

- BRUCIATORI A GAS PROGRESSIVI
- PROGRESSIVE GAS BURNERS
- BRULEURS GAZ PROGRESSIVES
- QUEMADOR DE GAS PROGRESIVOS



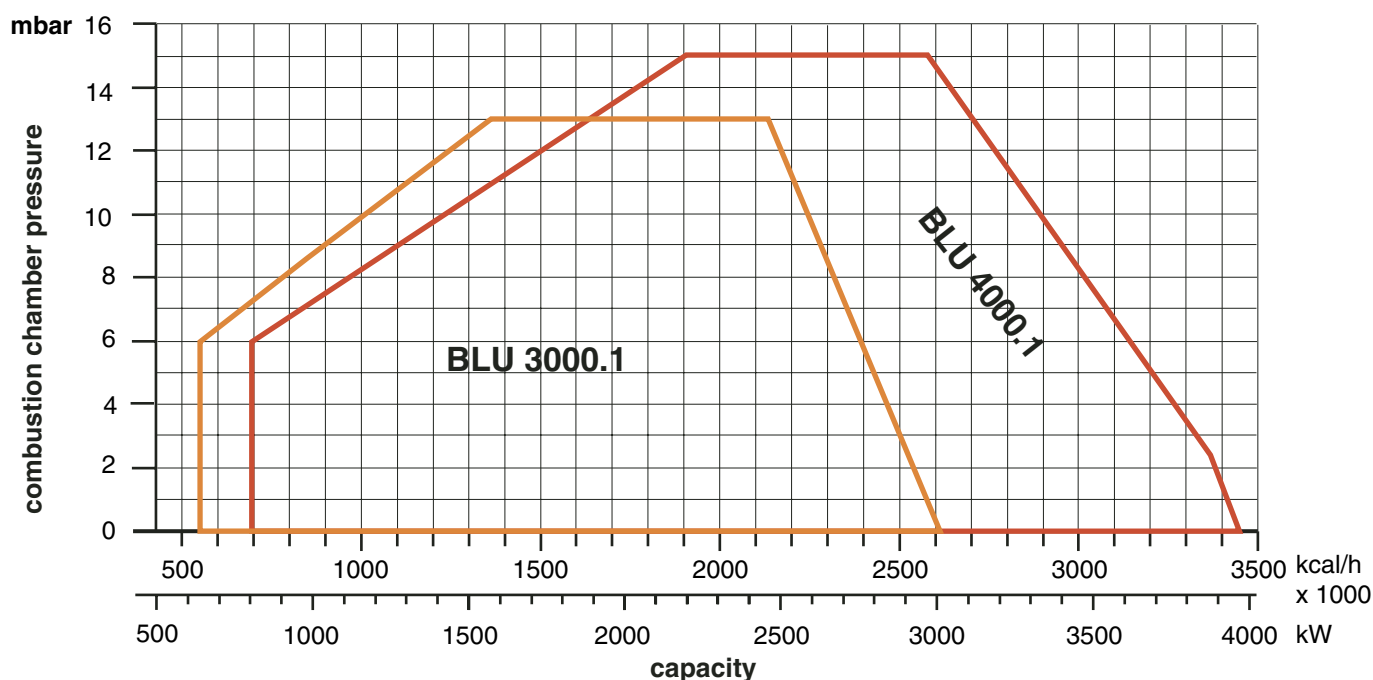
BLU 3000.1 PR
BLU 4000.1 PR



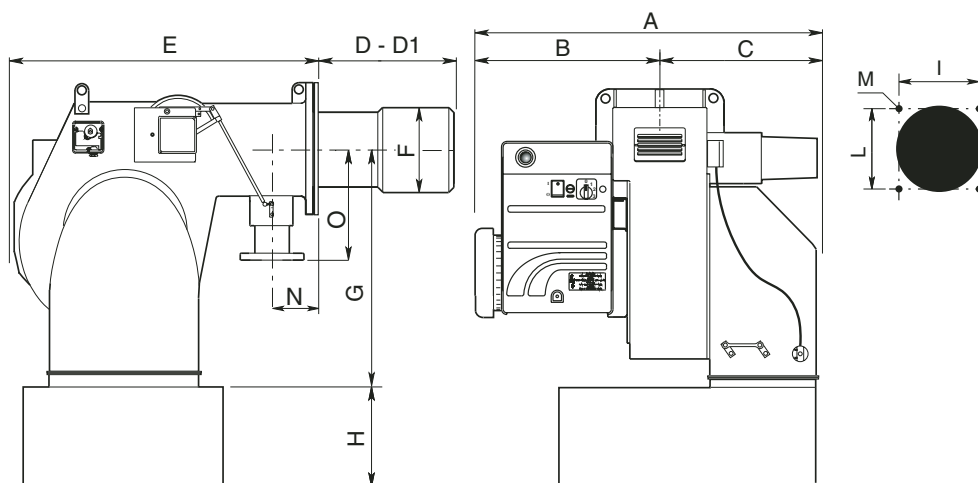
LB1616
27.06.2006

Technical data		BLU 3000.1 PR/MD	BLU 4000.1 PR/MD
Thermal power max.	kW	3000	3900
	kcal/h	2.586.000	3.362.000
Thermal power min.	kW	630	875
	kcal/h	543.100	754.300
Natural gas pressure	mbar	40÷300	40÷300
LPG pressure	mbar	37÷150	37÷150
Voltage , 50 Hz	V	230 / 400	230 / 400
Motor	kW	5,5	7,5
Rpm	N°	2800	2800
Fuel :		P.c.i. Natural gas = 35,9 MJ / Nm ³ = 8.600 kcal / Nm ³ P.c.i. GPL 22.260 kcal / Nm ³	

OPERATING RANGE OF THE BURNERS



OVERALL DIMENSIONS



MODELS	A	B	C	D	D1	E	F	G	H	I	L	M	N	O
Blu 3000.1	941	448	493	330	530	780	290	466	280	315	315	M16	195	250
Blu 4000.1	941	448	493	365	565	780	320	466	280	315	315	M16	195	250

D= Short head D1= Long head

CONNECTION TO THE GAS PIPELINE

Once connected the burner to the gas pipeline, it is necessary to control that this last is perfectly sealed. Also verify that the chimney is not obstructed. Open the gas cock and carefully bleed the piping through the pressure gauge connector, then check the pressure value through a suitable gauge. Power on the system and adjust the thermostats to the desired temperature. When thermostats close, the sealing control device runs a seal test of valves; at the end of the test the burner will be enabled to run the start-up sequence.

ELECTRICAL CONNECTIONS

