

AB-4PWB SERIES

FOUR PASS WET-BACK
PACKAGED SCOTCH BOILERS


**ALLIED
BOILER**
& SUPPLY INC.


■ ALLIED WORK FORCE BOILERS ■

Available in LOW NOx



*Designed in Steam or Hot Water Versions
30-1800 Boiler Horse Power
Pressure to 300 psig.*

 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.

BOILER SPECIFICATIONS

(ALL DIMENSIONS ARE IN INCHES)

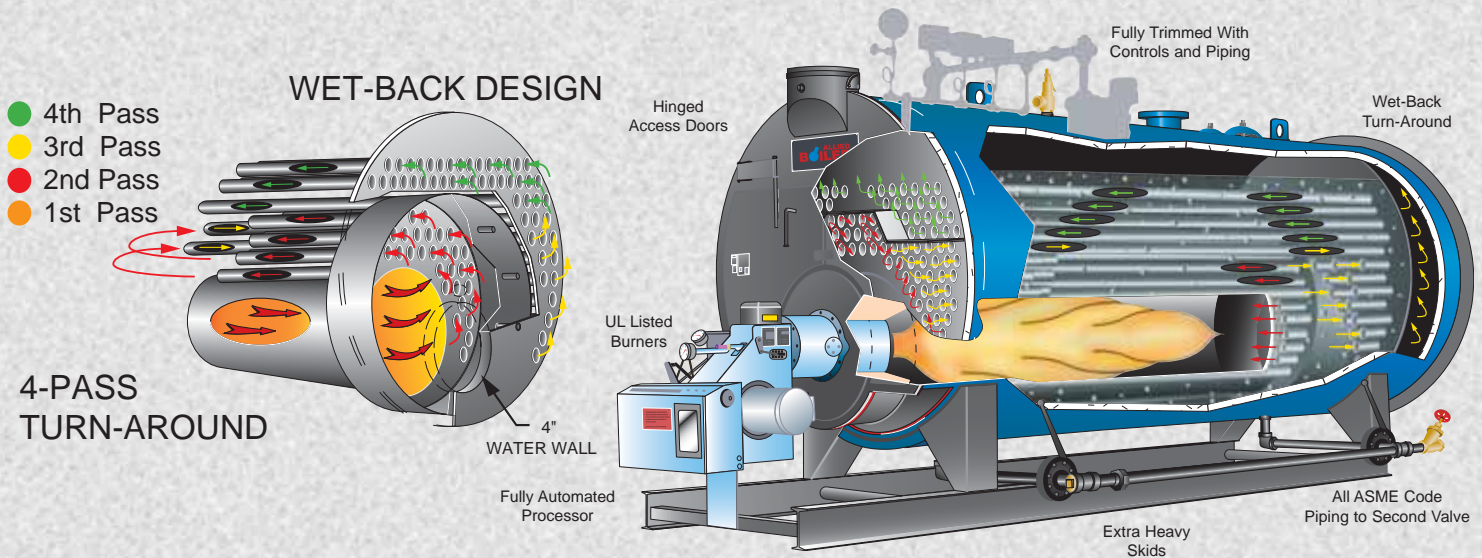
Semi-WET BACK

BOILER HORSEPOWER			30	40	50	60	70	80	100	125	150	200	250	300	350	400
HEATING SURFACE	FIRESIDE	SQ. FT.	150	200	250	300	350	400	500	625	750	1000	1250	1500	1750	2000
STEAM OUTPUT	FROM & @212' F	LB/HR	1035	1380	1725	2070	2415	2760	3450	4313	5175	6900	8625	10350	12075	13800
GROSS OUTPUT		MBH	1004	1339	1674	2009	2343	2678	3348	4184	5021	6695	8369	10043	11716	13390
FIRING RATE, GAS	1,000 BTU/CF	CFH	1260	1680	2100	2520	2940	3360	4200	5250	6300	8400	10500	12600	14700	16800
FIRING RATE, LP GAS	91,500 BTU	GPH	13.8	18.4	23	27.5	32	36.7	46	57	69	92	115	138	160	184
FIRING RATE, #2 OIL	140,000 BTU	GPH	9	12	15	18	21	24	29.9	37.4	45	60	75	90	105	120
FIRING RATE, #5 & #6 OIL	150,000 BTU	GPH	8.4	11.2	14	16.8	19.6	22.4	28	35	42	56	70	84	98	112
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	6	6	6	6
A *NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	4	4	4	6	6	6	8	8	8	8	10	10	10	10
B *NOTE: 2 SUPPLY SIZE	30 PSI	IN	4	4	4	6	6	6	8	8	8	8	10	10	10	10
C *NOTE: 2 RETURN SIZE	30 PSI	IN	4	4	4	4	4	4	6	6	6	6	8	8	8	8
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	1 1/2	2	2	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	1 1/4	1 1/2	1 1/2	1 1/2
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	2	2	2	2
F STACK OUTLET SIZE O.D.		IN	10	10	10	12	12	12	14	14	16	16	18	20	20	24
G FURNACE O.D.		IN	14	14	16	18	18	18	22	26	30	30	34	34	34	38
H SHELL I.D.		IN	40	40	44	48	48	48	54	60	66	70	79	84	84	90
