

TS0074UK03

PRESS P/NA - P/NA ECO Series

Modulating Heavy Oil Burners with Air/Steam Atomizing



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

Heavy oil burner series P/NA is an evolution of the traditional heavy oil modulating burners P/N series.

The new range applies a different technology to replace the usual mechanical atomising (high pressure) by “assisted” air/steam atomising (feed pressure 5-8 bar) and taking the related advantages when burning heavy fuels (even vegetable oil).

The upgraded design has been introduced to meet even the worst fuel qualities and to reach anyway the best achievable combustion performance (lower particulate and NO_x emissions).

The capacity range is suited to cover applications on steam generators designed for production from 1 to 6 tons/hr of steam or an equivalent capacity in case of other kind of boiler.

Reliable and smooth ignition is achieved by LPG pilot burner installed into the combustion head.

The control system includes all safety and operation interlocks, making possible the configuration compliance to the latest design norms on world-wide base (i.e. EN 267 – UL 296 – others), by the available options on request.



Technical Data

MODEL	P 140 P/NA (ECO)	P 200 P/NA (ECO)	P 300 P/NA (ECO)	P 450 P/NA (ECO)
Setting type	Modulating (with regulator and probes accessories) or Two stage progressive			
Modulation ratio to max. output	5 : 1			
Servomotor	type	SQM 10		
	run time s	42		
Heat output	kW	400/800÷1600	570/1140÷2280	683/1710÷3420
	Mcal/h	344/788÷1376	490/980÷1753	587/1471÷2941
Heavy oil delivery	kg/h	35/70÷140	50/100÷200	60/150÷300
Working temperature	°C min./max.	0/40		
FUEL/AIR DATA				
NCV Heavy Oil	kcal/kg	9800		
	kWh/kg	11.4		
	MJ/kg	41		
Medium viscosity version	mm ² /s (cSt)	450 @ 50°C		
Pump	type	SUNTEC E6	SUNTEC E7	SUNTEC E7
	delivery kg/h at 10 bar	250	350	350
High viscosity version	mm ² /s (cSt)	600 @ 50°C (separate 1400 rpm pump + pipes heating cable already installed in factory)		
Pump	type	SUNTEC TA2	SUNTEC TA2	SUNTEC TA3
	delivery kg/h at 10 bar	240	240	350
Atomizing pressure	bar	6		
Fuel temperature	Max. °C	140		
Fan	type	Centrifugal - curved forward blades		
Air temperature	Max. °C	60		
ELECTRICAL DATA				
Electrical supply	Ph/Hz/V	3N/50/400 (±10%) Δ or 3/50/230 (±10%) Δ		
Electrical power consumption	Max. kW	11,5	12,5	25,5
Electrical motor	kW	3	4	9,2
Motor start current	A	51/86	48/83	113/195
Motor running current	A	8/13,5	8,7/15	18,3/31,7
Motor electrical protection	IP	55		
Pump motor electrical power (*)	kW	0,55	0,55	0,75
Rated pump motor current (*)	A	1,8/3,1	1,8/3,1	2,7/4,7
Auxiliary electrical supply	Ph/Hz/V	1/50/230 (±10%)		
Heaters electrical power	kW	7	7	14
Auxiliary electrical power	kW	1,5	1,5	2,4
Electrical protection	IP	40		
Control box	type	LFL 1.335		
Ignition transformer	V1 - V2	230 V - 1x8 kV		
	I1 - I2	1,8 A - 30 mA		
Operation	dB (A)	Intermittent (at least one stop every 24 h)		
EMISSIONS				
Sound pressure	W	86,2	85,4	89,5
Sound power	mg/kWh	--		
CO emission	N° Bacharach	< 150		
Smoke index	mg/Nm ³	< 3		
CxHy emission	mg/kWh	--		
NOx emission level		< 500**		
APPROVAL				
Directive		89/336 - 73/23 EEC		
Conforming to		EN 267		
Certification		--		

(*) For High viscosity versions only.

** Variable values depending on fuel nitrogen content.

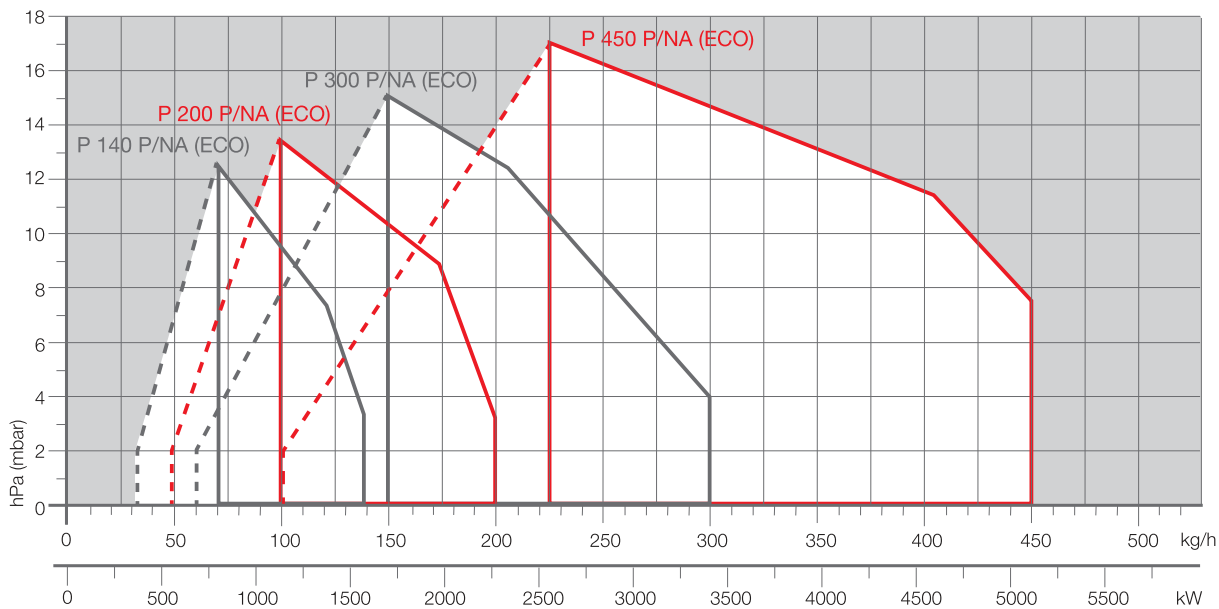
Reference conditions:

Temperature: 20°C - Pressure: 1013,5 mbar - Altitude: 0 m a.s.l.

Sound pressure level measured in manufacturers combustion laboratory, with burner operating on test boiler and at maximum rated output.

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. This document contains confidential and proprietary information of RIELLO S.p.A. Unless authorised, this information shall not be divulged, nor duplicated in whole or in part.

