



BURNERS
BRULEURS
BRENNER
QUEMADORES
BRUCIATORI

**MANUAL OF
- INSTALLATION
- OPERATION
- MAINTENANCE**

HEAVY OIL BURNERS

PN30

SINGLE STAGE VERSION

M03930CC Rev. 02 06/01

TECHNICAL DATA

BURNER		PN30
Input	min. kcal/h	140.000
	max. kcal/h	300.000
	min. kW	163
	max. kW	349
Oil rate	min. Kg/h	14
	max. Kg/h	30
Fuel		heavy oil
Power supply	V	230/400
Frequency	Hz	50
Motor 2800 rpm	kW	0.74
Pre-heater resistor	kW	2.4
Total electrical power	kW	3.65
Weight	Kg	60
Operation		single stage
Destination country		*

BURNER MODEL IDENTIFICATION

Burners are identified by burner type and model. Burner model identification is described here following.

Type: PN30	Model:	N-	TN.	S.	IT.	A.
(1)		(2)	(3)	(4)	(5)	(6)
(1) BURNER TYPE						
(2) FUEL				N - Heavy oil, viscosity up to 7° E at 50° C		
				E - Eco heavy oil (environmental friendly), viscosity 12 °E at 50°C		
				D - Heavy oil, viscosity up to 50° E at 50° C		
(3) OPERATION	Available versions			AB - Double stage		
(4) BLAST TUBE LENGHT	(See overall dimensions)					
	Available versions			S - Standard		
				L - Long		
(5) DESTINATION COUNTRY				* - see data plate		
(6) SPECIAL VERSIONS				A - Standard E - with junction box		
				Y - SpecialeM - Wall mounting electrical board		
				G - Floor standing electrical board and junction box		

OVERALL DIMENSIONS

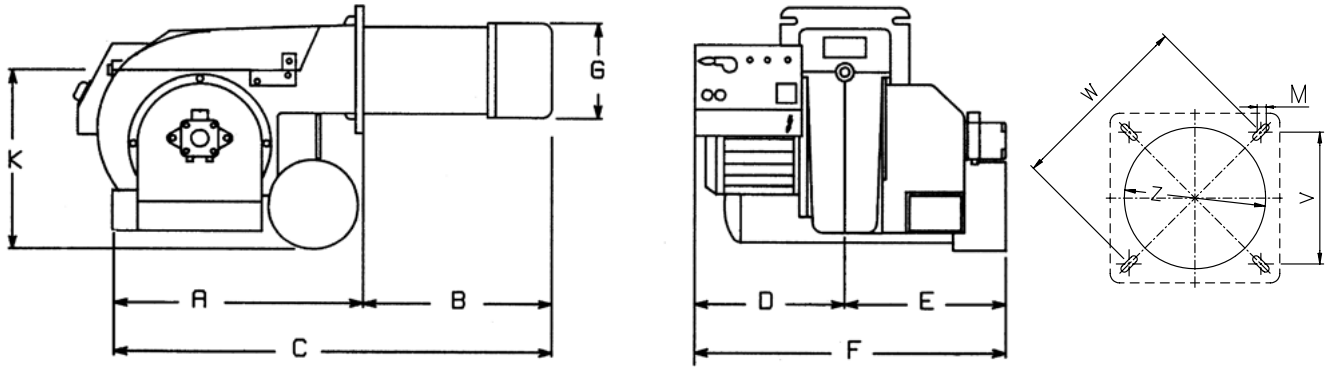
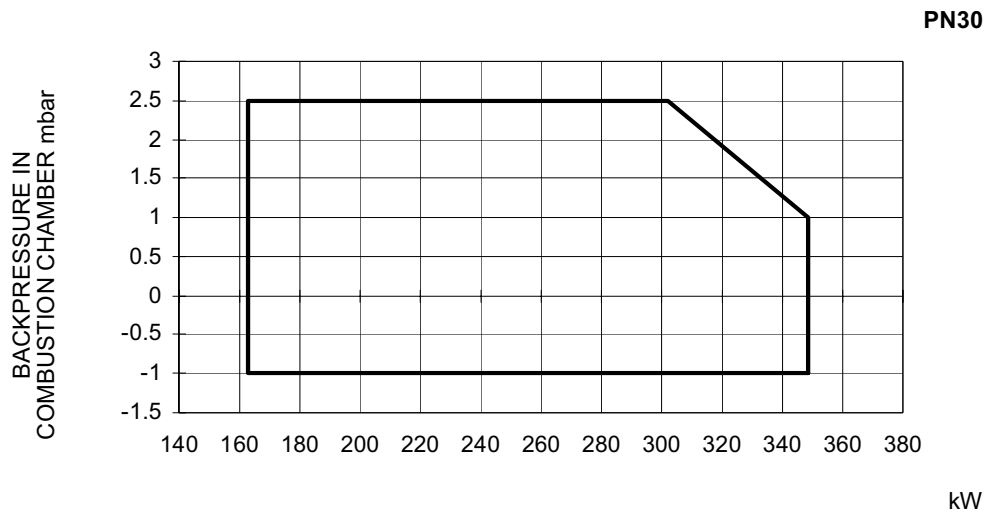


