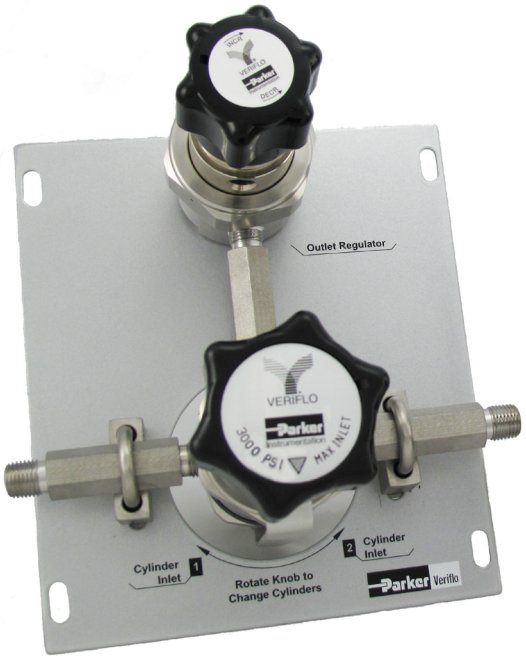

Instrumentation Process Analyzer Condensed Catalog

Regulators, Valves, Flow Controllers, Changeover Systems & Cylinder Connections

Parker Veriflo

ENGINEERING YOUR SUCCESS.

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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

Visit our website...

For the most complete and up-to-date product information, please visit us at **www.parker.com/veriflo**

Parker Veriflo

Ordering Information:

To order Parker Veriflo's ***complete*** IPA Product Catalog (#25000247)

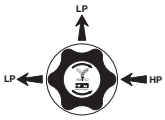
Call: Parker Customer Service
800 C PARKER (272 7537)

Email: C-Parker@Parker.com

Regulator Porting Guide

Standard Configurations

2P



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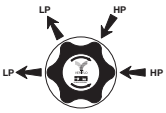

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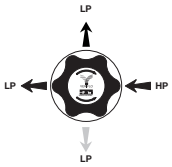

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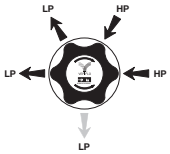

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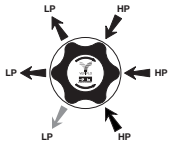
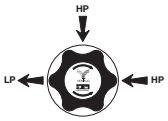


6P

Special Configurations



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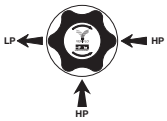

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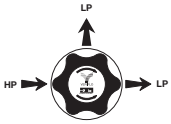

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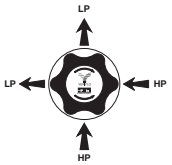

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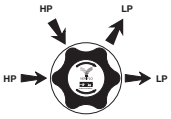

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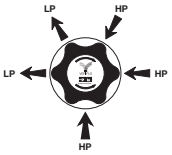
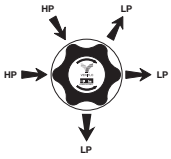


5PP



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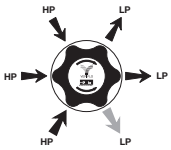
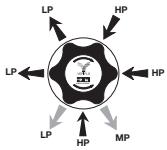
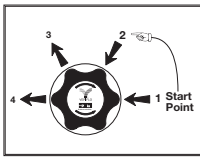


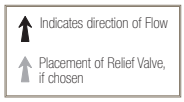
6SP



7P (2 Stage Regulators Only)

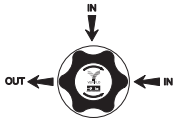


When ordering product, port styles are identified by starting at 3 o'clock and continuing in the counter clockwise direction.



Back Pressure Regulator Configurations *(ABP1, ABP3 & BPR50)*

2BP



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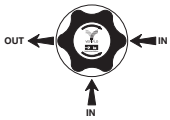
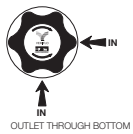


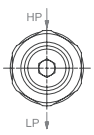
3PP
(Not available with BPR50)



3PB
(Not available with ABP3)

Vaporizing Regulator Configurations *(AVR3 & AVR4)*

2P



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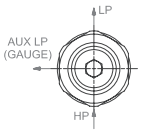

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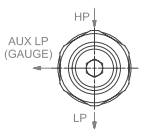
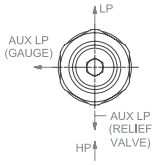
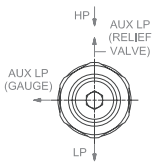


3PLG



4PV



4PL

IR4000 Series

316L SS, Single Stage, General Purpose

Product Features & Benefits

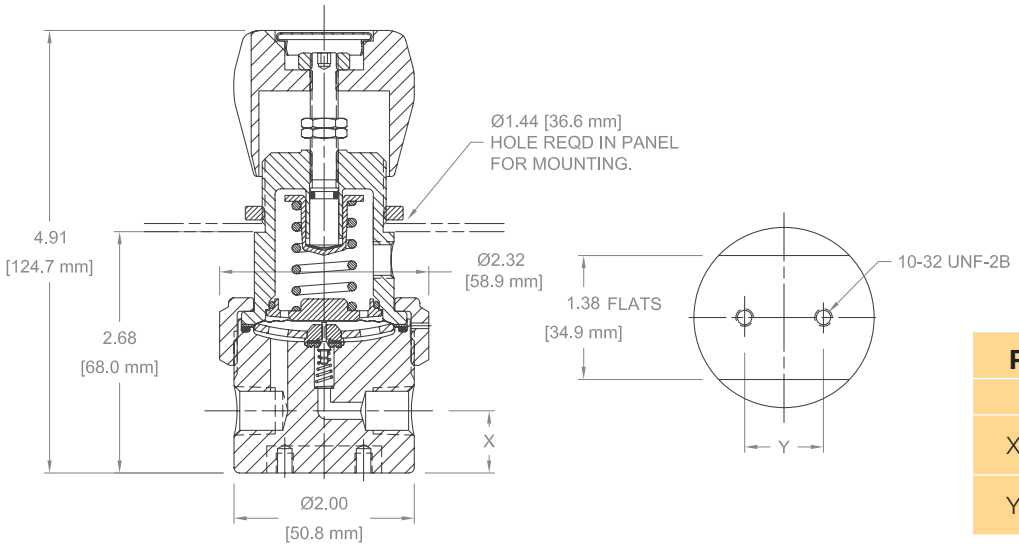
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. Low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Selection of seat materials for media compatibility and temperature applications.
- Express Service Program available.

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	**0.02 C_V**	**0.15 C_V**
IR4000	400	400	400
IR4001	4000	4000	1250
IR4002	4000	4000	1250
IR4003	4000	4000	1250
IR4004	4000	4000	1250
IR4005	4000	4000	1250
IR4015	4000	4000	1250

Functional Performance	
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)
Operating Conditions	
Temperature	*Based upon seat material choice*
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)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

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)

IR4000 Series *continued*

Ordering Information

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

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9	10	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)*
A = 316L Annealed, ≤22HRC

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.
See Regulator Porting Guide for more information.

