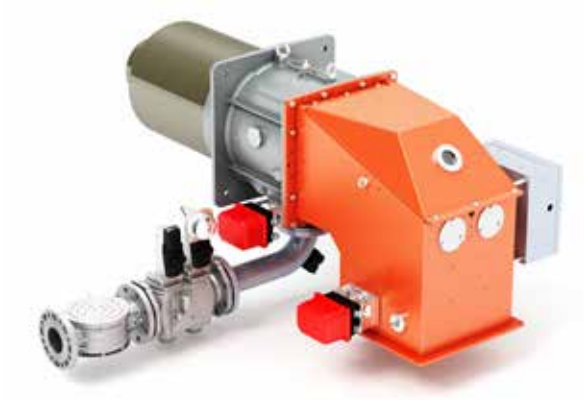
baltur 75
1950 - 2025
Energy for People

kW **200 - 24000**

IB SERIES



BURNER IN ACCORDING TO:

NORMS:	STANDARDS EXTRA EUROPEAN:	REGULATIONS AND DIRECTIVES:
• EN 676:2020 • EN 267:2020 • EN 746-2:2011	• GB/T 36699-2018	• 2006/42/CE • 2014/35/UE

The IB burner series has been designed to meet the most demanding request of industrial applications.
The modular design concept allow for the maximum flexibility of configuration enabling the IB burner to be the optimal solution for a variety of industrial applications.
The IB is composed by different functional blocks:

- Combustion head
- Ventilating unit
- Control panel
- Gas valve train (for gas aplications)
- Pumping skid (for liquid fuel applications)

LOW NOX TECHNOLOGY (IB 100-2400)

The IB series is available with different head geometries according to the requirement of the specific national regulation. Burners certified in Class 3 according to EN676 are available with NOx emissions level lower than 80mg/kWh.
These machines featured a combustion head with and enhanced premixing of air and gas streams in order to ensure a stable flame. The solution is paired off with a special design of gas nozzles which ensures a progessive combustion and reduce the formation of thermal NOx.

SUPER LOW NOX TECHNOLOGY (IB 100-850)

IB range is also available with super low emissions level, with NOx lower than 30/50 mg/kWh without FGR system.

The exclusive design of the combustion head of these burners is the result of an optimization process of gas and air flow channels with the targets to reduce NOx emissions and ensure stability over the complete working field of the machine.
The natural gas supply is separated at gas train level in two different stream lines which serve respectively the central area of the flame and the lateral one.
The independent management of gas flow over different combustion area allow to reach multiple benefits: - Great stability of root flame ain any working conditions reducing vibrations, noise and risk of shut down

- Low thermal NOx formation thanks to mixing with flue gas
- Performance of the machine granted over the complete working field thanks to fine tuning capability

LOW NOX WITH SYSTEM FGR (IB 100-2400)

IB range is finally available with minimum emissions level of NOx, lower than 30/50 mg/kWh by means of FGR system.

Recirculation of combustion products is a technique to reduce the flame temperature. It consists in withdrawing a part of combustion fumes from the chimney and dilute them with combustion air, in order to reduce the concentration of oxygen and increase the concentration of inerts (N2 and CO2), which in turn will absorb a part of the energy developed during combustion, thus reducing the flame temperature.

IB burner range allow flue gas inlet either at before or after air throttle valve. The flue gas flow rate adjustment is performed by a servocontrolled throttle valve that can be managed by the control panel. Adding a given % of recircualtion of flue gas has nevertheless an impact on burner performances. Baltur has developed a large experiece on this technology and can provide burner design and fitted with the stae-of-art technology in order to provide safe and long lasting operating life of the machine.

TECHNICAL AND FUNCTIONAL FEATURES

Industrial methane gas burner (G20) of the modulating type, suitable for gas pressures from 150 to 500 mbar (for different values contact our sales department).

- Turndow ratio 1:6 to 1:10.
- Suitable to be used on any type of furnace (check flame sizes).
- The variation between minimum and maximum capacity is controlled electronically by BMS (Burners Management System).
- Electronic servo motors directly connected to combustion air and fuel regulation components.

The combustion air that reaches the head is adjusted by the main input throttle valves. The servomotor varies the heat output through a PID-type electronic adjustment system, while keeping an optimal generator overall heat efficiency rating.

