

LATTNER

Scotch Marine Boilers

Engineered Solutions For HVAC,
Laundry & Drycleaning, Commercial
& Industrial Applications



**Safe, Reliable,
& Economical:**

- 10 HP to 200 HP
- Steam or Hot Water
- Low or High Pressure
- Gas, Oil, Dual Fuel, or Low-NOx

LATTNER

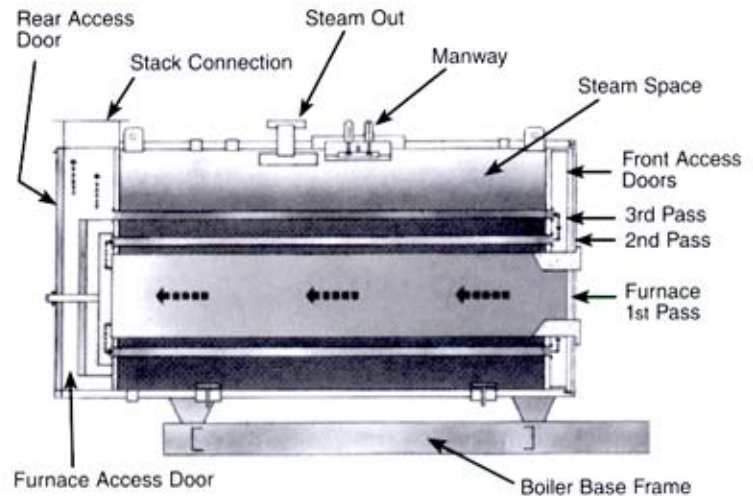
Safe • Sure • Simple

Lattner Scotch Marine Steam Boilers

Premium Quality 3 Pass DBS Series

Standard equipment includes:

- Rugged dry back series constructed in accordance with ASME Pressure Vessel Code and registered with the National Board.
- Generous 5 square feet of heating surface per boiler horsepower.
- Thick tube sheet with 2½" diameter tubes. Tubes are welded on second pass.
- Corrugated furnace included on units 100 horsepower and larger.
- Davit doors on boilers 60 horsepower and larger.
- 12" x 16" manway on boilers 80 horsepower and larger.
- Removable painted jacket with minimum of 2 inch, 8 pound density, fiberglass insulation.
- ASME stamped safety valve(s) sized in accordance with ASME Pressure Vessel Code.
- Flanged stack outlet with thermometer.
- Float type primary low water cut-off and pump control.
- Probe type auxiliary low water cut-off with manual reset.
- Water gauge glass assembly and water column blow-down valves.
- Pressure controls for limit, burner control, and excess steam pressure with manual reset.
- Natural gas, LP gas, #2 oil, dual fuel, or low-NOx burner.
- Full modulation burners on boilers 60 horsepower and larger.
- NEMA 1 burner control and electrical service panels.
- 120 volt step-down control transformer for 3 phase burners.
- Solid state flame safeguard control. Includes ultraviolet sensor with LED fault and run code indicator.



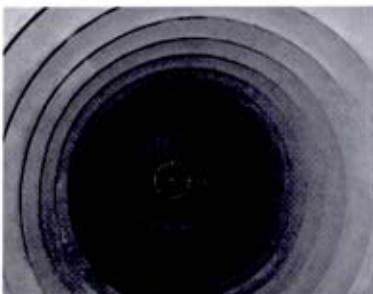
3 Pass Heat Transfer

Optional Features:

- Insurance code compliance including GE GAP (formerly IRI), FM, & Kemper.
- ASME Pressure Vessel Code piping package with P6 data report.
- Surface skimmer with automatic timer or conductivity blow-off controls.
- Night set back controls.
- Lead lag boiler sequencing controls.
- TEFC blower motors.
- Variable CAM, fuel/air ratio adjustment equipment.
- Additional alarms (specify)
- **Custom boiler feed systems, control packages, and blowdown separators.**

Current DBS Users:

