

## **GAS P70/2CE - GAS P100/2CE - GAS P150/2CE-03 - GAS P150/2CE**

Gas burners two stages with: die-cast aluminum body, fan at high pressurisation and combustion head with adjustment at high efficiency and high flame stability.

Compact overall dimensions and disposition rationalized of the components with accessibility facilitated for the operations of setting and maintenance.

Available in the versions METHANE (natural gas) or L.P.G. (to specify at the order) on demand specific versions for town gas, coal gas or biogas.

Gas train completely assembled, electrically linked and tested; complete of two stages working valve with flow adjustment, safety valve, minimum gas pressure switch and stabiliser filter of gas pressure.

Complete of flange and gasket for installation on generator.



**Fig. 1** GAS P70/2CE

TECHNICAL DATA AND OPERATING RANGE DIAGRAM GAS P70/2CE - GAS P100/2CE

MODEL		GAS P70/2CE	GAS P100/2CE
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	116/350-650	172/500-1000
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	135/407-756	200/581-1163
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm <sup>3</sup> /h]	13.5/41-76	20/58.4-117
Gas flow G31 (L.P.G.) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm <sup>3</sup> /h]	5.2/15.7-29.3	7.8/22.6-45.2
Fuel: NATURAL GAS (second family) - L.P.G. (third family)			
Fuel category:		I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL, I2E(R)B/I3B/P,I3+,I3P,I3B,I3R	
Intermittent working operation (min. 1 stop every 24 hours) two stages			
Environmental conditions operation / storage:		-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60	60
Minimum pressure gas train D1"1/4-S NATURAL GAS/L.P.G. **	[mbar]	33/40	85/60
Minimum pressure gas train D1"1/2-S NATURAL GAS/L.P.G. **	[mbar]	25/30	37/40
Minimum pressure gas train D2"-S NATURAL GAS/L.P.G. **	[mbar]	16/28	32/35
Maximum pressure at the entry of valves (Pe. max)	[mbar]	360	360
Nominal electric power	[kW]	1.4	2.7
Fan motor	[kW]	1.1	2.2
Nominal motor current absorption	[A]	2.7	5.4
Nominal auxiliary absorption	[A]	0.6	0.6
Power supply:		3~400V, 1/N~230V-50Hz	
Electric protection degree:		IP 40	IP 40
Noisiness *** min. - max.	[dB(A)]	72-78	81-82
Burner weight ****	[kg]	47	65

\* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).

\*\* Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).

\*\*\* Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law).

\*\*\*\* For burner with long head add 3 kg to the weight.

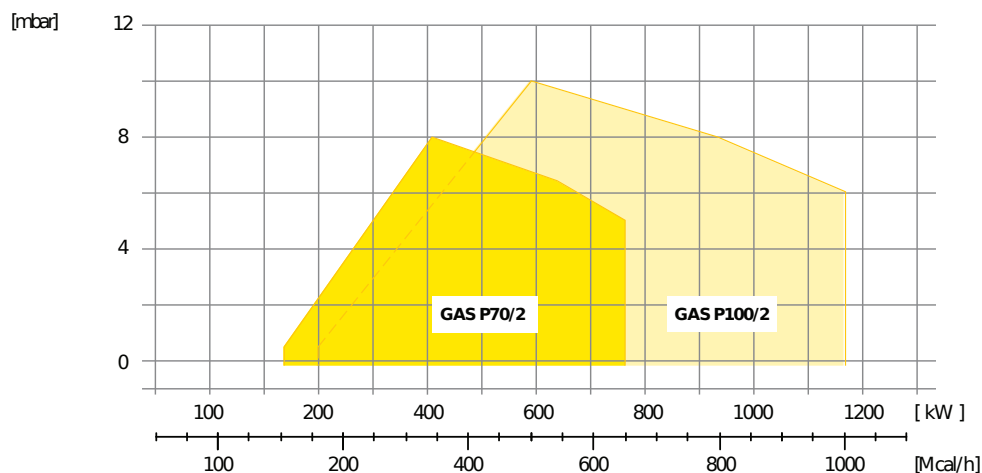


Fig. 2 X = Thermal power Y = Pression in the combustion chamber

The firing rates has been obtained based on test boilers in accordance with EN267 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

