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 50,213 MBTU/HR.

STEAM

Pressures to 15-300 PSIG
Higher Pressures Upon Request

HOT WATER

Section I and Section IV

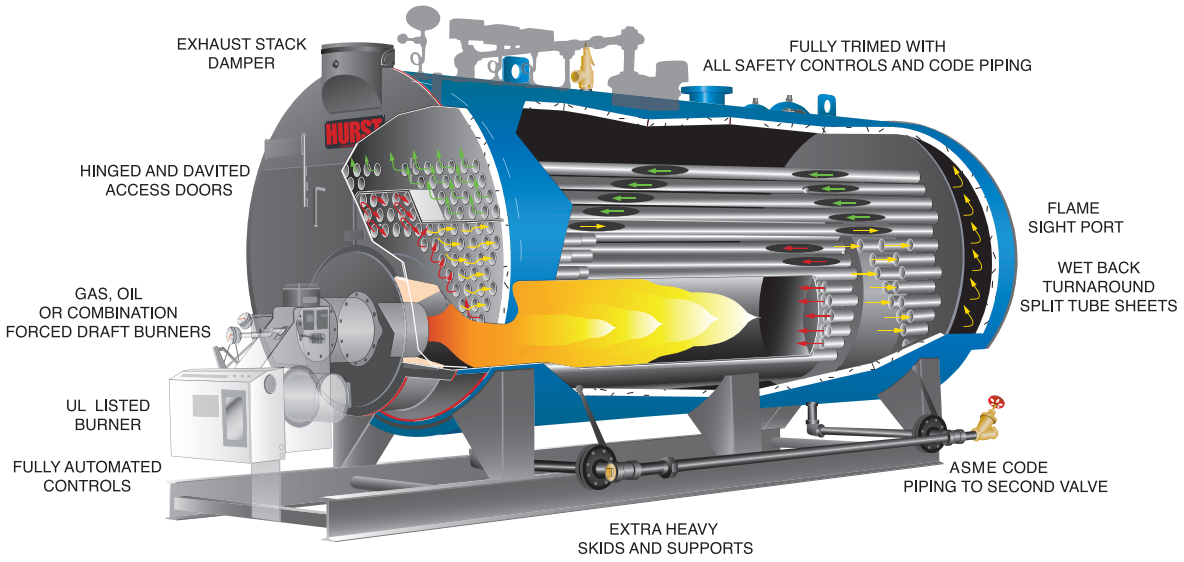
Shown with
Low Nox Burner

SKID MOUNTED
MODULAR PACKAGED

Wetback design eliminates costly deteriorating refractory rear doors and baffles between flue gas passes.

