

## Model **CBEX ELITE** 100 - 800 HP



### *Dimensions and Ratings*

**Table 1. CBEX Elite Steam Boiler Ratings**

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
RATINGS - SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr from and at 212 OF)	3450	4313	5175	6900	8625	10350	12075	13800	17250	20700	24150	27600
Btu Output (1000 Btu/hr)	3348	4184	5021	6695	8369	10043	11716	13390	16738	20085	23433	26780
APPROXIMATE FUEL CONSUMPTION AT RATED CAPACITY BASED ON NOMINAL 82% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	29.2	36.4	43.7	58.3	72.9	87.5	102.1	116.6	145.8	175.0	204.1	233.3
Gas CFH (1000 Btu)	4082	5103	6123	8165	10206	12247	14288	16329	20412	24494	28576	32659
Gas (Therm/hr)	40.8	51.0	61.2	81.6	102.1	122.5	142.9	163.3	204.1	244.9	285.8	326.6
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp (60 ppm) <sup>A</sup>	7-1/2	7-1/2	5	20	7-1/2	15	15	15	30	40	40	60
Blower Motor hp (30 ppm) <sup>A</sup>	7-1/2	7-1/2	7-1/2	20	15	20	15	20	30	50	40	75
Blower Motor hp (9 ppm) <sup>A</sup>	5	7-1/2	7-1/2	15	15	20	15	25	30	50	75	n/a
Oil Pump Motor, No. 2 Oil	1/3	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
Air Compressor Motor hp (No. 2 Oil firing Only)	3	3	3	3	5	5	5	5	7-1/2	7-1/2	7-1/2	7-1/2
BOILER DATA												
Heating Surface sq-ft. (Fireside)	417	485	563	750	879	922	1205	1521	1768	1905	2404	2481

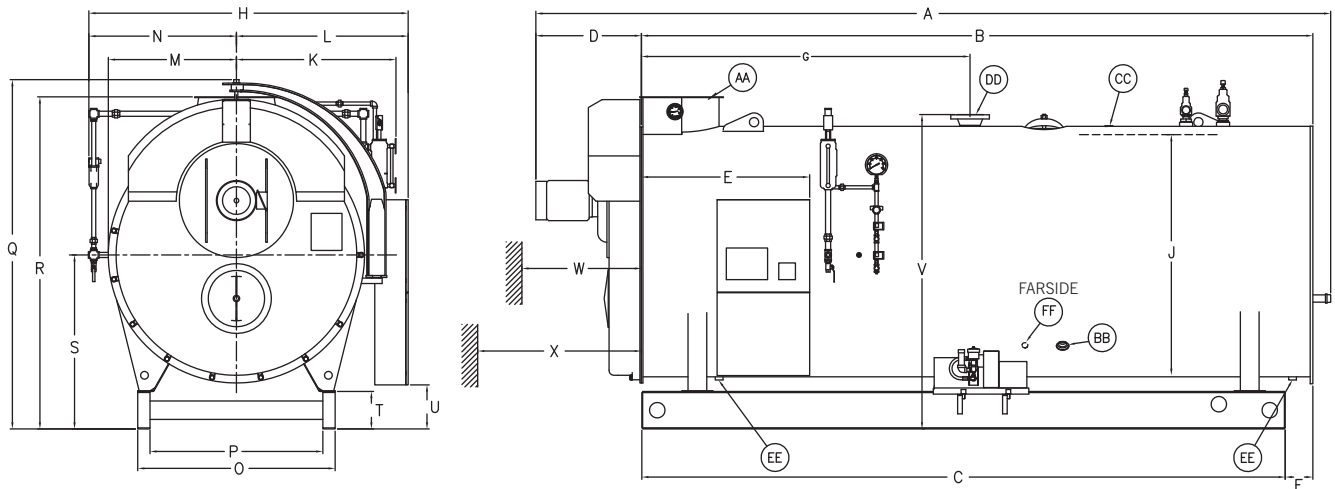
NOTES:

A. Blower motor size for boiler operating pressures 125 psig and less, contact your local Cleaver-Brooks authorized representative for higher pressures and altitude.

