

OIL BURNERS

# Ecoflam

  
**ЭНЕРГОМИР**  
<https://energomir.su>

CE



**MAX 4 AB**

**MAX 8 AB**

**MAX 12 AB**

По вопросам продаж обращайтесь:

ЕКАТЕРИНБУРГ: +7 (343) 374-94-93

ЧЕЛЯБИНСК: +7 (351) 751-28-06

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УФА: +7 (927) 236-00-24

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СУРГУТ: +7 (932) 402-58-83

НИЖНЕВАРТОВСК: +7 (3466) 21-98-83



420010602400

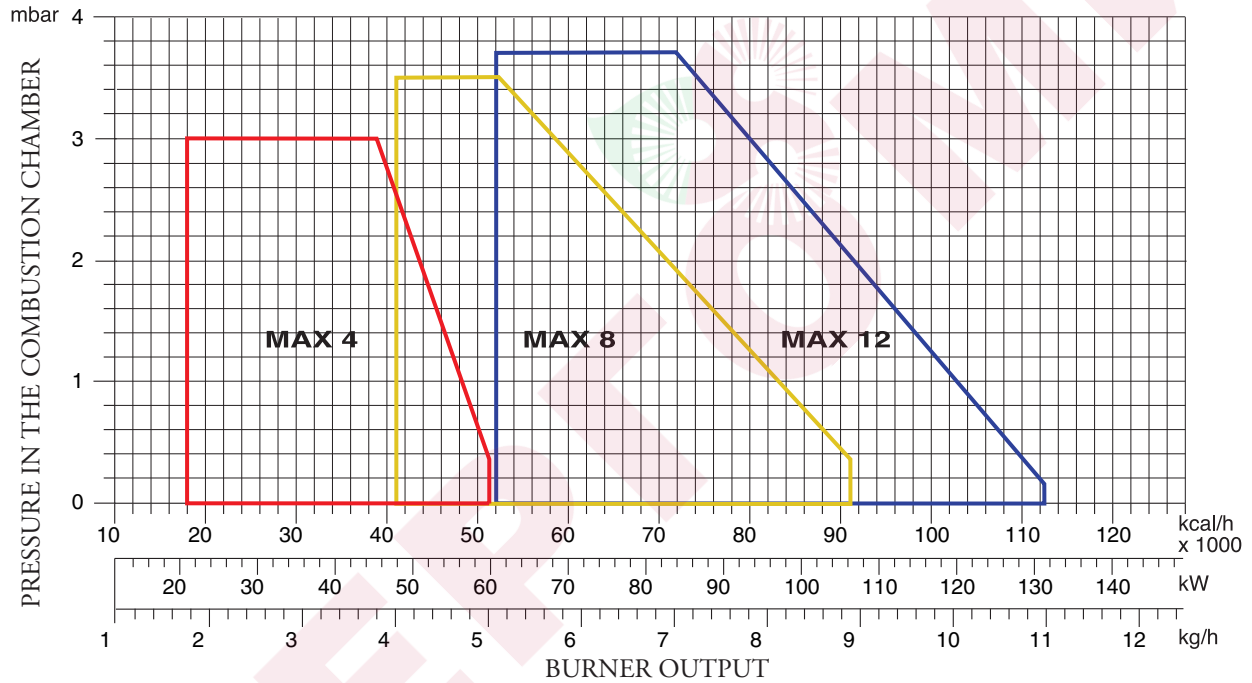
**420010602400**

21.11.2014

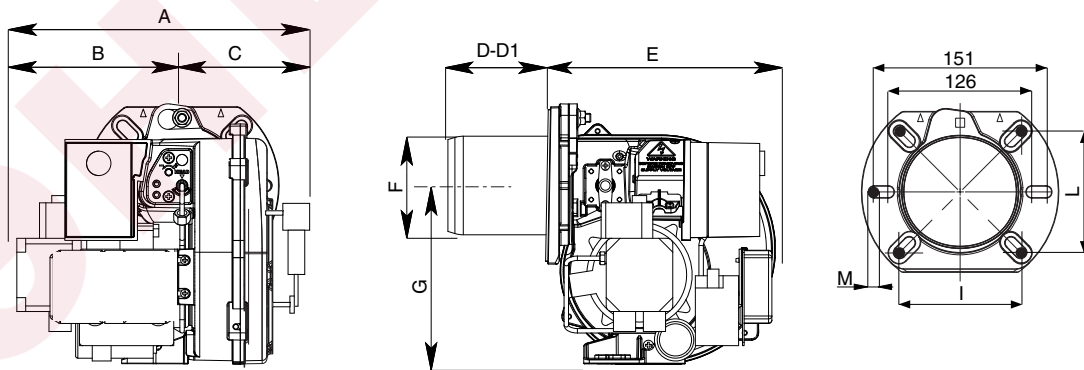
**TECHNICAL DATA**

MODELS		MAX 4 AB	MAX 8 AB	MAX 12 AB
Thermal power max.	kcal/h	51.000	90.780	112.200
	kW	59	105	130
Thermal power min.	kcal/h	17.340	40.800	52.000
	kW	20	47	60
Max. flow rate light oil	kg/h	5	8,9	11
Min. flow rate light oil	kg/h	1,7	4	5,1
Feeding power	50 Hz V	230	230	230
Motor	W	75	100	130
Rpm	N°	2.800	2.800	2.800
Ignition transformer	kV/mA	2x12	2x12	2x12
Control box	LANDIS	LOA 24	LOA 24	LOA 24
