

www.packmangroup.com



Knowledge
Based

Since 1975



PACKMAN
Industrial Group



Condensing Boiler (Optima Series)

powered by PACKMAN industrial group



Condensing Boiler (Vertical Optima Series)



Product Description

Condensing Boiler technology is the most efficient, environmentally friendly form of fuel heating available today. Condensing technology recovers the condensation heat retained latently in flue gases; part of the energy that normally disappears up the chimney in other heating systems. Additionally, a modern condensing heating system increases the value of the building as well as quality of life by reducing emissions. Condensing technology offers an intelligent, easy-to-install solution to decrease fuel costs.

With condensing technology, the water vapor contained in the flue gases condenses on the cooler heat exchanger surfaces of the boiler, transferring heat into the boiler water. Large heat-transfer surfaces, a counter-flow heat exchanger design, and cold return water temperatures together optimize condensation opportunities. The heat released from condensation is transmitted directly into the boiler water, minimizing thermal flue gas losses. The seasonal efficiency of the OPTIMA series condensing boilers can reach up to 107%, reducing heating costs by up to 20% in comparison with conventional heating.

Optima Series

Packman was founded in 1975 and 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. In the last ten years, Packman has been the first company to design and manufacture gas-fired condensing boilers in all capacities in Iran.

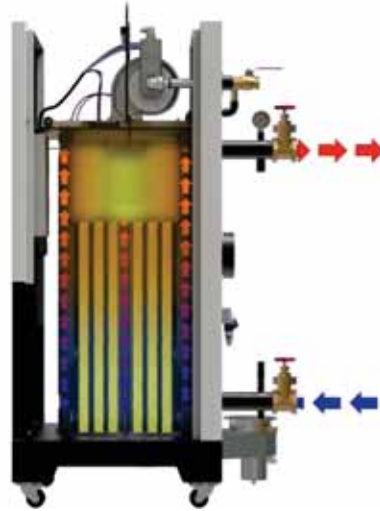
The OPTIMA series design is based on Packman's over 45 years of experience in the hot water boilers market. Available in eight sizes from 100 kw to 600 kw. For more applications, greater than 600 kw, can easily chain multiple units together.

The OPTIMA series is a completely integrated solution with firetube heat exchanger, premix burner and boiler management controls. The advanced heat exchange design in the OPTIMA series allows the boiler to achieve efficiencies up to 107%, and the modulating premix burner delivers high turndown and NOx levels to less than 20 ppm. This boiler is ideal for central heating applications and indirect hot water supply for working pressures up to 10 bar.



Optima Structure

The internal structure of Optima boilers is as follows



Application

- Multi-family/Apartments, Education, Hotels, Medical Centers/Nursing Homes, Office Buildings and etc.
- Buildings with a hot-water heating system – low temperature: 55°C (131°F) or below.
- Existing buildings with a hot-water heating system where the heat can be transferred before returning to the boiler (e.g. heating a fresh air compensator or a domestic water).
- Reheat the mitigation water system using heat pumps for heating and air-conditioning.

Operating Features & Benefits

- The heating circuit flow and low temperature return flow can be connected without any additional equipment, e.g. flow monitors.
- The ideal solution for projects where energy performance is sought.
- Space Savings; the appliance is more compact and making it fit easily in a mechanical room.
- The 316L stainless steel heat exchanger is designed for greater strength and longer life.
- Dual temperature returns connections for +6% efficiency gain.

