

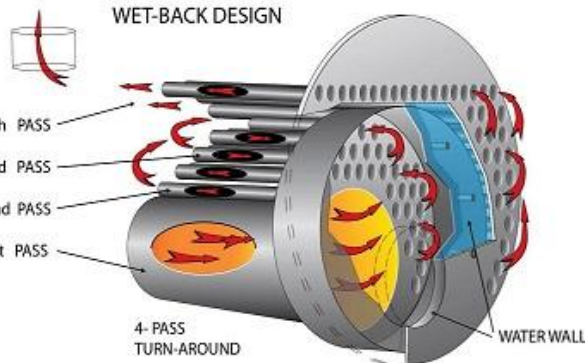
# HURST

## HURST PERFORMANCE SERIES BOILERS

### WET BACK ADVANTAGE

Dry back boilers are subject to deteriorating rear refractory, leaking baffles, leaking door seals, and often found with a heat-stressed rear tube sheet. Fragile refractory baffling and door seals will require continuous monitoring, maintenance, and replacement, costing thousands of dollars in materials and specialized labor costs over the life of the boiler. In addition, broken baffles and leaking seals will short-circuit the boiler's gas flow, causing high stack temperatures and lowering efficiency until repairs can be made. This can bring your production process to a costly halt.

All of those frustrating problems have been designed out of the Hurst Series 500 Wet back. It has a full wet back radiant heat transfer area that promotes superior internal water circulation and rapid heat absorption. Separate rear tube sheets allow each pass of tubes to expand and contract at its own rate without tube-to-sheet stress. Tubes are mechanically rolled, flared and beaded, making any tube service a simple matter. The only rear refractory is a manway plug which allows access to the furnace for inspection.



### Stress Relieving "Wet Back" Construction for Extended Life

#### Standard Steam Trim

- Operating & high limit pressure control
- Modulating pressure control (when appl.)
- Water column with gauge glass, combination low water cut-off & pump control
- Probe Aux. L.W.C.O. w/ Manual Reset Steam pressure gauge, syphon & test cock
- Stack Thermometer, Water column drain valve
- Safety relief valve(s) per ASME Code

#### Standard Water Trim

- Operating & high limit temperature control
- Modulating temperature control (when appl.)
- Probe type low water cut-off control w/ Manual Reset
- Combination pressure & temperature gauge
- Hot water return baffle for shock resistance
- Safety relief valve(s) per ASME Code
- Stack Thermometer

HBC-09507  
07/2014



**HURST BOILER**  
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# HURST

BOILER & WELDING CO., INC.

AVAILABLE WITH LOW NOX

## HURST SERIES 500

4-PASS SCOTCH MARINE DESIGN  
with Wetback Construction

**HIGH PRESSURE BOILER**  
Capacities From 30 to 1500 BHP.  
1004 to 50213 MBTU/HR.

STEAM

Pressures to 15-300 PSI.

HOT WATER

Section I and Section IV

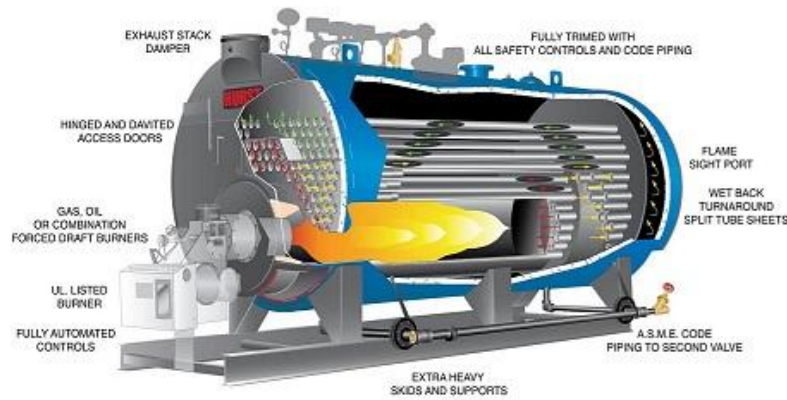


SKID MOUNTED  
MODULAR PACKAGED

"Wet back design eliminates, costly deteriorating refractory rear doors and baffles between flue gas passes."

HURST PERFORMANCE SERIES BOILERS

SERIES 500

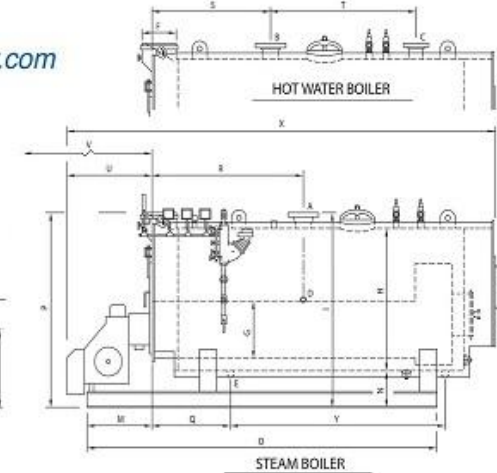
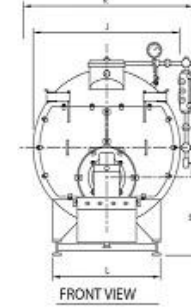


**hurstboiler.com**

Inspected and registered with the National Board of Boiler & Pressure Vessel Inspectors.