Fuel: light oil	kcal/kg	10.200 max. visc 1,5°E a 20°C		

**WORKING FIELDS**



**OVERALL DIMENSIONS**

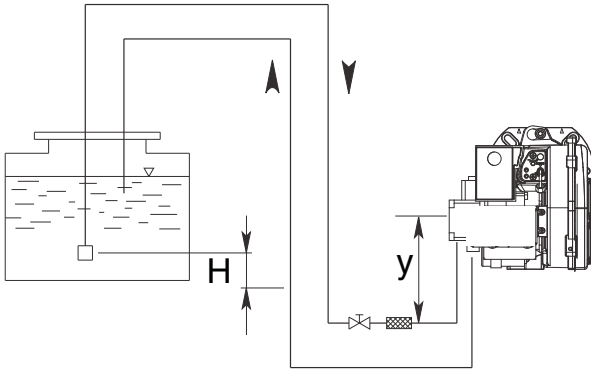


MODELS	A	B	C	D	D1	E	F	G	I	L	M
MAX 4 AB HS	288	149	139	90	145	204	89	160	90/107	90/107	M8
MAX 8 AB HS	294	155	139	90	145	204	89	160	100/120	100/120	M8
MAX 12 AB HS	308	169	139	100	155	204	98	160	100/120	100/120	M8

D = short head D1 = long head

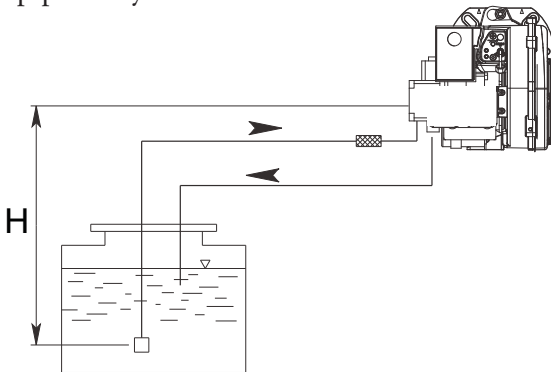
## MAXIMUM LENGTHS OF SUCTION LINES FOR TWO-PIPE SYSTEM SUNTEC

Two-pipe siphon feed system



H (m)	Length pipe (m)	
	ø 8 mm	ø 10 mm
0,5	30	65
1	35	70
1,5	40	75
2	45	80
2,5	50	85
3	55	90
3,5	60	95

Two-pipe lift system



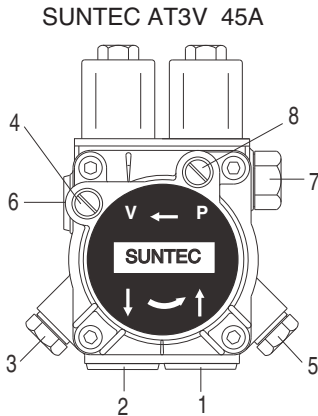
H (m)	Length pipe (m)	
	ø 8 mm	ø 10 mm
0,5	23	55
1	21	50
1,5	19	45
2	17	40
2,5	14	34
3	9	28
3,5	4	22

### ADJUSTMENT DATA

NOZZLE gph	NOZZLE spray	PUMP bar	OUTPUT kg/h	FIRING HEAD SETTING Pos.	AIR DAMPER ADJUSTMENT Pos.

