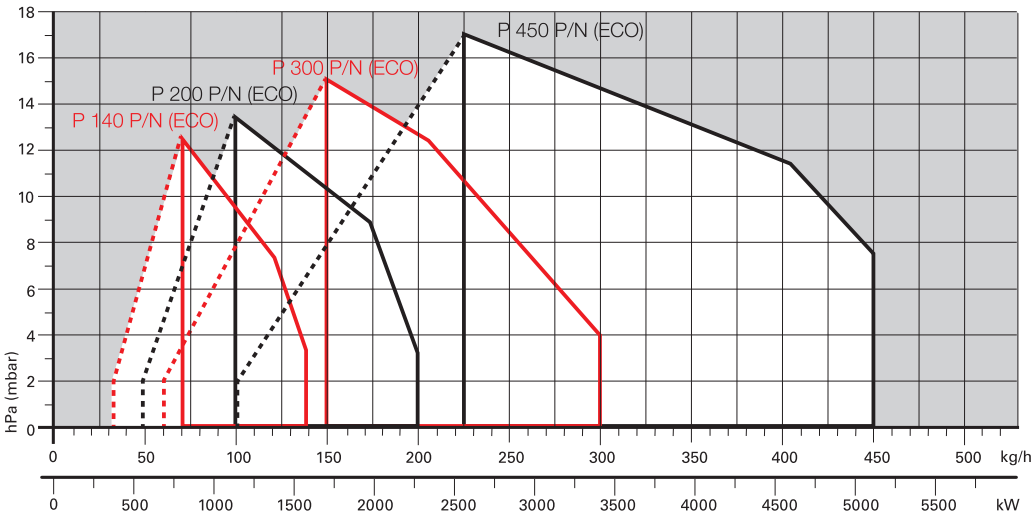
PRESS P/N - P/N ECO SERIES

The PRESS P/N series of burners covers a firing range from 800 to 5130 kW. They have been designed in three versions for use in commercial and industrial installation, to burn different oil viscosity from 7 up to 60°E @ 50°C.
Operation can be "two stage progressive" or, alternatively, "modulating" with the installation of a PID logic regulator and respective probes, which guarantees a turn down ratio of 3:1.
The versatility of this range makes the burner well suited for use on steam boilers where the load factor is subject to wide variations, on thermal oil boilers and on boilers for particular heating plants, as hospitals or similar.
Simplified maintenance is achieved by the Riello designed slide bar system, which allows easy access to all of the essential components of the combustion head.

P 140 P/N	400/800	÷	1600	kW
P 200 P/N	570/1140	÷	2280	kW
P 300 P/N	683/1710	÷	3420	kW
P 450 P/N	1140/2615	÷	5130	kW
P 140 P/N ECO	400/800	÷	1600	kW
P 200 P/N ECO	570/1140	÷	2280	kW
P 300 P/N ECO	683/1710	÷	3420	kW
P 450 P/N ECO	1140/2615	÷	5130	kW

FIRING RATES



Useful working field for choosing the burner

Modulation range

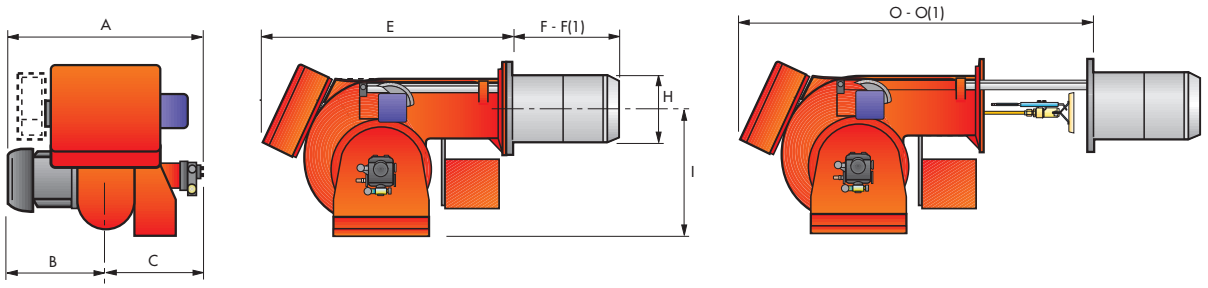
Test conditions conforming to EN267
Temperature: 20°C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

