# OIL BURNERS

Ecoflam

# MAIOR P 60 AB
# MAIOR P 80 AB
# MAIOR P120 AB

HYDRAULIC SYSTEM
240 / 415 V 50 Hz

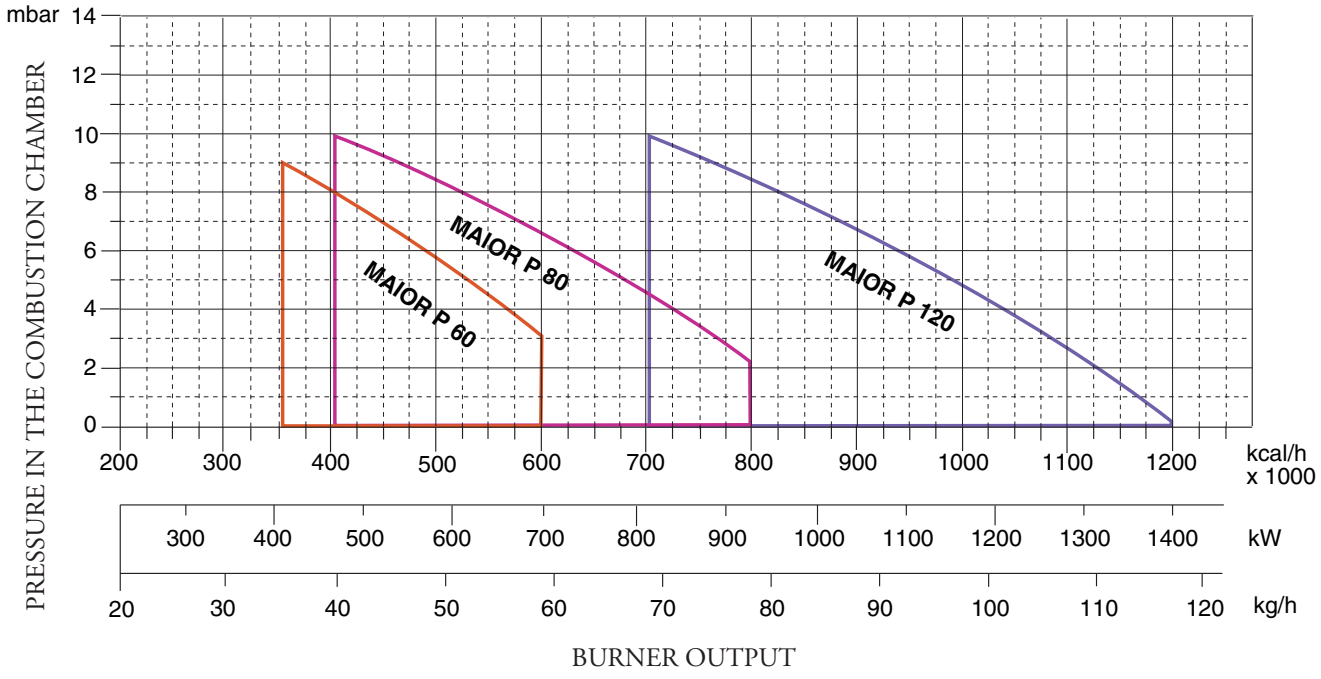
420010294802

420010294802
29.07.2013

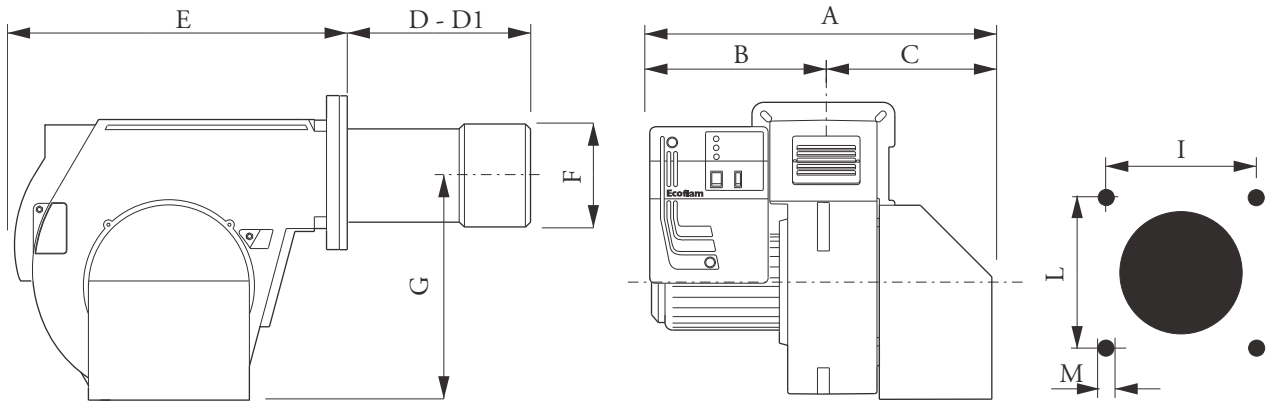
## TECHNICAL DATA

| MODELS | | MAIOR P 60 | MAIOR P 80 | MAIOR P 120 |
|---|---|---|---|---|
| Thermal power max. | kcal/h | 600.000 | 800.000 | 1.200.000 |
| | kW | 710 | 949 | 1423 |
| Thermal power min. | kcal/h | 350.000 | 400.000 | 700.000 |
| | kW | 415 | 474 | 830 |
| Max. capacity light oil | kg/h | 60 | 80 | 120 |
| Min. capacity light oil | kg/h | 35 | 40 | 70 |
| Voltage three phase 50 Hz | V | 240/415 | 240/415 | 240/415 |
| Motor | kW | 1,1 | 1,1 | 2,2 |
| Rpm | Nº | 2.800 | 2.800 | 2.800 |
| Ignition transformer | kV/mA | 10/20 | 10/20 | 10/20 |
| Control box | LANDIS | LMO 44 | LMO 44 | LMO 44 |
| Fuel : light oil | kcal/kg | 10.200 max. visc 1,5°E a 20°C | | |

## WORKING FIELDS

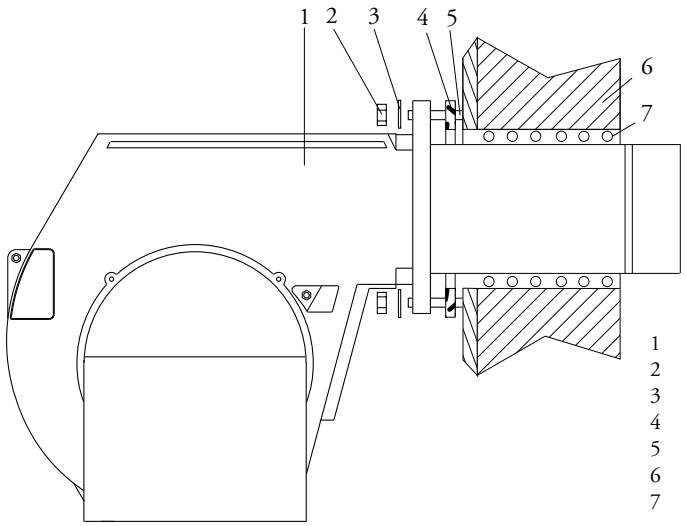


## OVERALL DIMENSIONS




| MODELS | A | B | C | D | D1 | E | F | G | I | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MAIOR P 60 AB | 590 | 330 | 260 | 235 | 395 | 555 | 180 | 376 | 190 | 190 | M10 |
| MAIOR P 80 AB | 590 | 330 | 260 | 235 | 395 | 555 | 180 | 376 | 190 | 190 | M10 |
| MAIOR P 120 AB | 690 | 350 | 340 | 225 | 445 | 555 | 190 | 376 | 190 | 190 | M10 |
| **D** = short head **D1** = long head | | | | | | | | | | | |

