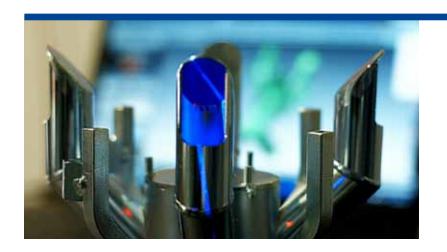
Ecoflam

PRODUCT RANGE



Ecoflam

CUSTOMIZED BURNERS SOLUTIONS FOR ANY TYPE OF APPLICATION



OUR EXPERIENCE

Thanks to 50 years of experience in the design and production of burners, Ecoflam offers a full range of blown air pressure jet burners covering an extremely wide range of power, from small products for residential heating applications to high power burners dedicated to the industrial segment.

Ecoflam burners are renowned worldwide for providing high efficiency and reliable operation with significant energy savings and feature extreme ease of installation, maintenance and flexible boiler-burner matching.

OUR MISSION

Following a philosophy of continuous improving, the R&D Laboratory is constantly working to produce better results, such as the reduced NOx level emissions.

The development of new advanced combustion technologies allows to propose solutions in respect of the most stringent environmental regulations and to create the perfect condition to face the new upcoming market requests, such as Ultra Low NOx performance and ErP-ready products.



OUR PRODUCT RANGE

The flexibility of Ecoflam solutions allows the manufacturing of highly customized products covering a range from 17 kW to 34 MW:













MAX GAS Gas range 17 - 700 kW

page 4 ▶

Gas range 200 - 17000 kW

BLU

page 6 ▶

MAX Light oil range 18 - 546 kW

page 8 ▶

MAIOR Light oil range 300 - 17000 kW

page 10 ▶

MAXFLAM/OILFLAM

Heavy oil range 68 - 17000 kW

page 12 ▶



OUR PROFESSIONAL TEAM

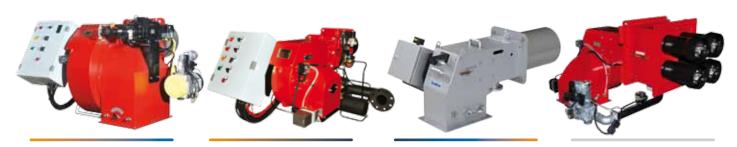
Ability to design state-of-the-art burners, manage demands of products for specific applications, ability to solve problems in real time are just some of the characteristics of our technicians and engineers.

But not only: Ecoflam has a worldwide network of service technicians able to support the installation, the commissioning and the periodic maintenance activities of the burner.

OUR INTERNATIONAL APPROACH

Our products are designed, developed and manufactured in Italy, combining quality, reliability and high performance. All these features are necessary for the end-user satisfaction, which is the first target for Ecoflam. Reaching this outcome throughout its extensive worldwide network of distributors and customers has always been a challenging task for Ecoflam, which was achieved only by developing a close and personalized relationship with each customer, always taking into account the needs and the distinctive characteristics of each individual market.





MULTICALOR

Dual fuel (gas/light oil) 190 - 17000 kW

page 14 ▶

MULTIFLAM

Dual fuel (gas/heavy oil) 414 - 17000 kW

page 16 ▶

TS RANGE

All fuels 230 - 34000 kW

page 18 ▶

SPECIAL VERSIONS

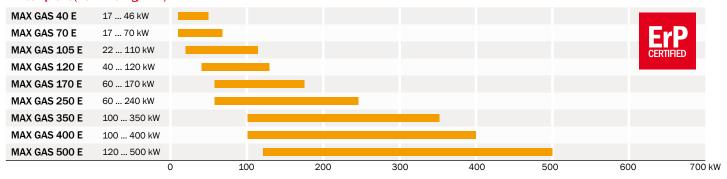
page 20 ▶

MAX GAS

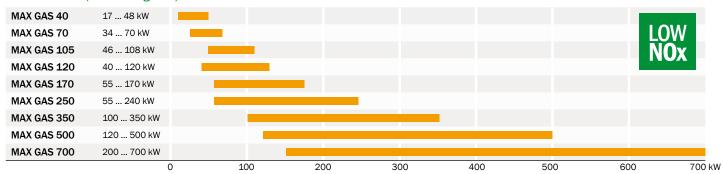
MONOBLOCK GAS BURNERS FROM 17 TO 700 kW

RANGE OVERVIEW

ErP compliant (NOx ≤ 56 mg/kWh)



Low NOx Class 3 (NOx ≤ 80 mg/kWh)



CONFIGURATIONS

MAX GAS range is available in the following operation modes:



