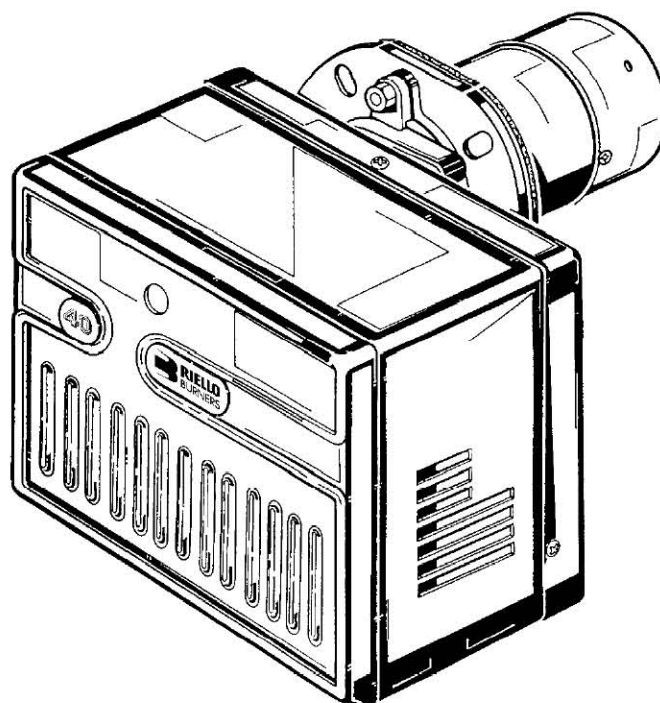


- F** Brûleur fioul
- GB** Light oil burner
- NL** Stookoliebrander
- GR** Καυστήρας Πετρελαίου

