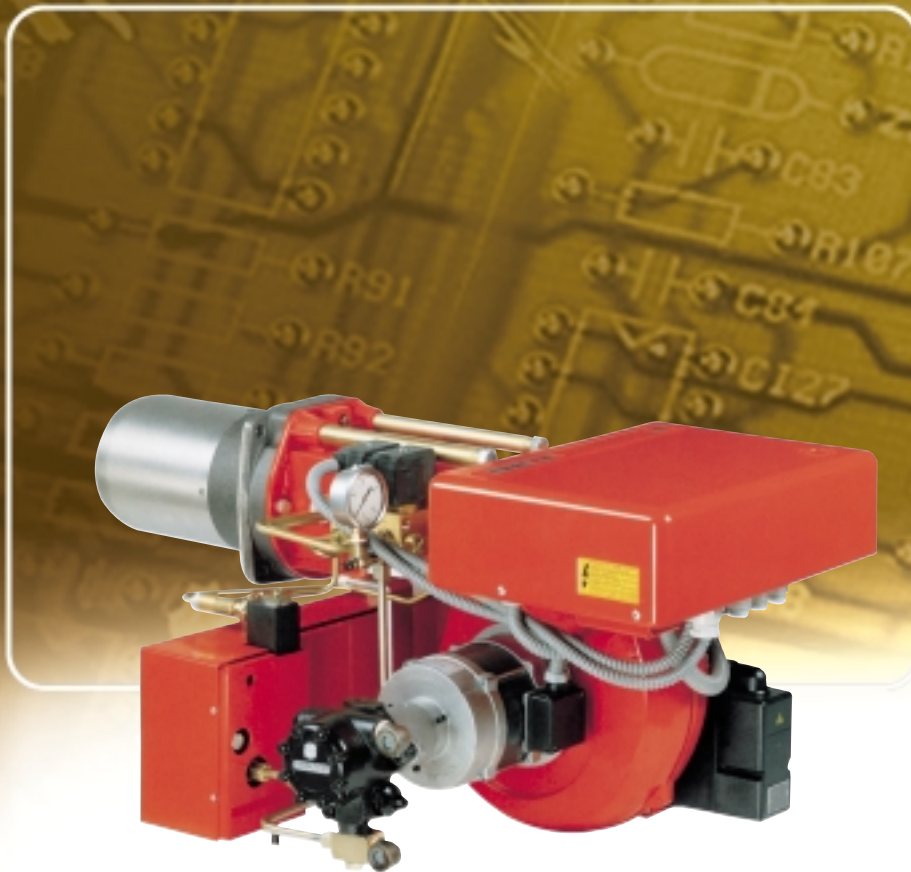




TWO STAGE HEAVY OIL BURNERS

► PRESS N SERIES

► PRESS 30 N	85/171 ÷ 342 kW
► PRESS 45 N	114/205 ÷ 513 kW
► PRESS 60 N	171/342 ÷ 684 kW
► PRESS 100 N	285/490 ÷ 1140 kW



The PRESS N series of burners covers a firing range from 85 to 1140 kW and they have been designed for use in civil installations of average dimensions, like building areas and large apartment groups or for use in industrial applications, like small or medium plants. Operation is two stage; a servomotor adjust automatically air damper opening, to obtain the right air delivery on both stage.

The combustion head, that can be set on the basis of required output, allows optimal performance ensuring good combustion and reducing fuel consumption and is available in two different length to be selected on the basis of specific application requirements. In basic version the burners are supplied for use with heavy oil 7°E viscosity, but they can be supplied with higher viscosity oil with a specific heaters kit.

Simplified maintenance is achieved by the slide bar system, which allows easy access to all of the essential components of the combustion head.