MAX GAS 40 ... 700

One stage

ErP compliant and Low NOx Class 3



MAX GAS 70 ... 700

Two stages

ErP compliant and Low NOx Class 3



MAX GAS 70 ... 700

Two stage progressive/modulating mechanical

ErP compliant (up to MAX GAS 500) and Low NOx Class 3

MAX GAS **PRE**

MAX GAS 350 ... 700

Two stage progressive/modulating electronic

ErP compliant (up to MAX GAS 500) and Low NOx Class 3

- Progressive versions are available starting from MAX GAS 350 and can be transformed into modulating with an optional kit
- · LPG versions
- Continuous ventilation versions
- High temperature versions
- . OEM and other special versions on request according to feasibility

- All models are Low NOx class 3 according to the EN676 Directive; all models up to MAX GAS 500 are also available with ErP certified versions
- Different burner controllers available for each burner; two-stage models are also available with or without digital informative display
- All models are available to work with 50 and 60 Hz electrical frequency
- · High efficiency fan ventilation system (HPV) allowing easy burner-boiler matching even with high combustion chamber pressure
- The hinge flange allows easy access to the combustion head without losing the original settings (starting from MAX GAS 350)

FUEL

- Natural gas (G20, G25 according to EN676)
- LPG

EMISSIONS

Class	NOx mg/kWh
1	170
2	120
3	80

All models are in compliance with EN 676 European Standard

All "E" models are in compliance with **ErP Directive** (NOx \leq 56 mg/kWh, based on GCV)

DIRECTIVES

All products are in accordance with the following directives:

- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 2016/426/EU Gas Appliance Regulation
- 2006/42/EC Machine Directive
- 2011/65/EU RoHS2 Directive







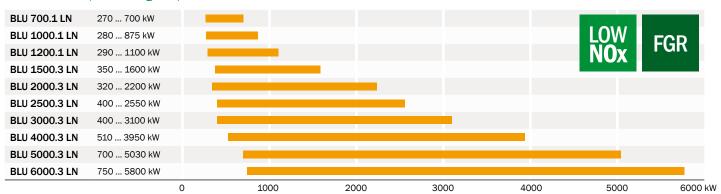




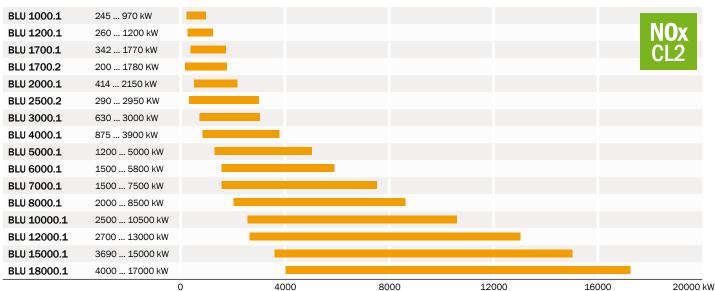
MONOBLOCK GAS BURNERS FROM 200 TO 17000 kW

RANGE OVERVIEW

Low NOx Classe 3 (NOx ≤ 80 mg/kWh)



Low NOx Classe 2 (NOx ≤ 120 mg/kWh)



CONFIGURATIONS

BLU range is available in the following operation modes:



BLU 700.1 ... 2000.x

Two stages

Low NOx Class 2 and class 3



BLU 700.1 ... 18000.1

Two stage progressive/modulating mechanical Low NOx Class 2 and class 3



BLU 700.1 ... 18000.1

Two stage progressive/modulating electronic Low NOx Class 2 and class 3

- LPG versions up to BLU 6000.1
- · Continuous ventilation versions
- Swirl system for flame geometry customization
- Version with FGR System to reach Ultra Low NOx emissions (NOx ≤ 30 mg/kWh)
- OEM and other special versions on request according to feasibility

- · Adjustable combustion head for easy regulation and matching with different combustion chambers
- Modulating version with PID controller with digital set-point display and real-time values
- · Version with fully electronic Burner Management System available for all models
- The range includes burners Low NOx class 2 and Low NOx class 3 up to 6 MW; versions with FGR System (Flue Gas Recirculation) are also available on request and allow to reach NOx emissions below 30 mg/kWh
- The new BLU.3 series has been designed with a new air/gas control system: the servomotor operates directly on the butterfly gas valve and the air damper is controlled through a mechanical leverage connected to the cam; this system allows a more precise regulation of the air damper following the gas valve setting made through the servomotor

