

**GX**

High pressure steam boiler genuine three pass



# The best solution for industrial processes, even heavy duty applications

For industrial processes that demand large amounts of heat at high temperatures, in particularly difficult operating conditions (continuous operation, peak demand, etc.), steam generators that provide a higher level of efficiency and reliability are required.

Depending on the type of process, different steam operating temperatures and pressures may be required.

For very high temperatures, the steam temperature can be increased up to 300°C using a superheater. The main industry processes that require high temperature steam are cooking, pasteurisation, sterilisation, drying, washing.

## APPLICATIONS

- ⊕ PAPER INDUSTRY;
- ⊕ TANNING INDUSTRY;
- ⊕ RUBBER PROCESSING;
- ⊕ WASTEWATER PURIFICATION AND TREATMENT PLANTS;
- ⊕ FOOD AND BEVERAGE INDUSTRY:
  - Meat processors;*
  - Distilleries;*
  - Breweries;*
  - Wine Making;*
  - Dairy Industry;*
- ⊕ CHEMICAL AND PHARMACEUTICAL;
- ⊕ MANUFACTURING INDUSTRY;
- ⊕ HOSPITALS;
- ⊕ DISTRICT HEATING SCHEMES;
- ⊕ PETROCHEMICAL INDUSTRY.



## Our expertise

ICI CALDAIE offers fully integrated systems that satisfy even the most demanding steam requirements. Our innovative packaged boiler solutions can be matched to the specific application characteristics, ensuring the highest levels of efficiency and reliability.

### ⌚ RELIABILITY AND SAFETY

Every downtime of the boiler plant corresponds to economic loss or inconvenience. Non-stop generator operation is of key importance for industrial applications.

### ⌚ QUALITY AND DURABILITY

Continuous work regimes require specifically designed generators, built for heavy duty use with technologies that allow for long life expectation.

### ⌚ INTEGRATION

Our products are already designed so that they can be **interfaced** with **centralised** boiler plant **control systems** available on the market.

### ⌚ EFFICIENT OPERATION

During periods of high steam demand, every percentage point of energy reduction achieved can result in large fuel savings for the Customer. In addition, operational cost savings can be achieved by fitting controls systems which allow unmanned operation of the plant for up to 72 hours.





## GX - Steam high technology

The GX steam generator is a genuine three pass wet back design offering high operating efficiency and low NOx emissions. It is a monoblock design, providing excellent efficiency and advanced technical solutions. It is designed and built to ensure maximum reliability and duration, considering the industrial use for which it is mainly intended. The type of construction is of high water volume and high energy content, a feature that allows for rapid and very high steam withdrawals to be fulfilled.

With a large water content and evaporating surface area, the steam produced is always of high quality as it features a very high steam fraction. The corrugated furnace, fully designed and built in-house, is sized in order to achieve reduced volumetric thermal loads; this results in optimum operation both with liquid and gaseous fuels, as well as the reduction of pollutants (NOx) emitted into the atmosphere. The surfaces in contact with the carrier fluid are generously sized to ensure a high coefficient of heat exchange, in order to achieve high combustion efficiency.

### MODELS & POWERS



**DESIGN PRESSURE**  
**12 ÷ 25 bar**



**STEAM PRODUCTION**  
**1700 ÷ 32000 kg/h**



**EFFICIENCY**  
**90%**



**EFFICIENCY WITH ECONOMISER**  
**\* upon request, up to 25 bar**



## Features

- ⊕ **Fully flanged tube plates.**  
The hot-flanged tube plates of the GX steam generator ensure the absorption of thermal expansion according to differing workloads.
- ⊕ **High steam dryness fraction at all loads.**  
The large surface area of evaporating fluid and the particular internal separator prevent the entrainment of water droplets in the steam outlet; the steam produced is therefore always of high quality as it features a very high steam dryness fraction.
- ⊕ **Great reliability in continuous operating mode.**  
The construction features of the GX steam generator make it particularly suitable even for intense and heavy duty work loads and periods.
- ⊕ **The right solution for you.**  
A wide range of optional accessories are available to customise the product according to any specific requirement.
- ⊕ **System integration.**  
The boiler can be supplied with a programmable PLC. This provides complete compatibility with any data acquisition system, and allows you to display plus set the operating parameters of the machine remotely.

