

FDTM Series

Commercial Hydronic Heat
Pressure-Fired Steel Boiler
Oil, Gas or Combination Hot Water Heating



■ Heating Capacities
262 to 1617 MBH Output



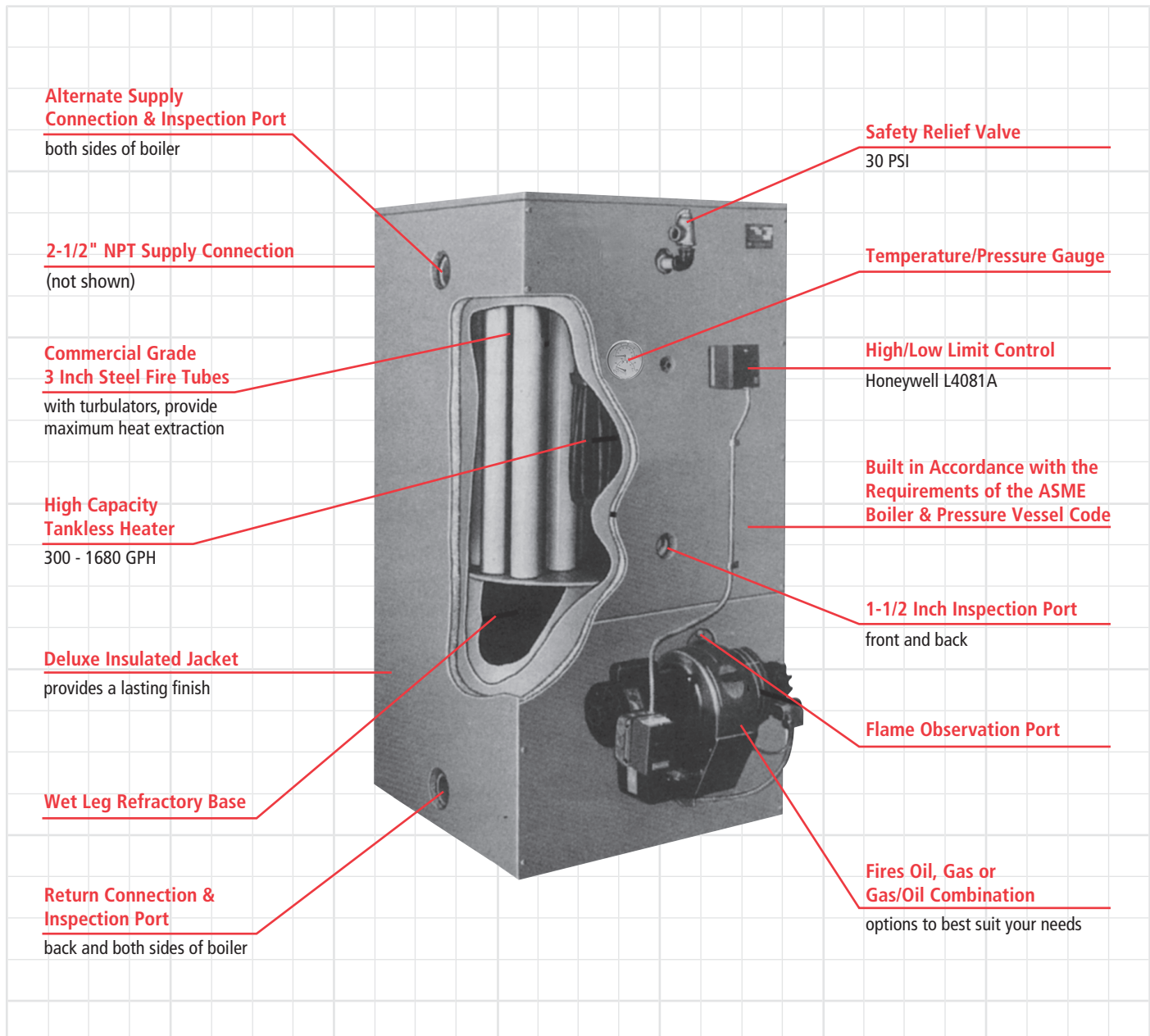
FD Series - Steel Firetube, Hot Water Boiler

