Sellers® MANUFACTURING CO.

SPECIFICATION CATALOG

RAPID-RESPONSE GAS-FIRED BOILERS

- Cold Start to Steam in Under 20 Minutes
- Integrated UL Burner / Boiler
- 20 Year Pressure Vessel Warranty
- 5 Year Burner Warranty
- Low Maintenance Costs
- High Efficiency
- Small Footprint
- Low NOx Emissions

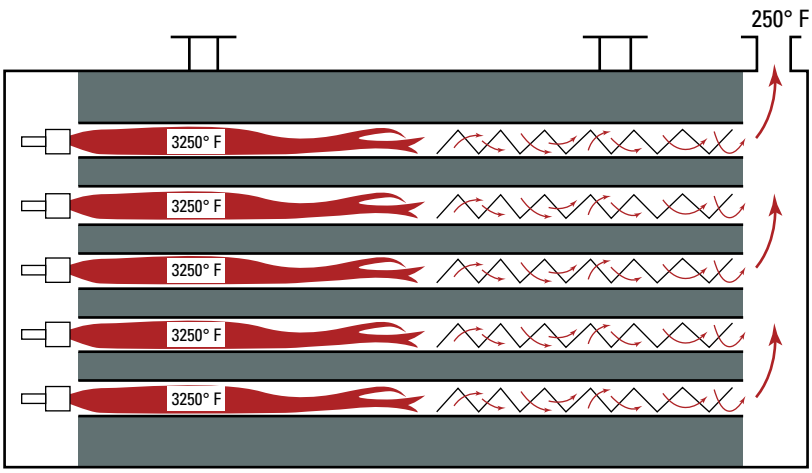
MADE IN THE USA

918 W. Walnut St. • Danville, KY 40422 • Phone: (859) 236-3181 • Fax: (859) 236-3184 • www.sellersmfg.com

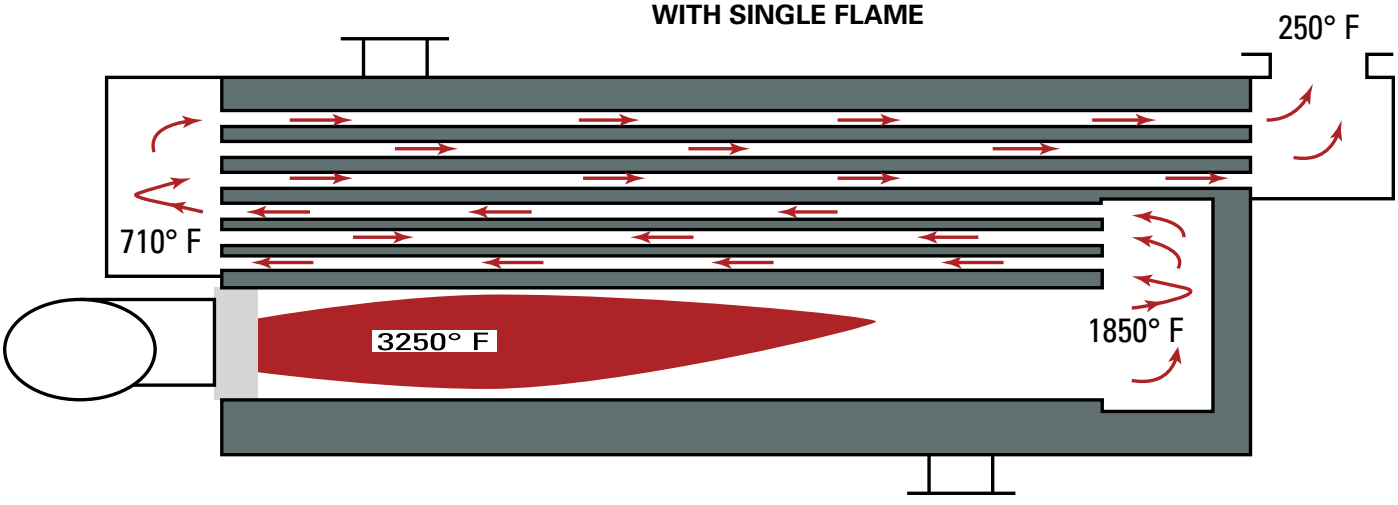
RAPID RESPONSE <20 MINUTE STEAM

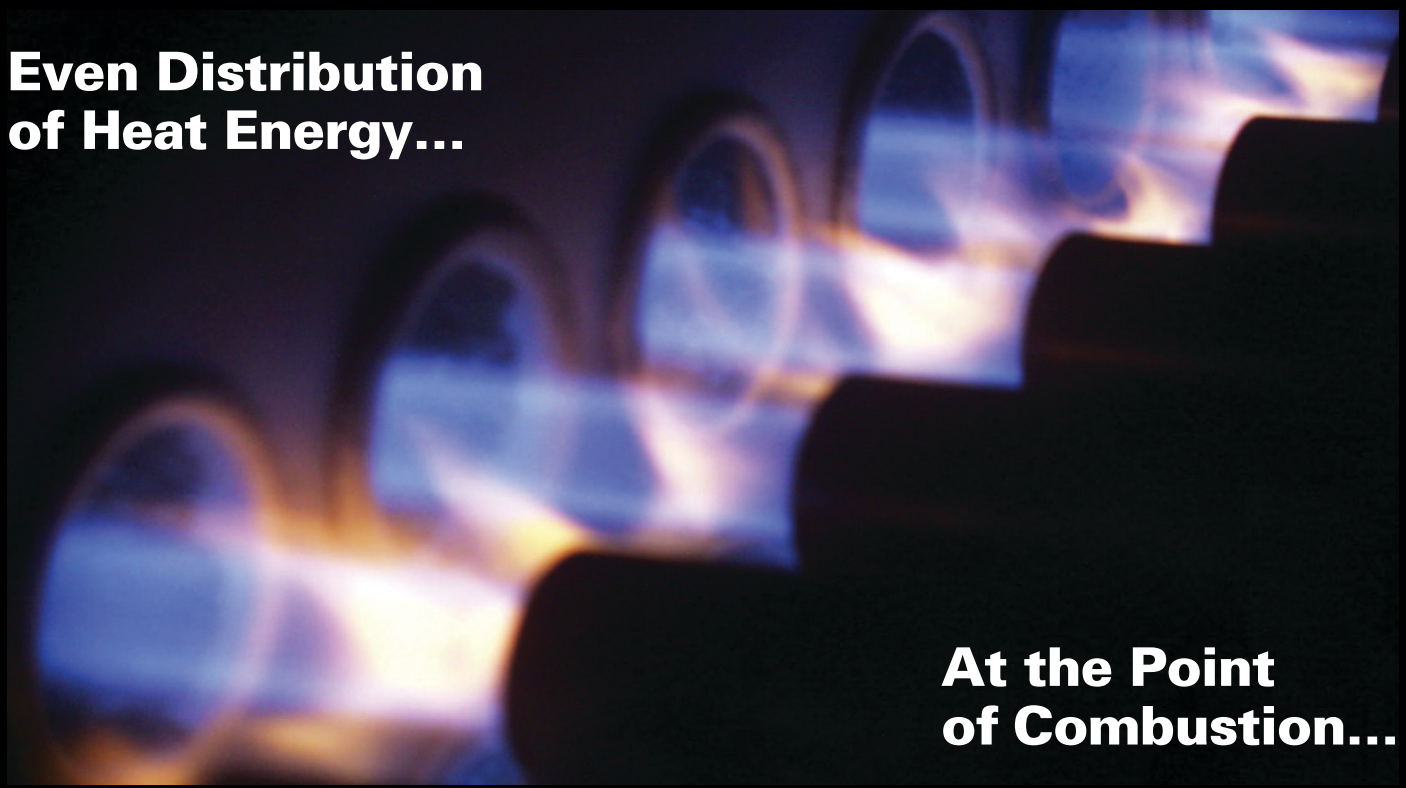
- Pre-Mix (gas/air) Burner feeding individual nozzles. Individual nozzles fire down corresponding boiler tubes.
- Single Pass Design. No Turnaround Chamber. No Refractory.
- Hot Gases Contact only Water Backed Surfaces.
- No Furnace. Energy is Evenly Distributed at Combustion.
- Even Distribution = Uniform Expansion = No Thermal Shock.
- No Thermal Shock = No Warmup Period = Fuel Savings.
- No Refractory = Reduced Maintenance = Low Cost of Ownership.
- Industry Leading Burner & Pressure Vessel Warranty

SELLERS INNOVATIVE SINGLE PASS BOILER DESIGN WITH MULTIPLE FLAMES



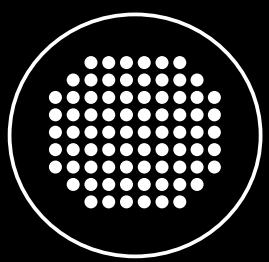
TYPICAL 3-PASS SCOTCH MARINE BOILER WITH SINGLE FLAME



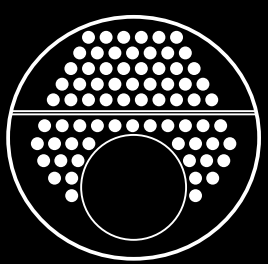


Sellers has been in the market since 1931.
Customers include GM, Boeing, FedEx, Coca Cola, Johnson Controls, Monsanto, Disney, Marriot and Hyatt. The unique attributes of the Sellers Boiler can give you real competitive advantages in your operations and your markets.

Different by design.
All firetube boilers distribute energy through a multitude of water backed tubes to enable heat transfer. The Sellers Boiler distributes that energy at the point of combustion, not in a turnaround chamber. Even application of combustion energy eliminates thermal shock (and the myriad of associated issues) and allows relief of any possible energy buildup in the vessel through a rear relief door, which is unique in the industry. In a traditional Scotch Marine Boiler, by contrast, 100% of the combustion energy feeds into the furnace.


Sellers 1 Pass

With a Sellers Boiler you can:
Eliminate thermal shock by applying heat evenly across the front tube sheet and light off at high fire. Achieve full capacity (steam) from a cold start in under 20 minutes and modulate back. Minimize time and fuel lost to long warmup periods. Eliminate turnaround chamber joint failure and refractory maintenance. Enhance your safety by distributing energy evenly through the boiler at the point of combustion and incorporating a rear relief door. Control with Siemens state of the art LMV5 Linkageless Burner Management System. Enjoy a low cost of ownership and a long, productive boiler life.


3 Pass

Purchase your UL Packaged Boiler (burner and vessel) from a single source with a demonstrated history of quality, backed by an industry leading warranty and a commitment to excellent customer service.

THE TAKEAWAYS

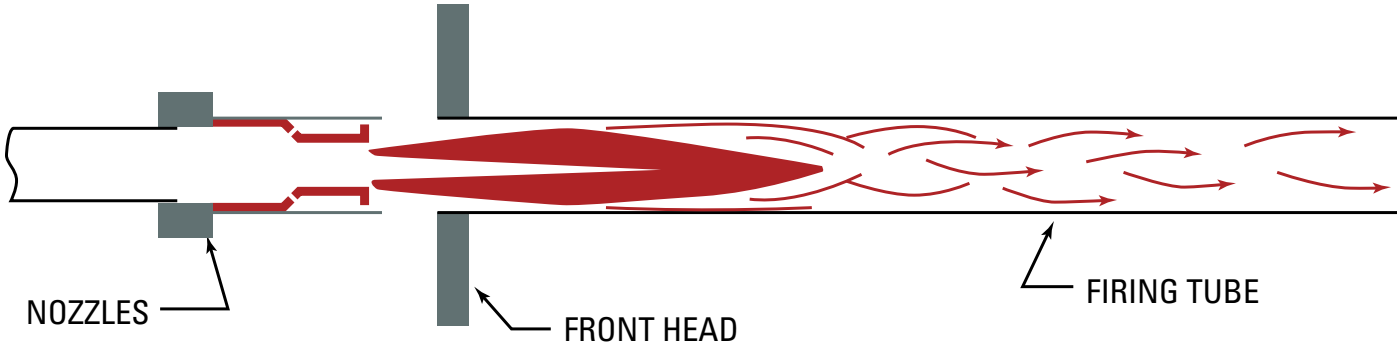
Sellers unique single pass steam or hot water boilers provide rapid response cold water to full load (steam) in under 20 minutes and digitally modulate to meet your load demands. Sellers' breakthrough design is thermally stable without any refractory which reduces repairs and maintenance.

