



Model ICB

Dimensions and Ratings 100-800 HP



Table 1. Model ICB Steam Boiler Ratings, 4-Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL Model ICB	FP-3	FP-3	FP-3	FP-4	FP-4	D145P	D175P	D210P	D252P	D300P	D336P	D378P
RATINGS — SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr. from and at 212°F)	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	6124	8165	10206	12247	14280	16329	20415	24494	28576	32659
Gas (Therm/hr.)	40.8	51.0	61.2	81.7	102.1	122.5	142.8	163.3	204.2	245.0	285.8	326.6
POWER REQUIREMENTS — SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	3	5	7-1/2	7-1/2	7-1/2	15	20	25	30	40	60	60
Separate Compressor Motor hp (Oil only)	**	**	**	3	3	—	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	15
Integral Oil/Air Motor hp (Oil only)	—	—	—	—	—	2	—	—	—	—	—	—
Oil Metering Pump Motor hp (Oil only)	—	—	—	—	—	—	1/2	3/4	3/4	3/4	3/4	1
Circulating Oil Pump Motor hp (Oil only)	*	*	*	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq.-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

* = Integral oil pump

** = No air compressor required (pressure atomized system)

NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

Table 2. Model ICB Steam Boiler Ratings, 3-Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL Model ICB	FP-3	FP-3	FP-3	FP-4	FP-4	FP-4	FP-4	D175P	D210P	D252P	D300P	D336P
RATINGS — SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr. from and at 212°F)	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 80% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	29.9	37.5	45.0	60.0	74.5	89.5	104.5	119.5	149.5	179.5	209	239
Gas CFH (1000 Btu)	4184	5230	6280	8370	10460	12555	14650	16750	20925	25100	29300	33500
Gas (Therm/hr.)	41.8	52.3	62.8	83.7	104.6	125.5	146.5	167.5	209.3	251.0	293.0	335.0
POWER REQUIREMENTS — SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	2	3	5	7-1/2	7-1/2	10	10	20	25	30	40	60
Separate Compressor Motor hp (Oil only)	**	**	**	3	3	3	3	5	5	7-1/2	7-1/2	7-1/2
Integral Oil/Air Motor hp (Oil only)	—	—	—	—	—	—	—	—	—	—	—	—
Oil Metering Pump Motor hp (Oil only)	—	—	—	—	—	—	—	1/2	3/4	3/4	3/4	3/4
Circulating Oil Pump Motor hp (Oil only)	*	*	*	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq.-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

* = Integral oil pump

** = No air compressor required (pressure atomized system)

NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

Table 3. Model ICB Hot Water Boiler Ratings, 4-Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL Model ICB	FP-3	FP-3	FP-3	FP-4	FP-4	D145P	D175P	D210P	D252P	D300P	D336P	D378P
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 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	6124	8165	10206	12247	14280	16329	20415	24494	28576	32659
Gas (Therm/hr.)	40.8	51.0	61.2	81.7	102.1	122.5	142.8	163.3	204.2	245.0	285.8	326.6
POWER REQUIREMENTS — SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	3	5	7-1/2	7-1/2	7-1/2	15	20	25	30	40	60	60
Separate Compressor Motor hp (Oil only)	**	**	**	3	3	—	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	15
Integral Oil/Air Motor hp (Oil only)	—	—	—	—	—	2	—	—	—	—	—	—
Oil Metering Pump Motor hp (Oil only)	—	—	—	—	—	—	1/2	3/4	3/4	3/4	3/4	1
Circulating Oil Pump Motor hp (Oil only)	*	*	*	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq.-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

* = Integral oil pump

** = No air compressor required (pressure atomized system)

NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

Table 4. Model ICB Hot Water Boiler Ratings, 3-Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL Model ICB	FP-3	FP-3	FP-3	FP-4	FP-4	FP-4	FP-4	D175P	D210P	D252P	D300P	D336P
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 80% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	29.9	37.5	45.0	60.0	74.5	89.5	104.5	119.5	149.5	179.5	209	239
Gas CFH (1000 Btu)	4184	5230	6280	8370	10460	12555	14650	16750	20925	25100	29300	33500
Gas (Therm/hr.)	41.8	52.3	62.8	83.7	104.6	125.5	146.5	167.5	209.3	251.0	293.0	335.0
POWER REQUIREMENTS — SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	2	3	5	7-1/2	7-1/2	10	10	20	25	30	40	60
Separate Compressor Motor hp (Oil only)	**	**	**	3	3	3	3	5	5	7-1/2	7-1/2	7-1/2
Integral Oil/Air Motor hp (Oil only)	—	—	—	—	—	—	—	—	—	—	—	—
Oil Metering Pump Motor hp (Oil only)	—	—	—	—	—	—	—	1/2	3/4	3/4	3/4	3/4
Circulating Oil Pump Motor hp (Oil only)	*	*	*	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq.-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

* = Integral oil pump

** = No air compressor required (pressure atomized system)

NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

Table 5. Model ICB-LE Steam Boiler Ratings, 4 Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL	LND54P	LND84P	LND105P	LND125P	LND145P	LND175P	LND210P	LND252P	LND300P	LND315P	LND378P	LND420P
RATINGS - SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr from and at 212 °F)	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	6124	8165	10206	12247	14280	16329	20415	24494	28576	32659
Gas (Therm/hr)	40.8	51.0	61.2	81.7	102.1	122.5	142.8	163.3	204.2	245.0	285.8	326.6
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	5	7 1/2	10	15	15	20	25	30	40	60	60	60
Separate Compressor Motor hp (Oil only)	-	-	-	-	-	5	5	7 1/2	7 1/2	7 1/2	15	15
Integral Oil/Air Motor hp (Oil only)	1	1	1	1	2	-	-	-	-	-	-	-
Oil Metering Pump Motor hp (Oil only)	-	-	-	-	-	1/2	3/4	3/4	3/4	3/4	1	1
Circulating Oil Pump Motor hp (Oil only)	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

Table 6. Model ICB-LE Steam Boiler Ratings, 3 Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL	LND54P	LND63P	LND84P	LND105P	LND145S	LND145P	LND175P	LND210P	LND252P	LND300P	LND315P	LND378P
RATINGS - SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr from and at 212 °F)	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 80% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	29.9	37.5	45.0	60.0	74.5	89.5	104.5	119.5	149.5	179.5	209	239
Gas CFH (1000 Btu)	4184	5230	6280	8370	10460	12555	14650	16750	20925	25100	29300	33500
Gas (Therm/hr)	41.8	52.3	62.8	83.7	104.6	125.5	146.5	167.5	209.3	251.0	293.0	335.0
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	5	5	7 1/2	10	15	15	20	25	30	40	60	60
Separate Compressor Motor hp (Oil only)	-	-	-	-	-	-	5	5	7 1/2	7 1/2	7 1/2	15
Integral Oil/Air Motor hp (Oil only)	1	1	1	1	2	2	-	-	-	-	-	-
Oil Metering Pump Motor hp (Oil only)	-	-	-	-	-	-	1/2	3/4	3/4	3/4	3/4	1
Circulating Oil Pump Motor hp (Oil only)	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq-ft. (Fireside)	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

