PRESSURE REGULATORS

Instrument/Analyzer Product Line

Catalog 4511/USA

November 2003

VERIFLO

ISO 9001 Certified

PRESSURE REGULATORS

Instrument/Analyzer Product Line

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Parker Hannifin Corporation
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Veriflo Division

Veriflo Division, Parker Hannifin Corporation is a leading manufacturer of precision valves, regulators and surface mount components for the control and application of liquids and gases used in the fabrication of semiconductors, as well as in the chemical and petrochemical industries.

A Leading Manufacturer Of Precision Valves, Regulators & Surface Mount Components

Veriflo Division has maintained industry leadership over the past 95 years through innovative engineering,manufacturing and by placing a premium on quality customer care.

Veriflo maintains two state-of-the-art Class 10 Clean Rooms at its Richmond, CA, facility and has adopted a corporate wide "Lean Manufacturing" philosophy, which is delivering greater value to the customer by eliminating wasteful steps through continuous improvement activities.

Veriflo Division is extremely focused on maintaining the highest of industry standards, The division has achieved an ISO 9001 registration at its Richmond, CA manufacturing plant and its Carson City, NV facility.

This certification confirms Veriflo Division's dedication to quality & excellence as recognized by the international community.

The Instrumentation Group of Parker Hannifin specializes in high quality, critical flow components for world-wide process instrumentation, ultra-high-purity, medical, analytical and biopharmaceutical applications.

Parker's Instrumentation Group has ten manufacturing plants and over 300 authorized distributor locations around the world to provide local inventory and technical support.

Maintained Industry Leadership By Placing A Premium On Quality Customer Care

Valued markets for Parker Hannifin's Instrumentation Group include the following: Chemical Process, Power Generation, Oil and Gas Exploration, Semiconductor Manufacturing, Biomedical, and Analytical Equipment.

Note: For further information on Veriflo Division and or its product line visit the division web site at www.veriflo.com. For more information on Parker Hannifin visit the corporation's web site at www.parker.com.

IR4000 Series

SS High Pressure Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR4000 Series internally threadless pressure regulator for instrument/analyzer and semiconductor applications. The internal threadless design minimizes purge times, and reduces carrier and calibration gas usage. The IR4000's seat materials meet the requirements for corrosive and/or higher temperature media requirements.

Instrument applications include gas management systems in petrochemical/refineries and process analyzer systems. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen).

The IR4000 is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®, Monel®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat. . . . . PCTFE, PEEK™ or Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter. . . . . 316L Stainless Steel, Hastelloy C-22® (Hastelloy®, Monel® bodies)

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut . . . . . 316 Stainless Steel, Nickel Plated Brass††
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 4000 psig (276 barg)
Outlet. . . 1-10 psig† (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg), 10-500 psig (35 barg)

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
PEEK™ . . . . . -40°F to 275°F (-40°C to 135°C)
Vespel® . . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .23 psig per100 psig (.016 barg per 7 barg)
.06 C_V . . . . . .6 psig per100 psig (.04 barg per 7 barg)
.15 C_V . . . . . 1.5 psig per100 psig (.1 barg per 7 barg)

internal volume

4.0 cc without fittings

approximate weight

1.5 lbs (.7 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.
† Refer to Range Table for specific information.
†† Nickel Plated Brass for PCTFE seat.

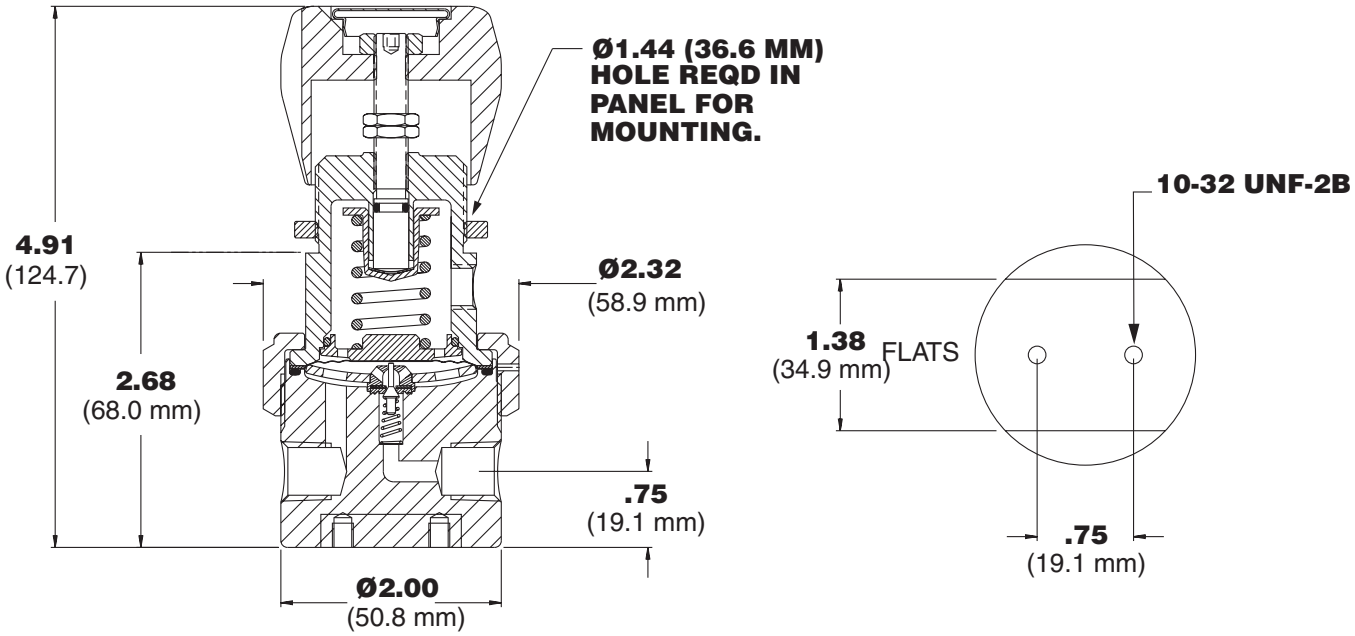
Parker Instrumentation

IR4000 Series

Product Features and Benefits

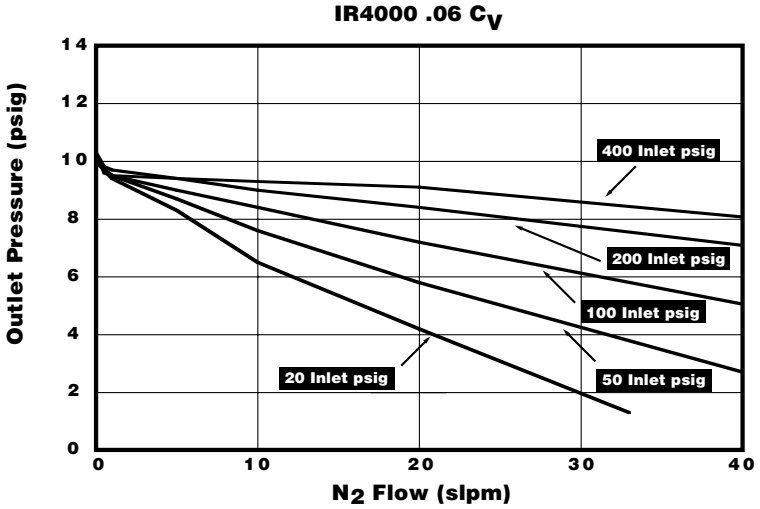
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy C-22®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

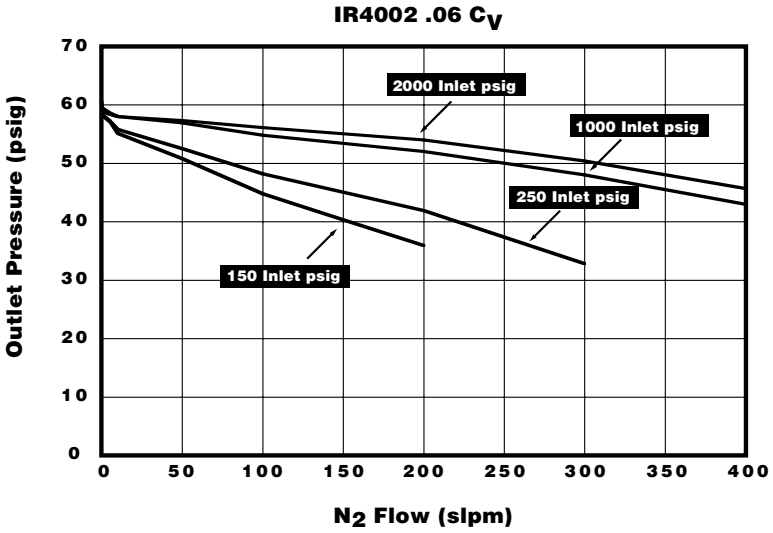
Dimensional Drawing

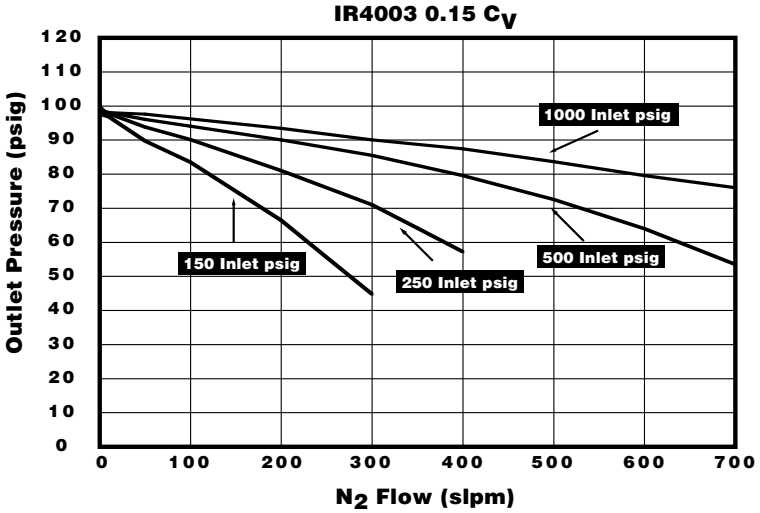


IR4000 Series

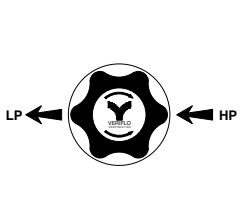
Flow Curves







Porting Configurations



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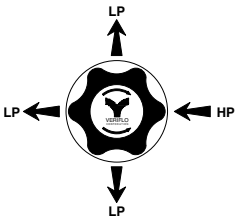

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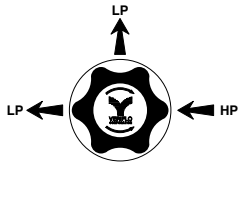
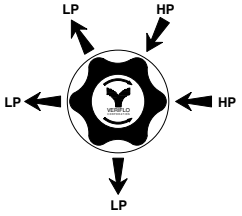
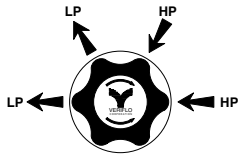


Porting Code 3P



Porting Code 5P



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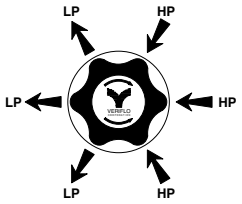


Porting Code 6P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port
5P	Two Gauge Ports
6P	Two Gauge Ports

IR4000 Series

Ordering Information

IR400 S _ _ _ 4 B _

BASIC SERIES

Range	Outlet Gauge
0 = 1 -10 psig	0 - 30 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig
5 = 10 - 500 psig	0 - 600 psig

BODY MATERIAL

S = 316L Stainless Steel
(Hastelloy® & Monel® Available Upon Request)

FLOW CAPACITY

= .06 C_V (Standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS

K = PCTFE
P = PEEK™
V = Vespel®

PORTING

2P	—	—
3P	Y/X	—
4P	Y/X	Y/X
4PB	Y/X	—
5P	Y/X	Y/X

OUTLET GAUGE

See Outlet Gauge under **BASIC SERIES (see above)** for standards.
(Additional ranges available upon request)

INLET GAUGE

3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

CGA#*

320
330
350
510
580
590
Additional Configurations Available Upon Request

OPTIONAL FEATURES (See Notes)

L = Teflon® Back-Up O-Ring (PCTFE & PEEK™ seat only)
R = Relief Valve (4PB and 5P Only)
V = Outlet Valve NOVAS44MF(STD)(See Notes)

Please select ONE or NONE of the following:

D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING

B = .75 (19.1) port height w/ .75 (19.1) mounting hole pattern.

(Additional Port Mounting available on request)

PORT STYLE

4 = 1/4" NPT Female Standard
Other = (Additional sizes available upon request)

NOTE:
Outlet Valve: Compression End Connection On Outlet (*A-Lok, CPI) Can Be Substituted for NPTF Connection Upon Request.*

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR4003SK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR4003SK**3P**X4B (*One X for gauge port*)

Example #3
IR4003SK**4PB**X4B (*One X for gauge port*)

Example #4
IR4003SK**4P**XX4B (Two X's for gauge ports)

***** Do not exceed the rated pressure of the CGA connection

Range Table

Model Basic Series	Max Inlet PSIG C_V		
	.06	.02	.15
IR4000	400	400	400
IR4001	4000	4000	1250
IR4002	4000	4000	1250
IR4003	4000	4000	1250
IR4004	4000	4000	1250
IR4005	4000	4000	1250

Parker Instrumentation

IR4200 Series

Brass High Pressure Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR4200 Series internally threadless pressure regulator for instrument/analyzer and semiconductor applications. The internal threadless design minimizes purge times, and reduces carrier and calibration gas usage.

Instrument applications include gas management systems in petrochemical/refineries and process analyzer systems. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen).

The IR4200 is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . Brass, Nickel Plated Brass
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Phosphor Bronze
Poppet Spring . . . . . Inconel®
Carrier . . . . . Stainless Steel*
Back-up Washer . . . . . Phosphor Bronze
Seat . . . . . PCTFE
Back-up O-ring . . . . . Viton®
Inlet Screen/Filter . . . . . Copper and Phosphor Bronze

Non-Wetted

Cap . . . . . Nickel Plated Brass
Nut. . . . . Nickel Plated Brass
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet. . . . . 4000 psig (276 barg)
Outlet. . . 1-10 psig† (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg), 10-500 psig (35 barg)

Temperature:
PCTFE. . . . . -40°F to 140°F (-40°C to 60°C)

functional performance

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .23 psig per100 psig (.016 barg per 7 barg)
.06 C_V . . . . . .6 psig per100 psig (.04 barg per 7 barg)
.15 C_V . . . . . 1.5 psig per100 psig (.1 barg per 7 barg)

internal volume

4.0 cc without fittings

approximate weight

1.5 lbs (.7 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.
† Refer to Range Table for specific information.

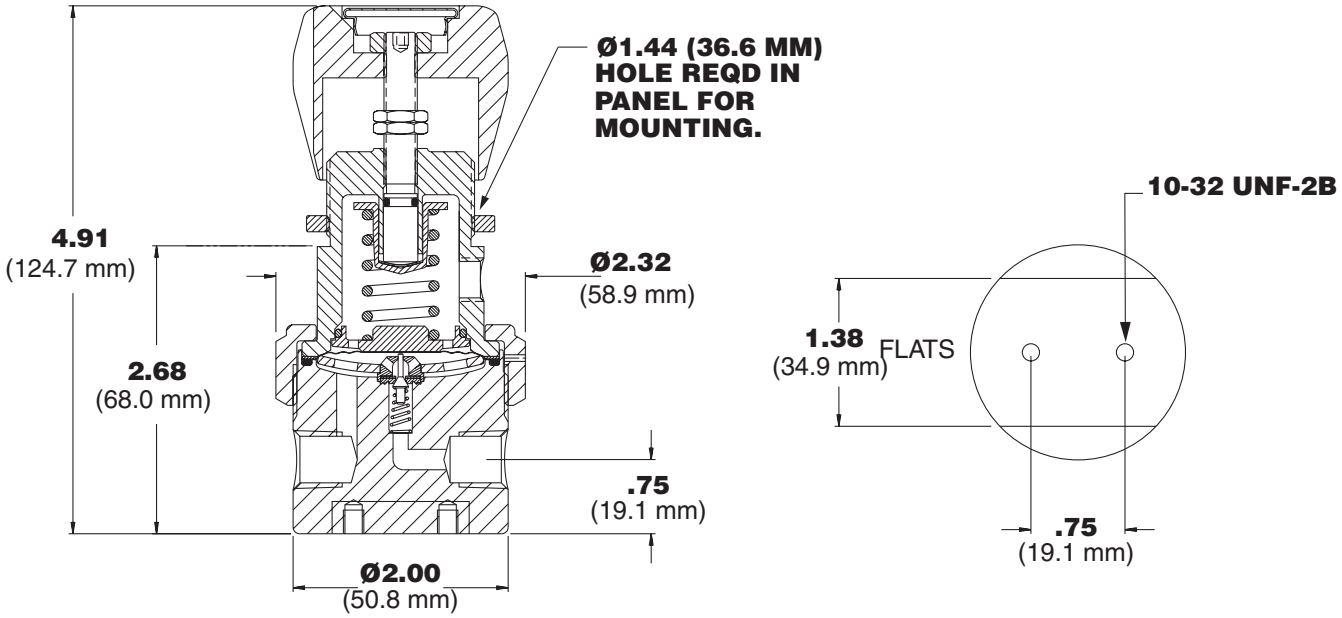
Parker Instrumentation

IR4200 Series

Product Features and Benefits

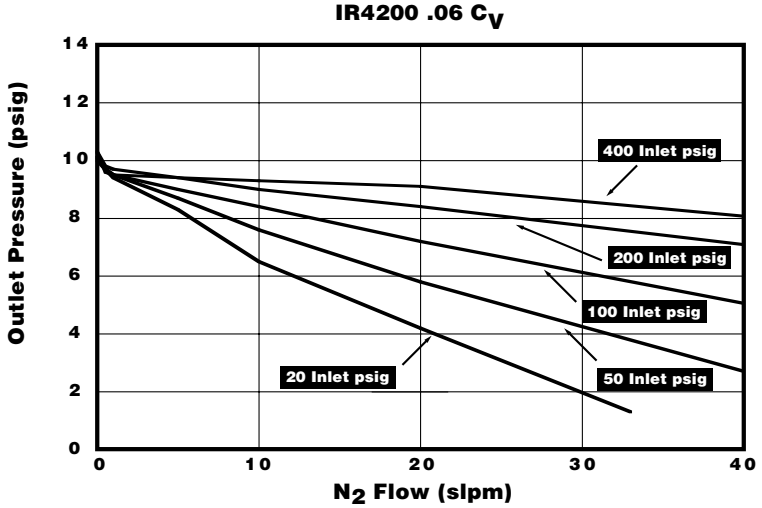
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design include promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel® and Hastelloy®, provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

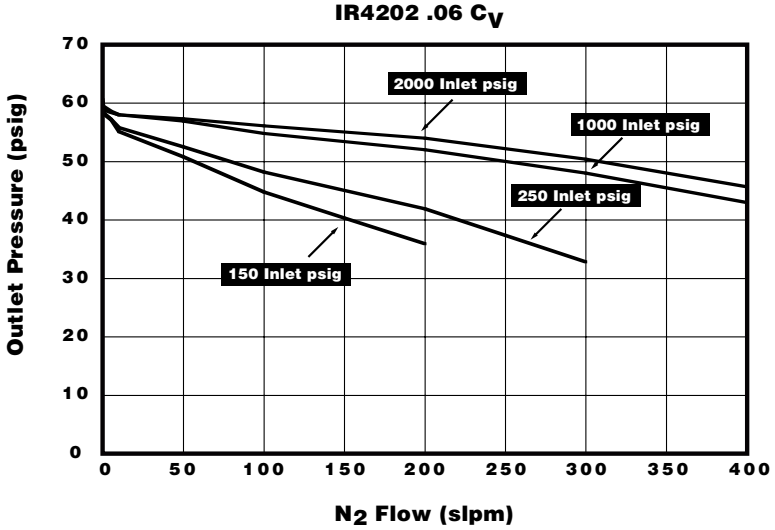
Dimensional Drawing

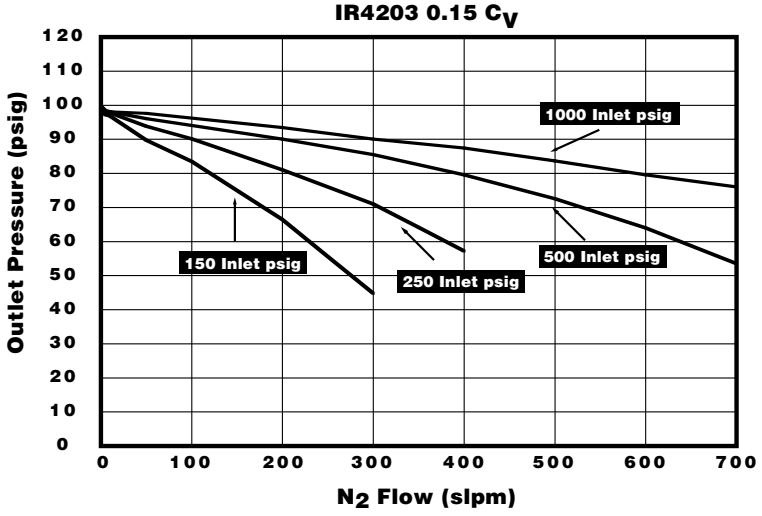


IR4200 Series

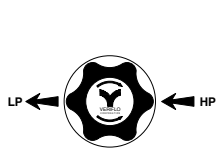
Flow Curves



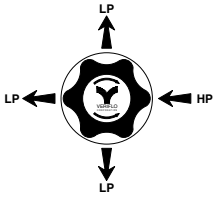




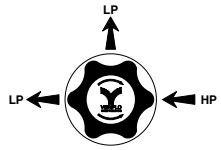
Porting Configurations



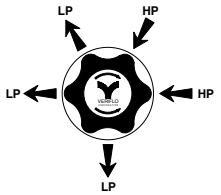
Porting Code 2P



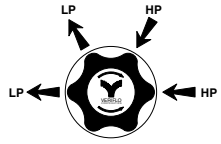
Porting Code 4PB



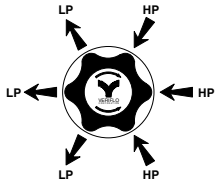
Porting Code 3P



Porting Code 5P



Porting Code 4P



Porting Code 6P

Gauge Index	
2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port
5P	Two Gauge Ports
6P	Two Gauge Ports

IR4200 Series

Ordering Information

IR420 B K 2P – – 4 B

BASIC SERIES

Range	Outlet Gauge
0 = 1 -10 psig	0 - 30 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig
5 = 10 - 500 psig	0 - 600 psig

BODY MATERIAL
B = Brass

FLOW CAPACITY
= .06 C_V (Standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table)**

SEAT MATERIALS
K = PCTFE

PORTING

2P	–	–
3P	Y/X	–
4P	Y/X	Y/X
4PB	Y/X	–
5P	Y/X	Y/X

OUTLET GAUGE
See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

INLET GAUGE
3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

NOTE:
Outlet Valve: Compression End Connection On Outlet (*A-Lok, CPI) Can Be Substituted for NPTF Connection Upon Request.*

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR4203BK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR4203BK**3P**X4B (*One X for gauge port*)

Example #3
IR4203BK**4PB**X4B (*One X for gauge port*)

Example #4
IR4203BK**4P**XX4B (Two X's for gauge ports)

***** Do not exceed the rated pressure of the CGA connection

CGA#*
320
330
350
510
580
590
Additional Configurations
Available Upon Request

OPTIONAL FEATURES (See Notes)
N = Nickel Plate
R = Relief Valve (4PB and 5P Only)
V = Outlet Valve NOVAB44MF(STD)(See Notes)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING
B = .75 port height w/ .75 mounting hole pattern

PORT STYLE
4 = 1/4" NPT Female Standard
Other = (Additional sizes available upon request)

Range Table

Model Basic Series	Max Inlet PSIG C_V		
	.06	.02	.15
IR4200	400	400	400
IR4201	4000	4000	1250
IR4202	4000	4000	1250
IR4203	4000	4000	1250
IR4204	4000	4000	1250
IR4205	4000	4000	1250

Parker Instrumentation

IR4000W Series

Welded High Pressure Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR4000W Series internally threadless pressure regulator for instrument/analyzer and semiconductor applications. The internal threadless design minimizes purge times, and reduces carrier and calibration gas usage. The IR4000W's seat materials meet the requirements for corrosive and/or higher temperature media requirements.

