

BRUCIATORI DI OLIO DENSO / HEAVY OIL BURNERS  
BRULEURS A FIOUL LOURD/QUEMADORES DE FUEL PESADO  
ЖИДКОТОПЛИВНЫЕ ГОРЕЛКИ МАЗУТ

# Ecoflam



MAXFLAM D 10  
MAXFLAM D 20



420010404000

420010404000

06.06.2011

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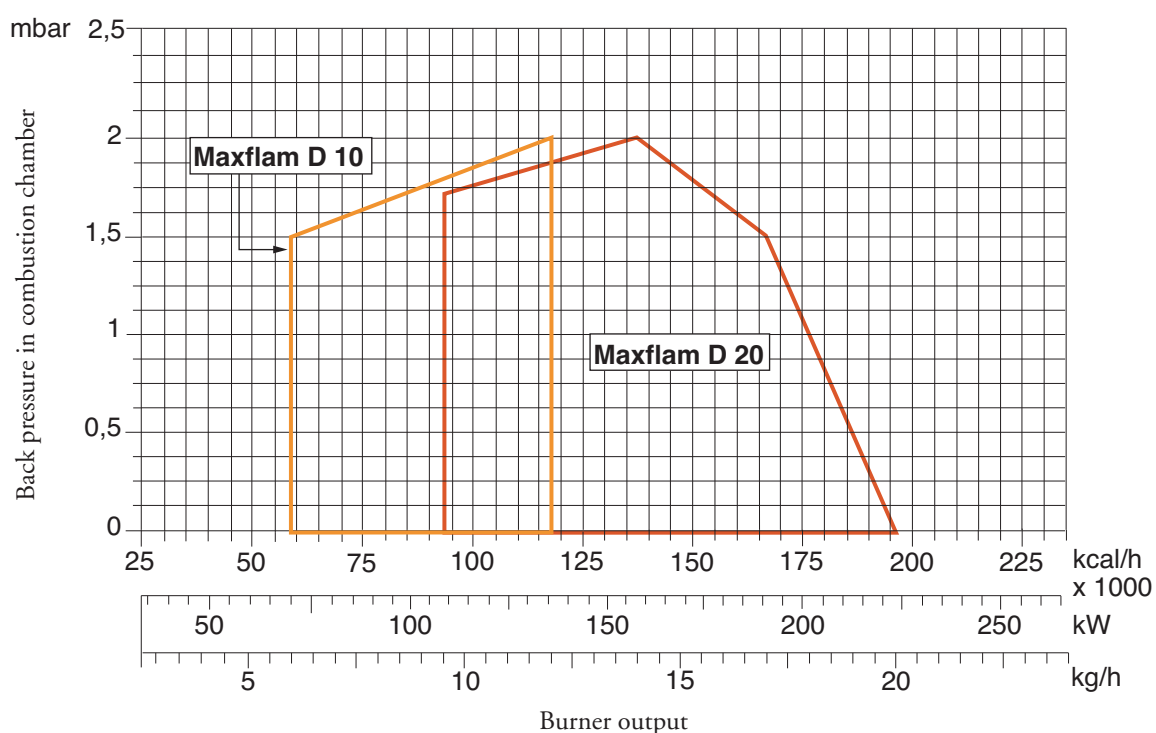
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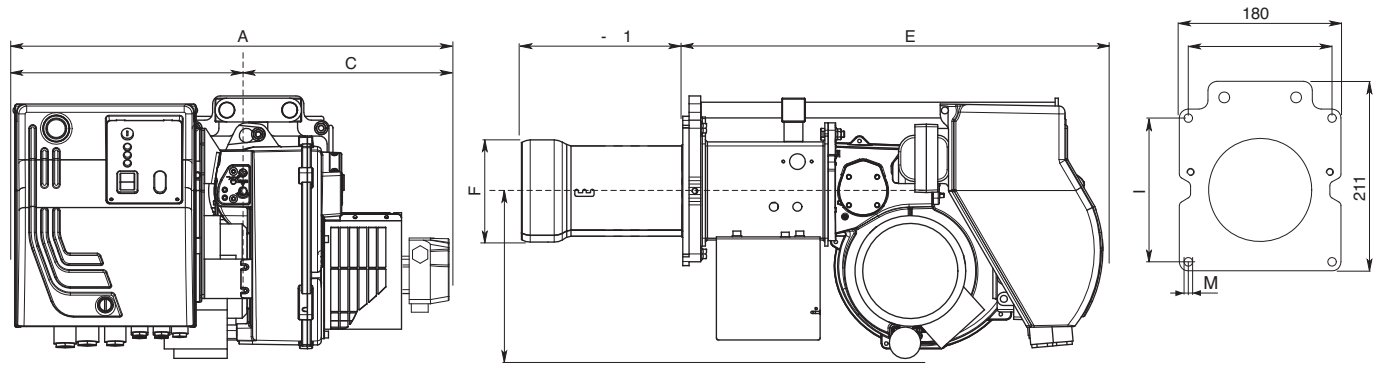
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**TECHNICAL DATA**

| MODELS               |         | Maxflam D 10 | Maxflam D 20 |
|----------------------|---------|--------------|--------------|
| Thermal power max.   | kcal/h  | 117.600      | 196.000      |
|                      | kW      | 136,4        | 227          |
| Thermal power min.   | kcal/h  | 58.800       | 93.100       |
|                      | kW      | 68           | 108          |
| Max. oil flow rate   | kg/h    | 12           | 20           |
| Min. oil flow rate   | kg/h    | 6            | 9,5          |
| Max. viscosity       |         | 50°E a 50° C | 50°E a 50° C |
| Feeding power        | 50 Hz V | 230          | 230          |
| Motor power          | W       | 450          | 450          |
| Rpm                  | N°      | 2.800        | 2.800        |
| Ignition transformer | kV/mA   | 10/30        | 10/30        |
| Main resistances     | W       | 2 x 650      | 3 x650       |
| Control box          | LANDIS  | LMO14.111B2  | LMO14.111B2  |
| Fuel : heavy oil     | kcal/kg | 9.800        | 9.800        |

**WORKING FIELDS**


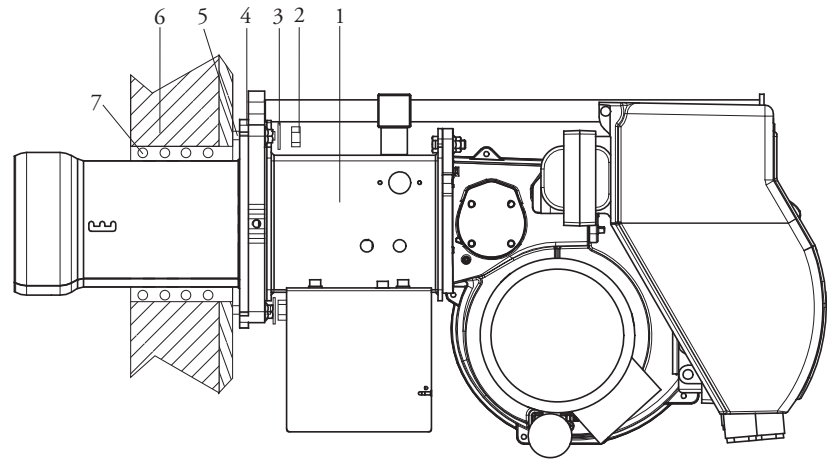
OVERALL DIMENSIONS (mm)



| MODEL           | A   | B   | C   | D   | D1  | E   | F   | G   | I   | L   | M  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Maxflam D 10/20 | 520 | 290 | 230 | 205 | 325 | 535 | 130 | 201 | 160 | 160 | M8 |

