TURBO FIRE (STEAM)

Four Pass High-Pressure Tubeless Boilers

Standard Steam Trim

- Steam pressure gauge with syphon and test cock
- Combination low water cutoff and pump control with water column blowdown valve
- Probe auxiliary low water cutoff and relay
- ASME safety relief valve
- Operating and high limit pressure controls
- Steam outlet valve, slow opening blowdown valve, feedwater shut off valve, and check valves included on boilers through 30Hp.
- Burner/Boiler UL Packaged

KEY FEATURES :

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

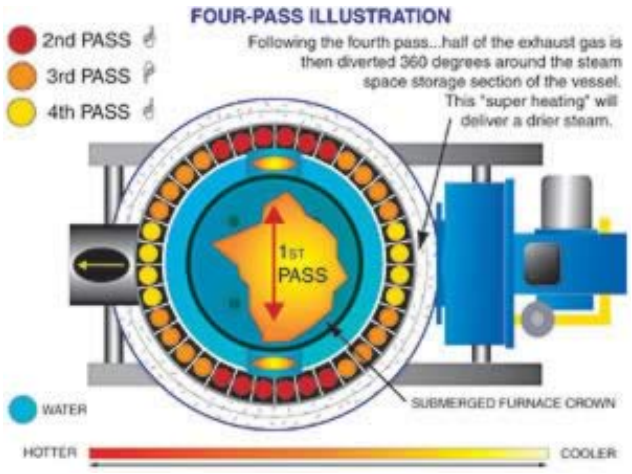
- Capacity to handle swing and spike loads - quick recovery - quick response.
- The larger steam-release surface is calmer, reducing carry over of unevaporated water.
- The resulting drier steam also reduces system scaling.
  In addition, dry steam helps to eliminate unnecessary extra condensate. Energy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



OTHER FEATURES:

OPTIONS AND ALTERNATIVES

- We specialize in customizing your boiler. The Turbo Fire 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 Turbo Fire 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.

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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

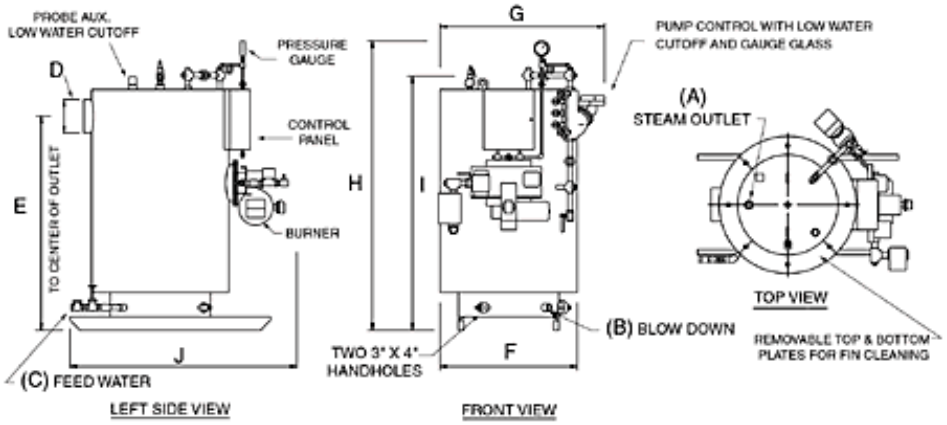
- Fire does not pass under the bottom mud ring, eliminating the blistering that occurs with other designs.
- Cooler furnace gases are located at the bottom of the vessel where scale is most likely to occur. Baking of scale is alleviated.

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.