- ⊕ **Double front doors as standard.**  
The double front doors can be fully opened without needing to remove the burner. This reduces the amount of space required, making cleaning and maintenance very simple.



## Special installations

### NON-STANDARD PRESSURES

If required, the GX steam generator can be supplied suitable for higher pressures.

### FUELS

The generator can also be supplied suitable for use with fuels with a high sulphur content (bio-fuels, heavy fuel oil, etc.).

## Safety and remote management

The GX series can be supplied equipped with a certified safety system that allows you to operate without continuous plantroom supervision for up to 72 hours (GSS72) once approved by your notified body. This system also allows you to manage the machine operation remotely, thereby optimising consumption and efficiency.



# GX S - superheated steam generator

## SUPERHEATED STEAM GENERATOR

For particularly high steam temperatures, the GX generator can be supplied with an integrated steam superheater, designed to increase the steam temperature without varying the operating pressure.

### APPLICATIONS

- ⊕ Paper industry;
- ⊕ Rubber processing;
- ⊕ Chemical and pharmaceutical industry;
- ⊕ Manufacturing industry;
- ⊕ Heavy industry;
- ⊕ Petrochemical industry.

### BENEFITS

- ⊕ **The fully integrated** superheater in the generator structure facilitates easy handling and installation.

## MODELS & POWERS



**DESIGN PRESSURE**  
**12 ÷ 25 bar**



**STEAM PRODUCTION**  
**1700 ÷ 32000 kg/h**



**EFFICIENCY**  
**90%**



**EFFICIENCY WITH ECONOMISER**  
**up to 95%**



**TEMPERATURE**  
**up to 300°C**



# GX C - Composite steam boiler with flue gas recovery

## COMPOSITE STEAM BOILER WITH FLUE GAS RECOVERY

The GX C steam generator is supplied with a dedicated heat recovery section to combine two principles of operation: production of steam through combustion and production of steam through heat recovery of flue gases coming from an external process. This version, called "GX C", is mainly used in combination with cogeneration systems with turbines or internal combustion engines.

### AMBITI DI APPLICAZIONE

- ⊕ Paper industry;
- ⊕ Rubber processing;
- ⊕ Wastewater purification and treatment plants;
- ⊕ Food and beverage industry;
- ⊕ Manufacturing industry;
- ⊕ Hospitals;
- ⊕ Heavy industry;
- ⊕ Petrochemical industry;
- ⊕ CHP/Engine cogeneration.

