

DUAL FUEL BURNERS

from 38,5 to 3878 kW

SERIES

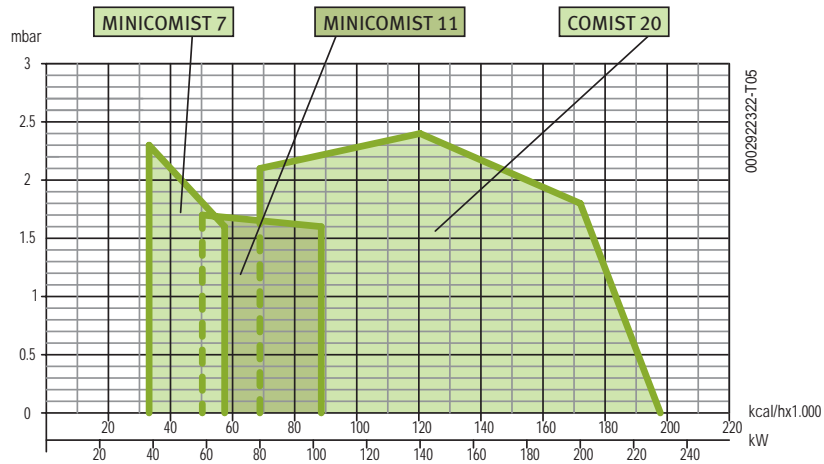
Dual fuel
burners
gas/light oil
gas/heavy oil



baltur

SINGLE-STAGE DUAL FUEL BURNERS

Product range



The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.

In reality, variations may occur, due to the following factors:

- the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
- high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m³) which may prevent the burner fan from exploiting the entire operating range.

NOTES:

*) Net calorific value:

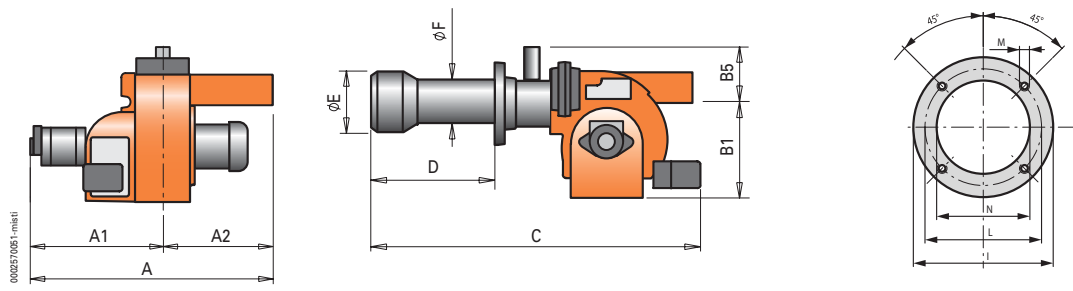
Natural gas:
Hi = 35,80 MJ/m³ = 8550 kcal/m³,
at reference conditions of 0°C,
1013 mbar;

Light oil:
Hi = 42,70 MJ/kg = 10200 kcal/kg.

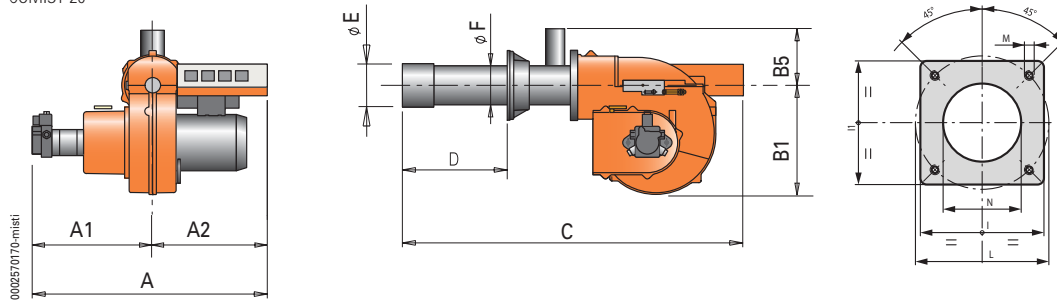
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Model	Part no.	Thermal output		Light oil Capacity *)		Natural gas Capacity *)		Natural gas Pressure **)		Max visc. °E 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h	min. m ³ /h	max. m ³ /h	CE mbar	EXP mbar				
Frequency 50 Hz													
MINICOMIST 7	54700010	38,5	66,8	3,2	5,6	3,9	6,7	360	360	1,5	1N AC 50Hz 230V	0,13+0,1	
MINICOMIST 11	54730010	54,4	103,0	4,6	8,7	5,5	10,4	360	360	1,5	1N AC 50Hz 230V	0,13+0,1	
COMIST 20	54770010	80,0	230,0	6,7	19,4	8,0	23,1	360	360	1,5	1N AC 50Hz 230V	0,25+0,1	
Frequency 60 Hz													
MINICOMIST 7	54705410	38,5	66,8	3,2	5,6	3,9	6,7	360	360	1,5	1N AC 60Hz 230V	0,13+0,1	
MINICOMIST 11	54735410	54,4	103,0	4,6	8,7	5,5	10,4	360	360	1,5	1N AC 60Hz 230V	0,13+0,1	
COMIST 20	54775410	80,0	230,0	6,7	19,4	8,0	23,1	360	360	1,5	1N AC 60Hz 230V	0,37+0,1	

MINICOMIST 7 - 11



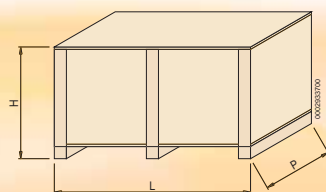
COMIST 20



Dimensions

Model	A mm	A ₁ mm	A ₂ mm	B ₁ mm	B ₅ mm	C mm	D mm	E mm	F mm	I mm	I ₁ mm	L mm	M mm	N mm
MINICOMIST 7	575	300	275	205	80	510	40 ÷ 156	-	95	170	-	130 ÷ 155	M8	115
MINICOMIST 11	575	300	275	205	80	510	40 ÷ 156	-	95	170	-	130 ÷ 155	M8	115
COMIST 20	620	330	290	270	127	820	120 ÷ 290	117	114	185	185	170 ÷ 210	M10	120

Model	Package dimensions mm			Weights kg
	L	P	H	
MINICOMIST 7	770	640	680	45
MINICOMIST 11	770	640	680	45
COMIST 20	1050	770	680	61



Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

MINICOMIST 7-11 COMIST 20

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
- Single stage operation (on/off).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Manual air flow adjustment.
- Possibility to chose gas train with valve tightness control.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and one nozzle.

- On request: longer blast tube, automatic device for the switchover of fuel outside the burner.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

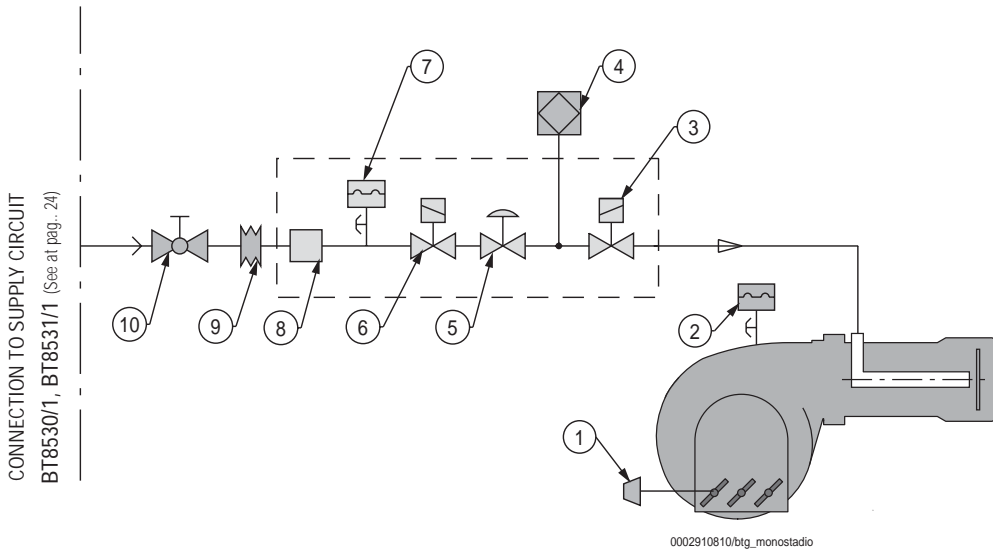
- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- One monophase electric motor to run the fan and one to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Gear pump with pressure regulator and fuel stop-cock valves.

- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, fuel change switch and operation, blok and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner.
- Electrical protection rating IP40.



GAS BURNERS

Functional diagram



GAS BURNERS Legend

- 1 Manual air adjustment switch.
- 2 Air pressure switch.
- 3 Operating valve.
- 4 On request valve tightness control.
- 5 Gas pressure regulator.
- 6 Safety valve.
- 7 Minimum pressure switch.
- 8 Gas filter.