DESIGN CHARACTERISTICS

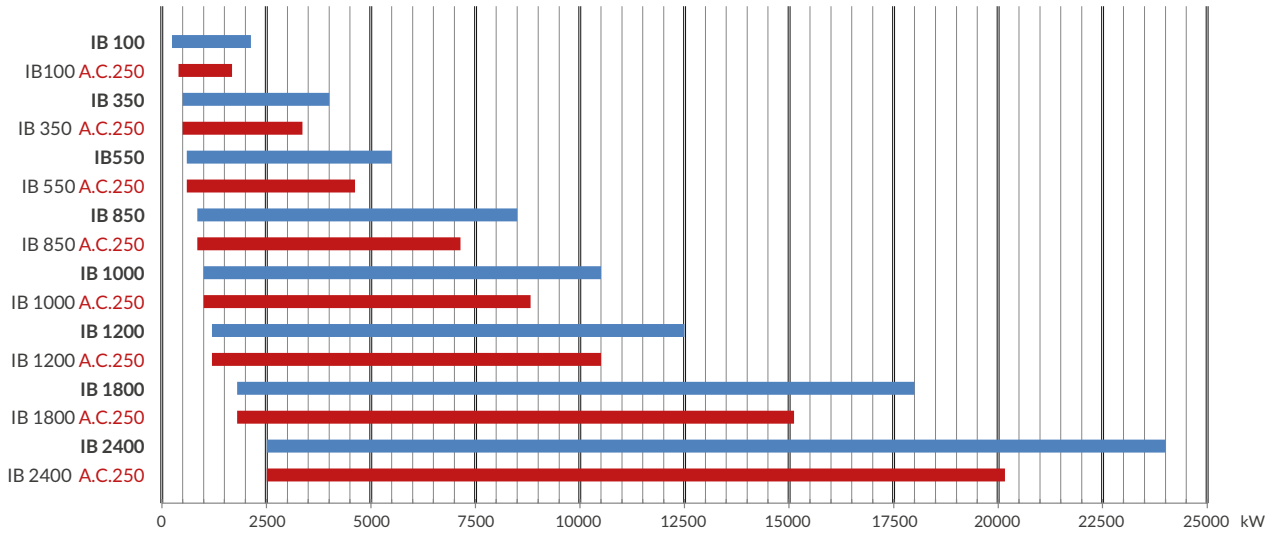
The burner consists of:

- body made of painted steel sheet fitted with connection flange and insulating gasket;
- flame pipe made of special steel, resistant to high temperatures;
- air/fuel mixing and combustion head;
- flame disc;
- flame viewer;
- multiple throttle dampers for automatic adjustment of combustion air;
- dampers fitted on bearings;
- continuous air/fuel intake modulation unit consisting of electric servomotors directly connected to regulation components for the simultaneous calibration of combustion air and fuel;
- gas intake throttle valve;
- direct ignition with electrodes (Ignition gas pilot mod. 1800 PG – 2400);
- gas supply unit to gas distributor in combustion head;
- flame detection (ionization or photocell for models with gas pilot);
- j-box containing terminals for connection to the main electric panel, ignition transformer and manual modulation control;
- electric system with protection class IP54;
- on board electronic control available

