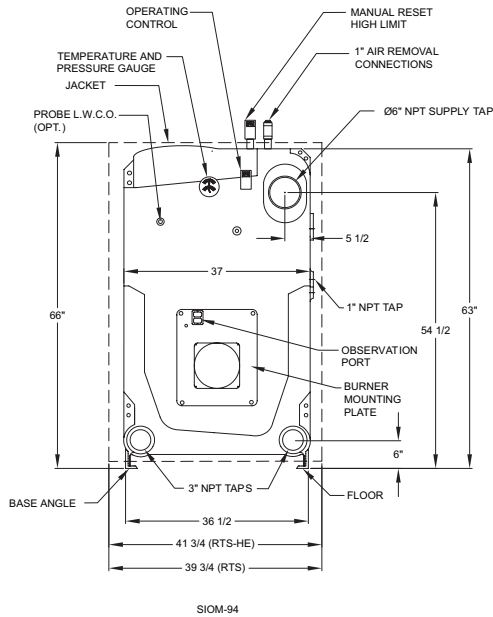
Example: LO-RTS/28-6 is the model no. for a six section water boiler firing light oil.

(Note 2) Net I=B=R Water Ratings are based on an allowance of 1.15.

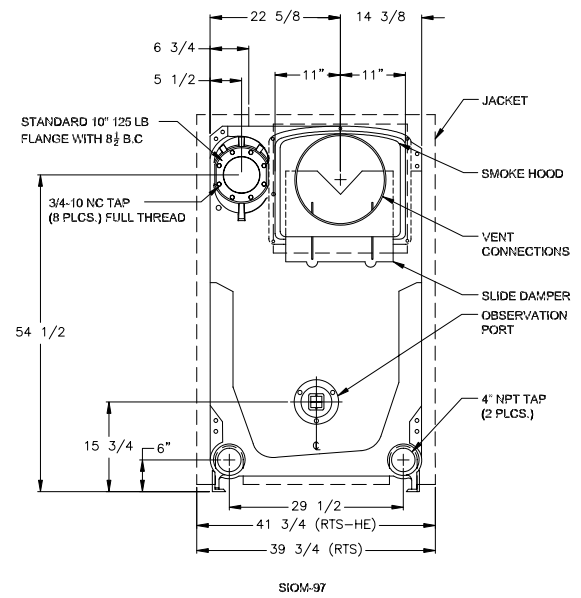
(Note 3) Light oil having a heat content of 140,000 BTU/Gal.