All burners factory tested at 400 V 50 Hz three-phase for motors and 230 V 50 Hz monophasic with neutral for auxiliary equipment. If mains supply is 230 V 50 Hz three-phase without neutral, change position of connectors on burner as in fig. Protect burner supply line with safety fuses and any other devices required by safety standards obtaining in the country in question.

BURNER START-UP

Once connected the burner to the gas pipe make sure that there are no leakages. Air bleed the pipe through the pressure gauge fixing point and check the pressure with a pressure gauge. Turn the thermostats to the desired temperature.

PRELIMINARY CHECKS

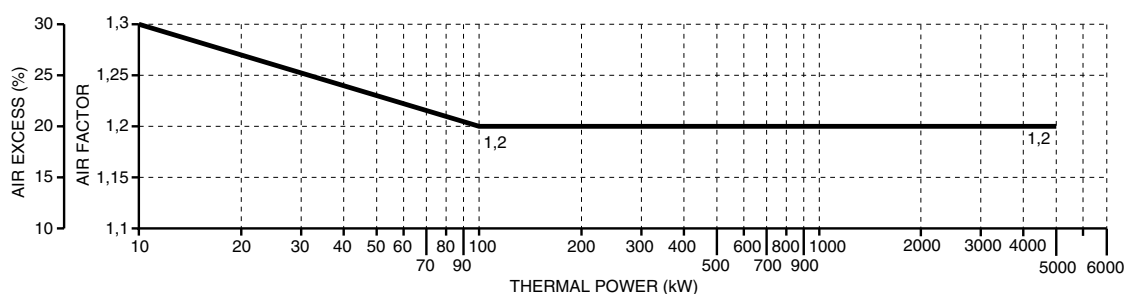
- Before starting up the boiler check the following: - gas type and feed pressure; - gas valves closed; - the seals in the pipe fittings; - gas pipe breather and input pressure; - that the cable complies with the diagram and the phase and neutral wires correspond; - that the burner shuts down when the boiler thermostat opens; - the seal of the boiler furnace which prevents air from entering; - the seal on the flue-boiler pipe fitting; - the condition of the flue (sealed, free from blockage, etc.). If all these conditions are present, start the burner. The control device starts the motor to carry out prewashing of the combustion chamber. During this prewash period (about 30 seconds) the device checks that air pressure is correct via the air pressure switch. At the end, it supplies power to the transformer and opens the gas valves. The flame must be lit and stabilize within 3 seconds, which is the device's safety time limit. Check to ensure the flame is lit before placing any control instrument in the flue. Adjust and check the gas flow necessary for the boiler at the meter. Adjust the air flow according to the gas flow to obtain correct combustion.

