

OIL BURNER

# Ecoflam



**MAIOR P 300.1 AB**

**MAIOR P 400.1 AB**

**DRYER**

HYDRAULIC SYSTEM

Three stage



420010374602

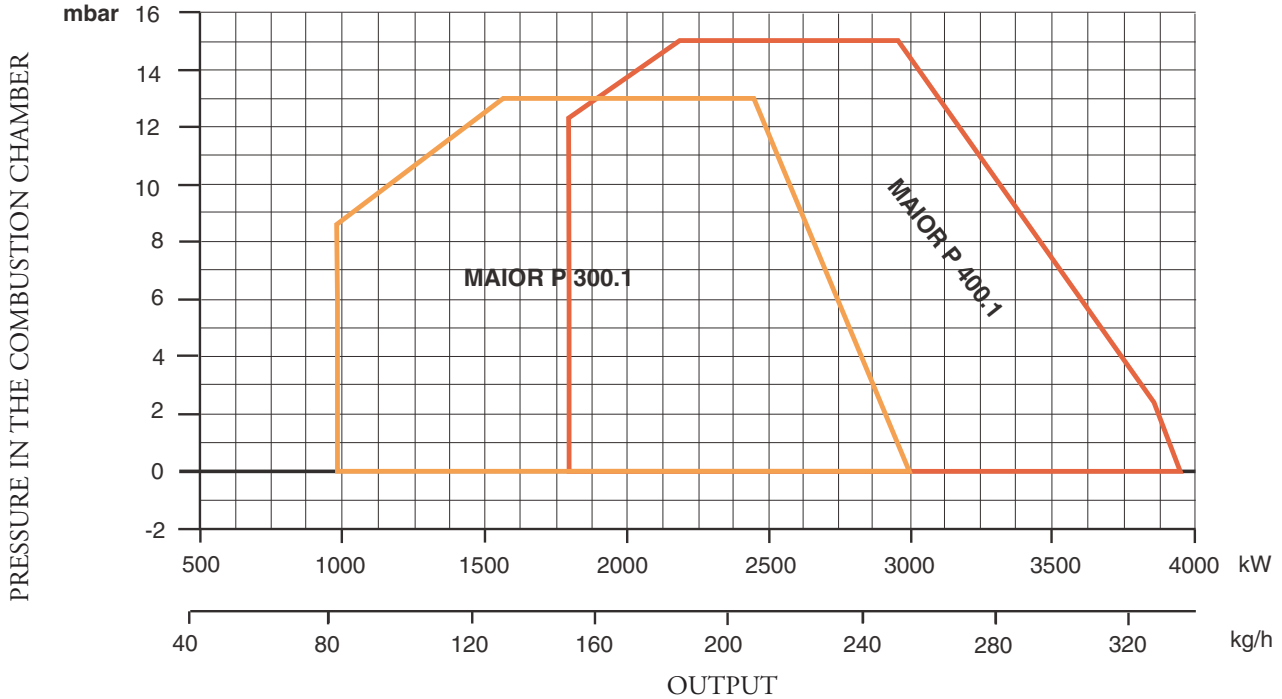
420010374602

26.11.2012

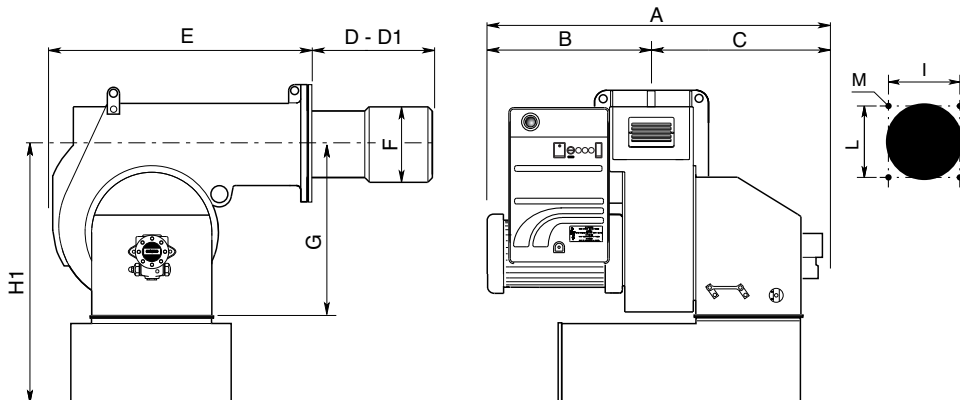
**TECHNICAL DATA**

| MODELS                   |         | MAIOR P 300.1 AB              | MAIOR P 400.1 AB |
|--------------------------|---------|-------------------------------|------------------|
| Thermal power max.       | kcal/h  | 2.586.000                     | 3.362.000        |
|                          | kW      | 3.000                         | 3.900            |
| Thermal power min.       | kcal/h  | 867.300                       | 1.127.500        |
|                          | kW      | 1.000                         | 1.300            |
| Max. flow rate light oil | kg/h    | 250                           | 350              |
| Min. flow rate light oil | kg/h    | 85                            | 110              |
| Feeding power            | 50 Hz V | 230/400                       | 230/400          |
| Motor                    | kW      | 7,5                           | 9                |
| Rpm                      | Nº      | 2.800                         | 2.800            |
| Ignition transformer     | kV/mA   | 13/35                         | 13/35            |
| Control box              | LANDIS  | LMO 44                        | LMO 44           |
| Fuel : light oil         | kcal/kg | 10.200 max. visc 1,5°E a 20°C |                  |