Designed, constructed and stamped in accordance with the requirements of the ASME Boiler Codes.



		SEM WET BACK										
BOILER SPECIFICATIONS		30	40	50	60	70	80	100	125	150	200	250
BOILER HORSEPOWER												
HEATING SURFACE	FIRESIDE	190	200	250	300	350	400	500	625	750	1000	1250
STEAM OUTPUT	FROM & @ 212°	1050	1380	1725	2070	2415	2760	3450	4313	5175	6900	8625
GROSS OUTPUT		1204	1339	1674	2009	2343	2678	3348	4184	5021	6699	8399
FIRING RATE GAS	1 000 BTU/CF	CFH	1960	1650	2100	2600	2940	3360	4200	5250	6300	7650
FIRING RATE LP GAS	91,500 BTU	GPH	13.8	18.4	23	27.5	32	36.7	46	57	69	82
FIRING RATE OIL #2	140,000 BTU	GPH	9	12	15	18	21	24	29.2	37.4	45	52
FIRING RATE OIL #5 & #6	160,000 BTU	GPH	8.4	11.2	14	16.8	19.6	22.4	28	35	42	50
A	NOTE: 1 STEAM OUTLET SIZE	150 PSI	IN	1.5	2	2.5	2.5	3	3	4	4	6
A	NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	4	4	4	5	6	6	8	8	10
B	NOTE: 2 WATER SUPPLY SIZE	30 PSI	IN	4	4	4	5	6	6	8	8	10
C	NOTE: 2 WATER RETURN SIZE	30 PSI	IN	4	4	4	4	4	5	6	6	8
D	FEEDWATER CONNECTION SIZE		IN	0.75	0.75	0.75	1	1	1.25	1.25	1.25	1.5
E	BLOWDOWN CONNECTION (BTM)	HIGH PRESS.	IN	1	1.25	1.25	1.25	1.25	2.0 1.25	2.0 1.25	2.0 1.25	2.0 1.25
E	BLOWDOWN CONNECTION (BTM)	LOW PRESS. & HW	IN	1.25	1.25	1.25	1.5	1.5	2.0 1.50	2.0 1.50	2.0 1.50	2.0 1.50
F	STACK OUTLET SIZE O.D.		IN	10	10	10	12	12	12	14	16	18
G	FURNACE O.D.		IN	14	14	16	18	18	18	22	25	30
H	SHELL I.D.		IN	40	40	44	48	48	48	54	60	72
I	SUPPLY HEIGHT		IN	55.25	55.25	59.75	63.75	66.925	66.925	74.625	81.75	90.75
J	WIDTH WITHOUT TRIM		IN	46	46	50	54.63	54.63	54.63	60	66.5	75.75
K	WIDTH WITH TRIM		IN	58	58	60	66	66	66	72	79	88
L	SKID WIDTH		IN	34	34	38	40	40	44	48	52	57
M	END OF SKID FROM FR.T. PLATE		IN	13.6	14.25	15.25	15.25	15.25	15.25	17.5	19.125	21.875
N	SHELL TO FLOOR		IN	12	12	12	12	12	12	14	15	15
O	SKID LENGTH		IN	81	98	102	102	102	114	114	132	147
P	STACK OUTLET HEIGHT		IN	58.63	58.63	62.63	66.63	66.63	74.63	81.75	87.75	90.75
Q	STACK OUTLET LOCATION		IN	36.75	41	31.75	28.75	28.75	28.75	30.88	31.81	33.88
R	STEAM OUTLET LOCATION	15 PSI & UP	IN	38.75	41.75	40.25	48.75	48.75	48.75	56.75	56.81	72.81
S	SUPPLY LOCATION		IN	20.25	20.25	33.25	37.75	37.75	43.75	32.75	34	45.88
T	RETURN LOCATION		IN	58.25	74.25	75.25	85.75	85.75	97.75	102	102	112
U	BURNER PROJECTION	STND. BURNER	IN	30	35	35	33	33	42	42	45	45
V	TUBE REMOVAL	FRONT	IN	68	85	88	91	91	102	96	108	127
W	CENTER LINE OF FURNACE TO FLOOR		IN	27.31	27.31	28.81	31.31	31.31	31.31	33.75	34.88	34.63
X	APPROX. OVERALL LENGTH		IN	113	130	134	144	144	150	158	182	204
Y	2ND. BLOWDOWN CONNECTION		IN	NA	NA	NA	NA	NA	NA	56	55	105
WATER CAPACITY - STEAM	NWL	GALS	215	272	324	339	371	425	482	691	945	1132
WATER CAPACITY - HOT WATER	FLOODED	GALS	252	320	362	445	427	492	564	793	1130	1553
APPROX. SHIPPING WEIGHT	150 PSI	LBS	3500	4100	4700	4950	6700	7150	8200	10400	13600	18500
APPROX. SHIPPING WEIGHT	15 & 30 PSI	LBS	3400	4000	4500	6200	6400	8200	7500	9400	11700	16500
BOILER HORSEPOWER			30	40	50	60	70	80	100	125	150	200