Table 7. Model ICB-LE Hot Water Ratings, 4 Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL	LND54P	LND84P	LND105P	LND125P	LND145P	LND175P	LND210P	LND252P	LND300P	LND315P	LND378P	LND420P
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 82% EFFICIENCY												
Light Oil gph (140,000 Btu/hr)	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	6124	8165	10206	12247	14280	16329	20415	24494	28576	32659
Gas (Therm/hr)	40.8	51.0	61.2	81.7	102.1	122.5	142.8	163.3	204.2	245.0	285.8	326.6
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	5	7 1/2	10	15	15	20	25	30	40	60	60	60
Separate Compressor Motor hp (Oil only)	-	-	-	-	-	5	5	7 1/2	7 1/2	7 1/2	15	15
Integral Oil/Air Motor hp (Oil only)	1	1	1	1	2	-	-	-	-	-	-	-
Oil Metering Pump Motor hp (Oil only)	-	-	-	-	-	1/2	3/4	3/4	3/4	3/4	1	1
Circulating Oil Pump Motor hp (Oil only)	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq-ft. (Fire	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

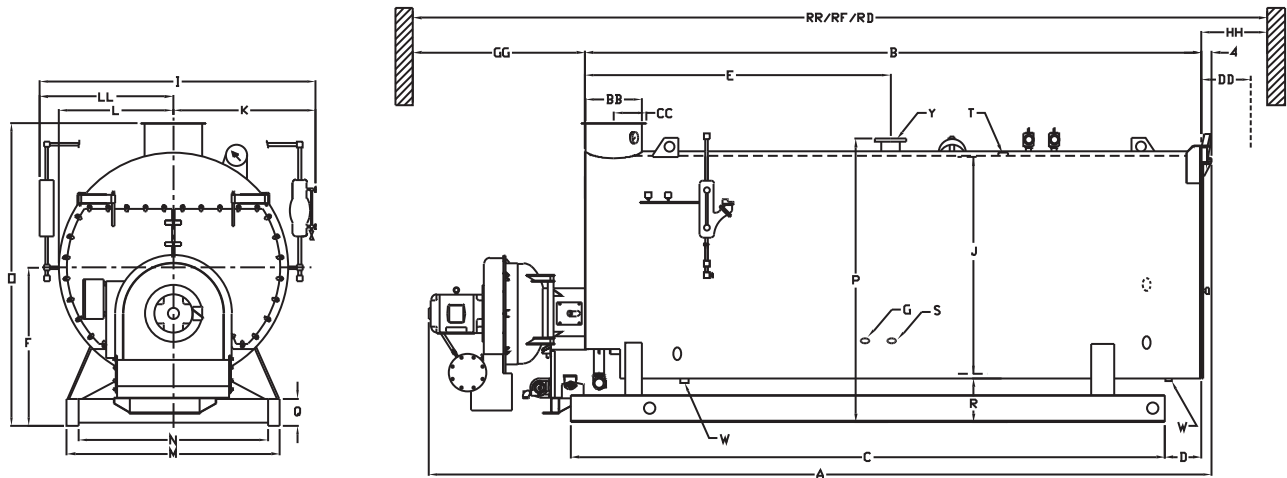
NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

Table 8. Model ICB-LE Hot Water Ratings, 3 Pass

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
BURNER MODEL	LND54P	LND63P	LND84P	LND105P	LND145S	LND145P	LND175P	LND210P	LND252P	LND300P	LND315P	LND378P
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 80% EFFICIENCY												
Light Oil gph (140,000 Btu/hr)	29.9	37.5	45.0	60.0	74.5	89.5	104.5	119.5	149.5	179.5	209	239
Gas CFH (1000 Btu)	4184	5230	6280	8370	10460	12555	14650	16750	20925	25100	29300	33500
Gas (Therm/hr)	41.8	52.3	62.8	83.7	104.6	125.5	146.5	167.5	209.3	251.0	293.0	335.0
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp	5	5	7 1/2	10	15	15	20	25	30	40	60	60
Separate Compressor Motor hp (Oil only)	-	-	-	-	-	-	5	5	7 1/2	7 1/2	7 1/2	15
Integral Oil/Air Motor hp (Oil only)	1	1	1	1	2	2	-	-	-	-	-	-
Oil Metering Pump Motor hp (Oil only)	-	-	-	-	-	-	1/2	3/4	3/4	3/4	3/4	1
Circulating Oil Pump Motor hp (Oil only)	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
BOILER DATA												
Heating Surface sq-ft. (Fire	353	438	555	729	885	1055	1384	1522	1734	2094	3244	3641

NOTE: All fractional hp motors will be single phase voltage except oil metering pump motor (3-phase); integral motors will be 3-phase voltage.

4-PASS "ICB" STANDARD STEAM BOILERS



3-PASS "ICB" STANDARD STEAM BOILERS

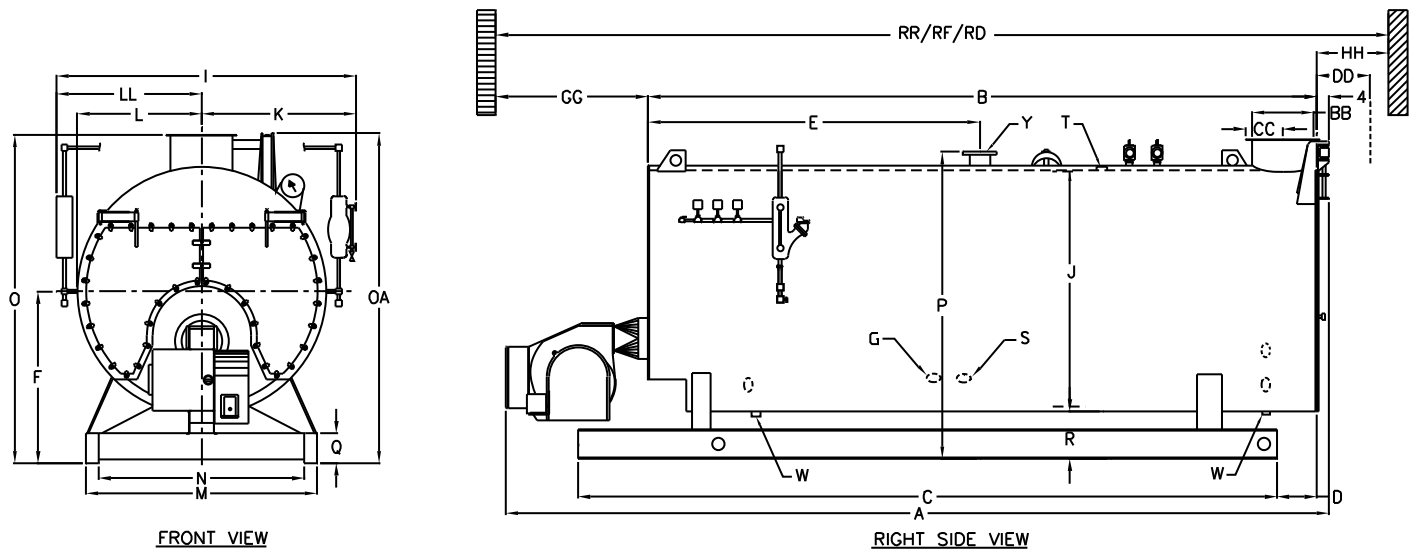


Figure 1. Model ICB Steam Boiler Dimensions, 4-pass and 3-pass (optional)

