

# IR5000 Series

Single Stage, High Sensitivity Pressure Regulator  
 Internally Threadless, Stainless Steel



## Value Proposition:

The IR5000 Series regulator offers high pressure capability with an inlet pressure up to 3,500 psig. The larger convoluted Hastelloy C-22<sup>®</sup> diaphragm provides greater sensitivity over the operational range making this regulator ideal for precise outlet pressure control.

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



## Contact Information:

Parker Hannifin Corporation  
**Veriflo Division**  
 250 Canal Blvd  
 Richmond, California 94804

phone 510 235 9590  
 fax 510 232 7396  
 veriflo.sales@parker.com

www.parker.com/veriflo  
 Mobile App: m.parker.com/veriflo

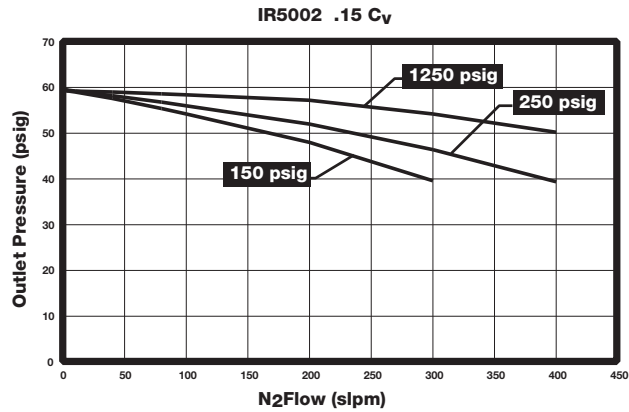
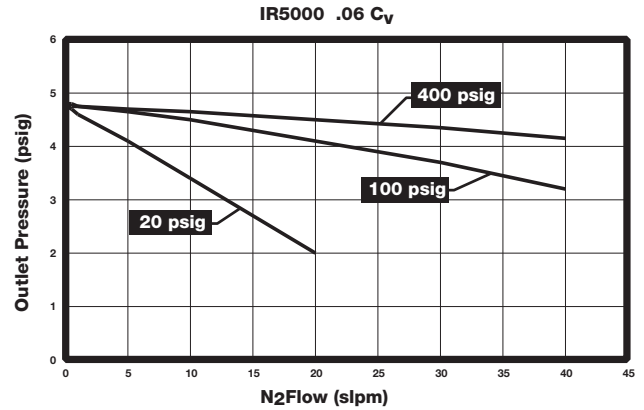
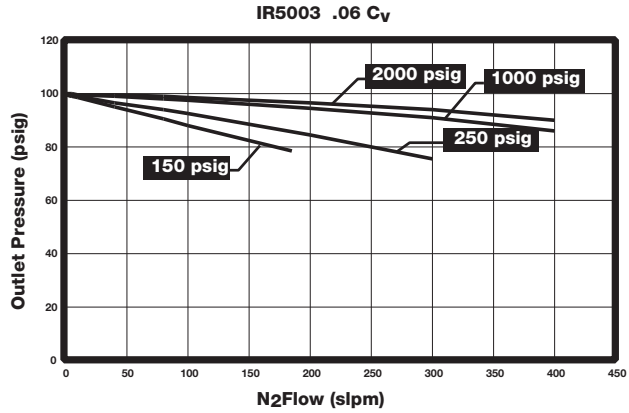
## Product Features:

- Unique compression member loads the seal to the body without requiring a threaded nozzle or additional seals
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm
- Internally threadless design reduces particle generation. Low internal volume reduces purge times
- Selection of seat materials for media compatibility and temperature applications
- Cleaned for O<sub>2</sub> service is standard
- Express Service Program available noted in *green italic print*

