



FOUR PASS WET-BACK PACKAGED SCOTCH BOILERS

■ HURST "PERFORMANCE" BOILERS ■

SERIES 500

Available with...LOW NOx

Available in Steam or Hot Water Versions
30 -1500 HP Pressure to 250 psig.



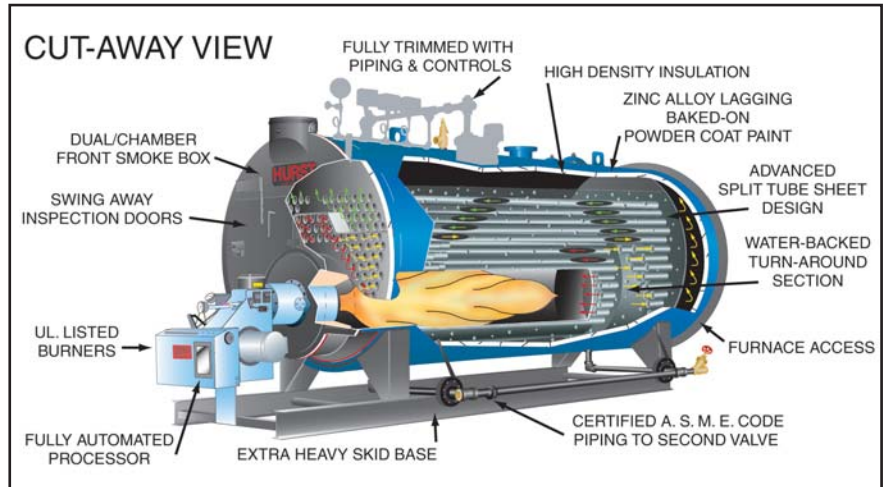
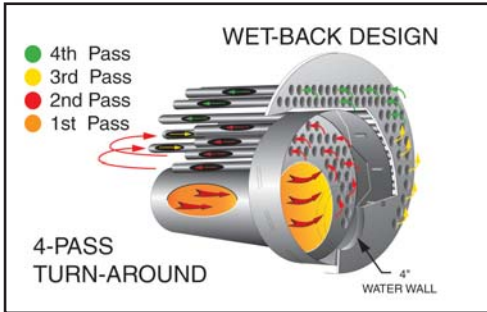
Designed, constructed and stamped
in accordance with the requirements
of the ASME Boiler Codes.



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



FOUR PASS WET-BACK PACKAGED SCOTCH BOILERS



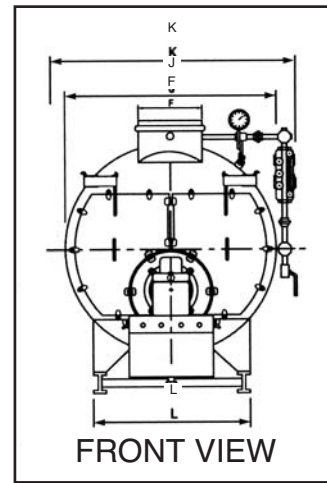
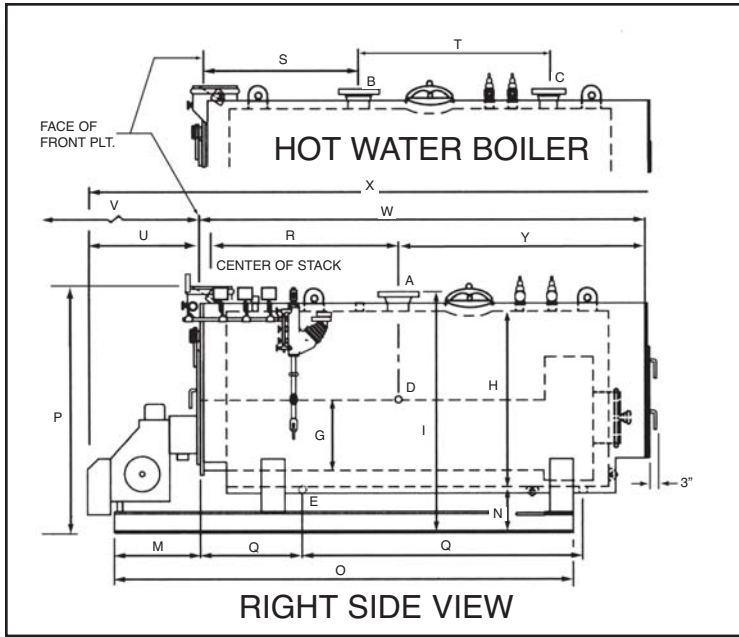
BOILER SPECIFICATIONS (ALL DIMENSIONS ARE IN INCHES)

