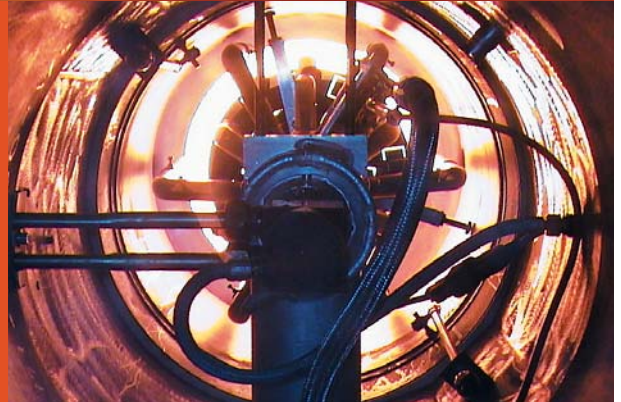


# THE BOILER HOUSE SOLUTION EQUIPMENT

## Industrial Burners TA - LNTA Range

From 580 to 20 000 kW



BABCOCK WANSON design and manufacture their own burners. Suitable for their range of boilers, they are used also on any kind of boiler.

### Heating automation, noticeable profits

The quality and precision of adjustment, makes possible to carry out a positioning of the valves with a minimum excess of air thus improve the efficiency of the boiler. The heating automat allows a bi-fuel operation with online fuel change.

Safety is increased thanks to the self-checking of the input/output.

The metallic pinion-servo-motors makes a reliable and robust solution.

The default messages are clear and it is to access the states giving: instructions and measurements, values of load, position of the servo-motors, historical, number of start-up, operating hours, signal of flame, speed of the blower..

It is thus possible to visualise the operation and the whole of the parameters of the burner through a control panel or the corporate network.

### Key Features of BABCOCK WANSON Burners

- reliability and robustness thanks to a simple and sturdiness design;
- total gas combustion, minimised CO generation with very low O<sub>2</sub> excess ;
- shape of flame adapted to the boiler optimising the heat transfer (radiation and convection) ;
- NOx levels and exhaust gas figures derived from actual operating conditions ;
- electronic modulation of the combustion air fan to increase efficiency ;
- easy access to the various components ;
- extensions of guarantee up to 6 years ;
- range of modulation 1:8 ;
- noise level lower than 85 dB with full power, improved to 75 dB by additional silencing ;
- stated fuel consumption ;
- minimal fouling when used with viscous fuels.



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## Combination burner/ boiler shell

Best possible combined operation between the boiler shell and the burner, offering operators solid benefits such as:

- optimised efficiency and energy savings ;
- compliance with the strictest environmental standards ;
- high flexibility of use ;
- increased service life of the boiler well proven by extensive field experience ;
- the advantage of one single contact ;
- low overall life time operating costs.

## Additional systems available for burners from 580 to 20 000 kW

- water injection: to reduce particulates with some heavy fuel-oils ;
- urea injection: to reduce NOx releases with some heavy fuel-oils ;
- Electronic speed control on fan motors.

## Innovative technologies allow optimisation of combustion



Babcock Wanson offer monobloc and duobloc burners

- Fuels: gas or fuel-oil or special fuels
  - Excellent combustion results thanks to the internal technology of the burner
  - Sound pressure level: less than 85 dBA
- Fully packaged combustion head, controls and fan.



## Burners series

Monobloc burners, LNTA 0 1.1 1.2 1.3 series (Models from 450 to 3 500kW)

Monobloc low-NOx burners, LNTA 22-23/33-34 series (Models from 3 000 to 10 500kW)

Duobloc low-NOx modulating burners, TA 5 - TA 7 series (Models from 9 000 to 20 000kW)