ADJUSTING THE COMBUSTION PROCESS

IMPORTANT: to obtain the right adjustment of the combustion and thermal capacity it is important to analyze the products of combustion with the aid of suitable instruments. The combustion and thermal capacity adjustment is done simultaneously, together with the analysis of the products of combustion, making sure that the measured values are suitable and that they comply with current safety standards. On this matter, please refer to the table and figure below.

THESE OPERATIONS MUST BE DONE BY PROFESSIONALLY-QUALIFIED TECHNICIANS.

	Natural Gas
CO ₂	9,6%
CO	<50 ppm
	LPG
CO ₂	11,7%
CO	<50 ppm

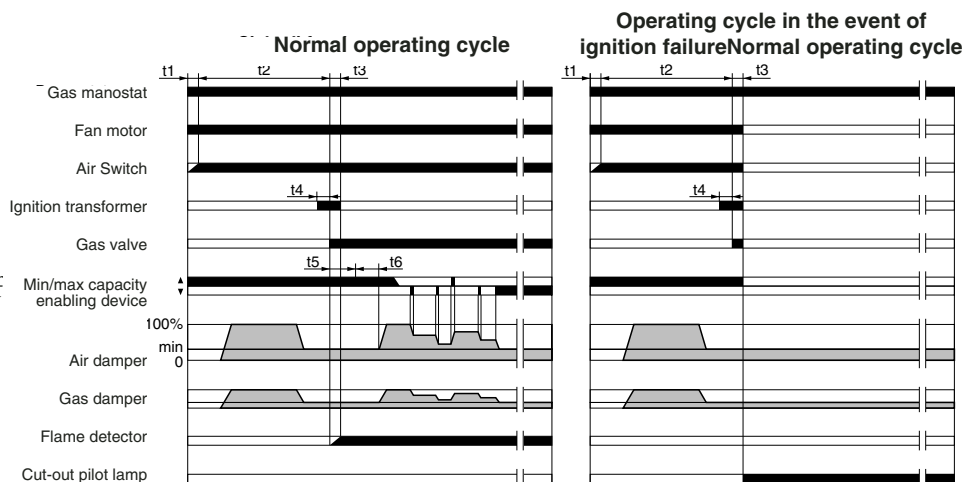


LANDIS & STAЕFA, Model LFL1.622 OPERATING CYCLE

Ref.	Description	Duration
t1	Duration Waiting time for confirmation of air pressure	8"
t2	Preventilation time	66"
t3	Safety time	2"
t4	Pressurizing time	4"
t5	Time for enabling operation of the main gas valve on minimum capacity	10"
t6	Time for enabling operation of the main gas valve on maximum capacity	10"

The control box starts the burner fan, to carry out the prepurging of the combustion chamber, and checks the vent air pressure through the air pressure switch. At the end of prepurging, the ignition transformer cuts-in and generates a spark between the electrodes. At the same time the two gas valves

open (Vs safety valve and VI working valve). The total safety, in case of missed ignition or casual burner's flame-out, is granted by a ionisation probe which cuts-in and sets the burner shutdown within the safety time. In case of gas lack or a major pressure drop, the minimum air pressure switch shuts down the burner.



