

HOT WATER BOILERS ASGX EN



Design pressure: 12 bar*

Heat Output: 3000 ÷ 7000 kW

*Different outputs and pressures available upon request.



Benefits

- Three pass wet back;
- Low NOx designed;
- Package boiler for simple installation;
- High water volume for high working flexibility;
- Eterm compatible;
- High water content;
- Assembly and testing conducted at the manufacturer's premises;
- Simple, quick and safe installation;
- Project pressure values up to 25 bar;
- High operating flexibility;
- Minimum running costs;
- Minimum maintenance costs;
- Easy to access for internal maintenance.

Three pass wetback, boiler suitable for liquid or gaseous fuel pressurized combustion, intended for heating or process systems or with power ranging between 3000 and 7000 kW and temperatures higher than 100 °C.

Some of the product's main features are related below:

- P265GH UNI EN 10028/2 and P275NH UNI EN 10028/3 quality steel boiler body welded and tested with methods approved and labeled CE in accordance with the PED 97 /23/EC directive;
- horizontal combustion chamber with single pass flame, with corrugated section;
- wetback combustion produce reversal chamber, supported and connected to a socket of 500 mm diameter with manhole function;
- tube plates with drilled holes into which tubes are expanded and welded. The tube plates are completely dished after heating and butt welded thus avoiding t-butt welds;
- the shell with flanged PN 16 or PN 40 EN 1092-1 connections for equipment operation; equipped with manhole and hand holes, and lifting eye bolts;
- P235GH UNI EN 10216/2 smoke tubes welded to tube plates, without Turbolators;
- single front opening door, thermally insulated refractive materials with high aluminum content, mounted on adjustable hinges, easily opened by hand wheel bolts without the need to remove the burner; equipped with light indicator for combustion control;
- insulated steel sheet rear smoke box equipped with an easily opened door can be removed using equipped bolts using brass bolts in order to clean the smoke pipes; provided with cleaning door and chimney connection;
- support built form carbon steel sections able to support the entire unit;
- embossed metal sheet upper walkway for accessories service, parts located above the boiler;
- high density, mineral wool mattress, 80 mm thickness thermal insulation, with round embossed aluminum case;
- Accessories equipment needed for automatic operation with mechanical and hydraulic assembly for all equipment;
- Electrical wiring converging to a single Boiler House control panel, having silicone insulated wires inserted in PVC protective pockets all subjected to final functionality test

Technical data

Characteristics	Heat output		Heat input		Efficiency 100% (N.C.V.)	NG max flow rate G20	NG max flow rate G30	NG max flow rate G31	Max flow rate of flues	Efficiency at 30% (N.C.V.)
	kW	kcal/h	kW	kcal/h	%	m³/h	kg/h	kg/h	kg/h	%
	Medium Temp. 130°C				Medium Temp. 130°C					Medium Temp. 130°C
ASGX EN 3000	3000	2.580.000	3333	2.867.000	90,00	352,77	261,83	258,99	5256,27	92,00
ASGX EN 3500	3500	3.010.000	3889	3.344.000	90,00	411,47	305,39	302,08	6130,90	92,00
ASGX EN 4000	4000	3.440.000	4444	3.822.000	90,00	470,28	349,04	345,26	7007,17	92,00
ASGX EN 5000	5000	4.300.000	5556	4.778.000	90,00	587,92	436,35	431,62	8760,01	92,00
ASGX EN 6000	6000	5.160.000	6667	5.733.000	90,00	705,43	523,56	517,89	10510,91	92,00
ASGX EN 7000	7000	6.020.000	7778	6.689.000	90,00	823,06	610,87	604,25	12263,59	92,00

Characteristics	Pressure losses flue gas side	Heat losses through the chimney	Heat losses through the casing	Heat losses with burner off	Flue gas temp. at boiler output and air at 20 deg. C	CO2	Press. losses water side	Design Pressure	Heating temperature/ TS	Total capacity	Total weight	Electric supply	Frequency	Insulation class	Electric power	Fuel			
	mbar	%	%	%	°C	%	mbar	bar	°C	l	kg	Volt -	Hz	IP	W	Nat. gas	LPg	Gasoil	Heavy oil
					GAS	GAS	(ΔT=12K)										X	X	X
ASGX EN 3000	15,0	9,70	0,30	0,10	240	10,0	55	12	165	4520	6300	230	50	IP X0D	1000	X	X	X	X
ASGX EN 3500	18,0	9,70	0,30	0,10	240	10,0	75	12	165	5300	6950	230	50	IP X0D	1000	X	X	X	X
ASGX EN 4000	15,0	9,70	0,30	0,10	240	10,0	98	12	165	6650	8200	230	50	IP X0D	1000	X	X	X	X
ASGX EN 5000	20,0	9,70	0,30	0,10	240	10,0	63	12	165	8165	8970	230	50	IP X0D	1000	X	X	X	X
ASGX EN 6000	13,0	9,70	0,30	0,10	240	10,0	91	12	165	9150	11280	230	50	IP X0D	1000	X	X	X	X
ASGX EN 7000	15,0	9,70	0,30	0,10	240	10,0	123	12	165	10200	12160	230	50	IP X0D	1000	X	X	X	X

