

# IR5000 Series

## Single-Stage, High Sensitivity Pressure Regulator

Internal Threadless • Stainless Steel



### Value Proposition:

When precise outlet pressure control is a must, Parker's IR5000 Series is the solution. The single-stage, high-sensitivity regulator handles pressures up to 3,500 psig. Corrosion resistance is no problem with its large, convoluted Hastelloy® C-22 diaphragm. Close tolerances and tight alignment of moving components minimize hysteresis and improve cycle life.

### Product Features:

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

### Specifications:

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: Internal</b>	Bubble Tight
<b>Leak Rate: External</b>	Bubble Tight
<b>Supply Pressure Effect</b>	Based upon C <sub>v</sub> Option
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>	19.5 cc without fittings
<b>Approximate Weight</b>	4.5 lbs. (2.1 kg)
Operating Conditions	
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) 0-250 psig (17 barg)
<b>Temperature (Standard)</b>	Metal Knob required for temperature above 150°F
PCTFE	-40°F to 150°F (-40°C to 66°C)
PEEK™	-40°F to 272°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)

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

For additional information on materials of construction, functional performance and operating conditions, please contact factory.

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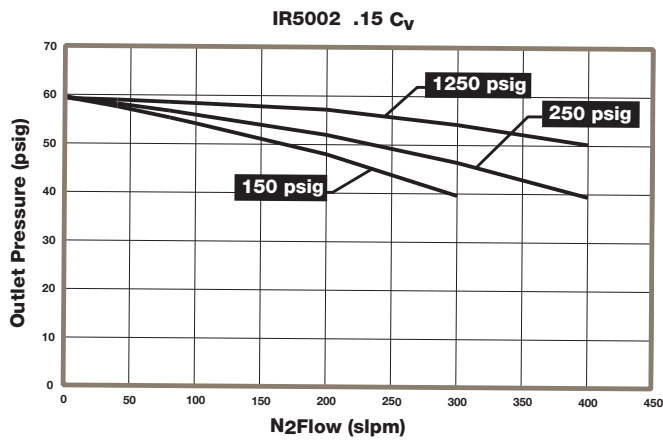
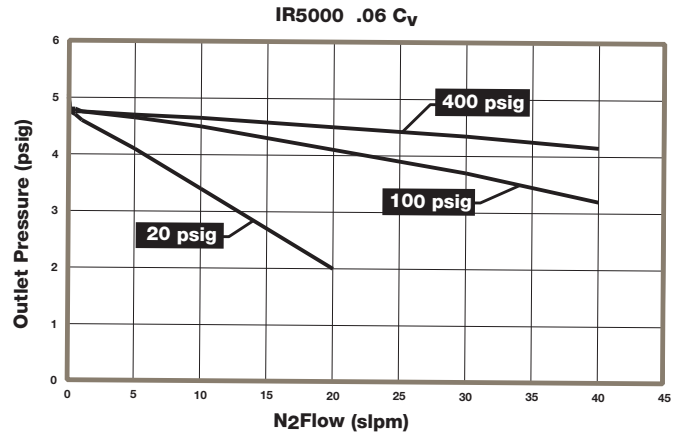
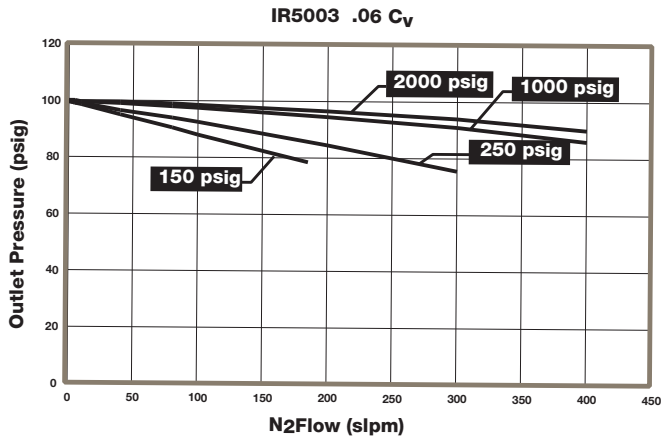