PRESS P/N - P/N ECO SERIES

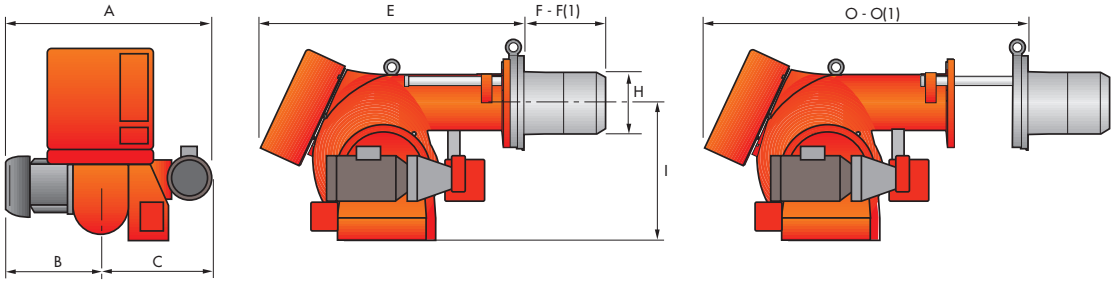
Overall dimensions (mm)

BURNER

PRESS P/N



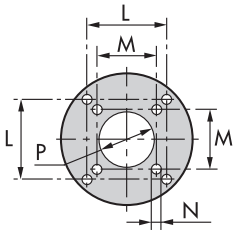
PRESS P/N ECO



MODEL	A	B	C	E	F – F(1)	H	I	O – O(1)
▶ P 140 P/N	796	396	400	910	323 – 433	222	467	1390 – 1390
▶ P 200 P/N	796	396	400	910	352 – 462	250	467	1390 – 1390
▶ P 300 P/N	858	447	411	1020	376 – 506	295	496	1535 – 1685
▶ P 450 P/N	950	508	442	1090	435 – 565	336	525	1665 – 1820
▶ P 140 P/N ECO	900	396	504	890	323 – 433	222	467	1370 – 1370
▶ P 200 P/N ECO	900	396	504	890	352 – 462	250	467	1370 – 1370
▶ P 300 P/N ECO	984	447	537	1000	376 – 506	295	496	1515 – 1665
▶ P 450 P/N ECO	1100	508	592	1090	435 – 565	336	525	1665 – 1820

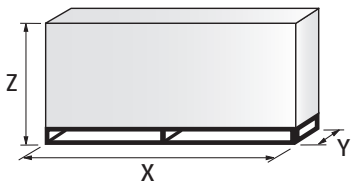
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



MODEL	L	M	N	P
▶ P 140 P/N (ECO)	260	230	M 14	225
▶ P 200 P/N (ECO)	260	-	M 16	255
▶ P 300 P/N (ECO)	260	-	M 18	300
▶ P 450 P/N (ECO)	310	-	M 20	350

PACKAGING



MODEL	X	Y	Z	kg
▶ P 140 P/N (ECO)	1740	990	950	180
▶ P 200 P/N (ECO)	1740	990	950	220
▶ P 300 P/N (ECO)	2040	1180	1125	238
▶ P 450 P/N (ECO)	2040	1180	1125	300

Specification

DESIGNATION OF SERIES

Series : PRESS

Size

Operation :	N	Two stage	N/ECO	Two stage with separated oil pump
	T/N	Three stage	T/N ECO	Three stage with separate oil pump
	P/N	Modulating	P/N ECO	Modulating with separate oil pump

Emission :	...	Class 1 EN267

Head :	TC	Standard head
	TL	Extended head

Flame control system :	FS1	Standard (1 stop every 24 h)
	FS2	Continuous working (1 stop every 72 h)