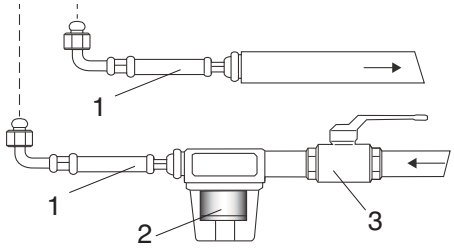
## BURNER INSTALLATION



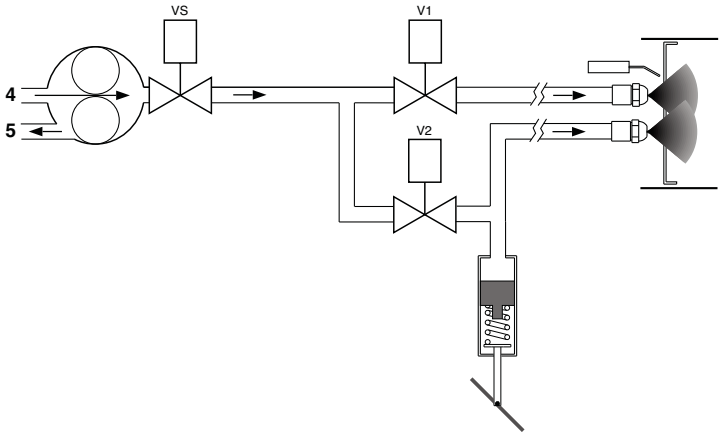

1 - BURNER
2 - NUT
3 - WASHER
4 - GASKET
5 - BOLT
6 - BOILER
7 - GASKET

Attach the burner to the boiler as in fig. Fill the gap between the burner blast tube and door with asbestos rope.

## HYDRAULIC CIRCUIT

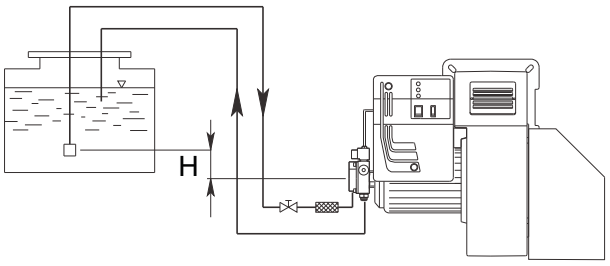



1 - HOSE
2 - OIL FILTER
3 - OIL COCK
4 - SUCTION
5 - RETURN



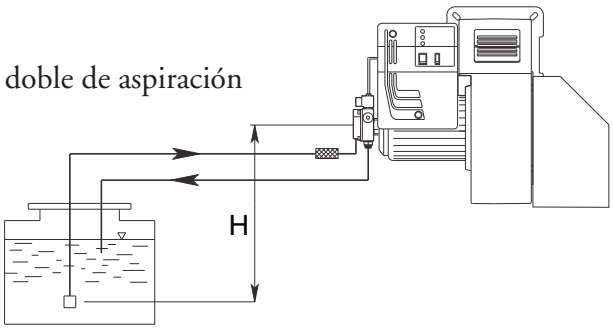
## ALIMENTACION DEL COMBUSTIBLE

Tubo doble de la parte superior del depósito




| H (m) | Longitud de los tubos | | | |
|---|---|---|---|---|
| | AS 67 / AN 77 (m) | | AJ 6 (m) | |
| | ˘ 10 mm | ˘ 12 mm | ˘ 14 mm | ˘ 16 mm |
| 0 | 32 | 90 | 22 | 38 |
| 0,5 | 36 | 90 | 25 | 45 |
| 1 | 40 | 90 | 30 | 50 |
| 2 | 48 | 90 | 35 | 60 |
| 3 | 56 | 90 | 38 | 70 |
| 3,5 | 60 | 90 | 40 | 80 |

Tubo doble de aspiración




| H (m) | Longitud de los tubos | | | |
|---|---|---|---|---|
| | AS 67 / AN 77 (m) | | AJ 6 (m) | |
| | ˘ 10 mm | ˘ 12 mm | ˘ 14 mm | ˘ 16 mm |
| 0 | 25 | 70 | 25 | 45 |
| 0,5 | 21 | 62 | 20 | 38 |
| 1 | 18 | 54 | 18 | 33 |
| 2 | 10 | 38 | 10 | 20 |
| 3 | 5 | 20 | 5 | 10 |
| 3,5 | --- | 10 | 2 | 4 |

La longitud de la tubería se obtiene de la suma de todas las secciones rectilíneas horizontales y verticales y de las curvas. La altura estática de aspiración (máx. 3.5m) es la distancia entre la válvula anti retorno y el eje bomba del quemador. La depresión no debe superar los 0.45 bar; una depresión mas grande podría perjudicar el funcionamiento de la bomba, con consecuente aumento del ruido mecánico y , al final, una ruptura.

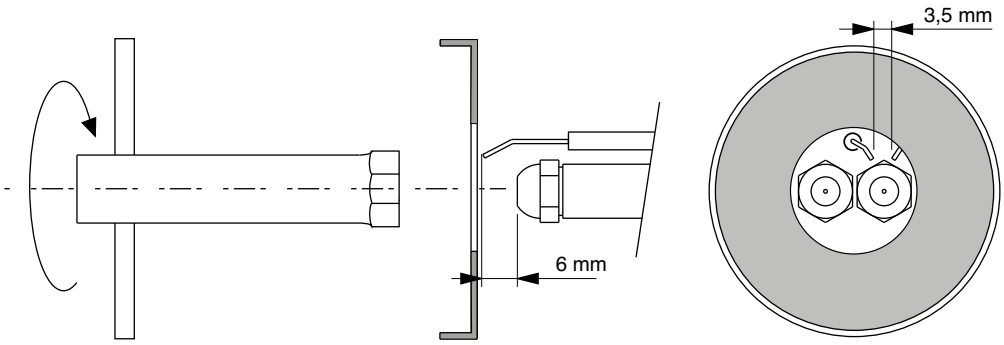
## NOZZLE OUTPUT

### TYPE : DELAVAN B - MONARCH PLP

| NOZZLE | PUMP PRESSURE BAR | | | | | | |
|---|---|---|---|---|---|---|---|
| GPH | 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 |
| GPH | OUTPUT Kg/h | | | | | | |

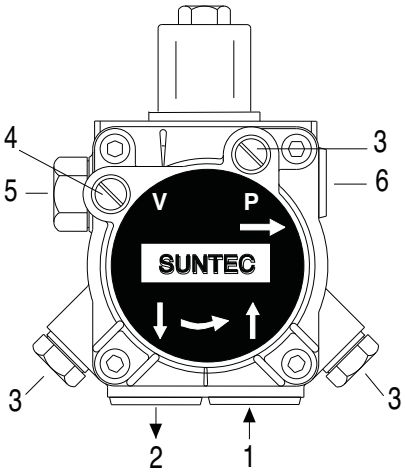
## NOZZLE CLEANING AND REPLACEMENT

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.