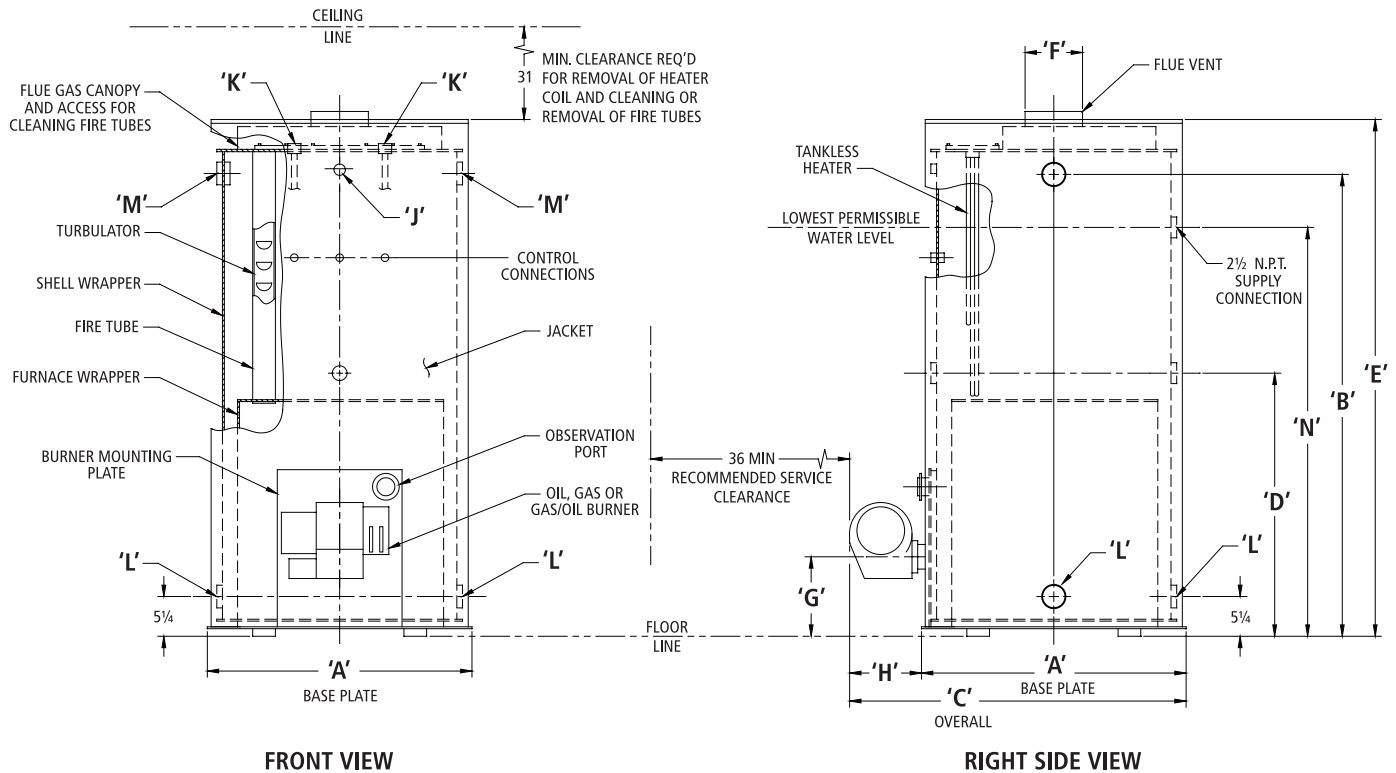
Maximum Allowable Working Pressure (MAWP): 30 PSI-Water

Versatility at Its Best

FD Series boilers are available with oil, gas or gas/oil burners. As a forced draft boiler, the FD Series eliminates the need for external draft devices, such as a high chimney or mechanical draft equipment. The vertical design of the FD Series provides a smaller footprint per gross output than conventional boilers of comparable ratings. The FD water boiler is rated for 30 PSI maximum allowable working pressure, and is available in eleven sizes from 262 to 1617 MBH output.