Electrical supply to the system :	1/230/50	1/230V/50Hz
	3/230/50	3/230V/50Hz
	3/400/50	3N/400V/50Hz
	3/230-400/50	3/230V/50Hz - 3N/400V/50Hz
	3/220-380/60	3/220V/60Hz - 3N/380V/60Hz

Auxiliary voltage :	230/50	230V/50Hz
	220/60	220V/60Hz

PRESS	140	P/N		TC	FS1	3/230-400/50	230/50

BASIC DESIGNATION

EXTENDED DESIGNATION

PRESS P/N - P/N ECO SERIES

Specification

STATE OF SUPPLY

Monoblock forced draught oil burner with two-stage progressive or modulating operation, with a specific kit, fully automatic, made up of:
- Air suction circuit lined with sound-proofing material
- Fan with forward curved blades high performance pressure levels
- Air damper for air setting and automatic oil output regulator controlled by a servomotor with variable cam
- Fan motor at 2850 rpm, three-phase 400V with neutral, 50Hz
- Combustion head, that can be set on the basis of the combustion output, fitted with:
    - stainless steel end cone, resistant to corrosion and high temperatures
    - ignition electrodes
    - flame stability disk
- Gears pump for high pressure fuel supply, fitted with:
    - filter
    - pressure regulator
    - connections for installing a pressure gauge and vacuometer
    - internal by-pass for single pipe installation
- Heavy oil heating cartridges (P/N ECO version)
- Pipes heating cable (P/N ECO version)
- Oil pump motor at 1400 rpm (P/N ECO version)
- Valve unit with a double oil safety valve on the output circuit
- Electrical preheater for heavy oil
- Safey oil pressure switch
- Photocell for flame detection
- Burner safety control box, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilaton by just changing the electric wiring
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP X0D (IP 40) electric protection level.

Standard equipment:
- 2 flexible pipes for connection to the oil supply network
- 2 nipples for the connection to the pump
- Wiring looms fittings for electrcial connections
- 4 screws for fixing the burner flange to the boiler
- 2 slide bar extensions (for the extended head models of P 300 P/N and P 450 P/N)
- Gasket for flange
- Starter*
- Instruction handbook for installation, use and maintenance
- Spare parts catalogue.

* for versions with star-delta starting

PRESS P/N - P/N ECO SERIES

Available models

CODE	MODEL				HEAT OUTPUT		TOTAL ELECTRICAL POWER	CERTIFICATION	NOTE
					(kW)	(kg/h)	(kW)		
3436876	P 140 P/N	TC	FS1 3/230-400/50	230/50	400/800÷1600	35/70÷140	19	-	
3436877	P 140 P/N	TL	FS1 3/230-400/50	230/50	400/800÷1600	35/70÷140	19	-	
3437776	P 200 P/N	TC	FS1 3/230-400/50	230/50	570/1140÷2280	50/100÷200	20	-	
3437777	P 200 P/N	TL	FS1 3/230-400/50	230/50	570/1140÷2280	50/100÷200	20	-	
3438989	P 300 P/N	TC	FS1 3/230/50	230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438987	P 300 P/N	TC	FS1 3/230-400/50	230/50	683/1710÷3420	60/150÷300	30	-	
3438991	P 300 P/N	TC	FS1 3/400/50	230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438990	P 300 P/N	TL	FS1 3/230/50	230/50	683/1710÷3420	60/150÷300	30	-	(1)
3438988	P 300 P/N	TL	FS1 3/230-400/50	230/50	683/1710÷3420	60/150÷300	30	-	
3438992	P 300 P/N	TL	FS1 3/400/50	230/50	683/1710÷3420	60/150÷300	30	-	(1)
3439385	P 450 P/N	TC	FS1 3/230/50	230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439387	P 450 P/N	TC	FS1 3/400/50	230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439386	P 450 P/N	TL	FS1 3/230/50	230/50	1140/2615÷5130	100/225÷450	34	-	(1)
3439388	P 450 P/N	TL	FS1 3/400/50	230/50	1140/2615÷5130	100/225÷450	34	-	(1)

Net calorific value: 11,16 kWh/kg; 9600 kcal/kg
The burners of PRESS series are in according to 2004/108 - 2006/95 - 2006/42 EC Directive and EN 267 Norm.
(1) Star-delta starting
For ECO models ask for specific code.

