GENERANT

HIGH CAPACITY PRESSURE REGULATOR
1/4", 3/8" and 1/2" NPT
Inlet 400 Psig (27.6 Bar)

HC SERIES

Description

The Generant Series HC, High Capacity Regulators are ideally suited for industrial applications requiring a rugged high flow pressure regulator. The Series HC features Heavy Duty all metallic body and spring chambers and are easily rebuilt in the field. The Series HC is available in Relieving and Non-Relieving configurations ideally suited for both liquid and gas service.

Features

- 3/8" and 1/2" Regulators are fully balanced to maintain constant delivery pressure regardless of inlet pressure fluctuations. 1/4" Regulators are currently available non-balanced only.
- Available Relieving or Non-Relieving
- Optimized spring performance and patented Venturi tube provides high flow rates with low droop
- Easily cleanable by removing bottom plug
- Optional Plastic knob and Panel Mounting Configurations

Technical Data

Maximum Inlet Pressure: 400 Psig (27.6 Bar)
Temperature Range: -20 to 200 °F (-30 to 95 °C)

Pressure Ranges

Spring Code	Outlet Pressure Range PSI (bar)
A	0 - 50 (0-3.4)
B	5 - 125 (0.3-8.5)
C	10 - 200 (0.7-13.6)

Flow Coefficient Cv

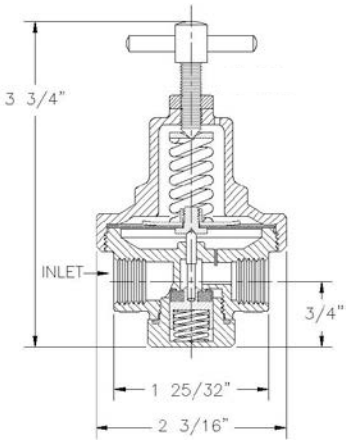
Size	Fail Open
1/4" NPT	1.6
3/8" NPT	2.4
1/2" NPT	2.9

Materials of Construction

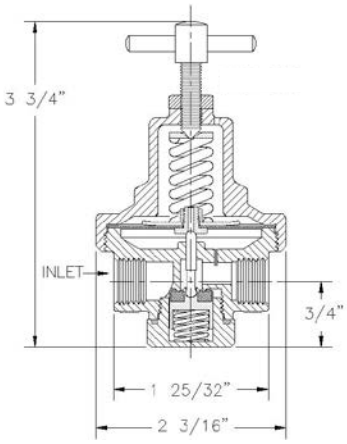
Component	HC-250	HCR-250	HC-375/500	HCR-375/500
Body	Forged Brass, ASTM 377			
Spring Chamber	Forged Brass, ASTM 377		Die Cast Zinc (Zamak)	
Spring Retainer	N/A		Die Cast Zinc (Zamak)	
Spring Button	Brass, ASTM B16			
Diaphragm Screw	Brass, ASTM B16	Nylon 6-6, ASTM AD589	Brass, ASTM B16	Nylon 6-6, ASTM AD589
Diaphragm Plate / Nut	Brass, ASTM A36		N/A	
Adjustment Screw	303 Stainless Steel, ASTM A582			
Adjustment Screw Lock Nut	Brass, ASTM B16		Plated Steel	
Chamber Insert	N/A		Brass, ASTM B16	
Valve Stem	Brass, ASTM B16			
Valve Assembly	Brass, ASTM B16 and FKM, ASTM D1418			
Valve O-ring	N/A		Buna-N	
Adjustment Spring	Plated Music Wire, ASTM A228			
Valve Spring	302 Stainless Steel, ASTM A313		17-7 Stainless Steel, ASTM A564	
Turbulence Pin	18-8 SS, ASTM A276		Brass, ASTM B16	
Bottom Plug	Brass, ASTM B16			
Bottom Plug O-ring	Buna-N			
Sieve	N/A		304 SS, ASTM A276	
Diaphragm Gasket	Red Fiber		N/A	
Diaphragm	Buna-N and Nylon			
Panel Nut	Brass, ASTM B16			

HIGH CAPACITY PRESSURE REGULATOR

HC-250 (1/4" NPT Ports)

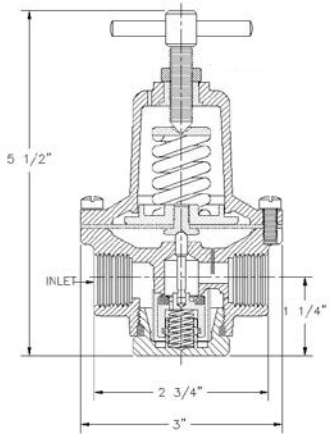


HC, Non-Relieving

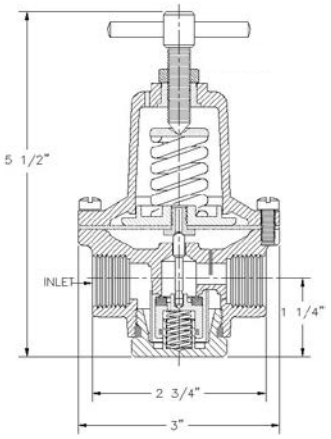


HCR, Relieving

HC-375 / HC-500 (3/8" and 1/2" NPT Ports)

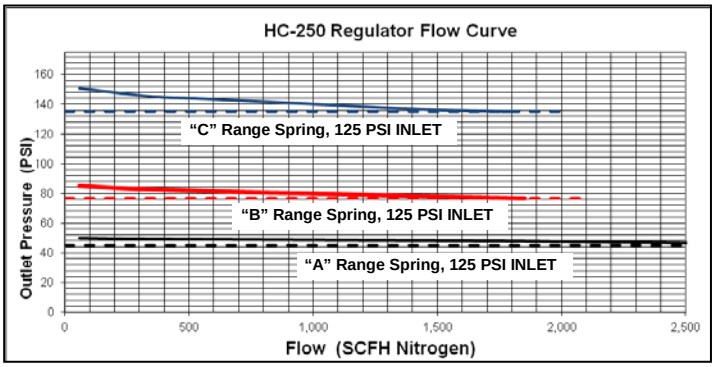


HC, Non-Relieving



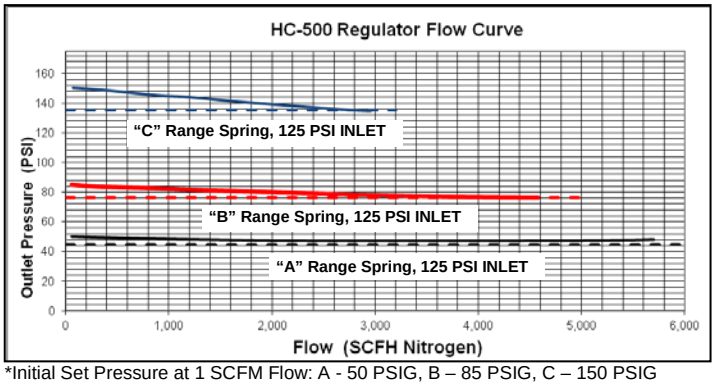
HCR, Relieving

Flow Curve



*Initial Set Pressure at 1 SCFM Flow: A - 50 PSIG, B – 85 PSIG, C – 150 PSIG
** Dotted line represents 10% decrease in outlet pressure from setpoint (droop)

Flow Curve



*Initial Set Pressure at 1 SCFM Flow: A - 50 PSIG, B – 85 PSIG, C – 150 PSIG
** Dotted line represents 10% decrease in outlet pressure from setpoint (droop)

How To Order

4HCR P - 375 - A - M

SERIES
4HC - 4 Port, High Capacity, Non-Relieving Pressure Regulator
4HCR - 4 Port, High Capacity, Relieving Pressure Regulator
Note: Regulators have 1/4" NPTF Outlet Pressure Gauge Ports

PANEL MOUNT OPTION
Add "P" to Series Code for Panel Mount Option
e.g. 4HCP - 4 Port, Non-Relieving Panel Mount
Note: All Panel Mount Options come with Plastic Knob

OPTIONS
M - Plastic Knob

SPRING RANGE
A - (0-50) Psig
B - (5-125) Psig (standard/Omit)
C - (10-200) Psig

PORT SIZE (NPT)
250 - 1/4"
375 - 3/8"
500 - 1/2"

*Panel Mount Option available. 1/4" Regulator fits in 1" diameter panel hole for panel up to 7/16" thick. 1/2" Regulator fits in 1-9/16" diameter panel hole for panel up to 1/8" panel.