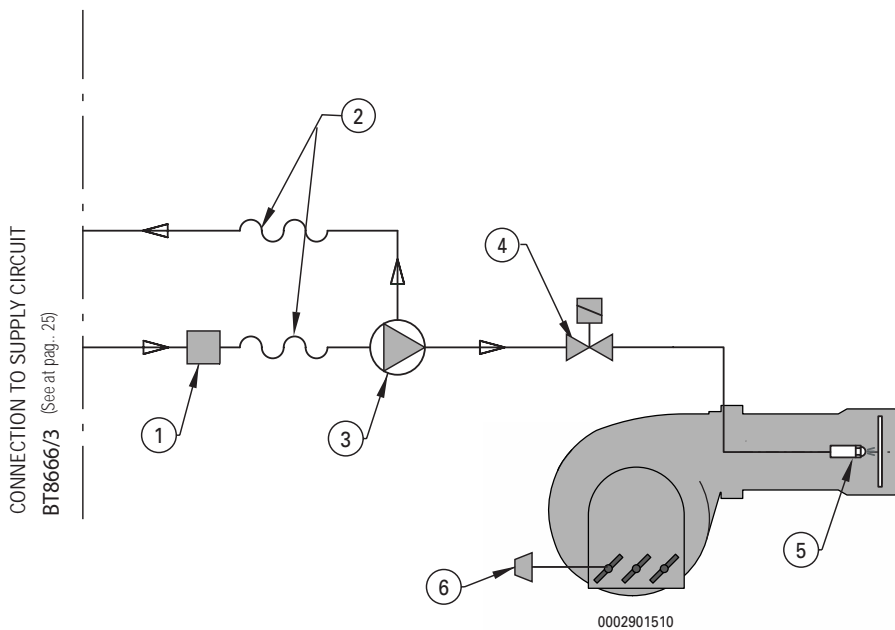
Carried out by the installing technician:

- 9 Anti-vibration joint.
- 10 Ball valve.

LIGHT OIL BURNERS

LIGHT OIL BURNERS Legend

- 1 Filter.
- 2 Flexible pipe.
- 3 Burner pump.
- 4 1st stage safety solenoid valve (normally closed).
- 5 Nozzle.
- 6 Manual air adjustment switch.



PRESSURE DROP

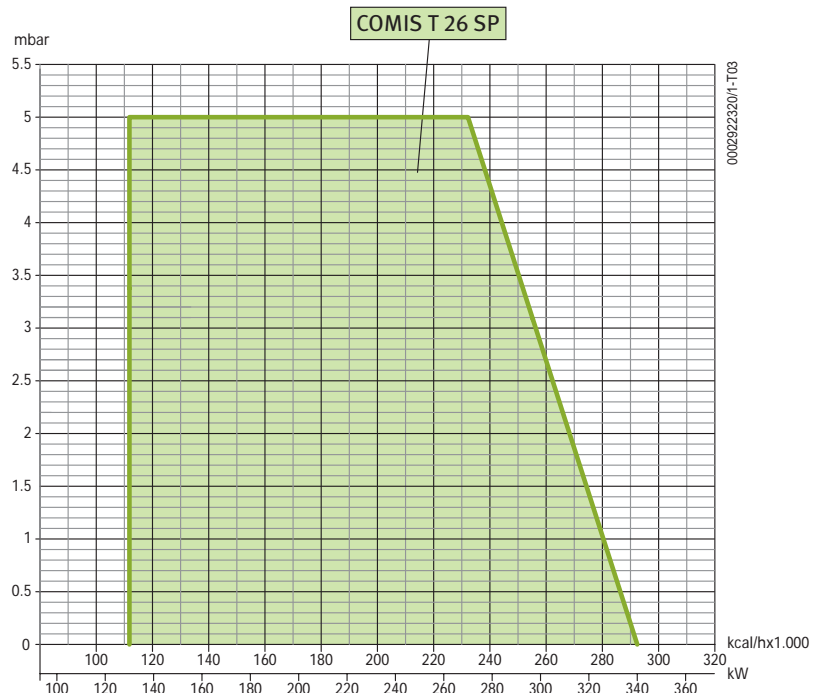
DUAL FUEL BURNERS

Product range

The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.

In reality, variations may occur, due to the following factors:

- the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
- high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m³) which may prevent the burner fan from exploiting the entire operating range.



Model	Part no.	Thermal output		Light oil Capacity *)		Natural gas Capacity *)		Natural gas Pressure **)		Max visc. °E 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h	min. m ³ /h	max. m ³ /h	CE mbar	EXP mbar				

Frequency 50 Hz

COMIST 26 SP	54800010	130,0	340,0	11,0	28,7	13,1	34,2	360	360	1,5	1N AC 50Hz 230V	0,37+0,10	4)
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Frequency 60 Hz

COMIST 26 SP	54805410	130,0	340,0	11,0	28,7	13,1	34,2	360	360	1,5	1N AC 60Hz 230V	0,37+0,10	4)
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NOTES:

4) Soundproof lid on burners air intake.

*) Net calorific value:

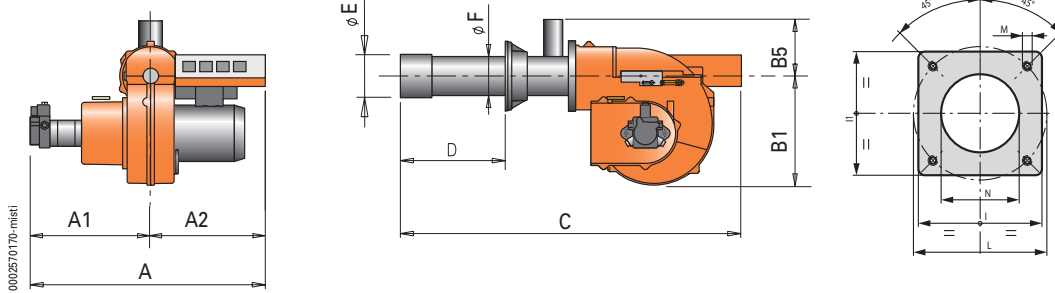
Natural gas:

Hi = 35,80 MJ/m³ = 8550 kcal/m³,
at reference conditions of 0°C,
1013 mbar;

Light oil:

Hi = 42,70 MJ/kg = 10200 kcal/kg.

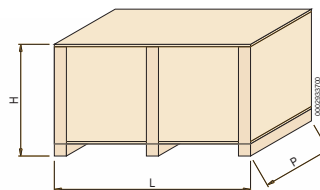
**) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.



Dimensions

Model	A mm	A ₁ mm	A ₂ mm	B ₁ mm	B ₅ mm	C mm	D mm	E mm	F mm	I mm	I ₁ mm	L mm	M mm	N mm
COMIST 26SP	620	330	290	270	127	830	140 ÷ 300	135	114	185	185	170 ÷ 210	M10	120

Model	Package dimensions mm			Weights kg
	L	P	H	
COMIST 26SP	1050	770	680	62



Characteristics

Conform to:
Gas Directive 90/396/CEE
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

COMIST 26 SP

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
- Two-stage pressure stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Possibility to chose gas train with valve tightness control.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and one nozzle.

- On request: automatic device for the switchover of fuel outside the burner.

CONSTRUCTION CHARACTERISTICS

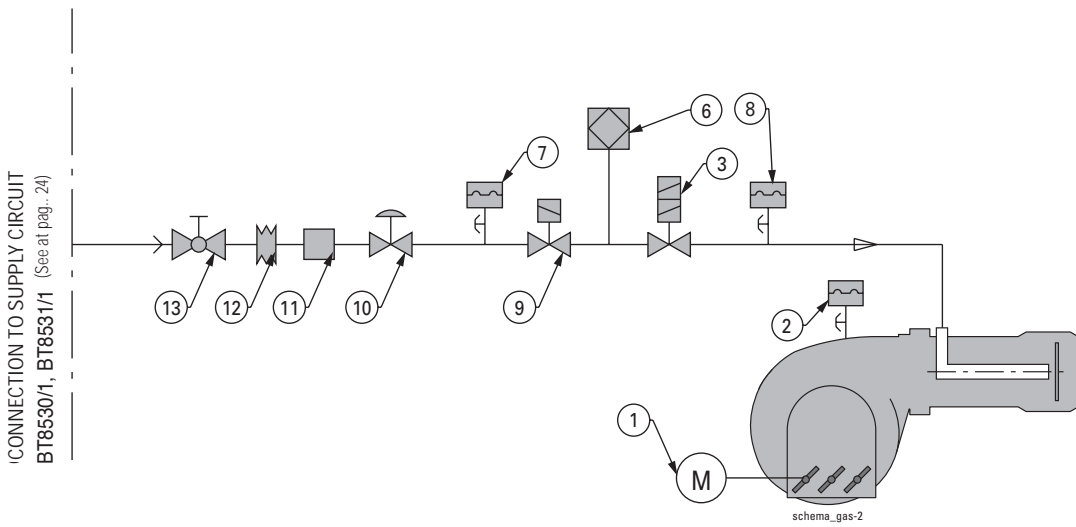
The burner consists of:

- Light aluminium alloy fan part.
 - High performance centrifugal fan.
 - Combustion air intake with air flow adjustment device.
 - Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
 - Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
 - One monophase electric motor to run the fan and one to run the pump.
 - Air pressure switch to ensure the presence of combustion air.
 - Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
 - Gear pump with pressure regulator and fuel stop-cock valves.
 - Automatic control and command equipment for the burner, compliant with European standard EN298.
 - Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, 1st/2nd stage selector, fuel change switch and operation, block, and fuel indicators.
 - Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
 - Electrical protection rating IP40.



GAS BURNERS

Functional diagram



GAS BURNERS Legend

- 1 Air adjustment servomotor.
- 2 Air pressure switch.
- 3 Two-stage operating valve.
- 6 Valve seal control device on request.
- 7 Minimum pressure switch.
- 8 Maximum pressure switch.
- 9 Safety valve.
- 10 Gas pressure regulator.
- 11 Gas filter.