Table 9. Model ICB Steam Boiler Dimensions, 4-Pass and 3-Pass

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
LENGTHS													
Overall (3-Pass)	A	171"	197"	195"	243-1/2"	208-1/2"	234-1/2"	237-1/2"	263"	255"	290-1/2"	281-1/2"	306-1/2"
Overall (4-Pass)	A	171"	197"	195"	243-1/2"	208-1/2"	241"	247"	268"	257-1/2"	290-1/2"	284-1/2"	312"
Shell	B	127-7/8"	153-7/8"	151-7/8"	192-7/8"	160-7/8"	186-7/8"	189-7/8"	205-7/8"	195-3/4"	228-3/4"	219-7/8"	241-7/8"
Base Frame	C	124-3/8"	150-3/8"	148-3/8"	189-3/8"	157-3/8"	183-3/8"	184-3/8"	200-3/8"	187-1/4"	220-1/4"	211-3/8"	233-3/8"
Base Frame to Rear Flange	D	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	14-1/2"	14-1/2"	14-1/2"	14-1/2"
Flange to Steam Nozzle	E	55-7/8"	61-7/8"	65-7/8"	77-7/8"	68-7/8"	80-7/8"	78-7/8"	94-7/8"	82-3/4"	106-3/4"	98-7/8"	111-7/8"
WIDTHS													
Overall	I	80"	80"	85"	85"	97"	97"	103"	103"	117"	117"	131"	131"
I.D. Boiler	J	55"	55"	60"	60"	72"	72"	78"	78"	92"	92"	106"	106"
Center to Water Column	K	42-1/2"	42-1/2"	45"	45"	51"	51"	54"	54"	61"	61"	68"	68"
Center to Lagging	L	30-1/2"	30-1/2"	33"	33"	39"	39"	42"	42"	49"	49"	56"	56"
Center to Auxiliary LWCO	LL	37-1/2"	37-1/2"	40"	40"	46"	46"	49"	49"	56"	56"	63"	63"
Base Outside	M	47-1/2"	47-1/2"	52-1/2"	52-1/2"	58-1/2"	58-1/2"	64"	64"	68"	68"	74-3/4"	74-3/4"
Base Inside	N	39-1/2"	39-1/2"	44-1/2"	44-1/2"	50-1/2"	50-1/2"	56"	56"	55"	55"	61-3/4"	61-3/4"
HEIGHTS													
Base to Boiler Centerline	F	44-1/2"	44-1/2"	46"	46"	54"	54"	56"	56"	65-1/2"	65-1/2"	71"	71"
Base to Vent Outlet	O	80-3/4"	80-3/4"	85"	85"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Rear Door Davit	OA	82-1/4"	82-1/4"	86-1/2"	86-1/2"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Steam Outlet	P	78-3/8"	78-3/8"	82-3/8"	82-3/8"	96-1/4"	96-1/4"	101-1/2"	101-1/2"	118"	118"	130-5/8"	130-5/8"
Base Frame	Q	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
Base to Bottom Boiler	R	16"	16"	16"	16"	17"	17"	17"	17"	19"	19"	17-1/2"	17-1/2"
CONNECTIONS													
Chemical Feed	G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Feedwater Inlet (Both Sides)	S	1-1/4"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
Steam Nozzle (15 psig) 150 LB. FLG.	Y	8"	8"	8"	10"	10"	12"	12"	12"	12"	12"	12"	12"
Steam Nozzle (150 psig) 300 LB. FLG.	Y	4"	4"	4"	4"	6"	6"	6"	6"	8"	8"	8"	8"
Drain — Front & Rear (15 psig)	W	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Blowdown-Front & Rear (150 psig)	W	1-1/4"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"
Surface Blowoff (150 psig only)	T	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Vent Stack Diameter (Flanged)	BB	16"	16"	16"	16"	20"	20"	20"	20"	24"	24"	24"	24"
Flange to Center Vent	CC	9-1/8"	9-1/8"	9-1/8"	9-1/8"	10-5/8"	10-5/8"	10-5/8"	10-5/8"	12-5/8"	12-5/8"	12-5/8"	12-5/8"
MINIMUM CLEARANCES													
Rear Door Swing	DD	34"	34"	36"	36"	43"	43"	46"	46"	53"	53"	60"	60"
Tube Removal — Front	GG	95"	121"	119"	160"	122"	148"	149"	165"	146"	179"	170"	192"
Tube Removal — Rear	HH	96-1/2"	122-1/2"	120-1/2"	161-1/2"	126-1/2"	152-1/2"	150-1/2"	166-1/2"	148-1/2"	181-1/2"	172-1/2"	194-1/2"
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:													
Front of Boiler	RF	257"	309"	307"	389"	326"	378"	385"	417"	395"	461"	450"	494"
Rear of Boiler (3-Pass)	RR	303-1/2"	355-1/2"	351-1/2"	441"	371"	423"	427"	468-1/2"	441-1/2"	510"	492"	539"
Rear of Boiler (4-Pass)	RR	303-1/2"	355-1/2"	351-1/2"	441"	371"	429-1/2"	436-1/2"	473-1/2"	444"	510"	495"	544-1/2"
Thru Window or Door (3-Pass)	RD	237"	263"	263"	311-1/2"	283-1/2"	309-1/2"	315-1/2"	341"	340"	375-1/2"	373-1/2"	398-1/2"
Thru Window or Door (4-Pass)	RD	237"	263"	263"	311-1/2"	283-1/2"	316"	325"	346"	342-1/2"	375-1/2"	376-1/2"	404"
WEIGHTS													
Normal Water Weight (lbs)	—	5,140	6,515	7,184	9,612	10,175	12,278	13,192	14,593	17,870	21,780	26,638	30,026
Shipping Weight — (15 psig) (lbs)	—	10,123	11,303	11,931	14,106	16,958	19,051	22,344	23,918	28,934	33,189	41,179	45,226
Shipping Weight — (150 psig) (lbs)	—	10,877	12,220	13,112	15,637	17,613	20,404	25,344	27,175	31,990	36,780	45,724	50,244
Shipping Weight — (200 psig) (lbs)	—	11,420	12,850	14,000	16,575	19,400	22,400	25,810	25,740	33,710	39,100	50,025	55,000

NOTE: Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for actual option requirements.

