

## Model CBL Dimensions and Ratings 800-1600 HP

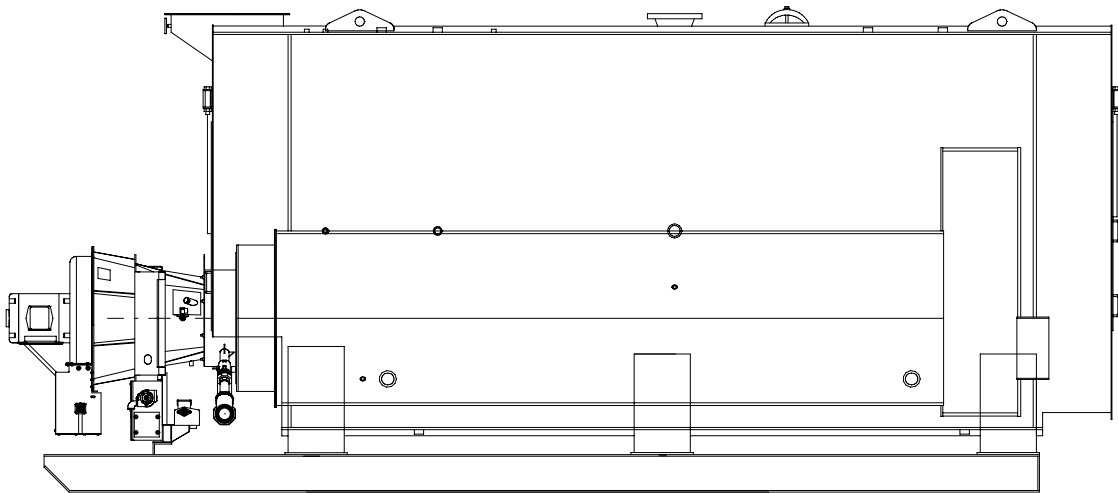


Table 1. CBL Steam Boiler Ratings

BOILER HP	800	900	1000	1100	1200	1300	1400	1500
RATINGS - SEA LEVEL TO 1000 FT <sup>B</sup>								
Rated Capacity (lbs-steam/hr from and at 212 °F)	27600	31050	34500	37950	41400	44850	48300	51750
Btu Output (1000 Btu/hr)	26780	30128	33475	36823	40170	43518	46865	50213
POWER REQUIREMENTS — SEA LEVEL TO 1000 FT ( 60 HZ)								
Blower Motor, hp <sup>A</sup> (Gas and Oil)	60	60	50	75	75	100	100	100
Oil Pump Motor hp (#2 oil)	1	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Oil Pump Motor hp (#6 oil)	1	1	1	1	1	1	1	1-1/2
Air Comp. Motor, hp (#2 oil)	7-1/2	15	15	15	15	15	15	15
Oil heater Kw (#6 oil)	10	10	10	15	15	15	15	15
NOTES: A. Blower motor HP may increase if a low NOx option is added B. Ratings based on nominal 80% efficiency. C. Ratings based on 60 hertz, please verify 50 hertz ratings with factory.								

Table 2. CBL Input Ratings (3-Pass Boilers)

Boiler Square Foot Heating Surface	4000	4500	5000	5500	6000	6500	7000	7500
Approximate Fuel Consumption <sup>D</sup>								
Horsepower (5 sq.ft./bhp)	800	900	1000	1100	1200	1300	1400	1500
Natural Gas <sup>A</sup> (cfh)	33475	37659	41844	46028	50213	54397	58581	62766
No. 2 Oil <sup>B</sup> (gph)	239.1	269.0	298.9	328.8	358.7	388.5	418.4	448.3
No. 6 Oil <sup>C</sup> (gph)	223.2	251.1	279.0	306.9	334.8	362.6	390.5	418.4
Horsepower (4 sq.ft./bhp)	1000	1100	1200	1300	1500	1600		
Natural Gas <sup>A</sup> (cfh)	41844	46028	50213	54397	62766	66950		
No. 2 Oil <sup>B</sup> (gph)	298.9	328.8	358.7	388.5	448.3	478.2		
No. 6 Oil <sup>C</sup> (gph)	279.0	306.9	334.8	362.6	418.4	446.3		

Notes:

- A. Natural gas based on heating value of 1000 BTU/cu.ft
- B. No. 2 oil based on heating value of 140,000 BTU/gal.
- C. No. 6 oil based on heating value of 150,000 BTU/gal.
- D. Ratings based on nominal 80% efficiency.