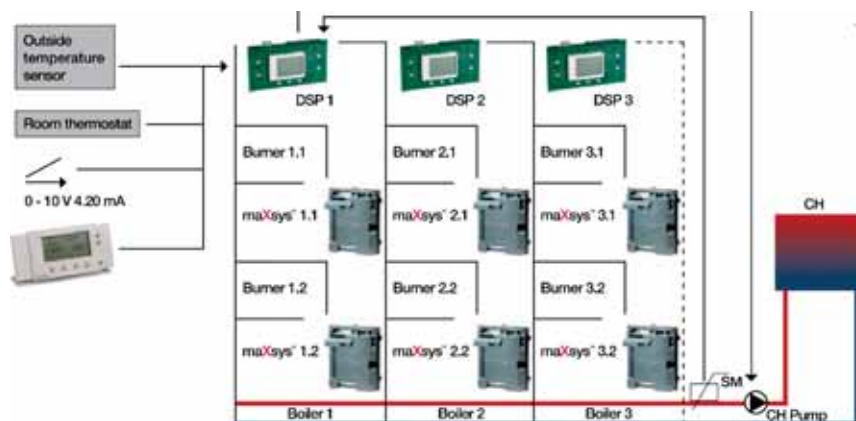


- The ability to install an outdoor sensor
- Metal fiber premix modulating burner for ultra-low NOx emissions.
- Modulating starting from 30% of the power.
- Low hydraulic resistance (ideal for primary variable flow applications)
- No minimum temperature requirement.
- Easy-access, hinged burner boiler lid to aid burner servicing.
- Low noise with less than 70 dB at 3 feet.
- Direct/conventional vent with CPVC, Polypropylene.
- Removable frames allow for easy access and simplifies maintenance.
- Cascade Installation; easy-chain multiple units for applications over 600kW. (Up to 6 units can be connected to one sequencer panel.)



Intelligent Integrated Controls

OPTIMA Series boilers are equipped with Honeywell MAXSYS controller, it is a proven boiler/burner management control that provides an intuitive operator interface featuring integrated burner sequencing, trending, flame safety, modulation, alarms, lockout, and much more, ensuring your boiler system operates at peak efficiency, while providing necessary safety and reliability.





The Honeywell MAXSYS controller with integrated lead/lag optimizes the boiler room's operational efficiency while delivering precise temperature control to meet heating demands. The Honeywell MAXSYS controller can communicate with your building's Energy Management System (EMS), which helps maximize overall system efficiency.

- Multiple loop PID set point control (central heat, domestic hot water and lead/lag),
- Configurable lead/lag control to match system requirements,
- Outdoor temperature reset,
- Remote enable and set point.

Remote Access To Boiler

- Actual time/day display
- Actual room temperature/room temperature set point
- Set point adjustments
- Seven days' time program with 2-6 points with independent room temperature settings for each day
- System output indications.

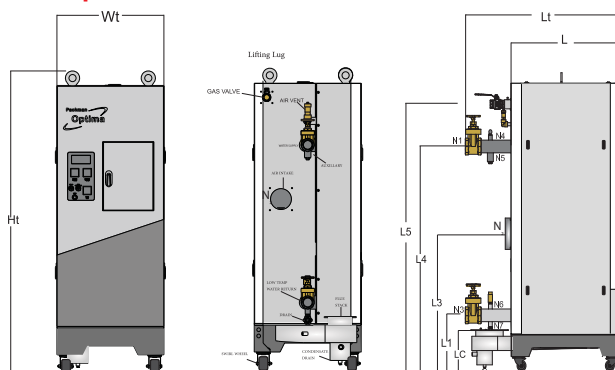


Optimal Hydronic Boiler Room Management

The OPTIMA condensing boiler operates most efficiently at reduced firing rates. The Honeywell MAXSYS controller is uniquely capable of taking advantage of the OPTIMA's combustion and thermal performance characteristics to sequence and modulate OPTIMA boilers to maximize system efficiency.



