

# AB-4PV SERIES

FOUR PASS HIGH PRESSURE  
TUBELESS BOILERS

**ALLIED**  
**BOILER**  
& SUPPLY INC.

■ ALLIED WORK FORCE BOILERS ■

Available in LOW NOx



Optional pre-packaged tank, pump and  
blowdown separator set.

## AB-4PV SERIES PACKAGED VERTICAL DESIGN

 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.

### INSPECTION ACCESS

- The waterside openings are located in the most effective positions. The lower handholes offer far better access for both cleanout and inspection.
- These more functional locations avoid the obstructing handhole “tunnels” used by our competitors.
- The top opening offers a strategic view of the furnace crown sheet.

### MORE STEAM STORAGE

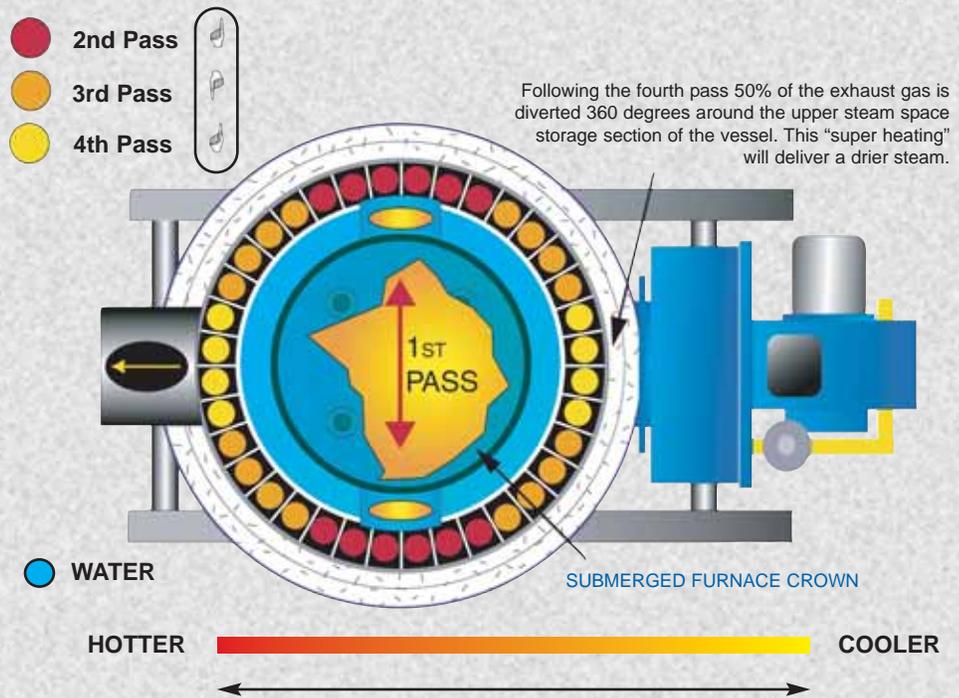
- Capacity to handle swing and spike loads – quick recovery - quick response.
- The larger steam-release surface is calmer, reducing carry over of unevaporated water.
- The resulting drier steam also reduces system scaling.
- In addition, dry steam helps to eliminate unnecessary extra condensate. Energy and fuel are saved. Longer life results.

### FOUR-PASS DESIGN

- The gases leaving the furnace are split four ways and travel through four individual serpentine fin passages to the stack outlet.
- Each quarter of the heat travels its own four-pass path (see illustration below).
- Heat transfers evenly to the fins and boiler shell, eliminating the metal stress due to uneven heat transfer common in other designs.

This illustration shows the progression of four gas paths around the circumference of the boiler shell.

1. **Primary**-pass in furnace pipe.
2. **Second**-pass follows path through fins along outside of shell.
3. **Third**-pass follows path through fins along outside of shell.
4. **Fourth**-pass follows path through fins along outside of shell, then merges together to exit exhaust stack.



### OPTIONS AND ALTERNATIVES

- We specialize in customizing your boiler. The AB-4PV can be equipped to suit a wide variety of installations and specifications. We will help direct you to the most cost-effective models and features.