Repair Kits

Model Size	Specify	Kit Includes
4HC, 1/4"	HC-100-*	FKM Valve Assembly, Valve Stem, Diaphragm Assembly, Fibre Diaphragm Gasket, Adjusting Spring (Specify Range), Adjusting Spring Button, Valve Spring, Bottom Plug O-Ring
4HCR, 1/4"	HCR-100-*	FKM Relieving Valve & Stem Assembly, Relieving Diaphragm Assembly, Fibre Gasket, Adjusting Spring (Specify Range), Adjusting Spring Button, Bottom Plug O-Ring
4HC, 3/8" & 1/2"	HC-200-*	FKM Valve Assembly with O-Ring, Valve Stem, Sieve, Diaphragm Assembly, Adjusting Spring (Specify Range), Adjusting Spring Button, Valve Spring, Bottom Plug O-Ring
4HCR, 3/8" & 1/2"	HCR-200-*	FKM Relieving Valve & Stem Assembly with O-Ring, Sieve, Relieving Diaphragm Assembly, Adjusting Spring (Specify Range), Adjusting Spring Button, Valve Springs, Bottom Plug O-Ring

*Specify Spring Range A, B, or C

Note: All Regulators are supplied with 2 (two) ¼" NPT Pipe Plugs. Pipe plugs are supplied finger tight. Final installation is the responsibility of the end user.

GENERANT
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT
Valves & Bi-Lok Fittings

GAS DELIVERY REGULATOR
1/4" - 1" NPT, BSPT
Spring Reference & Pilot Operated

GDR SERIES

Description

The GDR Series Regulator provides reliable and precise pressure control in the most demanding applications. Optimized spring design with unique venturi design assures high flow with extremely low droop characteristics. Solid, non-tied diaphragm and all brass construction will provide leak-free and long-lasting performance. Regulator is fully balanced to virtually eliminate outlet pressure fluctuations due to inlet pressure variations. All GDR Series regulators are 100% factory tested.

Features

- **FULLY BALANCED DESIGN**: Maintains a constant delivery pressure regardless of inlet pressure fluctuations.
- **OPTIMIZED FOR HIGH FLOW**: Unique Venturi Tube and Optimized Spring Design allows for high flow rates.
- **WIDE PRESSURE RANGE**: Inlet Pressures up to 550 PSI, Outlet Pressures up to 450 PSI.
- **SOLID, NON-TIED, DIAPHRAGM**: Solid diaphragm eliminates potential leak path and increases sensitivity.
- **CONFIGURABLE**: Order Regulators with Various Porting Options, Panel-Mounted, with Chamber Pipe-A-Way, or Pilot Operated.
- **OXYGEN SERVICE COMPATIBLE**: Designed for use in Oxygen Service and Cleaned for use in O2 Service standard.

Technical Data

GDR-500

Max Inlet Pressure: 550 PSIG (37.9 bar)

Outlet Pressure Ranges:

Spring	Outlet Pressure Range
A	0-55 PSIG (0-3.8 bar)
B	50-135 PSIG (3.5-9.3 bar)
C	125-225 PSIG (8.6-15.5 bar)
D	225-450* PSIG (15.5-31 bar)

*rated at 450 PSIG @ 100°F
A, B, and C Range Springs are interchangeable.
D Range Spring requires dedicated Chamber.

Fail Open Flow Coefficients:

Port Configuration	Fail Open Cv
1/4" NPT and BSPT	1.6
3/8" NPT	2.4
1/2" NPT and BSPT	2.9

GDR-1000

Max Inlet Pressure: 400 PSIG (27.6 bar)

Outlet Pressure Ranges:

Spring	Outlet Pressure Range
A	0-55 PSIG (0-3.8 bar)
B	50-135 PSIG (3.5-9.3 bar)
C	125-225 PSIG (8.6-15.5 bar)

A, B, and C Range Springs are interchangeable.

Fail Open Flow Coefficients:

Port Configuration	Fail Open Cv
3/4" and 1" NPT	5.8
3/4" and 1" BSPT	5.8

GDR-500 Pilot Operated

Max. Pilot: 450 PSIG (31.0 bar) @ 100°F
Max. Usable Cv: 1.5
Pilot Pressure to Outlet Pressure: 1/.95
(100 PSI Pilot = 95 PSI Outlet)

GDR-1000 Pilot Operated

Max. Pilot: 250 PSIG (17.2 bar) @ 140°F
Max. Usable Cv: 2.7
Pilot Pressure to Outlet Pressure: 1/.90
(100 PSI Pilot = 90 PSI Outlet)

Effect of Inlet Pressure Variation on Set (Regulator Balance): < 0.25 PSI per 100 PSI

Materials of Construction

Component	Material
Body	CW617N Forged Brass, EN 12420
Adjustment Screw, Valve, Valve Stem, Spring Button, Spring Retainer, Venturi Tube	CDA 360 Brass, ASTM B16
Chamber Insert	303 SS, ASTM A276
Adjustment Springs	GDR-500: Music Wire, ASTM A228 GDR-1000: Chrome Silicon, ASTM A401
Valve Spring	302 SS, ASTM A313
Diaphragm	FKM, EPDM, or Nitrile on Nylon Backing
Soft Seals (Valve and O'Rings)	FKM, EPDM, or Nitrile
Trim (Flange Screws and Locknut)	18-8 Stainless Steel

NOTES: Regulators are assembled with Dupont Krytox® lubricant.

STANDARD

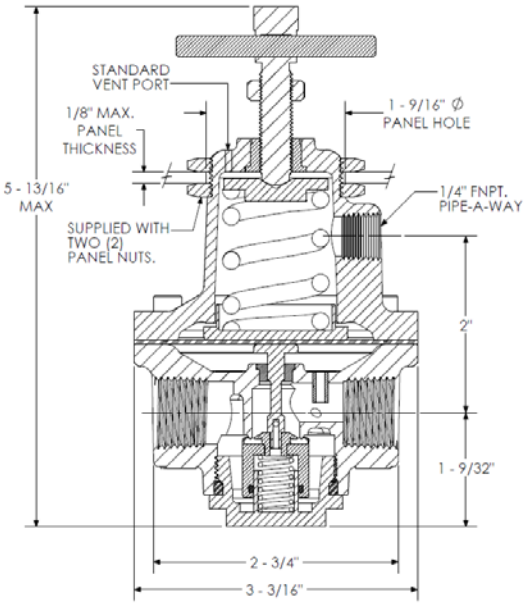
PILOT OPERATED

PANEL MOUNT

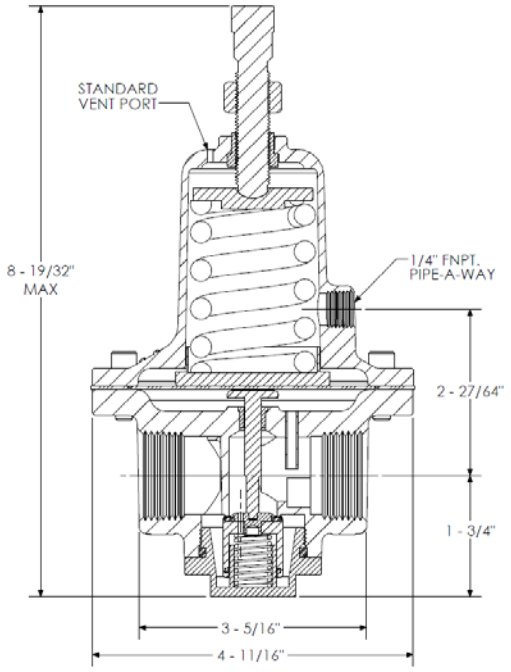
PIPE-A-WAY OPTION

GAS DELIVERY REGULATOR

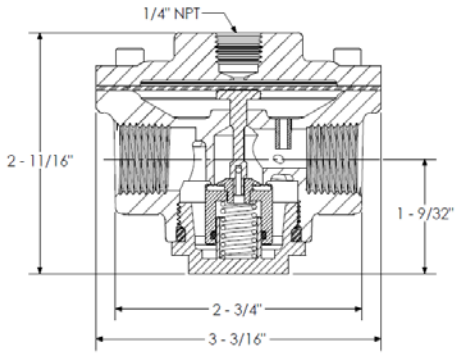
Dimensional Data



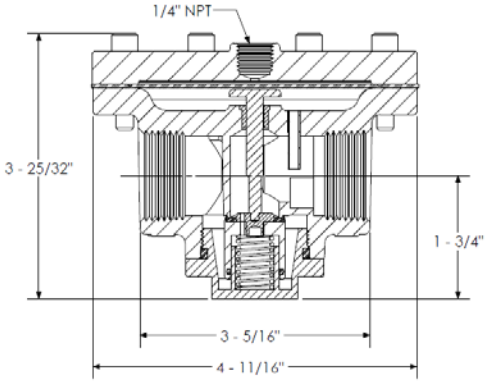
GDR-500
(shown with Panel Mount and Pipe-A-Way Options)