Sellers Pre-Mix (gas/air) Burner feeds Individual burner nozzles firing down corresponding tubes at 82,500 to 91,000 BTU input per tube. Even application of heat energy at the point of combustion eliminates thermal shock (and the myriad of associated issues) and allows relief of any possible energy buildup in the vessel through a rear relief door, which is unique in the industry.

- Unmatched 20 year pressure vessel warranty and five year burner warranty.
- Single source UL Burner/Boiler Package from a company committed to excellent customer service.
- Sellers has selected Siemens for industry leading burner controls and connectivity.
- In addition to boilers, Sellers offers a full host of deaerators, boiler feed systems and ancillary products.

SIEMENS
LMV5 Linkageless Burner Management

DURABLE.
RELIABLE.
PROVEN.



Made with Pride in Danville, KY, USA

Sellers®
MANUFACTURING CO.

S SERIES

STEAM BOILERS

- Digital Modulation Family responds to your varying process and operational demands for steam and hot water.
- An industry-leading breakthrough in rapid-response, variable output, compactness and low maintenance!
- Easier interface with process control/automation via common communications protocols.
- Patents Pending design innovation from the leader in firetube boilers that eliminate thermal shock.

STEAM BOILER RATINGS, CAPACITIES, WEIGHTS

BOILER HORSE POWER	HOURLY GAS INPUT (1,000BTU)	GROSS HOURLY OUTPUT (1,000BTU)	TURN-DOWN	FUEL OPTIONS	POUNDS OF STEAM PER HOUR (1)	LOW NO_x EMISSIONS OPTION (2)	NORMAL WATER CAPACITY (U.S. GAL)	FLOODED WATER WEIGHT (LBS)	SHIPPING WEIGHT (POUNDS)	
									15 PSI	150 PSI
40	1,674	1,339	3 to 1	NG, LP	1,380	30 PPM	186	1,919	3,120	3,120
50	2,092	1,674	3 to 1	NG, LP	1,725	30 PPM	180	1,863	3,250	3,250
60	2,511	2,009	3 to 1	NG, LP	2,070	30 PPM	175	1,825	3,330	3,330
70	2,929	2,343	3 to 1	NG, LP	2,415	30 PPM	265	2,702	4,200	4,240
80	3,348	2,678	3 to 1	NG, LP	2,760	30 PPM	259	2,655	4,380	4,420
100	4,184	3,348	3 to 1	NG, LP	3,450	30 PPM	374	3,655	5,020	5,480
125	5,231	4,184	3 to 1	NG, LP	4,313	30 PPM	333	3,519	5,430	5,800
150	6,277	5,021	3 to 1	NG, LP	5,175	30 PPM	435	4,662	7,230	7,490
175	7,323	5,858	3 to 1	NG, LP	6,038	30 PPM	406	4,541	7,480	7,740
200	8,369	6,695	4 to 1	NG, LP	6,900	30 PPM	553	5,853	8,980	9,310
250	10,461	8,369	4 to 1	NG, LP	8,625	30 PPM	679	7,238	10,230	10,550
300	12,553	10,043	4 to 1	NG, LP	10,350	30 PPM	830	8,982	11,200	12,320
350	14,645	11,716	4 to 1	NG, LP	12,075	30 PPM	779	8,753	11,740	12,990
400	16,738	13,390	4 to 1	NG, LP	13,800	30 PPM	958	10,707	13,750	14,610
500	20,922	16,738	4 to 1	NG, LP	17,250	30 PPM	1,083	12,596	16,690	17,310
600	25,107	20,085	4 to 1	NG, LP	20,700	30 PPM	1,233	14,676	17,410	18,990
700	29,291	23,433	4 to 1	NG, LP	24,150	30 PPM	1,418	16,987	22,330	22,960
800	33,475	26,780	4 to 1	NG, LP	27,600	30 PPM	1,622	19,521	26,300	26,930
900	37,659	30,127	4 to 1	NG, LP	31,050	30 PPM	3,263	27,116	31,770	32,865

(1) From 212 degrees F. feed water to atmospheric pressure. (2) Low NO_x may effect Turndown.

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.

BOILER HORSEPOWER	PRESSURE REQUIRED AT GAS TRAIN INLET
	STD RANGE
40-80	1 to 5 PSI
100-150	1 to 5 PSI
175-200	1 to 5 PSI
250	1 to 5 PSI
300-350	2 to 10 PSI
400-900	2 to 10 PSI

For high and low gas pressure applications consult the factory.

ELECTRICAL REQUIREMENTS

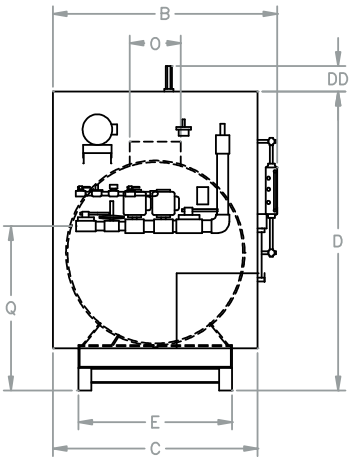
A single incoming power connection is required to the junction box provided at the hinge of all boilers. Boilers are wired for jobsite supply power characteristics.

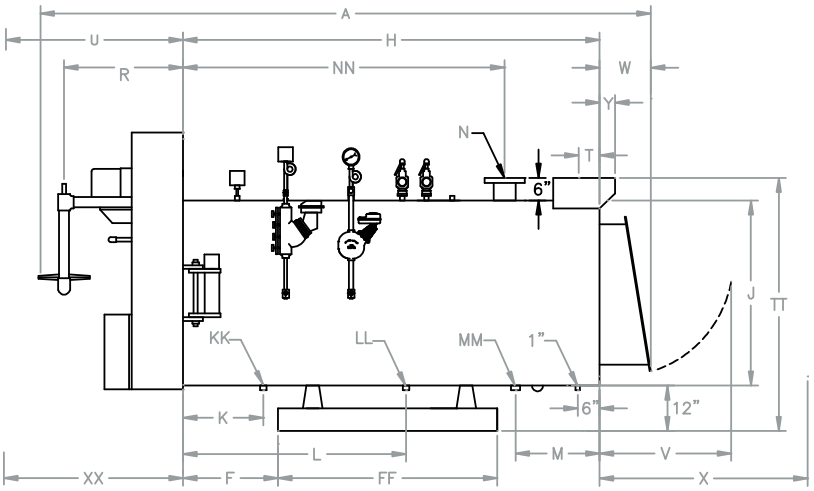
STACK REQUIREMENTS

Design stack to provide +/- 0.1" water column draft at flue outlet. Smooth transitions and bends are required. Maximum stack weight on boiler should be 1,000 pounds on 40 to 80 HP and 2000 pounds for 100 to 900 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.

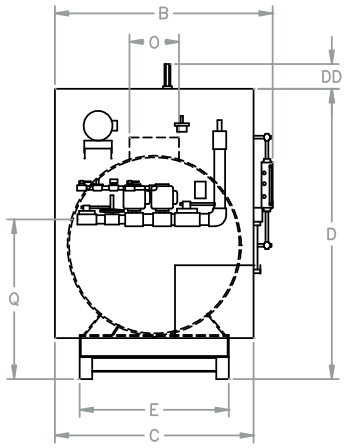


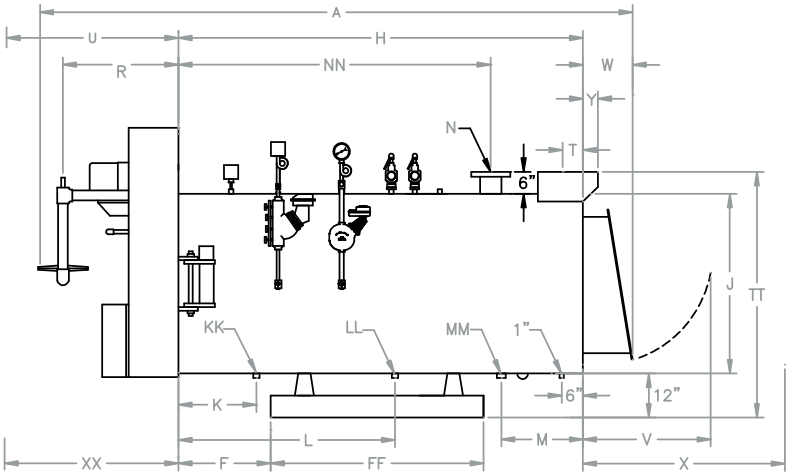


STEAM BOILER DIMENSIONS

HORSEPOWER		40	50	60	70	80	100	125
OVERALL DIMENSIONS:								
LENGTH	A	144	143	145	149	149	160	160
WIDTH	B	42	42	42	48	48	55	55
BURNER WIDTH	C	35	35	35	41	41	47	47
BURNER HEIGHT	D	65	65	65	70	70	75	75
SECONDARY AIR CAP HEIGHT	DD	6	6	6	6	6	6	
BASE:								
WIDTH	E	24	24	24	30	30	36	36
LOCATION	F	20	20	20	20	20	26	26
LENGTH	FF	60	60	60	60	60	60	60
SHELL:								
LENGTH	H	108	108	108	108	108	114	114
DIAMETER INSIDE	J	30	30	30	36	36	42	42
SHELL CONNECTIONS:								
BLOWDOWN LOCATION	K	16	16	16	16	16	22	22
MANUAL FILL SIZE	LL	-	-	-	-	-	-	-
MANUAL FILL LOCATION	L	-	-	-	-	-	-	-
FEEDWATER INLET SIZE	MM	1	1	1	1.25	1.25	1.25	1.25
FEEDWATER INLET LOCATION	M	23	23	23	23	23	23	23
STEAM OUTLET LOCATION	NN	82	82	82	82	82	88	88
LOW PRESSURE (15 PSI) BOILERS:								
STEAM OUTLET SIZE (NOTE 3)	N	6f	6f	6f	8f	8f	8f	8f
BLOWDOWN SIZE	KK	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	3 NPT	3 NPT	3 NPT	3 NPT	3 NPT	4F	4F
BLOWDOWN SIZE	KK	1.25	1.25	1.25	1.25	1.25	1.25	1.25
GAS CONNECTIONS:								
VERTICAL LOCATION (NOTE 10)	Q	36	36	36	39	39	42	42
HORIZONTAL LOCATION (NOTE 4)	R	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
FLUE CONNECTIONS:								
FLUE SIZE (NOTES 6 & 9)	O	10	10	10	12	12	14	14
FLUE LOCATION	T	6.5	6.5	6.5	6.5	6.5	4.75	4.75
FLUE HEIGHT	TT	49	49	49	55	55	61	61
INSTALLATION CLEARANCES:								
COMBUSTION ASSEMBLY SWING	U	39	39	40	46	46	53	53
RELIEF DOOR SWING (NOTE 7)	V	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	66	66
TUBE REMOVAL, REAR (NOTE 8)	X	71	71	71	71	71	72	72
RELIEF DOOR ASSEMBLY	VV	11	11	11	12	12	13	13
FLUE OUTLET PROJECTION	Y						2.25	2.25
BLOWER MOTOR:								
BLOWER HORSEPOWER		3	5	5	5	5	7.5	7.5
LOW NO_x BLOWER		3	5	7.5	7.5	7.5	7.5	10

See Notes on Page 8.