I SUPPLY HEIGHT		IN	60	60	64	68	68	68	75	82	88	91	104	109	109	115
J WIDTH WITHOUT TRIM		IN	46	46	50	54	54	54	60	67	73	76	85	91	91	97
K WIDTH WITH TRIM		IN	58	58	62	66	66	66	72	79	84	88	97	103	103	108
L SKID WIDTH		IN	34	34	36	40	40	40	44	48	51	56	60	64	64	70
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	28 1/8	28 5/8	34 5/8	30 5/8
N VESSEL SHELL TO FLOOR		IN	12	12	12	12	12	12	14	15	15	14	18	18	18	18
O SKID LENGTH		IN	81	99	102	102	102	114	114	132	147	168	168	174	204	198
P STACK OUTLET HEIGHT		IN	59	59	63	67	67	67	75	82	88	91	104	109	109	115
Q BLOWDOWN LOCATIONS		IN	36	41	32	30	30	30	30-50	33-56	34-93	34-105	36-109	36-96	42-110	48-98
R STEAM OUT LOCATION (15 PSI & UP)	FROM C/L OF STACK	IN	38	41	39 1/2	48	48	57	55	55	67	71	72	70	83	93 1/2
S SUPPLY LOCATION	FROM FRONT PLATE	IN	20	21	33	38	38	44	33	32	34	46	51	46	54	54
T RETURN LOCATION	C/L TO C/L	IN	39	54	45	48	48	54	58	70	82	80	74	88	95	95
U BURNER PROJECTION	FROM FRONT PLATE	IN	32	32	36	36	36	39 1/2	39	44	44	45	45	45	47	52
V TUBE REMOVABLE	FRONT	IN	61	78	81	82	82	94	88	100	116	128	131	132	156	156
W LENGTH FRONT TO REAR	BOILER VESSEL	IN	79	96	100	106	106	118	116	128	147 3/8	162	168	171	195	195
X APPROX. OVERALL LENGTH (WITH BURNER)	STD. BURNER	IN	111	128	136	142	142	158	157	174	193	208	214	219	245	251
APPROX. SHIPPING WEIGHT	150 PSI	LBS	3500	4100	4700	6000	6200	7000	9500	10400	13500	16600	22000	25000	27600	30000
APPROX. SHIPPING WEIGHT	15 & 30 PSI	LBS	3400	4000	4500	5700	5900	6200	7200	9400	12500	13700	20500	23000	25600	28000
WATER CAPACITY @ NWL		GAL	215	272	324	378	359	416	484	681	945	1126	1489	1628	1925	2250
WATER CAPACITY FLOODED		GAL	252	319	382	434	415	479	578	793	1130	1350	1850	2147	2530	2829

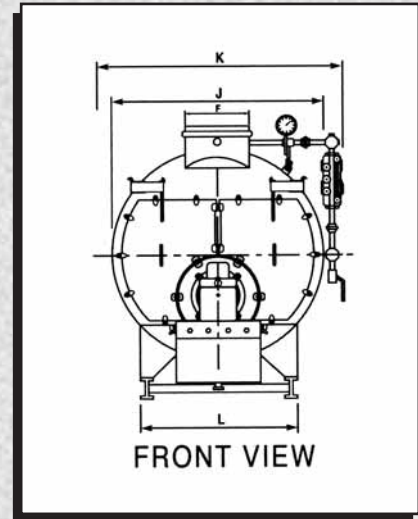
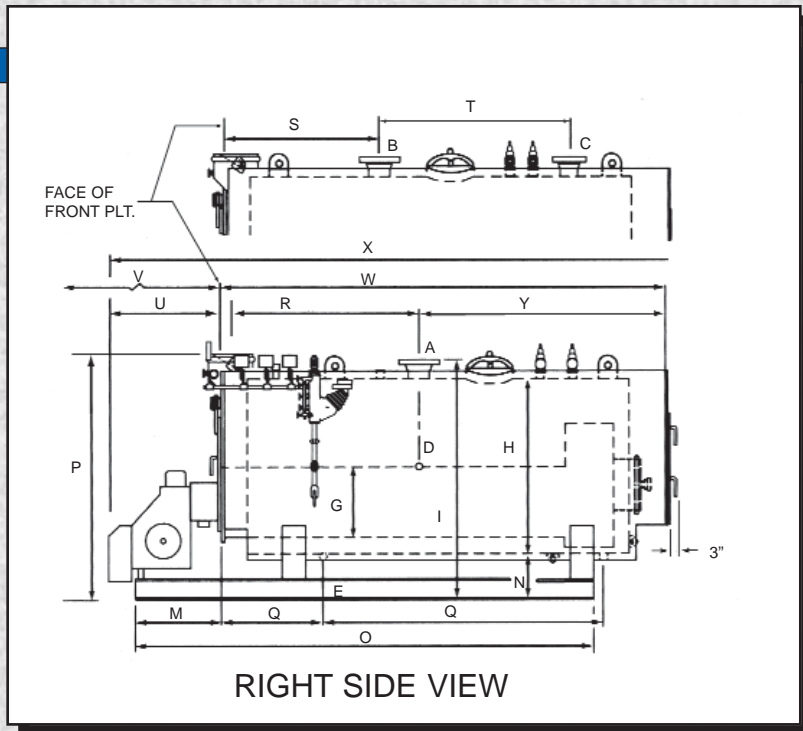
*NOTE: 3" & ABOVE ARE 300# ANSI FLANGE
*NOTE: 4" & ABOVE ARE 150# ANSI FLANGE