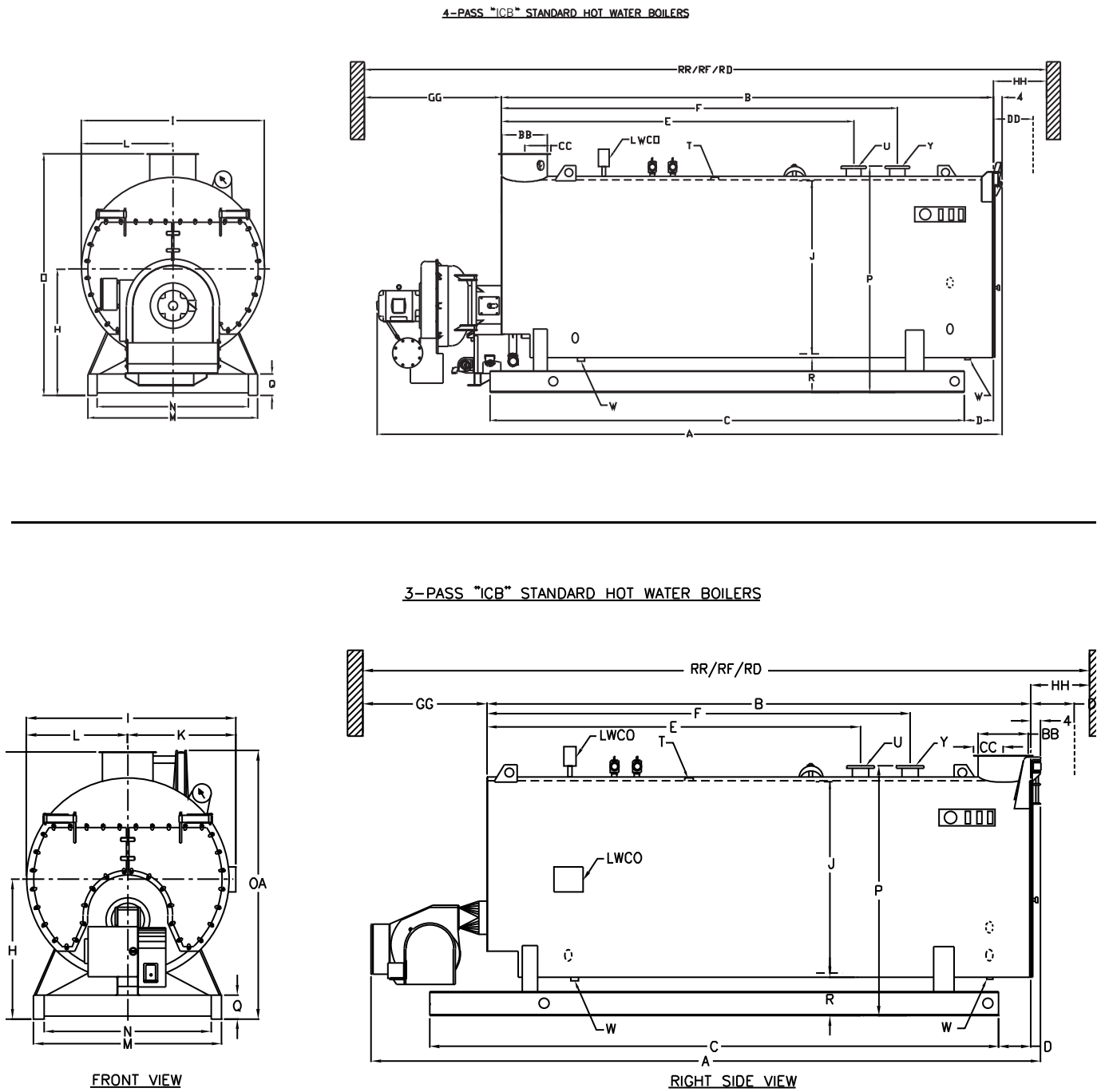


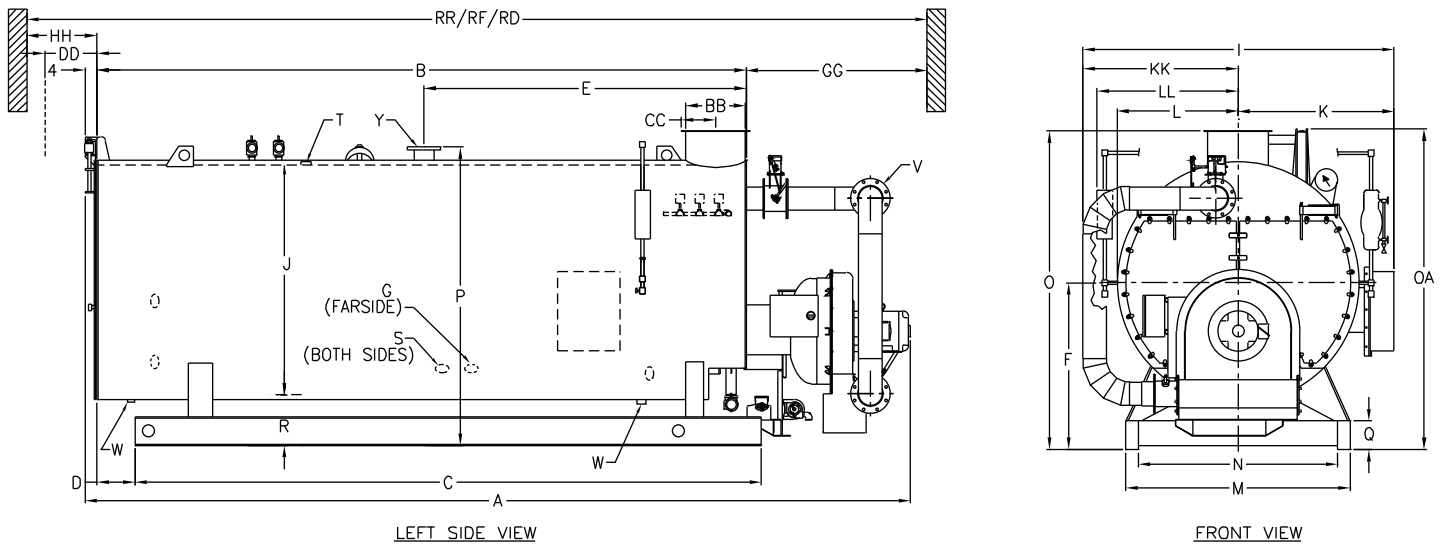
Figure 2. Model ICB Hot Water Boiler Dimensions, 4-pass and 3-pass (optional)

