

ELECTRIC BOILER
22.5 KW TO 180 KW

voltmax

COMMERCIAL / 180



CONCENTRATED ENERGY

The **VoltMax** line of electric boilers was developed to efficiently supply hydronic heating systems in commercial, institutional and industrial applications. Available in 2 configurations, this boiler is offered under different voltages to respond to any single-phase or three-phase electrical supply. Its easy-to-use electronic controller provides precise temperature and power control to minimize energy costs and to optimize the boiler's performance. **VoltMax's** compact design is great for small spaces and requires minimal clearance around the unit.



Peak-performance
heating systems

1 boiler. 2 ways to control its power.

VoltMax STG SERIES

The controller modulates the power of the unit by stages based on demand, while accurately controlling the temperature with a PID regulator. It also makes the rotation of the stages to ensure parts wear equally.

VoltMax SCR SERIES

The controller can modulate the power of the unit from 0 to 100 %, based on heating demand through the use of a solid state SCR relay. The benefit of this operating mode is increased temperature control and reduced wear on the power relays. In addition, it very precisely limits the maximum electrical power required for the boiler in order to prevent wasteful and costly peaks in consumption.

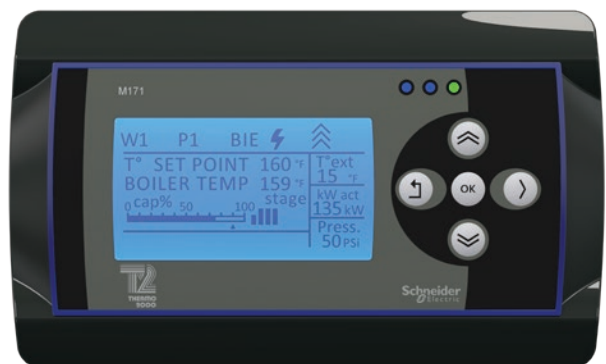
Both series are available in a range of voltages and pressures.

Energy at your fingertips

The VoltMax electronic controller makes it easy to control the boiler's operating settings related to the application in order to obtain optimal performance. Its large backlit screen provides the boiler's operating status at a glance. The controller keys provide quick management menu navigation to access the system's various functions.

The display screen includes the following information:

- Heat demand
- Set point temperature
- Boiler outlet temperature
- Outdoor temperature when the sensor is connected
- Boiler power in real time
- Stage status
- Operating pressure
- Operating mode: electric, auxiliary or dual-energy
- "Boost" mode in operation
- Boiler OFF when the outdoor temperature is high «WWST»
- Visual and audible alarm with alarm code
- Operating status indicator lights: green, yellow or red
- Choice of temperature units (°C/°F) and languages (English/French)
- Maximum allowed power



VoltMax 22.5 KW TO 180 KW

- 1- DIGITAL CONTROLLER
- 2- HEATING WATER CONNECTIONS
- 3- EASILY-REPLACEABLE IMMERSION-TYPE "INCOLOY" HEATING ELEMENTS
- 4- LOW-VOLTAGE FUSE PROTECTIONS (CONTROL CIRCUIT)
- 5- HIGH-VOLTAGE FUSE PROTECTIONS (POWER CIRCUIT)
- 6- POWER CONTACTORS
- 7- SOLID STATE SCR RELAY (SCR SERIES ONLY)
- 8- CONTROL CIRCUIT WITH ON/OFF SWITCH
- 9- LOW-WATER CUTOFF, TEST BUTTON AND INDICATOR LIGHTS (STANDARD FOR MODELS MORE THAN 60 KW)
- 10- CURRENT TRANSDUCER (SCR SERIES ONLY)
- 11- MAIN DISCONNECT SWITCH (THREE-PHASE MODELS ONLY; OPTIONAL EQUIPMENT)
- 12- SEISMIC BRACING SYSTEM



VoltMax SCR 180 kW – 600 V
with main disconnect switch option

STANDARD FEATURES

- A first adjustable high-limit with automatic reset
- A second fixed high-limit with manual reset
- Drain valve
- ASME safety valve
- 3" insulation

