

# NPR4100 Series

## Negative Pressure Regulator

Stainless Steel



### 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. Convuluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.

### Product Features:

- Unique 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.
- The low internal volume reduces purge times
- 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
- Oxygen cleaned in accordance with ASTM G93 Level C

### Specifications:

Functional Performance	
<b>Design</b>	
Burst Pressure	750 psig (52 barg)
Proof Pressure	375 psig (26 barg)
<b>Flow Capacity</b>	
C <sub>v</sub> Options	C <sub>v</sub> 0.06 (std.), C <sub>v</sub> 0.02, C <sub>v</sub> 0.15
<b>Leak Rate: Internal</b>	Bubble Tight
<b>Leak Rate: External</b>	Bubble Tight
<b>Internal Volume</b>	4.0 cc without fittings
<b>Approximate Weight</b>	1.5 lbs. (0.7 kg)

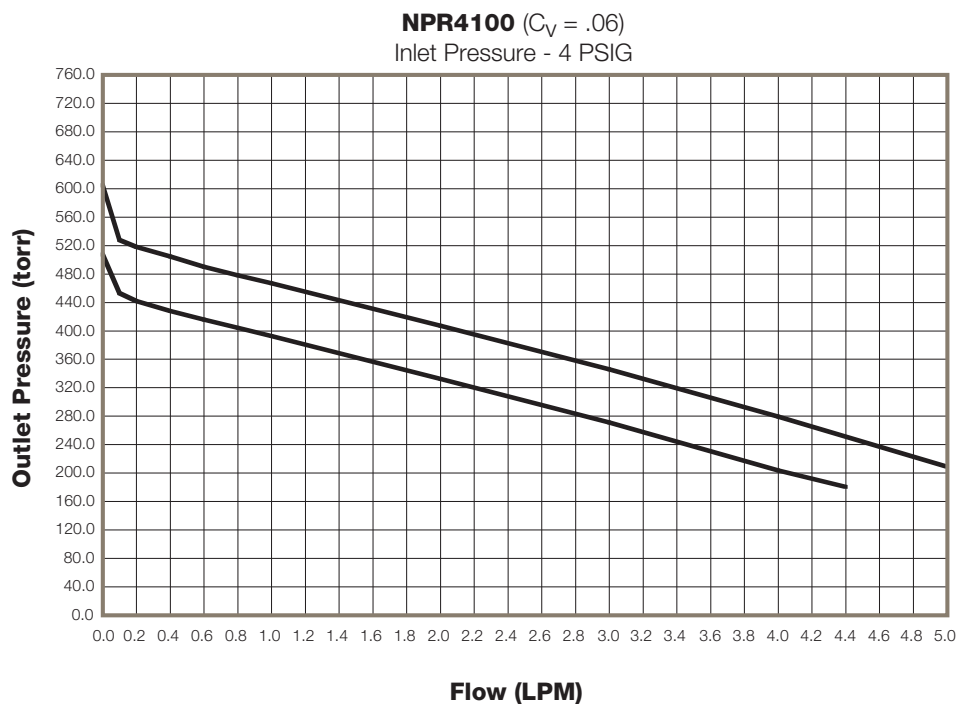
Operating Conditions	
Maximum Inlet	250 psig (17 barg)
Outlet Options	100 torr to 10 psig (-26 in Hg to .7 barg)
Temperature	Metal Knob required for temperature above 150 °F
PCTFE	-40°F to 150°F (-40°C to 66°C)
PEEK™	-40°F to 275°F (-40°C to 135°C)
Vespe®	-40°F to 500°F (-40°C to 260°C)

Material of Construction	
Wetted	
Body	316L Stainless Steel (std).
Compression Member	Inconel® 625
Diaphragm	Hastelloy® C-22
Diaphragm Pin	Hastelloy® C-22
Poppet	Hastelloy® C-276
Poppet Spring	Inconel® X750
Seat Options	PCTFE (std.), PEEK™ or Vespe®
Washer Backup Options	316 Stainless Steel (std).
O-Ring Backup Options	FKM (std.) or PTFE
Inlet Screen / Filter	316 Stainless Steel (std). (60µm mesh screen, 10µm Filter)
Non-Wetted	
Cap	Nickel Plated Brass (std.) or Stainless Steel
Nut	316L Stainless Steel
Knob Options	ABS (std - ambient temperature) or Aluminum

