

ELECTRIC BOILER
22,5 KW TO 408 KW

voltmax



COMMERCIAL



CONCENTRATED ENERGY

The VoltMax line of electric boilers was developed to efficiently supply hydronic heating systems in commercial, institutional and industrial applications. 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



Efficient kW Management

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 benefits of this operating mode are 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.

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 ;
- Boost mode in operation ;
- Set point temperature ;
- Boiler OFF when the outdoor temperature is high WWSD ;
- Boiler outlet temperature ;
- Visual and audible alarm with alarm code ;
- Outdoor temperature when the sensor is connected ;
- Operating status indicator lights: green, yellow or red ;
- Boiler power in real time ;
- Choice of temperature units ($^{\circ}\text{F}/^{\circ}\text{C}$) and languages (English/French) ;
- Stage status ;
- Maximum allowed power.
- Operating pressure ;
- 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.



Increased Temperature Control

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

- A «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.
- 0-10 VDC 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.



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



- 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.



22,5 to 400 KW

- 1- Digital controller.
- 2- Heating water connections and inspection ports.
- 3- Easily-replaceable immersion-type "incoloy" heating elements.
- 4- Low voltage fuse protection. (control circuit)
- 5- High voltage fuse protection. (power circuit)
- 6- Power contactor.
- 7- Solid state SCR relay.
- 8- Control circuit on/off switch.
- 9- Low-water cut-off control with automatic reset, test button and indicator lights.
- 10- Current transducers.
- 11- Main disconnect switch (optional equipment).
- 12- Anti-seismic anchors.



Standard features

- A first adjustable high-limit with automatic reset.
- A second fixed high-limit with manual reset.
- 1 1/4» NPT drain valve.
- ASME safety valve.
- 3" insulation.

Optional equipments

- 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 features table: A-B-C).

¹ Three-phases models only, some exceptions apply, please see technical specifications.

VoltMax 408 kW – 600 V
with main disconnect switch option

4 CONNECTIONS
INLET AND OUTLET
(MULTIPOSITION)



VOLTMAX IS AVAILABLE IN DIFFERENT POWERS AND VOLTAGES

SINGLE-PHASE 60Hz

| | |
|---------|------------------|
| 208 VAC | 22,5 kW to 72 kW |
| 240 VAC | 30 kW to 96 kW |

THREE-PHASE 60Hz

| | |
|---------|-------------------|
| 208 VAC | 22,5 kW to 108 kW |
| 240 VAC | 30 kW to 144 kW |
| 480 VAC | 30 kW to 408 kW |
| 600 VAC | 30 kW to 408 kW |

For 100 % Efficiency

- Compact vertical boiler to optimize space.
- 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.
- 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 measurements to detect anomalies and to estimate electrical consumption.
- 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.



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FEATURES OF THE THREE CONFIGURATIONS OF VOLTMAX ELECTRIC BOILERS

A



B



C



VoltMax 208 VAC / 60 Hz / 1 phase¹

| Model | Power kW | BTU/h | Amps | Elements 240 V | SCR Series Relay Stages | SCR Stage | Configuration |
|------------|-------------|---------|-------|---------------------|----------------------------|-------------|---------------|
| VoltMax 23 | 22,5 | 76 770 | 108,4 | 6 x 5 kW | 2 x 7,5 kW | 1 x 7,5 kW | A |
| VoltMax 27 | 27 | 92 124 | 130,1 | 6 x 6 kW | 2 x 9 kW | 1 x 9 kW | A |
| VoltMax 30 | 30 | 102 360 | 144,5 | 8 x 5 kW | 3 x 7,5 kW | 1 x 7,5 kW | A |
| VoltMax 36 | 36 | 122 832 | 173,4 | 8 x 6 kW | 3 x 9 kW | 1 x 9 kW | A |
| VoltMax 41 | 41 | 139 892 | 198,7 | 5 x 5 kW + 5 x 6 kW | 4 x 8,25 kW | 1 x 8,25 kW | A |
| VoltMax 45 | 45 | 153 540 | 216,8 | 10 x 6 kW | 4 x 9 kW | 1 x 9 kW | A |
| VoltMax 50 | 49,5 | 168 894 | 238,4 | 6 x 5 kW + 6 x 6 kW | 5 x 8,25 kW | 1 x 8,25 kW | A |
| VoltMax 54 | 54 | 184 248 | 260,1 | 12 x 6 kW | 5 x 9 kW | 1 x 9 kW | A |
| VoltMax 58 | 57,8 | 197 043 | 278 | 7 x 5 kW + 7 x 6 kW | 6 x 8,25 kW | 1 x 8,25 kW | C |
| VoltMax 60 | 60 | 204 720 | 288 | 16 x 5 kW | 7 x 7,5 kW | 1 x 7,5 kW | C |
| VoltMax 63 | 63 | 214 956 | 303 | 14 x 6 kW | 6 X 9 kW | 1 X 9 kW | C |
| VoltMax 66 | 66 | 225 192 | 317 | 8 x 5 kW + 8 x 6 kW | 7 x 8,25 kW | 1 x 8,25 kW | C |
| VoltMax 72 | 72 | 245 664 | 346 | 16 x 6 kW | 7 x 9 kW | 1 x 9 kW | C |

