

# HEAVY OIL BURNERS from 55 to 3907 kW SERIES

Heavy oil  
burners



**baltur**

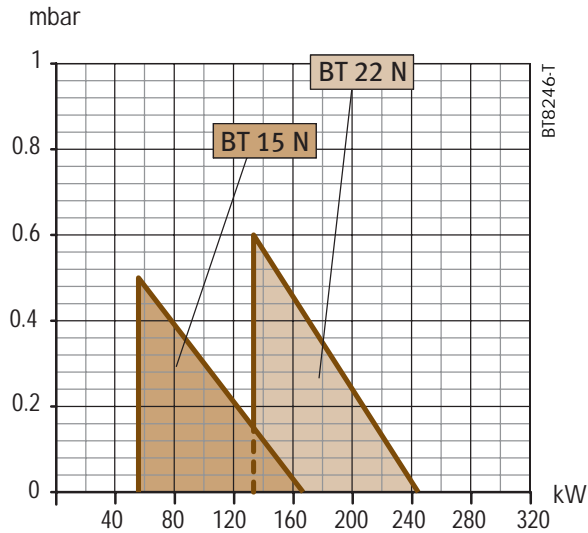
# SINGLE-STAGE HEAVY OIL BRUNERS

## 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:

- a) 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;
- b) high thermal load in furnace (ratio between thermal power of furnace and relevant volume - kcal/h/m<sup>3</sup>) which may prevent the burner fan from exploiting the entire operating range.



Model	Part no.	Thermal output		Capacity *)		Max visc. °E at 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h				

### Frequency 50 Hz

BT 15 N	2005011	55	167	5	15	5	3N AC 50Hz 400V	0,37	
BT 22 N	2015011	134	245	15	22	5	3N AC 50Hz 400V	0,37	

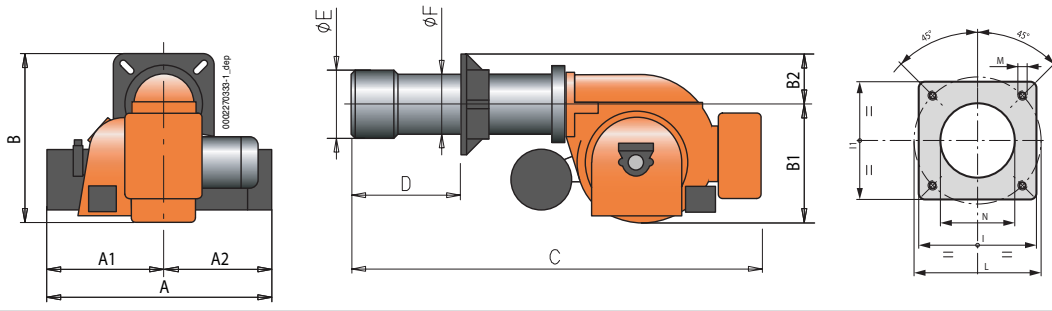
### Frequency 60 Hz

BT 15 N	2005411	55	167	5	15	5	3N AC 60Hz 400V	0,37	
BT 22 N	2015411	134	245	15	22	5	3N AC 60Hz 400V	0,37	

### NOTES:

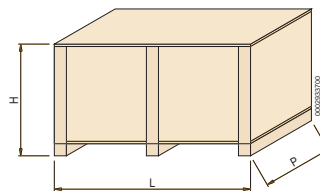
\*) Net calorific value of heavy oil:  
Hi = 40,19 MJ/kg = 9600 kcal/kg.

## Dimensions



Model	A mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C mm	D mm	E mm	F mm	I mm	I <sub>1</sub> mm	L mm	M mm	N mm
BT 15 N	475	215	260	355	260	95	760	90 ÷ 180	175	115	185	185	170 ÷ 210	M10	130
BT 22 N	475	215	260	355	260	95	790	115 ÷ 210	135	115	185	185	170 ÷ 210	M10	145

Model	Package dimensions mm			Weights kg
	L	P	H	
BT 15 N	1060	660	600	70
BT 22 N	1060	660	600	70



## Characteristics

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

### BT... N SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
- Single stage operation (on/off).
- Ability to operate with any type of combustion chamber.
- 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 atomisation unit can be removed without having to remove the burner from the boiler.
- Manual air flow adjustment.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and one nozzle.
- On request: a device for air gate closure during pause to avoid loss of heat up flue.

#### CONSTRUCTION CHARACTERISTICS

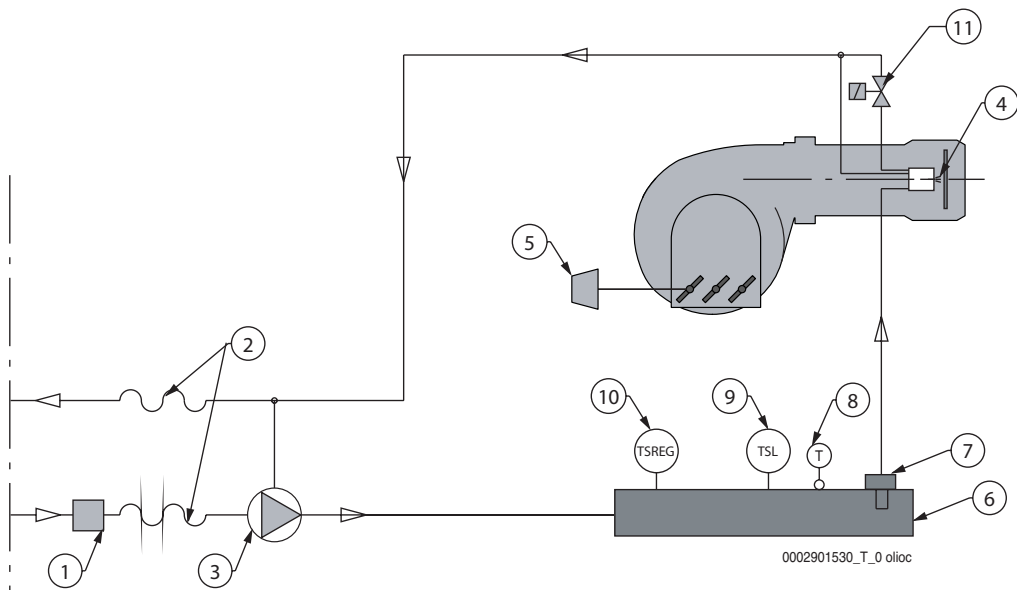
The burner consists of:

- 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.
- Three-phase electric motor to run fan and pump.
- Gear pump with pressure regulator and fuel stop-cock valve.
- Atomisation unit with nozzle-closing pin.
- Electrical fuel preheater comprising anti-gas valve, filter, thermometer, minimum and regulation thermostat.
- Automatic control and command equipment for the burner compliant with European standard EN230.

- Flame detection by photoresistance.
- Control panel including stop/go switch, operation and block indicators, heating element operation light.
- Terminal block for the electrical and thermostatic connections to the burner.
- Electrical protection rating IP40.



CONNECTION TO SUPPLY CIRCUIT  
 0002901120, BT8511/6, BT8513/7 (See Pag. 15)



## Functional diagram

### Legend

- 1 Filter
- 2 Flexible pipe.
- 3 Burner pump.
- 4 Nozzle.
- 5 Manual air adjustment switch.
- 6 Electric pre-heater.
- 7 Filter with antigas valve.
- 8 Thermometer.
- 9 Minimum pre-heater thermostat.
- 10 Thermostat for pre-heater adjustment.
- 11 Stage valve normally open.