Dimensions	H	H1	H2	H4	H6	H10	L	L1	L2	P	P2	P3	P4	P5	P6	Øb	Øc	N1	N2	N1/N2	N3	N4	N5	N6	N8	N11
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	DN/in	DN/in	PN	DN/in	DN/in	DN/in	DN/in	DN/in	DN/in
ASGX EN 3000	2460	2210	1230	2400	1230	125	2200	1960	1300	3879	3430	1012	1500	1367	300-400	400	550	200	200	16	1/2"-3/4"	40	50	1/2"	3/4"	1/2"
ASGX EN 3500	2460	2210	1230	2400	1230	125	2200	1960	1300	4379	3930	1012	2000	1367	300-400	400	550	200	200	16	1/2"-3/4"	40	50	1/2"	3/4"	1/2"
ASGX EN 4000	2700	2420	1335	2610	1335	125	2410	2170	1400	4379	3930	1012	2000	1367	300-400	450	600	200	200	16	1/2"-3/4"	40	50	1/2"	3/4"	1/2"
ASGX EN 5000	2700	2420	1335	2615	1335	125	2410	2170	1400	4879	4430	1262	2200	1417	300-400	450	600	250	250	16	1/2"-3/4"	40	65	1/2"	3/4"	1/2"
ASGX EN 6000	2820	2570	1410	2765	1410	125	2560	2320	1600	5389	4930	1264	2700	1425	300-400	450	700	250	250	16	1/2"-3/4"	40	65	1/2"	3/4"	1/2"
ASGX EN 7000	2820	2570	1410	2765	1410	125	2560	2320	1600	5889	5430	1264	3200	1425	300-400	450	700	250	250	16	1/2"-3/4"	40	65	1/2"	3/4"	1/2"

Standard Equipment

- Pressure monitoring instrumentation unit, containing:
 - 2 safety valves;
 - large dial 3 way test valve manometer;
 - manual reset safety pressure gauge.
- Temperature monitoring instrumentation unit , containing:
 - flow thermometer;
 - control thermostat;
 - manual reset safety thermostat;
- Purging unit containing:
 - blowdown drain valve;
 - male connection quick exhaust valve with manual lever
- Boiler electric command panel, IP 55 electrical protection, composed of:
 - main switch;
 - burner switch;
 - electronic temperature regulator for two-stage burner control;
 - high pressure light and alarm reset button;
 - high temperature light and alarm reset button;
 - alarm siren



ICI CALDAIE is a company with a more than 50-year history and experience in managing energy and producing heat.

It was established in 1958 in the province of Verona as a manufacturing company making steel boilers with a high water content for industrial processes. It is still a leader in this sector at an international level, providing medium and large capacity generators for

residential and industrial applications. The experience gained over the years in the industrial field allowed the company to transfer the know-how acquired in designing and making industrial steam generators to civil boilers for the residential and commercial market, with a focus on centralised systems. **ICI CALDAIE** provides a range of systems that generate heat with very high efficiency levels to systems that provide heat for individual houses. Industrial applications are scalable and range from steam generators fitted with a burner and electronic control equipment to all-inclusive thermal systems, with a focus on solutions that allow for high energy savings.

ICI CALDAIE associates any kind of solution, whether it is residential or industrial one, with management systems that reduce consumption, thereby optimising the operation of the generator and connected elements, along with the integration of solar systems.

Today **ICI CALDAIE** is a reference point among companies operating in the field of steam generators for industrial and heating processes. The company's pioneering and innovative spirit leads it to heavily invest in the research and development of projects for new energy systems with a low environmental impact, explore new applications, new technologies with low emissions and leads it to working closely with top universities to develop ambitious and highly innovative research projects.

ICI CALDAIE combines all this with comprehensive customer service, offering itself as a partner and consultant with services ranging from a preventive energy diagnosis to testing and conducting maintenance on the system and/or making all-inclusive systems.



Quality

The fierce competition in international markets, the elimination of customs barriers and requirements increasingly focused on high quality standards have led **ICI CALDAIE** to develop a new culture of quality, focusing on fully meeting the Customer's needs while complying with the strictest quality standards as essential conditions to ensure its own competitive edge.

In 1993, ICIM (Mechanics Industrial Certification Institute) certified **ICI CALDAIE**'s Quality System

in accordance with the Italian, European and international

standard UNI EN 29002 (ISO 9002); in June 2002 BVQI (Bureau Veritas Quality Insurance) awarded **ICI CALDAIE** the ISO 9001/94 certification and in April 2004 the ISO 9001/00 Vision certification.

All **ICI CALDAIE** models have the **CE** marking in accordance with applicable regulations and the high-pressure generator designed in accordance complies with the Pressure Equipment Directive. The company also has a number of Italian certifications for exports to many countries that require very restrictive mechanical and hydraulic tests, such as the certificates issued by the American Society for Mechanical Engineers.

The certifications awarded acknowledge the efforts made by **ICI CALDAIE** and inform the market that the methods adopted comply with international regulations to ensure the best quality standards. A Research and Development lab fitted with modern instruments to check the reliability and performance of the boilers develops new products in accordance with the increasingly strict European standards on consumption and emissions.

Each product is made by the Technical Department, which has modern CAD workstations with internet access. Semi-finished products are prepared with laser cutters and numerical control machines. The elements are perfectly welded together with modern robots and each individual boiler undergoes a strict testing process that ensures it is reliable.

Certifications

System certifications:

- ISO 9001 quality certification
- ISO 14001 environmental certification

Product certifications:

- ASME certification
 - STAMP-H: Heating boilers
 - STAMP-S: Power boilers
 - STAMP-U: Pressure vessels
- EC certification
- SELO certification (China)
- GOST-R certification (Russia)
- GOST-U certification (Ukraine)
- GOSPROMNADZOR certification (Belarus)
- CoC RK certification (Kazakhstan)





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