**WORKING FIELDS**



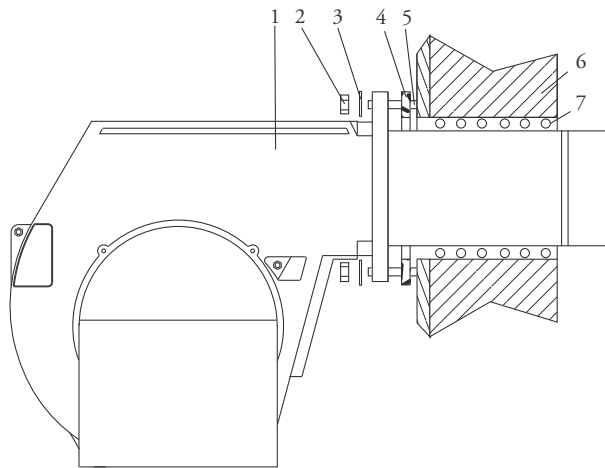
**OVERALL DIMENSIONS**



| MODELS           | A    | B   | C   | D   | D1  | E   | F   | G   | H1  | I   | L   | M   |
|------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Maior P 300.1 AB | 1055 | 502 | 553 | 330 | 530 | 810 | 290 | 471 | 746 | 315 | 315 | M16 |
| Maior P 400.1 AB | 1100 | 547 | 553 | 345 | 545 | 810 | 320 | 471 | 746 | 315 | 315 | M16 |

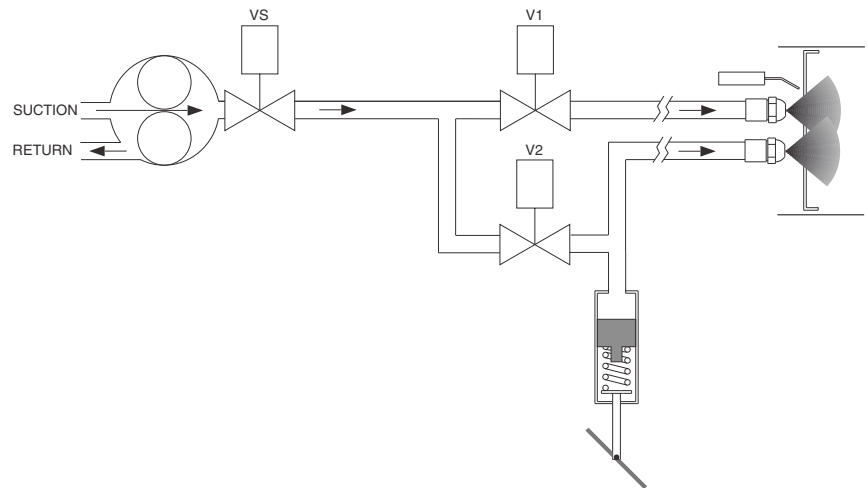
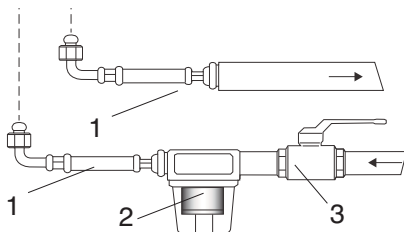
D = short head D1 = long head

## BURNER INSTALLATION



- 1 - BURNER
- 2 - NUT
- 3 - WASHER
- 4 - GASKET
- 5 - BOLT
- 6 - BOILER
- 7 - GASKET

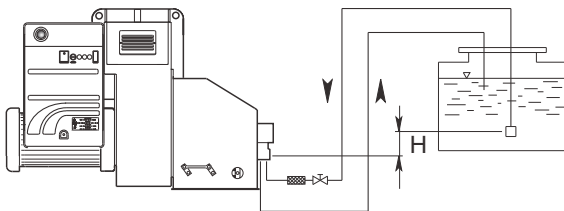
## HYDRAULIC CIRCUIT



- 1 - HOSE
- 2 - OIL FILTER
- 3 - OIL COCK
- 4 - SUCTION
- 5 - RETURN

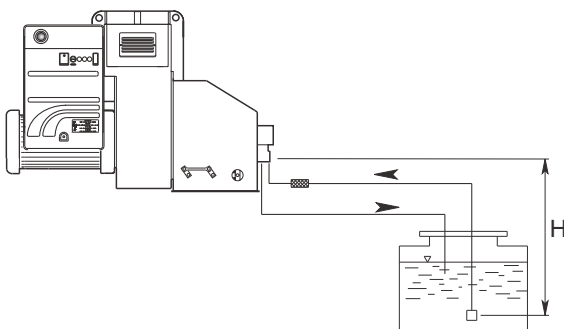
## MAXIMUM LENGTH OF SUCTION LINES FOR TWO-PIPE SYSTEM

Two-pipe siphon feed system



| H (m) | Pipe length |         | TA2C (m) |
|-------|-------------|---------|----------|
|       | J 7 (m)     |         |          |
|       | ø 14 mm     | ø 16 mm |          |
| 0     | 16          | 29      |          |
| 0,5   | 18          | 33      |          |
| 1     | 20          | 37      |          |
| 2     | 25          | 44      |          |
| 3     | 29          | 52      |          |
| 3,5   | 31          | 55      |          |

Two-pipe lift system



| H (m) | Pipe length |         | TA2C (m) |
|-------|-------------|---------|----------|
|       | J 7 (m)     |         |          |
|       | ø 14 mm     | ø 16 mm |          |
| 0     | 16          | 29      |          |
| 0,5   | 14          | 26      |          |
| 1     | 12          | 22      |          |
| 2     | 7           | 14      |          |
| 3     | 3           | 7       |          |
| 3,5   | 1           | 4       |          |

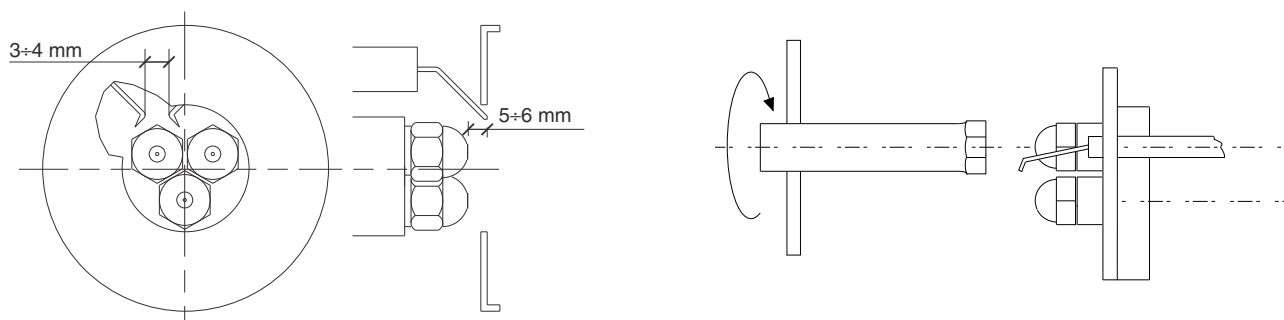
To correct length of pipes is calculated by summing up the length of all vertical and horizontal right sections and bends. The static suction head will be the distance between the non-return valve and the burner's pump axle. The depression must not be greater than 0.45 bar; should it be higher, some damages could occur to the pump, with consequent increase in mechanical noises and, eventually, a failure.