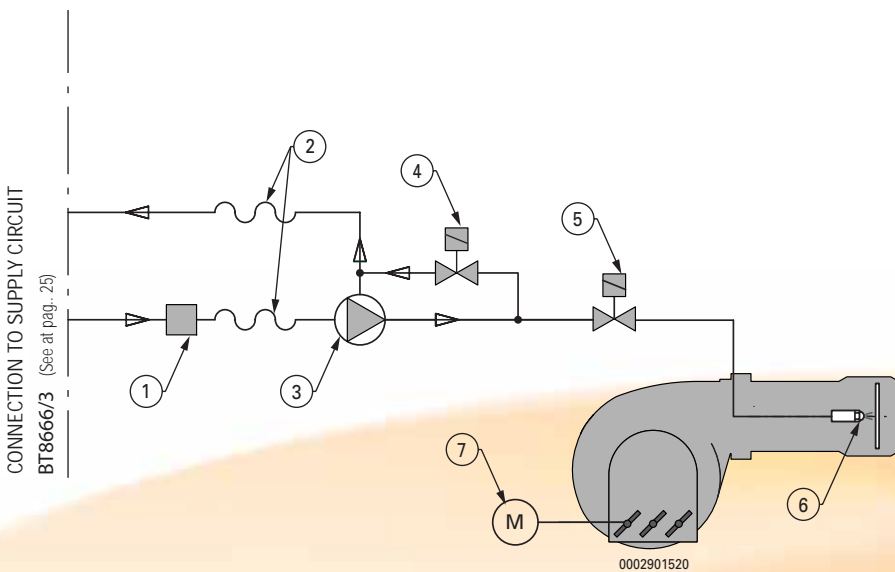
Carried out by the installing technician:

- 12 Ani-vibration joint.
- 13 Ball valve.

LIGHT OIL BURNERS

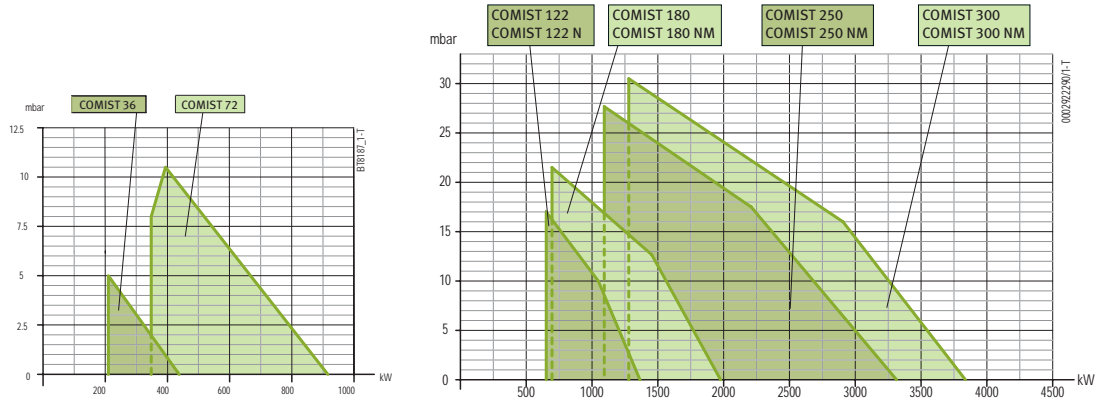
LIGHT OIL BURNERS Legend

- 1 Filter
- 2 Flexible pipe.
- 3 Burner pump.
- 4 2nd stage safety solenoid valve (normally open).
- 5 Nozzle.
- 6 Manual air adjustment switch.



TWO-STAGE DUAL FUEL BURNERS

Product range



The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.

In reality, variations may occur, due to the following factors:

- the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
- high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m³) which may prevent the burner fan from exploiting the entire operating range.

NOTES:

- Equipped with automatic air shutoff device.
- Prepared for automatic fuel switching.
- Net calorific value:

Natural gas:
 $H_i = 35,80 \text{ MJ/m}^3 = 8550 \text{ kcal/m}^3$,
 at reference conditions of 0°C,
 1013 mbar;

Light oil:
 $H_i = 42,70 \text{ MJ/kg} = 10200 \text{ kcal/kg}$.

***) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Model	Part no.	Thermal output		Light oil Capacity *)		Natural gas Capacity *)		Natural gas Pressure **)		Max visc. °E 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h	min. m ³ /h	max. m ³ /h	CE mbar	EXP mbar				

GAS - LIGHT OIL

Frequency 50 Hz

COMIST 36	54910010	210	438	18	37	21	44	360	360	1,5	3N AC 50Hz 400V	0,37+0,10	4)
COMIST 72	54960010	348	916	29	77	35	92	360	360	1,5	3N AC 50Hz 400V	1,10+0,37	4)
COMIST 122	55010010	652	1364	55	115	66	137	360	360	1,5	3N AC 50Hz 400V	2,20+0,37	4)
COMIST 180	55060010	688	1981	58	167	69	199	360	360	1,5	3N AC 50Hz 400V	3,00+0,55	4) 8)
COMIST 250	55110010	1127	3380	95	285	113	340	500	140	1,5	3N AC 50Hz 400V	7,00+0,75	4) 8)
COMIST 300	55160010	1304	3878	110	327	131	390	500	140	1,5	3N AC 50Hz 400V	7,00+0,75	4) 8)

Frequency 60 Hz

COMIST 36	54915410	210	438	18	37	21	44	360	360	1,5	3N AC 60Hz 400V	0,76+0,10	4)
COMIST 72	54965410	348	916	29	77	35	92	360	360	1,5	3N AC 60Hz 400V	1,50+0,37	4)
COMIST 122	55015410	652	1364	55	115	66	137	360	360	1,5	3N AC 60Hz 400V	2,20+0,37	4)
COMIST 180	55065410	688	1981	58	167	69	199	360	360	1,5	3N AC 60Hz 400V	3,50+0,65	4) 8)
COMIST 250	55115410	1127	3380	95	285	113	340	500	140	1,5	3N AC 60Hz 400V	9,00+1,30	4) 8)
COMIST 300	55165410	1304	3878	110	327	131	390	500	140	1,5	3N AC 60Hz 400V	9,00+1,30	4) 8)

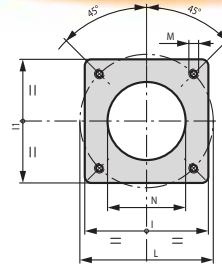
GAS - HEAVY OIL

Frequency 50 Hz

COMIST 72 N	55380010	348	916	31	82	35	92	360	360	7	3N AC 50Hz 400V	1,1+0,75	4) 8)
COMIST 122 N	55410010	652	1364	58	122	66	137	360	360	7	3N AC 50Hz 400V	2,2+0,55	4) 8)
COMIST 180 NM	55460010	688	1981	62	177	69	199	360	360	7	3N AC 50Hz 400V	3,0+1,10	4) 8)
COMIST 250 NM	55510010	1127	3380	101	303	113	340	500	140	7	3N AC 50Hz 400V	7,5+1,10	4) 8)
COMIST 300 NM	55560010	1304	3878	117	347	131	390	500	140	7	3N AC 50Hz 400V	7,5+2,20	4) 8)

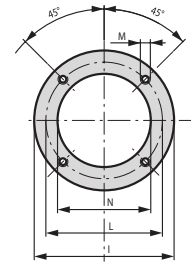
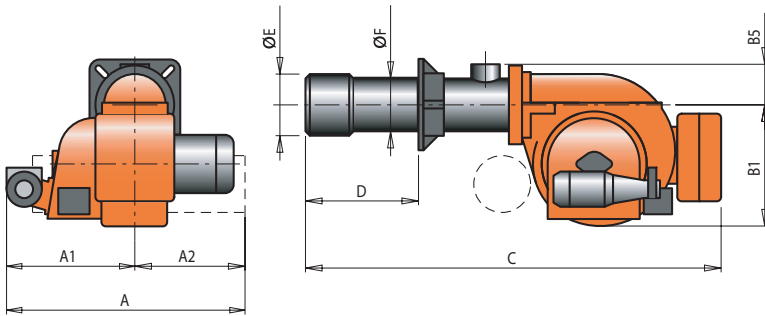
Frequency 60 Hz

COMIST 72 N	55385410	348	916	31	82	35	92	360	360	7	3N AC 60Hz 400V	1,5+0,75	4) 8)
COMIST 122 N	55415410	652	1364	58	122	66	137	360	360	7	3N AC 60Hz 400V	3,5+0,65	4) 8)
COMIST 180 NM	55465410	688	1981	62	177	69	199	360	360	7	3N AC 60Hz 400V	3,5+1,30	4) 8)
COMIST 250 NM	55515410	1127	3380	101	303	113	340	500	140	7	3N AC 60Hz 400V	9,0+1,30	4) 8)
COMIST 300 NM	55565410	1304	3878	117	347	131	390	500	140	7	3N AC 60Hz 400V	9,0+2,60	4) 8)

