SIMONEAU

EVOLTA

Engineered by Simoneau

Ecofriendly

Manufactured in Canada

TO FIND YOUR LOCAL REPRESENTATIVE

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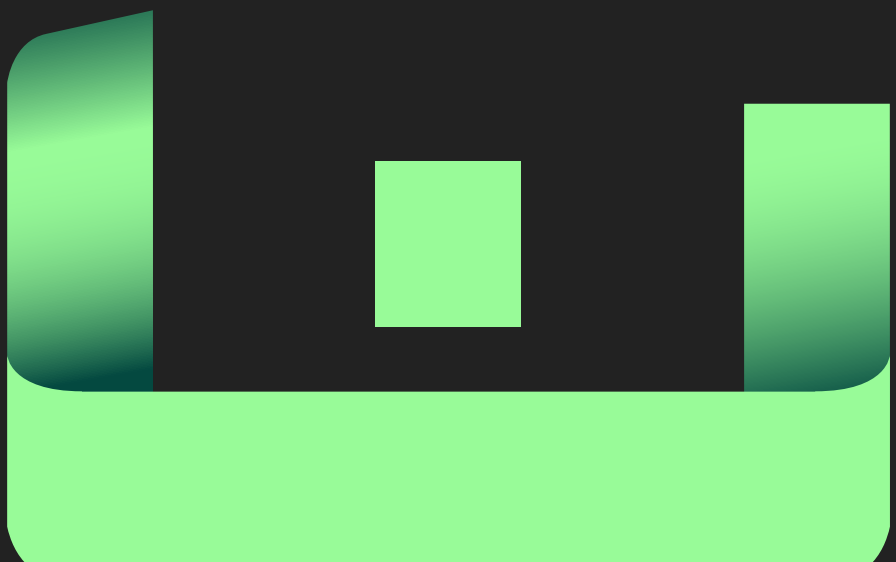
eVOLTA ELECTRIC STEAM BOILER

THE COMPACT, ENERGY-EFFICIENT, AND ENVIRONMENTALLY FRIENDLY BOILER

Engineered to deftly handle today's industrial heating needs for various sectors, the eVolta® is Simoneau's innovative electric steam boiler that can help you reach your decarbonization goals.

Just like all our boiler solutions, the eVolta® is built using the latest in boiler innovations and in compliance with our strict manufacturing standards. It incorporates all the features needed to generate high-grade steam quality while eliminating the risk of carryover.

With the eVolta®, you're tapping into maximized energy efficiency and actively reducing your carbon footprint thanks in part to its dual energy capacity – allowing you for example to use your building's energy source for the ramping-up process or for overnight standby maintenance.



THE EVOLTA® ADVANTAGE

ENVIRONMENTALLY FRIENDLY

No greenhouse gas emissions, helping you achieve your decarbonization goals. Allows you to use clean energy made in Canada.

HIGH ENERGY EFFICIENCY

Coefficient of performance (COP) of 0.99 over the entire operating range, with infinitely variable modulation. For peak power management, the eVolta® allows you to generate energy at lower cost.

DESIGNED, BUILT AND TESTED BY OUR EXPERTS

Designed by a multidisciplinary team with over 30 years' experience in designing and manufacturing industrial energy generation equipment. Manufactured in our plant based in Canada, maximizing local parts/materials and in-house technical support. Factory-tested and CSA SPE 1000 certified before delivery.

COMPONENT FLANGES DESIGNED AND MANUFACTURED LOCALLY

A perfect combination between boiler and components for optimal performance. GSI caries an inventory of components to quickly supply flanges, reducing in turn downtime. Components are soldered to the flanges to eliminate the possibility of leaks during operations, ensuring longer shelf life.

EASY, LOW-COST INSTALLATION

No need for chimneys or fuel supply piping, allowing for optimal maneuvering in the boiler room. Also, no condensate to manage.

LOW OPERATING & MAINTENANCE COST

The eVolta®'s heating elements can be easily accessed and replaced. No combustion and no moving parts ensure easy and low-cost maintenance.

SILENT OPERATION

The eVolta® has no moving parts. It's ideal for healthcare centres and schools, among others.

