



**baltur** **75**   
Energy for People 1950 - 2025



LIGHT OIL BURNERS

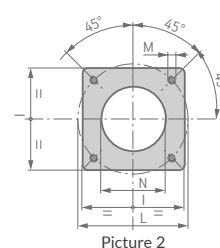
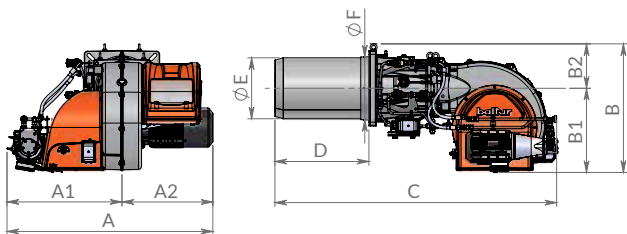
	TBL 650 ME	TBL 750 ME
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**Light oil burner. Operation:**

	electronic modulation	electronic modulation
P.I.D. controller and signal receiver (0÷10V / 4÷20 mA) integrated in burner control panel	○	○
Modulation ratio:	1:5	1:5
Low NOx and CO emissions light oil burner according to European standard EN267:	class 2	class 2
Adjusting the combustion head	•	•
Maintenance facilitated by the possibility of removing the mixing unit without having to remove the burner from the boiler	•	•
Fixed boiler coupling flange	•	•
Combustion air intake with butterfly valve. Air flow adjustment:	electric servomotor	electric servomotor
Fully closing air damper on shutdown to avoid loss of heat through the chimney	•	•
Electric motor for pump drive	•	•
Fuel supply circuit made of gear pump with pressure adjustment, flow regulator valve with servomotor, shut-off valve, two safety valves, maximum pressure switch	•	•
Flame detection by UV photocell	•	•
Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment	•	•
Electric protection rating:	IP40 *)	IP40 *)
Sound-proof plastic protective cover	•	•

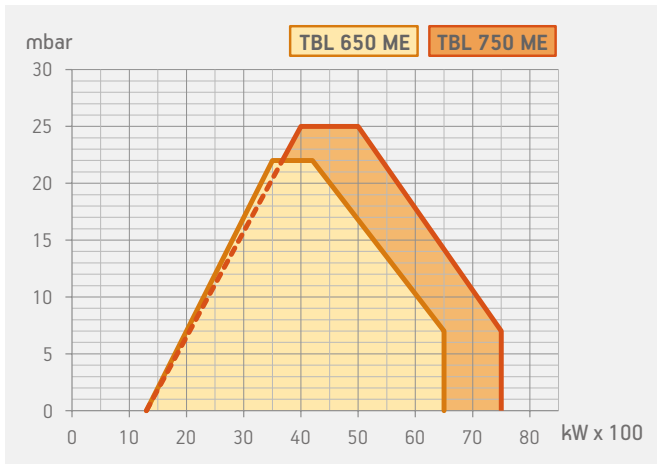
**LEGEND:**

\*) IP54 on request; ○ Optional; • As standard



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	C mm	D mm	E mm	F mm	I mm	L mm	M	N mm	Pic.
TBL 650 ME	1313	733	580	820	535	285	1805	600	389	410	480	520 ÷ 600	M20	415	2
TBL 750 ME	1380	733	647	820	535	285	1805	600	389	410	480	520 ÷ 600	M20	415	2



Model	Size of packaging			Weight kg
	L	P mm	H	
TBL 650 ME	2065	1525	1200	330
TBL 750 ME	2065	1525	1200	360