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	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
4 = 400 psig with the 10 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
4T = 1/4" A-LOK®
6T = 3/8" 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

B = True Ported Body *(no plugs)*
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)*
L = PTFE Backup O-Ring *(PCTFE and PEEK™ Seats Only)*
R = Relief Valve (4PB and 5P Only)
S = Self Relieving
V = Outlet Valve NOVAS44MF
T = Hastelloy Trim *(Includes carrier and back-up washer. Option is for Stainless Steel body - Hastelloy® Trim is std with Hastelloy® and Monel® bodies)*

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) Option recommendations for H_2S-containing fluids

Body option "H" (Hastelloy C-22®) and "A" (316L annealed, ≤22HRC) 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 H_2S-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 H_2S - 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 H_2S-containing fluids:

- Pressure gauges
- S – Self Relieving
- R - Relief valve
- V – Outlet Valve NOVAS44MF
- CGA connections

IR4000W Series

316L SS, Single Stage, General Purpose

Product Features & Benefits

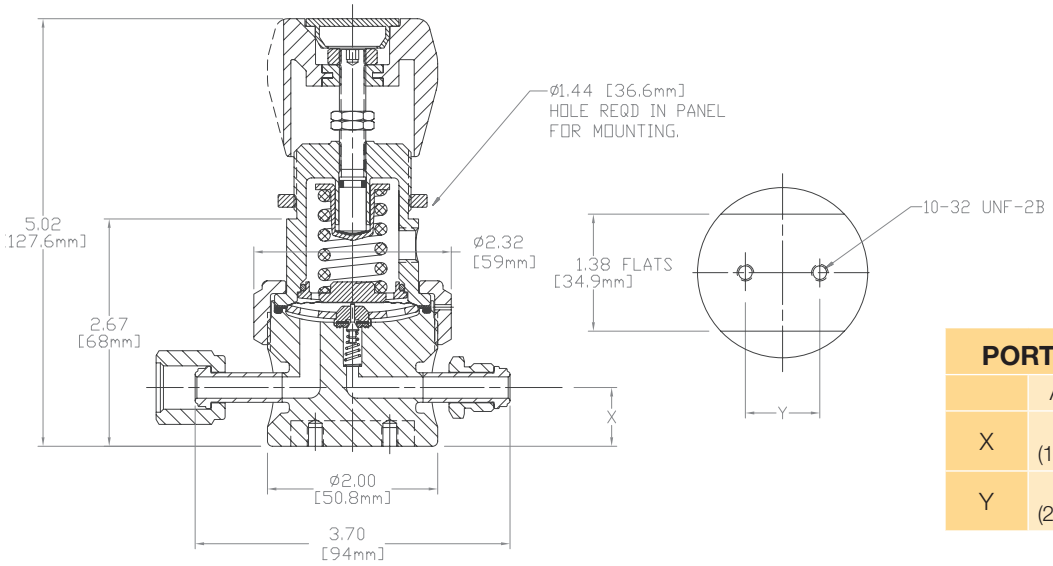
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Internally threadless design reduces particle generation. Low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Selection of seat materials for media compatibility and temperature applications.

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	0.02 C_V	0.15 C_V
IR4000W	400	400	400
IR4001W	4000	4000	1250
IR4002W	4000	4000	1250
IR4003W	4000	4000	1250
IR4004W	4000	4000	1250
IR4005W	4000	4000	1250
IR4015W	4000	4000	1250

Functional Performance	
Leak Rate	*Inboard Test Method*
Internal	$\leq 4 \times 10^{-8}$ cc/sec He
External	$\leq 2 \times 10^{-8}$ cc/sec He
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)
Operating Conditions	
Temperature	*Based upon seat material choice*
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)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Dimensional Drawing



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

IR4000W Series *continued*

Ordering Information

Build an IR4000W Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

	1	2	3	4	5	6	7	8	9	10	11	12
Sample:	**IR40**	**01**	**W**		**K**	**3P**	**X**		**FS**	**MMM**	**A**	**L**
Finished Order:	**IR4001WK3PXFSMMMAL**											

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

W = 316L Stainless Steel

3 Flow Capacity

= 0.06 Cv *(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

See Regulator Porting Guide for more information

6 Outlet Gauge

Outlet Gauge			Basic Series
03	=	0 - 30 psig	IR4000W
OL	=	0 - 60 psig	IR4001W
01	=	0 - 100 psig	IR4002W
2	=	0 - 200 psig	IR4003W
4	=	0 - 400 psig	IR4004W
6	=	0 - 600 psig	IR4005W
X	=	No Gauge	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
4 = 400 psig *with the 10 psig range*
20 = 2000 psig with the 0.15 Cv option
40 = 4000 psig

(Additional ranges available upon request)

8 Port Style

4T = 1/4" A-LOK®
6T = 3/8" A-LOK®
8T = 1/2" A-LOK®
FS = 1/4" Face Seal
FS8 = 1/2" Face Seal
TS = 1/4" Tube Stub
TS6 = 3/8" Tube Stub
TS8 = 1/2" Tube Stub

9 Port Style

M = Male
F = Female
I = Internal

10 Port Mounting

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

11 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)*
L = PTFE Backup O-Ring *(PCTFE and PEEK™ Seats Only)*
R = Relief Valve *(4PB and 5P Only)*
S = Self Relieving
T = Hastelloy Trim *(Includes carrier and back-up washer.)*

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

12 Industrial CGA#

320, 330, 350, 510, 580
590 or 660

DISS CGA#
634, 716, 718, 724, or 728

Do not exceed the rated pressure of the CGA connection.

IR4200 Series

Brass, Single Stage, General Purpose

Product Features & Benefits

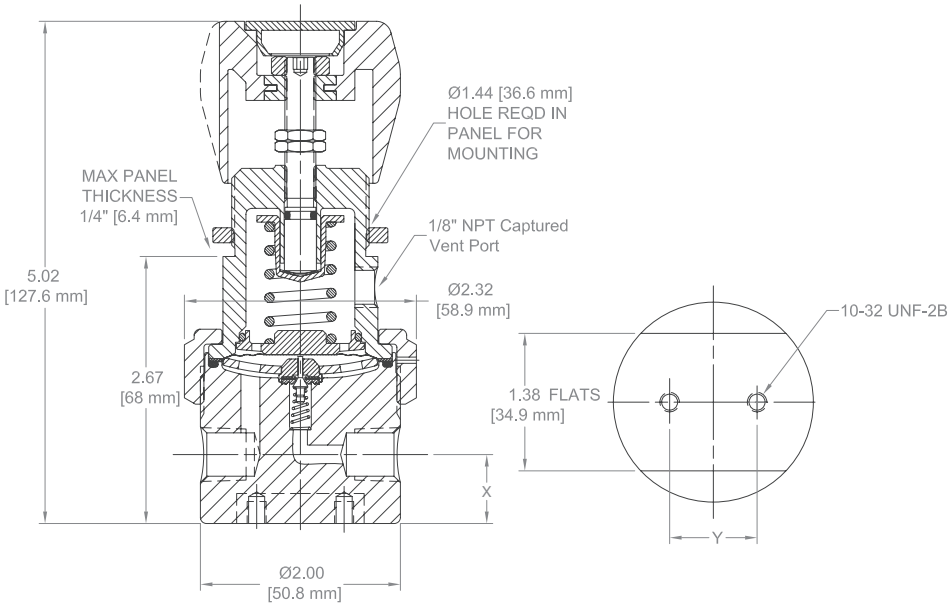
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals to atmosphere.
- Internally threadless design reduces particle generation. Low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Express Service Program available.

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	**0.02 C_V**	**0.15 C_V**
IR4200	400	400	400
IR4201	4000	4000	1250
IR4202	4000	4000	1250
IR4203	4000	4000	1250
IR4204	4000	4000	1250
IR4205	4000	4000	1250
IR4215	4000	4000	1250

Functional Performance	
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)
Operating Conditions	
Temperature	-40°F to 150°F (-40°C to 66°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

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)

IR4200 Series *continued*

Ordering Information

Build an IR4200 Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9	10	11
Sample:	IR42	02	B		K	4P	01	30	4	B	S	580

Finished Order: **IR4202BK4P01304BS580**

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

B = Brass

3 Flow Capacity

= 0.06 Cv (Standard)
1 = 0.02 C_V
2 = 0.15 C_V

4 Seat Material

K = PCTFE

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.

See Regulator Porting Guide for more information.

