

Knowledge
Based

Since 1975



PACKMAN
Industrial Group



Electrical Hot Water Boiler



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PACKMAN ELECTRICAL HOT WATER BOILER

This technical document provides a comprehensive overview of our electric hot water boiler catalog, designed to meet the heating needs of residential, commercial, and industrial applications. It aims to assist customers in understanding the product's features, specifications, installation guidelines, operating instructions, maintenance requirements, and safety precautions.

An electric boiler is a heating device that uses electricity to generate heat and provide hot water or steam for various applications. It consists of several components that work together to convert electrical energy into thermal energy.

Electric boilers are commonly used in residential, commercial, and industrial settings where a clean and efficient heating solution is required. They offer advantages such as precise temperature control, compact size, low maintenance requirements, and the absence of combustion byproducts.

Product Overview:

Our electric hot water boilers are high-quality and energy-efficient heating solutions that provide a reliable and constant supply of hot water. They are designed to meet various capacity requirements, ranging from small residential units to large-scale commercial or industrial systems.

Features and Specifications:

This section highlights the key features and specifications of our electric hot water boilers, including:

- Energy efficiency ratings
- Heating capacity
- Temperature control options
- Compact design for easy installation
- Corrosion-resistant materials
- Safety features such as overheat protection and pressure relief valves
- Digital control panel for precise temperature adjustments
- Multiple heating elements for rapid water heating



- Insulation for heat retention and reduced energy consumption

Every boiler including following parts:

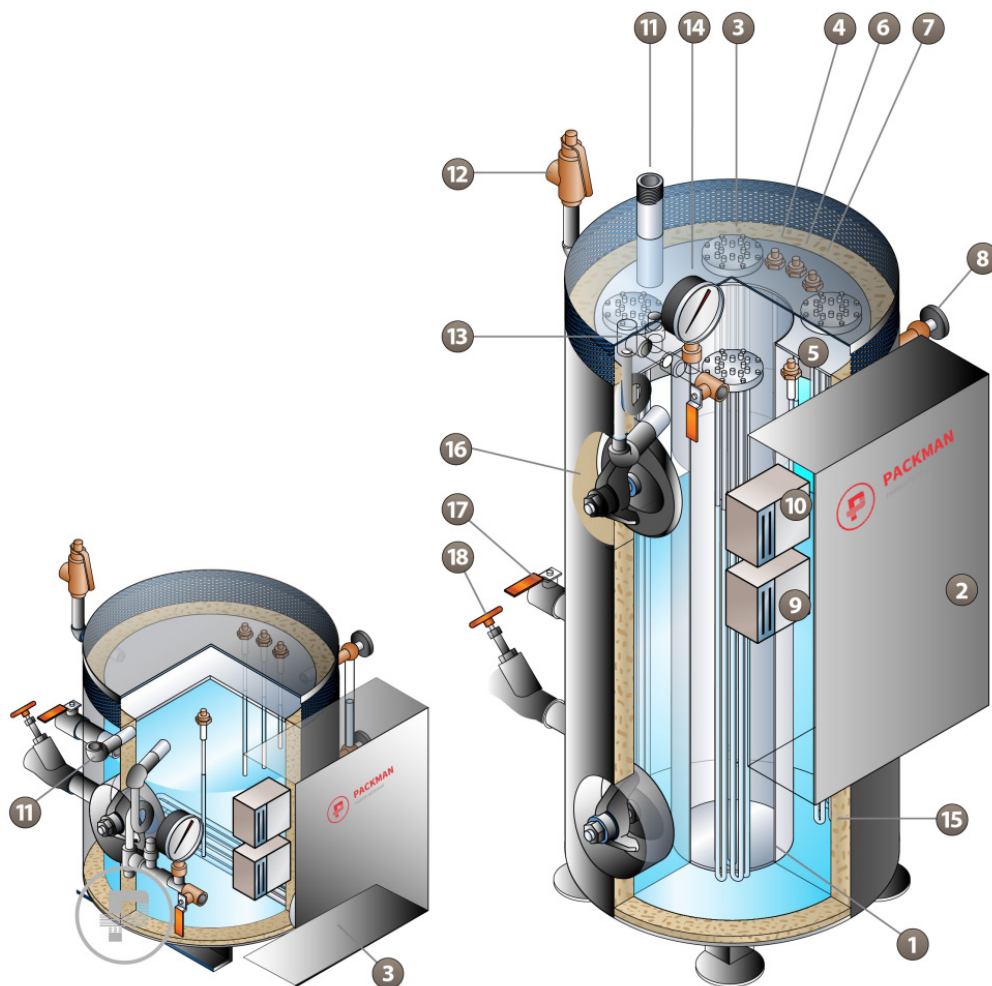
1. **Heating Element:** The heating element is the core component of an electric boiler. It is usually made of resistance wire, such as nichrome or stainless steel, which has a high electrical resistance. When an electric current passes through the heating element, it generates heat due to the resistance.
2. **Control System:** The control system regulates the operation of the electric boiler, ensuring efficient and safe performance. It includes various sensors, thermostats, and control switches that monitor and adjust the temperature, pressure, and flow rate of the water or steam.
3. **Water Tank or Heat Exchanger:** In electric boilers used for heating water, a water tank or heat exchanger is present to hold and heat the water. The heating element is immersed in the water or wrapped around the heat exchanger, transferring heat to the water.
4. **Circulation Pump:** A circulation pump is used to circulate the heated water or steam throughout the system. It ensures even distribution of heat and maintains a constant flow rate.
5. **Safety Devices:** Electric boilers incorporate several safety devices to prevent overheating, pressure buildup, or other potential hazards. These may include pressure relief valves, temperature limits, and automatic shutdown mechanisms.
6. **Control Panel:** The control panel provides a user interface for operating and monitoring the electric boiler. It allows users to adjust temperature settings, view system status, and diagnose any faults or issues.
7. **Energy Efficiency Features:** Modern electric boilers often include energy-saving features like programmable timers, temperature controls, and insulation to minimize heat loss and optimize energy