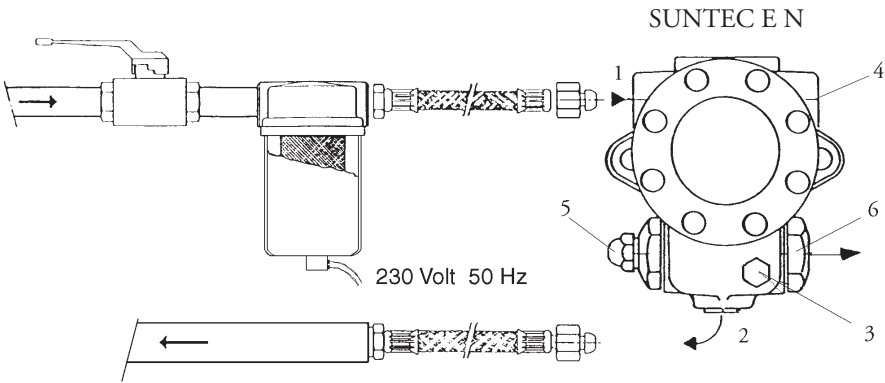
D = short head D1 = long head

BURNER INSTALLATION



- 1 - Burner
- 2 - Nut
- 3 - Washer
- 4 - Gasket
- 5 - Bolt
- 6 - Boiler
- 7 - Gasket

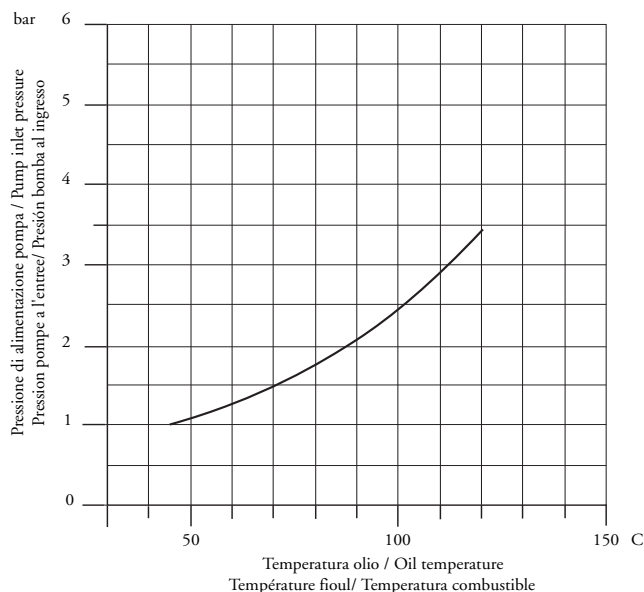
HEAVY OIL FEEDING



- 1 - Suction
- 2 - Retour
- 3 - Bleed and pressure gauge port
- 4 - Vacuum gauge port
- 5 - Pressure adjustment
- 6 - Nozzle outlet

## PUMP'S PRESSURE / OIL TEMPERATURE DIAGRAM

The gasification of volatile fractions in preheated heavy oil seems to be the main cause of premature fuel pump wear. To avoid such a problem, adjust pump pressure according to the diagram hereinafter.

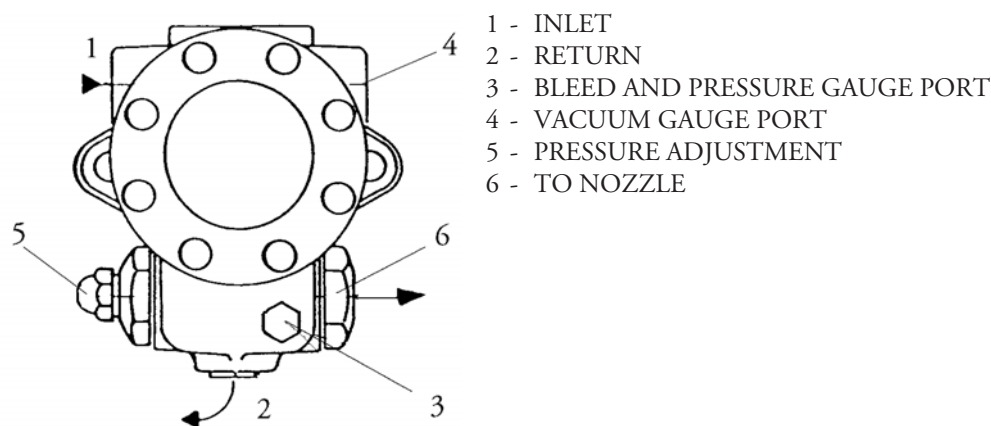


**WARNING:** For a correct working of the pump, verify what follows:

Pump : SUNTEC E4NC 1069  
Oil temperature at the pump: Max. 120 °C  
Maximum allowable pressures: Max. 3,5 bar on inlet.

## PRIMING AND ADJUSTMENT OF OIL PUMP

SUNTEC E



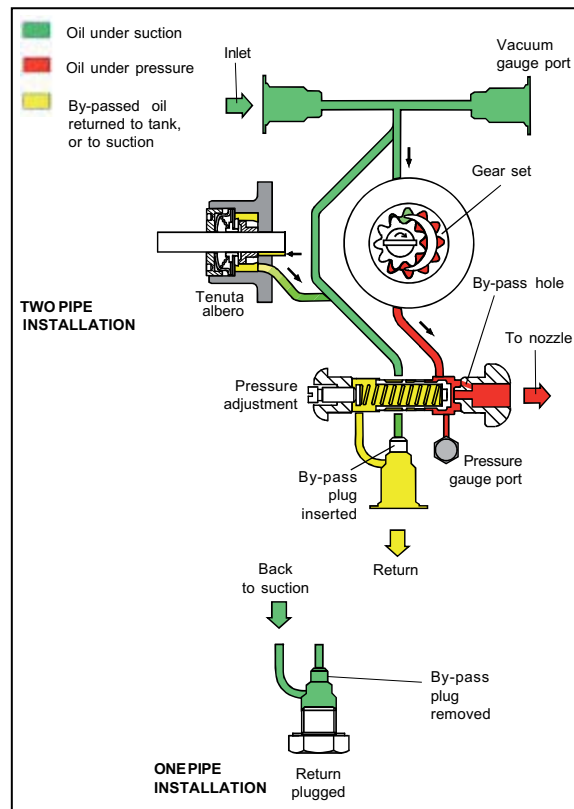
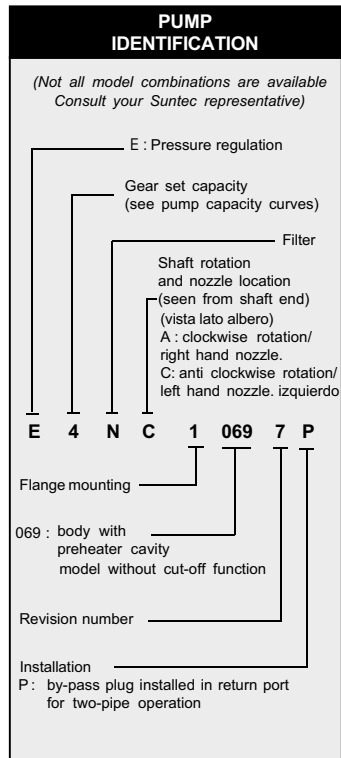
VERIFY: - That piping system is perfectly sealed;

- 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 23 bar 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.