6 Outlet Gauge

Outlet Gauge	Basic Series
03 = 0 - 30 psig	*IR4200*
OL = 0 - 60 psig	*IR4201*
01 = 0 - 100 psig	*IR4202*
2 = 0 - 200 psig	*IR4203*
4 = 0 - 400 psig	*IR4204*
6 = 0 - 600 psig	*IR4205*
X = No Gauge	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
4 = 400 psig with the 10 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
4T = 1/4" A-LOK®
6T = 3/8" 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

B = True Ported Body *(no plugs)*
D = Dome Loaded *(Not available with G or M options)*
G = Tamper Proof *(Not available with D or M options)*
M = Metal Knob *(Not available with D or G options)*
N = Nickel Plate
R = Relief Valve (4PB and 5P Only)
S = Self Relieving
V = Outlet Valve NOVAB44MF

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 or 590

Do not exceed the rated pressure of the CGA connection.

IR6000 Series

316L SS, Two Stage, General Purpose

Product Features & Benefits

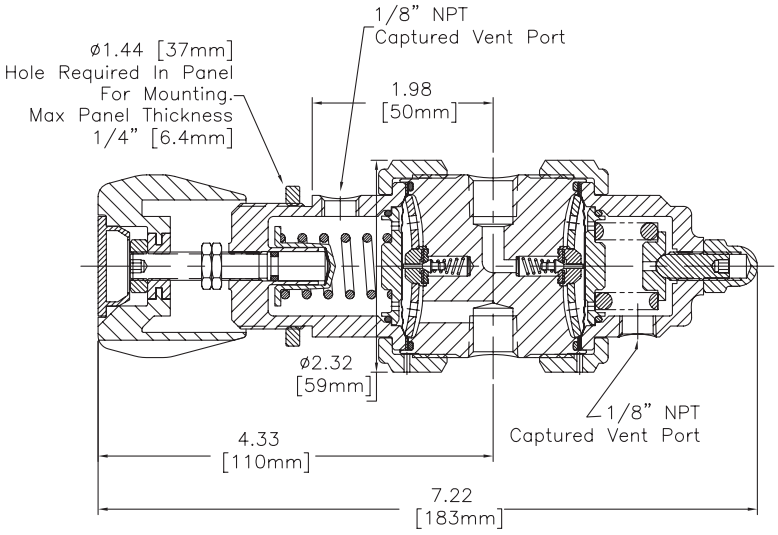
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. Low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Selection of seat materials for media compatibility and temperature applications.
- Express Service Program available.

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	*Based upon C_V Option*
0.02 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.06 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.15 C_V	0.02 psig/100 psig (0.001 barg/7 barg)
Operating Conditions	
Temperature	*Based upon seat material choice*
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)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	0.02 C_V	0.15 C_V
IR6000	4000	4000	1250
IR6001	4000	4000	1250
IR6002	4000	4000	1250
IR6003	4000	4000	1250
IR6004	4000	4000	1250
IR6015	4000	4000	1250

Dimensional Drawing



IR6000 Series *continued*

Ordering Information

Build an IR6000 Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9	10	11
Sample:	IR60	02	S		K	4P	01	30	4	B	S	580

Finished Order: **IR6002SK4P01304BS580**

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*

2 Body Material

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
6P = 6 Ports - *Two X's for gauge ports*

Note: Ports may be plugged for NPT threaded product.

See Regulator Porting Guide for more information.

6 Outlet Gauge

Outlet Gauge	Basic Series
03 = 0 - 30 psig	*IR6000*
OL = 0 - 60 psig	*IR6001*
01 = 0 - 100 psig	*IR6002*
2 = 0 - 200 psig	*IR6003*
4 = 0 - 400 psig	*IR6004*
X = No Gauge	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
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
4T = 1/4" A-LOK®
6T = 3/8" A-LOK®

(All Gauge ports are 1/4" NPT Female)

9 Port Mounting

B = Standard - No other options

10 Optional Features

This section can have multiple options

B = True Ported Body *(no plugs)*
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)*
L = PTFE Backup O-Ring *(PCTFE and PEEK™ Seats Only)*
R2 =Relief Valve, 2nd Stage (LP) (4PB, 5P and 6P Only)
S = Self Relieving
V = Outlet Valve NOVAS44MF
T = Hastelloy Trim *(Includes carrier and back-up washer. Option is for Stainless Steel body - Hastelloy® Trim is std with Hastelloy® and Monel® bodies)*

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#

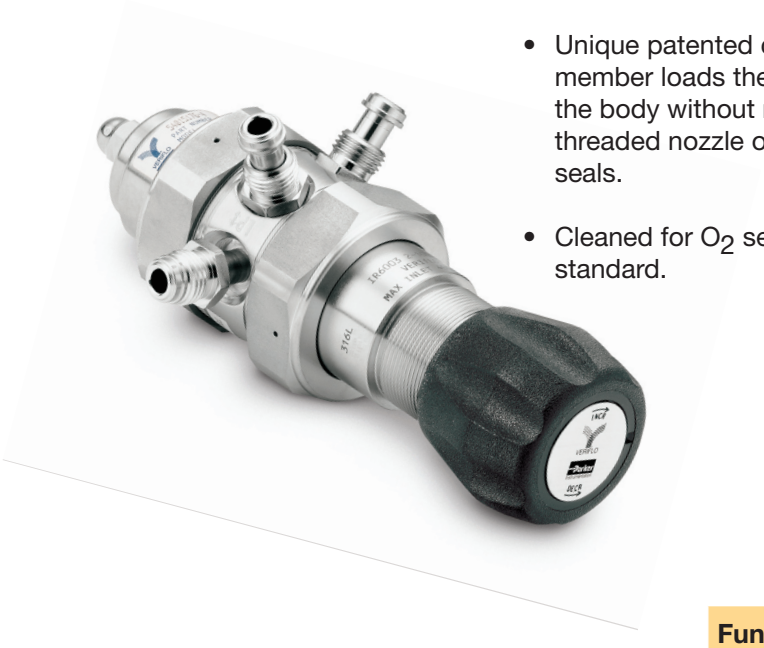
320, 330, 350, 510, 580 590 or 660

Do not exceed the rated pressure of the CGA connection.

IR6000W Series

316L SS, Two Stage, General Purpose

Product Features & Benefits



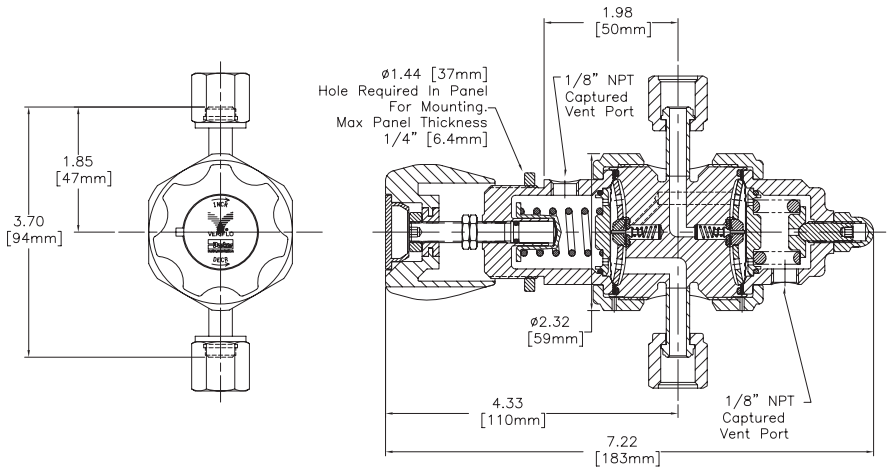
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Cleaned for O_2 service is standard.
- Internally threadless design reduces particle generation. The low internal volume reduces purge times.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Captured bonnet allows for safety venting
- Selection of seat materials for media compatibility and temperature applications.