Fonctionnement à 1 allure
One stage operation
Eentrapsbranders
Μονοβάθμιοι



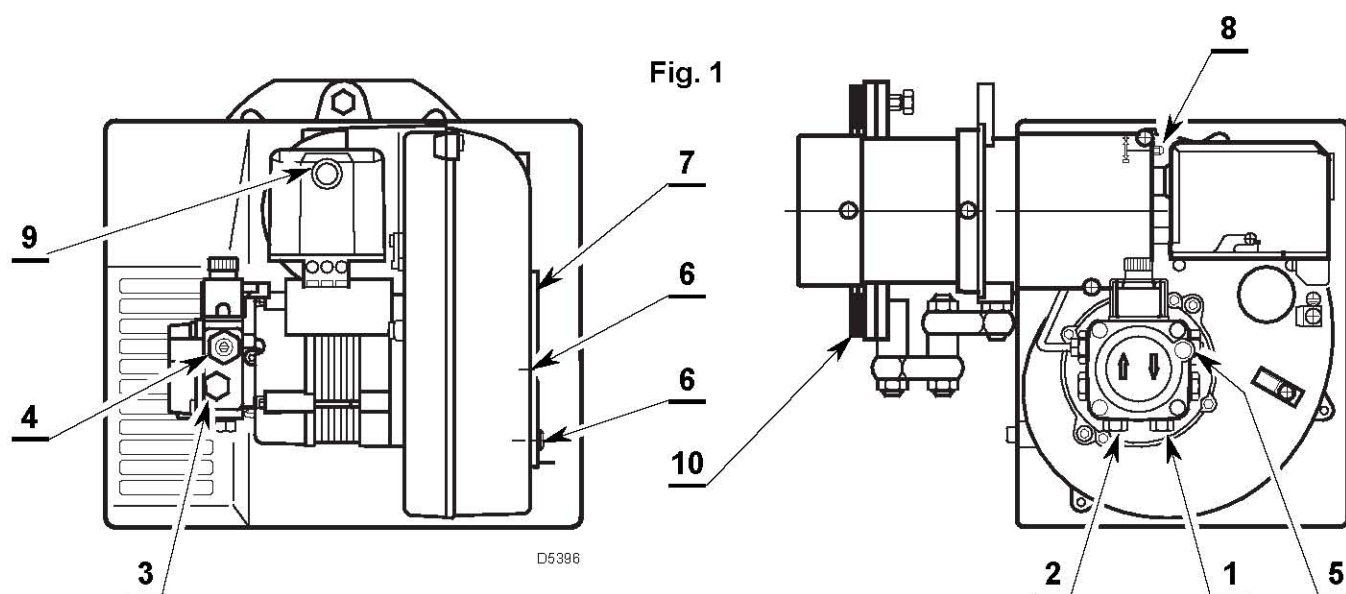
RIELLO 40

CODE ΚΩΔΙΚΟΣ	MODELE - MODEL ΜΟΝΤΕΛΟ	TYPE ΤΥΠΟΣ
3452083	F10	463M

TECHNICAL DATA

TYPE	463M
Thermal power – output	54 – 107 kW – 4.5 – 9 kg/h
Fuel	Light oil, viscosity 4 – 6 mm ² /s at 20 °C
Electrical supply	Single phase, 230V ± 10% ~ 50Hz
Motor	Run current 0.85 A – 2785 rpm – 292 rad/s
Capacitor	4 µF
Ignition transformer	Secondary 8 kV – 16 mA
Pump	Pressure: 7 – 15 bar
Absorbed electrical power	0.17 kW

- Burner with CE marking in conformity with EEC directives: EMC89/336/EEC, Low Voltage 73/23/EEC, Machines 89/392/EEC and Efficiency 92/42/EEC.
- The burner meets protection level of IP 40, EN 60529.

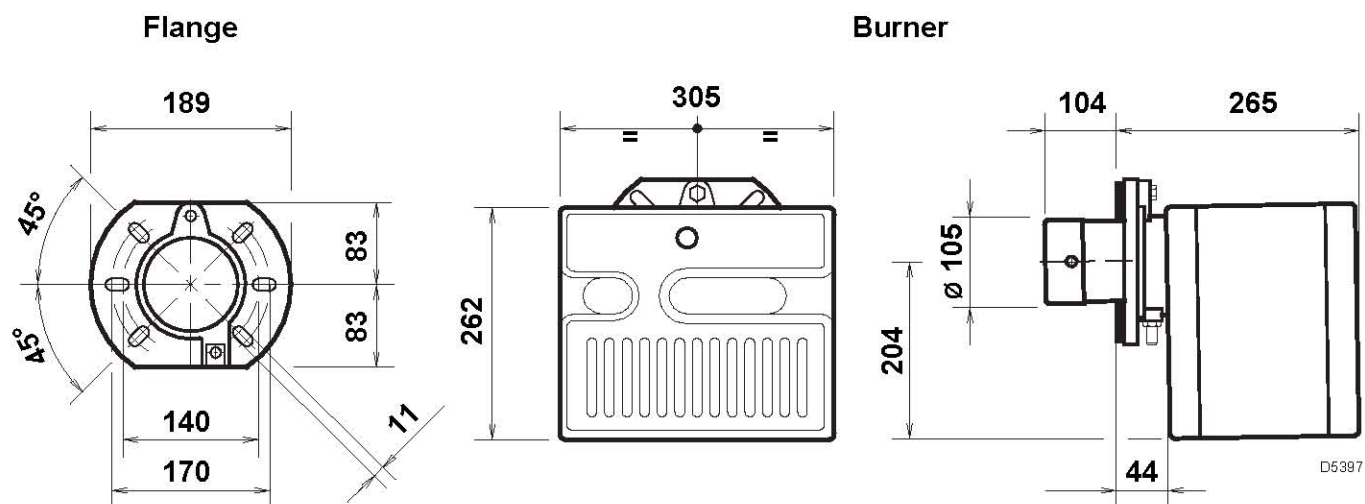


- 1 – Return line
- 2 – Suction line
- 3 – Gauge connection
- 4 – Pump pressure regulator
- 5 – Vacuum gauge connection
- 6 – Screws fixing air-damper
- 7 – Air-damper
- 8 – Combustion head adjustment screw
- 9 – Lock-out lamp and reset button
- 10 – Flange with insulating gaskets