Fig. 4

	A	B	BL	C	CL	D	E	F	G	K	Z	V	W	M
PN30	520	160	350	680	870	270	450	720	131	400	160	155	219	M10

PERFORMANCE CURVE





PN30
PN60 - PN70
PN81 - PN91 - PN92

Double-stage
Heavy oil Burners

MANUAL OF INSTALLATION - USE - MAINTENANCE

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M03973CF Rel.5.2 07/2011

PART I: INSTALLATION

Burner model identification

Burners are identified by burner type and model. Burner model identification is described as follows.

Type (1)	PN70 (1)	Model (1)	N- (2)	AB. (3)	S. (4)	*. (5)	A. (6)
(1) BURNER TYPE	PN30-PN60-PN70-PN81-PN91-PN92						
(2) FUEL TYPE	N - Heavy oil, viscosity ≤ 50cSt (7° E) @ 50° C E - Heavy oil, viscosity ≤ 110cSt (15° E) @ 50° C D - Heavy oil, viscosity ≤ 400cSt (50° E) @ 50° C P - Petroleum, viscosity 89cSt (12° E) @ 50° C						
(3) OPERATION	AB - Double stage						
(4) BLAST TUBE	S – Standard L – Extended						
(5) DESTINATION COUNTRY	* - see data plate						
(6) SPECIAL VERSION	A - Standard						