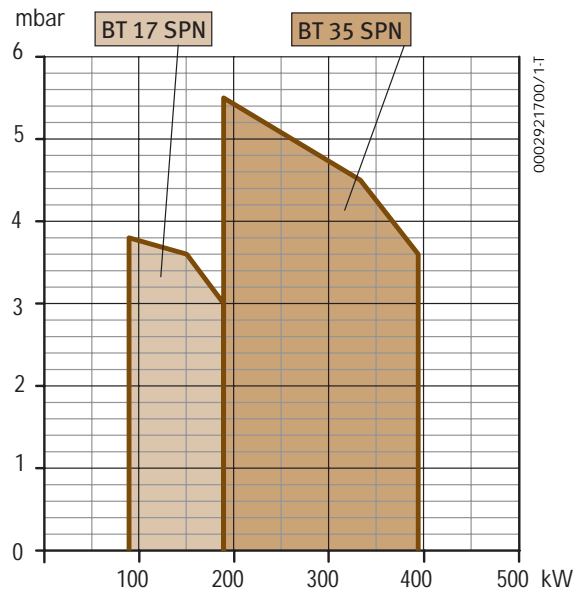
# PRESSURE-DROP HEAVY OIL BRUNERS

## 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/m<sup>3</sup>) which may prevent the burner fan from exploiting the entire operating range.

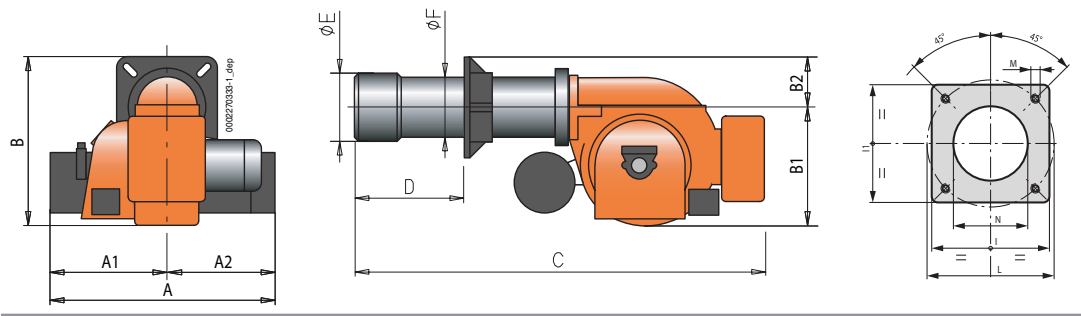


### NOTES:

4) Equipped with automatic air closure device.

\*) Net calorific value of heavy oil:  
Hi = 40,19 MJ/kg = 9600 kcal/kg.

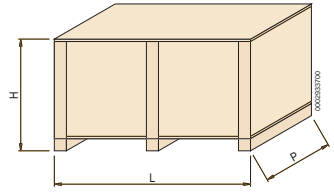
Model	Part no.	Thermal output		Capacity *)		Max visc. °E at 50 °C	Electrical supply	Motor kW	Notes	
		min. kW	max. kW	min. kg/h	max. kg/h					
<b>Frequency 50 Hz</b>										
BT 17 SPN	2040111	89	189	8	17	7	3N AC 50Hz 400V	0,37	4)	
BT 35 SPN	2052110	189	390	17	35	7	3N AC 50Hz 400V	0,55	4)	
<b>Frequency 60 Hz</b>										
BT 17 SPN	20405420	89	189	8	17	7	3N AC 60Hz 400V	0,55	4)	
BT 35 SPN	20525420	189	390	17	35	7	3N AC 60Hz 400V	0,76	4)	



## Dimensions

Model	A mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C mm	D mm	E mm	F mm	I mm	I <sub>1</sub> mm	L mm	M mm	N mm
BT 17 SPN	520	260	260	440	305	135	965	118 ÷ 320	135	115	185	185	170 ÷ 210	M10	145
BT 35 SPN	520	260	260	440	305	135	985	120 ÷ 305	155	135	215	215	200 ÷ 245	M12	165

Model	Package dimensions mm			Weights kg
	L	P	H	
BT 17 SPN	1060	660	600	85
BT 35 SPN	1060	660	600	85



## Characteristics

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

### BT... SPN SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
- Two-stage pressure stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- 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 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.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and one nozzle.

#### CONSTRUCTION CHARACTERISTICS

The burner consists of:

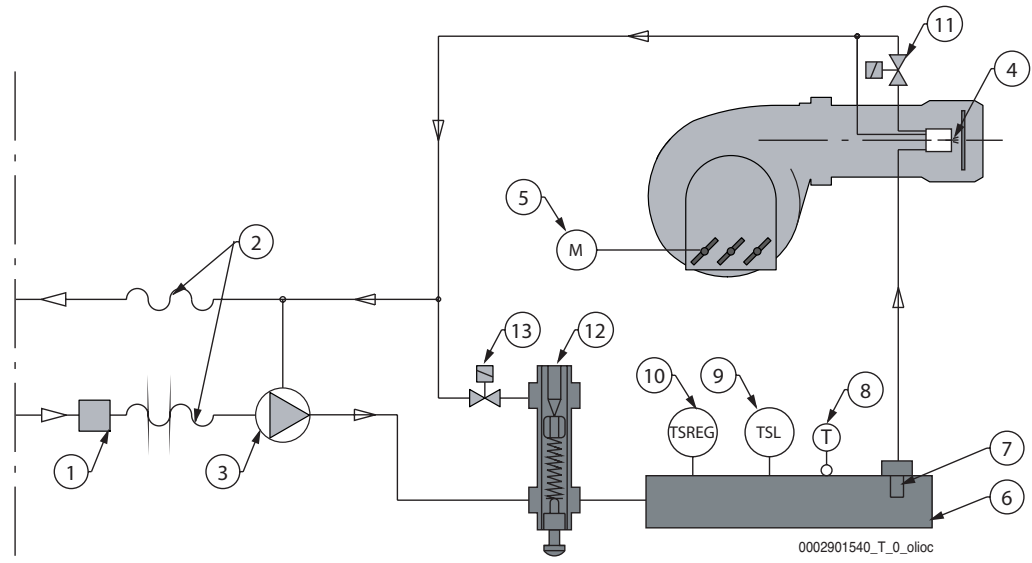
- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- Three-phase electric motor to run fan and pump.
- Gear pump with pressure regulator and fuel stop-cock valves.
- Atomisation unit with nozzle-closing pin.
- Electrical fuel preheater comprising anti-gas valve, filter, thermometer and minimum and regulation thermostat.
- Automatic control and command equipment for the burner compliant with European standard EN230.
- Flame detection by photoresistance.

- Control panel comprising stop/go switch, 1st/2nd stage selector, operation, block and pre-heater indicators.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.





CONNECTION TO SUPPLY CIRCUIT  
 0002901120,BT8511/6,BT8513/7 (See Pag. 15)



## Functional diagram

### Legend

- 1 Filter
- 2 Flexible pipe.
- 3 Burner pump.
- 4 Nozzle.
- 5 Air adjustment servomotor.
- 6 Electric pre-heater.
- 7 Filter with antigas valve.
- 8 Thermometer.
- 9 Minimum pre-heater thermostat.
- 10 Thermostat for pre-heater adjustment.
- 11 1st stage valve (normally open).
- 12 1st stage pressure regulator.
- 13 2nd stage valve (normally open).

