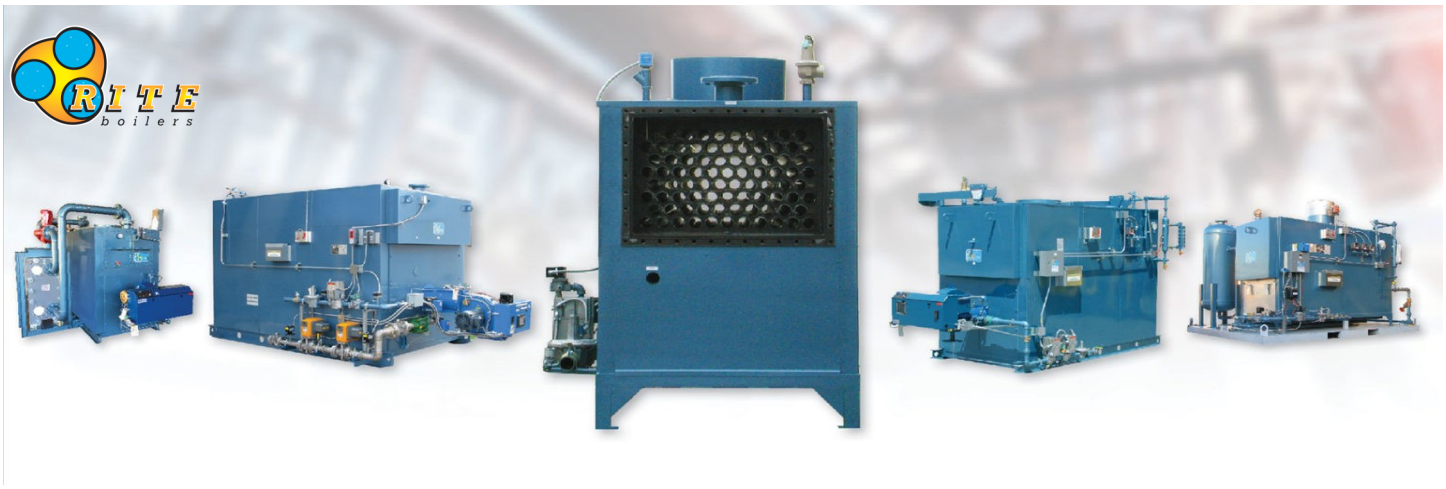


RITE DURAFIN™ boilers

85% efficient, near-condensing heating boiler engineered with non-proprietary, large-bore, steel tubes

5832 Garfield Ave · Commerce, CA 90040 · www.riteboiler.com · 562-862-2135

Durafin High Efficiency Hot Water Boilers

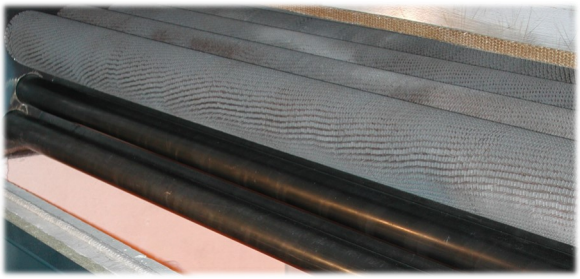
The Durafin combines the proven benefits of a long-lasting steel boiler with the efficiency required by modern building design. These near-condensing, hydronic boilers can operate at over 85% efficiency thanks to the incorporation of steel fintubes into our proven boiler designs.

Rite offers 29 Durafin sizes, ranging from 300 to 10,000 MBH Input (7 – 250 Boiler Horsepower). The boilers may be configured for indoor or outdoor environments. Our unique boiler design allows the boilers to be taken apart at the job site to be moved into areas with limited access.

Engineered for Efficiency

The Durafin design is elegant in it's simplicity. By using serrated, helically wound, ,steel fin tubes in our top row we are able to maximize the heat transfer in the relatively low temperature convective section of our boiler. The fintubes are protected from the direct radiant heat of the furnace by the lower rows of smooth boiler tubes.

Serrated fins are more efficient than solid fins because of the turbulence generated by the serrations. They have proven to be more resistant to sooting than solid fin arrangements.



