

PRESSURE REGULATOR EQA 630

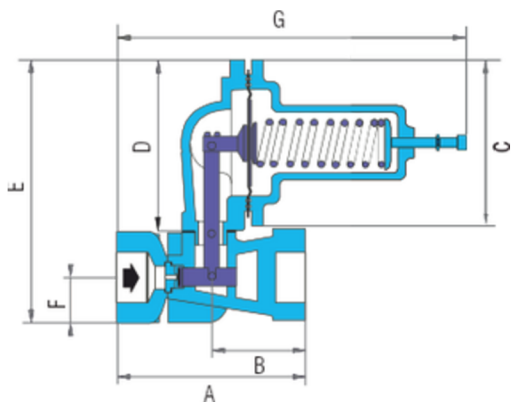
This regulator can be installed in high or medium gas pressure systems. It has been designed to support inlet pressures of up to 105 bar and regulate outlet pressures of between 0.16 bar and 35 bar. The maximum flow of this regulator is 4500 Nm³/h for a 0.6 spec. gravity (depending on inlet and outlet pressures).

For inlet pressures of up to 17 bar, the structure is made of cast iron, and for higher pressures, the inlet body and bolts are made of steel.

Inner parts are made of brass and steel with protection against corrosion; the diaphragm is made of synthetic rubber with fabric and the shutter of polyethylene or teflon (depending on the outlet pressure). Finally, orifices are made of brass and their diameters can be 1/8", 3/16", 1/4", 3/8" or 1/2". The connections to pipe can be 1" or 2" BSP or NPT.



DIMENSIONS in mm.



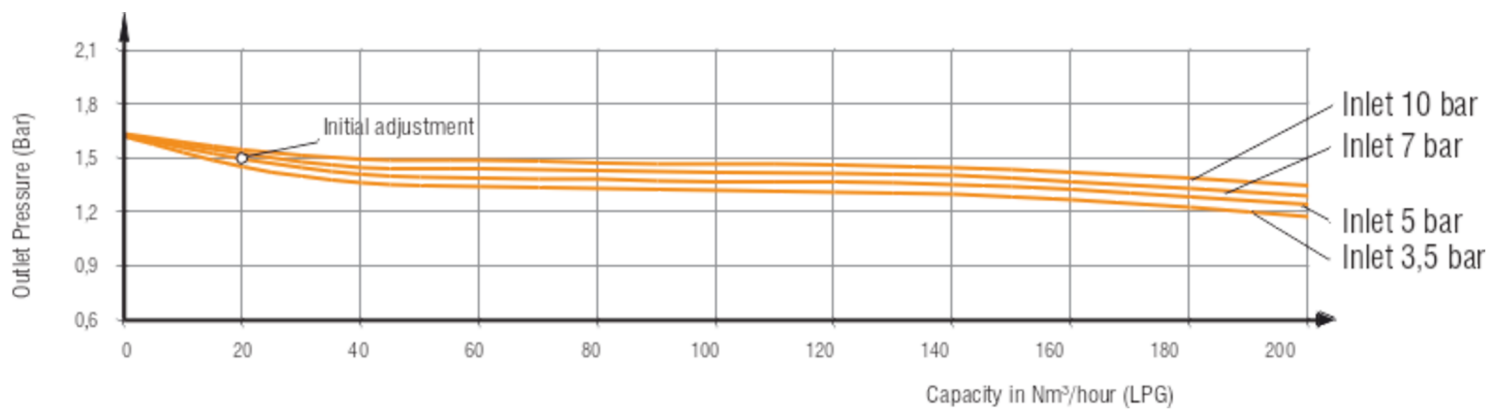
Ø Connection	Diaph	A	B	C	D	E	F	G
1"	5"	190	103	182	183	300	50,5	340
1"	2½"	190	103	118	123	221	50,5	355
2"	5"	207	103	182	184	300	50,5	355
2"	2½"	207	103	118	123	221	50,5	375

TECHNICAL DATA	MATERIALS
END CONNECTIONS: Threaded 1" o 2" BSP or NPT	MAIN BODY: Carbon steel
OPERATING TEMPERATURE: -20°C to 60°C (-10°F to 140°F)	SEAT ORIFICE: Brass
APROX WEIGHT: 14,6 Kg to 17,5 Kg (32,4 Lbs to 38,5 Lbs)	DIAPHRAGM: Nitrile
	VALVE DISK: Nitrile or Teflon