## NOZZLE FLOW RATE

### DELAVAN B - MONARCH PLP

| NOZZLE<br>GPH | PUMP PRESSURE (bar) |        |        |        |        |        |        |
|---------------|---------------------|--------|--------|--------|--------|--------|--------|
|               | 10                  | 11     | 12     | 13     | 14     | 15     | 16     |
| 2,50          | 9,50                | 9,97   | 10,41  | 10,83  | 11,24  | 11,64  | 12,02  |
| 3,00          | 11,40               | 11,96  | 12,49  | 13,00  | 13,49  | 13,96  | 14,42  |
| 3,50          | 13,30               | 13,95  | 14,57  | 15,17  | 15,74  | 16,29  | 16,83  |
| 4,00          | 15,20               | 15,94  | 16,65  | 17,33  | 17,99  | 18,62  | 19,23  |
| 4,50          | 17,10               | 17,94  | 18,73  | 19,50  | 20,24  | 20,95  | 21,63  |
| 5,00          | 19,00               | 19,93  | 20,82  | 21,67  | 22,48  | 23,27  | 24,04  |
| 5,50          | 20,90               | 21,92  | 22,90  | 23,83  | 24,73  | 25,60  | 26,44  |
| 6,00          | 22,80               | 23,92  | 24,98  | 26,00  | 26,98  | 27,93  | 28,84  |
| 6,50          | 23,70               | 25,91  | 27,06  | 28,17  | 29,23  | 30,26  | 31,25  |
| 7,00          | 26,60               | 27,90  | 29,14  | 30,33  | 31,48  | 32,58  | 33,65  |
| 7,50          | 28,50               | 29,90  | 31,22  | 32,50  | 33,73  | 34,91  | 36,05  |
| 8,30          | 31,54               | 33,08  | 34,55  | 35,97  | 37,32  | 38,63  | 39,90  |
| 9,50          | 36,10               | 37,87  | 39,55  | 41,17  | 42,72  | 44,22  | 45,67  |
| 10,50         | 40,06               | 41,73  | 43,74  | 45,41  | 47,20  | 48,90  | 50,50  |
| 12,00         | 45,60               | 47,80  | 50,00  | 52,00  | 54,00  | 55,90  | 57,70  |
| 13,80         | 52,40               | 55,00  | 57,50  | 59,80  | 62,10  | 64,20  | 66,30  |
| 15,30         | 58,10               | 61,00  | 63,70  | 66,30  | 68,80  | 71,10  | 73,60  |
| 17,50         | 66,50               | 69,80  | 72,90  | 75,80  | 78,70  | 81,50  | 84,10  |
| 19,50         | 74,10               | 77,70  | 81,20  | 84,50  | 87,70  | 90,80  | 93,70  |
| 21,50         | 81,70               | 85,70  | 89,50  | 93,20  | 96,70  | 100,10 | 103,40 |
| 24,00         | 91,20               | 95,70  | 99,90  | 104,00 | 107,90 | 111,70 | 115,40 |
| 28,00         | 106,40              | 111,60 | 116,60 | 121,30 | 125,90 | 130,30 | 134,60 |
| 30,00         | 114,00              | 119,60 | 124,90 | 130,00 | 134,90 | 139,60 | 144,20 |
| GPH           | OUTPUT kg/h         |        |        |        |        |        |        |

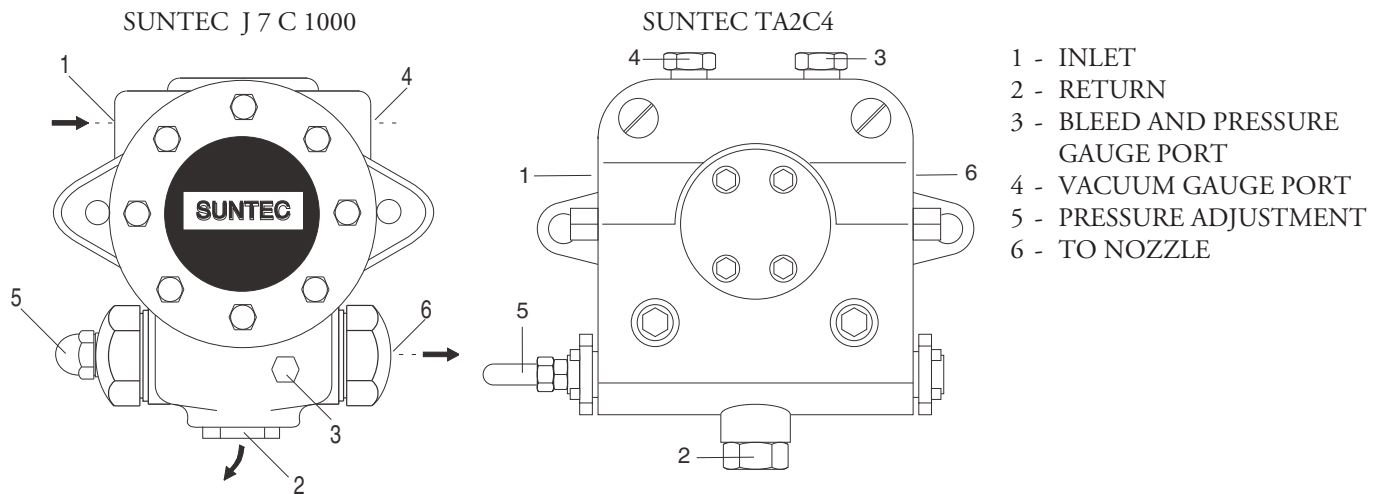
### NOZZLE CLEANING AND REPLACEMENT



Use only the suitable box wrench provided for this operation to remove the nozzle, taking care to not damage the electrodes. Fit the new nozzle with the same care.