BURNER EQUIPMENT

Quantity	Description
2	Flexible pipes with nipples
1	Flange with two insulating gaskets
4	Screws and nuts for flange
1	Hinge
1	Screw with two nuts for flange
1	Cable gland

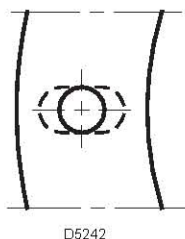
OVERALL DIMENSIONS



MOUNTING THE BURNER

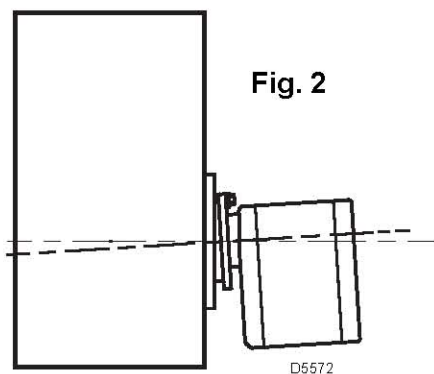
It is necessary that the two insulating gaskets (10, fig. 1) are placed between the boiler door and the burner flange.

These insulating gaskets have **six holes**, which, if necessary, can be modified as shown on the drawing on the right.

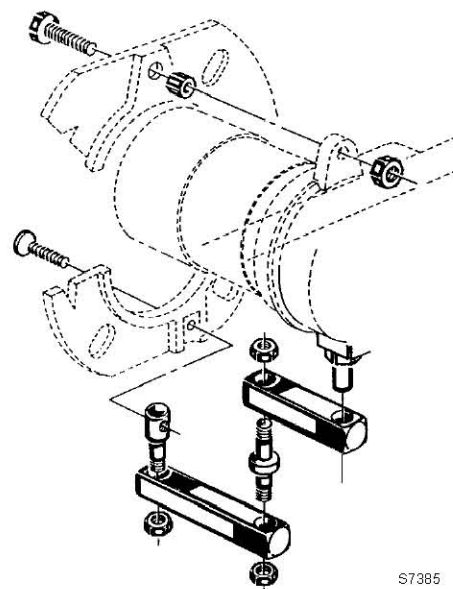


Verify that the installed burner is lightly leaned towards the button. (See figure 2).

The burner is designed to allow entry of the flexible oil-lines on either side of the burner.



BURNER FIXING AND HINGE ASSEMBLY



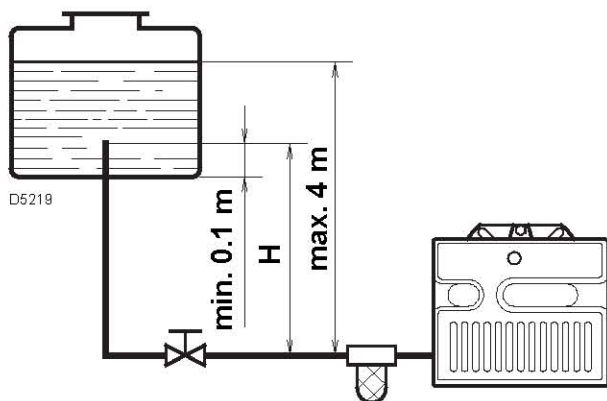
HYDRAULIC SYSTEMS

Warning: before starting the burner make sure that the return pipe-line is not clogged: any obstruction would cause the pump seals to break.

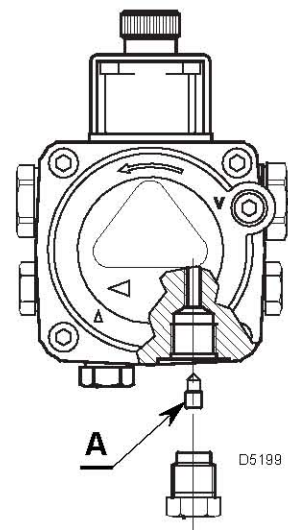
WARNING

The pump is supplied for use with a two pipe system.