LANDIS & STAЕFA SQM 50.481A2 AIR DAMPER MOTOR

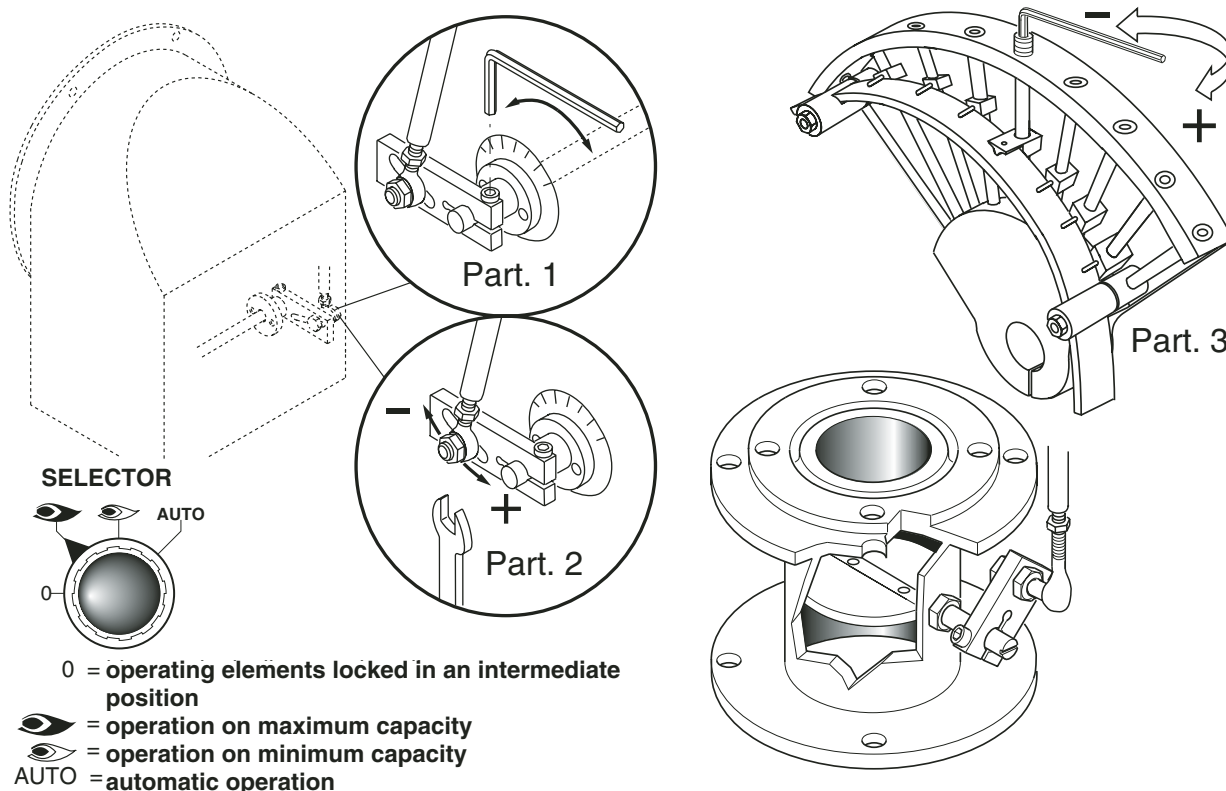
Remove cover to gain access to the adjusting cams. The cams are to be adjusted through the suitable key provided for. Description:



- I - High flame opening position adjusting cam (Air)
- II - Min. flame opening position adjusting cam (Air).
- III - Low flame opening position adjusting cam (Air)
- IV - Not used cam
- V - Not used cam
- VI - Not used cam
- VII - Not used cam
- VIII - Not used cam



AIR ADJUSTMENT



ADJUSTING THE MINIMUM CAPACITY OF THE BURNER – AIR and GAS

Position the selector placed on the control panel on position 2 and proceed as follows:

Adjust the minimum gas flow rate using a suitable wrench, turn the butterfly valve until you reach the correct gas flow, as established by analyzing the combustion process.

ADJUSTING THE MAXIMUM CAPACITY OF THE GAS

Position the selector, situated on the control panel, on position 1 and proceed as follows:

Adjusting the maximum gas flow rate (see figure on solenoid valve adjustments) or adjust the gas pressure in the governor.

ADJUSTING THE MAXIMUM AIR FLOW RATE

Adjusting the maximum air flow rate (see figure, detail 2). Loosen the nut holding the air damper transmission rod; The correct air flow as established by analyzing the combustion process.

ADJUSTING THE INTERMEDIATE BURNER CAPACITY

Using the selector, start the servomotor (closing or opening) and position on 0 to stop the stroke; the adjustment is made as outlined below. Repeat the operation for the other cam points.

Adjustment the intermediate gas flow rates (see figure, detail 3): - using a suitable Allen wrench, change the position of the cam guide blade; if you screw it down, the flow rate is reduced; if you unscrew it, the flow rate increases.

CALCULATING THE BURNER CAPACITY

To calculate the burner's capacity in kW, proceed as follows: Check the gas flow rate (in liters) on the counter and the time of the reading in seconds.

