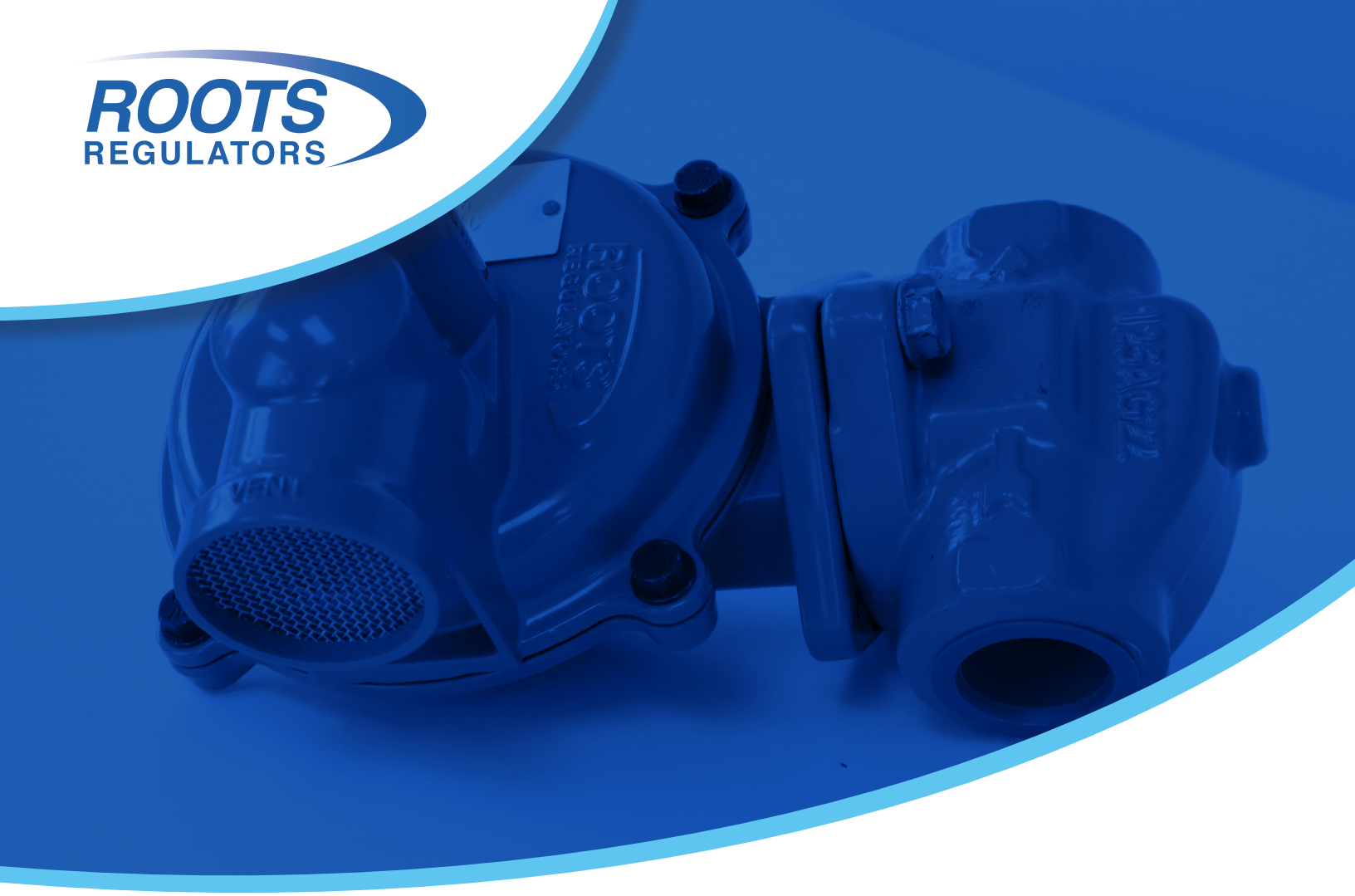
ROOTS REGULATORS



B42 High Capacity Regulator

Residential & Commericial Regulator

Meets/exceeds 2PSIG Build Up Requirements

High-capacity performance for demanding pressure applications

Backed by decades of ROOTS regulator expertise

ROOTS Regulators offers the B42 HC (High Capacity) Regulator to support 2 PSIG relief build up requirements in medium to high-inlet pressure applications. The B42 HC leverages proven B42 and B31 designs, combining the diaphragm assembly of the B42 with the valve body of the B31 to deliver a compact footprint while maintaining expected performance.

