THERMON'S MINKE™

VAPOR PRECISION
POWERED BY THERMON

ELECTRIC HOT WATER BOILER FROM THE PRECISION BOILER FAMILY

A ROBUST AND POWERFUL ELECTRIC BOILER
THAT FITS INTO SMALLER SPACES.

INTRODUCTION

THE MINKE BOILER

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Power, efficiency, and precise temperature control in a compact electric hot water boiler that is also easy to install. **Thermon's Minke™** Electric Hot Water Boiler from the Precision Boiler family can be engineered to order, including skid packages. The vertical design doesn't require horizontal removal clearance, making it a great fit in existing piping systems or standing alone in smaller spaces.

KEY FEATURES

Small footprint saves installation and building construction costs.

Accessible temperature control with the controlsensor located in the outlet pipe.

Individual immersion heating elements are 21/2" square flanged for ease of replacement. The elements are made of a highly corrosion resistantIncoloy 800 sheath, and nickel-chromium resistance wire packed in magnesium oxide powder encased in a U-tube design.

DESIGN ADVANTAGES

Ideal for new boiler applications or to RETROFIT existing installations, because it fits through many existing doorways with ease.

Available in ratings up to 600V at 720 kW.

Requires less square footage floor space and does not require horizontal clearance for element removal.

Individual flanged U-tube design heating element.

Shorter down time for element replacement.

STANDARDS

THE MINKE BOILER

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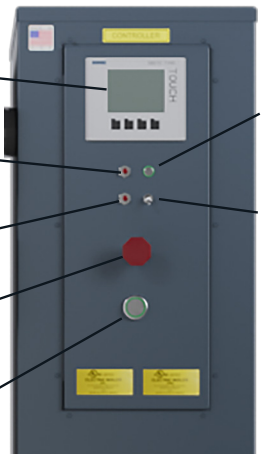
COMPONENT DETAIL



STRINGENT STANDARDS

- ASME Section IV “H” Code
- UL Subject 834
- NEC/NFPA Article 424-G
- ASME Safety Code CSD-1 (>117 KW)

STANDARD FEATURES AND ACCESSORIES

- Vessel (160 PSI / 250°F)
- Heavy Duty Steel Boiler Vessel Housing
- Four Inch Fiberglass Insulation
- Four Inch NPT Inlet and Outlet
- ASME Safety Relief Valve
- Pressure Gauge w/ Cock
- Drain Valve
- Incoloy-Sheathed Elements
- Electronic Digital Temperature Readout
- Integral Electric Control Panel with Key-Locked Door
- Internal Branch Circuit Fusing
- Main Supply Circuit Lugs
- 120 Volt Fused Control Transformer
- On/Off Switch w/ Pilot Light
- Manual Limit Toggle Switches (one per step)
- Status Pilot Light for each Stage/ Step
- Probe-type Low Water Cut-Off
- Two Adjustable High Limit Cutouts: (1) Auto Reset (1) Manual Reset Note: Manual Reset provided only on units > 2 stages
- Automatic Temperature Control
- Progressive Sequencing Step Control
- NEMA 12 Control Panels
- Flow Switch
- Onboard Alarm Buzzer
- Panel Mounted Mushroom Style E-Stop

CUSTOMIZATION

THE MINKE BOILER

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OPTIONAL EQUIPMENT AND ACCESSORIES

- Non-Fused Disconnect Breaker
- Fused Disconnect or Automatic Breaker
- Shunt Trip Circuit Interrupter
- Ground Fault Detection System
- Multi-functional power and energy meter
- Time Clock (24 hour or 7 day)
- Safety Door Interlock
- PLC's and Other Interface Provisions (Consult Factory)
- Outdoor Reset Control
- Auxiliary Low Water Cut-off (float or probe type) (Auxillary probe type standard on units > 117 KW)
- 100kA SCCR Rated*
- Contact Factory for many other options to meet your specific requirements.
- Stainless Steel on all wetted parts
- SCR Controller for 0-100% capacity modulation
- NEMA 1,4 and 4X Control Panel options

* rating contingent on installed OCPD upstream, per NEC

DIMENSIONAL DATA

THE MINKE BOILER

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MINKE SPEC TABLES

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NAMING STRUCTURE

PCW3P-360D-480-160

- **PCW** — Precision Compact Boiler
- **3** — Vessel Size
- **P** — Controller B = Basic[1] P = PLC
- **360** — kW Output
- **D** — Element Designation[2]
- **480** — Voltage
- **160** — Design Pressure