GDR-1000
(shown with Pipe-A-Way Option)



GDR-500 Pilot Operated

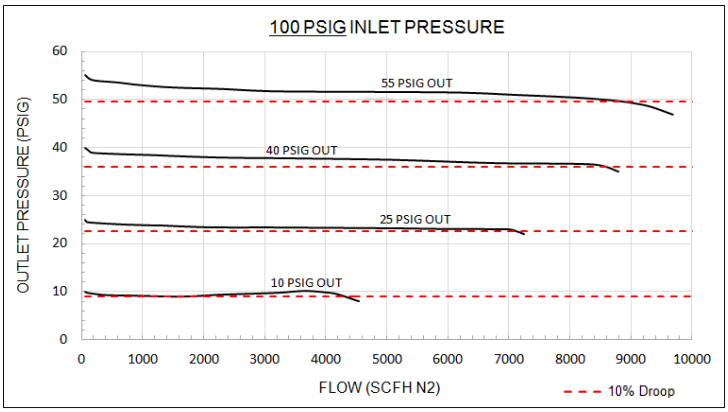


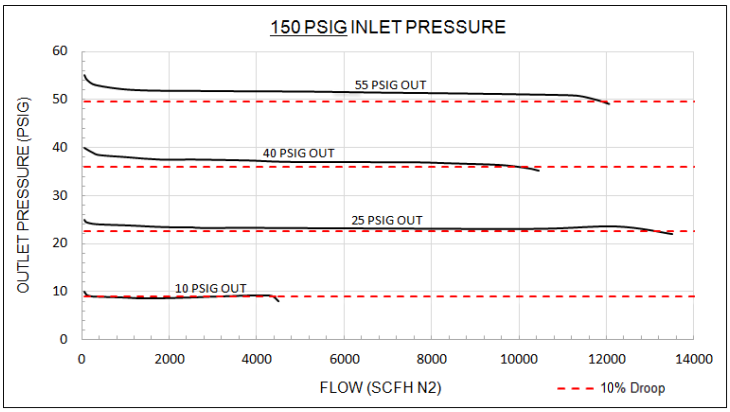
GDR-1000 Pilot Operated

Flow Performance

Each chart provides a variety of regulator setpoints and its respective flow performance with a constant inlet pressure condition. Flow Testing was performed using Nitrogen gas at ambient conditions. Use gas conversion factors listed on the next page to convert flow rates to a different gas service. Regulators were set in a dynamic condition at 60 SCFH N2 flow.

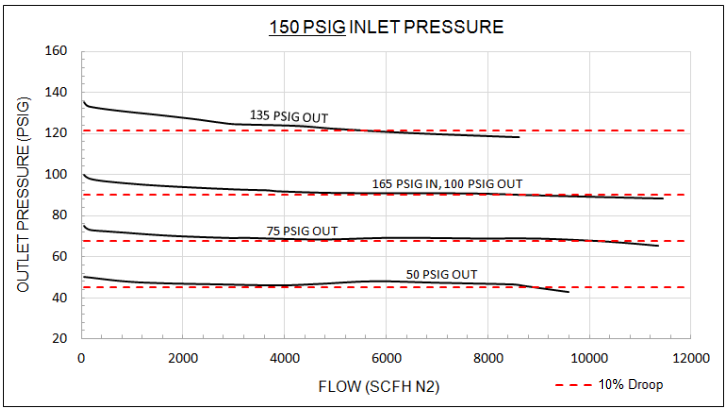
GDR-500: A Spring

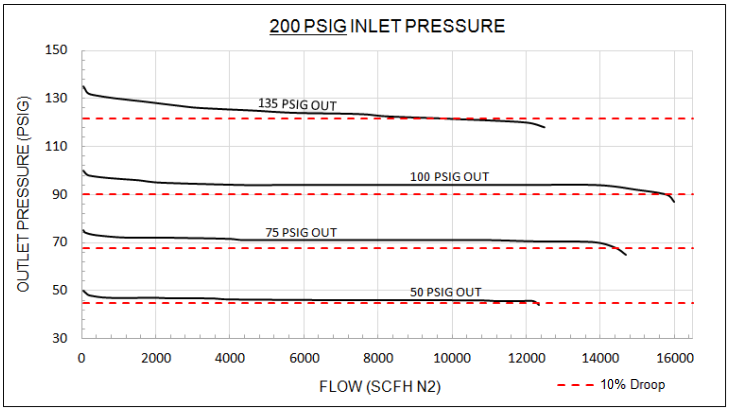




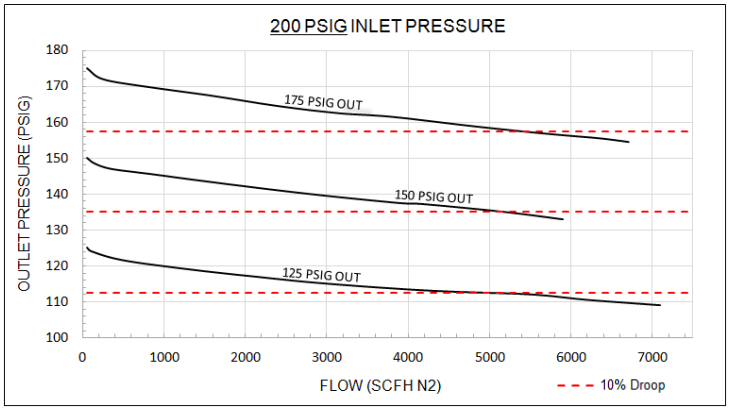
Flow Performance (continued)