Specifications

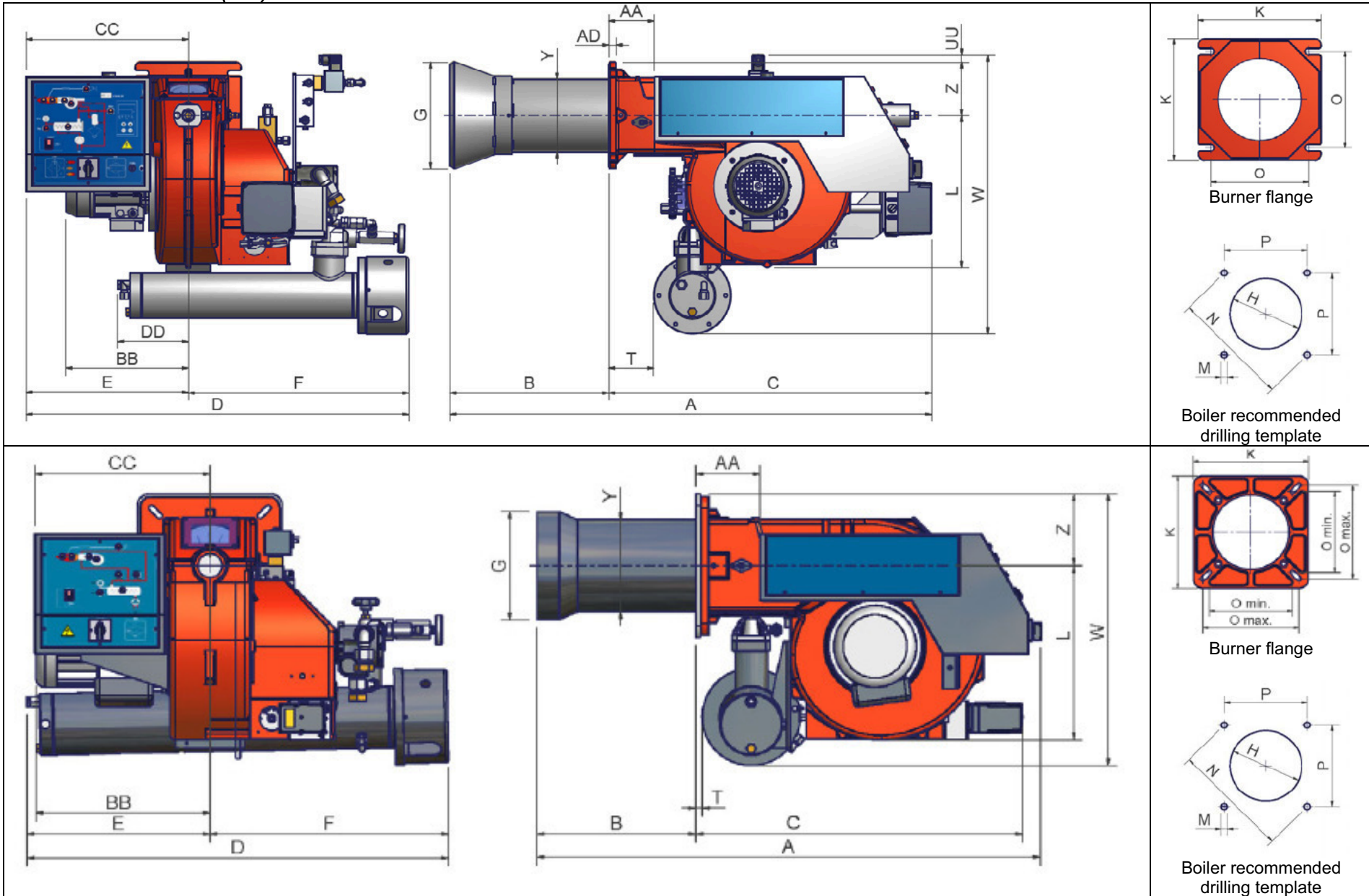
BURNER TYPE		PN30	PN60	PN70	PN81	PN91	PN92
Output	min-max kW	105-383	145-698	291-1047	264-1900	1047-2093	849 - 2558
Fuel		Heavy oil					
Viscosity		See "Burner model identification" table					
Heavy oil rate	min-max kg/h	9-33	12.5-60	25-90	23.5-169	93-187	76- 228
Oil train inlet pressure (viscosity ≤ 50 cSt (7 °E) @ 50 °C)	bar	1.5max					
Oil train inlet pressure (viscosity ≤ 400 cSt (50 °E) @ 50 °C)	bar	3.5max					
Power supply		230/400V 50Hz					
Electric motor	kW	0.75	1.1	2.2	3	4	5.5
Pre-heater resistors (heavy oil)	kW	2.4	4.5	8	12	18	18
Pre-heater resistors (petroleum)	kW	2.4	4.5	4.5	4.5	8	12
Total power consumption (Heavy oil)	kW	3.65	6.1	10.7	15.5	22.5	24
Total power consumption (petroleum)	kW	3.65	6.1	7.2	8.0	12.5	18
Approx. weight	kg	60	90	110	130	190	230
Operation		Double-stage					
Operating temperature	°C	-10 ÷ +50					
Storage temperature	°C	-20 ÷ +60					
Working service *		Intermittent					

Heavy oil net calorific value (Hi): 40.4 kcal/kg (average value)

*. NOTE ON THE BURNER WORKING SERVICE:

- Burners provided with Siemens LOA24 control box: for safety reasons, one controlled shutdown must take place every 24 hours.
- Burners provided with Siemens LMO24-44 control box: the control box automatically stops after 24h of continuous working. The control box immediately starts up, automatically.

