

AB-3PWB SERIES

THREE 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

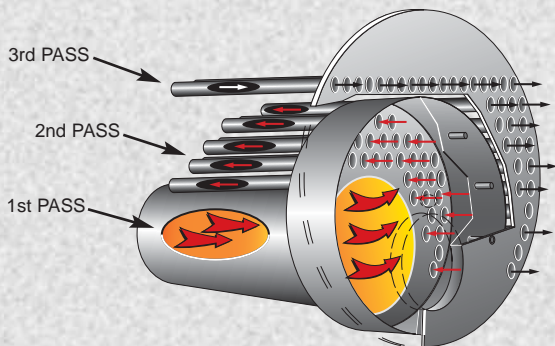
BOILER HORSEPOWER			30	40	50	60	70	80	100	125
HEATING SURFACE	FIRESIDE	SQ. FT	150	200	250	300	350	400	500	625
STEAM OUTPUT	FROM & @212' F	LB/HR	1035	1380	1725	2070	2415	2760	3450	4313
GROSS OUTPUT		MBH	1004	1339	1674	2009	2343	2678	3348	4184
FIRING RATE, GAS	1,000 BTU/CF	CFH	1260	1680	2100	2520	2940	3360	4200	5250
FIRING RATE, LP GAS	91,500 BTU	GPH	13.8	18.4	23	27.5	32	36.7	46	57
FIRING RATE, #2 OIL	140,000 BTU	GPH	9	12	15	18	21	24	29.9	37.4
FIRING RATE, #5 & #6 OIL	150,000 BTU	GPH	8.4	11.2	14	16.8	19.6	22.4	28	35
A *NOTE: 1 STEAM OUTLET SIZE	150 PSI	IN	1 1/2	2	2 1/2	2 1/2	3	3	4	4
A *NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	4	4	4	6	6	6	8	8
B *NOTE: 2 SUPPLY SIZE	30 PSI	IN	4	4	4	6	6	6	8	8
C *NOTE: 2 RETURN SIZE	30 PSI	IN	4	4	4	4	4	4	6	6
D FEEDWATER CONNECTION		IN	3/4	3/4	3/4	1	1	1 1/4	1 1/4	1 1/4
E BOTTOM BLOWDOWN SIZE	HIGH PRESS.	IN	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
F STACK OUTLET SIZE O.D.		IN	10	10	10	12	12	12	14	14
G FURNACE O.D.		IN	14	14	16	18	18	18	22	26
H SHELL I.D.		IN	40	40	44	48	48	48	54	60
I SUPPLY HEIGHT		IN	55 1/4	55 3/8	59 3/4	63 5/8	66 5/8	66 5/8	74 3/4	81 3/4
J WIDTH WITHOUT TRIM		IN	45 1/4	45 1/4	50	53 5/8	53 5/8	53 5/8	60	66 1/2
K WIDTH WITH TRIM		IN	58	58	60	66	66	66	72	79
L SKID WIDTH		IN	34	34	36	40	40	40	44	48
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 1/8
N VESSEL SHELL TO FLOOR		IN	12	12	12	12	12	12	14	15
O SKID LENGTH		IN	81	99	102	102	102	114	114	132
P STACK OUTLET HEIGHT		IN	58 5/8	58 5/8	62 5/8	66 5/8	66 5/8	66 5/8	74 3/4	81 3/4
Q BLOWDOWN LOCATIONS		IN	35 3/4	41	31 3/4	29 3/4	29 3/4	29 3/4	29 3/4-66	32 7/8-78
R STEAM OUT LOCATION	15 PSI & UP	IN	38 3/4	41 3/4	40 1/4	49 3/4	49 3/4	58 3/4	55 3/4	55 7/8
S SUPPLY LOCATION		IN	20 1/4	20 3/4	33	37 3/4	37 3/4	43 3/4	32 3/4	32
T RETURN LOCATION		IN	59 1/4	74 3/4	78	85 3/4	85 3/4	97 3/4	90 3/4	102
U BURNER PROJECTION	FROM FRONT PLATE	IN	31 5/8	31 5/8	31 3/8	31 3/8	31 3/8	31 3/8	31 3/8	34 3/4
V TUBE REMOVABLE	FRONT	IN	68	85	88	91	91	102	96	108
W STACK OUTLET LOCATION		IN	78 1/2	95 3/4	98 3/4	104 3/4	104 3/4	116 3/4	111 3/4	123 7/8
X APPROX. OVERALL LENGTH	STD. BURNER	IN	117	134	137	144	144	160	152	167
Y 1 1/4" SURFACE BLOW-OFF CONNECTION		IN	29 3/4	29 3/4	31 1/4	40 3/4	40 3/4	46 3/4	45 3/4	41 7/8
APPROX. SHIPPING WEIGHT	150 PSI	LBS.	3500	4100	4500	5965	6200	6900	9500	10400
APPROX. SHIPPING WEIGHT	15 & 30 PSI	LBS.	3400	4000	4500	5665	5900	6200	7200	9400
WATER CAPACITY @ NWL		GAL.	213	300	315	400	381	436	484	676
WATER CAPACITY FLOODED		GAL.	250	323	385	453	455	499	578	788
BOILER HORSEPOWER			30	40	50	60	70	80	100	125