For use on a one pipe system, it is necessary to remove the by-pass screw (A), (see figure).



H meters	L meters	
	I. D. 8 mm	I.D. 10 mm
0.5	10	20
1	20	40
1.5	40	80
2	60	100



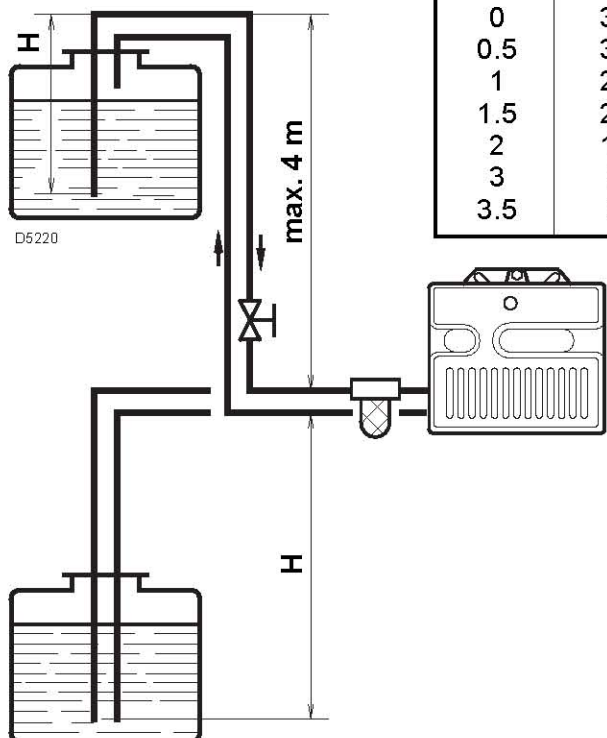
PRIMING THE PUMP

Loosen the plug of the vacuum gauge (5, fig. 1, page 1) and wait until the fuel flows out.

H = Difference of level.

L = Max. length of the suction line.

I.D. = Internal diameter of the oil pipes.



H meters	L meters	
	I. D. 8 mm	I.D. 10 mm
0	35	100
0.5	30	100
1	25	100
1.5	20	90
2	15	70
3	8	30
3.5	6	20

The pump vacuum should not exceed a maximum of 0.4 bar (30 cm Hg).

Beyond this limit gas is released from the oil.

Oil lines must be completely airtight.

The return line should terminate in the oil tank at the same level as the suction line; in this case a non-return valve is not required.

When the return line arrives over the fuel level, a non-return valve must be used.

