

# PRESSURE REGULATOR EQA S-200

Models 201/202/210

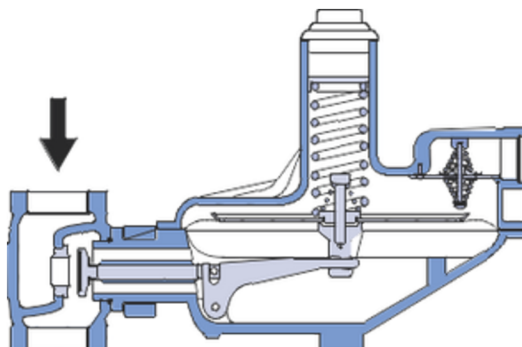
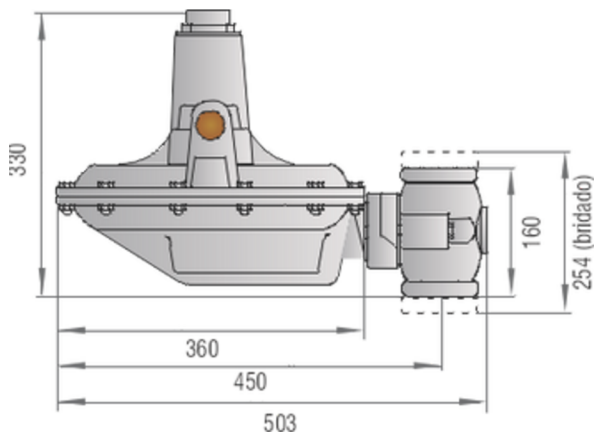
The EQA Series 200 pressure regulators are specifically designed for industrial and commercial installations where the inlet pressure is up to 10 bar and a high gas consumption is required with minimal variations in outlet pressure. The sensitivity or variation from closed to maximum consumption is approximately 10% of the set pressure (for Natural Gas).

These regulators are exceptionally adaptable and utilitarian, and can also be employed as first or second-stage regulators, as they provide an outlet pressure range from 9 mbar up to 500 mbar.



TECHNICAL SPECIFICATIONS	MATERIALS
<b>CONNECTIONS:</b> 2" BSP or NPT Threaded, or Flanged S-150	<b>MAIN BODY:</b> Nodular cast iron
<b>OPERATING TEMPERATURE:</b> -20°C to 60°C (-4°F to 140°F)	<b>INTERNALS:</b> Brass and Aluminum
<b>APPROXIMATE WEIGHT:</b> 12 Kg (26.4 lbs)	<b>DIAPHRAGM and SHUTTER:</b> Acrylonitrile

DIMENSIONS in mm.





## USAGE

These regulators can be used for natural gas (Density 0.6), LPG (Density 1.5), and other gases.

## CONSTRUCTION

The construction is exceptionally robust. Internal ferrous mechanisms are protected against corrosion, and the diaphragm is made of synthetic rubber reinforced with nylon, resistant to the action of hydrocarbons. Internally, they feature a vent compensation device that prevents vibrations of the main diaphragm and ensures high sensitivity, as well as a relief valve that vents potential excess outlet pressure (Model S-202).

## INSTALLATION

Connection to the pipeline is made via 2" nominal diameter female threads (optional flanged connection available), and the gas flow direction is indicated by a raised arrow located on the valve body. They can be connected indifferently in vertical or horizontal pipelines with the flow direction to either side. For this purpose, the diaphragm case can be rotated 360° with respect to the body by simply loosening the two fastening bolts. This provides the advantages of better utilization of the cabinet or installation space and the possibility of leaving the spring cover accessible for making necessary adjustments to the outlet pressure.

## REGULATION

The outlet pressures are regulated by adjusting the different types of springs provided in each case. The orifice diameters are also variable depending on the inlet pressures and flow rates to be used: 1/4" (6.4 mm), 3/8" (9.5 mm), 1/2" (12.7 mm), 3/4" (19.1 mm), 1" (25.4 mm), and 1-3/16" (30.2 mm).

## SPRING CHART

COD	Wire Ø	Regulated Pressure in bar
R33	3.25	0,015 to 0,025
R32	4.00	0,022 to 0,040
R15	4.50	0,030 to 0,075
R31	5.50	0,080 to 0,150
R45	6.00	0,150 to 0,180
R16	6.75	0,170 to 0,230





CAPACITY TABLE for Natural Gas in Nm<sup>3</sup>/hour | Density 0.6 | Sensitivity 10%