TECHNICAL DATA

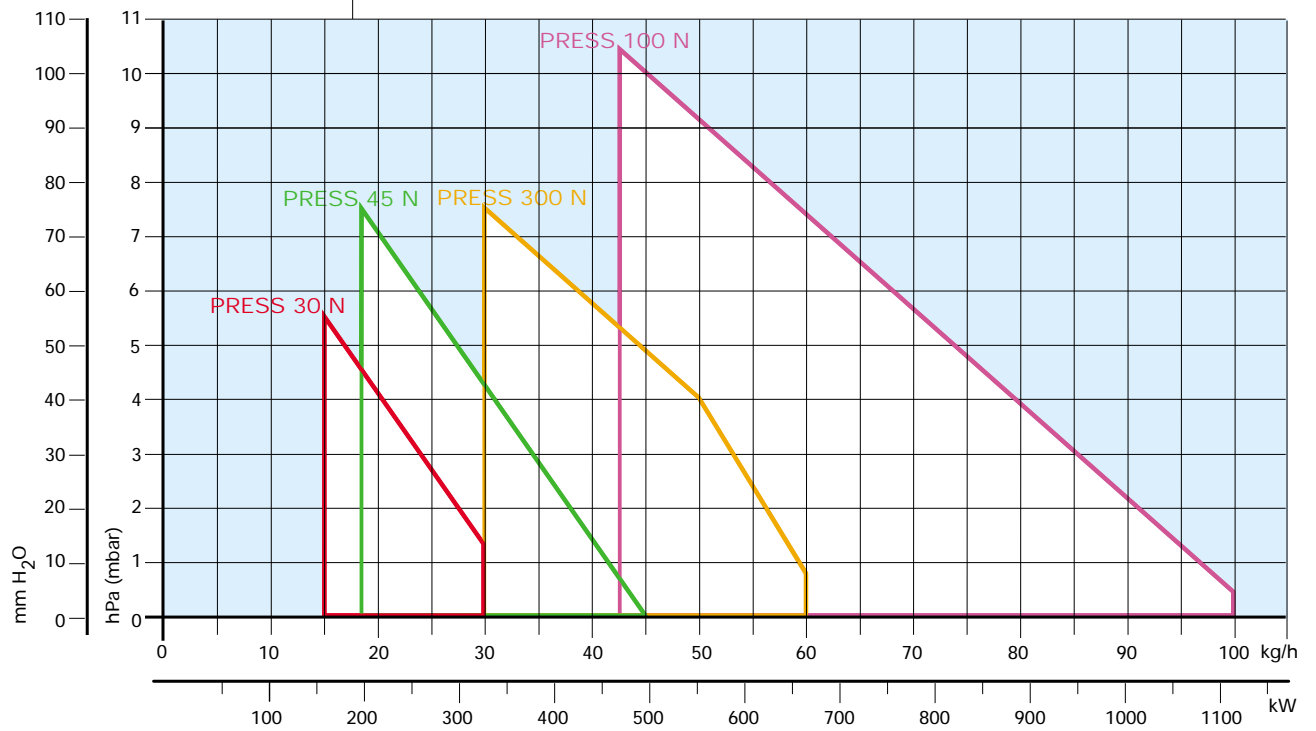
Model			▼ PRESS 30 N	▼ PRESS 45 N	▼ PRESS 60 N	▼ PRESS 100 N
Burner operation mode			Two stage			
Modulation ratio at max. output			2 : 1			
Servomotor	type	LKS 210				
	run time	s	5			
Heat output	kW	85/171±342	114/205±513	171/342±684	285/490±1140	
	Mcal/h	73/147±294	98/176±441	147/294±588	245/421±980	
	kg/h	7,5/15±30	10/18±45	15/30±60	25/43±100	
Working temperature		°C min./max.	0/40			
NCV Heavy Oil	kWh/kg	11,4				
	kcal/kg	9800				
Viscosity at 20°C		mm ² /s (cSt)	50 (150 with heavy oil kit)		50 (500 with heavy oil kit)	
Pump	type	D67				
	delivery	kg/h	65 (20 bar)		110 (20 bar)	200 (20 bar)
Atomised pressure		bar	20			
Fuel temperature		Max. °C	140			
Fuel pre-heater			YES			
Fan		type	Centrifugal with forward blades			
Air temperature		Max. °C	60			
Electrical supply		Ph/Hz/V	1/50/230-(±10%)	3N/50/400-(+10%)	3/50/230-(+10%)	
Auxiliary electrical supply		Ph/Hz/V	1/50/230-(±10%)			
Control box		type	RMO			
Total electrical power		kW	3,5	3,7	5,5	9,0
Auxiliary electrical power		kW	0,33	0,45	0,5	0,5
Heaters electrical power		kW	2,8	2,8	4,2	7
Protection level		IP	40			
Pump motor electrical power		kW	--			
Rated pump motor current		A	--			
Pump motor start up current		A	--			
Pump motor protection level		IP	--			
Fan motor electrical power		kW	0,37	0,45	0,75	1,5
Rated fan motor current		A	2,9	1,9-1,1	2,9-1,7	6-3,5
Fan motor start current		A	9,5	9,5-5,5	14-8	28-16
Fan motor protection level		IP	54			
Ignition transformer		type	--			
		V1 - V2	230 V - 2x6,5 kV			
		I1 - I2	2 A - 35 mA			
Operation			Intermittent (at least one stop every 24 h)			
Sound pressure		dB (A)	75	78	81	83
Sound power		W	--			
CO emission		mg/kWh	< 50			
Grade of smoke indicator		N° Bacharach	< 5			
CxHy emission		mg/kWh	--			
NOx emission level		mg/kWh	< 650			
Directive			73/23 - 89/336 - 98/37- 92/42 EEC			
Conforming to			EN 267			
Certification			--			