- Nordstroms Department Stores (California)
- Evans Garment Restoration (Illinois)
- Argonne National Laboratories (Illinois)
- Andes Candies (Wisconsin)
- Ramada Hotels (Qatar)



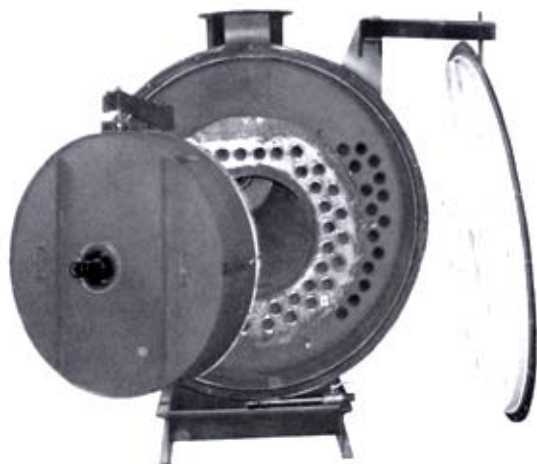
Corrugated Furnace

Lattner Scotch Marine Hot Water Boilers

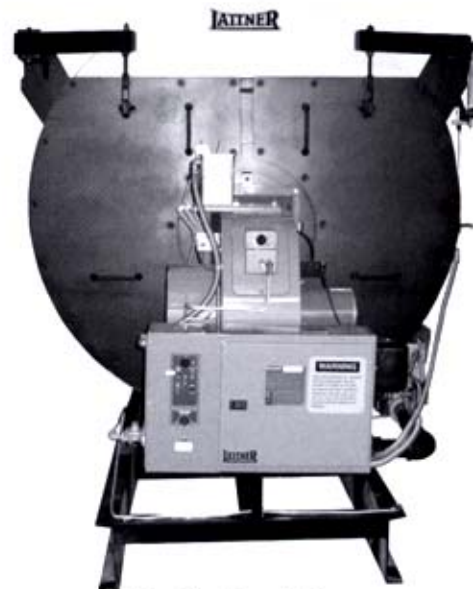
Premium Quality 3 Pass DBW Series

Standard equipment includes:

- Rugged dry back series constructed in accordance with ASME Pressure Vessel Code and registered with the National Board
- Generous 5 square feet of heating surface per boiler horsepower.
- Thick tube sheet with 2½" diameter tubes. Tubes are welded on second pass.
- Corrugated furnace included on units 100 horsepower and larger.
- Davited doors on boilers 60 horsepower and larger.
- 12" x 16" manway on boilers 80 horsepower and larger.
- Removable painted jacket with minimum of 2 inch, 8 pound density fiberglass insulation.
- ASME stamped safety valve(s) sized in accordance with ASME Pressure Vessel Code.
- Flanged stack outlet with thermometer.
- Probe type primary low water cut-off.
- Temperature controls for limit, burner control, excess temperature with manual reset, and low fire hold.
- Combination temperature/pressure gauge.
- Natural gas, LP gas, #2 oil, dual fuel, or low-NOx burner.
- Full modulation burners on boilers 60 horsepower and larger.
- NEMA 1 burner control and electrical service panels.
- 120 volt step-down control transformer for 3 phase burners.
- Solid state flame safeguard control with ultraviolet sensor with LED fault and run code indicator.



Concentric Furnace Design



Davited Front Doors

Optional Features:

- Insurance code compliance including GE GAP (formerly IRI), FM, & Kemper.
- Surface skimmer with automatic timer or conductivity blow-off controls.
- Temperature set back controls.
- Lead lag boiler sequencing controls.
- TEFC blower motors.
- Variable CAM, fuel/air ratio adjustment equipment.
- Additional alarms (specify)

Current DBS Users:

- Monrovia Nurseries (California)
- Naval Surface Warfare Center (Indiana)
- Naval and Marine Corps Reserve Center (Alabama)
- Olympic Wood Products (Washington)
- Private Gardens Greenhouses (Belgium)

Lattner Expanded Product Line

Single Source All Your Steam & Hot Water Boiler Equipment

Complete Packages:

- Gas, Oil, Dual Fuel, or Low-NOx
- Electric Boilers
- Feedwater/Condensate Return Systems
- Blowdown Separators
- Water Softeners
- Chemical Feed Systems
- Custom Skid Designs
- And More...