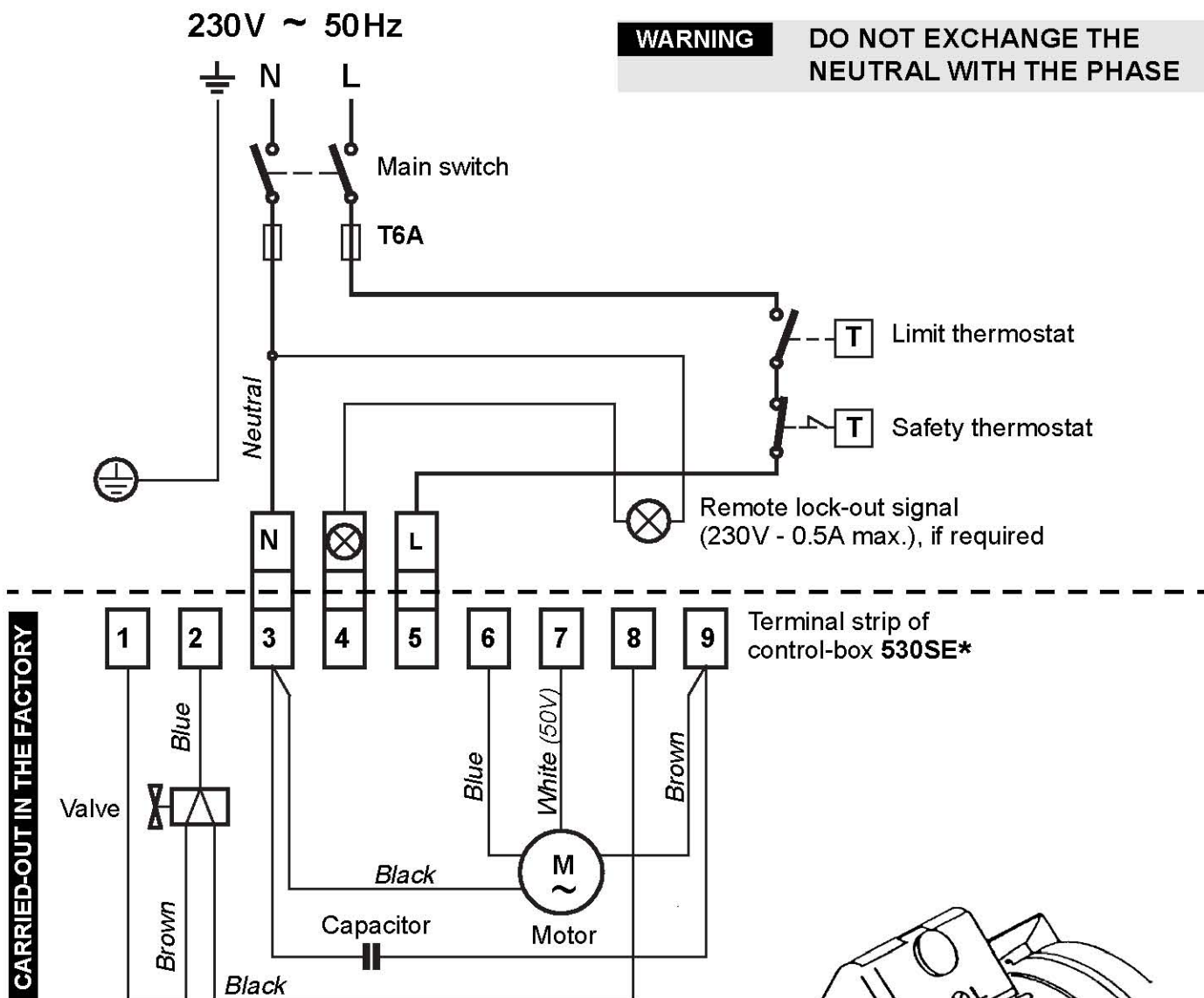
This solution however is less safe than previous one, due to the possibility of leakage of the valve.

PRIMING THE PUMP

Start the burner and wait for the priming. Should lock-out occur prior to the arrival of the fuel, await at least 20 seconds before repeating the operation.

A filter must be installed on the suction fuel line.

