

X SERIES

STEAM BOILERS



- Traditional On-Off Family provides rapid steam and hot water from cold start to meet volume batch, shift and time-of-day process and operational demands.
- No need to wait hours to meet your needs.
- Reduce energy consumption.
- No expensive backup boiler system necessary.
- An industry-leading breakthrough in rapid-response, compactness and low maintenance!

STEAM BOILER RATINGS, CAPACITIES, WEIGHTS

BOILER HORSE POWER	HOURLY GAS INPUT (1,000BTU)	GROSS HOURLY OUTPUT (1)	FUEL OPTIONS	POUNDS OF STEAM PER HOUR (1)	LOW NO _x EMISSIONS OPTION	NORMAL WATER CAPACITY (U.S. GAL)	FLOODED WATER WEIGHT (LBS)	SHIPPING WEIGHT (POUNDS)	
								15 PSI	150 PSI
10	418	335	NG, LP and BIO	345	30 PPM	125	1,301	2,260	2,330
15	628	502	NG, LP and BIO	518	30 PPM	125	1,273	2,380	2,400
20	837	670	NG, LP and BIO	690	30 PPM	123	1,254	2,430	2,450
30	1,255	1,004	NG, LP and BIO	1,035	30 PPM	192	1,966	2,910	2,960
40	1,674	1,339	NG, LP and BIO	1,380	30 PPM	186	1,919	3,120	3,120
50	2,092	1,674	NG, LP and BIO	1,725	30 PPM	180	1,863	3,250	3,250
60	2,511	2,009	NG, LP and BIO	2,070	30 PPM	175	1,825	3,330	3,330
70	2,929	2,343	NG, LP and BIO	2,415	30 PPM	265	2,702	4,200	4,240
80	3,348	2,678	NG, LP and BIO	2,760	30 PPM	259	2,655	4,380	4,420
100	4,184	3,348	NG, LP and BIO	3,450	30 PPM	374	3,655	5,020	5,480
125	5,231	4,184	NG, LP and BIO	4,313	30 PPM	333	3,519	5,430	5,800
150	6,277	5,021	NG, LP and BIO	5,175	30 PPM	435	4,662	7,230	7,490
175	7,323	5,858	NG, LP and BIO	6,038	30 PPM	406	4,541	7,480	7,740
200	8,369	6,695	NG, LP and BIO	6,900	30 PPM	553	5,853	8,980	9,310
250	10,461	8,369	NG, LP and BIO	8,625	30 PPM	679	7,238	10,230	10,550
300	12,553	10,043	NG, LP and BIO	10,350	30 PPM	830	8,982	11,200	12,320
350	14,645	11,716	NG, LP and BIO	12,075	30 PPM	779	8,753	11,740	12,990
400	16,738	13,390	NG, LP and BIO	13,800	30 PPM	958	10,707	13,750	14,610
500	20,922	16,738	NG, LP and BIO	17,250	30 PPM	1,083	12,596	16,690	17,310
600	25,107	20,085	NG, LP and BIO	20,700	30 PPM	1,233	14,676	17,410	18,990
700	29,291	23,433	NG, LP and BIO	24,150	30 PPM	1,418	16,987	22,330	22,960
800	33,475	26,780	NG, LP and BIO	27,600	30 PPM	1,622	19,521	26,300	26,930
900	37,659	30,127	NG, LP and BIO	31,050	30 PPM	2,352	27,116	31,770	32,865

(1) From 212° F. feed water to atmospheric pressure.

GAS REQUIREMENTS

Main and pilot gas pressure regulators are supplied with each boiler. Refer to the chart below for gas pressure requirements. Pressures shown are with the unit running. For pressure above 10 PSI, install a second regulator to reduce the pressure to the standard range.

BOILER HORSEPOWER	PRESSURE REQUIRED AT GAS TRAIN INLET
	STD RANGE
10-20	8" to 1 PSI
30-80	12" to 1 PSI
100-150	16" to 1 PSI
175-200	20" to 1 PSI
250	2 to 10 PSI
300-350	1.5 TO 10 PSI
400-900	2 TO 10 PSI

(3) Special gas trains required at additional cost. For low NO_x application with low gas pressure, consult the factory.

ELECTRICAL REQUIREMENTS

A single incoming power connection is required to the junction box provided at the hinge of all boilers. Boilers are wired for jobsite supply power characteristics.