Instrument applications include gas management systems in petrochemical/refineries and process analyzer systems. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen).

The IR4000W is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat. . . . . PCTFE, PEEK™ or Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter. . . . . 316L Stainless Steel, Hastelloy C-22®

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut. . . . . 316 Stainless Steel, Nickel Plated Brass††
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet. . . . . 4000 psig (276 barg)
Outlet. . . 1-10 psig† (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg), 10-500 psig (35 barg)

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
PEEK™ . . . . . -40°F to 275°F (-40°C to 135°C)
Vespel® . . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .23 psig per100 psig (.016 barg per 7 barg)
.06 C_V . . . . . .6 psig per100 psig (.04 barg per 7 barg)
.15 C_V . . . . . 1.5 psig per100 psig (.1 barg per 7 barg)

internal volume

4.0 cc without fittings

approximate weight

1.5 lbs (.7 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.
† Refer to Range Table for specific information.
†† Nickel Plated Brass for PCTFE seat.

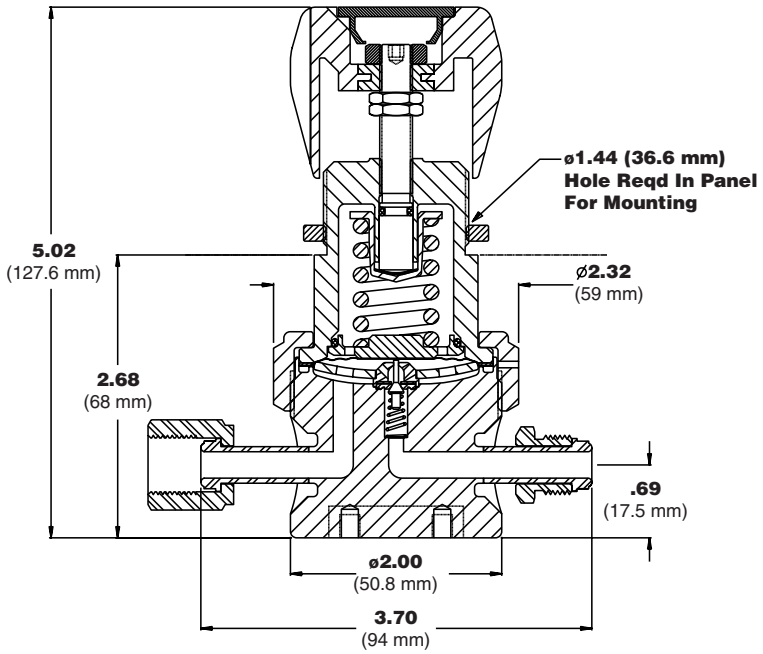
Parker Instrumentation

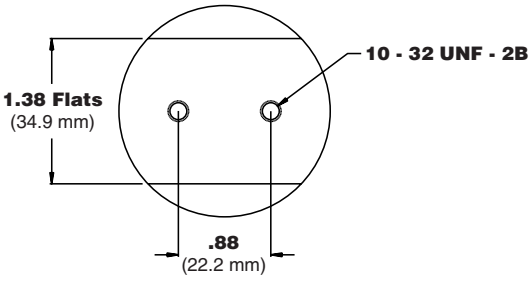
IR4000W Series

Product Features and Benefits

- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy C-22®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

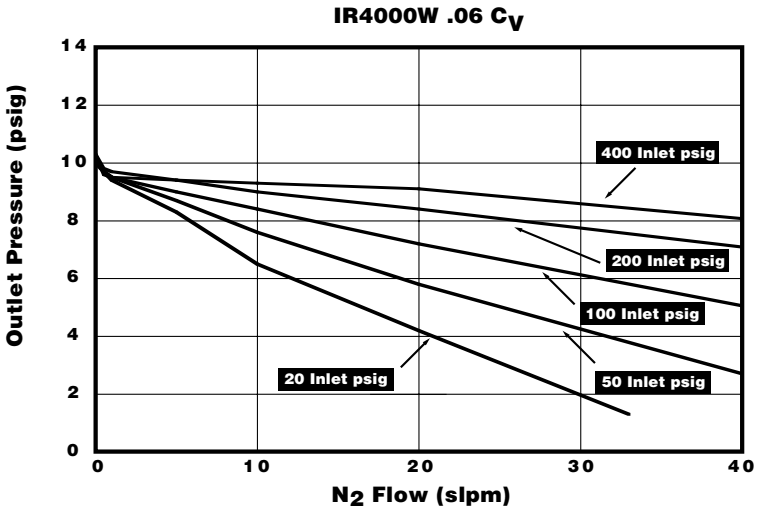
Dimensional Drawing

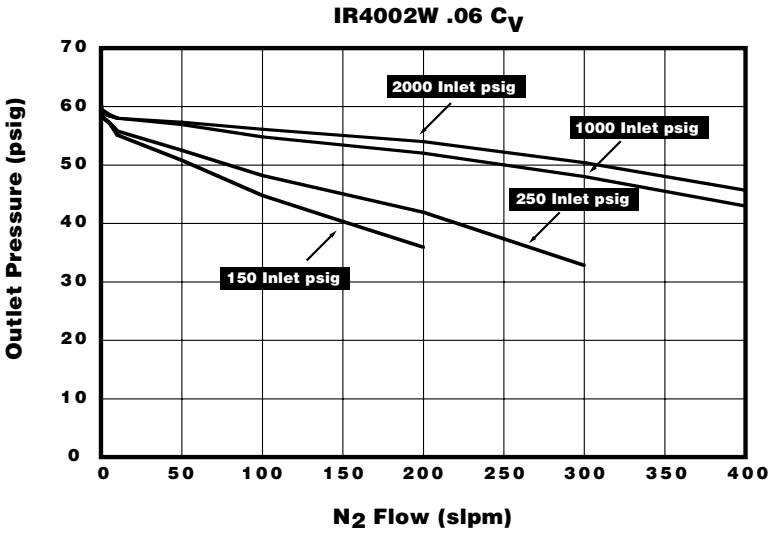


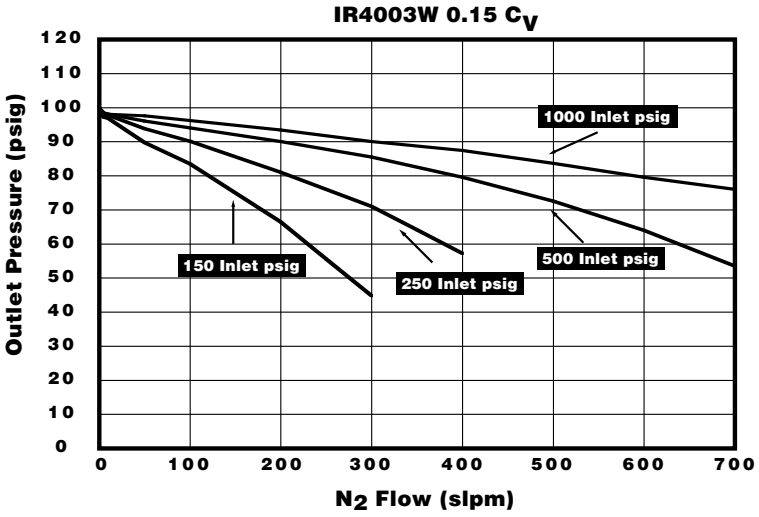


IR4000W Series

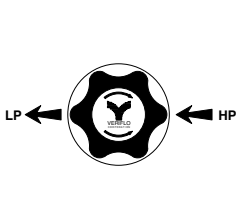
Flow Curves



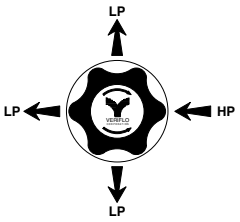




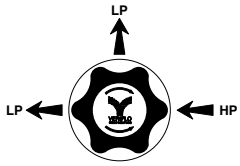
Porting Configurations



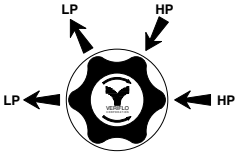
Porting Code 2P



Porting Code 4PB



Porting Code 3P



Porting Code 4P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port

IR4000W Series

Ordering Information

IR400 W 2P – – A

BASIC SERIES

Range	Outlet Gauge
0 = 1 -10 psig	0 - 30 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig
5 = 10 - 500 psig	0 - 600 psig

BODY MATERIAL
W = 316L Stainless Steel
(Hastelloy® Avaliable Upon Request)

FLOW CAPACITY
= .06 C_V (Standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS
K = PCTFE
P = PEEK™
V = Vespel®

PORTING
2P
3P
4P
4PB

OUTLET GAUGE†
See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)
Y/X
Y/X
Y/X
Y/X

INLET GAUGE†
3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option
–
–
Y/X
–

† NOTES:
Gauge Ports are 1/4" FS Male standard.
Gauge Ports are 1/4" NPT Female for compression ends.

***** Do not exceed the rated pressure of the CGA connection

CGA#*
320
330
350
510
580
590
Additional Configurations
Available Upon Request

OPTIONAL FEATURES (See Notes)
L = Teflon® Back-Up O-Ring
(PCTFE & PEEK™ seat only)
R = Relief Valve (4PB Only)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING
A = .69 (17.5) port height w/ .88 mounting hole pattern

(Additional Port Mounting available upon request)

PORT CONFIGURATION (Face Seal Only)
M = Male Face Seal
F = Female Face Seal
I = 1/4" Internal Face Seal Female

PORT STYLE
4T = 1/4" Compression Fitting
6T = 3/8" Compression Fitting
8T = 1/2" Compression Fitting
FS = 1/4" Face Seal
FS8 = 1/2" Face Seal
TS = 1/4" Tube Stub
TS6 = 3/8" Tube Stub
TS8 = 1/2" Tube Stub

Hastelloy C-22® is a registered trademark of Haynes International, Inc.
PEEK™ is a trademark of Victrex plc.
Inconel® is a registered trademarks of Inco Alloys International.
Elgiloy® is a registered trademark of Elgiloy Company.
Viton® is a registered trademark of DuPont Dow Elastomers.
Teflon® is a registered trademark of DuPont Company.

Range Table

Model Basic Series	Max Inlet PSIG C_V		
	.06	.02	.15
IR4000W	400	400	400
IR4001W	4000	4000	1250
IR4002W	4000	4000	1250
IR4003W	4000	4000	1250
IR4004W	4000	4000	1250
IR4005W	4000	4000	1250

Dimension Table

Connection Type	End to End Dimension
1/4" Compression Fitting	3.34 ± .02 in. (84.8 ± .5 mm)
3/8" Compression Fitting	3.48 ± .02 in. (88.4 ± .5 mm)
1/2" Compression Fitting	4.38 ± .03 in. (111.3 ± .8 mm)
1/4" Face Seal	3.70 ± .02 in. (94 ± .5 mm)
1/2" Face Seal	4.82 ± .02 in. (122.4 ± .5 mm)
All Tube Stubs	3.70 ± .02 in. (94 ± .5 mm)

Parker Instrumentation

IR5000 Series

SS High Pressure Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR5000 Series high pressure regulator. Veriflo Division continues the internally threadless design of the IR4000 family of products.

IR5000 pressure reducing regulator is designed with a larger convoluted diaphragm than the IR4000. This allows for greater sensitivity, and provides precise outlet pressure control.

Instrument applications include gas management for analyzer systems and other industrial processes. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen) Systems.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®, Monel®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat . . . . . PCTFE, PEEK™, Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter. . . . . 316L Stainless Steel, Hastelloy C-22® (Hastelloy®, Monel® bodies)

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut. . . . . 316L Stainless Steel
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 3500 psig (241 barg)
Outlet . . . . . 0-5 psig (400 max inlet), 1-30 psig, 2-60 psig, 3-100 psig, 5-200 psig

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
**PEEK™. . . . . -40°F to 275°F (-40°C to 135°C)
**Vespel®. . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .12 psig per100 psig (.008 barg per 7 barg)
.06 C_V . . . . . .3 psig per100 psig (.02 barg per 7 barg)
.15 C_V . . . . . .75 psig per100 psig (.05 barg per 7 barg)

standard configurations

See Dimension Table with Ordering Information

internal volume

11.9 cc

approximate weight

4.5 lbs (2.1 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.

† Refer to Range Table for specific information.

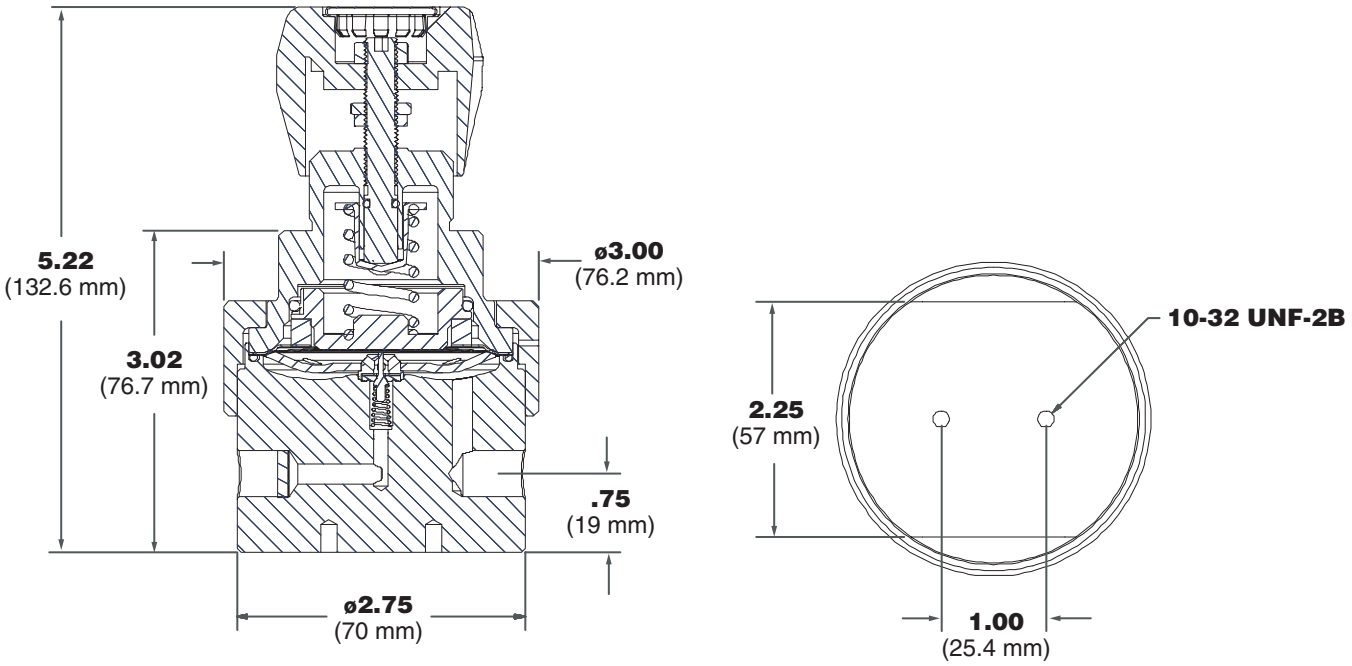
Parker Instrumentation

IR5000 Series

Product Features and Benefits

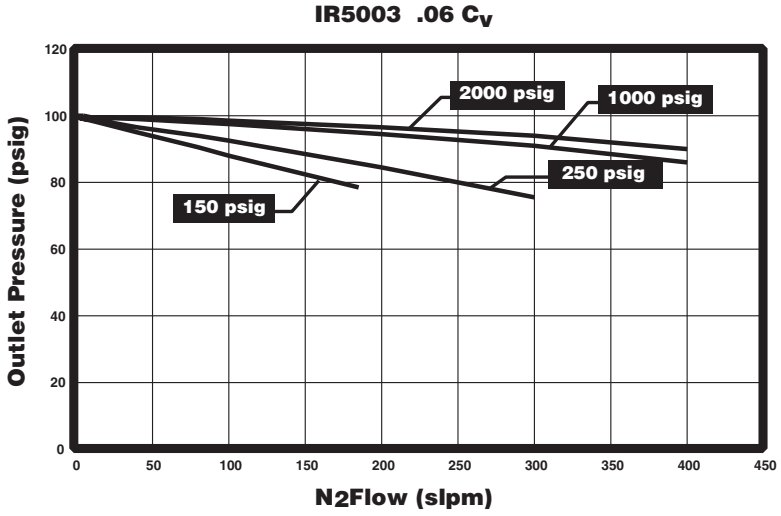
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Large diaphragm provides more sensitive pressure adjustments.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

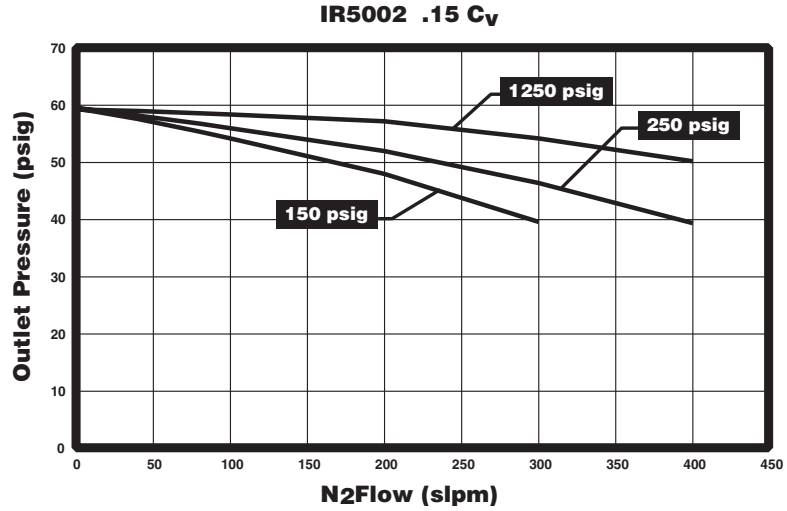
Dimensional Drawing

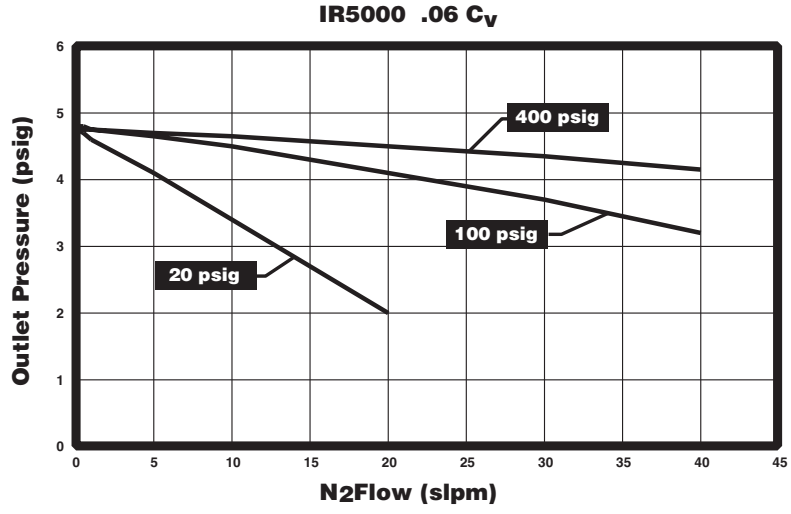


IR5000 Series

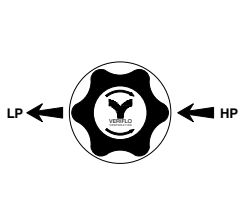
Flow Curves



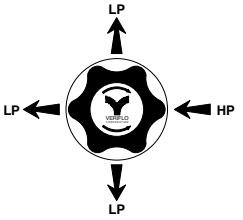




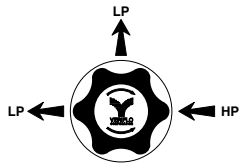
Porting Configurations



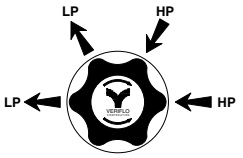
Porting Code 2P



Porting Code 4PB



Porting Code 3P



Porting Code 4P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port

IR5000 Series

Ordering Information

IR500 ___ S ___ ___ ___ ___ ___ 4 B ___ ___

Porting	Outlet Gauge	Inlet Gauge
2P	–	–
3P	Y/X	–
4P	Y/X	Y/X
4PB	Y/X	–

BASIC SERIES

Range	Outlet Gauge
0 = 0 - 5 psig	0 - 15 psig
1 = 1 - 30 psig	0 - 60 psig
2 = 2 - 60 psig	0 - 100 psig
3 = 3 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig

MATERIALS

S = 316L Stainless Steel
(Hastelloy® & Monel® Avaliable Upon Request)**

FLOW CAPACITY

= .06 C_V (standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS

K = PCTFE
P = PEEK™
V = Vespel®

PORTING

OUTLET GAUGE

See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

NOTE:
Outlet Valve: Compression End Connection On Outlet (*A-Lok, CPI) Can Be Substituted for NPTF Connection Upon Request.*

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR5003SK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR5003SK**3P**X4B (*One X for gauge port*)

Example #3
IR5003SK**4PB**X4B (*One X for gauge port*)

Example #4
IR5003SK**4P**XX4B (Two X's for gauge ports)

* Do not exceed the rated pressure of the CGA connection
** Hastelloy® & Monel® Get Stainless Steel Gauges.

CGA#*
320
330
350
510
580
590
Additional Configurations Available Upon Request

OPTIONAL FEATURES

L = Teflon® Back-Up O-Ring (PCTFE & PEEK™ seat only)
R = Relief Valve (4PB only)
V = Outlet Valve NOVAS44MF(STD)(See Notes)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING

B = .75 port height w/ 1.00 mounting hole pattern

PORT STYLE

4 = 1/4" NPTF (**Standard**)
(Other sizes available upon request)

INLET GAUGE

3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

Range Table

Model Basic Series	Max Inlet PSIG C_V .06	.02	.15
IR5000	400	400	400
IR5001	3500	3500	1250
IR5002	3500	3500	1250
IR5003	3500	3500	1250
IR5004	3500	3500	1250

Parker Instrumentation

IR5200 Series

Brass High Pressure Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR5200 Series high pressure regulator. Veriflo Division continues the internally threadless design of the IR4000 family of products.

IR5200 pressure reducing regulator is designed with a larger convoluted diaphragm than the IR4000. This allows for greater sensitivity, and provides precise outlet pressure control.

Instrument applications include gas management for analyzer systems and other industrial processes. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen) Systems.

materials of construction

Wetted

Body . . . . . Brass, Nickel Plated Brass
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Phosphor Bronze
Poppet Spring . . . . . Inconel®
Carrier . . . . . Stainless Steel*
Back-up Washer . . . . . Phosphor Bronze
Seat . . . . . PCTFE
Back-up O-ring . . . . . Viton®
Inlet Screen/Filter . . . . . Copper and Phosphor Bronze

Non-Wetted

Cap . . . . . Nickel Plated Brass,
Nut. . . . . 316L Stainless Steel
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 3500 psig (241 barg)
Outlet . . . . . 0-5 psig (400 max inlet), 1-30 psig, 2-60 psig, 3-100 psig, 5-200 psig

Temperature:
Maximum. . . . . 150°F (65°C)
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)

functional performance

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .12 psig per 100 psig (.008 barg per 7 barg)
.06 C_V . . . . . .3 psig per 100 psig (.02 barg per 7 barg)
.15 C_V . . . . . .75 psig per 100 psig (.05 barg per 7 barg)

standard configurations

See Dimension Table with Ordering Information

internal volume

11.9 cc

approximate weight

4.5 lbs (2.1 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.

† Refer to Range Table for specific information.

