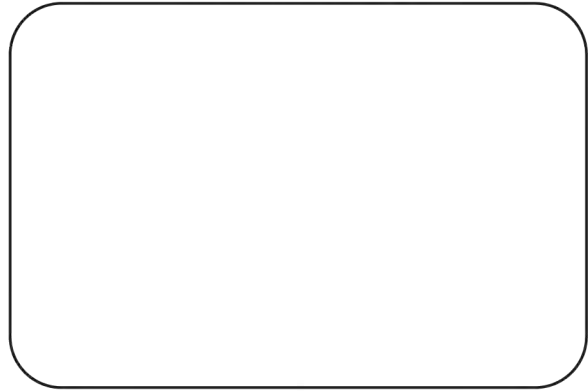




Gas Essentials^{INC}

Natural and Propane Gas Regulation, Measurement and Controls

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P133 Pressure Regulator

Applications

The P133 is a direct operated pressure reducing regulator used in commercial and industrial applications such as furnaces and burners where accuracy and sensitivity is critical.

The P133 regulator utilizes a balanced diaphragm design that provides for sensitivity and accuracy.

The P133 is available in a low pressure or high pressure model and a broad range of outlet spring ranges. The P133 is also suitable in pressure monitoring applications.

Specifications

	133L	133H
Maximum Operating Inlet	60 PSIG	60 PSIG
Maximum Emergency Inlet	125 PSIG	125 PSIG
Maximum Operating Outlet	2 PSIG	10 PSIG
Maximum Emergency Outlet	15 PSIG	15 PSIG
Maximum Over Outlet Pressure	3 PSIG	3 PSIG
Pressure Ranges	See Table 2	
Port Sizes	2 NPT	
Restrictor Collars	25%	
	40%	
	60%	
End Connections	2" NPT (Standard) 125 FF Flange (Iron Only)	
Temperature Range	-40°F to 200°F -40°C to 93°C	
Approximate Weight	35 lbs. (15.9 kg)	

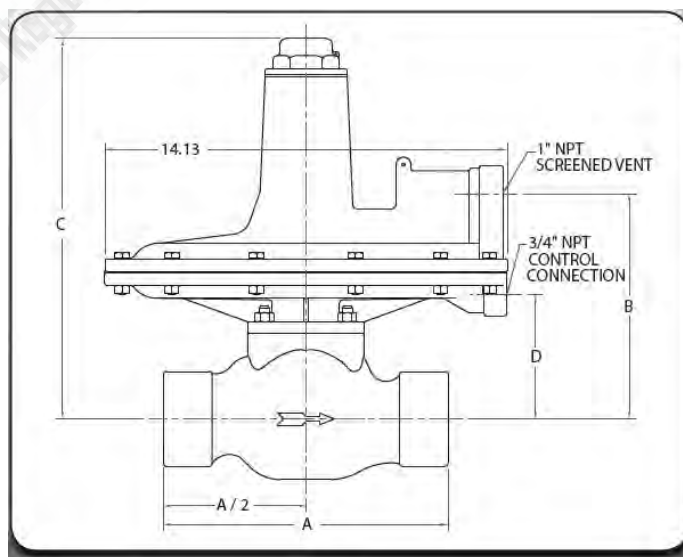
Outlet Spring Ranges

Model	Spring Ranges W.C. or PSI	Spring Color	Part Number
P133 L & H	2" - 4" W.C.	Brown	655-697-002
	3.5" - 6" W.C.	Red	655-697-003
	5" - 9" W.C.	Black	655-697-004
	8.5" - 18" W.C.	White	655-697-005
	14" - 28" W.C.	Green	655-697-006
	0.75 - 2 PSI	Dark Blue	655-697-007
P133 H Version Only	1.5 - 3.25 PSI	Orange	655-697-008
	2 - 5 PSI	Yellow	655-730-000
	5 - 10 PSI	Blue Stripe	655-659-004



P133 Dimensions

A			B	C	D		
2" NPT	12.5FF	150RF			2" NPT	12.5FF	150RF
10.0	10.0	10.0	7.91	13.36	4.36	4.36	4.36



Capacity Table - P133 Regulator

Propane Gas Capacities BTU/Hr (1.50 Specific Gravity)