Table 10. Model ICB Hot Water Boiler Dimensions, 4-Pass and 3-Pass

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
LENGTHS													
Overall (3-Pass)	A	171"	197"	195"	243-1/2"	208-1/2"	234-1/2"	237-1/2"	263"	255"	290-1/2"	281-1/2"	306-1/2"
Overall (4-Pass)	A	171"	197"	195"	243-1/2"	208-1/2"	241"	247"	268"	257-1/2"	290-1/2"	284-1/2"	312"
Shell	B	127-7/8"	153-7/8"	151-7/8"	192-7/8"	160-7/8"	186-7/8"	189-7/8"	205-7/8"	195-3/4"	228-3/4"	219-7/8"	241-7/8"
Base Frame	C	124-3/8"	150-3/8"	148-3/8"	189-3/8"	157-3/8"	183-3/8"	184-3/8"	200-3/8"	187-1/4"	220-1/4"	211-3/8"	233-3/8"
Base Frame to Rear Flange	D	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	14-1/2"	14-1/2"	14-1/2"	14-1/2"
Flange to Return	E	82"	98"	95-5/8"	136-5/8"	101-5/8"	115-5/8"	117-5/8"	132-5/8"	125-1/2"	143-1/2"	139-1/2"	161-1/2"
Flange to Outlet	F	97-1/2"	123"	120-5/8"	161-5/8"	127-5/8"	141-5/8"	143-5/8"	158-5/8"	152-1/2"	175"	171"	193"
WIDTHS													
Overall	I	65"	65"	70"	70"	82"	82"	88"	88"	102"	102"	116"	116"
I.D. Boiler	J	55"	55"	60"	60"	72"	72"	78"	78"	92"	92"	106"	106"
Center to LWCO Controller	K	34-1/2"	34-1/2"	37"	37"	43"	43"	46"	46"	53"	53"	60"	60"
Base Outside	M	47-1/2"	47-1/2"	52-1/2"	52-1/2"	58-1/2"	58-1/2"	64"	64"	68"	68"	74-3/4"	74-3/4"
Base Inside	N	39-1/2"	39-1/2"	44-1/2"	44-1/2"	50-1/2"	50-1/2"	56"	56"	55"	55"	61-3/4"	61-3/4"
HEIGHTS													
Base to Boiler Centerline	H	44-1/2"	44-1/2"	46"	46"	54"	54"	56"	56"	65-1/2"	65-1/2"	71"	71"
Base to Vent Outlet	O	80-3/4"	80-3/4"	85"	85"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Rear Door Davit	OA	82-1/4"	82-1/4"	86-1/2"	86-1/2"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Return/Outlet	P	78-3/8"	78-3/8"	82-3/8"	82-3/8"	96-1/4"	96-1/4"	101-1/2"	101-1/2"	118"	118"	130-5/8"	130-5/8"
Base Frame	Q	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
Base to Bottom Boiler	R	16"	16"	16"	16"	17"	17"	17"	17"	19"	19"	17-1/2"	17-1/2"
CONNECTIONS													
Water Return 150# flange	U	4"	6"	6"	6"	8"	8"	8"	10"	10"	12"	12"	12"
Water Outlet 150# flange	Y	4"	6"	6"	6"	8"	8"	8"	10"	10"	12"	12"	12"
Drain — Front & Rear	W	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Air Vent	T	1-1/4"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"
Vent Stack Diameter (Flanged)	BB	16"	16"	16"	16"	20"	20"	20"	20"	24"	24"	24"	24"
Flange to Center Vent	CC	9-1/8"	9-1/8"	9-1/8"	9-1/8"	10-5/8"	10-5/8"	10-5/8"	10-5/8"	12-5/8"	12-5/8"	12-5/8"	12-5/8"
MINIMUM CLEARANCES													
Rear Door Swing	DD	34"	34"	36"	36"	43"	43"	46"	46"	53"	53"	60"	60"
Tube Removal — Front	GG	95"	121"	119"	160"	122"	148"	149"	165"	146"	179"	170"	192"
Tube Removal — Rear	HH	96-1/2"	122-1/2"	120-1/2"	161-1/2"	126-1/2"	152-1/2"	150-1/2"	166-1/2"	148-1/2"	181-1/2"	172-1/2"	194-1/2"
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:													
Front of Boiler	RF	257"	309"	307"	389"	326"	378"	385"	417"	395"	461"	450"	494"
Rear of Boiler (3-Pass)	RR	303-1/2"	355-1/2"	351-1/2"	441"	371"	423"	427"	468-1/2"	441-1/2"	510"	492"	539"
Rear of Boiler (4-Pass)	RR	303-1/2"	355-1/2"	351-1/2"	441"	371"	429-1/2"	436-1/2"	473-1/2"	444"	510"	495"	544-1/2"
Thru Window or Door (3-Pass)	RD	237"	263"	263"	311-1/2"	283-1/2"	309-1/2"	315-1/2"	341"	340"	375-1/2"	373-1/2"	398-1/2"
Thru Window or Door (4-Pass)	RD	237"	263"	263"	311-1/2"	283-1/2"	316"	325"	346"	342-1/2"	375-1/2"	376-1/2"	404"
WEIGHTS													
Normal Water Weight (lbs)	—	5,848	7,397	8,378	11,180	11,940	14,380	16,190	17,884	22,572	27,431	32,991	37,120
Shipping Weight — (30psig) (lbs)	—	10,123	11,303	11,931	14,106	16,958	19,051	22,344	23,918	28,934	33,189	41,179	45,226
Shipping Weight — (125psig) (lbs)	—	10,238	11,418	13,153	15,679	18,609	21,270	24,522	26,631	32,175	36,972	47,122	51,782

NOTE: Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for actual option requirements.

