

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

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

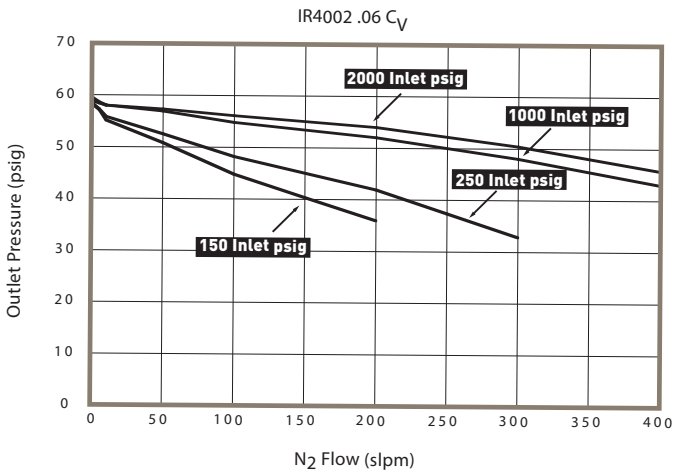
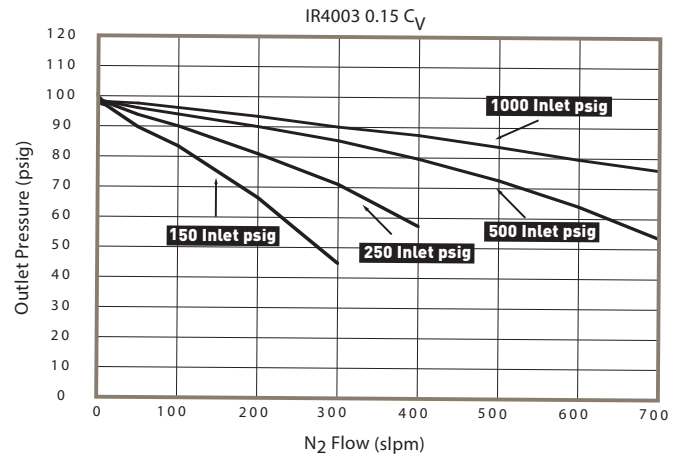
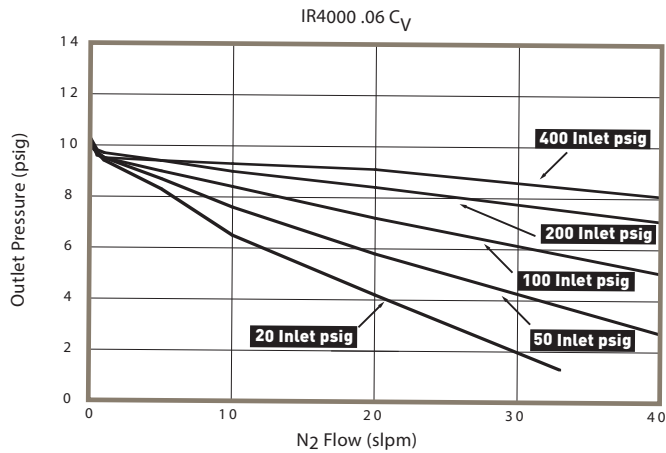
For additional information on materials of construction, functional performance and operating conditions, please contact factory.

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IR4000 Series

Flow Curve:



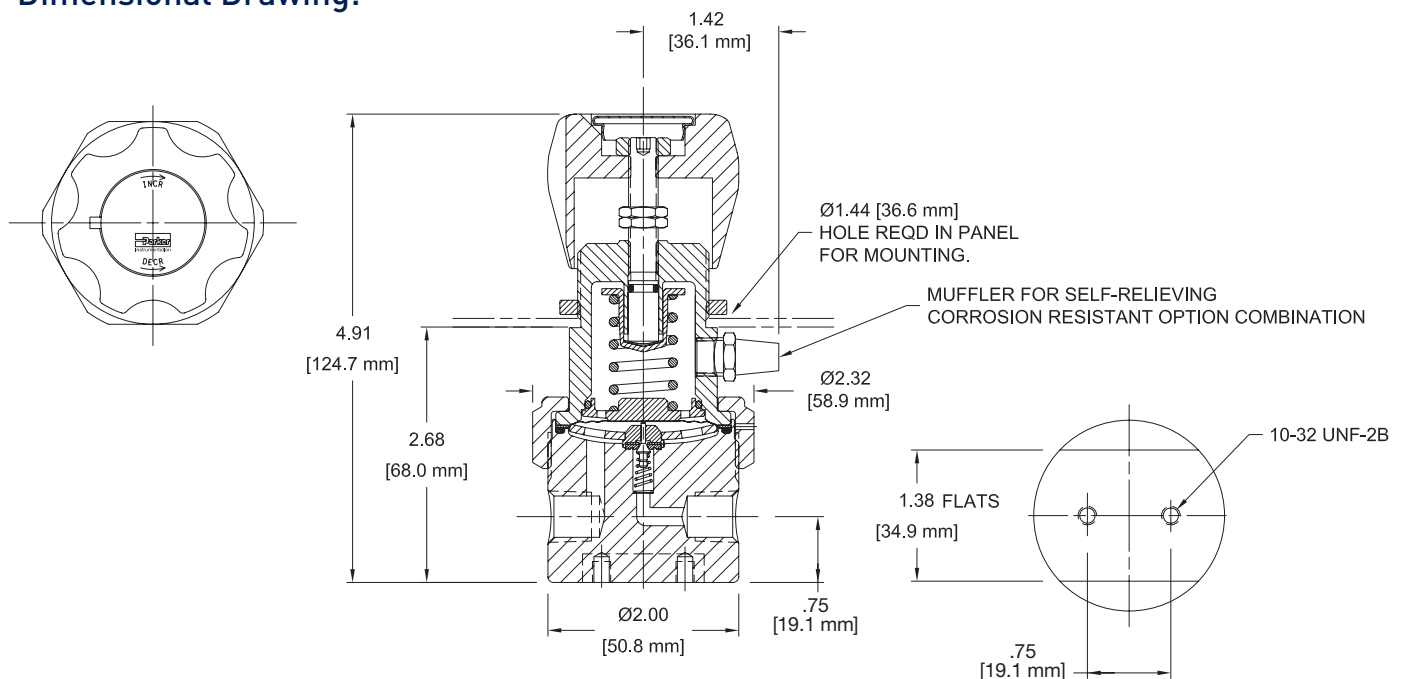
Basic Model	RANGE TABLE		
	Maximum Inlet PSIG		
	0.02 Cv	0.06 Cv	0.15 Cv
IR4000	400	400	400
IR4001	4,000	4,000	1,250
IR4002	4,000	4,000	1,250
IR4003	4,000	4,000	1,250*
IR4004	4,000	4,000	1,250
IR4005	4,000	4,000	1,250

*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

Parker Worldwide

AE – UAE, Dubai
Tel: +971 4 8875600
parker.me@parker.com

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129
falecom@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 970
parker.easteurope@parker.com

AU – Australia, Dandenong
Tel: +61 (0)3 9768 5555
customer.service.au@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LX – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BR – Brazil, Sao Jose dos Campos
Tel: +55 12 4009 3504
falecom@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CA – Canada, Grimsby, Ontario
Tel: +1 905-945-2274
ipd_canada@parker.com

CH – Switzerland, Etoy
Tel: +41 (0) 21 821 02 30
parker.switzerland@parker.com

CL – Chile, Santiago
Tel: +56 (0) 2 2303 9640
falecom@parker.com

CN – China, Shanghai
Tel: +86 21 2899 5000
INGtechnical.china@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 33 00 01
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest
Tel: +36 1 220 4155
parker.hungary@parker.com

ID – Indonesia, Tangerang
Tel: +62 (0)21 7588 1906
parker.id@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IN – India, Mumbai
Tel: +91 22 6513 7081-85

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

JP – Japan, Tokyo
Tel: +(81) 3 6408 3900
infophj@parker.com

KR – South Korea, Seoul
Tel: +82 2 559 0400
parkerkr@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7272 505 800
parker.easteurope@parker.com

LV – Latvia, Riga
Tel: +371 6 745 2601
parker.latvia@parker.com

MX – Mexico, Toluca
Tel: +52 722 275 4200
contacto@parker.com

MY – Malaysia, Selangor
Tel: +603 784 90 800
parkermy@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Stavanger
Tel: +47 (0)51 826 300
parker.norway@parker.com

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SG – Singapore,
Tel: +65 6887 6300
parkersg@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TH – Thailand, Bangkok
Tel: +66 2 186 7000
phthailand@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

TW – Taiwan, Taipei
Tel: +886 2 2298 8987
enquiry.taiwan@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317878
parker.uk@parker.com

USA – IPD, Huntsville
Tel: +1 256 881 2040
ipdcct@parker.com

USA – Autoclave Engineers, Erie
Tel: +1 814 860 5700
ipdaect@parker.com

VN – Vietnam, Hochi Minh City
Tel: +84 (0)8337 546 51
parker_viet@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

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Instrumentation Products Division
1005 A Cleaner Way
Huntsville, AL 35805 • USA
Tel: 256 881 2040
Fax: 256 881 5072

ipd.sales@parker.com
www.parker.com/ipd
Mobile Application: m.parker.com/ipd

IR4000 SERIES: Single Stage, General Purpose Pressure Regulator



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