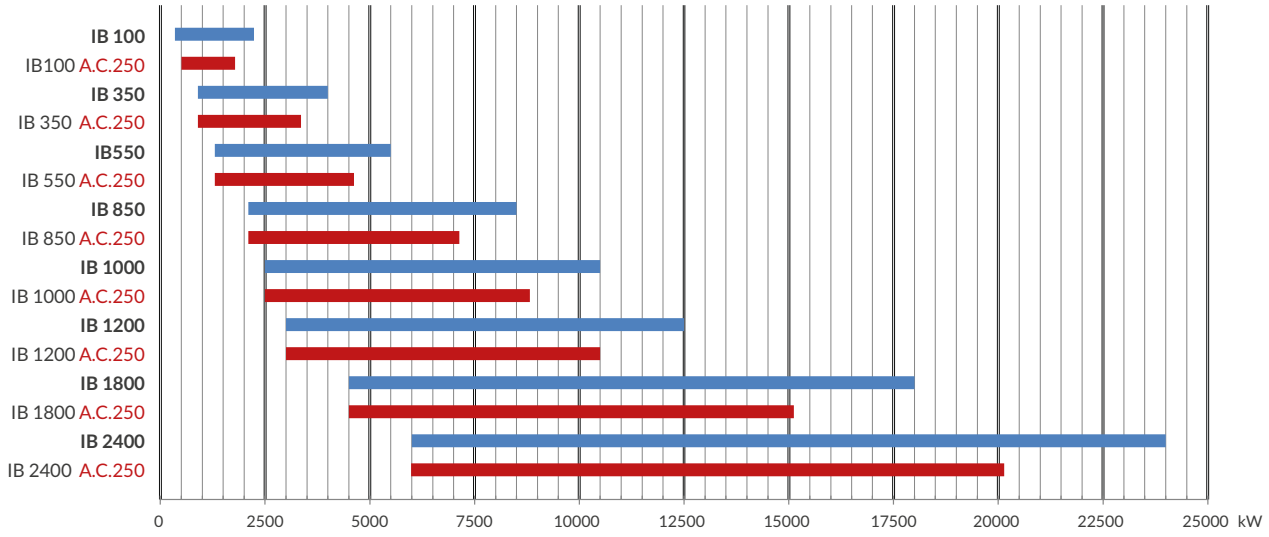
VERSIONS FOR HOT AIR

- Insulating coat.
- Flame sensor cooling system.
- Mechanical components and electric panel, distanced from machine body to make maintenance easier.
- UV photocell.

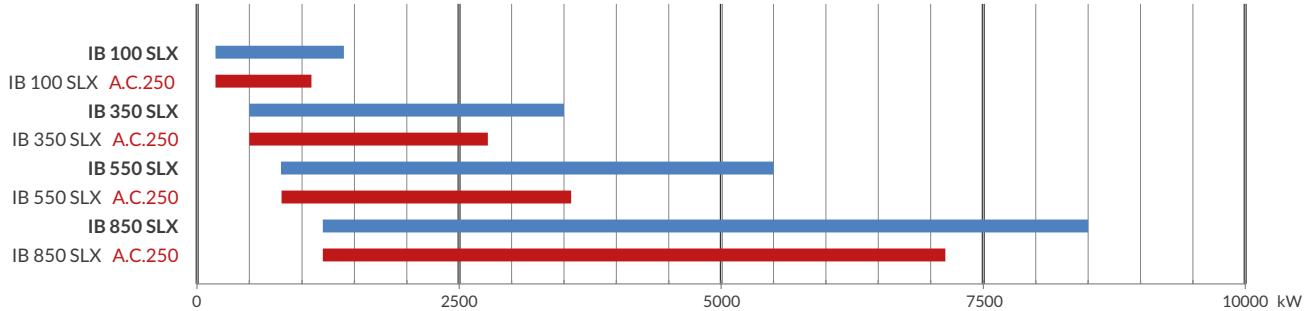
IB G WORKING FIELDS



IB L/N WORKING FIELDS



IB SLX WORKING FIELDS



SYMBOLS

1	2	3	4	5	6	7	8	9
IB	100	G	ME	LN4	FGR	AC	AIB	FR

1 TYPE OF BURNER

IB	Industrial Burners

2 CAPACITY

100 - 350 - 550 - 850 -1000 - 1200 - 1800 - 2400

3 FUEL

G	natural gas
B	biogas
P	L.P.G.
L	light oil
LA	light oil with compressed air assisted atomisation
N	heavy oil
NA	heavy oil with compressed air atomisation
NS	heavy oil with steam assisted atomisation
GL	gas/light oil combination
GN	gas/heavy oil combination
GNS	gas/heavy oil combination with steam assisted atomisation
GNA	gas/heavy oil combination with compressed air atomisation

4 AIR GAS CONTROL

ME	with electronic cams
MEV	with electronic cams and inverters
MEV O_2	with electronic cams and inverter and O_2 control
MEV CO	with electronic cams and inverters and CO control

