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Knowledge
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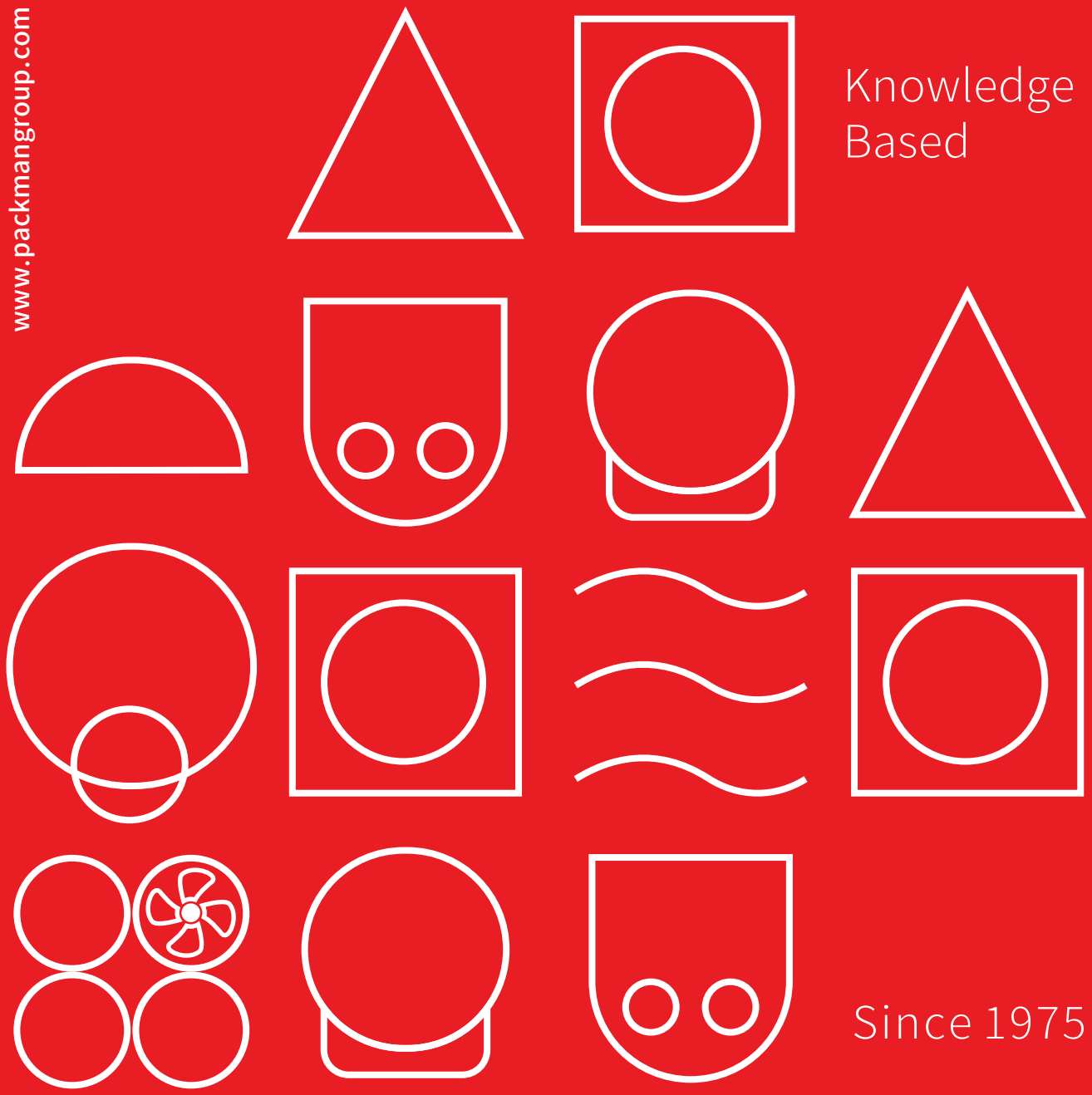
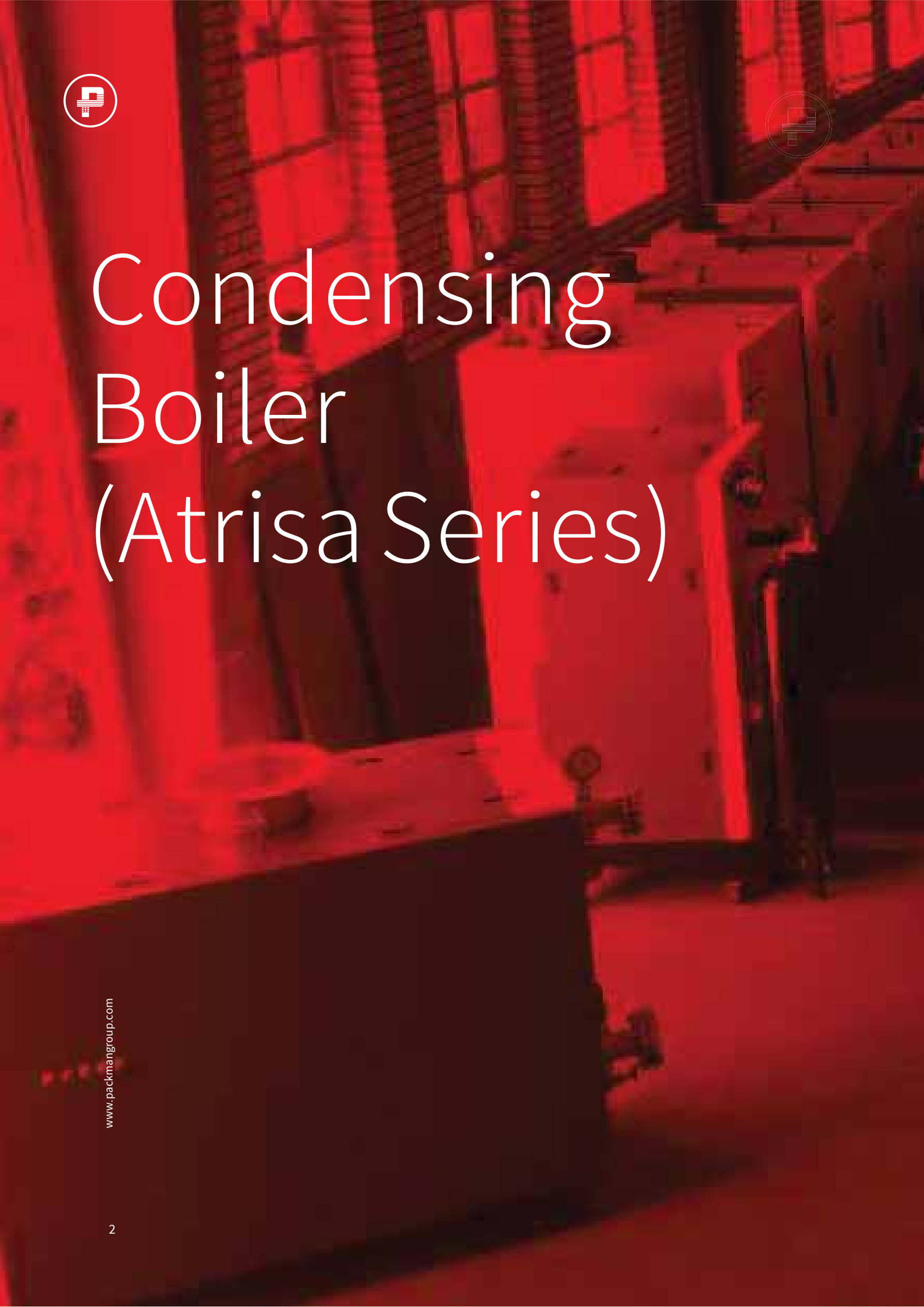