(Note 4) Gas having a heat content of 1,000 BTU/Cu. Ft., 0.60 specific gravity

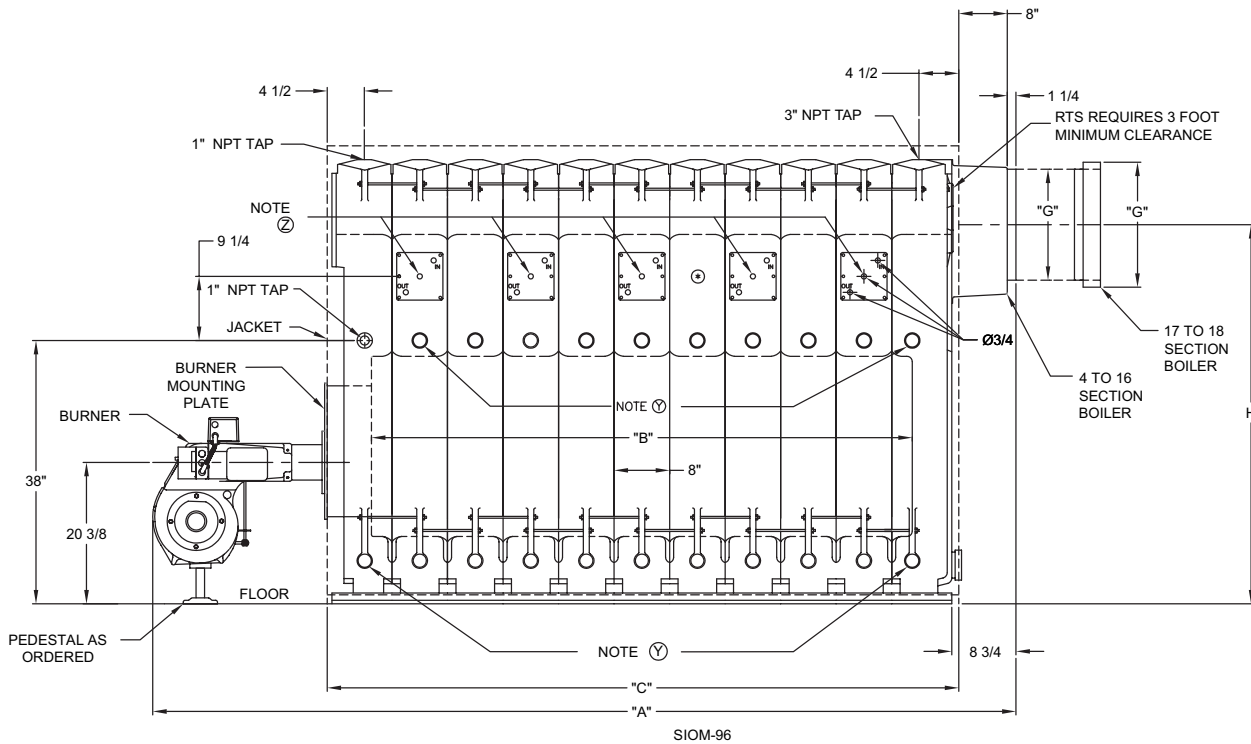
# RTS Series



SIOM-94  
FRONT VIEW (Water Boiler)



SIOM-97  
REAR VIEW



SIOM-96  
SIDE VIEW

(Note Y) 1-1/2" inspection tappings when ordered.

(Note Z) Tankless heater sections when ordered. Allow 36" clear space for heater withdrawal.

# Dimensions (inches)

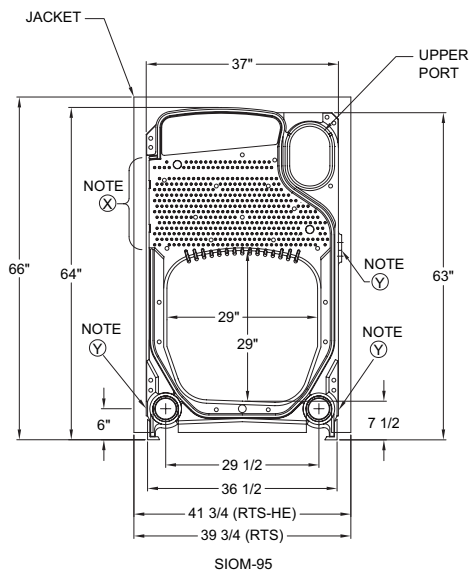
Boiler Number (Note 1)	Overall Length — "A"				Opt. Packaged Base Dimensions				Furnace Length "B"	Boiler Length "C"	Draft Loss Ins. W.C.	Firebox Press Ins. W.C.††	Dia. Vent Conn. "G"	(Note 7) Height Vent Conn. "H"
	(Note 8)				Carlín & Beckett		Power Flame and Webster							
	Carlín	Beckett	Power Flame	Webster	"J"	"K"	"J"	"K"						
†RTS/28-4	62¼	64	71½	66%	54¼	83¼	54¼	91¼	23½	33	.24	.34	10	57%
†RTS/28-5	70¼	72	83½	74%	62¼	91¼	62¼	104¼	31½	41	.25	.35	10	57%
†RTS/28-6	80%	80¼	91%	82%	70%	99%	70%	112%	39½	49	.26	.36	10	56%
†RTS/28-7	88%	88%	99%	90%	78%	107%	78%	120%	47½	57	.27	.37	12	56%
†RTS/28-8	96%	96¼	107%	98%	86½	115¼	86½	128½	55½	65	.28	.38	12	55%
†RTS/28-9	108%	104¼	115%	110%	96½	123¼	94½	136½	63½	73	.29	.39	14	55%
†RTS/28-10	116%	116%	128	118%	102%	135¼	102%	144%	71½	81	.30	.40	14	55%
†RTS/28-11	125%	124%	137%	126%	110%	143¼	110%	157%	79%	89	.31	.41	14	55%
†RTS/28-12	133%	132½	145%	134%	118¼	151¼	118¼	165%	87½	97	.33	.43	14	54%
†RTS/28-13	141%	—	153%	142%	126¼	159¼	126¼	173¼	95½	105	.34	.44	14	54%
†RTS/28-14	149%	—	161%	150%	134%	167%	134%	181%	103½	113	.35	.45	16	54%
†RTS/28-15	—	—	169%	158%	—	—	142%	189%	111½	121	.36	.46	16	54%
†RTS/28-16	—	—	177%	166%	—	—	150%	198	119½	129	.37	.47	16	54%
†RTS/28-17	—	—	191%	183%	—	—	159	206	127½	137	.38	.48	18	54%
†RTS/2818	—	—	199%	191%	—	—	167%	214¼	135½	145	.39	.49	18	54%