ASME
National Board & UL

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with 1000s of sample
specifications,

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800-345-1527

LATTNER

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www.lattnerboiler.com

Vertical Tubeless WLF Boilers



WLF series steam boilers, 8 sizes; 9.5 to 50 HP. 4-pass high efficiency. Compact and reliable. Natural and LP gas. UL Listed.

Vertical Tubeless H.E. Boilers



H.E. series steam boiler, 8 sizes: 1.5 to 20 HP. Atmospheric burners, compact design. Natural and LP gas.

Horizontal Firetube HRT Boilers



HRT series steam boilers, up to 60 HP. Extra dry steam. Available with atmospheric and forced draft burners.

Cabinet Series Electric Steam & Hot Water Boilers



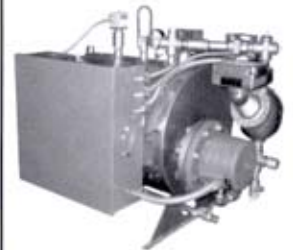
Cabinet series electric steam and hot water boilers, up to 3600 KW. Custom configurations and multiple voltage options. UL listed.

Space Saver Hot Water Boilers



Space Saver series electric hot water boilers, up to 165 KW. Compact 2 ft. x 2 ft. x 4 ft. Suitable for closet installations. UL Listed.

Electric Steam Boilers



Horizontal series electric steam boilers, up to 148 KW. High and low pressure, multiple voltage options, ready-to-connect.

Complete Skid Packages



Complete skid packages including mounting, wiring, and piping of boilers and related equipment. Single point connections optional.

Blowdown Separators & Automatic Aftercooler



Blowdown separators for reduction of steam pressure and effluent temperature. Automatic controls and aftercoolers optional.

Condensate Return Systems



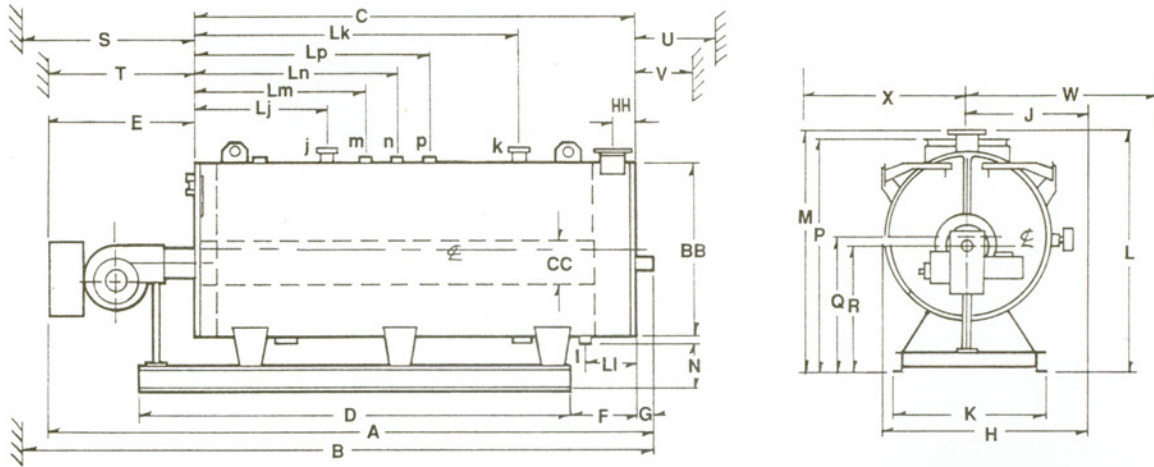
Standard and custom condensate returns including simplex, duplex, and triplex systems. Control and pre-heating options available.



