

PRESSURE-FIRED STEEL BOILER OIL, GAS OR COMBINATION HOT WATER HEATING



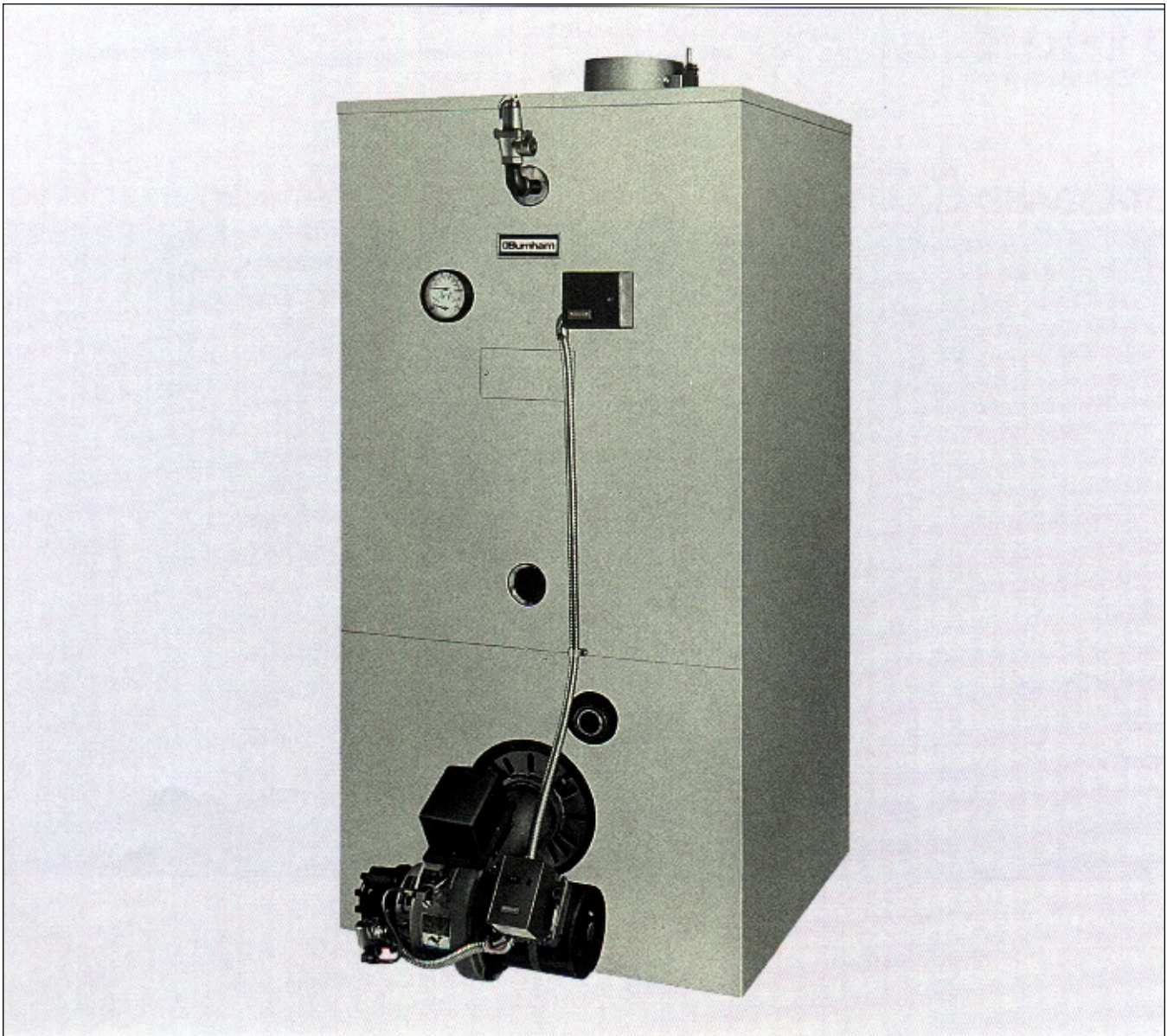
FD SERIES

Heating Capacities
250 to 1600 MBH Output

Forced draft boilers, in addition to increased operating efficiencies, require less space than conventional boilers of comparable ratings and eliminate the need for external draft devices such as a high chimney or mechanical draft equipment. The design of the FD Series provides an even smaller footprint per gross output than a cast iron sectional boiler.

The FD is a water boiler only rated for 30 PSI working pressure, and is available in eleven vertical sizes.

In addition to space heating, the FD boiler can satisfy the 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.