(Note 7) When unit is assembled or packaged, add 6" to heights for 4-14 sect., 8" to heights for 15-18 sect.

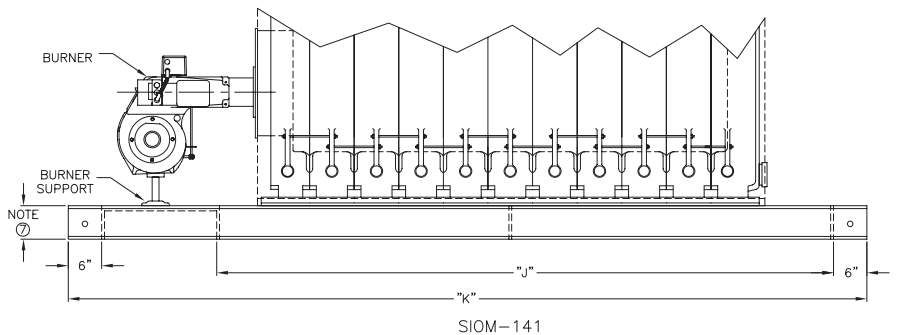
(Note 8) Add 2-3/4" to sect. 14 thru 18 for smoke hood adaptor.

†† Based on 0.10 ins. W.C. pressure at boiler outlet. If vent sizing results in a back pressure greater than 0.10 ins. W.C., consult Smith

(Note) These measurements are approximate. The Smith representative should be consulted before selecting boilers for installation having unusual piping and pick-up requirements, such as intermittent system operation, extensive piping systems, etc. The boiler ratings have been determined under previous governing forced draft units.