ELECTRICAL WIRING



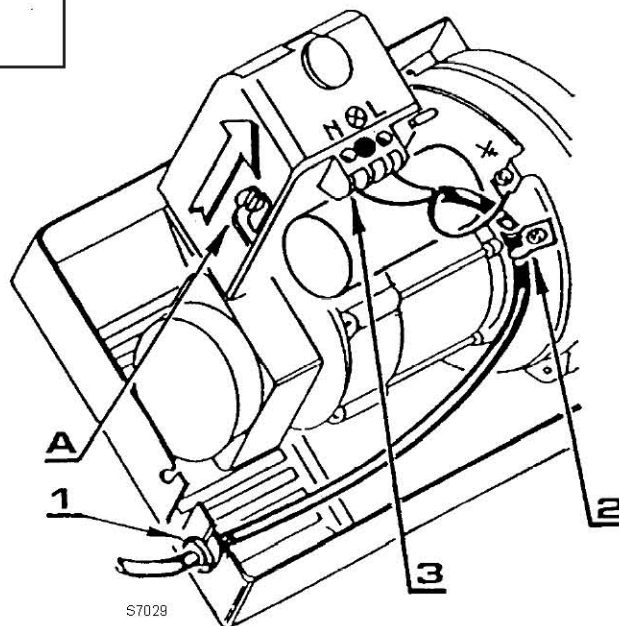
D5228

NOTES

- Wires of 1,5 mm² section.
- The electrical wiring carried out by the installer must be in compliance with the rules in force in the Country.
- To remove the control-box from the burner, loosen screw (A) (see figure) and pull towards the arrow.
- The photoresistance is fitted directly into the control-box (underneath the ignition-transformer) on a plug-in support.

TESTING

Check the shut-down of the burner by opening the thermostats.



RUN OF THE ELECTRICAL CABLE

- | | |
|--------------------|------------------|
| 1 - Cable gland | N - Neutral |
| 2 - Cable-clamp | L - Phase |
| 3 - Terminal block | ⏏ - Burner-earth |

COMBUSTION ADJUSTMENT

In conformity with Efficiency Directive 92/42/EEC the application of the burner on the boiler, adjustment and testing must be carried out observing the instruction manual of the boiler, including verification of the CO and CO₂ concentration in the flue gases, their temperatures and the average temperature of the water in the boiler.

To suit the required appliance output, choose the proper nozzle and adjust the pump pressure, the setting of the combustion head, and the air damper opening in accordance with the following schedule.

The values shown in the table are measured on a CEN boiler (as per EN 303).

They refer to 12.5% CO₂ at sea level and with light oil and room temperature of 20 °C.

Nozzle 1		Pump pressure 2	Burner output	Comb. head adjustment 3	Air damper adjustment 4
GPH	Angle	bar	kg/h $\pm$ 4%	Set-point	Set-point
1.10	60°	12	4.4	2	3.2
1.25	60°	12	5.0	2.5	4.5
1.50	60°	12	6.0	3	6
1.75	60°	12	7.0	4	6.5
2.00	60°	12	8.0	5	7
2.00	60°	14	8.7	6	8

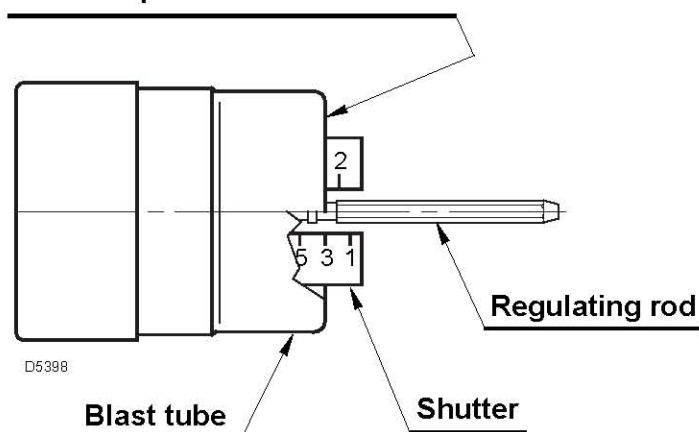
1 NOZZLES RECOMMENDED : Monarch type R ; Delavan type W - B
Steinen type S - Q ; Danfoss type S - B

2 PUMP PRESSURE: 12 bar : The pump leaves the factory set at this value.
14 bar : Improves flame-retention; it is therefore suitable for ignitions at low temperatures.

3 COMBUSTION HEAD SETTING

This is done when fitting the nozzle, with the blast tube removed. It depends on the output of the burner and is carried out by rotating the regulating rod, till the terminal plane of the blast tube is level with the set-point, as indicated in the schedule.

Terminal plane of the blast tube



In the sketch on the left below, the combustion head is set for an output of 1.50 GPH at 12 bar, while the shutter is level with set-point 3, as required by the above table.