## PUMP SUNTEC E TECHNICAL DATA



## TECHNICAL DATA

## General

|                     |                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------|
| Mounting            | Flange mounting according to EN 225.                                                                     |
| Connection threads  | Cylindrical according to ISO 228/1                                                                       |
| Inlet and return    | G 1/2"                                                                                                   |
| Nozzle outlet       | G 1/4"                                                                                                   |
| Pressure gauge port | G 1/8"                                                                                                   |
| Vacuum gauge port   | G 1/2"                                                                                                   |
| Valve function      | Pressure regulating - no cut-off                                                                         |
| Filter              | Open area: 45 cm<br>Opening size: 550 µm                                                                 |
| Shaft               | Ø 11mm according to EN 225.                                                                              |
| By-pass plug        | Inserted in return port for 2 pipe system;<br>to be removed with a 3/16" Allen key<br>for 1 pipe system. |
| Weight              | 4 kg                                                                                                     |

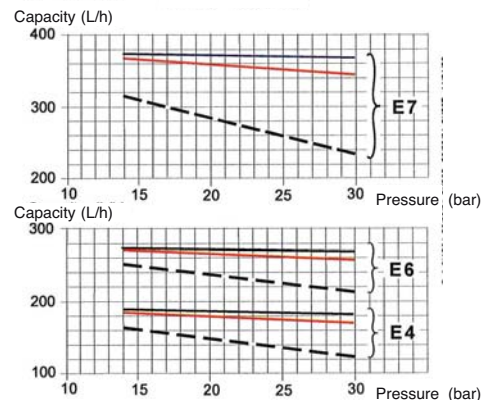
## Hydraulic data

|                           |                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Nozzle pressure range     | 14 - 30 bar                                                                                                                          |
| Delivery pressure setting | 20 bar                                                                                                                               |
| Operating viscosity       | 3 - 75 cSt                                                                                                                           |
| Oil temperature           | 0 - 130°C max. nella pompa                                                                                                           |
| Inlet pressure            | installation to light oil : 0,45 bars max.<br>vacuum to prevent air separation from oil.<br>installation to heavy oil : 3,5 bar max. |
| Return pressure           | installation to light oil : 3,5 bar max.<br>installation to heavy oil : 3,5 bar max.                                                 |
| Rated speed               | 3600 gpm max.                                                                                                                        |
| Torque (to 40 gpm)        | 0,3 N.m                                                                                                                              |

## Choice of heater

|          |                         |
|----------|-------------------------|
| Crtridge | Ø 12 mm                 |
| Fitting  | in accordo con EN 50262 |
| Rating   | 50-80 W                 |

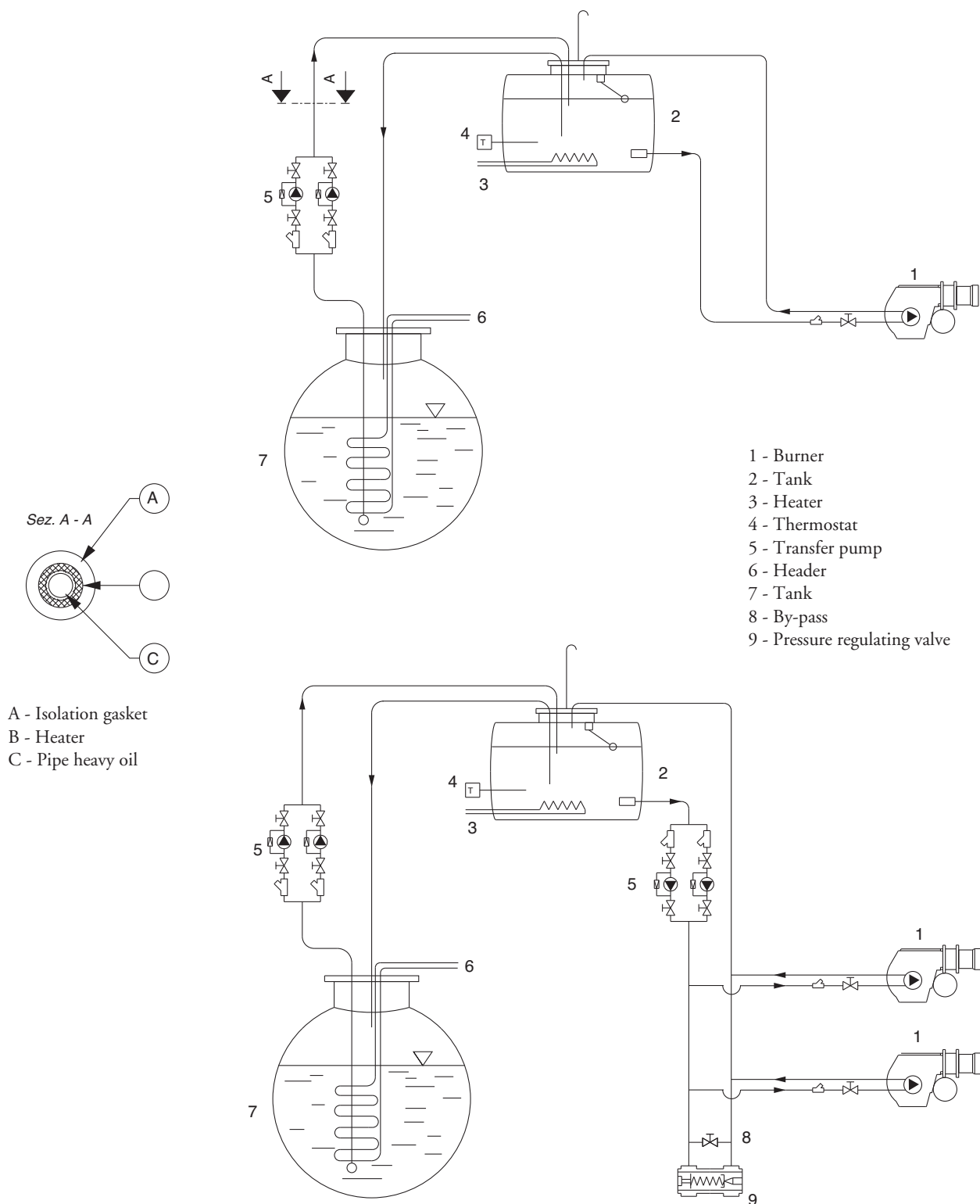
## Pump capacity



Viscosity = — 200 cSt  
 - - - 20 cSt  
 . . . 5 cSt Rated speed= 2850 gpm

Data shown take into account a wear margin.  
Do not oversize the pump when selecting the gear capacity.