Proceed with the calculation using the following : $\frac{e}{\text{sec}} \times f = \text{kW}$

e	= Litres gas
sec	= Time in second
f	G20 = 34,02
	G30 = 116
	G31 = 88

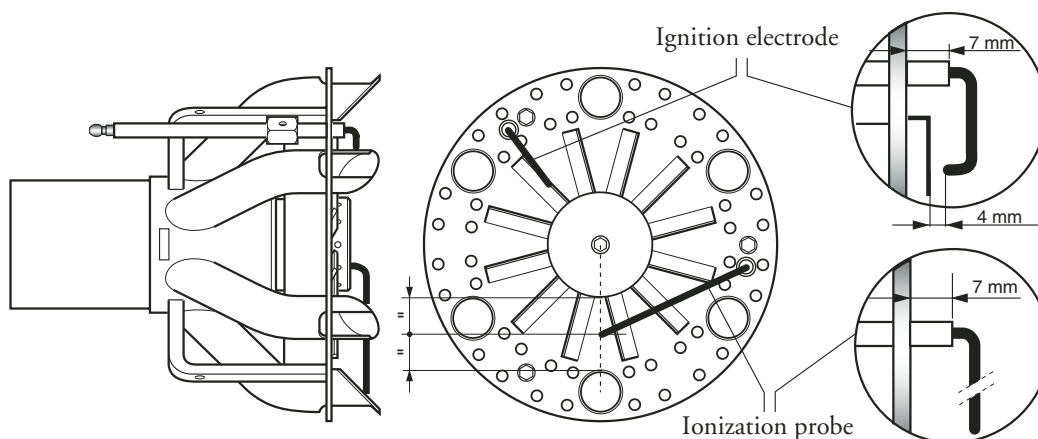
COMBUSTION ADJUSTMENT

WARNING: In order to have a correct combustion and thermal output adjustments, these must be carried out together with a combustion analysis, to be executed through suitable devices, taking care that the values are the correct ones and are in accordance with the local safety regulations. The adjustments must be carried out by qualified and skilled technicians authorised by Ecoflam S.p.A.

FIRING HEAD SETTING



IGNITION ELECTRODE



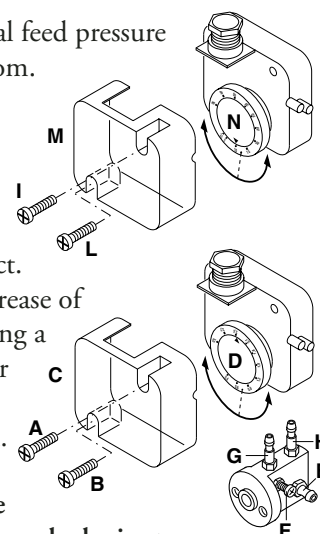
ADJUSTMENT OF GAS MINIMUM PRESSURE SWITCH

Unscrew off and remove cover M. - Set regulator N to a value equal to 60% of gas nominal feed pressure (i.e. for nat. gas nom. pressure = 20 mbar, set regulator to a value of 12 mbar; for L.P.G. nom. pressure of G30/G31- 30/37 mbar, set regulator to a value of 18 mbar). Screw up cover M

ADJUSTMENT OF THE AIR PRESSURE SWITCH

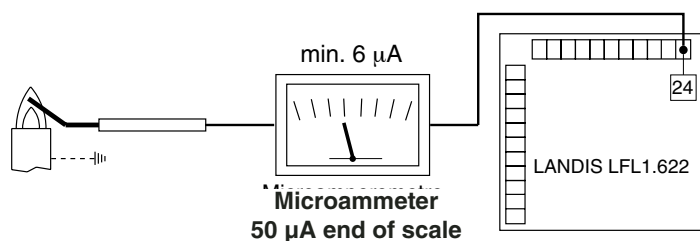
Unscrew screws A and B and remove cover C. - Set the pressure switch to the minimum by turning regulator D to position 1.

- Start the burner and keep in low flame running, while checking that combustion is correct. Through a small cardboard, progressively obstruct the air intake until to obtain a CO₂ increase of 0,5÷0,8% or else, if a pressure gauge is available, connected to pressure port E, until reaching a pressure drop of 1 mbar (10 mm of W.G.). - Slowly increase the adjustment value of the air pressure switch until to have the burner lockout. Remove the obstruction from the air intake, screw on the cover C and start the burner by pressing the control box rearm button.



