

IR4000 Series

Single-Stage, General Purpose Pressure Regulator

Internal 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.

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
- Oxygen cleaned in accordance with ASTM G93 Level C

Specifications:

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
Leak Rate: 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	40cc without fittings
Approximate 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) 10-250 psig (17 barg) 20 - 500 psig (35 barg)
Temperature	Metal Knob required for temperature above 150°F
PCTFE	-40°F to 150°F (-40°C to 66°C)
PEEK™	-40°F to 275°F (-40°C to 135°C)
Vespel®	-40°F to 500°F (-40°C to 260°C)
Self-Relieving Option	-40°F to 150°F (-40°C to 66°C)

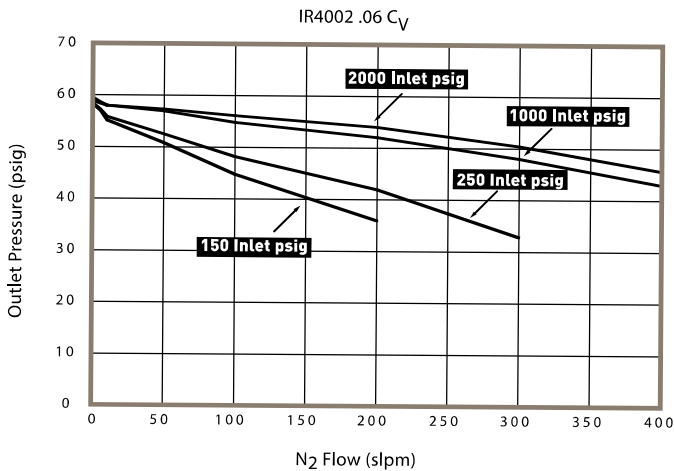
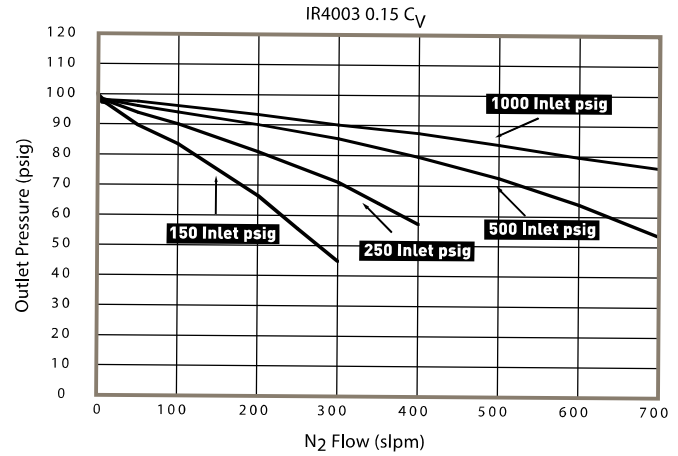
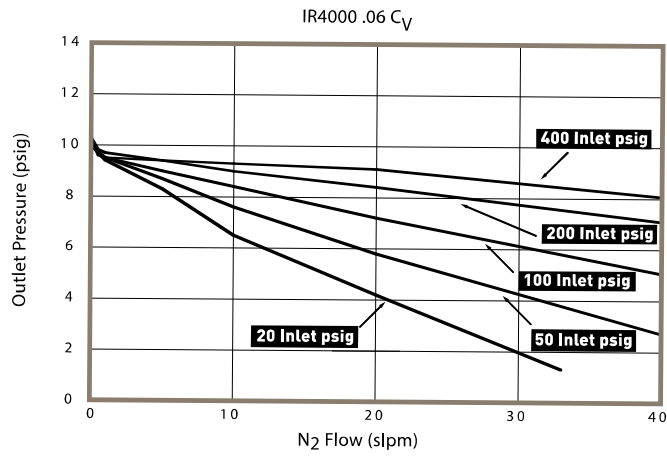
Material of Construction	
Wetted	
Body Options	316L Stainless Steel (std). (Contact Factory for Alloyed body material availability)
Compression Member	Inconel® 625
Diaphragm	Hastelloy® C-22
Poppet	Hastelloy® C-22
Poppet Spring	Inconel® X750
Seat Options	PCTFE (std) Vespel® or PEEK™
Carrier Options	316L 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) (Contact Factory for Alloyed body material availability)
Self Relieving Seat	PEEK™
Non-Wetted	
Cap Options	Nickel Plated Brass or Stainless Steel
Nut	316L 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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PEEK™ is a trademark of Victrex plc.
Vespel® is a registered trademark of DuPont Performance Elastomers L.L.C.
Inconel® is a registered trademark of Special Metals Corporation

IR4000 Series

Flow Curve:



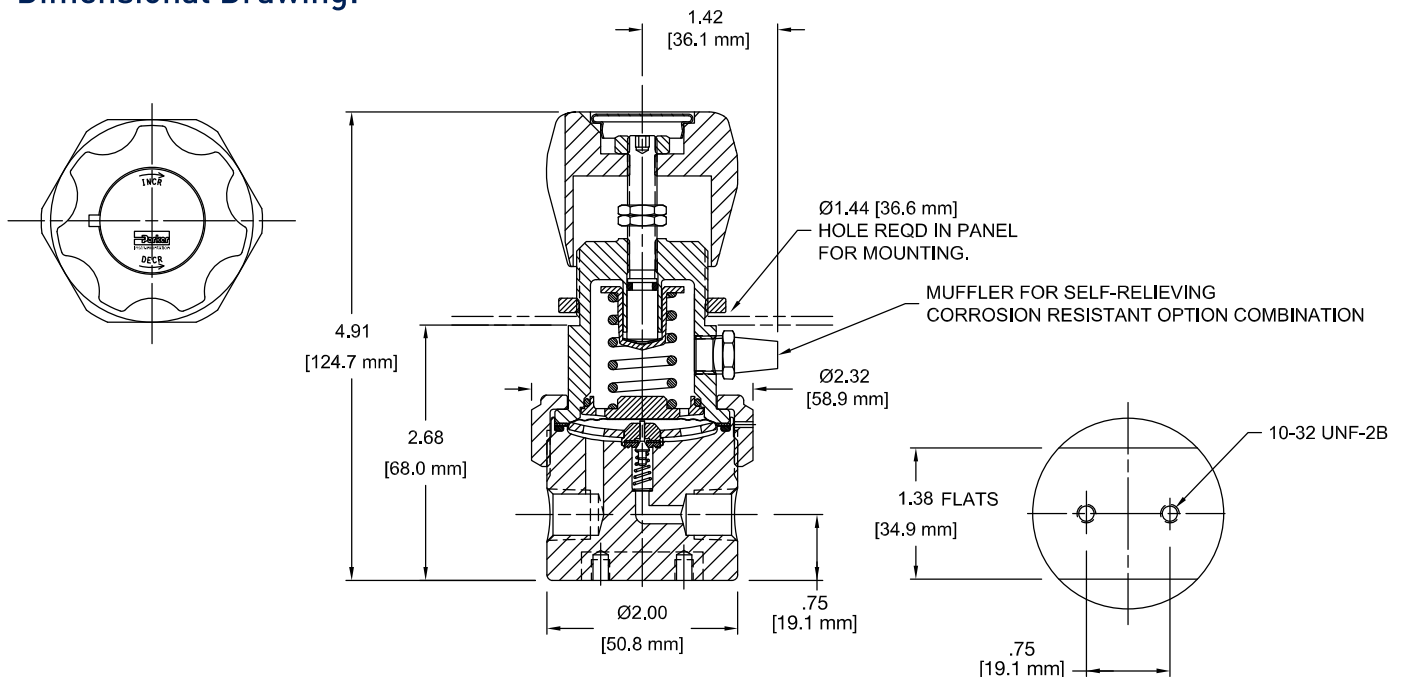
Basic Model	Range Table		
	Maximum Inlet PSIG		
	0.02 C_v	0.06 C_v	0.15 C_v
IR4000	400	400	400
IR4001	4,000	4,000	1,250
IR4002	4,000	4,000	1,250
IR4003	4,000	4,000	1,250*
IR4004	4,000	4,000	1,250
IR4005	4,000	4,000	1,250

*1,250 max. 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.

Dimensional Drawing:



IR4000 Series

Ordering Information:

Building a Part Number: *Example: IR4002SK4P01304B*

Example Part Number:	IR40	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	
IR40	IR4000 Series Regulator

B - 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
04	10-250 psig / 0-400 psig
05	20-500 psig / 0-600 psig

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

D - Flow Capacity	
	0.06 C _v (std)
1	0.02 C _v
2	0.15 C _v

E - Seat Material	
K	PCTFE
P	PEEK™
V	Vespe®

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)
5P	5 Ports (Two X for gauge ports)

Note: Ports may be plugged for NPT threaded product.

G - 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

H - Inlet Gauge	
X	No Gauge
30	3,000 psig (std)
4	400 psig (with 10 psig range)

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 0.75 (19.1 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)
M	Metal Knob (Black: Not available with D or G option, required for temps. above 150° F)
L	PTFE Backup O-Ring (PCTFE and PEEK™ Seats only)
S	Self Relieving (Temperature rating -40°F to 150°F (-40°C to 66°C))

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 Self Relieving (S), Corrosion Resistant (C) option combination.

Parker Instrumentation Products Division reserves the right to plug NPT ports