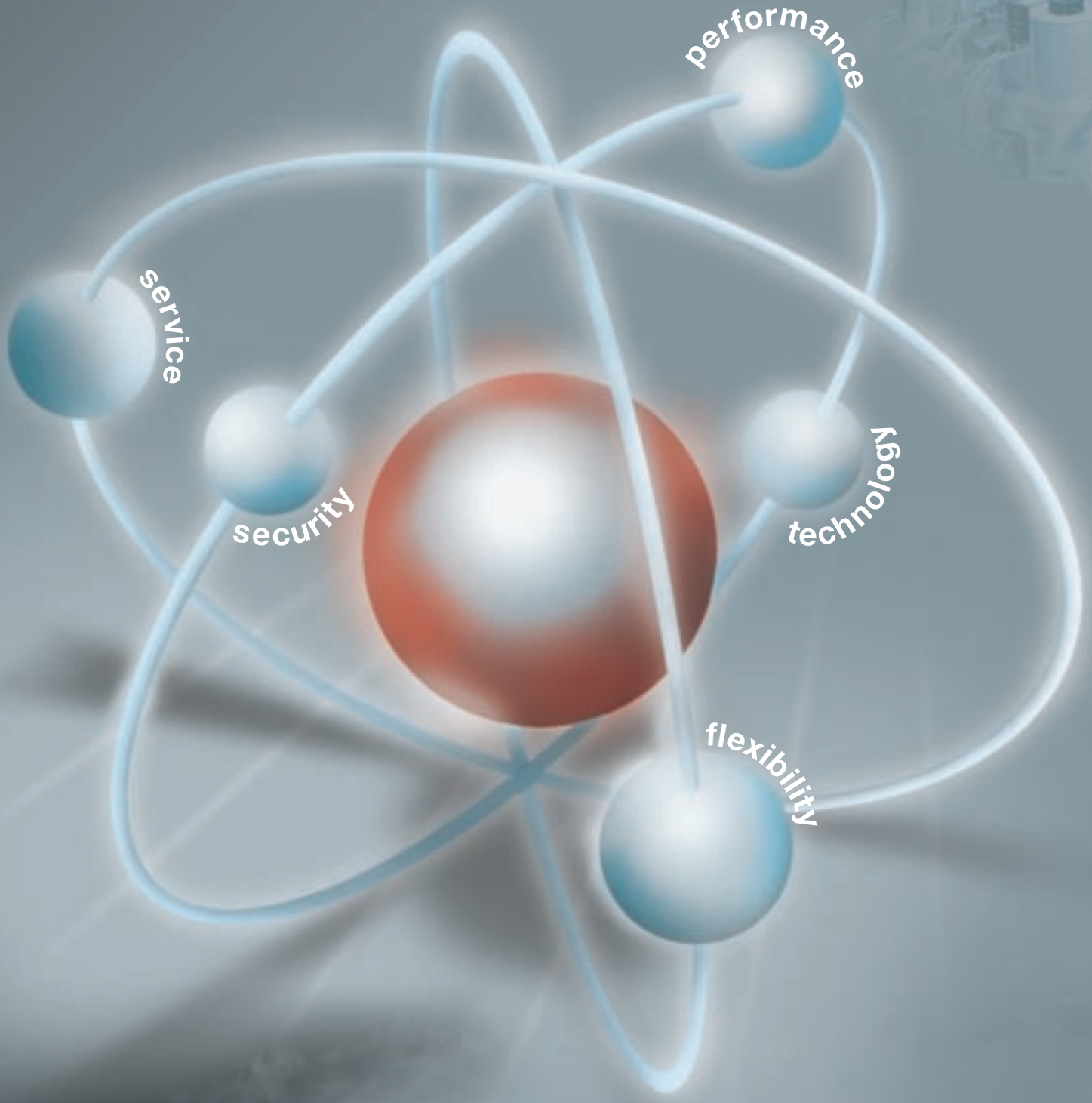




**industrial burners**





service

security

performance

technology

flexibility

# 5 highs

flexibility  
technology  
performance  
security  
service



## “Customer satisfaction”

Customer satisfaction, the company mission since its foundation in 1972, has brought CIB UNIGAS into the ranks of the leading industries in burner design and construction. CIB UNIGAS has always demonstrated a marked predilection for product technological development, especially in medium and high power applications, with constant commitment to the creation of a widespread and carefully-trained customer service technical assistance network.

While offering one of the most complete ranges of burners available with over 600 different models starting from 14 kW power, the company’s main market segment and most strategically important area of activity regards industrial steam production systems and large-scale centralised heating or remote-controlled heating systems.

Innovative technological capacity consolidated in thirty years of experience combined with know-how capable of ensuring innovative and dynamic development over time let CIB UNIGAS satisfy any client request at all through one of the most universally acclaimed range of products for natural gas, L.P.G, town gas, light oil, heavy oil, dual fuel, biogas, bio-Diesel, and crude oil burners of up to 70,000 kW power.

The capability for product personalisation and the production of any type of burner to client specification confirm the leading role that CIB UNIGAS has come to play alongside the leading burner manufacturers in Europe and anywhere else in the world.

# flexibility

1

Keeping a constant eye on the market is another indispensable CIB UNIGAS commitment in acquiring the awareness required to satisfy even the most unusual client requests.

The extraordinary flexibility of its productive structure and organisation lets CIB UNIGAS respond quickly with the right product specifications demanded by the market time after time.

Both reliable standard-series production and creative design in constantly meeting the latest market demand distinguish the CIB UNIGAS collective effort.



## fuels



### Natural gas

Available on request:

- L.P.G.
- Waste gas
- Biogas
- Town gas
- G25

### Kerosene

### Light oil

### Oil

### Waste oil

### Crude oil

## the industrial burner range



Monobloc burners  
low and medium output



Monobloc burners  
high output



Burners with  
separate fan



Burner for asphalt oven  
TPBY models



Register burner URB



## answers to any questions



### complementary systems

The use of combustion air pre-heated by exhaust gas through heat exchangers (for air temperatures up to 250°C)

The use of special combustion systems for the achievement of flames with variable shape and/or particularly short flames

Low Nox (CO, NOx, ...) emission combustion heads

Electronic air/fuel ratio control

Mechanical or air atomization (air and/or steam)

1:10 turn-down ratio

Gas pressure reducing stations


Oil pumping and heating systems

Separate electric control panels

Automatic burner retraction systems for stand-by mode

Special voltages and frequencies (110 Volt, 60 Hz, ...)

IPxx Electric Protection ratings

Construction 

### examples of principals applications

Hot Water Generators (for Heating, Remote-controlled heating, ...)

Steam generators

Diathermic oil-fired boilers

Hot air generators

Industrial processes

Dryers

Asphalt treatment systems

Urban Waste Incinerators

Civil systems (for schools, hospitals, theaters, cinemas, ...)

# technology

# 2

Proudly aware of its role as a leader in the design and construction of burners with high technological content, CIB UNIGAS dedicates top priority to product development and the achievement of the objectives posed by safety, environmental protection, and fuel efficiency standards.

## low NOx burners

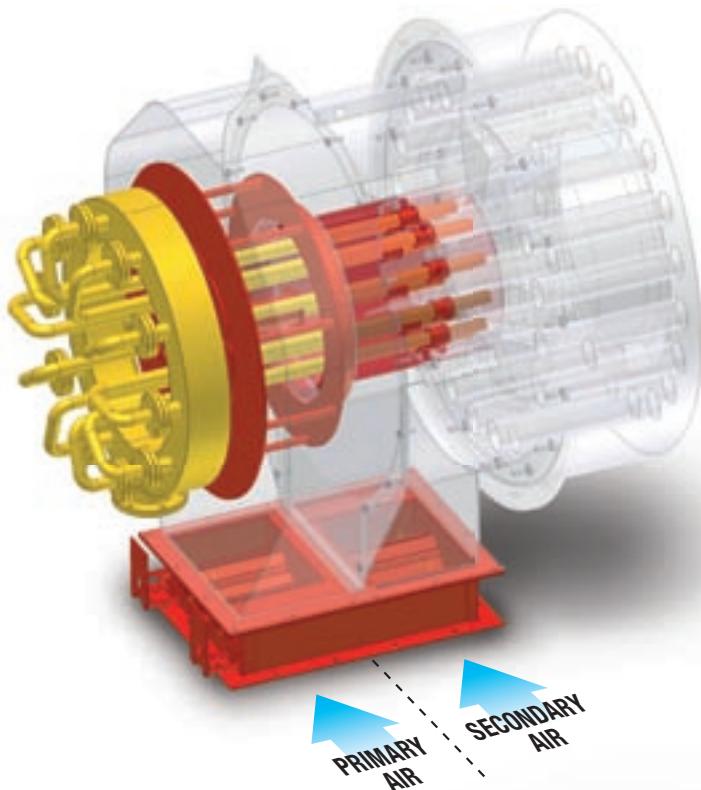
Special combustion heads that reduce the emission of NOx and CO to well below even the most restrictive regulations can be supplied on request.

The installation of these heads propels the burner into a future in which atmospheric emissions will be subject to even greater control and restriction all over the world.

## research and development

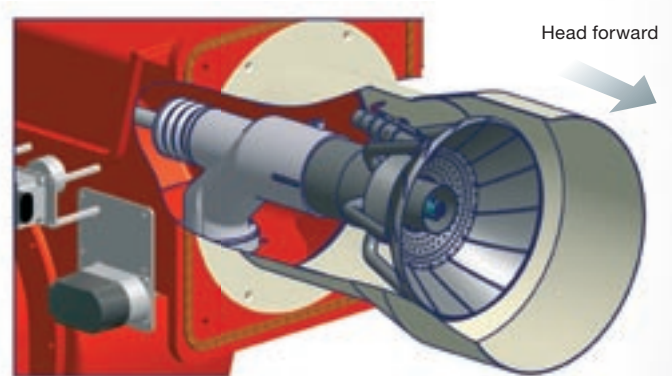
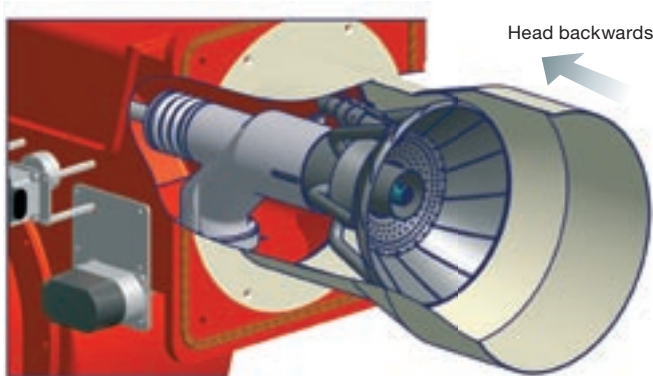
CIB UNIGAS S.p.A. constantly conducts research for technical solutions that allow clients to apply various types of burner according to specific needs.

New product research and development can also be conducted at specific client request.



Example of register burner head complete with system for air inlet to reduce NOx.

men, investments for the future



### movable combustion head burners

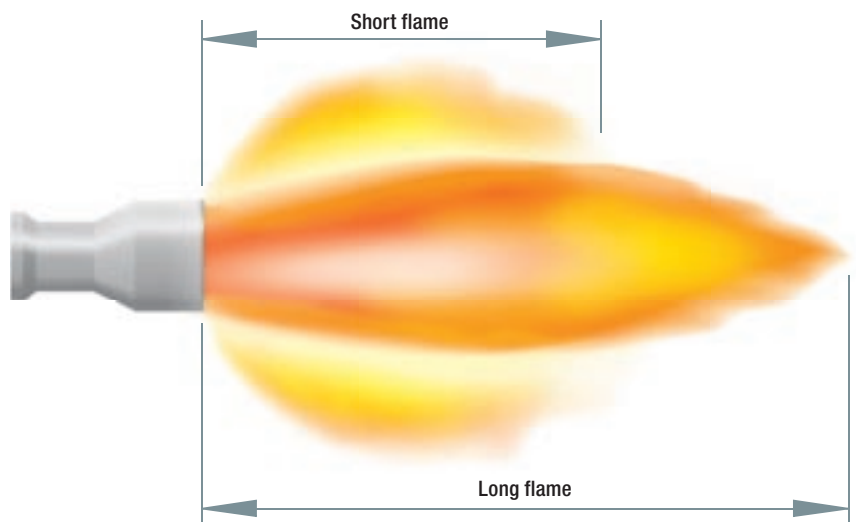
This technical solution permits the achievement of a modulation ratio of 1:10 by adjusting the combustion head into the blast tube's truncated cone section.