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	2	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	54
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	32
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	20	20	25	25	30	30	40
LOW NO_x BLOWER		10	10	15	20	20	20	20	25	30	30	30	40

See Notes on Page 8.

NOTES

1. Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
2. Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
3. Openings are threaded unless indicated:
   f = Class 150 ASA flange. F = Class 300 ASA flange.
   Threaded couplings project 2" or less.
4. Provide "R + 12" clearance from the right side of burner box to the right side wall to open hinged burner.
5. Gas train may change with gas type and pressure.
6. Outside diameter and dimensions are shown. (see note 10)
7. Provide "J + 7" clearance from the rear end of the shell to swing the hinged back plate on 200 HP and larger boilers.
8. Tubes may be removed from the front or rear.
9. Dip tube (2" min.) provided on hot water outlet.
10. Flue outlet dimension on 400 HP and larger boilers are inside diameter with angle iron flanged connection.
11. 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 / SIZE	15 PSI	150 - 300 PSI
40-100 HP 125-900 HP	MODEL 15C MODEL 15SR	MODEL 77C MODEL 105E

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:

- Fully modulating burner with parallel positioning controls.
- 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 & indicating lights. Siemens LMV5 Microprocessor based burner management system with real time MODBUS communication.

OPTIONAL AGENCY APPROVALS

- Factory Mutual
- CSD-1
- NFPA-85

Sellers® MANUFACTURING CO.

H SERIES

STEAM BOILERS

- "Chemical Free" completely non-ferrous steam boiler provides rapid production of 15 PSI steam ready to be injected directly into your process.
- No boiler feed equipment needed
- Direct feed with city water supply
- Reduced system maintenance & operational cost

STEAM BOILER RATINGS, CAPACITIES, WEIGHTS

BOILER HORSE POWER	HOURLY GAS INPUT (1,000 BTU)	GROSS HOURLY OUTPUT	FUEL OPTIONS	POUNDS OF STEAM PER HOUR (1)	MODU-LATION OPTION	LOW NOX EMISSIONS OPTION*	NORMAL WATER CAPACITY (U.S. GAL)	FLOODED WATER WEIGHT (LBS)	SHIPPING WEIGHT (POUNDS)
									15 PSI
10	418	335	NG, LP	296	3 to 1	30 PPM	125	1,301	2,260
20	837	670	NG, LP	592	3 to 1	30 PPM	123	1,254	2,430
30	1,255	1,004	NG, LP	887	3 to 1	30 PPM	192	1,966	2,910
40	1,674	1,339	NG, LP	1,182	3 to 1	30 PPM	186	1,919	3,120
50	2,092	1,674	NG, LP	1,478	3 to 1	30 PPM	180	1,863	3,250
60	2,511	2,009	NG, LP	1,774	3 to 1	30 PPM	175	1,825	3,330
70	2,929	2,343	NG, LP	2,069	3 to 1	30 PPM	265	2,702	4,200
80	3,348	2,678	NG, LP	2,365	3 to 1	30 PPM	259	2,655	4,380
100	4,184	3,348	NG, LP	2,957	3 to 1	30 PPM	374	3,655	5,020
125	5,231	4,184	NG, LP	3,695	3 to 1	30 PPM	333	3,519	5,430
150	6,277	5,021	NG, LP	4,434	3 to 1	30 PPM	435	4,662	7,230
200	8,369	6,695	NG, LP	5,919	3 to 1	30 PPM	553	5,853	8,980
250	10,461	8,369	NG, LP	7,390	3 to 1	30 PPM	679	7,238	10,230
300	12,553	10,043	NG, LP	8,869	3 to 1	30 PPM	830	8,982	11,200

(1) From 50 degrees F. feed water to atmospheric pressure.

GAS REQUIREMENTS

Main and pilot gas pressure regulators are provided with each boiler. Standard pressure range is 1 to 5 PSI.

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

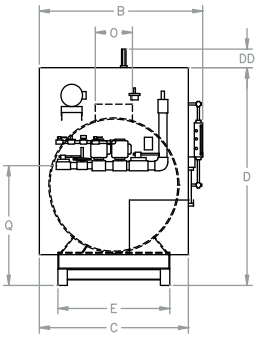
Provide 1/2 square foot of free air inlet area per 1,000,000 BTU input to the burner. Cross ventilation is preferred in lieu of a single opening.

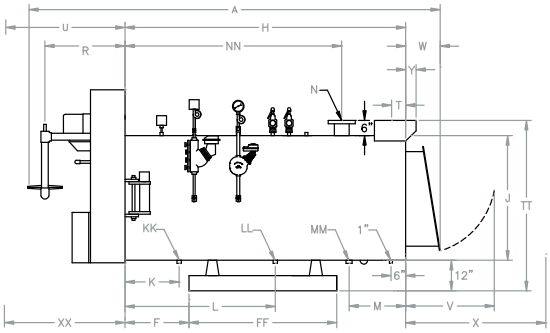
STANDARD EQUIPMENT FURNISHED

- **Boiler Shell with High Efficiency**
- **Heat Extractors and Handhole Assemblies**
- **2" Insulation with Steel Jacket**
- **Welded Structural Steel Base**
- **Operating Pressure Controls**
- **Multi-Flame Burner Assembly**
- **Epoxy Phenolic Shell Lining**
- **Copper Clad Tubes**
- **High Limit with Manual Reset**
- **Pressure Gauge, 4-1/2" Dial Type**
- **Pop Safety Valve.**
- **Dual LWCO's (Secondary Float with Manual Reset)**
- **Control Panel with Flame Safeguard**
- **Time Delay**
- **Solenoid Feedwater Valve Installed**
- **Flue Temperature Gauge**
- **Bottom Blowdown Valve Installed**
- **Automatic Surface Blowdown Installed**

NOTES

1. Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
2. Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
3. Openings are threaded unless indicated: f = Class 150 ASA flange. F = Class 300 ASA flange. Threaded couplings project 2" or less.
4. Provide "R + 12" clearance from hinge to wall to open door.
5. Gas train may change with gas type and pressure.
6. Outside diameter and dimensions are shown.
7. Provide "J + 7" clearance from hinge on 200 HP and larger boilers to swing hinged back plate.
8. Tubes may be removed from either front or rear.





MODEL NUMBER DESIGNATIONS

PRESSURE / SIZE	15 PSI
10-100 HP	MODEL 15C
125-300 HP	MODEL 15SR

STEAM BOILER DIMENSIONS

HORSEPOWER		10	15	20	30	40	50	60	70	80	100	125	150	175	200	250	300
OVERALL DIMENSIONS:																	
LENGTH	A	141	141	141	142	144	143	145	149	149	160	160	167	167	168	194	197
WIDTH	B	36	36	36	42	42	42	42	48	48	55	55	61	61	67	67	75
BURNER WIDTH	C	30	30	30	35	35	35	35	41	41	47	47	56	56	62	62	72
BURNER HEIGHT	D	56	56	56	61	65	65	65	70	70	75	75	79	79	87	87	90
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	42	42	48	48	54
LOCATION	F	20	20	20	20	20	20	20	20	20	26	26	26	26	26	3	3
LENGTH	FF	60	60	60	60	60	60	60	60	60	60	60	60	60	60	104	104
SHELL:																	
LENGTH	H	108	108	108	108	108	108	108	108	108	114	114	114	114	114	140	140
DIAMETER INSIDE	J	24	24	24	30	30	30	30	36	36	42	42	48	48	54	54	60
SHELL CONNECTIONS:																	
BLOWDOWN LOCATION	K	16	16	16	16	16	16	16	16	16	22	22	22	22	22	34	34
MANUAL FILL SIZE	LL	-	-	-	-	-	-	-	-	-	-	-	1.5	1.5	1.5	1.5	2
MANUAL FILL LOCATION	L	-	-	-	-	-	-	-	-	-	-	-	61	61	61	82	82
FEEDWATER INLET SIZE	MM	1	1	1	1	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5	1.5	2
FEEDWATER INLET LOCATION	M	23	23	23	23	23	23	23	23	23	23	23	23	23	23	28	28
STEAM OUTLET LOCATION	NN	82	82	82	82	82	82	82	82	82	88	88	88	88	88	111	111
LOW PRESSURE (15 PSI) BOILERS:																	
STEAM OUTLET SIZE (NOTE 3)	N	3	3	4f	4f	6f	6f	6f	8f	8f	8f	8f	8f	10f	10f	10f	12f
BLOWDOWN SIZE	KK	.75	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5	1.5	2	2	2	2
GAS CONNECTIONS:																	
VERTICAL LOCATION (NOTE 10)	Q	33	33	33	36	36	36	36	39	39	42	42	48	48	48	48	48
HORIZONTAL LOCATION (NOTE 4)	R	20	20	20	20	20	20	22	24	24	28	28	32	32	32	34	34
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	0.75	0.75	0.75	0.75	1
FLUE CONNECTIONS:																	
FLUE SIZE (NOTES 6 & 9)	O	10	10	10	10	10	10	10	12	12	14	14	16	16	18	18	20
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	3.75	2.75	2.75	5.75	4.5
FLUE HEIGHT	TT	43	43	43	49	49	49	49	55	55	61	61	67	67	73	73	79
INSTALLATION CLEARANCES:																	
COMBUSTION ASSEMBLY SWING	U	35	35	35	39	39	39	40	46	46	53	53	62	62	67	67	74
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	35.5	35.5	40	40	43
TUBE REMOVAL, FRONT (NOTE 8)	XX	73	73	73	73	73	73	73	73	73	66	66	66	66	66	88	88
TUBE REMOVAL, REAR (NOTE 8)	X	71	71	71	71	71	71	71	71	71	72	72	72	72	72	90	90
RELIEF DOOR ASSEMBLY	VV	10	10	10	11	11	11	11	12	12	13	13	14	14	15	15	16
FLUE OUTLET PROJECTION	Y										2.25	2.25	4.25	6.25	6.25	4.25	8.5
BLOWER MOTOR:																	
BLOWER HORSEPOWER		1	1.5	1.5	2	3	5	5	5	5	7.5	7.5	7.5	7.5	10	15	15
LOW NO_x BLOWER		TBD	TBD	TBD	TBD	3	5	7.5	7.5	7.5	7.5	10	10	10	15	20	20

Note: All Dimensions in Inches

Sellers®
MANUFACTURING CO.

7P SERIES

STEAM BOILERS

- The Sellers two pass series rapid response boiler is designed to fit in ultra tight spaces.

STEAM BOILER RATINGS, CAPACITIES, WEIGHTS (SEA LEVEL TO 3000FT ALTITUDE)

MODEL NUMBER	BOILER HORSE POWER	HOURLY GAS INPUT (1,000BTU)	GROSS HOURLY OUTPUT (1,000BTU)	FUEL OPTIONS	*POUNDS OF STEAM PER HOUR	LOW NO_x EMISSIONS OPTION	BURNER OPERATION	WATER CAPACITY		SHIPPING WEIGHT (POUNDS)	
								** (U.S. GALLONS)	*** (POUNDS)	15 PSI	150 PSI
TP-20-S	20	837	670	NG, LP and BIO	690	30 PPM	On - Off	247	2,537	2,795	3,114
TP-30-S	30	1,256	1,005	NG, LP and BIO	1,035	30 PPM	On - Off	320	3,185	3,257	3,923
TP-40-S	40	1,674	1,340	NG, LP and BIO	1,380	30 PPM	On - Off	314	3,130	3,461	3,924
TP-50-S	50	2,093	1,675	NG, LP and BIO	1,725	30 PPM	On - Off	397	3,861	3,938	4,771
TP-60-S	60	2,512	2,010	NG, LP and BIO	2,070	30 PPM	On - Off	391	3,806	4,143	4,773
TP-80-S	80	3,348	2,680	NG, LP and BIO	2,760	30 PPM	On - Off	589	5,516	5,412	6,570
TP-100-S	100	4,186	3,350	NG, LP and BIO	3,450	30 PPM	On - Off	575	5,406	5,821	6,979
TP-125-S	125	5,231	4,185	NG, LP and BIO	4,312	30 PPM	On - Off	680	6,302	6,974	7,957

(1) From 212° feed water to atmospheric pressure.
(2) Normal water capacity
(3) Flooded water weight

PRODUCT APPLICATION

The TP-S is a compact firetube boiler designed to provide 15 or 150 PSI steam tor building or process use. Fuel can be natural or propane gas or both. The short length allows installation In small boiler rooms that ordinary firetube boilers cannot serve.