	Emissions class	Thermal output kW	Model	Part no.	Max visc. °E at 20°C	Electrical supply	Motor kW	Note
Frequency 50 Hz								
	class 2	1300 ÷ 6500	<b>TBL 650 ME</b>	<b>36190010</b>	1,5	3N AC 50Hz 400V	15,0+2,2	4)
	class 2	1300 ÷ 7500	<b>TBL 750 ME</b>	<b>36220010</b>	1,5	3N AC 50Hz 400V	18,5+2,2	4)
Frequency 60 Hz								
	class 2	1300 ÷ 6500	<b>TBL 650 ME</b>	<b>36195410</b>	1,5	3N AC 60Hz 380V	15,0+2,2	4)
	class 2	1300 ÷ 7500	<b>TBL 750 ME</b>	<b>36225410</b>	1,5	3N AC 60Hz 380V	18,5+2,2	4)

### TO COMPLETE THE BURNER

DESCRIPTION	PART NO.
Modulation kit	98000059
Modulating probe for LCM 100 (see page 4)	
Nozzle with 1÷4 ratio (see page 5)	

### ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
Soundproof burner cover (see page 6)	97980058
Soundproof burner cover (see page 6)	97980059

### BURNER ACCESSORIES

Line filter, flex hoses, boiler coupling kit.

### NOTE

4 Equipped with automatic air closure device.  
 Net calorific value of light oil: Hi = 42,70 MJ/kg = 10200 kcal/kg.

# MODULATION

The two stage progressive burners, by installing the PID load controller and related modulating kit, can operate as modulating burners with the ability to adjust the thermic load according to boiler needs. The load adjustment is possible between the minimum and maximum burner's operating point.

### How to choose the modulating kit components:

According to the parameter that it's necessary to control: temperature (°C) or pressure (bar) it's necessary to choose the range kit according to boiler operating range.

In case the value is included in two ranges it's necessary to select the lower range.

### Example:

In case the required hot water boiler set point is 100°C it's necessary to select the temperature probe kit with operating range between 0 ÷ 130°C.

In case the steam boiler must operate with 8bar outlet steam pressure it's necessary to select the pressure probe kit with operating range between 0 ÷ 10 bar.



### Automatic proportional modulation regulator PID

Part no.	Kit	Burners
98000055	Modulation kit LC3	TBG 450 ÷ 2000 MC
98000056	Modulation kit LC3	TBG 35 MC
98000057	Modulation kit LC3	TBML 80 ÷ 360 MC
98000058	Modulation kit LC3	TBG 45 ÷ 60 MC
98000059	Modulation kit LCM 100	ME models
98000065	Modulation kit LC4	TBG 80 ÷ 360 MC

### Temperature probe for LC3 modulation

Part no.	Temperature	Type robe	Probe length	Male coupling
98000023	0 °C ÷ 130 °C	PT 1000	85 <sup>1)</sup>	R 1/2"
98000021	0 °C ÷ 500 °C	PT 1000	200 <sup>1)</sup>	G 1/2"
98000022	0 °C ÷ 1100 °C	Thermocouple	425 <sup>1)</sup>	R 1/2"



### Temperature probe for LCM 100 modulation

Part no.	Temperature	Type robe	Probe length	Male coupling
98000023	0 °C ÷ 130 °C	PT 1000	85 <sup>1)</sup>	R 1/2"
98000021	0 °C ÷ 500 °C	PT 1000	200 <sup>1)</sup>	G 1/2"

### Temperature probe for ETAMATIC OEM control box

Part no.	Temperature	Type robe	Probe length	Male coupling
98000035	0 °C ÷ 500 °C	PT 100	100 <sup>1)</sup>	G 1/2"



### Steam pressure probe (for all types of automatic regulator)\*

Part no.	Pressure steam	Signal output	Male coupling
98000045	0 ÷ 1 bar	4 ÷ 20 mA	G 1/2"
98000046	0 ÷ 10 bar	4 ÷ 20 mA	G 1/2"
98000047	0 ÷ 16 bar	4 ÷ 20 mA	G 1/2"
98000048	0 ÷ 25 bar	4 ÷ 20 mA	G 1/2"
98000049	0 ÷ 40 bar	4 ÷ 20 mA	G 1/2"