NOTE: 1 3" ABOVE ARE 384 ANSI FLANGE.  
 NOTE: 2 4" & ABOVE ARE 150# ANSI FLANGE.  
 NOTE: 100 HP & LARGER HAS 12" X 16" BEAMWAY

ALL DIMENSIONS ARE IN INCHES.  
 CERTIFIED DRAWING AVAILABLE UPON REQUEST.  
 DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

		300	350	400	500	600	700	750	800	900	1000	1200	1500
A	5	6	6	6	6	8	8	8	8	8	8	10	10
A	10	10	10	10	10	12	12	12	12	12	14	14	14
B	10	10	10	10	10	12	12	12	12	12	14	14	14
C	8	8	8	8	8	8	10	10	10	10	12	14	14
D	2	2	2	2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
E	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50
E	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50	281.50
F	20	20	24	24	28	30	30	30	30	30	30	32	32
G	34	34	38	44	46	52	52	52	52	52	52	56	56
H	64	64	66	66	102	116	116	116	116	120	120	132	132
I	109	109	115	121	127	140.25	140.25	140.25	140.25	140.25	140.25	156.25	156.25
J	90.75	90.75	95.25	102.75	108.75	122	122	122	122	127	127	138.5	138.5
K	102	102	108	114	121	132	132	132	132	138	138	150	150
L	64	64	70	76	78	88	88	88	88	92	92	104	104
M	30.63	35.63	32.63	30.63	46.63	41.63	41.63	42.63	40.63	46.63	52.63	55.63	64.5
N	18	18	18	18	18	18	18	18	18	18	18	18	18
O	174	204	198	222	252	228	240	252	261	288	284	330	330
P	100	100	115	121	127	140.25	140.25	140.25	140.25	140.25	140.25	158.25	158.25
Q	34.38	40	46	46	46	48	48	50	50	50	50	56	56
R	68.88	82.88	81.38	93	96.88	88.88	88.88	91	89.88	91	89.88	105.88	105.88
S	45.38	53.88	51.88	56.88	66	61	61	63.88	63.88	70.88	73.88	74	74
T	88	95	95	102	110	110	116	128	126	135	137	160	160
U	48	48	54	57	62	62	62	62	62	68	68	84	84
V	144	165	168	190	205	188	200	213	216	230	228	275	275
W	40.25	40.25	42.63	46.25	47.25	50.5	50.5	50.5	50.5	50.5	50.5	52.63	52.63
X	215	261	246	275	297	283	295	308	317	340	361	402	402
Y	86	110	104	120	159	144	156	168	168	191	188	192	192
1628	1925	2250	2760	3707	3719	3759	4017	4504	5010	5702	6702	7121	
2147	2530	2829	3557	4611	4838	5161	5613	6218	6918	8000	8400	10400	
25000	27900	30000	37500	44000	50000	50000	60000	60000	60000	68000	68000	80000	
23000	25500	28000	35000	41000	46000	46000	53500	55000	58000	64500	78000	83000	
BOILER HORSEPOWER		300	350	400	500	600	700	750	800	900	1000	1200	1500

**BOILER DESIGN:** Four-Pass "Scotch Marine" Firetube design with stress relieving "Wetback" construction. Pressure designs for steam are:  
 30-150 HP: > 450 PSI max.  
 200-400 HP: > 400 PSI max.  
 500-600 HP: > 325 PSI max.  
 700-1000 HP: > 300 PSI max.  
 1200-1200 HP: > 250 PSI max.  
 1500-1500 HP: > 250 PSI max.  
 1600-2000 HP: > 200 PSI max.  
 Hot Water pressures models are from 30-160 psi. High pressure, high temperature Section I hot water boilers available.  
 Factory assembled with trim, tested, ASME code, UL, and CSD-1 standards.

**STEAM MODEL TRIM:** Safety relief valve, operating pressure control, high limit pressure control with manual reset, steam pressure gauge with syphon, combination pump control and low water cut-off with gauge glass assembly and drain valve, auxiliary low water cut-off with manual reset.

**HOT WATER MODEL TRIM:** Safety relief valve, operating temperature control, high limit temperature control with manual reset, combination pressure & temperature gauge, low water cut-off control with manual reset.

**BURNER:** Matched UL listed "forced draft" power burners with factory pre-piped, wired and tested fuel configurations for natural gas, propane (L.P) gas, No. 2 (diesel) oil, or combination of both gas/oil.