BOILER DESIGN

The TP-S is an immersion fired boiler fully assembled as a factory packaged unit. Lifting lugs and a shipping skid aid in easy placement in the boiler room. All components are factory installed on the boiler, wired and fire tested to assure proper operation. Both the front burner assembly and the rear door are hinged or davited to allow easy access.

Two inches of fiberglass insulation protected by an enameled steel jacket covers the shell.

Installation is quickly completed by making gas, electric, steam and water connections.

This boiler is supplied with a UL listed and approved control panel.

SHELL DESIGN

The unique pressure vessel shell with short horizontal firetubes conserves floor space. Tubes are rolled and beaded at both heads In lieu of welding. The 3/4" thick water backed heads with 1" minimum ligaments contribute to the long life expected from a Sellers steam boiler.

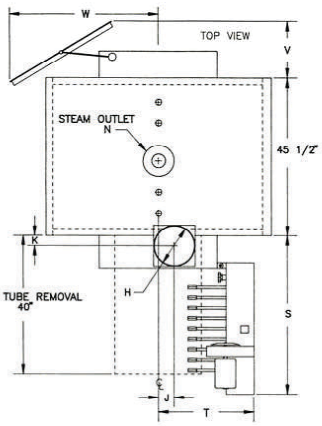
Handholes are provided for internal inspection. Manholes are furnished when required by the ASME Code.

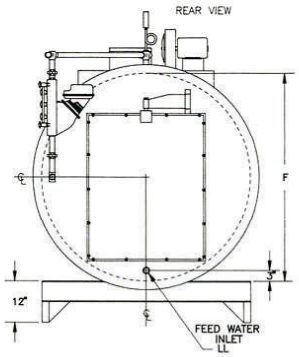
Steam, pressure and water level is monitored with gauges or controls to assure operator safety.

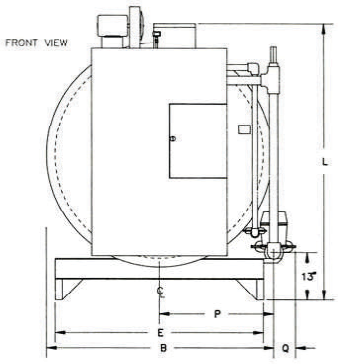
Pressure vessels are constructed in accordance with Section IV or Section I of the ASME Code. Insurance inspectors check each vessel. The ASME Data Re-port is provided to tho owner. Each vessel is registered with the National Board.

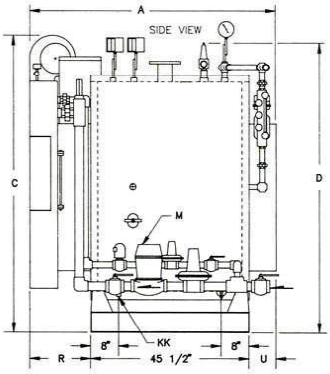
BURNER ASSEMBLY

All burner components are premounted on the hinged burner manifold assembly. Combustion air Is furnished through a forced draft blower assembly. The premix type burner distributes gas to individual flame retention nozzles which direct the flame into each tube. Pressurized combustion takes place inside the tube where heat is rapidly transferred to the water. The close proximity of the flame to the water aids in reducing air polluting nitrous oxide contaminates.









STEAM BOILER DIMENSIONS

HORSEPOWER:		TP-20-S	TP-30-S	TP-40-S	TP-50-S	TP-60-S	TP-80-S	TP-100-S	TP-125-S
OVERALL DIMENSIONS:									
LENGTH	A	72	72	72	72	72	72	72	72
WIDTH	B	53	59	59	65	65	77	77	83
HEIGHT TO TOP OF BLOWER	C	83	87	87	94	94	106	106	112
HEIGHT TO TOP OF CONTROL	D	70	76	76	82	82	94	94	103
BASE:									
WIDTH	E	42	48	48	54	54	63	63	66
SHELL:									
DIAMETER INSIDE	F	48	54	54	60	60	72	72	78
SHELL CONNECTIONS:									
BLOWDOWN SIZE	KK	1	1	1.25	1.25	1.25	1.5	1.5	1.5
FEED WATER INLET SIZE	LL	1	1.25	1.5	1.5	1.5	1.5	1.5	1.5
LOW PRESSURE (15 PSI) BOILERS:									
STEAM OUTLET SIZE (NOTE 3)	N	4f	4f	6f	6f	6f	8f	8f	8f
BLOWDOWN SIZE		1	1	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 NPT	2 NPT	3 NPT	3 NPT	3 NPT	3 NPT	4F	4F
FLUE CONNECTION:									
SIZE - OUTSIDE DIAMETER	H	6	8	10	10	12	12	14	16
HORIZONTAL SIDE LOCATION	J	5	6	5	5	4.5	4.5	7	7.5
HORIZ. FORWARD CONNECT	K	4	4	4	4	3	3	7	7
HEIGHT TO TOP OF FLUE	L	72	76	76	80	80	92	92	96
GAS CONNECTION:									
MAIN BURNER VALVE SIZE IPS	M	1.5	2	2	2	2.5	3	3	3
HORIZ. STANDARD LOCATION	P	24	29	29	31	31	34	34	36
INSTALLATION CLEARANCES:									
VALVE PROJECTION	Q	1	4	4	3	3	2	2	1
BURNER EXTENSION	R	18	18	18	18	18	18	26.5	26.5
BURNER SWING TO FRONT	S	36	36	42	42	45	45	55	59
BURN. SWING TO SIDE (OPEN 90 DEG.)	T	25	25	28	28	29.5	29.5	33	35
TURNBOX EXTENSION	U	8	8	8	8	8	8	8.5	8.5
TURNBOX DOOR SWING TO REAR	V	18	18	21	21	22.5	22.5	26	27
TURNBOX DOOR SWING TO SIDE	W	26	26	34	34	39	39	42	46
BLOWER MOTOR:									
BLOWER HORSEPOWER		1	1.5	1.5	2	3	3	5	5

Notes:
(1) All dimensions are in inches.
(2) Dimensions are accurate for layout, but are subject to change. Certified prints are available upon request.
(3) Dotted lines indicate 2" insulation. Lifting lugs and manholes not shown when supplied.
(4) Openings are threaded except f - class 150 flange, F - class 300 flange.
(5) Tubes may be removed from either the front or rear.
(6) Low NO_X May Increase Blower Motor (Consult Factory)

STANDARD EQUIPMENT FURNISHED

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

Tubes: Steel, .095" wall, expanded and beaded.

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

Base: Structural steel skid type.

Insulation: 2" fiberglass with double painted steel jacket.

Access Door: Burner and rear door hinged or davited for easy access to pressure vessel.

Operating Pressure Control: Mounted on pigtail.

High Limit Pressure Control: Mounted on pigtail.

Pressure Gauge: 4.5" dial type mounted with tee cock on pigtail.

Low Water Cutoff: MM157 with feed pump control switch.

Water Gauge Set: Brass cocks, gauge glass mounted on low water cutoff assembly.

Pop Safety Valve(s): ASME stamped valves sized for full boiler nozzle output at design pressure rating.

Manhole: Furnished on 80 HP low pressure and 30 HP high pressure or larger diameter boilers.

Handholes: Four (4) furnished. When supplied, manhole replaces one handhole. 3.5" x 4.5" hand holes used on all units.

Lifting Lugs: One or more provided on each boiler.

Fusible Plug: Installed on rear tube sheet.

Observation Ports: Two or more in combustion chamber to view burners.

Burner Assembly: Hinged to shell including:

- Combustion air blower with open drip proof motor
- Air pressure switch
- Ignition transformer, spark and flame rods
- Pilot gas valve, regulator and cock
- Main burner including regulator, adjustment valve, mixer and nozzles, plus:

	10 - 50 HP	60 - 100 HP	125 HP
• Solenoid gas valve	1	-	-
• Motorized gas valve	-	1	2
• Proof of closure switch	-	1	1
• High or low gas switch	-	2	2
• Pilot gas valve	1	1	1

- Control cabinet with: motor starter, flame safeguard Honeywell R4140M, control transformer with fuse, six (6) indicator lights with engraved labels for low water, limits, call for heat, pilot, main burner and flame failure. Safe start switch, numbered terminal strips and color coded 105° C oil, water and heat resistant wiring.

Factory fire test report.
Five year limited warranty on burner and pressure vessel. Finished with jade green heavy machinery enamel.
Initial start-up service and operator's instructions are provided by a company representative.

NOTES

GAS PRESSURE REGULATOR

Regulators are required on all gas trains. They are supplied at no extra charge providing gas pressures to the regulator are within the standard gas train range shown in the chart below. If gas pressures exceed 10 PSI, a second regulator should be supplied at the jobsite to reduce pressures to the standard range.

At elevations over 2000', consult the factory to determine if higher gas pressures are required.

Required Gas Pressures (Natural Gas at 0-2000' elevation)

BOILER HORSEPOWER	PRESSURE REQUIRED AT INLET TO GAS TRAIN			
	STANDARD GAS TRAIN		SPECIAL GAS TRAIN*	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
10 TO 20	**8" w.c.	1 PSI	**6" w.c.	10 PSI
30 TO 80	12" w.c.	1 PSI	**7" w.c.	10 PSI
100 TO 125	14" w.c.	1 PSI	**10" w.c.	10 PSI

* Special gas trains required at extra cost.
** Minimum pressure for propane to be 11" w.c.

ELECTRICAL

All boilers are factory assembled with 105° C color coded wire to numbered terminal strips. The wiring diagram is attached to the inside of the control panel cover. A transformer provides 5 amps at 120 volts to the control circuit. Motors are provided to match the specified power supply requirements at the jobsite.

STACK REQUIREMENTS

Design stack to provide -.02" water column draft at the flue outlet. Smooth transitions and bends are required. Generally, full size rectangular or equivalent round stacks should be used. Maximum stack weight on boiler should not exceed 1,000 pounds.

AIR REQUIREMENTS

Provide .5 square foot of free air inlet area per 1,000,000 Btu input to burner. Preferably, cross ventilation is desired in lieu of a single opening.

See manuals for full installation details.

Sellers® MANUFACTURING CO.

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.

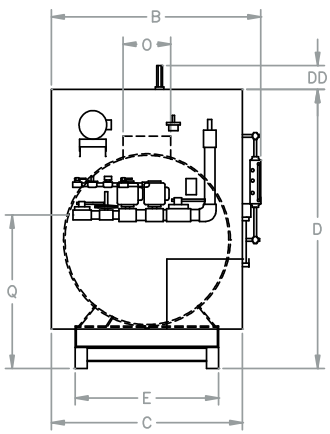
STACK REQUIREMENTS

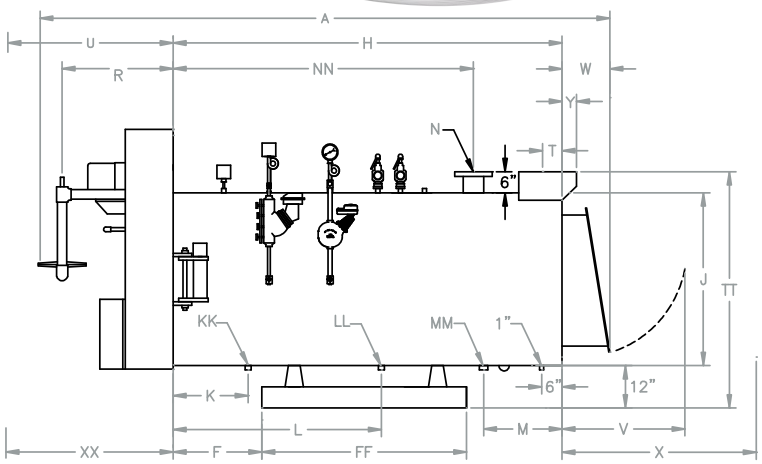
Design stack to provide -.02" to -.04" water column draft at flue outlet. Smooth transitions and bends are required. Maximum stack weight on boiler should be 1,000 pounds on 10 to 80 HP and 2000 pounds for 100 to 800 HP units.

