

Smith

Smith
CAST IRON BOILERS



RESIDENTIAL/COMMERCIAL BOILERS

boiler selection guide



GC160 Series Condensing – Water

Ultra high efficient condensing water boilers with operating efficiencies of up to 91.1%. Space saving wall-hung design and patented tri-parallel flow heat exchanger with full modulation burners and state of the art premix air/fuel firing system engineered for optimum performance. Available in both a combination heating/domestic hot water (4+ GPM) unit and a heating only configuration, GC160 units are perfect for residential, condominium or apartment complex applications.

REFERENCE: GC160 Series brochure.

GC160 Specifications					
Boiler Model Number	Input Max MBH	Input Min MBH	Output Max MBH	Output Min MBH	AFUE
GC-160C (Combi)	160	30	142	28	91.1%
GC-160B (Heat Only)	160	30	149	28	91.1%



GBX/GVX Series – Water

Durable cast iron water boilers are completely packaged and wired for easy installation in residential applications. GBX/GVX units are available in five sizes ranging from 70 to 195 MBH in both natural and propane gas with intermittent ignition systems. Optional power vent (GVX model).

REFERENCE: GBX/GVX Series brochure.

GBX GVX Specifications				
Boiler Model Number	Natural/LP			AFUE ①
	AGA Input MBH	DOE Htg Cap MBH	Net I=B=R Ratings MBH	Intermittent Spark Ignition
GBX-70	70	58	50	82.2%
GBX-105	105	86	75	82.1%
GBX-140	140	115	100	82.0%
GBX-175	175	143	124	82.0%
GBX-195	195	139	139	82.0%
GVX-70	70	58	50	82.1%
GVX-105	105	87	76	82.0%
GVX-140	140	116	101	82.0%
GVX-165	165	136	118	82.0%

① GBX units with Stack Damper



GSX Series – Steam

Durable cast iron steam boilers are completely packaged and wired for easy installation in residential and light commercial applications. GSX units are available in seven sizes ranging from 88 to 288 MBH in both natural and propane gas with intermittent ignition systems.

REFERENCE: GSX Series brochure.

GSX Specifications							
Boiler Model Number	AGA Input	DOE Capacity	I=B=R Net Ratings		Water Content Steam (Gallons)	Approx Shipping Weight (LBS)	*AFUE
			Sq Ft	MBH			
GSX-88	85.5	74	233	56	9.3	465	83.0%
GSX-118	118.0	98	308	74	9.3	465	82.6%
GSX-147	147.5	123	383	92	10.8	576	82.6%
GSX-177	177.0	147	458	110	10.8	576	82.4%
GSX-206	206.5	171	533	129	12.4	700	82.3%
GSX-236	236.0	196	613	147	12.4	700	82.2%
GSX-288	287.5	238	746	179	13.9	812	82.0%

*AFUE all based on DOE intermittent pilot/vent damper NG.



8HE Series – Water and Steam

Series 8HE boilers are high efficient at up to 86% and built to last. Units have a durable cast iron wet base design poured and machined in our own foundry in Boyertown, PA. Available for both water and steam applications in eight sizes from 103 to 235 MBH the 8HE Series is perfect for both residential and light commercial applications. Optional domestic hot water coils and plug and play burner configurations from Carlin, Beckett and Riello provide application versatility.

REFERENCE: 8HE Series brochure.

8HE Series Specifications									
Boiler Model Number	Input		Heating Capacity ⁵ MBH		Net Ratings ⁴			AFUE ⁵ %	
	GPH ¹	MBH	Water	Steam	Steam sq ft	Steam MBH ³	Water MBH ²	Water	Steam
8HE-3	0.85	119	104	103	321	77	90	86.2*	84.8
	1.05	147	126	124	388	93	110	85.0*	83.6
8HE-4	1.25	175	151	151	471	113	131	85.4*	85.3*
	1.50	210	180	179	558	134	156	85.1*	84.3
8HE-5†	1.75	245	212	—	—	—	184	85.5*	—
	1.95	273	235	—	—	—	204	85.0*	—



* As an ENERGY STAR® Partner, Smith has determined that these firing rates meet the ENERGY STAR® guidelines for energy efficiency.

† Top venting only.

1 Burner input based on No. 2 fuel oil with a heating value of 140,000 Btu per gallon.

2 Net water ratings based on an allowance of 1.15.

3 Net steam ratings based on an allowance of 1.333.

4 Consult factory before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.

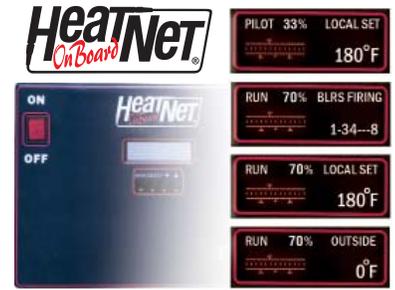
5 Heating Capacity and Annual Fuel Utilization Efficiency (AFUE) ratings are based on U.S. Government tests, with 13% CO₂ and -.02" W.C. draft over fire. Before purchasing this appliance, read important information about its estimated annual energy consumptions or energy efficiency rating that is available from your retailer.

6 Chimney Size: 8" x 8" x 15 ft.

HeatNet® Control Technology

HeatNet, Smith Boilers' proprietary integrated boiler management system is the driving force behind Smith's energy optimization philosophy for its high efficiency equipment. Designed for precise system control, HeatNet provides repeatability and feedback thru digital communication. The control monitors boiler temperatures and limit circuit inputs, maintains system and domestic hot water requirements, supports boiler room components including system/domestic pump, boiler pump, combustion air damper and modulates boiler firing rate to maximize turndown ratios in order to maintain peak efficiency. For use on 19HE and 28RTS-HE water boilers with full modulation burners only.