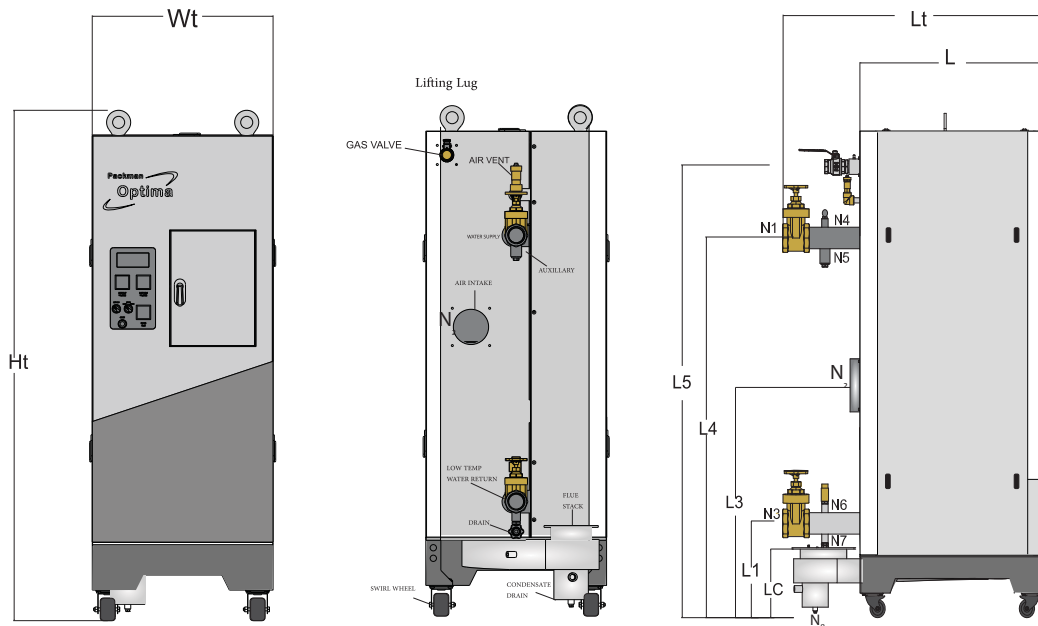
Optima Technical Specifications



Model	Unit	Optima 100	Optima 150	Optima 200	Optima 250	Optima 300	Optima 400	Optima 500	Optima 600	
Technical Data										
Max Heat Output	kW	100	150	200	250	300	400	500	600	
Min Heat Output	kW	25	37.5	50	62.5	75	100	125	150	
Efficiency at (30-40°C)	%	98								
Efficiency at (70-80°C)	%	91								
Min & Max Working Pressure	bar	2-16								
Water Temperature Range	°C	30-85								
Recommended Water Flowrate in T (10°C)	m ³ /hr	9	13.5	18	22.5	27	36	45	54	
Recommended Water Flowrate in T (20°C)	m ³ /hr	4.5	6.75	9	11.25	13.5	18	22.5	27	
Water Content	Liter	97	133	165	182	214	265	286	331	
Max Condensate	l/hr	12	18	24	30	36	48	60	72	
Min Gas Pressure	mbar (psi)	18 (1/4)								
Max Gas Pressure	mbar (psi)	60 (2)				100 (2)				
Min Gas Consumption	m ³ /hr	2.3	3.45	4.6	5.75	6.9	9.2	11.5	13.8	
Max Gas Consumption	m ³ /hr	9.2	13.8	18.4	23	27.6	36.8	46	55.2	
Electric Supply	V/Hz/ph	220/50/1								
Electrical Power Consumption	W	250	300	450	500	550	850	900	950	
Condensate PH	-	4-4.5								
Stack Material	-	Stainless Steel 304 L or plymer								
Connection Size										
Water Inlet	in	2	2	2 1/2	2 1/2	2 1/2	3	3	3	
Water Outlet	in	2	2	2 1/2	2 1/2	2 1/2	3	3	3	
Stack & Air Intake	in	5	5	6	6	6	8	8	8	
Condensate Discharge	in	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Drain	in	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Relief Valve	in	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Gas Connection	in	1	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	



Optima Dimensional Specifications



Model	Unit	Optima 100	Optima 150	Optima 200	Optima 250	Optima 300	Optima 400	Optima 500	Optima 600
Dimension									
Length (L)	mm	650	715	765	790	830	910	940	980
Length (Lt)	mm	900	970	970	1,100	1,140	1,260	1,290	1,330
Width (Wt)	mm	600	665	715	740	780	860	890	930
Height (Ht)	mm	1,680	1,740	1,890	1,930	2,000	2,090	2,090	2,200
L1	mm	380	380	380	380	380	380	380	380
L3	mm	960	960	960	960	960	960	960	960
L4	mm	1,315	1,365	1,390	1,430	1,505	1,485	1,485	1,605
L5	mm	1,530	1,580	1,580	1,615	1,685	1,790	1,790	1,910
Lc	mm	300	300	300	300	300	300	300	300
Boiler Room Clearances									
Min Front Clearance (FC)	mm	500	500	500	500	500	500	500	500
Min Rear Clearance (RC)	mm	500	500	500	500	500	500	500	500
Min Side Clearance (SC)	mm	500	500	500	500	500	500	500	500
Min Boiler Room Length	mm	1,900	1,970	1,970	2,100	2,140	2,260	2,290	2,330
Weight									
Shipping Weight	kg	218	270	317	340	395	549	595	666
Service Weight	kg	315	403	482	522	609	814	881	997

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



ROMAN



RAADMAN



CHILLMAN

+9821 42 362

www.packmangroup.com

No 14, 10th Alley, Beihaghi St., Argentina Sq., Tehran-Iran