Note: Always check the position of electrodes after having replaced the nozzle (see illustration). A wrong position could cause ignition troubles.

## PRIMING AND ADJUSTMENT OF OIL PUMP



### VERIFY:

- That piping system is perfectly sealed;
- That the use of hoses is avoided whenever is possible (use copper pipes preferably);
- That depression is not greater than 0,45 bar, to avoid pump's cavitation;
- That check valve is suitably designed for the duty;

The pump pressure is set at a value of 12 bar (13 bar *Maior P 300.1*) during the testing of burners. Before starting the burner, bleed the air in the pump through the gauge port. Fill the piping with light-oil to facilitate the pump priming. Start the burner and check the pump feeding pressure. In case the pump priming does not take place during the first prepurging, with a consequent, subsequent lock-out of the burner, rearm the burner's lock-out to restart, by pushing the button on the control box. If, after a successful pump priming, the burner locks-out after the prepurging, due to a fuel pressure drop in the pump, rearm the burner's lock-out to restart the burner. Do never allow the pump working without oil for more than three minutes. Note: before starting the burner, check that the return pipe is open. An eventual obstruction could damage the pump sealing device.

### START-UP AND ADJUSTMENT

Once having installed the burner, check the following items:

- The burner power feeding and the main line protection fuses
- The correct length of pipes and that the same are sealed.
- The type of fuel, which must be suitable for burner.
- The connection of boiler's thermostats and all the safeties.
- The motor rotation direction.
- The correct calibration of the motor's thermal protection.

When all the above mentioned conditions are checked and accomplished, it is possible to go on with burner's tests. Power the burner. The control box feeds the ignition transformer and the burner's motor at the same time, which will run a prepurging of the combustion chamber for about 20 sec.

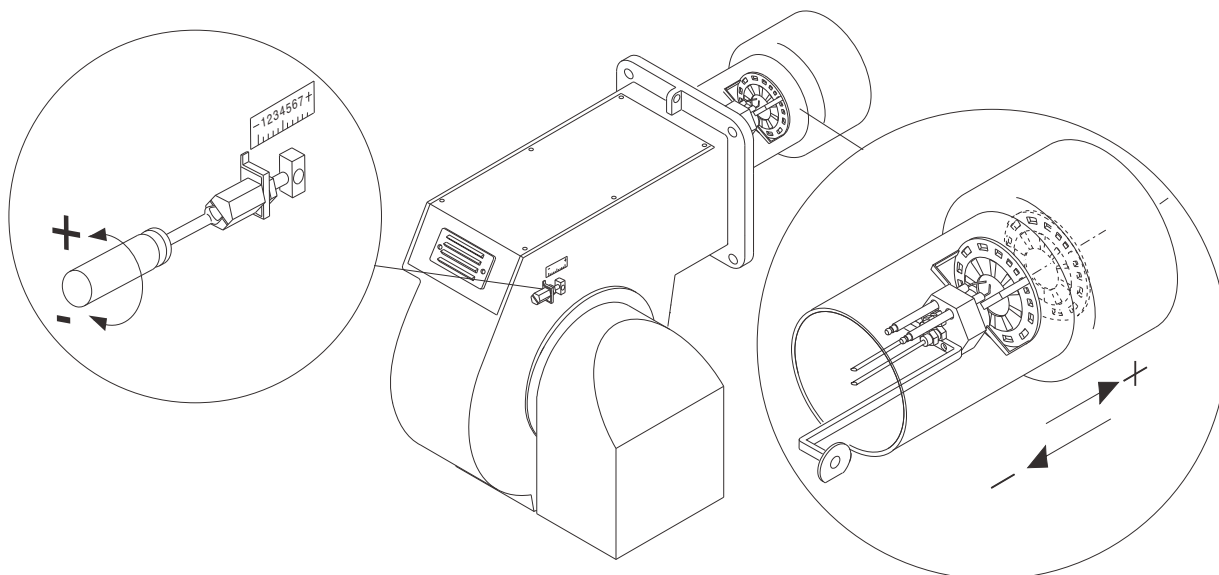
At the end of prepurging, the control box opens the fuel pump and the 1st stage (Low flame) solenoid valves, the ignition transformer produces a spark and the burner ignites. After a safety interval of 5 seconds and a correct ignition, the control box turns off the ignition transformer and, 10 seconds later, sets the motorised air damper to its maximum opening and opens the 2nd stage solenoid valve and 3rd stage solenoid valve (High flame). In case of faulty ignition, the control box switches the burner into safety condition. In such a case, the manual rearming of the burner shall not take place before 30 seconds have elapsed from the burner's safety shutdown. In order to obtain an optimal combustion, it is necessary adjust the LOW - HIGH flame air flow, according to the instruction given further on. During such a phase, it will be possible to manually switch between HIGH ( II ) and LOW ( I ) flame and viceversa, through the High/Low flame switch. At the end of the adjusting phase, leave the switch in position II (HIGH flame).

The fuel pump feeding pressure, must remain around 12 bar.