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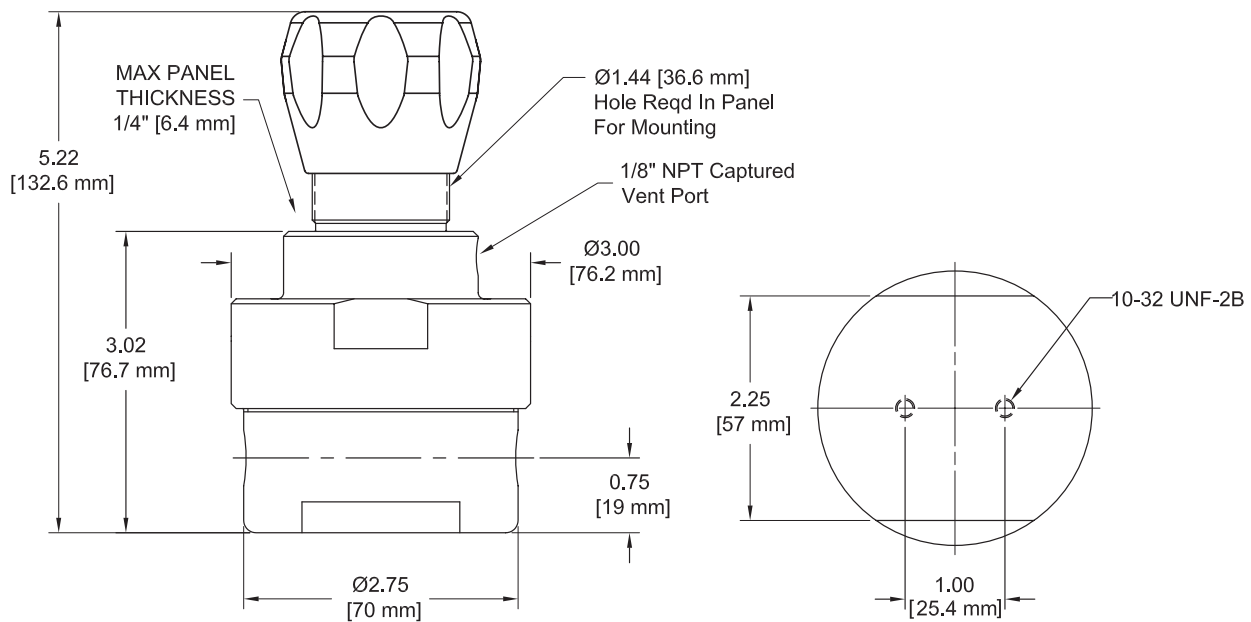
# IR5000 Series

## Flow Curve:



Basic Model	Range Table		
	Maximum Inlet PSIG		
	0.06 Cv	0.02 Cv	0.15 Cv
IR5000	400	400	400
IR5001	3,500	3,500	1,250
IR5002	3,500	3,500	1,250
IR5003	3,500	3,500	1,250
IR5004	3,500	3,500	1,250

## Dimensional Drawing:



# IR5000 Series

## Ordering Information:

Building a Part Number: *Example: IR5002SK4P01304B*

Example Part Number:	IR50	02	S		K	4P	01	30	4	B	
Ordering Parameters/Options:	Regulator	Basic Series	Body Material	Flow Capacity	Seat Material	Porting	Outlet Gauge	Inlet Gauge	Port Style	Port Mounting	Optional Features
Table Reference: (see below)	A	B	C	D	E	F	G	H	I	J	K

A - Regulator	
IR50	IR5000 Series Regulator

B - Basic Series (Range / Outlet Gauge)	
00	0-5 psig (Note: Maximum inlet pressure is 400 psig)
01	1-30 psig
02	2-60 psig
03	3-100 psig
04	10-250 psig

C - Body Material (1)	
S	316L Stainless Steel (Consult factory for Alloy Material options and availability)

D - Flow Capacity	
	0.06 C <sub>V</sub> (std)
1	0.02 C <sub>V</sub>
2	0.15 C <sub>V</sub>

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

F - Porting	
2P	2 Ports (No X required for gauges, inlet and outlet ports only)
3P	3 Ports (One X for gauge ports)
4P	4 Ports (Two X for gauge ports)
4PB	4 Ports (One X for gauge ports)

Note: Ports may be plugged for NPT threaded product.

G - 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 (Gauges may be provided by local Distributor)

H - Inlet Gauge	
X	No Gauge
30	3,000 psig (std)
4	400 psig (with 10 psig range)
20	2,000 psig with the 0.15 C <sub>V</sub> option
40	4,000 psig

I - Port Style	
4	1/4" NPT Female (All Gauges ports are 1/4" NPT Female)

J - Port Mounting	
B	0.75 (19.1 mm) port height with 1.0 (25.4 mm) mounting (std)

K - Optional Features (This section can have multiple options)	
C	Corrosion Resistant External (Stainless Steel Cap)
G	Tamper Proof (Not available with D or M option)
L	PTFE Back Up O-ring (PCTFE and PEEK™ Seats Only)
M	Metal Knob (Black: Not available with G option, required for temps. above 150° F)
C3	Cleaned for Oxygen Service (Oxygen cleaning requirements are in accordance with Parker Specification ES8003)

**Note:**

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

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

Vent Muffler is standard for the Corrosion Resistant (C) option.

A gas with low molecular weight, such as Hydrogen and Helium, may cause flow vibration.

**Parker Instrumentation Products Division reserves the right to plug NPT ports**

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