

IR4000 Series

Single-Stage, General-Purpose
Pressure Regulator
Internally Threadless • Stainless Steel



Value Proposition:

The IR4000 Series regulator offers high pressure capability with an inlet pressure up to 4,000 psig. Its large, convoluted Hastelloy C-22® diaphragm provides stable pressure control and corrosion resistance. Close tolerances and tight alignment of moving components minimize hysteresis and improve cycle life.



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Product Features:

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

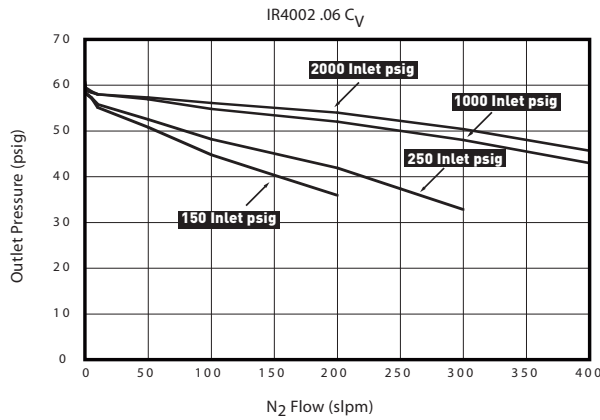
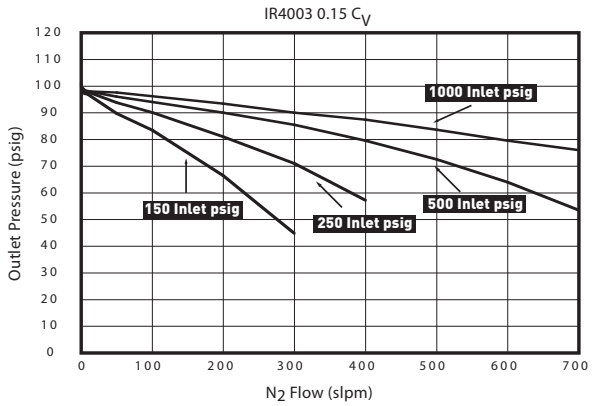
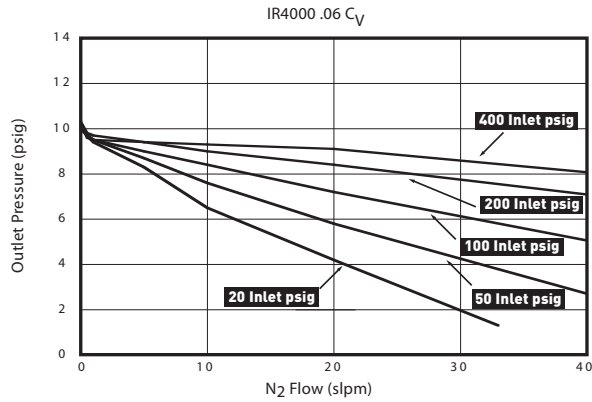


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IR4000 Series

Flow Curves

Additional flow curves available upon request



| RANGE TABLE | | | |
|-------------|---------------------|---------------------|---------------------|
| Basic Model | Max Inlet PSIG | | |
| | 0.02 C _v | 0.06 C _v | 0.15 C _v |
| IR4000 | 400 | 400 | 400 |
| IR4001 | 4,000 | 4,000 | 1,250 |
| IR4002 | 4,000 | 4,000 | 1,250 |
| IR4003 | 4,000 | 4,000 | 1,250* |
| IR4004 | 4,000 | 4,000 | 1,250 |
| IR4005 | 4,000 | 4,000 | 1,250 |
| IR4015 | 4,000 | 4,000 | 1,250* |