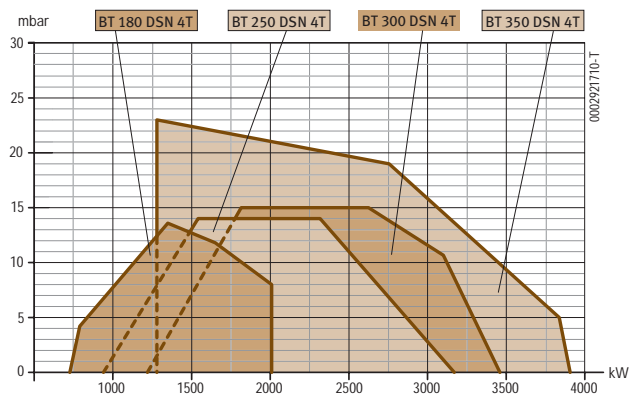
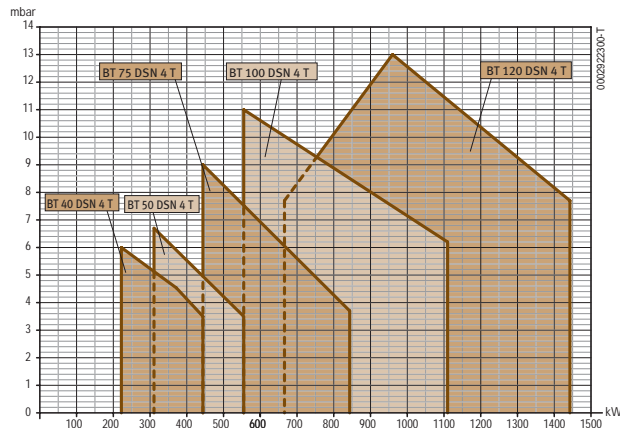
# TWO-STAGE HEAVY OIL BRUNERS

## 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/m<sup>3</sup>) which may prevent the burner fan from exploiting the entire operating range.

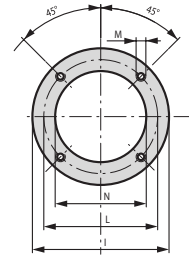


Model	Part no.	Thermal output		Capacity *)		Max visc. °E at 50 °C	Electrical supply	Motor kW	Notes	
		min. kW	max. kW	min. kg/h	max. kg/h					
<b>Frequency 50 Hz</b>										
BT 40 DSN 4 T	2058010	223	446	20	40	7	3N AC 50Hz 400V	0,55	4)	
BT 50 DSN 4 T	2061010	312	558	28	50	7	3N AC 50Hz 400V	1,10	4)	
BT 75 DSN 4 T	2071010	446	837	40	75	7	3N AC 50Hz 400V	1,10	4)	
BT 100 DSN 4 T	2076010	558	1116	50	100	7	3N AC 50Hz 400V	1,50	4)	
BT 120 DSN 4 T	2081010	669	1451	60	130	7	3N AC 50Hz 400V	2,20	4)	
BT 180 DSN 4 T	2086010	725	2009	65	180	7	3N AC 50Hz 400V	3,00	4)	
BT 250 DSN 4 T	2101010	937	3170	84	284	7	3N AC 50Hz 400V	7,50	4)	
BT 300 DSN 4 T	2131010	1220	3460	110	310	7	3N AC 50Hz 400V	7,50	4)	
BT 350 DSN 4 T	2121010	1284	3907	115	350	7	3N AC 50Hz 400V	9,00	4)	
<b>Frequency 60 Hz</b>										
BT 40 DSN 4 T	20585410	223	446	20	40	7	3N AC 60Hz 400V	0,76	4)	
BT 50 DSN 4 T	20615410	312	558	28	50	7	3N AC 60Hz 400V	1,50	4)	
BT 75 DSN 4 T	20715410	446	837	40	75	7	3N AC 60Hz 400V	1,50	4)	
BT 100 DSN 4 T	20765410	558	1116	50	100	7	3N AC 60Hz 400V	2,60	4)	
BT 120 DSN 4 T	20815410	669	1451	60	130	7	3N AC 60Hz 400V	3,50	4)	
BT 180 DSN 4 T	20865410	725	2009	65	180	7	3N AC 60Hz 400V	3,50	4)	
BT 250 DSN 4 T	21015410	937	3170	84	284	7	3N AC 60Hz 400V	9,00	4)	
BT 300 DSN 4 T	21315410	1220	3460	110	310	7	3N AC 60Hz 400V	9,00	4)	
BT 350 DSN 4 T	21215410	1284	3907	115	350	7	3N AC 60Hz 400V	11,00	4)	

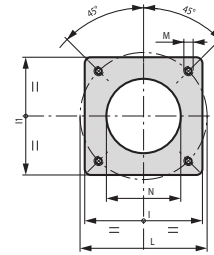
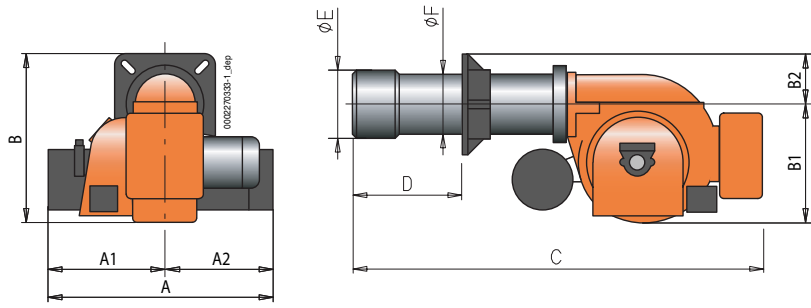
### NOTES:

4) Equipped with automatic air closure device.

\*) Net calorific value of heavy oil: Hi = 40,19 MJ/kg = 9600 kcal/kg.



BT 100-120 DSN 4T

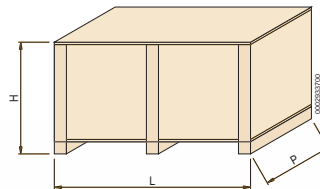


BT 40-50-70-180-250  
300-350 DSN 4T

## Dimensions

Model	A mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C mm	D mm	E mm	F mm	I mm	I <sub>1</sub> mm	L mm	M mm	N mm
BT 40 DSN 4T	590	260	330	415	305	110	985	120 ÷ 305	155	135	215	215	200 ÷ 245	M12	165
BT 50 DSN 4T	690	340	350	510	400	110	1155	110 ÷ 375	155	135	215	215	200 ÷ 245	M12	165
BT 75 DSN 4T	690	340	350	530	400	130	1385	170 ÷ 430	205	160	260	260	225 ÷ 300	M12	170
BT 100 DSN 4T	690	340	350	560	400	160	1320	210 ÷ 400	230	195	320	-	276	M16	240
BT 120 DSN 4T	835	385	450	610	450	160	1400	185 ÷ 450	230	195	320	-	276	M16	240
BT 180 DSN 4T	935	445	490	610	450	160	1645	200 ÷ 535	260	220	320	320	280 ÷ 370	M12	230
BT 250 DSN 4T	935	445	490	740	580	160	1665	235 ÷ 590	260	220	320	320	280 ÷ 370	M12	230
BT 300 DSN 4T	1155	645	510	840	620	220	1900	245 ÷ 605	360	275	440	440	400 ÷ 540	M20	365
BT 350 DSN 4T	1170	645	525	880	660	220	1960	350 ÷ 560	360	275	440	440	400 ÷ 540	M20	365