Reference conditions:
 Ambient temperature: 20°C
 Barometric pressure: 1013.5 mbar
 Altitude: 100 meters a.s.l.
 Noise measured at a distance of 1 meter.

Since the Company is constantly engaged in the production improvement, the aesthetic and dimensional features, the technical data, the equipment and the accessories can be changed.
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FIRING RATES



Useful working field for choosing the burner

Test conditions conforming to EN 267:

Temperature: 20°C
Pressure: 1013.5 mbar
Altitude: 100 m a.s.l.



FUEL SUPPLY

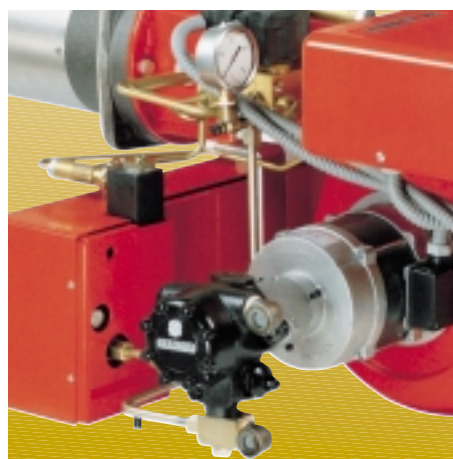
HYDRAULIC CIRCUITS

The burners are fitted with an oil pre-heater, a check valve and two delivery valves along the oil line from the pump to the nozzles.

The oil pre-heater is equipped with a filter with sheath for thermometer, a setting thermostat to adjust the oil temperature and two safety thermostats to control the max. and min. oil temperature.

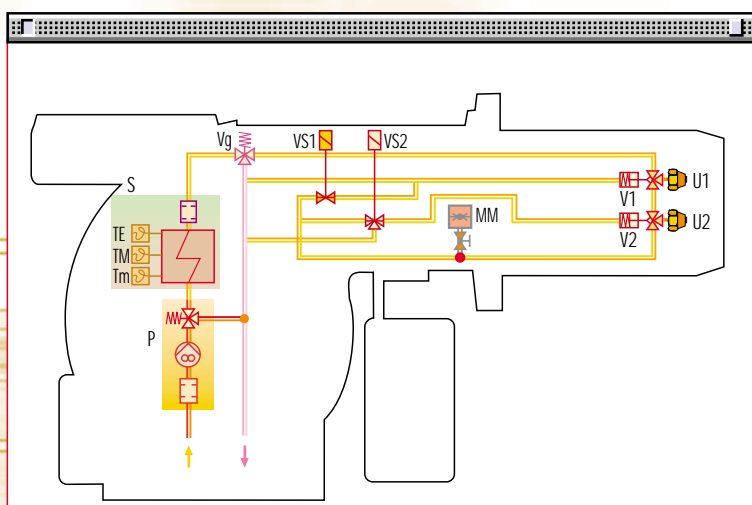
A control device, on the basis of required output, regulates oil delivery valves opening, allowing oil passage through the valves and the nozzles whose opening is regulated from a needle valve.

