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The Deep Dark Secrets of Selecting Gas Pressure Regulators...Simplified

Selecting a gas pressure regulator isn't nearly as complicated as it seems. Although there are many considerations that must be weighed over a broad range of applications, the truth is that the majority of regulator selections are pretty simple if broken down into four basic questions: type of gas, inlet pressure, outlet pressure, and flow. Once these four questions are answered, the only thing's left are purchasing a quality product from a trusted source and having it properly installed by qualified individuals.

As mentioned, we need to answer four basic questions to ensure trouble free results:

What kind of gas will be used? We could go into great depth concerning chemical properties of various fuel gases, but who wants to go to school so they can purchase a regulator? What we really need to know is what kind of gas we're using. 95% of the time it comes down to two choices, **natural gas or propane**. The other 5% of applications can be taken care of, too, as long as the fuel is positively identified.

What's the inlet pressure? This can be a little tricky if you don't have a pressure gauge already installed where you're working (we have what you need in stock). It's almost never written down and nobody seems to know. If you have to, **call the gas company** and ask them the supply pressure to your building.

What's the desired outlet pressure? Outlet pressure from a regulator is controlled by a spring in a "tower" on top of the regulator. There is cap on the tower that, when removed, allows access to the adjustment of a spring. The chances of picking a regulator with the exact outlet pressure you need is about the same as winning the lottery, so regulator manufacturers utilize a series of springs that fit the same regulator. A properly selected spring range adjusted to the desired compression will fit the outlet pressure you're looking for.

What's the flow? An easier question would be "What's on the nameplate?" There should be information on a tag or plate at or near the burner listing the BTU rating or capacity. If you have the original documentation, that may help, too. If it's old and you can't find any information, we'll try to help you figure this part out as best we can.

What's the desired pipe size? We left this part out when we started this discussion. Regulators aren't always as friendly to your pipe fitter as your burnerparts.com salesperson because regulators sometimes aren't the same pipe size as the rest of the gas piping. A selection will be made as close as possible to the correct pipe size. The difference can be made up with bell reducer fittings.

When you get the answers to the four questions (five if you know what pipe size you would prefer) making a selection should be a snap. In fact, at that point you really don't even need to make a selection. We'll assist with the selection and probably ship it out the same day. Now that's service!!



You Can't Be Cool Unless You're **Runnin' HOT**

Gas Pressure Regulator Selection Chart

BTU's/Hr* (Natural Gas) at 7" w.c.** (1/4 PSI) Outlet Pressure

Inlet Pressure	Models			
	B42R	B31R	B34SR	B34R
0.5	280,000	440,000	NA	1,900,000
1	450,000	640,000	1,540,000	3,200,000
2	700,000	1,120,000	2,300,000	4,700,000
5	1,230,000	1,750,000	5,150,000	8,000,000
10	1,300,000	2,400,000	>7,500,000	10,000,000

BTU's/Hr* (Natural Gas) at 14" w.c. (1/2 PSI)** Outlet Pressure

Inlet Pressure	Models			
	B42R	B31R	B34SR	B34R
1	575,000	410,000	1,100,000	2,150,000
2	860,000	630,000	1,880,000	4,400,000
3	1,080,000	820,000	2,600,000	5,200,000
5	1,310,000	1,100,000	4,300,000	6,500,000
10	1,680,000	1,500,000	>7,500,000	10,000,000

BTU's/Hr* (Natural Gas) at 1 PSI** Outlet Pressure

Inlet Pressure	Models			
	B42R	B31R	B34SR	B34R
2	850,000	880,000	1,920,000	4,200,000
3	1,120,000	1,190,000	2,620,000	6,000,000
5	1,600,000	1,630,000	3,800,000	7,500,000
10	2,220,000	2,410,000	6,500,000	13,000,000

BTU's/Hr* (Natural Gas) at 2 PSI** Outlet Pressure

Inlet Pressure	Models			
	B42R	B31R	B34SR	B34R
3	645,000	530,000	1,480,000	4,000,000
5	1,085,000	850,000	2,300,000	6,000,000
10	1,710,000	1,320,000	4,200,000	12,000,000

* BTU's (natural gas) divided by 1,000 btu's per cubic foot = cubic feet per hour (CFH)

** 28" w.c.(water column) = 1 psi = 1 bar

The information provided is for reference only. For assistance, determine the type of gas, inlet pressure, outlet pressure and maximum flow requirement and e-mail your request to

sales@burnerparts.com.



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Comparison Chart

Actaris	Fisher	Equimeter	American	Maxitrol	General Capacities	
B42R	S250, S402	043, 143-6	1213, CR4000	325-3,-5,-7	UP TO:	700,000 BTU/HR @ 2 PSI INLET 1,200,000 BTU/HR @ 5 PSI INLET
B31R	S102	143-6, 143-80	1813C			
B34SR	S302	143-80		210D	UP TO:	2,300,000 BTU/HR @ 2 PSI INLET 5,100,000 BTU/HR @ 5 PSI INLET
B34R	S202	243-8, 243-12	1813B	210D 210E	UP TO:	4,700,000 BTU/HR @ 2 PSI INLET 8,000,000 BTU/HR @ 5 PSI INLET 10,300,000 BTU/HR @ 10 PSI INLET
38R			1813B	210E	UP TO:	5,850,000 BTU/HR @ 5 PSI INLET 17,700,000 BTU/HR @ 10 PSI INLET
CL31	S301D		1800CP			
CL231						
CL34	299	243RPC	2002			
CL38						
RB1700	133L,133H	121, 122	3000			
RB4000	1089EGR	441/461	3000			
B35	627, 630	46				

NOTE: To be used as a guide only