HURST PERFORMANCE SERIES BOILERS

SERIES 500



BOILER SPECIFICATIONS

	BOILER HORSEPOWER			SEMI WET BACK 30	40	50	60	70	80	100	125	150	200	250	
	HEATING SURFACE	FIRESIDE	SQ. FT.	150	200	250	300	350	400	500	625	750	1000	1250	
	STEAM OUTPUT	FROM &@ 212°	LBS/HR	1035	1380	1725	2070	2415	2760	3450	4313	5175	6900	8625	
	GROSS OUTPUT		MBH	1004	1339	1674	2009	2343	2678	3348	4184	5021	6695	8369	
	FIRING RATE GAS	1,000 BTU/CF	CFH	1260	1680	2100	2520	2940	3360	4200	5250	6300	8400	10500	
	FIRING RATE LP GAS	91,500 BTU	GPH	13.8	18.4	23	27.5	32	36.7	46	57	69	92	115	
	FIRING RATE OIL #2	140,000 BTU	GPH	9	12	15	18	21	24	29.9	37.4	45	60	75	
	FIRING RATE OIL #5 & #6	150,000 BTU	GPH	8.4	11.2	14	16.8	19.6	22.4	28	35	42	56	70	
A	*NOTE: 1 STEAM OUTLET SIZE	150 PSI	IN	1.5	2	2.5	2.5	3	3	4	4	4	4	6	A
AA	*NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	4	4	4	6	6	6	8	8	8	8	10	AA
B	*NOTE: 2 WATER SUPPLY SIZE	30 PSI	IN	4	4	4	6	6	6	8	8	8	8	10	B
C	*NOTE: 2 WATER RETURN SIZE	30 PSI	IN	4	4	4	4	4	4	6	6	6	6	8	C
D	FEEDWATER CONNECTION SIZE		IN	0.75	0.75	0.75	1	1	1.25	1.25	1.25	1.25	1.5	1.5	D
E	BLOWDOWN CONNECTION (BTM)	HIGH PRESS.	IN	1	1.25	1.25	1.25	1.25	1.25	2@1.25	2@1.25	2@1.25	2@1.25	2@1.25	E
EE	BLOWDOWN CONNECTION (BTM)	LOW PRESS. & HW	IN	1.25	1.25	1.25	1.5	1.5	1.5	2@1.50	2@1.50	2@2.0	2@2.0	2@2.0	EE
F	STACK OUTLET SIZE O.D.		IN	10	10	10	12	12	12	14	14	16	16	18	F
G	FURNACE O.D.		IN	14	14	16	18	18	18	22	26	30	30	32	G
H	SHELL I.D.		IN	40	40	44	48	48	48	54	60	66	70	72	H
I	SUPPLY HEIGHT		IN	55.25	55.375	59.75	63.75	66.625	66.625	74.625	81.75	87.75	90.75	93.75	I
J	WIDTH WITHOUT TRIM		IN	46	46	50	54.63	54.63	54.63	60	66.5	72.5	75.75	77.75	J
K	WIDTH WITH TRIM		IN	58	58	60	66	66	66	72	79	84	88	90	K
L	SKID WIDTH		IN	34	34	36	40	40	40	44	48	51	56	57	L
M	END OF SKID FROM FRT. PLATE		IN	13.5	14.25	15.25	15.25	15.25	15.25	21.75	25.13	27.18	34.18	28.63	M
N	SHELL TO FLOOR		IN	12	12	12	12	12	12	14	15	15	14	15	N
O	SKID LENGTH		IN	81	99	102	102	102	114	114	132	147	168	180	O
P	STACK OUTLET HEIGHT		IN	58.63	58.63	62.63	66.63	66.63	66.63	74.63	81.75	87.75	90.75	93.75	P
Q	BLOWDOWN LOCATION		IN	35.75	41	31.75	29.75	29.75	29.75	29.75	32.88	31.81	31.81	33.88	Q
R	STEAM OUTLET LOCATION	15 PSI & UP	IN	38.75	41.75	40.25	49.75	49.75	58.75	55.75	55.88	66.81	72.81	70.38	R
S	SUPPLY LOCATION		IN	20.25	20.25	33.25	37.75	37.75	43.75	32.75	32	34	45.88	49.38	S
T	RETURN LOCATION		IN	59.25	74.25	78.25	85.75	85.75	97.75	90.75	102	82	80	86	T
U	BURNER PROJECTION	STND. BURNER	IN	32	35	35	38	38	42	42	42	45	45	45	U
V	TUBE REMOVAL	FRONT	IN	68	85	88	91	91	102	96	108	127	139	152	V
W	CENTER LINE OF FURNACE	TO FLOOR		27.31	27.31	28.81	31.31	31.31	31.31	29.81	33.75	34.88	34.63	35.63	W
X	APPROX. OVERALL LENGTH		IN	113	130	134	144	144	160	158	189	192	204	219	X
Y	2ND. BLOWDOWN CONNECTION		IN	NA	NA	NA	NA	NA	NA	50	56	93	105	98	Y
	WATER CAPACITY - STEAM	NWL	GALS	215	272	324	389	371	429	482	681	945	1169	1332	
	WATER CAPACITY - HOT WATER	FLOODED	GALS	252	320	382	445	427	492	564	793	1130	1410	1553	
	APPROX. SHIPPING WEIGHT	150 PSI	LBS	3500	4100	4700	6450	6700	7150	8200	10400	13000	16600	20500	
	APPROX. SHIPPING WEIGHT.	15 & 30 PSI	LBS	3400	4000	4500	6200	6400	6850	7200	9400	11750	13700	18500	
	BOILER HORSEPOWER			30	40	50	60	70	80	100	125	150	200	250	

NOTE:1 3"& ABOVE ARE 300# ANSI FLANGE.
NOTE:2 4" & ABOVE ARE 150# ANSI FLANGE.
NOTE: 100 HP & LARGER HAS 12" X 16" MANWAY

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

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.