An oil delivery gauge allows to control the delivery pressure. For heavy oil preheating, a special kit could be used; equipped with electrical heaters, it permits the employment of PRESS N burners with fuel oil of max. viscosity 20°E at 50°C (PRESS 30N - 45N) or 50°E at 50°C (PRESS 60 N - 100 N), (see Burner Accessory paragraph).



Example of the hydraulic circuit on PRESS N

PRESS 30 N - 45 N - 60 N - 100 N



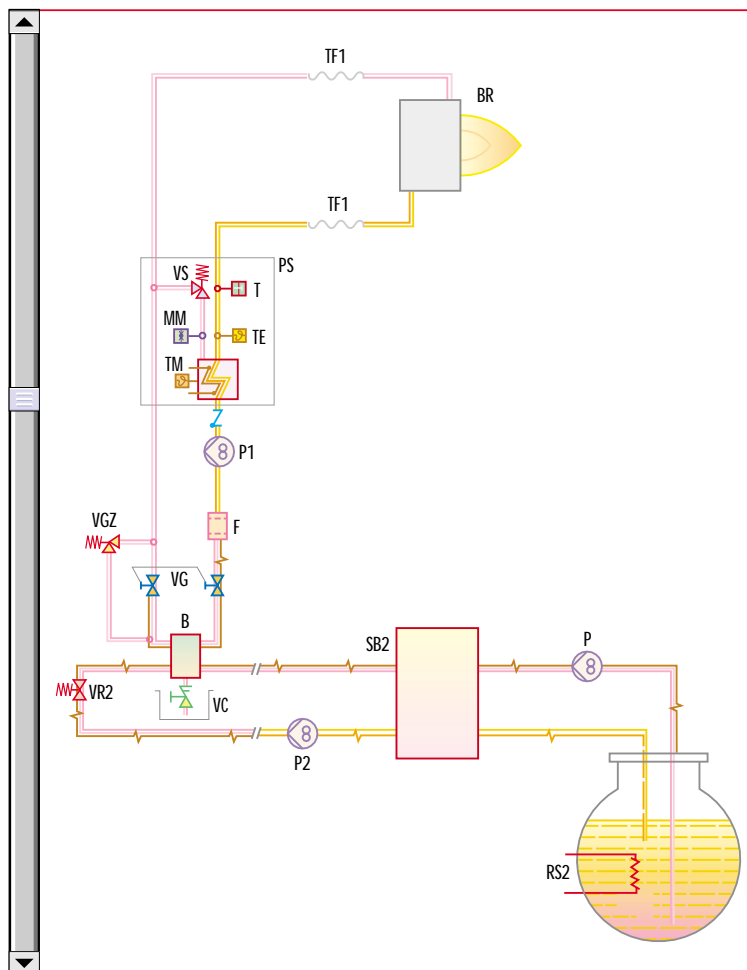
P	Pump with filter, heater and pressure regulator on the output circuit
S	Oil preheater with filter, maximum, minimum and regulation thermostat
TE	Oil temperature regulator
TM	Max oil temperature switch
Tm	Min oil temperature switch
Vg	Check valve
VS1	1st stage delivery valve
VS2	2nd stage delivery valve
V1	1st stage nozzle needle valve
V2	2nd stage nozzle needle valve
U1	1st stage nozzle
U2	2nd stage nozzle
MM	Oil delivery gauge

DIMENSIONING OF THE FUEL SUPPLY LINES

The fuel feed must be completed with the safety devices required by the local norms.