Model	Package dimensions mm			Weights kg
	L	P	H	
BT 40 DSN 4T	1060	660	600	85
BT 50 DSN 4T	1510	750	720	110
BT 75 DSN 4T	1510	750	720	117
BT 100 DSN 4T	1510	750	720	120
BT 120 DSN 4T	1730	1030	880	190
BT 180 DSN 4T	1730	1030	880	240
BT 250 DSN 4T	1730	1030	880	280
BT 300 DSN 4T	2030	1210	990	350
BT 350 DSN 4T	2260	1520	1200	420





## Characteristics

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

### BT 40-50-75-100 DSN 4T SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- 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 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.
- When using heavy oil of viscosity up to 20°E at 50°C, add the kit (to be ordered separately) consisting of: resistors for the pump, the atomisation unit and first and second stage solenoid.
- When using low sulphur heavy oil, add the kit (to be ordered separately) consisting of: specific line filter, stainless steel flexible hoses and resistors for pump, atomisation unit and first and second stage solenoid.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses, one line filter and 2 nozzles.

#### 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.
- Three-phase electric motor to run fan and pump.

- Gear pump with pressure regulator and fuel stop-cock valves.
  - Atomisation unit with nozzle-closing pin.
  - Electrical fuel preheater comprising anti-gas valve, filter, thermometer and minimum and regulation thermostat.
  - Automatic control and command equipment for the burner compliant with European standard EN230.
  - Flame detection by photoresistance.
  - Control panel including stop/go switch, 1st/2nd stage selector, operation and block indicators, heating element operation light.
  - Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
  - Electrical protection rating IP40
- second stage solenoid.
  - On request it is possible to integrate the BT 120 with a supplementary steam-operated heavy oil pre-heater: during routine operation this allows the fuel to be heated with the steam from the boiler, thus reducing electricity consumption.
  - Equipped with 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:

### BT 120-180 DSN 4T SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
  - Two-stage operation (high/low flame).
  - Ability to operate with any type of combustion chamber.
  - High pressure mechanical atomisation of fuel using nozzle.
  - Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
  - Maintenance made easy because the burner can be opened without having to remove it 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.
  - When using heavy oil of viscosity up to 20°E at 50°C, add the kit (to be ordered separately) consisting of: resistors for the pump, the atomisation unit and first and second stage solenoid.
  - When using low sulphur heavy oil, add the kit (to be ordered separately) consisting of: specific line filter, stainless steel flexible hoses and resistors for pump, atomisation unit and first and
- Light aluminium alloy fan part.
  - High performance centrifugal fan.
  - Combustion air intake with air flow adjustment device.
  - Fixed boiler attachment flange with hinge to aid removal of atomising unit and disc.
  - Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
  - Three-phase electric motor to run fan and pump.
  - Gear pump with pressure regulator and fuel stop-cock valves.
  - Atomisation unit with nozzle-closing pin.
  - Electrical fuel preheater comprising anti-gas valve, filter, thermometer, minimum and regulation thermostat; security thermostat excluded BT 180.
  - Automatic control and command equipment for the burner compliant with European standard EN230.
  - Flame detection by photoresistance.
  - Control panel including stop/go switch, 1st/2nd stage selector, operation and block indicators, heating element operation light.
  - Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
  - Electrical protection rating IP40.

## BT 250-300-350 DSN 4T SERIES

### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- High pressure mechanical atomisation of fuel using nozzle.
- Ability to obtain optimal combustion values by regulating combustion air and blast-pipe.
- Maintenance made easy because the burner can be opened without having to remove it 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.
- When using heavy oil of viscosity up to 20°E at 50°C, add the kit (to be ordered separately) consisting of: resistors for the pump, the atomisation unit and first and second stage solenoid.

- When using low sulphur heavy oil, add the kit (to be ordered separately) consisting of: specific line filter, stainless steel flexible hoses and resistors for pump, atomisation unit and first and second stage solenoid.
- On request it is possible to integrate the BT 120 with a supplementary steam-operated heavy oil pre-heater: during routine operation this allows the fuel to be heated with the steam from the boiler, thus reducing electricity consumption.
- Equipped with one insulating seal for boiler fastening, 2 flexible hoses, one line filter and 3 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.
- Fixed boiler attachment flange with hinge to aid removal of atomising unit and disc.
- Adjustable blast-pipe with stainless

steel nozzle and deflector disk in steel.

- Three-phase electric motor to run fan and pump.
- Gear pump with pressure regulator and fuel stop-cock valves.
- Atomisation unit with nozzle-closing pin.
- Electrical fuel preheater comprising anti-gas valve, filter, thermometer and minimum and regulation thermostat.
- Automatic control and command equipment for the burner compliant with European standard EN230.
- Flame detection by photoresistance.
- Control panel including stop/go switch, 1st/2nd stage selector, operation and block indicators, heating element operation light.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.

## Characteristics

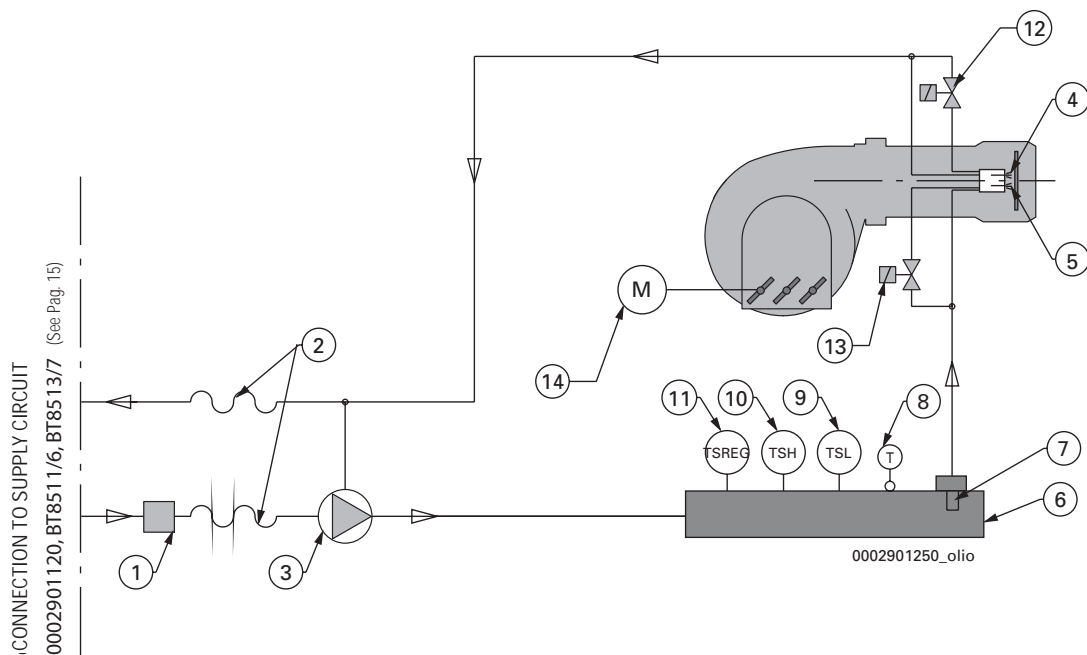
Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE



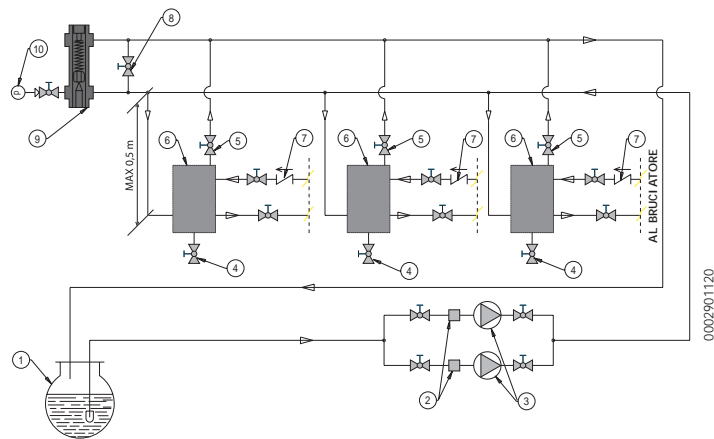
## Functional diagram

### 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 (from BT 180).
- 11 Thermostat for pre-heater adjustment.
- 12 1st stage valve (normally open).
- 13 2nd stage valve (normally open).
- 14 Air adjustment servomotor.



**HYDRAULIC CIRCUIT  
DIAGRAM FOR ONE OR  
MORE HEAVY OIL BURNERS  
MAX. VISCOSITY 38 CST  
(5°E) AT 50°C. (0002901120)**

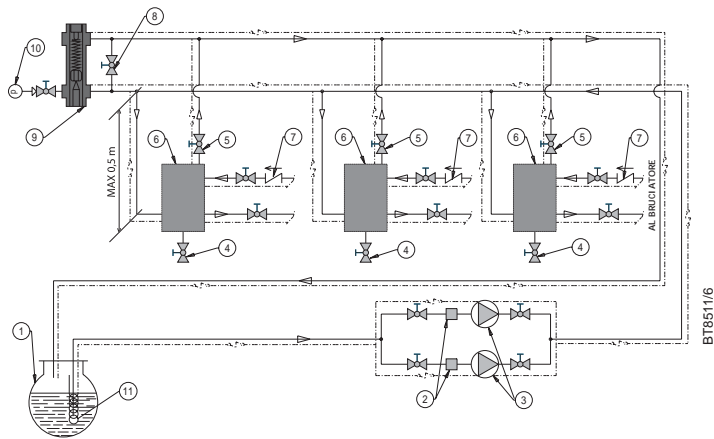


**Schema  
idraulico di  
alimentazione**

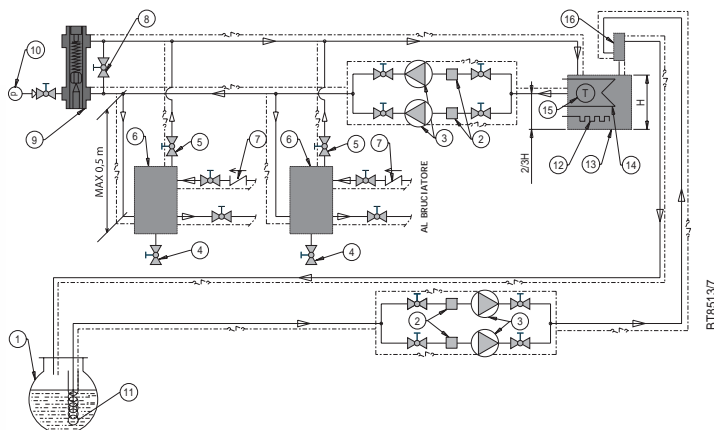
**Legend**

- 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 Heavy oil steam or hot water heating coil.
  - 12 Heater.
  - 13 Auxiliary heater.
  - 14 Heavy oil steam or hot water heating coil.
  - 15 Thermometer.
  - 16 Tank diam. 150 mm, height 350 mm.
- Electrical heating cable and insulation required for viscosity > 380 cSt (50°E) with reference to fuel temperature in the ring circuit to be made on the spot/care of the customer.

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



**HYDRAULIC CIRCUIT  
DIAGRAM FOR ONE OR  
MORE EXTRA HEAVY OIL  
BURNERS MAX. VISCOSITY  
380 CST (50°E) AT 50°C  
WITH AUXILIARY HEATER  
(BT8513/7)**



**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.

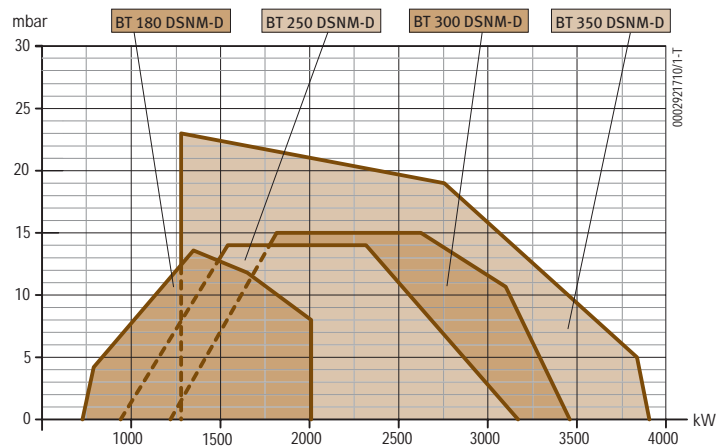
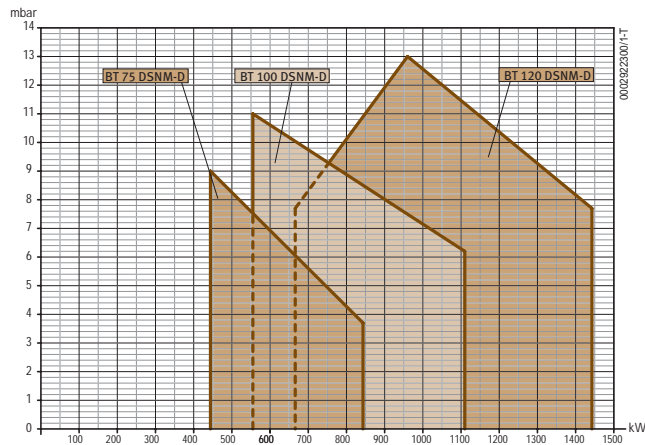
# TWO-STAGE EXTRA HEAVY OIL BURNERS

## 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/m<sup>3</sup>) which may prevent the burner fan from exploiting the entire operating range.