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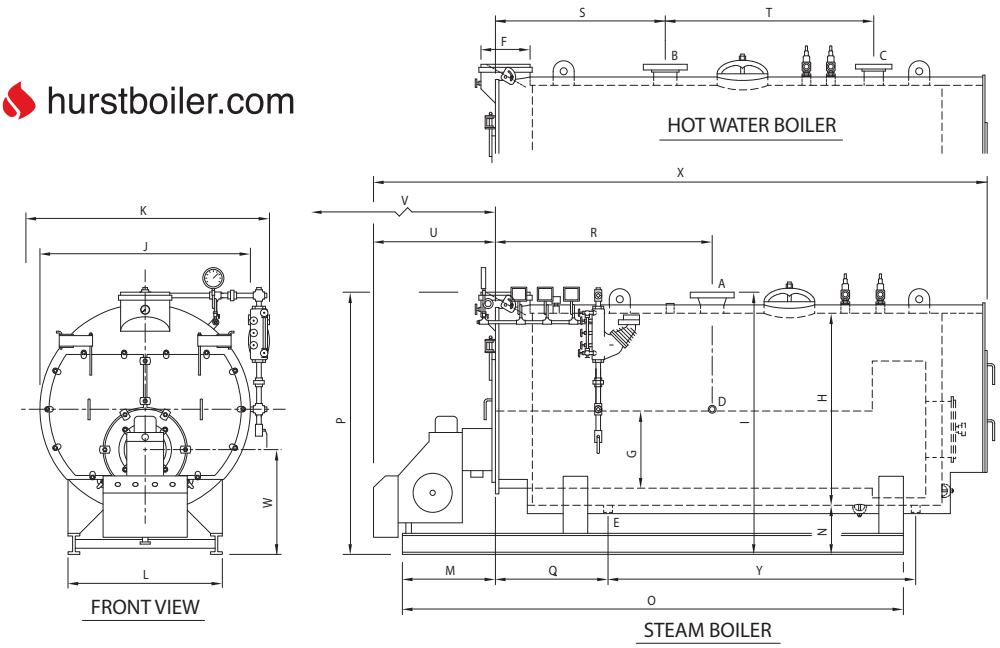