FUEL

- Natural gas (G20, G25 according to EN676)
- IPG

EMISSIONS

Class	NOx mg/kWh
1	170
2	120
3	80

All models are in compliance with EN 676 European Standard

DIRECTIVES

All products are in accordance with the following directives:

- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 2016/426/EU Gas Appliance Regulation
- 2006/42/EC Machine Directive
- 2011/65/EU RoHS2 Directive





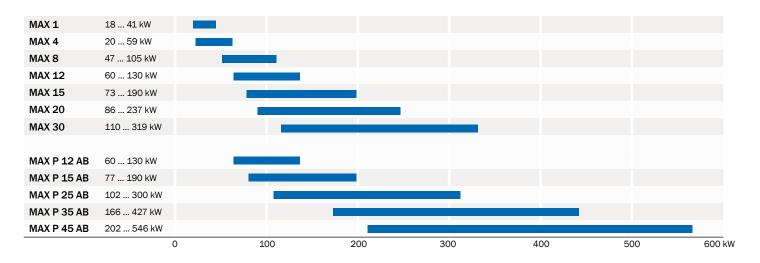






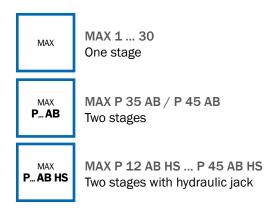
MONOBLOCK LIGHT OIL BURNERS FROM 18 TO 546 kW

RANGE OVERVIEW



CONFIGURATIONS

MAX range is available in the following operation modes:



- · Continuous ventilation versions
- · High temperature versions
- Versions with specific pump for light oil with maximum viscosity 5°E at 20°C
- OEM and other special versions on request according to feasibility

- High efficiency fan ventilation system (HPV) allowing easy matching with boilers having high combustion chamber back pressure
- Electrical wiring simple to disassemble for easy maintenance
- · Combustion head easy to assemble and adjust
- The hinge flange allows easy access to burner head without losing burner settings (MAX 35 and MAX 45)
- Models from MAX 1 to MAX 12 work with 50-60 Hz electrical frequency

FUEL

 Light oil (viscosity from 1,6 cSt to 6 cSt at 20°C)

EMISSIONS

Class	NOx mg/kWh
1	250
2	185
3	120

All models are in compliance with EN 267 European Standard

DIRECTIVES

All products are in accordance with the following directives:

- 2006/42/EC Machinery Directive
- 2014/30/UE EMC Directive
- 2014/35/UE Low Voltage Directive





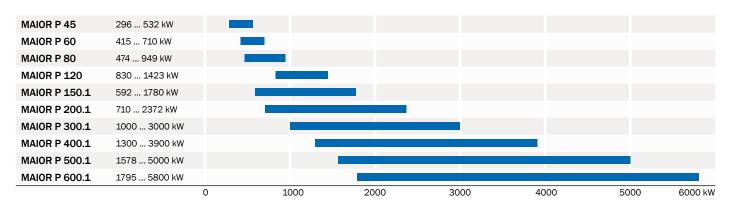


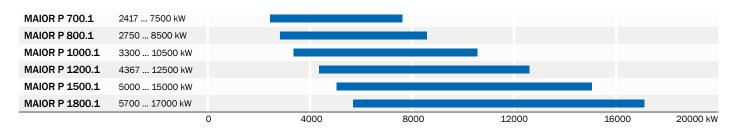


MAIOR

MONOBLOCK LIGHT OIL BURNERS FROM 300 TO 17000 kW

RANGE OVERVIEW





CONFIGURATIONS

MAIOR range is available in the following operation modes:

MAIOR P... AB MAIOR P 60 AB ... P 400.1 AB Two stages

MAIOR P... AB HS

MAIOR P 60 ... P 400.1 AB HS Two stages with hydraulic jack

MAIOR P... PR MAIOR P 45 ... P 1800.1 PR

Two stages progressive/modulating mechanical

MAIOR P... PRE MAIOR P 45 ... P 1800.1 PRE

Two stages progressive/modulating electronic

- · Continuous ventilation versions
- Versions with specific pump for light oil with maximum viscosity 5°E at 20°C
- . OEM and other special versions on request according to feasibility

- Two stage version with hydraulic jack or electric servomotor up to MAIOR P 400.1
- Progressive mechanical version with flow return nozzle
- · Modulating version with PID system controller with digital set point display and real time value
- Version with sliding bars standard for models from MAIOR 700.1 to MAIOR 1200.1
- · Adjustable combustion head for easy regulation and matching with different combustion chambers
- Version with fully electronic Burner Management System available for all models on request

FUEL

• Light oil (viscosity from 1,6 cSt to 6 cSt at 20 °C)