## MODELS & POWERS



### DESIGN PRESSURE

12 ÷ 25 bar



### STEAM PRODUCTION

1700 ÷ 32000 kg/h



### EFFICIENCY

90%



### EFFICIENCY WITH ECONOMISER

up to 95%

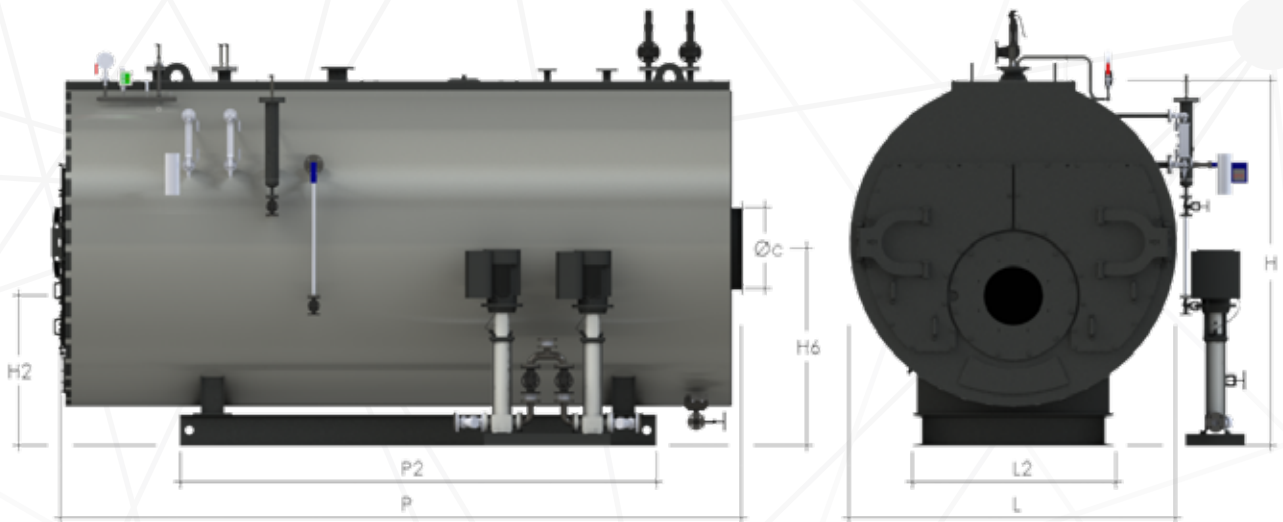
### BENEFITS

- ⊕ **The recovery of energy** by passing the waste heat through the dedicated flue sections, proportionally reduces the fuel consumption required to obtain the required power.





## Technical data model GX



GX Model	u.m.	GX1000	GX1200	GX1500	GX1750	GX2000	GX2500	GX3000	GX3500	GX4000
Steam production*	kg/h	1700	2050	2560	3000	3410	4260	5100	6000	6800
H2	mm	865	865	915	915	915	990	1030	1020	1115
H	mm	2280	2280	2460	2460	2460	2620	2690	2720	2920
H6	mm	1500	1500	1620	1620	1620	1745	1830	1750	1950
L2	mm	1200	1200	1400	1400	1400	1500	1500	1500	1600
L	mm	2000	2000	2180	2180	2180	2300	2340	2400	2500
P	mm	4100	4100	4100	4100	4600	4900	5100	5600	5700
P2	mm	2400	2400	2500	2500	3000	3200	3200	3500	3700
Øc	mm	400	400	450	450	500	550	600	600	650

GX Model	u.m.	GX5000	GX6000	GX7000	GX8000	GX9000	GX10000	GX 12000	GX 13000	GX 15000
Steam production*	kg/h	8520	10240	12000	13600	15300	17000	20000	22000	25000
H2	mm	1150	1250	1300	1345	1320	1400	1400	1470	1477
H	mm	3020	3200	3350	3500	3600	3685	3770	3970	3892
H6	mm	2020	2050	2070	2150	2200	2350	2240	2240	2500
L2	mm	1600	1700	1800	1900	2000	1900	2300	2300	2300
L	mm	2640	2740	2880	3040	3200	3280	3350	3500	3500
P	mm	5700	6300	6750	7250	7650	8050	8700	9030	9300
P2	mm	3500	4000	4500	5000	5100	5500	6000	6200	6500
Øc	mm	650	700	700	800	900	900	1100	1100	1100

\*Production with delivery 80 °C water.

## Special applications

The GX S superheater steam generators can be designed according to specific Customer requirements. Our engineering team is available to help define the

technical specifications of the ideal superheated steam generator according to your requirements.



## Product certifications

ICI Caldaie can rely on a European and worldwide network of skills and partnerships. As a leading European boiler manufacturer, we have a global presence with direct offices and representative offices in Russia, Belarus, Kazakhstan, Romania, Poland, Great Britain, the USA, China and Singapore.

International success was achieved by manufacturing our products in line with the most stringent quality standards, certifications and sector regulations.



U.S.A.