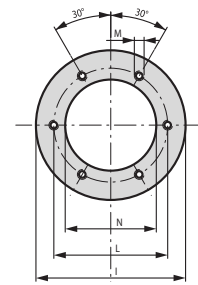


COMIST 36 - 122 - 250 - 300

Dimensions



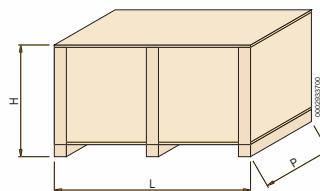
COMIST 72



COMIST 180

Model	A mm	A ₁ mm	A ₂ mm	B ₁ mm	B ₅ mm	C mm	D mm	E mm	F mm	I mm	I ₁ mm	L mm	M mm	N mm
COMIST 36	485	215	270	450	115	1120	380	160	150	235	235	256	M12	165
COMIST 72	575	235	340	380	135	1310	175 ÷ 345	191	187	320	-	276	M16	215
COMIST 72 N	575	235	340	380	135	1310	175 ÷ 345	191	187	320	-	276	M16	215
COMIST 122	685	290	395	490	152	1490	195 ÷ 445	227	220	320	320	280 ÷ 370	M12	230
COMIST 122 N	940	460	480	490	152	1490	195 ÷ 445	227	220	320	320	280 ÷ 370	M12	230
COMIST 180	875	450	425	450	151	1700	330 ÷ 540	260	245	460	-	400	M20	300
COMIST 180 NM	915	465	450	450	151	1700	330 ÷ 540	260	245	460	-	400	M20	300
COMIST 250	1025	545	480	580	166	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 250 NM	1025	545	480	580	166	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 300	1025	545	480	580	166	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 300 NM	1025	545	480	580	166	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330

Model	Package dimensions mm			Weights kg
	L	P	H	
COMIST 36	1510	750	720	115
COMIST 72	1510	750	720	150
COMIST 72 N	1730	1030	880	180
COMIST 122	1730	1030	880	187
COMIST 122 N	1730	1030	880	267
COMIST 180	1730	1030	880	244
COMIST 180 NM	2030	1210	990	387
COMIST 250	2030	1210	990	330
COMIST 250 NM	2030	1210	990	410
COMIST 300	2030	1210	990	330
COMIST 300 NM	2030	1210	990	430



Characteristics

Conform to:
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

COMIST 36 - 72

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Possibility to chose gas train with valve tightness control.
- Equipped with one flange and one insulating seal for boiler fastening,

2 flexible hoses, one line filter and two nozzle.

- On request: automatic device for the switchover of fuel outside the burner.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers (fxed for COMIST 36). Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor (single-phase for COMIST 36, three-phase for COMIST 72) to run fan and a electric motor to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.
- Gear pump with pressure regulator, fuel stop-cock valve and safety valve.
- Automatic control and command

equipment for the burner, compliant with European standard EN298.

- Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, 1st/2nd stage selector, fuel change switch and operation, block, and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.

COMIST 122 - 180 250 - 300

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Valves tightness control compliant with European standard EN676 in the CE execution; on request in the EXP execution.
- Suitable for fuel automatic commutation (on request for COMIST 122).
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and 3 nozzles (2 for COMIST 122).





- On request: automatic device for the switchover of fuel outside the burner.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, valves tightness control, minimum pressure switch, pressure regulator and gas filter.
- Gear pump with pressure regulator, fuel stop-cock valve and safety valve.
- Atomisation unit with nozzle-closing pin.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, 1st/2nd stage selector, fuel change switch and operation, block and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.

COMIST 72 N

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/heavy oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.

- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Possibility to chose gas train with valve tightness control.
- Prepared for automatic fuel switching.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and 2 nozzles.
- Gear pump with pressure regulator, fuel stop-cock valve and safety valve.
- Atomisation unit with nozzle-closing pin.
- Electrical fuel preheater comprising antigas valve, filter, thermometer and minimum and regulation thermostat.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- Control panel comprising stop/go switch, 1st/2nd stage selector, fuel change switch, and operation, block, pre-heating resistors on and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, minimum pressure switch, pressure regulator and gas filter.

Characteristics

Conform to:
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

Characteristics

COMIST 122 N COMIST 180 - 250 - 300 NM

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/heavy oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- On request it is possible to add to the burner a supplementary heavy oil pre-heater using steam, which means the fuel can be heated by the steam from the boiler to provide an energy saving.
- Valves tightness control compliant with European standard EN676 in the CE execution; on request in the EXP execution.
- Prepared for automatic fuel switching.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and 2 nozzles.
- On request: steam pre-heater.

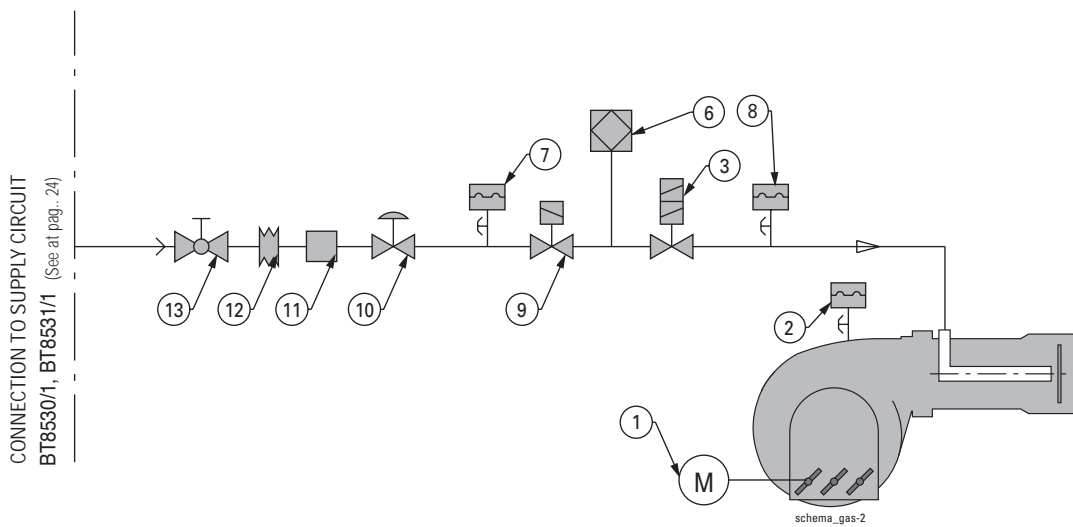
CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gas train complete with operation and safety valve, valves tightness control, minimum pressure switch, pressure regulator and gas filter.
- Gear pump with pressure regulator, fuel stop-cock valve and safety valve.
- Atomisation unit with nozzle-closing pin.
- Electrical fuel preheater comprising antigas valve, filter, thermometer and minimum and regulation thermostat.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- Control panel comprising stop/go switch, 1st/2nd stage selector, fuel change switch, and operation, block, pre-heating resistors on and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.



GAS BURNERS



Functional diagram

Legend

- 1 Air adjustment servomotor.
- 2 Air pressure switch.
- 3 Two-stage operating valve.
- 6 Valve seal control device on request for burners with lower than 1200 kW power output over 1200 kW.
- 7 Minimum pressure switch.
- 8 Maximum pressure switch.
- 9 Safety valve.
- 10 Gas pressure regulator.
- 11 Gas filter.

Carried out by the installing technician:

- 12 Ani-vibration joint.
- 13 Ball valve.

NOTE

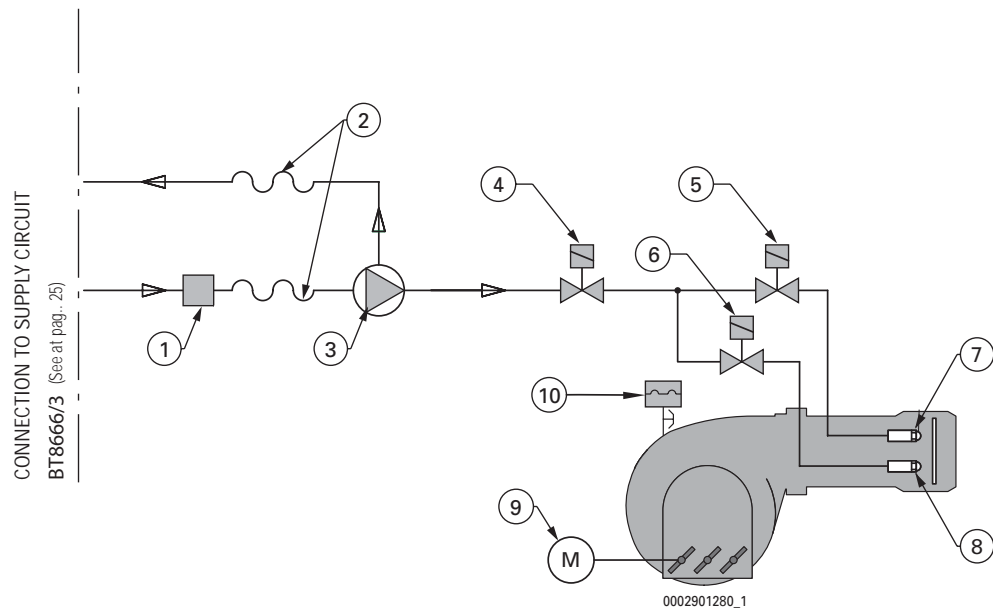
The type of train depends on the burner model and the gas pressure available. Refer to the current technical list.