DIRECTIVES

All products are in accordance with the following directives:

- 2006/42/EC Machinery Directive
- 2014/30/UE EMC Directive
- 2014/35/UE Low Voltage Directive





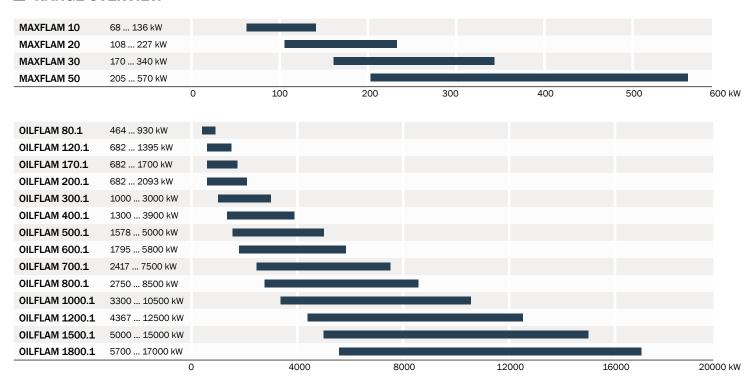




MAXFLAM / OILFLAM

MONOBLOCK HEAVY OIL BURNERS FROM 68 TO 17000 kW

RANGE OVERVIEW



CONFIGURATIONS

MAXFLAM range is available in the following operation modes:



MAXFLAM 10 ... 30 One stage



MAXFLAM 30 ... 50 AB

Two stages

OILFLAM range is available in the following operation modes:



OILFLAM 80.1 ... 400.1 AB Two stages



OILFLAM 80.1 ... 1800.1 PR

Two stages progressive/modulating mechanical



OILFLAM 80.1 ... 1800.1 PRE

Two stages progressive/modulating electronic

- · Continuous ventilation versions
- High temperature versions
- High viscosity versions suitable for 118 cSt (15°E) at 80°C available on request

- All models are suitable to work with heavy oil up to 50°E at 50°C
- Two stage version with electric servomotor available up to model OILFLAM 400.1
- Integrated electrical panel complete with pre-heater management system
- Digital thermoregulator integrated on the front panel to grant temperature stability of the fuel (from OILFLAM 300.1)
- Self-cleaning filter installed in the pre-heater in order to keep the nozzle clean from OILFLAM 300.1
- · Adjustable combustion head for easy regulation and matching with different combustion chambers
- · Heavy oil electric heating system on board
- · Ring system for oil preparation can be designed and supply on request
- Version with fully electronic Burner Management System available for all models on request

FUEL

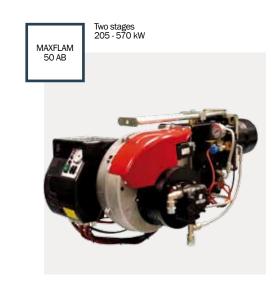
Heavy oil (max viscosity 380 cSt (50°E) at 50°C)

DIRECTIVES

All products are in accordance with the following directives:

- 2006/42/EC Machinery Directive
- 2014/30/UE EMC Directive
- 2014/35/UE Low Voltage Directive





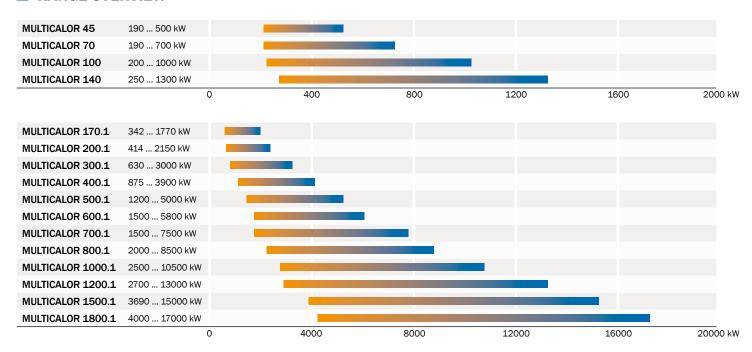




MULTICALOR

MONOBLOCK DUAL FUEL (GAS/LIGHT OIL) BURNERS FROM 190 TO 17000 kW

RANGE OVERVIEW



CONFIGURATIONS

MULTICALOR range is available in the following operation modes:



MULTICALOR 45 ... 200.1

Two stages in gas and in light oil



MULTICALOR 70 ... 200.1 PR/AB

Two stage progressive/modulating mechanical in gas / two stages in light oil



MULTICALOR 70 ... 1800.1 PR

Two stage progressive/modulating mechanical in gas and in light oil



MULTICALOR 70 ... 1800.1 PRE

Two stage progressive/modulating electronic in gas and in light oil

- · Continuous ventilation versions
- Swirl system for flame geometry customization
- OEM and special versions on request according to feasibility