IMPORTANT NOTES

- The oil could easily flow through the pipes if those are properly sized, protected and heated (by electricity, steam or hot water)
- In order to limit gas or steam production the oil pressure into the gas separator shall be set in function of the supply temperature, see instructions manual.
- The forwarding pump should have at least a double capacity than that one of the burner. For several burners supplied through the same ring supply line, the forwarding pump should have a capacity of approximatively 30% more than the sum of the single burners outputs.

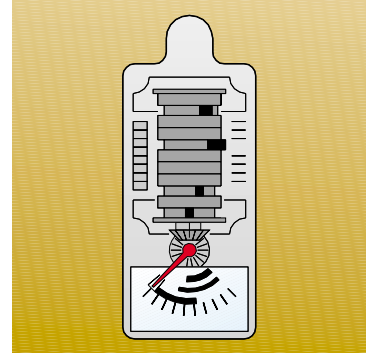


RS2	Tank heater
P	Double pumping unit with filter and heater on transfer ring
SB2	Service tank
P2	Double pumping unit with filter and heater on main ring
VR2	Oil valve – main ring
B	Gas separator bottle
VGZ	Safety valve – burner circuit
P1	Pump with heater – burner circuit
PS	Electrical preheater
VS	Preheater safety valve
BR	Burner
TF1	Flexible oil line
T	Thermometer
TM	Max oil temperature switch
TE	Temperature switch regulation
MM	Oil delivery gauge
VC	Vent valve
F	Oil filter



VENTILATION

The ventilation circuit of PRESS N burners is inserted in an extremely compact structure and it is provided with a forward blades centrifugal fan, which guarantees high pressure levels at the required air deliveries and permits installation flexibility. A servomotor adjust automatically air damper opening, to obtain the right air delivery on both stage.



Example of the servomotor for air regulation on PRESS N burners



COMBUSTION HEAD

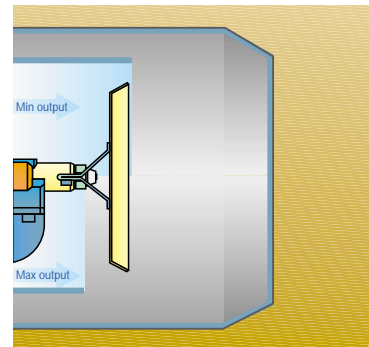
Two different lengths of the combustion head can be chosen for the various models of the PRESS N series of burners.

The choice depends on the thickness of the front panel and the type of the boiler.

Depending on the type of heat generator, it is necessary to check the correct head penetration into the combustion chamber.

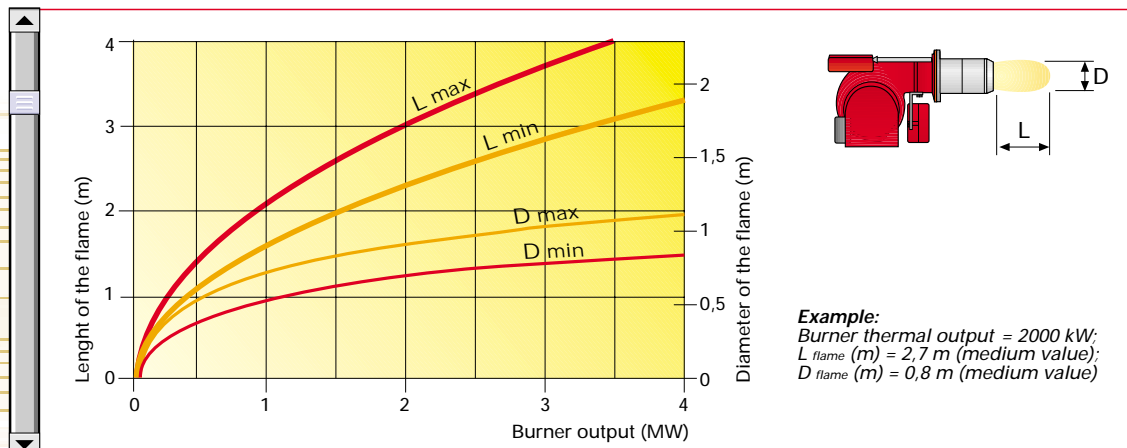
The internal position of the combustion head can easily be adjusted: refer to the burner instruction manual for the complete procedure.