Functional diagram

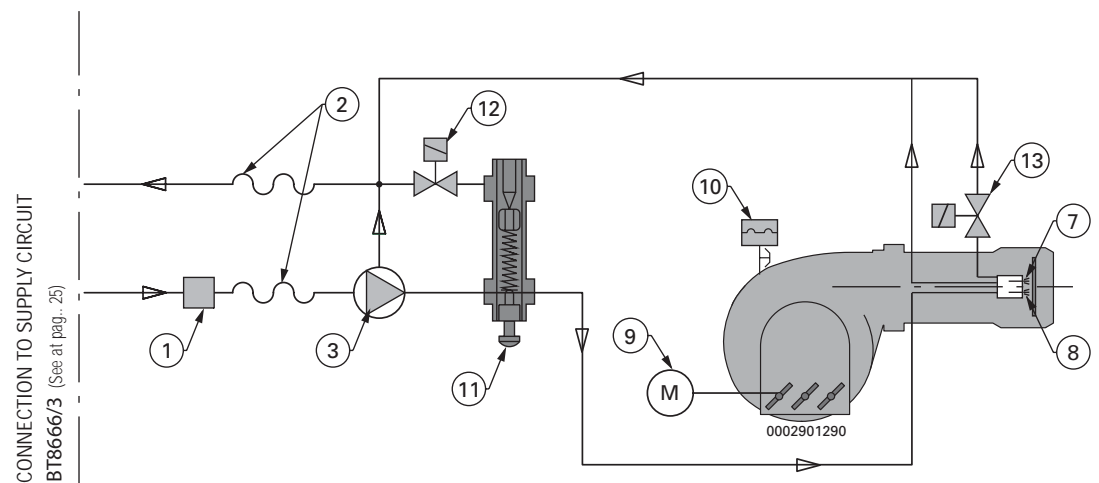
Legend

- 1 Filter
- 2 Flexible pipe.
- 3 Burner pump.
- 4 Safety solenoid valve (normally closed).
- 5 1st stage valve (normally closed).
- 6 2nd stage valve (normally closed).
- 7 1st stage nozzle.
- 8 2nd stage nozzle.
- 9 Air adjustment servomotor.
- 10 Air pressure switch.
- 11 1st stage pressure regulator.
- 12 2nd stage valve (normally open).
- 13 1st stage valve (normally open).

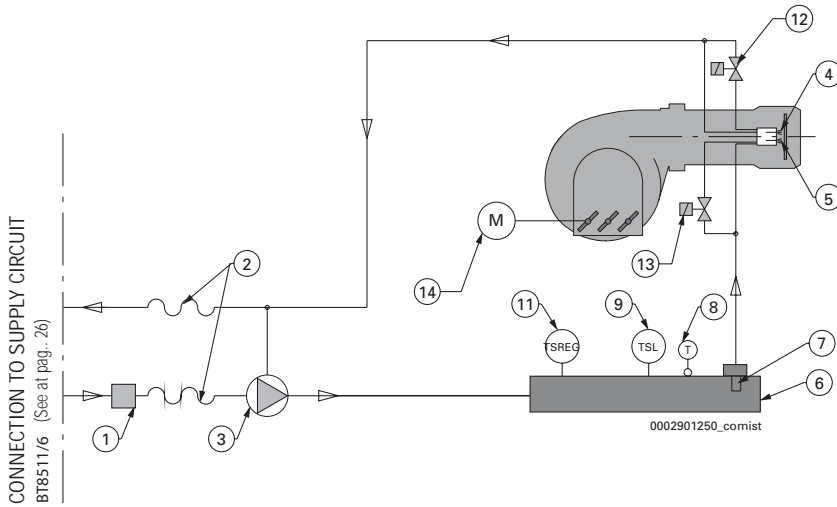
COMIST 36 - 72 - 122 LIGHT OIL SECTION



COMIST 180 - 250 - 300 LIGHT OIL BURNERS

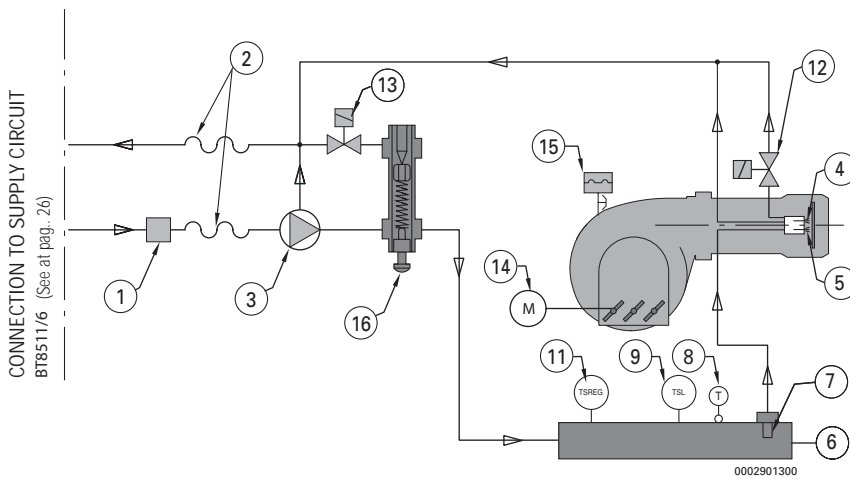


COMIST 72 N HEAVY OIL BURNERS SECTION



Functional diagram

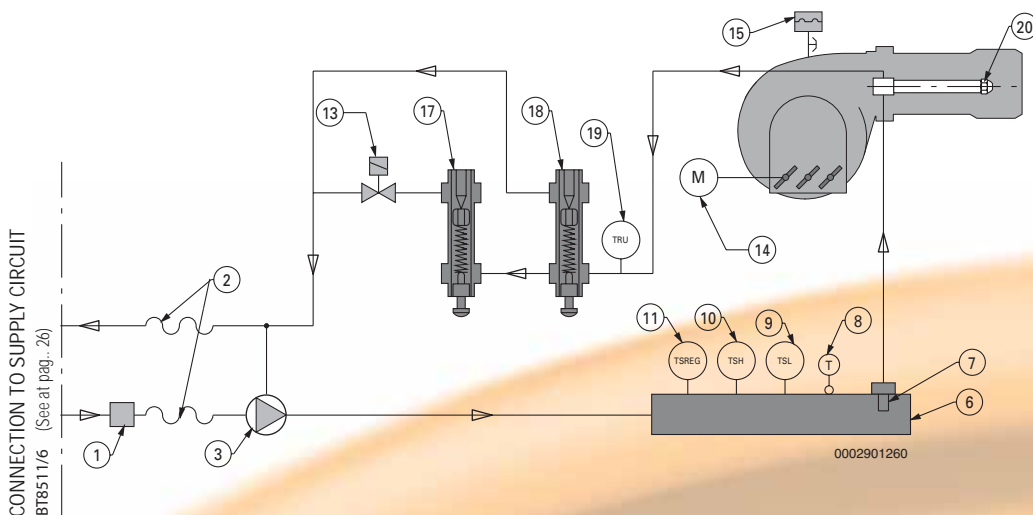
COMIST 122 N HEAVY OIL BURNERS SECTION



Legend

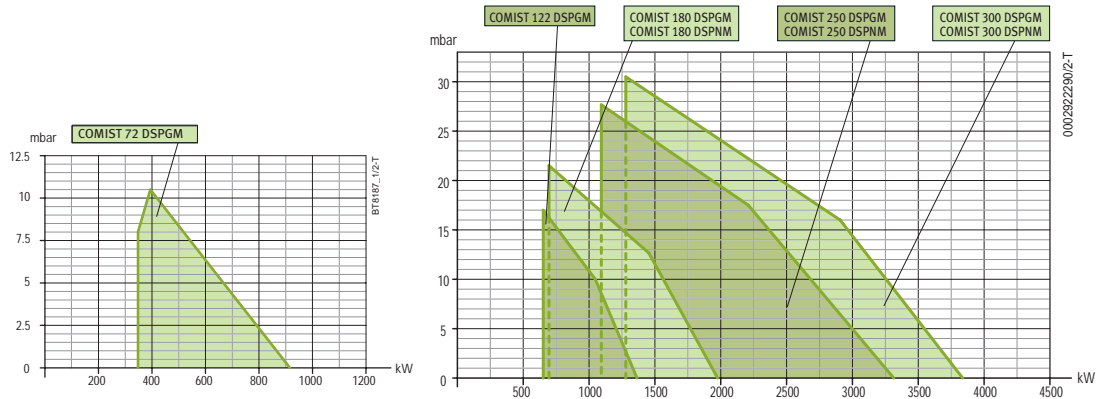
- 1 Filter
- 2 Flexible pipe.
- 3 Burner pump.
- 4 1st stage nozzle.
- 5 2nd stage nozzle.
- 6 Electric pre-heater.
- 7 Filter with antigas valve.
- 8 Thermometer.
- 9 Minimum pre-heater thermostat.
- 10 Security thermostat with pre-heater.
- 11 Thermostat for pre-heater adjustment.
- 12 1st stage valve (normally open).
- 13 2nd stage valve (normally open).
- 14 Air adjustment servomotor.
- 15 Air pressure switch.
- 16 Pressure regulator.
- 17 1st stage pressure regulator.
- 18 2nd stage pressure regulator.
- 19 Nozzle return thermostat.
- 20 Return nozzle.

COMIST 180 NM - 250 NM - 300 NM HEAVY OIL BURNERS SECTION



TWO-STAGE PROGRESSIVE MODULATING DUAL FUEL BURNERS

Product range



The diagrams are intended as mere guidelines and are based on test boilers complying with current regulations.

In reality, variations may occur, due to the following factors:

- the ability of the burner to overcome the excess pressure generated upon lighting (not strictly linked to that applying during normal operation) which tends to vary from one boiler to another;
- high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m³) which may prevent the burner fan from exploiting the entire operating range.

NOTES:

4) Equipped with automatic air shutoff device.

8) Prepared for automatic fuel switching.

*) Net calorific value:

Natural gas:

Hi = 35,80 MJ/m³ = 8550 kcal/m³, at reference conditions of 0°C, 1013 mbar;

Light oil:

Hi = 42,70 MJ/kg = 10200 kcal/kg.