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 kW | BTU/h | Amps | Elements 240 V | SCR Series Relay Stages | SCR Stage | Configuration |
|------------|-------------|---------|-------|---------------------|----------------------------|-----------|---------------|
| VoltMax 30 | 30 | 102 360 | 125 | 6 x 5 kW | 2 x 10 kW | 1 x 10 kW | A |
| VoltMax 36 | 36 | 122 832 | 150 | 6 x 6 kW | 2 x 12 kW | 1 x 12 kW | A |
| VoltMax 40 | 40 | 136 480 | 166,7 | 8 x 5 kW | 3 x 10 kW | 1 x 10 kW | A |
| VoltMax 48 | 48 | 163 776 | 200 | 8 x 6 kW | 3 x 12 kW | 1 x 12 kW | A |
| VoltMax 55 | 55 | 187 660 | 229,2 | 5 x 5 kW + 5 x 6 kW | 4 x 11 kW | 1 x 11 kW | A |
| VoltMax 60 | 60 | 204 720 | 250 | 10 x 6 kW | 4 x 12 kW | 1 x 12 kW | A |
| VoltMax 66 | 66 | 225 192 | 275 | 6 x 5 kW + 6 x 6 kW | 5 x 11 kW | 1 x 11 kW | A |
| VoltMax 72 | 72 | 245 664 | 300 | 12 x 6 kW | 5 x 12 kW | 1 x 12 kW | A |
| VoltMax 77 | 77 | 262 724 | 321 | 7 x 5 kW + 7 x 6 kW | 6 x 11 kW | 1 x 11 kW | C |
| VoltMax 80 | 80 | 272 960 | 333 | 16 x 5 kW | 7 x 10 kW | 1 x 10 kW | C |
| VoltMax 84 | 84 | 286 608 | 350 | 14 x 6 kW | 6 X 12 kW | 1 X 12 kW | C |
| VoltMax 88 | 88 | 300 256 | 366 | 8 x 5 kW + 8 x 6 kW | 7 x 11 kW | 1 x 11 kW | C |
| VoltMax 96 | 96 | 327 552 | 400 | 16 x 6 kW | 7 x 12 kW | 1 x 12 kW | C |

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

| VoltMax | Features - A | Features - B | Features - C |
|-----------------------------------|----------------------|-----------------|----------------------|
| Model | 22,5 to 90 kW | 99 to 180 kW | 58 to 408 kW |
| Weight | 310 lb | 550 lb | 1200 lb |
| Volume | 11 US gallons | 30 US gallons | 62 US gallons |
| Connections | 1 1/2" NPT male | 2 1/2" NPT male | 3" NPT male |
| Maximum working pressure | 70 PSI ¹ | 125 PSI | 160 PSI |
| Optional maximum working pressure | 125 PSI ² | - | 150 PSI ³ |

¹ Boiler's maximum working pressure is set at 70 PSI, but factory installed relief valve is 60 PSI.

² Configuration A models are available at a pressure of 125 PSI, but the device format will be as configuration B.

³ The installation of a lower pressure relief valve, either 60 PSI or 125 PSI, is available as an option.