### SIMPLE INSTALLATION

- Unit is skid mounted for easy handling.
- Factory wired with wiring schematic included in the manual.
- Efficient and space saving layout.

### AVAILABLE ACCESSORIES

- The AB-4PV is available in a complete package with an optional compact **boiler-mounted feedwater system** for a finished wired and piped, ready-to-fire unit.
- **Blowdown separators** are also available.

## TURBULENT FLAME

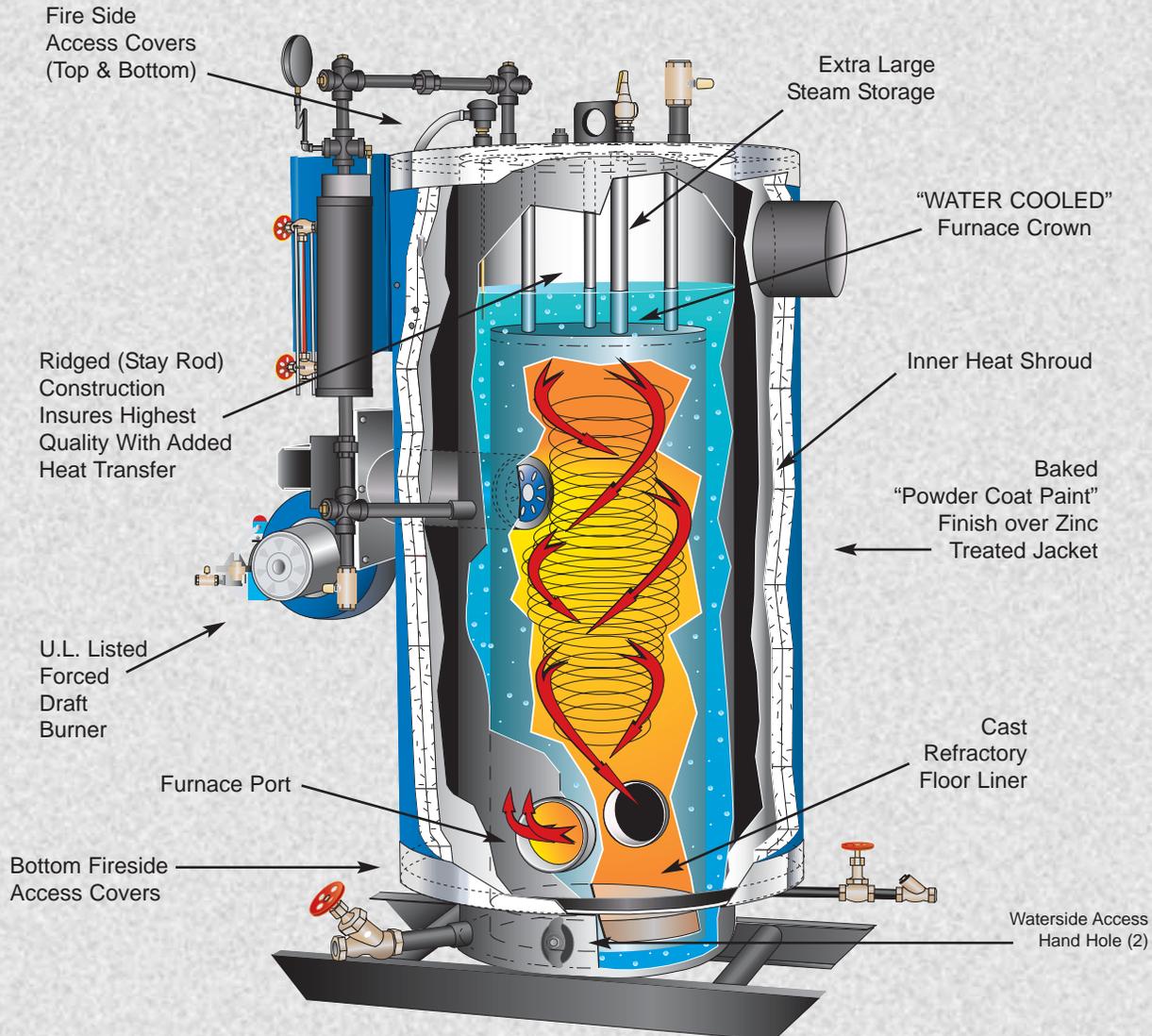
- Heat is forced down, with the fire whirling and spinning against its natural flow. This pattern enhances recirculation, mixing and heat transfer, driving more energy into the water for greater fuel-to-steam efficiency.