This keeps the air/gas mixing speed constant even with the changing thermal load.

# performance

# 3

CIB UNIGAS manufactures burners that burn any type of fuel for many types of application. The correct choice of burner during the design stage and matching to any type of boiler, allows the achievement of extremely elevated performance in terms of efficiency, fuel consumption and emission levels. The company's modern laboratory and research center permits the constant development of new solutions and the improvement of existing products through the use of the latest technologies in performance control and optimisation.



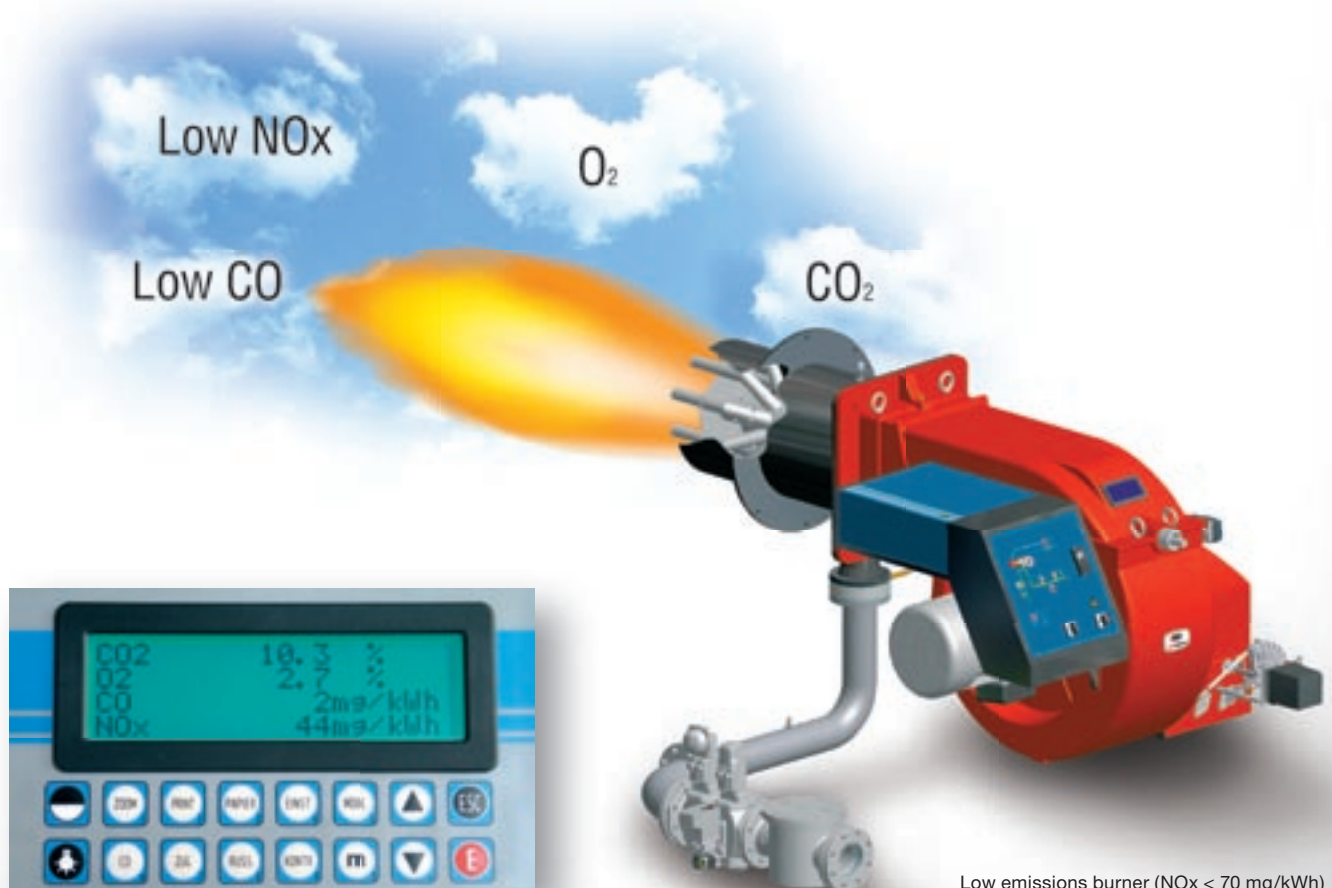
CIB UNIGAS produces burners whose flame can be adjusted according to combustion chamber dimensions.

One particular series of this burners (model VS), can be installed on boilers whose combustion chamber length is shorter than normal.





a concrete result of our research



Low emissions burner ( $NO_x < 70$  mg/kWh)

# security

# 4

CIB UNIGAS has been certified to ISO-9001 Standards that ensures total quality in design, construction, assembly, testing and service since 1995. All our gas burners are provided with the CE Mark by laboratory testing conducted by two of European most authoritative inspection and testing agencies: GASTEC (Holland) and TÜV (Germany).

The use of components built by the most qualified European constructors lets CIB UNIGAS safely affirm that the company meets the highest standards in the production and control processes adopted for its products and services in terms of security as well.



## final test

In order to ensure that its products enter the market absolutely free from any defect at all, CIB UNIGAS S.p.A., has developed a series of procedures that control the various phases of the production process.

Inspections, tests, and control operations are conducted during product acquisition, on incoming materials, and all throughout the production process at the company's own Research and Development Laboratory. All finished products are 100% tested at the end of the line by specially trained technicians.

top commitment for safety and quality



CIB UNIGAS S.p.A. was certified to UNI EN ISO 9001 Standards (now 9001:2000) in 1995 by one of the most prestigious combustion product and process test institutes: TÜV.

CIB UNIGAS S.p.A. has also certified its products in several nations worldwide.

# service

# 5

CIB UNIGAS is a service-oriented company that has always considered customer assistance to be one of its biggest strengths and provides clients with pre-sales assistance in selecting the right burner for every type of application. Quick, flexible and efficient commercial service in filling and shipping orders within the terms agreed is combined with a widespread post-sales service network for assistance in the first firing, adjustment, and maintenance of the burners throughout the territory. With over two-hundred authorised Technical Assistance Services in Italy and presence in 30 other nations around the world through exclusive dealers capable of ensuring prompt product technical assistance, CIB UNIGAS has all the cards in hand for effective commercial penetration in all the leading markets in the world.



## training courses

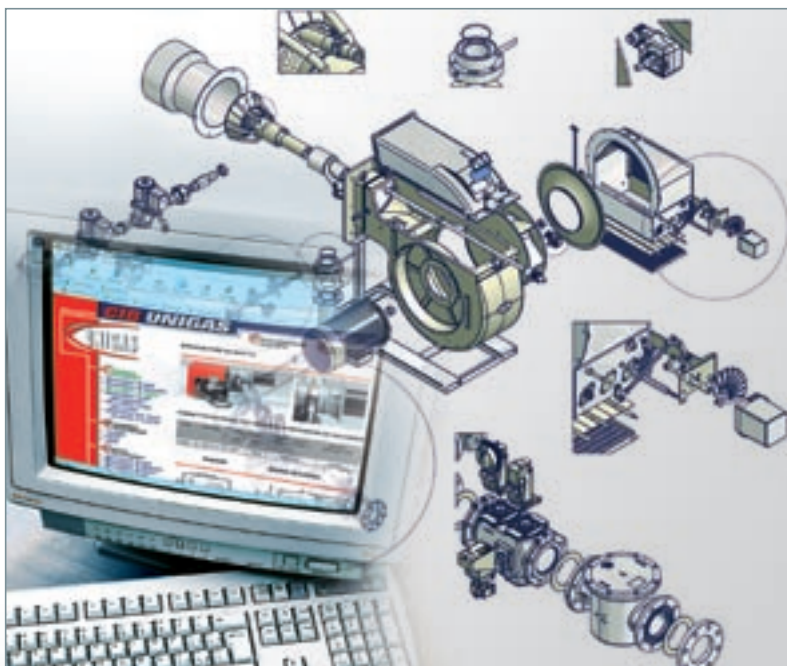
CIB UNIGAS S.p.A. organises training courses for its network of technical engineers every year. Training is provided by instructors with extensive experience in the field of burners who also conduct similar courses for company clients abroad. Numerous courses are held in many nations around the world where CIB UNIGAS S.p.A. distributes its products.



first: customer care



● Main sale points and technical assistance.



## after sale service

CIB UNIGAS has expanded its technical assistance network with over 200 authorised national technical assistance services and its own exclusive dealers for the rest of the world. All clients are carefully followed by professionals specialised in the civil and industrial burner sector and constantly kept up to date on the latest technological product innovations through regular training courses conducted at the company's Research & Development Center.

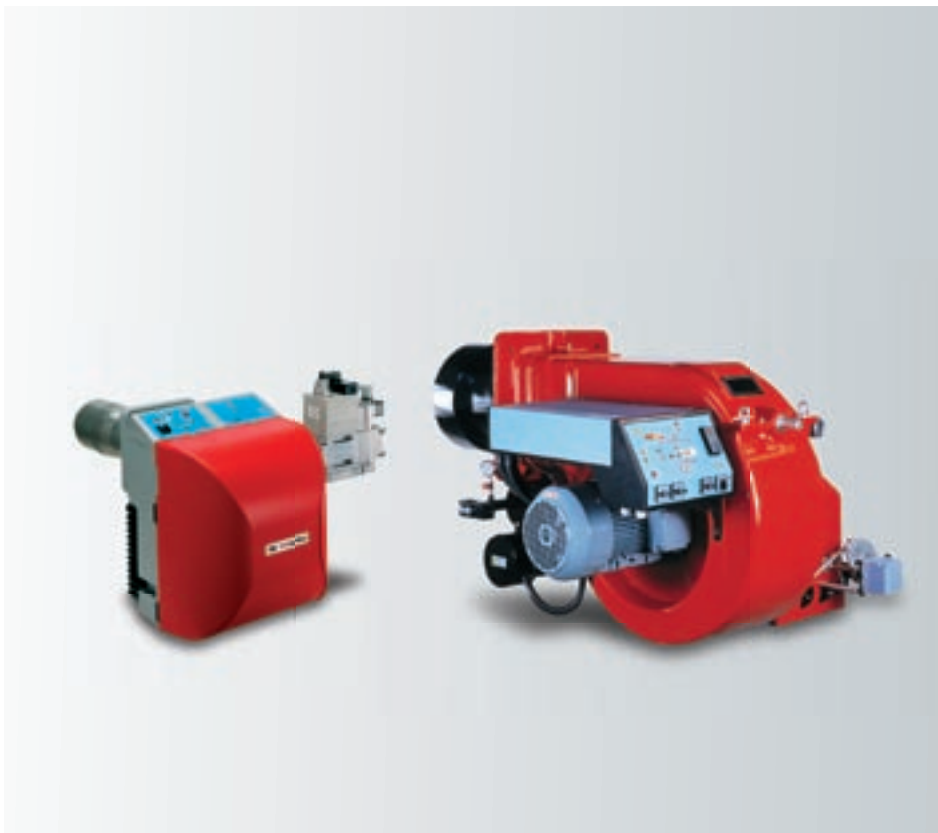
Both the capacity to stand by clients in all phases prior to purchase through consultation in choosing the correct product and reliable post-sales services guarantee the ongoing success of CIB UNIGAS around the world.

# A series of burners to satisfy

This complete range of burners from 14 kW to 70 MW output is capable of meeting every request in the need for low-environmental impact, high output sources of heating devices.