EUROPE



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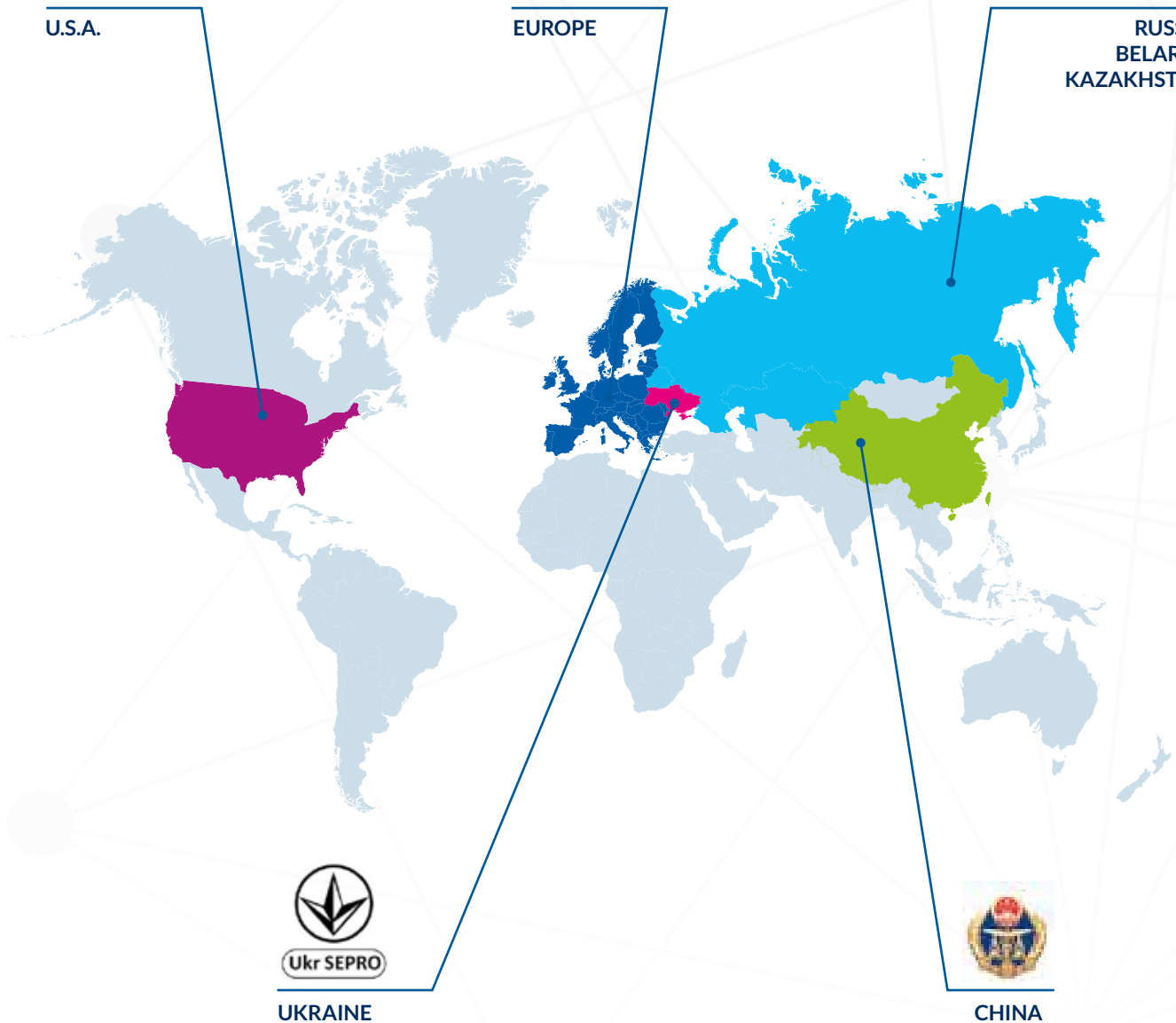


Ukr SEPRO

UKRAINE



CHINA





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