**Table 2. CBEX Elite Hot Water Boiler Ratings**

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
RATINGS - SEA LEVEL TO 700 FT.												
Btu Output (1000 Btu/hr)	3348	4184	5021	6695	8369	10043	11716	13390	16738	20085	23433	26780
APPROXIMATE FUEL CONSUMPTION AT RATED CAPACITY BASED ON NOMINAL 85% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	28.1	35.2	42.2	56.3	70.3	84.4	98.4	112.5	140.6	168.8	196.9	225.0
Gas CFH (1000 Btu)	3938	4923	5907	7876	9846	11815	13784	15753	19691	23629	27568	31506
Gas (Therm/hr)	39.4	49.2	59.1	78.8	98.5	118.1	137.8	157.5	196.9	236.3	275.7	315.1
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp (60 ppm) <sup>A</sup>	7-1/2	7-1/2	5	20	7-1/2	15	15	15	30	40	40	60
Blower Motor hp (30 ppm) <sup>A</sup>	7-1/2	7-1/2	7-1/2	20	15	20	15	20	30	50	40	75
Blower Motor hp (9 ppm) <sup>A</sup>	5	7-1/2	7-1/2	15	15	20	15	25	30	50	75	n/a
Oil Pump Motor, No. 2 Oil	1/3	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
Air Compressor Motor hp (No. 2 Oil firing Only)	3	3	3	3	5	5	5	5	7-1/2	7-1/2	7-1/2	7-1/2
BOILER DATA												
Heating Surface sq-ft. (Fireside)	417	485	563	750	879	922	1205	1521	1768	1905	2404	2481

Figure 1. Model CBEX ELITE Steam Boiler Dimensions



100 THRU 200 HP BOILERS USE A FRONT DOOR HINGE (NOT DAVIT AS SHOWN)

Table 3. Model CBEX ELITE Steam Boiler Dimensions

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
<b>LENGTHS</b>													
Overall Length (60 PPM system)	A	165	172	176.5	201.5	231.5	242.5	249	265	260.5	282.5	291	299
Overall Length (30 PPM system)	A	167	176	180.5	203.5	233.5	243.5	255	268	271.5	287.5	298	307
Overall Length (9 PPM system)	A	167	176	182.5	205.5	233.5	243.5	255	270	271.5	288.5	300	n/a
Shell	B	137.25	144.25	149	168	196	204	217.5	226.5	229	244	253	260
Base Frame	C	129.5	136.5	140	159	186	194	208.5	217.5	219.5	234.5	243.5	250.5
Front Head Extension (60 PPM system)	D	21.5	21.5	21.5	27.5	29.5	32.5	25.5	32.5	25.5	32.5	32	33
Front Head Extension (30 PPM system)	D	23.5	25.5	25.5	29.5	31.5	33.5	31.5	35.5	36.5	37.5	39	41
Front Head Extension (9 PPM system)	D	23.5	25.5	27.5	31.5	31.5	33.5	31.5	37.5	36.5	38.5	41	n/a
Front Ring Flange to Panel	E	46	46	48	48	47	47	57	57	52	52	52	52
Rear Ring Flange to Base	F	7.75	7.75	9	9	10	10	9	9	9.5	9.5	9.5	9.5
Shell Flange to Steam Nozzle	G	62.5	66	73.5	75.5	96.5	100.5	106.5	111	114.5	122	126.5	130
<b>WIDTHS</b>													
Overall Width	H	81	81	86	86	94	94	105	105	112	112	119	119
I.D. Boiler	J	55	55	60	60	67	67	78	78	85	85	92	92
Center to Water Column	K	42.5	42.5	45	45	48.5	48.5	54	54	57.5	57.5	61	61
Center to Panel	L	44.5	44.5	47	47	50.5	50.5	56	56	59.5	59.5	63	63
Center to Lagging	M	30.5	30.5	33	33	36.5	36.5	42	42	45.5	45.5	49	49
Center to Auxiliary LWCO	N	36.5	36.5	39	39	43.5	43.5	49	49	52.5	52.5	56	56
Base Outside	O	47.5	47.5	52.5	52.5	51	51	64	64	60	60	68	68
Base Inside	P	39.5	39.5	44.5	44.5	43	43	56	56	47	47	55	55
<b>HEIGHTS</b>													
Overall Height	Q	81.5	81.5	87	87	101.5	101.5	113	113	122	122	130	130
Base to Vent Outlet	R	81	81	87	87	94.5	94.5	108	108	114.5	114.5	122.5	122.5
Base to Boiler Centerline	S	41	41	46	46	50	50	56.5	56.5	61	61	65.5	65.5
Height of Base Frame	T	12	12	12	12	12	12	12	12	12	12	12	12
Base to Bottom of Panel	U	17	17	17	17	20	20	24	24	23	23	23	23
Base to Steam Outlet	V	78.5	78.5	82.5	82.5	90	90	102	102	110	110	118	118
<b>BOILER CONNECTIONS</b>													