Viscosity
The modulating burner P/N series can burn different heavy oil types from 7 up to 60°E @ 50°C (50 up to 450 cSt @ 50°C).
For different viscosity levels Riello recommends 3 different configurations:
1) PRESS P/N version for viscosity up to 7°E (50 mm^2/s, cSt), Type MEDIUM HEAVY OIL / USA n° 4:
basic version with 2800 rmp oil pump installed directly on fan motor shaft (see available codes in the table above)
2) PRESS P/N version for viscosity up to 20°E (150 mm^2/s, cSt), Type BUNKER B / USA n° 5:
as basic version + heavy oil heating cartridges factory installed on nozzle, pump and valves group (please ask for specific code)
3) PRESS P/N ECO version for viscosity up to 20°E (150 mm^2/s, cSt), Type BUNKER B / USA n° 5:
with separate 1400 rpm low speed pump, heavy oil heating cartridges factory installed on nozzle, pump and valves group (please ask for specific code)
4) PRESS P/N and PRESS P/N ECO versions for viscosity up to 60°E (450 mm^2/s, cSt), Type BUNKER C / USA n° 6:
as versions 2) or 3) with pipes heating cable factory installed (please ask for specific code)

Special configuration on demand:
- Steam oil pre-heater on P/N ECO models.

Burner accessories

Available for P/N and P/N ECO versions

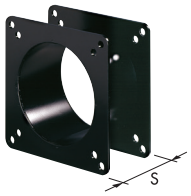
Nozzles

The nozzles must be ordered separately. The following table shows the features and codes on the basis of the maximum required output.

NOTE: each burner needs N° 1 nozzle.

BURNER	RATED OUTPUT kg/h	NOZZLES BERGONZO B5 45°- WITH "AA" NEEDLE CODE	NOZZLES FLUIDICS W2 45°- WITH "AA" NEEDLE CODE
▶ P 140 P/N	70	3009203	3045426
▶ P 140 P/N	80	3009205	3045427
▶ P 140 P/N	90	3009207	3045428
▶ P 140 P/N - P 200 P/N	100	3009209	3045430
▶ P 140 P/N - P 200 P/N	125	3009211	3045432
▶ P 200 P/N - P 300 P/N	150	3009213	3045434
▶ P 200 P/N - P 300 P/N	175	3009215	3045436
▶ P 200 P/N - P 300 P/N	200	3009800	3045438
▶ P 200 P/N - P 300 P/N	225	3009801	3045440
▶ P 300 P/N - P 400 P/N	250	3009802	3045442
▶ P 300 P/N - P 400 P/N	275	3009803	3045444
▶ P 300 P/N - P 400 P/N	300	3009804	3045446
▶ P 450 P/N	325	3009805	3045448
▶ P 450 P/N	350	3009806	3045450
▶ P 450 P/N	375	3009807	3045452
▶ P 450 P/N	400	3009808	3045454
▶ P 450 P/N	425	3009809	3045455
▶ P 450 P/N	450	3009810	3045456

Spacer kit

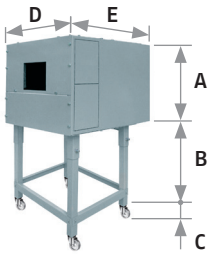


If burner head penetration into the combustion chamber needs reducing, varying thickness spacers are available, as given in the list.

BURNER	SPACER THICKNESS S (mm)	KIT CODE
▶ P 140 P/N - P 200 P/N	102	3000722
▶ P 300 P/N	130	3000723
▶ P 450 P/N	130	3000751

Burner accessories

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available. In case of generator heights, where a lower dimension "B" is required, ask for the Box Support Kit code 20065135. The useful dimensions are 40 mm less than the total dimensions indicated in the table (A, D, E). Not suitable for outdoor use.