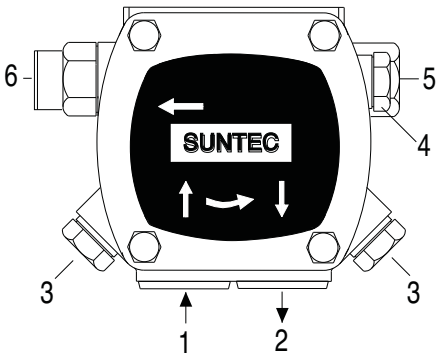



## PRIMING AND ADJUSTMENT OF THE PUMP

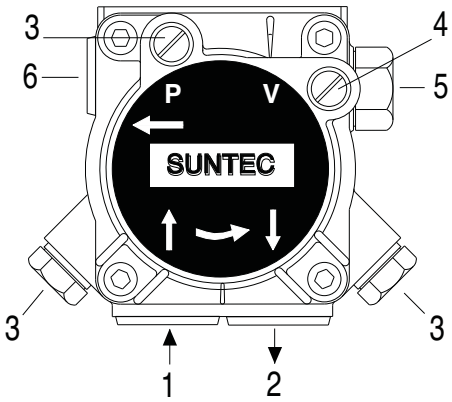
SUNTEC AS 67 B




SUNTEC D 67 A

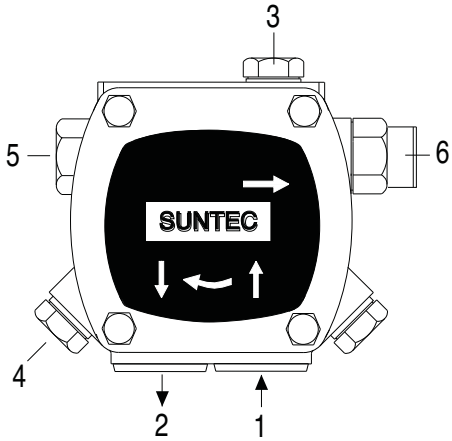



SUNTEC AN 77




1 - INLET
2 - RETURN
3 - BLEED AND PRESSURE GAUGE PORT
4 - VACUUM GAUGE PORT
5 - PRESSURE ADJUSTMENT
6 - NOZZLE OUTLET

SUNTEC AJ 6 C-C




The pump is factory set at 12 bar during the testing of the burner. To prime the pump first of all start the burner and bleed air from the pump through the gauge port. If the burner goes to lock-out after the prepurging time due to lack of pressure in the oil pump, restart the burner.
NOTE : before starting up the burner, make sure that the return pipe is clear. Check that the pipes do not leak. It is advisable to use copper pipes. Do not exceed the depression limit of 4 mt.(0,45 bar) to keep low noise levels. The return pipe must reach the same level as the check valve at the bottom of the oil tank..

## BURNER 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 air damper to its maximum opening and opens the 2nd 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.

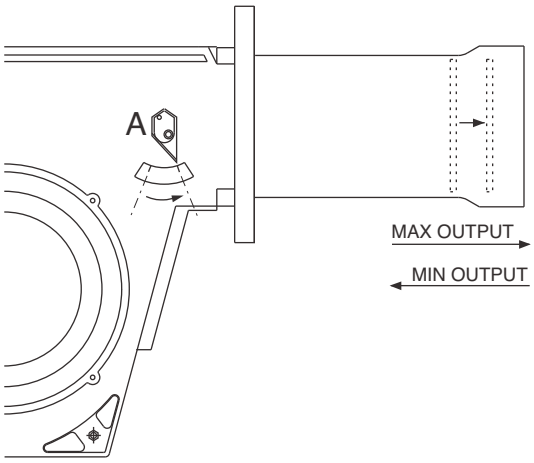
## LANDIS LMO 44 CONTROL INFORMATION SYSTEM

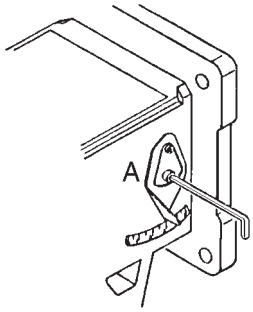
In case of burner lockout, it is possible to read which cause originated it. Proceed as follows: with the burner in lockout mode (red LED switched on) keep pressed the lockout button for more than 3 sec. then release it. The red LED will blink according to the following error code list:

| 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 |

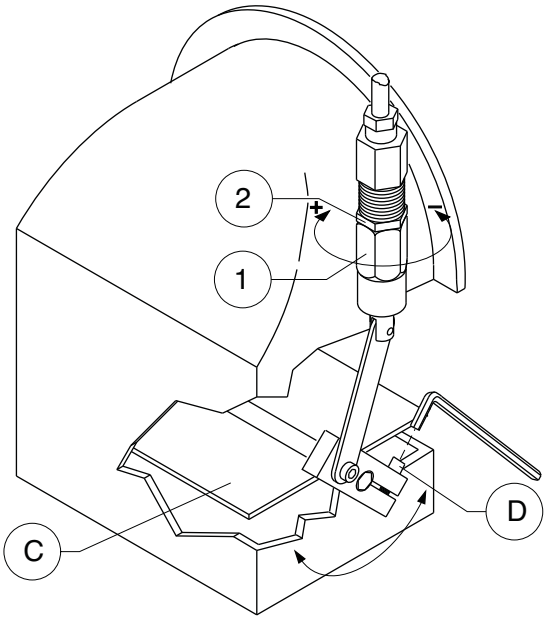
## FIRING HEAD SETTING

The mains feature is the capability to adjust the head to obtein maximum result from different types of plant. The position of the mixing head determines the speed of the air flow according to pressure upstream from mixing mixer device.