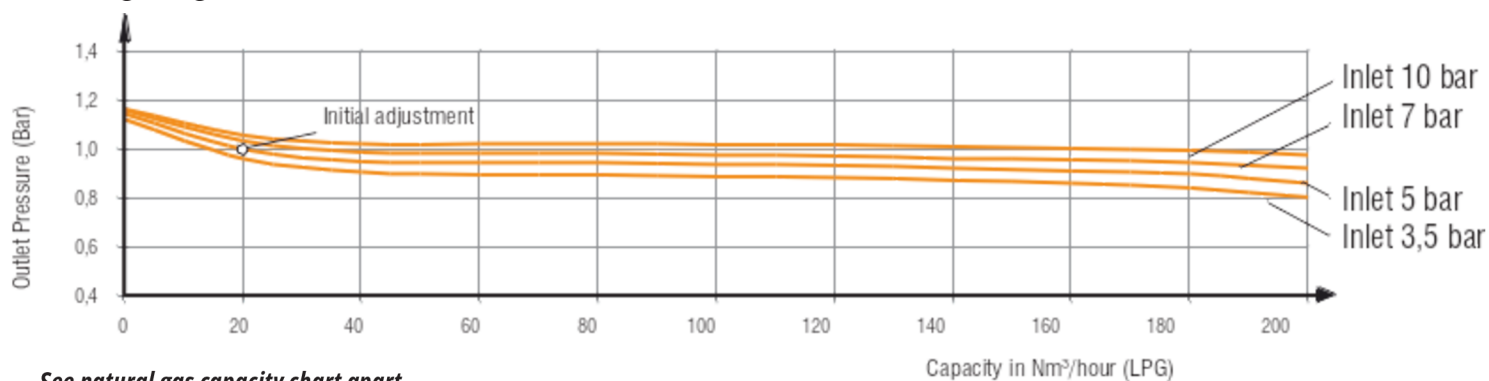


PERFORMANCE CURVE (LPG)

First stage Regulator (Pressure: 1.5 bar)