FIRING RATES



□ Useful working field for choosing the burner

--- Modulation range

Test conditions conforming to EN 676:
 Temperature: 20°C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

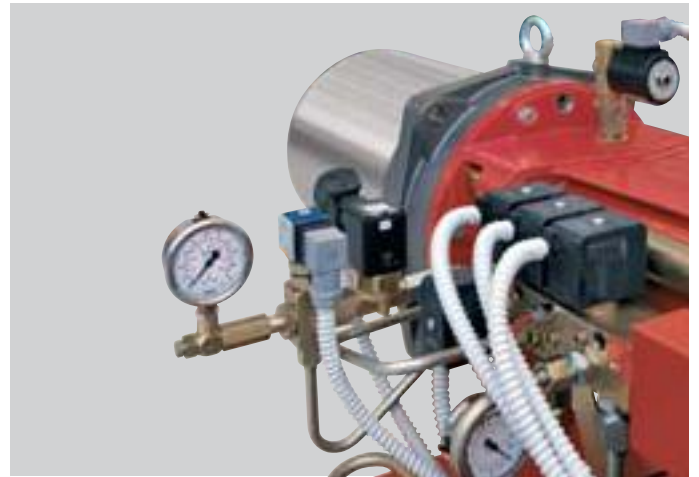


HYDRAULIC CIRCUITS

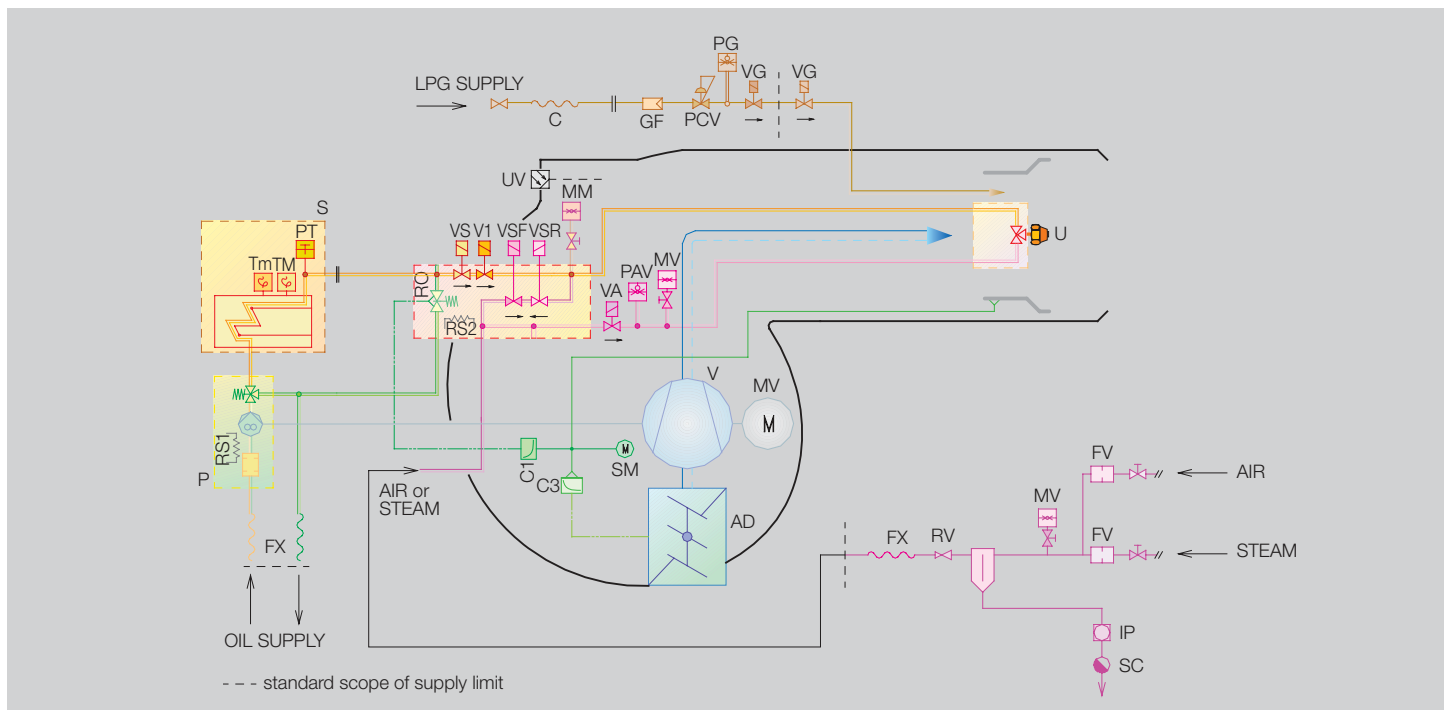
The burners are equipped by a multifunctional fully integrated valve block including: double shut-off fuel valves, oil pressure regulator for oil flow modulation to the nozzle, and two way shut-off valves for nozzle purge (by steam/air) at every burner shut down.

A separate valve is dedicated for the steam/air atomising flow, as standard burner equipment for pressure up to 10 bar and temperature up to 180°C.

For higher steam pressure temperature an alternative valve and arrangement is available as accessory kit.



Example of the hydraulic circuit on PRESS P/NA



AD	Air damper assembly
C	Anti-vibrating joint
Cn	Control cams
GF	Gas filter
MM	Oil delivery gauge
P(MP)	Pump with oil filter and pressure regulator
PCV	Gas governor
PG	Low gas pressure switch
RO	Delivery pressure regulator
RS1	Pump heater resistance
S	Oil pre-heater
SM	Servomotor
U	Nozzle
UV	UV photocell
V(MV)	Supply air fan (air fan motor)
PT	Temperature probe PT100

Tm	Low oil temperature switch
TM	High oil temperature switch
VG	Gas pilot shut-off valve
V1	Oil delivery valve
VS	Oil safety shut-off valve
VSF-VSR	Nozzle purge valves
VA	Atomising air/steam valve
PAV	Air/steam low pressure switch
FX	Flexible hose
MV	Steam pressure gauge
RV	Air/steam pressure regulator
FV	Steam filter
IP	Flow indicator glass
SC	Steam trap
WS	Water separator

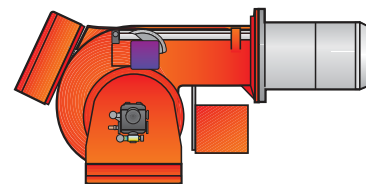
VISCOSITY

The modulating burner P/NA series can burn different heavy oil type from 50 up to 600 cSt @ 50°C (up to 80°E @ 50°C).

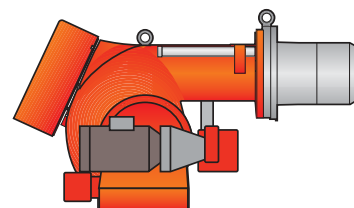
For different viscosity levels Riello recommends 2 different configurations:

- 1) Press P/NA version for viscosity up to 450 Cst (60°E) @ 50°C:
 - with 2800 rpm oil installed directly on fan motor shaft
 - heavy oil cartridges factory installed on nozzles, pump and valves group
- 2) Press P/NA ECO version for viscosity up to 600 Cst (80°E) @ 50°C:
 - with separate 1400 rpm low speed pump
 - heavy oil cartridges factory installed on nozzles, pump and valves group
 - pipes heating cable factory installed.

