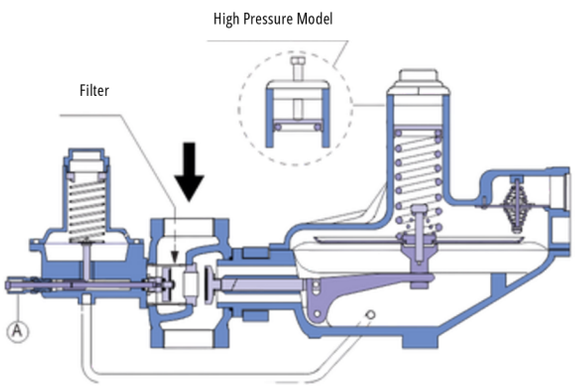
PRESSURE REGULATORS EQA S217 - S225 - S227

Pressure regulators 217, 225, and 227 belong to the S-200 series of regulators, widely used in commercial and industrial installations where the inlet pressure is up to 25 bar and a regulated pressure between 9 mbar and 500 mbar is required.

They feature protection against excessive regulated outlet pressure through their manually resettable locking system.

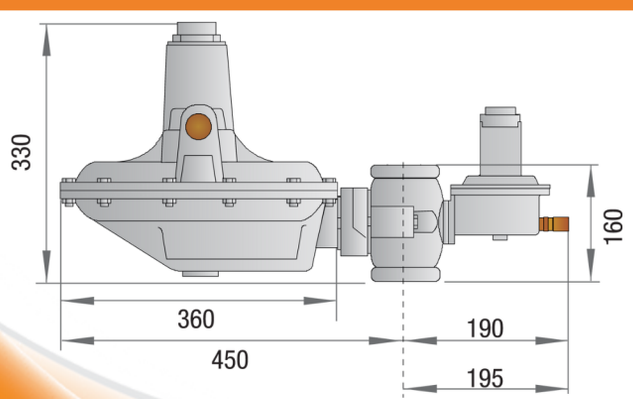
This system is ideal in cases where it is not advisable to install a vent for safety relief. It activates when the regulated pressure exceeds the desired pressure by between 15 and 60 mbar (these values are adjusted by means of a spring whose pressure is regulated externally).



TECHNICAL DATA
CONNECTIONS: 2" BSP or NPT threaded or S-150 flanged
OPERATING TEMPERATURE: -20°C TO 60°C (-4°F to 60°F)
APPROXIMATE WEIGHT: 12.7 Kg/28lbs (Threaded), 18 Kg/39.7 lbs (Flanged)

MATERIALS
MAIN BODY: Nodular Cast Iron (217-227) - Steel (225)
INTERNALS: Brass and Aluminum
DIAPHRAGM AND SHUTTER: Acrylonitrile

DIMENSIONES in mm.



OPERATION

It works as follows: excessive outlet pressure will force the lock diaphragm to move, disengaging the locking mechanism. This releases the stem, allowing the lock shutter to cut off the flow.

This condition is maintained until the system is reset. To do this, release all pressure after the regulator, unscrew safety catch A and pull it until gas begins to flow.

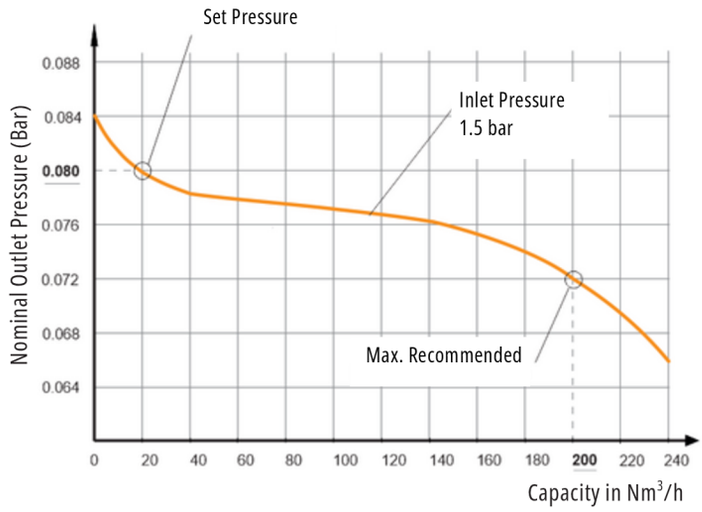
Then screw it back on.

INSTALLATION

It connects to the pipe via Ø 2" threads at the inlet and outlet (flange connection optional). The installation position is interchangeable, and the diaphragm box can be rotated 360° relative to the body as long as the shape of the copper pipe is modified (the RESET and pressure regulation springs must be left in a comfortable position).

It has a built-in filter that must be checked periodically. To access it, remove the four (4) screws from the lock and remove both.