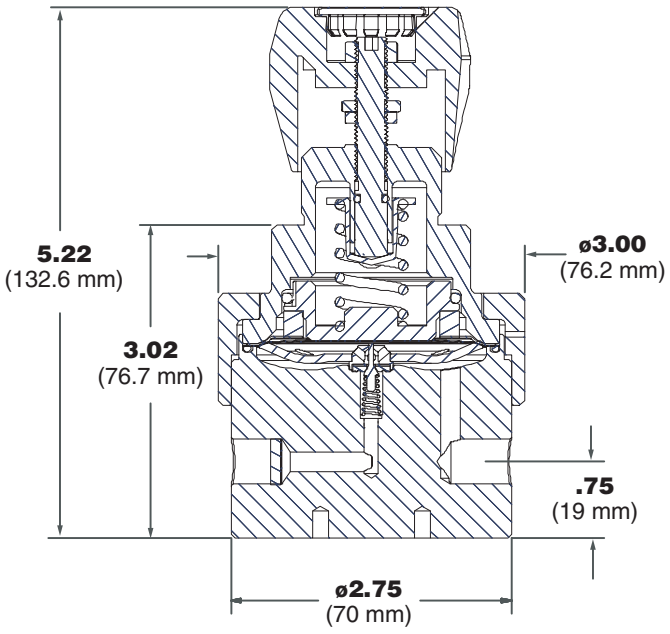
Parker Instrumentation

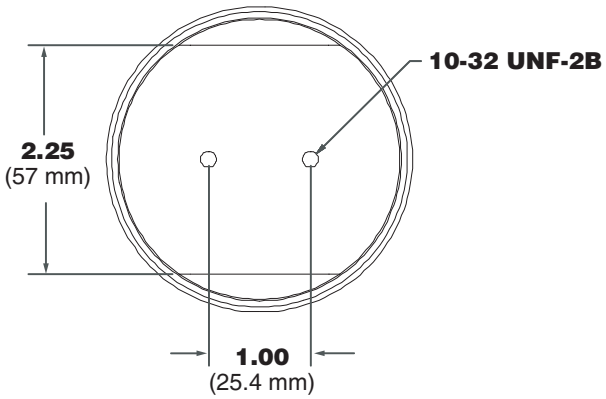
IR5200 Series

Product Features and Benefits

- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Large diaphragm provides more sensitive pressure adjustments.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

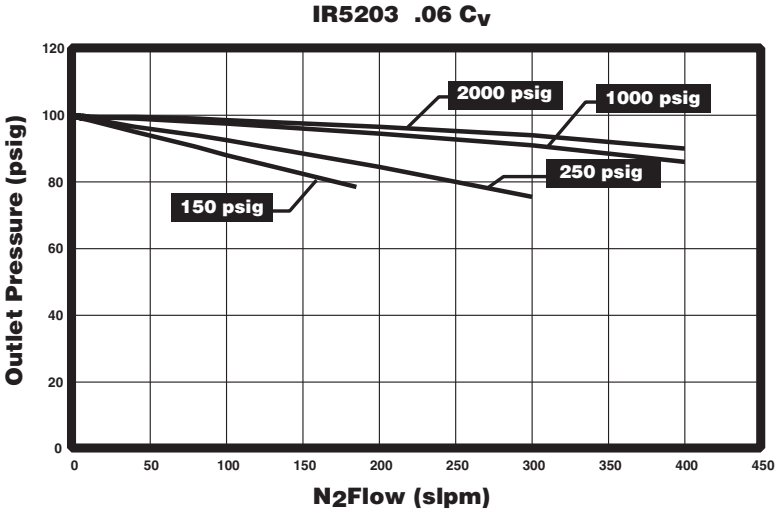
Dimensional Drawing

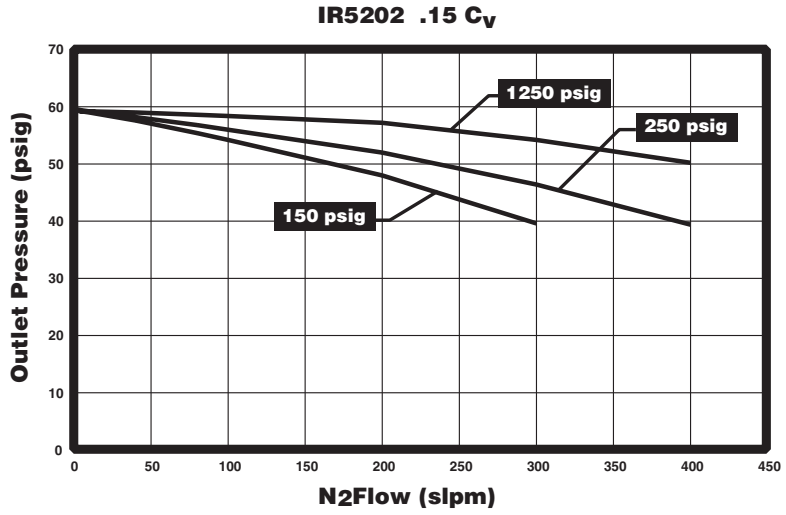


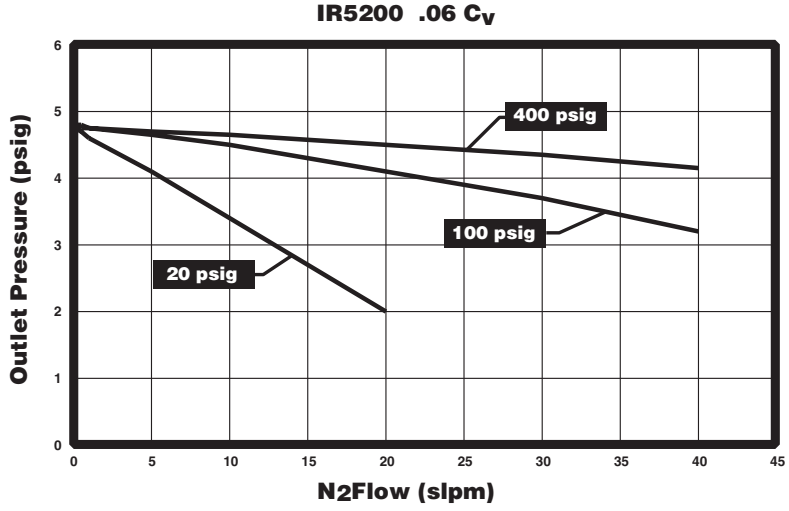


IR5200 Series

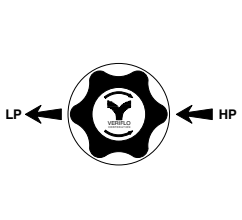
Flow Curves



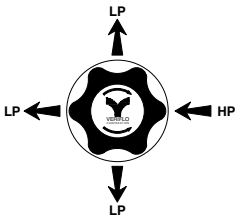




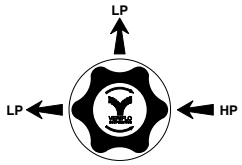
Porting Configurations



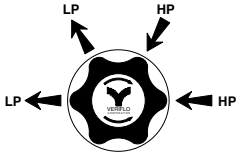
Porting Code 2P



Porting Code 4PB



Porting Code 3P



Porting Code 4P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port

IR5200 Series

Ordering Information

IR520 ___ **B** ___ ___ ___ ___ **4** **B** ___ ___

BASIC SERIES

Range	Outlet Gauge
0 = 0 - 5 psig	0 - 15 psig
1 = 1 - 30 psig	0 - 60 psig
2 = 2 - 60 psig	0 - 100 psig
3 = 3 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig

MATERIALS
B = Brass

FLOW CAPACITY
= .06 C_V (standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS
K = PCTFE

PORTING

2P	–	–
3P	Y/X	–
4P	Y/X	Y/X
4PB	Y/X	–

OUTLET GAUGE
See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

NOTES:
Outlet Valve: Compression End Connection On Outlet (*A-Lok, CPI) Can Be Substituted for NPTF Connection Upon Request*.

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR5203BK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR5203BK**3P**X4B (*One X for gauge port*)

Example #3
IR5203BK**4PB**X4B (*One X for gauge port*)

Example #4
IR5203BK**4P**XX4B (Two X's for gauge ports)

***** Do not exceed the rated pressure of the CGA connection

Hastelloy C-22® is a registered trademark of Haynes International, Inc.
Inconel® is a registered trademarks of Inco Alloys International.
Elgiloy® is a registered trademark of Elgiloy Company.
Vespel® and Teflon® are registered trademarks of DuPont Company.
Viton® is a registered trademark of DuPont Dow Elastomers.

CGA#*
320
330
350
510
580
590
Additional Configurations
Available Upon Request

OPTIONAL FEATURES
N = Nickel Plated Body
R = Relief Valve (4PB only)
V = Outlet Valve NOVAB44MF(STD)(See Notes)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING
B = .75 port height w/ 1.00 mounting hole pattern

PORT STYLE
4 = 1/4" NPTF (**Standard**)
(Other sizes available upon request)

INLET GAUGE
3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

Range Table

Model Basic Series	Max Inlet PSIG C_V		
	.06	.02	.15
IR5200	400	400	400
IR5201	3500	3500	1250
IR5202	3500	3500	1250
IR5203	3500	3500	1250
IR5204	3500	3500	1250

Parker Instrumentation

IR5000W Series

Welded High Pressure, Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR5000W Series high pressure regulator. Veriflo Division continues the internally threadless design of the IR4000 family of products.

IR5000W pressure reducing regulator is designed with a larger convoluted diaphragm than the IR4000. This allows for greater sensitivity, and provides precise outlet pressure control.

Instrument applications include gas management for analyzer systems and other industrial processes. Semiconductor applications include general purpose gas management (Air, Clean Dry Air (CDA), and Plant Nitrogen) Systems.

Note: IR5000 Threaded Porting Shown

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat . . . . . PCTFE, PEEK™, Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter. . . . . 316L Stainless Steel, Hastelloy C-22® (Hastelloy®, Monel® bodies)

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut. . . . . 316L Stainless Steel
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 3500 psig (241 barg)
Outlet . . . . . 0-5 psig (400 max inlet), 2-30 psig, 3-60 psig, 4-100 psig, 5-200 psig

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
**PEEK™. . . . . -40°F to 275°F (-40°C to 135°C)
**Vespel®. . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Design Proof Pressure . . . . 6000 psig (414 barg)
Design Burst Pressure . . . . 12000 psig (828 barg)

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect:
.02 C_V . . . . . .12 psig per 100 psig (.008 barg per 7 barg)
.06 C_V . . . . . .3 psig per 100 psig (.02 barg per 7 barg)
.15 C_V . . . . . .75 psig per 100 psig (.05 barg per 7 barg)

standard configurations

See Dimension Table with Ordering Information

internal volume

11.9 cc

approximate weight

4.5 lbs (2.1 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.

† Refer to Range Table for specific information.

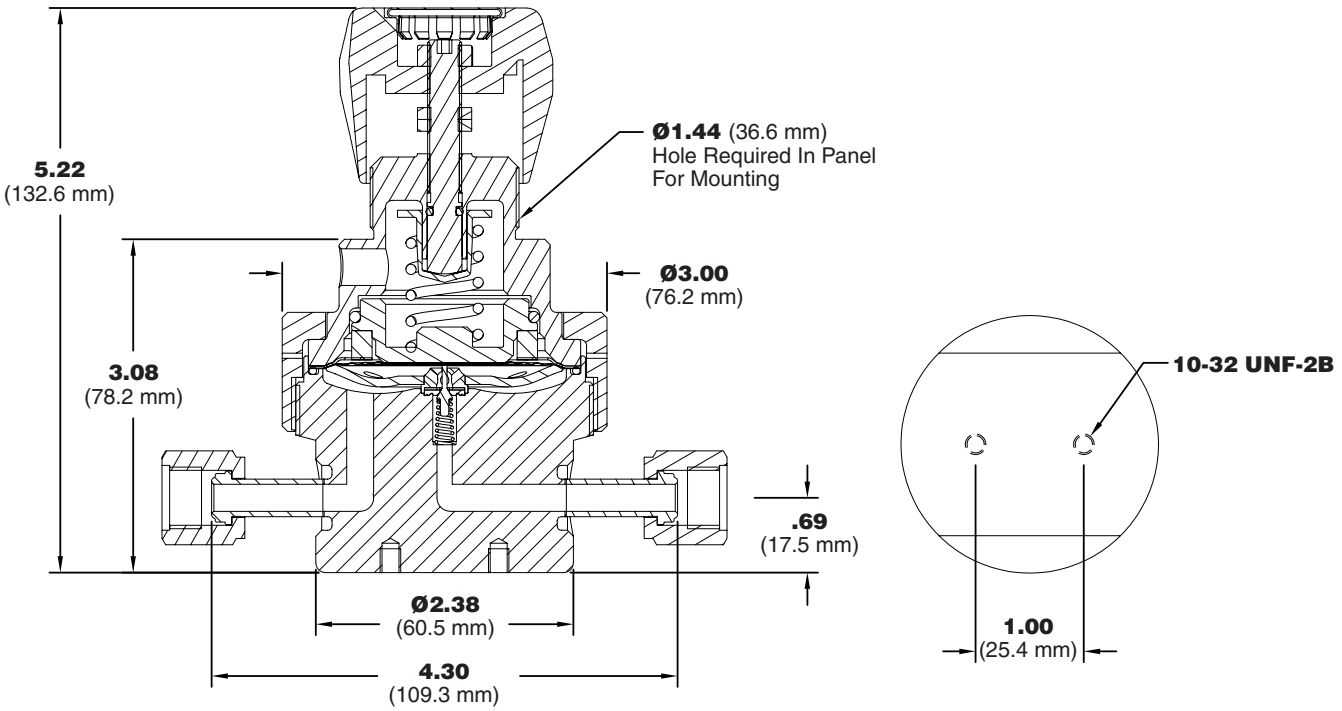
Parker Instrumentation

IR5000W Series

Product Features and Benefits

- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Large diaphragm provides more sensitive pressure adjustments.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

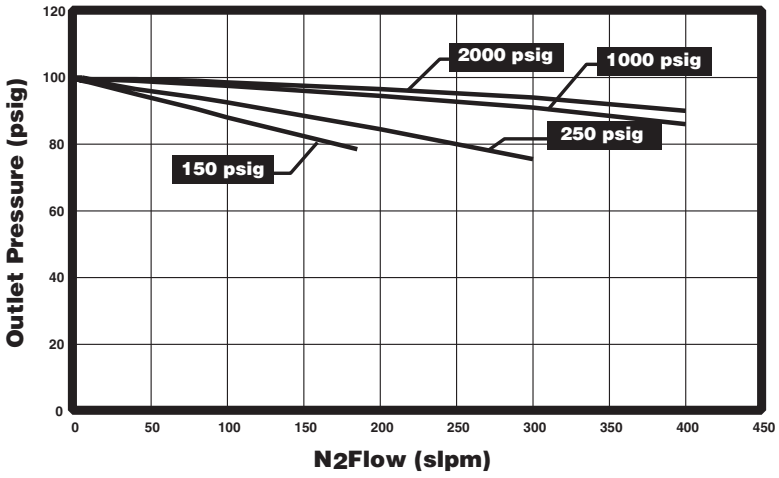
Dimensional Drawing



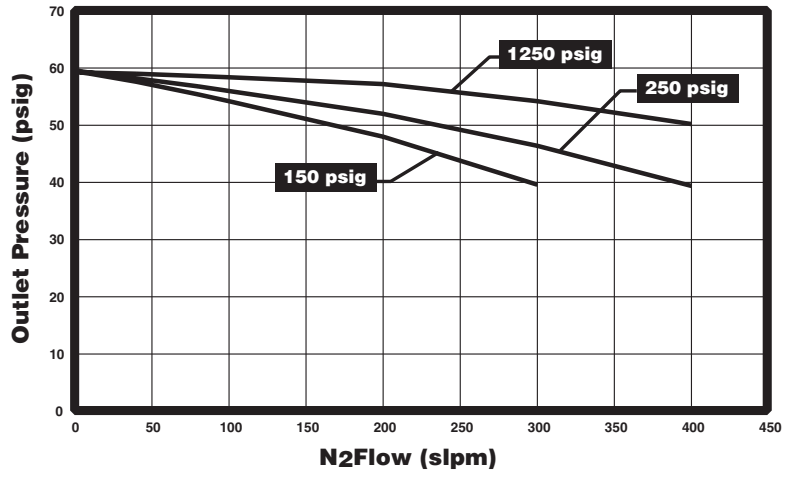
IR5000W Series

Flow Curves

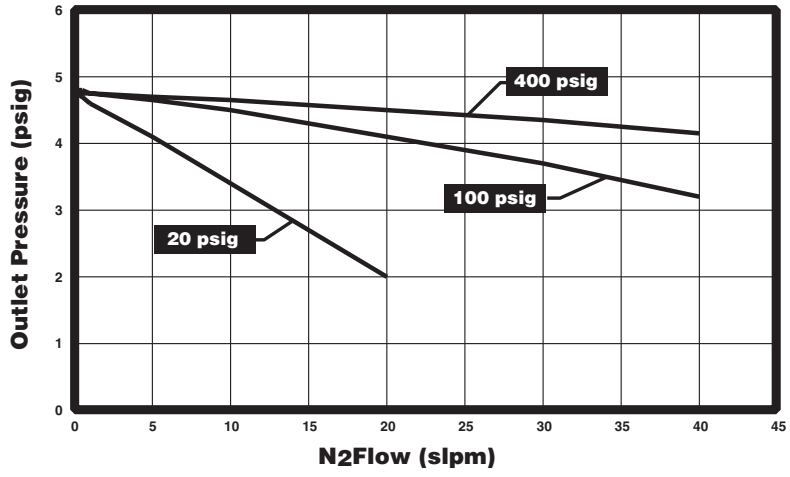
IR5003W .06 C_V



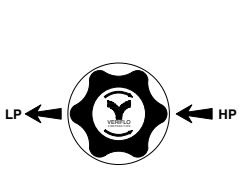
IR5002W .15 C_V



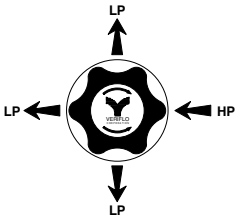
IR5000W .06 C_V



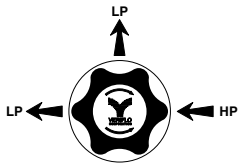
Porting Configurations



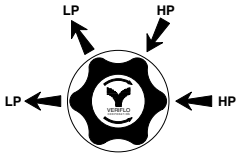
Porting Code 2P



Porting Code 4PB



Porting Code 3P



Porting Code 4P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port

IR5000W Series

Ordering Information

IR500 **W** 2P/3P/4P/4PB – Y/X – Y/X – **A**

BASIC SERIES

Range	Outlet Gauge
0 = 0 - 5 psig	0 - 15 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig

MATERIALS
W = 316L Stainless Steel
(Hastelloy® Avaliable Upon Request)

FLOW CAPACITY
= .06 C_V (standard)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS
K = PCTFE
P = PEEK™
V = Vespel®

PORTING

OUTLET GAUGE†
See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR5003WK**2P**FSMMA (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR5003WK**3P**XFSMMMA (*One X for gauge port*)

Example #3
IR5003WK**4PB**XFSMMMMA (*One X for gauge port*)

Example #4
IR5003WK**4P**XXFSMMMMA (Two X's for gauge ports)

† NOTES:
Gauge Ports are 1/4" FS Male standard.
Gauge Ports are 1/4" NPT Female for compression ends.

***** Do not exceed the rated pressure of the CGA connection

CGA#*
320
330
350
510
580
590
Additional Configurations
Available Upon Request

OPTIONAL FEATURES
L = Teflon® Back-Up O-Ring
(PCTFE & PEEK™ seat only)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING
A = .69 port height w/ 1.00 mounting hole pattern.
(Additional Port Mounting available upon request)

PORT CONFIGURATION (Face Seal Only)
M = Male Face Seal
F = Female Face Seal
I = 1/4" Internal Face Seal Female

PORT STYLE
4T = 1/4" Compression Fitting
6T = 3/8" Compression Fitting
8T = 1/2" Compression Fitting
FS = 1/4" Face Seal
FS8 = 1/2" face Seal
TS = 1/4" Tube Seal
TS6 = 3/8" Tube Seal
TS8 = 1/2" Tube Seal

INLET GAUGE†
3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

Range Table

Model Basic Series	Max Inlet PSIG C_V		
	.06	.02	.15
IR5000	400	400	400
IR5001	3500	3500	1250
IR5002	3500	3500	1250
IR5003	3500	3500	1250
IR5004	3500	3500	1250

Dimension Table

Connection Type	End to End Dimension
1/4" Compression Fitting	3.92 ± .02 in. (100 ± .5 mm)
3/8" Compression Fitting	4.07 ± .02 in. (103 ± .5 mm)
1/2" Compression Fitting	4.78 ± .03 in. (121 ± .8 mm)
1/4" Face Seal	4.30 ± .02 in. (109 ± .5 mm)
1/2" Face Seal	5.22 ± .02 in. (133 ± .5 mm)
All Tube Stubs	4.00 ± .02 in. (102 ± .5 mm)

Parker Instrumentation

IR6000 Series

SS Two Stage Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR6000 Series internally threadless pressure regulator for pressure reducing industrial/analytical applications including cylinder and calibration gases.

Instrument applications include gas management in refineries, process analyzer systems, and cylinder gas pressure reduction.

The IR6000 is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®, Monel®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat . . . . . PCTFE, PEEK™, Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter. . . . . 316L Stainless Steel, Hastelloy C-22® (Hastelloy®, Monel® bodies)

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut . . . . 316L Stainless Steel, Nickel Plated Brass††
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 4000 psig (276 barg)
Outlet. . . . 1-10 psig (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg)

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
PEEK™ . . . . . -40°F to 275°F (-40°C to 135°C)
Vespel® . . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Flow capacity:
Standard. . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure: . . . . . 6000 psig (414 barg)
Design Burst Pressure: . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect . . . . 0.01 psig per100 psig

internal volume

8.1 cc

approximate weight

3.5 lbs (1.6 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.
† Refer to Range Table for specific information.
†† Nickel Plated Brass for PCTFE seat.