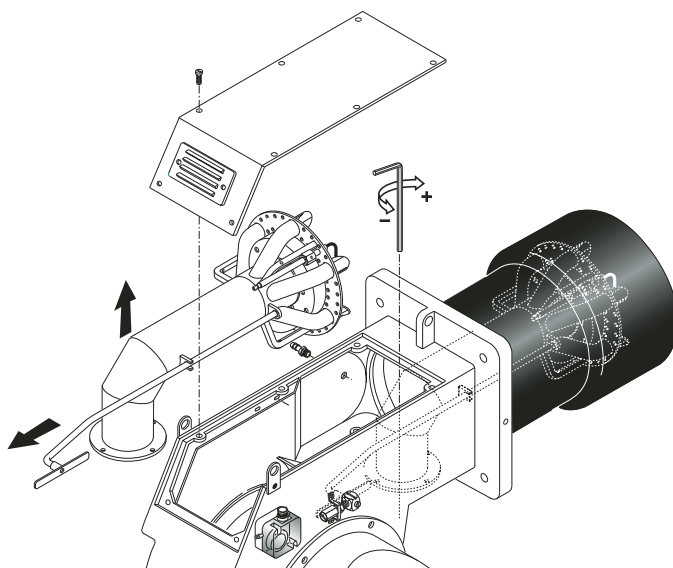
Note: The pressure measured at pressure port E must be within the limits of the pressure switch working range. If not, loose the locking nut of screw F and gradually turn the same: clockwise to reduce the pressure; counterclockwise to increase. At the end tighten the locking nut.

IONIZATION CURRENT

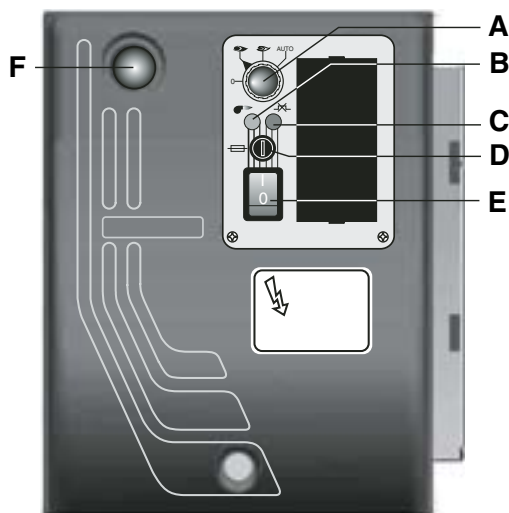


The ionization current is checked by inserting a microammeter with an end of scale of 50 μ A (d.c.) in series with the ionization probe. A faulty position of the electrode can lead to a reduction in the ionization current and cause a safety cut-out of the burner due to a flame detection failure. In this case, check the position of the electrode, its electric connection and the earthing of the burner.