4-PASS "ICB" LOW NOX STEAM BOILERS
DIMENSIONS & RATINGS



3-PASS "ICB" LOW NOX STEAM BOILERS
DIMENSIONS & RATINGS

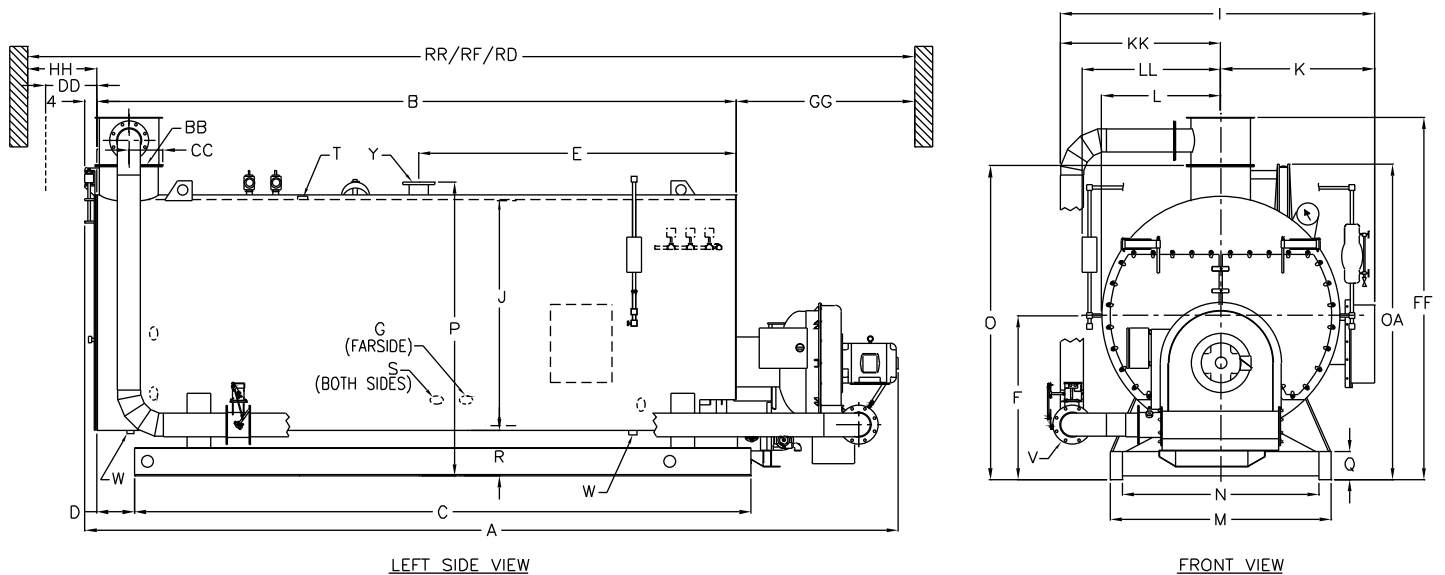


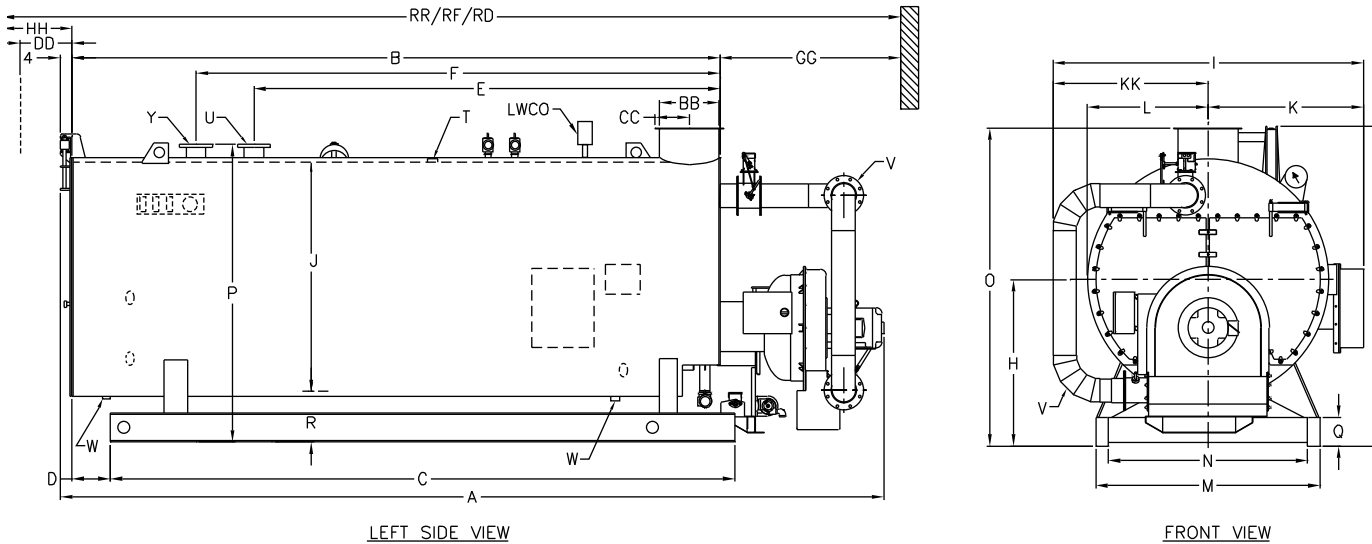
Figure 3. Model ICB-LE Steam Boiler Dimensions, 4-pass and 3-pass (optional)