Lattner Boiler Company

SCOTCH MARINE HOT WATER BOILERS
25THRU 300 B.H.P. • 5 SQ.FT / B.H.P.

DIMENSIONAL DATA
3-PASS DESIGN
30 TO 160 PSIG
HOT WATER



BOILER HORSEPOWER	25	40	60	80	100	125	150	175	200	250	300
OUTPUT 1000 BTU/HR	838	1339	2010	2680	3350	4185	5021	5860	6675	8369	10043
HEATING SURFACE SQ. FT.	117	200	301	375	506	630	748	872	965	1205	1478
WATER CONTENT GALLONS	187	330	509	826	997	1258	1503	1654	1836	2310	2232
APPROX. DRY WEIGHT (SHELL & BURNER)	3400	4500	6480	9500	10700	12300	14000	15900	17300	20300	27250
LENGTHS, INCHES											
A OVERALL	117	122	138	177	174	205	234	206	221	260	242
B OVERALL, INCL. LENGTH/TUBE REMOV.	161	169	202	266	261	323	381	301	331	409	346
C BOILER ONLY	89	93	109	144	142	173	202	162	177	216	186
D SKID	87	91	108	138	136	167	196	151	166	205	198
E BURNER	26	26	26	30	30	30	30	39	39	39	49
F REAR SHELL EXTENSION	22	22	22	26	26	26	26	31	31	31	39
G PEEPHOLE	3.5	3.5	3.5	3.5	3.5	3.5	3.5	6	6	6	6
WIDTHS, INCHES											
H OVERALL	53	60	66	72	78	78	78	87	87	87	98
J BOILER & TO OUTSIDE L.W.C.O	33	36.5	39.5	42.5	45.5	45.5	45.5	51.5	51.5	51.5	54.5
K SKID	28	31	34	38	41.5	41.5	41.5	48	48	48	54
HEIGHTS, INCHES											
L OVERALL	56.5	64	73	81	87.5	87.5	87.5	99	99	99	106
M TO HOT WATER CONNECTION	53	60	69.5	78	86	86	86	99	99	99	106
N TO DRAIN OUTLET	10.5	11.5	14.5	16.5	16	16	16	17	17	17	17.5
P TO STACK OUTLET	55.5	62.5	71.5	80	86	86	86	97	97	97	103.5
Q TO BOILER CENTERLINE	31	35	41	46.5	49.5	49.5	49.5	56.5	56.5	56.5	60
R TO BURNER CENTERLINE	29	33.5	38.5	43.5	46	46	46	54.5	54.5	54.5	55
MINIMUM CLEARANCES (APPROX)											
S TO REMOVE TUBES (FRONT)	69	73	89	119	116	147	176	133	148	187	154
T TO OPEN DOORS (FRONT)	31	45	48	31.5	32.5	32.5	32.5	35.5	35.5	35.5	41.5
U TO REMOVE TUBES (REAR)	66	70	86.5	111	107	138	167	123	138	177	144
V TO OPEN DOOR (REAR)	31	44	47	53	57	57	57	64	64	64	73
W TO OPEN FRONT DOORS (SIDE)	-	62	66.5	57	61	61	61	66.5	66.5	66.5	79
X TO OPEN REAR DOOR (SIDE)	-	62	66.5	74	73	73	73	84.5	84.5	84.5	99
PHYSICAL DIMENSIONS, INCHES											
BB DIAMETER OVERALL JACKET	40	46	53	57	65	65	65	77	77	77	83
CC FURNACE INSIDE DIAMETER	12	13	17	23	25	25	25	31	31	31	33
DD WIDTH OF SMOKE OUTLET	-	-	-	-	-	-	-	34	37	37	35
EE DEPTH OF SMOKE OUTLET	-	-	-	-	-	-	-	7.5	8.5	8.5	11
FF SMOKE OUTLET DIAMETER (OD)	8	10	12	12	14	14	14	18	20	20	22
GG SMOKE STACK ADAPTOR	-	-	-	-	-	-	-	20	18.8	18.8	30
HH SMOKE OUTLET & LOCATION	5.5	5.5	6.5	7	7.5	7.5	7.5	8	8	8	8.5
CONNECTION PIPE SIZES											
j WATER RETURN CONNECTION	2 1/2	3	4	4	5 FLG	5 FLG	5 FLG	6 FLG	6 FLG	6 FLG	8 FLG
k WATER OUTLET CONNECTION	2 1/2	3	4	4	5 FLG	5 FLG	5 FLG	6 FLG	6 FLG	6 FLG	8 FLG
l DRAIN	1	1 1/4	1 1/4	1 1/2	2	2	2	2	2	2	2
m RELIEF VALVE #1	1 1/4	2	2	2 1/2	3	3	3	2	2	2	2
n RELIEF VALVE #2	-	-	-	-	-	1 1/4	1 1/4	2	2	2	2
p RELIEF VALVE #3	-	-	-	-	-	-	-	-	-	-	2
Lj LOCATION, WATER RETURN	24	24	25	26	30	30	30	60	89	104	89
Lk LOCATION, WATER OUTLET	74	76	89	124	115	146	175	138	150	189	154
Li LOCATION, DRAIN	16	16	16	21	21	21	21	22	22	22	27
Lm LOCATION, RELIEF VALVE #1	57	59	63	83	83	83	83	61	75	89	71
Ln LOCATION, RELIEF VALVE #2	-	-	-	-	-	93	93	51	65	79	59
Lp LOCATION, RELIEF VALVE #3	-	-	-	-	-	-	-	-	-	-	47