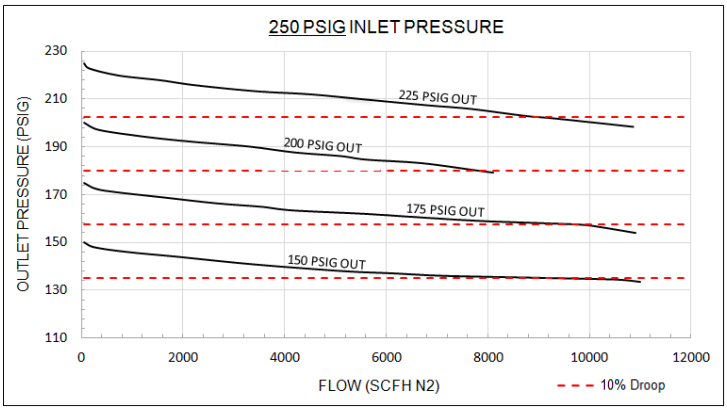
GDR-500: B Spring



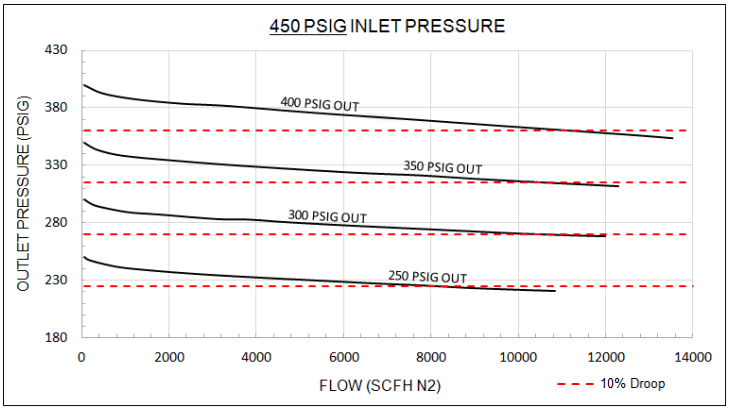


GDR-500: C Spring





GDR-500: D Spring

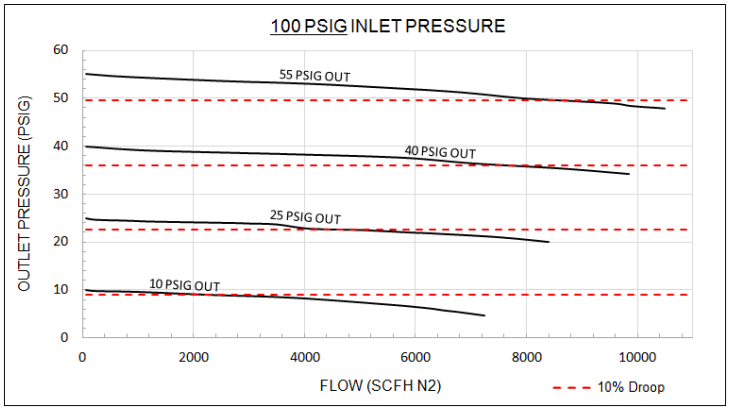


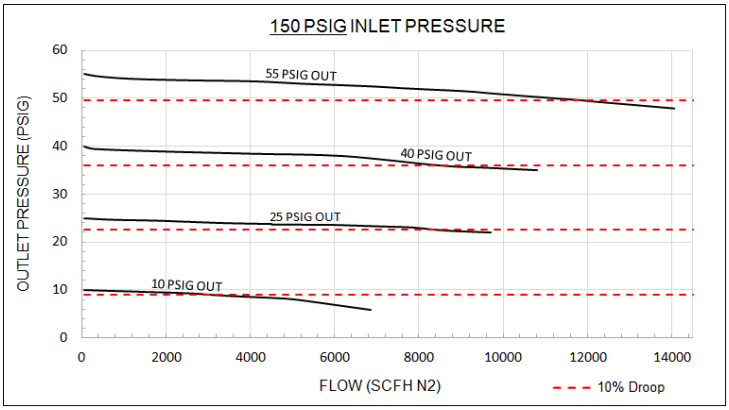
GAS CONVERSION FACTORS

Multiply Nitrogen Flow Rate by Conversion Factor to find equivalent gas flow rate.

Gas	Conversion Factor
Air	0.985
Argon	0.837
Carbon Dioxide	0.795
Helium	2.645
Hydrogen	3.603
Nitrogen	1.0
Nitrous Oxide	0.799
Natural Gas	1.285
Oxygen	0.935
Methane	1.320

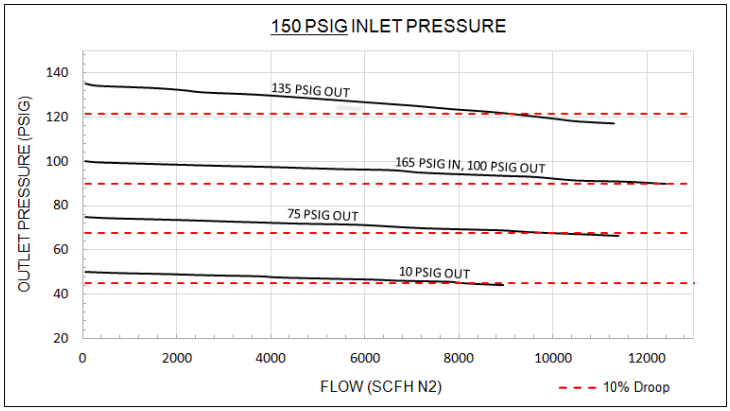
GDR-1000: A Spring

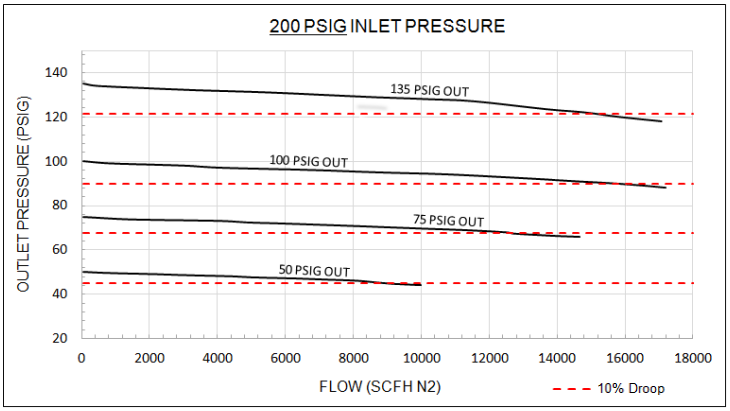




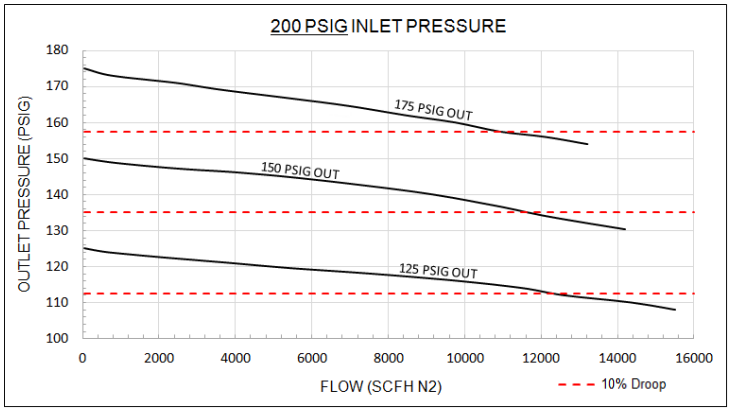
Flow Performance (continued)

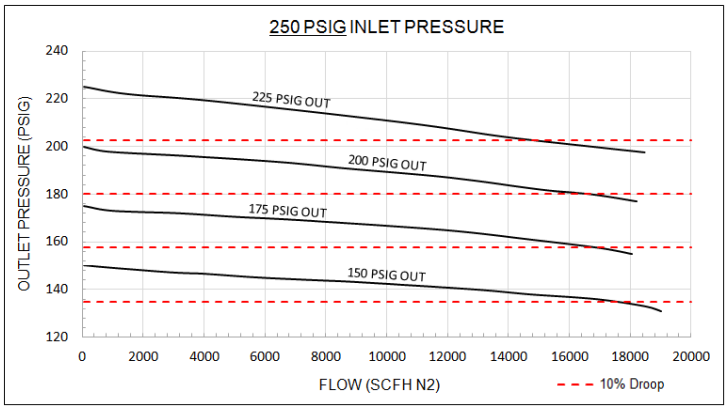
GDR-1000: B Spring





GDR-1000: C Spring





How To Order

4GDR - 750B - V - A - S

SERIES
4GDR - 4 Port Gas Delivery Regulator
5GDR - 4 Port Gas Delivery Regulator with Pipe-A-Way Chamber (1/4" NPT)

PORT SIZE
250B - 1/4" NPT
375B - 3/8" NPT
500B - 1/2" NPT
2BSPT - 1/4" BSPT
4BSPT - 1/2" BSPT
750B - 3/4" NPT
1000B - 1" NPT
6BSPT - 3/4" BSPT
8BSPT - 1" BSPT

GDR-500 ONLY

OPTION
S - Side Vent
W - Hex Adjustment Screw
P - Panel Mount

OUTLET PRESSURE RANGE
A - 0 to 55 PSIG
B - 50 to 135 PSIG
C - 125-225 PSIG
D - 225 to 450 PSIG
PO - Pilot Operated

SEALS / DIAPHRAGM MATERIAL
V - GLT Fluoroelastomer (-20°F to 225°F)
EP - EPDM - CO2 Service (-60°F to 225°F)
B - Nitrile - NG Service (-40°F to 225°F)

Seals/Diaphragm Material Compatibility Notes:
EP – EPDM: Recommended for CO2 Service
B – Nitrile: Recommended for NG Service, NOT recommended for O2 Service

Repair Kits

Includes: Valve Stem, Diaphragm, Valve Assembly, Valve Spring and Bottom Plug O-Ring

Model Size	Seal Material	Specify
1/4", 3/8" & 1/2"	FKM	GDR-RK-1V
	EPDM	GDR-RK-1EP
	Nitrile	GDR-RK-1B
3/4" & 1"	FKM	GDR-RK-2V
	EPDM	GDR-RK-2EP
	Nitrile	GDR-RK-2B

NOTE: FKM and EDPM Kits are cleaned for Oxygen Service.

Replacement Spring Kits

Includes: Spring (3/4" & 1" kit includes corresponding spring retainer)

Model Size	Specify
1/4", 3/8" & 1/2"	GDR-SK-1-*
3/4" & 1"	GDR-SK-2-*

***Specify Spring Model Code: A, B, C, or D**

Note: All Regulators are supplied with 2 (two) ¼" NPT Pipe Plugs. Pipe plugs are supplied finger tight. Final installation is the responsibility of the end user.