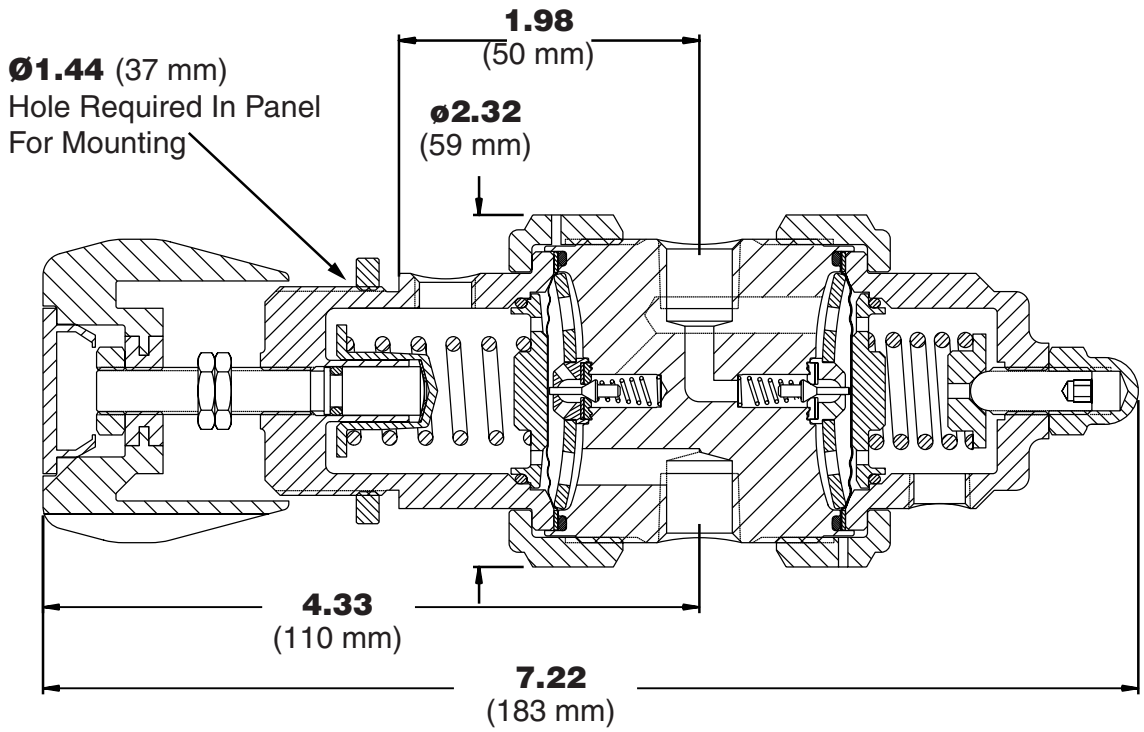
Parker Instrumentation

IR6000 Series

Product Features and Benefits

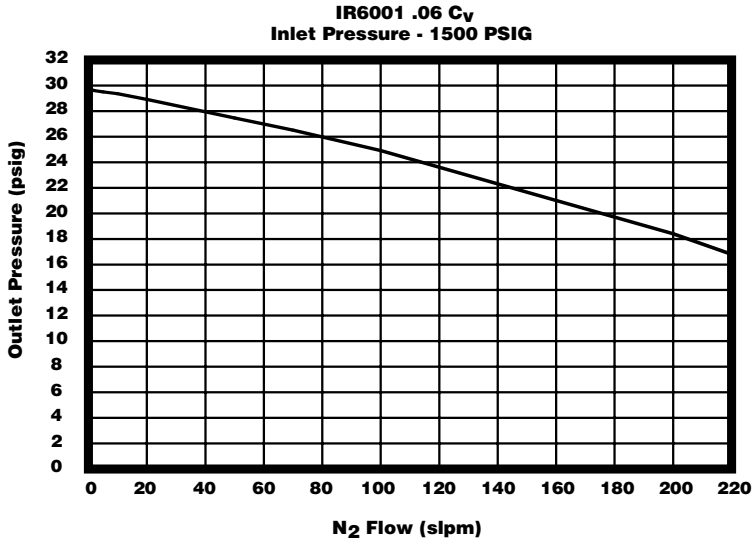
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

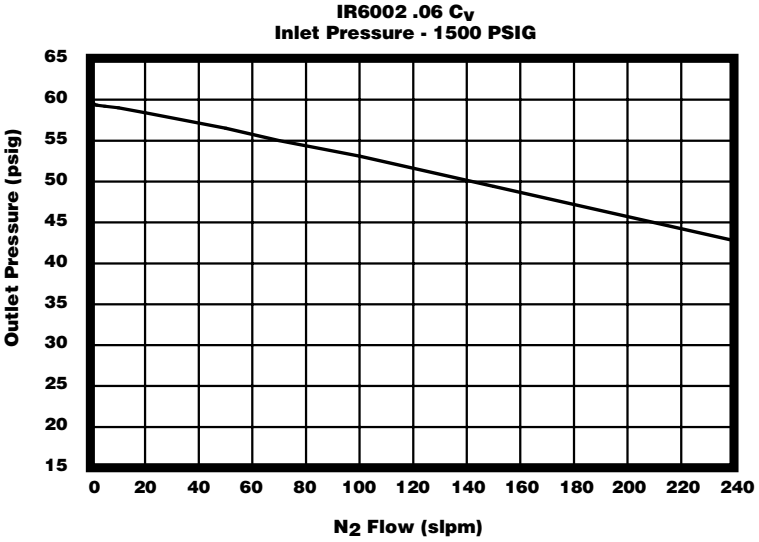
Dimensional Drawing

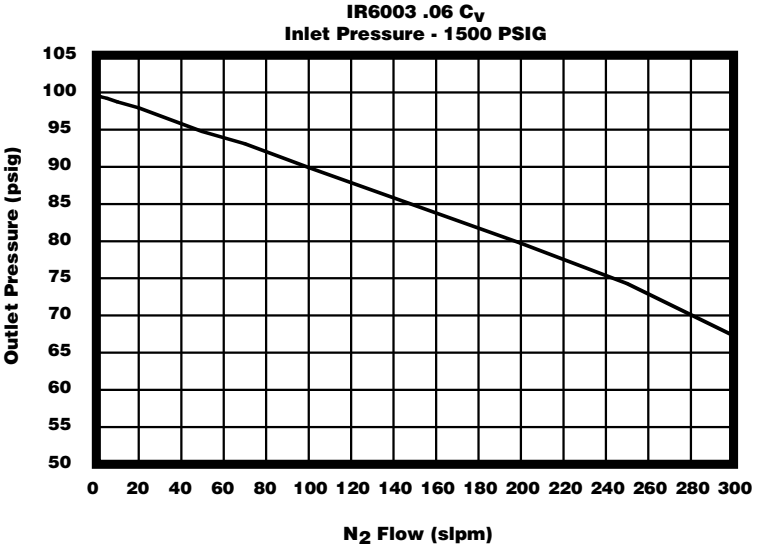


IR6000 Series

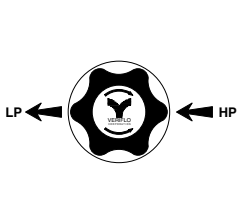
Flow Curves



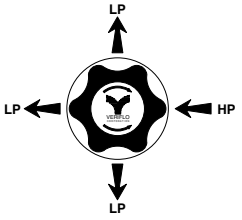




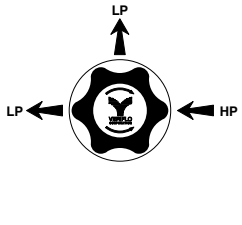
Porting Configurations



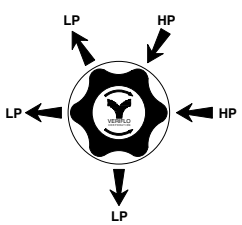
Porting Code 2P



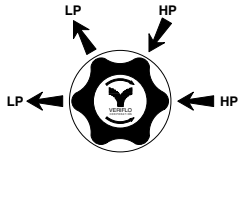
Porting Code 4PB



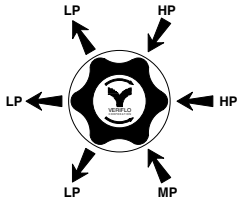
Porting Code 3P



Porting Code 5P



Porting Code 4P



Porting Code 6P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port
5P	Two Gauge Ports
6P	Two Gauge Ports

IR6000 Series

Ordering Information

IR600 S _ _ _ 4 B _ _

BASIC SERIES

Range	Outlet Gauge
0 = 1 -10 psig	0 - 30 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig

BODY MATERIAL

S = 316L Stainless Steel
(Hastelloy & Monel® AvaliableUpon Request)

FLOW CAPACITY

= .06 C_V (Standard)
1 = .02 C_V
2 = .15 C_V (See Range Table)

SEAT MATERIALS

K = PCTFE
P = PEEK™
V = Vespel®

PORTING

2P	—	—
3P	Y/X	—
4P	Y/X	Y/X
4PB	Y/X	—
5P	Y/X	Y/X
6P	Y/X	Y/X

OUTLET GAUGE

See Oulet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

INLET GAUGE

3000 psig std.

CGA#*

320
330
350
510
580
590
Additional Configurations Available Upon Request

OPTIONAL FEATURES (See Notes)

L = Teflon® Back-Up O-Ring
(PCTFE & PEEK™ seat only)
R2 = Relief Valve (4PB, 5P, 6P only)
V = Outlet Valve NOVAS44MF(STD)(See Notes)

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)

For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING

B = Standard (No options)

PORT STYLE

4 = 1/4" NPT Female Standard
(Additional sizes available upon request)

NOTES:

Outlet Valve: Available Upon request; Compression End Connection Outlet (*A-Lok, CPI) Can Be Substituted for NPTF Connection Upon Request*.

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR6003SK**2P**4B (*No X required for gauges, inlet & outlet ports only*)
Example #2
IR6003SK**3P**X4B (*One X for gauge port*)
Example #3
IR6003SK**4PB**X4B (*One X for gauge port*)
Example #4
IR6003SK**5P**XX4B (Two X's for gauge ports)

***** Do not exceed the rated pressure of the CGA connection

Parker Instrumentation

IR6200 Series

Brass Two Stage Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR6200 Series internally threadless pressure regulator for pressure reducing industrial/analytical applications including cylinder and calibration gases.

Instrument applications include gas management in refineries, process analyzer systems, and cylinder gas pressure reduction.

The IR6200 is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . Brass, Nickel Plated Brass
Compression Member . . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Phosphor Bronze
Poppet Spring . . . . . Inconel®
Carrier . . . . . Stainless Steel*
Back-up Washer . . . . . Phosphor Bronze
Seat . . . . . PCTFE
Back-up O-ring . . . . . Viton®
Inlet Screen/Filter . . . . . Copper and Phosphor Bronze

Non-Wetted

Cap . . . . . Nickel Plated Brass
Nut . . . . . Nickel Plated Brass
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 4000 psig (276 barg)
Outlet . . . . 1-10 psig (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg)
Temperature:
PCTFE . . . . . -40°F to 140°F (-40°C to 60°C)

functional performance

Flow capacity:
Standard . . . . . C_V .06
Optional . . . . . C_V .02, .15
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure: . . . . . 6000 psig (414 barg)
Design Burst Pressure: . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect . . . . 0.01 psig per100 psig

internal volume

8.1 cc

approximate weight

3.5 lbs (1.6 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316.

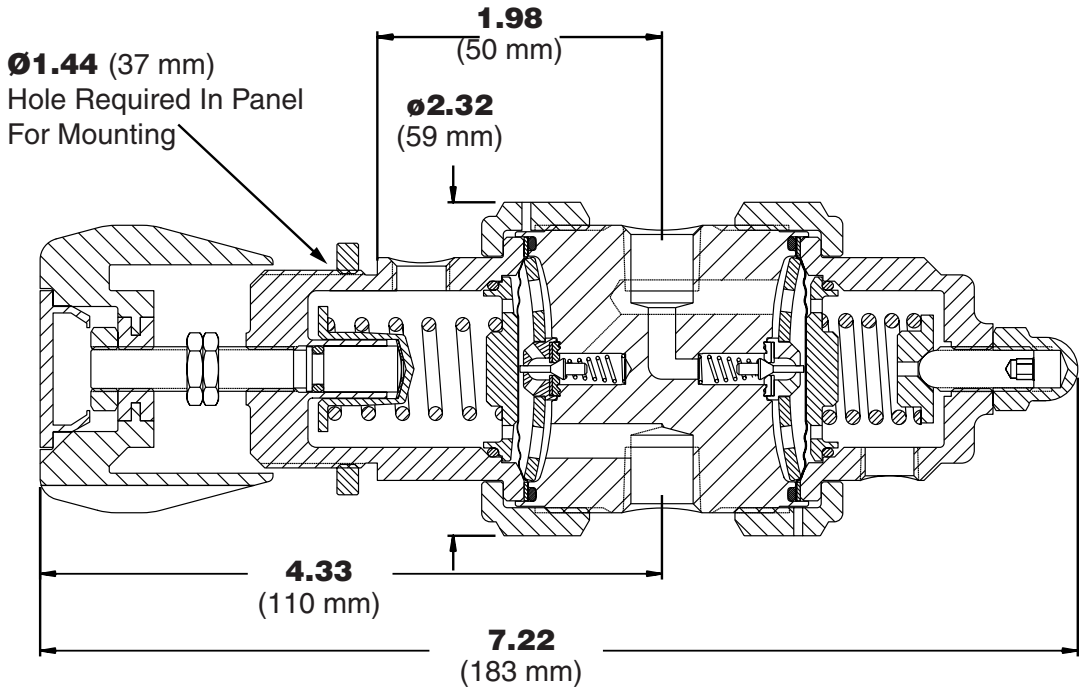
Parker
Instrumentation

IR6200 Series

Product Features and Benefits

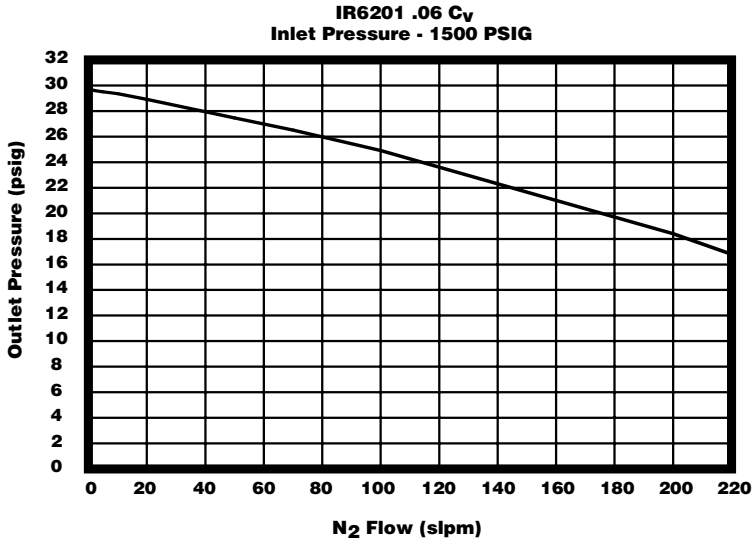
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy C-22®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

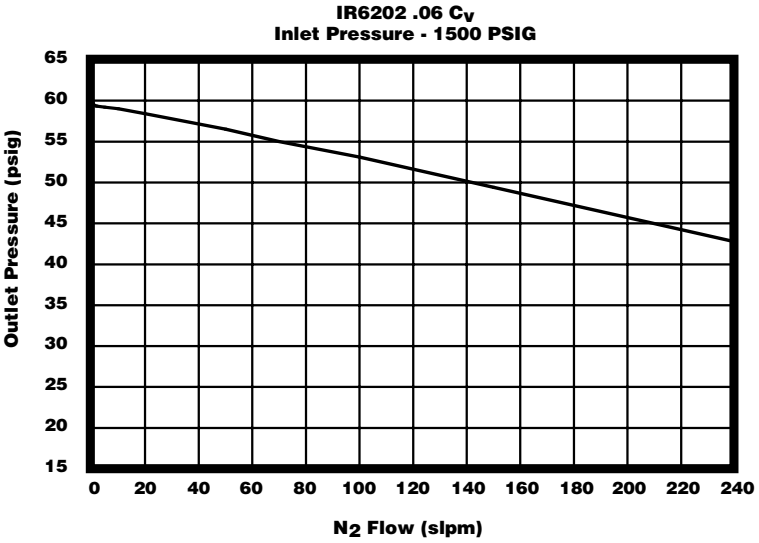
Dimensional Drawing

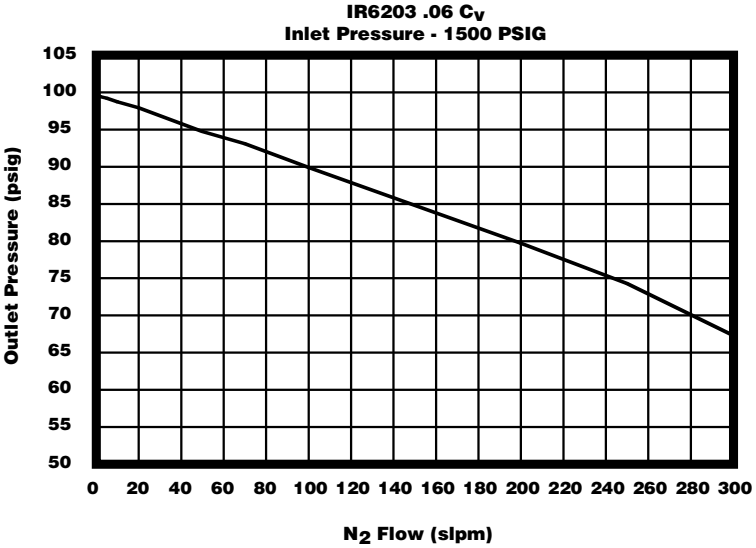


IR6200 Series

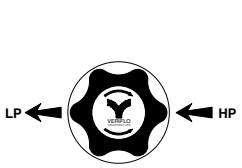
Flow Curves



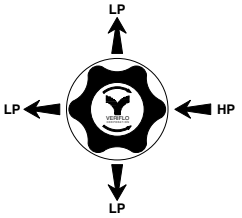




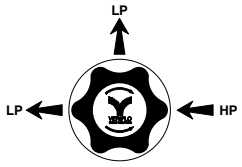
Porting Configurations



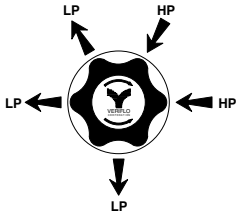
Porting Code 2P



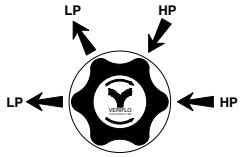
Porting Code 4PB



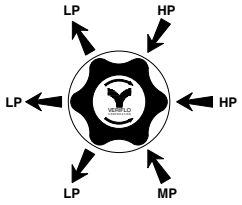
Porting Code 3P



Porting Code 5P



Porting Code 4P



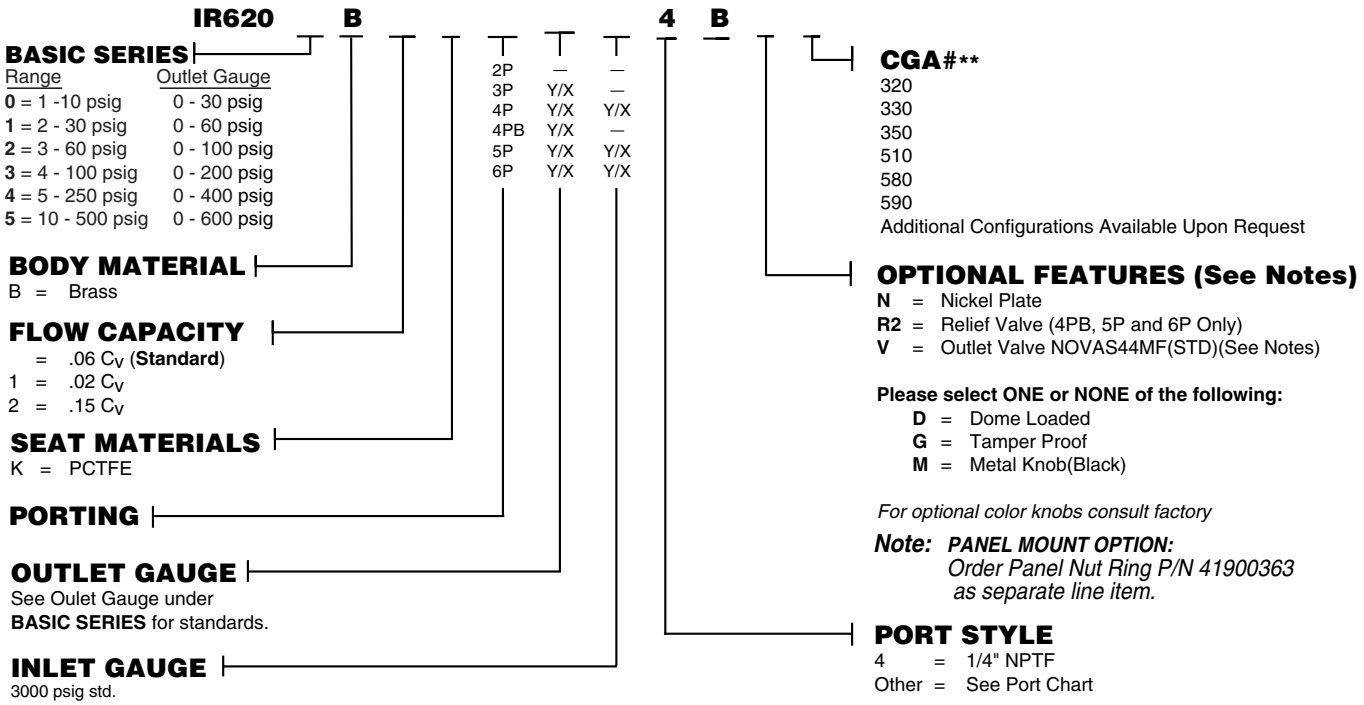
Porting Code 6P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port
5P	Two Gauge Ports
6P	Two Gauge Ports

IR6200 Series

Ordering Information



Notes:

Options: See Option Chart For Additional Features.

Outlet Valve: Compression End Connection Outlet (*A-Lok, CPI) Can Be Substituted For NPTF Connection Upon Request.*

****** Do not exceed the rated pressure of the CGA connection

Hastelloy C-22® is a registered trademark of Haynes International, Inc.
Inconel® is a registered trademarks of Inco Alloys International.
Elgiloy® is a registered trademark of Elgiloy Company.
Viton® is a registered trademark of DuPont Dow Elastomers.
PEEK™ is a trademark of Victrex plc.

ORDERING REGULATORS WITHOUT GAUGES

Example #1

IR6203BK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2

IR6203BK**3P**X4B (*One X for gauge port*)

Example #3

IR6203BK**4PB**X4B (*One X for gauge port*)

Example #4

IR6203BK**5P**XX4B (Two X's for gauge ports)

Parker Instrumentation

IR6000W Series

Welded Two Stage Regulator Internally Threadless Design

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the IR6000W Series internally threadless pressure regulator for pressure reducing industrial/analytical applications including cylinder and calibration gases.

Instrument applications include gas management in refineries, process analyzer systems, and cylinder gas pressure reduction.

The IR6000W is a high pressure regulator that can be ordered with a variety of options to meet a wide range of system design requirements.

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Hastelloy C-22®
Compression Member . . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®
Carrier . . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer . . . . . Hastelloy C-22®
Seat . . . . . PCTFE, PEEK™, Vespel®
Back-up O-ring . . . . . Viton®, optional Teflon®
Inlet Screen/Filter . . . . . 316L Stainless Steel, Hastelloy C-22®

Non-Wetted

Cap . . . . . Nickel Plated Brass, optional Stainless Steel
Nut . . . . 316L Stainless Steel, Nickel Plated Brass††
Knob (black) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 4000 psig (276 barg)
Outlet . . . . 1-10 psig (.7 barg), 2-30 psig (2 barg), 3-60 psig (4 barg), 4-100 psig (7 barg), 5-250 psig (17 barg)

Temperature:
PCTFE . . . . . -40°F to 150°F (-40°C to 65°C)
PEEK™ . . . . . -40°F to 275°F (-40°C to 135°C)
Vespel® . . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Flow capacity:
Standard . . . . . C_V = .06
Optional . . . . . C_V = .02, .15†
(SEMI Flow Coefficient Test #F-32-0998)

Design Proof Pressure: . . . . . 6000 psig (414 barg)
Design Burst Pressure: . . . . 12000 psig (828 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply Pressure Effect . . . . 0.01 psig per100 psig

internal volume

8.1 cc

approximate weight

3.5 lbs (1.6 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316 Stainless Steel.
† Refer to Range Table for specific information.
†† Nickel Plated Brass for PCTFE seat.