## RELIABILITY

- The furnace crown is water cooled, eliminating troublesome refractory breakdown inherent in units of inferior design.
- No fire tubes, water coils or "in the fire" mud rings to burn out.

## "EYE HIGH" BURNER

- No step ladder is needed to service.
- No bending over or sitting on the floor.
- The air intake is located in the center of the unit so dust is not pulled from the floor.



## DURABILITY

- Fire does not pass under the bottom mud ring, eliminating the blistering that occurs with other designs.
- Cooler furnace gases are located at the bottom of the vessel where scale is most likely to occur. Baking of scale is alleviated.

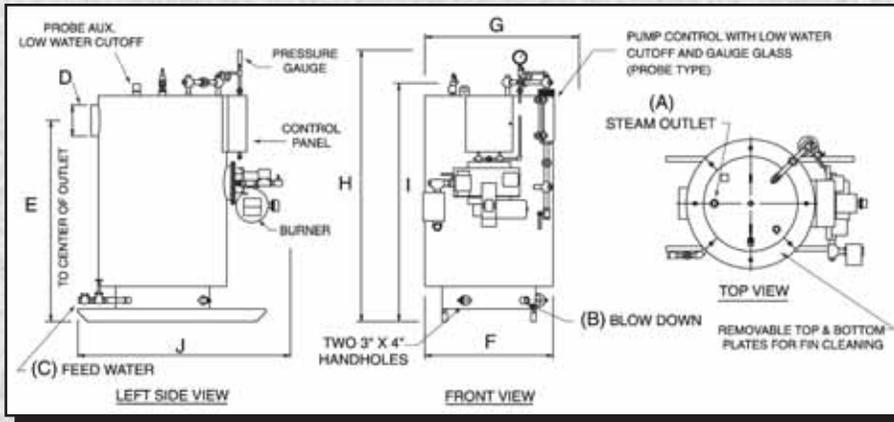
## EASIER SERVICE

- Fireside fin access in top and bottom.
- Access opening above feedwater inlet for easy cleaning.
- Thoughtfully engineered with the owner in mind.
- No heavy doors or covers to complicate service procedures.

## SAFETY

- Electrical components are located away from the floor, helping eliminate the possibility of water coming in contact with electricity.
- Boiler built to ASME Section 1, High Pressure Boiler Code.
- CSD-1 approved.
- Burner/Boiler UL Packaged.

# AB-4PV SERIES



## STANDARD STEAM TRIM

Steam pressure gauge and test cock.

Probe type low water cut-offs and pump control.

ASME safety relief valve.

Operating and high limit pressure controls.

Standard CSD-1 code compliant.