1 - Basic is a PID Temperature Controller
2 - Standard Element Designation: D = 20kW

- All Standard Units have CRN
- All Include 100kA SCCR (UL508 Rating)

1 Panel

2 Panels

3 Panels

MINKE SPEC TABLES

VAPOR PRECISION POWERED BY THERMON

Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
208 Volt														
PCW1B-060D-208-160	198	60	3	20	3	169	3 @ 20KW	67	30	39	1	3" NPT	1" NPT	775
PCW1B-120D-208-160	396	120	6	20	6	336	3 @ 40KW	67	46	39	2	3" NPT	1" NPT	940
PCW1P-060D-208-160	198	60	3	20	3	169	3 @ 20KW	67	30	39	1	3" NPT	1" NPT	780
PCW1P-120D-208-160	396	120	6	20	6	336	3 @ 40KW	67	46	39	2	3" NPT	1" NPT	945
480 Volt														
PCW1B-020D-480-160	66	20	1	20	1	25	1 @ 20KW	67	30	39	1	3" NPT	1" NPT	755
PCW1B-040D-480-160	132	40	2	20	1	49	1 @ 40KW	67	30	39	1	3" NPT	1" NPT	765
PCW1B-060D-480-160	198	60	3	20	2	73	1 @ 20KW, 1 @ 40KW	67	30	39	1	3" NPT	1" NPT	775
PCW1B-080D-480-160	264	80	4	20	2	97	2 @ 40KW	67	30	39	1	3" NPT	1" NPT	785
PCW1B-100D-480-160	330	100	5	20	3	121	1 @ 20KW, 2 @ 40KW	67	30	39	1	3" NPT	1" NPT	795

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	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
480 Volt														
PCW1B-120D-480-160	396	120	6	20	3	145	3 @ 40KW	67	30	39	1	3" NPT	1" NPT	805
PCW1B-140D-480-160	462	140	7	20	4	169	1 @ 20KW, 3 @ 40KW	67	30	39	1	3" NPT	1" NPT	815
PCW1B-160D-480-160	528	160	8	20	4	194	4 @ 40KW	67	30	39	1	3" NPT	1" NPT	825
PCW1P-020D-480-160	66	20	1	20	1	25	1 @ 20KW	67	30	39	1	3" NPT	1" NPT	760
PCW1P-040D-480-160	132	40	2	20	1	49	1 @ 40KW	67	30	39	1	3" NPT	1" NPT	770
PCW1P-060D-480-160	198	60	3	20	2	73	1 @ 20KW, 1 @ 40KW	67	30	39	1	3" NPT	1" NPT	780
PCW1P-080D-480-160	264	80	4	20	2	97	2 @ 40KW	67	30	39	1	3" NPT	1" NPT	790
PCW1P-100D-480-160	330	100	5	20	3	121	1 @ 20KW, 2 @ 40KW	67	30	39	1	3" NPT	1" NPT	800
PCW1P-120D-480-160	396	120	6	20	3	145	3 @ 40KW	67	30	39	1	3" NPT	1" NPT	810
PCW1P-140D-480-160	462	140	7	20	4	169	1 @ 20KW, 3 @ 40KW	67	30	39	1	3" NPT	1" NPT	820

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Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
480 Volt														
PCW1P-160D-480-160	528	160	8	20	4	194	4 @ 40KW	67	30	39	1	3" NPT	1" NPT	830
PCW2P-180D-480-160	594	180	9	20	5	219	1 @ 20KW, 4 @ 40KW	67	46	43	2	3" NPT	1" NPT	1165
PCW2P-200D-480-160	660	200	10	20	5	243	5 @ 40KW	67	46	43	2	3" NPT	1" NPT	1175
PCW2P-240D-480-160	792	240	12	20	6	291	6 @ 40KW	67	46	43	2	3" NPT	1" NPT	1195
PCW3P-280D-480-160	924	280	14	20	7	339	7 @ 40KW	67	46	47	2	4" FLG	1" NPT	1475
PCW3P-300D-480-160	990	300	15	20	8	363	1 @ 20KW, 7 @ 40KW	67	46	47	2	4" FLG	1" NPT	1485
PCW3P-320D-480-160	1,056	320	16	20	8	387	8 @ 40KW	67	46	47	2	4" FLG	1" NPT	1495
PCW3P-360D-480-160	1,188	360	18	20	9	435	9 @ 40KW	67	46	47	2	4" FLG	1" NPT	1570
PCW3P-400D-480-160	1,320	400	20	20	10	483	10 @ 40KW	67	66	47	3	4" FLG	1" NPT	1750
PCW3P-440D-480-160	1,452	440	22	20	11	531	11 @ 40KW	67	66	47	3	4" FLG	1" NPT	1770

