

# Ecoflam

LIGHT OIL RANGE

## MAIOR



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[www.ecoflam.co.uk](http://www.ecoflam.co.uk)

## CUSTOMIZED BURNERS SOLUTIONS FOR ANY TYPE OF APPLICATION



### OUR EXPERIENCE

Thanks to almost 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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



#### BLU

Gas range  
245 - 17000 kW



#### MAX

Light oil range  
18 - 546 kW



#### MAIOR

Light oil range  
300 - 17000 kW



#### MAXFLAM/OILFLAM

Heavy oil range  
68 - 17000 kW



## 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.

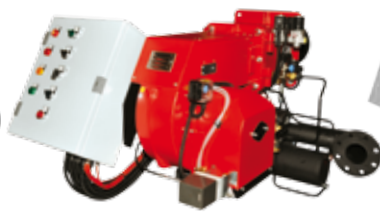
## OUR INTERNATIONAL APPROACH

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



### MULTIFLAM

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



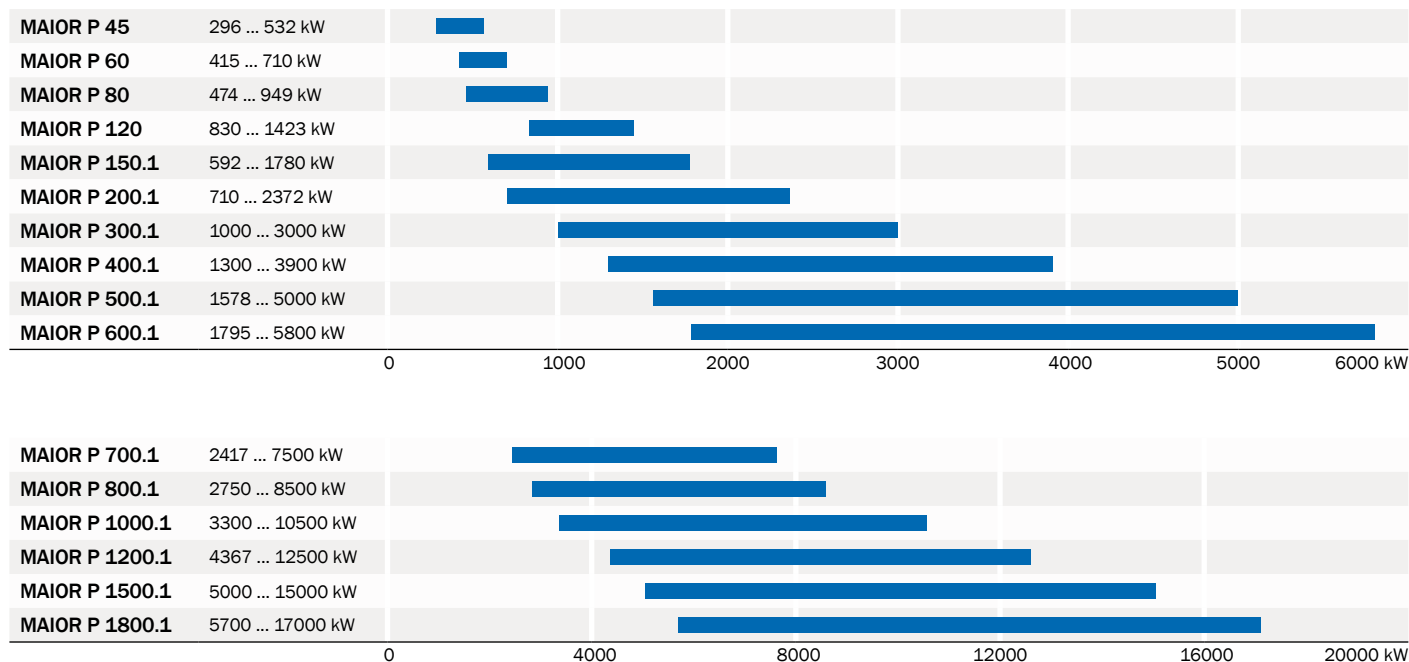
### TS RANGE

All fuels  
230 - 34000 kW



### SPECIAL VERSIONS

## RANGE OVERVIEW



## MAIN FEATURES

- 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 fully electronic Burner Management System available for all models
- 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