			SEMI-WET BACK									
BOILER HORSEPOWER			30	40	50	60	70	80	100	125	150	200
HEATING SURFACE	FIRESIDE	SQ. FT.	150	200	250	300	350	400	500	625	750	1000
STEAM OUTPUT	FROM & @212° F	LB/HR	1035	1380	1725	2070	2415	2760	3450	4313	5175	6900
GROSS OUTPUT		MBH	1004	1339	1674	2009	2343	2678	3348	4184	5021	6695
FIRING RATE, GAS	1,000 BTU/CF	CFH	1260	1680	2100	2520	2940	3360	4200	5250	6300	8400
FIRING RATE, LP GAS	91,500 BTU	GPH	13.8	18.4	23	27.5	32	36.7	46	57	69	92
FIRING RATE, #2 OIL	140,000 BTU	GPH	9	12	15	18	21	24	29.9	37.4	45	60
FIRING RATE, #5 & #6 OIL	150,000 BTU	GPH	8.4	11.2	14	16.8	19.6	22.4	28	35	42	56
A *NOTE: 1 STEAM OUTLET SIZE	150 PSI	IN	1 1/2	2	2 1/2	2 1/2	3	3	4	4	4	4
A *NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	4	4	4	6	6	6	8	8	8	8
B *NOTE: 2 SUPPLY SIZE	30 PSI	IN	4	4	4	6	6	6	8	8	8	8
C *NOTE: 2 RETURN SIZE	30 PSI	IN	4	4	4	4	4	4	6	6	6	6
D FEEDWATER CONNECTION		IN	3/4	3/4	3/4	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2
E BOTTOM BLOWDOWN SIZE	HIGH PRESS.	IN	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
E BOTTOM BLOWDOWN SIZE	LOW PRESS. & HW	IN	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2
F STACK OUTLET SIZE O.D.		IN	10	10	10	12	12	12	14	14	16	16
G FURNACE O.D.		IN	14	14	16	18	18	18	22	26	30	30
H SHELL I.D.		IN	40	40	44	48	48	48	54	60	66	70
I SUPPLY HEIGHT		IN	60	60	64	68	68	68	75	82	88	91
J WIDTH WITHOUT TRIM		IN	46	46	50	54	54	54	60	67	73	76
K WIDTH WITH TRIM		IN	58	58	62	66	66	66	72	79	84	88
L SKID WIDTH		IN	34	34	36	40	40	40	44	48	51	56
M END OF SKID TO FRONT PLATE		IN	13 1/2	14 1/4	15 1/4	15 1/4	15 1/4	15 1/4	21 3/4	25 1/4	25 1/4	34 1/4
N VESSEL SHELL TO FLOOR		IN	12	12	12	12	12	12	14	15	15	14
O SKID LENGTH		IN	81	99	102	102	102	114	114	132	147	168
P STACK OUTLET HEIGHT		IN	59	59	63	67	67	67	75	82	88	91
Q BLOWDOWN LOCATIONS		IN	36	41	32	30	30	30	30-50	33-56	34-93	34-105
R STEAM OUTLET LOCATION (15 PSI & UP)	FROM C/L OF STACK	IN	38	41	39 1/2	48	48	57	55	55	67	71
S SUPPLY LOCATION	FROM FRONT PLATE	IN	20	21	33	38	38	44	33	32	34	46
T RETURN LOCATION	C/L TO C/L	IN	39	54	45	48	48	54	58	70	82	80
U BURNER PROJECTION	FROM FRONT PLATE	IN	32	32	36	36	36	39 1/2	39	44	44	45
V TUBE REMOVABLE	FRONT	IN	61	78	81	82	82	94	88	100	116	128
W LENGTH FRONT TO REAR	BOILER VESSEL	IN	79	96	100	106	106	118	116	128	147 3/8	162
X APPROX. OVERALL LENGTH (WITH BURNER)	STD. BURNER	IN	111	128	136	142	142	158	157	174	193	208
APPROX. SHIPPING WEIGHT	150 PSI	LBS	3500	4100	4700	6000	6200	7000	9500	10400	13500	16600
APPROX. SHIPPING WEIGHT	15 & 30 PSI	LBS	3400	4000	4500	5700	5900	6200	7200	9400	12500	13700
WATER CAPACITY @ NWL		GAL	215	272	324	378	359	416	484	681	945	1126
WATER CAPACITY FLOODED		GAL	252	319	382	434	415	479	578	793	1130	1350
BOILER HORSEPOWER			30	40	50	60	70	80	100	125	150	200