FIRING HEAD DISASSEMBLY

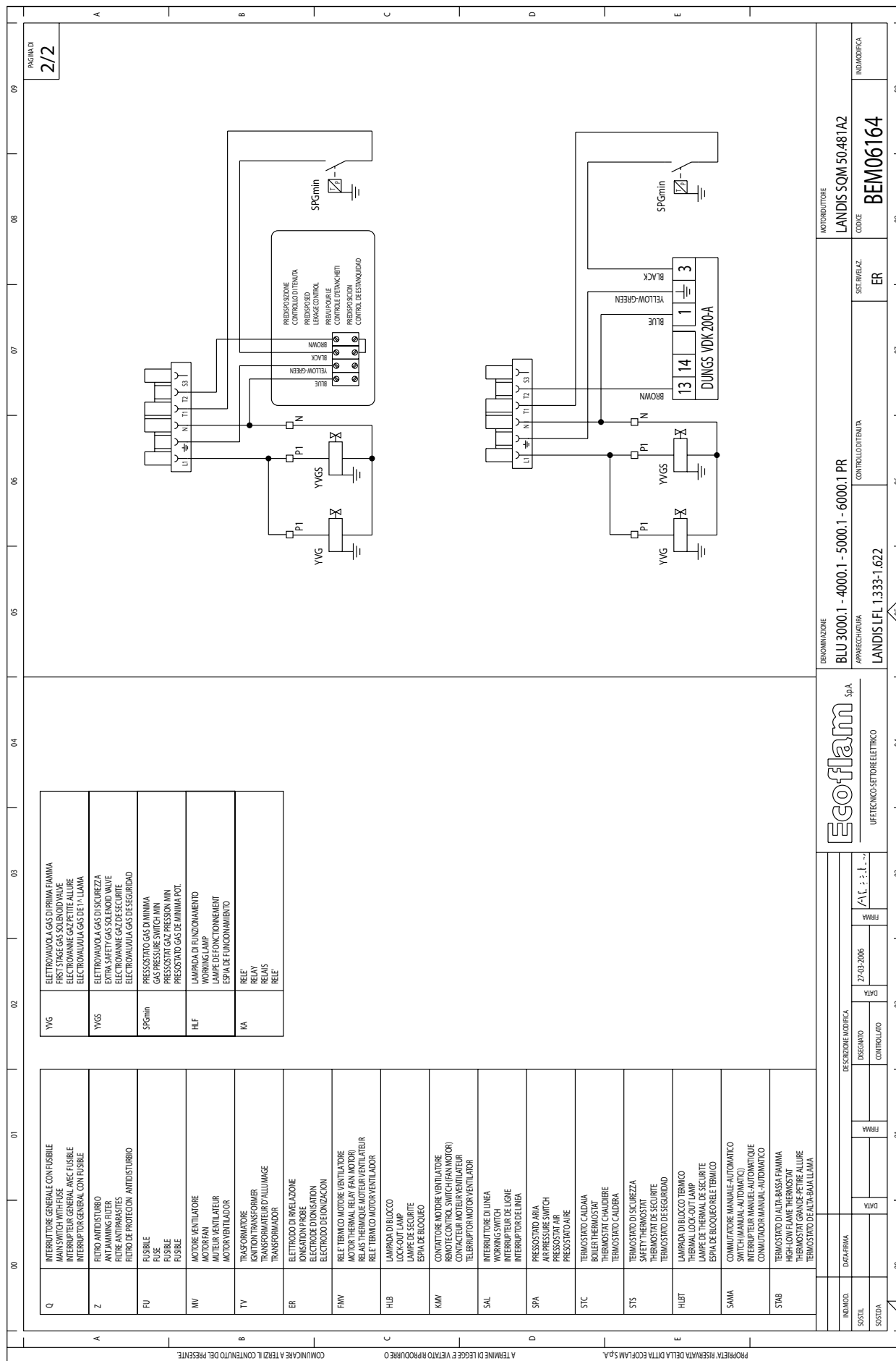


DESCRIPTION OF THE CONTROL PANEL OF THE BURNER

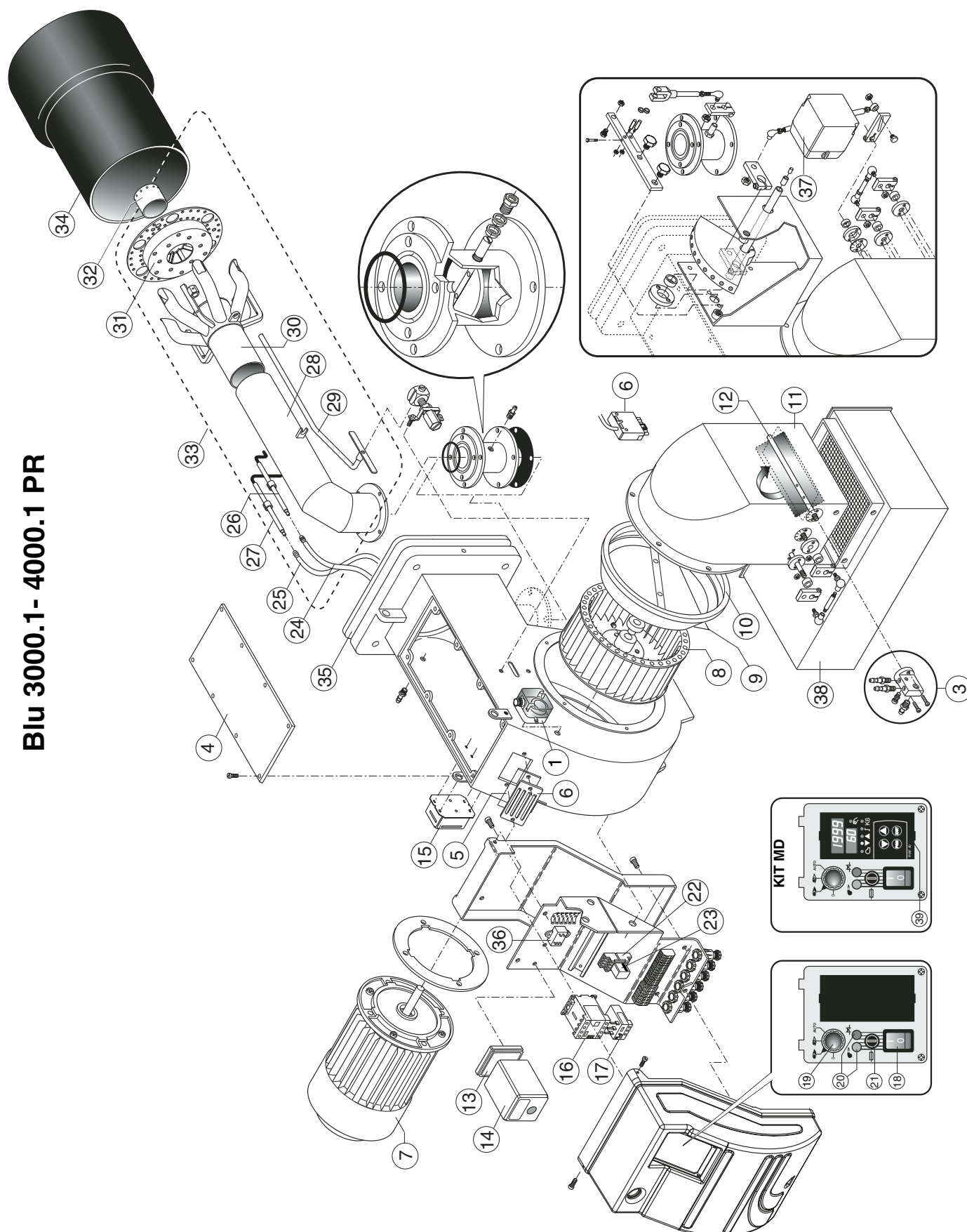


- A - selector :
 - 0 = operating elements locked in an intermediate position
 - 1 = operation on maximum capacity
 - 2 = operation on minimum capacity
 - 3 = automatic operation
- B - working lamp
- C - thermal lock-out lamp
- D - fuse
- E - main switch I / O
- F - reset key





Blu 3000.1- 4000.1 PR



N°	DESCRIPTION	BLU 3000.1 PR/MD code	BLU 4000.1 PR/MD code
1	AIR PRESSURE SWITCH DUNGS LGW10 A2P	Q120	Q120
2	AIR INTAKE SET	GRPA100	GRPA100
3	PLUG WIELAND 6 pin	E226	E226
4	COVER	BFC09254/038	BFC09254/038
5	GLASS	BFC02004	BFC02004
6	PEED WINDOM FRAME	BFC02006	BFC02006
7	MOTOR 5500 W	M128/017	-
	7500 W	-	M129/017
8	FAN 320 X 150	BFV10304/001	BFV10304/001
9	FAN SCOOP	-	BFC08059/001
10	AIR CONVEYOR	BFC08254/001	BFC08256/001
11	AIR INTAKE	GRCA320	GRCA320
12	AIR INTAKE PIPE	BFS02208/201	BFS02208/201
13	CONTROL BOX BASE LANDIS	A401	A401
14	CONTROL BOX LANDIS LFL1.622	A113	A113
15	IGNITION TRANSFORMER COFI 820 PM	T106/4	T106/4
16	REMOTE CONTROL SWITCH BF25.00	R617	-