OPTIONAL EQUIPMENT

- Main disconnect switch with or without built-in fuses (three-phases models only, some exceptions)¹
- Low water cutoff, test button and indicator lights (models of 60 kW and less)
- Maximum operating pressure (see table below)



VoltMax	90 kW or less	More than 90 kW
MODEL	22.5 to 90 kW	99 to 180 kW
WEIGHT	310 lbs.	550 lbs.
VOLUME	11 US gallons	30 US gallons
CONNECTIONS	1 1/2" NPT male	2 1/2" NPT male
STANDARD MAXIMUM WORKING PRESSURE	30 PSI	60 PSI
OPTIONAL MAXIMUM WORKING PRESSURE	70 PSI ²	125 PSI

¹ Three-phases models only, except for models 160 A and higher for disconnect switch with fuses and 200 A for disconnect without fuses.

² 90 kW or lower models are available at 125 PSI, but the unit will be the same size as one greater than 90 kW.

4 CONNECTIONS
INLET AND OUTLET
(MULTIPOSITION)



**VOLTMAX IS AVAILABLE
IN DIFFERENT POWERS
AND VOLTAGES**

SINGLE PHASE 60 Hz

208 VAC	22.5 kW to 54 kW
240 VAC	30 kW to 72 kW

THREE-PHASE 60 Hz

208 VAC	22.5 kW to 67.5 kW
240 VAC	30 kW to 75 kW
480 VAC	30 kW to 180 kW
600 VAC	30 kW to 180 kW

For 100% efficiency

- Compact vertical boiler to optimize space
- Unit available in 2 different sizes to ensure minimal acquisition cost
- Easy access to component parts
- Operates only when needed
- Set point temperature adjustable from 50°F to 200°F (10°C to 93°C)
- Silent, clean and requires little maintenance
- Robust industrial-grade construction
- Water temperature and boiler power modulation



- Ethernet and BACnet network communication ports enable remote communication
- Ability to view operating status and to modify the settings remotely through a webpage
- Information about operating anomalies and history
- Can be configured to send alarms by email

VOLTMAX SCR SERIES only

- Temperature and power control via a 0-10Vdc remote controller
- Contact to activate an external alarm
- Presence of dry contacts to start-up pumps with or without domestic hot water priority
- Amperage measurement (three-phases models only) to detect anomalies
- Boiler return temperature and boiler flow readings
- Can be easily connected with an auxiliary boiler as a power backup or for a dual-energy configuration
- Temperature-lowering function via an external contact when building is unoccupied



Increased temperature Control

The VoltMax boiler provides maximum comfort through accurate, efficient temperature control of these different modes :

- “Fixed” set point temperature
- Water temperature modulation with external temperature sensor
- Remote control the water temperature using an external BACnet IP or MSTP controller
- Variable water temperature based on a building occupancy schedule

VOLTMAX SCR only

- 0-10Vdc external temperature control

For all these modes, you can use the controller to set a second “fixed” set point temperature, adjusted to a greater value to use an indirect water heater with or without domestic hot water priority.



Increased power Control

To maximize savings without compromising comfort, the VoltMax boiler provides efficient power control according to these different modes :

- The controller acts without constraint or limitation
- The maximum power is determined manually
- Maximum power modulation based on the outdoor temperature sensor
- Remote power control (through an external BACnet IP or MSTP controller)
- Variable maximum power based on an hourly schedule

VOLTMAX SCR SERIES only

- 0-10Vdc external power control
- Auxiliary energy source used as a backup or master source