Built with durable internal components, the B42 HC is designed for consistent and reliable operation in demanding environments. Ideal for residential and light commercial applications, the B42 HC provides dependable performance that customers have come to expect from ROOTS Regulators.

Features

- True bubble tight lock-up
- Interchangeable aluminum orifice
- 12.6 sq. in. of diaphragm area
- Molded deep convolution diaphragm with o-ring seal
- Spring-loaded internal relief valve assembly
- One-piece molded Buna-N valve seat
- Field interchangeable adjustment spring

Benefits

- Meets/exceeds 2PSIG Build up requirements
- Higher capacity than standard B42
- Combines the proven B31 valve body components with the B42 case assembly

Technical Features

Inlet pressure	125 psig
Outlet pressure	4 iwc – 5 psig
Operating temperature	-20°F to 150°F
Acceptable gases	Natural gas, town gas, propane, butane, air, nitrogen, or any non-corrosive gas
Options	Tamper proof sealing Inlet pressure taps

Sizes & Connections

Sizes	3/4" , 1" & 1-1/4"

Materials

Body	High tensile strength cast iron
Internal parts	Steel and aluminium
Seals	Nitrile rubber
Diaphragm	Synthetic rubber with fabric reinforcement



B42HC SERIES RESIDENTIAL REGULATOR, MODELS N AND R

7" w.c. (17 mbar) Capacity Table (1" Droop*), 1" Outlet Valve Bodies

Typical Capacity Info.	
Manufacturer	ROOTS Regulators
Type and model	B42HC
Inlet size	1" NPT
Outlet size	1" NPT
Spring color	Brown

Capacities in SCFH (m3/hr) of 0.6 S.G. gas; base conditions of 14.7 PSIA and 60° F.

Inlet Pressure		**Orifice Size**						
PSIG	**BAR**	**1/8"**	**3/16"**	**1/4"**	**5/16"**	**3/8"**	**1/2"**	**1/2 x 9/16"**
0.5	0.038	-	-	50	70	155	285	310
1	0.069	-	125	270	300	350	380	570
2	0.1	75	265	360	500	650	620	890
3	0.2	155	320	525	700	830	840	1190
5	0.3	260	470	715	990	1230	1425	1595
10	0.7	340	725	1220	1640	2325	1840	2650
15	1.0	425	965	1700	2625	3300		
20	1.4	520	1150	2270	3250	3900		
30	2.1	675	1475	2950	4400			
40	2.8	835	1850	3600				
50	3.5	985	2430	4060				
60	4.1	1125	2980	4300				
80	5.5	1450	3750					
100	6.9	1810	4320					

Inlet Effect A (inches w.c.)	0.1	0.2	0.3	0.4	0.4	0.6	0.8
Lock Up B (inches w.c.)	0.4	0.4	0.4	0.5	0.6	0.6	0.9

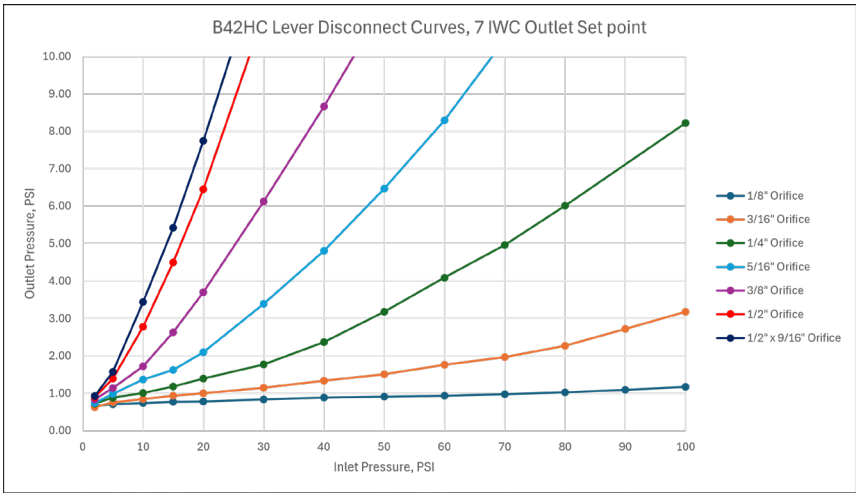
Notes:
A. Change in outlet pressure for 10 PSIG inlet pressure change.
B. Outlet pressure increase required for lock up.
*Individual regulator performance may vary from data shown.

Complies with ANSI Z21.80/CSA 6.22 Class I
Do not operate orifice in shaded inlet pressure area.

