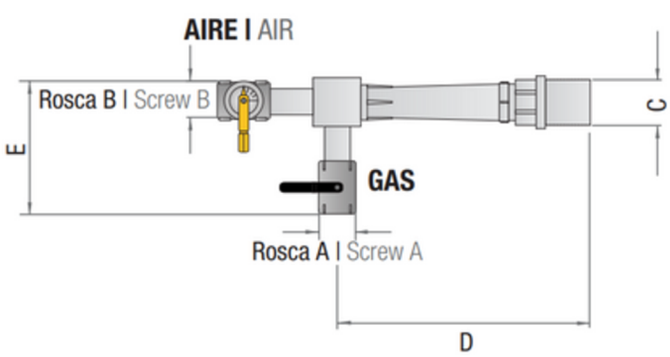
Premixer Gas Burner EQA 76

This burner mixes air and gas before the combustion nozzle. It has been designed to be installed where the flame must be clear, hard, relatively short and with high calorific power. Examples: Quench, smelting, forge, casehardening, crucibles, cementation.

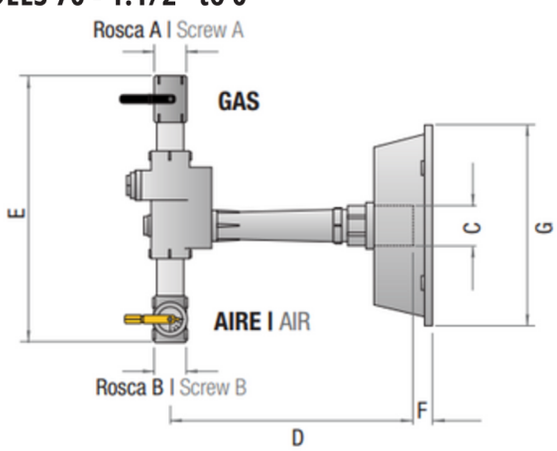
It works with natural gas or LPG (pressure from 100 up to 500 mmWG) and air (pressure form 120 up to 700 mmWG) Characteristics: High performance in a large range of power, at least 10% of the maximum capacity. It is provided with an inner needle valve (screwed) to limit and regulate the gas flow (except 76-1 model).

DIMENSIONS

MODEL 76 - 1"



MODELS 76 - 1.1/2" to 6"



DIMENSIONS TABLE (in mm)

Dimension	Medidas de Quemadores						
	1"	1.1/2"	2"	2.1/2"	3"	4"	6"
A	1/2"	1"	1.1/4"	1.1/2"	2"	2"	3"
B	1"	1.1/2"	2"	2.1/2"	3"	4"	4"
C	51	70	85	100	110	147	215
D	185	300	410	490	590	590	710
E	130	340	420	530	550	550	700
F	-	34	37	44	37	20	40
G	-	Ø 255	Ø300	Ø365	Ø365	Ø387	Ø560

D: Longitude without front plate
D + F: Longitude with front plate

EQA 76 burner is manufactured in 7 different sizes with capacities up to 2.000.000 kcal/h (500.000 BTU). It may be supplied to be set fix or rotating, straight or elbowed. Nozzles of high flame retention made in cast iron for low temperatures up to 700ºC or stainless steel (AISI 304 or 310) for higher temperatures.

Useful like air-gas mixer supplying several flame nozzles, vertical or horizontal or downstreamed flame burners, continuous flame and infra-red burners.

They enable an unified control of a furnace or several zones.

INSTALATION

Optionally provided with a frontal plate (sealed or with secondary air inlet regulation).

Using it the burner stays firmly fixed to the furnace front.

Besides the pilot, spark plug and flame rod (may be an optical detection too) are mounted on it.

AUTOMATION

EQA 76 burners may operate proportionally maintaining the rate air-gas along the whole range of capacity.

For that a ZERO GOVERNOR VALVE must be mounted in gas inlet. (See Sketch below). Only by turning the air butterfly valve the burner capacity is modified without any movement of the gas valve.

The scale on the butterfly valve allows to repeat preceding operations.

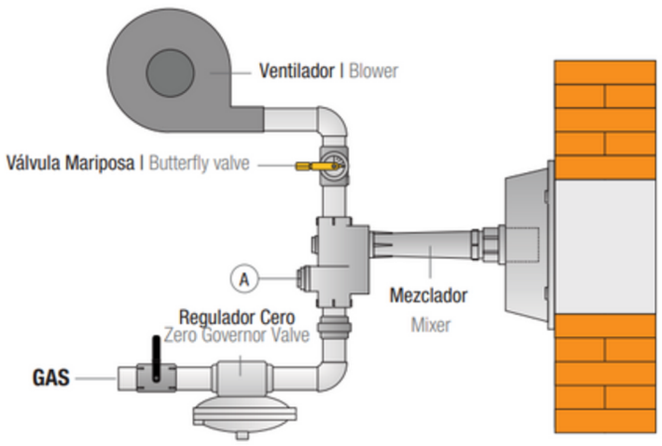
MODULATION

EQA 76 may operate with a modulating flame mounting a motorized butterfly valve in air inlet which will be commanded by a modulating temperature or pressure control.