Table 11. Model ICB-LE Steam Boiler Dimensions, 4-Pass and 3-Pass

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
LENGTHS													
Overall (3-Pass)	A	173"	199"	199"	240"	215"	241"	247"	268"	257-1/2"	290-1/2"	285-1/2"	312"
Overall (4-Pass)	A	173"	201"	199"	240"	215"	244"	252"	270-1/2"	257-1/2"	293-1/2"	290"	312"
Shell	B	127-7/8"	153-7/8"	151-7/8"	192-7/8"	160-7/8"	186-7/8"	189-7/8"	205-7/8"	195-3/4"	228-3/4"	219-7/8"	241-7/8"
Base Frame	C	124-3/8"	150-3/8"	148-3/8"	189-3/8"	157-3/8"	183-3/8"	184-3/8"	200-3/8"	187-1/4"	220-1/4"	211-3/8"	233-3/8"
Base Frame to Rear Flange	D	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	14-1/2"	14-1/2"	14-1/2"	14-1/2"
Flange to Steam Nozzle	E	55-7/8"	61-7/8"	65-7/8"	77-7/8"	68-7/8"	80-7/8"	78-7/8"	94-7/8"	82-3/4"	106-3/4"	98-7/8"	111-7/8"
WIDTHS													
Overall (3-Pass)	I	87"	87"	92"	92"	104"	106"	112"	112"	126"	128"	142"	142"
Overall (4-Pass)	I	82"	82"	87"	87"	100"	100"	109"	109"	122"	122"	133"	133"
I.D. Boiler	J	55"	55"	60"	60"	72"	72"	78"	78"	92"	92"	106"	106"
Center to Water Column	K	44-1/2"	44-1/2"	47"	47"	53"	53"	56"	56"	63"	63"	70"	70"
Center to Outside FGR Pipe (3-Pass)	KK	42-1/2"	42-1/2"	45"	45"	51"	53"	56"	56"	63"	65"	72"	72"
Center to Outside FGR Pipe (4-Pass)	KK	37"	37"	37"	37"	47"	47"	53"	53"	59"	59"	59"	59"
FGR Duct Size (3-Pass)	V	6"	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"
FGR Duct Size (4-Pass)	V	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"	10"
Center to Lagging	L	30-1/2"	30-1/2"	33"	33"	39"	39"	42"	42"	49"	49"	56"	56"
Center to Auxiliary LWCO	LL	37-1/2"	37-1/2"	40"	40"	46"	46"	49"	49"	56"	56"	63"	63"
Base Outside	M	47-1/2"	47-1/2"	52-1/2"	52-1/2"	58-1/2"	58-1/2"	64"	64"	68"	68"	74-3/4"	74-3/4"
Base Inside	N	39-1/2"	39-1/2"	44-1/2"	44-1/2"	50-1/2"	50-1/2"	56"	56"	55"	55"	61-3/4"	61-3/4"
HEIGHTS													
Base to Boiler Centerline	F	44-1/2"	44-1/2"	46"	46"	54"	54"	56"	56"	65-1/2"	65-1/2"	71"	71"
Base to Vent Outlet	O	80-3/4"	80-3/4"	85"	85"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Rear Door Davit	OA	82-1/4"	82-1/4"	86-1/2"	86-1/2"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to FGR Stack Extension (3-Pass Only)	FF	94-3/4"	94-3/4"	99"	99"	118"	118"	123"	123"	142-1/2"	142-1/2"	155-5/8"	155-5/8"
Base to Steam Outlet	P	78-3/8"	78-3/8"	82-3/8"	82-3/8"	96-1/4"	96-1/4"	101-1/2"	101-1/2"	118"	118"	130-5/8"	130-5/8"
Base Frame	Q	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
Base to Bottom Boiler	R	16"	16"	16"	16"	17"	17"	17"	17"	19"	19"	17-1/2"	17-1/2"
CONNECTIONS													
Chemical Feed	G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Feedwater Inlet (Both Sides)	S	1-1/4"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
Steam Nozzle (15 psig) 150 LB. FLG.	Y	8"	8"	8"	10"	10"	12"	12"	12"	12"	12"	12"	12"
Steam Nozzle (150 psig) 300 LB. FLG.	Y	4"	4"	4"	4"	6"	6"	6"	6"	8"	8"	8"	8"
Drain — Front & Rear (15 psig)	W	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Blowdown-Front & Rear(150 psig)	W	1-1/4"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"
Surface Blowoff (150 psig only)	T	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Vent Stack Diameter (Flanged)	BB	16"	16"	16"	16"	20"	20"	20"	20"	24"	24"	24"	24"
Flange to Center Vent	CC	9-1/8"	9-1/8"	9-1/8"	9-1/8"	10-5/8"	10-5/8"	10-5/8"	10-5/8"	12-5/8"	12-5/8"	12-5/8"	12-5/8"
MINIMUM CLEARANCES													
Rear Door Swing	DD	34"	34"	36"	36"	43"	43"	46"	46"	53"	53"	60"	60"
Tube Removal — Front	GG	95"	121"	119"	160"	122"	148"	149"	165"	146"	179"	170"	192"
Tube Removal — Rear	HH	96-1/2"	122-1/2"	120-1/2"	161-1/2"	126-1/2"	152-1/2"	150-1/2"	166-1/2"	148-1/2"	181-1/2"	172-1/2"	194-1/2"
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:													
Front of Boiler	RF	257"	309"	307"	389"	326"	378"	385"	417"	395"	461"	450"	494"
Rear of Boiler (3-Pass)	RR	305-1/2"	357-1/2"	355-1/2"	437-1/2"	377-1/2"	429-1/2"	436-1/2"	473-1/2"	444"	510"	496"	544-1/2"
Rear of Boiler (4-Pass)	RR	305-1/2"	359-1/2"	355-1/2"	437-1/2"	377-1/2"	432-1/2"	441-1/2"	476"	444"	513"	500-1/2"	544-1/2"
Thru Window or Door (3-Pass)	RD	239"	265"	267"	308"	290"	316"	325"	346"	342-1/2"	375-1/2"	376-1/2"	404"
Thru Window or Door (4-Pass)	RD	239"	267"	267"	308"	290"	319"	330"	348-1/2"	342-1/2"	378-1/2"	382"	404"
WEIGHTS													
Normal Water Weight	—	5,140	6,515	7,184	9,612	10,175	12,278	13,192	14,593	17,870	21,780	26,638	30,026
Shipping Weight — (15psig)	—	10,123	11,303	11,931	14,106	16,958	19,051	22,344	23,918	28,934	33,189	41,179	45,226
Shipping Weight — (150psig)	—	10,877	12,220	13,112	15,637	17,613	20,404	25,344	27,175	31,990	36,780	45,724	50,244

NOTE: Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for actual option requirements.

4-PASS "ICB" LOW NOX HOT WATER BOILERS
DIMENSIONS & RATINGS



3-PASS "ICB" LOW NOX HOT WATER BOILERS
DIMENSIONS & RATINGS

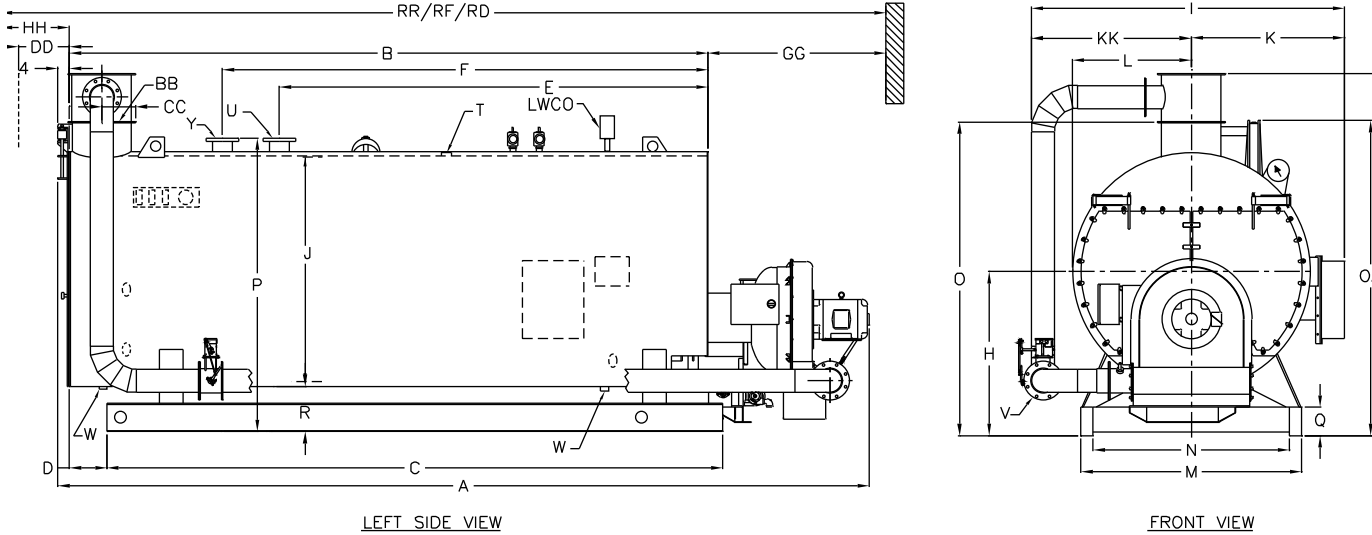


Figure 4. Model ICB-LE Hot Water Boiler Dimensions, 4-pass and 3-pass (optional)