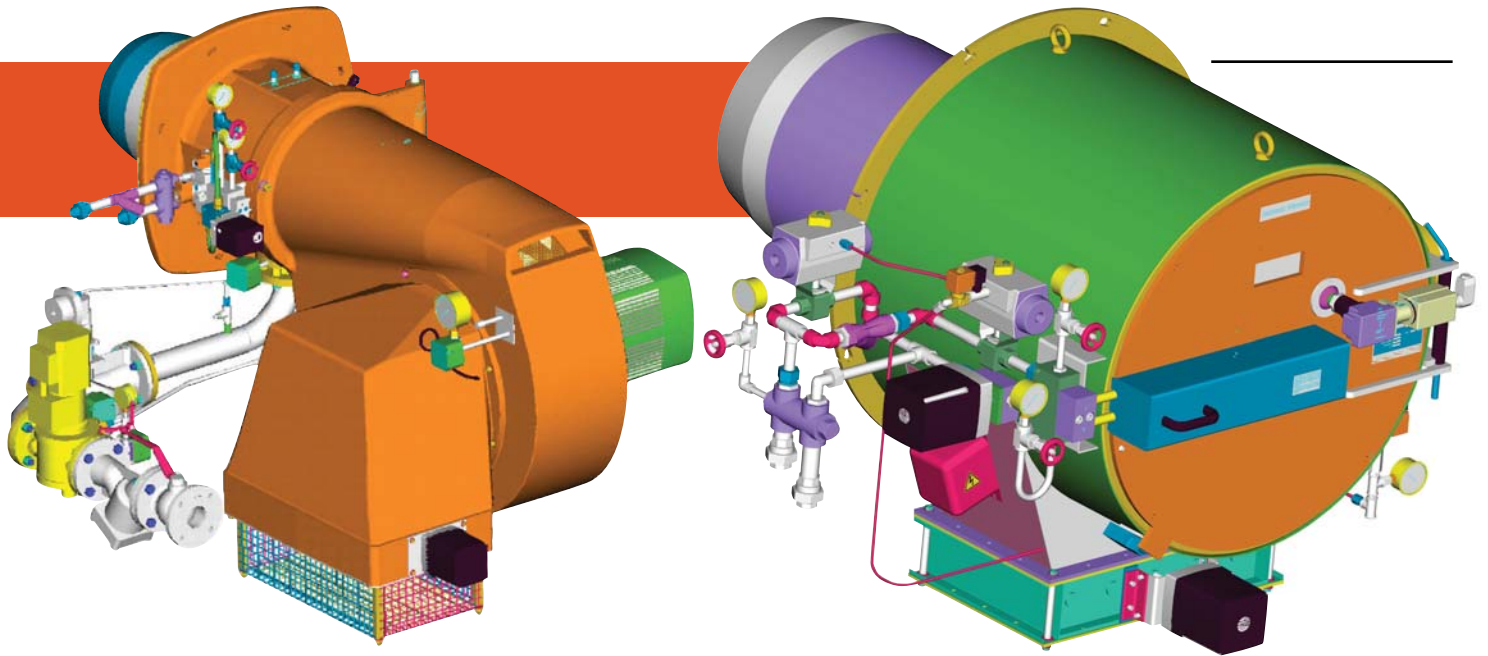
## Performances

Burner type	LNTA 0	LNTA 1.1	LNTA 1.2	LNTA 1.3	LNTA 22/23 - 33/34	TA 5	TA 7
Noise level (acoustic pressure)	< 85 dBA						
<b>Fuel type: Natural gas</b>							
O <sub>2</sub> %	2	2	2	2	3	2	2
NOx mg/Nm <sup>3</sup>	< 150	< 150	< 100 (*)	< 100 (*)	< 100	< 100	< 100
Operating range	1 to 3	1 to 4	1 to 4	1 to 4	1 to 8 (***)	1 to 8 (***)	1 to 8 (***)
<b>Fuel type: FOD</b>							
O <sub>2</sub> %	3	3	3	3	3	3	3
NOx mg/Nm <sup>3</sup>	200	200	200	200	200	200	200
Operating range	2 stage	2 stage	1 to 3	1 to 3	1 to 4	1 to 4	1 to 4
<b>Fuel type: Heavy fuel</b>							
O <sub>2</sub> %	/	/	4	4	4	4	4
NOx mg/Nm <sup>3</sup>	/	/	850 (**)	850 (**)	500 (**)	500 (**)	500 (**)
Operating range	/	/	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3