Overall dimensions (mm)

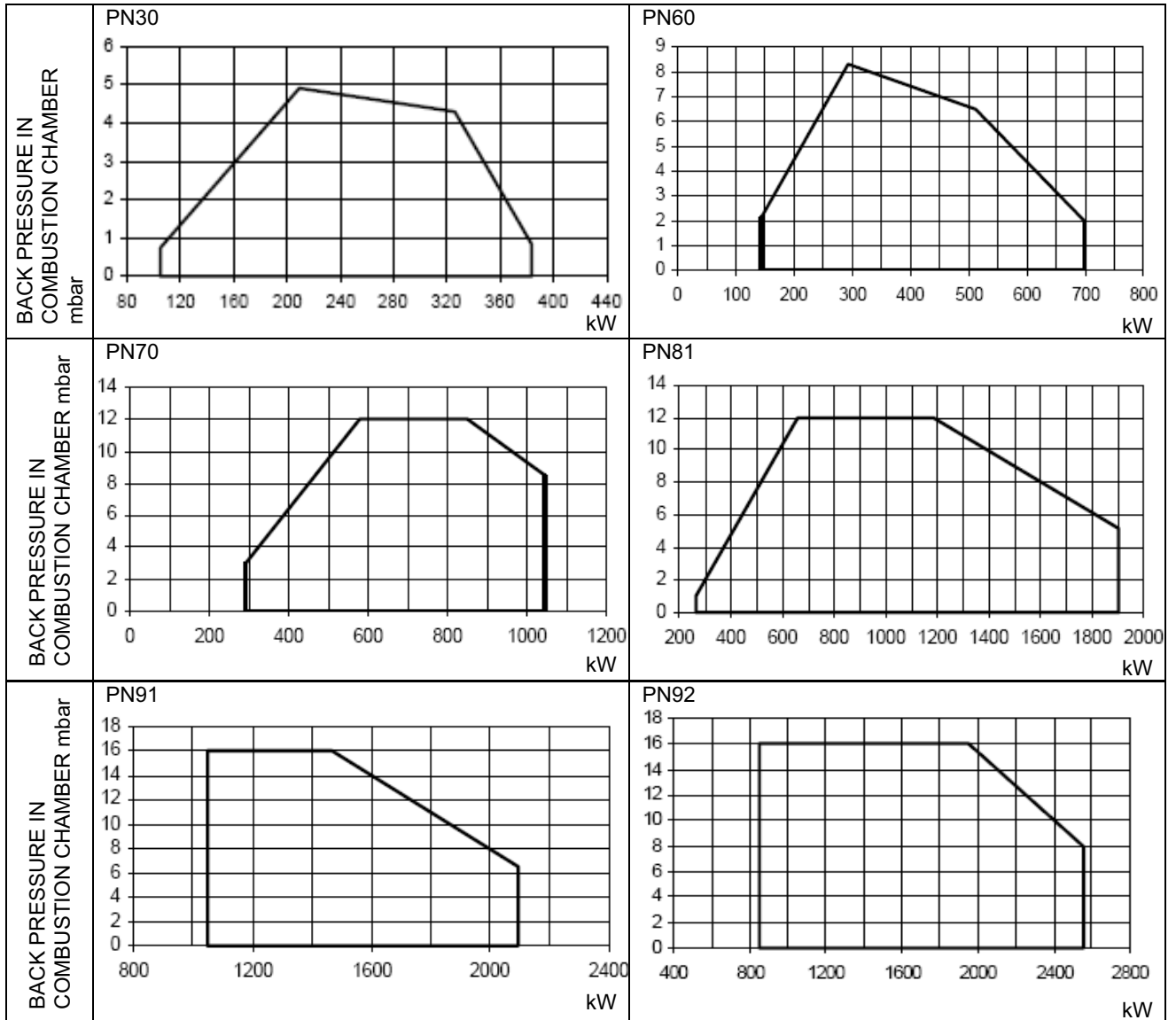


	AS*	AL*	AA	BS*	BL*	BB	C	CC	D	DD	E	F	G	H	K	L	M	N	O - min	O - max	P	T	W	Y	Z
PN30	670	860	x	150	340	x	520	x	720		270	450	121	151	190	400	M10	219	155	155	x	x	x	131	x
PN60	864	1062	102	244	442	274	620	365	660	159	330	330	153	182	240	400	M10	269	190	190	190	92	520	162	120
PN70	1106	1256	138	407	557	373	699	376	871	x	360	511	220	250	300	475	M10	330	216	250	233	14	630	198	155
PN81	1080	1230	138	340	490	373	699	376	903	392	392	511	234	264	300	376	M10	330	216	250	233	14	587	198	155
PN91	1315	1505	157	298	488	419	918	532	1052	356	532	520	262	292	360	464	M12	417	280	310	295	45	722	228	185
PN92	1318	1508	157	301	491	419	918	532	1052	356	532	520	292	322	360	464	M12	417	280	310	295	45	722	228	185

*AS/BS = measure referred to burners provided with standard blast tube

*AL/BL = measure referred to burners provided with extended blast tube

Performance curves



To get the input in kcal/h, multiply value in kW by 860.

Data are referred to standard conditions: atmospheric pressure at 1013mbar, ambient temperature at 15°C.

