

NPR4100 Series

Negative Pressure Regulator

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Customer Value Proposition:

The NPR4100 Series regulator offers negative delivery pressures with the use of low pressure gas sources. This regulator is specifically designed to regulate negative pressures down to -26 in. Hg vacuum (100 Torr).

Close tolerances and tight alignment of moving components minimize hysteresis and improve cycle life. Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.



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Product Features:

- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. The low internal volume reduces purge times.
- Cleaned for O₂ service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Selection of seat materials for media compatibility and temperature applications.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.



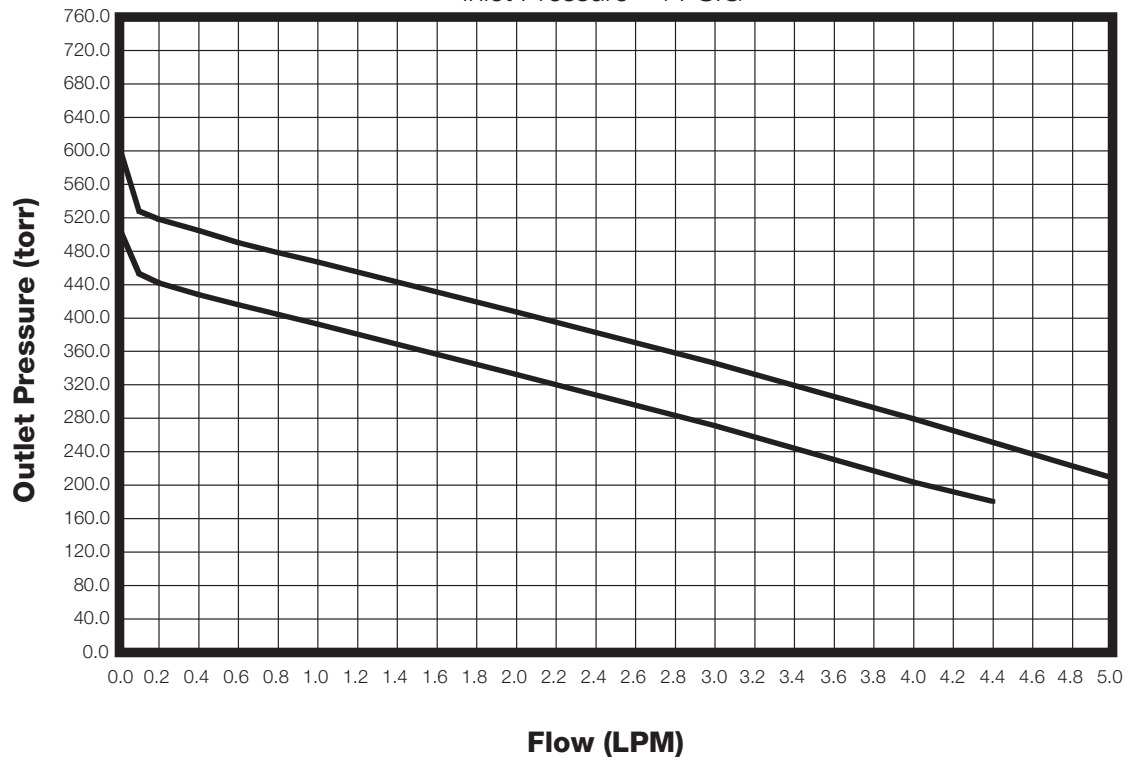
ENGINEERING YOUR SUCCESS.