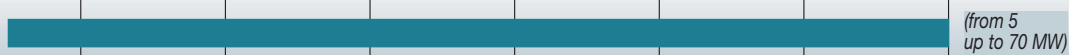
The applications developed so far and others to be developed in the future are numerous and run from simple use in the production of heat for heating and/or hot water to be utilised in systems like waste incinerators, steam generators, diathermic oil-fired boilers, and special application upon customer's request.

Suited to use with any type of liquid or gaseous fuel at all, the burners can be used to burn high viscosity combustion oils, waste gas, refinery gas, and other special fuels. The possibility to customise burners upon specific client requests makes production remarkably versatile and adaptable to any needs at all.



## production line

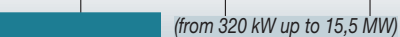
### URB series



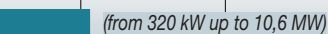
### TPBY series



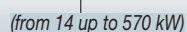
### HEADS series



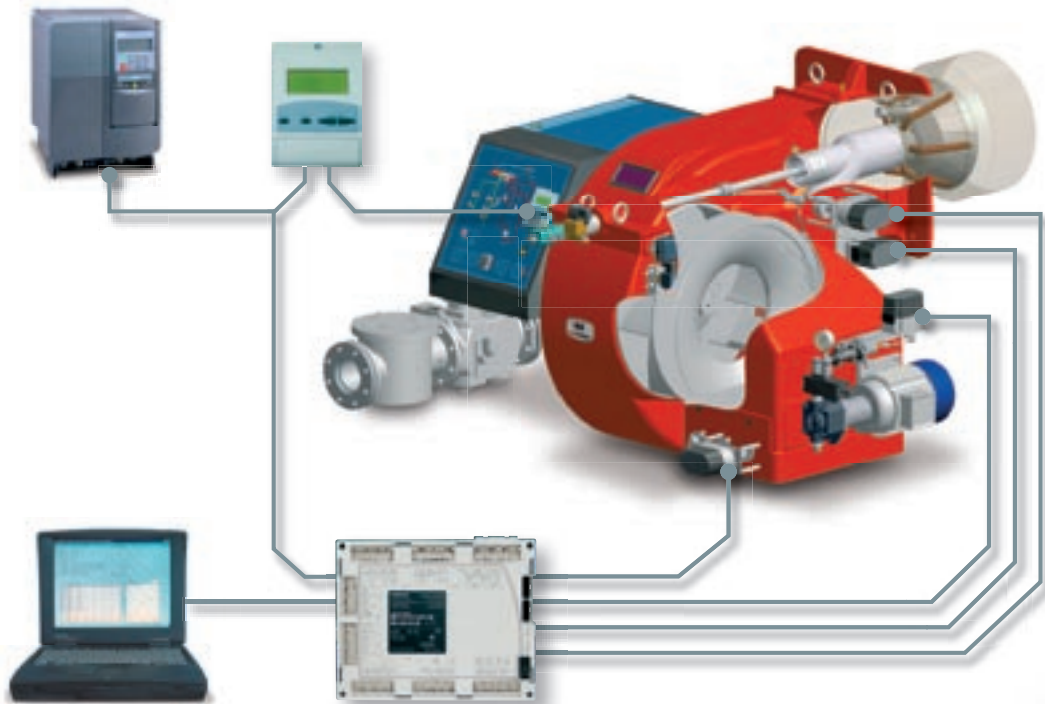
### MONOBLOCK series



### IDEA series



**any requests**



Computerized system for the control of the right mix air/fuel, head movement, of Oxigene percentage in the fumes, and motor revolutions.

This system allows the remote supervision, via BUS, of the working.

# P-TP Series

## P Series

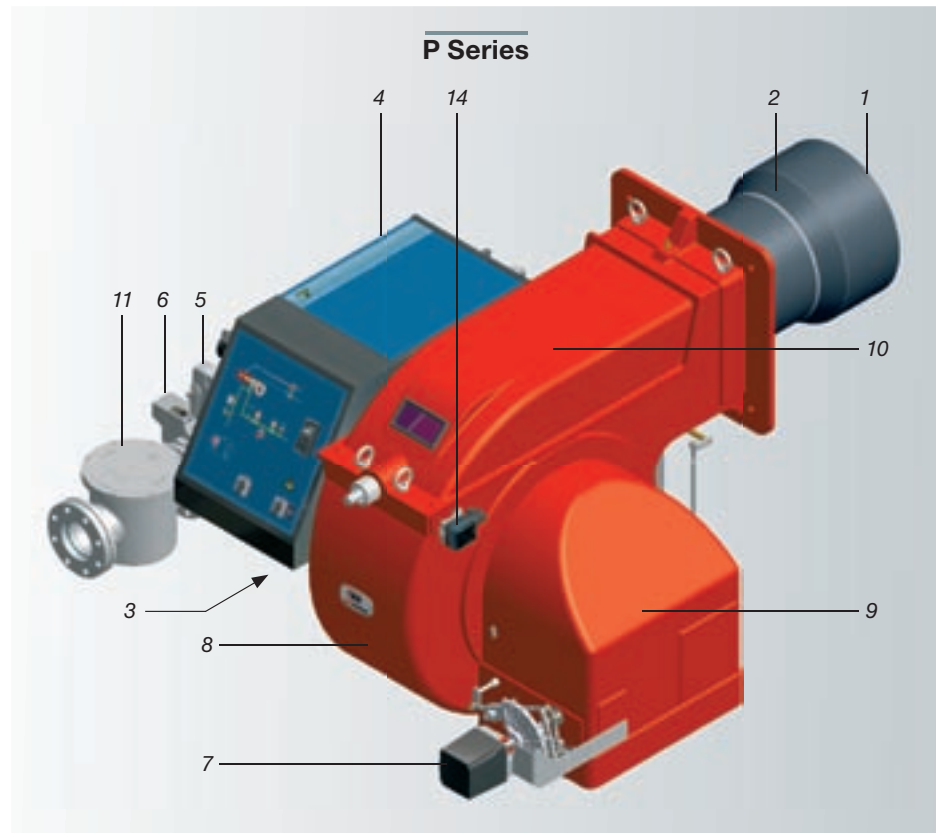
### Monoblock burners

This type of burner is distinguished by its built-in fan.

The power range runs from 2,300 to 10,600 kW.

This Series can be constructed in:

- "Mechanical" version, in which the servo-control is connected to a set of linkages that create the right air/gas mixture when adjusted as required;
- "Electronic" version, in which the control box synchronises all the various elements that are involved in the adjustment of the air/gas ratio creating an extremely precise adjustment system.



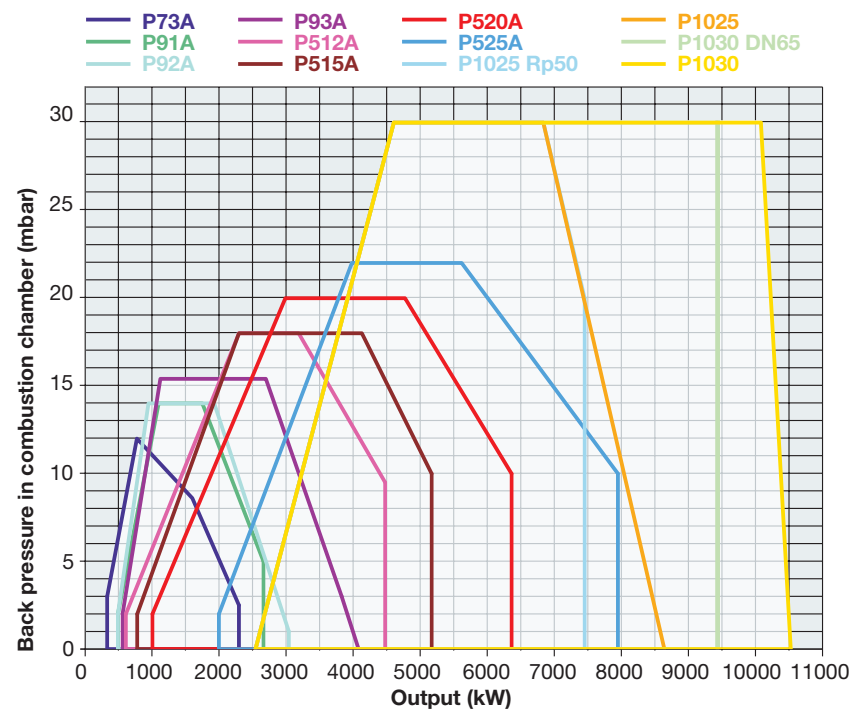
## TP Series

### Burners with separate fan

The power range runs to 15,500 kW.

The supply can be completed with the following optionals:

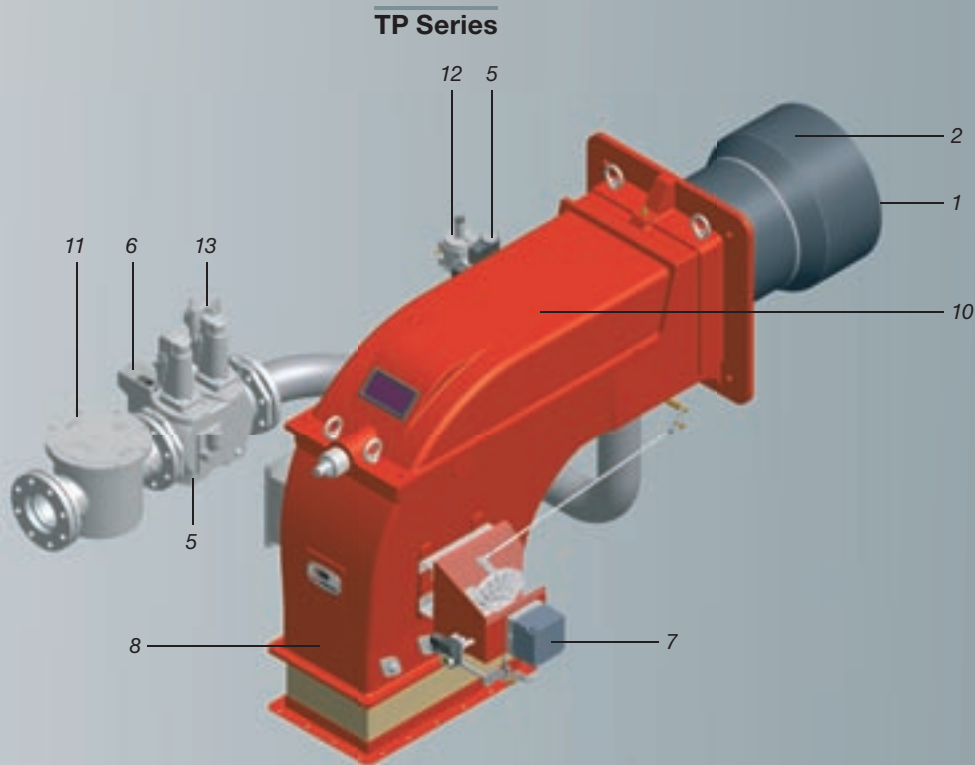
- Centrifugal fan;
- Combustion air inlet from either above or below;
- Heated combustion air supply up to 250°C;
- Mechanical or electronic air/fuel ratio adjustment;
- Control of oxygen levels through continuous movements of the linkages;
- Remote mounting electric control panels (console type, cabinet type, or wall-mounted).