REFERENCE: HeatNet brochure.



19HE Series – Water and Steam

Cast iron wet-base design provides superior performance and longevity in all commercial and light commercial applications. Choose a variety of burners from PowerFlame, Carlin and Beckett in either No. 2 fuel oil, natural gas or combination gas/oil configurations. Boilers are available as knocked down, assembled sections or completely packaged to suit individual job-site needs. Optional tankless heaters and 3-way thermostatic valves available. Ten sizes from 308 to 1750 MBH. All units are ASHRAE 90.1 compliant.

REFERENCE: 19HE Series brochure.

19HE Series Specifications							
Boiler Model Number	Boiler Horsepower	I=B=R Gross Output MBH	I=B=R Burner Capacity		Flue Pipe Diameter	Thermal Efficiency	
			Oil GPH	Gas MBH		Oil	Gas
19HE - 3	9	308	2.6	375	7"	84.6	82.1
19HE - 4	12	421	3.6	520	7"	84.1	81.5
19HE - 5	17	587	5.0	722	8"	83.9	81.3
19HE - 6	22	762	6.5	938	8"	83.7	81.2
19HE - 7	27	924	7.9	1140	9"	83.5	81.1
19HE - 8	32	1087	9.3	1342	10"	83.5	81.0
19HE - 9	37	1262	10.8	1559	10"	83.5	81.0
19HE - 10	42	1424	12.2	1761	10"	83.4	80.9
19HE - 11	47	1587	13.6	1963	10"	83.4	80.8
19HE - 12	52	1750	15.0	2165	10"	83.4	80.8

Maximum allowable working pressure 15 psi steam, 80 psi water.



28RTS-HE and 28HE Series – High Efficiency Water and Steam

High efficient RTS HE units offer high thermal and combustion efficiencies. Up to 86% oil and 83.6% gas. Return Temperature Stabilizer equalizes water temperatures to minimize stress and help prevent thermal shock, further extending boiler life. Fuel options include gas, oil and combination gas/oil configurations making RTS units ideal for schools, apartments and commercial buildings. Optional burner configurations and tankless domestic hot water coils available. Sizes from 931 to 4,622 MBH.

REFERENCE: RTS HE Series brochure and 28HE Series brochure.

RTS HE and 28HE Series Specifications																
Designed and tested to the ASME boiler and pressure vessel code, section IV for maximum allowable working pressure, water 80 psig.																
28 RTS HE 28HE Number of Sections	Boiler Horsepower	I=B=R Gross Output (MBH)	Net I=B=R Ratings						Heating Surface (Sq Ft)	Furnace Volume (Cu Ft)	Water Contents (Gals)	Water Working Weight (Lbs)	Thermal Efficiency		Combustion Efficiency	
			Water		Steam		Burner Capacity						Oil	Gas	Oil	Gas
			MBH	Sq Ft	MBH	Oil GPH	Gas MBH									
4	27	931	810	2908	698	7.9	1143	81.2	12.04	103.8	4215	83.9	81.4	86.2	83.6	
5	35	1194	1038	3733	896	10.2	1458	105.3	16.14	125.8	5038	84.4	81.9	86.2	83.6	
6	43	1458	1268	4625	1110	12.2	1773	129.4	20.24	147.8	5861	84.8	82.2	86.1	83.5	
7	51	1722	1497	5542	1330	14.4	2088	153.5	24.34	169.8	6684	85.0	82.5	86.1	83.5	
8	59	1985	1726	6421	1541	16.6	2403	177.6	28.44	191.8	7507	85.2	82.6	86.1	83.5	
9	67	2249	1956	7275	1746	18.8	2718	201.7	32.54	213.8	8331	85.3	82.7	86.1	83.5	
10	75	2513	2185	8129	1951	21.0	3033	225.8	36.64	235.8	9169	85.4	82.8	86.1	83.5	
11	83	2776	2414	8979	2155	23.0	3348	249.9	40.74	257.8	9992	85.5	82.9	86.0	83.5	
12	91	3040	2643	9833	2360	25.5	3663	274.0	44.84	279.8	10,815	85.6	83.0	86.0	83.5	
13	98	3304	2873	10,688	2565	27.5	3978	289.1	48.94	301.8	11,649	85.6	83.0	86.0	83.5	
14	106	3567	3102	11,538	2769	29.5	4293	322.2	53.04	323.8	12,467	85.7	83.1	86.0	83.5	
15	114	3831	3331	12,392	2974	32.0	4608	346.3	57.14	345.8	13,511	85.7	83.1	86.0	83.4	
16	122	4095	3561	13,246	3179	34.0	4923	370.4	61.24	367.8	14,375	85.7	83.2	86.0	83.4	
17	130	4358	3790	14,100	3384	36.5	5238	394.5	65.34	389.8	15,239	85.8	83.2	86.0	83.4	
18	138	4622	4019	14,954	3589	38.5	5553	418.6	69.44	411.8	16,103	85.8	83.2	86.0	83.4	

Net I=B=R Ratings for steam boilers are based on piping and pick-up factor as follows:
 4 and 5 section = 1.333 6 section = 1.305 8 section and larger = 1.288
 • Light oil having a heat content of 140,000 BTU/Gal.
 • Gas having a heat content of 1,000 BTU/Cu. Ft., 0.60 specific gravity.





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