The following diagram shows the flame dimensions in relation to the burner output. The length and diameter shown in the diagram below should be employed preliminary check: it is required a more careful investigation if combustion chamber dimensions are much different from the above reported values.



Example of a PRESS N burner combustion head

Dimensions of the flame



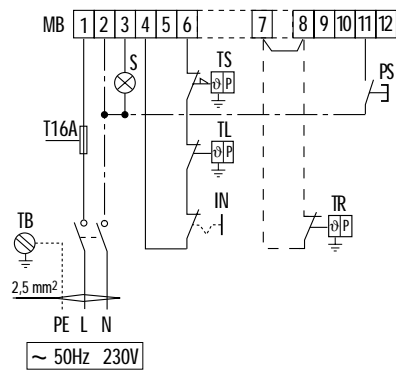
WIRING DIAGRAMS



Electrical connections must be made by qualified and skilled personnel, according to the local norms.

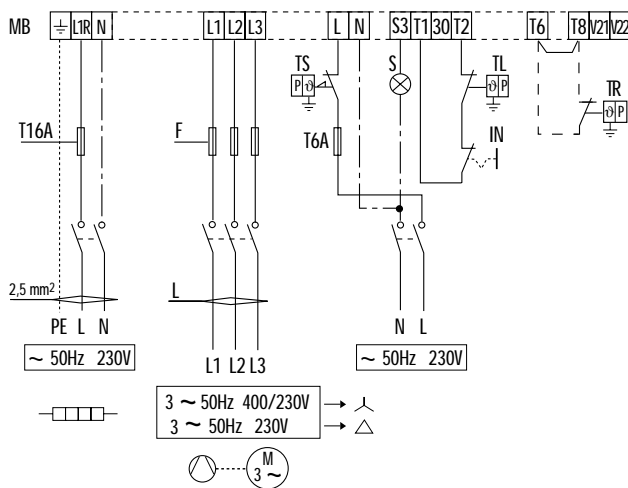
TWO STAGE OPERATION

PRESS 30 N - single-phase electrical connection



- MB - Burner terminal board
- TS - Safety thermostat
- TL - Threshold thermostat
- TR - High/low flame setting thermostat
- S - External lock-out signal
- TB - Burner ground (earth) connection
- IN - Manual switch
- T16A - 16A fuse
- PS - Lock-out reset button

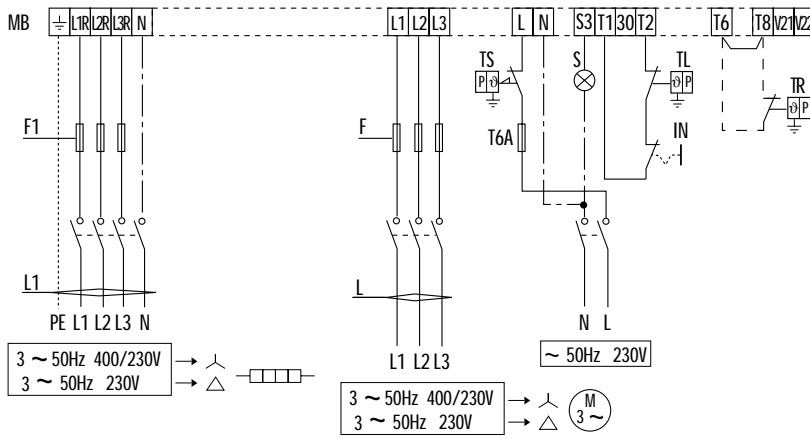
PRESS 45 N - three-phase electrical connection



- MB - Burner terminal board
- TS - Safety thermostat
- TL - Threshold thermostat
- TR - High/low flame setting thermostat
- S - External lock-out signal
- F - Fuse (see table A)
- TB - Burner ground (earth) connection
- IN - Manual switch
- T6A - 6A fuse
- T16A - 16A fuse
- F - Fuse (see table A)
- PS - Lock-out reset button
- L - Lead section (see table A)



PRESS 60 N - 100 N - three-phase electrical connection



- MB - Burner terminal board
- TS - Safety thermostat
- TL - Threshold thermostat
- TR - High/low flame setting thermostat
- S - External lock-out signal
- F - Fuse (see table A)
- TB - Burner ground (earth) connection
- IN - Manual switch
- T6A - 6A fuse
- T16A - 16A fuse
- F - F1 - Fuse (see table A)
- PS - Lock-out reset button
- L - L1 - Lead section (see table A)

The following table shows the supply lead sections and the type of fuse to be used.