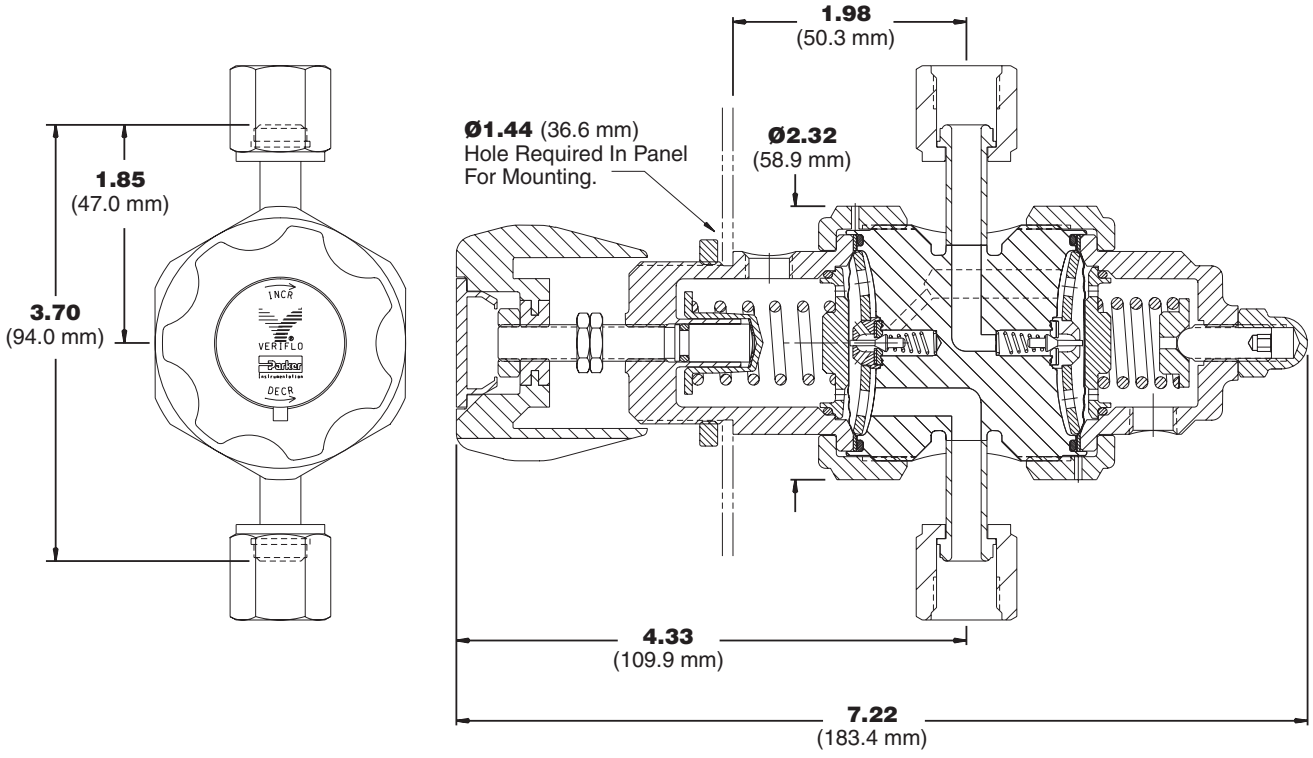
Parker Instrumentation

IR6000W Series

Product Features and Benefits

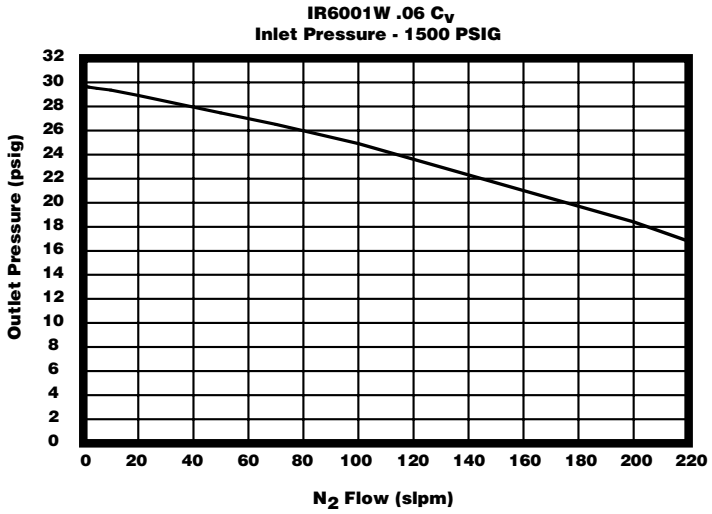
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

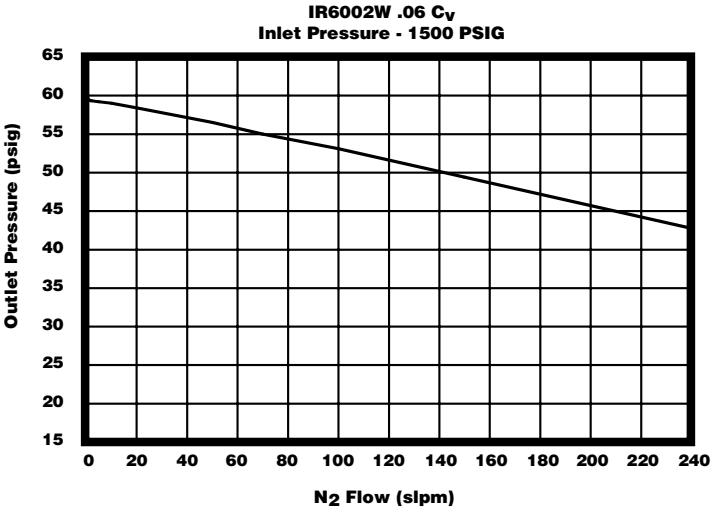
Dimensional Drawing

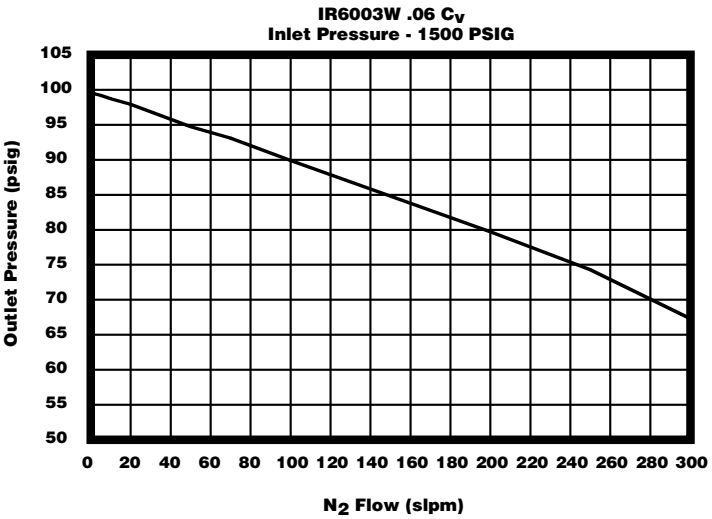


IR6000W Series

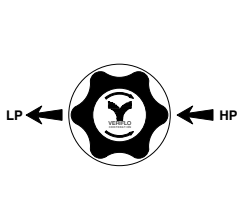
Flow Curves



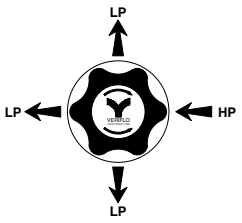




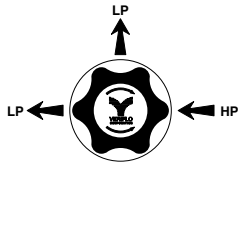
Porting Configurations



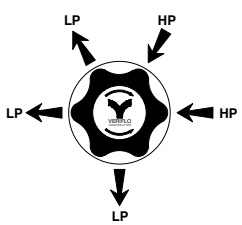
Porting Code 2P



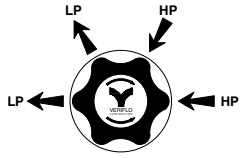
Porting Code 4PB



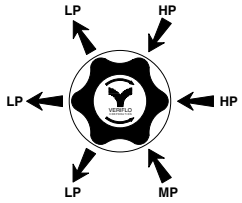
Porting Code 3P



Porting Code 5P



Porting Code 4P



Porting Code 6P

Gauge Index

2P	No Gauge Ports
3P	One gauge Port
4P	Two gauge Ports
4PB	One Gauge Port
5P	Two Gauge Ports
6P	Two Gauge Ports

IR6000W Series

Ordering Information

IR600 W 2P – – B

BASIC SERIES

Range	Outlet Gauge
0 = 1 -10 psig	0 - 30 psig
1 = 2 - 30 psig	0 - 60 psig
2 = 3 - 60 psig	0 - 100 psig
3 = 4 - 100 psig	0 - 200 psig
4 = 5 - 250 psig	0 - 400 psig

BODY MATERIAL
W = 316L Stainless Steel
(Hastelloy® & Avaliable Upon Request)

FLOW CAPACITY
= .06 C_V (**Standard**)
1 = .02 C_V
2 = .15 C_V (See **Range Table**)

SEAT MATERIALS
K = PCTFE
P = PEEK™
V = Vespel®

PORTING

2P	–	–
3P	Y/X	–
4P	Y/X	Y/X
4PB	Y/X	–

OUTLET GAUGE†
See Outlet Gauge under
BASIC SERIES (see above) for standards.
(Additional ranges available upon request)

INLET GAUGE†
3000 psig std.
400 psig with the 10 psig range
2000 psig with .15 C_V option

CGA#*
320
330
350
510
580
590
Additional Configurations
Available Upon Request

OPTIONAL FEATURES (See Notes)
L = Teflon® Back-Up O-Ring
(PCTFE & PEEK™ seat only)
R2 = Relief Valve (4PB, 5P, 6P only))

Please select ONE or NONE of the following:
D = Dome Loaded
G = Tamper Proof
M = Metal Knob(Black)
For optional color knobs consult factory

Note: ***PANEL MOUNT OPTION:***
Order Panel Nut Ring P/N 41900363 as separate line item.

PORT MOUNTING
B = Standard (No Options)

PORT CONFIGURATION (Face Seal Only)
M = Male Face Seal
F = Female Face Seal
I = 1/4" Internal Face Seal Female

PORT STYLE
4T = 1/4" Compression Fitting
6T = 3/8" Compression Fitting
8T = 1/2" Compression Fitting
FS = 1/4" Face Seal
FS8 = 1/2" Face Seal
TS = 1/4" Tube Stub
TS6 = 3/8" Tube Stub
TS8 = 1/2" Tube Stub

(Additional ranges available upon request)

† NOTES:
Gauge Ports are 1/4" FS Male standard.
Gauge Ports are 1/4" NPT Female for compression ends.

***** Do not exceed the rated pressure of the CGA connection

ORDERING REGULATORS WITHOUT GAUGES

Example #1
IR6003WK**2P**FSMMB (*No X required for gauges, inlet & outlet ports only*)

Example #2
IR6003WK**3P**XFSMMMB (*One X for gauge port*)

Example #3
IR6003WK**4PB**XFSMMMMB (*One X for gauge port*)

Example #4
IR6003WK**4P**XXFSMMMMB (Two X's for gauge ports)

Dimension Table	
Connection Type	**End to End Dimension**
1/4" Compression Fitting	**3.34 ± .02 in. (84.8 ± .5 mm)**
3/8" Compression Fitting	**3.48 ± .02 in. (88.4 ± .5 mm)**
1/2" Compression Fitting	**4.38 ± .03 in. (111.3 ± .8 mm)**
1/4" Face Seal	**3.70 ± .02 in. (94 ± .5 mm)**
1/2" Face Seal	**4.82 ± .02 in. (122.4 ± .5 mm)**
All Tube Stubs	**3.70 ± .02 in. (94 ± .5 mm)**

Parker Instrumentation

NPR4100 Series

Negative Pressure Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the NPR4100 regulator for applications involving negative delivery pressures with low pressure gas sources for instrument/analyzer applications.

This new regulator is specifically designed to regulate negative pressures down to -26 in Hg vacuum (100 Torr). Typical applications include the delivery of low pressure gases from liquid sources such as WF_6, BCL_3.

materials of construction

Wetted

Body . . . . . 316L, Brass, Monel®, Hastelloy C-22®
Compression Member. . . . . Inconel®
Diaphragm . . . . . Hastelloy C-22®
Pin . . . . . Hastelloy C-22®
Poppet . . . . . Elgiloy®
Poppet Spring . . . . . Inconel®, Hastelloy C-22®
Back-up O-Ring. . . . . Viton®, optional Teflon®
Carrier. . . . . Stainless Steel*, Hastelloy C-22®
Back-up Washer. . . . . Hastelloy C-22®
Seat . . . . . PCTFE , PEEK™, Vespel®
Inlet Screen/Filter†. . . . . 316L Stainless Steel, Copper and Phosphor Bronze (Brass body), Hastelloy C-22® (Hastelloy®, Monel® bodies)

Non-Wetted

Nut. . . . . 316L Stainless Steel
Knob (White) . . . . . ABS Plastic
Cap . . . . . Nickel Plated Brass, Optional Stainless Steel

operating conditions

Maximum inlet. . . . . 250 psig (17 barg)
Outlet . . 100 torr to 10 psig (-26 in Hg to .7 barg)

Temperature:
PCTFE. . . . . -40°F to 150°F (-40°C to 65°C)
**PEEK™. . . . . -40°F to 275°F (-40°C to 135°C)
**Vespel®. . . . . -40°F to 500°F (-40°C to 260°C)

functional performance

Flow capacity:
Standard. . . . . C_V .06
Optional. . . . . C_V .02, .15
(SEMI Flow Coefficient Test #F-32-0998)

Maximum Inboard Design
Leak Rate. . . . . < 2 x 10^{-8} scc/sec HE

standard configurations

1/4" and 1/8" female pipe threads

internal volume

4.0 cc

approximate weight

1.5 lbs. (.7 kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316L.

** Temperature ranges available in Stainless Steel body only.

† Inlet Screen/Filter available on NPT ports only.

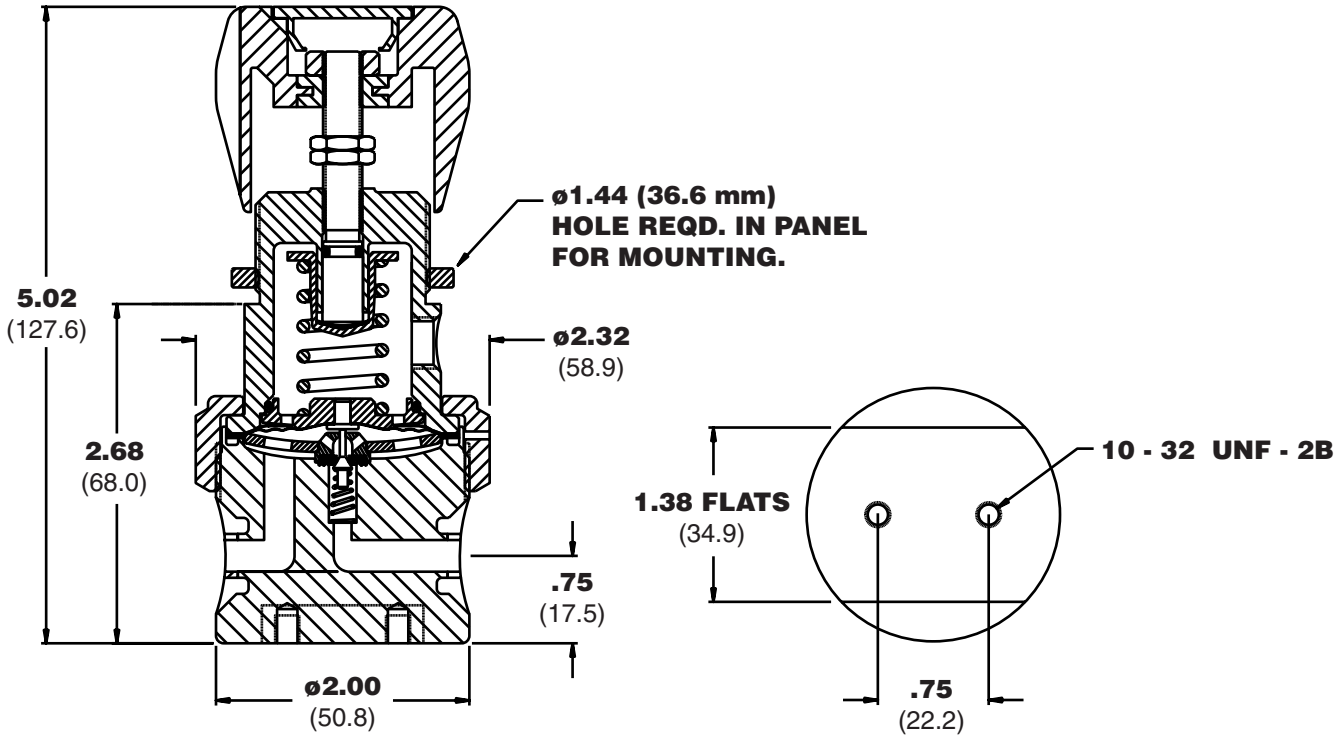
Parker Instrumentation

NPR4100 Series

Product Features and Benefits

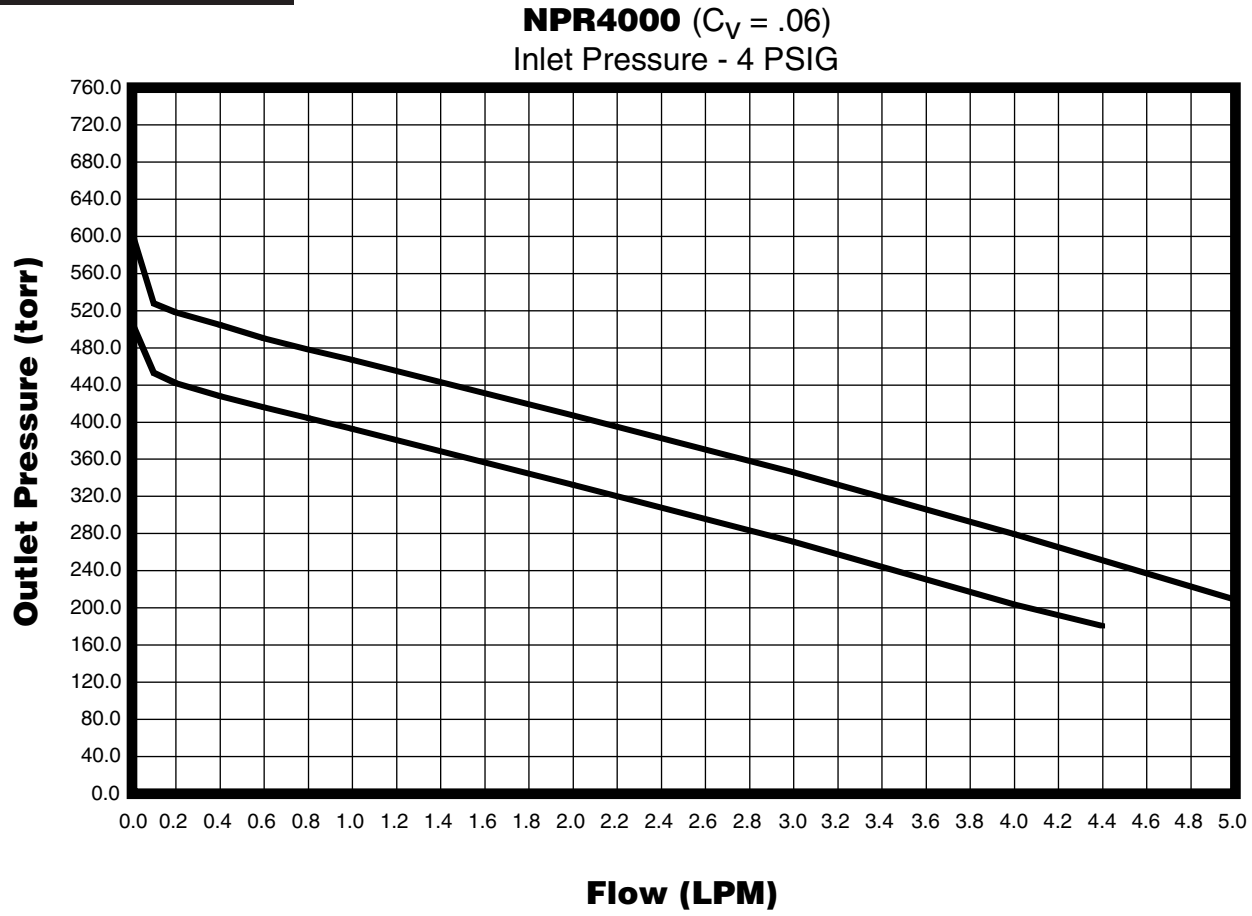
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Selection of seat materials for media compatibility and temperature applications.
- Meets NACE Standard MR0175.
- O_2 Cleaned.
- Fully swept design.
- Internally threadless seat design promotes long seat life.
- Convoluted, Hastelloy C-22® diaphragm provides high corrosion resistance and increases cycle life.
- Positive upward and downward stops increases cycle life by preventing over stroking of the diaphragm.
- Low internal volume reduces cycle and purge time.
- Captured bonnet allows for safety venting.
- Standard units can be dome loaded (with clean dry air or nitrogen).
- The use of Inconel®, Hastelloy C-22®, and Elgiloy® provide superior corrosion resistance and high repeatability.
- Close tolerances and tight alignment of moving components minimize hysteresis.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

Dimensional Drawing

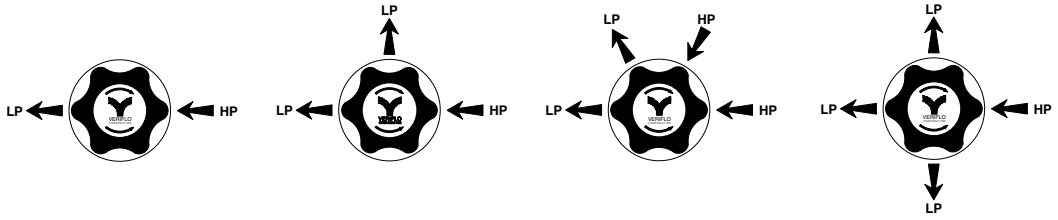


NPR4100 Series

Flow Curve



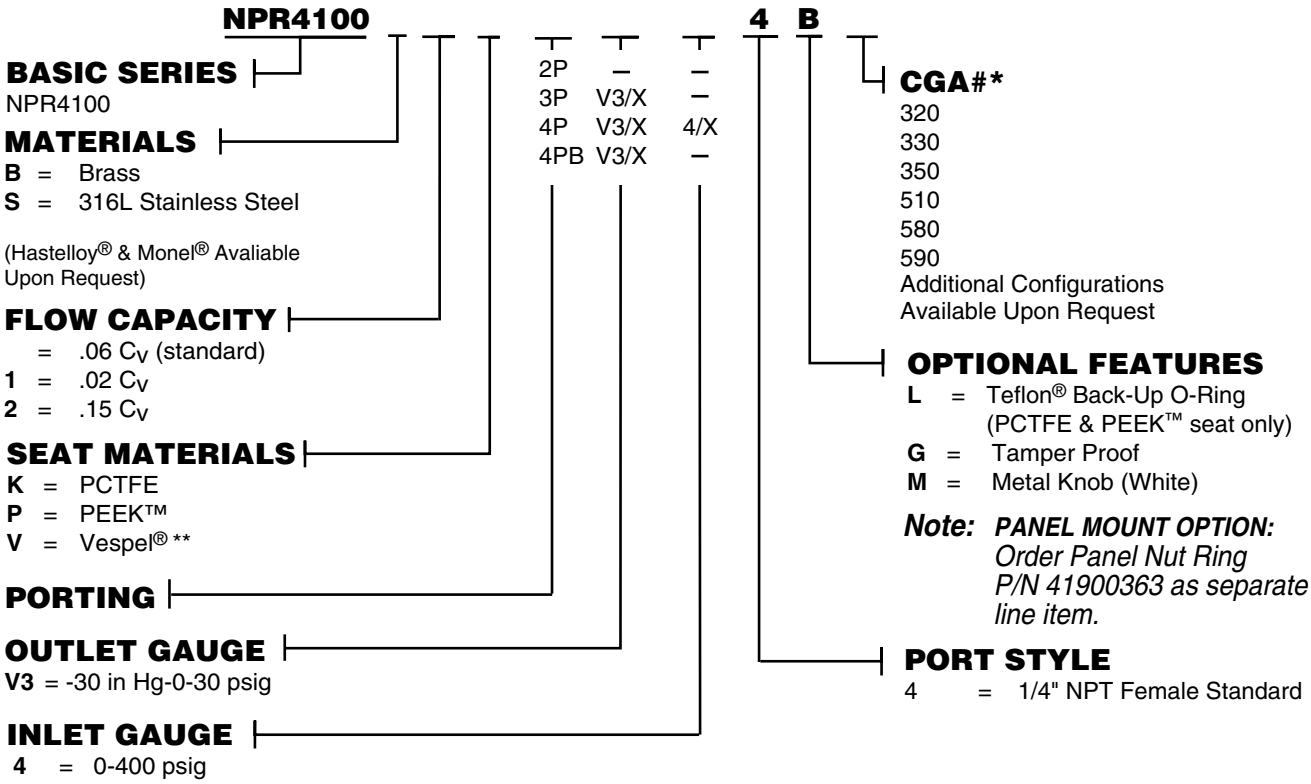
Porting Configurations



Porting Code 2P **Porting Code 3P** **Porting Code 4P** **Porting Code 4PB**

NPR4100 Series

Ordering Information



ORDERING REGULATORS WITHOUT GAUGES

Example #1

NPR4100SK**2P**4B (*No X required for gauges, inlet & outlet ports only*)

Example #2

NPR4100SK**3P**X4B (*One X for gauge port*)

Example #3

NPR4100SK**4PB**X4B (*One X for gauge port*)

Example #4

NPR4100SK**4P**XX4B (Two X's for gauge ports)

*** Do not exceed the rated pressure of the CGA connection**

**** Recommended for Nitrous Oxide (N_2O) Service**

Parker Instrumentation

MIR700 Series

Compact Single Stage Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the MIR700 Series regulator. The MIR 700 is a general purpose, compact regulator designed for low to medium pressure applications.