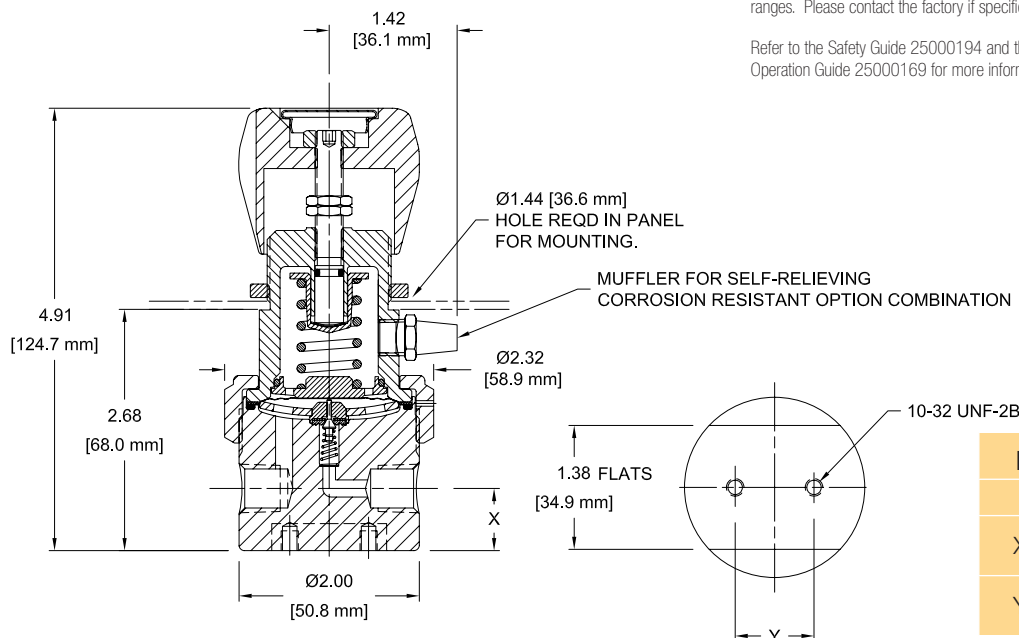
* 4,000 PSIG max inlet pressure for PCTFE seats only (HP option).
1,250 PSIG max inlet pressure for PEEK™ and Vespel seats.

When setting the delivery pressure, ensure that the maximum outlet pressure of the regulator is not exceeded for any operating condition including increases in delivery pressure due to flow shutoff and supply pressure effect. Supply pressure effect will result in a significant rise in outlet pressure as the inlet pressure decreases.

The stop settings will be adjusted to accommodate typical inlet and outlet pressure ranges. Please contact the factory if specific stop settings are required.

Refer to the Safety Guide 25000194 and the Pressure Regulators Installation and Operation Guide 25000169 for more information.

Dimensional Drawing



| PORT MOUNTING | | |
|---------------|------------------|------------------|
| | A | B (Std) |
| X | 0.69 (17.5mm) | 0.75 (19.1mm) |
| Y | 0.88 (22.2mm) | 0.75 (19.1mm) |

Safety Guide and Installation and Operating Instructions available at

www.parker.com/veriflo

IR4000 Series

Ordering Information

Build an IR4000 Series regulator by replacing the numbered symbols with an option from the corresponding tables below.

Contact factory for most up to date lead time information.

Blue = Configurations that have selections in blue will require a price quote from the factory.

1
2
3
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11

Sample: **IR40 02 S K 4P 01 30 4 B R 580**

Finished Order: **IR4002SK4P01304BR580**

1 Basic Series

| Range | Outlet Gauge |
|--------------------|--------------|
| 00 = 0 - 10 psig | 0 - 30 psig |
| 01 = 1 - 30 psig | 0 - 60 psig |
| 02 = 2 - 60 psig | 0 - 100 psig |
| 03 = 3 - 100 psig | 0 - 200 psig |
| 15 = 5 - 150 psig | 0 - 200 psig |
| 04 = 10 - 250 psig | 0 - 400 psig |
| 05 = 20 - 500 psig | 0 - 600 psig |

2 Body Material (1)

S = 316L Stainless Steel
 H = Hastelloy C-22® SST gauges
 M = Monel® SST gauges

3 Flow Capacity

= 0.06 C_V Standard
 1 = 0.02 C_V
 2 = 0.15 C_V

4 Seat Material

K = PCTFE
 P = PEEK™
 V = Vespel®

5 Porting

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

Note: Ports may be plugged for NPT threaded product.

6 Outlet Gauge

| Outlet Gauge | Basic Series |
|-------------------|--------------|
| 03 = 0 - 30 psig | IR4000 |
| OL = 0 - 60 psig | IR4001 |
| 01 = 0 - 100 psig | IR4002 |
| 2 = 0 - 200 psig | IR4003 |
| 4 = 0 - 400 psig | IR4004 |
| 6 = 0 - 600 psig | IR4005 |
| X = No Gauge | |

7 Inlet Gauge

X = No Gauge
 30 = 3,000 psig Standard
 4 = 400 psig with the 10 psig range
 40 = 4,000 psig

8 Port Style

4 = 1/4" NPT Female
 4T = 1/4" A-LOK®
 All Gauge ports are 1/4" NPT Female

9 Port Mounting

A = 0.69 (17.5mm) port height w/0.88 (22.2mm) mounting
 B = 0.75 (19.1mm) port height w/0.75 (19.1mm) mounting Standard

10 Optional Features

This section can have multiple options

- C = Corrosion Resistant External Stainless Steel Cap
- D = Dome Loaded Not available with G or M options
- G = Tamper Proof Not available with D or M options
- M = Metal Knob (Black) Not available with D or G options. Required for temperatures above 150° F
- L = PTFE Backup O-ring PCTFE and PEEK™ Seats Only
- R = Relief Valve 4PB and 5P Only
- S = Self Relieving Temperature rating -40°F to 150°F (-40°C to 66°C)
- V = Outlet Valve NV17SS44MF
- T = Hastelloy Trim Includes carrier and backup washer. Option is for Stainless Steel body - Hastelloy® trim is standard with Hastelloy® and Monel® bodies
- HP = 4,000 psig Max Inlet Pressure For .15 C_V IR4003 and IR4015 with PCTFE seats only

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

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

Vent Muffler is standard for the Self-Relieving (S), Corrosion Resistant (C) option combination.