A popular feature of the FD is its ability to satisfy space heating as well as domestic hot water requirements for hotels, motels or apartment buildings. Tankless coil ratings of 300 to 1680 gallons per hour also make the FD ideal for use as an indirect hot water supply boiler for spas, car washes, laundries, commercial swimming pools, and restaurants. Ready for a variety of applications Burnham Commercial's FD Series water boiler is right for your next job.





Dimensions (in inches)

BOILER MODEL NUMBER		FD-7	FD-9	FD-10	FD-12	FD-14	FD-15	FD-19	FD-24	FD-30	FD-38	FD-45
'A' - Boiler Width/Length		28	28	32	32	35	35	35	38	44-1/2	48	48
'B' - Inspection & Alternate Supply Connection Height		49-7/8	55-7/8	56	56	61	61	61	61-1/4	65-1/8	71-1/4	71-1/4
'C' - Boiler Length (including burner)	Oil	36-3/4	36-3/4	41	41	44-1/4	44-1/4	55-1/4	58-1/4	66-1/4	68-1/2	68-1/2
	Gas	47-1/4	47-1/4	51-1/2	51-1/2	54-3/4	54-3/4	54-3/4	58	68	71-1/2	71-1/2
	Gas/Oil	57	57	61-1/2	61-1/2	64-3/4	64-3/4	64-3/4	68	74-1/2	82-1/2	82-1/2
'D' - 1-1/2 N.P.T. Inspection Connection Height (front/rear)		31-1/2	31-1/2	28-1/2	28-1/2	34-3/4	34-3/4	34-3/4	33-3/4	37-5/8	43-3/4	43-3/4
'E' - Boiler Height (top of jacket)		57-1/4	63-1/4	63-1/4	63-1/4	68-1/4	68-1/4	68-1/4	69-3/4	73-3/4	80	80
'F' - Flue Vent Diameter		8	8	8	8	8	8	8	9	10	10	12
'G' - Burner Center Line		12-1/4	12-1/4	12-1/4	12-1/4	12-1/4	12-1/4	12-1/4	12-1/4	12-1/4	17	17
'H' - Burner Extension	Oil	8-3/4	8-3/4	9	9	9-1/4	9-1/4	20-1/4	20-1/4	21-3/4	20-1/2	20-1/2
	Gas	19-1/4	19-1/4	19-1/2	19-1/2	19-3/4	19-3/4	19-3/4	20	23-1/2	23-1/2	23-1/2
	Gas/Oil	29	29	29-1/2	29-1/2	29-3/4	29-3/4	29-3/4	30	30	34-1/2	34-1/2
'J' - Safety Relief Valve Connection (F.P.T.)		3/4	3/4	3/4	3/4	1	1	1	1	1	1-1/4	1-1/4
'K' - Tankless Coil Connection - Pipe Size (FD-7/10 F.P.T.) (FD-12/45 M.P.T.)		3/4	3/4	3/4	1-1/4	1-1/4	1-1/4	2	2	2	2	2
'L' - Return & Inspection Connection Size (F.P.T.)		2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	3
'M' - Inspection & Alternate Supply Connection Size (F.P.T.)		2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3	3	3	3
'N' - Supply Connection Height		42-7/8	48-7/8	49	49	54	54	54	54-1/4	58-1/8	64-1/4	64-1/4