HOT WATER

Specifications Subject to Change Without Notice

Bulletin No. DS-121-W-97

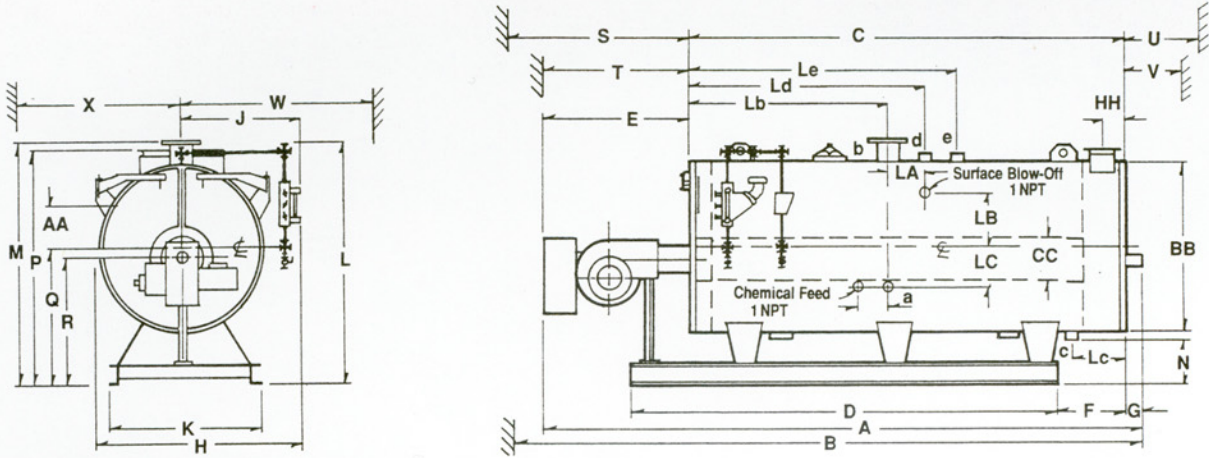
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Lattner Boiler Company

SCOTCH MARINE STEAM BOILERS
30 THRU 300 B.H.P. • 5 SQ.FT / B.H.P.