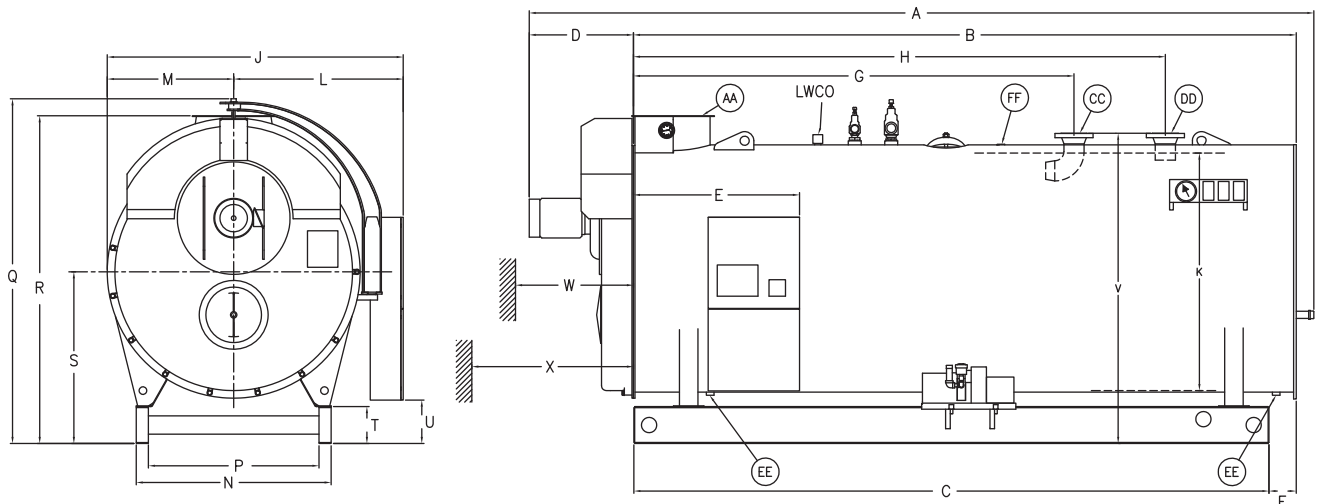
**Table 3. Model CBEX ELITE Steam Boiler Dimensions (Continued)**

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
Feedwater Inlet (Both Sides)	BB	1.25	1.5	1.5	2	2	2	2.5	2.5	2.5	2.5	2.5	2.5
Surface Blowoff	CC	1	1	1	1	1	1	1	1	1	1	1	1
Steam Nozzle (300# ANSI Flange)	DD	4	4	4	4	6	6	6	6	8	8	8	8
Blowdown-Front & Rear	EE	1.25	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2
Chemical Feed	FF	1	1	1	1	1	1	1	1	1	1	1	1
VENT STACK													
Vent Stack Diameter (Flanged)	AA	16	16	16	16	20	20	24	24	24	24	24	24
MINIMUM CLEARANCES													
Front Door Swing	W	62	62	67	67	78	78	89	89	97	97	104	104
Tube Removal - Front Only	X	89	96	101	120	142	142	160	169	172	187	196	203
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL:													
Thru Window or Door		235.5	242.5	252	271	310	318	342.5	351.5	362	377	393	400
Front of Boiler		262.5	276.5	286	324	374	382	413.5	431.5	437	467	485	499
WEIGHTS IN LBS													
Normal Water Weight		6,550	6,890	8,010	9,060	11,620	12,190	19,340	19,650	20,060	21,620	25,050	25,870
Approx. Shipping Weight - (150psig)		10,650	11,180	12,520	13,900	17,960	18,540	23,970	24,710	29,300	30,900	38,500	39,450

NOTES:

Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for construction by certified dimension diagram/drawing.  
All Connections are Threaded Unless Otherwise Indicated:

Figure 2. Model CBEX ELITE Hot Water Boiler Dimensions



100 THRU 200 HP BOILERS USE A FRONT DOOR HINGE (NOT DAVIT AS SHOWN)

Table 4. Model CBEX ELITE Hot Water Boiler Dimensions

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
<b>LENGTHS</b>													
Overall Length (60 PPM system)	A	165	172	176.5	201.5	231.5	242.5	249	265	260.5	282.5	291	299
Overall Length (30 PPM system)	A	167	176	180.5	203.5	233.5	243.5	255	268	271.5	287.5	298	307
Overall Length (9 PPM system)	A	167	176	182.5	205.5	233.5	243.5	255	270	271.5	288.5	300	n/a
Shell	B	137.25	144.25	149	168	196	204	217.5	226.5	229	244	253	260
Base Frame	C	129.5	136.5	140	159	186	194	208.5	217.5	219.5	234.5	243.5	250.5
Front Head Extension (60 PPM system)	D	21.5	21.5	21.5	27.5	29.5	32.5	25.5	32.5	25.5	32.5	32	33
Front Head Extension (30 PPM system)	D	23.5	25.5	25.5	29.5	31.5	33.5	31.5	35.5	36.5	37.5	39	41
Front Head Extension (9 PPM system)	D	23.5	25.5	27.5	31.5	31.5	33.5	31.5	37.5	36.5	38.5	41	n/a
Front Ring Flange to Panel	E	46	46	48	48	47	47	57	57	52	52	52	52
Rear Ring Flange to Base	F	7.75	7.75	9	9	10	10	9	9	9.5	9.5	9.5	9.5
Shell Flange to Water Return	G	93.5	100.5	105	124	150.5	158.5	172	181	173.5	188.5	197.5	204.5
Shell Flange to Water Outlet	H	118.5	125.5	130	149	176.5	184.5	198	207	209.5	224.5	233.5	240.5
<b>WIDTHS</b>													
Overall Width	J	75	75	80	80	87	87	98	98	105	105	112	112
I.D. Boiler	K	55	55	60	60	67	67	78	78	85	85	92	92
Center to Panel	L	44.5	44.5	47	47	50.5	50.5	56	56	59.5	59.5	63	63
Center to Lagging	M	30.5	30.5	33	33	36.5	36.5	42	42	45.5	45.5	49	49
Base Outside	O	47.5	47.5	52.5	52.5	51	51	64	64	60	60	68	68
Base Inside	P	39.5	39.5	44.5	44.5	43	43	56	56	47	47	55	55
<b>HEIGHTS</b>													
Overall Height	Q	81.5	81.5	87	87	101.5	101.5	113	113	122	122	130	130

**Table 4. Model CBEX ELITE Hot Water Boiler Dimensions (Continued)**

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
Base to Vent Outlet	R	81	81	87	87	94.5	94.5	108	108	114.5	114.5	122.5	122.5
Base to Boiler Centerline	S	41	41	46	46	50	50	56.5	56.5	61	61	65.5	65.5
Height of Base Frame	T	12	12	12	12	12	12	12	12	12	12	12	12
Base to Bottom of Panel	U	17	17	17	17	20	20	24	24	23	23	23	23
Base to Water Return & Outlet	V	78.5	78.5	82.5	82.5	90	90	102	102	110	110	118	118
<b>BOILER CONNECTIONS</b>													
Water Return (150# ANSI Flange)	CC	4	6	6	6	8	8	8	10	10	12	12	12
Water Outlet (150# ANSI Flange w/Dip Tube)	DD	4	6	6	6	8	8	8	10	10	12	12	12
Drain-Front & Rear	EE	1.5	1.5	1.5	2	2	2	2	2	2	2	2	2
Air Vent	FF	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2
<b>VENT STACK</b>													
Vent Stack Diameter (Flanged)	AA	16	16	16	16	20	20	24	24	24	24	24	24
<b>MINIMUM CLEARANCES</b>													
Front Door Swing	W	62	62	67	67	78	78	89	89	97	97	104	104
Tube Removal - Front Only	X	89	96	101	120	142	142	160	169	172	187	196	203
<b>MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL:</b>													
Thru Window or Door		235.5	242.5	252	271	310	318	342.5	351.5	362	377	393	400
Front of Boiler		262.5	276.5	286	324	374	382	413.5	431.5	437	467	485	499
<b>WEIGHTS IN LBS</b>													
Normal Water Weight		7,270	7,640	9,200	10,400	14,300	14,970	22,950	23,400	25,950	27,880	33,000	34,000
Approx. Shipping Weight - (30 psig)		9,040	9,510	10,630	11,950	14,900	15,670	20,100	21,420	25,100	26,400	31,350	32,130
Approx. Shipping Weight - (125 psig)		9,900	10,550	12,400	14,150	17,950	18,850	25,000	25,400	31,400	32,950	39,400	40,400

**NOTES:**

Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for construction by certified dimension diagram/drawing. All Connections are Threaded Unless Otherwise Indicated:





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