## HEAVY OIL FEED SYSTEM



**IMPORTANT:** All fuel pipings are heated (see section A-A of the picture)

## NOZZLE OUTPUT FOR HEAVY OIL

## Pump pressure (bar)

| GPH   | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30    |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0,60  | 2,5   | 2,6   | 2,7   | 2,9   | 3,0   | 3,1   | 3,2   | 3,3   | 3,4   | 3,4   | 3,5   | 3,6   | 3,7   | 3,8   | 3,9   | 4,0   | 4,0   | 4,1   | 4,2   | 4,3   | 4,3   |
| 0,65  | 2,7   | 2,8   | 3,0   | 3,1   | 3,2   | 3,3   | 3,4   | 3,5   | 3,6   | 3,7   | 3,8   | 3,9   | 4,0   | 4,1   | 4,2   | 4,3   | 4,4   | 4,4   | 4,5   | 4,6   | 4,7   |
| 0,75  | 3,1   | 3,3   | 3,4   | 3,5   | 3,7   | 3,8   | 3,9   | 4,0   | 4,2   | 4,3   | 4,4   | 4,5   | 4,6   | 4,7   | 4,8   | 4,9   | 5,0   | 5,1   | 5,2   | 5,3   | 5,4   |
| 0,85  | 3,5   | 3,7   | 3,8   | 4,0   | 4,1   | 4,3   | 4,4   | 4,6   | 4,7   | 4,8   | 4,9   | 5,1   | 5,2   | 5,3   | 5,4   | 5,5   | 5,6   | 5,8   | 5,9   | 6,0   | 6,1   |
| 1,00  | 4,2   | 4,4   | 4,6   | 4,8   | 5,0   | 5,1   | 5,3   | 5,5   | 5,6   | 5,8   | 5,9   | 6,1   | 6,2   | 6,4   | 6,5   | 6,6   | 6,8   | 6,9   | 7,0   | 7,2   | 7,3   |
| 1,10  | 4,6   | 4,8   | 5,0   | 5,2   | 5,4   | 5,6   | 5,8   | 6,0   | 6,2   | 6,3   | 6,5   | 6,7   | 6,8   | 7,0   | 7,1   | 7,3   | 7,4   | 7,6   | 7,7   | 7,8   | 8,0   |
| 1,20  | 5,0   | 5,2   | 5,5   | 5,7   | 5,9   | 6,1   | 6,3   | 6,5   | 6,7   | 6,9   | 7,1   | 7,2   | 7,4   | 7,6   | 7,7   | 7,9   | 8,1   | 8,2   | 8,4   | 8,5   | 8,7   |
| 1,25  | 5,2   | 5,5   | 5,7   | 5,9   | 6,2   | 6,4   | 6,6   | 6,8   | 7,0   | 7,2   | 7,4   | 7,5   | 7,7   | 7,9   | 8,1   | 8,2   | 8,4   | 8,5   | 8,7   | 8,9   | 9,0   |
| 1,35  | 5,6   | 5,9   | 6,1   | 6,4   | 6,6   | 6,9   | 7,1   | 7,3   | 7,5   | 7,7   | 7,9   | 8,1   | 8,3   | 8,5   | 8,7   | 8,9   | 9,0   | 9,2   | 9,4   | 9,5   | 9,7   |
| 1,50  | 6,2   | 6,5   | 6,8   | 7,1   | 7,3   | 7,6   | 7,8   | 8,1   | 8,3   | 8,5   | 8,8   | 9,0   | 9,2   | 9,4   | 9,6   | 9,8   | 10,0  | 10,2  | 10,4  | 10,6  | 10,7  |
| 1,65  | 6,9   | 7,2   | 7,6   | 7,9   | 8,2   | 8,5   | 8,7   | 9,0   | 9,3   | 9,5   | 9,8   | 10,0  | 10,2  | 10,5  | 10,7  | 10,9  | 11,1  | 11,3  | 11,5  | 11,8  | 12,0  |
| 1,75  | 7,3   | 7,7   | 8,0   | 8,3   | 8,6   | 8,9   | 9,2   | 9,5   | 9,8   | 10,1  | 10,3  | 10,6  | 10,8  | 11,1  | 11,3  | 11,5  | 11,8  | 12,0  | 12,2  | 12,4  | 12,6  |
| 2,00  | 8,3   | 8,7   | 9,1   | 9,5   | 9,8   | 10,2  | 10,5  | 10,8  | 11,1  | 11,4  | 11,7  | 12,0  | 12,3  | 12,6  | 12,9  | 13,1  | 13,4  | 13,6  | 13,9  | 14,1  | 14,4  |
| 2,25  | 9,4   | 9,9   | 10,3  | 10,7  | 11,1  | 11,5  | 11,9  | 12,3  | 12,6  | 13,0  | 13,3  | 13,6  | 13,9  | 14,3  | 14,6  | 14,9  | 15,2  | 15,4  | 15,7  | 16,0  | 16,3  |
| 2,50  | 10,4  | 10,9  | 11,4  | 11,9  | 12,3  | 12,7  | 13,2  | 13,6  | 14,0  | 14,3  | 14,7  | 15,1  | 15,4  | 15,8  | 16,1  | 16,4  | 16,8  | 17,1  | 17,4  | 17,7  | 18,0  |
| 3,00  | 12,5  | 13,1  | 13,7  | 14,3  | 14,8  | 15,3  | 15,8  | 16,3  | 16,8  | 17,2  | 17,7  | 18,1  | 18,5  | 19,0  | 19,4  | 19,8  | 20,2  | 20,5  | 20,9  | 21,3  | 21,7  |
| 3,50  | 14,6  | 15,3  | 16,0  | 16,6  | 17,3  | 17,9  | 18,5  | 19,0  | 19,6  | 20,1  | 20,6  | 21,2  | 21,7  | 22,1  | 22,6  | 23,1  | 23,5  | 24,0  | 24,4  | 24,9  | 25,3  |
| 4,00  | 16,6  | 17,4  | 18,2  | 18,9  | 19,6  | 20,3  | 21,0  | 21,6  | 22,3  | 22,9  | 23,5  | 24,1  | 24,6  | 25,2  | 25,7  | 26,2  | 26,8  | 27,3  | 27,8  | 28,3  | 28,8  |
| 4,50  | 18,7  | 19,6  | 20,5  | 21,3  | 22,1  | 22,9  | 23,7  | 24,4  | 25,1  | 25,8  | 26,4  | 27,1  | 27,7  | 28,4  | 29,0  | 29,6  | 30,2  | 30,7  | 31,3  | 31,8  | 32,4  |
| 5,00  | 20,8  | 21,8  | 22,8  | 23,7  | 24,6  | 25,5  | 26,3  | 27,1  | 27,9  | 28,7  | 29,4  | 30,1  | 30,9  | 31,5  | 32,2  | 32,9  | 33,5  | 34,2  | 34,8  | 35,4  | 36,0  |
| 5,50  | 22,9  | 24,0  | 25,1  | 26,1  | 27,1  | 28,0  | 29,0  | 29,9  | 30,7  | 31,6  | 32,4  | 33,2  | 34,0  | 34,7  | 35,5  | 36,2  | 36,9  | 37,6  | 38,3  | 39,0  | 39,7  |
| 6,00  | 25,0  | 26,2  | 27,4  | 28,5  | 29,6  | 30,6  | 31,6  | 32,6  | 33,5  | 34,5  | 35,4  | 36,2  | 37,1  | 37,9  | 38,7  | 39,5  | 40,3  | 41,1  | 41,8  | 42,6  | 43,3  |
| 6,50  | 27,1  | 28,4  | 29,7  | 30,9  | 32,1  | 33,2  | 34,3  | 35,3  | 36,4  | 37,4  | 38,3  | 39,3  | 40,2  | 41,1  | 42,0  | 42,8  | 43,7  | 44,5  | 45,3  | 46,1  | 46,9  |
| 7,00  | 29,1  | 30,5  | 31,9  | 33,2  | 34,4  | 35,6  | 36,8  | 37,9  | 39,0  | 40,1  | 41,2  | 42,2  | 43,2  | 44,1  | 45,1  | 46,0  | 46,9  | 47,8  | 48,7  | 49,6  | 50,4  |
| 7,50  | 31,2  | 32,7  | 34,2  | 35,6  | 36,9  | 38,2  | 39,5  | 40,7  | 41,9  | 43,0  | 44,1  | 45,2  | 46,3  | 47,3  | 48,3  | 49,3  | 50,3  | 51,3  | 52,2  | 53,1  | 54,0  |
| 8,30  | 34,5  | 36,2  | 37,8  | 39,3  | 40,8  | 42,3  | 43,6  | 45,0  | 46,3  | 47,6  | 48,8  | 50,0  | 51,2  | 52,3  | 53,4  | 54,5  | 55,6  | 56,7  | 57,7  | 58,8  | 59,8  |
| 9,50  | 39,5  | 41,4  | 43,3  | 45,0  | 46,7  | 48,4  | 50,0  | 51,5  | 53,0  | 54,4  | 55,9  | 57,2  | 58,6  | 59,9  | 61,2  | 62,5  | 63,7  | 64,9  | 66,1  | 67,3  | 68,4  |
| 10,50 | 43,7  | 45,8  | 47,9  | 49,8  | 51,7  | 53,5  | 55,3  | 57,0  | 58,6  | 60,2  | 61,8  | 63,3  | 64,8  | 66,3  | 67,7  | 69,1  | 70,5  | 71,8  | 73,1  | 74,4  | 75,7  |
| 12,00 | 49,9  | 52,3  | 54,7  | 56,9  | 59,0  | 61,1  | 63,1  | 65,1  | 66,9  | 68,8  | 70,6  | 72,3  | 74,0  | 75,7  | 77,3  | 78,9  | 80,5  | 82,0  | 83,5  | 85,0  | 86,4  |
| 13,80 | 57,4  | 60,2  | 62,9  | 65,4  | 67,9  | 70,3  | 72,6  | 74,8  | 77,0  | 79,1  | 81,2  | 83,2  | 85,1  | 87,1  | 88,9  | 90,8  | 92,6  | 94,3  | 96,0  | 97,7  | 99,4  |
| 15,30 | 63,7  | 66,8  | 69,8  | 72,6  | 75,4  | 78,0  | 80,6  | 83,1  | 85,5  | 87,8  | 90,1  | 92,3  | 94,5  | 96,6  | 98,7  | 100,7 | 102,7 | 104,7 | 106,6 | 108,5 | 110,3 |
| 17,50 | 72,8  | 76,4  | 79,7  | 83,0  | 86,1  | 89,2  | 92,1  | 94,9  | 97,7  | 100,3 | 103,0 | 105,5 | 108,0 | 110,4 | 112,8 | 115,1 | 117,4 | 119,6 | 121,8 | 124,0 | 126,1 |
| 19,50 | 81,2  | 85,2  | 89,0  | 92,6  | 96,1  | 99,4  | 102,7 | 105,9 | 108,9 | 111,9 | 114,8 | 117,7 | 120,4 | 123,1 | 125,8 | 128,4 | 130,9 | 133,4 | 135,9 | 138,3 | 140,6 |
| 21,50 | 89,5  | 93,9  | 98,0  | 102,0 | 105,9 | 109,6 | 113,2 | 116,7 | 120,1 | 123,4 | 126,6 | 129,7 | 132,7 | 135,7 | 138,7 | 141,5 | 144,3 | 147,1 | 149,8 | 152,4 | 155,0 |
| 24,00 | 99,9  | 104,8 | 109,4 | 113,9 | 118,2 | 122,4 | 126,4 | 130,3 | 134,0 | 137,7 | 141,3 | 144,8 | 148,2 | 151,5 | 154,8 | 158,0 | 161,1 | 164,2 | 167,2 | 170,1 | 173,0 |
| 28,00 | 116,5 | 122,2 | 127,6 | 132,8 | 137,8 | 142,7 | 147,4 | 151,9 | 156,3 | 160,6 | 164,8 | 168,8 | 172,8 | 176,7 | 180,5 | 184,2 | 187,9 | 191,4 | 194,9 | 198,4 | 201,8 |
| 30,00 | 124,9 | 131,0 | 136,8 | 142,4 | 147,8 | 153,0 | 158,0 | 162,8 | 167,6 | 172,2 | 176,6 | 181,0 | 185,3 | 189,4 | 193,5 | 197,5 | 201,4 | 205,2 | 209,0 | 212,7 | 216,3 |