Since 1975

PACKMAN
Industrial Group

Condensing Boiler (Atrisa Series)

powered by PACKMAN industrial group



Condensing Boiler (Atrisa Series)

www.packmangroup.com

Product Description

The Condensing Technology of boilers and water heaters features an advanced high efficiency and convenient that produces installation, operating, and lifetime cost advantages to systems operating from 450 to 2000 kw. For applications greater than 600 kW, you can easily chain multiple units together. Premix burners with a fiber mesh make the PACKMAN Condensing Boilers ideal for“green” operation. The Premix burner technology help to achieve emission levels less than 20 ppm Nox.

At a Glance

Key Features

- Available in five sizes from 450 to 2000 kw
- Efficiencies of up to 98%
- Advanced modulation technology
- Natural Gas or Dual Fuel
- Turndown ratio up to 5:1
- Whisper-quiet operation, even at full fire
- Small footprint
- chain multiple units for applications over 600 kw
- Direct/conventional vent with CPVC or Polypropylene(PP)

Atrisa Series

The Atrisa Series of boilers and water heaters continues the PACKMAN tradition of meeting the market demand for hot water solutions that reduce installation and life cycle costs while providing the best uptime reliability. Incorporating the latest in highefficiency, the Atrisa Series brings best-in class operation to a wide range of facilitiesincluding:

- Multi-family/Apartments
- Education
- Hotels
- Medical Centers/Nursing Homes
- Office Buildings

High performance in a compact, flexible design makes the Atrisa Series the perfect hot water solution for systems requiring 450 to 2000 kw and above.

In addition to lowering energy usage, the Atrisa Series maximizes each square foot for a greater return on new facility investment. A variety of quick-to-install, cost-efficient accessories eliminate the need for special rigging or system changes to existing mechanical rooms, making the Atrisa Series equally well suited for retrofits. The end result is an easily-installed, highly efficient solution that conserves space and owers energy use to create significant shortand long-term savings for all kind of buildings.
The modular design in the Atrisa Series creates installation, operational, and reliability benefits unmatched by competitive boilers or water heaters in the same class. Designing a hydronic system with an Atrisa Series unit delivers advantages such as:

Lower Costs: Installation, operating, and lifetime costs are all reduced due to the modular design that maximizes efficiency and operation.

Higher Uptime Reliability: The modular design also creates a level of redundancy and reliability from a single Atrisa Series boiler or water heater that is typically only found in multi-unit systems.

Installation Flexibility: A wide variety of venting options allows the Atrisa Series to be easily integrated into any system, whether it is a retrofit or new construction.

Space Savings: Its compact footprint allows the Atrisa Series to be installed in small mechanical rooms.

Easy Access: Simple side access makes it more efficient for technicians to conduct scheduled service and maintenance on the units, which in turn saves time and reduces labor costs.

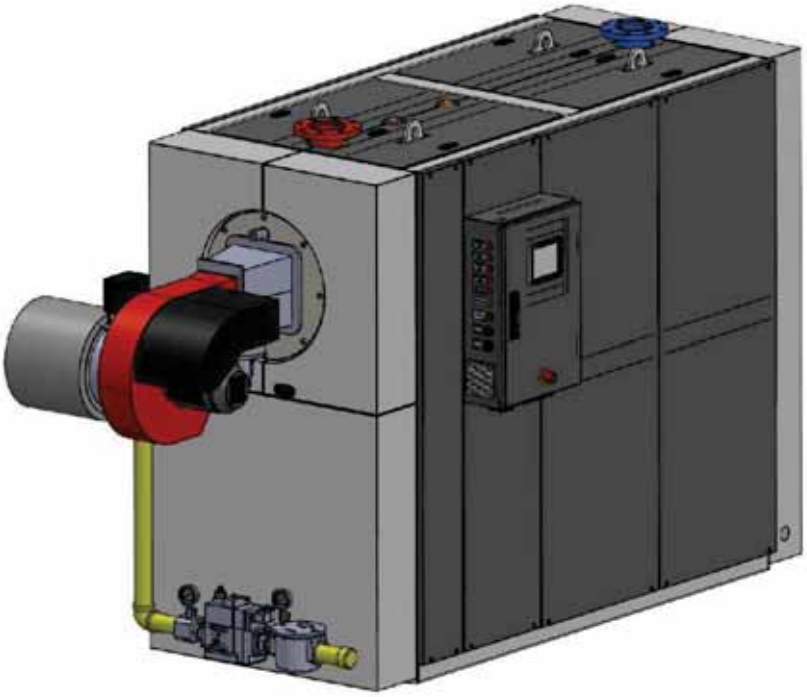
Maintaining the PACKMAN heritage, the Atrisa Series delivers high operating efficiency of up to 98%. By achieving the highest possible seasonal efficiencies, the Atrisa Series creates short-term and lifecycle energy savings.
Best-in-class performance is achieved by using superior design approach that incorporates.

High-Quality Materials: At the heart of the boiler is a unique heat exchanger designed with oval-section stainless steel tubes. The heat exchanger is constructed out of 316L stainless steel tubes for high reliability and long life.