Table 12. Model ICB-LE Hot Water Boiler Dimensions, 4-Pass and 3-Pass

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
LENGTHS													
Overall (3-Pass)	A	173"	199"	199"	240"	215"	241"	247"	268"	257-1/2"	290-1/2"	285-1/2"	312"
Overall (4-Pass)	A	173"	201"	199"	240"	215"	244"	252"	270-1/2"	257-1/2"	293-1/2"	290"	312"
Shell	B	127-7/8"	153-7/8"	151-7/8"	192-7/8"	160-7/8"	186-7/8"	189-7/8"	205-7/8"	195-3/4"	228-3/4"	219-7/8"	241-7/8"
Base Frame	C	124-3/8"	150-3/8"	148-3/8"	189-3/8"	157-3/8"	183-3/8"	184-3/8"	200-3/8"	187-1/4"	220-1/4"	211-3/8"	233-3/8"
Base Frame to Rear Flange	D	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	9-1/2"	14-1/2"	14-1/2"	14-1/2"	14-1/2"
Flange to Return	E	82"	98"	95-5/8"	136-5/8"	101-5/8"	115-5/8"	117-5/8"	132-5/8"	125-1/2"	143-1/2"	139-1/2"	161-1/2"
Flange to Outlet	F	97-1/2"	123"	120-5/8"	161-5/8"	127-5/8"	141-5/8"	143-5/8"	158-5/8"	152-1/2"	175"	171"	193"
WIDTHS													
Overall (3-Pass)	I	87"	87"	92"	92"	104"	106"	112"	112"	126"	128"	142"	142"
Overall (4-Pass)	I	81-1/2"	81-1/2"	84"	84"	100"	100"	109"	109"	122"	122"	129"	129"
I.D. Boiler	J	55"	55"	60"	60"	72"	72"	78"	78"	92"	92"	106"	106"
Center to Control Panel	K	44-1/2"	44-1/2"	47"	47"	53"	53"	56"	56"	63"	63"	70"	70"
Center to Outside FGR Pipe (3-Pass)	KK	42-1/2"	42-1/2"	45"	45"	51"	53"	56"	56"	63"	65"	72"	72"
Center to Outside FGR Pipe (4-Pass)	KK	37"	37"	37"	37"	47"	47"	53"	53"	59"	59"	59"	59"
FGR Duct Size (3-Pass)	V	6"	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"
FGR Duct Size (4-Pass)	V	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"	10"
Center to Lagging	L	30-1/2"	30-1/2"	33"	33"	39"	39"	42"	42"	49"	49"	56"	56"
Base Outside	M	47-1/2"	47-1/2"	52-1/2"	52-1/2"	58-1/2"	58-1/2"	64"	64"	68"	68"	74-3/4"	74-3/4"
Base Inside	N	39-1/2"	39-1/2"	44-1/2"	44-1/2"	50-1/2"	50-1/2"	56"	56"	55"	55"	61-3/4"	61-3/4"
HEIGHTS													
Base to Boiler Centerline	H	44-1/2"	44-1/2"	46"	46"	54"	54"	56"	56"	65-1/2"	65-1/2"	71"	71"
Base to Vent Outlet	O	80-3/4"	80-3/4"	85"	85"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to Rear Door Davit	OA	82-1/4"	82-1/4"	86-1/2"	86-1/2"	101"	101"	106"	106"	122-1/2"	122-1/2"	135-5/8"	135-5/8"
Base to FGR Stack Extension (3-Pass Only)	FF	94-3/4"	94-3/4"	99"	99"	118"	118"	123"	123"	142-1/2"	142-1/2"	155-5/8"	155-5/8"
Base to Return/Outlet	P	78-3/8"	78-3/8"	82-3/8"	82-3/8"	96-1/4"	96-1/4"	101-1/2"	101-1/2"	118"	118"	130-5/8"	130-5/8"
Base Frame	Q	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
Base to Bottom Boiler	R	16"	16"	16"	16"	17"	17"	17"	17"	19"	19"	17-1/2"	17-1/2"
CONNECTIONS													
Water Return	U	4"	6"	6"	6"	8"	8"	8"	10"	10"	12"	12"	12"
Water Outlet	Y	4"	6"	6"	6"	8"	8"	8"	10"	10"	12"	12"	12"
Drain — Front & Rear	W	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Air Vent	T	1-1/4"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"
Vent Stack Diameter (Flanged)	BB	16"	16"	16"	16"	20"	20"	20"	20"	24"	24"	24"	24"
Flange to Center Vent	CC	9-1/8"	9-1/8"	9-1/8"	9-1/8"	10-5/8"	10-5/8"	10-5/8"	10-5/8"	12-5/8"	12-5/8"	12-5/8"	12-5/8"
MINIMUM CLEARANCES													
Rear Door Swing	DD	34"	34"	36"	36"	43"	43"	46"	46"	53"	53"	60"	60"
Tube Removal — Front	GG	95"	121"	119"	160"	122"	148"	149"	165"	146"	179"	170"	192"
Tube Removal — Rear	HH	96-1/2"	122-1/2"	120-1/2"	161-1/2"	126-1/2"	152-1/2"	150-1/2"	166-1/2"	148-1/2"	181-1/2"	172-1/2"	194-1/2"
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:													
Front of Boiler	RF	257"	309"	307"	389"	326"	378"	385"	417"	395"	461"	450"	494"
Rear of Boiler (3-Pass)	RR	305-1/2"	357-1/2"	355-1/2"	437-1/2"	377-1/2"	429-1/2"	436-1/2"	473-1/2"	444"	510"	496"	544-1/2"
Rear of Boiler (4-Pass)	RR	305-1/2"	359-1/2"	355-1/2"	437-1/2"	377-1/2"	432-1/2"	441-1/2"	476"	444"	513"	500-1/2"	544-1/2"
Thru Window or Door (3-Pass)	RD	239"	265"	267"	308"	290"	316"	325"	346"	342-1/2"	375-1/2"	376-1/2"	404"
Thru Window or Door (4-Pass)	RD	239"	267"	267"	308"	290"	319"	330"	348-1/2"	342-1/2"	378-1/2"	382"	404"
WEIGHTS													
Normal Water Weight (lbs)	—	5,848	7,397	8,378	11,180	11,940	14,380	16,190	17,884	22,572	27,431	32,991	37,120
Shipping Weight — (30psig) (lbs)	—	10,123	11,303	11,931	14,106	16,958	19,051	22,344	23,918	28,934	33,189	41,179	45,226
Shipping Weight — (125psig) (lbs)	—	10,238	11,418	13,153	15,679	18,609	21,270	24,522	26,631	32,175	36,972	47,122	51,782

NOTE: Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for actual option requirements.



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