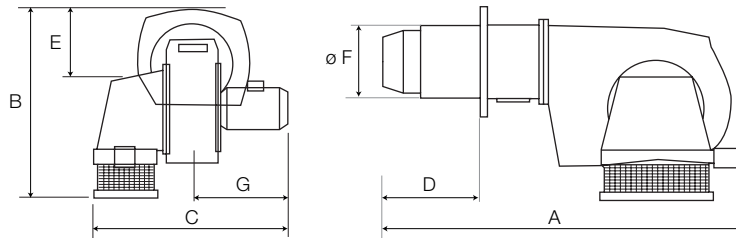
\* with optional low NOx

\*\* depending on fuel quality and pollution control technique

\*\*\* with electronic cam

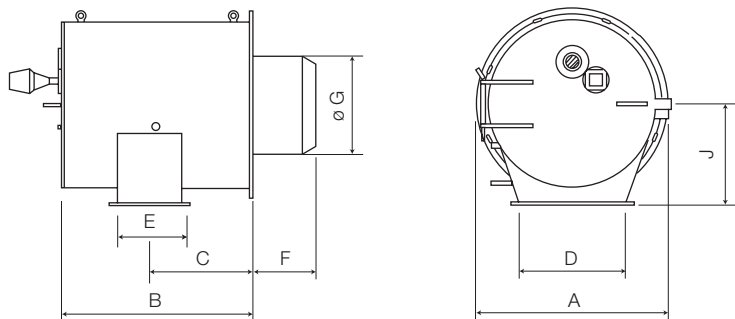


## Dimensions



LNTA burners								
Burner type	Output in kW	A	B	C	D	E	øF	G
LNTA 0	1116	804	550	509	185	140	194	292
LNTA 1.1	1900	1170	600	645	370	175	273	285
LNTA 1.2	3250	1230	600	710	370	175	273	350
LNTA 1.3	3400	1230	600	750	370	175	273	350
LNTA 22	5300	1850	1051	1150	350	296	335	520
LNTA 23	7100	1900	1051	1275	400	296	375	640
LNTA 33	9100	1865	1305	1280	445	375	405	640
LNTA 34	10100	2000	1305	1280	580	375	455	640

Note: the dimensions are given in mm



TA burners											
Burner type	Output in kW	A	B	C	D	E	F	øG	H	øI	J
TA 5	13 550	900	715	297,5	505	305	645	470	8	860	480
TA 7	20 000	1100	1120	400	606	506	690	582	12	1060	600

Note: the dimensions are given in mm

# THE BOILER HOUSE SOLUTION EQUIPMENT

## The BABCOCK WANSON gaz and fuel burners comply with the following standards:

NF EN 676, PrEN 437 and EN 437/PrA1, EN 60204-1, NF D 35-425 according to the following EU directives: 90/396/CEE (Gas fired equipment),

73/23/CEE modified (Low voltage certification), 89/336/CEE modified (Electromagnetic compatibility certification).

Consequently, these burners bear the **mark CE.**

The product is in accordance with the model certified by CERTIGAZ Quality assurance is guaranteed through our quality system according to the ISO 9001 standard.

## Combustion of specific products

BABCOCK WANSON is able to manage the combustion of specific products and is able to support its customers in the development of their projects with studies and developments of products adapted to their needs and respecting the standards and directives in force:

### • animal tallow:

the characteristics of this product being close to those of a heavy fuel, BABCOCK WANSON has considerable detailed experience with this fuel, in particular, in oxidisers and fire-tube boilers, for powers ranging between 3.5 and 19.5 MW.

### • biofuels:

the technology of BABCOCK WANSON burners makes possible the use of this type of fuel.

The achievements relate mainly to installation of a power of 10 MW with biogas having a LCV equal to or higher than 6,000 kcal/Nm<sup>3</sup>.

BABCOCK WANSON has also had experience in doing simultaneous fuel/biogas combustion for low LCV biogas. Important development in biofuels application (**biodiesel**, ethanol, glycerine).



## Respect of environmental constraints

The experience of BABCOCK WANSON makes possible the combustion of these specific products with no loss in efficiency and with emissions to atmosphere that comply with the standards in force. We also offer solutions that enable

the sound level to be reduced by approximately 5 dB(A) by providing a silencer at the fan intake; or by approximately 10 dB(A) with an acoustic hood installed over the fan (removable for the one-piece burner – fixed for the two-piece burner).



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