PRESS P/NA



PRESS P/NA ECO

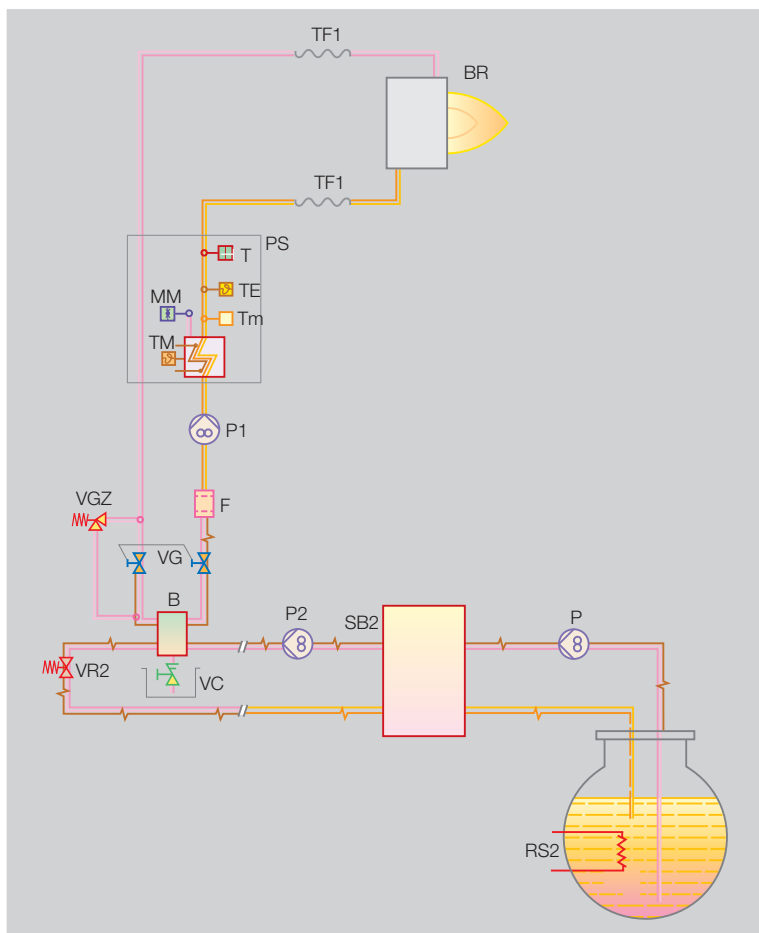


DIMENSIONING OF THE FUEL SUPPLY LINES

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 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 approximately 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
BR	Burner
TF1	Flexible oil line
T	Thermometer
TM	High oil temperature switch
TE	Temperature regulating switch
MM	Oil delivery gauge
VC	Purge valve
F	Oil filter
Tm	Low oil temperature switch



Ventilation

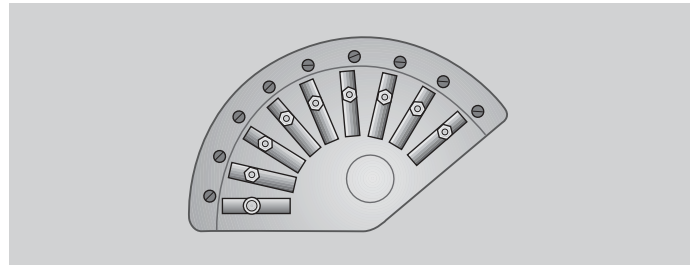
The ventilation circuit is provided with a forward blades centrifugal fan, which guarantees high pressure levels at the required air deliveries and permits installation flexibility.

In spite of the remarkable output power and of the very high pressure performances, structures of PRESS models are extremely compact.

The use of sound proofing boxes help in reducing the noise level.

ADJUSTMENT

A variable profile cam connects fuel and air setting, ensuring full efficiency in all firing rates.



Adjustable cam for setting air/oil ratio

> Combustion Head

Two different lengths of the combustion head can be selected for all the models of the PRESS P/NA burners series.

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.

These burners are equipped with a variable geometry combustion head. The chance to control air speed in combustion head is essential to gain the full advantage of a modulating burner. This function allows optimum combustion performance throughout the working field, ensuring peak combustion efficiency thus saving on fuel consumption.



View of the electric-gas ignition system with LPG pilot burner



View of the electric-gas ignition system with LPG pilot burner

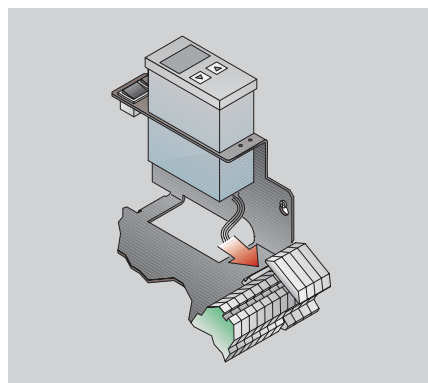


BURNER OPERATION MODE

The PRESS P/NA series of burners can have “two stage progressive” or “modulating” operation.

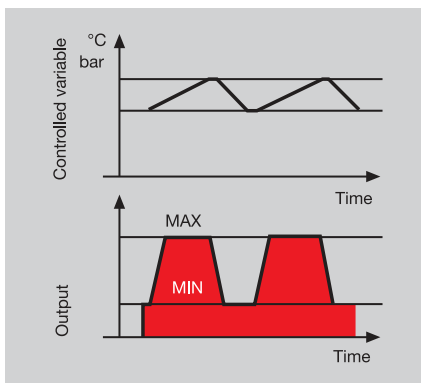
On “two stage progressive” operation, the burner gradually adapts the output to the requested level, by varying between two pre-set levels (see picture A).

On “modulating” operation, normally required in steam generators, in superheater boilers or diathermic oil burners, a specific regulator and probes are required. These are supplied as accessories that must be ordered separately. The burner can work for long periods at intermediate output levels (see picture B).



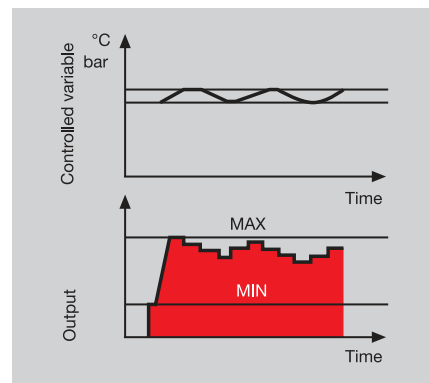
Example of a regulator

“TWO STAGE PROGRESSIVE” OPERATION



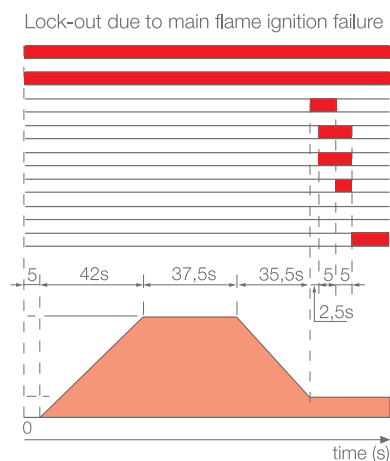
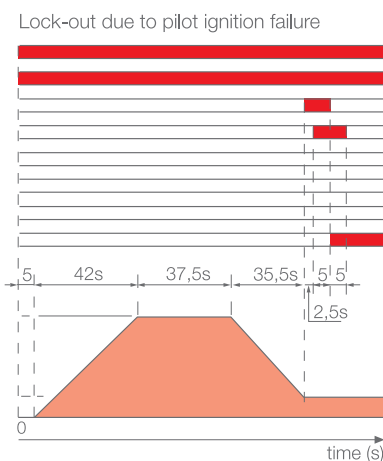
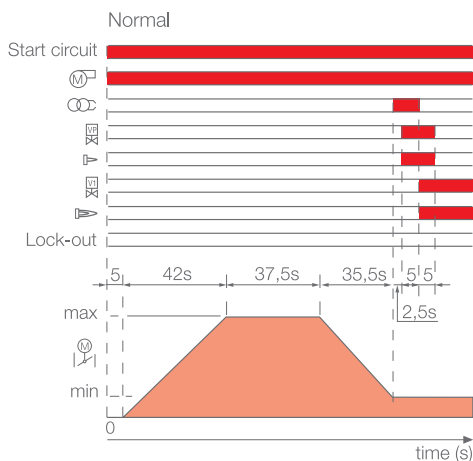
Picture A