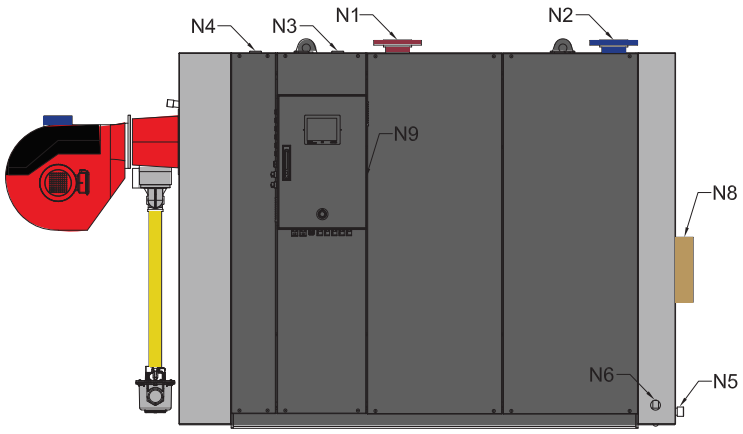
Advanced Modulation and Condensing Technologies: The Atrisa Series continues the decades-long trademark of PACKMAN solutions featuring fully modulating and condensing technologies. High modulation means the Atrisa Series matches loads exactly to need, minimizing cycling, eliminating over-firing, and achieving tight temperature control.

Premix Burner: The Atrisa Series features a total premix combustion unit, with variable-speed fan. The burner occupies very little space vertically, allowing the entire length of the heat exchanger to be exploited and bringing obvious benefits regarding condensation and stratification in the boiler.

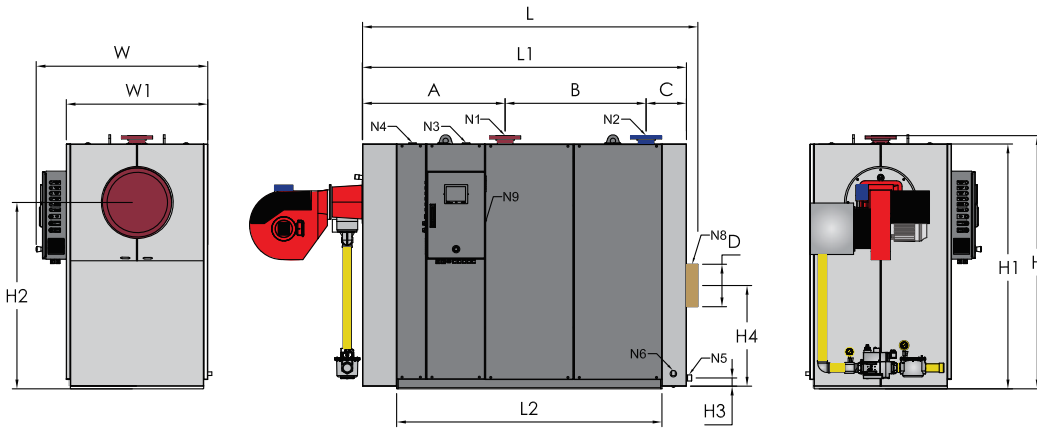
High Level Design: PACKMAN condensing boilers are designed using high level technics such as computational fluid dynamics (CFD) for high thermal efficiency and finite elements (FE) analysis for ensuring long life.



Model	Unit	Atrisa-450	Atrisa-650	Atrisa-800	Atrisa-1000	Atrisa-1250	Atrisa-1500	Atrisa-1750	Atrisa-2000
Technical Data									
Max Heat Output	kW	450	650	800	1,000	1,250	1,500	1,750	2,000
Min Heat Output	kW	90	130	160	200	250	300	350	400
Max Heat Output (Oil)	kW	337	487	600	750	937	1,125	1,312	1,500
Efficiency at (30-50°C)	%	98							
Efficiency at (60-80°C)	%	91							
Max Working Pressure Range	bar	16							
Max. Allowable Temperature	°C	85							
Recommended Water Flowrate in ΔT (10 °C)	m^3/hr	38.7	56	68.8	86	107.5	129	150	172
Recommended Water Flowrate in ΔT (20 °C)	m^3/hr	140	160	210	250	270	280	290	310
Min Water Flowrate	m^3/hr	16.2	23.4	28.8	36	45	54	63	72
Pressure Drop ΔT (10 °C)	mbar	390	440	600	710	780	790	840	890
Pressure Drop ΔT (20 °C)	mbar	140	160	210	250	270	280	290	310
Fireside Pressure Drop	mbar	5.4	5.8	5.8	6.3	6.7	7.3	8.1	8.5
Stack Material	-	Stainless Steel 304 L or plymer according to ISIRI 19279							
Max. Condensate	L/h	49	71	88	110	137	165	192	220
Condensate PH	-	4-4.5							
Water Content	Lit	1,155	1,245	1,805	2,130	2,080	2,340	2,925	2,925