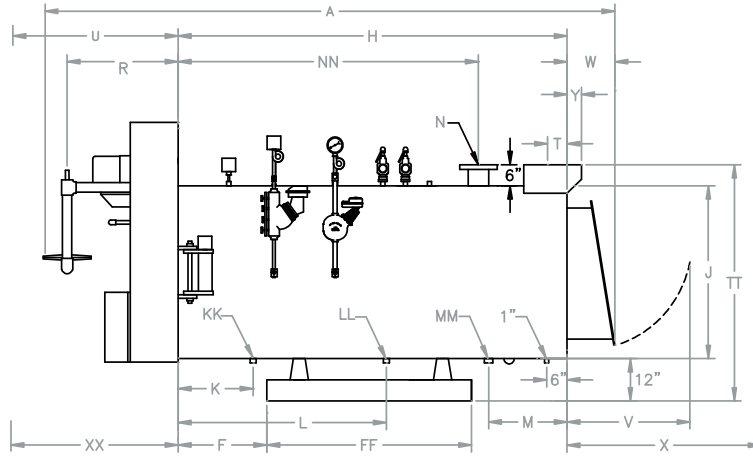
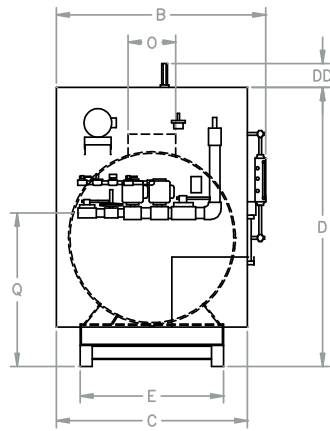
STACK REQUIREMENTS

Design stack to provide -.02" to -.04" water column draft at flue outlet. Smooth transitions and bends are required. Maximum stack weight on boiler should be 1,000 pounds on 10 to 80 HP and 2000 pounds for 100 to 800 HP units.

AIR REQUIREMENTS

Provide 1/2 square foot of free air inlet area per 1,000,000 BTU input to the burner. Cross ventilation is preferred in lieu of a single opening.

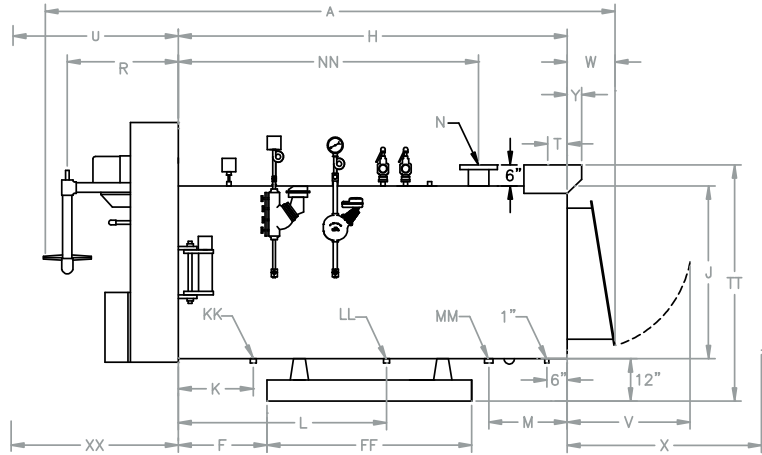
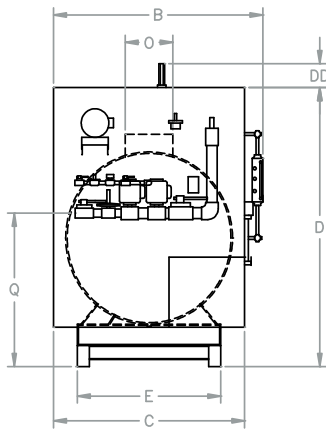
Sellers Fits Where Others Won't