***) Maximum gas inlet pressure at pressure regulator in CE version, at gas train for EXP version.

Model	Part no.	Thermal output		Light oil Capacity *)		Natural gas Capacity *)		Natural gas Pressure **)		Max visc. °E 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h	min. m ³ /h	max. m ³ /h	CE mbar	EXP mbar				

GAS - LIGHT OIL

Frequency 50 Hz

COMIST 72 DSPGM	5227010	348	916	29	77	35	92	200	140	1,5	3N AC 50Hz 400V	1,1+0,55	4) 8)
COMIST 122 DSPGM	5354010	652	1364	55	115	66	137	200	140	1,5	3N AC 50Hz 400V	2,2+0,75	4) 8)
COMIST 180 DSPGM	5356010	688	1981	58	167	69	199	200	140	1,5	3N AC 50Hz 400V	3,0+0,75	4) 8)
COMIST 250 DSPGM	5358050	1127	3380	95	285	113	340	200	140	1,5	3N AC 50Hz 400V	7,5+1,50	4) 8)
COMIST 300 DSPGM	5360050	1304	3878	110	327	131	390	200	140	1,5	3N AC 50Hz 400V	7,5+1,50	4) 8)

Frequency 60 Hz

COMIST 72 DSPGM	52275410	348	916	29	77	35	92	200	140	1,5	3N AC 60Hz 400V	1,5+0,65	4) 8)
COMIST 122 DSPGM	53545410	652	1364	55	115	66	137	200	140	1,5	3N AC 60Hz 400V	3,5+1,30	4) 8)
COMIST 180 DSPGM	53565410	688	1981	58	167	69	199	200	140	1,5	3N AC 60Hz 400V	3,5+1,30	4) 8)
COMIST 250 DSPGM	53585410	1127	3380	95	285	113	340	200	140	1,5	3N AC 60Hz 400V	9,0+1,30	4) 8)
COMIST 300 DSPGM	53605410	1304	3878	110	327	131	390	200	140	1,5	3N AC 60Hz 400V	9,0+1,70	4) 8)

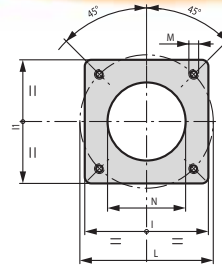
GAS - HEAVY OIL

Frequency 50 Hz

COMIST 180 DSPNM	5428010	688	1981	62	177	69	199	200	140	7	3N AC 50Hz 400V	3,0+1,1	4) 8)
COMIST 250 DSPNM	5430050	1127	3380	101	303	113	340	200	140	7	3N AC 50Hz 400V	7,5+1,1	4) 8)
COMIST 300 DSPNM	5432050	1304	3878	117	347	131	390	200	140	7	3N AC 50Hz 400V	7,5+2,2	4) 8)

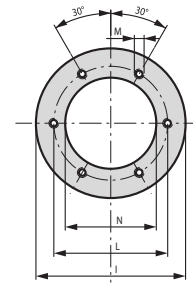
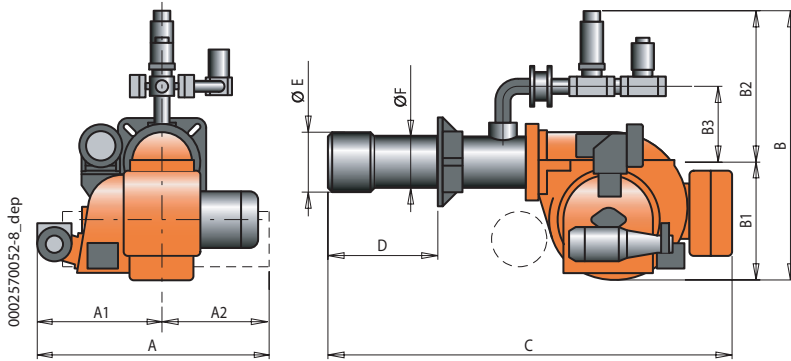
Frequency 60 Hz

COMIST 180 DSPNM	54285410	688	1981	62	177	69	199	200	140	7	3N AC 60Hz 400V	3,5+1,3	4) 8)
COMIST 250 DSPNM	54305410	1127	3380	101	303	113	340	200	140	7	3N AC 60Hz 400V	9,0+1,3	4) 8)
COMIST 300 DSPNM	54325410	1304	3878	117	347	131	390	200	140	7	3N AC 60Hz 400V	9,0+2,6	4) 8)



COMIST 36 - 122 - 250 - 300

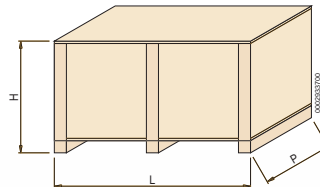
Dimensions



COMIST 180

Modello	A mm	A ₁ mm	A ₂ mm	B mm	B ₁ mm	B ₂ mm	B ₃ mm	C mm	D mm	E mm	F mm	I mm	I ₁ mm	L mm	M mm	N mm
COMIST 72 DSPGM	775	435	340	895	390	505	265	1430	175 ÷ 445	227	220	320	320	280 ÷ 370	M12	230
COMIST 122 DSPGM	845	450	395	1005	455	550	310	1490	195 ÷ 445	227	220	320	320	280 ÷ 370	M12	230
COMIST 180 DSPGM	910	460	450	1225	450	775	485	1700	330 ÷ 540	260	245	460	-	400	M20	300
COMIST 180 DSPNM	915	465	450	1225	450	775	485	1700	330 ÷ 540	260	245	460	-	400	M20	300
COMIST 250 DSPGM	1035	555	480	1260	580	680	385	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 250 DSPNM	1035	555	480	1260	580	680	385	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 300 DSPGM	1035	555	480	1260	580	680	385	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330
COMIST 300 DSPNM	1035	555	480	1260	580	680	385	1750	320 ÷ 500	320	273	440	440	400 ÷ 540	M20	330

Model	Package dimensions mm			Weights kg
	L	P	H	
COMIST 72 DSPGM	1730	1030	880	205
COMIST 122 DSPGM	1730	1030	880	262
COMIST 180 DSPGM	1730	1030	880	325
COMIST 180 DSPNM	2030	1210	990	348
COMIST 250 DSPGM	2030	1210	990	348
COMIST 250 DSPNM	2260	1520	1200	640
COMIST 300 DSPGM	2260	1520	1200	680
COMIST 300 DSPNM	2260	1520	1200	700



Characteristics

Conform to:
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

COMIST 72 DSPGM

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
 - Two-stage progressive output operation.
 - Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
 - Ability to operate with any type of combustion chamber.
 - Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
 - Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
 - Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
 - Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
 - A valve tightness control can be fitted on the burner.
 - Prepared for automatic fuel switching.
 - Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter; nozzle not included, to be ordered separately depending on the required flow.
- A three-phase electric motor to run fan and another to run the pump.
 - Air pressure switch to ensure the presence of combustion air.
 - Electric servomotor with mechanical cam for simultaneous regulation of combustion air and fuel.
 - In the CE version the gas train is complete with regulator, operating, safety and pilot valves, minimum pressure switch, pressure regulator and gas filter; In the EXPORT version the gas train is complete with regulator, operating, safety and pilot valves and minimum pressure switch.
 - Gear pump with pressure regulator.
 - Atomisation unit with magnet to control the outlet/nozzle return pins.
 - Automatic control and command equipment for the burner, compliant with European standard EN298.
 - Flame detection by UV photo-electric cell.
 - On-board terminal box and separate control panel comprising stop/go switch, automatic/manual and minimum/maximum selector, fuel change switch and operation, block and fuel indicators.
 - Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working or for the connection of the electronic output regulator.
 - Electrical protection rating IP40.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.



RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).

- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- Valves tightness control device compliant with European standard EN676.
- Prepared for automatic fuel switching.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter; nozzle not included, to be ordered separately depending on the required flow.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Electric servomotor with mechanical

COMIST 122 - 180 250 - 300 DSPGM

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/light oil burner.
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic

Characteristics

Conform to:
E.M.C. Directive 89/336/CEE
L.V. Directive 73/23/CEE
Reference standard:
EN676 and EN267

cam for simultaneous regulation of combustion air and fuel.

- In the CE version the gas train is complete with regulator, operating, safety and pilot valves, valve tightness control, minimum pressure switch, pressure regulator and gas filter; in the EXPORT version gas train is complete with regulator, operating, safety device and pilot valves, valve tightness control and minimum pressure switch.
- Gear pump with pressure regulator.
- Atomisation unit with magnet to control the outlet/nozzle return pins.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, automatic/manual and minimum/maximum selector, fuel change switch and operation, block and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working or for the connection of the electronic output regulator.
- Electrical protection rating IP40.

**COMIST 180 - 250
300 DSPNM**

TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Alternate natural gas/heavy oil burner.
- Two-stage progressive output operation.
- Ability to operate with output modulation by means of automatic RWF40 regulator mounted on the control panel (to be ordered separately with the modulation kit).
- Ability to operate with any type of combustion chamber.
- Air-gas mixing at blast-pipe and high pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance facilitated by the fact that the mixing unit and the atomisation unit can be removed without having to remove the burner from the boiler.
- Minimum and maximum air flow regulation for first and second stage by means of electric servomotor with pause closure of gate to prevent any heat dispersion to flue.
- On request it is possible to add to the burner a supplementary heavy oil pre-heater using steam, which means the fuel can be heated by the steam from the boiler to provide an energy saving.
- Valves tightness control device compliant with European standard EN676.
- Prepared for automatic fuel switching.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter; nozzle not included, to be ordered separately depending on the required flow.
- On request: steam pre-heater.