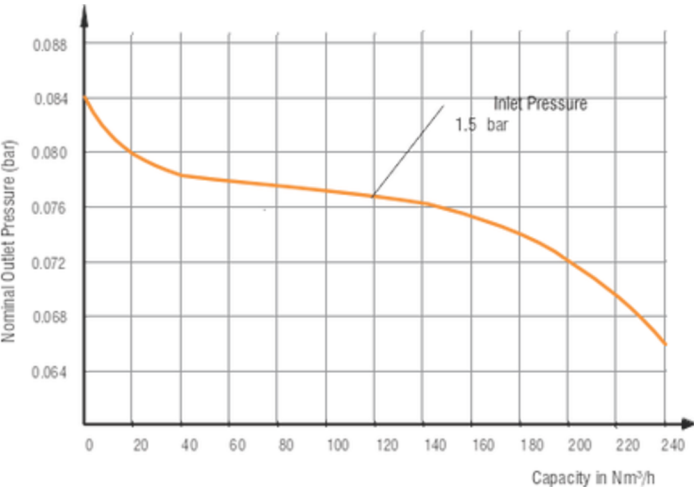
Inlet Pressure (bar)	Outlet Pressure (bar)	Ø of orifices in mm.					
		6.4	9.5	12.7	19.1	25.4	30.2
12 to 24 Range	0.035	-	-	-	42.5	51	56.6
	0.07	11.3	22.6	34	65	79	93
	0.14	17	37	56.6	112	126	168
	0.35	28.3	59.5	99	216	260	283
	0.5	32	71	125	248	283	283
	0.91	46.5	99	181	283	283	283
	2	74	150	260	283	283	-
	3.5	109	240	283	283	-	-
	7	198	283	283	-	-	-
	10*	283	283	-	-	-	-
22 to 42 Range	0.035	-	-	-	22.6	42.5	48
	0.07	11.3	21.2	31	51	71	82
	0.14	17	34	48	87	118	140
	0.35	28.3	56.6	85	206	225	268
	0.5	31	69	110	239	248	273
	0.91	45	96.5	175	283	283	283
	2	74	150	260	283	283	-
	3.5	109	238	283	283	-	-
	7	198	283	283	-	-	-
	10*	283	283	283	-	-	-
36 to 76 Range	0.07	8.5	14	21.1	28.3	37	48
	0.14	14	27	39.5	56.6	85	99
	0.35	25.5	48	71	150	157	184
	0.5	31	62	99	192	204	220
	0.91	42	90.5	155	268	283	283
	2	71	150	263	283	283	-
	3.5	107	253	283	283	-	-
	7	198	283	283	-	-	-
	10*	283	283	-	-	-	-
70 to 140 Range	0.14	14	21.2	31	39.5	68	85
	0.35	31	51	73.5	118	172	212
	0.5	36	59	90	140	194	230
	1	45	90.5	140	225	283	340
	2	68	153	260	410	410	-
	3.5	107	240	365	410	-	-
	7	198	368	410	-	-	-
	10*	283	410	-	-	-	-
105 to 228 Range	0.21	14	28.3	42.3	56.6	90.5	101
	0.5	28.3	62	99	169	226	249
	1	42.3	85	169	325	382	396
	2	68	144	268	440	440	-
	3.5	104	240	393	440	-	-
	7	192	396	440	-	-	-
	10*	283	440	-	-	-	-
160	0.2	-	11	18	42	60	71
	0.35	-	18	30	60	90	110
	0.5	11	23	38	95	120	140
	1	24	48	80	120	180	234
	1.5	39	78	130	165	210	325
	2.5	66	132	220	270	494	-
	4	124	248	290	330	494	-
	5	140	281	320	360	-	-
	7	266	304	350	-	-	-
	10	287	328	390	-	-	-
350 (Max. 500)	0.5	23	30	40	55	75	105
	1	34	42	75	117	130	182
	1.5	44	65	104	169	195	234
	2.5	57	104	221	273	286	350
	4	78	182	260	350	350	-
	5	98	247	338	380	-	-
	7	117	312	390	-	-	-
High Pressure Model (217A - 225A)	10	124	332	416	-	-	-

\*S-210 Models  
The values shown in color do not correspond to the indicated sensitivity.

To obtain the capacities with other gases, multiply the table value by the K factor.

GAS	DENSITY	K FACTOR
Butane	2	0.55
Propane (LPG)	1.5	0.63
Carbon Dioxide	1.5	0.63
Oxygen	1.1	0.74
Air	1	0.77
Nitrogen	0.97	0.79
Acetylene	0.9	0.82
Ammonia	0.59	1.02
Hydrogen	0.07	3
Biogas*	max 1.2	0.7
	min 0.8	0.75
*The proper operation is guaranteed only for treated Biogas (Low content of sulfur)		