NOZZLE : DANFOSS H-S 80°-60°; DELAVAN W 60°; STEINEN S 60°

## PRIMING AND ADJUSTMENT OF OIL PUMP

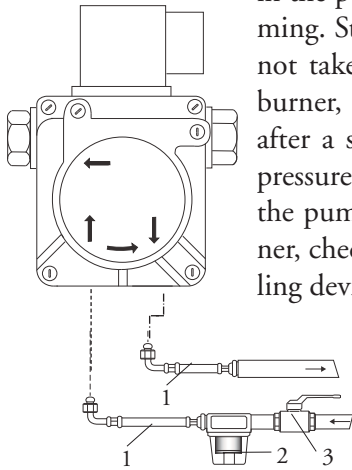


- 1 - INLET
- 2 - RETURN
- 3 - BLEED AND PRESSURE GAUGE PORT
- 4 - VACUUM GAUGE PORT
- 5 - PRESSURE ADJUSTMENT
- 6 - TO NOZZLE
- 7 - PRESSURE ADJUSTMENT
- 8 - SPECIAL PRESSURE PORT

## 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.

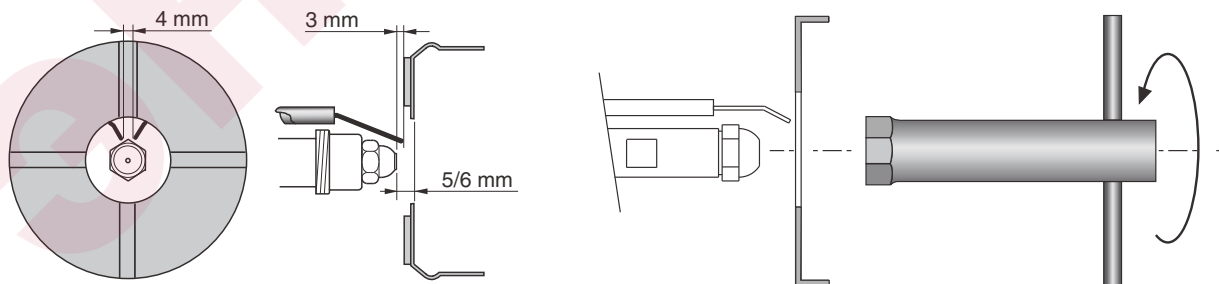
The pump pressure is set at a value of 12 bar during the testing of burners. Before starting the burner, bleed the air in the pump through the gauge port. Fill the piping with light-oil to facilitate the pump priming. Start the burner and check the pump feeding pressure. In case the pump priming does 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.



- 1 - HOSE
- 2 - OIL FILTER
- 3 - OIL COCK

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



## BURNER START-UP AND ADJUSTMENT

Once having installed the burner, check the following items:

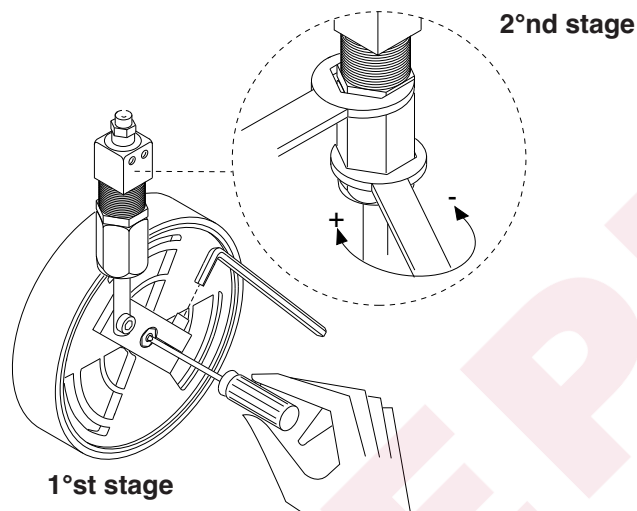
- The burner power feeding and the main line protection fuses
- The correct length of pipes and that same are sealed.
- The type of fuel, which must be suitable for burner.
- The connection of boiler's thermostats and all safeties.
- The motor direction of rotation.
- The correct calibration of the motor's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

When all said conditions are checked and accomplished, it is possible to go on with burner's tests.