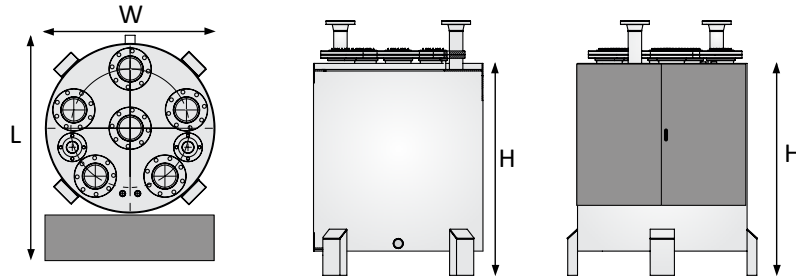


consumption.

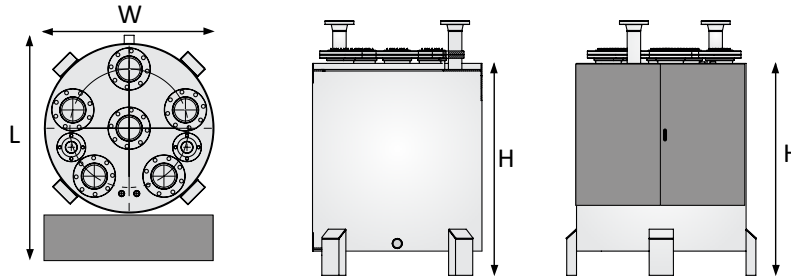
Equipment:

- Electric panel
- Inlet and outlet valve
- Pressure indicator
- Thermometer
- Aquastat
- Output power can be control
- Output temperature can be control (Water pressure indicate)
- PLC control panel assamble by packman(Siemens and telemecanique)