FD SERIES OIL, GAS OR COMBINATION BOILER

MAXIMUM WORKING PRESSURE: 30 PSI WATER

RATING DATA



Built in accordance with the requirements of the ASME Boiler and Pressure Vessel Code

BOILER NUMBER	GROSS OUTPUT MBH	BOILER HORSEPOWER	NET RATING WATER MBH (1)	BURNER INPUT		MAX. TANKLESS HEATER CAPACITY GPM (3)	WATER CONTENT OF BOILER (GAL.)
				OIL GPH (2)	GAS MBH		
FD-7	264	7.8	229	2.3	331	5	44
FD-9	315	9.4	274	2.75	397	6	52
FD-10	355	10.6	309	3.1	447	7	80
FD-12	459	13.7	399	4.0	577	8	77
FD-14	516	15.4	449	4.5	649	9	94
FD-15	574	17.1	499	5.0	721	10	91
FD-19	688	20.5	598	6.0	865	12	87
FD-24	861	25.7	748	7.5	1082	16	109
FD-30	1090	32.5	948	9.5	1370	20	153
FD-38	1377	41.1	1197	12.0	1730	24	189
FD-45	1607	48.0	1397	14.0	2019	28	177

- (1) Net ratings shown 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.
- (2) Firing rate in GPH is based on oil having a heat value of 140,000 BTU/GAL.
- (3) Tankless heater ratings based on GAL/MIN of 100°F rise with 200°F boiler water temperature and 40°F heater inlet temperature. (Continuous draw)

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
- M&M #764 Low water cut off (all sizes except FD-7 and FD-9)
- Burner mounting plate

OIL FIRING - Beckett Burners

- Forced draft oil burner for #2 fuel oil
- Burner mounted two-stage fuel pump
- Ignition transformer
- Cad cell primary control
- Dual oil valves

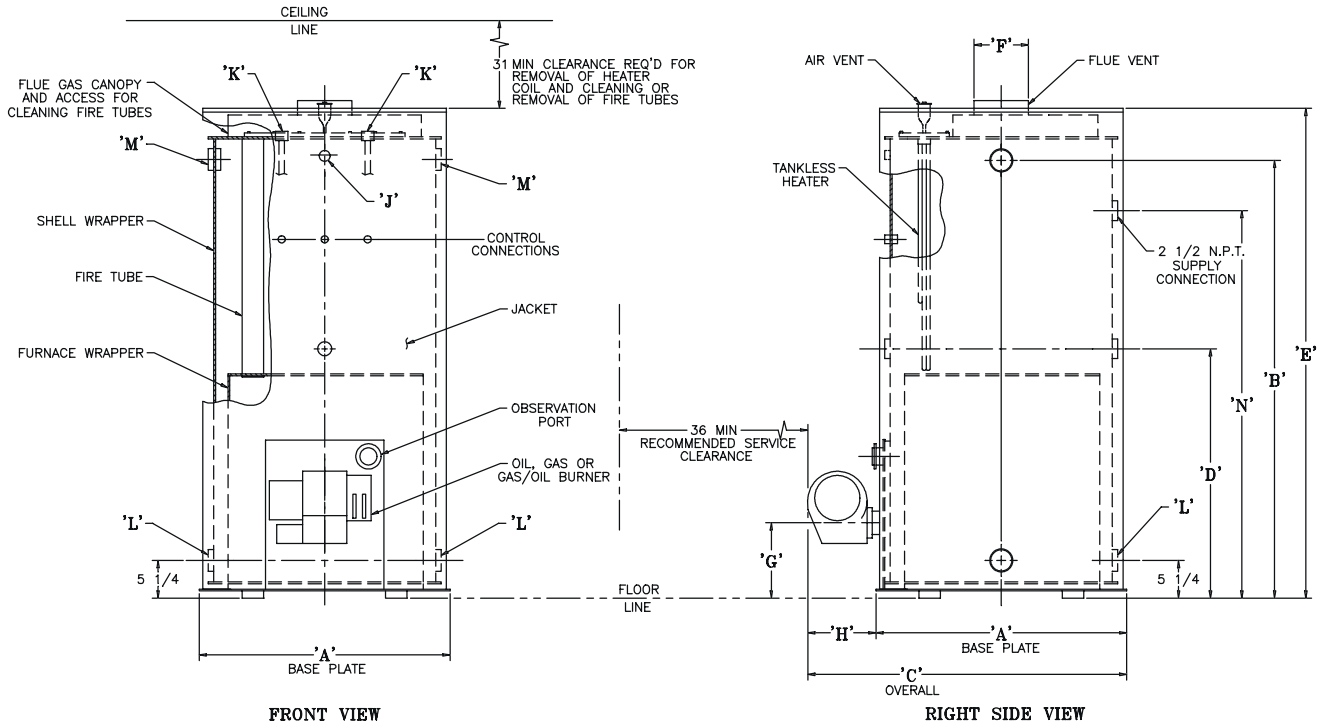
GAS FIRING - Power Flame JR Series Burners

- Forced draft burner for natural or LP gas
- Ignition transformer
- Gas pressure regulator
- Air flow safety switch and dual gas valves
- RM7895A Flame safeguard control with flame rod sensor on FD-7 thru FD-24
- RM7895A Flame safeguard with ultraviolet flame sensor FD-30 thru FD-45
- Low-high-off firing sequence on FD-30 thru FD-45.