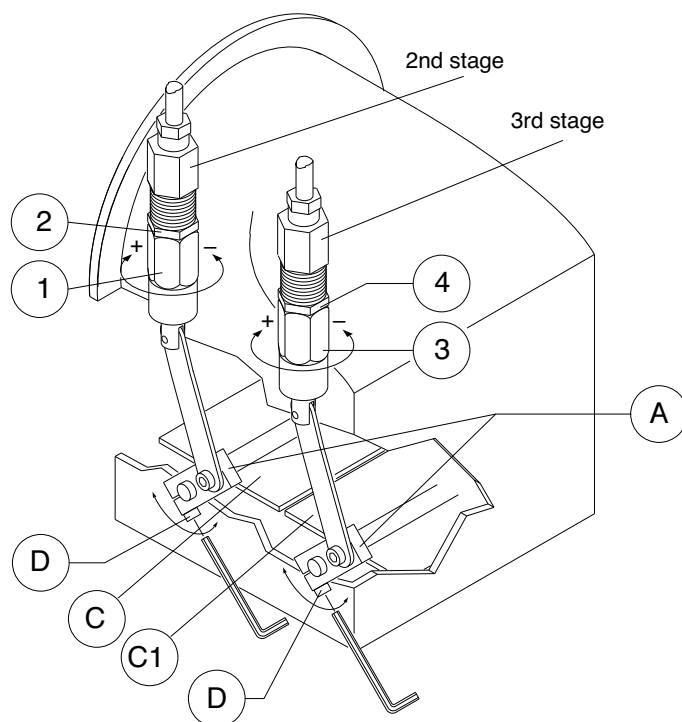
**LANDIS LMO 44 CONTROL INFORMATION SYSTEM**

In case of burner lockout, it is possible to read which cause originated it. Proceed as follows: with the burner in lockout mode (red LED switched on) keep pressed the lockout button for more than 3 sec. then release it. The red LED will blink according to the following error code list:

| Error Code | Possible cause                                                                                                                                                                      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 blinks   | No establishment of flame at the end of «TSA»<br>- Faulty or soiled fuel valves - Faulty or soiled flame detector - Poor adjustment of burner, no fuel - Faulty ignition            |
| 3 blinks   | Free                                                                                                                                                                                |
| 4 blinks   | Extraneous light on burner start-up                                                                                                                                                 |
| 5 blinks   | Free                                                                                                                                                                                |
| 6 blinks   | Free                                                                                                                                                                                |
| 7 blinks   | Too many losses of flame during operation (limitation of the number of repetitions)<br>- Faulty or soiled fuel valves - Faulty or soiled flame detector - Poor adjustment of burner |
| 8 blinks   | Time supervision oil pre-heater                                                                                                                                                     |
| 9 blinks   | Free                                                                                                                                                                                |
| 10 blinks  | Wiring error or internal error, output contacts                                                                                                                                     |

**FIRING HEAD SETTING**

## COMBUSTION AIR FLOW ADJUSTMENT (HIGH-LOW FLAME)



### *Air flow adjustment in Low Flame (1st Stage):*

- 1 – Open thermostats TAB1 and TAB2 (see wiring diagram).
- 2 – Start the burner (while checking that air damper is partially open).
- 3 – Loosen locking screw D.
- 4 – Manually turn the air dampers until to obtain a correct combustion.
- 5 – Tighten locking screw D.

### *Air flow adjustment in High Flame (2nd Stage):*

**WARNING:** When the burner is working in High Flame, the presence of oil under pressure in the hydraulic jack could make difficult the turning of the adjusting screw 1. As a consequence, the adjustment of fuel flow rate shall be made through said screw with the burner in Low Flame, whilst the combustion control shall be carried out once switched to High Flame.

- 1 – Open thermostats TAB1 and TAB2 (see wiring diagram).
- 2 – Loosen locking ring nut 2.
- 3 – Increase or decrease fuel flow rate through the adjusting screw 1 (turn clockwise to increase and counterclockwise to decrease).
- 4 – Tighten ring nut 2.
- 5 – Manually switch to High Flame by closing thermostat TAB1 and check combustion values.

### *Air flow adjustment in 3rd Flame (3rd Stage):*

**WARNING:** When the burner is working in 3rd Flame, the presence of oil under pressure in the hydraulic jack could make difficult the turning of the adjusting screw 3. As a consequence, the adjustment of fuel flow rate shall be made through said screw with the burner in Low Flame, whilst the combustion control shall be carried out once switched to 3rd Flame.

- 1 – Open thermostats TAB1 and TAB2 (see wiring diagram).
- 2 – Loosen locking ring nut 4.
- 3 – Increase or decrease fuel flow rate through the adjusting screw 4 (turn clockwise to increase and counterclockwise to decrease).
- 4 – Tighten ring nut 4.
- 5 – Manually switch to 3rd Flame by closing thermostats TAB1 and TAB2 and check combustion values.

## ELECTRICAL CONNECTIONS

All burners are factory tested at 400V - 50Hz 3-phase for motors, and 230V - 50Hz single phase with neutral for auxiliary equipments. Should it be necessary to power the burner with 230V - 50Hz, modify the connections on motor and the terminal board as shown in the picture. Protect the burner supply line with suitable fuses and/or other safety devices as required by the local regulations on the matter.

## TROUBLESHOOTING

### **The burner does not start.**

- Main switch in "0".
- Fuses are blown.
- Boiler thermostats are in open position.
- Control box is defective.

### **The burner runs the prepurging but does not ignite and then switches into safety condition.**

- Control box is defective.
- Ignition transformer is defective.
- Electrodes are dirty.
- Electrodes are defective.
- Electrodes are in wrong position.
- Nozzles are clogged.
- Nozzles are too worn.
- Filters are clogged.
- Oil pressure too low.
- Combustion air flow rate excessively high related to nozzle's flow rate.