STEAM BOILER DIMENSIONS												
HORSEPOWER		10	15	20	30	40	50	60	70	80	100	125
OVERALL DIMENSIONS:												
LENGTH	A	141	141	141	142	144	143	145	149	149	160	160
WIDTH	B	36	36	36	42	42	42	42	48	48	55	55
BURNER WIDTH	C	30	30	30	35	35	35	35	41	41	47	47
BURNER HEIGHT	D	56	56	56	61	65	65	65	70	70	75	75
SECONDARY AIR CAP HEIGHT	DD	6	6	6	6	6	6	6	6	6	6	
BASE:												
WIDTH	E	24	24	24	24	24	24	24	30	30	36	36
LOCATION	F	20	20	20	20	20	20	20	20	20	26	26
LENGTH	FF	60	60	60	60	60	60	60	60	60	60	60
SHELL:												
LENGTH	H	108	108	108	108	108	108	108	108	108	114	114
DIAMETER INSIDE	J	24	24	24	30	30	30	30	36	36	42	42
SHELL CONNECTIONS:												
BLOWDOWN LOCATION	K	16	16	16	16	16	16	16	16	16	22	22
MANUAL FILL SIZE	LL	-	-	-	-	-	-	-	-	-	-	-
MANUAL FILL LOCATION	L	-	-	-	-	-	-	-	-	-	-	-
FEEDWATER INLET SIZE	MM	1	1	1	1	1	1	1	1.25	1.25	1.25	1.25
FEEDWATER INLET LOCATION	M	23	23	23	23	23	23	23	23	23	23	23
STEAM OUTLET LOCATION	NN	82	82	82	82	82	82	82	82	82	88	88
LOW PRESSURE (15 PSI) BOILERS:												
STEAM OUTLET SIZE (NOTE 3)	N	3	3	4f	4f	6f	6f	6f	8f	8f	8f	8f
BLOWDOWN SIZE	KK	.75	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5
HIGH PRESSURE (150 PSI) BOILERS:												
STEAM OUTLET SIZE (NOTE 3)	N	1.5	1.5	1.5	2	3	3	3	3	3	4F	4F
BLOWDOWN SIZE	KK	1	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25
GAS CONNECTIONS:												
VERTICAL LOCATION (NOTE 10)	Q	33	33	33	36	36	36	36	39	39	42	42
HORIZONTAL LOCATION (NOTE 4)	R	20	20	20	20	20	20	22	24	24	28	28
PILOT BURNER VALVE IPS	S	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
FLUE CONNECTIONS:												
FLUE SIZE (NOTES 6 & 9)	O	10	10	10	10	10	10	10	12	12	14	14
FLUE LOCATION	T	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	4.75	4.75
FLUE HEIGHT	TT	43	43	43	49	49	49	49	49	55	55	61
INSTALLATION CLEARANCES:												
COMBUSTION ASSEMBLY SWING	U	35	35	35	39	39	39	40	46	46	53	53
RELIEF DOOR SWING (NOTE 7)	V	18	18	18	21.5	21.5	21.5	21.5	25.5	25.5	29.5	29.5
TUBE REMOVAL, FRONT (NOTE 8)	XX	73	73	73	73	73	73	73	73	73	66	66
TUBE REMOVAL, REAR (NOTE 8)	X	71	71	71	71	71	71	71	71	71	72	72
RELIEF DOOR ASSEMBLY	VV	10	10	10	11	11	11	11	12	12	13	13
FLUE OUTLET PROJECTION	Y										2.25	2.25
BLOWER MOTOR:												
BLOWER HORSEPOWER		1	1.5	1.5	2	3	5	5	5	5	7.5	7.5
LOW NO _x BLOWER		TBD	TBD	TBD	TBD	3	5	7.5	7.5	7.5	7.5	10

See Notes on Page 21.

Sellers Fits Where Others Won't



STEAM BOILER DIMENSIONS													
HORSEPOWER		150	175	200	250	300	350	400	500	600	700	800	900
OVERALL DIMENSIONS:													
LENGTH	A	167	167	168	194	197	211	214	215	218	220	228	228
WIDTH	B	61	61	67	67	75	77	83	90	96	102	108	114
BURNER WIDTH	C	56	56	62	62	72	76	82	90	96	102	108	108
BURNER HEIGHT	D	79	79	87	87	90	102	107	111	116	124	129	131
SECONDARY AIR CAP HEIGHT	DD												N/A
BASE:													
WIDTH	E	42	42	48	48	54	54	57	63	66	72	78	84
LOCATION	F	26	26	26	3	3	3	3	3	3	3	3	3
LENGTH	FF	60	60	60	104	104	104	104	104	104	104	104	104
SHELL:													
LENGTH	H	114	114	114	140	140	140	140	140	140	140	140	140
DIAMETER INSIDE	J	48	48	54	54	60	60	66	72	78	84	90	96
SHELL CONNECTIONS:													
BLOWDOWN LOCATION	K	22	22	22	34	34	34	34	34	34	34	34	34
MANUAL FILL SIZE	LL	1.5	1.5	1.5	1.5	2	2	2	2	2.5	2.5	2.5	2.5
MANUAL FILL LOCATION	L	61	61	61	82	82	82	82	82	82	82	82	82
FEEDWATER INLET SIZE	MM	1.5	1.5	1.5	1.5	2	2	2	2	2.5	2.5	2.5	2.5
FEEDWATER INLET LOCATION	M	23	23	23	28	28	28	28	28	28	28	28	28
STEAM OUTLET LOCATION	NN	88	88	88	111	111	111	111	111	111	111	111	111
LOW PRESSURE (15 PSI) BOILERS:													
STEAM OUTLET SIZE (NOTE 3)	N	8f	10f	10f	10f	12f	12f	12f	12f	12f	12f	14f	14f
BLOWDOWN SIZE	KK	1.5	2	2	2	2	2	2	2	2	2	2	2
HIGH PRESSURE (150 PSI) BOILERS:													
STEAM OUTLET SIZE (NOTE 3)	N	4F	6F	6F	6F	6F	8F	8F	8F	8F	8F	10F	10F
BLOWDOWN SIZE	KK	1.25	1.25	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2
GAS CONNECTIONS:													
VERTICAL LOCATION (NOTE 10)	Q	48	48	48	48	48	48	48	48	48	48	48	48
HORIZONTAL LOCATION (NOTE 4)	R	32	32	32	34	34	48	50	50	50	50	56	56
PILOT BURNER VALVE IPS	S	0.75	0.75	0.75	0.75	1	1	1	1	1.25	1.25	1.25	1.25
FLUE CONNECTIONS:													
FLUE SIZE (NOTES 6 & 9)	O	16	16	18	18	20	20	20	24	24	28	28	-
FLUE LOCATION	T	3.75	2.75	2.75	5.75	4.5	3.5	2.5	1.5	-0.5	-1.5	-2.5	7
FLUE HEIGHT	TT	67	67	73	73	79	79	85	91	97	103	109	116
INSTALLATION CLEARANCES:													
COMBUSTION ASSEMBLY SWING	U	62	62	67	67	74	88	90	96	101	106	114	126
RELIEF DOOR SWING (NOTE 7)	V	35.5	35.5	40	40	43	43	46	50	48	50	52	60
TUBE REMOVAL, FRONT (NOTE 8)	XX	66	66	66	88	88	88	88	88	88	88	88	88
TUBE REMOVAL, REAR (NOTE 8)	X	72	72	72	90	90	90	90	90	90	90	90	82
RELIEF DOOR ASSEMBLY	VV	14	14	15	15	16	16	17	18	17	18	18	20
FLUE OUTLET PROJECTION	Y	4.25	6.25	6.25	4.25	8.5	10.5	12.5	14.5	18.5	20.5	22.5	22.5
BLOWER MOTOR:													
BLOWER HORSEPOWER		7.5	7.5	10	15	15	15	15	20	20	25	25	40
LOW NO _x BLOWER		10	10	15	20	20	20	20	25	30	30	30	40