The fintubes are protected from the direct radiant heat of the combustion chamber by the lower rows of smooth tubes.

Serrated fins are helically wound and welded to the tube for maximum heat transfer.

Engineered to operate near the condensation point, the Durafin can take everything a heating system can throw at it. These hydronic boilers have a very low waterside pressure drop with no minimum or maximum flow requirements.

Standard Features:

- Factory packaged & fire tested
- MAWP of 160 psi
- Temperature up to 240^{o}F
- 100% waterside access for inspection, cleaning, and repair
- Hinged and insulated head plates
- Hinged burner door
- 25 year warranty against thermal shock and tube erosion
- No minimum or maximum flow requirements
- Overfire pressure gauge
- Low temperature (condensation point) warning light.
- Over 7ft^{2} of heating surface per BHP
- 125psi relief valve
- Manual reset low water cut-off
- Zero clearance required for tube replacement
- Low mass-fast heat up, impervious to thermal shock
- Stack thermometer

Certification and Standards:

- UL listed burner and controls/ASME CSD-1
- ASME sect IV pressure vessel construction

Options:

- ☐ Available emissions; uncontrolled, 30ppm, 20ppm and sub 9ppm
- ☐ Auxiliary LWCO (rq'd by code in California)
- ☐ Lead Lag System
- ☐ Outdoor air reset
- ☐ Propane firing
- ☐ #2 Fuel oil back-up
- ☐ Pedestal mounted burner panel w/ umbilical
- ☐ Weatherproof packaging for outdoor installation
- ☐ Fuel train, left side, right side or burner front configurations
- ☐ Davited headplates
- ☐ Custom vent connector sizes
- ☐ Overfire pressure cut-off switch
- ☐ High stack temperature cut-off switch
- ☐ Barometric damper
- ☐ Magnahelic draft gauge
- ☐ Customer selected burner manufacturer
- ☐ Full or partial skid packaging

Rite Durafin Boilers Dimensions and Ratings

STACK / DRAFT REQUIREMENTS

• Stack Draft (static pressure) at vent connector: neutral (best) to negative 0.1" w.c.

• Velocity: 20 to 30 feet-per-second @ full input.

• Type B Vent (Category 1) for negative pressure stacks. Every stack installation should be reviewed by a listed vent manufacturer.

• Support the stack independently of the boiler.

STACK EMISSIONS @ VENT CONNECTOR

• Gross Temperature Range: 275º to 325º F.

• Exhaust volume A.C.F.M. - see table on page 4.

• Exhaust Velocity: 20 to 30 feet-per-second.

• Estimates based on high fire and Natural or L.P. gas fuels.

• Carbon monoxide detectors are recommended in all boiler rooms.

COMBUSTION AIR

• Provide at least 1/2 square feet of free air opening from outside for every 1,000,000 btu/hr input for combustion or as code requires.

• Provide the same size opening at a high point in the room for ventilation.

• Boiler room should static pressure should be neutral.

• Motorized fresh air dampers must be interlocked with boiler controls.

BURNER MOTOR HORSEPOWER / VOLTAGE / PHASE / Hz

• Refer to burner specification sheet or quote.

NATURAL GAS SUPPLY PRESSURE

• Refer to burner specification sheet or quote.

PROPANE GAS SUPPLY PRESSURE

• Refer to burner specification sheet or quote.

WATERSIDE

• Minimum continuous return water temperature: 135º F.

• Minimum flow rate: none (flow switch not required).

• Pressure drop: less than 2 psig all models & flow rates .

• Maximum supply water temperature: 240º F.