	300	350	400	500	600	700	750	800	900	1000	1200	1500	
	1500	1750	2000	2500	3000	3500	3750	4000	4500	5000	6000	7500	
	10350	12075	13800	17250	20700	24150	25875	27600	31050	34500	41400	51750	
	10043	11716	13390	16738	20085	23432	25106	26780	30128	33475	40170	50213	
	12600	14700	16800	21000	25200	29400	31500	33600	37800	42000	50400	63000	
	138	160	184	230	275	320	344	368	413	460	550	688	
	90	105	120	150	180	210	225	240	270	300	360	450	
	84	98	112	140	168	196	210	224	252	280	336	420	
A	6	6	6	6	8	8	8	8	8	8	10	10	A
A	10	10	10	10	12	12	12	12	14	14	14	14	A
B	10	10	10	10	12	12	12	12	12	12	14	14	B
C	8	8	8	8	8	10	10	10	12	12	14	14	C
D	2	2	2	2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	D
E	2@1.50	2@1.50	2@1.50	2@1.50	2@1.50	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	E
E	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	2@2.0	E
F	20	20	24	24	28	30	30	30	30	30	32	32	F
G	34	34	38	44	46	52	52	52	52	52	56	56	G
H	84	84	90	96	102	115	115	115	120	120	132	136	H
I	109	109	115	121	127	140.25	140.25	140.25	146.25	146.25	158.25	162.5	I
J	90.75	90.75	96.25	102.75	108.75	122	122	122	127	127	139.5	143.5	J
K	102	102	108	114	121	132	132	132	138	138	150	156	K
L	64	64	70	76	78	88	88	88	92	92	104	114	L
M	30.63	35.63	32.63	35.63	48.63	41.63	41.63	42.63	48.63	52.63	55.63	54.5	M
N	18	18	18	18	18	18	18	18	18	18	18	18	N
O	174	204	198	222	252	228	240	252	261	288	294	330	O
P	109	109	115	121	127	140.25	140.25	140.25	145.25	145.25	158.25	162.5	P
Q	34.38	40	46	48	49	48	48	50	50	50	58	60	Q
R	69.88	82.88	91.38	93	96.88	86.88	89.88	91	99.88	105.88	124.88	144	R
S	46.38	53.88	51.88	56.88	66	61	61	63.88	63.88	70.88	73.88	74	S
T	88	95	95	102	110	110	116	126	126	135	137	160	T
U	46	48	54	57	62	62	62	62	68	68	84	84	U
V	144	168	168	190	205	188	200	213	216	239	239	276	V
W	40.25	40.25	42.63	46.25	47.25	50.5	50.5	50.5	50.5	50.5	52.63	52.75	W
X	215	241	246	275	297	283	295	308	317	340	361	402	X
Y	96	110	104	120	159	144	156	165	168	191	186	192	Y
	1628	1925	2250	2780	3707	3019	3758	4017	4504	5010	5762	7121	
	2147	2530	2829	3557	4611	4838	5161	5513	6218	6908	8498	10480	
	25000	27600	30000	37500	44000	52000	58000	60000	62000	68000	82000	98000	
	23000	25500	28000	35000	41000	49000	53500	55000	58000	64500	78000	93000	
	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 BHP. > 450 PSIG max.
200-400 BHP. > 400 PSIG max.
500-600 BHP. > 325 PSIG max.
700-1000 BHP. > 300 PSIG max.
1200-1200 BHP. > 250 PSIG max.
1500-1500 BHP. > 250 PSIG max.
1600-2000 BHP. > 200 PSIG max.

Hot Water pressures models are from 30-160 psig. 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(s), 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.

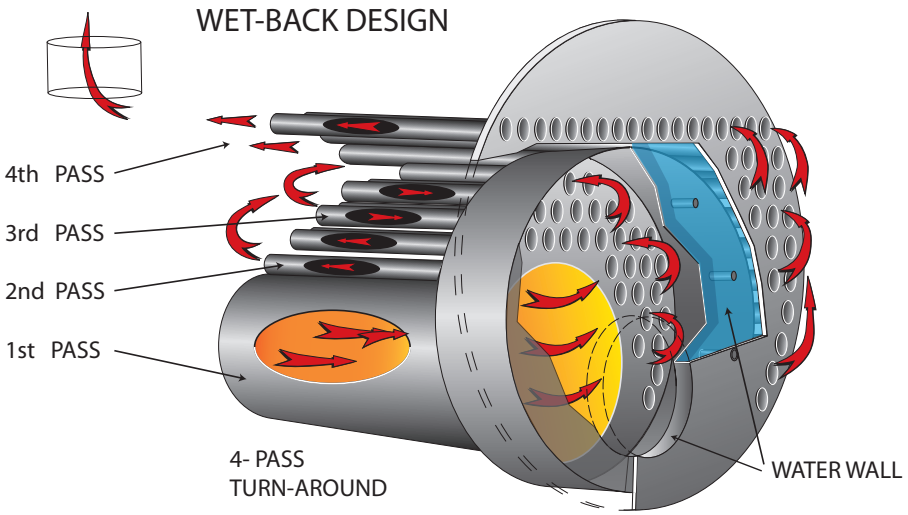
HOT WATER MODEL TRIM:
Safety relief valve(s), operating temperature control, high limit temperature control with manual reset, combination pressure & temperature gauge, low water cut-off control with manual reset.

BURNER:
UL listed burner/boiler packages available with factory pre-piped, wired and tested. Available fuel configurations: natural gas, propane gas, No. 2 oil, or combination.

HURST PERFORMANCE SERIES BOILERS

WETBACK ADVANTAGE

Dryback 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 Wetback. It has a full wetback 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 "Wetback" Construction for Extended Life

STANDARD STEAM TRIM

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

STANDARD WATER TRIM

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

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Hurst BOILER™
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