11 CGA#

350, 510, 580, or 590
 Do not exceed the rated pressure of the CGA connection.

NOTE:

(1) Option recommendations for H₂S-containing fluids

Body option "H" (Hastelloy C-22®) utilize materials for critical wetted parts that are compliant with NACE® standard MR0175/ISO 15156-3:2003/Cor.2:2005(E), Petroleum and natural gas industries – Materials for use in H₂S-containing environments in oil and gas production, Part 3: Cracking-resistant CRAs (corrosion-resistant alloys) and other alloys. These wetted materials are resistant to cracking in H₂S-containing fluids, but are not necessarily immune to cracking under all service conditions. The user should consult MR0175/ISO 15156 for further guidance. The user should consult Instrumentation Product Division Catalog 4230/4233 for A-LOK® Tube Fitting application recommendations. It is the user's responsibility to select materials suitable for the intended service.

The following options and accessories are not recommended for H₂S-containing fluids:

- Pressure Gauges
- S – Self Relieving
- R – Relief Valve
- V – Outlet Valve NV17SS44MF
- CGA Connections

IR4000 Series

Specifications

| Materials of Construction | |
|---------------------------|--|
| Wetted | See Note (1) on Page 3 |
| Body Options | 316L Stainless Steel (std), Hastelloy C-22® or Monel® (Hastelloy® Trim is std with Hastelloy® and Monel® bodies) |
| Compression Member | Inconel 625® |
| Diaphragm | Hastelloy C-22® |
| Poppet | Hastelloy C-276® |
| Poppet Spring | Inconel X750® |
| Seat Options | PCTFE (std), Vespel® or PEEK™ |
| Carrier Options | 316L Stainless Steel (std) or Hastelloy C-22® |
| Washer Backup Options | 316 Stainless Steel (std) or Hastelloy C-276® |
| O-ring Backup Options | FKM (std) or PTFE |
| Inlet Screen / Filter | 316 Stainless Steel (std) (60µm mesh screen, 10µm filter) Hastelloy® (on Hastelloy®, Monel® bodies) |
| Self Relieving Seat | PEEK™ |
| Non-wetted | |
| Cap Options | Nickel Plated Brass (std) or Stainless Steel |
| Nut | Stainless Steel |
| Knob Options | ABS (std) (ambient temp) or Aluminum |

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

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Hastelloy C-22® and Hastelloy C-276® are registered trademarks of Haynes International, Inc. PEEK™ is a trademark of Victrex plc.

Inconel® and Monel® are registered trademarks of Special Metals Corporation.

Vespel® is a registered trademark of DuPont Performance Elastomers L.L.C.

| Functional Performance | |
|-------------------------------|--|
| Design | |
| Burst Pressure | 12,000 psig (828 barg) |
| Proof Pressure | 6,000 psig (414 barg) |
| Flow Capacity | |
| C _v Options | C _v 0.06 (std), C _v 0.02, C _v 0.15 |
| Leak Rate | |
| Internal | Bubble Tight |
| External | Bubble Tight |
| Supply Pressure Effect | Based upon C _v Option |
| 0.02 C _v | 0.23 psig/100 psig (0.016 barg/7 barg) |
| 0.06 C _v | 0.6 psig/100 psig (0.04 barg/7 barg) |
| 0.15 C _v | 1.5 psig/100 psig (0.1 barg/7 barg) |
| Internal Volume | 4.0 cc without fittings |
| Approx. Weight | 1.5 lbs. (0.7 kg) |
| Operating Conditions | |
| Maximum Inlet | Refer to Range Table for specific information |
| Outlet Options | 0-10 psig (.7 barg), 1-30 psig (2 barg), 2-60 psig (4 barg), 3-100 psig (7 barg), 5-150 psig (10 barg), 10-250 psig (17 barg), 20-500 psig (35 barg) |
| Temperature | Metal Knob required for temperatures above 150°F |
| PCTFE | -40°F to 150°F (-40°C to 66°C) |
| PEEK™ | -40°F to 275°F (-40°C to 135°C) |
| Vespel® | -40°F to 500°F (-40°C to 260°C) |
| Self-Relieving Option | -40°F to 150°F (-40°C to 66°C) |

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LitPN: 25000226 Rev: V Date of Issue 03/2017



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