# CONFIGURATIONS

MAIOR range is available in the following operation modes:

|                   |                                              |                                    |
|-------------------|----------------------------------------------|------------------------------------|
| MAIOR P ... AB    | Two stages                                   | MAIOR P 60 AB ... P 400.1 AB       |
| MAIOR P ... AB HS | Two stages with hydraulic jack               | MAIOR P 60 AB HS ... P 400.1 AB HS |
| MAIOR P ... PR    | Two stages progressive/modulating mechanical | MAIOR P 45 PR ... P 1800.1 PR      |
| MAIOR P ... PRE   | Two stages progressive/modulating electronic | MAIOR P 45 PRE ... P 1800.1 PRE    |

Other available configurations:

- 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

## 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

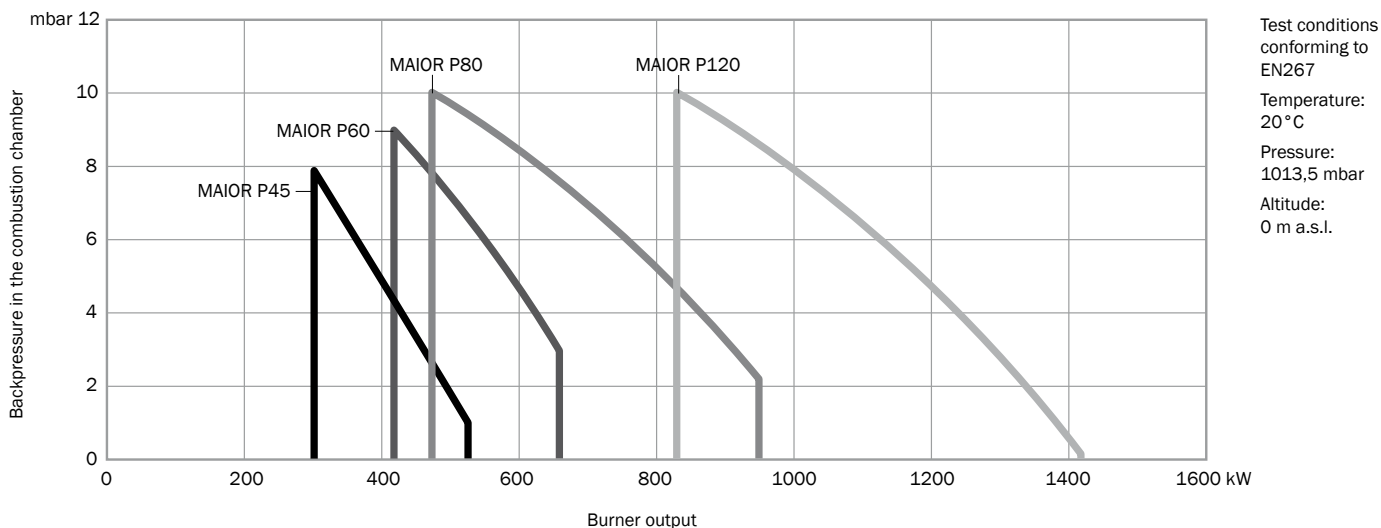
## CONFORM TO

- 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



- Fuel: light oil (viscosity from 1,6 cSt to 6 cSt at 20 °C)
- Operation: two stages, two stages with hydraulic jack, two stage progressive or modulating with the installation of a power regulator and dedicated probes (see page 102)
- Emission class: class 1 ( $\leq 250$  mg/kWh) according to EN267