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	**0.02 C_V**	**0.15 C_V**
IR6000W	4000	4000	1250
IR6001W	4000	4000	1250
IR6002W	4000	4000	1250
IR6003W	4000	4000	1250
IR6004W	4000	4000	1250
IR6015W	4000	4000	1250

Functional Performance	
Leak Rate	*Inboard Test Method*
Internal	≤ 4 X 10^{-8} cc/sec He
External	≤ 2 X 10^{-8} cc/sec He
Supply Pressure Effect	*Based upon C_V Option*
0.02 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.06 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.15 C_V	0.02 psig/100 psig (0.001 barg/7 barg)
Operating Conditions	
Temperature	*Based upon seat material choice*
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)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Dimensional Drawing



IR6000W Series *continued*

Ordering Information

Build an IR6000W Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

	1	2	3	4	5	6	7	8	9	10	11	12
Sample:	IR60	01	W		K	3P	X		FS	MMM	B	L
Finished Order:	IR6001WK3PXFSMMMBL											

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

2 Body Material

W = 316L Stainless Steel

3 Flow Capacity

= 0.06 Cv *(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

See Regulator Porting Guide for more information

6 Outlet Gauge

Outlet Gauge	Basic Series
03 = 0 - 30 psig	IR6000W
OL = 0 - 60 psig	IR6001W
01 = 0 - 100 psig	IR6002W
2 = 0 - 200 psig	IR6003W
4 = 0 - 400 psig	IR6004W
X = No Gauge	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
20 = 2000 psig with the 0.15 Cv option
40 = 4000 psig

(Additional ranges available upon request)

8 Port Style

4T = 1/4" A-LOK®
6T = 3/8" A-LOK®
8T = 1/2" A-LOK®
FS = 1/4" Face Seal
FS8 = 1/2" Face Seal
TS = 1/4" Tube Stub
TS6 = 3/8" Tube Stub
TS8 = 1/2" Tube Stub

9 Port Style

M = Male
F = Female
I = Internal

10 Port Mounting

B = Standard *(No other options)*

11 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)*
R2 = Relief Valve *(4PB, 5P and 6P Only)*
S = Self Relieving
T = Hastelloy Trim *(Includes carrier and back-up washer)*

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.

12 Industrial CGA#

320, 330, 350, 510, 580
590 or 660

DISS CGA#
634, 716, 718, 724, or 728

Do not exceed the rated pressure of the CGA connection.

IR6200 Series

Brass, Two Stage, General Purpose

Product Features & Benefits

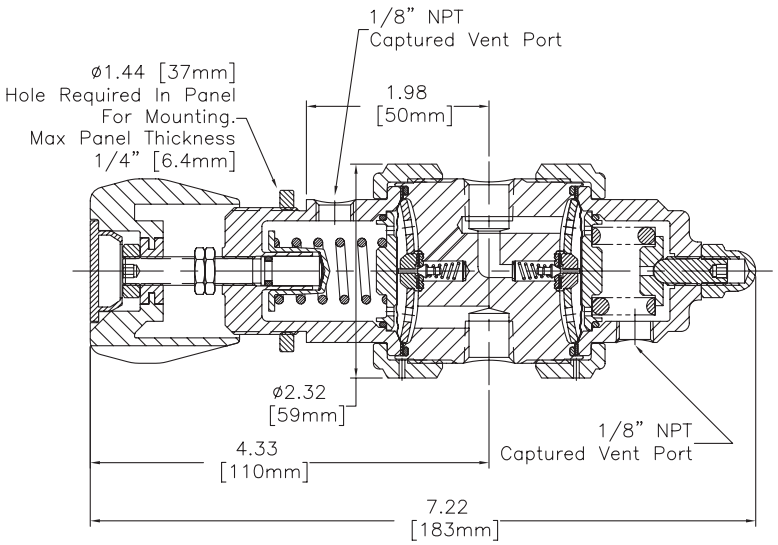
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. The low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Express Service Program available.

RANGE TABLE			
Basic Model	Max Inlet PSIG		
	0.06 C_V	**0.02 C_V**	**0.15 C_V**
IR6200	4000	4000	1250
IR6201	4000	4000	1250
IR6202	4000	4000	1250
IR6203	4000	4000	1250
IR6204	4000	4000	1250
IR6215	4000	4000	1250

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	*Based upon C_V Option*
0.02 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.06 C_V	0.01 psig/100 psig (0.0007 barg/7 barg)
0.15 C_V	0.02 psig/100 psig (0.0014 barg/7 barg)
Operating Conditions	
Temperature	-40°F to 150°F (-40°C to 66°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Dimensional Drawing



IR6200 Series *continued*

Ordering Information

Build an IR6200 Series Regulator by replacing the numbered symbols with an option from the corresponding tables below.

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9	10	11
Sample:	**IR62**	**02**	**B**		**K**	**4P**	**01**	**30**	**4**	**B**	**N**	**580**

Finished Order: **IR6202BK4P01304BN580**

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*

2 Body Material

B = Brass

3 Flow Capacity

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

4 Seat Material

K = PCTFE

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
6P = 6 Ports - *Two X's for gauge ports*

Note: Ports may be plugged for NPT threaded product.

See Regulator Porting Guide for more information.

6 Outlet Gauge

Outlet Gauge	Basic Series
03 = 0 - 30 psig	*IR6200*
OL = 0 - 60 psig	*IR6201*
01 = 0 - 100 psig	*IR6202*
2 = 0 - 200 psig	*IR6203*
4 = 0 - 400 psig	*IR6204*
X = No Gauge	

(Additional ranges available upon request)

7 Inlet Gauge

X = No Gauge
30 = 3000 psig (Standard)
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
4T = 1/4" A-LOK®
6T = 3/8" A-LOK®

All Gauge ports are 1/4" NPT Female

9 Port Mounting

B = Standard Mounting
No other options

10 Optional Features

This section can have multiple options

B = True Ported Body *(no plugs)*
D = Dome Loaded *(Not available with G or M options)*
G = Tamper Proof *(Not available with D or M options)*
M = Metal Knob *(Not available with D or G options)*
N = Nickel Plate
R2 = Relief Valve (4PB, 5P and 6P Only)
S = Self Relieving
V = Outlet Valve NOVAB44MF

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 or 590

Do not exceed the rated pressure of the CGA connection.

IR5000 Series

316L SS, Single Stage, General Purpose, High Sensitivity

Product Features & Benefits

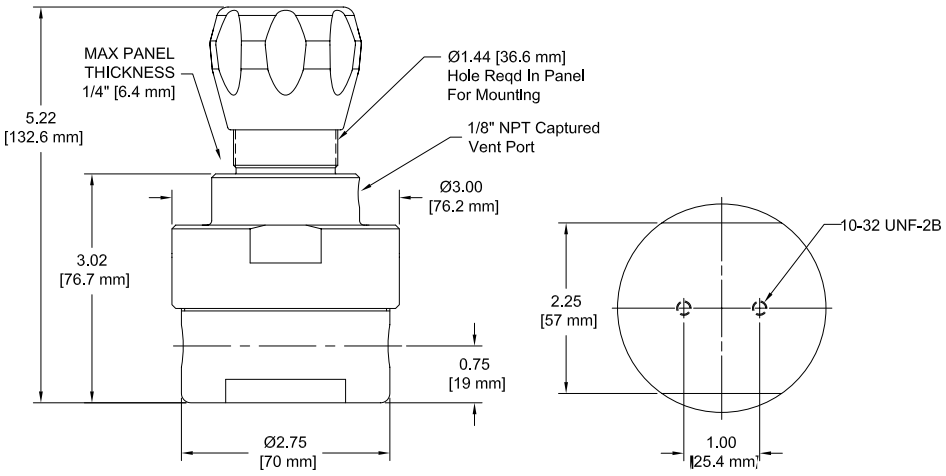
- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. Low internal volume reduces purge times.
- Cleaned for O_2 service is standard.
- Positive upward and downward stops increase cycle life by preventing over stroking of the diaphragm.
- Selection of seat materials for media compatibility and temperature applications.
- Express Service Program available.