CARACTÉRISTIQUES

SPECIFICATIONS

Low-pressure steam	≤ 15 psi
High-pressure steam	≤ 150 psi*
Capacity	From 80 to 3660 kW

** very high pressure available on request, < 150 psi*

BURNER MANAGEMENT

Control	Full range / choice of controls
Fuel	Voltage 208V to 575V
Radiation losses	≤ 70 W/m²
Minimum boiling density	3 lb/h*pi 2 *psia
Control panel	NEMA 12
Steam quality	99,5 %

ECHO CHART

Emission	0 emission
Sourcing	Local sourcing of material
GHGs saved per hour of use	Study in progress

CERTIFICATIONS

Registered at the National Board (NB)
Container and components ASME and CRN compliant
Packaging, panel and controls CSA and UL compliant

SELECTION CHART

	MODEL	E	F	G	G+
DIMENSIONS*	Length	50	50	74	74
	Width	66	66	75	75
	Height	78	78	91	98
	Clearance panel	40	40	40	40
	Clearance to remove elements	31	31	36	36
	Shipping weight (lbs)	3000	3000	3500	3500
OPENINGS*	Steam outlet HPS	2	2	3	4
	Steam outlet LPS	3	3	4	4
	Continuous blowdown	0,75	0,75	0,75	0,75
	Feedwater inlet	0,75	0,75	1	1
	Bottom blowoff HPS	1	1	1	1
	Bottom blowoff LPS	1	1,25	1,5	1,5
	Safety value HPS	1	1,25	2	2 x 2
	Safety value LPS	1,5	1,5	2	2 x 2

**dimensions in inches*

CAPACITY TABLES

600V CAPACITY

MODEL	KW	STAGES
E	80	2 x 40kW
	120	3 x 40kW
	160	4 x 40kW
	200	5 x 40kW
	240	6 x 40kW
	280	7 x 40kW
	320	8 x 40kW
F	360	7 x 40kW + 1 x 80kW
	400	6 x 40kW + 2 x 80kW
	440	5 x 40kW + 3 x 80kW
	480	4 x 40kW + 4 x 80kW
G	500	2 x 50kW + 4 x 100kW
	550	3 x 50kW + 4 x 100kW
	600	4 x 50kW + 4 x 100kW
	650	3 x 50kW + 5 x 100kW
	700	2 x 50kW + 6 x 100kW
	750	2 x 50kW + 5 x 100kW + 1 x 150kW
	800	5 x 100kW + 2 x 150kW
	850	7 x 100kW + 1 x 150kW
	900	6 x 100kW + 1 x 150kW
G+	950	5 x 100kW + 3 x 150kW
	1000	4 x 100kW + 4 x 150kW
	1100	4 x 100kW + 2 x 150kW + 2 x 200kW
	1200	4 x 100kW + 4 x 200kW

480V CAPACITY

MODEL	KW	STAGES
E	80	2 x 40kW
	120	3 x 40kW
	160	4 x 40kW
	200	5 x 40kW
	240	6 x 40kW
	280	7 x 40kW
	320	8 x 40kW
F	360	7 x 40kW + 1 x 80kW
	400	6 x 40kW + 2 x 80kW
	440	5 x 40kW + 3 x 80kW
	480	4 x 40kW + 4 x 80kW
G	500	3 x 66kW + 3 x 100kW
	600	6 x 100kW
	700	3 x 100kW + 3 x 133kW
	800	6 x 133kW
	900	3 x 133kW + 3 x 166kW
	1000	6 x 166kW
G+	1100	3 x 66kW + 9 x 100kW
	1200	12 x 100kW
	1300	9 x 100kW + 3 x 133kW

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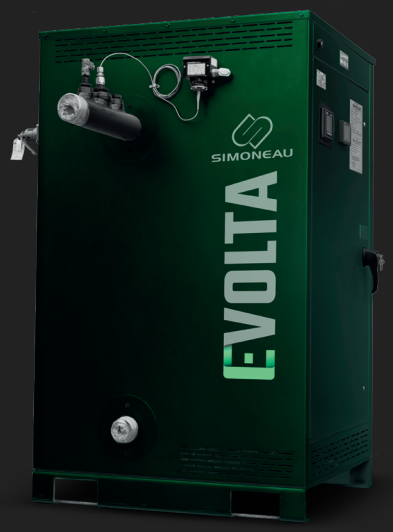
The electric boiler of the future engineered to deftly handle today's industrial steam and heating needs for various sectors and help you reach your decarbonization goals.