TECHNICAL DATA AND OPERATING RANGE DIAGRAM GAS P150/2CE-03 - GAS P150/2CE

MODEL		GAS P150/2CE-03	GAS P150/2CE
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	206/700-1300	240/700-1500
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	240/814-1511	279/814-1744
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm <sup>3</sup> /h]	24/81.7-152	28/81.7-175.2
Gas flow G31 (L.P.G.) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm <sup>3</sup> /h]	9.3/31.6-58.8	10.8/31.6-67.8
Fuel: NATURAL GAS (second family) - L.P.G. (third family)			
Fuel category:		I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL, I2E(R)B/I3B/P,I3+,I3P,I3B,I3R	
Intermittent working operation (min. 1 stop every 24 hours) two stages			
Environmental conditions operation / storage:		-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60	60
Minimum pressure gas train D2"-S NATURAL GAS/L.P.G. **	[mbar]	52/48	55/43
Maximum pressure at the entry of valves (Pe. max)	[mbar]	360	360
Nominal electric power	[kW]	3.4	3.4
Fan motor	[kW]	3	3
Nominal motor current absorption	[A]	6.4	6.4
Nominal auxiliary absorption	[A]	0.6	0.6
Power supply:		3~400V, 1/N~230V-50Hz	
Electric protection degree:		IP 40	IP 40
Noisiness *** min. - max.	[dB(A)]	83-84	83-84
Burner weight ****	[kg]	79	79

\* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).

\*\* Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).

\*\*\* Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law).

\*\*\*\* For burner with long head add 3 kg to the weight.

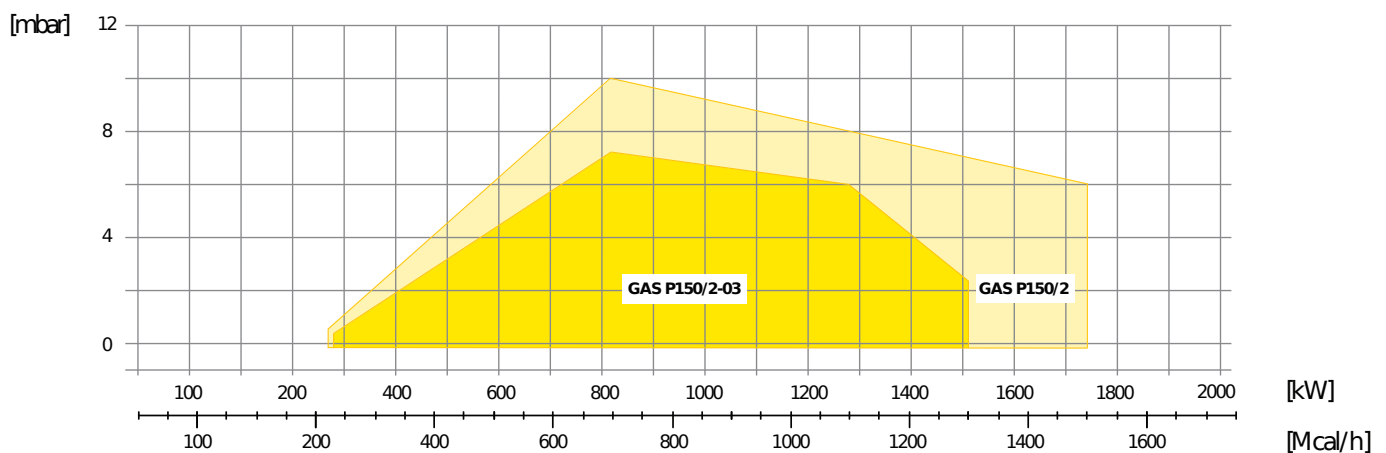
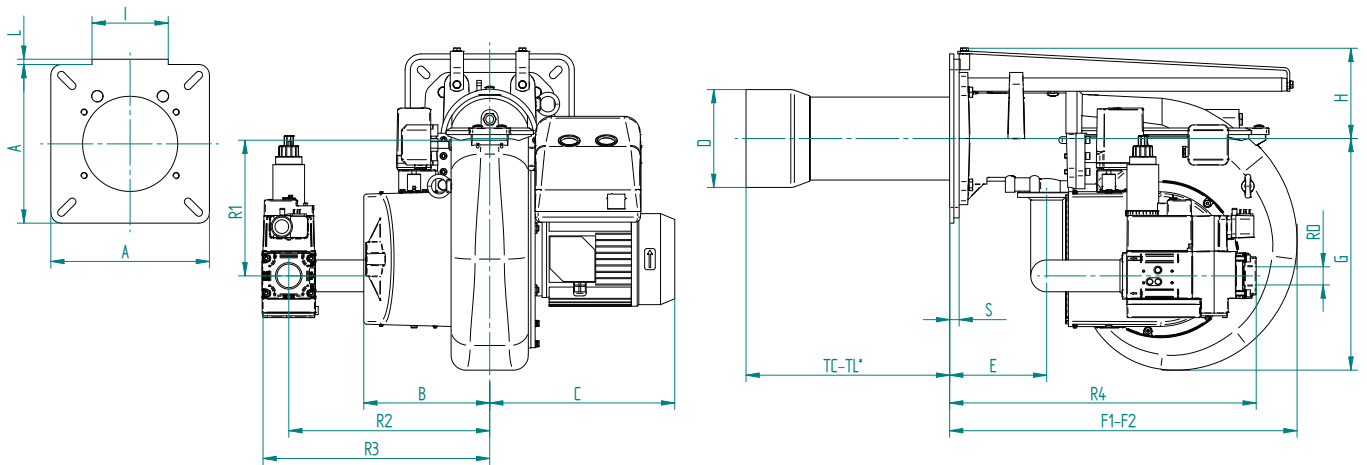