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

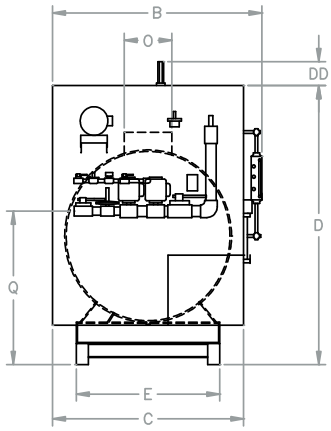


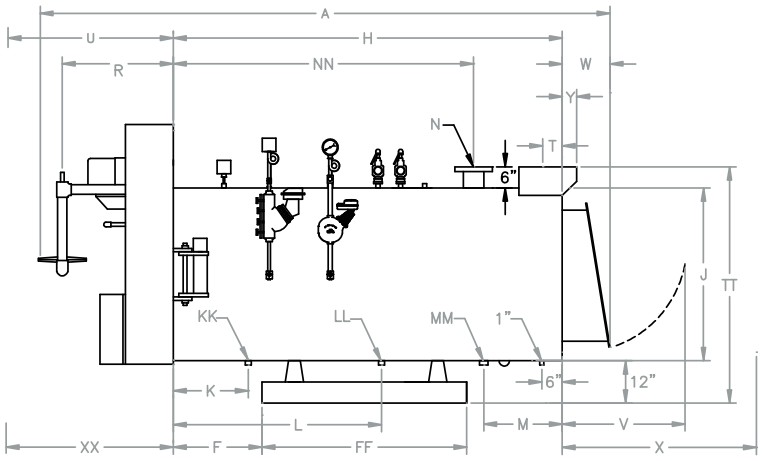


STEAM BOILER DIMENSIONS

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	55	55	61	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.





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

1. Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
2. Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
3. Openings are threaded unless indicated:
   f = Class 150 ASA flange. F = Class 300 ASA flange.
   Threaded couplings project 2" or less.
4. Provide "R + 12" clearance from the right side of burner box to the right side wall to open hinged burner.
5. Gas train may change with gas type and pressure.
6. Outside diameter and dimensions are shown. (see note 10)
7. Provide "J + 7" clearance from the rear end of the shell to swing the hinged back plate on 200 HP and larger boilers.
8. Tubes may be removed from the front or rear.
9. Flue outlet dimension on 400 HP and larger boilers are inside diameter with angle iron flanged connection.
10. 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 / SIZE	15 PSI	150 PSI
10-100 HP 125-900 HP	MODEL 15C MODEL 15SR	MODEL 77C MODEL 105E

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

Sellers® MANUFACTURING CO.

S SERIES

HOT WATER BOILERS

- Digital Modulation Family responds to your varying process and operational demands for steam and hot water.
- An industry-leading breakthrough in rapid-response, variable output, compactness and low maintenance!
- Easier interface with process control/automation via common communications protocols.
- Patents Pending design innovation from the leader in firetube boilers that eliminate thermal shock.
- Unique single pass design allows for high temperature differential operation with no risk of thermal shock.

HOT WATER BOILER RATINGS, CAPACITIES, WEIGHTS

BOILER HORSE POWER	HOURLY GAS INPUT (1000BTU)	GROSS HOURLY OUTPUT	TURN-DOWN	FUEL OPTIONS	LOW NO_x EMISSIONS OPTION	WATER CAPACITY (U.S. GAL)	WATER CAPACITY (POUNDS)	SHIPPING WEIGHT (POUNDS)	
								100PSI	150 PSI
40	1,674	1,339	3 to 1	NG, LP	30 PPM	139	1,161	2,680	2,680
50	2,092	1,674	3 to 1	NG, LP	30 PPM	224	1,872	3,260	3,260
60	2,511	2,009	3 to 1	NG, LP	30 PPM	219	1,826	3,360	3,360
70	2,929	2,343	3 to 1	NG, LP	30 PPM	213	1,779	3,450	3,450
80	3,348	2,678	3 to 1	NG, LP	30 PPM	319	2,659	4,250	4,330
100	4,184	3,348	3 to 1	NG, LP	30 PPM	307	2,565	4,470	4,470
125	5,231	4,184	3 to 1	NG, LP	30 PPM	424	3,539	5,590	5,860
150	6,277	5,021	3 to 1	NG, LP	30 PPM	411	3,427	5,820	6,090
175	7,323	5,858	3 to 1	NG, LP	30 PPM	397	3,314	6,050	6,320
200	8,369	6,695	4 to 1	NG, LP	30 PPM	534	4,456	7,450	7,580
250	10,461	8,369	4 to 1	NG, LP	30 PPM	654	5,460	9,520	9,520
300	12,553	10,043	4 to 1	NG, LP	30 PPM	839	7,000	11,520	12,110
350	14,645	11,716	4 to 1	NG, LP	30 PPM	806	6,728	12,060	12,490
400	16,738	13,390	4 to 1	NG, LP	30 PPM	1,015	8,471	12,840	13,780
500	20,922	16,738	4 to 1	NG, LP	30 PPM	1,218	10,162	15,080	15,600
600	25,107	20,085	4 to 1	NG, LP	30 PPM	1,446	12,067	17,390	18,520
700	29,291	23,433	4 to 1	NG, LP	30 PPM	1,698	14,168	19,920	21,310
800	33,475	26,780	4 to 1	NG, LP	30 PPM	1,981	16,535	23,330	24,190
900	37,659	30,127	4 to 1	NG, LP	30 PPM	3,263	27,116	31,770	32,865

(1) High tempurature construction is available.
(2) Low NO_x may affect turn-down.

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.

BOILER HORSEPOWER	PRESSURE REQUIRED AT GAS TRAIN INLET
	STD RANGE
40-80	1 to 5 PSI
100-150	1 to 5 PSI
175-200	1 to 5 PSI
250	1 to 5 PSI
300-350	2 to 10 PSI
400-900	2 to 10 PSI

For high and low gas pressure applications consult the factory.

ELECTRICAL REQUIREMENTS

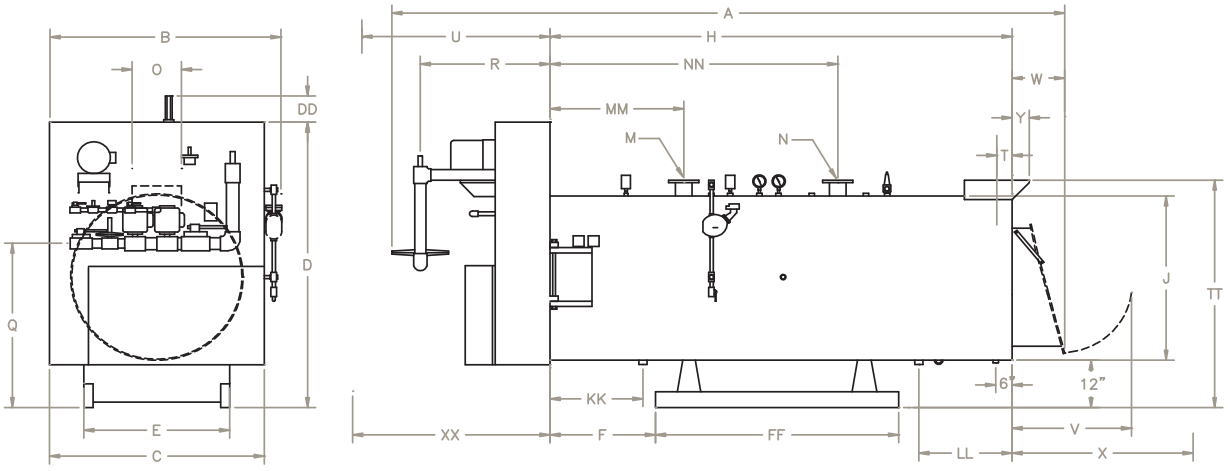
A single incoming power connection is required to the junction box provided at the hinge of all boilers. Boilers are wired for jobsite supply power characteristics.

STACK REQUIREMENTS

Design stack to provide +/- .1 water column draft at flue outlet. Smooth transitions and bends are required. Maximum stack weight on boiler should be 1,000 pounds on 40 to 80 HP and 2000 pounds for 100 to 900 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.