GENERANT
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT

CRYOGENIC/PRESSURE BUILD REGULATOR
3/8” and 1/2" NPT, BSPT
Inlet 400 Psig (28 Bar)

CR SERIES

Description

The Generant Series CR Cryogenic Regulator provides high flow during Cryogenic Vessel Pressure Build function and increased sensitivity to downstream pressure changes as a function of our pre-formed all metallic diaphragm and optimized spring design. The unique diaphragm is unlike anything on the market today and results in less decrease in Cryogenic vessel pressure and faster recovery during periods of higher demand, thus decreasing the potential for flooding the pressure build coil. The unit features a 304 SS Inlet Strainer/Filter to aid in reducing contaminant related failures. Optional Cleaned and Packaged for Oxygen Service Series CR Regulators utilize Monel Inlet Strainer/Filters. All Series CR Cryogenic Regulators are 100% Factory Tested and are supplied factory pre-set.

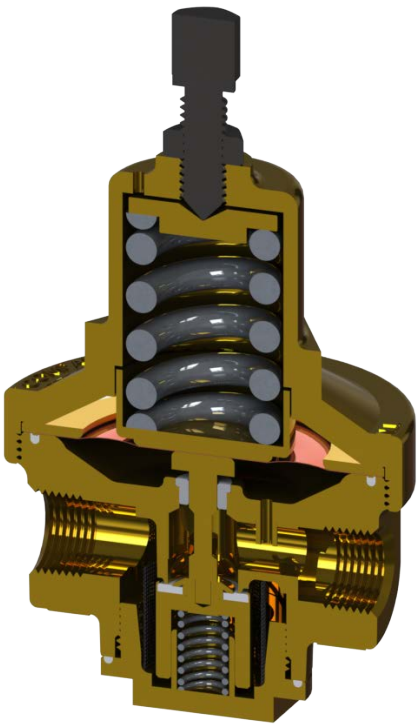
Features

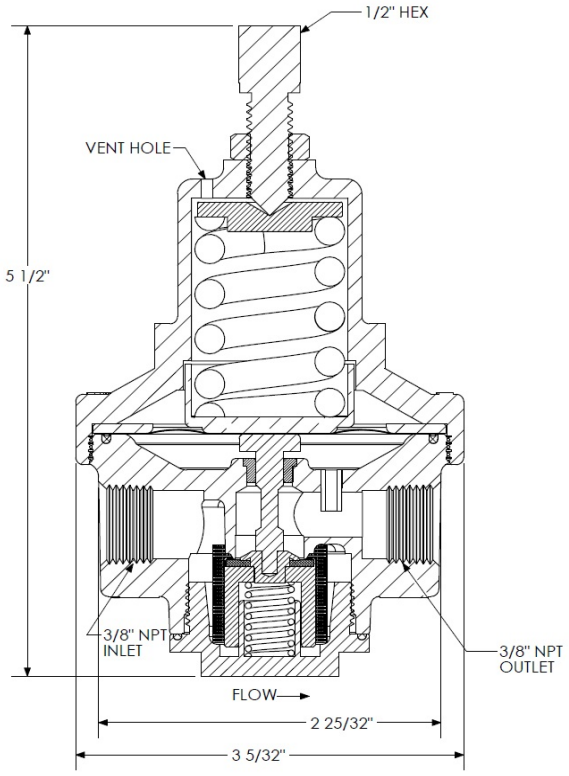
- Designed for High Flow Liquid Service
- Can be installed Upstream or Downstream of the Vaporizer
- Unique Pre-Formed Multiple Stacked Phosphorous Bronze Diaphragms
- Can be Supplied Factory Preset
- Hex Head Adjustment Screw with Locknut
- 304 SS Inlet Strainer/Filter
- Optional Cleaned and Packaged for Oxygen Service **(includes Monel Inlet Strainer/Filter**)

Materials of Construction

- Forged Brass Body and Chamber, ASTM 377
- Brass Bar Stock Components, ASTM B16
- Phosphorous Bronze Diaphragms, ASTM B103
- PTFE Valve, Diaphragm and Bottom Plug Seal, ASTM D1710
- PCTFE Valve Stem Bearing, ASTM D1430
- 17-7PH Stainless Steel Adjustment and Valve Spring, ASTM A313
- Stainless Steel Adjustment Screw and Locknut, ASTM A276
- 304 SS Inlet Strainer/Filter **(Monel Inlet Strainer/Filter when specified for Oxygen Service)**

CRYOGENIC/PRESSURE BUILD REGULATOR





Technical Data

Maximum Inlet Pressure: 400 Psi (28 Bar)
Outlet Pressure Range: 0 to 235 Psi (0 to 16 Bar)
Temperature Range: -320° to 225° F (78° to 380° K)
Fail Open C_V: 3/8" NPT Ports – 2.4
1/2" NPT and BSPT Ports – 2.9

Flow Capacity

Flow Capacity is system dependent. For accurate flow capacity data, consult Generant with your specific system characteristics for more information.

How To Order

2CR - 375 - C - X

SERIES
2CR - 2 Port Cryogenic/ Pressure Build Regulator

PORT SIZE
375 - 3/8" FNPT
500 - 1/2" FNPT
4BSPT - 1/2" BSPT

CLEANING OPTION
X- Cleaned and Packaged for Oxygen Service (includes Monel Inlet Strainer/Filter)

OUTLET PRESSURE CODE

CODE	RANGE (PSI)	FACTORY SETTING (PSI)	PSI/TURN (APPROX)
A	0 - 35	20	8
B	25 - 135	75	25
C	100 - 235	150	55

Note: Regulators are supplied pre-set to factory setting shown above. When adjusting regulator set pressure up (CW) or down (CCW), approximate PSI/TURN can be used as a reference.

For additional configurations consult factory.

Repair Kits

Includes: Valve Assembly, Bottom Plug O-Ring, Valve Spring, 304 SS Inlet Strainer/Filter (Monel Inlet Strainer/Filter for Oxygen Service Kits), Valve Stem, Preformed Phosphorous Bronze Diaphragms (2) and Diaphragm O-Ring.

Specify: CR-RK-500 (304 SS Inlet Strainer/Filter for Standard Service)
CR-RK-500-X (Monel Inlet Strainer/Filter for Oxygen Service)

Note: Repair Kits fit all port sizes.

Replacement Spring Kits

Includes: Adjustment Screw and Spring

Specify: CR-SK-500-A, 0-35 PSI Range
CR-SK-500-B, 25-135 PSI Range
CR-SK-500-C, 100-235 PSI Range

Note: Adjustment Screws are sized according to Springs. Spring Code is engraved on the Adjustment Screw (A, B, C).

GENERANT
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT
Valves & Bi-Lok Fittings

BACK PRESSURE REGULATOR
1/4" NPT
15 - 525 PSI

BPR SERIES

Description

BPR Series back pressure regulators are designed for use as both economizers or diaphragm type pressure limiting devices on cryogenic liquid cylinders and systems. Optimized diaphragm and adjustment spring designs provide high flow above the desired setpoint. Robust metal-metal seal and seat design ensures low leakage rates below setpoint. The BPR Series is constructed of primarily brass and stainless steel for long-lasting performance. All BPR Series regulators are supplied factory pre-set and cleaned for oxygen service.

BPR-250

Features

- **OPTIMIZED FOR HIGH FLOW**: Optimized Diaphragm and Spring Design allows for high flow rates at pressures beyond setpoint.
- **QUICK SHUT-OFF**: Regulators transition from the flowing condition to shut in a tight pressure band.
- **INLET FILTER SCREEN:** Protects against system debris and particulate.
- **DESIGNED FOR CRYOGENICS**: All materials were selected specifically for use in cryogenic environments.
- **FIELD ADJUSTABLE**: Regulators can be adjusted to any desired setpoint within the spring's pressure range.
- **CLEANED FOR OXYGEN SERVICE**: Regulators are cleaned for use in Oxygen service standard.

Technical Data

Max Inlet Pressure: 600 PSIG (41.4 bar)

Pressure Ranges:

Spring	Pressure Range
A	15 to 65 PSIG (1.0 to 4.5 bar)
B	50 to 175 PSIG (3.4 to 12.1 bar)
C	150 to 350 PSIG (10.3 to 24.1 bar)
D	300 to 525 PSIG (20.7 to 36.2 bar)

A, B, and C Range Springs are interchangeable.
D Range Spring requires Chamber Ring.