	BF40.00	-	R616
17	MOTOR THERMAL RELAY Lovato RF25 9-15 A	R513	-
	Lovato RF25 14-23 A	-	R513/1
18	MAIN SWITCH cod.40100I1509	R1020	R1020
19	MANUAL / AUTOMATIC SELECTOR	R1020/5	R1020/5
20	LAMP EL/N-SC4 Elettrospring	E1510	E1510
21	FUSE SUPPORT FUSIT FH-B528	E802/2	E802/2
22	RELAY BASE FINDER 5532	R905	R905
23	RELAY FINDER 5532	R711	R711
24	IGNITION CABLE		
25	IONIZATION CABLE	E1102/27	E1102/27
26	IGNITION ELECTRODE	BFE01057/1	BFE01057/1
27	IONIZATION PROBE	BFE01057/2	BFE01057/2
28	PIPE TC	BFT14015/101	BFT14015/101
	TL	BFT14015/201	BFT14015/201
29	ROD TC	BFA08020/101	BFA08020/101
	TL	BFA08020/201	BFA08020/201
30	FIRING HEAD	BFT14016/001	BFT14016/001
31	FRONT DISC	BFD03020	BFD03020
32	FRONT PIPE NATURAL GAS	BFT12113/2	BFT12113/3
	LPG	BFT12113/5	BFT12113/5
33	INNER ASSEMBLY TC		
	TL		
34	BLAST TUBE TC	BFB07023/103	BFB07026/103
	TL	BFB07023/203	BFB07026/203
35	GASKET	BFG04051/1	BFG04051/1
36	ANTI JAMMING FILTER	S132/4	S132/4
37	AIR DAMPER MOTOR SQM50.481A2	M212/91	M212/91
38	SILENCER	GRSIL04/01	GRSIL04/01
model MD			
39	MODULATING KIT LANDIS RWF 40	E2490/5514	E2490/5514

TC = SHORT HEAD TL = LONG HEAD