Model	Part no.	Thermal output		Capacity *)		Max visc. °E at 50 °C	Electrical supply	Motor kW	Notes
		min. kW	max. kW	min. kg/h	max. kg/h				

### Frequency 50 Hz

BT 75 DSNM-D	2500010	446	837	40	75	50	3N AC 50Hz 400V	1,1+0,55	4)
BT 100 DSNM-D	2503010	558	1116	50	100	50	3N AC 50Hz 400V	1,5+0,55	4)
BT 120 DSNM-D	2505010	669	1451	60	130	50	3N AC 50Hz 400V	2,2+1,10	4)
BT 180 DSNM-D	2507010	725	2009	65	180	50	3N AC 50Hz 400V	3,0+1,10	4)
BT 250 DSNM-D	2515010	937	3170	84	284	50	3N AC 50Hz 400V	7,5+1,10	4)
BT 300 DSNM-D	2520010	1220	3460	110	310	50	3N AC 50Hz 400V	7,5+2,20	4)
BT 350 DSNM-D	2525010	1284	3907	115	350	50	3N AC 50Hz 400V	9,0+2,20	4)

### Frequency 60 Hz

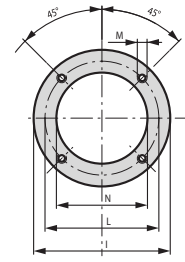
BT 75 DSNM-D	25005410	446	837	40	75	50	3N AC 60Hz 400V	1,5+0,65	4)
BT 100 DSNM-D	25035410	558	1116	50	100	50	3N AC 60Hz 400V	2,6+0,65	4)
BT 120 DSNM-D	25055410	669	1451	60	130	50	3N AC 60Hz 400V	3,5+1,30	4)
BT 180 DSNM-D	25075410	725	2009	65	180	50	3N AC 60Hz 400V	3,5+1,30	4)
BT 250 DSNM-D	25155410	937	3170	84	284	50	3N AC 60Hz 400V	9,0+1,30	4)
BT 300 DSNM-D	25205410	1220	3460	110	310	50	3N AC 60Hz 400V	9,0+2,60	4)
BT 350 DSNM-D	25255410	1284	3907	115	350	50	3N AC 60Hz 400V	11,0+2,60	4)

### NOTES:

4) Equipped with automatic air closure device.

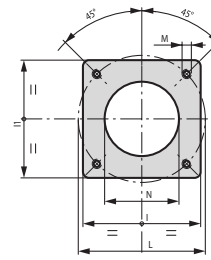
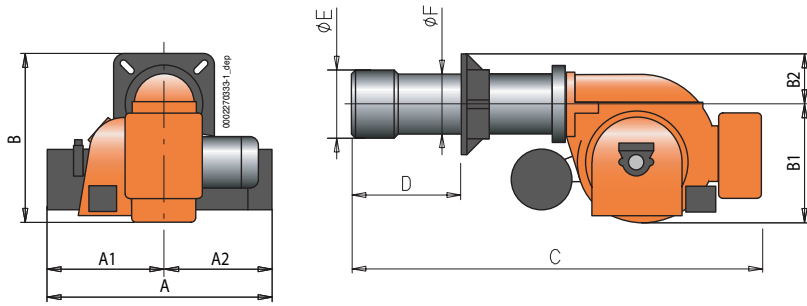
\*) Net calorific value of heavy oil: Hi = 40,19 MJ/kg = 9600 kcal/kg.





BT 100-120 DSNM-D

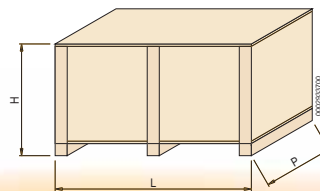
## Dimensions



BT 75-180-250  
300-350 DSNM-D

Model	A mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C mm	D mm	E mm	F mm	I mm	I <sub>1</sub> mm	L mm	M mm	N mm
BT 75 DSNM-D	860	510	350	545	415	130	1385	170 ÷ 430	205	160	260	260	225 ÷ 300	M12	170
BT 100 DSNM-D	860	510	350	560	400	160	1320	210 ÷ 400	230	195	320	-	276	M16	240
BT 120 DSNM-D	910	460	450	610	450	160	1400	185 ÷ 450	230	195	320	-	276	M16	240
BT 180 DSNM-D	915	425	490	610	450	160	1645	200 ÷ 535	260	220	320	320	280 ÷ 370	M12	230
BT 250 DSNM-D	1025	535	490	740	580	160	1665	235 ÷ 590	260	220	320	320	280 ÷ 370	M12	230
BT 300 DSNM-D	1135	625	510	800	580	220	1900	245 ÷ 605	360	275	440	440	400 ÷ 540	M20	365
BT 350 DSNM-D	1220	695	525	880	660	220	1960	350 ÷ 560	360	275	440	440	400 ÷ 540	M20	365

Model	Package dimensions mm			Weights kg
	L	P	H	
BT 75 DSNM-D	1730	1030	880	140
BT 100 DSNM-D	1730	1030	880	145
BT 120 DSNM-D	1730	1030	880	230
BT 180 DSNM-D	1730	1030	880	280
BT 250 DSNM-D	2030	1210	990	320
BT 300 DSNM-D	2260	1520	1200	403
BT 350 DSNM-D	2260	1520	1200	473



## Characteristics

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

### BT 75-100 DSNM-D SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- Heavy oil burner.
- Two-stage operation (high/low flame).
- Ability to operate with any type of combustion chamber.
- 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 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.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses and one self-cleaning line filter with resistance; 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



### BT 120-180-250 300-350 DSNM-D SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- 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.
  - Gear pump with pressure regulator and fuel stop-cock valves.
  - Heating resistor for the pump, regulator valve and the atomisation unit.
  - Atomisation unit with magnet to control the outlet/nozzle return pins.
  - Electrical fuel preheater comprising anti-gas valve, self-cleaning filter, thermometer, minimum and regulation thermostat.
  - Automatic control and command equipment for the burner compliant with European standard EN230.
  - Flame detection by photoresistance.
  - Control panel including stop/go switch, 1st/2nd stage selector, operation and block indicators, heating element operation light.
  - Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
  - Electrical protection rating IP40.
- Heavy oil burner.
  - Two-stage operation (high/low flame).
  - Ability to operate with any type of combustion chamber.
  - 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 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 preheater using steam, which means the fuel can be heated by the steam from the boiler to provide an energy saving.

- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses and one self-cleaning line filter with resistance; nozzle not included, to be separately ordered depending on the required flow.
- On request: steam pre-heater.

### CONSTRUCTION CHARACTERISTICS

The burner consists of:

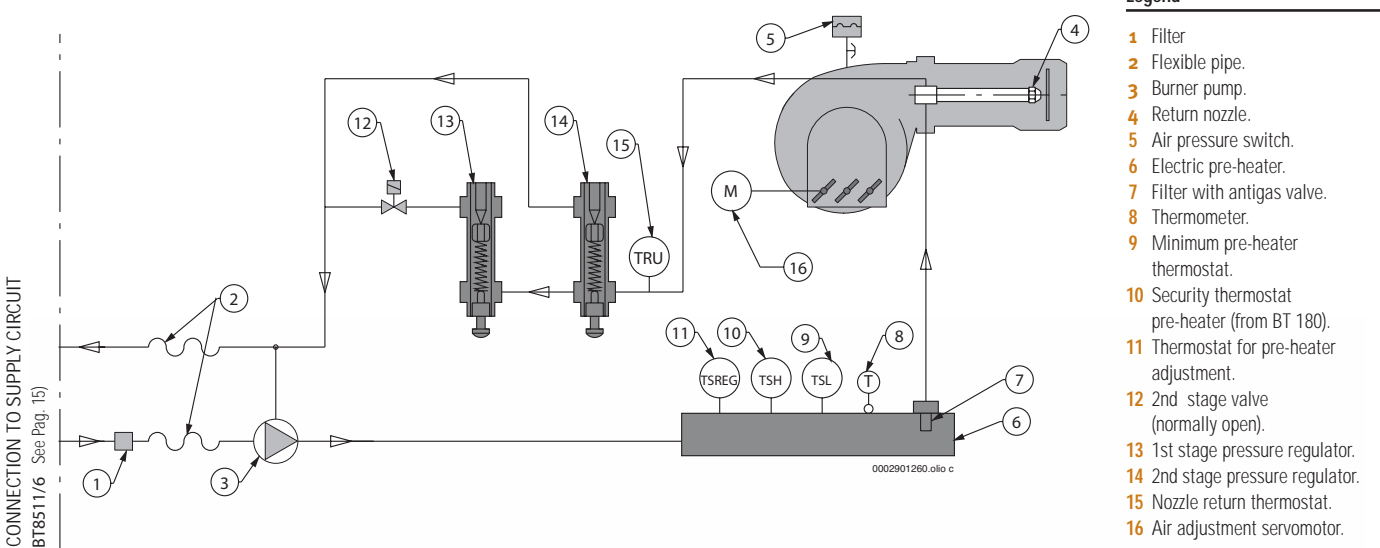
- Light aluminium alloy fan part.
- High performance centrifugal fan.
- Combustion air intake with air flow adjustment device.
- Sliding boiler coupling flange to adapt the head protrusion to the various types of boilers.
- Adjustable blast-pipe with stainless steel nozzle and deflector disk in steel.
- A three-phase electric motor to run fan and another to run the pump.
- Air pressure switch to ensure the presence of combustion air.
- Gear pump with pressure regulator and fuel stop-cock valves.
- Heating resistor for the pump, regulator valve and the atomisation unit.
- Atomisation unit with magnet to control the outlet/nozzle return pins.
- Electrical fuel preheater comprising antigas valve, self-cleaning filter, thermometer, minimum and regulation thermostat; security thermostat excluded BT 120.
- Automatic control and command equipment for the burner compliant with European standard EN230.
- Flame detection by photoresistance.
- Control panel including stop/go switch, 1st/2nd stage selector, operation and block indicators, heating element operation light.
- Terminal block for the electrical and thermostatic connections to the burner and to control the second stage of working.
- Electrical protection rating IP40.

## Characteristics

## Functional diagram

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

## Functional diagram



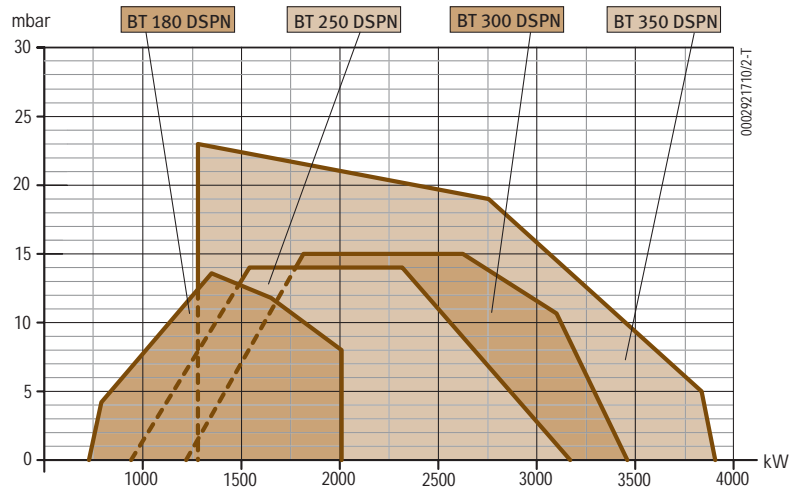
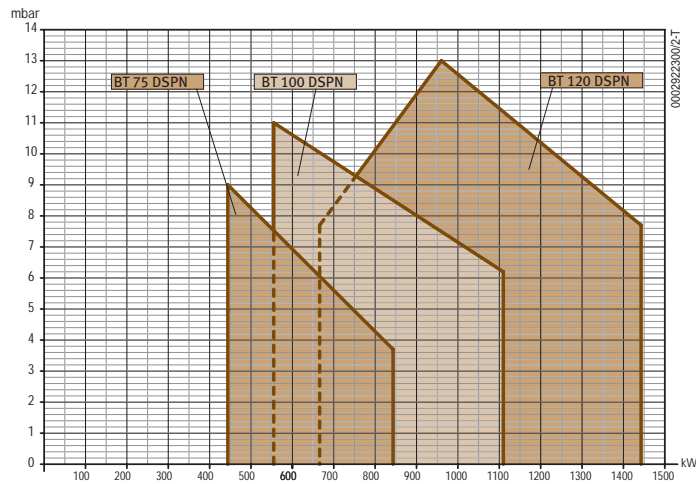
# TWO-STAGE PROGRESSIVE/MODULATING HEAVY OIL BURNERS

## 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/m<sup>3</sup>) which may prevent the burner fan from exploiting the entire operating range.



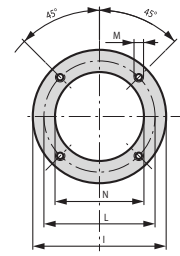
Model	Part no.	Thermal output		Capacity *)		Max visc. °E at 50 °C	Electrical supply	Motor kW	Notes	
		min. kW	max. kW	min. kg/h	max. kg/h					
<b>Frequency 50 Hz</b>										
BT 75 DSPN	2610010	446	837	40	75	7	3N AC 50Hz 400V	1,1+0,55	4)	
BT 100 DSPN	2615010	558	1116	50	100	7	3N AC 50Hz 400V	1,5+0,55	4)	
BT 120 DSPN	2620010	669	1451	60	130	7	3N AC 50Hz 400V	2,2+1,10	4)	
BT 180 DSPN	2625010	725	2009	65	180	7	3N AC 50Hz 400V	3,0+1,10	4)	
BT 250 DSPN	2630010	937	3170	84	284	7	3N AC 50Hz 400V	7,5+1,10	4)	
BT 300 DSPN	2635010	1220	3460	110	310	7	3N AC 50Hz 400V	7,5+2,20	4)	
BT 350 DSPN	2640010	1284	3907	115	350	7	3N AC 50Hz 400V	9,0+2,20	4)	

<b>Frequency 60 Hz</b>										
BT 75 DSPN	26105410	446	837	40	75	7	3N AC 60Hz 400V	1,5+0,65	4)	
BT 100 DSPN	26155410	558	1116	50	100	7	3N AC 60Hz 400V	2,6+0,65	4)	
BT 120 DSPN	26205410	669	1451	60	130	7	3N AC 60Hz 400V	3,5+1,30	4)	
BT 180 DSPN	26255410	725	2009	65	180	7	3N AC 60Hz 400V	3,5+1,30	4)	
BT 250 DSPN	26305410	937	3170	84	284	7	3N AC 60Hz 400V	9,0+1,30	4)	
BT 300 DSPN	26355410	1220	3460	110	310	7	3N AC 60Hz 400V	9,0+2,60	4)	
BT 350 DSPN	26405410	1284	3907	115	350	7	3N AC 60Hz 400V	11,0+2,60	4)	

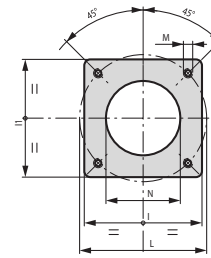
### NOTES:

4) Equipped with automatic air closure device.

\*) Net calorific value of heavy oil: Hi = 40,19 MJ/kg = 9600 kcal/kg.