RANGE TABLE			
Basic Model	**Max Inlet PSIG**		
	0.06 C_V	**0.02 C_V**	**0.15 C_V**
IR5000	400	400	400
IR5001	3500	3500	1250
IR5002	3500	3500	1250
IR5003	3500	3500	1250
IR5004	3500	3500	1250

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	*Based upon C_V Option*
0.02 C_V	0.12 psig/100 psig (0.008 barg/7 barg)
0.06 C_V	0.3 psig/100 psig (0.02 barg/7 barg)
0.15 C_V	0.75 psig/100 psig (0.05 barg/7 barg)
Operating Conditions	
Temperature	
Standard IR5000	*Based upon seat material choice*
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)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Dimensional Drawing



IR5000 Series *continued*

Ordering Information

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

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9	10	11
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*
Note: Max inlet pressure is 400 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*

2 Body Material

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

3 Flow Capacity

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

4 Seat Material

K = PCTFE
P = PEEK™
V = Vespel® *Recommended for Nitrous Oxide (N_20) 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

Note: Ports may be plugged for NPT threaded product.

See Regulator Porting Guide for additional options and port layouts

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*
R = Relief Valve 4PB Only
T = Hastelloy Trim
Includes carrier and back-up washer. Option is for Stainless Steel body - Hastelloy® Trim is std with Hastelloy® and Monel® bodies
V = Outlet Valve NOVAS44MF
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.

HFR900 Series

316L SS or Brass, Single Stage, High Flow

Product Features & Benefits

- Self-contained, replaceable valve seat assembly.
- Over 20 years of proven reliability.
- Cleaned for O_2 Service is standard.
- Available in Brass or 316L Stainless Steel.
- 1/8” NPT Captured vent port is standard.
- Large orifice for high flow (up to 500 LPM).
- Large diaphragm for higher sensitivity.
- Dome Load, Relief Valve, Panel Mount and Tamper Proof options available.

Operating Conditions	
Maximum Inlet	*(based upon seat option)*
Fluorocarbon	500 psig (35 barg)
Perfluoroelastomer	200 psig (14 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Flow Capacity	C_V 0.85
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample: **HFR90**	**0**	**S**	**4P**	**03**	**6**	**4**	**K**	

Finished Order: **HFR900S4P0364K**

1 Range
0 = 1 - 30 psig
1 = 2 - 75 psig
2 = 5 - 150 psig

2 Body Material
B = Brass
S = 316L Stainless Steel

3 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 more information.

4 Outlet Gauge
03 = 0 - 30 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge
(Additional ranges available upon request)

5 Inlet Gauge
4 = 0 - 400 psig
6 = 0 - 600 psig
X = No Gauge
(Additional ranges available upon request)

6 Port Style
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)

7 Seat Material
K = Perfluoroelastomer (FFKM) *(200 psig max)*
V = Fluorocarbon (FKM) *(500 psig max)*

8 Optional Features
This section can have multiple options
NP = Nickel Plate *(Brass bodies only)*
PM = Panel Mount *(captured vent not available)*
R = Relief Valve *(Fluorocarbon seal - 4PB Only)*

HF1200 & HFT 1200 Series

316L SS, Single Stage, High Flow

Product Features & Benefits

- High inlet pressure with 1.2 Cv to meet a variety of applications.
- Hastelloy C-22® diaphragm for high corrosion resistance.
- HFT offers a tied diaphragm for positive shut off.
- Large convoluted diaphragm provides stable pressure control.
- 59% greater effective diaphragm area over competitive products.
- HFT offers Hastelloy trim for corrosive applications.

Operating Conditions	
Maximum Inlet	1,250 psig (86 barg)
Temperature	
PCTFE	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Flow Capacity	C_V 1.2
Leak Rate	
Internal	Bubble Tight at 70 psig minimum
External	Bubble Tight
Supply Pressure Effect	5.4 psig / 100 psig

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

1	2	3	4	5	6	7	8	9
Sample: **HFT12**	**01**	**S**	**K**	**3P**	**2**	**8**	**B**	

Finished Order: **HFT1201SK3P28B**

1 Basic Series

HF12 (Non-Tied Diaphragm)
HFT12 (Tied Diaphragm)

2 Pressure Range

00 = 5 - 50 psig
01 = 5 - 100 psig
15 = 5 - 150 psig
02 = 20 - 200 psig

3 Body Material

S = 316L Stainless Steel

4 Seat Material

K = PCTFE

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 for gauge port*
4PB = 4 Ports *One X for gauge port*

See Regulator Porting Guide for additional options and port layouts

6 Outlet Gauge

VX = -30 in Hg 0 - 150 psig *- HFT1200 only.*
OL = 0 - 60 psig
01 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge

Additional ranges available upon request

7 Port Style

8 = 1/2" NPT Female
8T = 1/2" A-LOK®
12T = 3/4" A-LOK®

1/4" NPT Gauge Ports are Standard

8 Place Holder

B = Place Holder

9 Options

TH = Hastelloy Trim *- HFT1200 only.*
Includes Hastelloy C-22® poppet, seat retainer and Inconel X750® poppet spring

APR66 Series

316L SS or Brass, Single Stage, High Pressure

Product Features & Benefits

- Thrust bearing allows low actuating torque and precise setability.
- Cleaned for O_2 service is standard.
- Low friction adjusting screw sleeve provides smooth operation.
- Piston sensing.
- Optional self relieving feature allows user to decrease outlet pressure in closed systems. Feature is actuated by turning the adjusting knob counterclockwise.

Operating Conditions	
Maximum Inlet	6,000 psig (414 barg)
Temperature	-40°F to 165°F (-40°C to 74°C)

Functional Performance	
Flow Capacity	C_V 0.05
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	
100 - 1,000 psig	4 psig/100 psig (0.28 barg/7 barg)
100 - 2,000 psig	4 psig/100 psig (0.28 barg/7 barg)
100 - 3,000 psig	4 psig/100 psig (0.28 barg/7 barg)
100 - 6,000 psig	6 psig/100 psig (0.4 barg/7 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample: **APR66**	**S**	**4P**	**1**	**X**	**X**	**4**	**M**	**320**

Finished Order: **APR66S4P1XX4M320**

1 Body Material

B = Nickel Plated Brass
S = 316L Stainless Steel

2 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*

See Regulator Porting Guide for more information

3 Pressure Range

1 = 100 - 1000 psig
2 = 100 - 2000 psig
3 = 100 - 3000 psig
4 = 100 - 6000 psig

4 Outlet Gauge

10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge
(Additional ranges available upon request)

5 Inlet Gauge

40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge
(Additional ranges available upon request)

6 Port Style

2 = 1/8" NPT Female
4 = 1/4" NPT Female
D = DIN ISO 228/1 - *Inlet and Outlet Ports Only*
MS = MS33649 - *Inlet and Outlet Ports Only*
(All Gauge ports are 1/4" NPT Female)

7 Optional Features

This section can have multiple options

B = Buna-N Seal
M = Metal Knob *(Black)*
SR = Self Relieving *For safety purposes, the optional self-relieving feature is not recommended for toxic or flammable gases or liquids.*

Note: Each unit is standard with a threaded cap and panel mount nut.