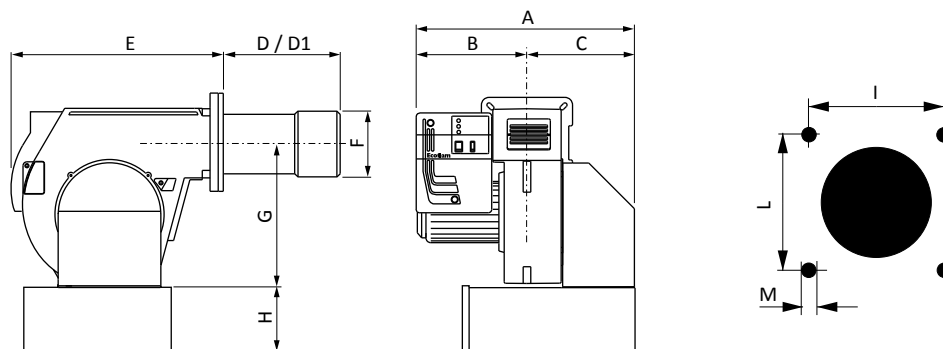
## WORKING DIAGRAM



## TECHNICAL DATA

|             | Burner output (kW) | Flow rate (kg/h) | Power supply    | Motor (kW) | NOx class | Operation          |
|-------------|--------------------|------------------|-----------------|------------|-----------|--------------------|
| MAIOR P 45  | 296 - 532          | 25 - 45          | 3/230-400V/50Hz | 0,55       | Class 1   | PR, PRE            |
| MAIOR P 60  | 415 - 710          | 35 - 60          | 3/230-400V/50Hz | 1,1        | Class 1   | AB, AB HS, PR, PRE |
| MAIOR P 80  | 474 - 949          | 40 - 80          | 3/230-400V/50Hz | 1,1        | Class 1   | AB, AB HS, PR, PRE |
| MAIOR P 120 | 830 - 1423         | 70 - 120         | 3/230-400V/50Hz | 2,2        | Class 1   | AB, AB HS, PR, PRE |

## OVERALL DIMENSIONS

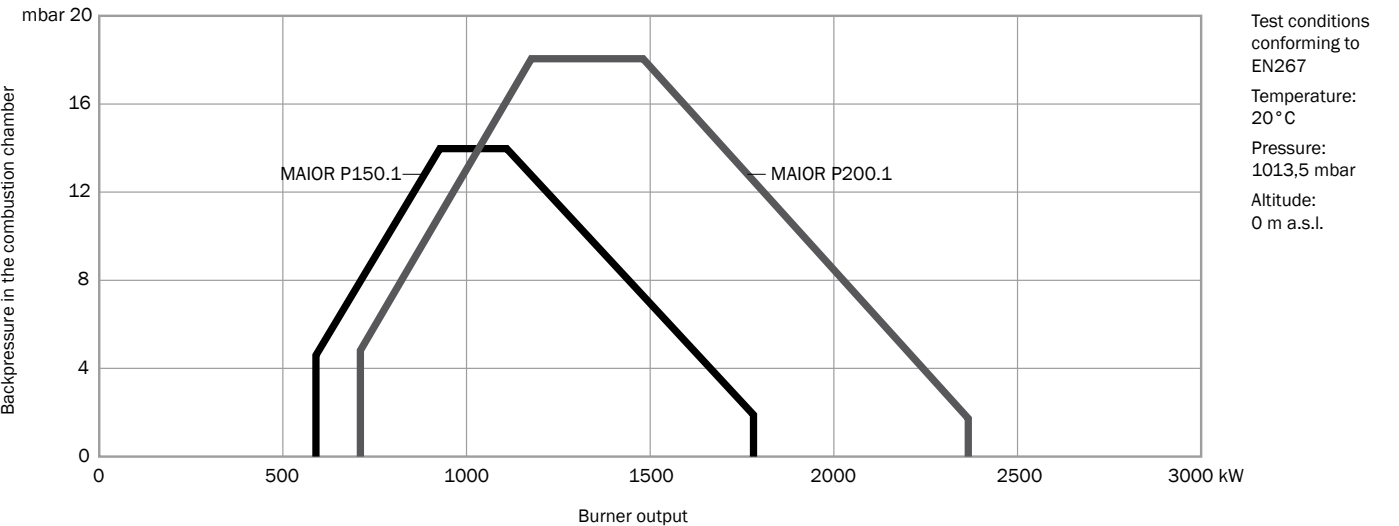


Dimensions in mm  
 Head length: D short / D1 long  
 \*: with silencer (optional)

