



DUAL FUEL BURNERS

TBML 80 MC - ME

TBML 90 P



kW 180 - 950

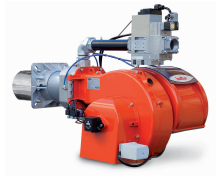
SERIES TBML



CONFORM TO: DIRECTIVE GAS 2009/142/CE | E.M.C. DIRECTIVE 2014/30/UE | L.V. DIRECTIVE 2014/35/UE | MACHINERY DIRECTIVE 2006/42/CE | REFERENCE STANDARD EN676 AND EN267.



TBML 80 MC



TBML 80 ME



TBML 90 P

TBML 80 MC	TBML 80 ME	TBML 90 P
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Alternating natural gas/light oil burner according to european regulation EN676 and EN267. Operation:

two-stage

Alternating natural gas/light oil burner according to european regulation EN676 and EN267. Two-stage progressive operation on gas, two-stage on light oil.

mechanical two-stage progressive/ two-stage

Alternating natural gas/light oil burner according to european regulation EN676 and EN267. Modulating operation on gas, two-stage on light oil.

modulating electronic/ two-stage

Continuous modulation operation by installing P.I.D. controller in the control panel (to be ordered separately with modulation probe).

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Modulation ratio:

1:4

1:4

Burner with Low NOx and CO emissions on gas according to European standard EN676:

class 3

class 3

class 2

Burner with Low NOx and CO emissions on light oil according to European standard EN267:

class 2

class 2

class 2

Adjusting the combustion head.

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Maintenance facilitated by the possibility of removing the mixing unit and combustion head without having to remove the burner from the boiler.

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High ventilation efficiency, low electrical input, low noise.

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Sliding boiler coupling flange to adapt the blast-pipe to the various types of boilers.

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Easy maintenance thanks to the two-sides hinge which allows the removal of the combustion head without having to remove the burner from the boiler.

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Combustion air intake with butterfly valve. Air flow adjustment:

mechanical cam

electric servomotor

mechanical cam

Fully closing air damper on shutdown to avoid loss of heat through the chimney.

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Combustion air intake designed to achieve optimum linearity of the air gate opening.

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CE version gas train is complete with butterfly valve, operation and safety valve with electromagnetic drive, valve tightness control, minimum pressure switch, pressure regulator and gas filter.

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Fail proof connectors for burner/gas train connection.

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Gas train outlet:

up

up

up

Pump connected to fan motor through electromagnetic clutch.

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Fuel supply circuit made of gear pump with pressure adjustment, shut-off valves and safety valve

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Fuel switch device:

manual

manual

manual

Flame detection by UV photocell.

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Control panel with display diagram for working mode with indication lights.

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Control panel equipped either with display showing the working process and with the keyboard for the burner adjustment.

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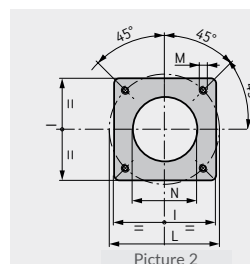
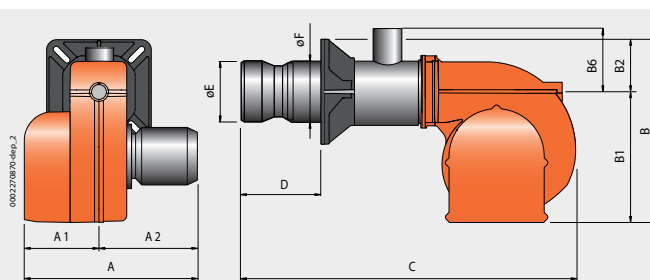
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Electric protection rating:

IP40

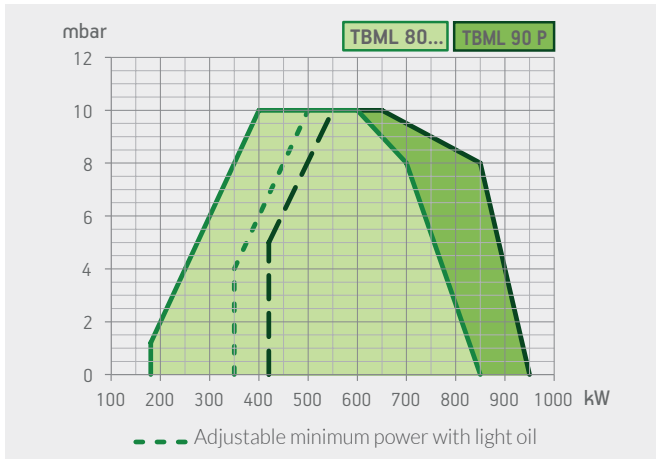
IP40

IP40



Flange dimensions and boiler drilling template.