- Two stage version with electric servomotor and integrated system for the regulation of air and fuel (from MULTICALOR 45 to MULTICALOR 200.1)
- · Progressive version with electric servomotor and double adjustable mechanical cam that allows air and fuel fine tuning
- Version with fully electronic Burner Management System available for all models
- · Adjustable combustion head for easy regulation and matching with different combustion chambers
- · Configurated and special versions on request according to feasibility

FUEL

- Natural gas (G20, G25 according to EN676)
- I PG
- Light oil (viscosity from 1,6 cSt to 6 cSt at 20°C)

EMISSIONS

Class	Gas
	NOx mg/kWh
1	170
2	120
3	80

All models are in compliance with EN 676 and EN 267 European Standard

DIRECTIVES

All products are built in accordance with the following directives:

- 2006/42/EC Machinery Directive
- 2014/30/UE EMC Directive
- 2014/35/UE Low Voltage Directive
- 2009/142/CEE Gas Appliances Directive





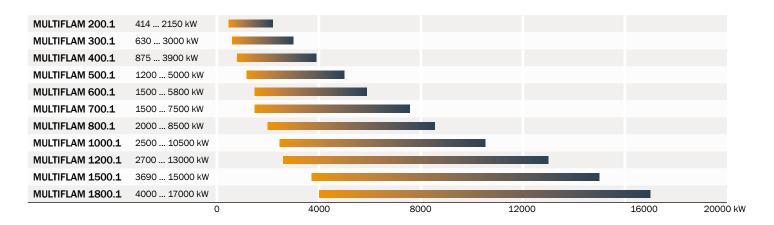




MULTIFLAM

MONOBLOCK DUAL FUEL (GAS/HEAVY OIL) BURNERS FROM 414 TO 17000 kW

RANGE OVERVIEW



CONFIGURATIONS

MULTIFLAM range is available in the following operation modes:



MULTIFLAM 200.1

Two stages in gas and in heavy oil



MULTIFLAM 300.1 ... 1800.1 PR

Two stage progressive/modulating mechanical



MULTIFLAM 300.1 ... 1800.1 PRE

Two stage progressive/modulating electronic

- · Continuous ventilation versions
- High temperature versions
- High viscosity versions suitable for 118 cSt (15°E) at 80°C available on request
- · Versions in electronic configuration

- Two stage version with electric servomotor and integrated system for the regulation of air and fuel (for MULTIFLAM 200.1)
- · Progressive version with electric servomotor and double adjustable mechanical cam that allows air and fuel fine tuning
- Modulating version with PID system controller with digital set point display and real time value
- Digital thermoregulator integrated on the front panel to grant temperature stability of the fuel (from MULTIFLAM 300.1)
- · Adjustable combustion head for easy regulation and matching with different combustion chambers
- · Gas pilot included with separate supply line
- · Heavy oil electric heating system on board
- · Version with fully electronic Burner Management System available for all models on request
- · Configurated and special version on request according to feasibility

FUEL

- Natural gas (G20, G25 according to EN676)
- IPG
- Heavy oil (max viscosity 380 cSt (50°E) at 50°C)

DIRECTIVES

All products are built in accordance with the following directives:

- 2006/42/EC Machinery Directive
- 2014/30/UE EMC Directive
- 2014/35/UE Low Voltage Directive
- 2009/142/CEE Gas Appliances Directive









TS RANGE

DUOBLOCK BURNERS FROM 230 TO 34000 kW

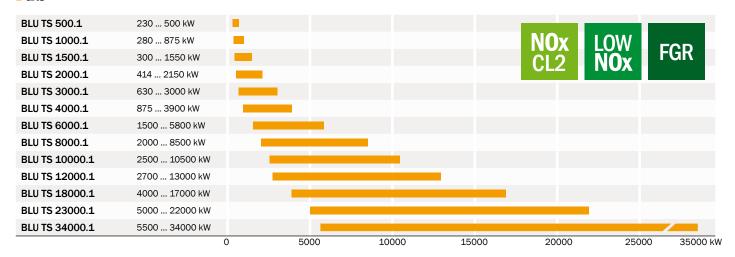
Thanks to their extreme flexibility and ease of use TS burners are suitable for all types of installation up to 34 MW.

Burners can be assembled with air duct connection in different layouts in order to meet a wide range of specifications in terms of performance and overall dimensions.