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

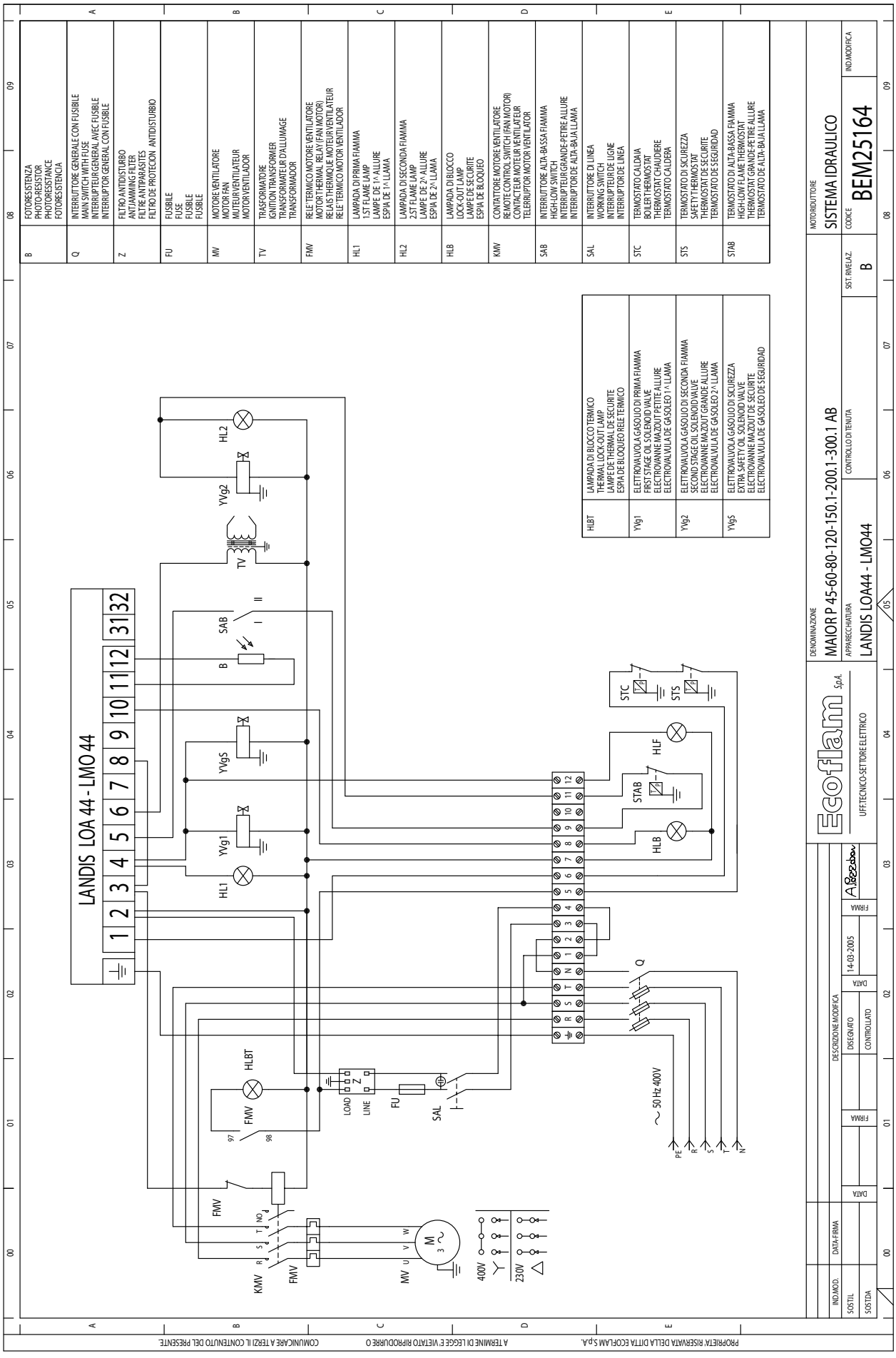



**Air flow rate adjustment in Low flame running:**
1) - Start the burner (checking that the air damper is partially open).
2) - Loosen clamping screw D.
3) - Turn air damper C until obtaining a correct combustion (checked with a combustion gas analysis set).
4) - Tighten clamping screw D.

**Air flow rate adjustment in High flame running:**
WARNING: due to the presence of oil under pressure in the hydraulic jack when the burner is working in High flame condition, the air flow rate adjustment is to be made with the use of an adjusting ring nut 1 with the burner running in Low flame condition. The combustion checks are to be done once the burner is turned to High flame condition again.
1) - Loosen clamping ring nut 2
2) - Increase or decrease the air flow rate through the adjusting ring nut 1 (Clockwise to increase, counterclockwise to decrease).
3) - Tighten clamping ring nut 2.
4) - Switch manually from Low flame to High flame and check the combustion values.