Model/ PHWB-E	Unit	80	100	150	200	250	300	400
Technical Data								
Thermal Capacity	kw	80	100	150	200	250	300	400
Thermal Capacity	kcal	70,000	86,000	129,000	172,000	215,000	258,000	344,000
Boiler Type	-	Electric Heater						
Thermal Efficiency	%	100	100	100	100	100	100	100
Maximum Working Pressure	bar	16	16	16	16	16	16	16
Number of Element	N	4	5	8	10	13	15	20
Max Working Water Temperature	°C	85.0	85.0	85.0	85.0	85.0	85.0	85.0
Recommended Water Flow Rate	gpm	28	34	52	69	86	103	138
Boiler Water Content	Liter	147	212	212	288	477	477	589
Water Pressure Drop in Boiler	bar	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Design Standard	-	ASME						
Material								
Element Material	-	Stainless Steel						
Shell Material	-	SA 516 Gr70						
Shell Insulation	-	Rock Wool						
Base Plate	-	SA 36						
Cover	-	SS 403ba						
Connectoins Size								
Water Outlet	in	1 1/2	2	2	3	3	3	3
Water inlet	in	1 1/2	2	2	3	3	3	3
Safety Valve	in	3/4	1	1	1	1	1	1
Drain Valve	in	1	1	1	1	1	1	1
Boiler Dimensions								
Width	mm	500	600	600	700	900	900	1,000
Lenght (with control panel)	mm	900	1,000	1,000	1,200	1,600	1,600	1,800
Height	mm	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Boiler Weight								
Shipping Weight @ 6 bar	kg	263	386	386	556	623	623	840
Service Weight @ 6 bar	kg	410	598	598	844	1,100	1,100	1,429
Electrical Data								
Electric Power Consumption	kW	80	100	150	200	250	300	400
No of Phase	-	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50
Voltage	v	400	400	400	400	400	400	400
Current	A	128	160	241	321	401	481	642
Control Panel IP Level	-	IP45	IP45	IP45	IP45	IP45	IP45	IP45



Model/ PHWB-E	Unit	500	600	700	800	1000	1200
Technical Data							
Thermal Capacity	kw	500	600	700	800	1,000	1,200
Thermal Capacity	kcal	430,000	516,000	602,000	688,000	860,000	1,032,000
Boiler Type	-	Electric Heater					
Thermal Efficiency	%	100	100	100	100	100	100
Maximum Working Pressure	bar	16	16	16	16	16	16
Number of Element	N	25	30	35	40	50	60
Max Working Water Temperature	°C	85.0	85.0	85.0	85.0	85.0	85.0
Recommended Water Flow Rate	gpm	172	206	241	275	344	413
Boiler Water Content	Liter	712	904	1,061	1,385	2,010	2,010
Water Pressure Drop in Boiler	bar	0.10	0.10	0.10	0.10	0.10	0.10
Design Standard	-	ASME					
Material							
Element Material	-	Stainless Steel					
Shell Material	-	SA 516 Gr70					
Shell Insulation	-	Rock Wool					
Base Plate	-	SA 36					
Cover	-	SS 403ba					
Connectoins Size							
Water Outlet	in	4	4	4	4	4	4
Water inlet	in	4	4	4	4	4	4
Safety Valve	in	11/2	11/2	11/2	11/2	11/2	2
Drain Valve	in	1	1	1	1	11/2	11/2
Boiler Dimensions							
Width	mm	1,100	1,200	1,300	1,400	1,600	1,600
Lenght (with control panel)	mm	1,900	1,950	2,000	2,200	2,400	2,400
Height	mm	1,500	1,600	1,600	1,800	2,000	2,000
Boiler Weight							
Shipping Weight @ 6 bar	kg	910	1,043	1,150	1,250	1,400	1,400
Service Weight @ 6 bar	kg	1,622	1,947	2,211	2,635	3,410	3,410
Electrical Data							
Electric Power Consumption	kW	500	600	700	800	1,000	1,200
No of Phase	-	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50
Voltage	v	400	400	400	400	400	400
Current	A	802	962	1,123	1,283	1,604	1,925
Control Panel IP Level	-	IP45	IP45	IP45	IP45	IP45	IP45

PACKMAN GROUP

History

The Packman Company was founded in February 1975, and was soon afterwards registered in companies Registration Office. In early years the Packman construction and service branch focused on building installations. Different mega power plants were built by cooperating with Brown Boveri and Asseck companies in 1976.