CONSTRUCTION CHARACTERISTICS

The burner consists of:

- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Electric servomotor with mechanical cam for simultaneous regulation of combustion air and fuel.
- In the CE version the gas train is complete with regulator, operating, safety and pilot valves, valve tightness control, minimum pressure switch, pressure regulator and gas filter; in the EXPORT version gas train is complete with regulator, operating, safety device and pilot valves, valve tightness con-

trol and minimum pressure switch.

- Gear pump with pressure regulator.
- Atomisation unit with magnet to control the outlet/nozzle return pins.
- Electrical fuel preheater comprising antigas valve, filter, thermometer, regulation thermostats and minimum safety device.
- Automatic control and command equipment for the burner, compliant with European standard EN298.
- Flame detection by UV photo-electric cell.
- On-board terminal box and separate control panel comprising stop/go switch, automatic/manual and minimum/maximum selector, fuel change switch and operation, block, pre-heating resistors on and fuel indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working or for the connection of the electronic output regulator.
- Electrical protection rating IP40.

Functional diagram

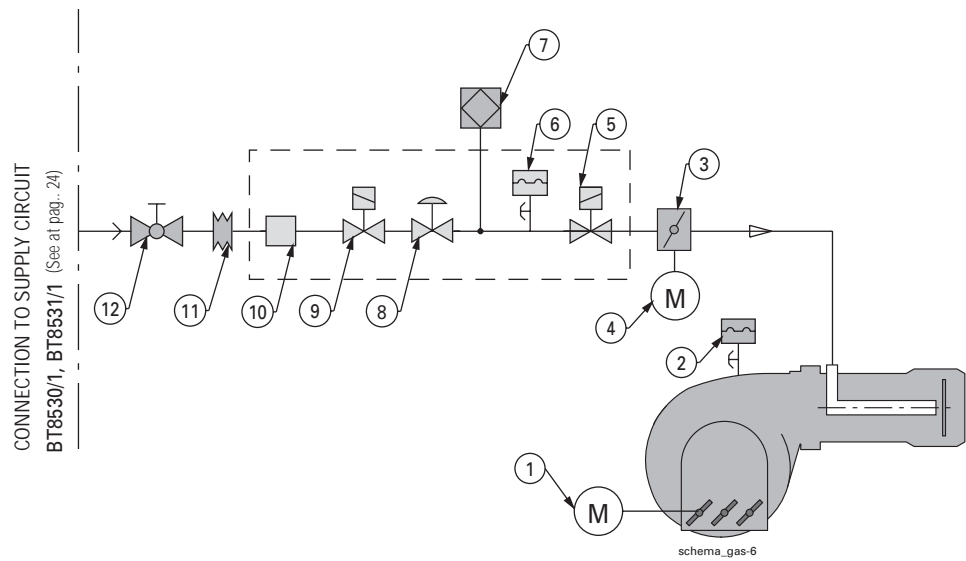
GAS BURNERS

Legend

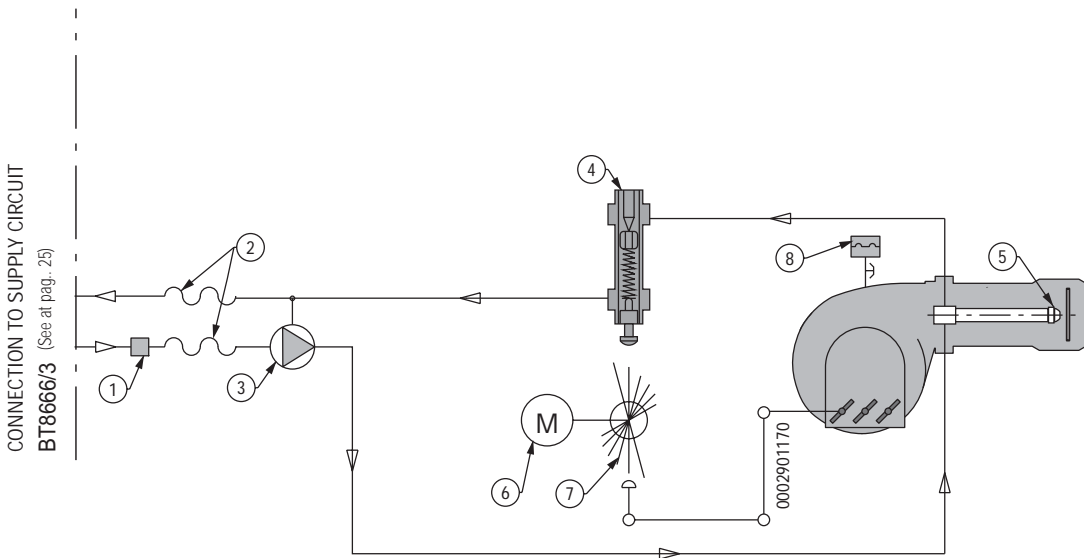
- 1 Air adjustment servomotor.
- 2 Air pressure switch.
- 3 Butterfly gas valve.
- 4 Air adjustment servomotor.
- 5 Operating gas valve.
- 6 Minimum pressure switch.
- 7 Valve seal control device integrated in the control equipment.
- 8 Gas pressure regulator.
- 9 Safety valve.
- 10 Gas filter.
- 11 Ani-vibration joint.
- 12 Ball valve.

Carried out by the installing technician:

- 11 Ani-vibration joint.
- 12 Ball valve.



LIGHT OIL BURNERS

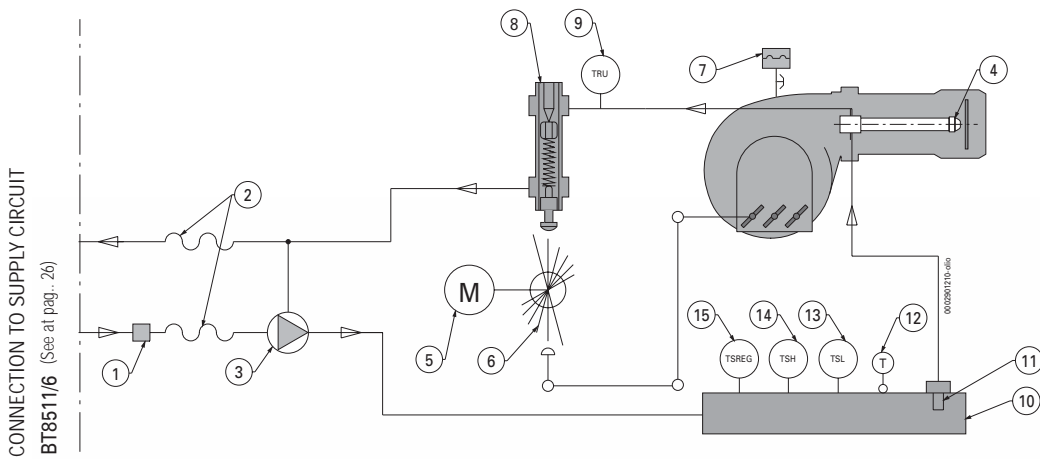


Functional diagram

LIGHT OIL BURNERS Legend

- 1 Filter.
- 2 Flexible pipe.
- 3 Burner pump.
- 4 Return pressure regulator.
- 5 Return nozzle.
- 6 Modulating servomotor.
- 7 Air/fuel adjustment disk.
- 8 Air pressure switch.

HEAVY OIL BURNERS



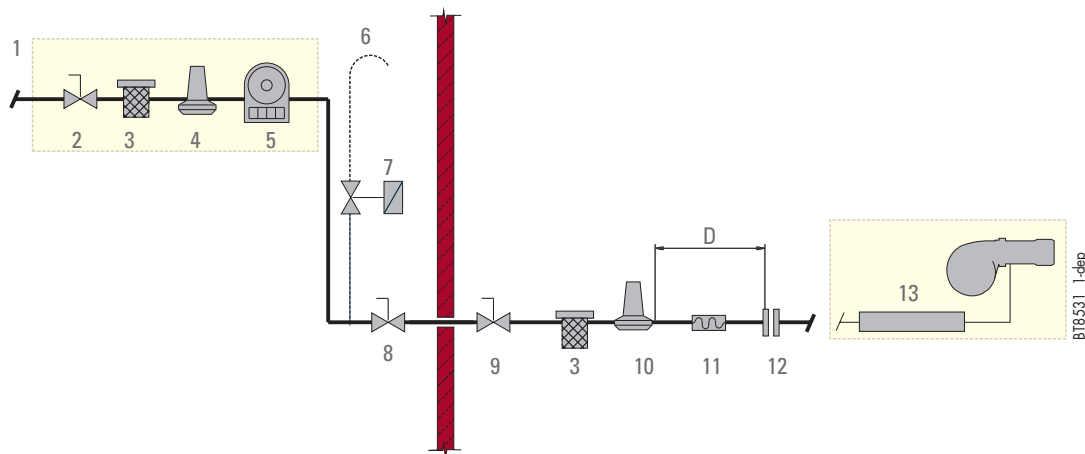
HEAVY OIL BURNERS Legend

- 1 Filter.
- 2 Flexible pipe.
- 3 Burner pump.
- 4 Return nozzle.
- 5 Modulating servomotor.
- 6 Air/fuel adjustment disk.
- 7 Air pressure switch.
- 8 Return pressure regulator.
- 10 Electric pre-heater.
- 9 Nozzle return thermostat.
- 11 Self cleaning filter.
- 12 Thermometer.
- 13 Minimum pre-heater thermostat.
- 14 Security thermostat with pre-heater.
- 15 Thermostat for pre-heater adjustment.