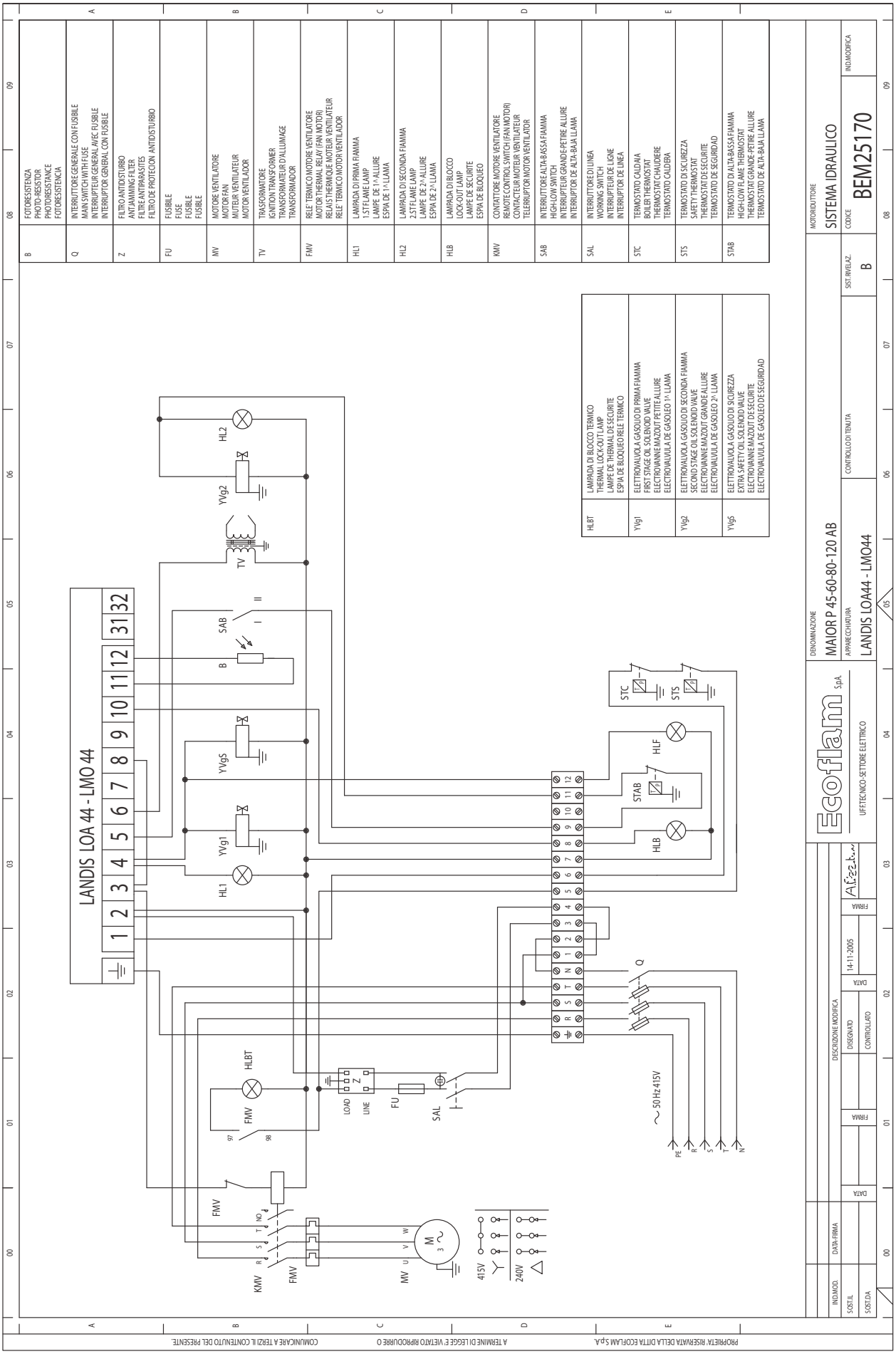
## ELECTRICAL CONNECTIONS

All burners are factory tested at 415 V - 50 Hz 3-phase for motors, and 240 V - 50 Hz single phase with neutral for auxiliary equipments. Should it be necessary to power the burner with 240 V - 50 Hz, 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.




| | | |
|---|---|---|
| A | B | FOTORESISTENZA<br>PHOTO-RESISTOR<br>PHOTORESISTANCE<br>FOTORESISTENCIA |
| | Q | INTERRUTTORE GENERALE CON FUSIBILE<br>MAIN SWITCH WITH FUSE<br>INTERRUPTEUR GENERAL AVEC FUSIBLE<br>INTERRUPTOR GENERAL CON FUSIBLE |
| | Z | FILTRO ANTIDISTURBO<br>ANTI JAMMING FILTER<br>FILTRE ANTIPARASITES<br>FILTRO DE PROTECION ANTIDISTURBIO |
| B | FU | FUSIBILE<br>FUSE<br>FUSIBLE<br>FUSIBLE |
| | MV | MOTORE VENTILATORE<br>MOTOR FAN<br>MOTEUR VENTILATEUR<br>MOTOR VENTILADOR |
| | TV | TRASFORMATORE<br>IGNITION TRANSFORMER<br>TRANSFORMATEUR D'ALLUMAGE<br>TRANSFORMADOR |
| C | FMV | RELE' TERMICO MOTORE VENTILATORE<br>MOTOR THERMAL RELAY (FAN MOTOR)<br>RELAIS THERMIQUE MOTEUR VENTILATEUR<br>RELE' TERMICO MOTOR VENTILADOR |
| | HL1 | LAMPADA DI PRIMA FIAMMA<br>1.ST FLAME LAMP<br>LAMPE DE 1^ ALLURE<br>ESPIA DE 1^ LLAMA |
| | HL2 | LAMPADA DI SECONDA FIAMMA<br>2.ST FLAME LAMP<br>LAMPE DE 2^ ALLURE<br>ESPIA DE 2^ LLAMA |
| D | HLB | LAMPADA DI BLOCCO<br>LOCK-OUT LAMP<br>LAMPE DE SECURITE<br>ESPIA DE BLOQUEO |
| | KMV | CONTATTORE MOTORE VENTILATORE<br>REMOTE CONTROL SWITCH (FAN MOTOR)<br>CONTACTEUR MOTEUR VENTILATEUR<br>TELERRUPTOR MOTOR VENTILADOR |
| | SAB | INTERRUTTORE ALTA-BASSA FIAMMA<br>HIGH-LOW SWITCH<br>INTERRUPTEUR GRANDE-PETITE ALLURE<br>INTERRUPTOR DE ALTA-BAJA LLAMA |
| E | SAL | INTERRUTTORE DI LINEA<br>WORKING SWITCH<br>INTERRUPTEUR DE LIGNE<br>INTERRUPTOR DE LINEA |
| | STC | TERMOSTATO CALDAIA<br>BOILER THERMOSTAT<br>THERMOSTAT CHAUDIERE<br>TERMOSTATO CALDERA |
| | STS | TERMOSTATO DI SICUREZZA<br>SAFETY THERMOSTAT<br>THERMOSTAT DE SECURITE<br>TERMOSTATO DE SEGURIDAD |
| | STAB | TERMOSTATO DI ALTA-BASSA FIAMMA<br>HIGH-LOW FLAME THERMOSTAT<br>THERMOSTAT GRANDE-PETITE ALLURE<br>TERMOSTATO DE ALTA-BAJA LLAMA |

| | | |
|---|---|---|
| | HLBT | LAMPADA DI BLOCCO TERMICO<br>THERMAL LOCK-OUT LAMP<br>LAMPE DE THERMAL DE SECURITE<br>ESPIA DE BLOQUEO RELE TERMICO |
| | YVg1 | ELETTROVALVOLA GASOLIO DI PRIMA FIAMMA<br>FIRST STAGE OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT PETITE ALLURE<br>ELECTROVALVULA DE GASOLEO 1^ LLAMA |
| | YVg2 | ELETTROVALVOLA GASOLIO DI SECONDA FIAMMA<br>SECOND STAGE OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT GRANDE ALLURE<br>ELECTROVALVULA DE GASOLEO 2^ LLAMA |
| | YVgS | ELETTROVALVOLA GASOLIO DI SICUREZZA<br>EXTRA SAFETY OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT DE SECURITE<br>ELECTROVALVULA DE GASOLEO DE SEGURIDAD |