Type	P73A	P91A	P92A	P93A	P512A	P515A	P520A	P525A	P1025 Rp50	P1025	P1030 DN65	P1030
Min output kW	320	480	480	550	600	770	1.000	2.000	2.550	2.550	2.550	2.550
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	7.500	8.700	9.500	10.600



# gas burners



## legend

- 1 - Combustion head
- 2 - Blast tube
- 3 - Fan motor
- 4 - Electrical control cabinet
- 5 - Gas valves
- 6 - Gas proving unit
- 7 - Servomotor
- 8 - Housing
- 9 - Air intake complete
- 10 - Lid
- 11 - Gas filter
- 12 - Gas pressure governor with built-in filter
- 13 - Gas pressure governor
- 14 - Air pressure switch

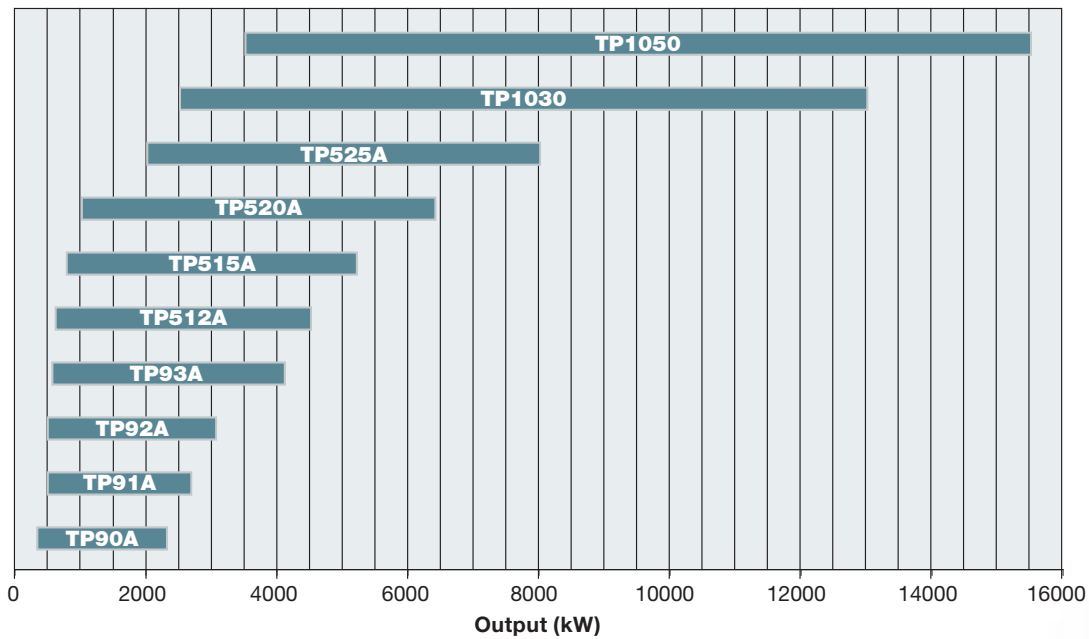
## types of adjustment

- Progressive
- Modulating
- Burner control for boiler sequence

## fuels

- Natural gas
- Available on request:
- L.P.G.
  - Waste gas
  - Biogas
  - Town gas
  - G25

**Diagram of burner output according to air temperature at 15°C  
(Quick choice)**



Type	TP90A	TP91A	TP92A	TP93A	TP512A	TP515A	TP520A	TP525A	TP1030	TP1050
Min output kW	320	480	480	550	600	770	1.000	2.000	2.500	3.500
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	13.000	15.500

# PG-TG Series

## PG Series

### Monoblock burners

This Series utilises a by-pass nozzle that provides a 1:3 ratio adjustment range.

The load is varied by either adjusting a variable cam installed in a regulator that varies the pressure of the fuel on the nozzle's return line and consequently the flow rate, or through the use of an electronic cam capable of synchronising all the various elements, such as air and light oil.

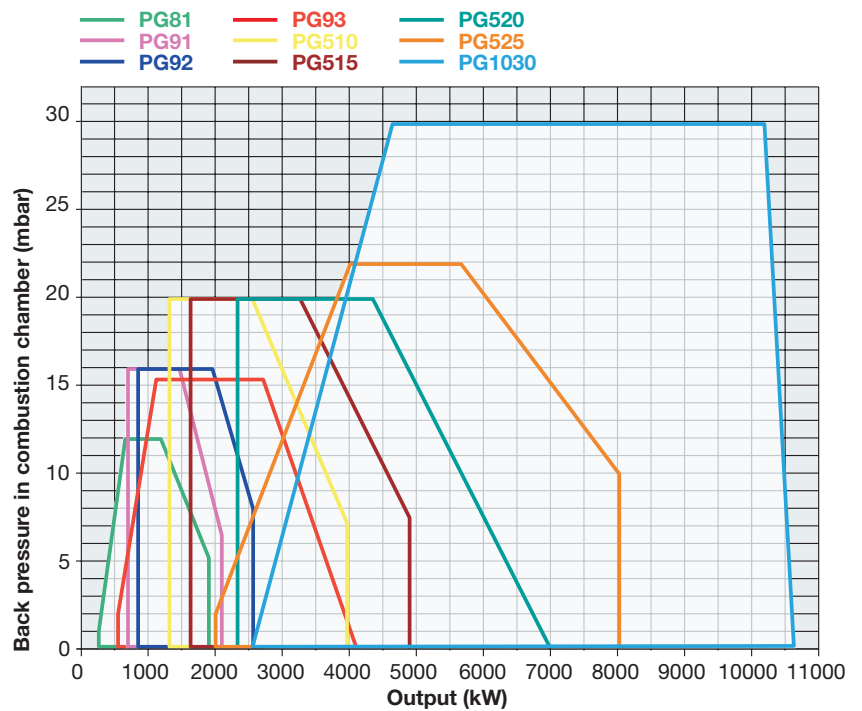
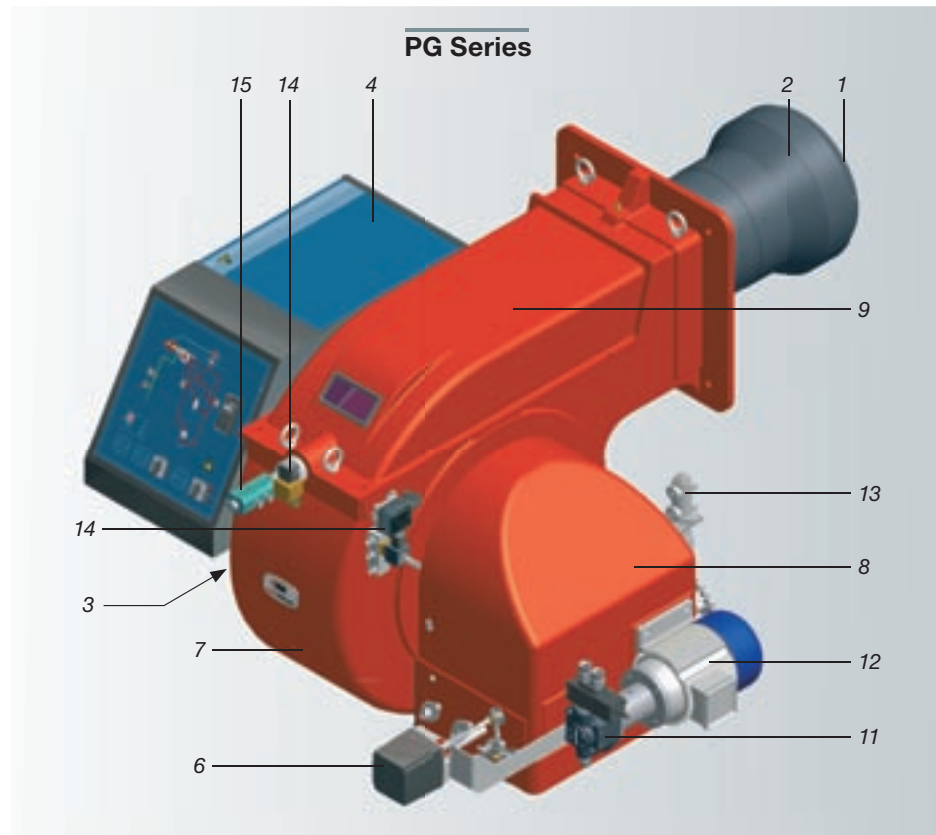
## TG Series

### Burners with separate fan

The burners in this series have been designed for application in conditions in which monobloc burners cannot be used.

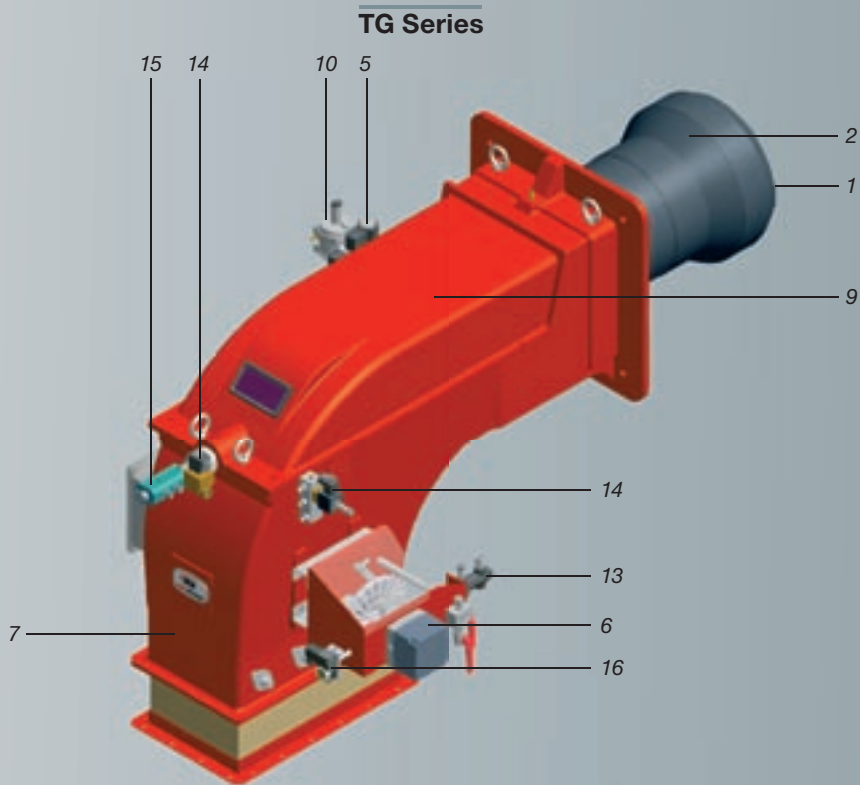
The supply can be completed with the following optionals:

- Centrifugal fan;
- Pump unit for oil;
- Combustion air inlet from either above or below;
- Heated combustion air supply up to 250°C;
- Mechanical or electronic air/fuel ratio adjustment;
- Control of oxygen levels through continuous movements of the linkages;
- Remote mounting electric control panels (console type, cabinet type, or wall-mounted).