DIMENSIONAL DATA
3-PASS DESIGN
15 TO 150 PSIG
STEAM



STEAM

HP	30	40	50	60	80	100	125	150	200	250	300
STEAM OUTPUT, #/hr @212°F	1035	1380	1725	2070	2760	3450	4312	5175	6900	8625	10350
HEATING SURFACE, sq.ft	200	200	290	290	400	505	630	750	970	1210	1480
WATER CONTENT, gal.	284	284	717	717	1037	1311	1693	2023	2801	3546	3121
SHIPPING WEIGHT W/BURNER	4500	4500	6500	6500	9500	10700	12300	14000	17300	20000	27400
LENGTHS, inches											
A Overall	126	126	131	131	177	175	206	235	221	260	242
B Overall w/tube removal space	169	169	202	202	266	261	323	381	331	409	346
C Boiler	91	91	110	110	143	141	173	201	176	215	186
D Skid	91	91	108	108	138	136	167	196	165	204	197
E Burner	26	26	26	26	29	29	30	30	39	39	39
F Rear extension shell	22	22	22	22	26	26	26	26	31	31	31
G Peephole	4	4	4	4	4	4	4	4	6	6	6
WIDTHS, inches											
H Overall	59	59	66	66	72	78	78	78	90	90	98
J Boiler CL to outside lwooc	38	38	40	40	45	45	45	45	52	52	54
K Skid	32	32	34	34	38	41	41	41	48	48	54
HEIGHTS, inches											
L Overall	68	68	73	73	87	87	87	87	99	99	105
M To steam outlet	60	60	69	69	80	86	86	86	99	99	105
N To blow-down outlet	11	11	14	14	16	16	16	16	17	17	17
P To smoke outlet	63	63	71	71	80	86	86	86	97	97	103
Q To boiler centerline	35	35	41	41	46	49	49	49	56	56	60
R To burner centerline	34	34	38	38	43	46	46	46	54	54	55
MINIMUM CLEARANCES, inches											
S To draw tubes (front)	73	73	89	89	119	116	147	176	148	187	154
T To open door(s) (front)	45	45	47	47	31	32	32	32	35	35	41
U To draw tubes (rear)	70	70	86	86	111	107	138	167	138	177	144
V To open door (rear)	44	44	47	47	53	57	57	57	64	64	72
W To open front door(s) (side)	62	62	66	66	57	61	61	61	66	66	78
X To open rear door side	62	62	66	66	74	73	73	73	85	85	98
PHYSICAL DIMENSIONS, inches											
AA Normal water level (steam)	15	15	15	15	15	18	18	18	23	23	27
BB Diameter overall jacket	43	43	53	53	59	65	65	65	77	77	83
CC Furnace diameter (i.d.)	13	13	17	17	23	25	25	25	31	31	33
FF Smoke outlet dia. (o.d.)	10	10	12	12	12	14	14	14	20	20	22
HH Smoke outlet location	6	6	6	6	7	7	7	7	8	8	9
VALVE CONNECTION SIZES, in.											
a Feedwater	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2	2	2	2-1/2
b Steam outlet, 15 psi	4	4	4	4	6FL	6FL	6FL	6FL	8FL	8FL	10FL
c Blow-down, 15 psi	1	1	1-1/4	1-1/2	1-1/2	2	2	2	2	2	2
d Safety valve, 15 psi	1-1/4	1-1/2	1-1/2	2	2	2-1/2	2-1/2	3	3	3	3
e Safety valve, 15 psi											2
b Steam outlet, 150 psi	2	2	3	3	3	4FL	4FL	4FL	6FL	6FL	6FL
c Blow-down, 150 psi	1	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
d Safety valve, 150 psi	1-1/2	1-1/2	2	2	2	2	2	2	3	3	3
e Safety valve, 150 psi						2	2	2	2	2	2
Lb Steam outlet location	49	49	53	53	67	71	71	71	94	114	97
Lc Blow-down location	16	16	21	21	21	21	21	21	22	22	27
LA Surface blow-down location	10	10	10	10	16	18	18	18	16	16	16
LB Surface blow-down location	12	12	13	13	13	15	15	15	21	21	23

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