8 CGA#

320, 330, 350, 510, 580, 590 or 660*

** CGA 660 not available in brass*
Do not exceed the rated pressure of the CGA connection.

HPR800 Series

316L SS, Single Stage, High Pressure

Product Features & Benefits

- Low actuating torque.
- Diaphragm sensing regulator.
- Cleaned for O_2 service is standard.
- Self-contained valve seat assembly.
- Fluid media capabilities: Corrosive and non-corrosive gases.
- Easily maintained.
- Maximum inlet of 5,000 psig.

Operating Conditions	
Maximum Inlet	5,000 psig @70°F (345 barg @ 21°C)
For Oxygen	3,000 psig (206.9 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Flow Capacity	C_V 0.02
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	0.5 psig / 100 psig (0.03 barg / 7 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample: **HPR80**	**1**	**S**	**3P**	**10**		**4**		

Finished Order: **HPR801S3P104**

1 Basic Series
0 = 10 - 800 psig
1 = 20 - 1500 psig
2 = 50 - 2500 psig

2 Body Material
B = Brass
S = 316L Stainless Steel

3 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*
5P = 5 Ports - *Two X's for gauge ports*

See Regulator Porting Guide for more information.

4 Outlet Gauge
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
X = No Gauge
(Additional ranges available upon request)

5 Inlet Gauge
30 = 0 - 3000 psig
40 = 0 - 4000 psig
60 = 0 - 6000 psig
X = No Gauge
(Additional ranges available upon request)

6 Port Style
4 = 1/4" NPT Female
(All Gauge ports are 1/4" NPT Female)

7 Optional Features
This section can have multiple options

PM =Panel Mount

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

8 CGA#
320, 330, 350, 510, 580, 590 or 660

Do not exceed the rated pressure of the CGA connection.

XPR Series

316L SS or Brass, Single Stage, High pressure

Product Features & Benefits

- Bonnet assembly allows easy changeout.
- Self relieving adjustment with allen wrench.
- Self relieving allows downstream pressure to be vented through regulator.
- Cleaned for O_2 service.
- Seven range assemblies available.

Operating Conditions		
	Stainless Steel	Brass
Temperature	-40°F to 150°F (-40°C to 66°C)	

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Flow Capacity	C_V 0.07

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample: **XPR**	**S**	**15**	**3P**	**20**	**60**	**4**	**O**	**T**

Finished Order: **XPRS153P20604OT**

1 Body Material

S = 316L Stainless Steel *10,000 psig max inlet*
B = Brass *6,000 psig max inlet*

2 Range

		Outlet Gauge
5	= 50-500 psig	0-600 psig
8	= 50-800 psig	0-1000 psig
15	= 100-1,500 psig	0-2000 psig
25	= 135-2,500 psig	0-3000 psig
40	= 200-4,000 psig	0-6000 psig
60	= 300-6,000 psig	0-6000 psig
100	= 500-10,000 psig*	0-10000 psig

** Available with Stainless Steel body material only*

3 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

4 Outlet Gauge

6 = 0 - 600 psig
10 = 0 - 1,000 psig
20 = 0 - 2,000 psig
30 = 0 - 3,000 psig
60 = 0 - 6,000 psig
100 = 0 - 10,000 psig

Additional ranges available upon request

5 Inlet Gauge

60 = 0 - 6,000 psig *Std*
100 = 0 - 10,000 psig *Std for 100 range option*

Additional ranges available upon request

6 Port Style

2 = 1/8" NPT Female
4 = 1/4" NPT Female
6 = 3/8" NPT Female

1/4" NPT Female Gauge Ports are Standard

7 O-ring Material

O = FKM

8 Optional Features

This section can have multiple options

N = Non-self relieving
Q = Nickel Plate *Brass body material only*
T = Tee Bar Handle

Note: Panel Mount Option: *Order Panel Nut Ring p/n: 40400440 as a separate line item.*

735 Series

316L SS, Two Stage, High Pressure

Product Features & Benefits

- Unique patented compression member loads the seal to body eliminating threads in the wetted area.
- Tied Diaphragm for added safety.
- Metal-to-metal diaphragm-to-body seal assures high leak integrity.
- Cleaned for O_2 service is standard.

Operating Conditions	
Maximum Inlet	3,500 psig (240 barg)
Temperature	-40°F to 150°F (-40°C to 65°C)

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	
0.04 Cv	0.2 psig to100 psig (0.01barg to 7 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample:	**735**	**30**	**S**	**4P**	**OL**	**30**	**4**	**TH**	**330**

Finished Order: **73530S4POL304TH330**

1 Range

30 = 1 - 30 psig
100 = 3 - 100 psig

2 Body Material

S = VeriClean® 316L Stainless Steel
H = Hastelloy C-22® *(Includes Hastelloy C-22® body, diaphragm, compresson member, poppet and Inconel® spring.)*

3 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*
5P = 5 Ports - *Two X's for gauge ports*
7P = 7 Ports - *Two X's for gauge ports*

See Regulator Porting Guide for more information.

4 Outlet Gauge

03 = 0 - 30 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
X = No Gauge
Additional ranges available upon request

5 Inlet Gauge

30 = 3000 psig
4 = 400 psig
40 = 4000 psig
X = No Gauge
Additional ranges available upon request

6 Port Style

4 = 1/4" NPT Female
Note: All Gauge ports are 1/4" NPT Female

7 Optional Features

This section can have multiple options

PM = Panel Mount
R2 = Relief Valve *(5P Only)*
TH = Hastelloy Trim *Available on Stainless Steel body, only. Includes Hastelloy C-22® diaphragm, compresson member, poppet and screen with an Inconel® spring.*
VESP = Vespel® Seat *(Recommended for N_2O Service)*

8 CGA# *(Specify CGA No.)*

320, 330, 350, 510, 580, 590, or 660

Do not exceed the rated pressure of the CGA connection.

959 Series

316L SS, Single Stage, High Pressure

Product Features & Benefits

- Tied Diaphragm for added safety.
- Unique patented compression member loads seal to body without requiring a threaded nozzle or additional seals to atmosphere.
- Adjustment range spring may be replaced without breaking diaphragm seal to body and exposing the wetted area to contamination.
- Metal-to-metal diaphragm-to-body seal assures high leak integrity.
- Cleaned for O_2 service is standard.

Operating Conditions	
Maximum Inlet	*based on C_V Option*
C_V 0.04	3,500 psig (240 barg)
C_V 0.2	1,250 psig (86 barg)
Outlet Options	1 - 30 psig (2 barg) 3 - 100 psig (7 barg) 30 - 150 psig (10.3 barg)
Temperature	-40°F to 150°F (-40°C to 65°C)

Functional Performance	
Flow Capacity	
Cv Options	C_V 0.04 (std) or C_V 0.2
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	
C_V 0.04	0.6 psig/100 psig
C_V 0.2	1.5 psig/100 psig

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7
Sample:	**959**	**30**	**S**	**4P**	**OL**	**30**	**4**	**TH**

Finished Order: **95930S4POL304TH**

1 Range

30 = 1 - 30 psig
100 = 3 - 100 psig
150 = 5 - 150 psig

2 Body Material

S = 316L Stainless Steel
H = Hastelloy C-22® *Includes Hastelloy C-22® body, diaphragm, compresson member, poppet and Inconel® spring*

3 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*
6P = 6 Ports *Two X's for gauge ports*

See Regulator Porting Guide for additional options and port layouts

4 Outlet Gauge

03 = 0 - 30 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge

Additional ranges available upon request

5 Inlet Gauge

2 = 0 - 200 psig
6 = 0 - 600 psig
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
40 = 0 - 4000 psig
X = No Gauge

Additional ranges available upon request

6 Port Style

4 = 1/4" NPT Female

All Gauge Ports are 1/4" NPT Female

7 Optional Features

This section can have multiple options

2 = 0.2 C_V
DO = Dome Loaded
PM = Panel Mount
R = Relief Valve *4PB, 5P and 6P Only*
TH = Hastelloy Trim *Available on Stainless Steel body, only. Includes Hastelloy C-22® diaphragm, compresson member, poppet and screen with an Inconel® spring*
VESP = Vespel® Seat *Recommended for N_2O Service*

MIR700 Series

316L SS or Brass, Single Stage, Compact Regulator

Product Features & Benefits

- Precise flexing Hastelloy C-22® diaphragm.
- Cleaned for O_2 service is standard.
- Proven valve seat assembly.
- Low internal volume.
- Machined from solid bar stock.