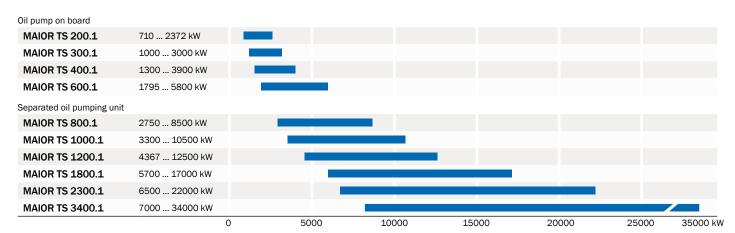
Versions suitable to work with pre-heated combustion air up to 200°C can be used in order to achieve greater values of efficiency.

RANGE OVERVIEW

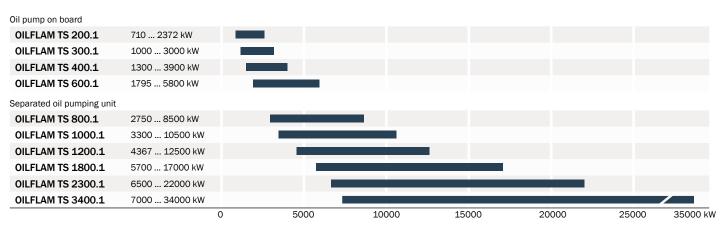
- GAS



LIGHT OIL

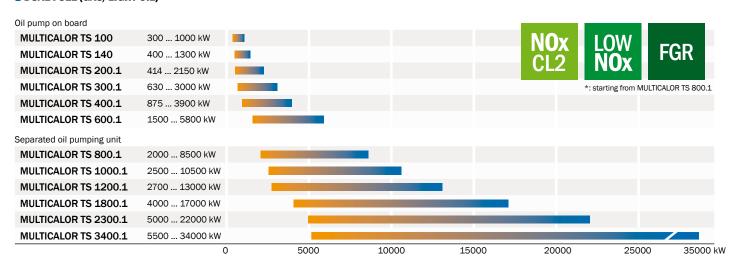


■ HEAVY OIL

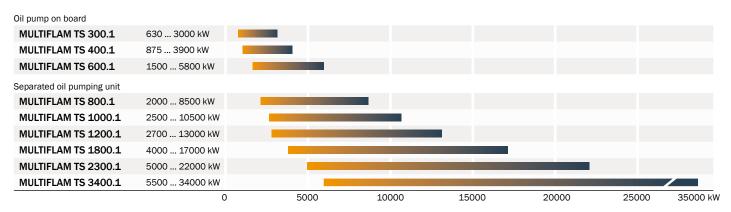




DUAL FUEL (GAS/LIGHT OIL)



■ DUAL FUEL (GAS/HEAVY OIL)



CONFIGURATIONS

TS burners are available in the following operation modes:

... TS Models up to 2 MW
Two stages

Models up to 34 MW
Two stage progressive/modulating mechanical

Models up to 34 MW
Two stage progressive/modulating electronic

TS series is available in a wide range of variants to suit any application or specific requirement. Contact us to know more.

RESIDENTIAL RANGE

BURNERS FOR OEM BOILER SPACE HEATERS AND BOILER COMBINATION HEATERS

Ecoflam is continuously focused on an environmental program, both for optimisation of existing products and new developments, with the target to offer efficient, reliable and technologically advanced solutions able to meet the most restrictive European legislation requirements, in particular in terms of emission and energy saving.







New series of low NOx oil burners for OEM «Unit» applications are available with one stage, two stage or modulating operation. Burners suitable to work with alternative fuels such as biofuels and biogas are also available.

MAX LN and MAX BLUE Series

- One stage light oil burners available from 15 to 100 kW
- Two stage models now ready up to 100 kW and fully modulating models up to 62 kW
- Low NOx (LN) patented yellow-blue flame combustion solutions ready to meet the ErP Ecodesign requirements with NOx well below 120 mg/kWh
- Blue Flame versions ready to comply also with the most restrictive emission limits expected in the future
- · Powerful systems granting very high ventilation performance
- · Easy installation, adjustment and maintenance



F10/F15 E2-5 - Low NOx modulating burners

- Innovative fully modulating light oil burners from 8 to 62 kW
- Blue Flame combustion technology granting NOx emissions below 90 mg/kWh
- Patented modulating system
- High ventilation performance
- · Low noise and low electrical consumption
- Easy setting through a 3-point curve



F10E2-5.60

Special customized models

- Two stage light oil burners covering an output range from 11 to 42 kW
- Blue Flame combustion technology with NOx emissions below 110 mg/kWh
- Suitable to operate in altitude with high performances



Burner models suitable for light oil, kerosene, low sulphur oil and bio blends available depending on the configuration.