VoltMax 208 VAC / 60 Hz / 3 phases¹

| Model | Power kW | BTU/h | Amps | Elements 240 V | SCR Series Relay Stages | SCR Stage | Configuration |
|-------------|-------------|---------|-------|----------------|----------------------------|--------------|---------------|
| VoltMax 23 | 22,5 | 76 770 | 62,6 | 2 x 15 kW | 1 x 11,25 kW | 1 x 11,25 kW | A |
| VoltMax 27 | 27 | 92 124 | 75,1 | 2 x 18 kW | 1 x 13,5 kW | 1 x 13,5 kW | A |
| VoltMax 34 | 34 | 116 008 | 93,9 | 3 x 15 kW | 2 x 11,25 kW | 1 x 11,25 kW | A |
| VoltMax 41 | 40,5 | 138 186 | 112,6 | 3 x 18 kW | 2 x 13,5 kW | 1 x 13,5 kW | A |
| VoltMax 45 | 45 | 153 540 | 125,1 | 4 x 15 kW | 3 x 11,25 kW | 1 x 11,25 kW | A |
| VoltMax 54 | 54 | 184 248 | 150,2 | 4 x 18 kW | 3 x 13,5 kW | 1 x 13,5 kW | A |
| VoltMax 56 | 56 | 191 072 | 156,4 | 5 x 15 kW | 4 x 11,25 kW | 1 x 11,25 kW | A |
| VoltMax 68 | 67,5 | 230 310 | 187,7 | 5 x 18 kW | 4 x 13,5 kW | 1 x 13,5 kW | A |
| VoltMax 79 | 78,8 | 268 695 | 219 | 7 x 15 kW | 6 x 11,25 kW | 1 x 11,25 kW | C |
| VoltMax 90 | 90 | 307 080 | 250 | 8 x 15 kW | 7 x 11,25 kW | 1 x 11,25 kW | C |
| VoltMax 95 | 94,5 | 322 434 | 263 | 7 x 18 kW | 6 x 13,5 kW | 1 x 13,5 kW | C |
| VoltMax 108 | 108 | 368 496 | 300 | 8 x 18 kW | 7 x 13,5 kW | 1 x 13,5 kW | C |

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 | | | Elements 240V | SCR series | | |
|--------------------|-------|---------|-------|---------------|--------------|-----------|---------------|
| | kW | BTU/h | Amps | | Relay Stages | SCR Stage | Configuration |
| VoltMax 30 | 30 | 102 360 | 72 | 2 x 15 kW | 1 x 15 kW | 1 x 15 kW | A |
| VoltMax 36 | 36 | 122 832 | 86,6 | 2 x 18 kW | 1 x 18 kW | 1 x 18 kW | A |
| VoltMax 45 | 45 | 153 540 | 108,3 | 3 x 15 kW | 2 x 15 kW | 1 x 15 kW | A |
| VoltMax 54 | 54 | 184 248 | 129,9 | 3 x 18 kW | 2 x 18 kW | 1 x 18 kW | A |
| VoltMax 60 | 60 | 204 720 | 144,3 | 4 x 15 kW | 3 x 15 kW | 1 x 15 kW | A |
| VoltMax 72 | 72 | 245 664 | 173,2 | 4 x 18 kW | 3 x 18 kW | 1 x 18 kW | A |
| VoltMax 75 | 75 | 255 900 | 180,4 | 5 x 15 kW | 4 x 15 kW | 1 x 15 kW | A |
| VoltMax 105 | 105 | 358 260 | 253 | 7 x 15 kW | 6 x 15 kW | 1 x 15 kW | C |
| VoltMax 120 | 120 | 409 440 | 289 | 8 x 15 kW | 7 x 15 kW | 1 x 15 kW | C |
| VoltMax 126 | 126 | 429 912 | 303 | 7 x 18 kW | 6 x 18 kW | 1 x 18 kW | C |
| VoltMax 144 | 144 | 491 328 | 347 | 8 x 18 kW | 7 x 18 kW | 1 x 18 kW | C |