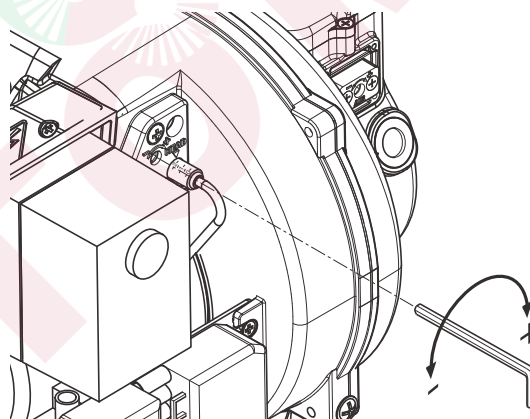
Power the burner. The control box feeds at the same time the ignition transformer and the burner's motor, which will run a prepurging of the combustion chamber for about 12 seconds. At the end of prepurging, the control box opens the fuel pump solenoid valve, the ignition transformer produces a spark and the burner ignites. After a safety interval of 5 seconds and a correct ignition, the control box turns off the ignition transformer. In case of faulty ignition, the control box switches the burner into safety condition within 10 secs.

In such a case, the manual rearming of the burner shall not take place before 30 seconds are elapsed from the burner's safety shutdown. The fuel pump feeding pressure, must keep around 12 bar. Note: With preheated version, the burner runs a preheating of the combustion head for about 1 minute. In such a case, at the boiler's thermostats make, the ignition signal shall be done by the thermostat mounted on the preheater itself.