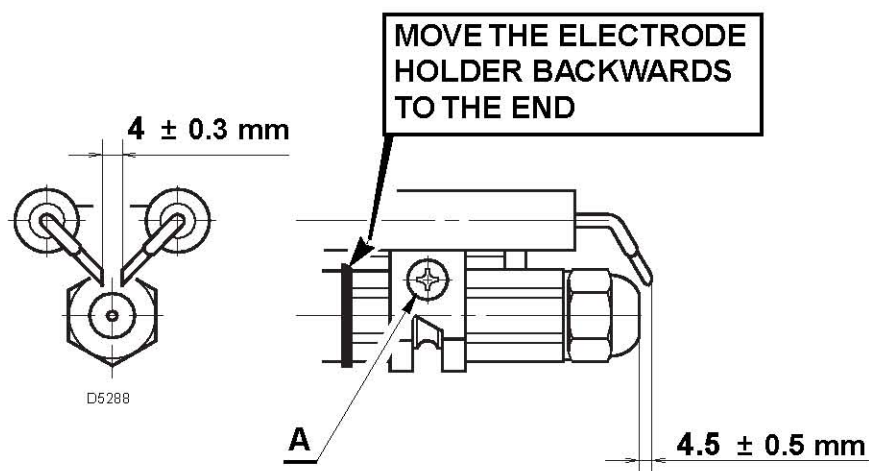
4 AIR DAMPER ADJUSTMENT

The values stated in the table are necessary for the first setting of air-damper. They are relevant to a burner with mounted cowling and combustion chamber with depression zero. These values can be adjusted, if necessary, till reaching 1 bacharach.

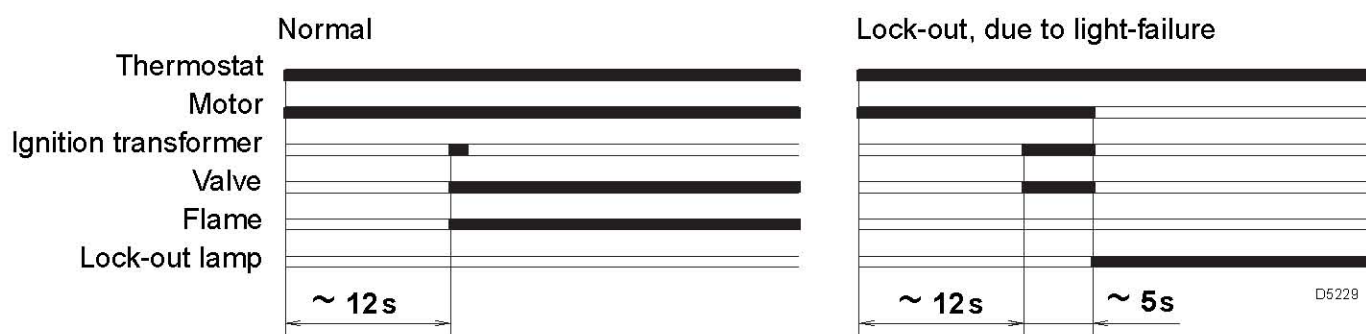
ELECTRODE ADJUSTMENTS

Attention:

Before assembling or removing the nozzle, loosen the screw (A) and move the electrodes ahead.



BURNER START-UP CYCLE



WARNINGS TO AVOID BURNOUT OR BAD COMBUSTION OF THE BURNER

- When the burner is stopped, the smoke pipe must be opened and effect a natural draught in the combustion chamber. If the smoke pipe is closed, the burner must be drawn back till the extraction of blast tube from the furnace. Before operating in this way take the voltage off.
- The place, where the burner works, must have same openings suitable for the passage of air necessary for combustion. To be sure about this, you have to control the smoke number of exhaust gas with all the windows and doors closed.
- If in the place, where the burner works, there are air-breathings, check the existence of air-input openings with dimensions suitable for the necessary air-exchange. In any case check that, when the burner is stopped, the air-breathings do not draw warm smokes from pipes through the burner.