NPR4100 Series

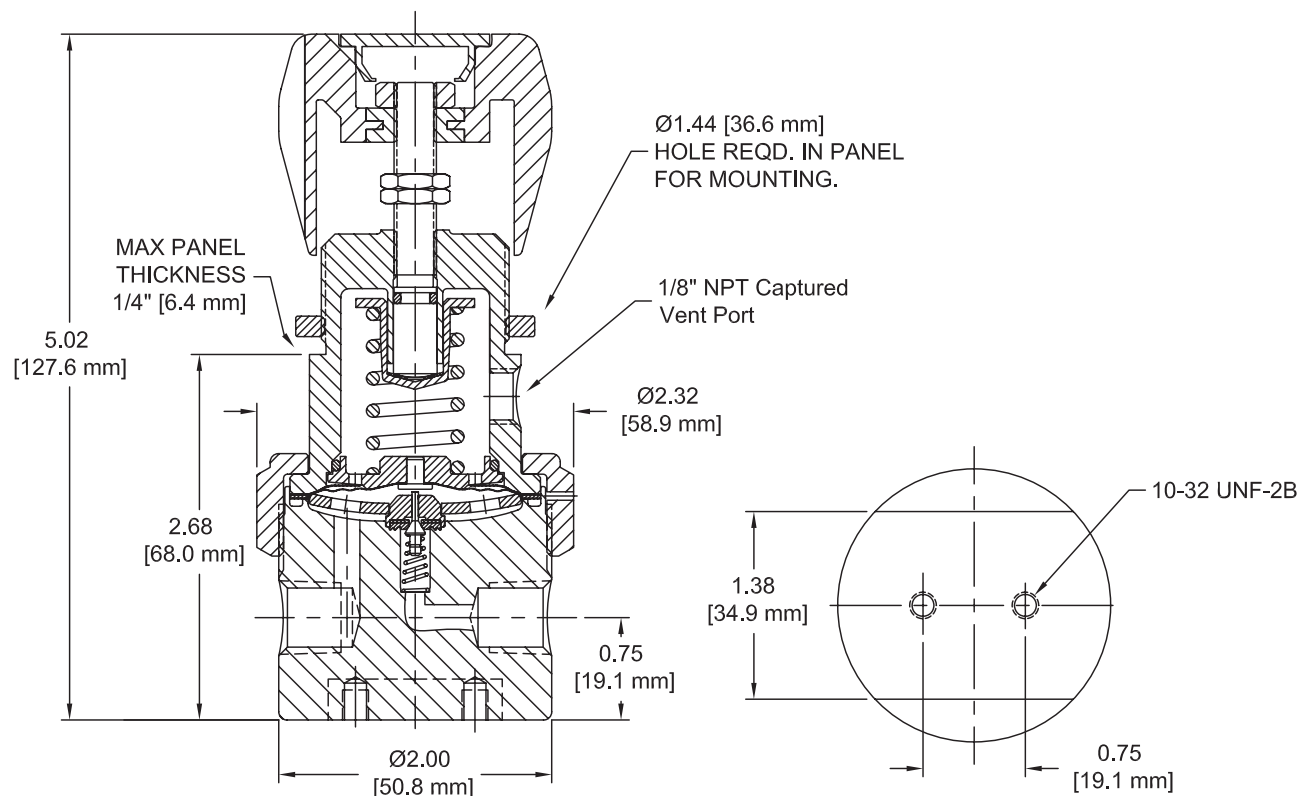
Flow Curves

Additional configurations available upon request

NPR4100 ($C_v = .06$)
Inlet Pressure - 4 PSIG



Dimensional Drawing



Safety Guide and Installation and Operating Instructions available at
www.parker.com/veriflo


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Ordering Information


Build an NPR4100 Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

Sample: **NPR410**  **0**  **S**  **K**  **4P**  **V3**  **X**  **4**  **B**  **CS**  **CS** 


Finished Order: **NPR4100SK4PV3X4BCS**

 **1 Pressure Range**
0 = -26 in Hg - 10 psig

 **2 Body Material**
S = 316L Stainless Steel
B = Brass
H = Hastelloy C-22®
M = Monel®


 **3 Flow Capacity**
omit = 0.06 Cv (Standard)
1 = 0.02 Cv
2 = 0.15 Cv


 **4 Seat Material**
K = PCTFE
P = PEEK™
V = Vespel® - Recommended for Nitrous Oxide (N2O) Service


 **5 Porting**
2P = 2 Ports - No X required for gauges, Inlet & outlet ports only
3P = 3 Ports - One X for gauge port
4P = 4 Ports - Two X's for gauge ports
4PB = 4 Ports - One X for gauge port

Note:
Ports may be plugged for NPT threaded product.