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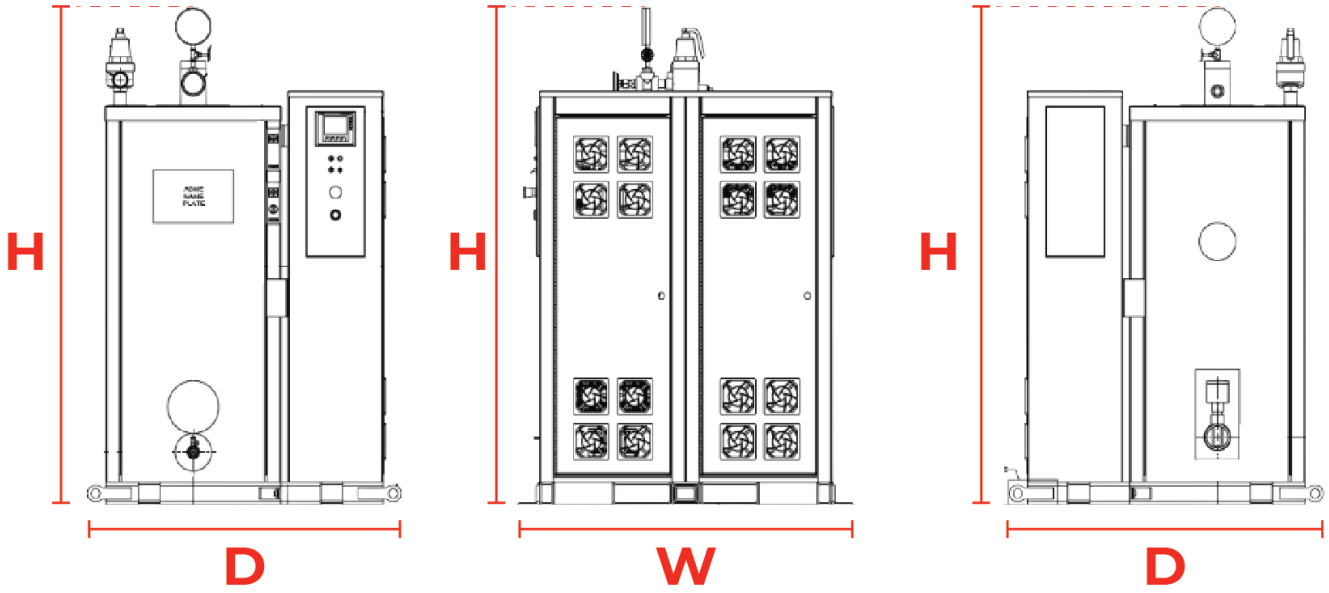
Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
480 Volt														
PCW3P-480D-480-160	1,584	480	24	20	12	579	12 @ 40KW	67	66	47	3	4" FLG	1" NPT	1790
PCW4P-600D-480-160	1,980	600	30	20	15	724	15 @ 40KW	67	66	51	3	4" FLG	1" NPT	2235
PCW5P-720D-480-160	2,376	720	36	20	18	868	18 @ 40KW	67	66	59	3	4" FLG	1" NPT	3070