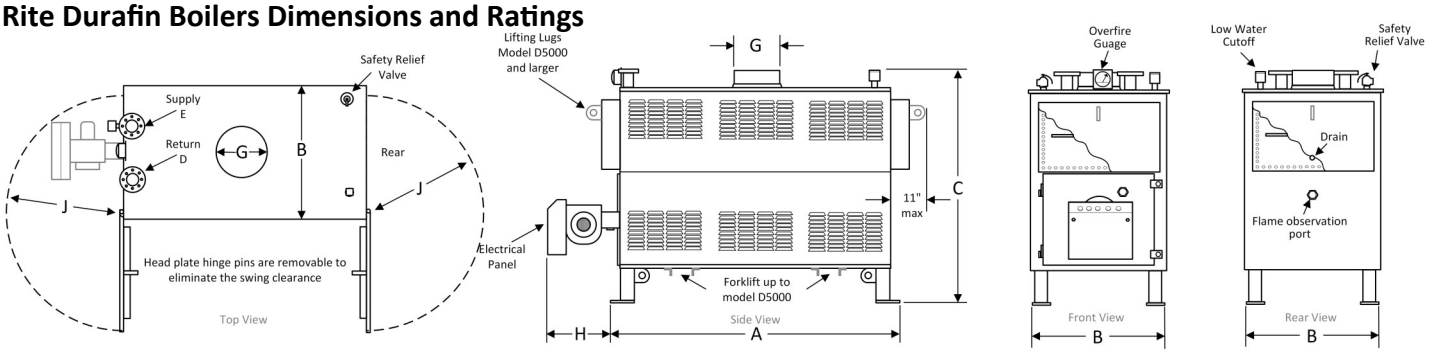
B.T.U. FORMULA

• BTUH output = 500 x ΔT x G.P.M

• Using glycol solution will require deration - Contact factory for more information.

BOILER MODEL	Input MBTUH	Output MBTUH	Boiler HP	Heating Surface Square Feet	Ft^2 Heating Surface/BHP	Firebox Volume (Cubic Feet)	Furnace Heat Release $Mbtu/H/FT^3$	Water Content (USG)	Shipping Weight (lbs)
D300	300	255	7	56	7.5	4	75	19	1,750
D500	500	425	12	91	7.4	7	72	22	1,930
D750	750	638	19	137	7.4	10	75	24	2,150
D1000	1,000	850	25	183	7.4	13	77	27	2,400
D1250	1,250	1,063	31	228	7.4	16	78	30	2,600
D1500	1,500	1,275	37	274	7.4	19	79	33	2,850
D1750	1,750	1,488	43	320	7.4	22	80	36	3,000
D2000	2,000	1,700	50	365	7.4	25	80	38	3,200
D2250	2,250	1,913	56	411	7.4	28	80	41	3,350
D2500	2,500	2,125	62	457	7.4	31	81	44	3,500
DA2000	2,000	1,700	50	360	7.3	25	80	51	3,700
DA2250	2,250	1,913	56	405	7.3	41	55	54	4,200
DA2500	2,500	2,125	62	449	7.3	45	56	57	4,500
D2750	2,750	2,338	68	494	7.3	50	55	59	4,750
D3000	3,000	2,550	74	539	7.2	54	56	62	5,000
D3500	3,500	2,975	87	628	7.2	63	56	67	5,350
D4000	4,000	3,400	99	717	7.2	71	56	72	5,750
D4500	4,500	3,825	112	806	7.2	80	56	78	6,100
D5000	5,000	4,250	124	895	7.2	88	57	83	6,500
D5500	5,500	4,675	136	985	7.2	111	50	121	8,800
D6000	6,000	5,100	149	1073	7.2	121	50	126	9,100
D6500	6,500	5,525	161	1165	7.2	130	50	131	9,500
D7000	7,000	5,950	174	1253	7.2	140	50	137	9,900
D7500	7,500	6,375	186	1341	7.2	149	50	142	10,350
D8000	8,000	6,800	198	1435	7.2	160	50	159	11,500
D8500	8,500	7,225	211	1521	7.2	169	50	164	12,750
D9000	9,000	7,650	223	1614	7.2	178	51	170	14,000
D9500	9,500	8,075	236	1701	7.2	187	51	175	15,250
D10000	10,000	8,500	248	1793	7.2	197	51	180	16,500

Rite Durafin Boilers Dimensions and Ratings



DIMENSIONS are in inches and subject to change due to production tolerances. Contact factory if dimensions are critical for installation.

WEATHERPROOF AND OIL FIRED boiler dimensions will vary from those shown.