## 150# STEAM 4PV SERIES SPECIFICATIONS

BOILER HORSEPOWER			6	10	15	20	25	30	40	50	60	70	80	100
STEAM OUTPUT	FROM & AT 212° F	LBS./HR. KG./HR.	207 94	345 156	518 235	690 313	863 391	1035 469	1380 626	1725 782	2070 939	2415 1095	2760 1252	3450 1565
GROSS OUTPUT		(MBH), BTU X 1000 KCAL X 1000	201 51	335 84	502 127	670 169	837 211	1004 253	1339 337	1674 422	2009 506	2343 590	2678 675	3348 844
INPUT REQUIRED		BTU X 1000 KCAL X 1000	251 63.3	418 105	628 158	837 211	1046 264	1255 316	1674 422	2092 527	2511 633	2929 738	3348 844	4184 1054
FIRING RATE		FT 3/HR. M 3/HR.	251 7.1	418 11.8	628 17.8	837 23.7	1046 29.6	1255 35.5	1674 47.4	2092 59.2	2511 71.1	2929 82.9	3348 94.8	4184 118.5
FIRING RATE		GPH	2.7	4.6	6.9	9.1	11.4	13.7	18.3	22.9	27.4	32	36.6	45.7
LP. GAS	91,500 BTU/GAL.	LPH	10.4	17.3	26	34.6	43.3	51.9	69.2	86.6	103.9	121.2	138.5	173.1
FIRING RATE		GPH	1.8	3	4.5	6	7.5	9	12	14.9	17.9	20.9	23.9	29.9
#2 OIL	140,000 BTU/GAL.	LPH	6.8	11.3	17	22.6	28.3	33.9	45.3	56.6	67.9	79.2	90.5	113.1
STEAM OUTLET		IN.	1	1	1	1	1.25	1.5	2	2.5	2.5	2.5	2.5	3
HIGH PRESS.		MM	25	25	25	25	32	38	51	64	64	64	64	76
STEAM OUTLET		IN.	2	2	2	3	3	4	4	6	6	6	6	6
LOW PRESS.		MM	51	51	51	76	76	102	102	152	152	152	152	152
BLOWDOWN		IN.	1	1	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25
HIGH PRESS.		MM	25	25	25	25	25	32	32	32	32	32	32	32
BLOWDOWN		IN.	1	1	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5
LOW PRESS.		MM	25	25	25	25	25	32	32	32	32	38	38	38
FEEDWATER		IN.	.75	.75	.75	.75	.75	1	1	1	1	1	1	1.25
		MM	19	19	19	19	19	25	25	25	25	25	25	32
STACK DIA.		IN.	8	8	8	8	8	10	12	12	12	14	14	14
		MM	203	203	203	203	203	254	305	305	305	356	356	356
STACK HEIGHT		IN.	52	52	58	64	64	63	73	83	83	82	82	82
		MM	1321	1321	1473	1626	1626	1600	1854	2108	2108	2083	2083	2083
WIDTH WITHOUT TRIM		IN.	35.2	35.2	35.2	35.2	35.2	41	50	59	59	68	68	78.2
		MM	894	894	894	894	894	1041	1270	1499	1499	1727	1727	1986
WIDTH WITH TRIM		IN.	42	42	42	42	42	47	55	63	63	72	72	82
		MM	1067	1067	1067	1067	1067	1194	1397	1600	1600	1829	1829	2083
OVERALL HEIGHT		IN.	79	79	85	85	85	93	105	105	105	106	106	110
		MM	2007	2007	2159	2159	2159	2159	2362	2667	2667	2692	2692	2794
HEIGHT WITHOUT TRIM		IN.	65	65	71	77	77	77	88	99	99	99	99	99
		MM	1651	1651	1803	1956	1956	1956	2235	2515	2515	2515	2515	2515
LENGTH		IN.	60	60	60	60	60	78	87	115	115	120	120	127
		MM	1524	1524	1524	1524	1524	1981	2210	2921	2921	3048	3048	3226
WATER CAP. @ NWL		GALS.	48	48	54	54	54	73	118	151	151	187	187	274
		LITERS	182	182	204	204	204	276	447	572	572	708	708	1037
WATER CAP. FLOODED		GALS.	62	62	68	79	79	113	208	313	313	440	440	581
		LITERS	235	235	257	299	299	428	787	1185	1185	1665	1665	2199
SHIPPING WEIGHT		LBS.	1700	1700	1850	1900	1900	2300	3900	5500	5500	7600	7600	9100
		KG.	771	771	839	862	862	1043	1769	2495	2495	3447	3447	4128

Available with design pressure to 300 PSIG. Outlet connections over four inches on low pressure models are 150# flanges. All other connections are NPT. Dimensions subject to change without notice. Consult factory for certified drawings.

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## The Spirit of Service

alliedboiler.com



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