NOTE: The performance curve is a diagram that represents the burner performance in the type approval phase or in the laboratory tests, but does not represent the regulation range of the machine. On this diagram the maximum output point is usually reached by adjusting the combustion head to its "MAX" position (see paragraph "Adjusting the combustion head"); the minimum output point is reached setting the combustion head to its "MIN" position. During the first ignition, the combustion head is set in order to find a compromise between the burner output and the generator specifications, that is why the minimum output may be different from the Performance curve minimum.



PN60
PN70
PN81

Heavy oil burners
Progressive/Fully-modulating

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PART I - INSTALLATION

Burner model identification

Burners are identified by burner type and model. Burner model identification is described as follows.

Type PN60 (1)	Model	N- (2)	PR. (3)	S. (4)	*. (5)	A. (6)
(1) BURNER TYPE		PN60				
(2) FUEL		N – heavy oil, viscosity ≤ 50 cSt (7°E) @ 50° C E – heavy oil, viscosity ≤ 110 cSt (15°E) @ 50° C D - heavy oil, viscosity ≤ 400 cSt (50°E) @50° C P – petroleum, viscosity 89 cSt (12°E) @50° C				
(3) OPERATION		PR - Progressive MD – Fully-modulating				
(4) BLAST TUBE		S - standard				
(5) DESTINATION COUNTRY		* - see burner ID plate				
(6) EQUIPMENT		A – standard Y - special				