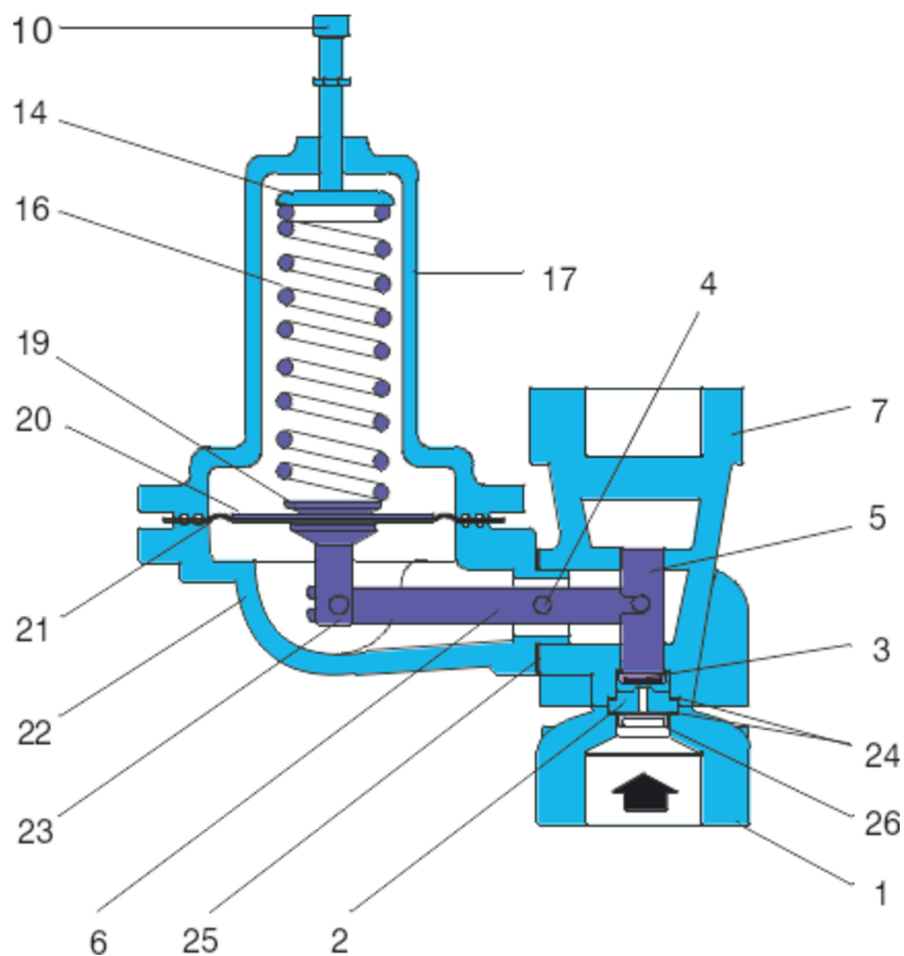


First stage Regulator (Pressure: 1 bar)



See natural gas capacity chart apart

PARTS LIST



1	Inlet body
2	Orifice
3	Shutter
4	Lever pivot
5	Shutter holder
6	Lever
7	Outlet body
10	Pressure regulating screw
14	Spring pusher
16	Principal spring
17	Diaphragm cap
19	Diaphragm clamp
20	Diaphragm plate
22	Diaphragm case
23	Diaphragm holder
24	Orifice washers
25	Elastomer gasket
26	Filter

CAPACITY CHART - NATURAL GAS in Nm³/hour (Sp. Gravity 0,6 - Sensitivity 20%)

DIAPHRAGM Ø5" CHART 1

Outlet Pressure Range (bar)	Inlet Pressure (bar)	Outlet Pressure (bar)	Body Ø1					Body Ø2				
			Orifice diameter in mm.					Orifice diameter in mm.				
			3.2	4.8	6.4	9.5	12.7	3.2	4.8	6.4	9.5	12.7
0.21 to 0.7	0.7	0.35	6	14	28	48	62	8	23	37	93	167
	1.4		11	22	34	57	76	14	34	59	158	258
	2.5		20	34	47	67	101	24	50	86	221	361
	3.5		27	42	59	79	116	31	62	110	277	481
	4.2		31	50	68	85	119	35	76	127	314	552
	5		35	57	74	94	123	41	89	147	355	627
	7		48	68	82	113	139	54	122	198	481	849
	10		60	83	97	128	161	76	168	271	676	1165
	14		85	96	119	144	173	105	232	368	906	1613
	17.5		99	108	122	167	192	127	283	481	1075	1981
	25		103	110	126	177	204	182	404	702	1598	2700
	35		116	122	133	209	-	258	538	991	2236	-
	42		122	130	142	-	-	283	679	1189	-	-
	70		130	139	158	-	-	509	1104	1953	-	-
	105		142	153	-	-	-	623	1698	-	-	-
0.21 to 0.7	0.7	0.7	14	34	51	119	139	16	37	62	144	255
	1.4		22	47	90	124	157	24	50	96	221	361
	2.5		28	65	116	144	175	31	68	122	277	481
	3.5		33	76	119	156	184	35	79	142	314	552
	4.2		38	87	123	166	190	41	92	161	355	627
	5		45	108	142	181	207	54	125	215	481	849
	7		65	132	161	203	221	76	168	298	676	1165
	10		93	164	195	218	232	105	229	396	934	1613
	14		113	167	207	243	246	125	283	481	1160	1981
	17.5		125	187	213	251	253	181	404	702	1582	2700
	25		170	201	224	275	-	252	538	991	2151	-
	35		184	207	232	-	-	283	651	1189	-	-
	42		204	218	238	-	-	509	1132	2038	-	-
	70		209	238	-	-	-	764	1698	-	-	-
	105		14	34	51	119	139	16	37	62	144	255
0.56 to 1.4	0.7	0.7	14	20	40	62	102	16	34	48	71	139
	1.4		21	42	68	98	131	23	49	81	156	308
	2.5		25	54	91	122	153	28	65	108	221	453
	3.5		30	65	99	133	164	34	76	127	280	524
	4.2		35	76	110	144	177	40	89	151	347	620
	5		45	99	130	161	195	54	122	209	481	849
	7		65	121	157	188	217	76	165	297	676	1190
	10		93	136	175	212	232	102	226	396	906	1613
	14		113	164	198	226	246	125	269	481	1047	1981
	17.5		141	178	210	244	265	181	379	702	1509	2700
	25		170	195	224	266	-	249	538	991	2094	-
	35		184	198	232	-	-	283	651	1189	-	-
	42		204	218	238	-	-	509	1104	2038	-	-
	70		209	229	-	-	-	764	1698	-	-	-
	105		14	20	40	62	102	16	34	48	71	139