Specifications



FD SERIES RATINGS

BOILER MODEL	GROSS OUTPUT (MBH)	BOILER H.P.	NET RATING WATER (MBH) (1)	BURNER INPUT		MAXIMUM TANKLESS HEATER CAPACITY GPM (3)	WATER CONTENT OF BOILER (GAL.)	FURNACE VOLUME (CU. FT.)	APPROX. BOILER AND BURNER SHIPPING WEIGHTS (LBS.)		
				OIL (GPH) (2)	GAS (MBH)				OIL	GAS	GAS/OIL
FD-7	262	7.8	229	2.3	331	5	44	4.8	970	1000	1020
FD-9	315	9.4	274	2.8	397	6	52	4.8	1000	1030	1050
FD-10	355	10.6	309	3.1	447	7	80	6.0	1080	1110	1130
FD-12	459	13.7	399	4.0	577	8	77	6.0	1350	1380	1400
FD-14	516	15.4	449	4.5	649	9	94	9.2	1375	1405	1425
FD-15	574	17.1	499	5.0	721	10	91	9.2	1400	1430	1450
FD-19	688	20.5	598	6.0	865	12	87	9.2	1560	1590	1610
FD-24	861	25.7	748	7.5	1082	16	109	11.4	1780	1810	1830
FD-30	1090	32.5	948	9.5	1370	20	153	18.8	2400	2430	2450
FD-38	1377	41.1	1197	12.0	1730	24	189	27.6	3300	3330	3350
FD-45	1617	48.0	1397	14.0	2019	28	177	27.6	3560	3590	3610

1. Net ratings are based on a piping and pick-up allowance of 1.15. Consult manufacturer for installations having unusual piping and pick-up requirements, such as intermittent system operation, extensive piping systems, etc. Ratings are for installation from sea level to 2000 feet elevation.
2. Firing rate in GPH is based on oil having a heat value of 140,000 BTU/GAL.
3. Tankless heater ratings are based on continuous draw (GAL./MIN) at 40°-140°F rise with 200°F boiler water temperature.

Note: All sizes meet or exceed 80% combustion efficiency.

RATINGS - TANKLESS COILS*

BOILER MODEL	GALLONS PER HOUR	GPM	PRESSURE DROP P.S.I. AT FLOW RATE FOR 100 F RISE
FD-7	300	5	10.5
FD-9	360	6	15.3
FD-10	420	7	14.7
FD-12	480	8	19.2
FD-14	540	9	8.9
FD-15	600	10	11.0
FD-19	720	12	15.8
FD-24	960	16	1.9
FD-30	1200	20	2.9
FD-38	1440	24	2.9
FD-45	1680	28	3.9

*Based on 100°F rise with 200°F boiler water temperature and 40°F heater inlet temperature (continuous draw).

For use of the FD Series as a continuous hot water supply boiler, select the boiler and tankless coil based on the required amount of hot water flow. Heating needs should be considered in addition to hot water requirements. If control of hot water temperature and flow is desired, temperature and flow controls may be added.

Contact Burnham Commercial for inlet temperatures in excess of 70°F, or if a temperature rise other than 100°F is desired. If pressure drops are found to be excessive, it is possible in some cases to oversize the heater.

STANDARD EQUIPMENT

ALL BOILERS

Vertical firetube type steel boiler with commercial grade 3" diameter tubes; Insulated deluxe jacket; Pressure/temperature gauge; 30 PSI Safety relief valve; High-Low limit control - L4081A; 750P-MT-120 (all sizes except FD7 and FD9);

OIL FIRING-Beckett Burner

Forced draft oil burner for #2 fuel oil; Burner mounted two-stage fuel pump; Ignition transformer; Cad cell primary control; Dual oil valves; Motor voltage: 120/60/1 - all sizes
Firing sequence: On-off (FD7 thru FD19), Low-high-off (FD24 thru FD45)

GAS FIRING-Power Flame JR Series Burner

Forced draft burner for natural or LP gas; Ignition transformer; Gas pressure regulator; Air flow safety switch and dual gas valve; RM7895A flame safeguard control with flame rod sensor on FD7 thru FD24; RM7895A flame safeguard with ultraviolet flame sensor FD30 thru FD45; Motor voltage: 120/60/1 - all sizes; Firing sequence: On-off (FD7 thru FD30), Low-high-off (FD38 and FD45)

GAS/OIL FIRING-Power Flame CR Series Burner

Forced draft burner for gas/#2 fuel oil; Ignition transformer; Air flow safety switch, dual gas valve and dual oil valves; RM7895A flame safeguard with ultraviolet flame sensor; Gas pressure regulator and manual fuel changeover switch; Motor voltage: 120/60/1 FD7 thru FD30, 230/60/1 FD38 thru FD45; Firing sequence: On-off (FD7 thru FD24), Low-high-off (FD30 thru FD45)

All above are assembled, wired and packaged in a shipping crate.



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