DIMENSIONAL DATA



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Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
600 Volt														
PCW1B-020D-600-160	66	20	1	20	1	20	1 @ 20KW	67	30	39	1	3" NPT	1" NPT	745
PCW1B-040D-600-160	132	40	2	20	1	39	1 @ 40KW	67	30	39	1	3" NPT	1" NPT	755
PCW1B-060D-600-160	198	60	3	20	2	59	1 @ 20KW, 1 @ 40KW	67	30	39	1	3" NPT	1" NPT	765
PCW1B-080D-600-160	264	80	4	20	2	78	2 @ 40KW	67	30	39	1	3" NPT	1" NPT	775
PCW1B-100D-600-160	330	100	5	20	3	97	1 @ 20KW, 2 @ 40KW	67	30	39	1	3" NPT	1" NPT	785
PCW1B-120D-600-160	396	120	6	20	3	116	3 @ 40KW	67	30	39	1	3" NPT	1" NPT	795
PCW1B-140D-600-160	462	140	7	20	4	136	1 @ 20KW, 3 @ 40KW	67	30	39	1	3" NPT	1" NPT	805
PCW1B-160D-600-160	528	160	8	20	4	155	4 @ 40KW	67	30	39	1	3" NPT	1" NPT	815
PCW1P-020D-600-160	66	20	1	20	1	20	1 @ 20KW	67	30	39	1	3" NPT	1" NPT	750
PCW1P-040D-600-160	132	40	2	20	1	39	1 @ 40KW	67	30	39	1	3" NPT	1" NPT	760

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Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
	MBH	kW	Qty	kW			No. of steps @kW	H	W	D		Inlet/ Outlet	Drain	(lbs)
600 Volt														
PCW1P-060D-600-160	198	60	3	20	2	59	1 @ 20KW, 1 @ 40KW	67	30	39	1	3" NPT	1" NPT	770
PCW1P-080D-600-160	264	80	4	20	2	78	2 @ 40KW	67	30	39	1	3" NPT	1" NPT	780
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PCW1P-140D-600-160	462	140	7	20	4	136	1 @ 20KW, 3 @ 40KW	67	30	39	1	3" NPT	1" NPT	810
PCW1P-160D-600-160	528	160	8	20	4	155	4 @ 40KW	67	30	39	1	3" NPT	1" NPT	820
PCW2P-180D-600-160	594	180	9	20	5	175	1 @ 20KW, 4 @ 40KW	67	46	43	2	3" NPT	1" NPT	1165
PCW2P-200D-600-160	660	200	10	20	5	194	5 @ 40KW	67	46	43	2	3" NPT	1" NPT	1175
PCW2P-240D-600-160	792	240	12	20	6	233	6 @ 40KW	67	46	43	2	3" NPT	1" NPT	1195
PCW3P-280D-600-160	924	280	14	20	7	271	7 @ 40KW	67	46	47	2	4" FLG	1" NPT	1475

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Model Number	Boiler Rating		Elements		# of Circuits	Full Load Amps	Steps of Heating	Overall Dims (in)			No. of Panels	Pipe Connections		Ship Weight
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600 Volt														
PCW3P-300D-600-160	990	300	15	20	8	290	1 @ 20KW, 7 @ 40KW	67	46	47	2	4" FLG	1" NPT	1485
PCW3P-320D-600-160	1,056	320	16	20	8	310	8 @ 40KW	67	46	47	2	4" FLG	1" NPT	1495
PCW3P-360D-600-160	1,188	360	18	20	9	348	9 @ 40KW	67	46	47	2	4" FLG	1" NPT	1570
PCW3P-400D-600-160	1,320	400	20	20	10	387	10 @ 40KW	67	66	47	3	4" FLG	1" NPT	1750
PCW3P-440D-600-160	1,452	440	22	20	11	425	11 @ 40KW	67	66	47	3	4" FLG	1" NPT	1770
PCW3P-480D-600-160	1,584	480	24	20	12	464	12 @ 40KW	67	66	47	3	4" FLG	1" NPT	1790
PCW4P-600D-600-160	1,980	600	30	20	15	579	15 @ 40KW	67	66	51	3	4" FLG	1" NPT	2235
PCW5P-720D-600-160	2,376	720	36	20	18	695	18 @ 40KW	67	66	59	3	4" FLG	1" NPT	3070

Prices and weights are based on Standard Equipment models.
PCW3, PCW4, and PCW5 will have 4"NPT as an option.

IF ONE OF THE ABOVE STANDARD MODELS DOES NOT FIT YOUR REQUIREMENTS, PLEASE CONSULT FACTORY FOR A CUSTOM BUILT PRECISION BOIER.