“MODULATING” OPERATION



Picture B

START UP CYCLE



- 0" The burner begins the start-up cycle: the motor starts turning.
 - 5"-47" The servomotor opens the air damper at the maximum position.
 - 47"-84,5" Chamber pre-purge phase with air damper open.
 - 84,5"-120" The servomotor takes the air damper to the ignition position.
 - 120" Ignition transformer turns on.
 - 125" Pilot valve opens and pilot burner is ignited and UV cell is activated.
 - 137,5" Main valve opens and main flame detection takes place.
 - 142,5" Pilot flame shuts down.
- At every burner shut-down, nozzle purge valves are activated within 15 seconds.

Burner Wiring

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

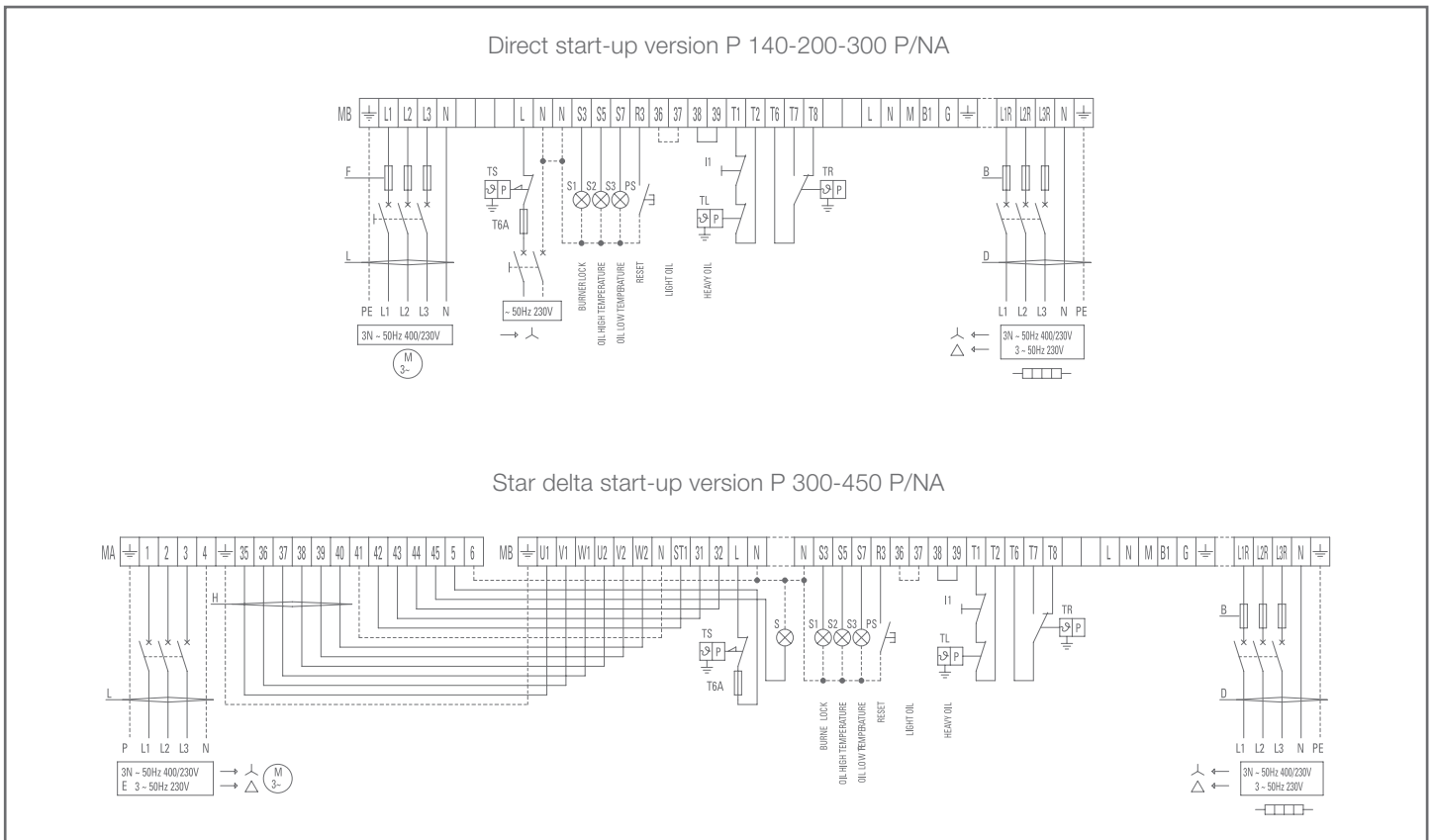


WIRING LAYOUT KEY

MB	Star Delta starter
L, L4, H	Lead section (see table A)
TS	Safety thermostat
S...S3	External lock-out signal
RWF40	Regulator (fitted to the burner)
BP	Pressure probe

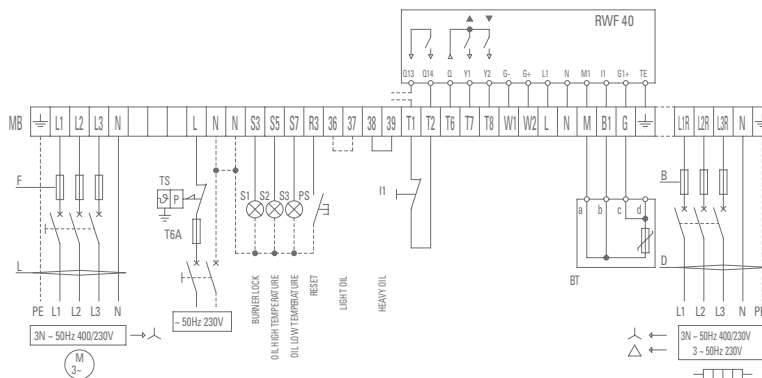
TL	Threshold thermostat
TR	High/low flame setting thermostat
T6A	6A fuse
F, F3	Fuse (see table A)
MA	Star Delta starter
I1	Manual switch