Fig. 3 X = Thermal power Y = Pression in the combustion chamber

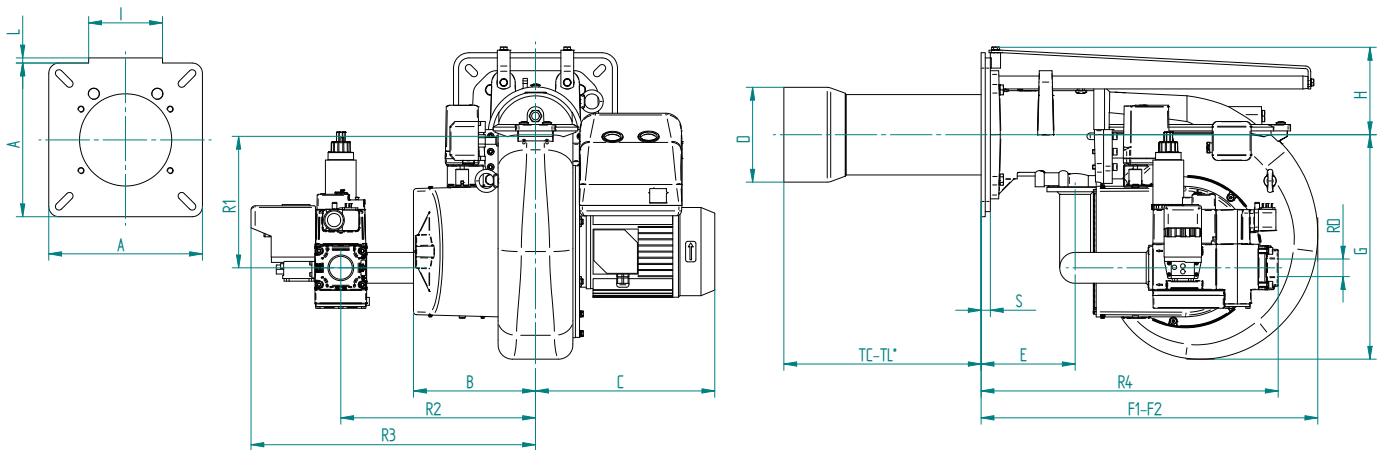
The firing rates has been obtained based on test boilers in accordance with EN267 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

## DIMENSIONS [MM]



**Fig. 4** Dimensions GAS P70/2CE - GAS P100/2CE

MODEL	A	B	C	D	E	F1	F2	G	H	I	L	S	R1	R2	R3	R4	RD
GAS P70/2CE - D1"1/4-S	300	188	276	175	168	660	1100	327	171	144	10	18	260	380	438	549	Rp 1 1/4
GAS P70/2CE - D1"1/2-S	300	188	276	175	168	660	1100	327	171	144	10	18	260	380	430	564	Rp 1 1/2
GAS P70/2CE - D2"-S	300	188	276	175	168	660	1100	327	171	144	10	18	260	380	430	564	Rp 2
GAS P100/2CE - D1"1/4-S	300	238	350	185	184	660	1160	438	173	0	0	18	260	380	438	549	Rp 1 1/4
GAS P100/2CE - D1"1/2-S	300	238	350	185	184	660	1160	438	173	0	0	18	260	380	430	564	Rp 1 1/2
GAS P100/2CE - D2"-S	300	238	350	185	184	660	1160	438	173	0	0	18	260	380	430	564	Rp 2