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|---|---|---|
| B | FOTORESISTENZA<br>PHOTO-RESISTOR<br>PHOTORESISTANCE<br>FOTORESISTENCIA | 08 |
| Q | INTERRUTTORE GENERALE CON FUSIBILE<br>MAIN SWITCH WITH FUSE<br>INTERRUPTEUR GENERAL AVEC FUSIBLE<br>INTERRUPTOR GENERAL CON FUSIBLE | |
| Z | FILTRO ANTIDISTURBO<br>ANTI JAMMING FILTER<br>FILTRE ANTIPARASITES<br>FILTRO DE PROTECCION ANTIDISTURBIO | |
| FU | FUSIBILE<br>FUSE<br>FUSIBLE<br>FUSIBLE | |
| MV | MOTORE VENTILATORE<br>MOTOR FAN<br>MUTEUR VENTILATEUR<br>MOTOR VENTILADOR | |
| TV | TRASFORMATORE<br>IGNITION TRANSFORMER<br>TRANSFORMATEUR D'ALLUMAGE<br>TRANSFORMADOR | |
| FMV | RELE' TERMICO MOTORE VENTILATORE<br>MOTOR THERMAL RELAY (FAN MOTOR)<br>RELAIS THERMIQUE MOTEUR VENTILATEUR<br>RELE' TERMICO MOTOR VENTILADOR | |
| HL1 | LAMPADA DI PRIMA FIAMMA<br>1.ST FLAME LAMP<br>LAMPE DE 1^ ALLURE<br>ESPIA DE 1^ LLAMA | |
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| HLB | LAMPADA DI BLOCCO<br>LOCK-OUT LAMP<br>LAMPE DE SECURITE<br>ESPIA DE BLOQUEO | |
| KMV | CONTATTORE MOTORE VENTILATORE<br>REMOTE CONTROL SWITCH (FAN MOTOR)<br>CONTACTEUR MOTEUR VENTILATEUR<br>TELERRUPTOR MOTOR VENTILATOR | |
| SAB | INTERRUTTORE ALTA-BASSA FIAMMA<br>HIGH-LOW SWITCH<br>INTERRUPTEUR GRANDE-PETITE ALLURE<br>INTERRUPTOR DE ALTA-BAJA LLAMA | |
| SAL | INTERRUTTORE DI LINEA<br>WORKING SWITCH<br>INTERRUPTEUR DE LIGNE<br>INTERRUPTOR DE LINEA | |
| STC | TERMOSTATO CALDAIA<br>BOILER THERMOSTAT<br>THERMOSTAT CHAUDIERE<br>TERMOSTATO CALDERA | |
| STS | TERMOSTATO DI SICUREZZA<br>SAFETY THERMOSTAT<br>THERMOSTAT DE SECURITE<br>TERMOSTATO DE SEGURIDAD | |
| STAB | TERMOSTATO DI ALTA-BASSA FIAMMA<br>HIGH-LOW FLAME THERMOSTAT<br>THERMOSTAT GRANDE-PETITE ALLURE<br>TERMOSTATO DE ALTA-BAJA LLAMA | |

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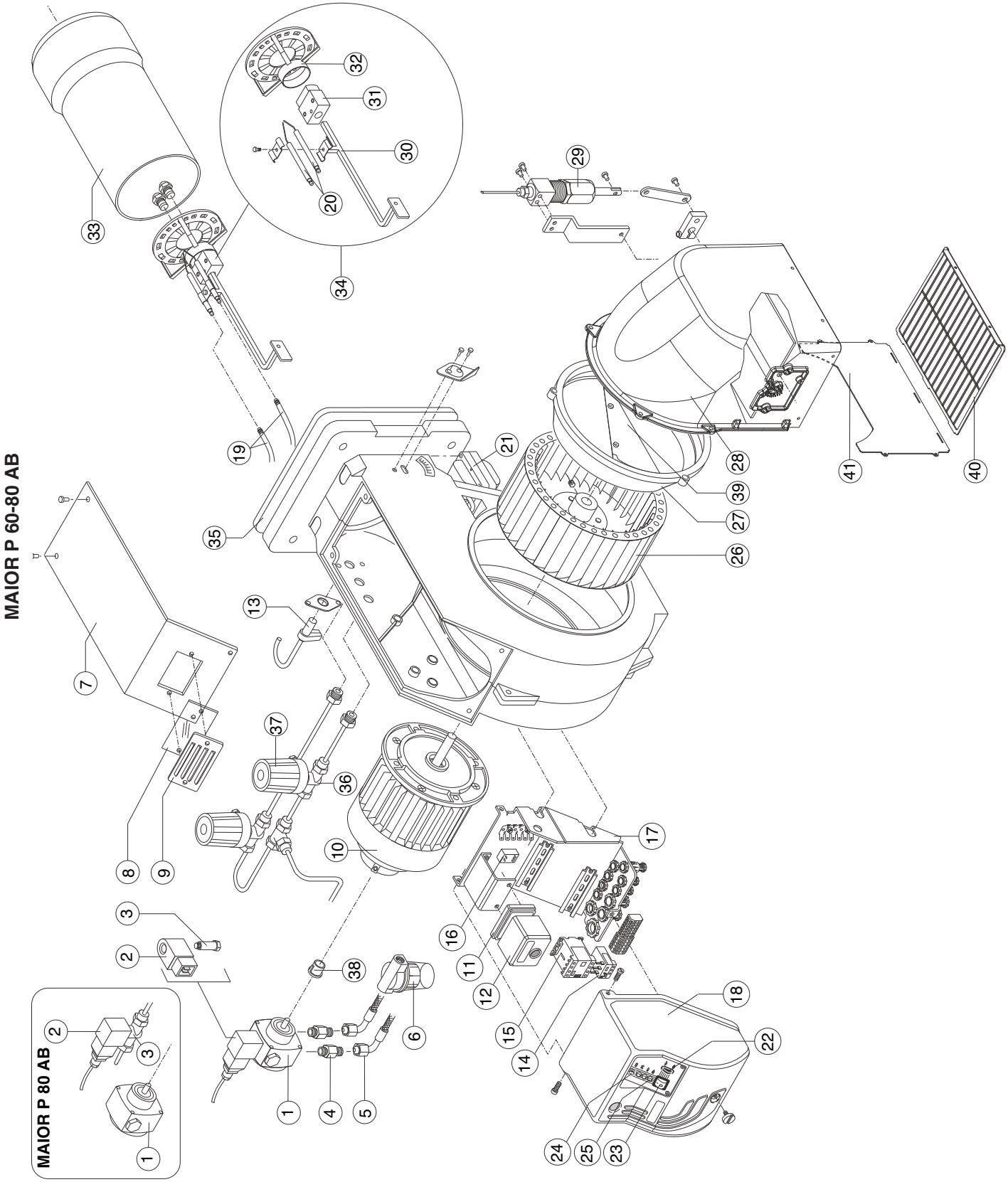
|---|---|---|
| HLBT | LAMPADA DI BLOCCO TERMICO<br>THERMAL LOCK-OUT LAMP<br>LAMPE DE THERMAL DE SECURITE<br>ESPIA DE BLOQUEO RELE' TERMICO | |
| YVg1 | ELETTROVALVOLA GASOLIO DI PRIMA FIAMMA<br>FIRST STAGE OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT PETITE ALLURE<br>ELECTROVALVULA DE GASOLEO 1^ LLAMA | |
| YVg2 | ELETTROVALVOLA GASOLIO DI SECONDA FIAMMA<br>SECOND STAGE OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT GRANDE ALLURE<br>ELECTROVALVULA DE GASOLEO 2^ LLAMA | |
| YVg5 | ELETTROVALVOLA GASOLIO DI SICUREZZA<br>EXTRA SAFETY OIL SOLENOID VALVE<br>ELECTROVANNE MAZOUT DE SECURITE<br>ELECTROVALVULA DE GASOLEO DE SEGURIDAD | |