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 | | | Elements 480 V ¹ or 600 V ² | SCR series | | |
|--------------------|-------|-----------|-------|--|------------------------|-----------|---------------|
| | kW | BTU/h | Amps | | Relay Stages | SCR Stage | Configuration |
| VoltMax 30 | 30 | 102 360 | 36,1 | 28,9 | 2 x 15 kW | 1 x 15 kW | A |
| VoltMax 36 | 36 | 122 832 | 43,3 | 34,6 | 2 x 18 kW | 1 x 18 kW | A |
| VoltMax 45 | 45 | 153 540 | 54,1 | 43,3 | 3 x 15 kW | 2 x 15 kW | A |
| VoltMax 54 | 54 | 184 248 | 65 | 52 | 3 x 18 kW | 2 x 18 kW | A |
| VoltMax 60 | 60 | 204 720 | 72,2 | 57,7 | 4 x 15 kW | 3 x 15 kW | A |
| VoltMax 72 | 72 | 245 664 | 86,6 | 69,3 | 4 x 18 kW | 3 x 18 kW | A |
| VoltMax 75 | 75 | 255 900 | 90,2 | 72,2 | 5 x 15 kW | 4 x 15 kW | A |
| VoltMax 90 | 90 | 307 080 | 108,3 | 86,6 | 5 x 18 kW | 4 x 18 kW | A |
| VoltMax 99 | 99 | 337 788 | 119,1 | 95,3 | 3 x 15 kW + 3 x 18 kW | 2 x 33 kW | B |
| VoltMax 108 | 108 | 368 496 | 129,9 | 103,9 | 6 x 18 kW | 2 x 36 kW | B |
| VoltMax 120 | 120 | 409 440 | 144,3 | 115,5 | 8 x 15 kW | 3 x 30 kW | B |
| VoltMax 132 | 132 | 450 384 | 158,8 | 127 | 4 x 15 kW + 4 x 18 kW | 3 x 33 kW | B |
| VoltMax 144 | 144 | 491 328 | 173,2 | 138,6 | 8 x 18 kW | 3 x 36 kW | B |
| VoltMax 150 | 150 | 511 800 | 180,4 | 144,3 | 10 x 15 kW | 4 x 30 kW | B |
| VoltMax 165 | 165 | 562 980 | 198,5 | 158,8 | 5 x 15 kW + 5 x 18 kW | 4 x 33 kW | B |
| VoltMax 180 | 180 | 614 160 | 216,5 | 173,2 | 10 x 18 kW | 4 x 36 kW | B |
| VoltMax 192 | 192 | 655 104 | 231 | 185 | 8 x 15 kW + 4 x 18 kW | 3 x 48 kW | C |
| VoltMax 204 | 204 | 696 048 | 246 | 197 | 8 x 18 kW + 4 x 15 kW | 3 x 51 kW | C |
| VoltMax 216 | 216 | 736 992 | Ø | 208 | 12 x 18 kW | 3 x 54 kW | C |
| VoltMax 225 | 225 | 767 700 | 271 | 217 | 15 x 15 kW | 4 x 45 kW | C |
| VoltMax 240 | 240 | 818 880 | 289 | 231 | 10 x 15 kW + 5 x 18 kW | 4 x 48 kW | C |
| VoltMax 255 | 255 | 870 060 | 307 | 246 | 10 x 18 kW + 5 x 15 kW | 4 x 51 kW | C |
| VoltMax 270 | 270 | 921 240 | Ø | 260 | 15 x 18 kW | 4 x 54 kW | C |
| VoltMax 288 | 288 | 982 656 | 347 | 277 | 12 x 15 kW + 6 x 18 kW | 5 x 48 kW | C |
| VoltMax 306 | 306 | 1 044 072 | 368 | 295 | 12 x 18 kW + 6 x 15 kW | 5 x 51 kW | C |
| VoltMax 315 | 315 | 1 074 780 | 379 | 303 | 21 x 15 kW | 6 x 45 kW | C |
| VoltMax 324 | 324 | 1 105 488 | Ø | 312 | 18 x 18 kW | 5 x 54 kW | C |
| VoltMax 336 | 336 | 1 146 432 | 405 | 324 | 14 x 15 kW + 7 x 18 kW | 6 x 48 kW | C |
| VoltMax 357 | 357 | 1 218 084 | 430 | 344 | 14 x 18 kW + 7 x 15 kW | 6 x 51 kW | C |
| VoltMax 378 | 378 | 1 289 736 | Ø | 364 | 21 x 18 kW | 6 x 54 kW | C |
| VoltMax 384 | 384 | 1 310 208 | 462 | 370 | 16 x 15 kW + 8 x 18 kW | 7 x 48 kW | C |
| VoltMax 408 | 408 | 1 392 096 | 491 | 393 | 16 x 18 kW + 8 x 15 kW | 7 x 51 kW | C |

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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