SPECIAL VERSIONS

MONOBLOCK AND DUOBLOCK BURNERS UP TO 34 MW

Ecoflam is renowned for its ability to conceive and build flexible products and to propose customized solutions for any type of applications.

Successful and satisfied customers, both from OEM or distribution fields, demonstrate throughout the years that Ecoflam is able to meet their requests offering a wide range of special products capable to satisfy even the most difficult ones.













FGR SYSTEM

ULTRA LOW NOx BURNERS (NOx ≤ 30 mg/kWh)

FGR: PRINCIPLE OF OPERATION

ultra LOW **NO**X

Ecoflam developed a performant range of products which uses the external **FGR technology** (Flue Gas Recirculation) to reduce NOx emissions and satisfies even the most stringent regulations.

The principle of external flue gas recirculation consists in sending a mixture of comburent air and flue gas to the combustion head, thus reducing the NOx emissions. This process allows the possibility to reach NOx emissions **below 30 mg/kWh**, a value which is hard to reach with conventional combustion systems.

FGR ON MONOBLOCK BURNERS

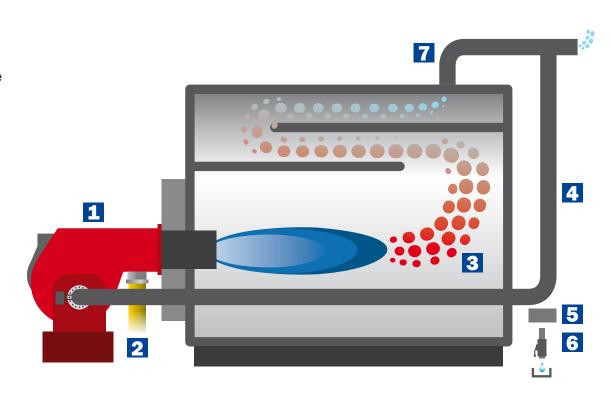
The FGR system on monoblock burners provides that the flue gas is drawn in by the burner fan.

The installer must therefore install a line connecting the flue gas outlet to the burner fan inlet. The extraction point is generally at the base of the flue pipe, where the pressure is close to zero. A suction is generated in the burner intake box which is a function of the fan curve and the air damper position.

In order to ensure an adequate rate of flue gas from the stack and thus to provide the required NOx reduction, the pipeline between the flue and the burner must be sized to minimise the pressure drop.

Legenda

- 1 Burner
- 2 Gas inlet
- 3 Furnace
- 4 Flue pipeline
- 5 Drainage
- 6 Drainage valve
- 7 Stack

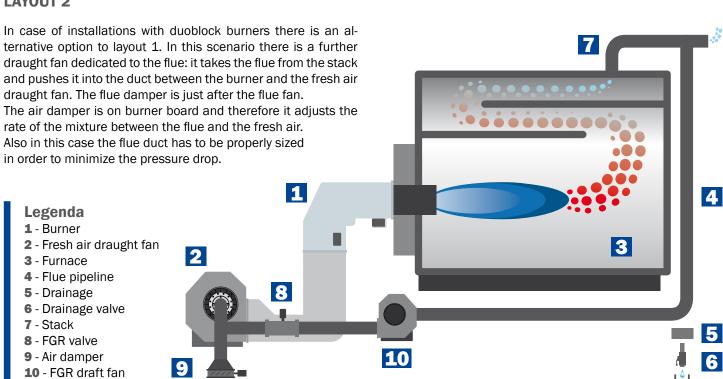


FGR SYSTEM

ULTRA LOW NOx BURNERS (NOx ≤ 30 mg/kWh)

FGR ON DUOBLOCK BURNERS **LAYOUT 1** The FGR system for duoblock burners, in which the drughtfan is installed in a remote position, has a different layout, since the flue gas line must enter the circuit upstream of the fan itself. Furthermore, to generate the required suction to convey the flue gas into the fan and mix it with the comburent air, the flow regulation device must be located upstream of the flue gas inlet into the fan suction circuit. As for monoblock units, also here the flue gas line must be properly sized. 4 1 Legenda 1 - Burner 2 - Draught fan 3 2 3 - Furnace 4 - Flue pipeline 8 5 - Drainage 6 - Drainage valve 7 - Stack 8 - FGR valve 9 - Air damper

LAYOUT 2



CUSTOMER CARE

COMMISSIONING

For safe and efficient operation of the burner system it is very important that the burner is commissioned by an expert. The combustion will be optimally adjusted over the whole power range of the burner, and all the safeties will be tested. Ecoflam service technicians are able, like no other, in performing this job adequate and competent, to run the installation worry-free.