|             | A   | B   | C   | D   | D1  | E   | F   | G   | H*  | I   | L   | M   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAIOR P 45  | 590 | 330 | 260 | 200 | 390 | 555 | 160 | 390 | 225 | 190 | 190 | M10 |
| MAIOR P 60  | 590 | 330 | 260 | 235 | 395 | 555 | 180 | 390 | 225 | 190 | 190 | M10 |
| MAIOR P 80  | 590 | 330 | 260 | 235 | 395 | 555 | 180 | 390 | 225 | 190 | 190 | M10 |
| MAIOR P 120 | 690 | 350 | 340 | 225 | 445 | 555 | 190 | 390 | 225 | 190 | 190 | M10 |

- Fuel: light oil (viscosity from 1,6 cSt to 6 cSt at 20 °C)
- Operation: two stages, two stages with hydraulic jack, two stage progressive or modulating with the installation of a power regulator and dedicated probes (see page 102)
- Emission class: class 1 (≤250 mg/kWh) according to EN267

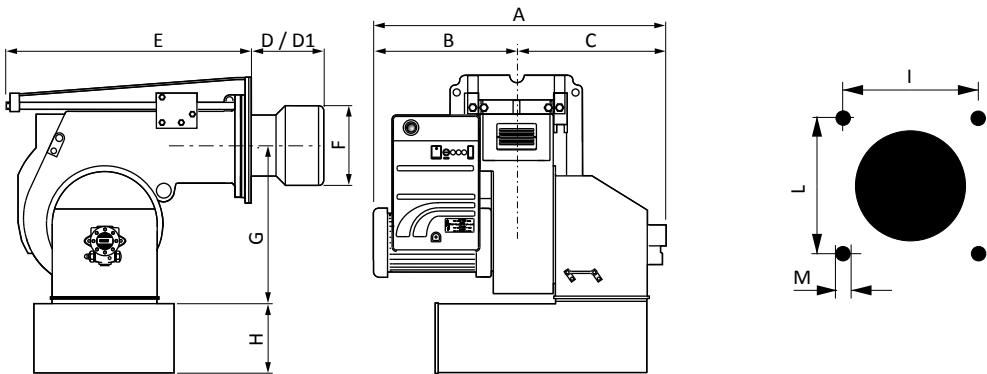
WORKING DIAGRAM



TECHNICAL DATA

|               | Burner output (kW) | Flow rate (kg/h) | Power supply    | Motor (kW) | NOx class | Operation          |
|---------------|--------------------|------------------|-----------------|------------|-----------|--------------------|
| MAIOR P 150.1 | 592 - 1780         | 50 - 150         | 3/230-400V/50Hz | 3          | Class 1   | AB, AB HS, PR, PRE |
| MAIOR P 200.1 | 710 - 2372         | 60 - 200         | 3/230-400V/50Hz | 4          | Class 1   | AB, AB HS, PR, PRE |