Specification

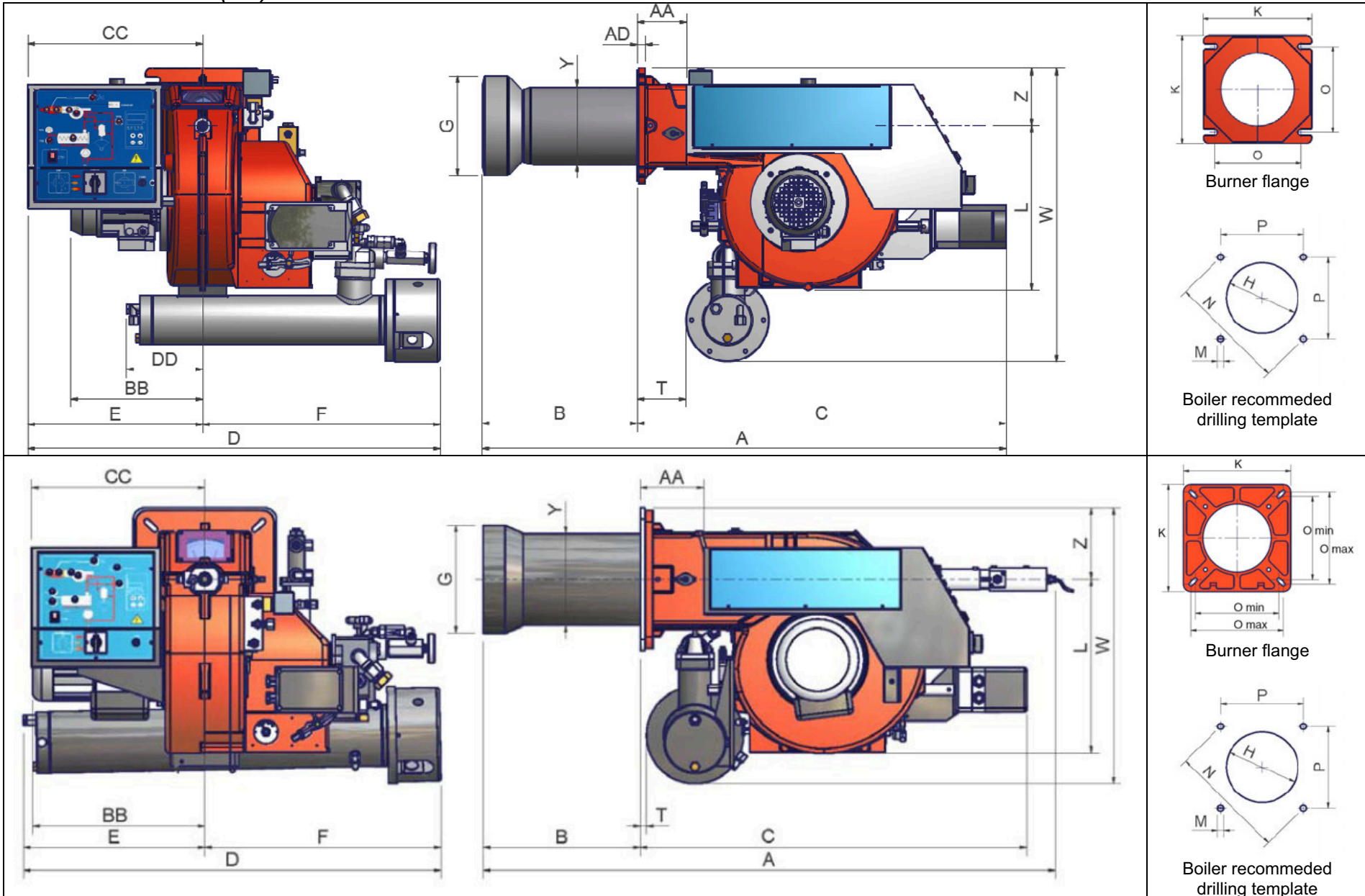
BRUCIATORI		PN60	PN70	PN81
Output	min - max kW	151-791	291-1047	264-1900
Fuel		Heavy oil		
Oil viscosity		See "Burner model identification"		
Oil flow rate	min. - max. kg/h	13.5 - 70	26 - 93	23.5 - 169
Oil train inlet pressure (viscosity ≤ 50cSt)	bar	1.5 max		
Oil train inlet pressure (viscosity > 50cSt)	bar	2.5 max		
Power supply		230/400V 3N ~ 50Hz		
Total power consumption (heavy oil)	kW	6.1	10.7	15.5
Total power consumption (petroleum)	kW	6.1	10.7	11.5
Fan motor	kW	1.1	2.2	3
Pre-heater resistor (heavy oil)	kW	4.5	8	12
Pre-heater resistor (petroleum)	kW	4.5	8	8
Protection		IP40		
Approx. weight	kg	130	155	155
Operation		Progressive - Fully-modulating		
Operating temperature	°C	-10 ÷ +50		
Storage Temperature	°C	-20 ÷ +60		
Working service*		Intermittent		

Heavy oil net calorific value (Hi): 41.29 MJ/kg.

* NOTE ON THE BURNER WORKING SERVICE

Burners provided with Siemens LOA control box: for safety reasons, one controlled shutdown must take place every 24 hours.
Burners provided with Siemens LMO control box: the control box automatically stops after 24h of continuous working. The control box immediately starts up, automatically.