“TWO STAGE PROGRESSIVE” OPERATION

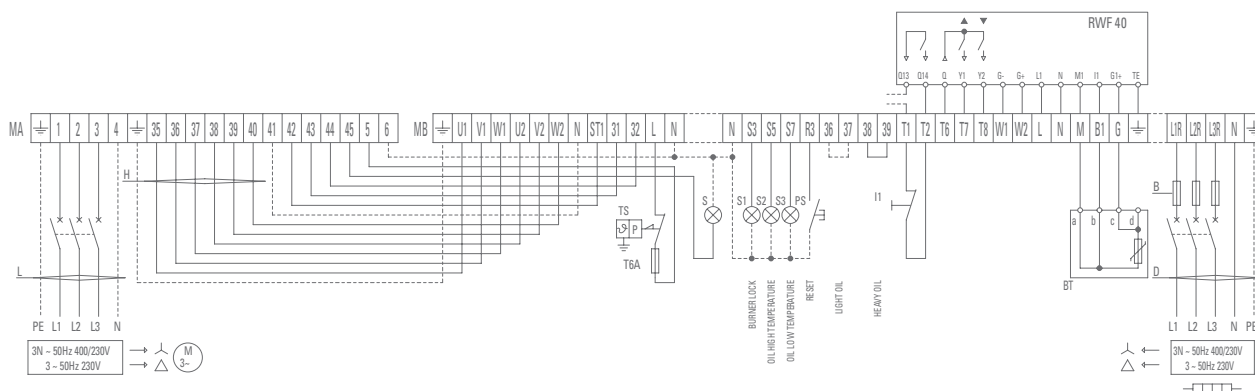


“MODULATING” OPERATION - TEMPERATURE PROBE

Direct start-up version P 140-200-300 P/NA

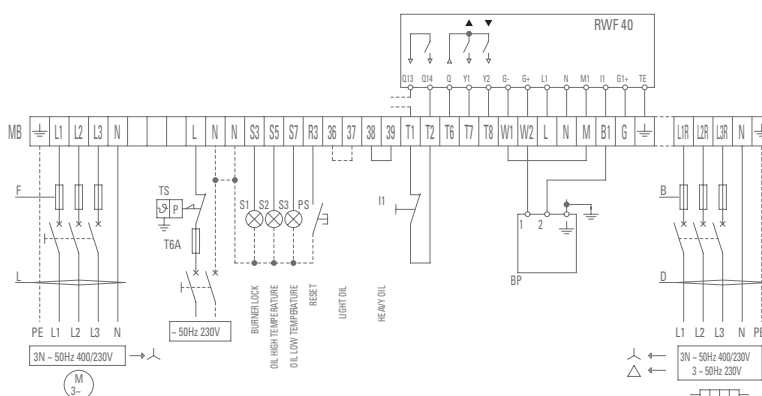


Star delta start-up version P 300-450 P/NA

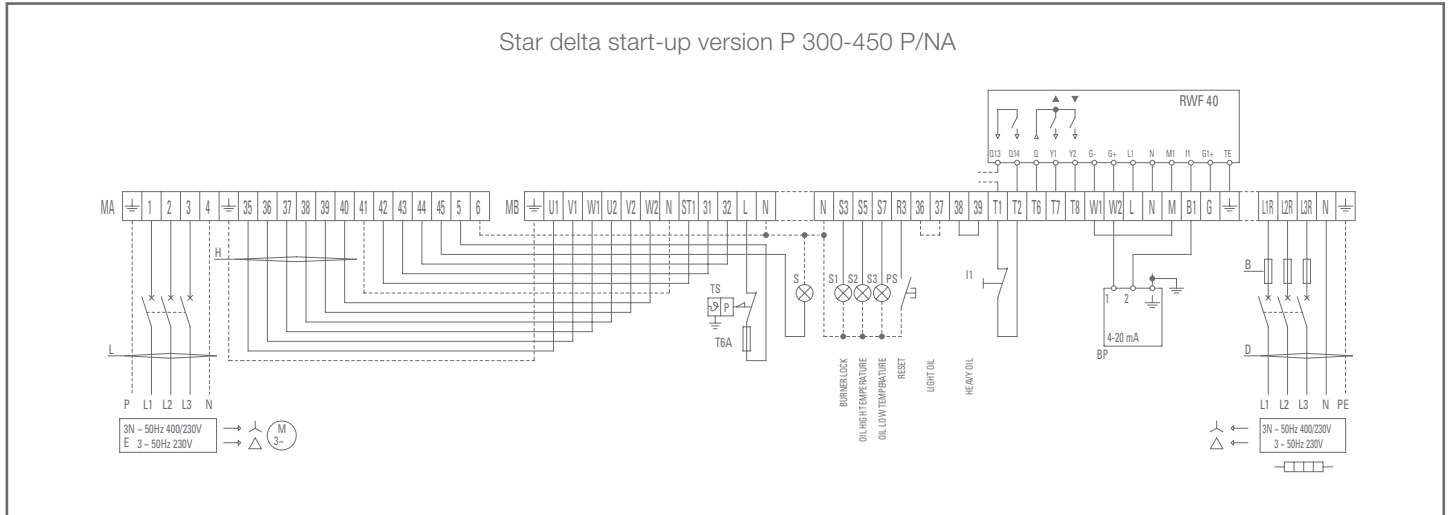


“MODULATING” OPERATION - PRESSURE PROBE

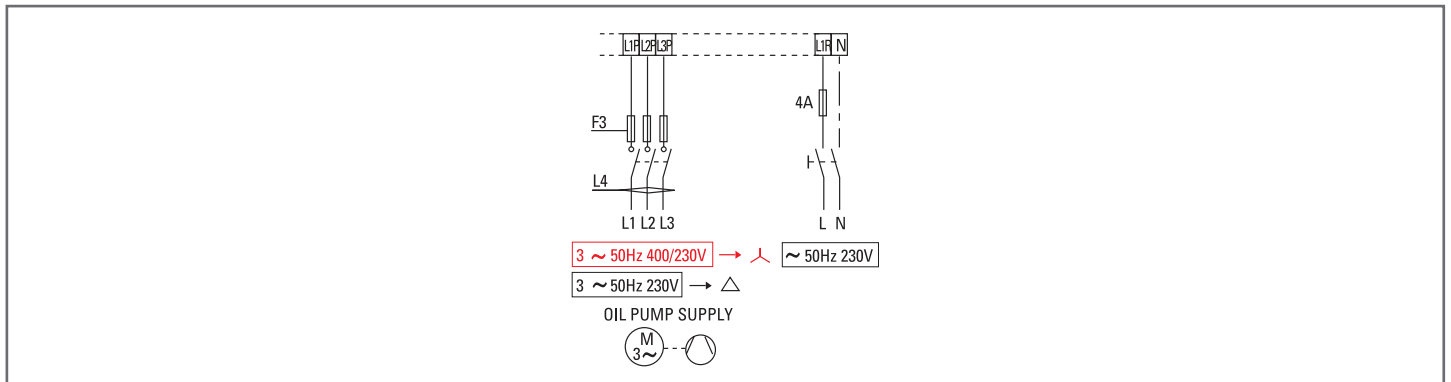
Direct start-up version P 140-200-300 P/NA



“MODULATING” OPERATION - PRESSURE PROBE



PRESS P/NA ECO VERSION (OIL PUMP WIRING DIAGRAM DETAIL)



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

	MODEL	V	F (A)	F3 (A)	L (mm ²)	L4 (mm ²)	H (mm ²)	B (A)	D (mm ²)
DIRECT	▶ P 140 P/NA	230	T16	T10	2,5	1,5	-	25	6
		400	T12	T6	2,5	1,5	-	16	4
	▶ P 200 P/NA	230	T25	T10	4	1,5	-	25	6
		400	T16	T6	2,5	1,5	-	16	4
STAR DELTA	▶ P 300 P/NA	230	T40	T10	6	1,5	-	50	10
		400	T32	T6	4	1,5	-	32	6
	▶ P 300 P/NA	230	-	T10	6	1,5	4	50	10
		400	-	T6	4	1,5	2,5	32	6
▶ P 450 P/NA	230	-	T10	10	1,5	6	63	10	
	400	-	T6	6	1,5	4	50	6	