CAPACITY CHART - NATURAL GAS in Nm³/hour (Sp. Gravity 0,6 - Sensitivity 20%)

DIAPHRAGM Ø5" CHART 2

Outlet Pressure Range (bar)	Inlet Pressure (bar)	Outlet Pressure (bar)	Body Ø1					Body Ø2				
			Orifice diameter in mm.					Orifice diameter in mm.				
			3.2	4.8	6.4	9.5	12.7	3.2	4.8	6.4	9.5	12.7
0.56 to 1.4	1.4	1.05	13	28	48	93	139	15	31	51	99	161
	2.5		20	49	81	138	151	24	52	92	199	332
	3.5		28	65	108	156	161	31	68	122	277	453
	4.2		33	76	122	173	192	35	79	142	314	524
	5		38	89	139	192	229	41	92	163	355	620
	7		54	122	175	215	272	65	125	221	481	849
	10		73	165	205	225	279	77	173	299	676	1165
	14		102	212	241	272	283	105	235	396	849	1613
	18.5		133	238	258	283	311	136	283	538	1104	2094
	25		187	244	278	305	336	189	417	761	1663	2700
	36		235	249	297	340	-	260	566	1047	2321	-
0.56 to 1.4	42	1.4	243	272	306	-	-	311	651	1189	-	-
	71		272	283	311	-	-	509	1132	2009	-	-
	2.1		17	42	71	130	192	20	45	74	147	260
	2.5		20	51	85	148	213	23	53	88	184	306
	3.5		28	65	119	192	255	31	68	122	266	425
	4.2		33	76	139	212	277	35	79	144	311	509
	5		38	89	188	234	282	41	92	166	354	617
	7		51	116	209	269	311	54	122	221	481	821
	10		73	165	253	305	336	76	170	299	627	1137
	14		102	226	283	340	368	105	232	396	906	1670
	19		127	277	311	368	396	139	283	538	1104	2123
	25		179	281	349	387	416	184	397	708	1559	2700
	36.5		249	311	382	425	-	269	566	1047	2321	-
	42		283	340	391	-	-	311	679	1217	-	-
1.2 to 2.1	71	1.4	311	348	425	-	-	509	1132	2066	-	-
	105		340	368	-	-	-	764	1698	-	-	-
	2.1		17	25	48	93	133	19	37	59	99	170
	2.5		20	38	59	105	156	23	45	71	125	205
	3.5		25	62	102	139	195	28	65	105	175	283
	4.2		30	71	113	156	209	34	76	122	209	354
	5		35	82	124	175	224	40	89	143	248	429
	7		48	113	156	215	275	54	119	195	340	679
	10		58	150	192	264	306	61	165	271	559	1069
	14		96	181	258	311	340	99	226	368	906	1585
	19		125	238	283	340	368	136	283	538	1104	2123
	25		174	262	302	359	391	179	378	708	1559	2700
	36.5		232	283	340	391	-	263	566	1047	2321	-
	42		272	311	368	-	-	283	651	1189	-	-
	71		283	340	396	-	-	509	1132	2038	-	-
	105		340	368	-	-	-	764	1698	-	-	-

CAPACITY CHART - NATURAL GAS in Nm³/hour (Sp. Gravity 0,6 - Sensitivity 20%)