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

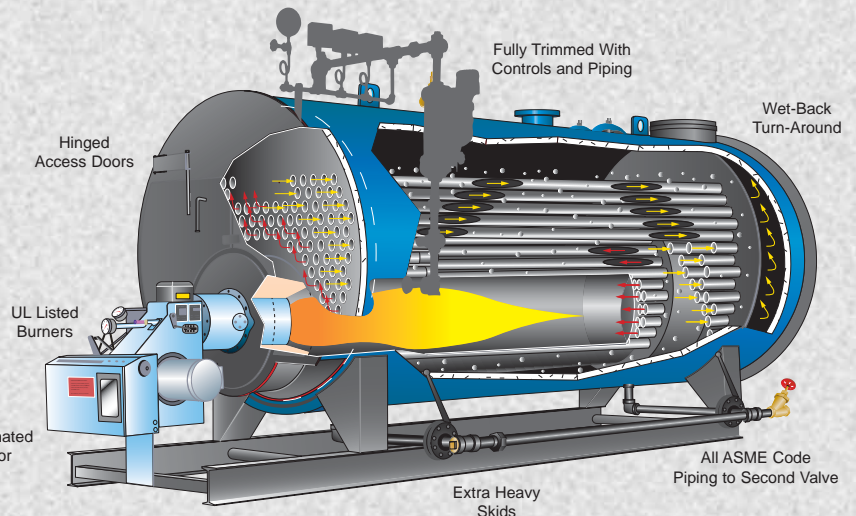
*NOTE: (U) & (X) DIMENSION SUBJECT TO CHANGE PENDING BURNER MODEL

Revised 01/03

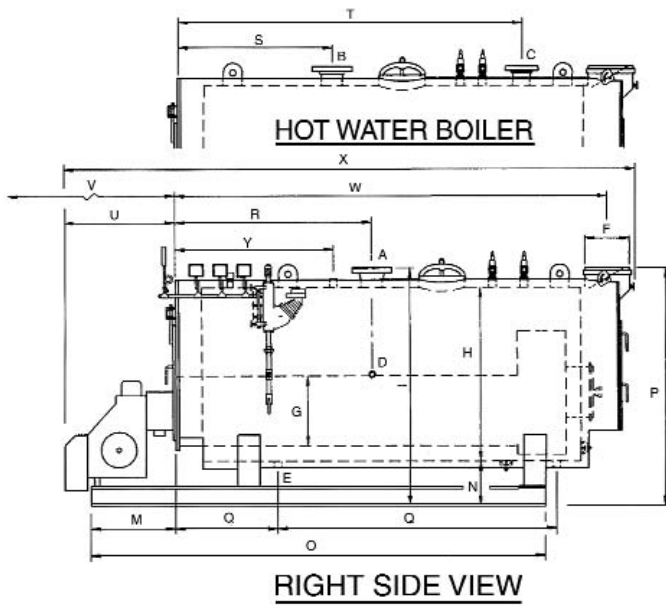
WET-BACK CONCEPT



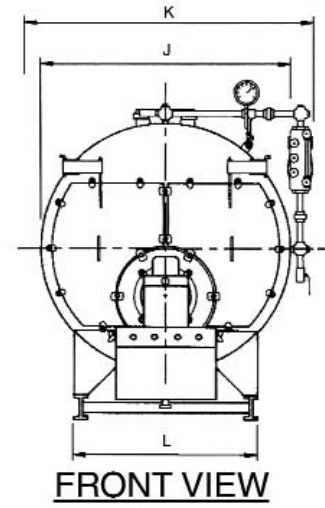
3 PASS TURN-AROUND



AB-3PWB SERIES



RIGHT SIDE VIEW



FRONT VIEW

	150	200	250	300	350	400	500	600	700	750	800	900	1000	1200	1500
	750	1000	1250	1500	1750	2000	2500	3000	3500	3750	4000	4500	5000	6000	7500
	5175	6900	8625	10350	12075	13800	17250	20700	24150	25875	27600	31050	34500	41400	51750
	5021	6695	8369	10043	11716	13390	16738	20085	23432	25106	26780	30128	33475	40170	50213
	6300	8400	10500	12600	14700	16800	21000	25200	29400	31500	33600	37800	42000	50400	63000
	69	92	115	138	160	184	230	275	320	344	368	413	460	550	688
	45	60	75	90	105	120	150	180	210	225	240	270	300	360	450
	42	56	70	84	98	112	140	168	196	210	224	252	280	336	420
A	4	4	6	6	6	6	6	8	8	8	8	8	8	10	10
A	8	8	10	10	10	10	10	12	12	12	12	14	14	14	14
B	8	8	10	10	10	10	10	12	12	12	12	12	12	14	14
C	6	6	8	8	8	8	8	8	10	10	10	12	12	14	14
D	1 1/4	1 1/2	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 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2	2	2	2	2
E	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2 1/2
F	16	16	18	20	20	24	24	28	28	28	30	30	30	32	32
G	26	30	34	34	34	38	38	44	52	52	52	52	52	56	56
H	60	66	84	84	84	90	96	102	112	112	112	112	112	126	136
I	81 3/4	90 3/4	109	109	109	115	121	127 1/4	138 1/4	138 1/4	138 1/4	138 1/4	138 1/4	152 1/4	162 1/4
J	66 1/2	72 1/2	90 3/4	90 3/4	90 3/4	96 1/4	102 3/4	108 3/4	119	119	119	119	119	133 1/2	143 1/2
K	79	84	103	103	102	106	115	121	136	136	136	136	136	153	162
L	48	51	64	64	64	70	76	78	92	92	92	92	92	108	114
M	25 1/8	21 1/4	28 5/8	26 5/8	34 5/8	30 5/8	31 5/8	62 5/8	35 1/8	34 5/8	36 5/8	505/8	64 5/8	61 5/8	59 5/8