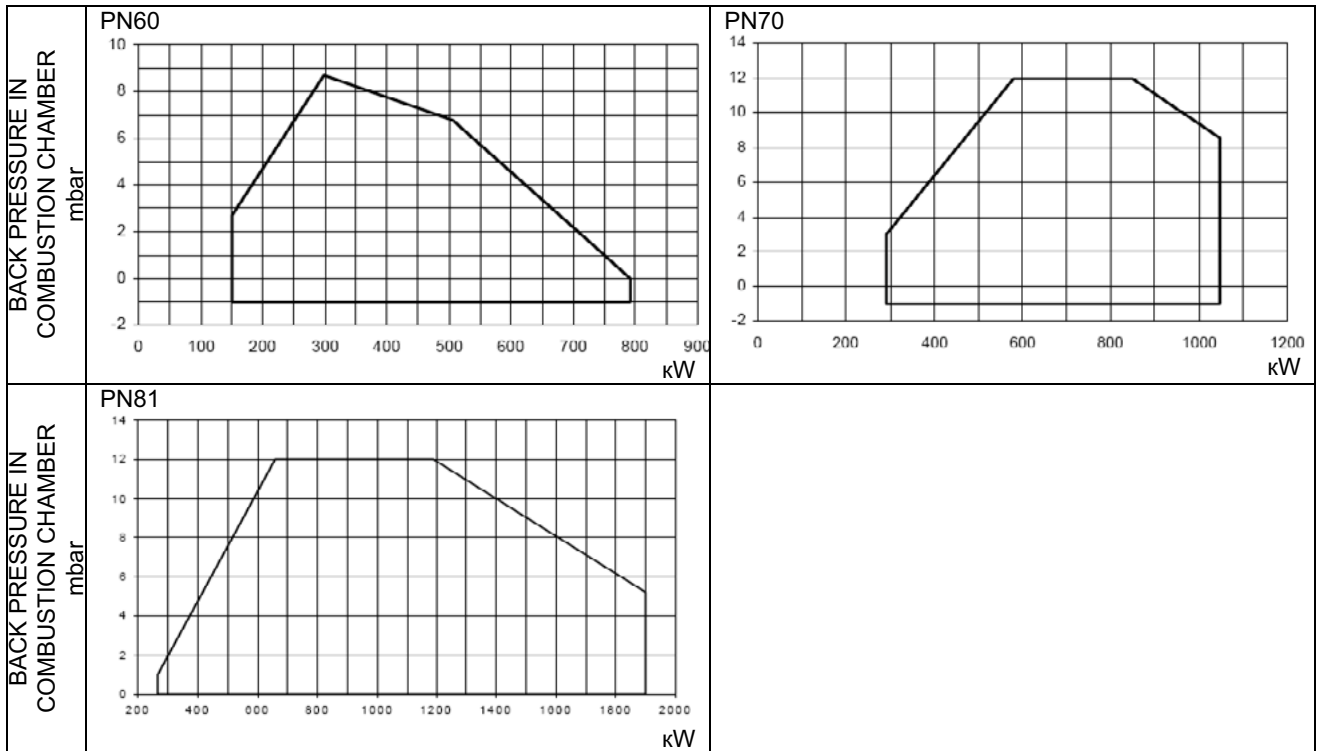
Overall dimensions (mm)



	A	A (AL)	AA	B	B (BL)	BB	C	CC	D	DD	E	F	G	H	K	L	M	N	O min	O max	P	T	W	Y	Z
PN60	1051	1186	102	324	459	274	727	365	861	159	365	496	208	238*	240	344	M10	269	190	190	190	92	613	162	120
PN70	1244	1394	138	407	557	373	837	376	871	x	360	511	220	250	300	475	M10	330	216	250	233	14	630	198	155
PN81	1239	1389	138	340	490	373	837	376	903	392	392	511	234	264	300	376	M10	330	216	250	233	14	598	198	155

* ATTENTION: it is recommended to mount a counterflange between burner and boiler.

Performance curves



To get the input in kcal/h, multiply value in kW by 860.

Data are referred to the following conditions: 1013mbar atmospheric pressure, 15°C ambient temperature.

NOTE: The performance curve is a diagram that represents the burner performance in the type approval phase or in the laboratory tests, but does not represent the regulation range of the machine. On this diagram the maximum output point is usually reached by adjusting the combustion head to its "MAX" position (see paragraph "Adjusting the combustion head"); the minimum output point is reached setting the combustion head to its "MIN" position. During the first ignition, the combustion head is set in order to find a compromise between the burner output and the generator specifications, that is why the minimum output may be different from the Performance curve minimum.