LIQUEFIED GAS CAPACITY IN NM<sup>3</sup>/HOUR



Inlet Pressure: 1.5 bar  
Set Pressure: 0.08 bar  
Orifice: 25.4 mm

Flow Rate: 200 Nm<sup>3</sup>/hour  
Sensitivity: 10%



## FLOW RATE CONVERSION

TO OBTAIN	CUBIC FOOT PER HOUR	CUBIC METER PER HOUR	CUBIC FOOT PER DAY	CUBIC METER PER DAY
MULTIPLY	(Scf/h)	(Scm/h)	(Scf/d)	(Scm/d)
Cubic foot per hour	1	0.028	24	0.672
Cubic meter per hour (15°C, 1.01325 bara)	35.71	1	857.04	24
Cubic foot per day	0.0417	0.0012	1	0.028
Cubic meter per day	1.4879	0.0417	35.71	1

## UNIT CONVERSION

TO OBTAIN	POUNDS PER SQUARE INCH	INCHES OF WATER COLUMN	MILIMETERS OF WATER COLUMN	INCHES OF MERCURY	MILIMETERS OF MERCURY	BAR	MILIBAR	KILOGRAMS PER SQUARE CENTIMETER	KILOPASCALS
MULTIPLY	psi	in H2O	mm H2O	in Hg	mm Hg	bar	mbar	Kg/cm <sup>2</sup>	Kpa
psi	1	27.68	703.1	2.036	51.7	0.06895	68.95	0.0703	6.895
in H2O	0.0361	1	25.4	0.07355	1.87	0.002491	2.491	0.00254	0.22491
mm H2O	0.0014	0.0394	1	0.00289	0.07355	0.000098	0.0981	0.0001	0.00981
in Hg	0.4911	13.6	345.4	1	25.4	0.03386	33.86	0.03453	3.386
mm Hg	0.01934	0.535	13.6	0.03937	1	0.001333	1.333	0.00136	0.1333
bar	14.5	401.5	10198.1	29.53	750.06	1	1000	1.02	100
mbar	0.0145	0.4015	10.1981	0.02953	0.7501	0.0001	1	0.00102	0.1
Kg/cm <sup>2</sup>	14.22	393.7	10000	28.96	735.58	0.9807	980.7	1	98.07
Kpa	0.145	4.015	101.98	0.2953	7.501	0.01	10	0.0102	1

## INSTALLING RECOMENDATIONS

It is fundamental to pay attention to the position of the regulator vent, as it also acts as a breather. If it becomes obstructed, it could be hazardous. Therefore, it must be protected from water, dust, or other harmful elements. In general, it should always be installed facing downward.

If the regulator is to be installed in an enclosed space (only permitted for the second stage), a vent pipe of at least Ø ¾" must be installed to discharge any gases vented by the regulator.

If the regulator is to be installed in an underground tank, the vent must be extended with a pipe above the possible water level. Any gas leakage outside the valve indicates that the service should be shut off, and technical support should be contacted. Only a qualified technician should install or repair the regulator.

- Whenever requesting a spare part or technical service, mention the valve nameplate data. (Model - Serial number - Pressures - Orifice - Flow rate)





## INSTALLATION

Before installing the regulator, inspect it for any damage that may have occurred during transport. If any of the protective plastic plugs are missing, check that no foreign objects have entered through the connections.

Vent the supply piping several times until no particles come out. (This is the most common cause of startup issues).

The regulator can be installed in any position, as long as the gas flow direction indicated by the arrow on the body is followed and the vent orifice is neither obstructed nor exposed to rain or dust. It must also be protected from potential impacts caused by vehicle traffic.

The vent orifice should be periodically inspected to ensure it is not blocked.

It is always advisable to install two regulation branches with shut-off valves upstream and downstream of each one independently to avoid gas interruption during maintenance or repair.

## COMMISSIONING

It is advisable to carry out the commissioning process using pressure gauges suitable for the inlet and outlet pressures of the regulator to monitor this procedure.

- 1- Slowly open the inlet shut-off valve.
- 2- Check the pressures.
- 3- Slowly open the outlet shut-off valve.
- 4- Check all connections for possible leaks.

## ADJUSTMENT

If it is necessary to adjust the regulator's outlet pressure, this can be done using the nut that compresses the spring. Turning it clockwise increases the pressure, while turning it counterclockwise decreases it.



When increasing the pressure, consider the possible presence of safety elements such as relief valves, shut-off mechanisms, or pressure switches that will activate if their set pressure is exceeded. Additionally, the identification nameplate should be modified at the factory to comply with regulations and prevent future confusion.

## SPARE PARTS

Always request them according to the part number from the General Cut and mention the regulator's nameplate data.

## MAINTENANCE



Before disassembling the regulator, shut off the gas supply and release the accumulated pressure.

Due to the normal wear that may occur in any gas regulator, some components must be periodically inspected and replaced if necessary. The inspection frequency depends on the severity of service or the requirements of the applicable regulations. For disassembly and reassembly, follow these instructions. For any questions, please consult the factory.



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.