N	15	18	18	18	18	18	18	18	18	18	18	18	18	18	18
O	156	168	180	180	204	198	212	240	207	218	228	264	288	294	320
P	81 3/4	90 3/4	109	109	109	115	122	128 1/4	138 1/4	138 1/4	138 1/4	138 1/4	138 1/4	152 1/4	162 1/2
Q	32 7/8-102	33 7/8-120	35 7/8-120	35 7/8-120	41 7/8-132	47 7/8-126	47 3/8-137	46 7/8-146	51 3/8-126 1/2	49 7/8-138	49 7/8-149	50 3/8-169	49 7/8-198	53 7/8-190	57 1/8-214
R	73 7/8	80 3/4	72	71 7/8	84 7/8	93 3/8	96 7/8	96 3/8	90 3/8	90 3/8	101 3/8	122	115 7/8	122 3/8	135 7/8
S	32	46 1/2	54 3/4	54 3/4	56 1/4	55 7/8	60 3/8	60	51 3/8	51 3/8	51 3/8	78	78	81	65 7/8
T	114	130 1/2	144 3/4	144 3/4	151 1/4	147 7/8	162 3/8	160	140 3/8	140 3/8	153 3/8	180	200	206	245 7/8
U	34 3/4	34 3/4	47 1/2	47 1/2	38 1/4	52 1/4	52 1/4	52 1/4	52 3/4	52 3/4	65 7/8	65 7/8	65 7/8	63	76
V	132	150	150	150	168	168	184	191	173	185	195	217	239	239	264
W	148 7/8	168 3/4	172 7/8	172 7/8	190 7/8	192 7/8	208 7/8	222 5/8	201 1/2	214	225 7/8	247 7/8	269 7/8	270 7/8	298 7/8
X	193	214	223	223	241	259	275	306	271	283	309	331	353	352	393 3/8
Y	58 7/8	61 3/8	57 3/8	57 3/4	68 7/8	68 3/8	72 7/8	72 3/8	75 3/8	74 3/8	86 3/8	102	85 7/8	106 3/8	107 7/8
	11800	16600	27100	27100	30200	32200	37900	46400	48100	54100	57200	61300	66400	82000	103000
	10800	13700	25600	25800	28200	29500	34400	37400	40100	42500	44900	49700	54600	74000	93000
	785	1126	1874	1844	2068	2440	3075	3315	3341	3566	3791	4170	4640	6055	7743
	1027	1350	2276	2246	2518	3000	3423	4076	3983	4253	4523	4970	5525	7295	10069
	150	200	250	300	350	400	500	600	700	750	800	900	1000	1200	1500

CONSULT ALLIED BOILER FOR LARGER SIZES

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

ALLIED WORK FORCE BOILERS

- Three-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-3PWB 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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