DIAPHRAGM Ø5" CHART 3

Outlet Pressure Range (bar)	Inlet Pressure (bar)	Outlet Pressure (bar)	Body Ø1					Body Ø2				
			Orifice diameter in mm.					Orifice diameter in mm.				
			3.2	4.8	6.4	9.5	12.7	3.2	4.8	6.4	9.5	12.7
1.2 to 2.1	1.4	2.1	13	28	48	93	139	15	31	51	99	161
	2.5		20	49	81	138	151	24	52	92	199	332
	3.5		28	65	108	156	161	31	68	122	277	453
	4.2		33	76	122	173	192	35	79	142	314	524
	5		38	89	139	192	229	41	92	163	355	620
	7		54	122	175	215	272	65	125	221	481	849
	10		73	165	205	225	279	77	173	299	676	1165
	14		102	212	241	272	283	105	235	396	849	1613
	18.5		133	238	258	283	311	136	283	538	1104	2094
	25		187	244	278	305	336	189	417	761	1663	2700
	36		235	249	297	340	-	260	566	1047	2321	-
	42		243	272	306	-	-	311	651	1189	-	-
	71		272	283	311	-	-	509	1132	2009	-	-
1.9 to 2.8	2.8	2.1	23	42	68	125	181	24	45	74	127	204
	3.5		25	57	91	158	218	28	62	99	167	275
	4.2		31	71	110	178	252	34	74	119	207	340
	5		38	82	128	208	276	40	86	143	252	404
	7		48	110	181	266	311	51	119	195	340	651
	10		70	154	240	329	384	73	165	271	534	1040
	14		99	198	266	396	425	102	229	368	679	1613
	19.6		139	283	368	425	453	142	311	538	1274	2207
	25		175	319	404	461	489	178	384	701	1618	2700
	37		266	357	447	509	-	269	566	1047	2406	-
	42		275	379	453	-	-	283	651	1189	-	-
	72		453	453	509	-	-	538	1160	2066	-	-
	105		464	509	-	-	-	764	1726	-	-	-
1.9 to 2.8	3.5	2.8	27	51	91	156	252	28	59	96	167	280
	4.2		31	65	116	215	283	34	74	122	224	340
	5		38	80	142	252	326	40	91	150	269	426
	7		51	116	198	311	396	54	122	204	368	679
	10		73	162	259	384	469	76	168	272	587	1044
	14		99	221	340	481	538	102	232	396	849	1585
	20		144	283	425	538	594	147	311	566	1302	2292
	25		180	372	478	573	623	183	400	709	1605	2700
	38		269	481	538	623	-	272	594	1075	2434	-
	42		277	509	594	-	-	283	651	1189	-	-
	73		495	566	651	-	-	509	1160	2066	-	-
	105		566	623	-	-	-	764	1726	-	-	-

CAPACITY CHART - NATURAL GAS in Nm³/hour (Sp. Gravity 0,6 - Sensitivity 20%)

DIAPHRAGM Ø5" CHART 4

Outlet Pressure Range (bar)	Inlet Pressure (bar)	Outlet Pressure (bar)	Body Ø1					Body Ø2				
			Orifice diameter in mm.					Orifice diameter in mm.				
			3.2	4.8	6.4	9.5	12.7	3.2	4.8	6.4	9.5	12.7
1.9 to 3.5	4.2	3.5	25	57	88	147	229	28	59	91	150	340
	5		34	73	102	187	267	36	76	105	190	420
	7		48	99	161	297	368	51	102	164	283	594
	10		70	153	234	358	465	73	155	242	405	959
	14		99	221	311	453	538	102	224	340	594	1557
	21		150	297	396	566	651	156	311	538	1358	2349
	25		176	337	445	614	703	180	376	667	1600	2700
	38.5		272	453	566	736	-	275	594	1075	2490	-
	42		277	481	594	-	-	283	651	1189	-	-
	73.5		481	651	764	-	-	538	1189	2094	-	-
	105		538	708	-	-	-	764	1698	-	-	-
3.2 to 6.65	4.2	3.5	23	42	68	122	181	25	45	71	125	207
	5		31	55	82	146	213	34	57	85	159	247
	7		42	88	119	212	283	45	96	122	215	340
	10		64	122	180	297	380	67	125	190	322	510
	14		96	187	266	396	481	99	190	272	453	764
	21		147	252	311	453	566	150	283	396	764	1443
	25		173	286	376	517	645	176	331	509	1071	2020
	38.5		269	368	481	651	-	272	509	821	2462	-
	42		277	396	538	-	-	283	566	991	-	-
	73.5		396	538	623	-	-	509	1160	2066	-	-
	105		509	679	-	-	-	736	1670	-	-	-
3.2 to 6.65	7	5.25	48	91	142	226	368	51	93	147	255	396
	8.7		62	122	190	283	425	65	125	195	311	509
	14		99	207	283	453	623	102	209	311	538	849
	17.5		125	266	368	538	679	127	269	396	736	1245
	22.7		161	311	453	651	764	164	340	509	1019	1896
	25		178	348	489	700	825	181	376	582	1153	2142
	40.2		275	509	651	849	-	277	623	1047	2604	-
	42		280	538	708	-	-	283	651	1104	-	-
	75		509	764	906	-	-	538	1189	2123	-	-
	105		651	906	-	-	-	679	1698	-	-	-
6.3 to 10.5	8.75	7	57	102	156	260	368	59	105	158	277	425
	10		67	122	182	297	428	69	129	195	322	485
	14		102	187	266	368	623	105	195	283	481	764
	17.5		125	241	311	509	736	127	246	368	623	962
	21		150	277	396	594	849	153	283	453	764	1245
	25		176	295	461	715	1019	182	348	546	958	1556
	18		198	368	509	764	-	204	396	594	1104	-
	42		269	509	651	991	-	283	594	962	1953	-
	77		552	792	991	-	-	538	1217	2094	-	-
	105		708	991	-	-	-	764	1670	-	-	-