CAPACITY IN NM³/HORA OF LIQUIFIED GAS



Inlet Pressure: 1.5 bar
Adjustment Press.: 0.08 bar
Orifice: 25.4 mm

Flow: 200 Nm³/hora
Sensitivity: 10%

SPRING TABLE

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	0.17 to 0.230
R17	0.75	All
R5	1.75	Regulated Pressure up to 0.05
R6	2.50	Reg. Pressure Higher than 0.05

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/cm²	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 H20	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/cm²	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

CAPACITY CHART FOR NATURAL GAS in Nm3/hour | Density 0.6 | Sensitivity 10%

MODELS S-217 Y S-225

Outlet Pressure (mbar)	Inlet Pressure (bar)	Natural Gas (0.6) Orifice Ø in mm.						
		6.4	**9.5**	**12.7**	**15.8**	**19.1**	**25.4**	**30.2**
20	0.035	-	-	15	21	30	42	55
	0.07	-	12	20	28	35	65	85
	0.16	9	18	30	41	52	110	145
	0.35	13	27	45	75	120	160	190
	0.5	23	47	78	110	140	200	240
	1	37	75	125	160	180	230	260
	1.5	42	84	140	220	230	260	280
	2.5	45	91	152	260	270	280	-
	4	66	132	165	280	305	-	-
	5	70	140	175	320	350	-	-
	7	143	164	205	350	-	-	-
	10	154	176	220	360	-	-	-
	12*	175	190	235	-	-	-	-
	15*	220	240	260	-	-	-	-
	19*	260	280	310	-	-	-	-
	25*	290	320	-	-	-	-	-
28	0.035	-	-	15	21	30	38	60
	0.07	-	12	20	28	35	55	85
	0.16	9	18	30	41	52	75	150
	0.35	13.5	27	45	75	120	150	200
	0.5	24	48	80	115	145	175	240
	1	39	79	130	160	180	190	260
	1.5	43	87	145	220	230	250	280
	2.5	46	95	155	260	270	280	-
	4	72	144	180	280	300	-	-
	5	76	152	190	320	340	-	-
	7	150	172	215	350	-	-	-
	10	168	192	240	360	-	-	-
	12*	195	210	260	-	-	-	-
	15*	230	270	290	-	-	-	-
	19*	280	320	350	-	-	-	-
	25*	310	360	-	-	-	-	-
50	0.07	-	-	16	22	32	40	75
	0.16	-	12	20	35	45	70	120
	0.35	10	19	32	62	105	110	150
	0.5	12	24	40	75	120	135	210
	1	19	37	62	90	180	210	250
	1.5	31	63	105	150	210	250	280
	2.5	63	126	210	280	320	390	-
	4	100	200	250	300	360	-	-
	5	112	224	280	320	380	-	-
	7	231	264	330	370	-	-	-
	10	245	280	350	380	-	-	-
	12*	210	290	370	-	-	-	-
	15*	240	320	390	-	-	-	-
	19*	290	360	410	-	-	-	-
	25*	320	380	-	-	-	-	-
70	0.16	-	-	14	22	30	42	90
	0.35	-	15	25	30	41	60	130
	0.5	10	19	32	45	62	95	150
	1	20	39	65	82	95	234	286
	1.5	33	66	110	142	165	377	416
	2.5	55	111	185	245	285	494	-
	4	120	240	300	320	380	-	-
	5	135	270	338	365	400	-	-
	7	255	292	365	380	-	-	-
	10	287	328	390	400	-	-	-
	12*	220	340	430	-	-	-	-
	15*	250	370	450	-	-	-	-
	19*	300	410	490	-	-	-	-
	25*	330	430	-	-	-	-	-

MODELS S-217 y S-225

Outlet Pressure (mbar)	Inlet Pressure (bar)	Natural Gas (0.6) Orifice Ø in mm.						
		6.4	**9.5**	**12.7**	**15.8**	**19.1**	**25.4**	**30.2**
160	0.2	-	11	18	25	42	60	71
	0.35	-	18	30	36	60	90	110
	0.5	11	23	38	55	95	120	140
	1	24	48	80	105	120	180	234
	1.5	39	78	130	158	165	210	325
	2.5	66	132	220	250	270	494	-
	4	124	248	290	310	330	494	-
	5	140	281	320	330	360	-	-
	7	266	304	350	370	-	-	-
	10	287	328	390	400	-	-	-
	12*	260	360	450	-	-	-	-
	15*	280	390	490	-	-	-	-
	19*	340	430	550	-	-	-	-
	25*	360	450	-	-	-	-	-
350 (Max. 500) High Pressure Model (217A - 225A)	0.5	23	30	40	60	55	75	105
	1	34	42	75	105	117	130	182
	1.5	44	65	104	156	169	195	234
	2.5	57	104	221	260	273	286	350
	4	78	182	260	338	350	350	-
	5	98	247	338	364	380	-	-
	7	117	312	390	442	-	-	-
	10	124	332	416	468	-	-	-

*Capacities with inlet pressure greater than 10 bar correspond to model S-225.

MODEL S-227

Outlet Pressure (mbar)	Inlet Pressure (bar)	Natural Gas (0.6) Orifice Ø in mm.		
		6.4	**9.5**	**12.7**
20	2.5	45	85	145
	4	66	100	155
	5	70	115	160
	7	100	125	170
	10	120	135	180
	12	140	150	190
	15	195	210	230
	19	220	240	260
160	2.5	66	110	160
	4	110	170	215
	5	127	180	230
	7	150	195	249
	10	157	213	266
	12	249	280	350
	15	265	300	375
	19	320	360	450

In order to calculate capacities with other gases, multiply the values of the chart by 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*	máx 1.2	0.7
	mín 0.8	0.75

**The proper operation is guaranteed only for treated Biogas (Low content of sulfur)*

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.

WARNING: 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

WARNING: 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.

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.

217-03-ENG | Jul-2 | SC-35

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