Burner output (kg/h)

## CHECKS TO BE MADE TO ENSURE A PROPER INSTALLATION:

Before proceeding with the filling of the fuel system and subsequent burner start up, it is advisable to carry out the following checks:

- Power line must be adequate to system's adsorbed load
- Fuses must be adequate to the system's load
- Boiler's thermostats must have been properly connected
- Voltage and frequency must be within the specified limits
- Fuel type must be the one specified by the burner manufacturer
- Feed piping section must be adequate to the requested fuel flow rate
- Filters, cocks as well as fittings must have been properly installed
- Blast tube length must be the one specified by the boiler manufacturer
- Nozzle's flow rate of the burner must be adequate to boiler's output

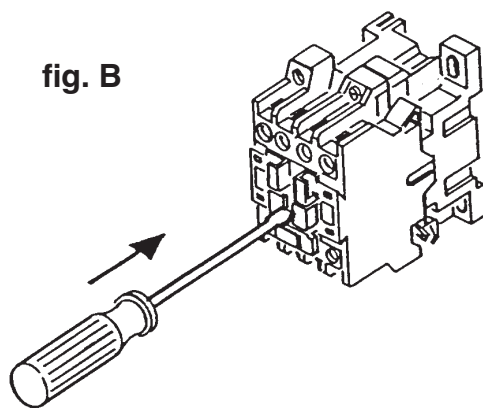
## BEFORE PROCEEDING WITH THE FILLING OF THE OIL SYSTEM, CHECK THE FOLLOWING POINTS

- Motor's direction of rotation (with 3phase version)
- There must be fuel in the tank.
- Fuel cocks must be open.
- Fuel return piping must be free from obstructions.

After having checked all the above items, proceed as follows:

- Connect a fuel pressure gauge.
- Disconnect the resistors power cable from the motor's remote control switch, and insulate it temporarily
- Unplug the safety box
- To press manually with a screwdriver on the pump motor's remote control switch, until the oil system is filled up(fig.B).

**Note:** the oil system can be considered filled when pressure gauge will show a constant reading. When done, restore initial conditions.



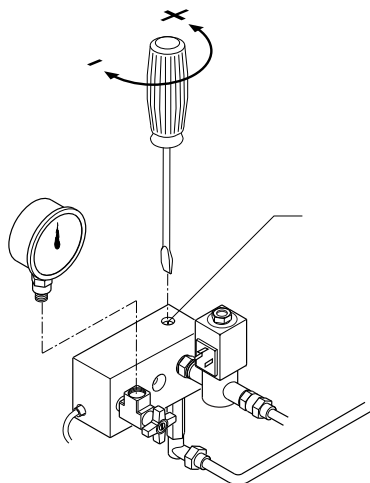
## WORKING OF THE BURNER

When all the controls, as shown in previous paragraphs, have been accomplished, it will be possible to proceed with the burner start up.

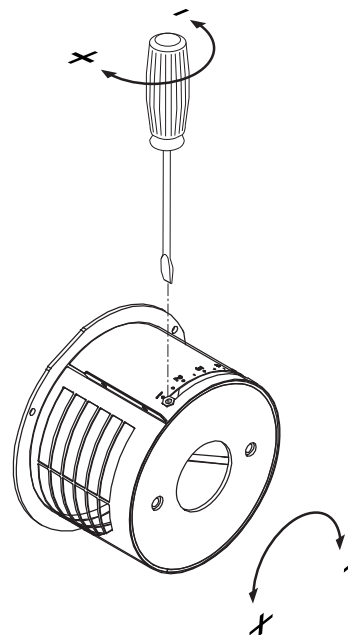
- Switch-on the burner. When reaching the preset temperature on the working thermostat, and with boiler's thermostat closed, the control box starts the fan, the fuel pump and the ignition transformer. At the same time, the balancing resistors are activated, to keep fuel temperature into the heater at a constant value.
- It begins, in this way, the combustion chamber prepurging, as well as the fuel circulation in the whole circuit, so as to obtain an uniformity of temperature which allows a correct flowing of the same. The fuel pressure, during prepurging, shall be around 16÷18 bar. If not, adjust the pressure to the specified value through the regulator "D", purposely installed on the heating circuit (see figure).

- At the end of the prepurging, the control box shut off the solenoid valve “O” while opening the 1st stage valve (for example valve “A”), allowing the burner ignition in Low Flame.
- In order to have a correct combustion, adjust the combustion air flow (see figure).
- The fuel pressure during burner's working shall be set to 23 bars.