Type	PG81	PG91	PG92	PG93	PG510	PG515	PG520	PG525	PG1030
Min output kW	264	698	849	550	1.314	1.628	2.326	2.000	2.550
Max output kW	1.900	2.093	2.558	4.100	3.953	4.884	6.977	8.000	10.600

# light oil burners



## legend

- 1 - Combustion head
- 2 - Blast tube
- 3 - Fan motor
- 4 - Electrical control cabinet
- 5 - Gas valves
- 6 - Servomotor
- 7 - Housing
- 8 - Air intake complete
- 9 - Lid
- 10 - Gas pressure governor with built-in filter
- 11 - Oil pump
- 12 - Pump motor (from PG520 on)
- 13 - Pressure regulator
- 14 - Oil valve
- 15 - Oil lance nozzle-holder
- 16 - Air pressure switch

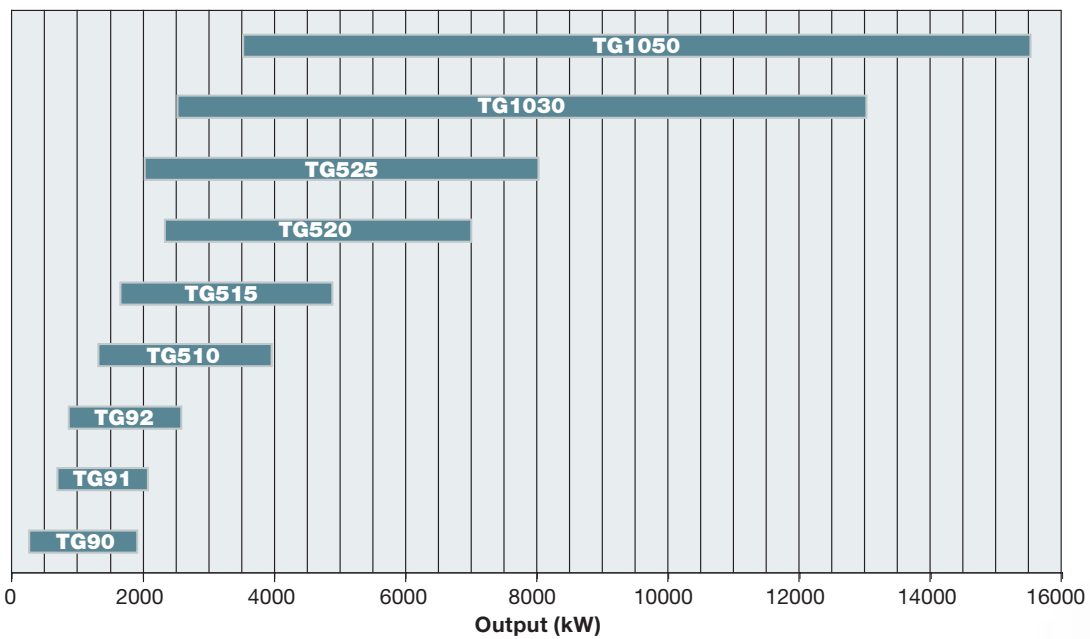
## types of adjustment

- Progressive
- Modulating
- Burner control for boiler sequence

## fuels

- Light oil
- Kerosene

**Diagram of burner output according to air temperature at 15°C  
(Quick choice)**



Type	TG90	TG91	TG92	TG510	TG515	TG520	TG525	TG1030	TG1050
Min output kW	264	698	849	1.314	1.628	2.326	2.000	2.500	3.500
Max output kW	1.900	2.093	2.558	3.953	4.884	6.977	8.000	13.000	15.500

# PN-TN Series

## PN Series

### Monobloc burners with mechanical atomization

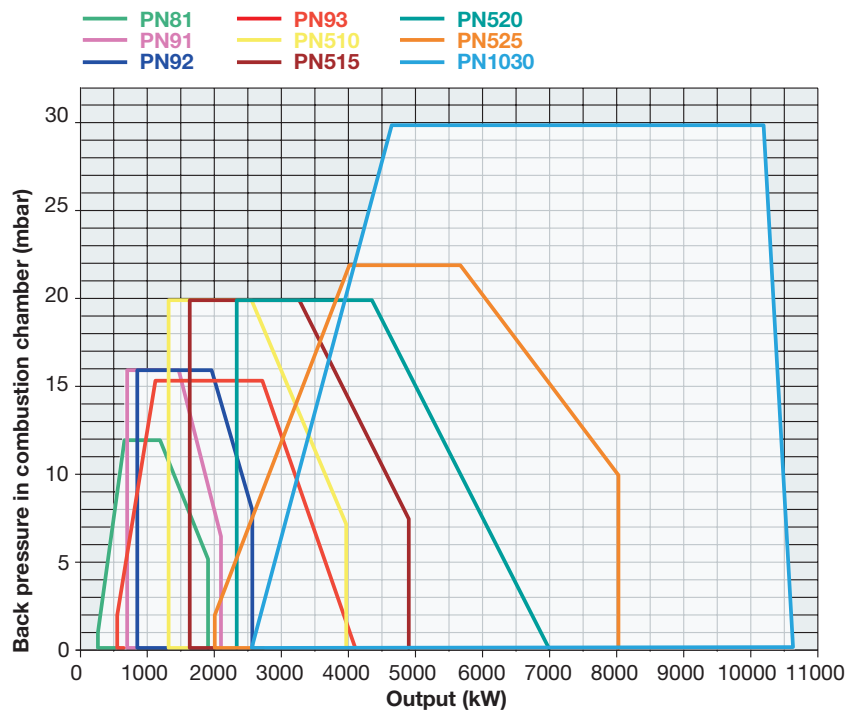
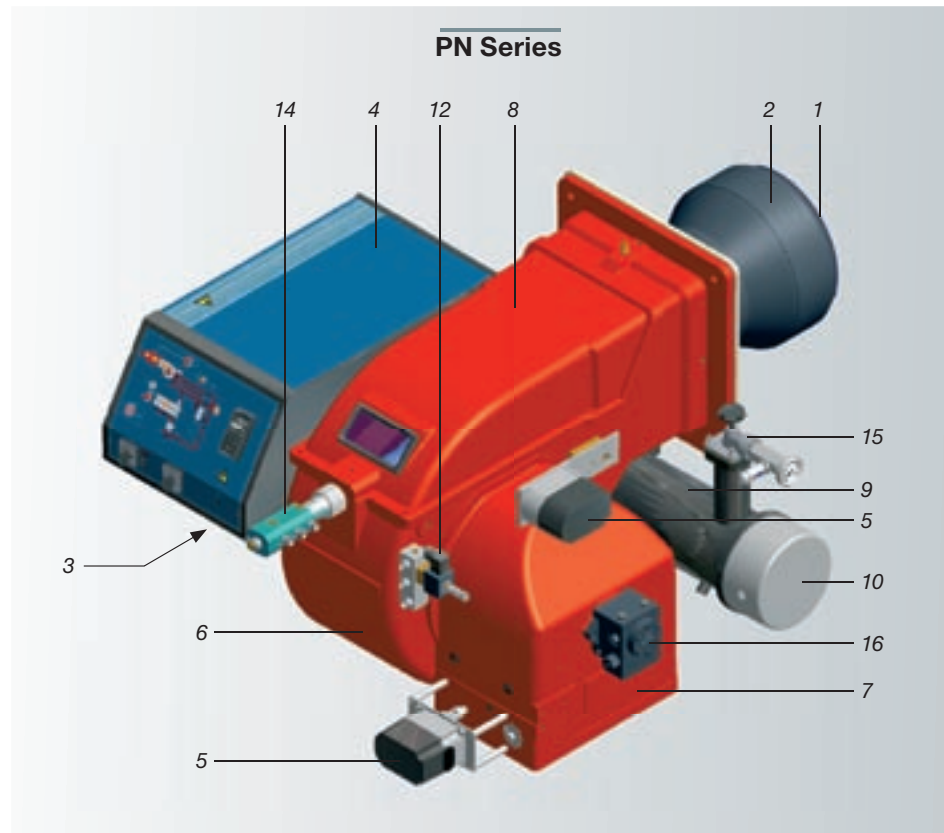
These burners have been designed for viscosity levels of up to 50°E at 50°C. The particular viscosity of the fuel and the need to keep the oil fluid has required the installation of a pre-heater equipped with armoured electrical elements with low heat load to avoid the carbonisation of the oil when it comes into contact with the elements.

## TN Series

### Mechanical atomization burners with separate fan, pump unit, and pre-heating system

The supply can be completed with the following optionals:

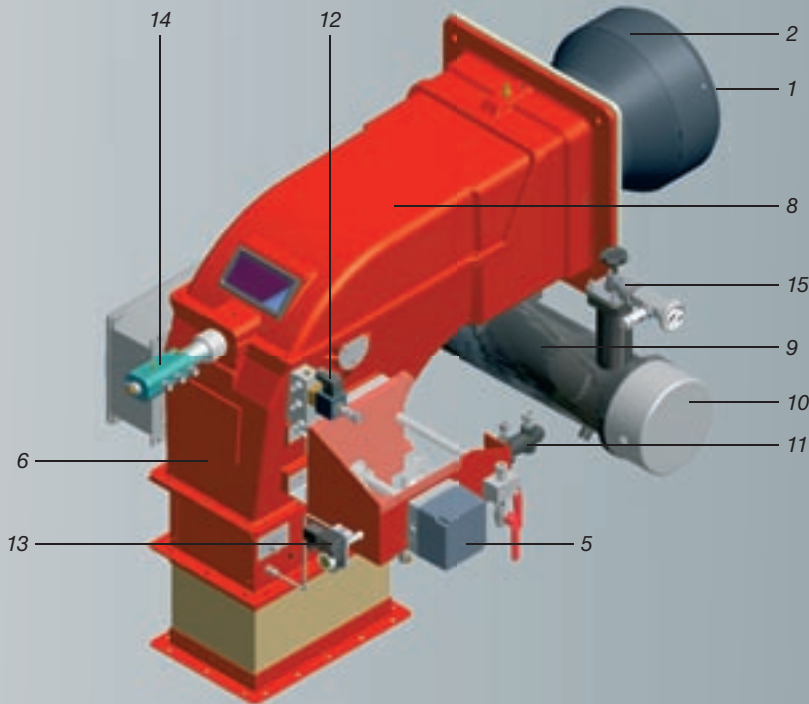
- Centrifugal fan;
- Pump unit for oil;
- Electric, steam, or combined electric/steam fuel oil pre-heating unit;
- Combustion air inlet from either above or below;
- Heated combustion air supply up to 250°C;
- Mechanical or electronic air/fuel ratio adjustment;
- Remote mounting electric control panels (console type, cabinet type, or wall-mounted).



Type	PN81	PN91	PN92	PN93	PN510	PN515	PN520	PN525	PN1030
Min output kW	264	698	849	550	1.314	1.628	2.326	2.000	2.550
Max output kW	1.900	2.093	2.558	4.100	3.953	4.884	6.977	8.000	10.600

# oil burners

## TN Series



### legend

- 1 - Combustion head
- 2 - Blast tube
- 3 - Fan motor
- 4 - Electrical control cabinet
- 5 - Servomotor
- 6 - Housing
- 7 - Air intake complete
- 8 - Lid
- 9 - Heater tank
- 10 - Electrical resistances
- 11 - Pressure regulator
- 12 - Oil valve
- 13 - Air pressure switch
- 14 - Oil lance nozzle-holder
- 15 - Self-cleaning filter
- 16 - Oil pump (from PN520 on)

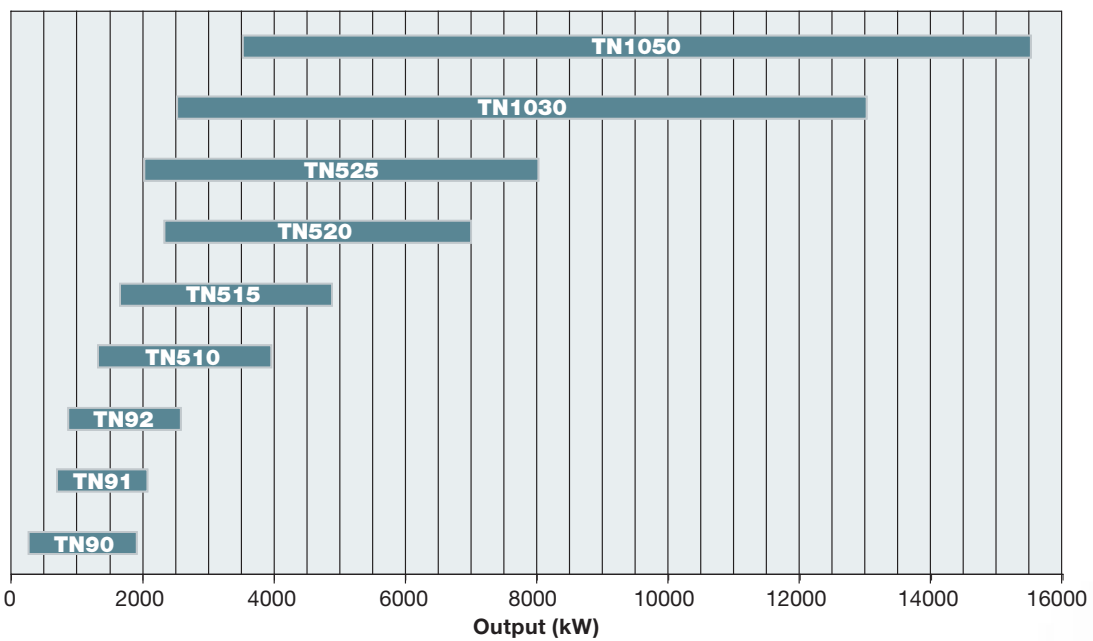
### types of adjustment

- Progressive
- Modulating
- Burner control for boiler sequence

### fuels

- Heavy oil
- Waste oil
- Crude oil

Diagram of burner output according to air temperature at 15°C  
(Quick choice)



Type	TN90	TN91	TN92	TN510	TN515	TN520	TN525	TN1030	TN1050
Min output kW	264	698	849	1.314	1.628	2.326	2.000	2.500	3.500
Max output kW	1.900	2.093	2.558	3.953	4.884	6.977	8.000	13.000	15.500

# HP-HTP Series

## HP Series

### Monoblock burners

These dual fuel gas/light oil burners integrate to perfection the mechanisms used for gas burners with those for light oil burners through the use of an independent electric motor for the control of the light oil pump.