150# STEAM TURBO FIRE SERIES SPECIFICATIONS

-	BOILER HORSEPOWER	-	6	10	15	20	25	30	40	50	60	70	80	100	-
-	STEAM FROM & AT 212°F OUTPUT	LBS./HR.	207	345	518	69	863	1035	1380	1725	2070	2415	2760	3450	-
-		KG./HR.	94	156	235	313	391	469	626	782	939	1095	1252	1565	-
-	GROSS OUTPUT	(MBH), BTU X 1000	201	335	502	670	837	1004	1339	1674	2009	2343	2678	3348	-
-		KCAL X 1000	51	84	127	169	211	253	337	422	506	590	675	844	-
-	INPUT REQUIRED	BTU X 1000	251	418	628	837	1046	1255	1674	2092	2511	2929	3348	4184	-
-		KCAL X 1000	63.3	105	158	211	264	316	422	527	633	738	844	1054	-
-	FIRING RATE NAT. GAS 1000BTU/FT3	FT 3/HR.	251	418	628	837	1046	1255	1674	2092	2511	2929	3348	4184	-
-		M 3/HR.	7.1	11.8	17.8	23.7	29.6	35.5	47.4	59.2	71.1	82.9	94.8	118.5	-
-	FIRING RATE LP. GAS 91,500 BTU/GAL.	GPH	2.7	4.6	6.9	9.1	11.4	13.7	18.3	22.9	27.4	32	36.6	45.7	-
-		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 #2 OIL 140.000 BTU/	GPH	1.8	3	4.5	6	7.5	9	12	14.9	17.9	20.9	23.9	29.9	-
-		LPH	6.8	11.3	17	22.6	28.3	33.9	45.3	56.6	67.9	79.2	90.5	113.1	-
A	STEAM OUTLET HIGH PRESS.	IN.	1	1	1	1	1.25	1.5	2	2.5	2.5	2.5	2.5	3	A
		MM	25	25	25	25	32	38	51	64	64	64	64	76	
A	STEAM OUTLET LOW PRESS.	IN.	2	2	2	3	3	4	4	6	6	6	6	6	A
		MM	51	51	51	76	76	102	102	152	152	152	152	152	
B	BLOWDOWN HIGH PRESS.	IN.	1	1	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25	B
		MM	25	25	25	25	25	32	32	32	32	32	32	32	
B	BLOWDOWN LOW PRESS.	IN.	1	1	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5	B
		MM	25	25	25	25	25	32	32	32	32	38	38	38	
C	FEEDWATER	IN.	0.75	0.75	0.75	0.75	0.75	1	1	1	1	1	1	1.25	C
		MM	19	19	19	19	19	25	25	25	25	25	25	32	
D	STACK DIA.	IN.	8	8	8	8	8	10	12	12	12	14	14	14	D
		MM	203	203	203	203	203	254	305	305	305	356	356	356	
E	STACK HEIGHT	IN.	52	52	58	64	64	63	73	83	83	82	82	82	E
		MM	1321	1321	1473	1626	1626	1600	1854	2108	2108	2083	2083	2083	
F	WIDTH WITHOUT TRIM	IN.	35.2	35.2	35.2	35.2	35.2	41	50	59	59	68	68	78.2	F
		MM	894	894	894	894	894	1041	1270	1499	1499	1727	1727	1986	

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G	WIDTH WITH TRIM	IN.	42	42	42	42	42	47	55	63	63	72	72	82	G
		MM	1067	1067	1067	1067	1067	1194	1397	1600	1600	1829	1829	2083	
H	OVERALL HEIGHT	IN.	79	79	85	85	85	85	93	105	105	106	106	110	H
		MM	2007	2007	2159	2159	2159	2159	2362	2667	2667	2692	2692	2794	
I	HEIGHT WITHOUT TRIM	IN.	65	65	71	77	77	77	88	99	99	99	99	99	I
		MM	1651	1651	1803	1956	1956	1956	2235	2515	2515	2515	2515	2515	
J	LENGTH	IN.	60	60	60	60	60	78	87	115	115	120	120	127	J
		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	-
-	**BOILER HORSEPOWER**	-	**6**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**60**	**70**	**80**	**100**	-

Available with design pressures to 300 PSIG. Outlet connections over four inches on low pressure models are 150# flanges. All other connections are NPT. We assume no responsibility for errors in data.

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