CAPACITY CHART - NATURAL GAS in Nm³/hour (Sp. Gravity 0,6 - Sensitivity 20%)

DIAPHRAGM Ø5" CHART 5

Outlet Pressure Range (bar)	Inlet Pressure (bar)	Outlet Pressure (bar)	Body Ø1					Body Ø2				
			Orifice diameter in mm.					Orifice diameter in mm.				
			3.2	4.8	6.4	9.5	12.7	3.2	4.8	6.4	9.5	12.7
6.3 to 10.5	10.5	8.75	68	130	190	311	481	71	142	229	340	566
	14		99	192	283	425	651	102	209	311	538	849
	17.5		122	252	340	538	821	125	266	396	679	1104
	21		147	283	425	708	962	150	311	481	877	1358
	26.2		187	368	524	792	1104	198	425	679	1217	1840
	28		207	410	538	821	-	235	509	792	1585	-
	35		224	425	708	1019	-	249	538	849	1670	-
	43.7		283	623	821	1160	-	311	679	1132	2236	-
	79		509	934	1189	-	-	538	1245	2236	-	-
	105		736	1217	-	-	-	764	1698	-	-	-
6.3 to 10.5	14	10.5	96	192	283	453	736	99	207	311	509	849
	17.5		125	249	368	566	906	127	269	425	736	1075
	21		150	283	425	679	991	153	311	538	906	1472
	28		201	396	623	962	1189	204	425	736	1302	2179
	31.5		218	481	679	1019	-	229	509	821	1528	-
	45.5		255	679	934	1387	-	283	708	1245	2490	-
	56		368	821	1075	-	-	396	849	1528	-	-
	80		566	1075	1387	-	-	594	1302	2207	-	-
	105		736	1330	-	-	-	764	1698	-	-	-
10.5 to 14	14	10.5	96	175	263	453	679	99	195	283	481	792
	17.5		122	249	340	566	764	125	255	368	651	1019
	21		150	283	425	679	849	153	311	481	792	1330
	28		201	396	594	906	1075	204	425	679	1132	1868
	31.5		215	425	679	1019	-	226	481	764	1302	-
	45.5		255	594	934	1358	-	283	623	1132	2094	-
	56		368	764	1047	-	-	396	849	1443	-	-
	80		552	962	1387	-	-	566	1274	2207	-	-
	105		736	1245	-	-	-	764	1698	-	-	-
10.5 to 14	17.5	14	119	235	340	566	849	122	258	368	651	1189
	21		147	283	453	708	991	150	311	509	934	1472
	31.5		221	453	736	1217	1415	224	481	821	1472	2377
	42		269	623	962	1557		283	651	1132	2123	
	21		311	708	1132	1726	-	340	764	1330	2547	-
	49		368	849	1217	-	-	396	877	1528	-	-
	56		453	1047	1415	-	-	481	1104	1953	-	-
	70		566	1160	1670	-	-	594	1358	2349	-	-
	84		736	1500	-	-	-	764	1698	-	-	-
	105		119	235	340	566	849	122	258	368	651	1189



In order to calculate capacities with other gases, multiply the values of the chart by K factor.

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

REDUCTION PRESSURE RANGES		
SPRING	Diaphragm 5" (outlet pressure in bar)	Diaphragm 2 1/2" (outlet pressure in bar)
R21	0.2 to 0.5	0.55
R22	0.5 to 1.4	0.63
R23	1.4 a 2	0.63
R24	2 a 3	0.74

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 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/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



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 $\varnothing \frac{3}{4}$ " 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.



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.