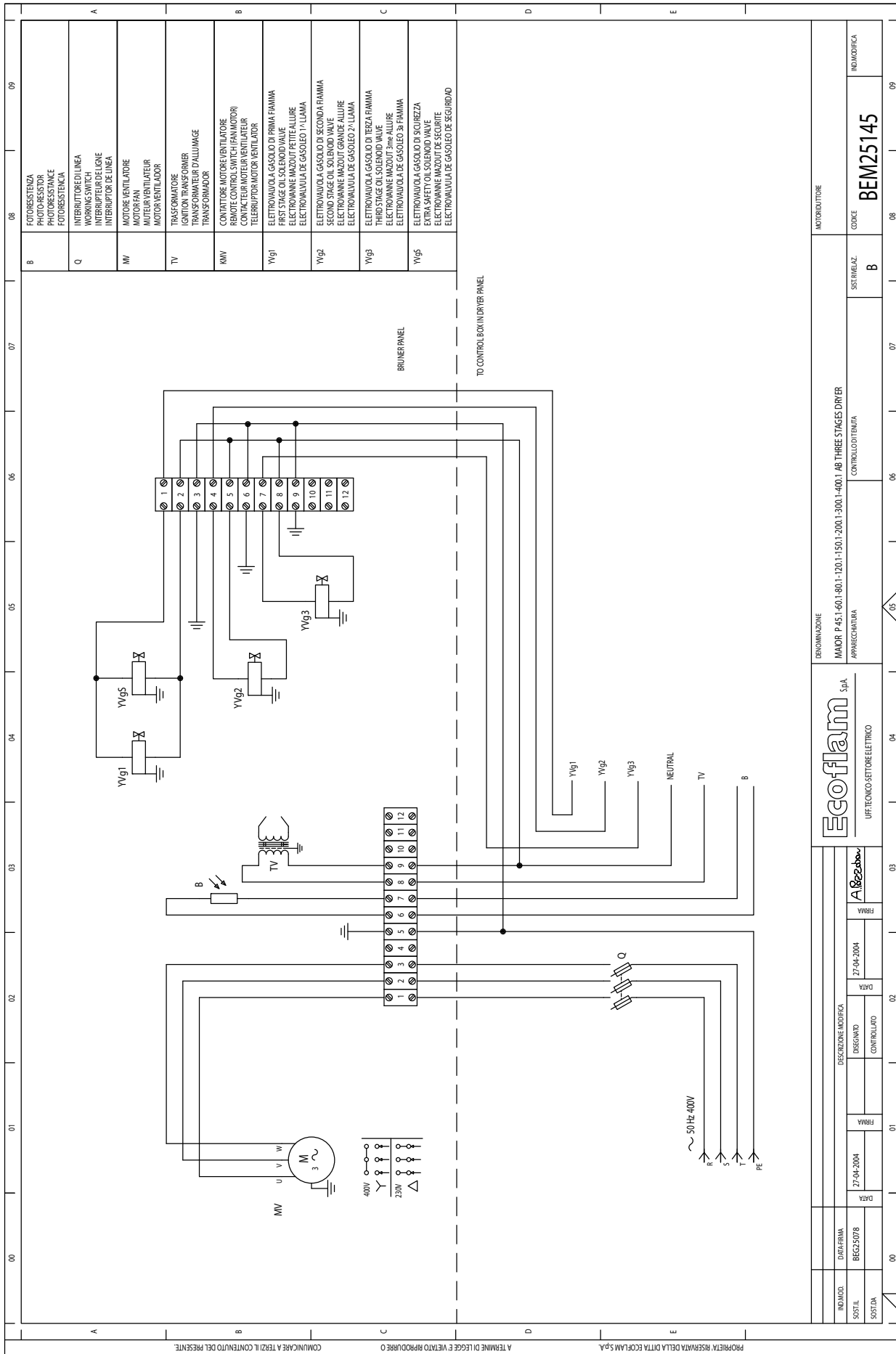
### **The burner ignites but then switches into safety condition.**

- Control box is defective.
- Nozzles are clogged.
- Nozzles are too worn.
- The photocell does not detect the flame.
- Filters are clogged.
- Oil pressure too low.
- Combustion air flow rate excessively high related to nozzle's flow rate.

### **The burner does not switch to High flame.**

- 1st(Low flame) and 2nd (High flame) stage manual switch on control board is in wrong position.
- Control box is defective.
- 2nd (3rd) stage solenoid valve coil is defective.
- Oil pressure too low.
- Filters are clogged.
- 2nd (3rd) stage nozzle is too worn.
- 2nd (3rd) stage nozzle is clogged.
- Air damper's hydraulic jack not properly adjusted or defective.