VoltMax 208 VAC / 60 Hz / 1 phase¹

Model	Power		Amps	Elements 240 V	STG Series		SCR Series	
	kW	BTU/h			Relay Stages	Relay Stages	SCR Stage	
VOLTMAX 23	22.5	76 770	108.4	6 x 5kW	3 x 7.5kW	2 x 7.5kW	1 x 7.5kW	
VOLTMAX 27	27	92 124	130.1	6 x 6kW	3 x 9kW	2 x 9kW	1 x 9kW	
VOLTMAX 30	30	102 360	144.5	8 x 5kW	4 x 7.5kW	3 x 7.5kW	1 x 7.5kW	
VOLTMAX 36	36	122 832	173.4	8 x 6kW	4 x 9kW	3 x 9kW	1 x 9kW	
VOLTMAX 41	41	139 892	198.7	5 x 5kW + 5 x 6kW	5 x 8.25kW	4 x 8.25kW	1 x 8.25kW	
VOLTMAX 45	45	153 540	216.8	10 x 6kW	5 x 9kW	4 x 9kW	1 x 9kW	
VOLTMAX 50	49.5	168 894	238.4	6 x 5kW + 6 x 6kW	6 x 8.25kW	5 x 8.25kW	1 x 8.25kW	
VOLTMAX 54	54	184 248	260.1	12 x 6kW	6 x 9kW	5 x 9kW	1 x 9kW	

¹ 208 V 1-phase electrical supply (L1-L2) with two 90 °C conductors and a ground.

VoltMax 240 VAC / 60 Hz / 1 phase¹

Model	Power		Amps	Elements 240 V	STG Series		SCR Series	
	kW	BTU/h			Relay Stages	Relay Stages	SCR Stage	
VOLTMAX 30	30	102 360	125	6 x 5kW	3 x 10kW	2 x 10kW	1 x 10kW	
VOLTMAX 36	36	122 832	150	6 x 6kW	3 x 12kW	2 x 12kW	1 x 12kW	
VOLTMAX 40	40	136 480	166.7	8 x 5kW	4 x 10kW	3 x 10kW	1 x 10kW	
VOLTMAX 48	48	163 776	200	8 x 6kW	4 x 12kW	3 x 12kW	1 x 12kW	
VOLTMAX 55	55	187 660	229.2	5 x 5kW + 5 x 6kW	5 x 11kW	4 x 11kW	1 x 11kW	
VOLTMAX 60	60	204 720	250	10 x 6kW	5 x 12kW	4 x 12kW	1 x 12kW	
VOLTMAX 66	66	225 192	275	6 x 5kW + 6 x 6kW	6 x 11kW	5 x 11kW	1 x 11kW	
VOLTMAX 72	72	245 664	300	12 x 6kW	6 x 12kW	5 x 12kW	1 x 12kW	

¹ 240 V 1-phase electrical supply (L1-L2) with two 90 °C conductors and a ground.

VoltMax 208 VAC / 60 Hz / 3 phases¹

Model	Power		Amps	Elements 240 V	STG Series		SCR Series	
	kW	BTU/h			Relay Stages	Relay Stages	SCR Stage	
VOLTMAX 23	22.5	76 770	62.6	2 x 15kW	2 x 11.25kW	1 x 11.25kW	1 x 11.25kW	
VOLTMAX 27	27	92 124	75.1	2 x 18kW	2 x 13.5kW	1 x 13.5kW	1 x 13.5kW	
VOLTMAX 34	34	116 008	93.9	3 x 15kW	3 x 11.25kW	2 x 11.25kW	1 x 11.25kW	
VOLTMAX 41	40.5	138 186	112.6	3 x 18kW	3 x 13.5kW	2 x 13.5kW	1 x 13.5kW	
VOLTMAX 45	45	153 540	125.1	4 x 15kW	4 x 11.25kW	3 x 11.25kW	1 x 11.25kW	
VOLTMAX 54	54	184 248	150.2	4 x 18kW	4 x 13.5kW	3 x 13.5kW	1 x 13.5kW	
VOLTMAX 56	56	191 072	156.4	5 x 15kW	5 x 11.25kW	4 x 11.25kW	1 x 11.25kW	
VOLTMAX 68	67.5	230 310	187.7	5 x 18kW	5 x 13.5kW	4 x 13.5kW	1 x 13.5kW	

¹ 208 V 3-phase electrical supply (L1-L2-L3) with three 90 °C conductors and a ground.