Model	A mm	A1 mm	A2 mm	B mm	B1 mm	B2 mm	B6 mm	C mm	D mm	E mm	F mm	I mm	L mm	M mm	N mm	Pic.
TBML 80 MC	700	330	370	520	380	140	200	1230	270 ÷ 440	180	178	280	250 ÷ 325	M12	190	2
TBML 80 ME	700	330	370	520	380	140	200	1250	270 ÷ 440	180	178	280	250 ÷ 325	M12	190	2
TBML 90 P	700	330	370	520	380	140	200	1250	175 ÷ 400	180	178	280	250 ÷ 325	M12	190	2



Model	Size of packaging			Weight kg
	L	P	H	
TBML 80 MC	1070	800	700	84
TBML 80 ME	1070	800	700	81
TBML 90 P	1070	800	700	85

	Emissions class	Thermal output kW	Model	Part no.	Max visc. °E at 20°C	Electrical supply	Motor kW	Note
Frequency 50 Hz								
	see page 2	180(350)* ÷ 850	TBML 80 MC	56490010	1,5	3N AC 50Hz 400V	1,1	4)
	see page 2	180(350)* ÷ 850	TBML 80 ME	56500010	1,5	3N AC 50Hz 400V	1,1	4)
	class 2	420÷950	TBML 90 P	56510010	1,5	3N AC 50Hz 400V	1,1	4)
Frequency 60 Hz								
	see page 2	180(350)* ÷ 850	TBML 80 MC	56495410	1,5	3N AC 60Hz 380V	1,1	4)
	see page 2	180(350)* ÷ 850	TBML 80 ME	56505410	1,5	3N AC 60Hz 380V	1,1	4)
	class 2	420÷950	TBML 90 P	56515410	1,5	3N AC 60Hz 380V	1,1	4)

The working field of the burner, as expressed in the "Thermal output kW" column, depends on the characteristics of the gas train it works with (see burner/train match diagram).

TO COMPLETE THE BURNER

DESCRIPTION
TBML 80 ME: modulating probe for LCM 100

MODULATING MODE

DESCRIPTION	PART NO.
TBML 80 MC: modulation kit	98000057
TBML 80 MC: modulating probe	

ACCESSORIES AVAILABLE ON REQUEST

DESCRIPTION	PART NO.
TBML 90 P: line filter 3/8"	98000370
Soundproof burner cover	97980053

DUAL FUEL BURNERS ACCESSORIES

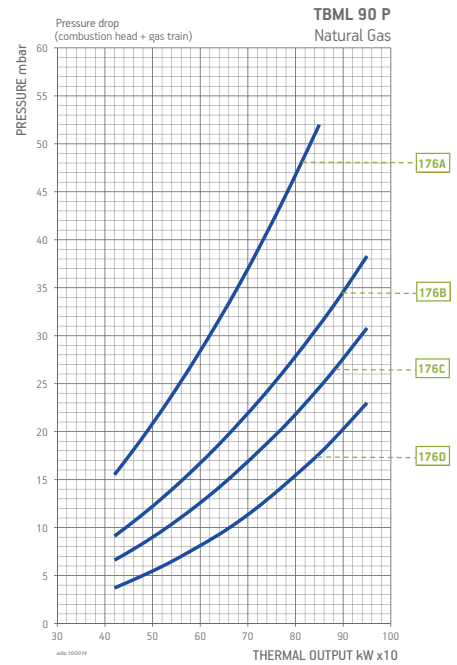
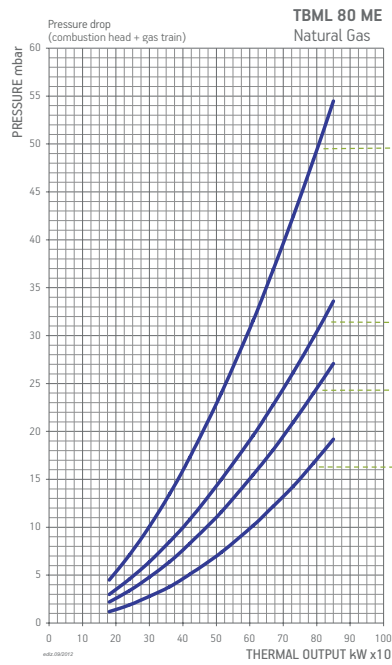
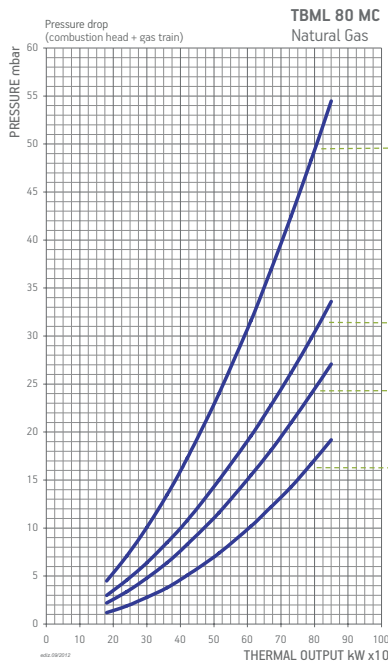
TBML 80 MC: line filter, flex hoses, nozzles, boiler coupling kit, plug for wiring.
TBML 80 ME: line filter, flex hoses, nozzles, boiler coupling kit.
TBML 90 P: flex hoses, nozzles, boiler coupling kit, plug for wiring.