DIAGRAM FOR THE CONNECTION OF A BURNER TO THE GAS MAINS AT AVERAGE PRESSURE (BT 8531/1)

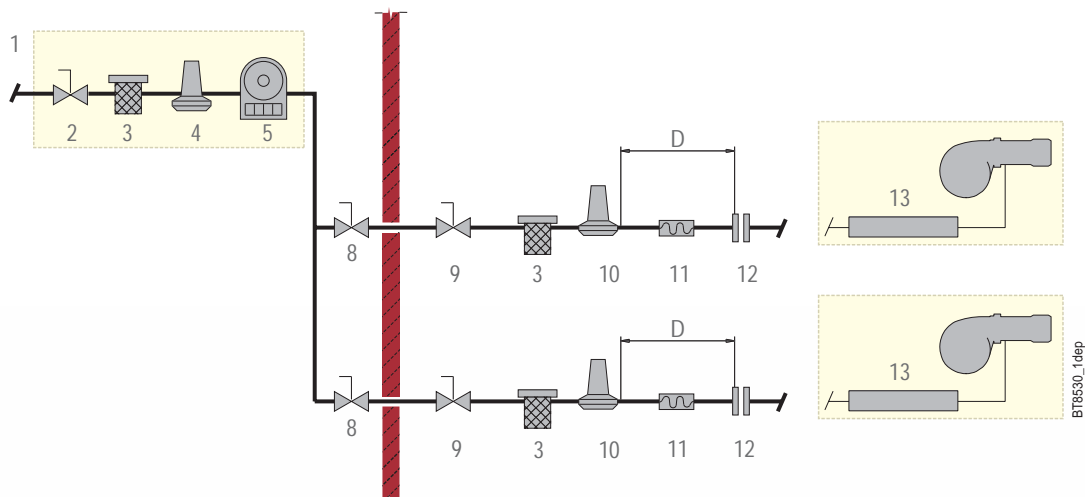
Gas supply Connection circuit



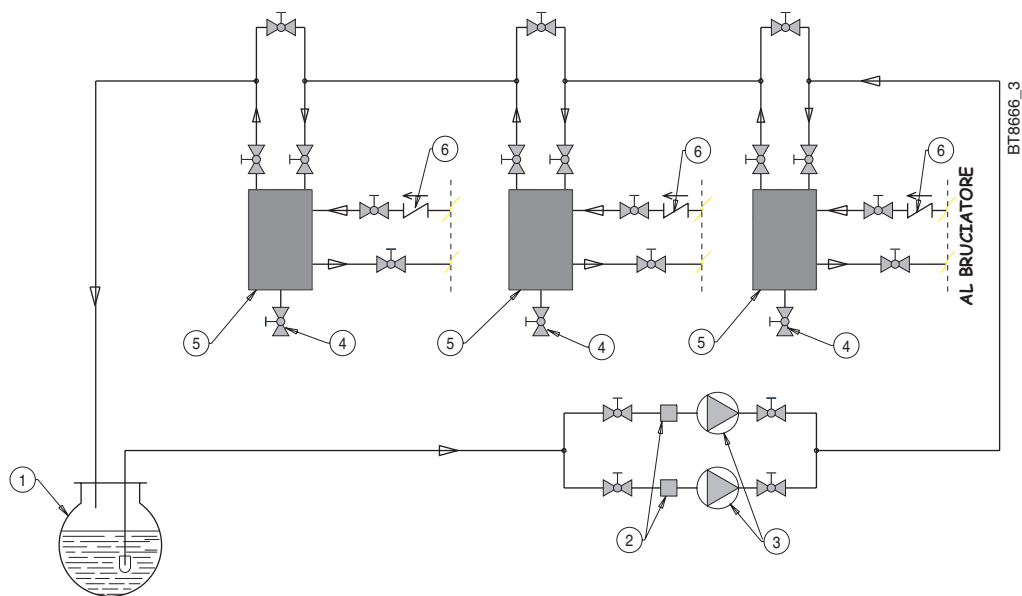
Legend

- 1 Central reduction and measurement unit.
- 2 Stop-cock.
- 3 Gas filter.
- 4 Pressure reducer.
- 5 Flow meter.
- 6 Discharge into the atmosphere with flame trap net.
- 7 Possible automatic bleed valve (must discharge externally in suitable place).
- 8 Emergency valve.
- 9 Ball valve.
- 10 Reduction unit or pressure regulator/stabiliser (suited to the specific case).
- 11 Anti-vibration joint.
- 12 Flange coupling.
- 13 Gas train.
- D Distance between stabiliser (or regulator/stabiliser) and gas valve at least 1,5 - 2 m).

GENERAL DIAGRAM FOR THE CONNECTION OF MORE BURNERS TO THE GAS MAINS AT AVERAGE PRESSURE (BT 8530/1)



HYDRAULIC CIRCUIT DIAGRAM FOR ONE OR MORE LIGHT OIL BURNERS (BT8666/3)



Light oil supply connection

Legend

- 1 Main tank.
- 2 Filter.
- 3 Circulation pump.
- 4 Water and plant discharging.
- 5 Recovery and degassing tank.
- 6 Nonreturn valve.

N.B.

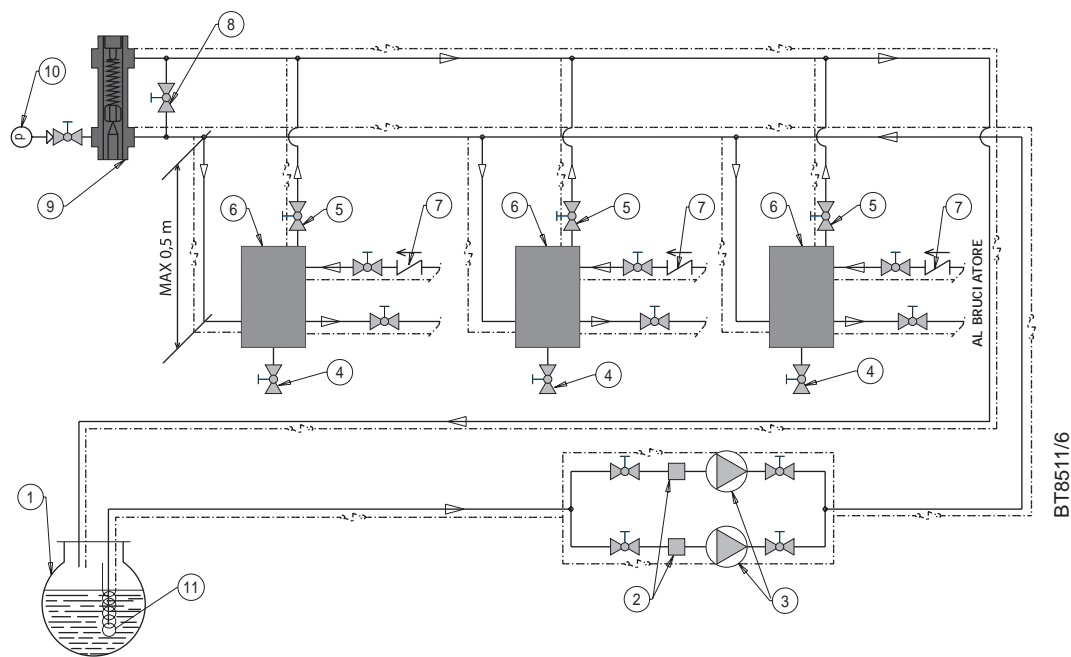
The fuel recycling tank (diameter 150 mm, height 400 mm) must be installed as close as possible to the burner and at least 0.5m higher than its pump.

Note

To make a correct circuit, please ask for information from our sales offices.

Heavy oil supply Hydraulic circuit

HYDRAULIC CIRCUIT DIAGRAM FOR ONE OR MORE HEAVY OIL BURNERS MAX. VISCOSITY 115 CST (15°E) AT 50°C. (BT8666/3)



Legend

- 1 Main tank.
- 2 Filter.
- 3 Circulation pumps.
- 4 Water and plant discharging.
- 5 Air/gas discharge valve, normally closed, to open slightly only in case of gas discharge.
- 6 Recovery and degassing tank.
- 7 Nonreturn valve.
- 8 By-pass (normally closed).
- 9 Adjustable pressure regulator from 0,5-3 bar.
- 10 Manometer (0-4bar).
- 11 Steam or hot water coil for heavy oil heating.

N.B.

The fuel recycling tank (diameter 150 mm, height 400 mm) must be installed as close as possible to the burner and at least 0,5m higher than its pump.

Note

To make a correct circuit, please ask for information from our sales offices.

In 1994 Baltur was one of the first companies in Italy to obtain System Quality certification according to the standard UNI EN ISO 9001. The adoption of total quality programmes formalised and gave concrete form to its philosophy of seeking value for the Customer through process and product quality management systems.

PROCESS QUALITY

All processes are codified according to procedures that ensure the quality of performance of the following: planning and design, purchases, production, checks and inspections, sales and after-sales services. In 2003 the ISO 9001:2000 management system (Vision 2000) was implemented,

focussing attention still further on all the company processes.

PRODUCT QUALITY

Product quality is attested for individual products, in accordance with international regulations.





baltur

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Data reported in this brochure shall be considered as indicative;
Baltur reserves the right to change them without previous notice.