VoltMax 240 VAC / 60 Hz / 3 phases¹

Model	Power		Amps	Elements 240V	STG Series		SCR Series	
	kW	BTU/h			Relay Stages	Relay Stages	SCR Stage	
VOLTMAX 30	30	102 360	72	2 x 15kW	2 x 15kW	1 x 15kW	1 x 15kW	
VOLTMAX 36	36	122 832	86.6	2 x 18kW	2 x 18kW	1 x 18kW	1 x 18kW	
VOLTMAX 45	45	153 540	108.3	3 x 15kW	3 x 15kW	2 x 15kW	1 x 15kW	
VOLTMAX 54	54	184 248	129.9	3 x 18kW	3 x 18kW	2 x 18kW	1 x 18kW	
VOLTMAX 60	60	204 720	144.3	4 x 15kW	4 x 15kW	3 x 15kW	1 x 15kW	
VOLTMAX 72	72	245 664	173.2	4 x 18kW	4 x 18kW	3 x 18kW	1 x 18kW	
VOLTMAX 75	75	255 900	180.4	5 x 15kW	5 x 15kW	4 x 15kW	1 x 15kW	

¹ 240 V 3-phase electrical supply (L1-L2-L3) with three 90 °C conductors and a ground.

VoltMax 480 VAC¹ and 600 VAC² / 60 Hz / 3 phases

Model	Power		Amps		Elements 480 V ¹ or 600 V ²	STG Series		SCR Series	
	kW	BTU/h	480 VAC	600 VAC		Relay Stages	Relay Stages	SCR Stage	
VOLTMAX 30	30	102 360	36.1	28.9	2 x 15kW	2 x 15kW	1 x 15kW	1 x 15kW	
VOLTMAX 36	36	122 832	43.3	34.6	2 x 18kW	2 x 18kW	1 x 18kW	1 x 18kW	
VOLTMAX 45	45	153 540	54.1	43.3	3 x 15kW	3 x 15kW	2 x 15kW	1 x 15kW	
VOLTMAX 54	54	184 248	65	52	3 x 18kW	3 x 18kW	2 x 18kW	1 x 18kW	
VOLTMAX 60	60	204 720	72.2	57.7	4 x 15kW	4 x 15kW	3 x 15kW	1 x 15kW	
VOLTMAX 72	72	245 664	86.6	69.3	4 x 18kW	4 x 18kW	3 x 18kW	1 x 18kW	
VOLTMAX 75	75	255 900	90.2	72.2	5 x 15kW	5 x 15kW	4 x 15kW	1 x 15kW	
VOLTMAX 90	90	307 080	108.3	86.6	5 x 18kW	5 x 18kW	4 x 18kW	1 x 18kW	
VOLTMAX 99	99	337 788	119.1	95.3	3 x 15kW + 3 x 18kW	3 x 33kW	2 x 33kW	1 x 33kW	
VOLTMAX 108	108	368 496	129.9	103.9	6 x 18kW	3 x 36kW	2 x 36kW	1 x 36kW	
VOLTMAX 120	120	409 440	144.3	115.5	8 x 15kW	4 x 30kW	3 x 30kW	1 x 30kW	
VOLTMAX 132	132	450 384	158.8	127	4 x 15kW + 4 x 18kW	4 x 33kW	3 x 33kW	1 x 33kW	
VOLTMAX 144	144	491 328	173.2	138.6	8 x 18kW	4 x 36kW	3 x 36kW	1 x 36kW	
VOLTMAX 150	150	511 800	180.4	144.3	10 x 15kW	5 x 30kW	4 x 30kW	1 x 30kW	
VOLTMAX 165	165	562 980	198.5	158.8	5 x 15kW + 5 x 18kW	5 x 33kW	4 x 33kW	1 x 33kW	
VOLTMAX 180	180	614 160	216.5	173.2	10 x 18kW	5 x 36kW	4 x 36kW	1 x 36kW	

¹ 480 V 3-phase electrical supply (L1-L2-L3) with three 90 °C conductors and a ground.

² 600 V 3-phase electrical supply (L1-L2-L3) with three 90 °C conductors and a ground.

10-YEAR WARRANTY
ON THE RESERVOIR

2-YEAR WARRANTY
ON ELECTRICAL AND MECHANICAL PARTS



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