See Notes on Page 21.

NOTES

- Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
- Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
- Openings are threaded unless indicated:
f = Class 150 ASA flange. F = Class 300 ASA flange.
Threaded couplings project 2" or less.
- Provide "R + 12" clearance from the right side of burner box to the right side wall to open hinged burner.
- Gas train may change with gas type and pressure.
- Outside diameter and dimensions are shown. (see note 10)
- Provide "J + 7" clearance from the rear end of the shell to swing the hinged back plate on 200 HP and larger boilers.
- Tubes may be removed from the front or rear.
- Flue outlet dimension on 400 HP and larger boilers are inside diameter with angle iron flanged connection.
- Horizontal gas train dimension will vary based on required gas train components and addition of Low NO_x option. Gas train may extend beyond burner manifold dimension C.

MODEL NUMBER DESIGNATIONS

PRESSURE	15 PSI	150 PSI
SIZE	MODEL 15C MODEL 15SR	MODEL 77C MODEL 105E
10-100 HP 125-900 HP		

STANDARD EQUIPMENT FURNISHED

Pressure Vessel: 15 PSI ASME stamped with "H" cloverleaf. 150 PSI ASME stamped with "S" cloverleaf.

Manholes: Standard on 400 HP or larger low pressure boilers and 200 HP and larger high pressure boilers.

Handholes: Five (5) furnished, 3-1/2" x 4-1/2".

Energy X-tractors: High temperature stainless steel to provide high efficiency. Installed in each tube.

Insulation: 2" fiberglass with double painted steel jacket.

Relief Door: Gravity operated for rear access and safety.

Burner Assembly: Hinged to shell including:

- Blower assembly with drip proof motor.
- Air gas mixer.
- Individual burner nozzles.
- Air proving switch.
- Ignition transformer, spark and flame rods.
- Gas control trains with dual main shutoff cocks, pilot and main gas pressure regulators, gas volume adjustment and other components as follows:

Operating Pressure Control: Controls temperature.

High Limit Pressure Control: Manual reset limit control.

UL Labeled: Packaged boiler.

Low Water Cutoffs: MM157 with pump control switch. MM150-M secondary with manual reset.

Pressure Gauge: 4-1/2" dial type mounted on pigtail.

Lifting lugs: One or more provided on each boiler.

Base: Heavy duty structural steel skid.

Relief Valve(s): ASME rated for full boiler nozzle output at design pressure rating.

Flame observation ports: Two or more provided in combustion chamber to view burners.

Control Panel: With motor starter, control transformer with primary and secondary fuses, flame safeguard control (Honeywell RM7800L), six (6) indicating lights. Fireye E110 is optional.

OPTIONAL AGENCY APPROVALS

- Factory Mutual
- CSD-1
- NFPA-85