OVERALL DIMENSIONS



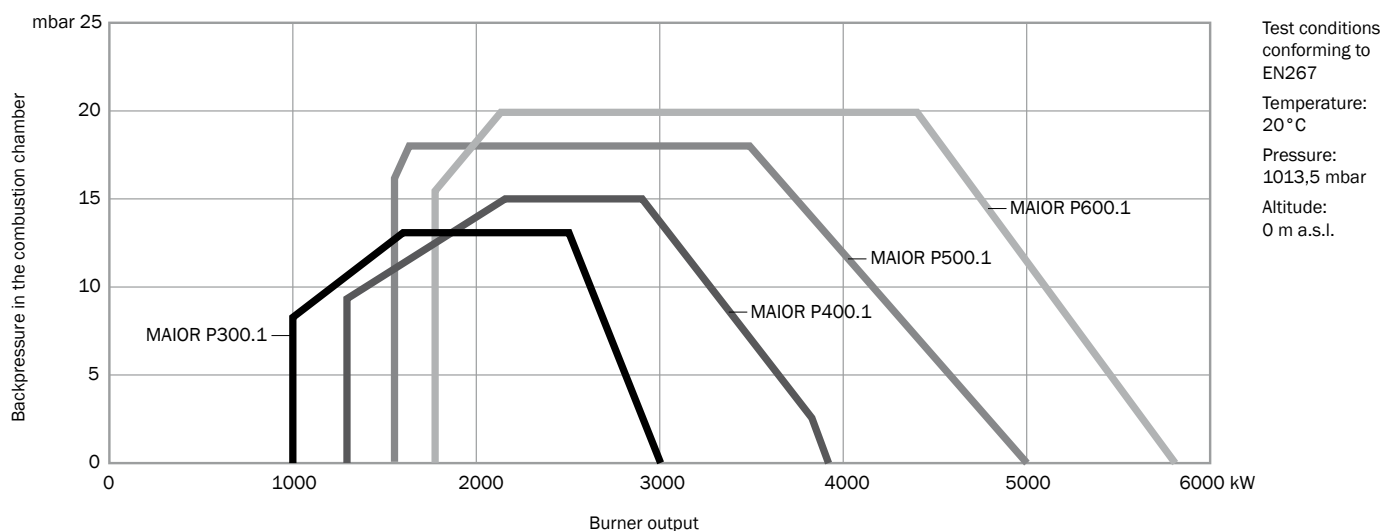
Dimensions in mm  
Head lenght: D short / D1 long  
\*: with silencer (optional)

|               | A   | B   | C   | D   | D1  | E   | F   | G   | H*  | I   | L   | M   |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAIOR P 150.1 | 775 | 385 | 390 | 285 | 485 | 660 | 250 | 398 | 283 | 240 | 240 | M14 |
| MAIOR P 200.1 | 795 | 405 | 390 | 285 | 485 | 660 | 270 | 398 | 283 | 240 | 240 | M14 |

Range | Models  
**MAIOR | P 300.1 - P 400.1 - P 500.1 - P 600.1**

- Fuel: light oil (viscosity from 1,6 cSt to 6 cSt at 20 °C)
- Operation: two stages, two stages with hydraulic jack, two stage progressive or modulating with the installation of a power regulator and dedicated probes (see page 102)
- Emission class: class 1 ( $\leq 250$  mg/kWh) according to EN267