MINKE SPEC TABLES

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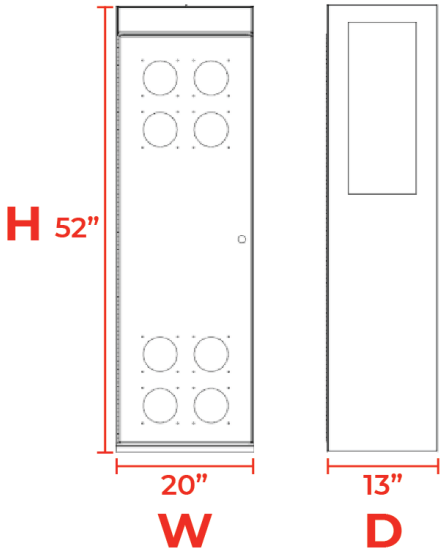
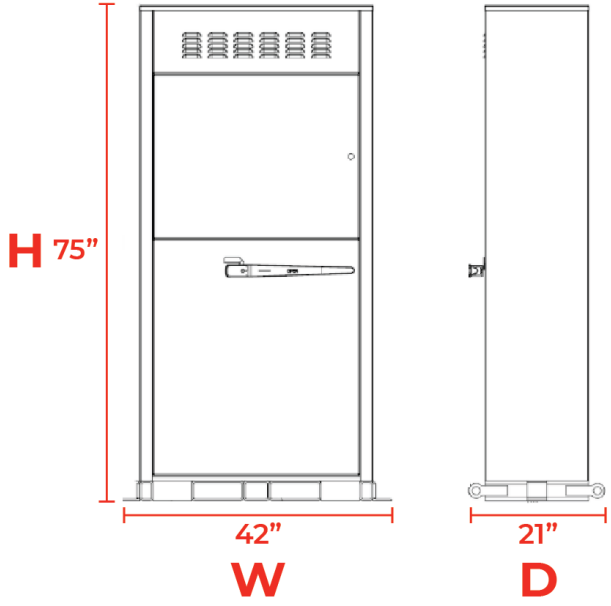
Disconnect (Fused or Non-Fused)	≤ 600A Panel	Overall Dimensions	> 600A	Overall Dimensions
		W x D x H		W x D x H
		20” x 13” x 52”		42” x 21” x 75”

≤ 600A



> 600A



Other Options (At most, these options will ADD One of the <600A Panels)
80A SCR Controller for 0-100% Modulation Control
Multifunction Power and Energy Meter with PLC Communication

Non-Fused Disconnects are size based on boiler Full-Load Amps, shown in boiler table above based on kW and Voltage.
Fused Disconnects are sized at 125% of boiler Full-Load Amps

WHY CHOOSE THERMON?

THE MINKE BOILER

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Thermon is a diversified technology company and a global leader in industrial process heating, temperature maintenance, environmental monitoring, and temporary power distribution solutions. We deliver engineered solutions that enhance operational awareness, safety, reliability, and efficiency to deliver the lowest total cost of ownership.

Thermon offers over 250 products, software and services across multiple brands, providing a range of offerings from boilers, transportation heaters, and liquid load banks to tubing bundles and heat trace. We are the silent guardians of critical infrastructure. From the relentless demands of chemical plants and the intricate networks of rail and transit to the vital pulse of power generation, we innovate solutions that ensure optimal operation, protect critical assets, and maximize efficiency.

We care deeply about the success of our customers, the well-being of our people, and the reliability of every product we design. This drives our unwavering commitment to safety and integrity in everything we do. Through collaboration, we unite a rich legacy of expertise with a trusted global team, partnering side-by-side with our customers. We transfer the warmth needed to make life work.

APPLICATIONS

THE MINKE BOILER

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The Minke Boiler is an ideal choice for industrial applications demanding consistent, high quality steam production.

- Central Steam Plants
- Hospitals, Universities, Institutional Facilities
- Food Processing
- Pharmaceutical
- Beverage Distillation and Production

LIMITED WARRANTY

THE MINKE BOILER

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Thermon's Precision Boilers Family warrants all electrical components (except pilot lights and fuses), pressure vessel and heating elements, if found defective in workmanship or material while under normal use and service within the first year of operation or until 18 months after shipment from Precision's factory, whichever occurs first, after authorized return by purchaser to Precision (at purchaser's expense) and after examination discloses to Precision's reasonable satisfaction to be defective. The repair or replacement of defective parts will be made by Precision without charge. Precision will not be held responsible for any field charges in connection with the removal or replacement of allegedly defective parts, nor for incidental or consequential damages. This guarantee does not include damage resulting from unsuitable water.

NOTE: In pursuing our policy of continuous development of products,

Precision reserves the right to vary any detail in this bulletin without notice.

Other Thermon products: *https://thermon.com/products/*

For more information, email ***info@thermon.com***

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