\*) In the case of using applications where temperatures exceed 90°C you need to match the kit codes: 98000062

**NOTE: In combination with the LC4 modulation kit for MC models, a 12V power supply kit is mandatory.**

98000482	12V power supply kit
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### External climate regulation

Part no.	Description	Temperature
85060070	Temperature probe PT100	-50 °C ÷ 90 °C
98000061	Interface module for LC3	

### Power signal converter (TBG 45÷360 MC / LX MC)

Part no.	Description
98000063	Converter kit 0 ÷ 10 V / 4 ÷ 20 mA

### UV safe kit

Part no.	Description
98000443	UV SAFE KIT TBG 80-360 FGR
98000444	UV SAFE KIT TBG 450-750 FGR
98000445	UV SAFE KIT TBG 800 FGR
98000446	UV SAFE KIT TBG 1200 FGR

Note: For different modulation values please contact our Technical Assistance Service.

1) Different lengths on request.

## RETURN NOZZLES

Nozzle with fuel return for diesel and mixed series two-stage progressive / modulating and modulating burners. This kind of nozzle, while keeping the pump pressure constant, varies the amount of

fuel supplied according to the return pressure of the nozzle. To be ordered together with the burner when placing the order according to the power required by the application.

### Nozzles for light oil (ratio 1÷3) excluded burners: TBML 800

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000201	50	45°
98000202	60	45°
98000203	70	45°
98000204	80	45°
98000205	90	45°
98000206	100	45°
98000207	125	45°
98000208	150	45°
98000209	175	45°
98000210	200	45°
98000211	225	45°
98000212	250	45°
98000213	275	45°
98000214	300	45°
98000215	325	45°
98000216	350	45°
98000217	375	45°

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000218	400	45°
98000219	425	45°
98000220	450	45°
98000221	475	45°
98000222	500	45°
98000223	525	45°
98000224	550	45°
98000225	575	45°
98000226	600	45°
98000227	650	45°
98000228	700	45°
98000229	750	45°
98000230	800	45°
98000231	850	45°
98000232	900	45°
98000233	1000	45°



### Nozzles for light oil (ratio 1÷4) for burners TBML 450÷900 - TBL 450÷750 - TBL 1000

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000264	200	45°
98000265	225	45°
98000266	250	45°
98000267	275	45°
98000268	300	45°
98000269	330	45°
98000270	360	45°
98000272	400	45°
98000274	450	45°
98000275	500	45°

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000277	550	45°
98000278	600	45°
98000279	650	45°
98000271	700	45°
98000273	750	45°
98000276	800	45°
98000286	800	50°
98000287	850	50°
98000288	900	50°



### Nozzles for light oil (ratio 1÷5) for burners TBML 800 - TBL 1000

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000238	200	45°
98000239	225	45°
98000240	250	45°
98000241	275	45°
98000242	300	45°
98000243	325	45°
98000244	350	45°
98000245	375	45°
98000246	400	45°
98000247	425	45°
98000248	450	45°

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000249	475	45°
98000250	500	45°
98000251	525	45°
98000252	550	45°
98000253	575	45°
98000254	600	45°
98000255	650	45°
98000256	700	45°
98000257	750	45°
98000258	800	45°
98000259	850	45°
98000260	900	45°