Temperature Range: -320° to 200°F (-196° to 93°C)

BPR-250I

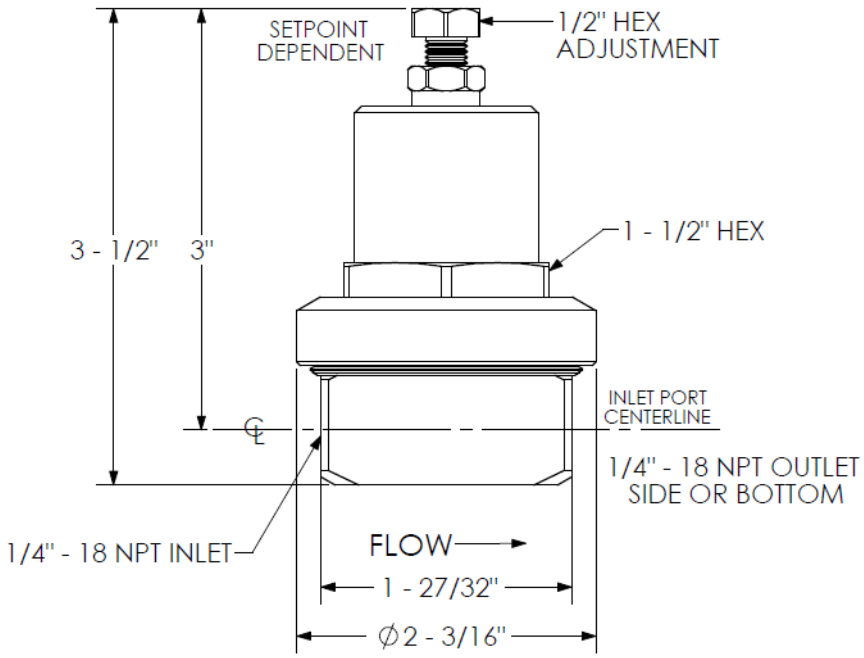
Materials of Construction

Component	Material
Body, Chamber, Spring Button, Spring Retainer, Chamber Ring	CDA 360 Brass, ASTM B16
Adjustment Springs	Chrome Silicon, ASTM A401
Adjustment Screw, Locknut, Diaphragm Assembly Screw, Lock Washer	18-8 Stainless Steel
Poppet, Seat	303 SS, ASTM A313
Diaphragms	Phosphor Bronze
Inlet Filter Screen	Brass Wire Mesh, ASTM E437
Diaphragm Gasket	Vulcanex ®
Chamber and Diaphragm Assembly Seal	Gylon ®

NOTE: Regulators are assembled with Dupont Krytox® lubricant.

BACK PRESSURE REGULATOR

Dimensional Data



How To Order

BPR - 250 - B - 140

SERIES

BPR - Back Pressure Regulator

PORT CONFIGURATION

250 - 1/4" NPT, Side IN - Bottom OUT
250I - 1/4" NPT, Side IN - Side OUT

SET PRESSURE

Specify set pressure in PSI

SPRING RANGE

A - 15 to 65 PSI (1.0 to 4.5 bar)
B - 50 to 175 PSI (3.4 to 12.1 bar)
C - 150 to 350 PSI (10.3 to 24.1 bar)
D - 300 to 525 PSI (20.7 to 36.2 bar)

Replacement Spring Kits / Repair Kit

Part Number	Spring
CRM-SK-A	A (15 to 65 PSI)
CRM-SK-B	B (50 to 175 PSI)
CRM-SK-C	C (150 to 350 PSI)
CRM-SK-D	D (300 to 525 PSI)

All Replacement Spring Kits come with a Replacement Spring, Adjustment Screw, Chamber Seal, and either Diaphragm Gasket (A, B, and C springs) or Chamber Ring (D Spring).

GENERANT
Valves & Bi-Lok Fittings
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT
Valves & Bi-Lok Fittings

CRYOGENIC REGULATOR, MINI
1/4" NPT
Inlet 600 PSI (41.4 bar)

CRM SERIES

Description

CRM Series pressure regulators provide high flow and quick, positive shut off at the desired set pressure. The regulator design is a non-balanced, spring reference, pressure reducing type regulator. They were designed especially for use as pressure build regulators for cryogenic liquid cylinders but can be used in many other applications. Solid, non-tied diaphragm provides leak-free and long-lasting performance. Optimized diaphragm and adjustment spring designs provide high flow performance. All CRM Series regulators are supplied factory pre-set and cleaned for oxygen service.

Features

- **OPTIMIZED FOR HIGH FLOW**: Optimized Spring and Diaphragm Design allows for high flow rates and low pressure drop.
- **QUICK SHUT-OFF**: Regulators transition from the flowing condition to shut in a tight pressure band.
- **SOLID, NON-TIED, DIAPHRAGM**: Solid diaphragm eliminates potential leak path and increases sensitivity.
- **DESIGNED FOR CRYOGENICS**: All materials were selected specifically for use in cryogenic environments.
- **CLEANED FOR OXYGEN SERVICE**: Regulators are cleaned for use in Oxygen service standard.

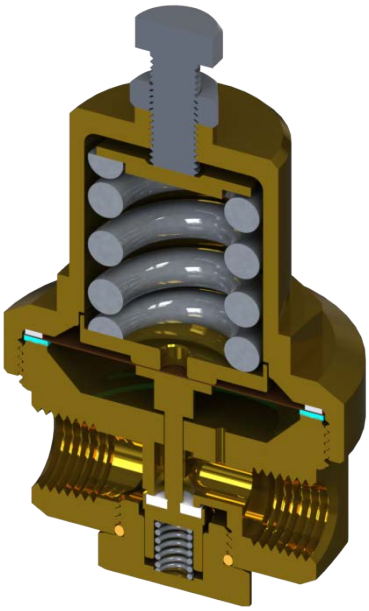
Technical Data

Max Inlet Pressure: 600 PSIG (41.4 bar)

Outlet Pressure Ranges:

Spring	Outlet Pressure Range
A	15 to 65 PSIG (1.0 to 4.5 bar)
B	50 to 175 PSIG (3.4 to 12.1 bar)
C	150 to 350 PSIG (10.3 to 24.1 bar)
D	300 to 525 PSIG (20.7 to 36.2 bar)

A, B, and C Range Springs are interchangeable.
D Range Spring requires Chamber Ring.



Temperature Range: -320° to 200°F (-196° to 93°C)

Full Open Flow Coefficient: 0.51

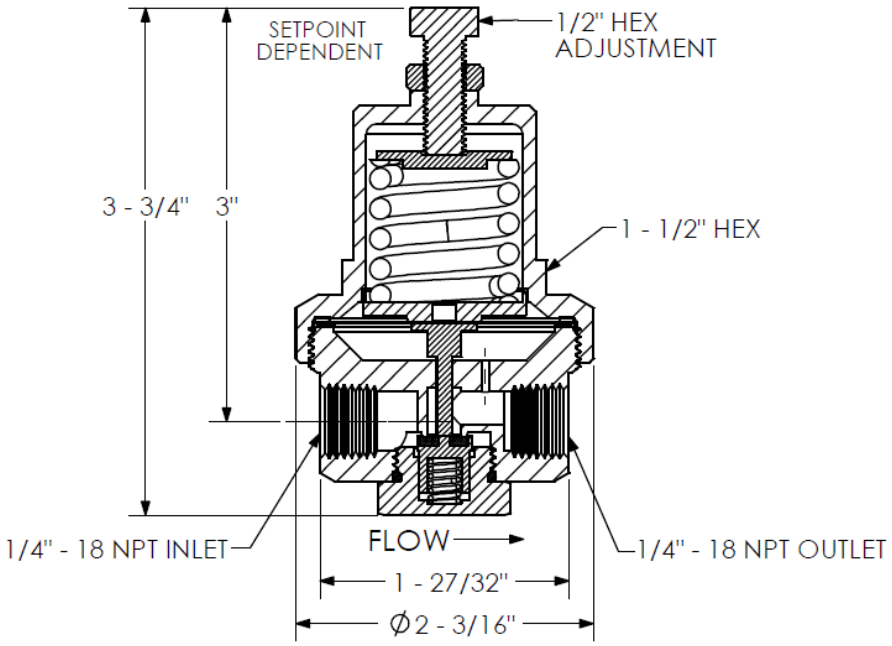
Materials of Construction

Component	Material
Body, Chamber, Valve Body, Stem, Spring Button, Spring Retainer, Bottom Plug	CDA 360 Brass, ASTM B16
Adjustment Springs	Chrome Silicon, ASTM A401
Adjustment Screw and Locknut	18-8 Stainless Steel
Valve Spring	302 SS, ASTM A313
Diaphragms	Phosphor Bronze
Diaphragm Gasket	Vulcanex ®
Valve Seal	PTFE
Chamber Seal	Gylon ®
Bottom Plug Seal	Silicone

NOTE: Regulators are assembled with Dupont Krytox® lubricant.