MAIOR P 60-80 AB
MAIOR P 80 AB
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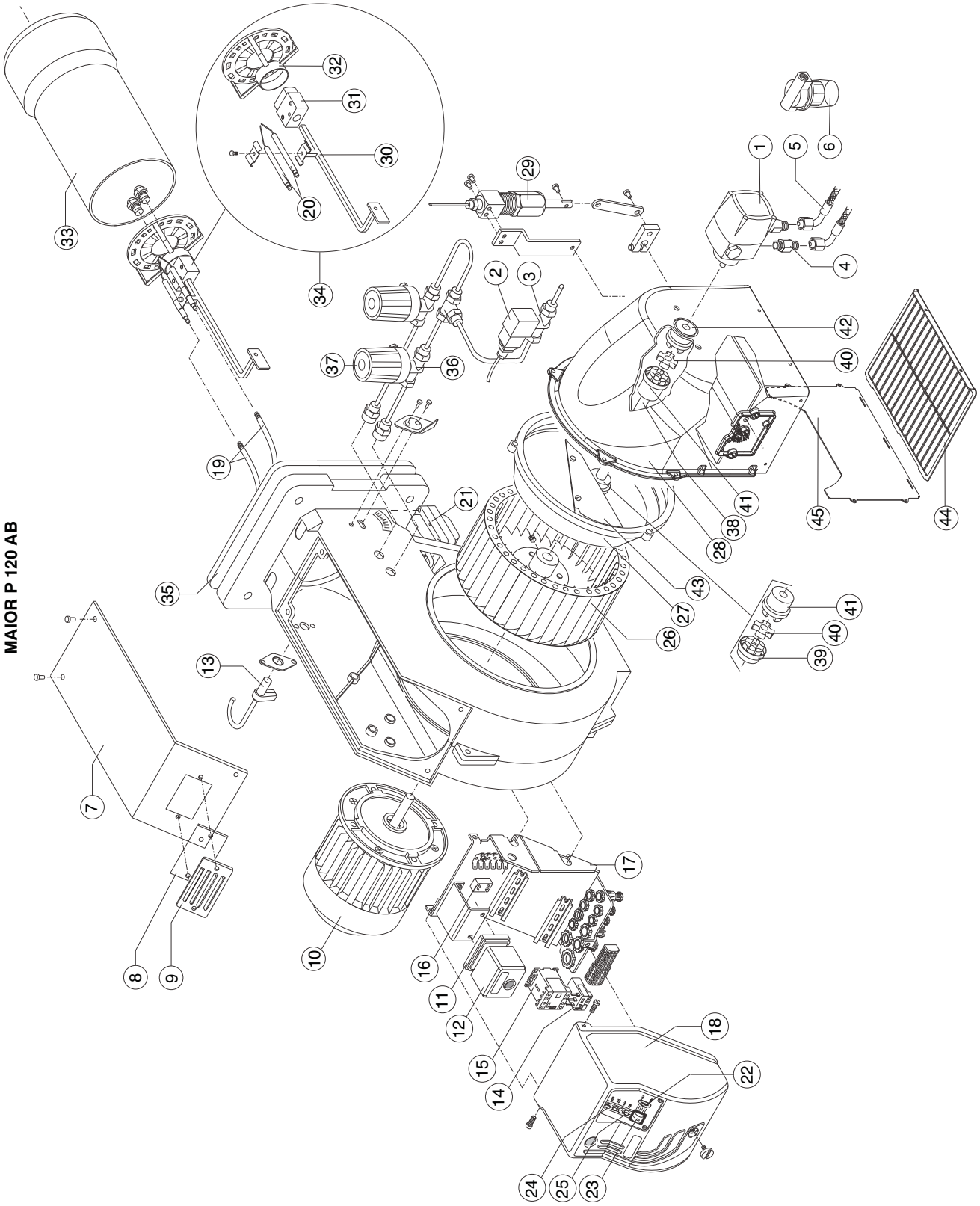
MAIOR P 120 AB



| | | | MAIOR P 60 AB |
|---|---|---|---|
| N° | DESCRIPTION | | code |
| 1 | OIL PUMP | SUNTEC AS 67 B | 65322960 |
| 2 | COIL | SUNTEC | 65323767 |
| 3 | OIL VALVE | SUNTEC | 65323744 |
| 4 | NIPPLE | TN 10X1200 F/3 | 65323188 |
| 5 | HOSES | TN 14X1200 3/8-A | 65323184 |
| 6 | FILTER | ART.70301-01P | 3142089 |
| 7 | COVER | | 65324052 |
| 8 | GLASS | | 65320487 |
| 9 | VIEWING WINDOW | | 65320488 |
| 10 | MOTOR | 1100 W | 65325406 |
| 11 | CONTROL BOX BASE | LANDIS | 65320092 |
| 12 | CONTROL BOX | LANDIS LMO44.255A2 | 65320024 |
| 13 | PHOTORESISTOR | LANDIS | 65320076 |
| 14 | MOTOR THERMAL RELAY | AEG 3-4,7A | 65323116 |
| 15 | REMOTE CONTROL SWITCH | AEG LS05.10 | 65323132 |
| 16 | ANTIJAMMING FILTER | | 65323170 |
| 17 | BOX SUPPORT | | 65320478 |
| 18 | BOX | | 65320477 |
| 19 | CABLE | TC | 65320940 |
| | | TL | 65320942 |
| 20 | ELECTRODES | | 65322315 |
| 21 | IGNITION TRANSFORMER | COFI 1020 CM 240/50 | 65323238 |
| 22 | HIGH-LOW FLAME SWITCH | cod.360000001 | 65323065 |
| 23 | MAIN SWITCH | cod.40100I1509 | 65323064 |
| 24 | FUSE HOLDER | Fusit FH-B528 | 65322181 |
| 25 | LAMP | EL/N-SC4 Elettrospring | 65322053 |
| 26 | FAN | 250 x 84 | 65321777 |
| 27 | AIR CONVEYOR | | 65320639 |
| 28 | COVER AIR INLET | | 65324054 |
| 29 | HYDRAULIC SYSTEM | | 65322333 |
| 30 | ROD | TC | 65320236 |
| | | TL | 65320237 |
| 31 | NOZZLE HOLDER | | 65320712 |
| 32 | DIFFUSER | | 65320779 |
| 33 | BLAST TUBE | TC | 65320408 |
| | | TL | 65320409 |
| 34 | INNER ASSEMBLY | TC | 65322418 |
| | | TL | 65322417 |
| 35 | GASKET | | 65321116 |
| 36 | OIL VALVE | Parker SCEM VE131IV | 65323627 |
| | | BRAHMA | 65323737 |
| 37 | COIL | PARKER | 65323782 |
| | | BRAHMA | 65323762 |
| 38 | COUPLING | | 65322918 |
| 39 | FAN SCOOP | | 65324360 |
| 40 | PROTECTION | | 65324049 |
| 41 | SHEET CLOSING | | 65324050 |