Constructed from brass or stainless steel bar stock this unit is capable of handling a broad range of media. Its reliable performance and modest size make the MIR700 Series regulator ideal for applications that require pressure control in a compact space.

features

- Precise flexing, Hastelloy C-22® Diaphragm.
- 100% tested.
- O_2 Cleaned.
- Proven valve seat assembly.
- Low internal volume.
- Machined from solid bar stock.
- Meets NACE MR-01-75.

options

- Pressure gauges.
- Miniature instrument knob.
- Panel mount.
- CGA fittings.
- Relief Valve.
- Fairprene Diaphragm.

Parker Instrumentation

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Nickel Plated Brass
Poppet . . . . . 316L Stainless Steel or Brass
Poppet Spring . . . . . Inconel® 625
Gasket . . . . . Teflon®
Nozzle Assy . . . . . 316 Stainless Steel or Brass
Seat . . . . . PCTFE
Diaphragm . . . . . Hastelloy C-22®, optional Fairprene®

Non-wetted

Cap . . . . . Chrome Plated Brass
Knob . . . . . ABS Plastic

operating conditions

Maximum inlet pressure . . . 3,000 psig (207 barg)

Outlet pressure . . . . . 1-15 psig (1 barg)
2-30 psig (2 barg), 3-100 psig (7 barg)
4-200 psig (14 barg)

Temperature . . . . . -40°F to 150°F (-40°C to 66°C)

functional performance

Flow capacity . . . . . C_V = .02, (SEMI Coefficient Test #F-32-0998)

Supply pressure effect. . . . . 0.6 psig per 100 psig (0.03 barg per 6.80 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

design parameters

Design proof pressure . . . . . 4500 psig (310 barg)
Design burst pressure . . . . . 9,000 psig (621 barg)

standard connections

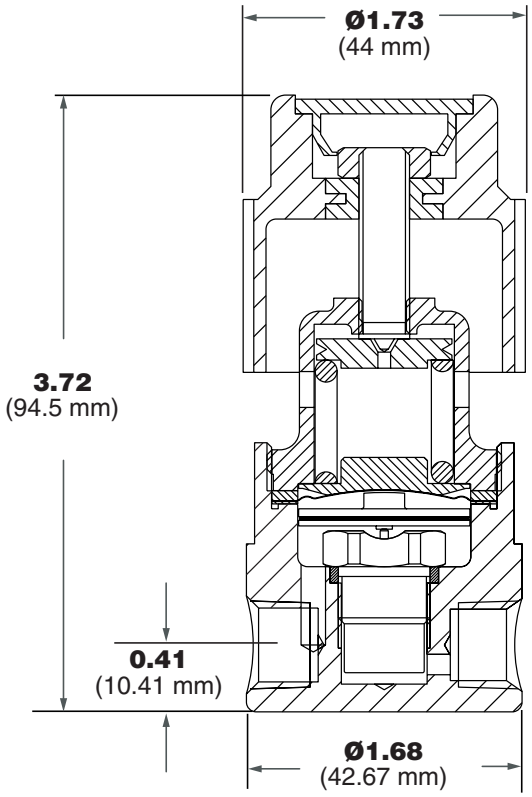
1/8" or 1/4" female pipe threads (NPT) or optional CGA

approximate weight

1.1 lbs (.5 kg)

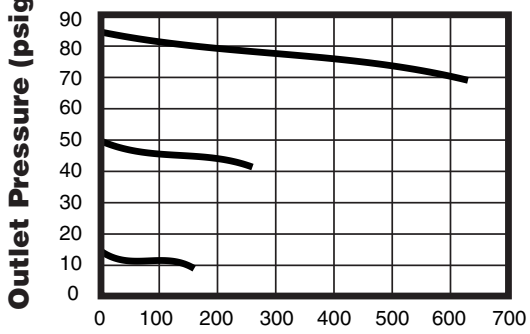
MIR700 Series

Dimensional Drawing

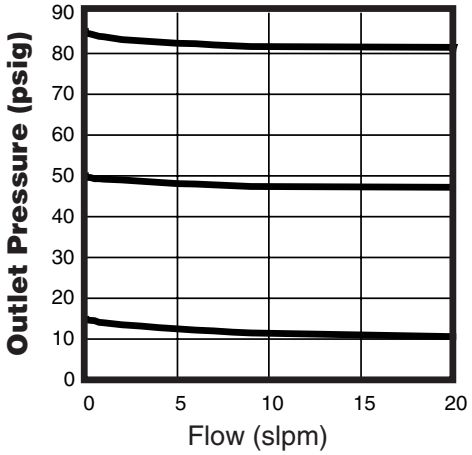


Flow Curves

Inlet Pressure: 2000 psig
(Fairprene® Diaphragm)



Inlet Pressure: 2000 psig
(Hastelloy C-22® Diaphragm)



Ordering Information

MIR700

BASIC SERIES
MIR700

PRESSURE SETTING
15 = 1 - 15 psig
30 = 2 - 30 psig
100 = 3 - 100 psig
200 = 4 - 200 psig

MATERIAL
B = Brass
S = 316L Stainless Steel

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
4PB = 4 Ports

OUTLET GAUGE
03 = 0 - 30 psig
01 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge

OPTIONS
CGA = Inlet Connection (Specify CGA No.)†
FTD = Fairprene Diaphragm
M = Miniature Instrument Knob
MH = Mounting Holes
PM = Panel Mount
R = Relief Valve

PORT CONFIGURATION
2 = 1/8" NPTF
4 = 1/4" NPTF

INLET GAUGE
01 = 0 - 100 psig
2 = 0 - 200 psig
6 = 0 - 600 psig
10 = 0-1000 psig
20 = 0-2000 psig
30 = 0-3000 psig
40 = 0-4000 psig
X = No Gauge

† **Caution: Do not exceed the rated pressure of the CGA Connection.**

Fairprene® and Teflon® are registered trademarks of DuPont Company.
Inconel® is a registered trademark of Inco Alloys International.
Hastelloy C-22® is a registered trademark of Hayes International, Inc.

Parker Instrumentation

HFR900 Series

High Flow Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the HFR900 series is designed and engineered for use in those applications using high flow rates requiring a compact pressure regulator for control.

features

- "VeriClean", Veriflo's low sulfur high purity 316L Stainless Steel, which enhances electropolishing, and corrosion resistance.
- Also available in Brass.
- O_2 Cleaned.
- Self-contained, replaceable valve seat assembly.
- Over 20 years of proven reliability.

applications

- Fluid media: corrosive and non-corrosive gases.
- Point-of-use applications.
- Most high flow requirement with less than 500 psig supply pressure.

materials of construction

Wetted

Body . . . . . "VeriClean", Veriflo's high purity type 316L Stainless Steel or Brass
Seat Assembly. . . . . 316L Stainless Steel or Brass
Seal . . . . . Teflon® and Viton® or Teflon® and Kalrez®
Diaphragm. . . . 316L Stainless Steel, Teflon® lined

Non-Wetted

Cap . . . . . Nickel plated Brass or Brass
Knob (Black). . . . . ABS Plastic

operating conditions

Maximum supply pressure:
Viton® Seal . . . . . 500 psig (35 barg)
Kalrez® Seal . . . . . 200 psig (14 barg)
Outlet Pressures . . . . . 1-30 psig (.06-2 barg)
2-75 psig (.1-5 barg)
5-150 psig (.3-10 barg)
Design burst pressure . . . . . 1500 psig (103 barg)
Design proof pressure . . . . . 1000 psig (69 barg)
Temperature . . . . . –40°F to 165°F (–40°C to 73°C)
Temperature (Brass) . . . . . –40°F to 150°F (–40°C to 66°C)

functional performance

Flow capacity . . . . . C_V = .85
(SEMI Flow Coefficient Test# F-32-0998)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

standard connections

1/4", 3/8" or 1/2" Female pipe threads (NPT)
1/4", 3/8" or 1/2" Compression fittings

internal volume

2.33 cu in (38 c.c.)

surface finishes

Standard Ra . . . . . 15-20 micro inch (.38 to .5 micro meter) or less

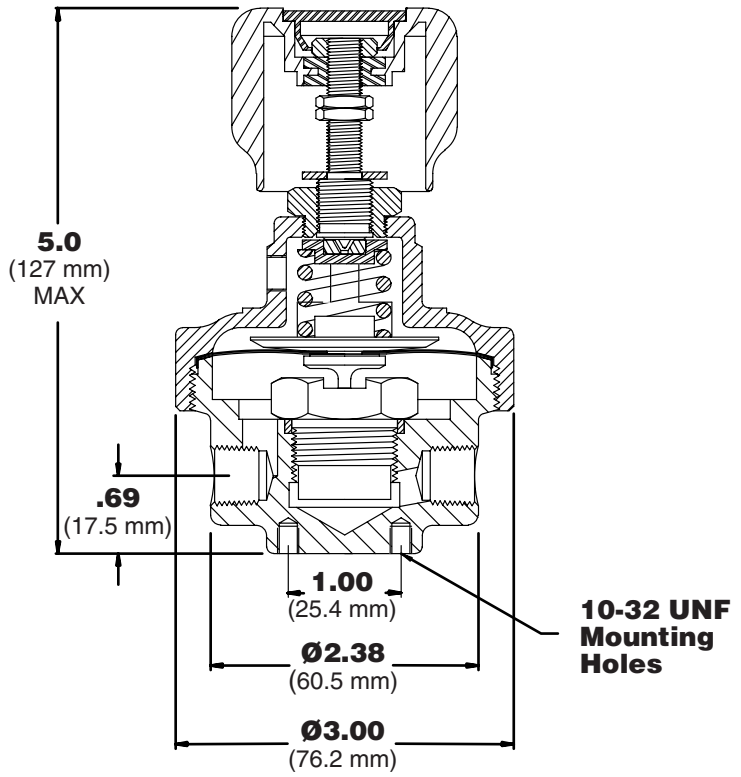
approximate weight

2.5 lbs. (1.2 kg)

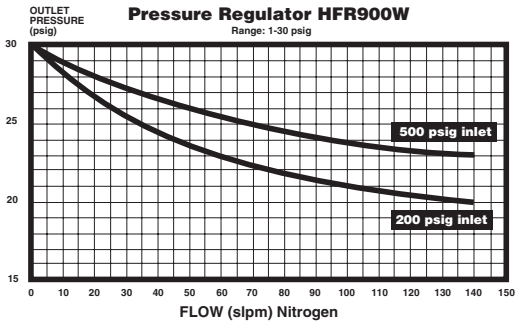
Parker Instrumentation

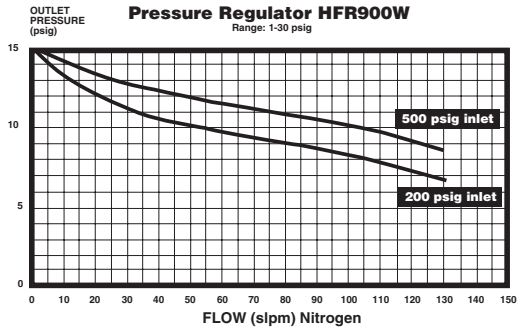
HFR900 Series

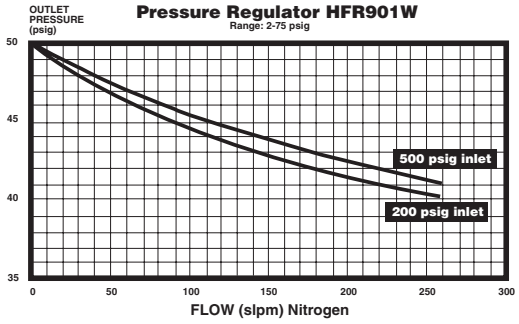
Dimensional Drawing

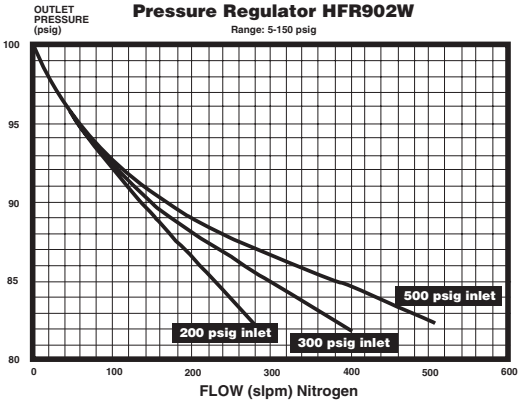


Flow Curves

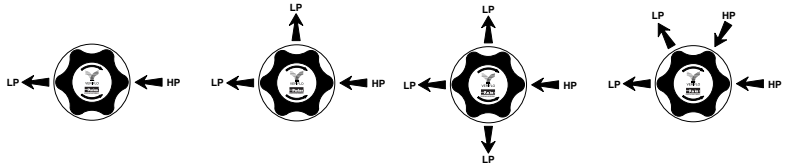








Porting Configuration



Porting Code 2P | **Porting Code 3P** | **Porting Code 4PB** | **Porting Code 4P**

Ordering Information

HFR900

BASIC SERIES
HFR900 = 1-30 psig
HFR901 = 2-75 psig
HFR902 = 5-150 psig

MATERIALS
B = Brass
S = 316L Stainless Steel

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
4PB = 4 Ports

REGULATOR OUTLET GAUGE
03 = 0-30 psig
01 = 0-100 psig
2 = 0-200 psig
X = No Gauge

OPTIONAL FEATURES
PM = Panel Mount
R = Relief Valve

SEAL MATERIAL
K = Kalrez® (200 psig max)
V = Viton® (500 psig max)

PORT STYLE
4 = 1/4" NPTF
6 = 3/8" NPTF
8 = 1/2" NPTF
4T = 1/4" Compression Fittings*
6T = 3/8" Compression Fittings*
8T = 1/2" Compression Fittings*

REGULATOR INLET GAUGE
4 = 0-400 psig
6 = 0-600 psig
X = No Gauge

*** Compression fittings are threaded and include nuts and ferrules.**

Parker Instrumentation

HPR800 Series

Pressure Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the HPR800 Series High Pressure Regulator. The HPR800's were designed to meet those applications requiring high outlet pressures to 2500 psig.

features

- "VeriClean", Veriflo's custom low sulfur, high purity type 316L VAR Stainless Steel, enhances electropolishing and welding.
- Also available in Brass.
- Low actuating torque.
- Diaphragm sensing regulator.
- Easily maintained.
- Self-contained valve seat assembly.
- Fluid media capabilities: Corrosive and non-corrosive gases.

Parker Instrumentation

materials of construction

Wetted

Body . . . . . "VeriClean", Veriflo's high purity type 316L Stainless Steel or Brass
Poppet . . . . . 316 Stainless Steel or Brass
Poppet Spring . . . . . Inconel® 625
Nozzle Assembly . . . . . 316 Stainless Steel, Brass
Nozzle Assembly Seal. . . . . Teflon®
Seat . . . . . PCTFE
Diaphragm . . . 316L Stainless Steel, Teflon® lined

Non-wetted

Spring housing . . . . . Nickel Plated Brass, Brass
Bushing . . . . . Nickel Plated Brass
Stem Handle Tee . . . . . Nickel Plated Brass

operating conditions

Maximum inlet . . . . . 5000 psig @ 70°F (345 barg @ 21°C)

For oxygen. . . . . 3000 psig (207 barg)
Outlet. . . . . 10-800 psig (.7 - 55 barg) adjustable
20-1500 psig (1.4 - 103 barg) adjustable
50-2500 psig (3.4 - 172 barg) adjustable

Temperature . . . . –40°F to 165°F (–40°C to 74°C)
Temp. (Brass) . . . . –40°F to 150°F (–40°C to 66°C)

functional performance

Flow capacity . . . . . C_V = .02 (ANSI/ISA S75.02 1988 using water)

Design Burst Pressure . . . 15,000 psig (1,034 barg)
Design Proof Pressure . . 22,500 psig (1,551 barg)

Maximum Inboard Design
Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

Supply pressure effect . . . . 0.5 psig per 100 psig (.03 barg per 7 barg)

standard configurations

¼ inch female pipe threads inlet and outlet
End to end length . . . . . 1.88 in. (47.8 mm)

Any combination of FS male and/or female fittings.
1/4" gland to gland length1.85 ± .02 in. (47 ± .05 mm)

internal volume

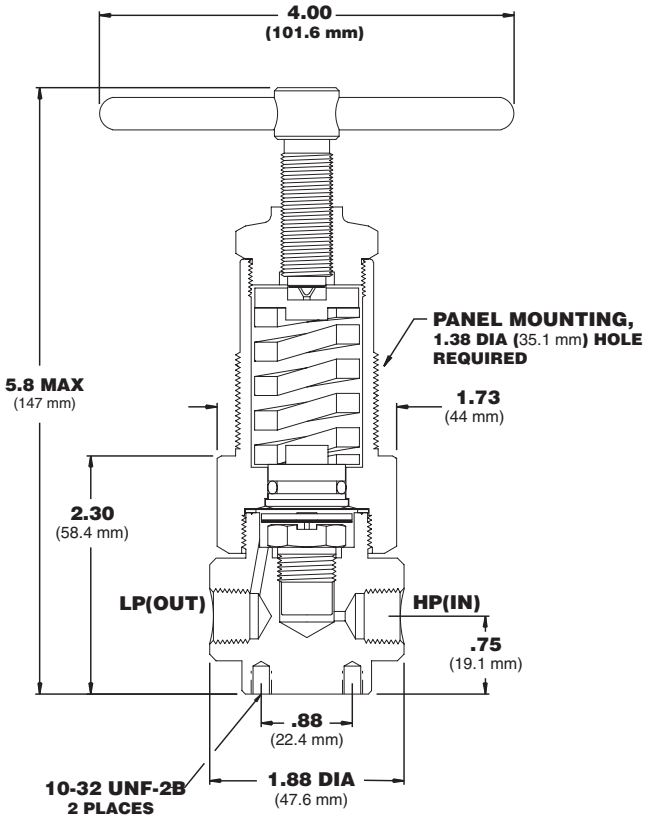
6.5 cc

approximate weight

2.19 lbs. (.993 kg)

HPR800 Series

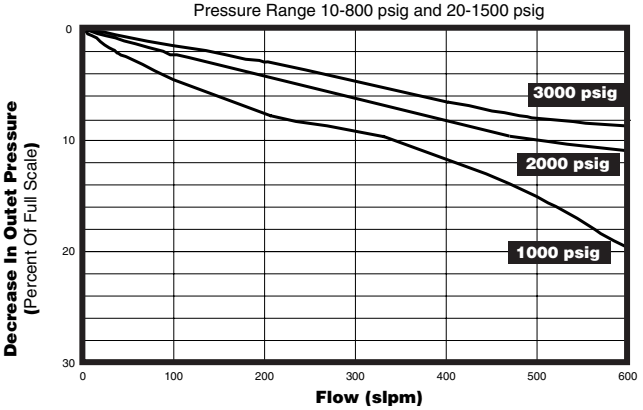
Dimensional Drawing



Flow Curve

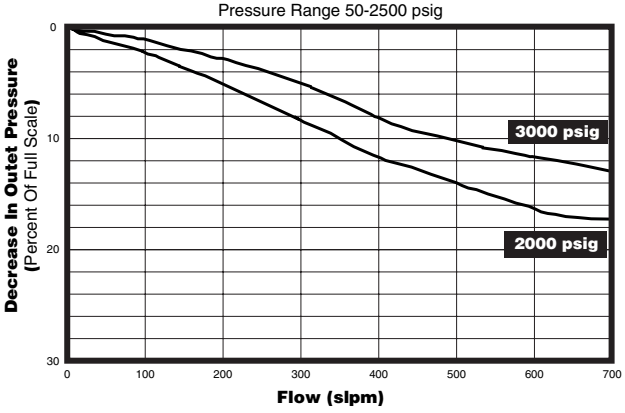
HPR800 & HPR801

Pressure Range 10-800 psig and 20-1500 psig



HPR802

Pressure Range 50-2500 psig



Ordering Information

HPR800

BASIC SERIES
HPR800 = 10 - 800 psig
HPR801 = 20 - 1500 psig
HPR802 = 50 - 2500 psig

MATERIALS
B = Brass
S = 316L Stainless Steel
W = 316L Welded Stainless Steel

PORTING
2P = 2 Port
3P = 3 Port
4P = 4 Port
5P = 5 Port

REGULATOR OUTLET GAUGE
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
X = No Gauge

OPTIONAL FEATURES
CGA = Inlet Connector (Specify CGA No.)*
PM = Panel Mount

PORT CONFIGURATION
4 = 1/4" NPTF (**Standard**)
FSM = 1/4" Male Face Seal
FSF = 1/4" Female Face Seal
FSI = Internal Face Seal**

REGULATOR INLET GAUGE
30 = 0 - 3000 psig
40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge

* **Do not exceed the rated pressure of the CGA Connection.**
** **Uses a 2" Diameter Body.**

Teflon® is a registered trademark of Dupont.
Inconel® is a registered trademark of Inco Alloys International.

Parker Instrumentation

APR66 Series

Pressure Reducing Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the APR66 Series is a high pressure reducing single-stage regulator designed to operate at inlet pressures up to 6000 psig.

The APR66 offers a full range of pressure sensing without time consuming spring and piston change outs.

features

- Piston sensing.
- Thrust bearing allows low actuating torque and precise setability.
- O_2 Cleaned.
- Low friction adjusting screw sleeve provides smooth operation.
- Optional self relieving feature allows user to decrease outlet pressure in closed systems (feature is actuated by turning the adjusting knob counterclockwise).