5 NATURAL GAS NOx EMISSIONS

LN2	<120 mg/kWh
LN3	< 80 mg/kWh
LN4	< 50 mg/kWh
LN5	< 30 mg/kWh

6 FLUE RECIRCULATION

FGR	with flue gas recirculation system at 50° C
SLX	Low NOx combustion head

7 HOT AIR

/	for combustion air temperature operation at 50° C
AC	for combustion air temperature operation at 250° C

8 AIR SUPPLY

AIB	air inlet from below
AIL	air inlet from left
AIT	air inlet from top
AIR	air inlet from right

9 FUEL SUPPLY*

FR	from right
FL	from left
FB	from below
FT	from top

* this is the supply system of gaseous fuel

PRODUCT CONFIGURATION	IB ... ME	IB ... ME AC	IB ... ME FGR	IB ... ME FGR AC
Electric protection rating IP 54	●	●	●	●
Air/gas modulation check	●	●	●	●
- throttle valve	●	●	●	●
- servomotor for air and gas	●	●	●	●
- FGR adjustment unit	NA	NA	●	●
Potentiometer installed on servomotor	○	○	○	○
LPG gas nozzle kit	○	○	○	○
Nozzle kit for inversion boilers	○	○	○	○
Combustion head gas pressure port	●	●	●	●
Air pressure switch	●	●	●	●
Ignition transformer	●	●	●	●
Cable and ignition electrode	●	●	●	●
Flame detecting sensor with photocell	●	●	●	●
Flame detecting sensor with variable frequency photocell	○	○	○	○
Flame detecting sensor with photocell for continuous operation	○	○	○	○
Flame sensor cooling system preparation	○	●	○	●
Air gates	●	●	●	●
Air pressure port	●	●	●	●
Pilot gas train ignition (natural gas and LPG) for models 100 to 1200	○	○	○	○
Pilot gas train ignition (natural gas and LPG) for models 1800 to 2400	●	●	●	●
Electrical connection j-box	○	○	●	●
Lifting eyebolts	●	●	●	●
Input modulation signal 4-20 mA	○	○	○	○
Supplied with the burner: - Stud bolt screws, nuts and washers for fastening to boiler - Stud bolt screws, nuts and washers for fastening gas train - Burner flange seal - Instruction manual	●	●	●	●
External insulation for AC versions 250°C	NA	●	NA	●
Fumigated wood packaging	●	●	●	●
On board electrical panel	●	●	○	○

● As standard ○ Optional NA Not Available

NATURAL GAS

Model	IB 100 G	IB 350 G	IB 550 G	IB 850 G	IB 1000 G	IB 1200 G	IB 1800 G	IB 2400 G
Thermal power (1) kW (min-max)	200-2000	500-4000	600-5500	850-8500	1000-10500	1200-12500	1800-18000	2700-24000
Modulation ratio	1:8	1:8	1:9	1:10	1:10	1:10	1:10	1:9
Ignition system	Direct						Gas Pilot	
Maximum temperature of the combustion air °C	250	250	250	250	250	250	250	250
Min-Max operation temperature °C	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60
Power supply voltage V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Emission class *	Class III	Class III	Class III	Class III	Class III	Class III	Class III	Class III

FGR - GAS

Model	IB 100G FGR	IB 350G FGR	IB 550G FGR	IB 850G FGR	IB 1000G FGR	IB 1200G FGR	IB 1800G FGR	IB 2400G FGR
Thermal power (1) kW (min-max)	280-1700	550-3550	600-4200	850-6600	1500-9000	1200-10500	1800-15300	2700-20400
Modulation ratio	1:6	1:6	1:7	1:7	1:6	1:6	1:8	1:7
Ignition system	Direct							
Maximum temperature of the combustion air °C	250	250	250	250	250	250	250	250
Min-max operation temperature °C	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60
Power supply voltage V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Emission class	LN5 NOx <30 mg/kWh							

SLX - GAS

Model	IB 100G SLX	IB 350G SLX	IB 550G SLX	IB 850G SLX
Thermal power (1) kW (min-max)	175-1400	500-3500	800-5500	1200-8500
Modulation ratio	1:8	1:7	1:7	1:7
Ignition system	Direct			
Maximum temperature of the combustion air °C	250	250	250	250
Min-max operation temperature °C	-15/+60	-15/+60	-15/+60	-15/+60
Power supply voltage V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Emission class	LN4/LN5 Class NOx <50/30 mg/kWh (2)			

(1) Cold Air Versions
(2) Depending on the application, please refer to your reference.
* The NOx emission class (Class I ≤ 170 mg/kWh, Class II ≤ 120, Class III ≤ 80 mg/kWh) is determined according to the EN 676 in standard conditions (furnace dimensions, thermal fluid temperature, atmospheric temperature/humidity, ...) and takes into consideration the average of emissions in the operating range points. Under any operating conditions other than the standard test conditions, the emission values corresponding to the classes stated in the table are not guaranteed.