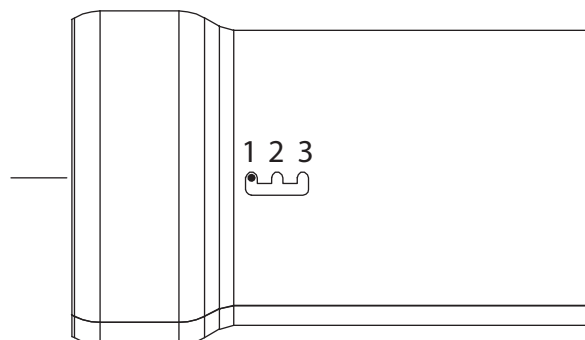
## ADJUSTEMENT OF PRESSURE IN PREPURGING PHASE



## AIR REGULATION SUCTION SIDE



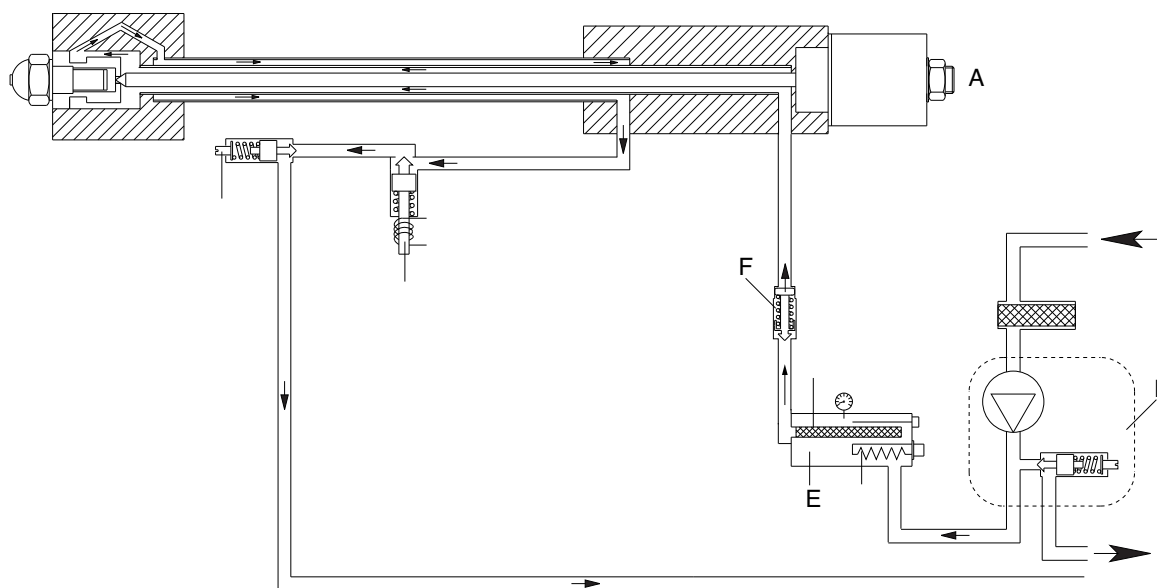
## FIRING HEAD SETTING



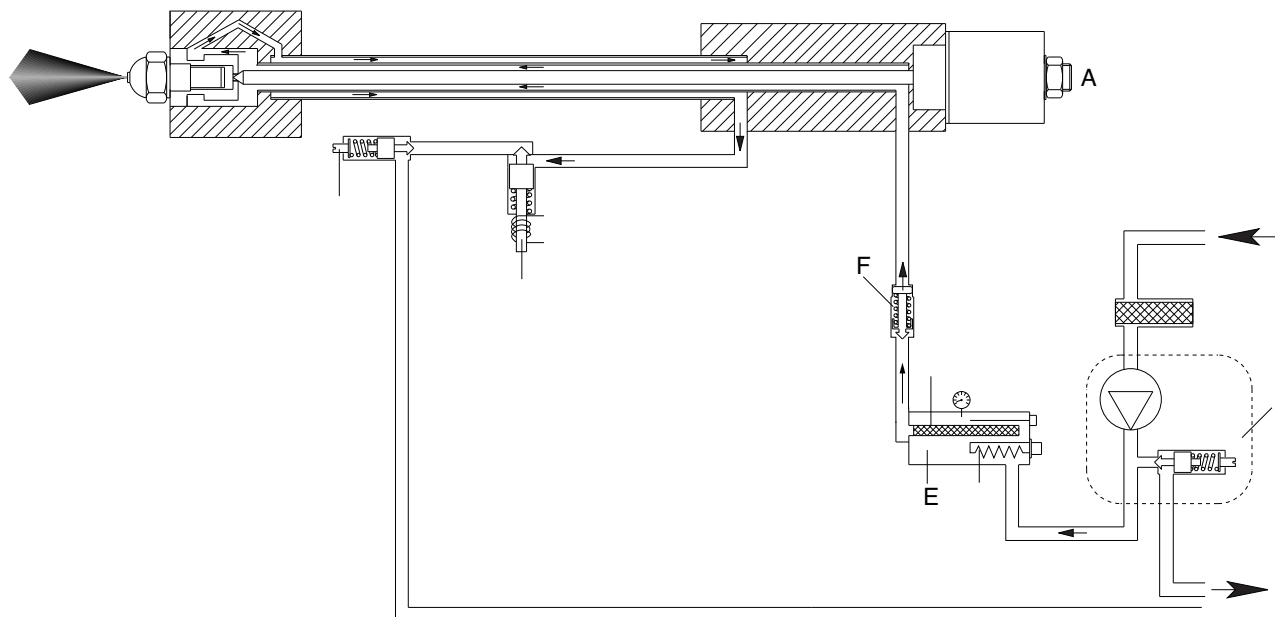
## ADJUSTMENT DATA

|              | NOZZLE |       | PUMP | OUTPUT | FIRING HEAD SETTING | AIR DAMPER ADJUSTMENT |
|--------------|--------|-------|------|--------|---------------------|-----------------------|
|              | gph    | spry  |      |        | Pos.                | Pos.                  |
| Maxflam D 10 | 1.00   | 60°HO | 23   | 6      | 1                   | 2,20                  |
|              | 1.25   | 60°HO | 23   | 8      | 1                   | 2,80                  |
|              | 1.50   | 60°HO | 23   | 9,5    | 1                   | 3,50                  |
|              | 2.00   | 60°HO | 21   | 12     | 2                   | 4,50                  |
| Maxflam D 20 | 1.50   | 60°HO | 23   | 9,5    | 1                   | 3,50                  |
|              | 2.00   | 60°HO | 23   | 12,50  | 2                   | 4,50                  |
|              | 2.50   | 60°HO | 23   | 15,80  | 2                   | 5,50                  |
|              | 3.00   | 60°HO | 23   | 20     | 3                   | 8                     |

## PREPURGING PHASE



## WORKING PHASE



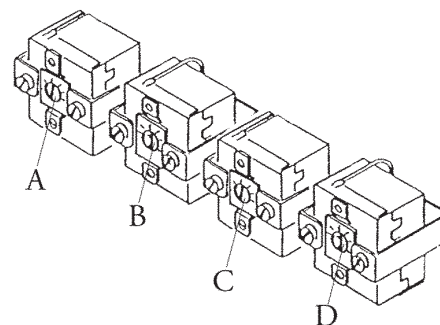
### Legend :

- A. Solenoid valve (N.C.)
- D. Fuel flow adjuster in prepurging.
- E. Tank
- F. Anti-gas valve
- G. Heater
- H. Filter
- I. Fuel pump
- O. Solenoid valve (N.O.)
- N.C. = Norm. closed
- N.O. = Norm. open

### ADJUSTMENT OF FUEL THERMOSTATS

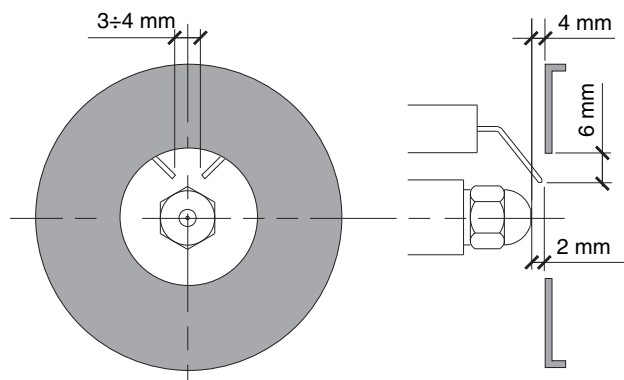
The working resistor thermostat must be set to 120 °C, while the safety one to 180 °C. Said adjustments can be slightly modified following the type of fuel and particular uses.