# IR5000 SERIES

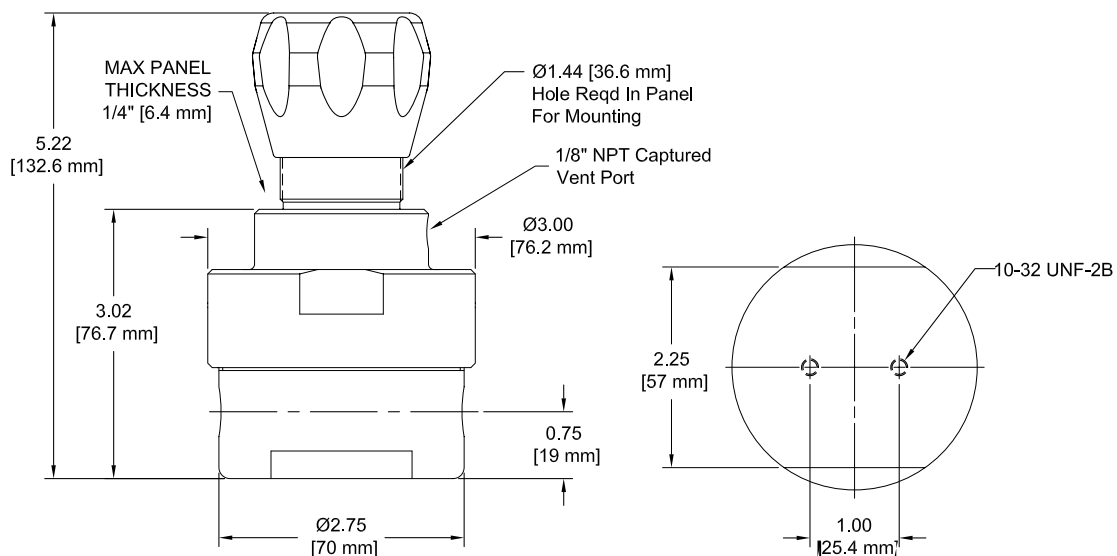
## Flow Curves

Additional flow curves available upon request



Basic Model	RANGE TABLE		
	Max Inlet PSIG		
	0.06 C <sub>V</sub>	0.02 C <sub>V</sub>	0.15 C <sub>V</sub>
IR5000	400	400	400
IR5001	3500	3500	1250
IR5002	3500	3500	1250
IR5003	3500	3500	1250
IR5004	3500	3500	1250

## Dimensional Drawing



Safety Guide and Installation and Operating Instructions available at  
[www.parker.com/veriflo](http://www.parker.com/veriflo)

# IR5000 SERIES

## Ordering Information

Build an IR5000 Series regulator by replacing the numbered symbols with an option from the corresponding tables below.

Color Explanations: Black = Standard Lead Time Configurations  
Blue = Extended Lead Time Configurations  
Green *Italic* = Express Service Program (ESP)

For an explanation of Ordering options please reference literature 25000275 at [www.parker.com/veriflo](http://www.parker.com/veriflo)

Sample: **IR50 02 S K 4P 01 30 4 B 580**  
Finished Order: **IR5002SK4P01304B580**

**1 Basic Series**

Range	Outlet Gauge
00 = 0 - 5 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
04 = 10 - 250 psig	0 - 400 psig

Note: Max inlet pressure is 400 psig

**2 Body Material**  
S = 316L Stainless Steel

**3 Flow Capacity**  
omit = 0.06 C<sub>V</sub> Standard  
1 = 0.02 C<sub>V</sub>  
2 = 0.15 C<sub>V</sub>

**4 Seat Material**  
K = PCTFE  
P = PEEK™  
V = Vespel® Recommended for Nitrous Oxide (N<sub>2</sub>O) Service

**5 Porting**  
2P = 2 Ports No X required for gauges, Inlet & outlet ports only  
3P = 3 Ports One X for gauge port  
4P = 4 Ports Two X's for gauge ports  
4PB = 4 Ports One X for gauge port  
See Regulator Porting Guide for additional options and port layouts  
Note: Ports may be plugged for NPT threaded product.