TECHNICAL DATA

② To determine KW required for steam boilers, determine BTU / # of Steam from Table 1 according to temperature of feedwater and boiler working pressure (PSIG).

③ Determine KW by inserting BTU / # figure into formula below, according to lbs. of steam per hour required.

$$kW = \frac{(\text{BTU / \# steam}) \times (\text{lbs. steam / hour required})}{3413}$$

TABLE 1: BTU PER POUND OF STEAM

TEMP. OF WATER (°F.)	WORKING PRESSURE (PSIG)											
	5	10	15	20	25	30	40	50	60	80	100	120
50	1138	1142	1146	1149	1152	1154	1158	1161	1164	1168	1172	1175
60	1128	1132	1136	1139	1142	1144	1148	1151	1154	1158	1162	1165
70	1118	1122	1126	1129	1132	1134	1138	1141	1144	1148	1152	1155
80	1108	1112	1116	1119	1122	1124	1128	1131	1134	1138	1142	1145
90	1098	1102	1106	1109	1112	1114	1118	1121	1124	1128	1132	1135
100	1088	1092	1096	1099	1102	1104	1108	1111	1114	1118	1122	1125
120	1068	1072	1076	1079	1082	1084	1088	1091	1094	1098	1102	1105
140	1048	1052	1056	1059	1062	1064	1068	1071	1074	1078	1082	1085
160	1028	1032	1036	1039	1042	1044	1048	1051	1054	1058	1062	1065
180	1008	1012	1146	1019	1022	1024	1028	1031	1034	1038	1042	1045
200	988	992	996	999	1022	1004	1009	1011	1014	1018	1022	1025
220	968	968	972	976	982	984	988	991	994	998	1002	1005
240	948	948	952	959	962	964	968	971	974	978	982	985
260	928	928	932	936	939	942	944	948	954	958	962	965

SATURATED STEAM: PRESSURE VS. TEMPERATURE

0 PSIG	0 KPa	212 °F	150 PSIG	1034 KPa	366 °F
8 PSIG	55 KPa	235 °F	175 PSIG	1207 KPa	377 °F
15 PSIG	103 KPa	250 °F	200 PSIG	1379 KPa	388 °F
30 PSIG	207 KPa	274 °F	225 PSIG	1551 KPa	397 °F
50 PSIG	345 KPa	298 °F	250 PSIG	1724 KPa	406 °F
80 PSIG	552 KPa	324 °F	300 PSIG	2068 KPa	422 °F
100 PSIG	690 KPa	338 °F	350 PSIG	2413 KPa	436 °F
125 PSIG	862 KPa	353 °F	400 PSIG	2758 KPa	448 °F

CONVERSIONS / EQUATIONS

$kW = \frac{GPH \times \Delta T\ (°F)}{410} = \frac{LPH \times \Delta T\ (°C)}{862}$
$kW = GPM \times \Delta T\ (°F) \times 0{,}146$
10kW = 1.02 BHP = 34 Lbs Steam / H = 34,120 BTU / H
$\text{Amps (3 phase)} = \frac{kW \times 1000}{Volts \times 1{,}732}$
$\text{Amps (1 phase)} = \frac{kW \times 1000}{Volts}$
$GPH = \frac{kW \times 410}{\Delta T\ (°F)}$
$GPH = \frac{BTU / H}{8{,}33 \times \Delta T\ (°F)}$
$BTUH / H = kW \times 3412$
$BTUH / H = \Delta T \times 500 \times GPM$
1 gal water at 62°F = 8,34 Lbs
1 cu ft = 7,48 gallons
1 cu ft water at 62°F = 62,4 Lbs
1 ft water = 0,435 psi
Enthalpy of water = Temp (°F) - 32 BTU / LB
$kW = BHP \times 9{,}809$
EDR = Equivalent Direct Radiation (Steam)
$kW = \frac{RDE}{14{,}2}$