BURNER	BOX TYPE	A (mm)	B (mm) min-max	C (mm)	D (mm)	E (mm)	[dB(A)] (*)	BOX CODE
▶ P 140 - 200 P/N	C4/5	850	160 - 980	110	980	930	10	3010404
P 300 - 450 P/N ▶ P 140 - 200 P/N ECO P 300 - 450 P/N ECO	C7	1255	160 - 980	110	1140	1345	10	3010376

(*) Average noise reduction according to EN 15036-1 standard

Self-cleaning filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a thermostatic heater for oil with 60°E viscosity at 50°C.

FILTER TYPE	FILTERING DEGREE (µm)	FILTER CODE
▶ Ø = 1"1/2 (60°E at 50°C)	300	3010022

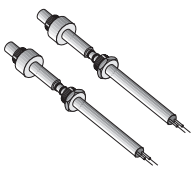
HEATER / THERMOSTAT TYPE	HEATER / THERMOSTAT CODE
▶ Thermostatic heater with LED	3010060
▶ Heater	3010061
▶ Thermostat (two-stage / regulable)	3010062

Gas separator bottle

Gas separator bottle connects the burner oil circuit to the main ring circuit. It allows to recover heat in excess and discharge return circuit gas.

BURNER	CODE
▶ P 140 P/N - P 200 P/N	3000748
▶ P 300 P/N - P 450 P/N	3010012

Heavy oil kit

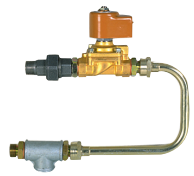


Equipped with electrical heaters, it permits the employment of PRESS P/N burners with fuel oil of max. viscosity at 50°C: 20°E (150 mm²/s, cSt), Type BUNKER B / USA n° 5.

BURNER	KIT CODE
▶ P 140 P/N - P 200 P/N - P 300 P/N - P 450 P/N	3000721

Burner accessories

Heavy oil precirculation kit



This kit, used with oil with high viscosity, in maintains fuel circulation in the oil circuit for avoiding system stop at start up.

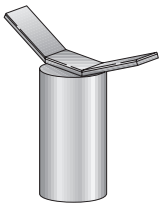
BURNER	KIT CODE
▶ P 140 P/N – P 200 P/N	3000749
▶ P 300 P/N – P 450 P/N	3000750

Cartridge filter

For cleaning heavy oil from dirty particles and impurities, it is equipped with a cartridge system equipped with electronic resistance for oil with 7°E viscosity at 50°C.

BURNER	FILTER CODE
▶ P 140 P/N – P 200 P/N – P 300 P/N – P 450 P/N	3005209

Burner support



For easier maintenance, a mobile burner support has been designed, which means the burner can be dismantled without the need of forklift trucks.

BURNER	SUPPORT CODE
▶ P 300 P/N – P 450 P/N	3000731

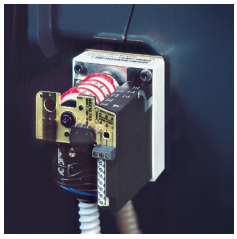
Accessories for modulating operation

To obtain modulating operation, the PRESS P/N series of burners requires a regulator.

BURNER	REGULATOR TYPE	REGULATOR CODE
▶ P 140 P/N – P 200 P/N – P 300 P/N – P 450 P/N	RWF 40	3010211

The relative temperature or pressure probes fitted to the regulator, must be chosen on the basis of the application.

BURNER	PROBE TYPE	RANGE (°C) (bar)	PROBE CODE
▶ P 140 – 200 – 300 – 450 P/N	Temperature PT 100	-100 ÷ 500°C	3010110
▶ P 140 – 200 – 300 – 450 P/N	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
▶ P 140 – 200 – 300 – 450 P/N	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214
▶ P 140 – 200 – 300 – 450 P/N	Pressure 4 ÷ 20 mA	0 ÷ 25 bar	3090873



Depending on the servomotor fitted to the burner, a three-pole potentiometer (1000 Ω) can be installed to check the position of the servomotor.

BURNER	POTENTIOMETER KIT CODE
▶ P 140 P/N – P 200 P/N – P 300 P/N – P 450 P/N	3010021