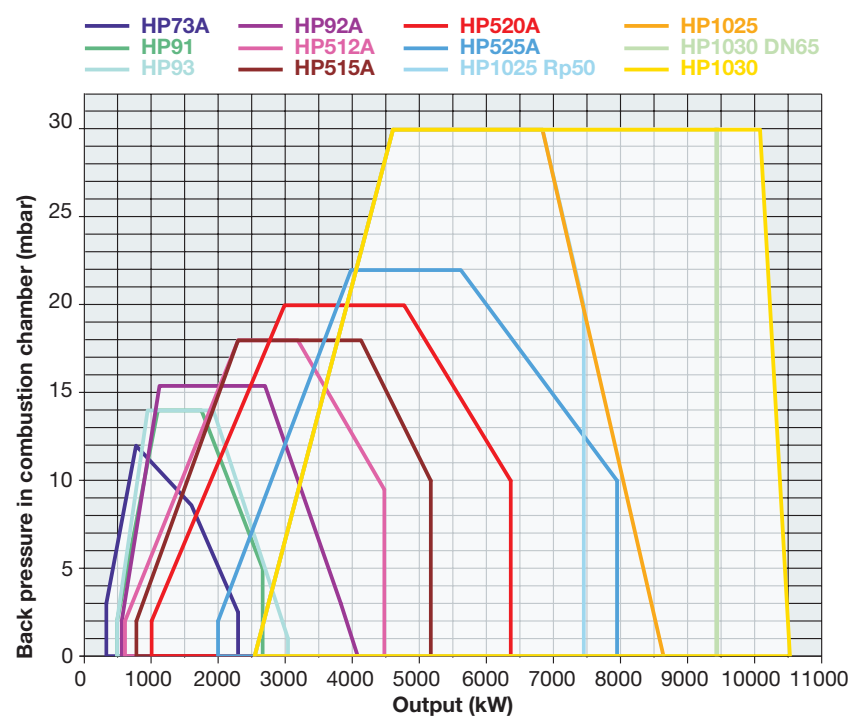
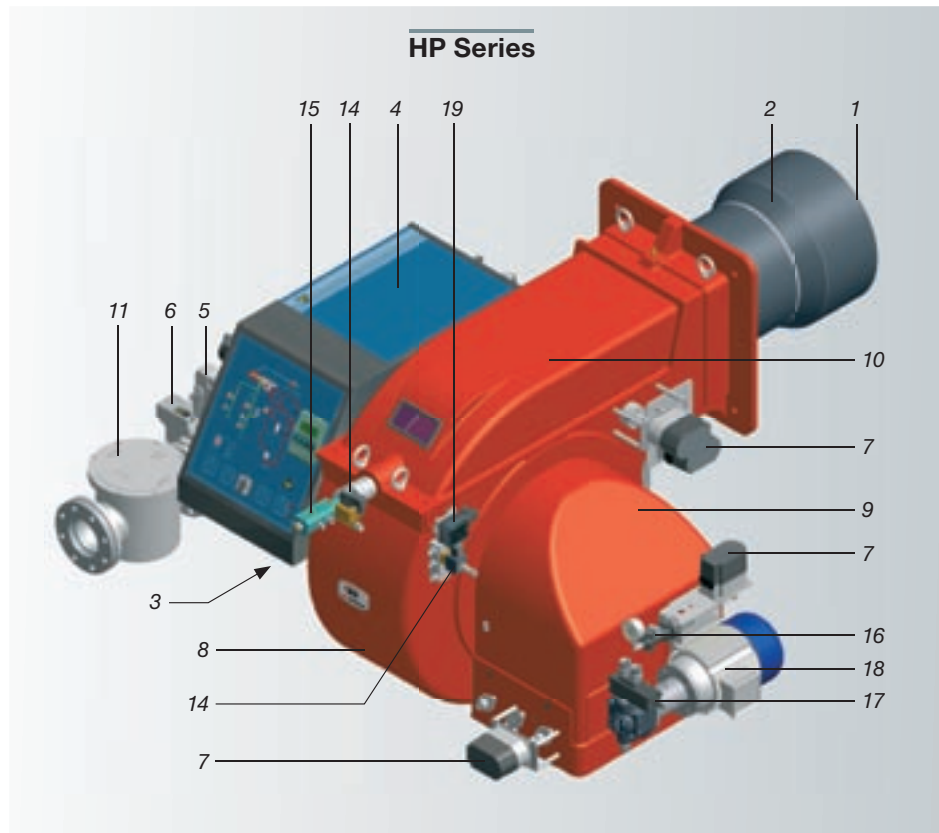
## HTP Series

### Burner with separate fan

The possibility to use two fuels separately and their easy maintenance puts this product in a class of its own.

The supply can be completed with the following options:

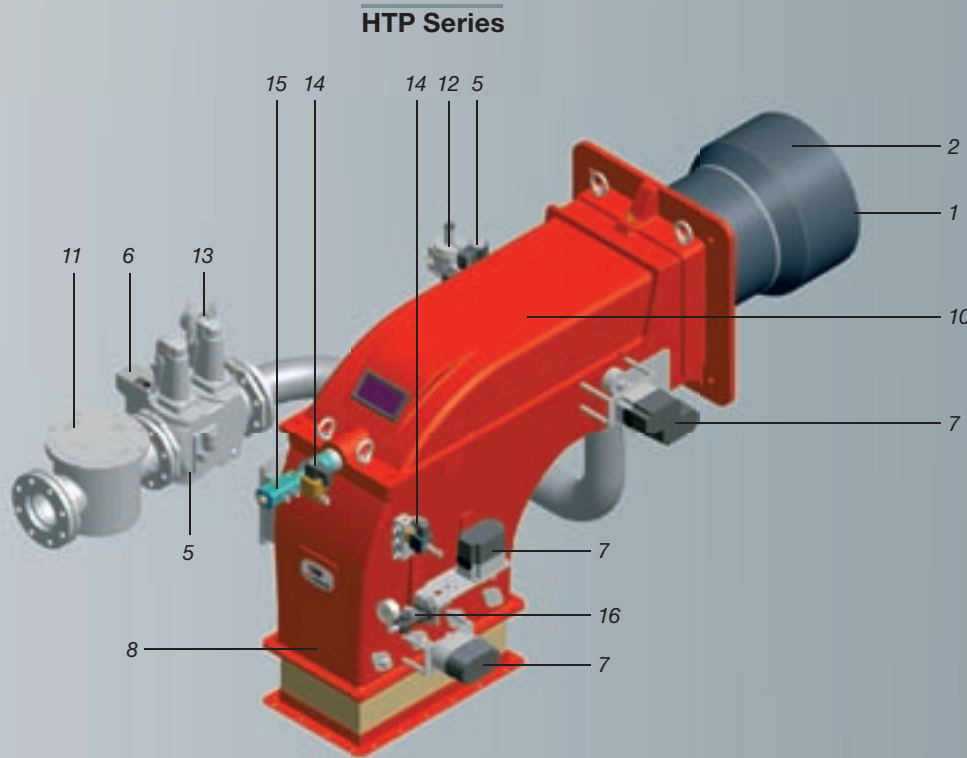
- Centrifugal fan;
- Pump unit for oil;
- Combustion air inlet from either above or below;
- Heated combustion air supply up to 250°C;
- Mechanical or electronic air/fuel ratio adjustment;
- Control of oxygen level through continuous movements of the linkages;
- Remote mounting electric control panels (console type, cabinet type, or wall-mounted).



Type	HP73A	HP91A	HP92A	HP93A	HP512A	HP515A	HP520A	HP525A	HP1025 Rp50	HP1025	HP1030 DN65	HP1030
Min output kW	320	480	480	550	600	770	1.000	2.000	2.550	2.550	2.550	2.550
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	7.500	8.700	9.500	10.600



# dual fuel gas-light oil burners



## legend

- 1 - Combustion head
- 2 - Blast tube
- 3 - Fan motor
- 4 - Electrical control cabinet
- 5 - Gas valves
- 6 - Gas proving unit
- 7 - Servomotor
- 8 - Housing
- 9 - Air intake complete
- 10 - Lid
- 11 - Gas filter
- 12 - Gas pressure governor with built-in filter
- 13 - Gas pressure governor
- 14 - Oil valve
- 15 - Oil lance nozzle-holder
- 16 - Oil pressure regulator
- 17 - Oil pump
- 18 - Oil pump motor
- 19 - Air pressure switch

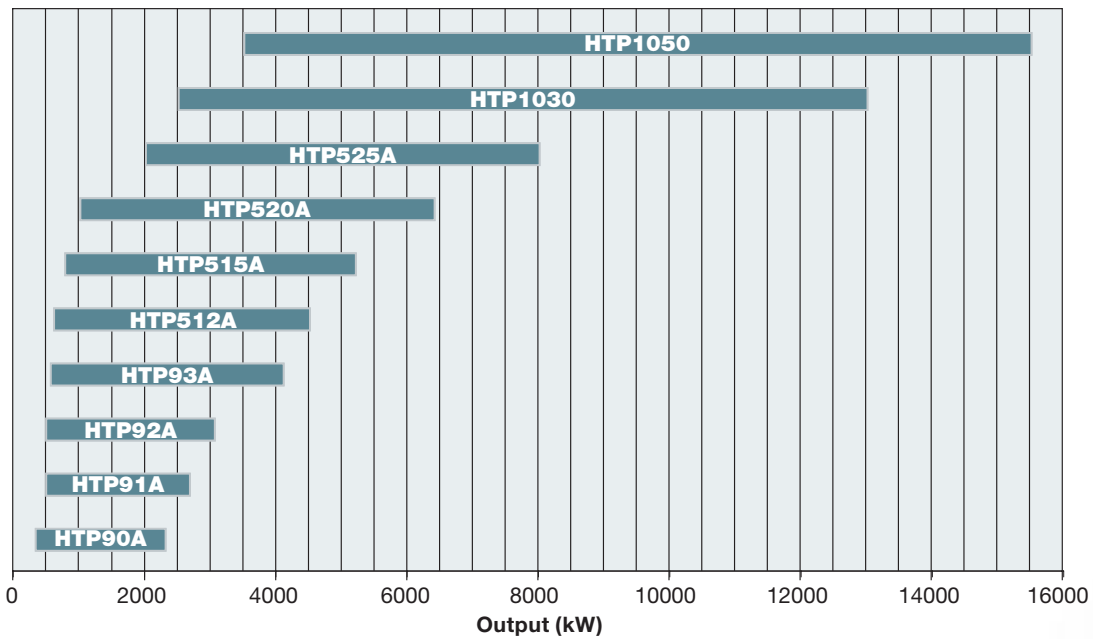
## types of adjustment

- Progressive
- Modulating
- Burner control for boiler sequence

## fuels

- Natural gas – light oil
- Available on request:
- LPG – light oil
- Waste gas – light oil
- Biogas – light oil
- Town gas – light oil
- G25 – light oil

**Diagram of burner output according to air temperature at 15°C  
(Quick choice)**



Type	HTP90A	HTP91A	HTP92A	HTP93A	HTP512A	HTP515A	HTP520A	HTP525A	HTP1030	HTP1050
Min output kW	320	480	480	550	600	770	1.000	2.000	2.500	3.500
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	13.000	15.000

# KP-KTP Series

## KP Series

### Monoblock burners

All these burners are designed to burn the two fuels separately and are suitable for fuel oil with standard 7°E at 50°C viscosity.