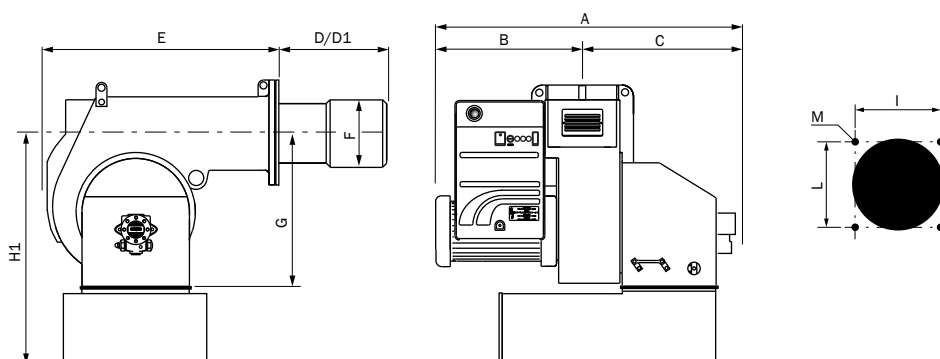
## WORKING DIAGRAM



## TECHNICAL DATA

|               | Burner output (kW) | Flow rate (kg/h) | Power supply | Motor (kW) | NOx class | Operation   |
|---------------|--------------------|------------------|--------------|------------|-----------|-------------|
| MAIOR P 300.1 | 1000 - 3000        | 85 - 250         | 3/400V/50Hz  | 7,5        | Class 1   | AB, PR, PRE |
| MAIOR P 400.1 | 1300 - 3900        | 110 - 330        | 3/400V/50Hz  | 9          | Class 1   | AB, PR, PRE |
| MAIOR P 500.1 | 1578 - 5000        | 134 - 422        | 3/400V/50Hz  | 11         | Class 1   | PR, PRE     |
| MAIOR P 600.1 | 1795 - 5800        | 153 - 490        | 3/400V/50Hz  | 15         | Class 1   | PR, PRE     |

## OVERALL DIMENSIONS

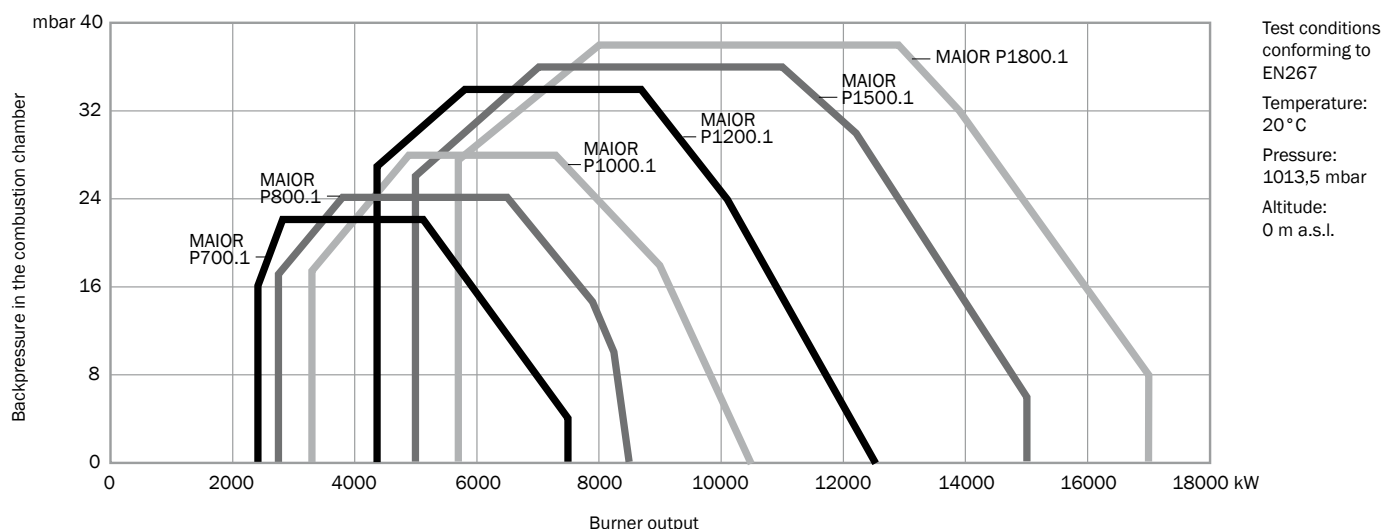


Dimensions in mm  
 Head lenght: **D** short / **D1** long  
 \*: with silencer (optional)

|               | A    | B   | C   | D   | D1  | E   | F   | G   | H1* | I   | L   | M   |
|---------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAIOR P 300.1 | 1055 | 502 | 553 | 330 | 530 | 810 | 290 | 471 | 746 | 315 | 315 | M16 |
| MAIOR P 400.1 | 1100 | 547 | 553 | 345 | 545 | 810 | 320 | 471 | 746 | 315 | 315 | M16 |
| MAIOR P 500.1 | 1180 | 535 | 645 | 355 | 555 | 970 | 320 | 570 | 965 | 330 | 330 | M16 |
| MAIOR P 600.1 | 1190 | 545 | 645 | 355 | 555 | 970 | 320 | 570 | 965 | 330 | 330 | M16 |