*NOTE: 1 3" & ABOVE ARE 300# ANSI FLANGE
*NOTE: 2 4" & ABOVE ARE 150# ANSI FLANGE

*NOTE: (U) & (X) DIMENSION SUBJECT TO CHANGE PENDING BURNER MODEL

SERIES 500



	250	300	350	400	500	600	700	750	800	900	1000	1200	1500
	1250	1500	1750	2000	2500	3000	3500	3750	4000	4500	5000	6000	7500
	8625	10350	12075	13800	17250	20700	24150	25875	27600	31050	34500	41400	51750
	8369	10043	11716	13390	16738	200085	23432	25106	26780	30128	33475	40170	50213
	10500	12600	14700	16800	21000	25200	29400	31500	33600	37800	42000	50400	63000
	115	138	160	184	230	275	320	344	368	413	460	550	688
	75	90	105	120	150	180	210	225	240	270	300	360	450
	70	84	98	112	140	168	196	210	224	252	280	336	420
A	6	6	6	6	6	8	8	8	8	8	8	10	10
A	10	10	10	10	10	12	12	12	12	14	14	14	14
B	10	10	10	10	10	12	12	12	12	12	12	14	14
C	8	8	8	8	8	8	10	10	10	12	12	14	14
D	1 1/2	2	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
E	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2	2	2	2	2
E	2	2	2	2	2	2	2	2	2	2	2	2 1/2	2 1/2
F	18	20	20	24	24	28	30	30	30	30	30	32	32
G	32	34	34	38	44	46	52	52	52	52	52	56	56
H	72	84	84	90	96	102	115	115	115	120	120	132	136
I	94	109	109	115	121	127	140	140	140	146 1/4	146 1/4	159	163
J	79	91	91	97	103	109	122	122	122	128	128	140	144
K	90	103	103	108	114	121	132	132	132	138	138	150	156
L	57	64	64	70	76	78	88	88	88	92	92	104	114
M	28 5/8	28 5/8	34 5/8	30 5/8	35 5/8	48 5/8	41 5/8	41 5/8	42 5/8	48 5/8	52 5/8	55 5/8	54 1/2
N	15	18	18	18	18	18	18	18	18	18	18	18	18
O	180	174	204	198	222	252	228	240	252	261	288	294	330
P	94	109	109	115	121	127	140 1/4	140 1/4	140 1/4	146	146	159	163
Q	34-98	36-96	42-110	48-98	48-120	49-159	48-144	48-156	50-165	50-168	50-191	58-186	60-192
R	69	70	83	93 1/2	93	97	87	90	91	100	106	124	142
S	49	46	54	54	57	66	61	61	64	64	71	74	74
T	86	88	95	95	102	110	108	116	126	126	135	137	159
U	48	45	47	52	65	67	67	70	69	75	75	72	84
V	144	132	156	156	178	191	173	185	199	201	224	224	258
W	172	171	195	195	219	236	222	234	247	250	273	278	315
X	224	219	245	251	290	306	292	307	319	328	351	350	402
	19650	25000	27600	30000	37000	42200	51500	54000	56500	61500	66500	82000	100000
	19000	23000	25600	28000	35000	4000	49000	51500	54000	57500	62500	77000	93000
	1332	1628	1925	2250	2779	3707	3019	3758	4017	4504	5010	5762	7121
	1553	2147	2530	2829	3557	4611	4838	5161	5513	6218	6908	8498	10480
	250	300	350	400	500	600	700	750	800	900	1000	1200	1500