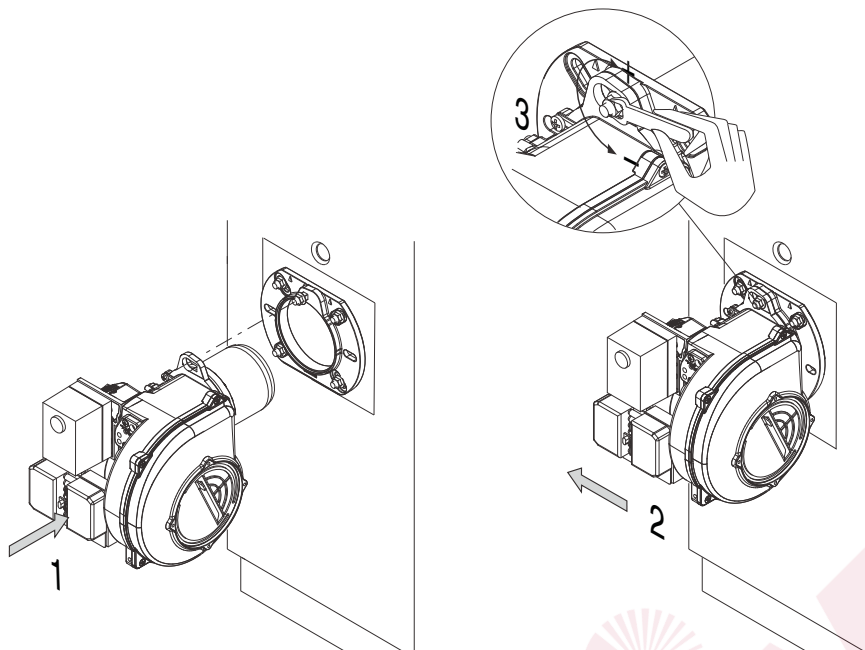
### AIR REGULATION



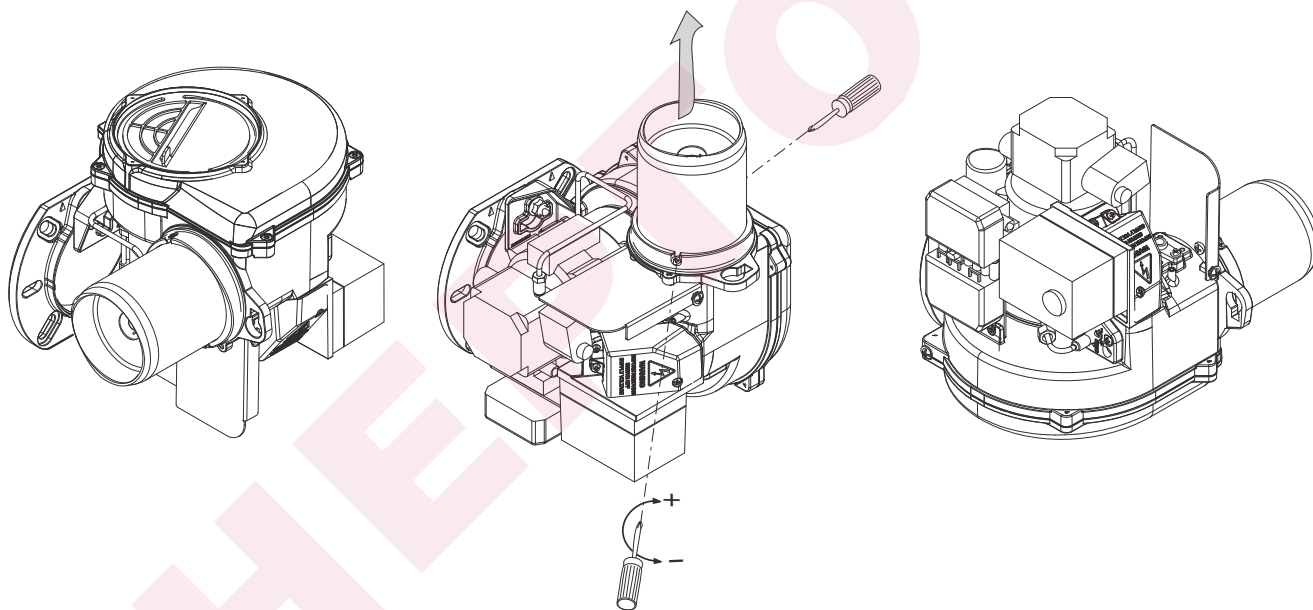
### FIRING HEAD SETTING

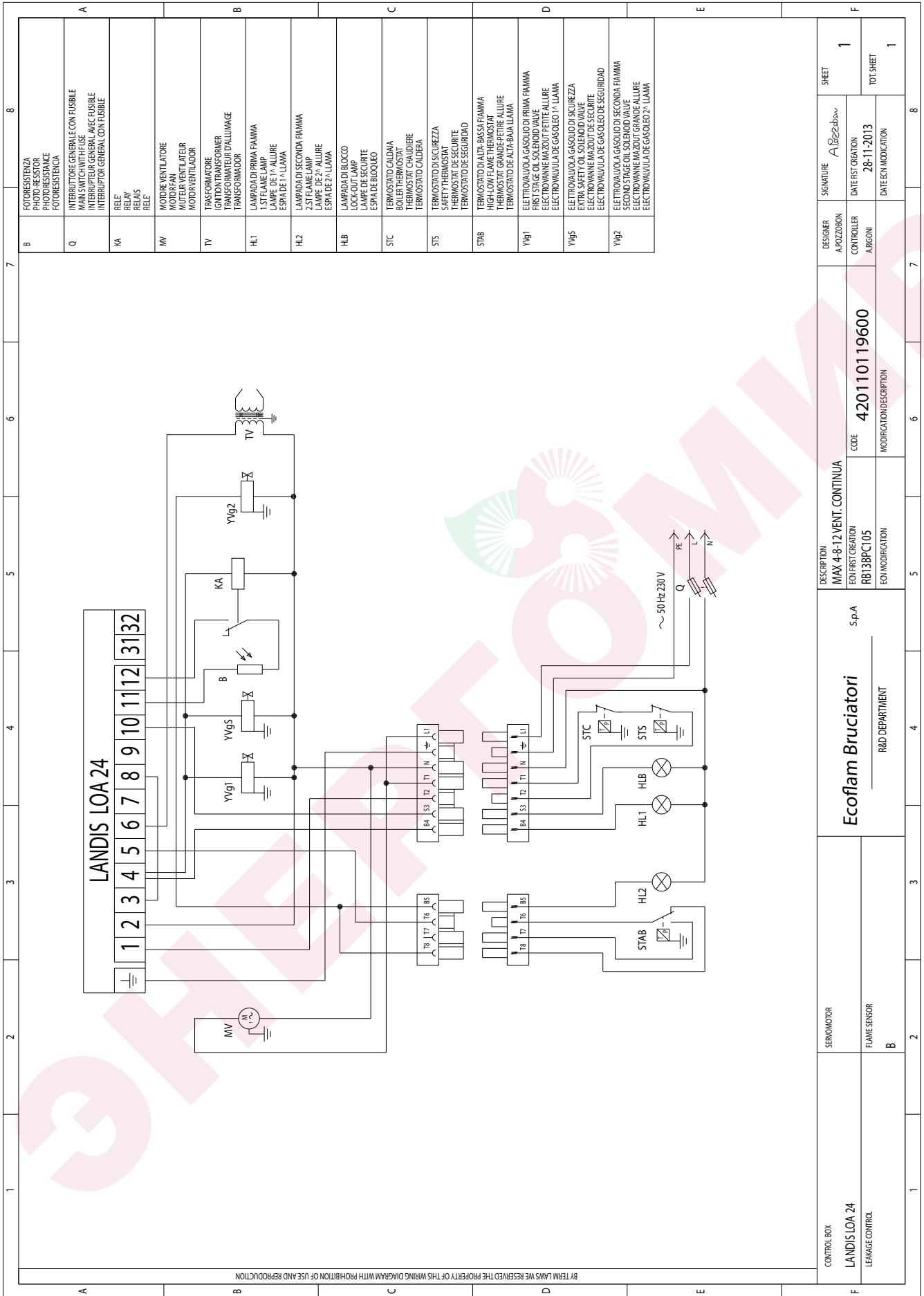


### MOUNTING TO THE BOILER

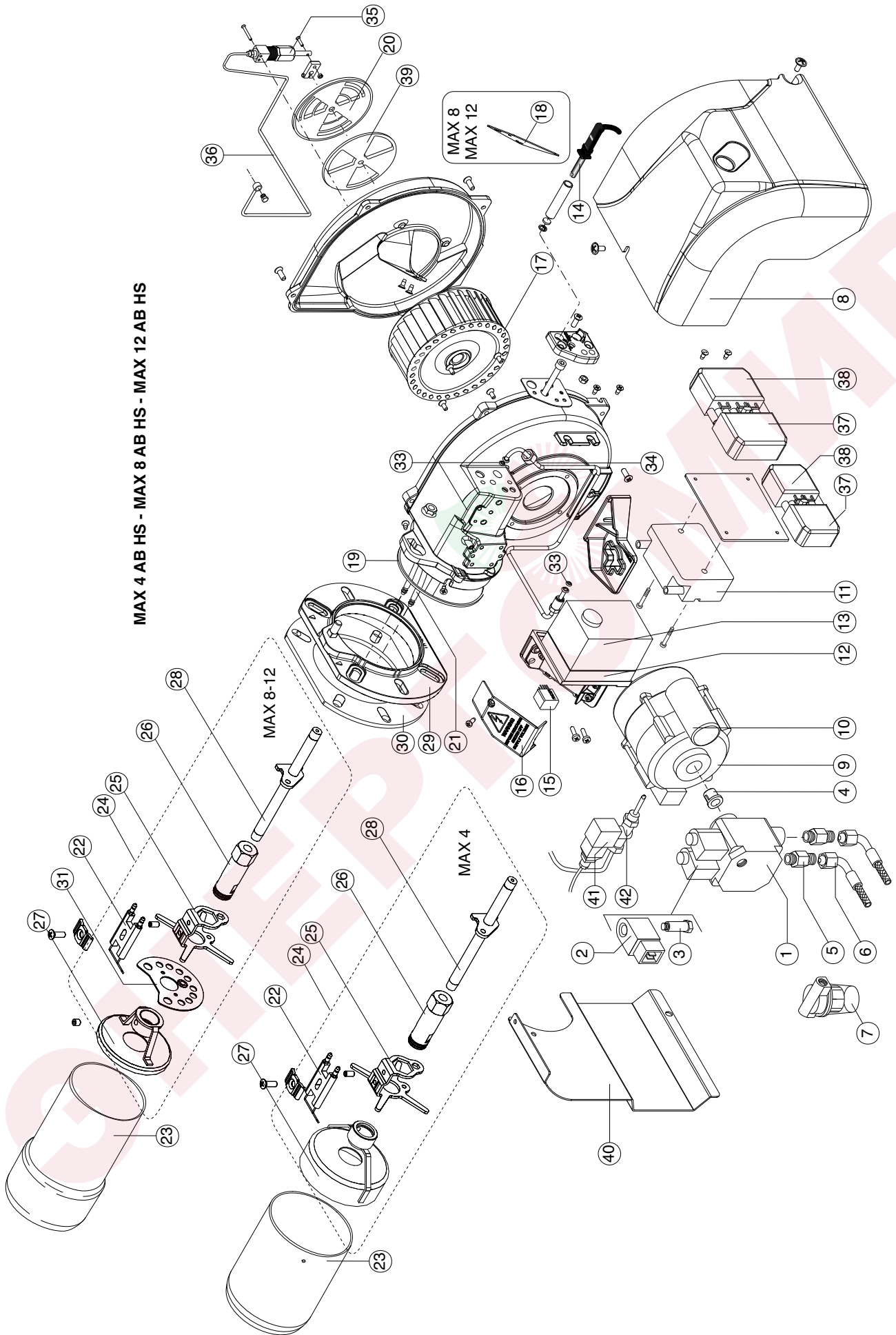


### TUBE DISASSEMBLY





A		B		C		D		E		F	
FOTORESISTENZA PHOTO-RESISTOR FOTORESISTENCIA		INTERUTTORE GENERALE CON FUSIBILE MAXI-SWITCH WITH FUSE INTERUPUTOR GENERAL CON FUSIBLE		RELE RELAY RELAIS		MOTORE VENTILATORE MOTOR FAN MOTEUR VENTILATEUR		TRASFORMATORE TRANSFORMATEUR TRANSFORMADOR		LAMPADA DI PRIMA FIAMMA 1 <sup>ST</sup> FLAME LAMP LAMPE DE 1 <sup>re</sup> ALLURE ESPIJA DE 1 <sup>a</sup> LLAMA	