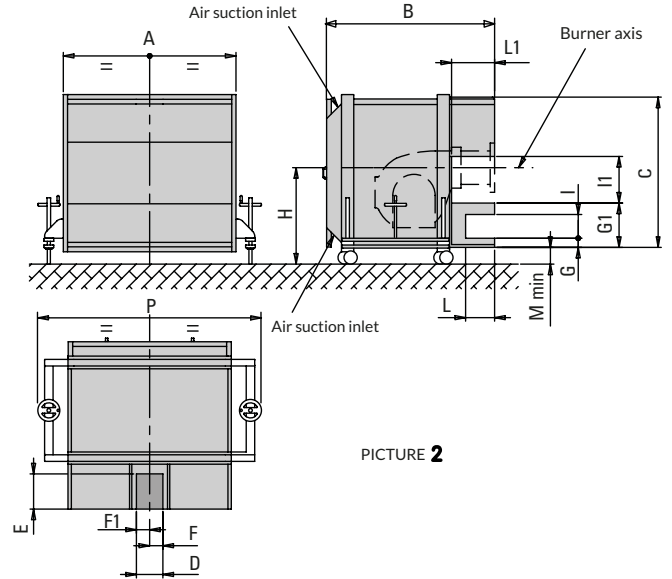
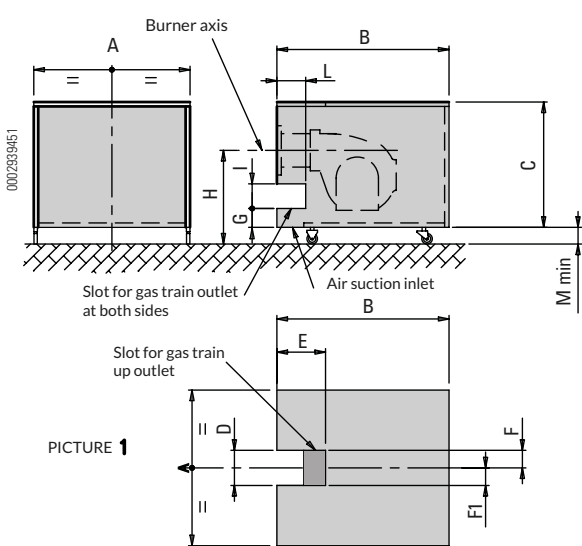
### Nozzles for heavy oil (ratio 1÷5) - Type W4

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000500	300	45°
98000501	325	45°
98000502	350	45°
98000503	375	45°
98000504	400	45°
98000505	425	45°
98000506	450	45°
98000507	475	45°

Part no.	Rated flow-rate kg/h	Flow-rate angle
98000508	500	45°
98000509	525	45°
98000510	550	45°
98000511	600	45°
98000512	650	45°
98000513	700	45°
98000514	750	45°

# SOUNDPROOF BURNER

Average sound pressure reduction of about 10 dB(A) measured in a laboratory with 1 meter microphone from the burner.



Model	Sound pressure	Pic.	A	B	C	D	E	F	F1	G	G1	H mm		I	I1	L	L1	M min	P
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	min	max	mm	mm	mm	mm
97980053*	-10 dB(A)	1	1100	1340	860	85	500	42,5	42,5	207	-	660	1350	85	-	500	-	190	-
97980054	-10 dB(A)	1	750	1080	650	85	380	42,5	42,5	157	-	560	1060	85	-	355	-	190	-
97980055	-10 dB(A)	1	1100	1340	860	85	440	42,5	42,5	-	-	650	1300	-	-	-	-	190	-
97980057	-10 dB(A)	1	1335	1655	1130	210	495	47,5	162,5	-	-	900	1700	-	-	-	-	190	-
97980058*	-10 dB(A)	1	1610	1740	1190	500	380	37,5	462,5	24,5	-	950	1700	210	-	380	-	190	-
97980059	-20 dB(A)	1	1560	1645	1190	500	380	37,5	462,5	245	-	950	1700	210	-	380	-	190	-
97980061	-20 dB(A)	2	1956	1945	1740	300	400	150	150	104	504	1450	1700	270	530	330	490	180	2540
97980063	-20 dB(A)	2	2180	1950	1830	350	410	175	175	85	480	1400	1200	310	580	345	505	195	2765

Note:

For gas burners in case of gas train up outlet it is necessary to install a 200 mm long cilindric extension.

\*) To decrease the sound pressure by 20 dB(A) please contact our sales office.

## ATTENTION:

It's customer responsibility to check the correct matching of soundproof according to the height of the boiler.