WET BACK ADVANTAGE

Dry backs boilers are subject to deteriorating rear refractory, leaking baffles, leaking door seals, and often found with a heat-stressed rear tubesheet. Fragile refractory baffling and door seals will require continuous monitoring, maintenance, and replacement, costing thousands of dollars in materials and specialized labor cost over the life of the boiler. In addition, broken baffles and leaking seals will short-circuit boiler efficiency up until repairs can be made, and downtime during repairs can bring your production process to a halt.

All of those frustrating problems have been designed out of the Hurst Series 500 Wetback. It has a full wet back radiant heat transfer area that promotes superior internal water circulation and rapid heat absorption.

Separate rear tubesheets 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 18 inch plug which allows access to the furnace for inspection.

CONSULT FACTORY FOR LARGER SIZES

★ DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE, CERTIFIED DRAWINGS AVAILABLE UPON REQUEST

SERIES 500

- ✓ *Four-pass wet back design eliminates refractory baffles between flue gas passes.*
- ✓ *Minimum maintenance with rugged construction for extra-long life.*
- ✓ *U.L. listed packaged burner for firing gas, oil and combination gas/oil.*
- ✓ *Factory tested and checked for optimum operating efficiency.*

STANDARD FEATURES

Durability - Built in accordance with the ASME Code, the wet back design has proven to give much longer useful life cycles than dry back boilers.

Quality - Each unit is tested and inspected and is registered with the National Board of Boiler and Pressure Vessel Inspectors.

Design - Hurst Boiler utilizes state of the art computer design techniques in every boiler. This accounts for accurate calculations of construction materials and optimum utilization of the boiler's performance criteria.

High Fuel Efficiency - The Series 500 is designed for optimum fuel efficiency. The introduction of the fourth pass extracts every BTU of spent energy possible that would otherwise be vented to the stack of dry back boilers.

Low Maintenance - There are no refractory doors to replace or maintain. Elimination of these will result in thousands of dollars in savings.

Tube Sheets - The wet back has independent rear tube sheets with uniform temperatures. Four pass dry back boilers have tube sheets with large temperature variations resulting in premature tube failure and cracks in the tube sheets.

Easy Access - Since there is no large refractory rear door, one man can easily remove the rear cover plates for access to the tubes. Front doors can be opened without removing burner components or controls.

Compact - With computer aided design, Hurst has made the wet back a space saving workhorse without sacrificing the principle of 5 sq. ft. of heating surface per BHP.

Combustion - Hurst uses top name-brand burner components with proven reliability. Every unit is boiler/burner compatible and tested at the factory prior to shipment.

Standard Steam Trim

- Operating & limit pressure control
- Modulating pressure control
- Water column with gauge glass
combination low water cut-off & pump control
- Probe type auxiliary low water cut-off with manual reset
- Water column drain valve
- Safety relief valve(s) per ASME Code
- Steam Gauge
- Stack Thermometer

Standard Water Trim

- Operating & limit temperature control
- Modulating temperature control
- Low water cut-off control with manual reset
- Combination pressure, temperature gauge
- Hot water return baffle for shock resistance
- Safety relief valve(s) per ASME Code
- Stack thermometer

hurstboiler.com



P. O. Drawer 530
21971 Highway 319 N.
Coolidge, Georgia 31738
Toll Free: 1-877-994-8778
Tel: (229) 346-3545
Fax: (229) 346-3874
Email: info@hurstboiler.com

Represented by:

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