RIGGING: Models D300 to D5000 are designed to be forklifted from either side. Models D5500 and larger are provided with lifting lugs on the front and rear headplates for rigging. Transportation tiedowns are provided at each leg and are suitable attachments for hoisting.

HINGES AND ACCESS DOOR: The burner (firebox access) door and both headplates are hinged, our standard right hand side is shown but left hand swing is available if specified. Hinge pins are removable to reduce clearance required for headplate swing. We recommend maintain 24" clearance at back of boiler for maintenance and inspection. The rear headplate can be ordered without hinges.

ANCHORING: 4 Anchoring pads are provided refer to dimensions A & B. Pads are 3/8" steel. The pads are predrilled for anchors: 9/16" for D300 -D1000, 11/16" for D1250-D5000 and 13/16" for D5500-D10000.

"D" & "E" FLANGES are ANSI 150 psi raised face.

CALCULATED ACFM Based on natural or LP gas @ 25 fps stack velocity, 300º F stack temperatures, 25% excess air @ sea level.

"ZERO" TUBE PULL CLEARANCE REQUIRED. Side clearance is not required for tube pull Refer to local codes for additional clearance requirements

	A	B	C	D	E	F	G	H	J		
BOILER MODEL	**BASE LENGTH**	**OVERALL WIDTH**	**FLANGES & STACK HEIGHT**	**WATER RETURN (IN)**	**WATER SUPPLY (OUT)**	**"D" C/L TO "E" C/L**	**VENT CONNECTOR O.D.**	**POWER BURNER**	**HEADPLATE SWING**	**ACFM STACK EXHAUST**	**SOUND LEVELS (dBA)**
D300	29	35	58	2 MNPT	2 MNPT	12	4	23	29	87	50
D500	37	35	58	2 MNPT	2 MNPT	12	5	23	29	145	50
D750	48	35	58	2 MNPT	2 MNPT	12	6	23	29	218	50
D1000	59	35	58	3 FL	3 FL	12	7	23	29	291	50
D1250	70	35	58	3 FL	3 FL	12	8	23	29	364	55
D1500	81	35	58	3 FL	3 FL	12	8	23	29	436	55
D1750	92	35	58	3 FL	3 FL	12	9	23	29	509	55
D2000	103	35	58	3 FL	3 FL	12	9	23	29	582	55
D2250	114	35	58	3 FL	3 FL	12	10	43	29	654	60
D2500	125	35	58	3 FL	3 FL	12	12	43	29	727	60
DA2000	73	49	58	4 FL	4 FL	20	9	23	44	582	55
DA2250	80	49	62	4 FL	4 FL	20	10	43	44	654	60
DA2500	86	49	62	4 FL	4 FL	20	12	43	44	727	60
D2750	93	49	62	4 FL	4 FL	20	12	43	44	800	60
D3000	99	49	62	4 FL	4 FL	20	12	43	44	873	65
D3500	112	49	62	4 FL	4 FL	20	14	46	44	1018	65
D4000	125	49	62	4 FL	4 FL	20	14	46	44	1163	70
D4500	138	49	62	4 FL	4 FL	20	14	46	44	1309	70
D5000	151	49	62	4 FL	4 FL	20	14	46	44	1454	70
D5500	122	67	65	6 FL	6 FL	23	16	46	63	1600	70
D6000	131	67	65	6 FL	6 FL	23	16	46	63	1745	75
D6500	140	67	65	6 FL	6 FL	23	16	53	63	1890	75
D7000	148	67	65	6 FL	6 FL	23	18	53	63	2036	75
D7500	157	67	65	6 FL	6 FL	23	18	53	63	2181	75
D8000	143	78	65	6 FL	6 FL	31	20	53	73	2327	80
D8500	150	78	65	6 FL	6 FL	31	20	53	73	2472	80
D9000	157	78	65	6 FL	6 FL	31	20	53	73	2618	80
D9500	164	78	65	6 FL	6 FL	31	20	53	73	2763	80
D10000	172	78	65	6 FL	6 FL	31	20	53	73	2908	80