Operating Conditions	
Maximum Inlet	3,000 psig (207 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Flow Capacity	C_V 0.02
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	0.6 psig/100 psig (0.03barg/6.80 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8
Sample: **MIR700**	**30**	**B**	**4P**	**03**	**30**	**4**		

Finished Order: **MIR70030B4P03304**

1 Pressure Setting
15 = 1 - 15 psig
30 = 2 - 30 psig
100 = 3 - 100 psig
200 = 4 - 200 psig

2 Body Material
B = Nickel Plated Brass
S = 316L Stainless Steel

3 Porting
2P = 2 Ports
3P = 3 Ports
4P = 4 Ports
4PB = 4 Ports

See Regulator Porting Guide for more information.

4 Outlet Gauge
03 = 0 - 30 psig
01 = 0 - 100 psig
2 = 0 - 200 psig
X = No Gauge
(Additional ranges available upon request)

5 Inlet Gauge
01 = 0 - 100 psig
2 = 0 - 200 psig
6 = 0 - 600 psig
10 = 0 - 1000 psig
20 = 0 - 2000 psig
30 = 0 - 3000 psig
40 = 0 - 4000 psig
X = No Gauge
(Additional ranges available upon request)

6 Port Style
2 = 1/8" NPT Female
4 = 1/4" NPT Female

7 Optional Features
This section can have multiple options

FTD = Fairprene® Diaphragm
M = Miniature Instrument Knob
MH = Mounting Holes
PM = Panel Mount
R = Relief Valve *(4PB Only)*

8 CGA#
320, 330, 350, 510, 580
590 or 660

Do not exceed the rated pressure of the CGA connection.

ABP1 Series

316L SS, Back Pressure Regulator

Product Features & Benefits

- Standard Hastelloy C-22® diaphragm for superior strength and corrosion resistance.
- Convoluted diaphragm provides outlet pressure stability with changes in flow.
- Integral diaphragm stop provides an additional safety measure.
- Cleaned for O_2 service is standard.
- Express Service Program is available.

Operating Conditions	
Max. Control Pressure	20 - 500 psig (35 barg)
Max. Temperature of Flow Media	-15°F to 400°F (26°C to 204°C) *Note: Metal Knob required for high temperature applications*

Functional Performance	
Flow Capacity	
C_V	0.3 C_V (std), 0.1 C_V or 0.06 C_V
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7
Sample: **ABP1**	**S**	**T**	**3**	**3BP**	**2**	**4**	
Finished Order: **ABP1ST33BP24**							

1 Body Material

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

2 Seat Material

T = PTFE
V = Fluorocarbon Elastomer (FKM)
K = Perfluoroelastomer (FFKM)

3 Pressure Range

Range	Gauge
1 = 1 - 25 psig	*03 0 - 30 psig*
2 = 2 - 50 psig	*OL 0 - 60 psig*
3 = 3 - 100 psig	*2 0 - 200 psig*
4 = 10 - 250 psig	*4 0 - 400 psig*
5 = 20 - 500 psig	*6 0 - 600 psig*

4 Porting

(Refer to Porting Guide on Page 3)

2BP = 2 Ports - No X required for gauges, Inlet & outlet ports only,
3BP = 3 Ports - One X for gauge port
3PB = 3 Ports - *One X for gauge port (outlet though bottom)*
3PP = 3 Ports - *One X for gauge ports*

5 Inlet Gauge

03 = 0 - 30 psig
OL = 0 - 60 psig
2 = 0 - 200 psig
4 = 0 - 400 psig
6 = 0 - 600 psig
X = No Gauge

(Additional ranges available upon request)

6 Port Style

2 = 1/8" NPT Female
4 = 1/4" NPT Female

(All Gauge ports are 1/4" NPT Female)

7 Optional Features

This section can have multiple options

DO= Dome Loaded *(Not available with M option)*
M = Metal Knob *(Black) (Not available with DO options)*
06 = 0.06 Cv
1 = 0.1 Cv

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.

ABP3 Series

316L SS, Back Pressure Regulator

Product Features & Benefits

- Standard Hastelloy C-22® diaphragm for superior strength and corrosion resistance.
- Cleaned for O_2 service is standard.
- Convoluted diaphragm provides outlet pressure stability with changes in flow.
- Integral diaphragm stop provides an additional safety measure.
- Express Service Program is available.

Operating Conditions	
Max. Control Pressure	2 - 60 psig (0.2 - 4.1 barg)
Max. Temperature of Flow Media	-15°F to 400°F (26°C to 204°C) *Note: Metal Knob required for high temperature applications*

Functional Performance	
Flow Capacity	
C_V	0.3 C_V (std), 0.1 C_V or 0.06 C_V
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7
Sample: **ABP3**	**S**	**T**	**3**	**3BP**	**01**	**4**	

Finished Order: **ABP3ST33BP014**

1 Body Material

S = 316L Stainless Steel
H = Hastelloy C-22®

2 Seat Material

T = PTFE
V = Fluorocarbon Elastomer (FKM)
K = Perfluoroelastomer (FFKM)

3 Pressure Range

Range	Gauge
1 = 1 - 5 psig	*05 0 - 15 psig*
2 = 1 - 30 psig	*OL 0 - 60 psig*
3 = 2 - 60 psig	*01 0 - 100 psig*

4 Porting

(Refer to Porting Guide on Page 3)

2BP = 2 Ports - No X required for gauges, Inlet & outlet ports only.
3BP = 3 Ports - One X for gauge port
3PP = 3 Ports - *One X for gauge port*

5 Inlet Gauge

05 = 0 - 15 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
X = No Gauge

(Additional ranges available upon request)

6 Port Style

2 = 1/8" NPT Female
4 = 1/4" NPT Female

(All Gauge ports are 1/4" NPT Female)

7 Optional Features

This section can have multiple options

DO= Dome Loaded *(Not available with M option)*
M = Metal Knob *(Black) (Not available with DO options, required for higher temperatures)*
06 = 0.06 Cv
1 = 0.1 Cv

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.

BPR50 Series

316L SS, High Pressure, Back Pressure Regulator

Product Features & Benefits

- 316L Stainless Steel construction.
- Cleaned for O_2 service is standard.
- Gas or Liquid Service.
- Simple construction makes maintenance easy.
- Panel mount option is available.
- Adjustable pressures from 100 to 1,200 psig and 200 to 2,000 psig.
- Flow Coefficient of 0.45 C_V.

Operating Conditions	
Control Pressure	100 - 1,200 psig (7 - 83 barg) 200 - 2,000 psig (14 - 138 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5
Sample: **BPR50**	**S**	**3PB**	**1**	**BH**	**PM**

Finished Order: **BPR50S3PB1BHPM**

1 Body Material
S = 316L Stainless Steel

2 Porting
(Refer to Porting Guide on Page 3)
2PB = 2 Ports - *Outlet through bottom*
3BP = 3 Ports
3PB = 3 Ports - *Outlet through bottom*

3 Adjustment Range
1 = 100 - 1200 psig
2 = 200 - 2000 psig

4 Actuation Devices
BH = T Bar Handle
Omit = Broach Stem *(Standard)*

5 Optional Features
This section can have multiple options
K = Perfluoroelastomer (FFKM) O-ring with PCTFE Seal
PM = Panel Mount

AVR3 Series

Steam Heated, Pressure Reducing, Vaporizing Regulator

Product Features & Benefits

- Ultra low internal volume.
- Cleaned for O_2 service is standard.
- Convoluted Hastelloy C-22® diaphragm for superior strength and corrosion resistance provides outlet pressure stability with changes in flow.
- Integral diaphragm stop provides additional measure of safety.
- Field serviceable heat transfer element.
- Express Service Program is available.