A version for 50°E at 50°C high viscosity heavy oil is also available.

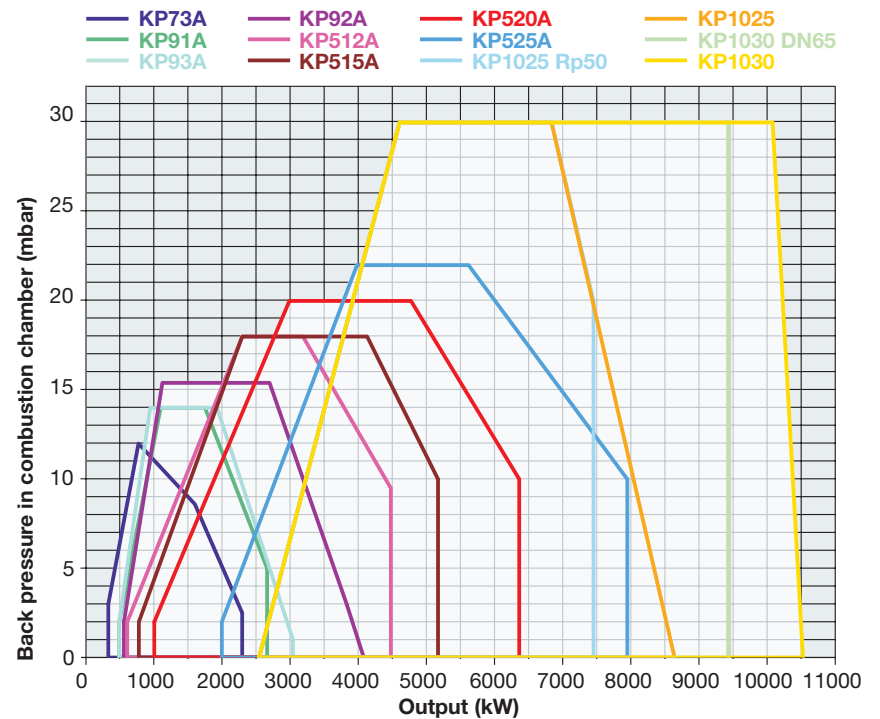
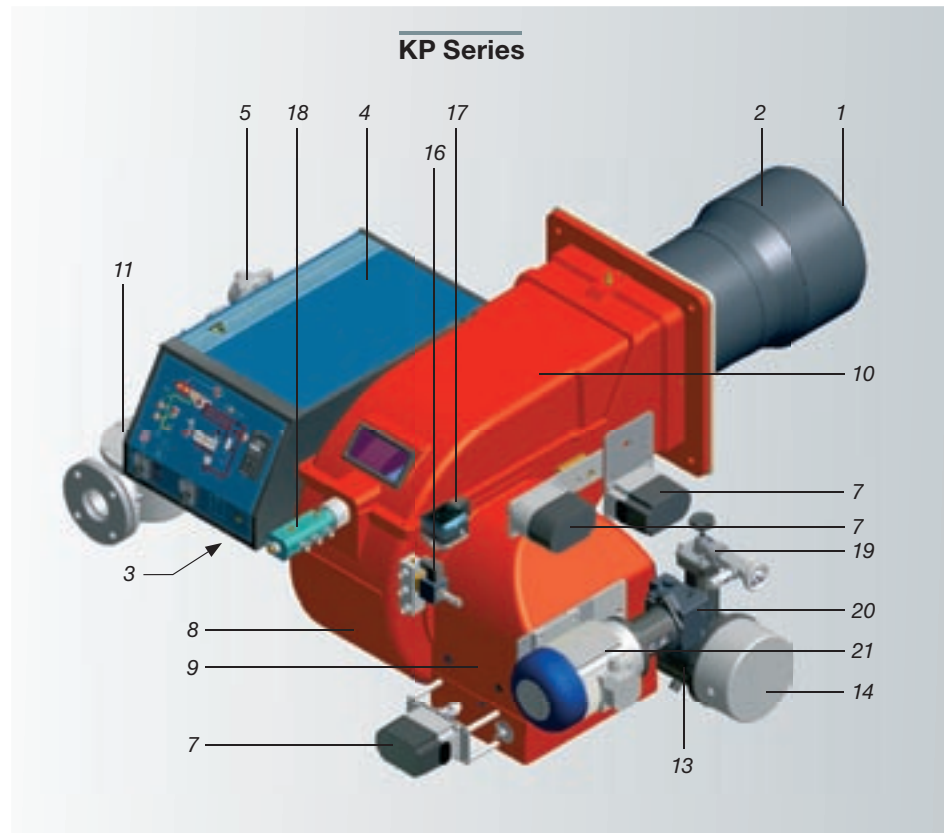
## KTP Series

### Burners with separate fan

These burners were designed to obtain the greatest flexibility for the achievement of the various objectives posed by the client and therefore the widest range of technical specifications.

Optionals available:

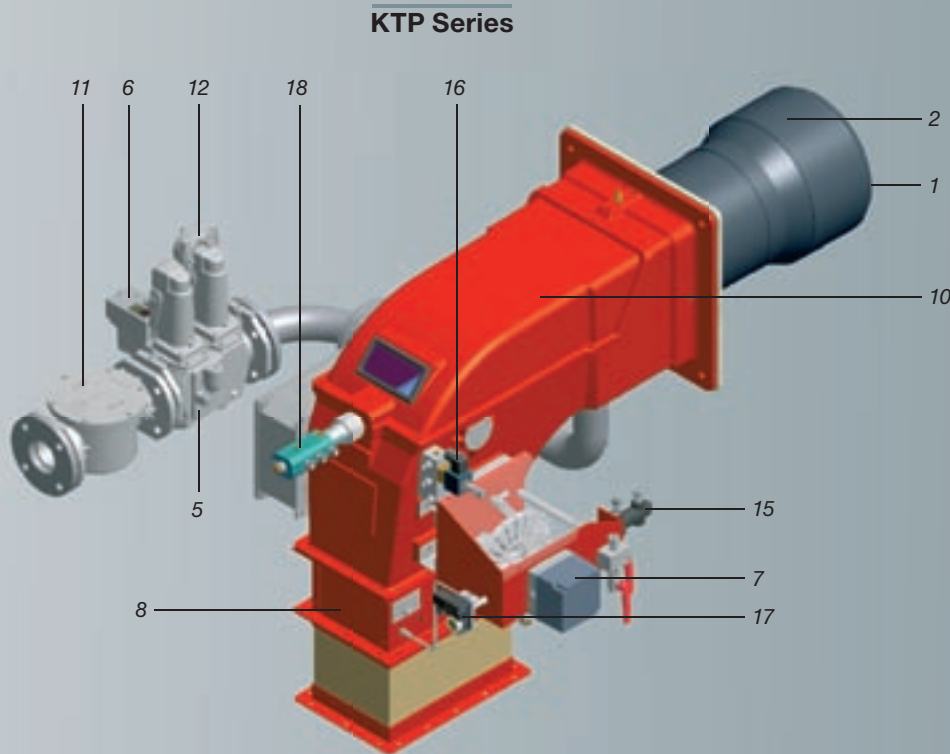
- Centrifugal fan;
- Pump unit for oil;
- Electric, steam, or combined electric/steam heavy oil pre-heating unit;
- Combustion air inlet from either above or below;
- Heated combustion air supply up to 250°C;
- Mechanical or electronic air/fuel ratio adjustment;
- Remote mounting electric control panels (console type, cabinet type, or wall-mounted).



Type	KP73A	KP91A	KP92A	KP93A	KP512A	KP515A	KP520A	KP525A	KP1025 Rp50	KP1025	KP1030 DN65	KP1030
Min output kW	320	480	480	550	600	770	1.000	2.000	2.550	2.550	2.550	2.550
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	7.500	8.700	9.500	10.600



# dual fuel gas-heavy oil burners



## legend

- 1 - Combustion head
- 2 - Blast tube
- 3 - Fan motor
- 4 - Electrical control cabinet
- 5 - Gas valves
- 6 - Gas proving unit
- 7 - Servomotor
- 8 - Housing
- 9 - Air intake complete
- 10 - Lid
- 11 - Gas filter
- 12 - Gas pressure governor
- 13 - Gas pressure governor with built-in filter
- 14 - Oil heater
- 15 - Oil pressure regulator
- 16 - Oil valve
- 17 - Air pressure switch
- 18 - Oil lance nozzle-holder
- 19 - Self cleaning filter
- 20 - Oil pump
- 21 - Oil pump motor

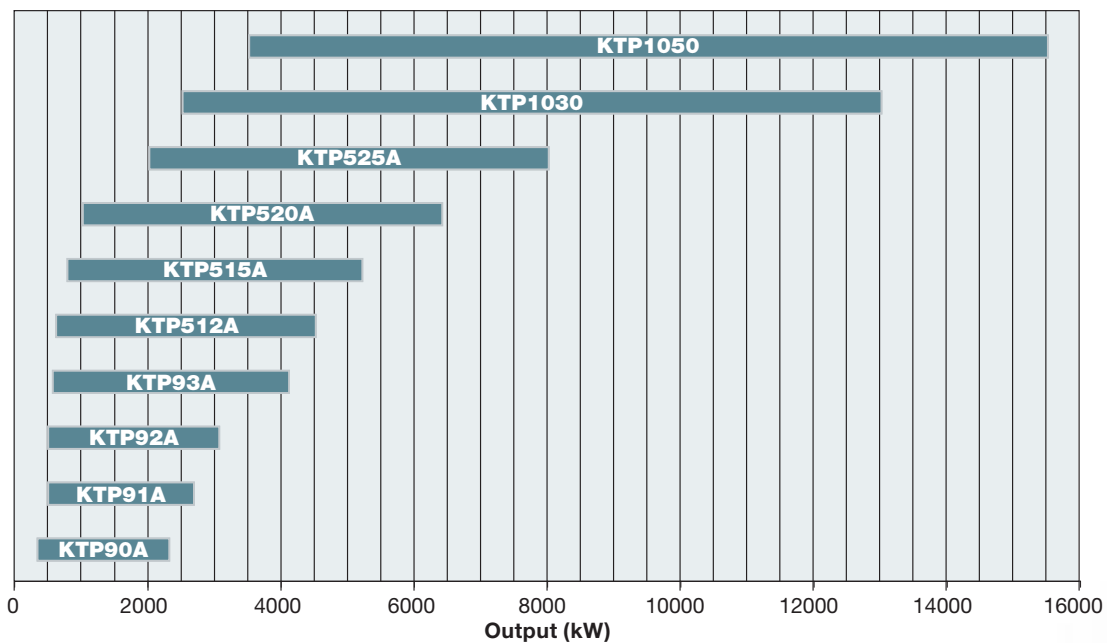
## types of adjustment

- Progressive
- Modulating
- Burner control for boiler sequence

## fuels

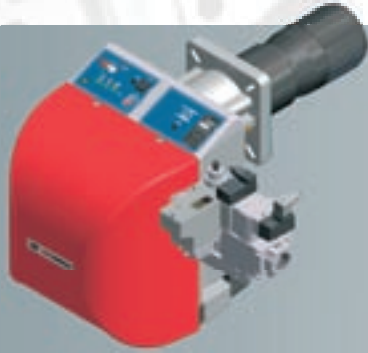
- Heavy oil
- Waste oil
- Crude oil

Diagram of burner output according to air temperature at 15°C  
(Quick choice)



Type	KTP90A	KTP91A	KTP92A	KTP93A	KTP512A	KTP515A	KTP520A	KTP525A	KTP1030	KTP1050
Min output kW	320	480	480	550	600	770	1.000	2.000	2.500	3.500
Max output kW	2.300	2.670	3.050	4.100	4.500	5.200	6.400	8.000	13.000	15.000

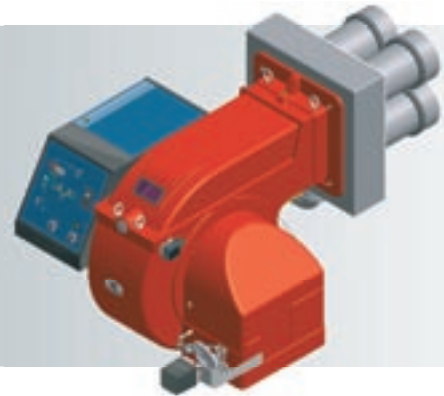
## Complementary systems



### small & medium burners (IDEA Series and P Series up to 1650 kW)

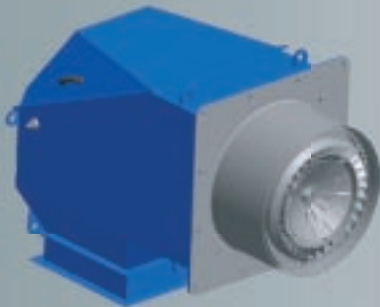
The range of industrial burners is completed in the low power segment by a completely revised series of models.