- Fuel: light oil (viscosity from 1,6 cSt to 6 cSt at 20°C)
- Operation: two stage progressive or modulating with the installation of a power regulator and dedicated probes (see page 102)
- Emission class: class 1 ( $\leq 250$  mg/kWh) according to EN267

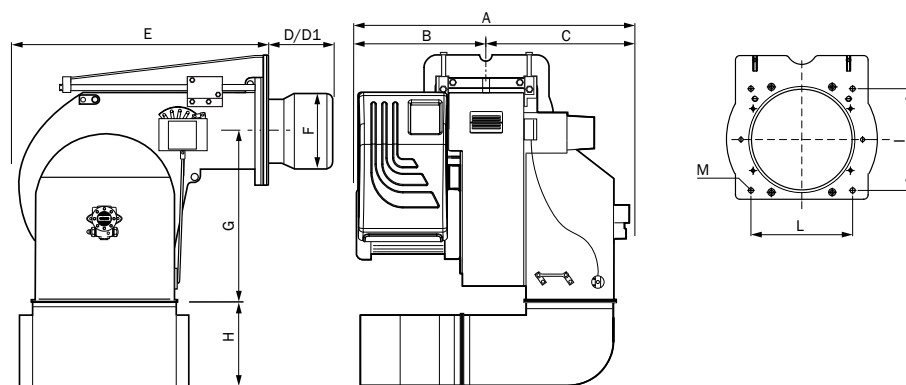
## WORKING DIAGRAM



## TECHNICAL DATA

|                | Burner output (kW) | Flow rate (kg/h) | Power supply | Motor (kW) | NOx class | Operation |
|----------------|--------------------|------------------|--------------|------------|-----------|-----------|
| MAIOR P 700.1  | 2417 - 7500        | 205 - 634        | 3/400V/50Hz  | 15         | Class 1   | PR, PRE   |
| MAIOR P 800.1  | 2750 - 8500        | 234 - 718        | 3/400V/50Hz  | 18,5       | Class 1   | PR, PRE   |
| MAIOR P 1000.1 | 3300 - 10500       | 281 - 887        | 3/400V/50Hz  | 22         | Class 1   | PR, PRE   |
| MAIOR P 1200.1 | 4367 - 12500       | 371 - 1056       | 3/400V/50Hz  | 37         | Class 1   | PR, PRE   |
| MAIOR P 1500.1 | 5000 - 15000       | 422 - 1268       | 3/400V/50Hz  | 45         | Class 1   | PR, PRE   |
| MAIOR P 1800.1 | 5700 - 17000       | 482 - 1437       | 3/400V/50Hz  | 55         | Class 1   | PR, PRE   |

## OVERALL DIMENSIONS



Dimensions in mm  
 Head lenght: **D** short / **D1** long  
 \*: with silencer (optional)

|                | A    | B   | C   | D   | D1 | E    | F   | G    | H*  | I   | L   | M   |
|----------------|------|-----|-----|-----|----|------|-----|------|-----|-----|-----|-----|
| MAIOR P 700.1  | 1340 | 585 | 755 | 457 | -  | 1247 | 385 | 800  | 500 | 460 | 460 | M20 |
| MAIOR P 800.1  | 1410 | 655 | 755 | 557 | -  | 1247 | 465 | 800  | 500 | 460 | 460 | M20 |
| MAIOR P 1000.1 | 1440 | 685 | 755 | 557 | -  | 1247 | 465 | 800  | 500 | 460 | 460 | M20 |
| MAIOR P 1200.1 | 1550 | 795 | 755 | 557 | -  | 1247 | 465 | 800  | 500 | 460 | 460 | M20 |
| MAIOR P 1500.1 | 1670 | 800 | 870 | 590 | -  | 1750 | 550 | 1100 | 500 | 620 | 620 | M20 |
| MAIOR P 1800.1 | 1670 | 800 | 870 | 590 | -  | 1750 | 550 | 1100 | 500 | 620 | 620 | M20 |

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