The signal of that control will make increase or decrease the air flow through the valve, so the burner capacity will variate according to the heat demand.

The temperature or pressure curve shape will be smooth and between minimum diferential values.

INSTALATION EXAMPLE



Important: To change de gas flow, take out the bung A. Turn the male screw clockwise to decrease flow. Or turn it anticlockwise to increase.

Advise about nozzles according to temperature without backward flame motion.	
Cast Iron	Up to 900ºC
Stainless Steel AISI 304	Up to 1200ºC
Stainless Steel AISI 310	Up to 1600ºC

Gas	Density	K Factor*	Kcal/m^3**
Coal	0.43	2.066	4,500
Natural	0.62	1.000	9,300
Acetylene	0.9	0.860	10,800
Propane	1.52	0.422	22,000
Butane	2	0.338	27,500

(*) Other gases multiply by K Factor.
(**) To obtain calorific capacity multiply by Kcal/m3 .

CAPACITY CHART IN NM³/Hora of NATURAL GAS

WITH ZERO GOVERNOR							
Sizes	Air Pressure (mmWG)						
	120	250	350	450	500	600	700
1"	2	3.2	5	5.6	6	6.6	7
1.1/2"	5	6.7	8	9.2	9.8	10.8	11.6
2"	10	20	24	27.5	29	32	35
2.1/2"	-	33	39	45	47	52	56
3"	-	47	56	64	67	74	80
4"	-	58.7	70	80	83.7	92.5	100
6"	-	82	98	110	120	133	145

WITHOUT ZERO GOVERNOR							
Sizes	Air Pressure (mmWG)						
	120	250	350	450	500	600	700
1"	3	4	6	7.3	7.8	8.6	9.3
1.1/2"	7.5	8.3	10	11.4	12	13.3	14.5
2"	17	25	30	37	37	40	43
2.1/2"	-	41.2	49	58	60	68	71
3"	-	59	70	80	84	92	100
4"	-	80	96	110	118	130	140
6"	-	110	135	155	170	185	200

CAPACITY CHART IN NM³/Hora of LPG

WITH ZERO GOVERNOR							
Sizes	Air Pressure (mmWG)						
	120	250	350	450	500	600	700
1"	0.5	1,3	2	2.4	2.5	2.8	3
1.1/2"	1.1	2,8	3.4	4	4	4.5	5
2"	3.5	8.4	10	11.6	12	13.5	15
2.1/2"	5.9	14	16.4	19	20	22	23.6
3"	8.5	20	23.6	27	28	31.2	34
4"	10.6	25	29.5	34	35.3	39	42
6"	14.7	34.6	41.3	46.4	50.6	56	61

WITHOUT ZERO GOVERNOR							
Sizes	Air Pressure (mmWG)						
	120	250	350	450	500	600	700
1"	0.7	1.7	2.7	3	3.3	3.6	4
1.1/2"	1.5	3.5	4.2	5	5	5.6	6
2"	4.5	10.5	12.6	15.6	15.6	17	18
2.1/2"	7.4	17.4	20.6	24.5	25	28.7	30
3"	10.6	25	29.5	34	35.5	39	42
4"	14.5	34	40.5	46.4	50	55	59
6"	19.7	46.6	57	65.4	72	78	84.4

Recommended work zone.

- The real heat capacities will be according to technical conditions of furnaces and combustion variants required or desired.
- Air pressure refers to the mixers air inlet.

Maximum capacities advised according to nozzles sizes			
3/4"	15,000 Kcal/h	2.1/2"	450,000 Kcal/h
1"	20,000 Kcal/h	3"	600,000 Kcal/h
1.1/4"	60,000 Kcal/h	4"	800,000 Kcal/h
1.1/2"	120,000 Kcal/h	6"	1,300,000 Kcal/h
2"	250,000 Kcal/h	8"	2,000,000 Kcal/h

At EQA, we strive to minimize our environmental impact through sustainable and responsible practices. Therefore, we encourage you to join our commitment and, at the end of the product's lifecycle, adhere to the current Municipal, Provincial, and National regulations regarding the classification, recycling, destruction, or disposal of the product, spare parts, non-reusable parts, and packaging. By doing so, we prevent environmental damage and promote reuse and recycling whenever possible. Thank you for your commitment and efforts in joining these actions.

76-04-EN | Jun-25 | SC-3529

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