CRYOGENIC REGULATOR, MINI

Dimensional Data



How To Order

CRM-250 - B - 125

SERIES

CRM-250 - Cryogenic Regulator Mini, 1/4" NPT, Side IN, Side OUT

SPRING RANGE

A - 15 to 65 PSI (1.0 to 4.5 bar)
B - 50 to 175 PSI (3.4 to 12.1 bar)
C - 150 to 350 PSI (10.3 to 24.1 bar)
D - 300 to 525 PSI (20.7 to 36.2 bar)

SET PRESSURE

Specify set pressure in PSI

Replacement Spring Kits / Repair Kit

Part Number	Spring
CRM-SK-A	A (15 to 65 PSI)
CRM-SK-B	B (50 to 175 PSI)
CRM-SK-C	C (150 to 350 PSI)
CRM-SK-D	D (300 to 525 PSI)

All Replacement Spring Kits come with a Replacement Spring, Adjustment Screw, Chamber Seal, and either Diaphragm Gasket (A, B, and C springs) or Chamber Ring (D Spring).

GENERANT
Valves & BI-Lok Fittings
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

GENERANT

SERIES NR REGULATOR
1/4", 3/8" and 1/2" NPT, BSPT
Inlet 232 Psig (16 Bar)

SERIES NR

R-110 Approved
E11 110R-000115

Description

Designed specifically for Large Vehicle NG Fueling Systems, the Series NR features our unique pre-formed Phosphorous Bronze Dual Diaphragm Stack providing increased sensitivity to changes in fuel demand over conventional flat sheet metal diaphragm designs. The metal diaphragms also provide wider temperature operating conditions than elastomeric diaphragm designs. An integral Stainless Steel filter screen aids in providing long service life. The Series NR has been tested and certified for use on Natural Gas Vehicle Fueling Systems to the rigid standards of the European Regulation ECE R110. All NR Series Regulators are provided R110 Stamped.

Features

- Specifically Designed for NGV Fuel Systems
- Certified to European Regulation UN ECE R110
- Unique Pre-Formed Multiple Stacked Phosphorous Bronze Diaphragms
- Hex Head Adjustment Screw with Locknut
- Inlet Strainer/Filter

Technical Data

Maximum Inlet Pressure: 232 Psi (16 Bar)
Outlet Pressure Range: 0 to 120 Psi (0 to 8.3 Bar)
Temperature Range: -40° to 250° F (-40° to 120 °C)
Fail Open C_V: 1/4" NPT and BSPT – 1.6
3/8" NPT – 2.4
1/2" NPT, BSPT, 8SAE – 2.9

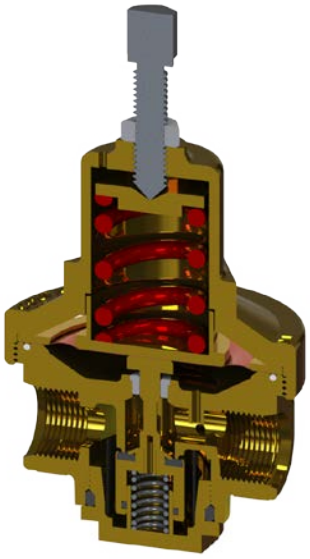
UN ECE R110 Registration Number

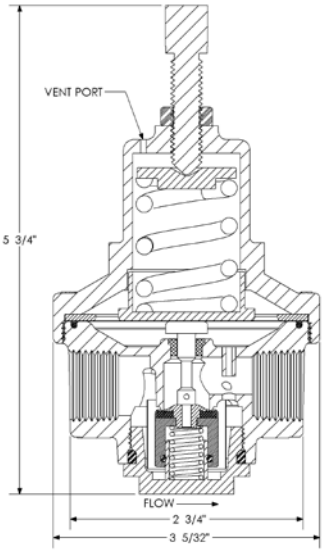
E11 110R-000115 Class 1, per ECE R110

Materials of Construction

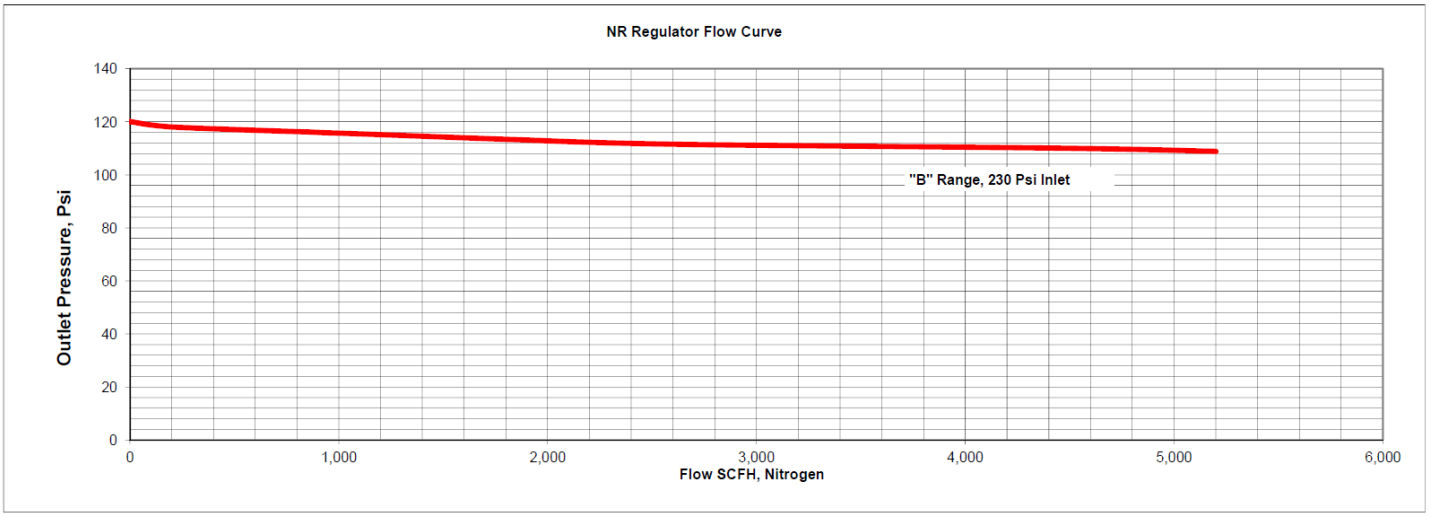
- Forged Brass Body and Chamber, ASTM 377
- Brass Bar Stock Components, ASTM B16
- Phosphorous Bronze Diaphragms, ASTM B103
- PTFE Diaphragm Seal, ASTM D1710
- HNBR Valve, Valve O'ring and Bottom Plug Seals
- PCTFE Valve Stem Bearing, ASTM D1430
- 17-7PH Stainless Steel Adjusting and Valve Spring, ASTM A313
- Stainless Steel Adjustment Screw and Locknut, ASTM A276
- Stainless Steel Inlet Strainer/Filter

SERIES NR REGULATOR





Flow Capacity



Flow Capacity is system dependent. For accurate flow capacity data, consult Generant with your specific system characteristics for more information.

How To Order

4NR - 375 - B

SERIES
2NR - 2 Port NR Regulator
4NR* - 4 Port NR Regulator
*(Supplied with 1/4" FNPT Gage Ports)

PORT SIZE
250 - 1/4" FNPT
375 - 3/8" FNPT
500 - 1/2" FNPT
2BSPT - 1/4" BSPT
4BSPT - 1/2" BSPT
8SAE - 3/4"-16 SAE O-RING

OUTLET PRESSURE CODE
0-120 psi (0-8.3 Bar)
Note: If factory preset, omit Outlet Pressure Code and specify inlet pressure and desired outlet set pressure.