LAMPADA DI SECONDA FIAMMA 2 <sup>ST</sup> FLAME LAMP LAMPE DE 2 <sup>e</sup> ALLURE ESPIJA DE 2 <sup>a</sup> LLAMA		LAMPADA DI BLOCCO LOCK-OUT LAMP LAMPE DE SECURITE ESPIJA DE BLOQUEO		THERMOSTATO CALDAIA HEATING BOILER THERMOSTAT THERMOSTAT CALDERA		THERMOSTATO DI SICUREZZA SAFETY THERMOSTAT THERMOSTAT DE SECURITE THERMOSTATO DE SEGURIDAD		THERMOSTATO D'ALTA-BASSA FIAMMA HIGH-LOW FLAME THERMOSTAT THERMOS JAI GRANDE-PETITE ALLURE THERMOSTATO DE ALTA-BAJA LLAMA		ELETTOVALVOLA GASOLIO DI PRIMA FIAMMA FIRST STAGE OIL SOLENOID VALVE ELECTROVANNE MAZOUT PETITE ALLURE ELECTROVALVULA DE GASOLEO 1 <sup>a</sup> LLAMA	
ELETTOVALVOLA GASOLIO DI SICUREZZA EXTRA SAFETY OIL SOLENOID VALVE ELECTROVANNE MAZOUT DE SECURITE ELECTROVALVULA DE GASOLEO DE SEGURIDAD		ELETTOVALVOLA GASOLIO DI SECONDA FIAMMA SECOND STAGE OIL SOLENOID VALVE ELECTROVANNE MAZOUT GRANDE ALLURE ELECTROVALVULA DE GASOLEO 2 <sup>a</sup> LLAMA		SERVOMOTORE SERVO MOTOR SERVO MOTOR		SENSORE FIANMA FLAME SENSOR SENSOR DE LLAMA		SIGNATURE A. Bazzoli		DESIGNER A. POZZOBON	
CONTROL BOX LANDIS LOA 24 LEAKAGE CONTROL		SERVOMOTORE SERVO MOTOR SERVO MOTOR		SENSORE FIANMA FLAME SENSOR SENSOR DE LLAMA		SIGNATURE A. Bazzoli		DESIGNER A. POZZOBON		SHEET 1	
DESCRIPTION MAX 4-8-12 VENT. CONTINUA		ECON FIRST CREATION RB13BPC105		ECON MODIFICATION		CODE 420110119600		CONTROLLER ARGONI		DATE FIRST CREATION 28-11-2013	
Ecoflam Bruciatori S.p.A		R&D DEPARTMENT		MODIFICATION DESCRIPTION		DATE ECON MODIFICATION		DATE ECON MODIFICATION		TOT. SHEET 1	