GAS/OIL FIRING - Power Flame CR Series Burner

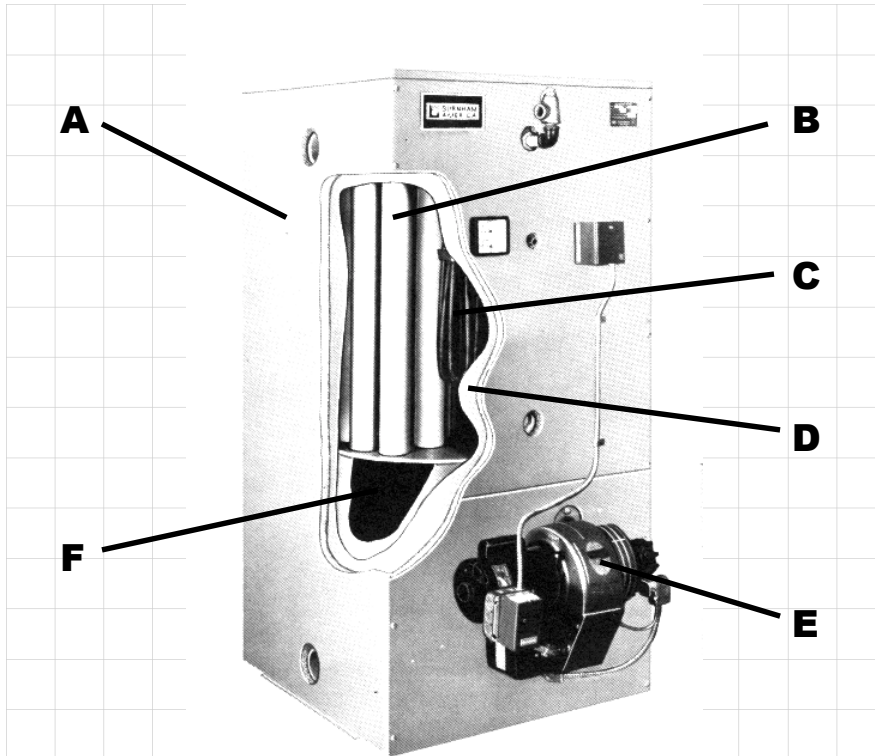
- Forced draft burner for gas/#2 fuel oil
- Ignition transformer
- Air flow safety switch, dual gas valves and dual oil valves
- RM7895C Flame safeguard control with ultraviolet flame sensor
- Gas pressure regulator and manual fuel changeover switch
- Low-high-off firing sequence on FD-30 thru FD-45

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



DIMENSIONS (in inches)

BOILER MODEL NO.	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 and 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
	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
	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
D 1-1/2 N.P.T. Inspection Connection Height (Front and 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
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
F Flue Vent Diameter		8	8	8	8	8	8	9	10	10	12
G Burner Height (Centerline)		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
	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
	Gas/Oil	29	29	29-1/2	29-1/2	29-3/4	29-3/4	29-3/4	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
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
L Return and 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
M Inspection and 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
N Supply Connection Height		42-7/8	48-7/8	49	49	54	54	54	54-1/4	58-1/8	64-1/4



- A. Insulated blue jacket
 - B. Commercial grade 3" steel tubes
 - C. High capacity tankless heater (optional)
 - D. ASME constructed and stamped
 - E. Fires either oil, gas or oil/gas combination
 - F. Wet leg refractory base
- No chimney required (vent only)

Ratings - Tankless Coils

BOILER NUMBER	GALLONS PER HOUR *	PRESSURE DROP PS IAT FLOW RATE FOR 100°F RISE
FD-7	300	10.5
FD-9	360	15.3
FD-10	420	20.8
FD-12	480	19.2
FD-14	540	27.0
FD-15	600	11.0
FD-19	720	18.8
FD-24	960	8.5
FD-30	1200	2.9
FD-38	1440	2.9
FD-45	1680	6.3

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.

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

Contact "Applications Engineering" 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.