For additional configurations consult factory.

Repair Kit

Includes: Valve and O-Ring Assembly, Bottom Plug O-Ring, Valve Spring, Filter/Strainer, Valve Stem, Preformed Phosphorous Bronze Diaphragms (2) and Diaphragm O-Ring.

Specify: NR-RK-500

Note: Repair Kit fits all port sizes.

Replacement Spring Kits

Includes: Adjustment Screw and Spring

Specify: NR-SK-500-B, 0-120 PSI Range

GENERANT
www.generant.com
1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888

PILOT PRESSURE REGULATOR
1/4" NPT
Inlet 400 Psig (27.6 Bar)

PR SERIES

Description

Generant Series PR, Pilot Pressure Regulators are balanced, relieving regulators ideally suited for providing a reliable, constant pilot pressure to a Pilot Operated / Dome Loaded regulator. The balanced design allows for a consistent, regulated downstream pressure regardless of fluctuations in inlet pressure. The relieving function allows the regulator to vent when adjustments are made without the need for bleeding pressure from the pilot circuit. Materials of construction allow for compatibility with most gases. The Series PR can be ordered Cleaned & Packaged for Oxygen Service.

Features

- Balanced Design to Minimize Outlet Pressure Fluctuations upon Changing Inlet Pressure
- Relieving Design Suitable for Pilot Pressure Applications
- Optimized spring performance and patented Venturi tube provides high flow rates with low droop
- Easily cleanable by removing bottom plug
- Optional Plastic knob and Panel Mounting Configurations

Technical Data

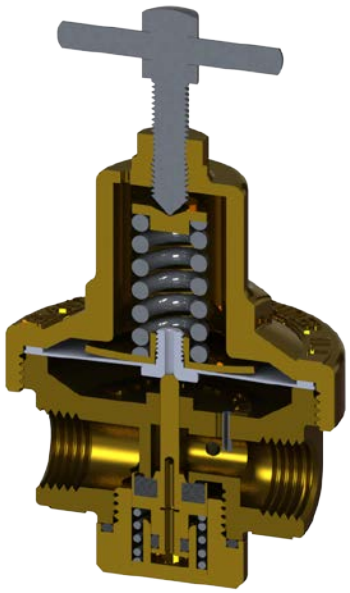
Maximum Inlet Pressure: 400 Psig (27.6 Bar)
Effect of Inlet Pressure Variation: < 1.0 PSI / 100 PSI
Temperature Range: -20 to 200 °F (-30 to 95 °C)

Pressure Ranges

Spring Code	Outlet Pressure Range PSI (bar)
A	0 - 50 (0-3.4)
B	5 - 125 (0.3-8.5)
C	10 - 200 (0.7-13.6)

Flow Coefficient Cv

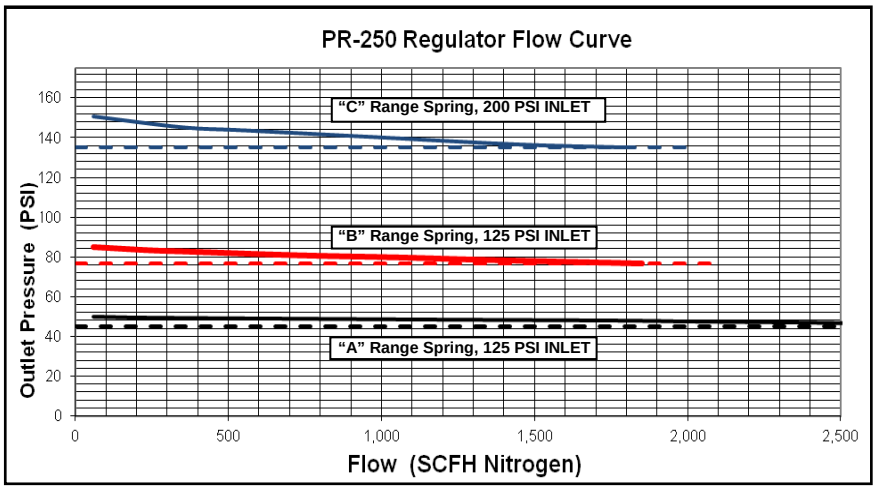
Size	Fail-Open
1/4" NPT	1.6



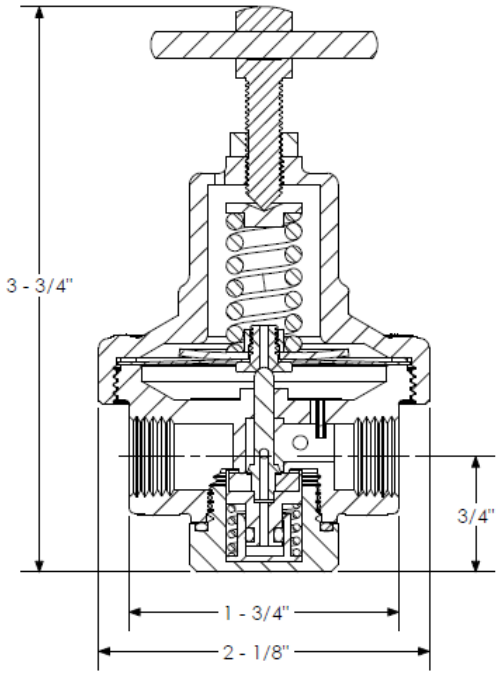
Materials of Construction

Component	Material
Body, Spring Chamber	Forged Brass, ASTM 377
Spring Button, Adjustment Screw Lock Nut, Bottom Plug, Panel Nut, Diaphragm Nut, Turbulence Pin	Brass, ASTM B16
Diaphragm Plate	Brass, ASTM A36
Adjustment Screw	303 Stainless Steel, ASTM A582
Valve and Stem Assembly	Brass, ASTM B16 and EPDM / FKM
Valve O-ring	EPDM / FKM
Adjustment Spring	Plated Music Wire, ASTM A228
Valve Spring	Phosphorous Bronze, ASTM B103
Bottom Plug O-ring	EPDM / FKM
Diaphragm Gasket	Red Fiber
Diaphragm	EPDM / FKM on Nylon
Diaphragm Screw	Nylon 101 (Type 66)

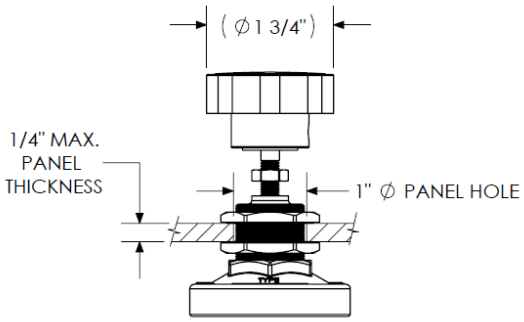
PILOT PRESSURE REGULATOR



*Initial Set Pressure at 1 SCFM Flow: A - 50 PSIG, B – 85 PSIG, C – 150 PSIG
** Dotted line represents 10% decrease in outlet pressure from set point (droop)



Panel Mount Dimensions:



How To Order

4PR - 250 - V - A - X

SERIES
4PR - 4 Port, Pilot Pressure Regulator
4PRP - 4 Port, Pilot Pressure Regulator, Panel Mount*
Note: Regulators have 1/4" NPT Female Outlet Pressure Gauge Ports.

PORT SIZE
250 - 1/4" NPT Ports
Note: For other porting configurations, consult factory.

OPTIONS*
M - Plastic Knob
X - Oxygen Clean
* - May specify more than one option

SPRING RANGE
A - 0-50 Psig (0-3.5 bar)
B - 5-125 Psig (0.4-8.6 bar)
C - 10-200 Psig (0.7-13.8 bar)

SEAL MATERIAL
E - EPDM
V - FKM

Repair Kits

Seal Material	Specify	Kit Includes
FKM	PR-100V-*	FKM Valve Assembly, Diaphragm Assembly, Fiber Diaphragm Gasket, Adjusting Spring (Specify Range), Adjusting Spring Button, Valve Spring, Bottom Plug O-Ring
EPDM	PR-100EP-*	EPDM Valve Assembly, Diaphragm Assembly, Fiber Diaphragm Gasket, Adjusting Spring (Specify Range), Adjusting Spring Button, Valve Spring, Bottom Plug O-Ring

*Specify Spring Range: A, B, or C

GENERANT
www.ipapsa.mx
55.53.08.01.48 • contacto@ipapsa.mx