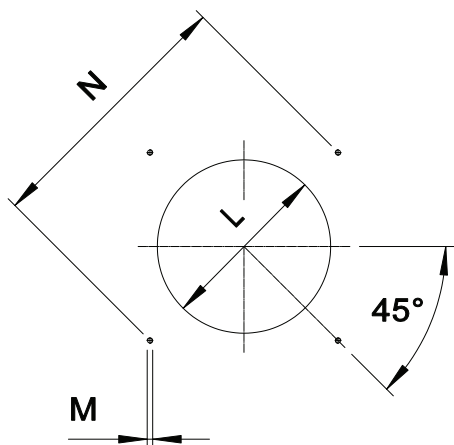
**Fig. 5** Dimensions GAS P150/2CE-03 - GAS P150/2CE

MODEL	A	B	C	D	E	F1	F2	G	H	I	L	S	R1	R2	R3	R4	RD
GAS P150/2CE-03 - D2"-S	320	238	376	209	193	800	1380	438	213	183	40	23	284	380	556	589	Rp 2
GAS P150/2CE - D2"-S	320	238	376	209	193	800	1380	438	213	183	40	23	284	380	556	589	Rp 2

F2: Overall dimension with the burner out in position of maintenance.

\* see "flame tube length"

## BOILER PLATE



\* Suggested dimension of connection between burner and generator.

Fig. 6 Boiler plate

MODEL		L min	L *	L max	M	N min	N max
GAS P70/2CE	mm	185	185	250	M12	310	368
GAS P100/2CE	mm	195	195	250	M12	340	368
GAS P150/2CE-03	mm	220	220	250	M14	340	368
GAS P150/2CE	mm	220	220	250	M14	340	368

## FLAME TUBE LENGTH

Flame tube length must be selected based on the specifications supplied by boiler manufacturer and, in any case, it must be greater than the thickness of the boiler door included its insulation.

In case of boilers with flame inversion or front flue combustion chambers, it is necessary to insulate the area between the flame tube and front door with refractory material. This protection material must not impede flame tube extraction.

MODEL		TC	TL **
GAS P70/2CE	mm	250	385
GAS P100/2CE	mm	250	385
GAS P150/2CE-03	mm	280	400
GAS P150/2CE	mm	280	400

\*\* For different flame lengths, please contact our Technical-Sales Department.

## PRODUCT SPECIFICATION

### SHORT DESCRIPTION

Gas burners two stages.

### DETAILED SPECIFICATION

Gas burner two stages composed by:

- Die-cast aluminum body;
- Fan at high pressurisation;
- Combustion head with adjustment at high performance and elevated flame stability equipped with inox steel blast tube and steel flame disc;
- Flange and insulating gasket for fixing at boiler;
- Three-phase power supply;
- Safety air pressure switch to stop the burner in lock-out in case of failed or anomalous fan operation;
- Gas train with safety valve class A, adjustment two stages valve class A and valve proving system as standard for models: GAS P150/2CE-03 - GAS P150/2CE;
- Ionisation probe for flame detection;
- IP 40 electric protection level;
- Servomotor for air shutter and for the consent of the 2nd stage gas valve;
- Moving shutter with total closure when idle in order to reduce at the least energy losses related to boiler cooling down;
- Supports and tierods for burner extraction;
- Easy extraction of combustion head without get off the burners by boiler;
- Maximum gas pressure switch to stop the burner in lock-out in case of the gas pressure is higher then the set point value, as standard for models: GAS P100/2CE - GAS P150/2CE-03 - GAS P150/2CE.

### CONFORMING TO:

- CE rules;
- 2014/30/UE Directive E.M.C.;
- 2014/35/UE Directive L.V.;
- 2014/68/EU Directive M.D.;
- 97/23/CE Directive P.E.D.;
- 2009/142/CE Directive GAS;
- Reference rules: EN676 (gas) - EN746-2 (industrial thermoprocessing equipment).

### STANDARD EQUIPMENT

- Isomart gasket;
- Flange with insulating gasket;
- Burner nameplate;
- Warranty;
- Instruction handbook for installation, use and maintenance.

### OPTIONAL

- Noise protection;
- Antivibration couplings;
- Handle gas taps.