Table 3. CBL Input Ratings (4-Pass Boilers)

Boiler Square Foot Heating Surface	4000	4500	5000	5500	6000	6500	7000	7500
Approximate Fuel Consumption <sup>D</sup>								
Horsepower (5 sq.ft./bhp)	800	900	1000	1100	1200	1300	1400	1500
Natural Gas <sup>A</sup> (cfh)	32659	36741	40823	44905	48988	53070	57152	61235
No. 2 Oil <sup>B</sup> (gph)	233.3	262.4	291.6	320.8	349.9	379.1	408.2	437.4
No. 6 Oil <sup>C</sup> (gph)	217.7	244.9	272.2	299.4	326.6	353.8	381.0	408.2
Horsepower (4 sq.ft./bhp)	1000	1100	1200	1300	1500	1600		
Natural Gas <sup>A</sup> (cfh)	40823	44905	48988	53070	61235	65317		
No. 2 Oil <sup>B</sup> (gph)	291.6	320.8	349.9	379.1	437.4	466.6		
No. 6 Oil <sup>C</sup> (gph)	272.2	299.4	326.6	353.8	408.2	435.4		

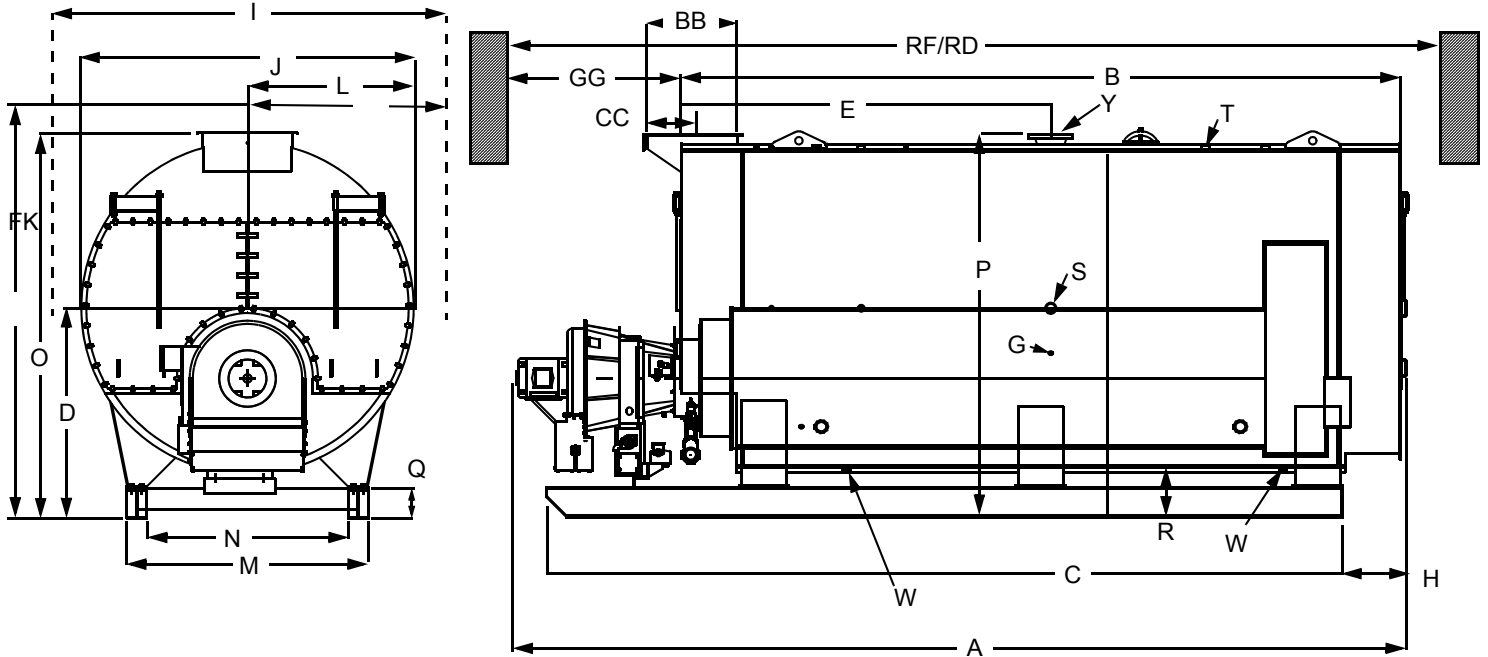
Notes:

A. Natural gas based on heating value of 1000 BTU/cu.ft

B. No. 2 oil based on heating value of 140,000 BTU/gal.

C. No. 6 oil based on heating value of 150,000 BTU/gal.

D. Ratings based on nominal 82% efficiency.



BOILER SQUARE FOOT HEATING SURFACE	DIM	4000	4500	5000	5500	6000	6500	7000	7500
Boiler Horsepower@ 5 ft <sup>2</sup> /bhp		800	900	1000	1100	1200	1300	1400	1500
Boiler Horsepower @ 4 ft <sup>2</sup> /bhp		1000	1100	1200	1300	1500	1600		
LENGTHS									
Overall *B	A	367	394	386	411	434	387	406	425
Shell	B	293	323	288	312	335	304	323	342
Base Frame *	C	285	317	282	304	327	296	315	334
Base Frame to Rear Flange	H	26	26	26	26	26	26	26	26
Flange to Steam Nozzle	E	148	148	148	148	148	148	148	148
WIDTHS									
Overall With Trim	I	144	144	156	156	156	168	168	168
I. D. Boiler	J	114	114	126	126	126	138	138	138
Center to Water Column	K	72	72	78	78	78	84	84	84
Center to Lagging	L	59-1/2	59-1/2	65-3/4	65-3/4	65-3/4	71 3/4	71 3/4	71 3/4
Base Outside	M	96	96	96	96	96	96	96	96
Base Inside	N	80	80	80	80	80	80	80	80
* Approximate - varies with burner selection									

Table 4. CBL Steam Boiler Dimensions, 4 Pass (Page 1 of 2)

BOILER SQUARE FOOT HEATING SURFACE	DIM	4000	4500	5000	5500	6000	6500	7000	7500
HEIGHTS									
Base to piping connections	F	149	149	161	161	161	168-1/8	168-1/8	168-1/8
Base to Boiler Centerline	D	77-1/2	77-1/2	83-3/4	83-3/4	83-3/4	86-1/2	86-1/2	86-1/2
Base to Vent Outlet	O	141	141	153-1/2	153-1/2	153-1/2	162-1/8	162-1/8	162-1/8
Base to Steam Outlet	P	141	141	153-1/2	153-1/2	153-1/2	162-1/8	162-1/8	162-1/8
Base Frame	Q	12	12	12	12	12	12	12	12
Base to Bottom Boiler	R	20	20	20	20	20	17	17	17
CONNECTIONS									
Chemical Feed	G	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Feedwater Inlet (Both Sides)	S	3	3	3	3	3	3	3	3
Steam Nozzle <sup>A</sup> (150 psig)	Y	10	10	10	12	12	12	12	12
Blowdown - Front & Rear	W	2	2	2	2	2	2	2	2
Surface Blowoff	T	1	1	1	1	1	1	1	1
Vent Stack Diameter (Flanged)	BB	32	32	36	36	36	42	42	42
Flange to Center Vent	CC	17-1/2	17-1/2	19-1/2	19-1/2	19-1/2	24	24	24
MISCELLANEOUS									
Rear Door Swing <sup>C</sup>	AA	-	-	-	-	-	-	-	-
Tube Removal - Front Only	GG	246	276	217	241	264	233	252	271
Min. Boiler Room Length For Tube Removal Front	RF	537	597	538	586	632	665	703	741
Min. Boiler Room Length For Tube Removal Thru Door	RD	484	514	489	513	536	528	547	566
Normal Water Weight (Lbs)		43800	49400	49300	54000	60000	61000	66000	71000
Flooded Water Weight (Lbs)		54500	61300	65300	71900	78300	83000	89000	96000
Approx. Shipping Wt. 15/30 psig (Lbs.)		58000	63000	73100	77200	82200	87000	91700	96600
Approx. Shipping Wt. 150 psig (Lbs.)		65000	71000	79600	85300	90900	97300	102600	108200
Approx. Shipping Wt. 200 psig (Lbs.)		73500	82200	88600	95000	101500	107800	115500	121000
Approx. Shipping Wt. 250 psig (Lbs.)		81300	89000	97200	104000	110000	118000	124000	132000
NOTES: Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for actual option requirements. A. 300 psig Flange. See recommended steam nozzle size chart for operating pressure greater than 125 psig. B. Add 11 1/2 inches to dimension "B" for a three pass boiler. C. Reference Figure A11-2.									

Table 5. CBL Steam Boiler Dimensions, 4 Pass (Page 2 of 2)