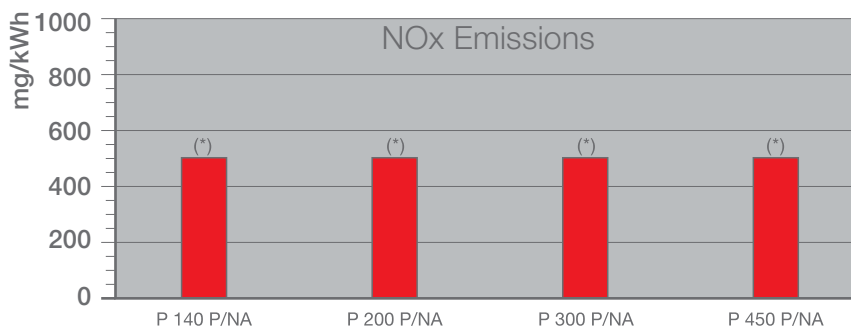
Table A

V = Electrical supply

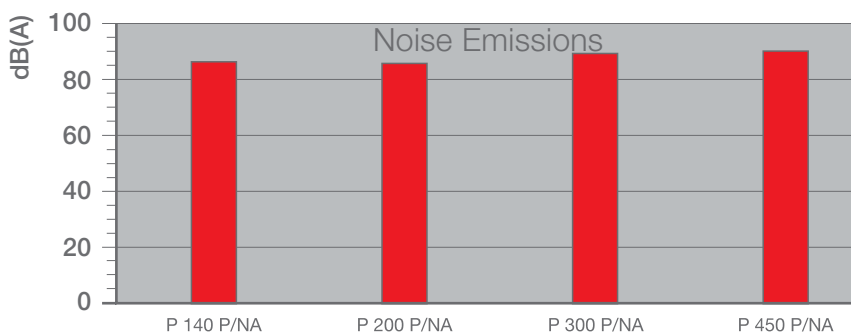
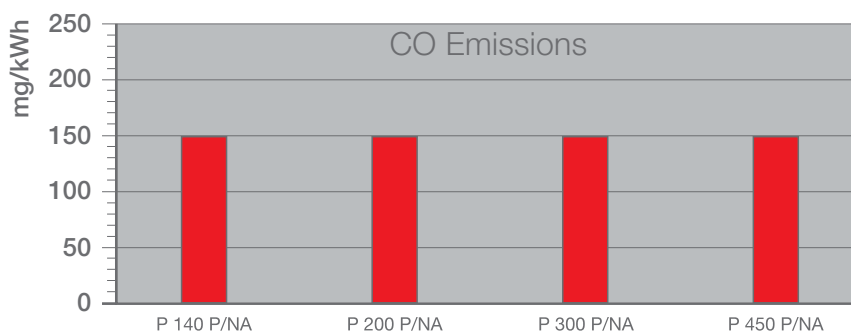
F - B = Fuse

L - H - D = Lead section

The emission data has been measured in the various models at maximum output, according to EN 267 standard.

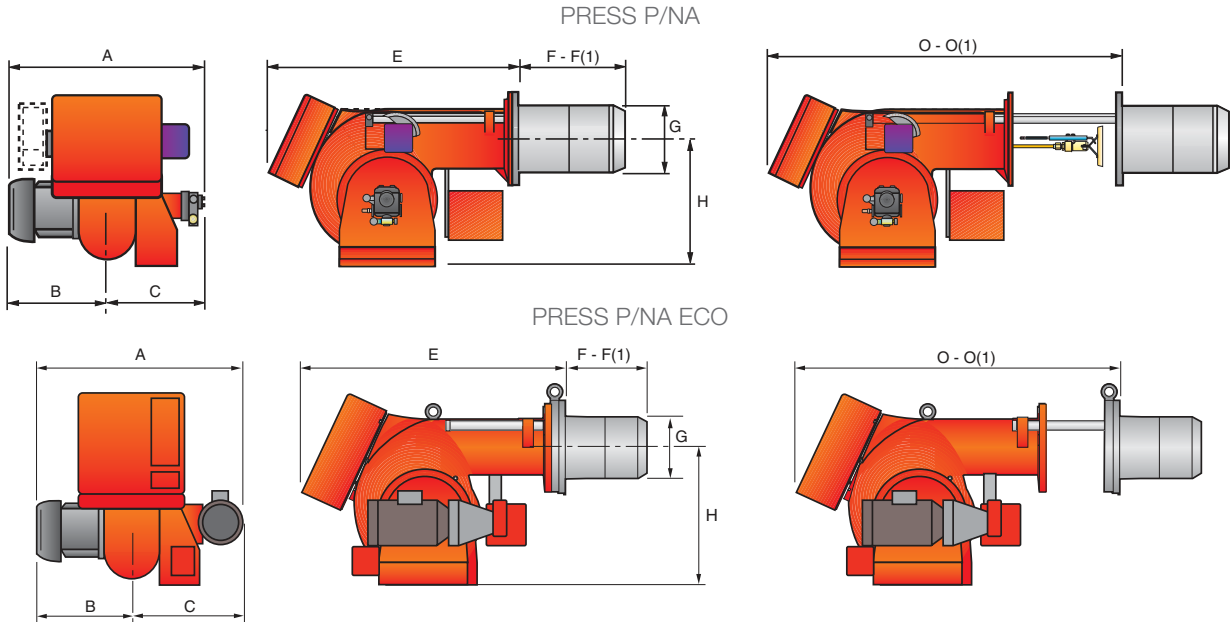


(*) variable values depending on fuel nitrogen content.



Overall Dimensions (mm)

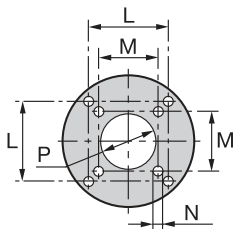
BURNERS



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

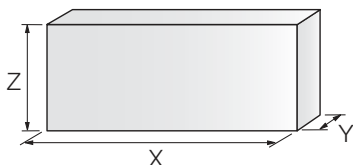
(1) Length with extended combustion head

BURNER - BOILER MOUNTING FLANGE



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

PACKAGING



MODEL	X	Y	Z	kg
▶ P 140 P/NA (ECO)	1500	930	900	180
▶ P 200 P/NA (ECO)	1500	930	900	220
▶ P 300 P/NA (ECO)	1780	1085	990	238
▶ P 450 P/NA (ECO)	1780	1085	990	300

Installation Description

Installation, start-up and maintenance must be carried out by qualified and skilled personnel.
All operations must be performed in accordance with the technical handbook supplied to the burner.

BURNER SETTINGS

All the burners have slide bars, for easier installation and maintenance.

After removing the cover, the split pin and the pin, the nuts and the screws, dismantle the blast tube from the burner of approximately 100-120mm and fix it to the boiler.

Adjust the combustion head.

Refit the burner casing to the slide bars.

Install the nozzle, choosing it on the basis of the maximum boiler output and following the diagrams included in the burner instruction handbook.

Check the position of the electrodes.

Close the burner, fasten the screws, the nuts, the split pin and the pin.

HYDRAULIC AND ELECTRICAL CONNECTIONS AND START UP

The burners are supplied for connection to two pipes fuel supply system; connect the ends of the flexible hoses to the suction and return pipework using the supplied nipples.