N°	DESCRIPTION		MAX 4 AB HS code	MAX 8 AB HS code	MAX 12 AB HS code
1	OIL PUMP	SUNTEC AT3V 45A	65325120	65325120	65325120
2	COIL	SUNTEC	65323767	65323767	65323767
3	OIL VALVE	SUNTEC	65323744	65323744	65323744
4	COUPLING		65322920	65322920	65322920
5	NIPPLE	TN 6 X 700	65321179	65321179	65321179
6	HOSES	NW 6X700	65323189	65323189	65323189
7	FILTER	ART.70451-006AV	65325046	65325046	65325046
8	COVER		65326143	65326143	65326143
9	MOTOR	75 W	65322867	-	-
		100 W	-	65324998	-
		130 W AEG			65322873
10	CAPACITOR	3 µF AEG	65321857	-	65321857
		5 µF SIMEL	65325038		
		4 µF AEG	-	65321848	-
		6,3 µF SIMEL	-	65325000	65325000
11	IGNITION TRANSFORMER	FIDA MOD.26/30	65324966	65324966	65324966
12	CONTROL BOX BASE	LANDIS	65320092	65320092	65320092
13	CONTROL BOX	LANDIS LOA24	65320028	65320028	65320028
14	PHOTORESISTOR	LANDIS	65320076	65320076	65320076
15	RELAY		65323139	65323139	65323139
16	PROTECTION BOX		65320663	65320663	65320663
17	FAN	120 x 50	65321770	65321770	65321770
18	FAN SCOOP			65320621	65320621
19	ORING		65321061	65321061	65321061
20	COVER AIR INLET		65324964	65324964	65324964
21	CABLES	TC	65320933	65320933	65320933
		TL	65320934	65320934	65320934
22	ELECTRODES		65320924	65320924	65320924
23	BLAST TUBE	TC	65320325	65320298	65320362
		TL	65320326	65320299	65320363
24	FIRING HEAD	TC	65322554	65322556	65322558
		TL	65322555	65322557	65322559
25	NOZZLE HOLDER SUPPORT		65320687	65320687	65320687
26	NOZZLE HOLDER		65320707	65320707	65320707
27	DIFFUSER		65320747	65320754	65320753
28	ROD	TC	65320181	65320183	65320187
		TL	65320182	65320184	65320188
29	FLANGE		65320968	65320972	65320972
30	GASKET		65321104	65321109	65321109
31	ANTI JAMMING FILTER		-	-	-
32	REAR DISC		-	65320726	65320726
33	PIPE GASKET		65321065	65321065	65321065
34	PIPE		65321500	65321500	65321500
35	HYDRAULIC SYSTEM		65322331	65322331	65322331
36	PIPE HYDRAULIC SYSTEM		65321510	65321510	65321510
37	PLUG WIELAND	7 pin	65322069	65322069	65322069
		4 pin	65322065	65322065	65322065
38	SOCKET WIELAND	7 pin	65322070	65322070	65322070
		4 pin	65322068	65322068	65322068
39	AIR DAMPER		65325965	65325965	65320538
40	SUPPORT		65324508	65324508	65324508
41	COIL	PARKER VE131IN	65323779	65323779	65323779
42	OIL VALVE	PARKER VE131IN	65323630	65323630	65323630

TC = SHORT HEAD TL = LONG HEAD

## FAULT FINDING

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

Lined writing area with horizontal dashed lines.