The company started its official activities in construction of High-Pressure Vessels such as Hot-Water Boilers, Steam Boilers, Storage Tanks, Softeners and Heat Exchangers from 1984.

Packman Company is one of the first companies which supplied the high quality and standard hot water boilers to the customers.

Packman has exported its products to countries such as Uzbekistan, United Arab Emirates and other countries in the Middle East. It is one of the largest producers of hot-water and steam boilers in the Middle East.

Now we are proud to announce that the Packman industrial group has five major sub-brands that have product titles in all field of HVAC equipment and engineering services, and we do not know this success except with the help and support of our customers.

1. Construction Services Industry Association
2. Industry Association
3. Construction Companies' Syndicate
4. Technical Department Association
5. Mechanical Engineering Association
6. Engineering Standard Association

Departements:

Sales Deps:

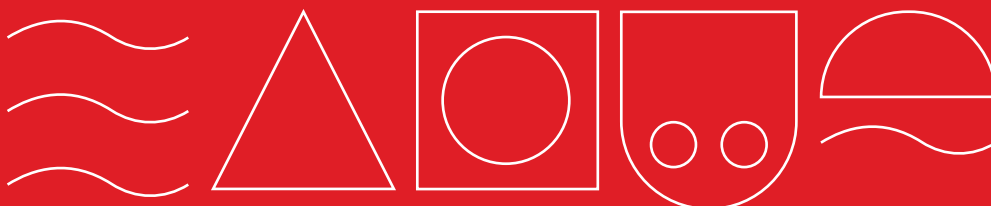
- ⌒ Power Plant & Petrochemical
- ⌒ Industrial
- ⌒ Hospitality Service
- ⌒ Commercial & Residential
- ⌒ Sport Complex & Pool

Technical Deps:

- ≡ Manufacturing R&D
- ≡ Innovation Center
- ≡ EPC Execute Unit
- ≡ Product Develop Unit
- ≡ Sales Engineering Dep.

Others:

- ≈ After Sales Service
- ≈ Project Control
- ≈ Financial Office
- ≈ Commercial Office
- ≈ Marketing Department



PACKMAN GROUP

Brands



PACKMAN
Industrial Group

Designer&manufacturer of Condensing, Hot Water, Steam, Hot Oil & Waste Heat Boilers, Heat Exchangers, Autoclave Pressure&Storage Vessels&etc



GREENMAN
Green mindset, green future

Engineering& Designing Commercial Greenhouse Plant, CO2 Dosing System, Flue gas Condenser& Special HVAC Systems, Sustainable Agriculture &etc



ROMAN
Water solution

Designer&manufacturer Reverse Osmosis Plant& Package, Water Treatment, Softener& Filters and Chemical Dosing Systems&etc



RAADMAN
a look to the future

Designer&manufacturer of Industrial Mono&Dual Block Gas, LPG, Light& Heavy Oil Burners, Premixed&Postmixed Burners, Watertube burners, Process burners, Special application burners&Combustion Solutions&etc



CHILLMAN
Coolest hvac around

Designer&manufacturer of Air&Water Cooled Chillers, Air Handling Units, Fancoil, HVAC Equipment, Cold Storage Room&etc



1. Isfahan Factory



2. Vilashahr Factory



3. Parand Factory



4. Parand (2) Factory



5. Bonyad Factory

SOME OF Certificates are



Knowledge Based



PACKMAN



GREENMAN



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CHILLMAN

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