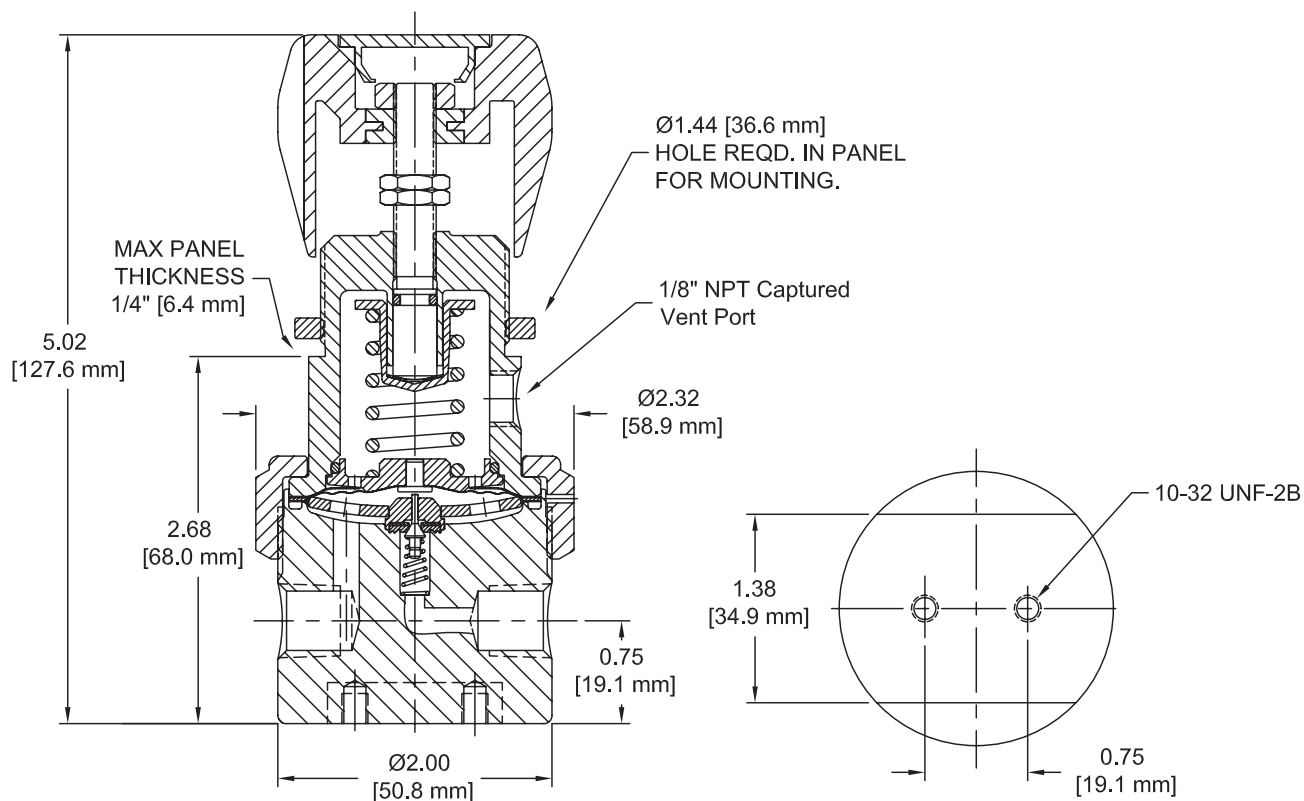
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## Flow Curve:



## Dimensional Drawing:



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## Ordering Information:

Building a Part Number: *Example: NPR4100SK4PV3V14BC*

Example Part Number:	NPR410	0	S		K	4P	V3	V1	4	B	C
Ordering Parameters/Options:	Series	Pressure Range	Body Material	Flow Capacity	Seat Material	Porting	Outlet Gauge	Inlet Gauge	Port Style	Port Mounting	Optional Features
Table Reference: (see below)	A	B	C	D	E	F	G	H	I	J	K

### A - Series

NPR410	NPR410 Series Regulator
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### B - Pressure Range

0	-26 in. Hg, 0-10 psig
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### C - Body Material

S	316L Stainless Steel
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### D - Flow Capacity

omit	0.06 Cv (std.)
1	0.02 Cv
2	0.15 Cv

### E - Seat Material

K	PCTFE
P	PEEK™
V	Vespel® (Recommended for Nitrous Oxide (N2O) service)

### F - 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 ports)

### G - Outlet Gauge

V3	-30 in. Hg, 0-30 psig
X	No Gauge (Gauges may be provided by local Parker Distributor)

### H - Inlet Gauge (Gauges may be provided by local Parker Distributor)

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

### I - Port Style

4	1/4" NPT Female (All Gauges are 1/4" NPT Female)
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### J - Port Mounting

B	0.75 port height with 0.75 mounting hole pattern
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### K - Optional Features (This section may have multiple options)

C	Corrosion Resistant External (Stainless Steel Cap)
G	Tamper Proof (Not available with M option)
L	PTFE Backup O-ring (PCTFE and PEEK™ Seats Only)
M	Metal Knob

#### Note:

**Panel Mount Option:** Order Panel Mount Nut Ring (PN: IR4-Panel-Nut-B-NP) as separate line item

**Vent Muffler Option:** Vent Muffler (PN: Muffler-2F-Bronze) as separate line item.

Parker Instrumentation Products Division reserves the right to plug NPT ports