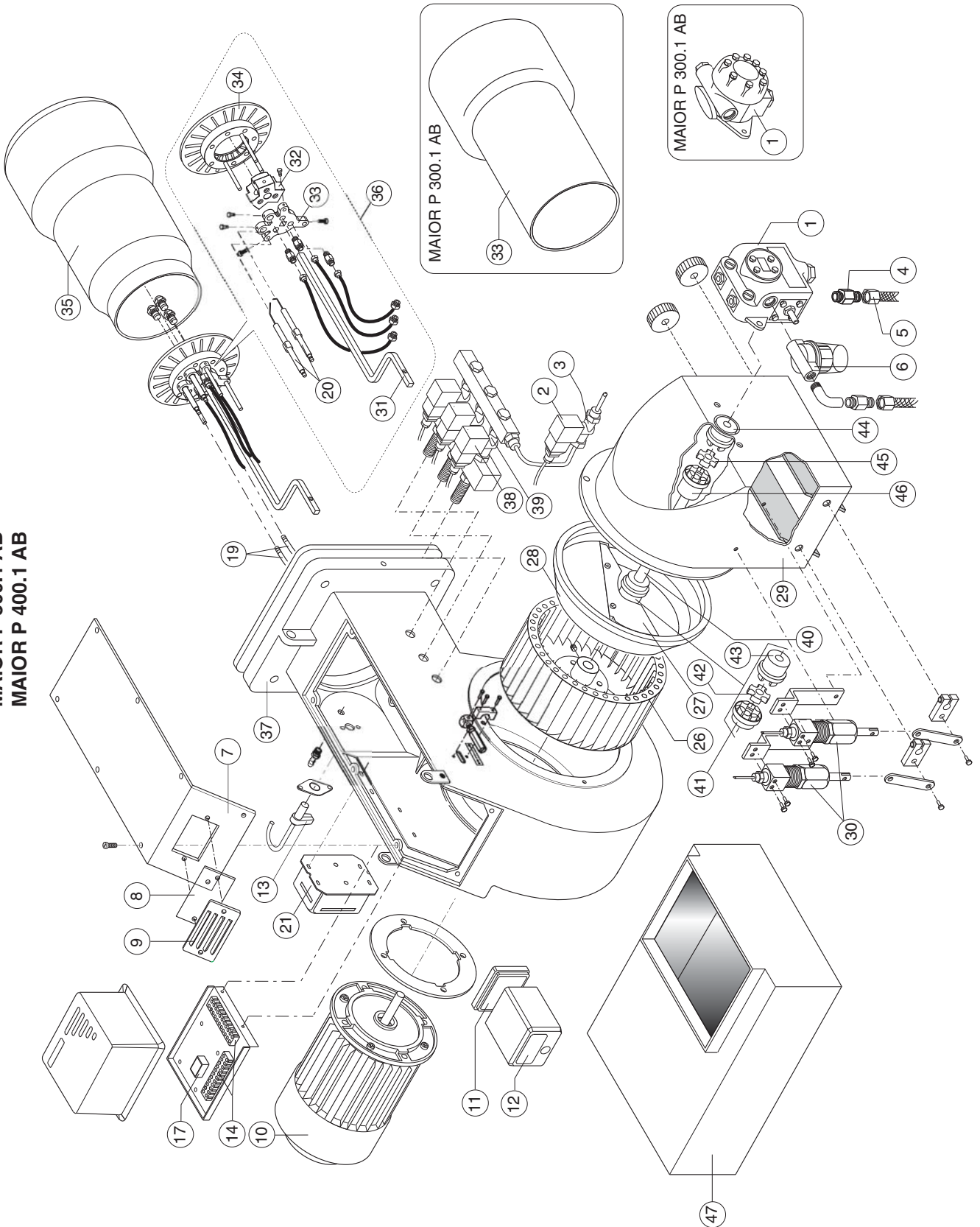


|      |                                                                                                                                                         |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| B    | FOTORESISTENZA<br>PHOTORESISTANCE<br>PHOTORESISTENCA                                                                                                    |
| Q    | INTERRUTTORE DI LINEA<br>WORKING SWITCH<br>INTERRUPTEUR DE LIGNE<br>INTERRUPTOR DE LINEA                                                                |
| IMV  | MOTORE VENTILATORE<br>MOTOR FAN<br>MOTEUR VENTILATEUR<br>MOTOR VENTILADOR                                                                               |
| TV   | TRASFORMATORE<br>IGNITION TRANSFORMER<br>TRANSFORMATEUR D'ALLUMAGE<br>TRANSFORMADOR                                                                     |
| RMV  | CONVETTORE MOTORE VENTILATORE<br>REMOTE CONTROL SWITCH (FAN MOTOR)<br>CONTACTEUR MOTEUR VENTILATEUR<br>TELEINTERRUPTOR MOTOR VENTILADOR                 |
| Yvg1 | ELETTROVALVOLA GASOLIO DI PRIMA FAMMA<br>ELECTROVALVE GAS OIL FIRST STAGE ALLURE<br>ELECTROVALVULA DE GASOLEO 1ª LLAMA                                  |
| Yvg2 | ELETTROVALVOLA GASOLIO DI SECONDA FAMMA<br>SECOND STAGE OIL SOLENOID VALVE<br>ELECTROVALVANE MAZOUT GRANDE ALLURE<br>ELECTROVALVULA DE GASOLEO 2ª LLAMA |
| Yvg3 | ELETTROVALVOLA GASOLIO DI TERZA FAMMA<br>THIRD STAGE OIL SOLENOID VALVE<br>ELECTROVALVANE MAZOUT 3me ALLURE<br>ELECTROVALVULA DE GASOLEO 3ª FAMMA       |
| Yvg5 | ELETTROVALVOLA GASOLIO DI SICUREZZA<br>EXTRA SAFETY OIL SOLENOID VALVE<br>ELECTROVALVANE MAZOUT DE SECURITE<br>ELECTROVALVULA DE GASOLEO DE SEGURIDAD   |

|              |          |
|--------------|----------|
| MOTOR UNIT   |          |
| SIST. REAZ.  | B        |
| CODICE       | BEM25145 |
| INDAG. BIFCA |          |

|                                                                                                                                                                                                                                                                                 |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|-------------|---|--|---|--|---|--|-----------|------------|-----------|-------------|----------|----------|--|--|----------|--|--|--|
| A                                                                                                                                                                                                                                                                               |            | B         |             | C |  | D |  | E |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>BRUNER PANEL</p> <p>TO CONTROL BOX IN DRIVER PANEL</p>                                                                                                                                                                                                                       |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>PROPRIETA' RISERVATA DELLA DITTA ECOFLAM S.p.A.</p>                                                                                                                                                                                                                          |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>COMUNICARE A TERZI IL CONTENUTO DEL PRESENTE</p>                                                                                                                                                                                                                             |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>A TIRARNE DILEGGE E VERTARO RIPRODURRE O</p>                                                                                                                                                                                                                                 |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>DESCRIZIONE MODIFICA</p> <table border="1"> <tr> <td>IND. MOD.</td> <td>DATA FIRMA</td> <td>DESIGNATO</td> <td>CONTROLLATO</td> </tr> <tr> <td>SOST. I.</td> <td>BEE25078</td> <td></td> <td></td> </tr> <tr> <td>SOST. DA</td> <td></td> <td></td> <td></td> </tr> </table> |            |           |             |   |  |   |  |   |  | IND. MOD. | DATA FIRMA | DESIGNATO | CONTROLLATO | SOST. I. | BEE25078 |  |  | SOST. DA |  |  |  |
| IND. MOD.                                                                                                                                                                                                                                                                       | DATA FIRMA | DESIGNATO | CONTROLLATO |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| SOST. I.                                                                                                                                                                                                                                                                        | BEE25078   |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| SOST. DA                                                                                                                                                                                                                                                                        |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>ENOMINAZIONE</p> <p>MAJOR P 451-601-801-1201-1501-2001-3001-4001 AB THREE STAGES DRIVER</p> <p>APPARECCHIATURA</p> <p>CONTROLLO DITENITA</p>                                                                                                                                 |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>Ecoflam S.p.A.</p> <p>UFF. TECNICO SETTORE ELETTRICO</p>                                                                                                                                                                                                                     |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>DATA</p> <p>27/04/2004</p>                                                                                                                                                                                                                                                   |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |
| <p>FIRMA</p> <p>ALBERTO</p>                                                                                                                                                                                                                                                     |            |           |             |   |  |   |  |   |  |           |            |           |             |          |          |  |  |          |  |  |  |