Model	Unit	Atrisa-450	Atrisa-650	Atrisa-800	Atrisa-1000	Atrisa-1250	Atrisa-1500	Atrisa-1750	Atrisa-2000
Combustion & Fuel									
RADMAN Burner @Sea Level	Model	Raadman							
Type of Fuels	type	Gas or Dual							
Max Gas Consumption @Sea Level with Calorific Value 10,000 W/m^3	m^3/hr	45	65	80	100	125	150	175	200
Firing Rate For Fuel Oil @Sea Level with Calorific Value 12,000 W/kg	litr/hr	28.1	40.6	50.0	62.5	78.1	93.8	109.3	125.0
Gas inlet pressure	mbar (psi)	60 (2)							
Burner Emissions									
Nox Level with Raadman Burner	mg/kwh	120	120	120	120	120	120	120	120
Co Level with Raadman Burner	mg/kwh	30	30	30	30	30	30	30	30
Sound Noise Level	dB	75	75	75	75	75	75	75	75
Connection Size									
Water Outlet (N1)	in	2 1/2	3	4	4	4	5	5	5
Water Inlet (N2)	in	2 1/2	3	4	4	4	5	5	5
Safety Valve (N3)	in	1	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
Auxiliary (N4)	in	1	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
Boiler Drain (N5)	in	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Condensate Drain (N6)	in	3/4	3/4	3/4	3/4	1	1	1	1
Auxiliary (N7)	in	1	1	1	1	1	1	1	1
Stack (N8)	mm	250	300	300	350	350	400	400	400
Electric Cabinet (N9)	_	_	_	_	_	_	_	_	_
Water Temperature Sensor (N10)	in	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Flue Temperature Sensor (N11)	in	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2



Model	Unit	Atrisa-450	Atrisa-650	Atrisa-800	Atrisa-1000	Atrisa-1250	Atrisa-1500	Atrisa-1750	Atrisa-2000
Dimension									
A	mm	732	732	1,011	1,161	1,161	1,200	1,350	1,350
B	mm	837	1,003	1,073	1,323	1,323	1,328	1,628	1,628
c	mm	291	285	296	296	296	322	322	322
D	mm	250	300	300	350	350	400	400	400
E	mm	116	116	112	112	112	121	121	121
H1	mm	1,490	1,490	1,800	1,800	1,860	1,990	2,060	2,060
H2	mm	1,140	1,140	1,370	1,370	1,400	1,500	1,570	1,570
H3	mm	80	80	80	80	80	85	85	85
H4	mm	585	585	760	760	760	760	820	820
W1	mm	880	880	1,040	1,040	1,100	1,160	1,160	1,160
L1	mm	1,860	2,020	2,380	2,780	2,780	2,850	3,300	3,300
L2	mm	1440	1600	1930	2330	2330	2430	2880	2880
H	mm	1,550	1,550	1,860	1,860	1,920	2,050	2,120	2,120
W	mm	1,100	1,100	1,260	1,260	1,320	1,380	1,380	1,380
L	mm	1,945	2,105	2,455	2,835	2,835	2,935	3,385	3,385
Boiler Room Clearances									
Min Front Clearance (FC)	mm	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur	500 + Length of Burnur
Min Rear Clearance (RC)	mm	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Min Side Clearance(SC)	mm	500	500	500	500	500	500	500	500
Min Boiler Room Length	mm	3,945	4,105	4,455	4,835	4,835	4,395	5,385	5,385
Weight									
Shipping Weight	Kg	1,420	1,590	2,390	2,750	2,970	3,450	3,680	4,100
Service Weight	kg	2,575	2,835	4,195	4,880	5,050	5,790	6,605	7,025

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
- ∩ Hospitally 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, Water tube 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

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