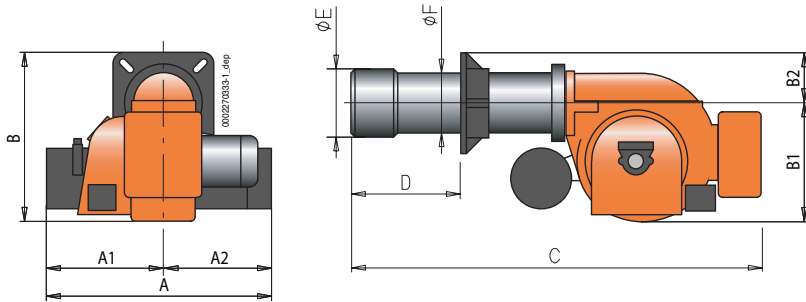


BT 100-120 DSPN



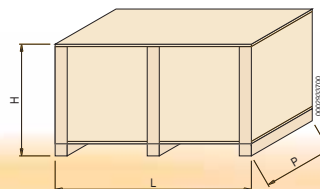
BT 75-180-250-300-350 DSPN

## Dimensions



Model	A mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B mm	B <sub>1</sub> mm	B <sub>2</sub> mm	C mm	D mm	E mm	F mm	I mm	I <sub>1</sub> mm	L mm	M mm	N mm
BT 75 DSPN	860	510	350	635	415	130	1385	195 ÷ 515	205	160	260	260	225 ÷ 300	M12	170
BT 100 DSPN	860	510	350	635	400	160	1320	210 ÷ 400	230	195	320	-	276	M16	240
BT 120 DSPN	910	460	450	685	450	160	1400	185 ÷ 450	230	195	320	-	276	M16	240
BT 180 DSPN	915	425	490	680	450	160	1645	200 ÷ 535	260	220	320	320	280 ÷ 370	M12	230
BT 250 DSPN	1025	535	490	780	580	160	1665	235 ÷ 590	260	220	320	320	280 ÷ 370	M12	230
BT 300 DSPN	1135	625	510	800	580	220	1900	245 ÷ 605	360	275	440	440	400 ÷ 540	M20	365
BT 350 DSPN	1220	695	525	880	660	220	1960	350 ÷ 560	360	275	440	440	400 ÷ 540	M20	365

Model	Package dimensions mm			Weights kg
	L	P	H	
BT 75 DSPN	1730	1030	880	147
BT 100 DSPN	1730	1030	880	150
BT 120 DSPN	1730	1030	880	224
BT 180 DSPN	1730	1030	880	274
BT 250 DSPN	2030	1210	990	314
BT 300 DSPN	2260	1520	1200	396
BT 350 DSPN	2260	1520	1200	466



## Characteristics

### BT 75-100 DSPN SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- 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.
- 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 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.
- When using heavy oil of viscosity up to 50°E at 50°C, add the kit (to be ordered separately) consisting of: self-cleaning line filter with resistor and thermostat and resistors for pump and pressure regulator valve.
- When using low sulphur heavy oil, add the kit (to order separately) consisting of: specific line filter, stainless steel flexible hoses and resistors for pump and pressure regulator valve.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses and 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 adju-



### BT 120-180-250 300-350 DSPN SERIES

#### TECHNICAL AND FUNCTIONAL CHARACTERISTICS

- 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.
  - 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 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.
  - When using heavy oil of viscosity up to 50°E at 50°C, add the kit (to be ordered separately) consisting of: self-cleaning line filter with resistor and thermostat and resistors for pump and pressure regulator valve.
  - When using low sulphur heavy oil, add
- stment 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.
  - Gear pump with pressure regulator.
  - Atomisation unit with magnet to control the outlet/nozzle return pins.
  - Electrical fuel preheater comprising anti-gas valve, self-cleaning filter, thermometer, regulation, minimum and safety thermostats.
  - Automatic control and command equipment for the burner compliant with European standard EN230.
  - Flame detection by photoresistance.
  - Control panel including stop/go switch, operation and block indicators, heating element operation light.
  - 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.

## Characteristics

## Functional diagram

Conform to:  
E.M.C. Directive 89/336/CEE  
L.V. Directive 73/23/CEE

the kit (to be order separately) consisting of: specific line filter, stainless steel flexible hoses and resistors for pump and pressure regulator valve.

- 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.
- Equipped with one flange and one insulating seal for boiler fastening, 2 flexible hoses and 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

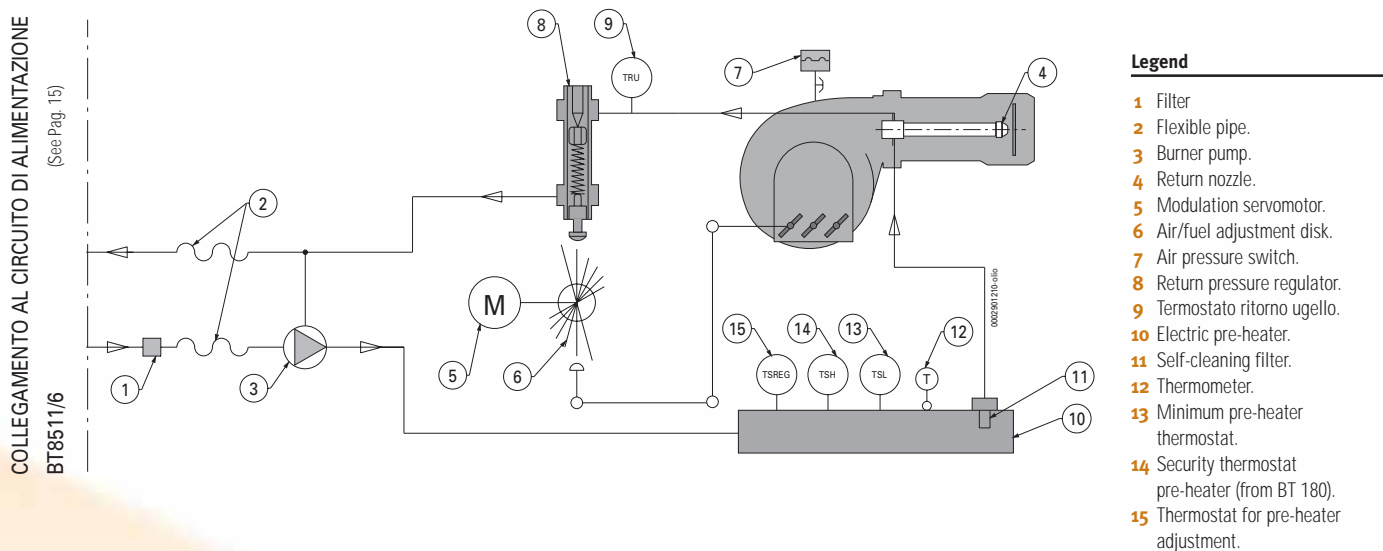
of boilers.

- 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.
- Gear pump with pressure regulator.
- Atomisation unit with magnet to control the outlet/nozzle return pins.
- Electrical fuel preheater comprising antigas valve, self-cleaning filter, thermometer, minimum and regulation thermostat; security thermostat excluded BT 120.
- Automatic control and command equipment for the burner compliant with European standard EN230.
- Flame detection by photoresistance.
- Control panel including stop/go switch, 1st/2nd stage selector, operation and

block indicators, heating element operation light.

- 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





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Quality System Certified  
UNI-EN ISO 9001 I.C.I.M. n° 202

**baltur**

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