MAIOR P 300.1 AB  
MAIOR P 400.1 AB



| N° | DESCRIPTION           |                    | MAIOR P 300.1 AB | MAIOR P 400.1 AB |
|----|-----------------------|--------------------|------------------|------------------|
|    |                       |                    | code             | code             |
| 1  | OIL PUMP              | SUNTEC J 7CC 1000  | 65322951         | -                |
|    |                       | SUNTEC TA2C40105   | -                | 65322991         |
| 2  | COIL                  | SIRAI L159C3       | 65323770         | 65323770         |
| 3  | OIL VALVE             | SIRAI L159C3       | 65323739         | 65323739         |
| 4  | NIPPLE                | TN 18X1200         | 65323183         | 65323183         |
| 5  | HOSES                 | TN 18X1500         | 65323182         | 65323182         |
| 6  | FILTER                | 70501/03           | 65324103         | 65324103         |
| 7  | COVER                 |                    | 65320678         | 65320678         |
| 8  | GLASS                 |                    | 65320487         | 65320487         |
| 9  | VIEWING WINDOW        |                    | 65320488         | 65320488         |
| 10 | MOTOR                 | 7,5 kW             | 65322822         | -                |
|    |                       | 9 kW               | -                | 65322855         |
| 11 | CONTROL BOX BASE      | LANDIS             | 65320092         | 65320092         |
| 12 | CONTROL BOX           | LANDIS LMO 44      | 65320024         | 65320024         |
| 13 | PHOTORESISTOR         | LANDIS             | 65320076         | 65320076         |
| 14 | WIRING TERMINAL BOX   |                    | 65322060         | 65322060         |
| 15 | MOTOR THERMAL RELAY   |                    | -                | -                |
| 16 | REMOTE CONTROL SWITCH |                    | -                | -                |
| 17 | ANTIJAMMING FILTER    |                    | 65323170         | 65323170         |
| 18 | TIMER                 |                    | -                | -                |
| 19 | CABLE                 | TC                 | 65320945         | 65320945         |
|    |                       | TL                 | 65320946         | 65320948         |
| 20 | ELECTRODES            |                    | 65325222         | 65325222         |
| 21 | IGNITION TRANSFORMER  | Brahma T8 13000/35 | 65323242         | 65323242         |
| 22 | HIGH-LOW FLAME SWITCH |                    | -                | -                |
| 23 | MAIN SWITCH           |                    | -                | -                |
| 24 | FUSE SUPPORT          |                    | -                | -                |
| 25 | LAMP                  |                    | -                | -                |
| 26 | FAN                   | 320 x 150          | 65321800         | 65321800         |
| 27 | FAN SCOOP             |                    | -                | 65320627         |
| 28 | AIR CONVEYOR          |                    | 65320645         | 65320645         |
| 29 | COVER AIR INLET       |                    | 65320560         | 65320560         |
| 30 | HYDRAULIC SYSTEM      |                    | 65322333         | 65322333         |
| 31 | ROD                   | TC                 | 65324900         | 65324807         |
|    |                       | TL                 |                  | 65320246         |
| 32 | NOZZLE HOLDER         |                    | 65320715         | 65320715         |
| 33 | NOZZLE HOLDER SUPPORT |                    | 65324515         | 65325053         |
| 34 | DIFFUSER              |                    | 65320785         | 65320784         |
| 35 | BLAST TUBE            | TC                 | 65324808         | 65325041         |
|    |                       | TL                 | 65320455         | 65320456         |
| 36 | INNER ASSEMBLY        | TC                 |                  |                  |
|    |                       | TL                 |                  |                  |
| 37 | GASKET                |                    | 65321125         | 65321125         |
| 38 | COIL                  | SIRAI L120V02      | 65323742         | 65323742         |
| 39 | OIL VALVE             | SIRAI L120V02      | 65323741         | 65323741         |
| 40 | ROD                   |                    | 65321463         | 65321463         |
| 41 | COUPLING (FAN)        |                    | 65321789         | 65321789         |
| 42 | UNION                 |                    | 65321791         | 65321791         |
| 43 | COUPLING (ROD)        |                    | 65321790         | 65321790         |
| 44 | COUPLING (PUMP)       |                    | 65324165         | 65324165         |
| 45 | UNION                 |                    | 65321786         | 65321786         |
| 46 | COUPLING              |                    | 65321782         | 65321782         |
| 47 | SILENCER              |                    | 65324107         | 65324107         |

TC = SHORT HEAD TL = LONG HEAD

*ECOFLAM BRUCIATORI S.p.A. reserves the right to make any adjustments, without prior notice, which it considers necessary or useful to its products, without affecting their main features.*

# **Ecoflam**

## **Ecoflam (UK) Limited**

12 Goodwood Road , Keytec 7 Business Park, Wyre Road, Pershore, Worcestershire, WR10 2JL England  
Tel: 01386 556092 - Fax: 01386 553789

## **Ecoflam Bruciatori S.p.A.**

via Roma, 64 - 31023 RESANA (TV) - Italy  
tel. +39 0423.719500 - fax +39 0423.719580  
<http://www.ecoflam-burners.com> - e-mail: [export@ecoflam-burners.com](mailto:export@ecoflam-burners.com)

"società soggetta alla direzione e al coordinamento della Ariston Thermo S.p.A., via A. Merloni, 45 - 60044 Fabriano (An) CF 01026940427"