The output offered by these burners range from 14 kW to 1650 kW.



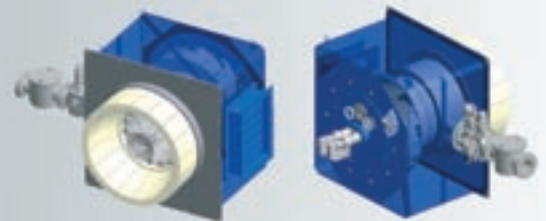
### short-flame burners (VS Series)

This special solution developed recently permits the achievement of extremely short flames that optimise the application of the burners used in boilers with combustion chambers that have reduced overall length.



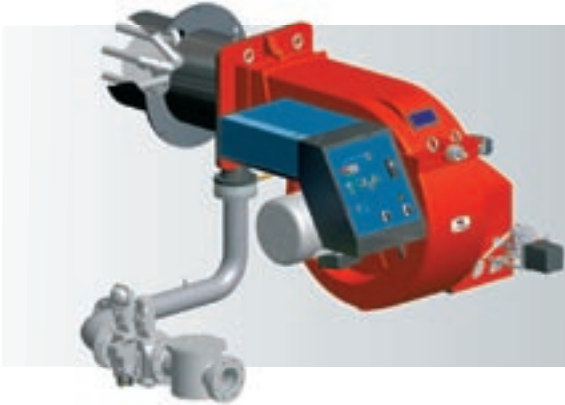
### TPBY burners

This type of burner is particularly suited to use in asphalt treatment ovens.



### URB burners

This type of burner permits the variation of flame shape as required for adaptation to the configuration of the combustion chamber, and are particularly suited for high-power water-tube steam boilers (up to 70 MW).



### low NOx emission

These low emissions burners (low NOx and low CO) comply with the most restrictive standards (< 70 mg/kWh). Can be supplied on request.

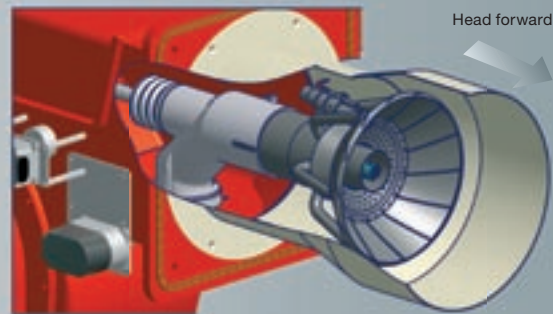
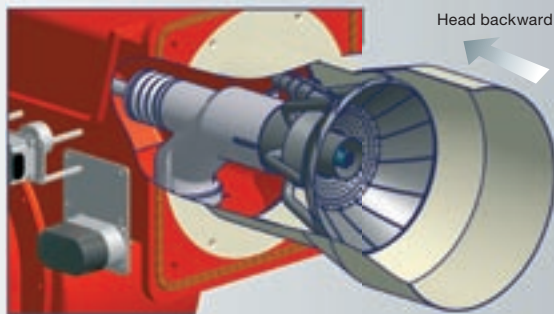
The range output goes from 14 kW to 15 MW. Low emissions mean more respect of the ambient and energy saving.



### air atomization burners - PBY version

This particular series of fuel oil burner (up to 100°E at 50°C) has been designed to use either compressed air or steam (on request) as the fuel atomization fluid.

Air atomization burners (air or steam) are suited to the use of extremely heavy fuel oil (up to 100°E).



### movable combustion heads

This technical solution permits the achievement of a modulation ratio of 1:10 in appliances where the first stage must be very small.

For example:

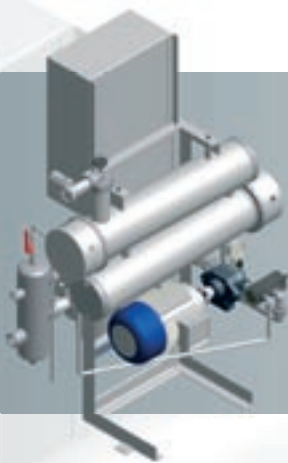
- steam generators
- industrial appliances
- low temperature boilers

The ratio we achieve allows us to save a lot of energy by reducing burner on/off cycling to a minimum.



## electronic cam

The electronic cam permits the control of the various elements that contribute to the correct mixture of fuel and combustion air through particular system programming. The system can also be expanded for interfacing with probes for oxygen control and/or fan speed control by inverter in order to improve performance and achieve the greatest energy savings both in terms of fuel and the electric power required.



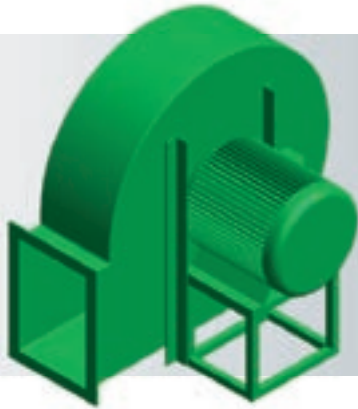
## pumping unit

For the preparation of the fuel oil supply to the burner, pumping and heating units with electric, mixed electric/steam, or steam-only preheating can be supplied on request.



## electric control panels

Remote console type, cabinet type or wall-mounted electric control panels can be supplied on request.



### fans

For the combustion air supply to the burner, separate fans suitably sized to the specific needs of the system can be supplied on request.



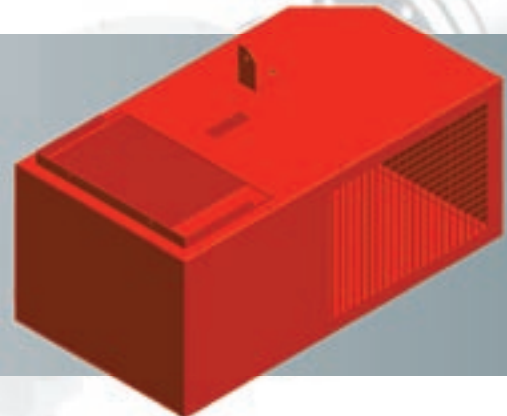
### gas trains

The gas trains supplied as standard with the burners can be complete with gas pressure reducing stations if required.



### acoustic hoods box

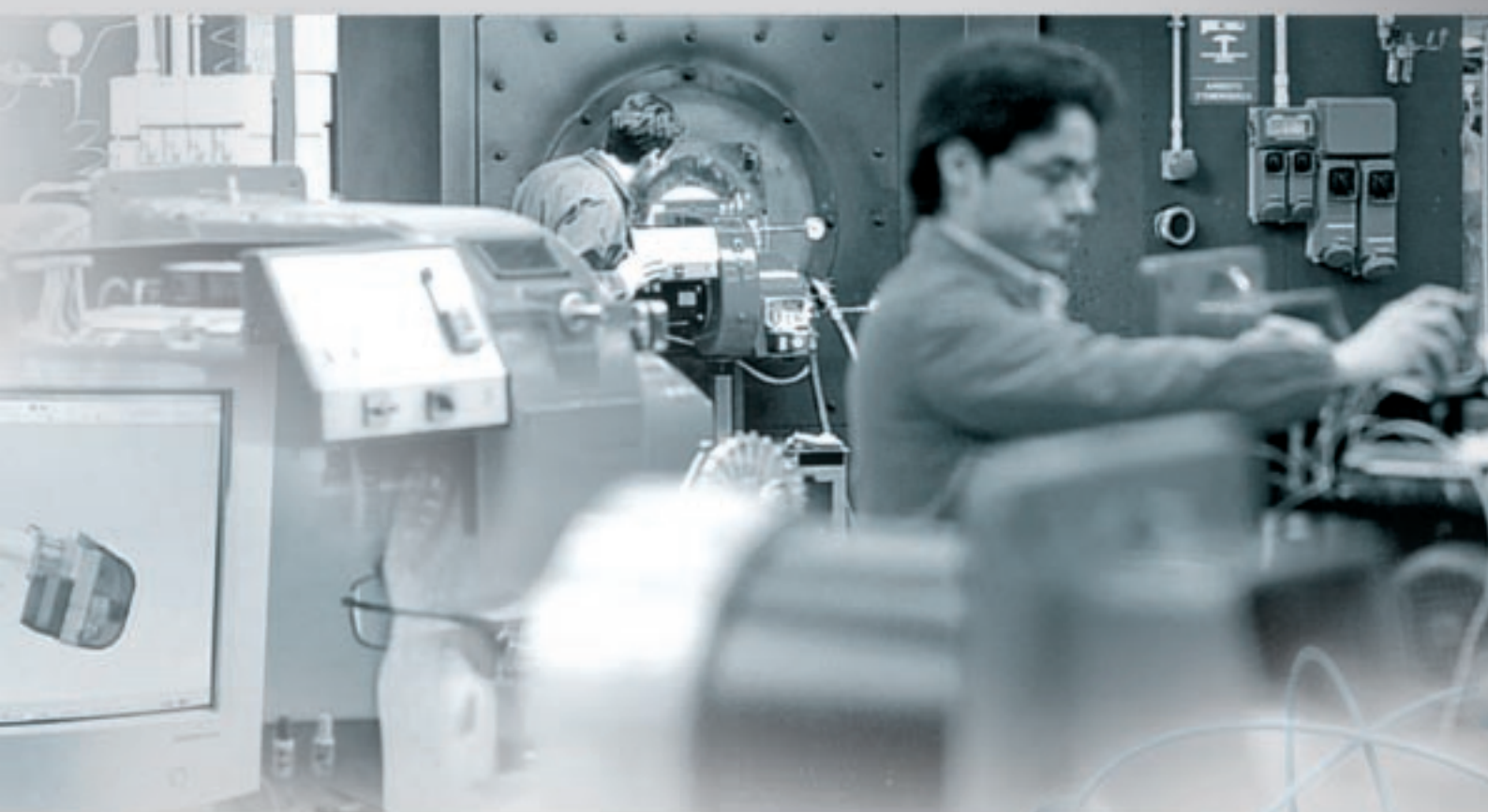
Acoustic hoods can be supplied whenever requested in order to reduce sound pressure levels in medium and high power burners. When used alone or coupled to silencers, these devices can reduce operating noise to well below the levels prescribed in various national standards.



### silencers

Silencers mounted on the combustion air inlet permit significant reductions in operating noise levels.







**CIB UNIGAS** S.p.A.

via C. Colombo, 9 - 35011 CAMPODARSEGO (PD) - Italy  
Tel. +39 049 9200944 - Fax +39 049 9200945 - 9201269  
Export dept. fax +39 049 9202105  
[www.cibunigas.it](http://www.cibunigas.it) - [cibunigas@cibunigas.it](mailto:cibunigas@cibunigas.it)