** The NOx emission class (Class II ≤ 185, Class III ≤ 120 mg/kWh) is determined according to the EN 267 in standard conditions (furnace dimensions, thermal fluid temperature, atmospheric temperature/humidity, ...) and takes into consideration the average of emissions in the operating range points. Under any operating conditions other than the standard test conditions, the emission values corresponding to the classes stated in the table are not guaranteed.

LIGHT OIL / HEAVY OIL

Model	IB 100 L/N	IB 350 L/N	IB 550 L/N	IB 850 L/N	IB 1000 L/N	IB 1200 L/N	IB 1800 L/N	IB 2400 L/N
Thermal power (1) kW (min-max)	350-2000	900-4000	1300-5500	2100-8500	2500-10500	3000-12500	4500-18000	6000-24000
Modulation ratio	1:5	1:4	1:4	1:4	1:4	1:4	1:4	1:4
Ignition system	Direct						Gas Pilot	
Maximum temperature of the combustion air °C	250	250	250	250	250	250	250	250
Min-max operation temperature °C	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60	-15/+60
Power supply voltage V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Emission class light oil	Class II	Class II	Class II	Class II	Class II	Class II	Class II	Class II

DUAL FUEL GAS-LIGHT OIL - DUAL FUEL GAS-HEAVY OIL

Model	IB 100 GL/GN		IB 350 GL/GN		IB 550 GL/GN		IB 850 GL/GN		IB 1000 GL/GN		IB 1200 GL/GN		IB 1800 GL/GN		IB 2400 GL/GN	
	natural gas	light oil	natural gas	light oil	natural gas	light oil	natural gas	light oil	natural gas	light oil	natural gas	light oil	natural gas	light oil	natural gas	light oil
Thermal power (1) kW (min-max)	200-2000	350-2000	500-4000	900-4000	600-5500	1300-5500	850-8500	2100-8500	1000-10500	2500-10500	1200-12500	3000-12500	1800-18000	4500-18000	2700-24000	6000-24000
Modulation ratio	1:8	1:5	1:8	1:4	1:9	1:4	1:10	1:4	1:10	1:4	1:10	1:4	1:10	1:4	1:9	1:4
Ignition system	Direct												Gas Pilot			
Maximum temperature of the combustion air °C	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Min-max operation temperature °C	-15/+60															
Power supply voltage V/Ph/Hz	230/1/50															
Emission class gas *	Class III		Class III		Class III		Class III		Class II		Class II		Class II		Class II	
Emission class light oil		Class II		Class II		Class II		Class II		Class II		Class II		Class II		Class II

(1) Cold Air Versions

* The NOx emission class (Class I ≤ 170 mg/kWh, Class II ≤ 120, Class III ≤ 80 mg/kWh) is determined according to the EN 676 in standard conditions (furnace dimensions, thermal fluid temperature, atmospheric temperature/humidity, ...) and takes into consideration the average of emissions in the operating range points. Under any operating conditions other than the standard test conditions, the emission values corresponding to the classes stated in the table are not guaranteed.

** The NOx emission class (Class II ≤ 185, Class III ≤ 120 mg/kWh) is determined according to the EN 267 in standard conditions (furnace dimensions, thermal fluid temperature, atmospheric temperature/humidity, ...) and takes into consideration the average of emissions in the operating range points. Under any operating conditions other than the standard test conditions, the emission values corresponding to the classes stated in the table are not guaranteed.

baltur 75 1950 - 2025

Energy for People

www.baltur.com

Baltur S.p.A.
Via Ferrarese, 10
44042 Cento (FE) - Italy
Tel. +39 051 684.37.11
info@baltur.it

Quality System Certified
UNI-EN ISO 9001 I.C.I.M. n° 202