MAINTENANCE AND INSPECTION

The burner is a crucial part of the installation. To keep the installation in good conditions, it is important to maintain the burner periodically. It is also very important to inspect all the safeties to ensure that the system operates safely. The professional services of Ecoflam can perfectly perform this service for any type of installation.



THE BURNER ACADEMY

In order to respond to the needs of the customers Ecoflam created the Burner Academy, a real school where the know-how of the internal technicians is diffused to partners and customers.

It's an opportunity for boiler room personnel, operators and engineers to attend a series of training sessions carried out on test bench by highly qualified instructors, who held the courses in English, German, French, Italian and Dutch language.

The Burner Academy uses various training locations where boilers are installed and where people can be trained in theory and in practice. Courses are available in different levels and there is also the possibility to handle customer-specific training.

WORLDWIDE SERVICE NETWORK

Ecoflam uses a worldwide network of partners, consisting of well-trained local engineers, to carry out its service operations. These technicians are able to perform both commissioning and local service and they do it in a very professional way.





RELIABLE SUPPLY OF SPARE PARTS

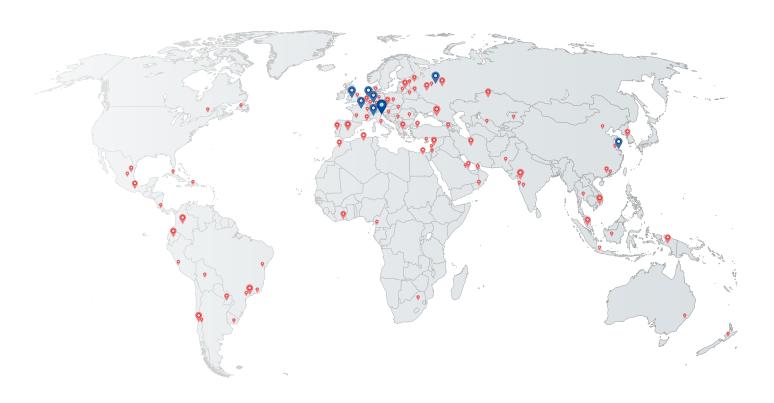
Spare parts have always had a great importance inside the Ecoflam world. Considering the high amount of parts involved in every single product, some of these parts might naturally need to be substituted. Ecoflam can count on a international network offering original spare parts in order to guarantee the highest quality, reliability and safe continued operation of the appliance.

WORLWIDE NETWORK

Manufacturing is carried out in the factory of Resana (Treviso - Italy) and products are distributed worldwide thanks to a wide and highly qualified network of partners.

In 50 years spent on the field, Ecoflam has been capable to build loyal partnerships and today can count on reliable partners in more than 100 Countries. They distribute Ecoflam products in their Countries of competence, they have good knowledge of the products, and can carry out commissioning and service by keeping constantly in touch with the headquarter.

Thanks to this international network Ecoflam is also able to offer original spare parts in order to guarantee reliability and safe continued operation of the end user installation.



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P.O. box 30048
1303 AA Almere
Tel. +31 088 69 573 11
Fax +31 088 69 573 90

WORLDWIDE REFERENCES



Mexico City (Mexico)

156x MAX GAS 40



Rēzekne (Latvia)

3x MULTICALOR TS 600.1 PR



Volgograd (Russia)

1x BLU 2000.1 PR, 2x 6000.1 PR 1x BLU 2000.1 PRE, 1x 6000.1 PRE



Baku (Azerbaijan)

2x MULTICALOR 800.1 PR



Köln (Germany)

1x BLU 1500.1 LN



Arklow (Ireland)

1x MULTICALOR 800.1 PRE

WORLDWIDE REFERENCES



Irapuato (Mexico)

1x MAIOR P 150.1



Beijing (China)

5x BLU 6000 FGR 1x BLU 2000 FGR





Beijing (China)

2x BLU 5000 FGR 2x BLU 4000 FGR 1x BLU 2000 FGR





Moscow (Russia)

4x MULTICALOR 600.1



Beijing (China)

2x BLU 6000 FGR





Beijing (China)

2x BLU 4000 FGR



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Version 1.3 - 03/03/2023

ECOFLAM Bruciatori S.p.Á. reserve the right to make any adjustments, without prior notice, which is considered necessary or useful to its products, without affecting their main features.