B42HC LEVER DISCONNECT CURVES

7" w.c. Set Point	
Model	B42 R
Inlet Size	3/4" NPT
Outlet size	1" NPT
Orifice size	3/16"
Spring	Brown

All test results are reported at a base of 14.7 PSIA at 60° F and with 0.6 S.G. gas.



B42HC SERIES RESIDENTIAL REGULATOR, MODELS N AND R

2PSIG (0.14 mbar) Capacity Table (1% Absolute Droop*), 1" Outlet Valve Body

Typical Capacity Info.	
Manufacturer	ROOTS Regulators
Type and model	B42 N, R
Inlet size	1" NPT
Outlet size	1" NPT
Spring color	Yellow/Black

Capacities in SCFH (m3/hr) of 0.6 S.G. gas; base conditions of 14.7 PSIA and 60° F.

Inlet Pressure		**Orifice Size**							
PSIG	**BAR**	**1/8"**	**3/16"**	**1/4"**	**5/16"**	**3/8"**	**1/2"**	**1/2 x 9/16"**	**9/16"**
3	0.2	-	145	255	270	310	330	425	420
5	0.3	110	265	340	345	445	545	715	675
10	0.7	250	375	560	565	700	880	1140	1080
15	1.0	315	585	730	800	950			
20	1.4	340	630	880	950	1285			
30	2.1	430	815	1050	1280				
40	2.8	685	1100	1490					
50	3.5	795	1300	1895					
60	4.1	1035	1520	2490					
80	5.5	1250	2580						
100	6.9	1470	2940						

B42HC SERIES RESIDENTIAL REGULATOR, MODELS N AND R

2PSIG (0.14 mbar) Capacity Table (2% Absolute Droop*), 1" Outlet Valve Body

Typical Capacity Info.	
Manufacturer	ROOTS Regulators
Type and model	B42 N, R
Inlet size	1" NPT
Outlet size	1" NPT
Spring color	Yellow/Black

Capacities in SCFH (m3/hr) of 0.6 S.G. gas; base conditions of 14.7 PSIA and 60° F.

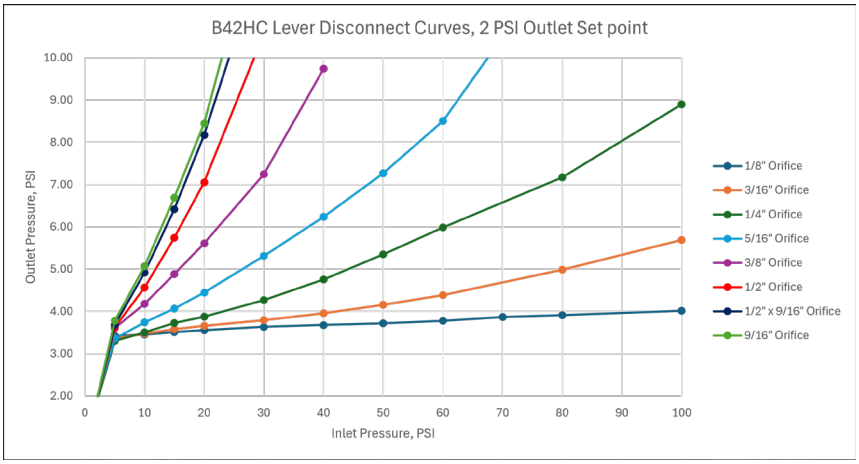
Inlet Pressure		Orifice Size							
PSIG	**BAR**	**1/8"**	**3/16"**	**1/4"**	**5/16"**	**3/8"**	**1/2"**	**1/2 x 9/16"**	**9/16"**
3	0.2	-	250	340	410	540	680	830	900
5	0.3	155	380	565	660	890	1070	1270	1390
10	0.7	300	650	950	1080	1410	1860	2450	2620
15	1.0	410	840	1260	1590	2320			
20	1.4	515	1060	1610	1950	2780			
30	2.1	680	1400	2275	3000				
40	2.8	835	1830	3045					
50	3.5	990	2470	3830					
60	4.1	1125	2870	4300					
80	5.5	1425	3770						
100	6.9	1810	4460						

RELIEF CURVES

7" w.c. Set Point

Vent size	1" NPT
Failure Type – Lever Disconnect	

All test results are reported at a base of 14.7 PSIA at 60º F and with 0.6 S.G. gas.
Regulator set at 7.0" w.c. for relief testing with 40 PSI inlet pressure @ 50 SCFH as per ANSI B109.4.



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