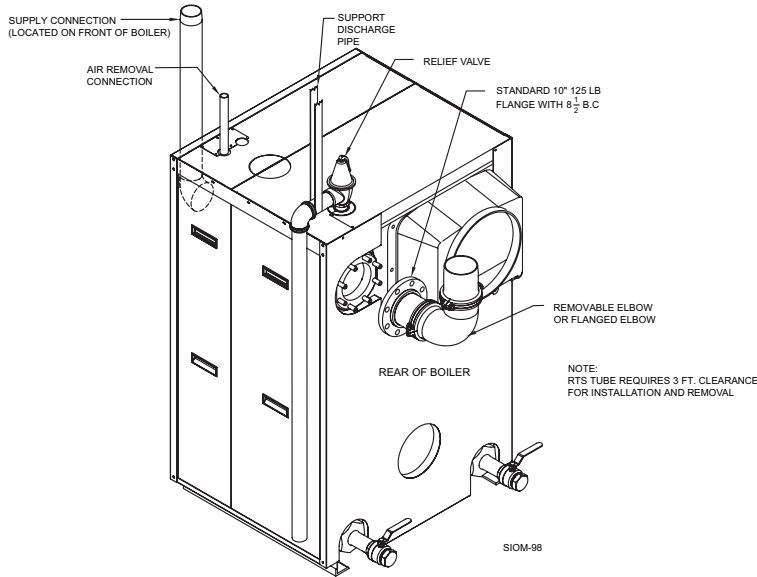
INTERMEDIATE VIEW



ASSEMBLY – SIDE VIEW

(NOTE X) Flue cleanout opening. Allow 36" clear work space for using flue brush, and for the removal of the heat transfer rods.

## Recommended Water Piping Diagram



RTS Boiler Size	20°F Δ T GPM	Return Connection	Supply Connection
RTS/28-4	90	3"	3"
RTS/28-5	116	3"	3"
RTS/28-6	143	4"	4"
RTS/28-7	169	4"	4"
RTS/28-8	196	4"	4"
RTS/28-9	223	4"	4"
RTS/28-10	249	5"	5"
RTS/28-11	276	5"	5"
RTS/28-12	303	5"	5"
RTS/28-13	329	5"	5"
RTS/28-14	356	5"	5"
RTS/28-15	383	5"	5"
RTS/28-16	409	5"	5"
RTS/28-17	436	5"	5"
RTS/28-18	462	5"	5"

## Burner Specifications

Boiler Number	Burners - Light Oil						Burners - Gas		Burners - Gas/Oil	
	Carlin (Note 5)		Beckett (Note 5)		Power Flame (Note 6)		Power Flame (Note 6)		Power Flame (Note 6)	
	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.
†RTS/28-4	702CRD	½	CF1400	½	C1-0	½	JR30A-12	⅓	C1-G0-12	½
†RTS/28-5	702CRD	½	CF1400	¾	C1-0	½	J50A-15	⅓	C1-G0-12	½
†RTS/28-6	801CRD	¾	CF1400	¾	C2-0A	¾	J50A-15	⅓	C2-G0-15	¾
†RTS/28-7	801CRD	¾	CF1400	¾	C2-0A	¾	J50A-15	⅓	C2-G0-15	¾
†RTS/28-8	801CRD	¾	CF1400	2	C2-0B	¾	C2-G-20A	¾	C2-G0-20A	1
†RTS/28-9	1050FFD	1	CF2300	2	C2-0B-1	1½	C2-G-20B-1	1	C2-G0-20B-1	1½
†RTS/28-10	1050FFD	1	CF2500	2	C2-0B-1	1½	C2-G-20B-1	1	C2-G0-20B-1	1½
†RTS/28-11	1150FFD	1½	CF2500	2	C3-0	2	C3-G-20	1½	C3-G0-20	2
†RTS/28-12	1150FFD	1½	CF3500A	2	C3-0	2	C3-G-25	1½	C3-G0-25	2
†RTS/28-13	1150FFD	1½	CF3500A	2	C3-0	2	C3-G-25	1½	C3-G0-25	2
†RTS/28-14	1150FFD	1½	—	—	C3-0	2	C3-G-25	1½	C3-G0-25	2
†RTS/28-15	—	—	—	—	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
†RTS/28-16	—	—	—	—	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
†RTS/28-17	—	—	—	—	C4-0A	5	C4-G-25	3	C4-G0-25	5
†RTS/28-18	—	—	—	—	C4-0A	5	C4-G-25	3	C4-G0-25	5

(Note 5) Burner operation: Low-High-Low (4-13 sect.).

(Note 6) Burner operation: Low-High-Low, (4-9 sect.); Modulation (10-18 sect.).

**Smith**  
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**WESTCAST, INC.**  
260 NORTH ELM STREET WESTFIELD, MA 01085  
TEL. (413) 562-9631 FAX (413) 562-3799  
www.smithboiler.com