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

Revised 01/03



AB-4PWB SERIES



	500	600	700	750	800	900	1000	1200	1500	
	2500	3000	3500	3750	4000	4500	5000	6000	7500	
	17250	20700	24150	25875	27600	31050	34500	41400	51750	
	16738	200085	23432	25106	26780	30128	33475	40170	50213	
	21000	25200	29400	31500	33600	37800	42000	50400	63000	
	230	275	320	344	368	413	460	550	688	
	150	180	210	225	240	270	300	360	450	
	140	168	196	210	224	252	280	336	420	
A	6	8	8	8	8	8	8	10	10	A
A	10	12	12	12	12	14	14	14	14	A
B	10	12	12	12	12	12	12	14	14	B
C	8	8	10	10	10	12	12	14	14	C
D	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	D
E	1 1/2	1 1/2	2	2	2	2	2	2	2	E
E	2	2	2	2	2	2	2	2 1/2	2 1/2	E
F	24	28	30	30	30	30	30	32	32	F
G	44	46	52	52	52	52	52	56	56	G
H	96	102	115	115	115	120	120	132	136	H
I	121	127	140	140	140	146 1/4	146 1/4	159	163	I
J	103	109	122	122	122	128	128	140	144	J
K	114	121	132	132	132	138	138	150	156	K
L	76	78	88	88	88	92	92	104	114	L
M	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	M
N	18	18	18	18	18	18	18	18	18	N
O	222	252	228	240	252	261	288	294	330	O
P	121	127	140 1/4	140 1/4	140 1/4	146	146	159	163	P
Q	48-120	49-159	48-144	48-156	50-165	50-168	50-191	58-186	60-192	Q
R	93	97	87	90	91	100	106	124	142	R
S	57	66	61	61	64	64	71	74	74	S
T	102	110	108	116	126	126	135	137	159	T
U	65	67	67	70	69	75	75	72	84	U
V	178	191	173	185	199	201	224	224	258	V
W	219	236	222	234	247	250	273	278	315	W
X	290	306	292	307	319	328	351	350	402	X
	37000	42200	51500	54000	56500	61500	66500	82000	100000	
	35000	4000	49000	51500	54000	57500	62500	77000	93000	
	2779	3707	3019	3758	4017	4504	5010	5762	7121	
	3557	4611	4838	5161	5513	6218	6908	8498	10480	
	500	600	700	750	800	900	1000	1200	1500	

Dry-back 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 hinder 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 AB-4PWB. 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 an 18-inch plug which allows access to the furnace for inspection.

CONSULT ALLIED BOILER FOR LARGER SIZES
 ★ DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE, CERTIFIED DRAWINGS AVAILABLE UPON REQUEST

ALLIED WORK FORCE BOILERS

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

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

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

Design- Allied 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.

Efficiency- The AB-4PWB is designed for optimum fuel efficiency and has proven in certified tests to meet, and often exceed, the efficiencies of other four-pass boilers.

Low Maintenance- There are no refractory baffles to replace or maintain, eliminating costly repair and down time.

Tube Sheets- The wet-back has independent tube sheets with uniform temperatures. Three and four-pass dry-back boilers have tube sheets with large temperature variations and this results 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, Allied Boiler has made the wet-back a space saving workhorse without sacrificing the principle of 5 sq. ft. of heating surface per BHP.

Combustion- Allied uses 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 (when appl.)
- * Water column with gauge glass
- * Combination low water cut-off & pump control (not shown)
- * Probe type auxillary 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 (when appl.)
- * Low water cut-off control with manual reset
- * Combination pressure & temperature guage
- * Hot water return baffle for shock resistance
- * Safety relief valve(s) per ASME Code
- * Stack thermometer

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The Spirit of Service

alliedboiler.com



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