Fuel supply temperature: 50-60°C (122-140°F);

Fuel supply pressure: 0,5-1,5 bar (8-20 PSI).

Connect the steam/air supply line.

Air supply pressure: 4-8 bar (60-120 PSI);

Steam supply pressure: 7-10 bar (100-150 PSI).

Connect the LPG supply to pilot line.

Supply pressure at pilot burner inlet: 25-50 mbar (10-20 "W.C.)

Make the electrical connections to the burner following the wiring diagrams included in the instruction handbook.

Prime the pump by turning the motor (after checking rotation direction if it is a three phase motor).

On start up, check:

- Pressure pump and valve unit regulator (to max. and min.)
- Combustion quality, in terms of not-burnt substances and excess air.



Burner Accessories

Available for P/NA and P/NA ECO versions

Y-jet air/steam atomising nozzles

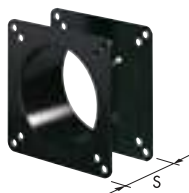


Effective nozzle delivery depends from many factors. Particular small variations of air/steam atomising pressure or viscosity at the nozzle, cause big oil delivery variations. Therefore, to choose the right nozzle it is so necessary to consider all parameters listed in the table below.

NOZZLE 15 AG 45°	VISCOSITY @ NOZZLE	OIL DENSITY	OIL DELIVERY (kg/h)					AIR CONSUMPTION AT 4 bar (kg/h)		SUGGESTED AIR/ STEAM PRESSURE bar	CODE
			cSt	kg/m ³	6 bar	5 bar	4 bar	3 bar	2 bar		
▶ 60	5	850	112	94	75	60	32	2,5	8,4	2	3045000
	10	875	95	80	60	41	20	5,9	13,9	3	
	20	900	75	60	42	25	n.a.*	10	20	4	
	30	925	68	55	36	20	n.a.*	11,3	21,7	4	
▶ 70	5	850	130	110	90	70	36	2,9	9,9	2	3045001
	10	875	111	95	78	48	25	6,8	16	3	
	20	900	88	70	50	30	n.a.*	11,9	23	4	
	30	925	80	64	44	24	n.a.*	13,2	25,4	4	
▶ 80	5	850	150	130	105	80	40	3,3	11,3	2	3045002
	10	875	127	108	85	55	30	7,8	18,3	3	
	20	900	100	80	55	35	n.a.*	13,6	26,2	4	
	30	925	91	73	51	30	n.a.*	15	28,9	4	
▶ 100	5	850	187	158	130	100	50	4,2	14	2	3045003
	10	875	158	135	100	70	35	9,8	22,8	3	
	20	900	126	105	70	40	n.a.*	17	32,7	4	
	30	925	114	91	65	35	n.a.*	18,8	34,2	4	
▶ 130	5	850	243	200	170	130	60	5,4	18,3	2	3045004
	10	875	206	173	130	95	40	12,7	29,7	3	
	20	900	163	131	90	55	n.a.*	22	42,6	4	
	30	925	148	118	82	45	n.a.*	24,4	47	4	
▶ 160	5	850	299	260	210	160	80	6,7	22,5	2	3045005
	10	875	253	215	170	115	50	15,7	36,5	3	
	20	900	201	161	115	65	n.a.*	27,1	52,4	4	
	30	925	182	145	102	58	n.a.*	30	57,9	4	
▶ 200	5	850	374	330	260	215	105	8,3	28,1	2	3045006
	10	875	317	270	215	145	60	19,6	45,7	3	
	20	900	252	203	140	85	n.a.*	33,9	65,5	4	
	30	925	228	182	120	70	n.a.*	37,5	72,4	4	
▶ 225	5	850	421	365	285	220	110	9,4	31,7	2	3045007
	10	875	357	311	240	160	70	22,1	51,4	3	
	20	900	280	225	156	100	n.a.*	38,2	73,7	4	
	30	925	256	205	141	60	n.a.*	42,2	81,4	4	
▶ 250	5	850	468	410	340	250	120	10,4	35,2	2	3045008
	10	875	396	340	270	180	80	24,5	57,1	3	
	20	900	315	252	175	110	n.a.*	42,4	81,9	4	
	30	925	285	228	150	85	n.a.*	46,8	90,5	4	
▶ 275	5	850	514	430	360	270	130	11,5	38,6	2	3045009
	10	875	436	365	300	190	85	27	62,8	3	
	20	900	346	277	193	120	n.a.*	46,7	90	4	
	30	925	313	250	175	95	n.a.*	51,6	99,5	4	
▶ 300	5	850	560	470	400	300	150	11,5	38,6	2	3045010
	10	875	476	410	340	200	90	29,3	68,5	3	
	20	900	378	302	210	130	n.a.*	51	98,2	4	
	30	925	342	273	190	100	n.a.*	56,3	108,6	4	

* This matching is not available.

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/NA - P 200 P/NA	110	3000722
▶ P 300 P/NA	130	3000723
▶ P 450 P/NA	130	3000751

Sound proofing box



If noise emission needs reducing even further, sound-proofing boxes are available.

BURNER	BOX TYPE	AVERAGE NOISE REDUCTION [dB(A)] (*)	BOX CODE
▶ P 140 P/NA - P 200 P/NA	C4/5	10	3010404
▶ P 300 P/NA - P 450 P/NA	C7	10	3010376

(*) 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

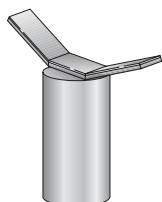
Cartridge filter



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

BURNER	FILTER CODE
▶ P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	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/NA - P 450 P/NA	3000731

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/NA - P 200 P/NA	3000748
► P 300 P/NA - P 450 P/NA	3010012

Accessories for modulating operation



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

BURNER	REGULATOR TYPE	REGULATOR CODE
► P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	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/NA	Temperature PT 100	-100 ÷ 500°C	3010110
► P 140 - 200 - 300 - 450 P/NA	Pressure 4 ÷ 20 mA	0 ÷ 2,5 bar	3010213
► P 140 - 200 - 300 - 450 P/NA	Pressure 4 ÷ 20 mA	0 ÷ 16 bar	3010214



Depending on the servomotor fitted to the burner, a three-pole potentiometer (0÷1000 W) can be installed to check the servomotor position. The kits available for the various burners are listed below:

BURNER	POTENTIOMETER KIT CODE
► P 140 P/NA - P 200 P/NA - P 300 P/NA - P 450 P/NA	3010021

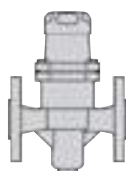
Gas/LPG Pressure regulator and SSOV for pilot burner (inlet pressure 0,5-7 bar)



To be applied on gas/LPG bottle when not already available.

TYPE	CODE
► HPR 1910	3010405

Air/steam pressure regulator



To be installed on the air/steam supply line according to supply system.

TYPE	CODE
► BRV	3010406

Steam valve over 10 bar or 180°C



To be applied for pressure from 10 to 15 bar or temperature from 180°C to maximum 200°C.