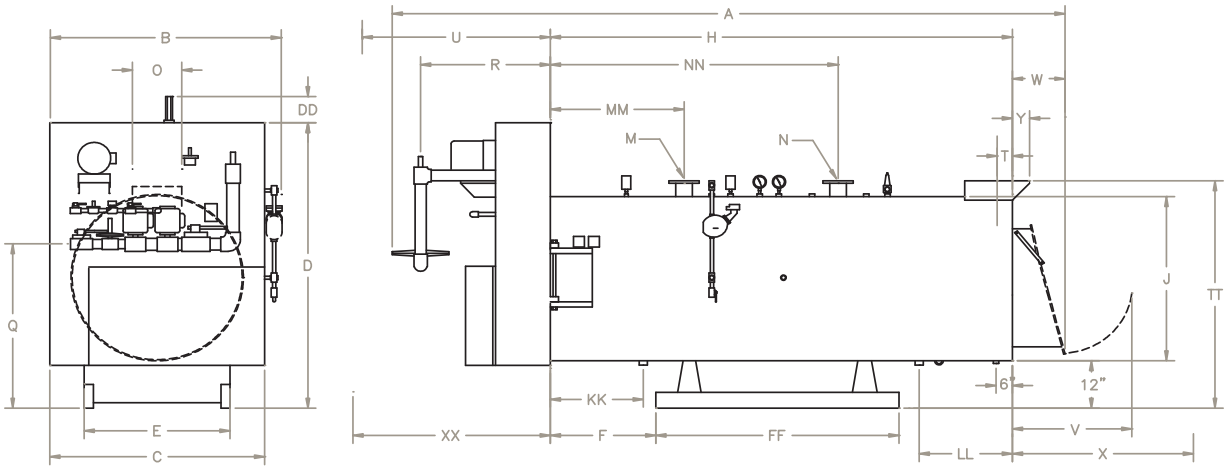


HOT WATER BOILER DIMENSIONS

HORSEPOWER		C-40-W	C-50-W	C-60-W	C-70-W	C-80-W	C-100-W	S-125-W
OVERALL DIMENSIONS:								
LENGTH	A	143	143	145	150	151	159	160
WIDTH	B	36	42	42	42	48	48	54
BURNER WIDTH	C	32	35	35	35	41	41	47
BURNER HEIGHT	D	59	65	65	65	70	70	75
SECONDARY AIR CAP HEIGHT	DD	6	6	6	6	6	6	
BASE:								
WIDTH	E	24	24	24	24	30	30	36
LOCATION	F	20	20	20	20	20	26	26
LENGTH	FF	60	60	60	60	60	60	60
SHELL:								
LENGTH	H	108	108	108	108	108	114	114
DIAMETER INSIDE	J	24	30	30	30	36	36	42
SHELL CONNECTIONS:								
DRAIN SIZE	K	1.25	1.25	1.25	1.25	1.5	1.5	1.5
DRAIN LOCATION	KK	16	16	16	16	16	22	22
MANUAL FILL SIZE	L	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MANUAL FILL LOCATION	LL	23	23	23	23	23	23	23
HOT WATER OUTLET SIZE (NOTE 3)	M	3	4f	4f	4f	4f	4f	6f
HOT WATER OUTLET LOCATION	MM	26	26	26	26	26	33	33
HOT WATER RETURN SIZE (NOTE 3)	N	3	4f	4f	4f	4f	4f	6f
HOT WATER RETURN LOCATION	NN	64	64	64	64	64	71	71
GAS CONNECTIONS:								
MAIN BURNER VALVE IPS (NOTE 5)	QQ	1.5	1.5	2	2	2	2.5	2.5
VERTICAL LOCATION (NOTE 11)	Q	33	36	36	36	39	39	42
HORIZONTAL LOCATION (NOTE 4)	R	20	20	22	26	26	28	28
PILOT BURNER VALVE IPS	S	0.75	0.75	0.75	0.75	0.75	0.75	0.75
FLUE CONNECTIONS:								
FLUE SIZE (NOTES 6 & 10)	O	10	10	10	12	12	14	14
FLUE LOCATION	T	6.5	6.5	6.5	6.5	6.5	4.75	4.75
FLUE HEIGHT	TT	43	49	49	49	55	55	61
INSTALLATION CLEARANCES:								
COMBUSTION ASSEMBLY SWING	U	36	38	40	41	46	48	53
RELIEF DOOR SWING (NOTE 7)	V	18	21.5	21.5	21.5	25.5	25.5	29.5
TUBE REMOVAL, FRONT (NOTE 8)	XX	73	73	73	73	73	66	66
TUBE REMOVAL, REAR (NOTE 8)	X	71	71	71	71	71	72	72
RELIEF DOOR ASSEMBLY	VV	10	11	11	11	12	12	13
FLUE OUTLET PROJECTION	Y						2.25	2.25
BLOWER MOTOR:								
BLOWER HORSEPOWER		3	5	5	5	5	7.5	7.5
LOW NO_x BLOWERS		3	5	7.5	7.5	7.5	7.5	10

See Notes on Page 25.

Sellers Fits Where Others Won't



HOT WATER BOILER DIMENSIONS

HORSEPOWER		S-150-W	S-175-W	S-200-W	S-250-W	S-300-W	S-350-W	S-400-W	S-500-W	S-600-W	S-700-W	S-800-W
OVERALL DIMENSIONS:												
LENGTH	A	166	166	167	193	196	210	213	214	218	220	228
WIDTH	B	57	57	61	64	67	72	76	83	89	95	101
BURNER WIDTH	C	53	53	56	62	62	72	74	82	88	94	100
BURNER HEIGHT	D	73	73	82	80	87	97	102	107	112	120	125
SECONDARY AIR CAP HEIGHT	DD											
BASE:												
WIDTH	E	36	36	42	42	48	48	54	57	63	66	72
LOCATION	F	26	26	26	3	3	3	3	3	3	3	3
LENGTH	FF	60	60	60	104	104	104	104	104	104	104	104
SHELL:												
LENGTH	H	114	114	114	140	140	140	140	140	140	140	140
DIAMETER INSIDE	J	42	42	48	48	54	54	60	66	72	78	84
SHELL CONNECTIONS:												
DRAIN SIZE	K	1.5	1.5	2	2	2	2	2	2	2	2	2
DRAIN LOCATION	KK	22	22	22	34	34	34	34	34	34	34	34
MANUAL FILL SIZE	L	2	2	2	2	2	2	2	2	2	2	2
HOT WATER OUTLET SIZE (NOTE 3)	M	6f	6f	6f	8f	8f	8f	8f	10f	10f	10f	12f
HOT WATER OUTLET LOCATION	MM	33	33	33	36	36	36	36	36	36	36	36
HOT WATER RETURN SIZE (NOTE 3)	N	6f	6f	6f	8f	8f	8f	8f	10f	10f	10f	12f
HOT WATER RETURN LOCATION	NN	71	71	71	88	88	88	88	88	88	88	88
GAS CONNECTIONS:												
MAIN BURNER VALVE IPS (NOTE 5)	QQ	3	3	3	2.5	2.5	2.5	3	3	3	3	3
VERTICAL LOCATION (NOTE 11)	Q	38	38	41	44	48	48	48	48	48	48	48
HORIZONTAL LOCATION (NOTE 4)	R	32	32	32	34	34	48	50	50	50	50	56
PILOT BURNER VALVE IPS	S	0.75	0.75	0.75	0.75	1	1	1	1	1.25	1.25	1.25
FLUE CONNECTIONS:												
FLUE SIZE (NOTES 6 & 10)	O	16	18	18	20	22	24	26	28	32	34	36
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
FLUE HEIGHT	TT	61	61	67	67	73	73	79	85	97	103	109
INSTALLATION CLEARANCES:												
COMBUSTION ASSEMBLY SWING	U	58	58	62	65	68	80	84	90	95	100	108
RELIEF DOOR SWING (NOTE 7)	V	29.5	29.5	35.5	35.5	40	40	43	46	50	48	50
TUBE REMOVAL, FRONT (NOTE 8)	XX	66	66	66	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
RELIEF DOOR ASSEMBLY	VV	13	13	14	14	15	15	16	17	18	17	18
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
BLOWER MOTOR:												
BLOWER HORSEPOWER		7.5	7.5	10	15	15	20	20	25	25	30	30
LOW NO_x BLOWERS		10	10	15	20	20	20	20	20	30	30	30

See Notes on Page 25.

NOTES

1. Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
2. Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
3. Openings are threaded unless indicated:
   f = Class 150 ASA flange. F = Class 300 ASA flange.
   Threaded couplings project 2" or less.
4. Provide "R + 12" clearance from the right side of burner box to the right side wall to open hinged burner.
5. Gas train may change with gas type and pressure.
6. Outside diameter and dimensions are shown. (see note 10)
7. Provide "J + 7" clearance from the rear end of the shell to swing the hinged back plate on 300 HP and larger boilers.
8. Tubes may be removed from the front or rear.
9. Dip tube (2" min.) provided on hot water outlet.
10. Flue outlet dimension on larger boilers are inside diameter with angle iron flanged connection.
11. 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.

STANDARD EQUIPMENT FURNISHED

Pressure Vessel: 100 or 150 PSI, ASME stamped with "H"cloverleaf.

Manholes: Standard on 500 HP or larger boilers.

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

Lifting lugs: One or more provided on each boiler.

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:

- Fully modulating burner with parallel positioning controls.
- 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 Temperature Control: Controls temperature.

High Limit Temperature Control: Manual reset limit control.

UL Labeled: Packaged boiler.

Low Water Cutoffs: MM150 S-M float type with manual reset.

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

Temperature Gauge: 5" dial type.

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 & indicating lights. Siemens LMV5 Microprocessor based burner management system with real time MODBUS communication.

OPTIONAL AGENCY APPROVALS

- Factory Mutual
- CSD-1
- NFPA-85

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HOT WATER 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!
- Unique single pass design allows for high temperature differential operation with no risk of thermal shock.

HOT WATER BOILER RATINGS, CAPACITIES, WEIGHTS

BOILER HORSE POWER	HOURLY GAS INPUT (1,000BTU)	GROSS HOURLY OUTPUT (1,000BTU)	FUEL OPTIONS	LOW NO_x EMISSIONS OPTION	NORMAL WATER CAPACITY (U.S. GAL)	FLOODED WATER WEIGHT (LBS)	SHIPPING WEIGHT (POUNDS)	
							15 PSI	150 PSI
40	1,674	1,339	NG, LP and BIO	30 PPM	186	1,919	3,120	3,120
50	2,092	1,674	NG, LP and BIO	30 PPM	180	1,863	3,250	3,250
60	2,511	2,009	NG, LP and BIO	30 PPM	175	1,825	3,330	3,330
70	2,929	2,343	NG, LP and BIO	30 PPM	265	2,702	4,200	4,240
80	3,348	2,678	NG, LP and BIO	30 PPM	259	2,655	4,380	4,420
100	4,184	3,348	NG, LP and BIO	30 PPM	374	3,655	5,020	5,480
125	5,231	4,184	NG, LP and BIO	30 PPM	333	3,519	5,430	5,800
150	6,277	5,021	NG, LP and BIO	30 PPM	435	4,662	7,230	7,490
175	7,323	5,858	NG, LP and BIO	30 PPM	406	4,541	7,480	7,740
200	8,369	6,695	NG, LP and BIO	30 PPM	553	5,853	8,980	9,310
250	10,461	8,369	NG, LP and BIO	30 PPM	679	7,238	10,230	10,550
300	12,553	10,043	NG, LP and BIO	30 PPM	830	8,982	11,200	12,320
350	14,645	11,716	NG, LP and BIO	30 PPM	779	8,753	11,740	12,990
400	16,738	13,390	NG, LP and BIO	30 PPM	958	10,707	13,750	14,610
500	20,922	16,738	NG, LP and BIO	30 PPM	1,083	12,596	16,690	17,310
600	25,107	20,085	NG, LP and BIO	30 PPM	1,233	14,676	17,410	18,990
700	29,291	23,433	NG, LP and BIO	30 PPM	1,418	16,987	22,330	22,960
800	33,475	26,780	NG, LP and BIO	30 PPM	1,622	19,521	26,300	26,930
900	37,659	30,127	NG, LP and BIO	30 PPM	3,263	27,116	31,770	32,865

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		
	MIN. (3)	STD RANGE	MAX.
10-20	7"	8" to 1 PSI	10 PSI
30-80	8"	12" to 1 PSI	10 PSI
100-150	10"	16" to 1 PSI	10 PSI
175-200	14"	20" to 1 PSI	10 PSI
250	14"	2 to 10 PSI	10 PSI
300-350	14"	1.5 TO 10 PSI	10 PSI
400-900	1 PSI	2 TO 10 PSI	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 pre-wired (105° C color coded wire) to numbered terminal strips. Panels include a control transformer to provide 5 Amp., 120 Volt service. Boilers are wired for jobsite supply power characteristics.

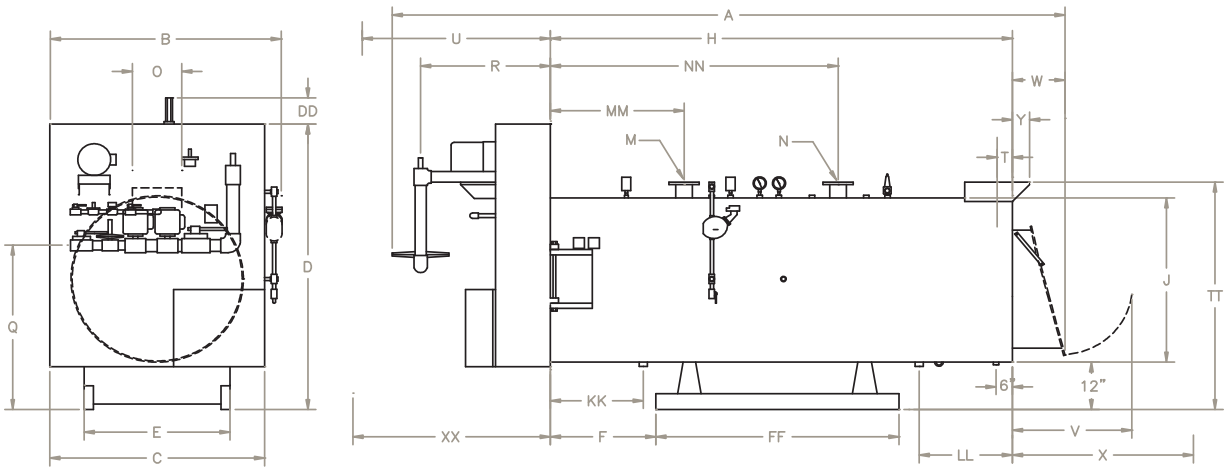
STACK REQUIREMENTS

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 1000 pounds on 10 to 80 HP and 2000 pounds for 100 to 900 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