- A - Safety thermostat (180° C).
- B - Working thermostat (100°/120° C).
- C - Stand-by thermostat (150° C).
- D - Firing head thermostat (120° C).



### POSITION OF IGNITION ELECTRODES

For a correct burner ignition, carefully respect the dimensions shown by the picture.



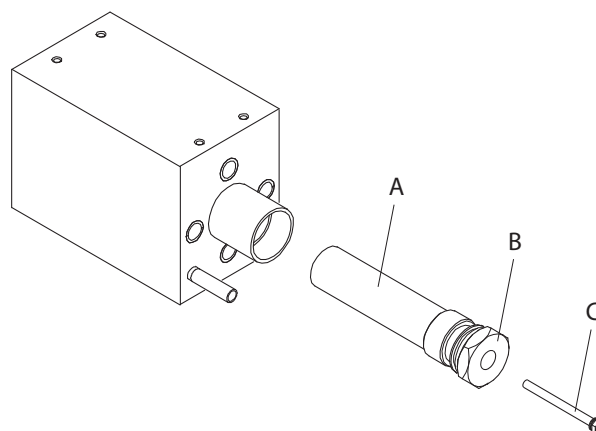
### CLEANING AND MAINTENANCE OF FILTERS MOUNTED ON THE PREHEATER

#### REMOVING OF THE FILTER

- 1 - Switch-off the burner and make cold to leave.
- 2 - Take off oil thermometer bulb C.
- 3 - Loosen screw B and drain part of the fuel from the heater, until the fuel level drop below the filter.
- 4 - Unscrew and pull out the stem filter A from its seat.
- 5 - Clean the filter and reassemble the parts as shown by the picture, then fit it in its own seat.

It is advisable to replace all filter and valve gaskets whenever they are removed.

**Note that when the burner is working the heater has a pressure of abt. 23 bar, and that it becomes very dangerous to carry out said operations with the burner running.**



## TROUBLESHOOTING

### 1 - The burner does not start

- Power switch in OFF position
- Fuses burnt
- Boiler's thermostats open
- Resistors failure
- Heater thermostats open

### 2 - The resistors heat but the burner does not start

- Thermostats failure
- Power switch in OFF position
- Heater thermostats open
- Control box failure

### 3 - The burners runs the prepurging and switches to lock out

- Power switch in OFF position
- Control box failure
- Photoresistor failure
- Premature ignition due to oil leakage from solenoid valve

### 4 - The burner does not ignite during cycle and switches to lock out

- Control box failure

### 5 - The burner does not ignite

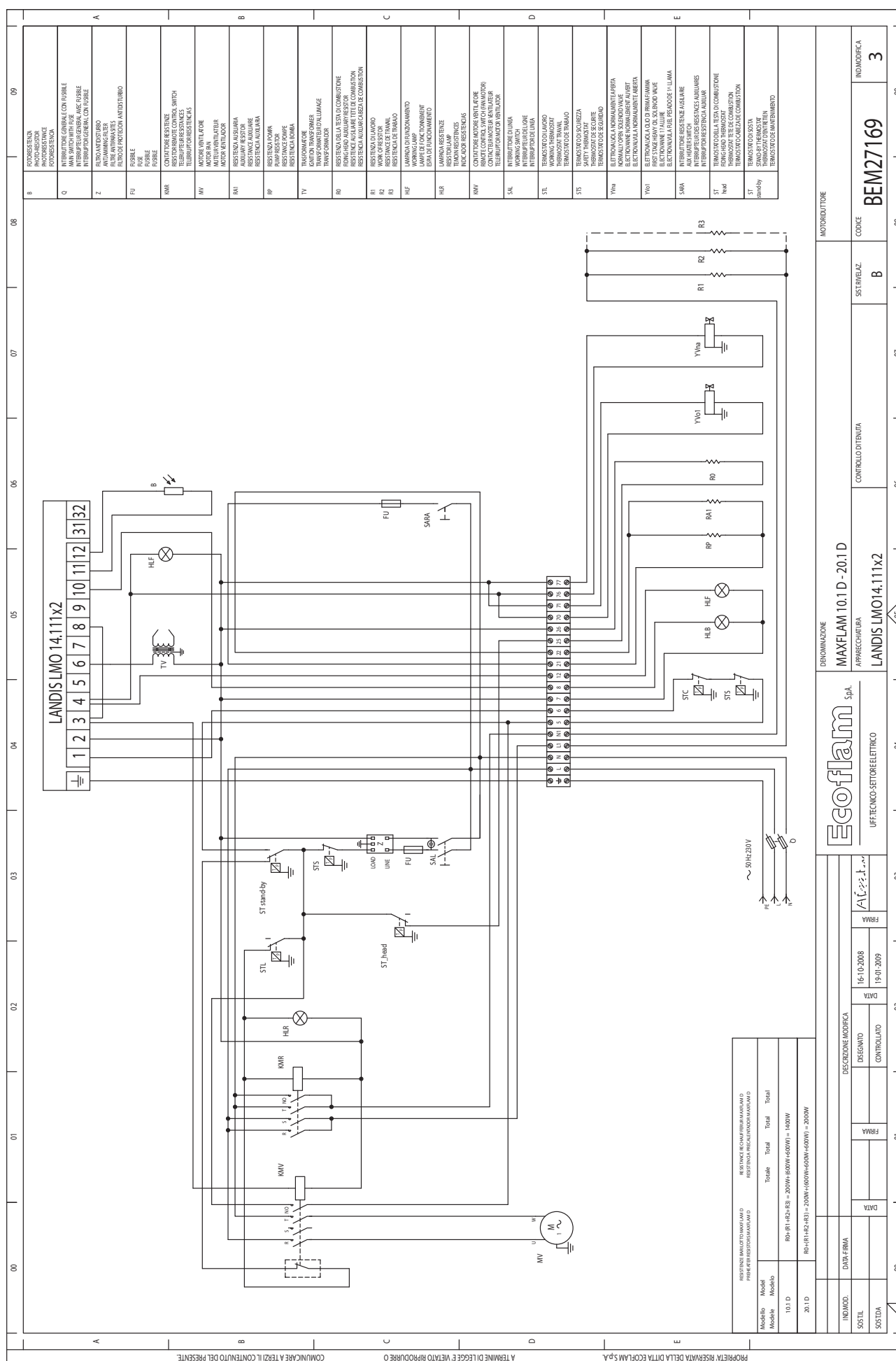
- Ignition electrodes dirty
- Electrodes failure
- Electrodes installed in wrong position
- Ignition transformer's failure
- 1st Stage valve's failure
- Nozzles clogged
- Eccles of combustion air related to nozzles flow rate
- Control box failure