P133L Unrestricted Flow Capacities in Millions of BTU Propane

Outlet Pressure Setting and Outlet Pressure Range												
Inlet Pressure	4" wc 2 - 4" wc	6" wc 3.5 - 6" wc	7" wc 5 - 9" wc	14" wc 8.5 - 18" wc		14" wc 14 - 28" wc		1 psig 14 - 28" wc		2 psig 0.75 - 2 psig		
	1" wc Droop SCFH	1" wc Droop SCFH	1" wc Droop SCFH	1" wc Droop SCFH	2" wc Droop SCFH	1" wc Droop SCFH	2" wc Droop SCFH	10% Droop SCFH	20% Droop SCFH	10% Droop SCFH	20% Droop SCFH	
1	22	20	18	7	13							
2	32	31	26	12	23			18	25			
3	40	38	33	18	30			24	33	19	29	
5	55	51	50	25	44	22	36	37	49	32	44	
10	81	81	75	53	70	40	59	59	69	59	72	
20	122	121	124	108	119	94	108	110	121	97	119	
30	159	157	157	143	152	137	146	141	159	137	159	
40	195	192	195	171	182	168	181	173	192	165	190	
50	229	226	228	204	214	207	215	200	228	195	228	
60	267	264	261	244	253	239	248	234	263	228	267	

P133H Unrestricted Flow Capacities in Millions of BTU Propane

Outlet Pressure Setting and Outlet Pressure Range											
Inlet Pressure	3 psig 1.5 - 3 psig		2 psig 2 - 5 psig		5 psig 2 - 5 psig		5 psig 5 - 10 psig		10 psig 5 - 10 psig		
	10% Droop SCFH	20% Droop SCFH	10% Droop SCFH	20% Droop SCFH	10% Droop SCFH	20% Droop SCFH	10% Droop SCFH	20% Droop SCFH	10% Droop SCFH	20% Droop SCFH	
3			10	18							
5	22	34	17	28							
7	33	48	20	34	24	37	14	23			
10	44	66	23	42	37	55	22	34			
15	63	89	40	61	55	80	29	49	33	55	
20	81	113	55	81	72	105	37	64	48	80	
30	119	151	77	114	107	149	55	91	69	116	
40	154	187	103	152	138	184	69	114	88	152	
50	185	222	132	176	162	217	89	140	116	184	
60	214	259	163	207	192	245	102	166	143	214	



General Information

Information about LP-Gas*

	Propane	Butane
Formula	C ₃ H ₈	C ₄ H ₁₀
Boiling Point, °F.	-44	15
Specific Gravity of Gas (Air = 1.00)	1.50	2.01
Specific Gravity of Liquid (Water = 1.00)	0.504	0.582
Lbs. per Gallon of Liquid at 60° F.	4.20	4.81
BTU per Gallon of Gas at 60° F.	91502	102032
BTU per Lb. of Gas	21548	21221
BTU per Cu. Ft. of Gas at 60° F.	2488	3280
Cu. Ft. of Vapor (at 60° F) Gal.	36.38	31.26
Cu. Ft. of Vapor (at 60° F) Lb.	8.66	6.51
Latent Heat of Vaporization at Boiling Point BTU/Gal.	773	808
Combustion Data: Cu. Ft. Air Required to Burn 1 Cu. Ft. Gas	23.86	31.02
Flash Point, °F.	-156	N.A.
Ignition Temperature in Air, °F.	920-1120	900-1000
Maximum Flame Temperature in Air, °F.	3595	3615
Limits of Flammability Percentage of Gas in Air Mixture; at Lower Limit - % at Upper Limit - %	2.15 9.6	1.55 8.6
Octane Number (ISO - Octane = 100)	Over 100	92

* Commercial quality. Figures shown in this chart represent average values.

Vapor Pressures of LP-Gases*

Temperature		Approximate Pressure (PSIG)	
(°F.)	(°C.)	Propane	Butane
-40	-40	3.6	
-30	-34	8	
-20	-29	13.5	
-10	-23	23.3	
0	-18	28	
10	-12	37	
20	-7	47-1	
30	-1	58	
40	4	72	3.0
50	10	86	6.9
60	16	102	12
70	21	127	17
80	27	140	23
90	32	165	29
100	38	196	36
110	43	220	45

* Conversion Formula: Degrees C. = (°F. - 32) x 5/9 • Degrees F. = 9/5 x °C. + 32

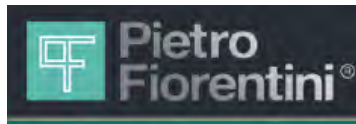
Comparison Chart

Itron	BelGas	Fisher
B42R/PGS6	P143	HSRL
B31R/PGS8	P143	S102
B34SR/PGS10	P202	S202
B34R/PGS12	P202	S202
B38R/PGS24	P202 or P133	
	P912	912
	P32	67C
	P37	64
	P627	627
	R627	627R
	P630	630
PGP12	P99	299/99
PGD1/2	P133/P99	133L/H
PGD11/22/33	P99/Dival	1098-EGR
	P289	289

*** Note – This is a guide only**



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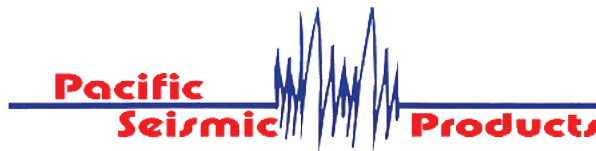
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Filter Regulators & Gauges

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Flange Kits and Accessories

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