NOTES

- 4 Equipped with air closure device.
- *) Min thermal capacity with light oil operation.
- Net calorific value:
- Natural gas: $Hi = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$, at reference conditions of 0°C, 1013mbar.
- LPG: $Hi = 92 \text{ MJ/m}^3 = 22000 \text{ kcal/m}^3$, at reference conditions of 0°C, 1013mbar.
- Light oil: $Hi = 42,70 \text{ MJ/kg} = 10200 \text{ kcal/kg}$.
- For different type of gas and pressure values, please get in contact with our commercial department.

BURNER/GAS TRAIN MATCH

DUAL FUEL



CE gas train version complies with EN676, EXP gas train version is for extra-European markets.

Burner model	Gas type	Curve on graph	Version	P.Max** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Notes
						Part no.	Part no.	Part no.	Part no.		
TBML 80 MC	Natural gas	138A	CE/EXP	360	CTV	19990581	Included	96000032	Included	D7	
		138B	CE/EXP	360	CTV	19990582	Included	96000007	Included	D7	
		138C	CE/EXP	360	CTV	19990583	Included	-	Included	D7	
		138D	CE/EXP	360	CTV	19990584	Included	-	Included	D7	
TBML 80 ME	Natural gas	156A	CE/EXP	360	CTV	19990557	Included	96000032	Included	D2	
		156B	CE/EXP	360	CTV	19990558	Included	96000007	Included	D2	
		156C	CE/EXP	360	CTV	19990559	Included	-	Included	D2	
		156D	CE/EXP	500	CTV	19990524	Included	-	Included	D2	
TBML 90 P	Natural gas	176A	CE/EXP	360	CTV	19990547	Included	96000032	-	B7	12)
		176B	CE/EXP	360	CTV	19990548	Included	96000007	-	B7	12)
		176C	CE/EXP	360	CTV	19990549	Included	-	-	B7	12)
		176D	CE/EXP	500	CTV	19990550	Included	-	-	B7	12)
		176D	CE/EXP	500	CTV	19990550	Included	-	98000102	B7	12)

Burner model	Gas type	Version	P.Max** mbar	Execution	Gas train	Regulator with incorporated filter	Burner/gas train adapter	Valve tightness control kit	Pic.	Notes
					Part no.	Part no.	Part no.	Part no.		
TBML 80 MC	LPG	CE/EXP	360	CTV	19990581	Included	96000032	Included	D7	
TBML 80 ME	LPG	CE/EXP	360	CTV	19990557	Included	96000032	Included	D2	
TBML 90 P	LPG	CE/EXP	360	CTV	19990547	Included	96000032	-	B7	
					19990547	Included	96000032	98000101	B7	12)

To choose the correct gas train please refer to the information on Burners Catalogue.

NOTES

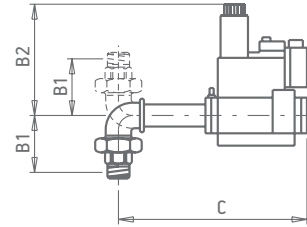
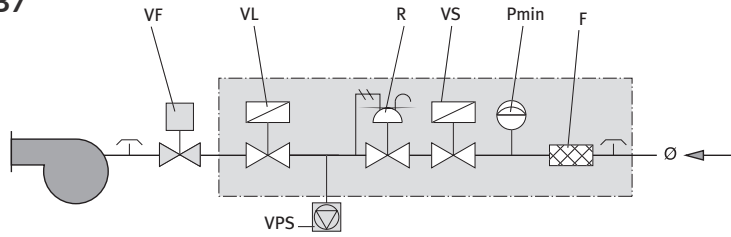
12 Valve tightness control not required by EN676.

CTV Gas train with Valve Tightness Control.