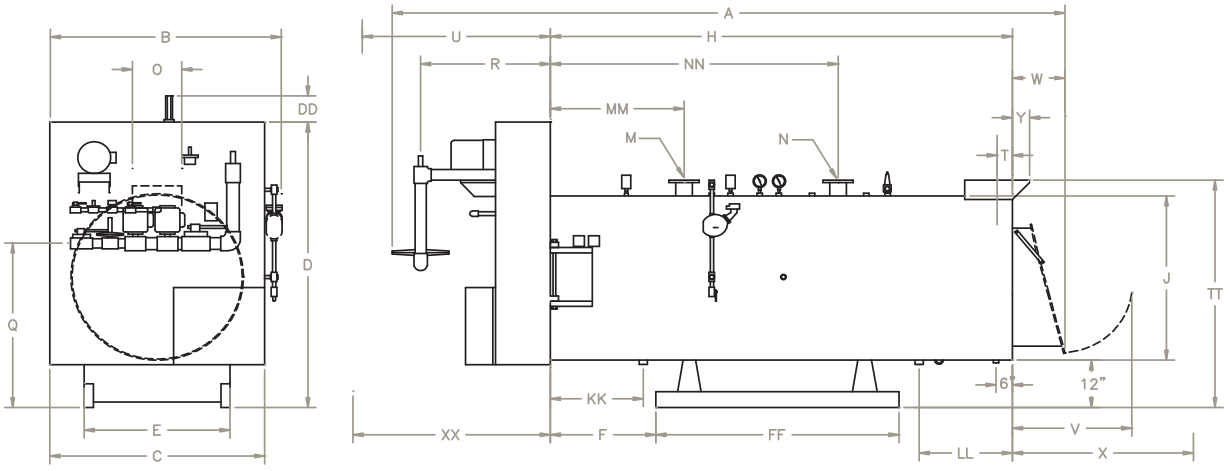
Sellers Fits Where Others Won't



HOT WATER BOILER DIMENSIONS

HORSEPOWER		C-10-W	C-15-W	C-20-W	C-30-W	C-40-W	C-50-W	C-60-W	C-70-W	C-80-W	C-100-W	S-125-W
OVERALL DIMENSIONS:												
LENGTH	A	141	141	141	141	143	143	145	150	151	159	160
WIDTH	B	36	36	36	36	36	42	42	42	48	48	54
BURNER WIDTH	C	30	30	30	32	32	35	35	35	41	41	47
BURNER HEIGHT	D	56	56	56	56	59	65	65	65	70	70	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	24	30	30	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	24	24	30	30	30	36	36	42
SHELL CONNECTIONS:												
DRAIN SIZE	K	1	1	1	1	1.25	1.25	1.25	1.25	1.5	1.5	1.5
DRAIN LOCATION	KK	16	16	16	16	16	16	16	16	16	22	22
MANUAL FILL SIZE	L	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MANUAL FILL LOCATION	LL	23	23	23	23	23	23	23	23	23	23	23
HOT WATER OUTLET SIZE (NOTE 3)	M	2	2	2.5	3	3	4f	4f	4f	4f	4f	6f
HOT WATER OUTLET LOCATION	MM	26	26	26	26	26	26	26	26	26	33	33
HOT WATER RETURN SIZE (NOTE 3)	N	2	2	2.5	3	3	4f	4f	4f	4f	4f	6f
HOT WATER RETURN LOCATION	NN	64	64	64	64	64	64	64	64	64	71	71
GAS CONNECTIONS:												
MAIN BURNER VALVE IPS (NOTE 5)	QQ	1.25	1.25	1.5	1.5	1.5	1.5	2	2	2	2.5	2.5
VERTICAL LOCATION (NOTE 11)	Q	33	33	33	33	33	36	36	36	39	39	42
HORIZONTAL LOCATION (NOTE 4)	R	20	20	20	20	20	20	22	26	26	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 & 10)	O	6	6	8	8	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	43	43	49	49	49	55	55	61
INSTALLATION CLEARANCES:												
COMBUSTION ASSEMBLY SWING	U	35	35	35	36	36	38	40	41	46	48	53
RELIEF DOOR SWING (NOTE 7)	V	18	18	18	18	18	21.5	21.5	21.5	25.5	25.5	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	10	10	11	11	11	12	12	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 BLOWERS		TBD	TBD	TBD	TBD	3	5	7.5	7.5	7.5	7.5	10

See Notes on Page 30.



HOT WATER BOILER DIMENSIONS

HORSEPOWER		S-150-W	S-175-W	S-200-W	S-250-W	S-300-W	S-350-W	S-400-W	S-500-W	S-600-W	S-700-W	S-800-W
OVERALL DIMENSIONS:												
LENGTH	A	166	166	167	193	196	210	213	214	218	220	228
WIDTH	B	57	57	61	64	67	72	76	83	89	95	101
BURNER WIDTH	C	53	53	56	62	62	72	74	82	88	94	100
BURNER HEIGHT	D	73	73	82	80	87	97	102	107	112	120	125
SECONDARY AIR CAP HEIGHT	DD											
BASE:												
WIDTH	E	36	36	42	42	48	48	54	57	63	66	72
LOCATION	F	26	26	26	3	3	3	3	3	3	3	3
LENGTH	FF	60	60	60	104	104	104	104	104	104	104	104
SHELL:												
LENGTH	H	114	114	114	140	140	140	140	140	140	140	140
DIAMETER INSIDE	J	42	42	48	48	54	54	60	66	72	78	84
SHELL CONNECTIONS:												
DRAIN SIZE	K	1.5	1.5	2	2	2	2	2	2	2	2	2
DRAIN LOCATION	KK	22	22	22	34	34	34	34	34	34	34	34
MANUAL FILL SIZE	L	2	2	2	2	2	2	2	2	2	2	2
MANUAL FILL LOCATION	LL	23	23	23	28	28	28	28	28	28	28	28
HOT WATER OUTLET SIZE (NOTE 3)	M	6f	6f	6f	8f	8f	8f	8f	10f	10f	10f	12f
HOT WATER OUTLET LOCATION	MM	33	33	33	36	36	36	36	36	36	36	36
HOT WATER RETURN SIZE (NOTE 3)	N	6f	6f	6f	8f	8f	8f	8f	10f	10f	10f	12f
HOT WATER RETURN LOCATION	NN	71	71	71	88	88	88	88	88	88	88	88
GAS CONNECTIONS:												
MAIN BURNER VALVE IPS (NOTE 5)	QQ	3	3	3	2.5	2.5	2.5	3	3	3	3	3
VERTICAL LOCATION (NOTE 11)	Q	38	38	41	44	48	48	48	48	48	48	48
HORIZONTAL LOCATION (NOTE 4)	R	32	32	32	34	34	48	50	50	50	50	56
PILOT BURNER VALVE IPS	S	0.75	0.75	0.75	0.75	1	1	1	1	1.25	1.25	1.25
FLUE CONNECTIONS:												
FLUE SIZE (NOTES 6 & 10)	O	16	18	18	20	22	24	26	28	32	34	36
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
FLUE HEIGHT	TT	61	61	67	67	73	73	79	85	97	103	109
INSTALLATION CLEARANCES:												
COMBUSTION ASSEMBLY SWING	U	58	58	62	65	68	80	84	90	95	100	108
RELIEF DOOR SWING (NOTE 7)	V	29.5	29.5	35.5	35.5	40	40	43	46	50	48	50
TUBE REMOVAL, FRONT (NOTE 8)	XX	66	66	66	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
RELIEF DOOR ASSEMBLY	VV	13	13	14	14	15	15	16	17	18	17	18
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
BLOWER MOTOR:												
BLOWER HORSEPOWER		7.5	7.5	10	15	15	15	15	20	20	25	25
LOW NO_x BLOWERS		10	10	15	20	20	20	20	25	30	30	30

See Notes on Page 30.

NOTES

1. Dimensions are accurate for layout but are subject to change. Certified prints are available upon request.
2. Lifting lugs and insulation are not shown on drawing. The manhole, when furnished, is not shown.
3. Openings are threaded unless indicated:
   f = Class 150 ASA flange. F = Class 300 ASA flange.
   Threaded couplings project 2" or less.
4. Provide "R + 12" clearance from the right side of burner box to the right side wall to open hinged burner.
5. Gas train may change with gas type and pressure.
6. Outside diameter and dimensions are shown. (see note 10)
7. Provide "J + 7" clearance from the rear end of the shell to swing the hinged back plate on 300 HP and larger boilers.
8. Tubes may be removed from the front or rear.
9. Dip tube (2" min.) provided on hot water outlet.
10. Flue outlet dimension on 300 HP and larger boilers are inside diameter with angle iron flanged connection.
11. 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.

STANDARD EQUIPMENT FURNISHED

Pressure Vessel: 100 or 150 PSI, ASME stamped with "H"cloverleaf.

Manholes: Standard on 500 HP or larger boilers.

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

Lifting lugs: One or more provided on each boiler.

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 Temperature Control: Controls temperature.

High Limit Temperature Control: Manual reset limit control.

UL Labeled: Packaged boiler.

Low Water Cutoffs: MM150 S-M float type with manual reset.

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

Temperature Gauge: 5" dial type.

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

Sellers® MANUFACTURING CO.

7P SERIES

HOT WATER BOILERS

- The Sellers two pass series rapid response boiler is designed to fit in ultra tight spaces.

PRODUCT APPLICATION

The TP-W is a compact firetube boiler designed to provide heat for building or process use. Fuel can be natural or propane gas or both. The short length allows installation in small boiler rooms that ordinary firetube boilers cannot serve. Rugged construction enables operation under marginal conditions of high temperature drops or low temperature returns.

BOILER DESIGN

The TP-W is an immersion fired boiler fully assembled as a factory packaged unit. Lifting lugs and a shipping skid aid in easy placement in the boiler room. All components are factory installed on the boiler, wired and fire tested to assure proper operation. Both the front burner assembly and the rear door are hinged or davited to allow easy access.

Two inches of fiberglass insulation protected by an enameled steel jacket covers the shell.

This boiler is supplied with a UL listed and approved control panel.

SHELL DESIGN

The unique pressure vessel shell with short horizontal firetubes conserves floor space. Tubes are rolled and beaded at both heads in lieu of welding. The 3/4" thick water backed heads with 1" minimum ligaments contribute to the long life expected from a Sellers hot water boiler.

Handholes are provided for internal inspection. Manholes are furnished when required by the ASME Code.

Water temperature, pressure and water level are monitored with gauges or limit controls to assure operator safety.

Pressure vessels are constructed in accordance with Section IV of the ASME Code. Insurance inspectors check each vessel. The ASME Data Report is provided to the owner. Each vessel is registered with the National Board.

Installation of the boiler is simplified with the top supply and return openings.

BURNER ASSEMBLY

All burner components are premounted on the hinged burner manifold assembly. Combustion air is furnished through a forced draft blower assembly. The premix type burner distributes gas to the individual flame retention nozzles which direct the flame into each tube. Pressurized combustion takes place inside the tube where heat is rapidly transferred to the water. The close proximity of the flame to the water aids in reducing air polluting nitrous oxide contaminates.

OPERATING SEQUENCE

On a call for heat by the operating temperature control, the limits are checked for safety and the blower motor starts. The air supply is proved and burner is prepurged for 30 seconds. After prepurge, the runner pilot gas valve opens and the runner pilot is spark ignited. Spark is continuously maintained through the combustion cycle. After the runner pilots have made a complete traverse below all burner nozzles and have been proved by the flame rod within 10 seconds, the main gas valve opens. When the call for heat is satisfied, a 15 second post purge of the boiler completes the cycle.

Standard safety controls monitoring the combustion cycle include low water cutoff, high limit temperature control and air proving switch. The electronic combustion safeguard provides 100% safety shutdown within 3 seconds of flame failure.