NOTE: *For safety purposes, the optional self-relieving feature is not recommended for toxic or flammable gases or liquids.*

materials of construction

Wetted

Body	316L Stainless Steel, Nickel Plated Brass
Screen	Hastelloy C-22®
Washer	Stainless Steel
Spring	Hastelloy C-22®
Poppet	Stainless Steel
Seat	PEEK™
Seat and Screw Clamp	Stainless Steel
Plug and Screw	Stainless Steel
Piston	Torlon
Piston Housing	Stainless Steel
Stem	Stainless Steel
Seals	Aflas®, Teflon® and PCTFE

Non-Wetted

Cap	Nickel plated brass
Cap nut	316L Stainless Steel
Knob	ABS Plastic(black) optional Metal Knob (black)

operating conditions

Inlet pressure . . . . . 6000 psig (414 barg)

Outlet pressure . . . . 100-1000 psig (69 barg) 100-2000 psig (138 barg), 100 -3000 psig (207 barg), 100-6000 psig (414 barg)

Temperature . . . . . -40°F to 165°F (-40°C to 74°C)

functional performance

Design proof pressure . . . . . 9000 psig (620 barg)

Design burst pressure . . . . 18000 psig (1241 barg)

Flow capacity . . . . . C_V 0.05 (SEMI Flow Coefficient Test #F-32-0998)

Supply pressure effect . . . . . 4 psig per 100 psig (.28 barg per 7 barg) for 100-1000, 2000 & 3000 psig ranges (69, 138 & 207 barg) 6 psig per 100 psig (.4 barg per 7 barg) for 100-6000 psig (419 barg) range

Maximum Inboard Design Leak Rate . . . . . < 2 x 10^{-8} scc/sec HE

standard connections

1/8", 1/4" female pipe threads MS 33649 or DIN ISO 228/1

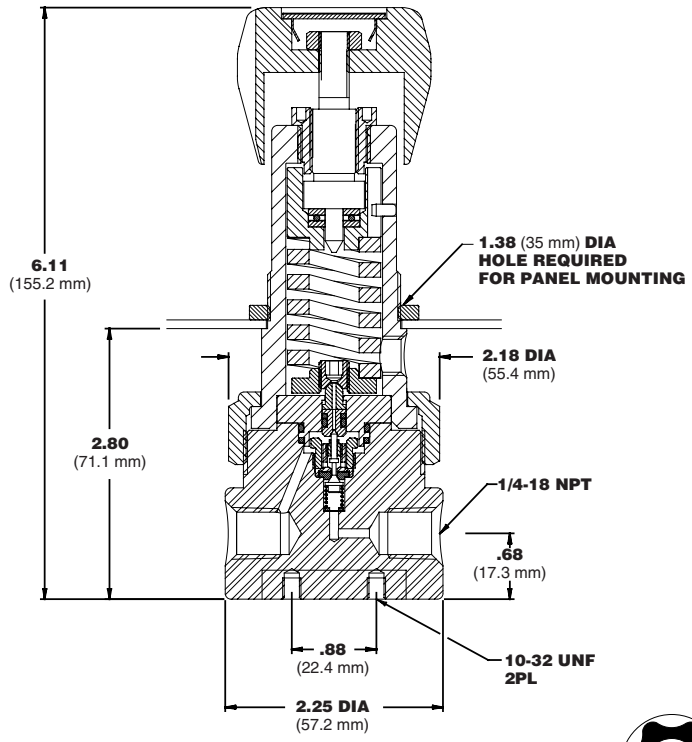
approximate weight

3.0 lbs (1.4 kg)

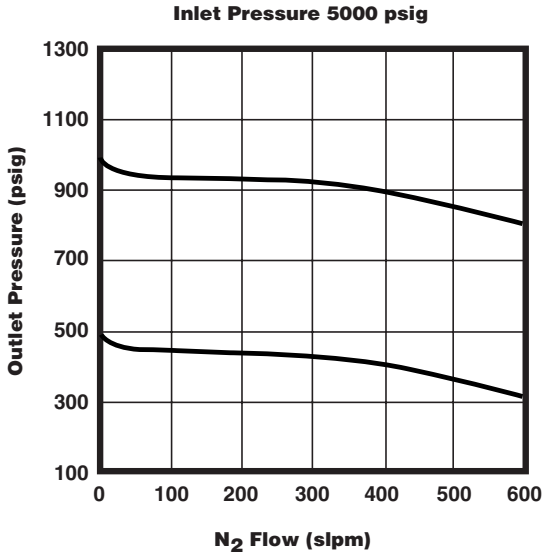
Parker Instrumentation

APR66 Series

Dimensional Drawing

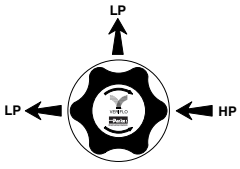


Flow Curve

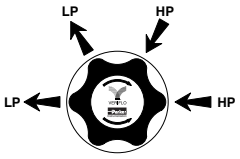


Porting Configurations

Porting Code: 2P



Porting Code: 3P



Porting Code: 4P

Ordering Information

APR66

BASIC SERIES
APR66

MATERIALS
S = 316L Stainless Steel
B = Nickel Plated Brass

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports

PRESSURE RANGE
1 = 100 - 1000 psig
2 = 100 - 2000 psig
3 = 100 - 3000 psig
4 = 100 - 6000 psig

OPTIONAL FEATURES
CGA = CGA Connection (Specify CGA No.)*
SR = Self Relieving
M = Metal Knob (Black)

PORT STYLE
2 = 1/8" NPTF
4 = 1/4" NPTF
D = DIN ISO 228/1**
MS = M533649**

INLET GAUGE†
40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge

OUTLET GAUGE†
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge

* **Do not exceed the rated pressure of the CGA connection**
** **Inlet and Outlet Ports Only**
† **Stainless Steel gauges only**

Note: Each unit is standard with a threaded cap and panel mount nut.

Parker Instrumentation

XPR Series

High Pressure Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the XPR Series High Pressure Regulator. The new regulator safely reduces pressures from 10,000 psig (6,000 psig Brass) inlet down to as low as 50 psig by utilizing seven different ranges. The new self relieving feature comes standard with all XPR Series regulators.

features

- Bonnet assembly allows easy changeout.
- Self relieving adjustment with allen wrench.
- Self relieving allows downstream pressure to be vented through regulator.
- Optional "T" handle.
- O_2 cleaned.
- Seven range assemblies available.
- Non-self relieving option available.
- Available for Panel Mounting (panel mount ring sold separately).
- Bottom mounting holes (mounting bracket sold separately).

Parker Instrumentation

materials of construction

Wetted

Body . . . . . 316L Stainless Steel, Brass
Seat . . . . . Vespel®
Piston. . . . . 316L Stainless Steel
Poppet . . . . . 316L Stainless Steel
Poppet Spring . . . . . Inconel®
Back Up Ring . . . . . Teflon®
O-Rings. . . . . Viton®
Self-Relieving Seat . . . . . Vespel®

Non-wetted

Cap . . . . 316L Stainless Steel, Nickel Plated Brass
Knob (black) . . . . . ABS Plastic
"T" Handle . . . . . Nickel Plated Brass

operating conditions

Maximum inlet pressure:
316L Stainless Steel . . . . . 10,000 psig (690 barg)
Brass. . . . . 6,000 psig (414 barg)
Outlet pressure . . . . 50-500 psig (3.5 - 34.5 barg)
50-800 psig (3.5 - 55.2 barg)
100-1500 psig (7 - 103.4 barg)
135-2500 psig (9.3 - 172.4 barg)
200-4000 psig (17 - 276 barg)
300-6000 psig (20.7 - 414 barg)
*500-10,000 psig (34.5 - 690 barg)
**316L Stainless Steel Only*
Temperature . . . . . -40°F to 150°F (-40°C to 66°C)

surface finishes

Standard Ra . . . . . 63 Ra

functional performance

Design proof pressure:
316L Stainless Steel . . . . 15,000 psig (1035 barg)
Brass . . . . . 9,000 psig (620 barg)
Design burst pressure:
316L Stainless Steel . . . . 30,000 psig (2070 barg)
Brass. . . . . 18,000 psig (1240 barg)
Design Leak Rate:
Across Seat . . . . . 1 x 10^{-4} scc/sec He
Inboard . . . . . 1 x 10^{-4} scc/sec He
Outboard . . . . . 1 x 10^{-4} scc/sec He
Flow Capacity. . . . . C_V .07
(SEMI Flow Coefficient Test # F-32-0998)

internal volume

Self Relieving. . . . . 0.853 in^3 (13.99 cm^3)
Non Self Relieving. . . . . 0.831 in^3 (13.62 cm^3)

standard connections

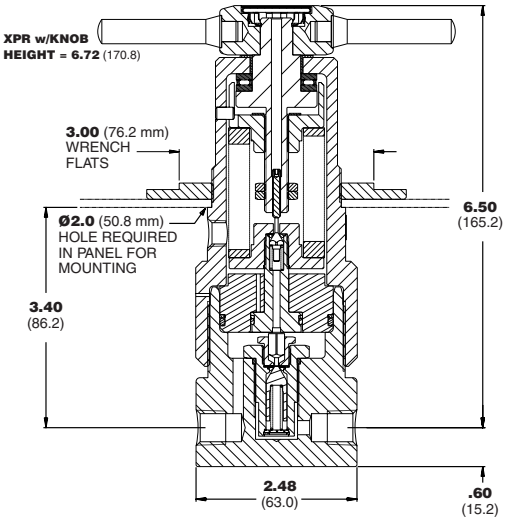
1/8 NPT, 1/4 NPT

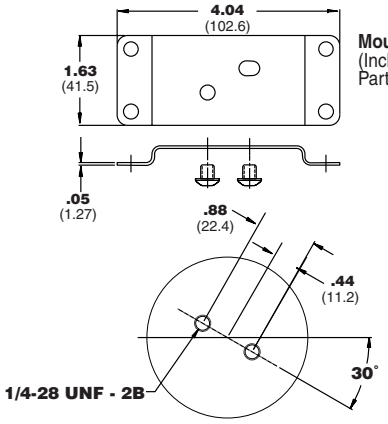
approximate weight

6.5 lbs (3 kg)

XPR Series

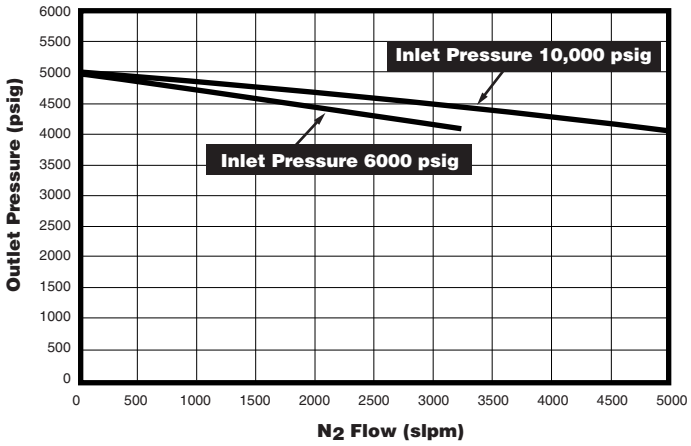
Dimensional Drawing



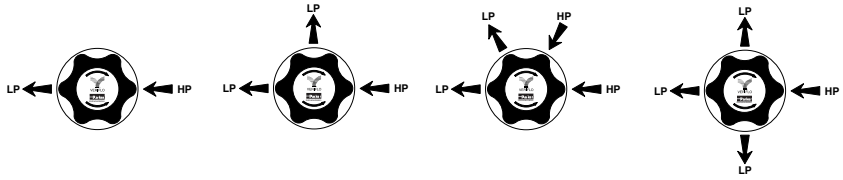


Mounting Plate Assembly
(Includes 2 Screws)
Part Number: 40400450

Flow Curve



Porting Configuration



Ordering Information

XPR — **O**

BASIC SERIES
XPR

MATERIAL
B = Brass (6000 psig max)
S = 316L Stainless Steel (10000 psig max)

RANGE

Range		Outlet Gauge
5	= 50 psig to 500 psig	0 - 600 psi
8	= 50 psig to 800 psig	0 - 1000 psi
15	= 100 psig to 1500 psig	0 - 2000 psi
25	= 135 psig to 2500 psig	0 - 3000 psi
40	= 200 psig to 4000 psig	0 - 6000 psi
60	= 300 psig to 6000 psig	0 - 6000 psi
100	= 500 psig to 10000 psig*	0 - 10000 psi

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
4PB = 4 Ports

*Stainless Steel material only

OPTIONS
N = Non-Self Relieving
Q = Nickel Plate (Brass body only)
T = Tee Bar Handle

Note: ***PANEL MOUNT OPTION:*** *Order Panel Nut Ring P/N 40400440 as separate line item.*

O-RING MATERIAL
O = Viton®

PORT STYLE
2 = 1/8" NPT
4 = 1/4" NPT
6 = 3/8" NPT

INLET GAUGE
60 = 0 - 6000 psig (standard for 5, 8, 15, 25, 40, 60)
100 = 0 - 10000 psig (standard for 100)

OUTLET GAUGE
6 = 0 - 600 psig
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
60 = 0 - 6000 psig
100 = 0 - 10000 psig

Parker Instrumentation

QUANTUM 959TDR & NPR959

High Pressure Tied Diaphragm Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the Quantum 959. The 959 is a high purity, high pressure tied diaphragm regulator.

The 959 regulator controls pressure flows accurately and predictably without changing the liquids or gases and without adding particles or ions to the flowing material.

Subatmospheric pressure control available with the NPR959.

features

- "VeriClean", Veriflo's low sulfur high purity 316L, Stainless Steel™ enhances electropolishing, welding, and corrosion resistance.
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Internally threadless nozzle assembly.
- Metal-to-metal diaphragm-to-body seal assures high leak integrity.
- Minimal particle generation and entrapment.
- High cycle life.
- 100% Helium leak tested.

materials of construction

Wetted

Body . . . . . "VeriClean", Veriflo's high purity type 316L Stainless Steel™, Hastelloy C-22®
Seat. . . . . PCTFE, optional Vespel®
Diaphragm . . . . . 316L Stainless Steel, Hastelloy C-22®
Poppet. . . . . 316L Stainless Steel, Hastelloy C-22®
Poppet Spring. . . . . 316L Stainless Steel, Inconel®
Compression Member . . . . 316L Stainless Steel™, Hastelloy C-22®
Screen. . . . . Hastelloy C-22®

Non-Wetted

Nut. . . . . 316L Stainless Steel
Cap. . . . . Nickel Plated Brass

Knob:
959 (Black) . . . . . ABS Plastic
NPR959 (White) . . . . . ABS Plastic

operating conditions

Maximum inlet . . . . . 3500 psig (240 barg)
.2 C_V . . . . . 1200 psig (83 barg)

Outlet . . . . . 0-30 psig (2 barg)
0-100 psig (7 barg), 0-150 psig (10.3 barg)

NPR . . . . . -25 in Hg to 30 psig

Temperature. . . . –40°F to 150°F (–40°C to 65°C)

functional performance

Flow capacity . . . . . C_V = .04
optional C_V = .2
(SEMI Flow Coefficient Test # F-32-0998)

Design Leak Rate:
Outboard . . . . . .1 x 10^{-9} scc/sec He
Inboard . . . . . .2 x 10^{-10} scc/sec He
Across seat . . . . . .2 x 10^{-9} scc/sec He

standard configurations

Any combination of FS male and/or female fittings:
1/4 inch Gland to gland length. . . . 3.70 ± .02 in. (94.0 ± .5 mm)
Optional . . . . . 3.40 ± .02 in. (86.0 ± .5 mm)

1/4 inch tube stubs inlet and outlet:
End to end length . . 3.70 ± .02 in. (94.0 ± .5 mm)
1/4 inch female pipe threads inlet and outlet:
End to end length . . 1.88 ± .02 in. (47.7± .5 mm)

internal volume

5.41 cc

surface finishes

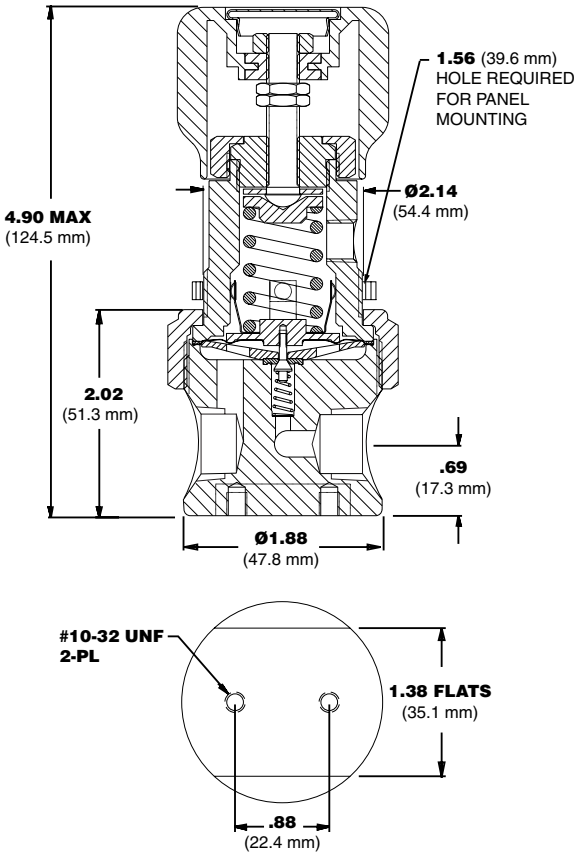
Standard Ra . . . . . 15-20 m inch (.38 to .5 m meter) or less
Optional Ra. . . . . EX = 10 m inch (.25 m meter)
EV = 5 m inch(.13 to .5 m meter) or less

approximate weight

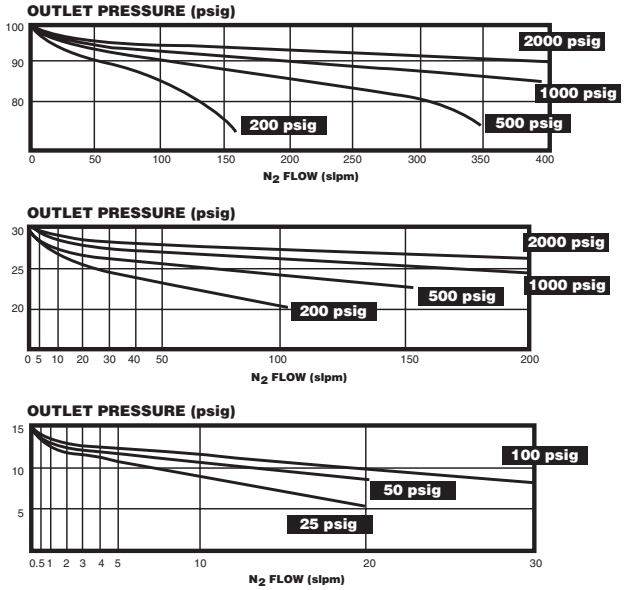
2 lbs (.9 kg)

Parker Instrumentation

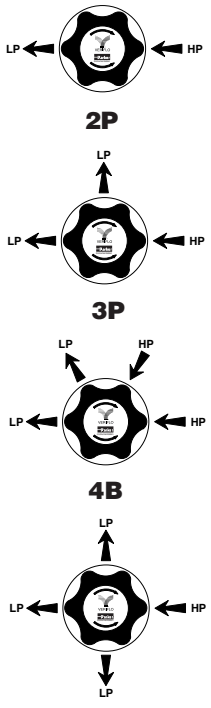
Dimensional Drawing



Flow Curves



Porting Configurations



Ordering Information

95930

BASIC SERIES
95930 = 0 - 30 psig
959100 = 0 - 100 psig
959150 = 0 - 150 psig
NPR95930 = -25 in Hg- 0-30 psig

MATERIALS
S = 316L Stainless Steel
W = Welded 316L Stainless Steel
H = Hastelloy C-22®*

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
4PB = 4 Ports
5P = 5 Ports
6P = 6 Ports

OUTLET GAUGE
V3 = -30 in Hg-0-30 psig
V1 = -30 in Hg-0-100 psig
V2 = -30 in Hg-0-200 psig
3 = 0 - 30 psig
1 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge

OPTIONAL FEATURES
DO = Dome Loaded
PM = Panel Mount
TH = Trim Hastelloy C-22® Internals**
VESP = Vespel® Seat
(Recommended for Nitrous Oxyde)
2 = 0.2 C_V
3.4 = FS Fittings 3.4" Face to Face

PORT CONFIGURATION
M = Male
F = Female
I = Internal Face Seal***

PORT STYLE
FS = 1/4" Face Seal
4 = 1/4" NPTF
TS = 1/4" Tube Stubs

INLET GAUGE
V3 = -30 in Hg -0-30 psig
V1 = -30 in Hg -0-100 psig
2 = 0-200 psig
6 = 0-600 psig
10 = 0-1000 psig
20 = 0-2000 psig
30 = 0-3000 psig
40 = 0-4000 psig
X = No Gauge

* **Hastelloy C-22® Material Includes: Hastelloy C-22® Body, Compression Member, Poppet, Diaphragm, Screen, and Inconel® Spring**

** **Trim Hastelloy C-22® Includes: 316L Stainless Steel Body, Hastelloy C-22® Compression Member, Poppet, Diaphragm, Screen, and Inconel® Spring**

*** **Use Material Code 'W'**

Parker Instrumentation

QUANTUM 735TDR & NPR735

Two Stage Tied Diaphragm Regulator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the 735TDR. The two stage, tied-diaphragm regulator is designed to provide constant outlet pressure regardless of inlet pressure fluctuations.

Subatmospheric pressure control available with the NPR735.

features

- "VeriClean", Veriflo's custom low sulfur, high purity 316L Stainless Steel™ enhances electropolishing, welding and corrosion resistance.
- Tied diaphragm for added safety.
- Adjustment range spring may be replaced without breaking diaphragm seal to body and exposing the wetted area to contamination.
- Unique patented compression member loads seal to body without requiring a threaded nozzle or additional seals to atmosphere.
- Metal-to-metal diaphragm-to-body seal assures high leak integrity.
- 100% Helium leak tested.
- Hurricane cleaning, optional proprietary cleaning process, removes metallic ions, organic films and surface adhering particles.

Parker Instrumentation

materials of construction

Wetted

Body . . "VeriClean", Veriflo's custom high purity type 316L Stainless Steel™, Hastelloy C-22®
Seat. . . . . PCTFE, optional Vespel®
Diaphragm . . . . . 316L Stainless Steel
Poppet . . . . . 316L Stainless Steel
Poppet Spring. . . . . 316L Stainless Steel
Compression Member . . . . . 316L Stainless Steel
Filter . . . . . Hastelloy C-22®

Non-Wetted

Nut. . . . . 316L Stainless Steel
Cap. . . . . Nickel plated Brass

operating conditions

Maximum inlet. . . . . 3,500 psig (240 bar)
Outlet. . . . . 0 to 30 psig (2 bar) adjustable
0 to 100 psig (7 bar) adjustable

NPR . . . . . -25 in Hg to 30 psig

Temperature. . . . –40°F to 150°F (–40°C to 65°C)

functional performance

Flow capacity . . . . . C_V = .04
(SEMI Flow Coefficient Test # F-32-0998)

Design Leak Rate
Outboard . . . . . 1 x 10^{-9} scc/sec He
Inboard . . . . . 2 x 10^{-10} scc/sec He
Across seat:. . . . . less than 2 x 10^{-9} scc/sec He
Supply pressure effect. . . . . 0.2 psi (.01 bar)
per 100 psi (6.8 bar), See flow curves

standard configurations

Any configuration of FS male and/or female fittings.
Gland to gland length . . . . . 3.70 (94 mm)
Optional. . . . . 3.40 (86.4 mm)

¼ inch female pipe threads Other configurations available as options, including as many as seven ports

internal volume

10.10 cc

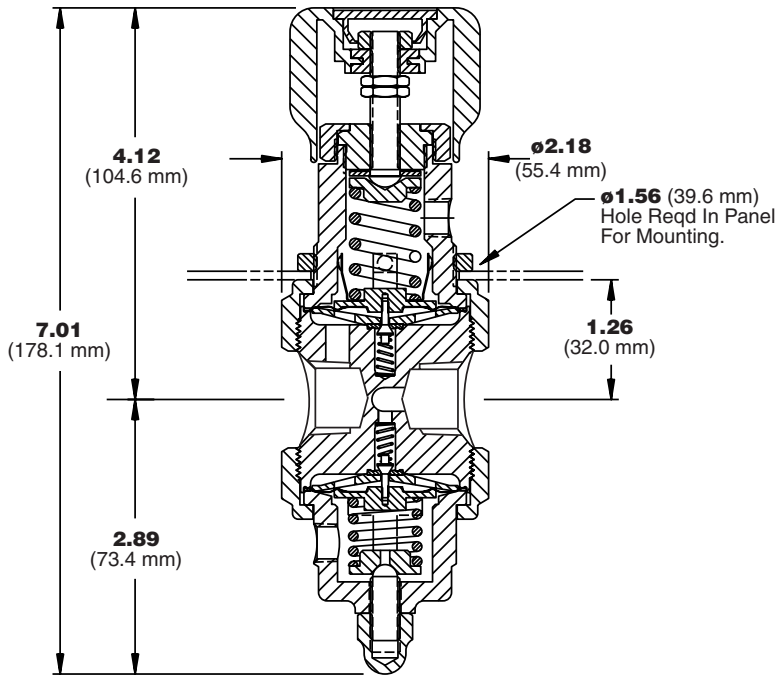
surface finishes

Standard Ra. . . . . 15-20 micro inch
(.381 to .508 micro meter) or less
Optional Ra. . . . . 10 micro inch
(.254 micro meter) or less
5 micro inch (.127 micro meter) or less

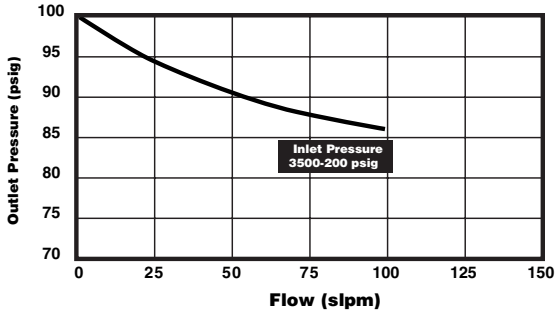
approximate weight

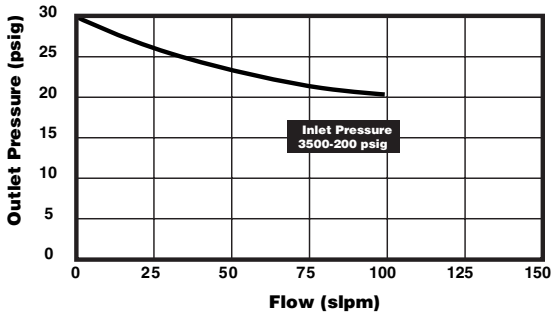
3.5 lbs (1.6 kg)

Dimensional Drawing



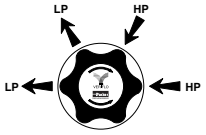
Flow Curves



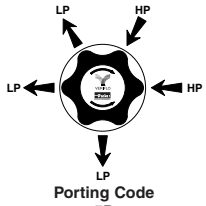


These tests were performed using Nitrogen at ambient conditions.