***) Maximum gas inlet pressure at pressure regulator.

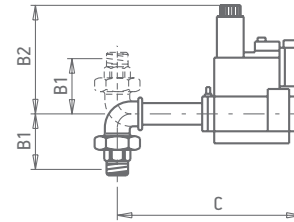
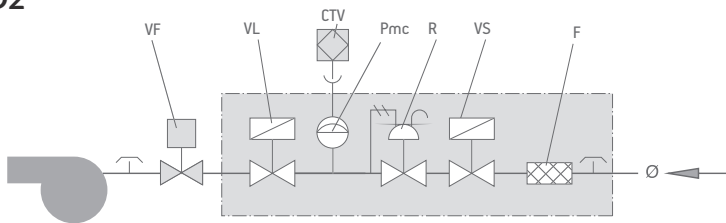
GAS TRAIN STRUCTURE AND COMPOSITION

B7



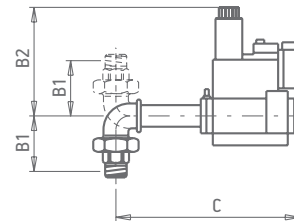
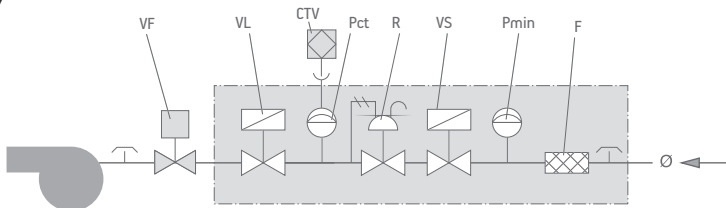
Gas train Part no.	Position								Gas train dimensions mm			Size of packaging mm	Weight
	F	Pmin	R	VF	VL	VPS	VS	Ø	B1	B2	C	L x P x H	kg
19990547 (MB...412 - 1"1/4)	●	●	●	◆	●	■	●	1"1/4	95	260	490	400 x 300 x 280	8
19990548 (MB...415 - 1"1/2)	●	●	●	◆	●	▲	●	1"1/2	103	170	600	460 x 250 x 460	11
19990549 (MB...420 - 2")	●	●	●	◆	●	▲	●	2"	114	220	600	460 x 250 x 460	13
19990550 (VGD20.503 - 2")	●	●	●	◆	●	▲	●	2"	114	285	890	990 x 300 x 500	15

D2



Gas train Part no.	Position								Gas train dimensions mm			Size of packaging mm	Weight
	CTV	F	Pmc	R	VF	VL	VS	Ø	B1	B2	C	L x P x H	kg
19990524 (VGD20.503 - 2")	●	●	●	●	◆	●	●	2"	114	285	890	990 x 300 x 500	14
19990557 (MB... 412 - 1"1/4)	●	●	●	●	◆	●	●	1"1/4	95	160	390	300 x 210 x 300	8
19990558 (MB... 415 - 1"1/2)	●	●	●	●	◆	●	●	1"1/2	103	170	490	460 x 250 x 460	11
19990559 (MB... 420 - 2")	●	●	●	●	◆	●	●	2"	114	220	520	520 x 410 x 410	13

D7



Gas train Part no.	Position									Gas train dimensions mm			Size of packaging mm	Weight
	CTV	F	Pct	Pmin	R	VF	VL	VS	Ø	B1	B2	C	L x P x H	kg
19990581 (MB...412 - 1"1/4)	●	●	●	●	●	◆	●	●	1"1/4	95	160	390	300 x 210 x 300	8
19990582 (MB...415 - 1"1/2)	●	●	●	●	●	◆	●	●	1"1/2	103	170	490	460 x 250 x 460	11
19990583 (MB...420 - 2")	●	●	●	●	●	◆	●	●	2"	114	220	520	520 x 410 x 410	13
19990584 (VGD20.503 - 2")	●	●	●	●	●	◆	●	●	2"	114	285	890	990 x 300 x 500	15

- CTV** Valve tightness control.
- F** Filter.
- LDU** LDU valve tightness control.
- Pct** Pressure switch for gas control.
- Pmax** Maximum pressure switch.
- Pmc** Minimum and control pressure switch gas leaks.
- Pmin** Minimum pressure switch.
- R** Pressure regulator.
- RF** Pressure regulator with filter.

- RFP** Pressure regulator with filter for pilot gas train.
- RM** Manual flow rate regulator.
- RP** Pneumatic regulator.
- VF** Regulator throttle valve.
- VL** Operating valve.
- VL2** Two-stage operating valve.
- VLP** Operating pilot valve.
- VLR** Operating valve with pressure regulator.

- VP** Pilot valve.
- VPS** VPS valve tightness control.
- VS** Safety valve.
- VSP** Safety pilot valve.
- Ø** Gas train diameter.
- Ø1** Main gas train diameter.
- Ø2** Pilot gas train diameter.

- As standard.
- ▲ As standard for burners with an output of more than 1200 kW, on request for burners with an output of less than 1200 kW.
- On request.
- ◆ Mounted on burner.



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