TYPE	CODE
► ODE	3010407

Water separator bottle



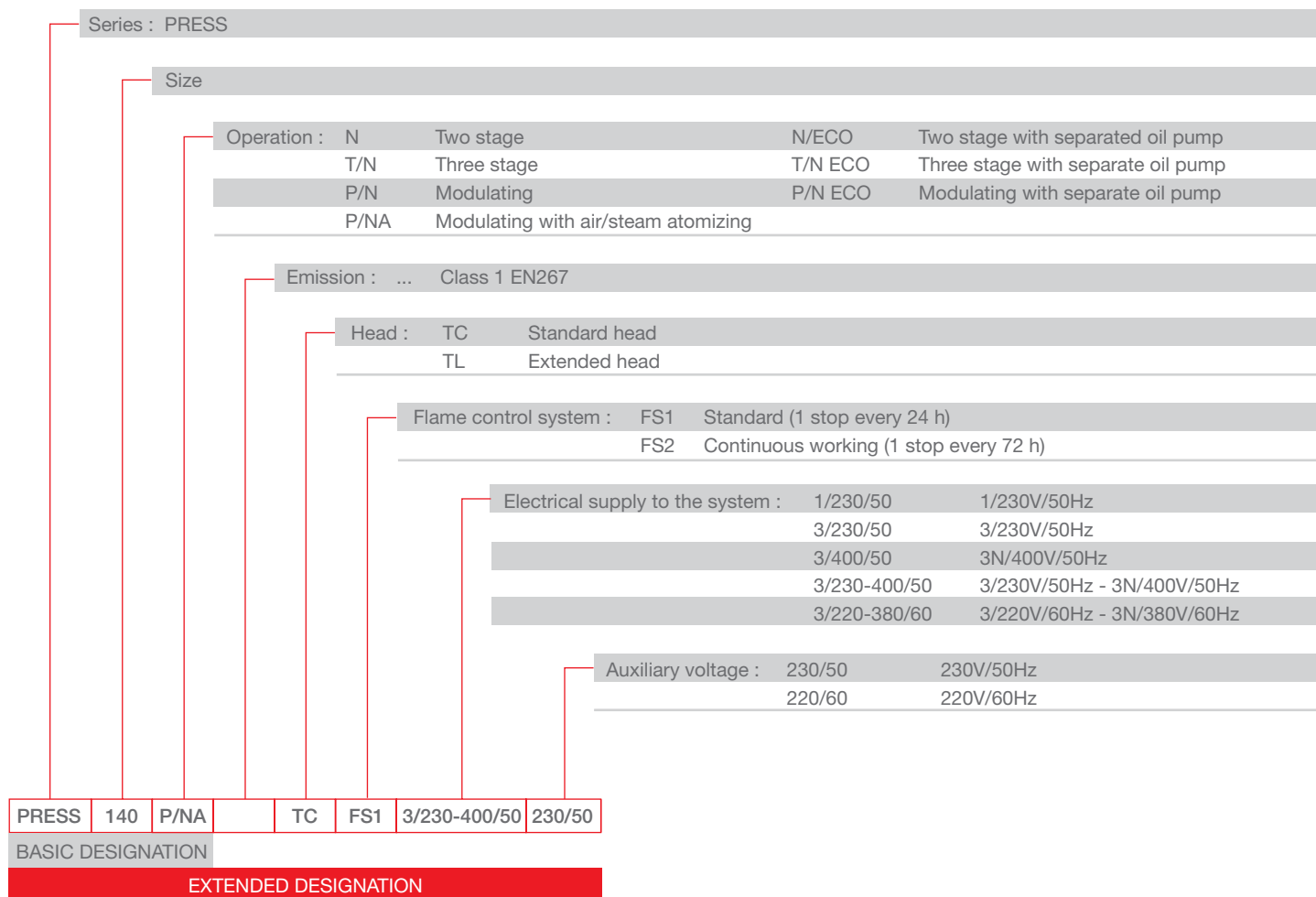
To be installed on the air/steam supply line in order to prevent water droplets to the nozzle supply.

TYPE	CODE
► WSB	3010408

Specification

DESIGNATION OF SERIES

A specific index guides your choice of burner from the various models available in the PRESS P/NA series. Below there is a clear and detailed specification description of the product.



AVAILABLE BURNER MODELS

P 140 P/NA (ECO)	TC	3/230-400/50	230/50
P 140 P/NA (ECO)	TL	3/230-400/50	230/50
P 140 P/NA (ECO)	TL	3/220-380/60	220/60
P 200 P/NA (ECO)	TC	3/230-400/50	230/50
P 200 P/NA (ECO)	TL	3/230-400/50	230/50
P 200 P/NA (ECO)	TC	3/220-380/60	220/60
P 200 P/NA (ECO)	TL	3/220-380/60	220/60
P 300 P/NA (ECO)	TC	3/230-400/50	230/50
P 300 P/NA (ECO)	TL	3/230-400/50	230/50
P 300 P/NA (ECO)	TC	3/220-380/60	220/60

P 300 P/NA (ECO)	TL	3/220-380/60	220/60
P 300 P/NA (ECO)	TC	3/400/50	230/50
P 300 P/NA (ECO)	TL	3/400/50	230/50
P 300 P/NA (ECO)	TC	3/380-440/60	220/60
P 300 P/NA (ECO)	TL	3/380-440/60	220/60
P 450 P/NA (ECO)	TC	3/400/50	230/50
P 450 P/NA (ECO)	TL	3/400/50	230/50
P 450 P/NA (ECO)	TC	3/380-440/60	220/60
P 450 P/NA (ECO)	TL	3/380-440/60	220/60

Ask specific code for "ECO" models. Other models are available on request.

PRODUCT SPECIFICATION

Burner

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 vacuumeter
 - internal by-pass for single pipe installation
- Heavy oil kit cartridges
- Oil pump motor at 1400 rpm (P/NA ECO version)
- Valve unit with a double oil safety valve on the output circuit
- LPG pilot burner ignition
- Electrical preheater for heavy oil
- Safety oil pressure switch
- Photocell for flame detection
- Flame control panel, fitted with control function for the correct positioning of the servomotor and possibility of post-ventilation by just changing the electric wiring
- Flame inspection window
- Slide bars for easier installation and maintenance
- Protection filter against radio interference
- IP 40 electric protection level.

Conforming to:

- 89/336/EC directive (electromagnetic compatibility)
- 73/23/EEC directive (low voltage).

Standard equipment:

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

* for versions with star-delta starting

Available accessories to be ordered separately:

- Y-jet air/steam atomising nozzles
- Spacer kit
- Sound-proofing box
- Selfcleaning filter
- Cartridge filter
- Burner support
- Gas separator bottle
- RWF 40 output regulator
- Pressure probe 0÷2,5 bar
- Pressure probe 0÷16 bar
- Temperature probe -100÷500°C
- Potentiometer kit for the servomotor
- Gas/LPG Pressure regulator for pilot burner (inlet pressure > 500 mbar)
- Air/steam pressure regulator
- Steam valve over 10 bar or 180°C
- Water separator bottle.

Special configuration on demand

- Pipes heating cable on P/NA ECO models
- Steam oil pre-heater on P/NA ECO models.

RIELLO s.p.A.

Via Ing. Pilade Riello, 5
37045 Legnago (VR) Italy

Tel. +39.0442.630111 - Fax +39.0442.21980

www.rielloburners.com - info@rielloburners.com

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.
This document contains confidential and proprietary information of RIELLO S.p.A. Unless authorised, this information shall not be divulged, nor duplicated in whole or in part.



Riello Burners is a brand of Riello Group.