**TC = SHORT HEAD TL = LONG HEAD**

| | | | MAIOR P 80 AB |
|---|---|---|---|
| N° | DESCRIPTION | | code |
| 1 | OIL PUMP | SUNTEC AN 77 A | 65322953 |
| 2 | COIL | DELTA | 65323765 |
| 3 | OIL VALVE | DELTA 1/8 F.F.F84 | 65323754 |
| 4 | NIPPLE | TN 10X1200 F/3 | 65323188 |
| 5 | HOSES | TN 14X1200 3/8-A | 65323184 |
| 6 | FILTER | ART.70301-01P | 3142089 |
| 7 | COVER | | 65324052 |
| 8 | GLASS | | 65320487 |
| 9 | VIEWING WINDOW | | 65320488 |
| 10 | MOTOR | 1100 W | 65322799 |
| 11 | CONTROL BOX BASE | LANDIS | 65320092 |
| 12 | CONTROL BOX | LANDIS LMO44.255A2 | 65320024 |
| 13 | PHOTORESISTOR | LANDIS | 65320076 |
| 14 | MOTOR THERMAL RELAY | AEG 3-4,7A | 65323116 |
| 15 | REMOTE CONTROL SWITCH | AEG LS05.10 | 65323132 |
| 16 | ANTIJAMMING FILTER | | 65323170 |
| 17 | BOX SUPPORT | | 65320478 |
| 18 | BOX | | 65320477 |
| 19 | CABLE | TC | 65320940 |
| | | TL | 65320942 |
| 20 | ELECTRODES | | 65322315 |
| 21 | IGNITION TRANSFORMER | COFI 1020 CM 240/50 | 65323238 |
| 22 | HIGH-LOW FLAME SWITCH | cod.360000001 | 65323065 |
| 23 | MAIN SWITCH | cod.40100I1509 | 65323064 |
| 24 | FUSE HOLDER | Fusit FH-B528 | 65322181 |
| 25 | LAMP | EL/N-SC4 Elettrospring | 65322053 |
| 26 | FAN | 260 x 98 | 65321776 |
| 27 | AIR CONVEYOR | | 65320639 |
| 28 | COVER AIR INLET | | 65324054 |
| 29 | HYDRAULIC SYSTEM | | 65322333 |
| 30 | ROD | TC | 65320236 |
| | | TL | 65320237 |
| 31 | NOZZLE HOLDER | | 65320712 |
| 32 | DIFFUSER | | 65320779 |
| 33 | BLAST TUBE | TC | 65320408 |
| | | TL | 65320409 |
| 34 | INNER ASSEMBLY | TC | 65322418 |
| | | TL | 65322417 |
| 35 | GASKET | | 65321117 |
| 36 | OIL VALVE | Parker SCEM VE131IV | 65323627 |
| 37 | COIL | PARKER | 65323782 |
| 38 | COUPLING | | 65322918 |
| 39 | FAN SCOOP | | 65324360 |
| 40 | PROTECTION | | 65324049 |
| 41 | SHEET CLOSING | | 65324050 |

TC = SHORT HEAD TL = LONG HEAD

| | | | MAIOR P 120 AB |
|---|---|---|---|
| N° | DESCRIPTION | | code |
| 1 | OIL PUMP | SUNTEC AJ 6CC 1000 | 65322950 |
| 2 | COIL | DELTA | 65323765 |
| 3 | OIL VALVE | DELTA 1/8 F.F.F84 | 65323754 |
| 4 | NIPPLE | TN 10X1200 F/3 | 65323188 |
| 5 | HOSES | TN 14X1200 3/8-A | 65323184 |
| 6 | FILTER | ATT. 3/4 70207 | 3142084 |
| 7 | COVER | | 65324052 |
| 8 | GLASS | | 65320487 |
| 9 | VIEWING WINDOW | | 65320488 |
| 10 | MOTOR | 2200 W | 65322841 |
| 11 | CONTROL BOX BASE | LANDIS | 65320092 |
| 12 | CONTROL BOX | LANDIS LMO44.255A2 | 65320024 |
| 13 | PHOTORESISTOR | LANDIS | 65320076 |
| 14 | MOTOR THERMAL RELAY | AEG 4-6,3A | 65323117 |
| 15 | REMOTE CONTROL SWITCH | AEG LS4K.10 | 65323133 |
| 16 | ANTIJAMMING FILTER | | 65323170 |
| 17 | BOX SUPPORT | | 65320478 |
| 18 | BOX | | 65320477 |
| 19 | CABLE | TC | 65320940 |
| | | TL | 65320942 |
| 20 | ELECTRODES | | 65322315 |
| 21 | IGNITION TRANSFORMER | COFI 1020 CM 240/50 | 65323238 |
| 22 | HIGH-LOW FLAME SWITCH | cod.360000001 | 65323065 |
| 23 | MAIN SWITCH | cod.40100I1509 | 65323064 |
| 24 | FUSE SUPPORT | Fusit FH-B528 | 65322181 |
| 25 | LAMP | EL/N-SC4 Elettrospring | 65322053 |
| 26 | FAN | 260 x 110 | 65321775 |
| 27 | AIR CONVEYOR | | 65320639 |
| 28 | COVER AIR INLET | | 65324277 |
| 29 | HYDRAULIC SYSTEM | | 65322333 |
| 30 | ROD | TC | 65320234 |
| | | TL | 65320235 |
| 31 | NOZZLE HOLDER | | 65320712 |
| 32 | DIFFUSER | | 65320771 |
| 33 | BLAST TUBE | TC | 65320404 |
| | | TL | 65320405 |
| 34 | INNER ASSEMBLY | TC | 65322420 |
| | | TL | 65322419 |
| 35 | GASKET | | 65321117 |
| 36 | OIL VALVE | Parker SCEM VE131IV | 65323627 |
| 37 | COIL | PARKER | 65323782 |
| 38 | ROD | | 65324358 |
| 39 | COUPLING (FAN) | | 65321785 |
| 40 | UNION | | 65321786 |
| 41 | COUPLING | | 65321782 |
| 42 | COUPLING (PUMP) | | 65324165 |
| 43 | FAN SCOOP | | 65320623 |
| 44 | PROTECTION | | 65324049 |
| 45 | SHEET CLOSING | | 65324050 |

**TC = SHORT HEAD TL = LONG HEAD**

## FAULT FINDING

| | |
|---|---|
| Burner does not start up | - Mains switch not on.<br>- Blown fuse.<br>- Boiler thermostats not made.<br>- Fault in control box. |
| Burner pre-purges and stops | - Fault in control box. |
| Burner does not ignite during cycle and stops | - Fault in control box.<br>- Fault in photo-resistor. |
| Burner does not ignite | - Dirty ignition electrodes.<br>- Fault at electrodes.<br>- Electrodes installed wrongly.<br>- Faulty ignition transformer.<br>- Blocked nozzle.<br>- Nozzle needs replacing.<br>- Oil pressure too low.<br>- Blocked oil filter.<br>- Excessive combustion air for nozzle capacity.<br>- Fault in control box. |
| Burner ignites and then stops | - Faulty nozzle.<br>- Photo-resistor does not "see" flame.<br>- Excessive combustion air for nozzle capacity.<br>- Fault in control box.<br>- Oil pressure too low.<br>- Blocked oil filter. |
| No high flame at burner (2nd stage) | - 2nd stage valve coil faulty.<br>- Oil pressure too low<br>- Dirty filter<br>- 2nd stage nozzle dirty faulty<br>- Fault in control box. |