STEAM BOILER RATINGS, CAPACITIES, WEIGHTS (SEA LEVEL TO 3000FT ALTITUDE)

HORSE POWER	BOILER HORSE POWER	HOURLY GAS INPUT (1,000BTU)	GROSS HOURLY OUTPUT (1,000BTU)	LOW NOx EMISSIONS OPTION	WATER CAPACITY		SHIPPING WEIGHT (POUNDS)**		
					GALLONS	POUNDS	100 PSI*	125 PSI	150 PSI
TP-20-W	20	837	670	30 PPM	300	2,504	3,190	3,300	3,450
TP-30-W	30	1,256	1,005	30 PPM	293	2,445	3,390	3,480	3,650
TP-40-W	40	1,674	1,340	30 PPM	287	2,395	3,540	3,630	3,810
TP-50-W	50	2,093	1,675	30 PPM	456	3,805	4,630	4,990	5,140
TP-60-W	60	2,512	2,010	30 PPM	450	3,755	4,810	5,160	5,290
TP-80-W	80	3,348	2,680	30 PPM	540	4,506	5,780	6,030	6,330
TP-100-W	100	4,186	3,350	30 PPM	527	4,398	6,190	6,390	6,690
TP-125-W	125	5,231	4,185	30 PPM	745	6,217	7,960	8,240	8,920

(1) Standard Boiler Pressure.
(2) Crating may add 500 pounds to some shipments.

INSTALLATION REQUIREMENTS

GAS PRESSURE REGULATORS

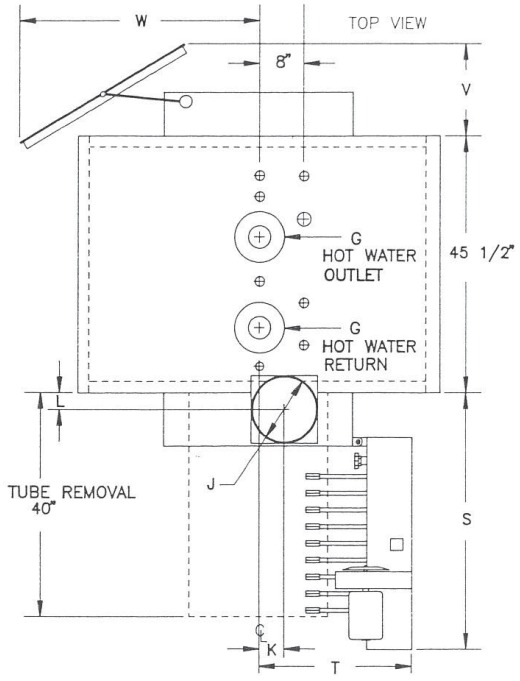
Regulators are required on all gas trains. They are supplied at no extra charge providing gas pressures to the regulator are within the standard gas train range shown in the chart below. If gas pressures exceed 10 PSI, a second regulator should be supplied at the jobsite to reduce pressures to the standard range.

At elevations over 2000', consult the factory to determine if higher gas pressures are required.

Required Gas Pressures (Natural Gas at 0-2000' elevation)

BOILER HORSEPOWER	PRESSURE REQUIRED AT INLET TO GAS TRAIN			
	STANDARD GAS TRAIN		SPECIAL GAS TRAIN*	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
10 TO 20	**8" w.c.	1 PSI	**6" w.c.	10 PSI
30 TO 80	12" w.c.	1 PSI	**7" w.c.	10 PSI
100 TO 125	14" w.c.	1 PSI	**10" w.c.	10 PSI

* Special gas trains required at extra cost.
** Minimum pressure for propane to be 11" w.c.



CIRCULATION

Water must be circulated through the boiler at a minimum rate of .75 gpm per horsepower to prevent stratification and condensation. With 3-way blending valves, be careful that internal circulation is maintained. Circulate with house pumps or optional boiler pump.

ELECTRICAL

All boilers are factory assembled with 105° C color coded wire to numbered terminal strips. The wiring diagram is attached to the inside of the control panel cover. A transformer provides 5 amps at 120 volts to the control circuit. Motors are provided to match the specified power supply requirements at the jobsite.

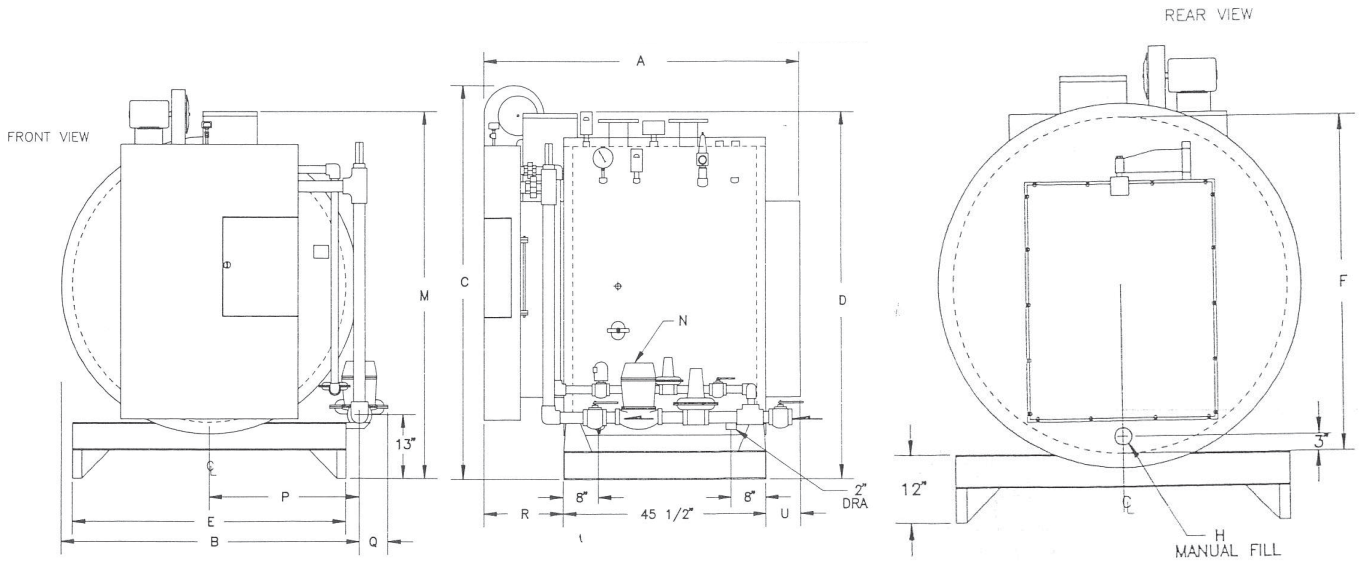
STACK REQUIREMENTS

Design stack to provide -.02" water column draft at the flue outlet. Smooth transitions and bends are required. Generally, full size rectangular or equivalent round stacks should be used. Maximum stack weight on boiler should not exceed 1,000 pounds.

AIR REQUIREMENTS

Provide 1/2 square foot of free air inlet area per 1,000,000 Btu input to burner or 3 square inches per boiler horsepower. Preferably, use cross ventilation in lieu of a single opening.

See manuals for full installation details.



HOT WATER BOILER DIMENSIONS

HORSEPOWER:		TP-20-W	TP-30-W	TP-40-W	TP-50-W	TP-60-W	TP-80-W	TP-100-W	TP-125-W
OVERALL DIMENSIONS:									
LENGTH	A	72	72	72	72	72	72	81	81
WIDTH	B	53	53	53	65	65	71	71	83
HEIGHT TO TOP OF BLOWER (4)	C	83	87	87	94	94	106	106	112
HEIGHT TO TOP OF CONTROL (4)	D	70	70	70	82	82	91	88	103
BASE:									
WIDTH	E	42	42	42	54	54	57	57	66
SHELL:									
DIAMETER INSIDE	F	48	48	48	60	60	66	66	78
HOT AND COLD WATER OPENINGS IPS	G	2.5	3	3	4f	4f	4f	4f	6f
MANUAL FILL	H	1.25	1.25	1.5	2	2	2	2.5	2.5
FLUE CONNECTION:									
SIZE - OUTSIDE DIAMETER	J	6	8	10	10	12	12	14	16
HORIZONTAL SIDE LOCATION	K	5	6	5	5	4.5	4.5	7	7.5
HORIZ. FORWARD LOCATION	L	4	4	4	4	3	3	7	7
HEIGHT TO TOP OF FLUE	M	72	76	76	80	80	92	92	96
GAS CONNECTION:									
MAIN BURNER VALVE SIZE IPS	N	1.5	2	2	2	2.5	3	3	3
HORIZ. STANDARD LOCATION	P	24	26	26	31	31	33	33	36
INSTALLATION CLEARANCES:									
VALVE PROJECTION (LOW GAS TRAIN)	Q	1	4	4	3	3	4	4	1
BURNER EXTENSION	R	18	18	18	18	18	18	26.5	26.5
BURNER SWING TO FRONT	S	36	36	42	42	45	45	55	59
BURN. SWING TO SIDE (OPEN 90 DEG.)	T	25	25	28	28	29.5	29.5	33	35
TURNBOX EXTENSION	U	8	8	8	8	8	8	8.5	8.5
TURNBOX DOOR SWING TO REAR	V	18	18	21	21	22.5	22.5	26	27
TURNBOX DOOR SWING TO SIDE	W	26	26	34	34	39	39	42	46
BLOWER MOTOR:									
BLOWER HORSEPOWER		1	1.5	1.5	2	3	3	5	5

Notes:
(1) All dimensions are in inches.
(2) Lifting lugs furnished but not shown on drawing.
(3) Dotted lines indicate 2" insulation.
(4) Overall height is the greater of these dimensions.
(5) Standard gas train location is low near skid. Regulator on gas valve projects amount shown. Specify high gas train to eliminate projection.
(6) Openings are threaded unless indicated. f = Class 150 ASA flange. Threaded couplings project 2" or less.
(7) Consult factory for low NOx blowers.

STANDARD EQUIPMENT FURNISHED

Pressure Vessel: 100 or 150 PSI, ASME stamped with "H" cloverleaf.

Tubes: Steel, .095" wall, expanded and beaded.

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

Base: Structural steel skid type.

Insulatlon: 2" fiberglass with double painted steel jacket.

Access Door: Burner and rear door hinged or davited for easy access to pressure vessel.

Operating Temperature Control: Controls temperature.

High Limit Temperature Control: Safety limit control.

Pressure Gauge: 4.5" dial type with tee cock on pigtail.

Temperature Gauge: 5" dial type.

Low Water Cutoff: Probe type.

Manhole: Furnished on 80 HP and larger diameter boilers.

Handholes: Three (3) furnished.

Lifting Lugs: One or more provided on each boiler.

Observation Ports: Two or more in combustion chamber to view burners.

Burner Assembly: Hinged to shell including:

- Combustion air blower with open drip proof motor
- Air pressure switch
- Ignition transformer, spark and flame rods
- Pilot gas valve, regulator and cock
- Main burner including regulator, adjustment valve, mixer and nozzles, plus:

	10 - 50 HP	60 - 100 HP	125 HP
• Solenoid gas valve	1	-	-
• Motorized gas valve	-	1	2
• Proof of closure switch	-	1	1
• High or low gas switch	-	2	2
• Pilot gas valve	1	1	1

- Control cabinet with: motor starter, flame safeguard Honeywell R4140M, control transformer with fuse, six (6) indicator lights with engraved labels for low water, limits, call for heat, pilot, main burner and flame failure. Safe start switch, numbered terminal strips and color coded 105° C oil, water and heat resistant wiring.

Factory fire test report.
Five year limited warranty on burner and pressure vessel.
Finished with jade green heavy machinery enamel.
Initial start-up service and operator's instructions are provided by a company representative.

Sellers®
MANUFACTURING CO.

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