See Regulator Porting Guide for more information.

 **6 Outlet Gauge**
V3 = -30 in Hg 0 - 30 psig
X = No Gauge

 **7 Inlet Gauge**
V3 = -30 in Hg 0 - 30 psig
V1 = -30 in Hg 0 - 100 psig
2 = 0 - 200 psig
4 = 0 - 400 psig
X = No Gauge

 **8 Port Style**
2 = 1/8" NPT Female
4 = 1/4" NPT Female
6 = 3/8" NPT Female
4T = 1/4" A-LOK®
6T = 3/8" A-LOK®
8T = 1/2" A-LOK®

Note: All Gauge ports are 1/4" NPT Female.


 **9 Port Mounting**
B = 0.75 port height w/0.75 mounting hole pattern

 **10 Optional Features**
This section can have multiple options

B = True Ported Body (no plugs)
C = Corrosion Resistant External (Stainless Steel Cap)
D = Dome Loaded (Not available with G or M options)
G = Tamper Proof (Not available with D or M options)
L = PTFE Backup O-Ring (PTFE and PEEK™ Seats Only)
M = Metal Knob (White) (Not available with D or G options)
N = Nickel Plate (Brass bodies only)
R = Relief Valve (4PB Only)
S = Self Relieving
T = Hastelloy® Trim (Includes carrier and back-up washer. Option is for Stainless Steel body - Hastelloy® Trim is std with Hastelloy® and Monel® bodies)
V = Outlet Valve NOVAS44MF or NOVAB44MF for Brass Body

Note: Panel Mount Option:
Order Panel Nut Ring p/n: 41900363 as a separate line item.

Vent Muffler Option:
Order Vent Muffler p/n: 46600581 as a separate line item.

 **11 CGA#**
320, 330, 350, 510, 580, or 590
Do not exceed the rated pressure of the CGA connection.

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Specifications

Materials of Construction	
Wetted	
Body Options	316L Stainless Steel (<i>std</i>), Brass, Hastelloy C-22® and Monel® (<i>Hastelloy® Trim is std with Hastelloy® and Monel® bodies</i>)
Compression Member	Inconel 625®
Diaphragm	Hastelloy C-22®
Diaphragm Pin	Hastelloy C-22®
Poppet	Hastelloy C-276®
Poppet Spring	Inconel X750®
Seat Options	PCTFE, PEEK™ or Vespel®
Carrier Options	316L Stainless Steel (<i>std</i>) or Hastelloy C-22®
Washer Back-up Options	316 Stainless Steel (<i>std</i>) or Hastelloy C-276®
O-ring Back-up Options	FKM (<i>std</i>) or PTFE
Inlet Screen / Filter	316 Stainless Steel (<i>std</i>) (60µm mesh screen, 10µm Filter) Copper and Phosphor Bronze (on Brass bodies), Hastelloy® (on Hastelloy® & Monel® bodies)
Non-wetted	
Cap Options	Nickel Plated Brass (<i>std</i>) Stainless Steel
Nut	Stainless Steel
Knob Options	ABS (<i>std</i>) (ambient temp), Aluminum

Functional Performance	
Design	
Burst Pressure	12,000 psig (828 barg)
Proof Pressure	6,000 psig (414 barg)
Flow Capacity	
C _v Options	C _v 0.06 (<i>std</i>), C _v 0.02, C _v 0.15
Leak Rate	
Internal:	Bubble Tight
External:	Bubble Tight
Internal Volume	4.0 cc without fittings
Approx. Weight	1.5 lbs. (0.7 kg)
Operating Conditions	
Maximum Inlet	250 psig (17 barg)
Outlet Options	100 torr to 10 psig (-26 in Hg to .7 barg)
Temperature	<i>Based upon seat material choice</i>
PCTFE	-40°F to 150°F (-40°C to 66°C)
PEEK™ *	-40°F to 275°F (-40°C to 135°C)
Vespel® *	-40°F to 500°F (-40°C to 260°C)
<i>*Not available for Brass Bodies</i>	

For additional information on materials of construction, functional performance and operating conditions, see Regulator Technical Bulletin.

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