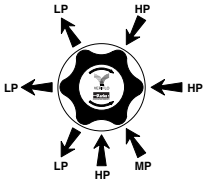
Porting Configurations



Porting Code 4P



Porting Code 5P



Porting Code 7P

Ordering Information

73530

BASIC SERIES
73530 = 0-30 psig
735100 = 0-100 psig
NPR73530 = -25 in Hg-0-30 psig

MATERIALS
S = 316L Stainless Steel
W = Welded 316L Stainless Steel
H = Hastelloy C-22® *

PORTING
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
5P = 5 Ports
7P = 7 Ports

REGULATOR OUTLET GAUGE
V3 = -30 in Hg-0-30 psig
L = -30 in Hg-0-60 psig
V1 = -30 in Hg-0-100 psig
03 = 0-30 psig
OL = 0-60 psig
01 = 0-100 psig
X = No Gauge

OPTIONAL FEATURES
CGA = Inlet Connection (Specify CGA. No.)**
PM = Panel Mount
R1 = Relief Valve, 1st Stage (7P only)
R2 = Relief Valve, 2nd Stage
R3 = Relief Valve, Both Stages (7P only)
TH = Hastelloy C-22® Trim***
VESP = Vespel® Seat
(Recommended for Nitrous Oxide)
VQF = 944SS Outlet Valve, Female
VQM = 944SS Outlet Valve, Male
3.4 = FS Fittings 3.4" Face to Face

PORT CONFIGURATION
M = Male
F = Female
I = Internal Female Face Seal

PORT STYLE
FS = 1/4" Face Seal
TS = Tube Stubs
4 = 1/4" NPTF

REGULATOR INLET GAUGE
10 = 0-1000 psig
20 = 0-2000 psig
30 = 0-3000 psig
40 = 0-4000 psig
X = No Gauge

*** Includes body, diaphragm, compression member, poppet, and spring.**
**** Do not exceed rated pressure of CGA connection.**
***** Includes diaphragm compression member, poppet, and spring.**

Hastelloy® C-22 is a registered trademark of Haynes International, Inc.
Vespel® is a registered trademark of DuPont Company.
Inconel® is a registered trademark of Inco Alloys International

Parker Instrumentation

ChangeOver System

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the ChangeOver System. The COS is a compact turnkey module designed for continuous gas and fluid management.

The ChangeOver System combines the IR4000 Series pressure reducing regulator with the NOVA Series diaphragm valves to create a compact gas delivery system for continuous gas or fluid applications.

This unique device directs the flow of gas from two separate sources to the user's application. When one source empties, the ChangeOver System automatically draws from the second source. The first source can then be changed without flow interruption.

materials of construction

Wetted

Body . . . . . Nickel Plated Brass or 316L Stainless Steel
Seats . . . . . PCTFE
Back up O-ring. . . . . Viton®
Valve Seat. . . . . Metal to Metal
Regulator Diaphragm . . . . . Hastelloy C-22®
Valve Diaphragm. . . . . Elgiloy® or equivalent
Poppet . . . . . Elgiloy®
Poppet spring. . . . . Inconel®
Carrier . . . . . Stainless Steel*
Compression Member. . . . . Inconel®

Non-Wetted

Regulator Cap . . . . . Nickel Plated Brass or 303 Stainless Steel
Panel . . . . . Aluminum or 304 Stainless Steel
Knobs (Black) . . . . . ABS Plastic

operating conditions

Maximum inlet pressure . . . . . 3,500 psig (207 barg) maximum
Outlet pressure . . . . . up to 250 psig (17 barg) maximum

Temperature . . . . . -40°F to 150°F (-40°C to 66°C)

functional performance

Design proof pressure . . . . 4,500 psig (310 barg)
Design burst pressure . . . . . 9,000 psig (620 barg)

Flow capacity . . . . . C_V = .06**
(SEMI Flow Coeficient Test# F-32-0998)

Supply pressure effect. . . . . 0.4 psig per 100 psig (.03 per 7 barg)

standard configurations

1/4" female pipe threads (Stainless Steel, Brass)
1/4" compression fitting (Stainless Steel, Brass)
Welded fittings (Stainless Steel Only)

approximate weight

8.5 lbs. 3.86 (kg)

* Proprietary Carpenter Stainless Steel with corrosion resistance equal or better than 316.
** Consult factory for additional information regarding flow capacity.

Parker Instrumentation

ChangeOver System

Features

- Prevents unnecessary downtime by providing continuous uninterrupted gas flow.
- Convoluted diaphragm provides outlet pressure stability with changes in flow.
- Integral diaphragm stop provides excellent leak integrity.
- Valve controlled high pressure purge allows user to clean or purge lines before adding a new cylinder.
- Quick changeover control enhances safety by minimizing exposure to toxic and flammable media.
- Designed for easy change of sources while in operation.
- Separate gauges to monitor both inlet sources.
- Available in Nickel Plated Brass or 316L Stainless Steel.
- Alarm sensor port for systems integration allowing user to monitor gas consumption.
- Optional outlet regulator maintains constant outlet pressure.
- All Stainless Steel panel and trim design available.
- Especially suited for continuous on-stream analyzers.

Applications

Specialty Gases

All Specialty Gases used for Process and Purging Applications

Industrial / Analyzer

Refineries

Laboratories

Research and Development

Emission Analysis

Test Cells

Back-up System for Compressors, Generators or Other Plant Air Sources

Gas and Liquid Chromatography

High Volume Gas Manufacturing Facilities

Laser Gas Systems

ChangeOver System Flow Rates

(Based on 400 psig Cylinder Change)

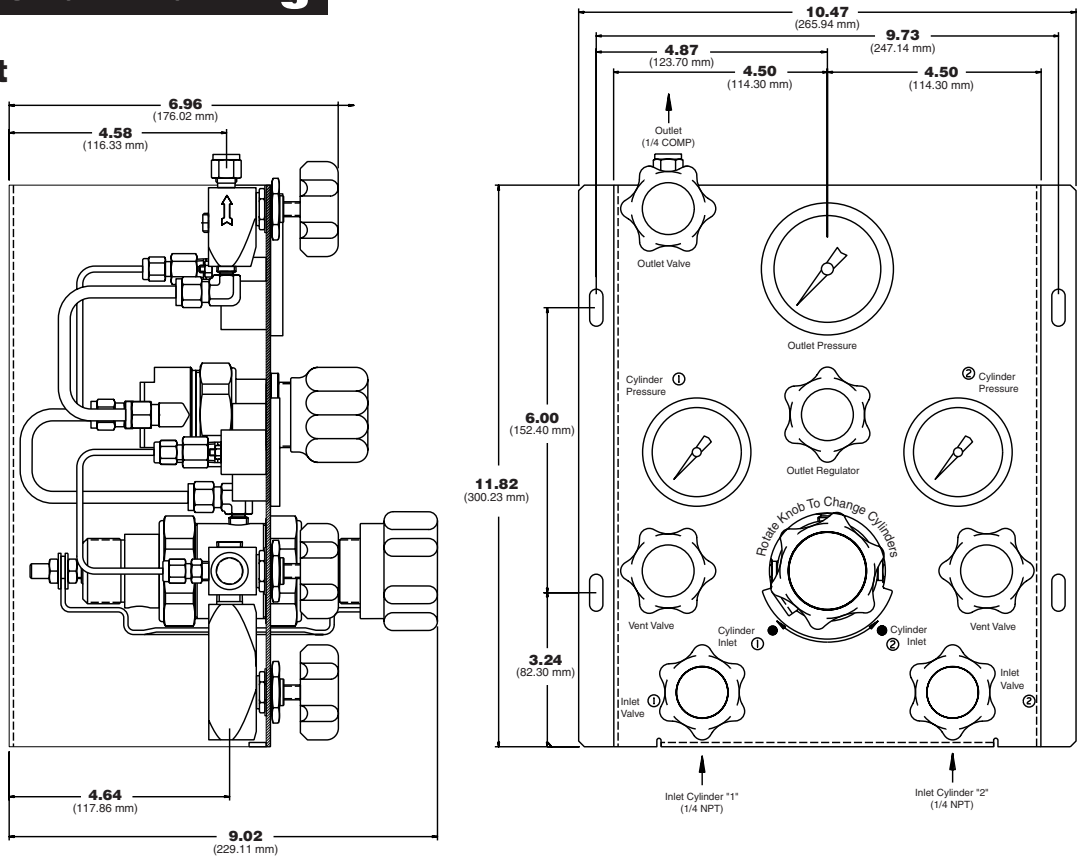
COS Model	Maximum Recommended Flow
COS 200	70 slpm N_2
COS 250	70 slpm N_2
COS 150	70 slpm N_2
COS 100	100 slpm N_2
COS XXX OR*	70 slpm N_2

*** ChangeOver System with optional outlet regulators**

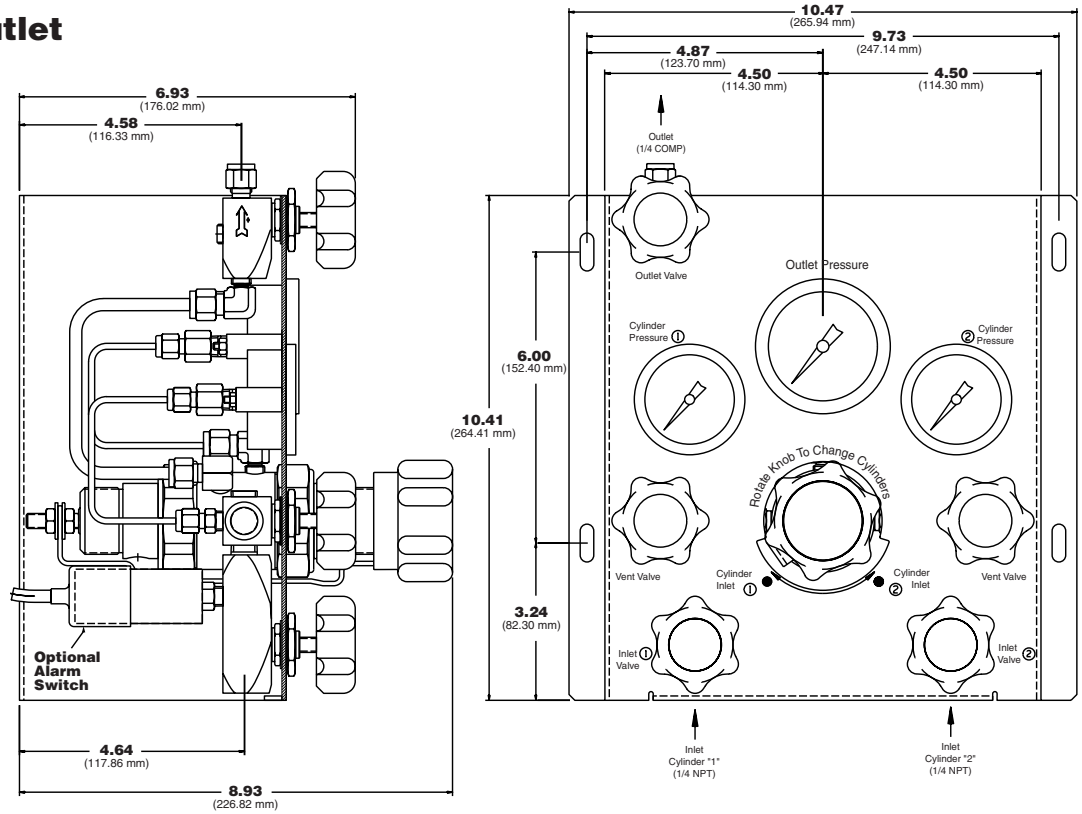
ChangeOver System

Dimensional Drawing

With Outlet Regulator



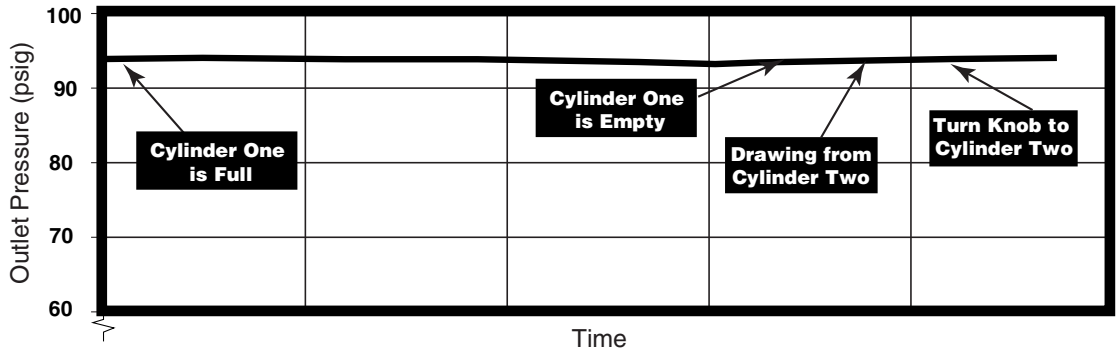
Without Outlet Regulator



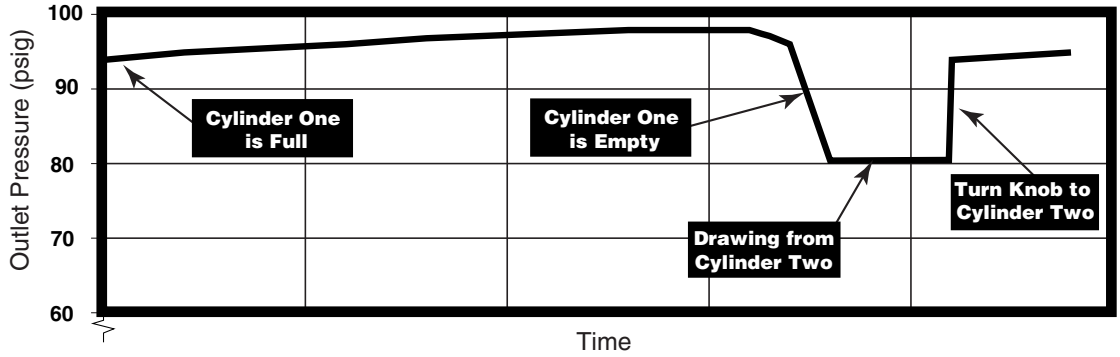
ChangeOver System

Pressure Drop

Change Over System With Outlet Regulator



Change Over System



Note: Outlet pressure should drop approximately 20 psig for the 100 & 150 psig version and approximately 40 psig for the 200 & 250 psig version. Outlet flow will continue.

Ordering Information

COS

BASIC SERIES
COS

PRESSURE SETTING
100 = 100 psig
150 = 150 psig
200 = 200 psig
250 = 250 psig

MATERIAL
B = Brass
S = 316L Stainless Steel
W = Welded 316L Stainless Steel (Non-UHP applications)

OPTIONS
A1 = Pressure Switches** (includes 2 pressure switches; **Annuciator** sold seperately)
OR = Outlet Regulator
P = Stainless Steel Panel

* **For Audio/Visual Annunciator details see COS Annunciator Literature Sheet. Annunciator ordering part number: 46600696**

Note: Inlet valves and gauges are standard on all units.

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Viton® is a registered trademark of DuPont Dow Elastomers.
Inconel® is a registered trademark of Inco Alloys International.
Elgiloy® is a registered trademark of Elgiloy Company.

Parker Instrumentation

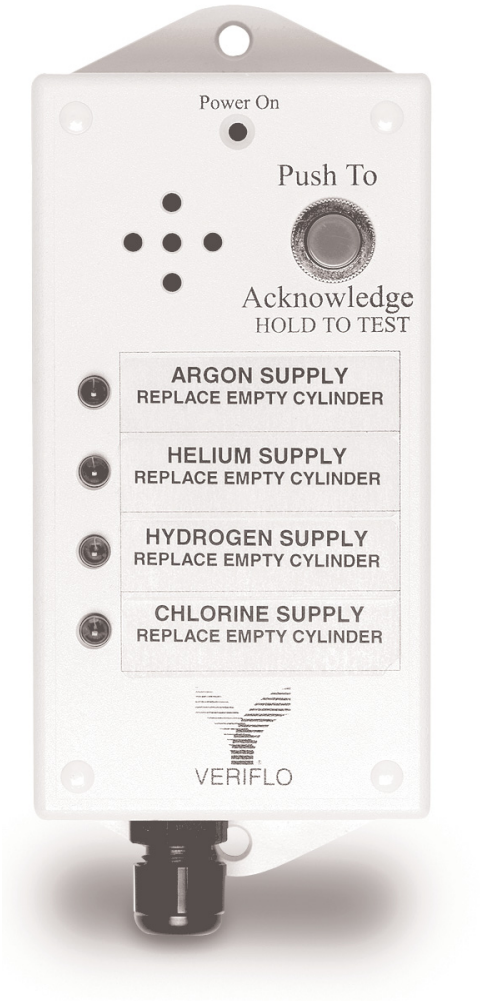
ChangeOver System Annunciator

Audio & Visual Indicator

VERIFLO
ISO 9001 Certified

Parker Hannifin Corporation's Veriflo Division presents the ChangeOver System Annunciator. The Annunciator is designed to be used with the ChangeOver System. This gives users both an audible and visual indication of when it is time to change out cylinders. The Annunciator is equipped with four channels to allow for the connection of multiple ChangeOver Systems.

The alarm signal is activated when either cylinder has dropped below a preset pressure. The signal is activated through two pressure switches which are located on each inlet valve of the ChangeOver System.



materials of construction

Outer Box . . . . . 94HB Plastic
Strain Relief . . . . . Nylon 6/6
Back Plate . . . . . Steel

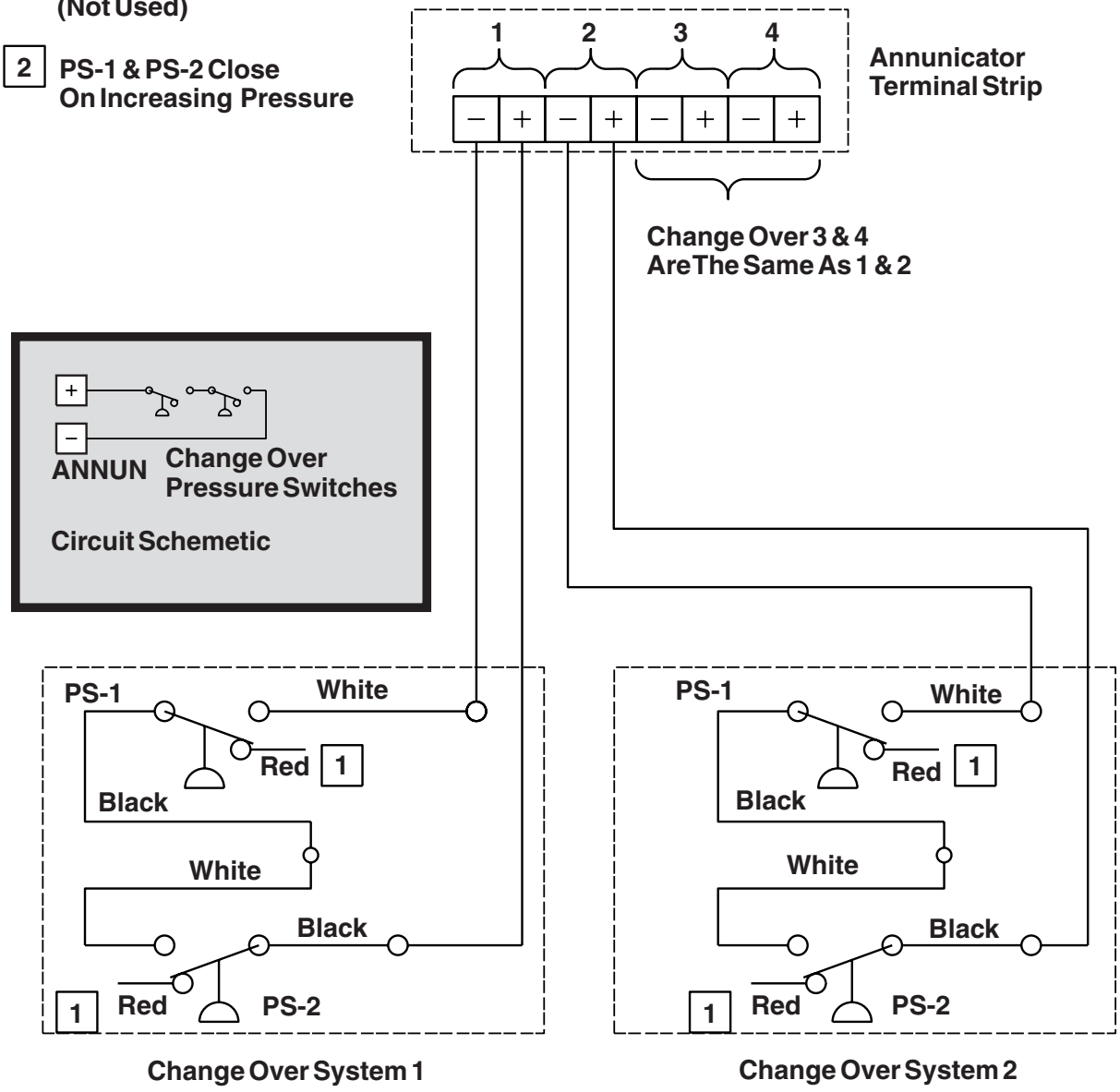
Parker Instrumentation

ChangeOver System Annunciator

Wiring Diagram

Notes

1. Cut and Tape Red Wire (Not Used)
2. PS-1 & PS-2 Close On Increasing Pressure



Ordering Information

ChangeOver System Annunciator: P/N 46600696

Parker Hannifin Corporation
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Cleveland, Ohio 44124-4141
Telephone: (216) 896-3000
Fax: (216) 896-4000
www.parker.com

Parker Hannifin Corporation

About Parker Hannifin Corporation

Parker Hannifin is a leading global motion-control company dedicated to delivering premier customer service. A Fortune 500 corporation listed on the New York Stock Exchange (PH), our components and systems comprise over 1,400 product lines that control motion in some 1,000 industrial and aerospace markets. Parker is the only manufacturer to offer its customers a choice of hydraulic, pneumatic, and electromechanical motion-control solutions. Our Company has the largest distribution network in its field, with over 7,500 distributors serving nearly 400,000 customers worldwide.

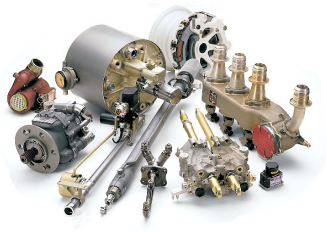
Parker's Charter

To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

Product Information

North American customers seeking product information, the location of a nearby distributor, or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In Europe, call 00800-C-PARKER-H (00800-2727-5374).

The Aerospace Group is a leader in the development, design, manufacture and servicing of control systems and components for aerospace and related high-technology markets, while achieving growth through premier customer service.



The Climate & Industrial Controls Group designs, manufactures and markets system-control and fluid-handling components and systems to refrigeration, air-conditioning and industrial customers worldwide.

The Fluid Connectors Group designs, manufactures and markets rigid and flexible connectors, and associated products used in pneumatic and fluid systems.

The Seal Group designs, manufactures and distributes industrial and commercial sealing devices and related products by providing superior quality and total customer satisfaction.

The Hydraulics Group designs, produces and markets a full spectrum of hydraulic components and systems to builders and users of industrial and mobile machinery and equipment.

The Filtration Group designs, manufactures and markets quality filtration and clarification products, providing customers with the best value, quality, technical support, and global availability.

The Automation Group is a leading supplier of pneumatic and electromechanical components and systems to automation customers worldwide.

The Instrumentation Group is a global leader in the design, manufacture and distribution of high-quality critical flow components for worldwide process instrumentation, ultra-high-purity, medical and analytical applications.

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