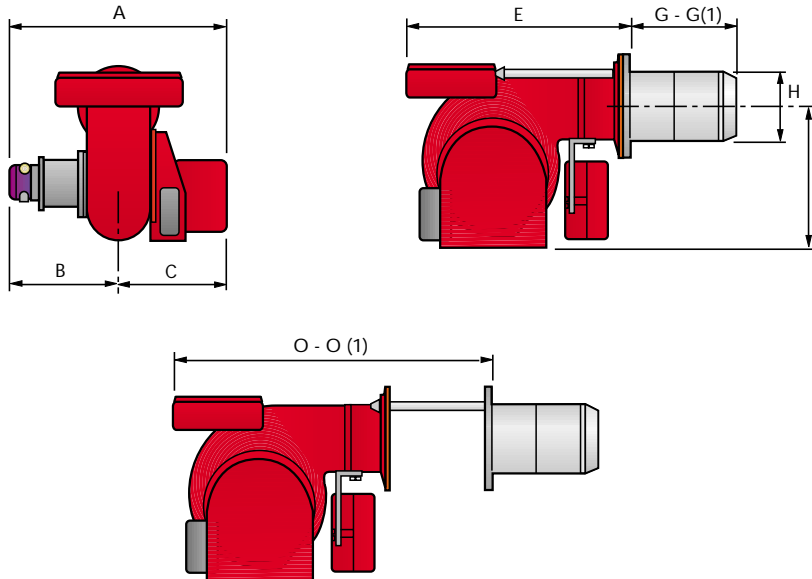
Model	▼PRESS 30 N	▼PRESS 45 N		▼PRESS 60 N		▼PRESS 100 N	
	230V	230V	400V	230V	400V	230V	400V
F A	T16	T10	T6	T10	T6	T16	T10
L mm ²	2,5	1,5	1,5	1,5	1,5	1,5	1,5
F1 A	-	-	-	T16	T10	T25	T16
L1 mm ²	-	-	-	4	2,5	6	4

Table A



OVERALL DIMENSIONS (mm)

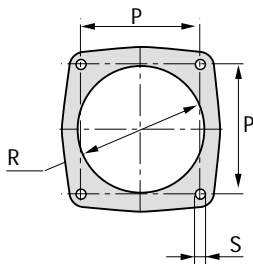
BURNERS



Model	A	B	C	E	G - G(1)	H	I	O - O(1)
▶ PRESS 30 N	625	335	290	625	185 - 320	161	305	905 - 1080
▶ PRESS 45 N	625	335	290	625	235 - 370	161	305	925 - 1100
▶ PRESS 60 N	625	335	290	660	245 - 400	172	335	940 - 1115
▶ PRESS 100 N	625	335	290	710	250 - 410	195	370	1010 - 1195

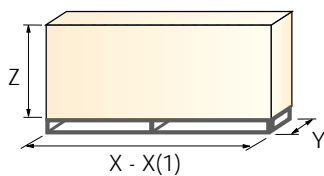
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



Model	P	R	S
▶ PRESS 30 N	160	170	M 10
▶ PRESS 45 N	160	170	M 10
▶ PRESS 60 N	160	180	M 10
▶ PRESS 100 N	195	205	M 12

PACKAGING



Model	X - X(1)	Y	Z	kg
▶ PRESS 30 N	880 - 1015	690	522	84
▶ PRESS 45 N	880 - 1015	690	522	84
▶ PRESS 60 N	925 - 1095	760	552	87
▶ PRESS 100 N	985 - 1145	790	552	104

(1) Length with extended combustion head