**6 Outlet Gauge**

Outlet Gauge	Basic Series
05 = 0 - 15 psig	IR5000
OL = 0 - 60 psig	IR5001
01 = 0 - 100 psig	IR5002
2 = 0 - 200 psig	IR5003
4 = 0 - 400 psig	IR5004
X = No Gauge	

Additional ranges available upon request

**7 Inlet Gauge**  
X = No Gauge  
30 = 3000 psig Standard  
4 = 400 psig with the 5 psig range  
20 = 2000 psig with the 0.15 Cv option  
40 = 4000 psig  
Additional ranges available upon request

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

**9 Port Mounting**  
B = 0.75 (19.1 mm) port height w/1.0 (25.4 mm) 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  
L = PTFE Backup O-Ring PCTFE and PEEK™ Seats Only  
M = Metal Knob Not available with D or G options. Required for temperatures above 150° F  
R = Relief Valve 4PB Only  
T = Hastelloy Trim Includes carrier and back-up washer  
V = Outlet Valve NV17SS44MF  
P = Low Pressure Only available for 5 psig and 30 psig ranges. Temperature rating: -40°F to 150°F. Max flow rating: 10 slpm Nitrogen.

Note: Panel Mount Option:  
Order Panel Nut Ring p/n: 41900363 as a separate line item.  
Vent Muffler Option:  
Order Vent Muffler p/n: 46600581 as a separate line item.

**11 CGA#**  
320, 330, 350, 510, 580, 590 or 660  
Do not exceed the rated pressure of the CGA connection.

Note: 1. Veriflo reserves the right to plug NPT ports. If a true ported body is required, please contact Customer Service.  
2. A gas with low molecular weight, such as Hydrogen and Helium, may cause flow vibration.

# IR5000 Series

## Specifications

Materials of Construction	
<b>Wetted</b>	
Body	316L Stainless Steel
Compression Member	Inconel 625®
Diaphragm	Hastelloy C-22®
Poppet	Hastelloy C-276®
Poppet Spring	Inconel X-750®
Seat Options	PCTFE (std), Vespel® or PEEK™
Carrier Options	316L Stainless Steel (std) or Hastelloy C-22®
Washer Back-up Options	316 Stainless Steel (std) or Hastelloy C-276®
O-ring Back-up Options	FKM (std) or PTFE
Inlet Screen / Filter	316 Stainless Steel (60µm mesh screen, 10µm Filter)
<b>Non-wetted</b>	
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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Functional Performance	
<b>Design</b>	
Burst Pressure	10,500 psig (724 barg)
Proof Pressure	5,250 psig (362 barg)
<b>Flow Capacity</b>	
C <sub>v</sub> Options	C <sub>v</sub> 0.06 (std), C <sub>v</sub> 0.02, C <sub>v</sub> 0.15
<b>Leak Rate</b>	
Internal	Bubble Tight
External	Bubble Tight
<b>Supply Pressure Effect</b>	
<i>Based upon C<sub>v</sub> Option</i>	
0.02 C <sub>v</sub>	0.12 psig/100 psig (0.008 barg/7 barg)
0.06 C <sub>v</sub>	0.3 psig/100 psig (0.02 barg/7 barg)
0.15 C <sub>v</sub>	0.75 psig/100 psig (0.05 barg/7 barg)
<b>Internal Volume</b>	
11.9 cc without fittings	
<b>Approx. Weight</b>	
4.5 lbs. (2.1 kg)	
<b>Operating Conditions</b>	
Maximum Inlet	Refer to Range Table for specific information
Outlet Options	0-5 psig (.3 barg), 1-30 psig (2 barg), 2-60 psig (4 barg), 3-100 psig (7 barg), 10-250 psig (17 barg)
Temperature	
Standard IR5000	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)
Low Pressure IR5000 (P)	-40°F to 150°F (-40°C to 66°C)

### OFFER OF SALE:

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**Hanley Controls Clonmel Ltd**  
 Gortnafleur, Clonmel, Co. Tipperary  
 Tel: +353 (0)52 6122722  
 e-mail: [info@hccl.ie](mailto:info@hccl.ie)  
 web: [www.hccl.ie](http://www.hccl.ie)

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