### 6 - The burner ignite but switches to lock out

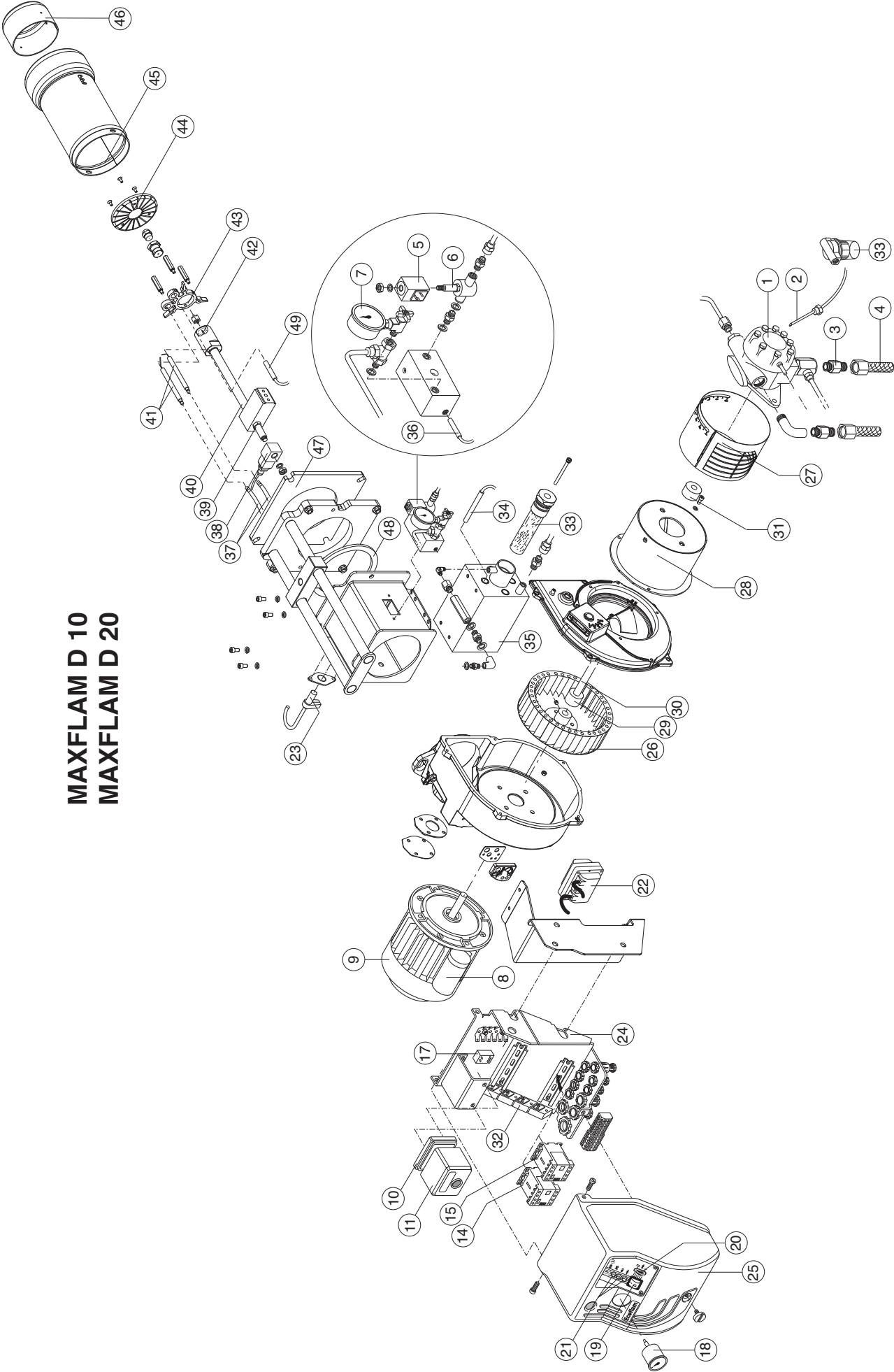
- The oil temperature is too low (flame jumps)
- Nozzles are too worn
- The photoresistor does not detect the flame
- The oil pressure during prepurging is too low
- Eccles of combustion air related to nozzles flow rate
- Control box failure
- Oil pressure too low
- Filters clogged

### 7 - Oil pressure too low or irregular

- Pump and/or heater filters clogged
- The norm. open valve does not close
- Irregular oil feed
- Pump failure



MAXFLAM D 10  
MAXFLAM D 20



| N° | DESCRIPTION                 |                           | MAXFLAM D 10<br>code | MAXFLAM D 20<br>code |
|----|-----------------------------|---------------------------|----------------------|----------------------|
| 1  | PUMP                        | SUNTEC E 4NC 10695        | 65322954             | 65322954             |
| 2  | HEATING ELEMENT PUMP        | 50 W                      | 65323072             | 65324208             |
| 3  | NIPPLE                      |                           | -                    | -                    |
| 4  | HOSES                       | TN 18X1500                | 65323182             | 65323182             |
| 5  | COIL                        | Parker JB 18              | 65323781             | 65323781             |
| 6  | VALVE                       | Parker SCEM 120 8AR JB 18 | 65323628             | 65323628             |
| 7  | MANOMETER                   | CEWAL R1/4 D              | 65324105             | 65324105             |
| 8  | CAPACITOR                   | 16 µF x 550 W             | 65321858             | 65321858             |
| 9  | MOTOR                       | 450 W                     | 65324202             | 65324202             |
| 10 | CONTROL BOX BASE            | LANDIS                    | 65320092             | 65320092             |
| 11 | CONTROL BOX                 | LANDIS LMO14.111B2        | 65320023             | 65320023             |
| 12 | RELAY BASE                  |                           | -                    | -                    |
| 13 | RELAY                       |                           | -                    | -                    |
| 14 | REMOTE CONTROL SWITCH       | AEG LS05.10               | 65323132             | 65323132             |
| 15 | REMOTE CONTROL SWITCH MOTOR | AEG LS05.10               | 65323132             | 65323132             |
| 16 | MOTOR THERMAL RELAY         |                           | -                    | -                    |
| 17 | ANTIJAMMING FILTER          |                           | 65323170             | 65323170             |
| 18 | THERMOMETER                 | IMIT 0-200                | 65323093             | 65323093             |
| 19 | MAIN SWITCH                 | cod.4010011509            | 65323064             | 65323064             |
| 20 | HIGH-LOW FLAME SWITCH       | cod.360000001             | 65323065             | 65323065             |
| 21 | LAMP                        | EL/N-SC4 Elettrospring    | 65322053             | 65322053             |
| 22 | IGNITION TRANSFORMER        | COFI 1030 CM              | 65323235             | 65323235             |
| 23 | PHOTORESISTOR               | LANDIS QRB1A-A050B70A2    | 65320076             | 65320076             |
| 24 | BOX SUPPORT                 |                           | 65320478             | 65320478             |
| 25 | BOX                         |                           | 65320477             | 65320477             |
| 26 | FAN                         | 160X62                    | 65323820             | 65323820             |
| 27 | AIR WAISTBAND               |                           | 65324191             | 65324191             |
| 28 | COVER AIR INLET             |                           | 65324190             | 65324190             |
| 29 | COUPLING (FAN)              |                           | 65324205             | 65324205             |
| 30 | COUPLING                    |                           | 65324200             | 65324200             |
| 31 | COUPLING (PUMP)             |                           | 65324204             | 65324204             |
| 32 | THERMOSTAT                  | IMIT TR2 40/200           | 65323147             | 65323147             |
| 33 | FILTER                      | 70104-03                  | 65324806             | 65324806             |
| 34 | HEATER                      |                           | 65324206             | 65324206             |
| 35 | OIL TANK                    |                           | 65324197             | 65324197             |
| 36 | HEATING                     | 50 W                      | 65323072             | 65323072             |
| 37 | CABLE                       |                           | 65324194             | 65324194             |
| 38 | COIL                        | Parker JB 18              | 65323781             | 65323781             |
| 39 | OIL VALVE                   | Parker SCEM 120 8AR JB    | 65323629             | 65323629             |
| 40 | FIRING HEAD                 | TC                        | 65324198             | 65324198             |
|    |                             | TL                        | 65325244             | 65325244             |
| 41 | ELECTRODES                  |                           | 65320952             | 65320952             |
| 42 | ROD NOZZLE HOLDER           | TC                        |                      |                      |
|    |                             | TL                        |                      |                      |
| 43 | DIFFUSER HOLDER             |                           | 65324192             | 65324192             |
| 44 | DIFFUSER                    |                           | 65324193             | 65324193             |
| 45 | BLAST TUBE                  | TC                        | 65324188             | 65324188             |
|    |                             | TL                        | 65325245             | 65325245             |
| 46 | BLAST TUBE WAISTBAND        |                           | 65324189             | 65324189             |
| 47 | GASKET                      |                           | 65324195             | 65324195             |
| 48 | GASKET                      |                           | 65324196             | 65324196             |
| 49 | FIRING HEAD HEATER          | 200 W                     | 65324208             | 65324208             |

TC = SHORT HEAD TL = LONG HEAD

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