Functional Performance	
Flow Capacity	C_V 0.06 Nominal
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

Operating Conditions	
Maximum Inlet	3,500 psig (241 barg) or 250 psig (17.2 barg) for 10 psig range
Temperatures	*based upon seat option*
PCTFE	150°F (66°C)
PEEK™	275°F (135°C)
Vespel®	500°F (260°C)
Maximum Steam Supply	600 psig, 500°F (41 barg, 260°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6
Sample:	**AVR3**	**S**	**K**	**1**	**X**	**3PG**	
Finished Order:	**AVR3SK1X3PG**						

1 Body Material

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

2 Seat Material

K = PCTFE
P = PEEK™
V = Vespel®

3 Pressure Range

0 = 0 - 10 psig (max inlet 250 psig)
1 = 1 - 30 psig
2 = 2 - 60 psig
3 = 3 - 100 psig
4 = 10 - 250 psig
5 = 20 - 500 psig

4 Outlet Gauge

03 = 0 - 30 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
4 = 0 - 400 psig
6 = 0 - 600 psig
X = No Gauge

5 Porting Configuration

(Refer to Porting Guide on Page 3)

blank = 2 Port
3PG = 3 Port - Relief Valve or Gauge Port
4PV = 4 Port - Relief Valve and Gauge Port
2PL = 2 Port - Reverse Entry
3PLG = 3 Port - Reverse Entry Relief Valve or Gauge Port
4PL = 4 Port - Reverse Entry Relief Valve and Gauge Port

6 Optional Features

RV = Relief Valve

Note: Panel Mount Option: Order Panel Nut Ring P/N 41900363 as a separate line item.
Note: Additional options are available. Contact Veriflo for more information

AVR4 Series

Electrically Heated, Pressure Reducing, Vaporizing Regulator

Product Features & Benefits

- Ultra low internal volume.
- CSA, CE-ATEX certified.
- Cleaned for O_2 service is standard.
- Convoluted Hastelloy C-22® diaphragm for superior strength and corrosion resistance provides outlet pressure stability with changes in flow.
- Field serviceable heat transfer element.
- TCO (Thermal cut-out) is standard for all heat ranges.
- Integral diaphragm stop provides additional measure of safety.
- Express Service Program is available.

Product Certifications	
North American Certification	CLASS I GROUPS A,B,C & D LR99181
European Union Certification	0344 II 2 G EExdIIC T3 KEMA 03ATEX2359

Functional Performance	
Flow Capacity	C_V 0.06 Nominal
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

Operating Conditions	
Maximum Inlet	3,500 psig (241 barg) or 250 psig (17.2 barg) for 10 psig range
Temperatures	*based upon seat option*
PCTFE	150°F (66°C)
PEEK™	275°F (135°C)
Vespel®	500°F (260°C)
Ambient Temperature	-4°F to +104°F (-20°C to +40°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

Note: Options in *blue/Italic* type are available for the *Express Service Program.*

	1	2	3	4	5	6	7	8	9
Sample:	**AVR4**	**S**	**K**	**1**	**120**	**D**	**L**	**X**	**3PG**	**RV**

Finished Order: **AVR4SK1120DLX3PGRV**

1 Body Material

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

2 Seat Material

K = PCTFE
P = PEEK™
V = Vespel®

3 Pressure Range

0 = 0 - 10 psig (max inlet 250 psig)
1 = 1 - 30 psig
2 = 2 - 60 psig
3 = 3 - 100 psig
4 = 10 - 250 psig
5 = 20 - 500 psig

4 Voltage

120 = 120V
240 = 240V

5 Heater Wattage

A = 40
C = 100
D = 150
E = 200

6 Temperature Controller

L = 75°F to 220°F (24°C - 104°C)
H = 220°F to 380°F (104°C - 193°C)

7 Outlet Gauge

03 = 0 - 30 psig
OL = 0 - 60 psig
01 = 0 - 100 psig
4 = 0 - 400 psig
6 = 0 - 600 psig
X = No Gauge

8 Porting Configuration

(Refer to Porting Guide on Page 3)

blank = 2 Port
2PL = 2 Port - Reverse Entry
3PG = 3 Port - Relief Valve or Gauge Port
3PLG = 3 Port - Reverse Entry Relief Valve or Gauge Port
4PV = 4 Port - Relief Valve and Gauge Port
4PL = 4 Port - Reverse Entry Relief Valve and Gauge Port

Note: High Pressure port standard is 1/8" NPT Female.
1/4" NPT Female on auxillary outlet ports.

9 Optional Features

RV = Relief Valve
SL1 = SilcoNert™ 1000

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

NPR4100 Series

316L SS, Negative Pressure Regulator

Product Features & Benefits

- Unique patented compression member loads the seal to the body without requiring a threaded nozzle or additional seals.
- Internally threadless design reduces particle generation. The low internal volume reduces purge times.
- Cleaned for O_2 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.
- Unique carrier design disperses gas uniformly through the regulator to improve purging.

Functional Performance	
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

Operating Conditions	
Maximum Inlet	250 psig (17 barg)
Temperature	*Based upon seat material choice*
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)

**Not available for Brass Bodies*

***For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7	8	9	10	11
Sample: **NPR410**	**0**	**S**		**K**	**4P**	**V3**	**V1**	**4**	**B**	**C**	

Finished Order: **NPR4100SK4PV3V14BC**

1 Pressure Range
0= -26 in Hg - 10 psig

2 Body Material
S = 316L Stainless Steel
B = Brass
H = Hastelloy C-22® *SST gauges*
M = Monel® *SST gauges*

3 Flow Capacity
omit = 0.06 Cv (Standard)
1 = 0.02 Cv
2 = 0.15 Cv

4 Seat Material
K = PCTFE
P = PEEK™
V = Vespel® *Recommended for Nitrous Oxide (N20) 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*

Note:
Ports may be plugged for NPT threaded product.

See Regulator Porting Guide for additional options and port layouts

6 Outlet Gauge
V3 = -30 in Hg 0 - 30 psig
X = No Gauge

7 Inlet Gauge
V3 = -30 in Hg 0 - 30 psig
V1 = -30 in Hg 0 - 100 psig
2 = 0 - 200 psig
4 = 0 - 400 psig
X = No Gauge

8 Port Style
2 = 1/8" NPT Female
4 = 1/4" NPT Female
6 = 3/8" 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 port height w/0.75 mounting hole pattern

10 Optional Features
This section can have multiple options

B = True Ported Body *no plugs*
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 (White) *Not available with D or G options*
N = Nickel Plate *Brass bodies only*
R = Relief Valve *4PB Only*
T = Hastelloy® Trim *Includes carrier and back-up washer. Option is for Stainless Steel body - Hastelloy® Trim is std with Hastelloy® and Monel® bodies*
V = Outlet Valve *NOVAS44MF or NOVAB44MF for Brass Body*

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, or 590

Do not exceed the rated pressure of the CGA connection.

NPR959 Series

316L SS, Negative Pressure Regulator

Product Features & Benefits

- Tied Diaphragm for added safety.
- Unique patented compression member loads seal to body without requiring a threaded nozzle or additional seals to atmosphere.
- Adjustment range spring may be replaced without breaking diaphragm seal to body and exposing the wetted area to contamination.
- Metal-to-metal diaphragm-to-body seal assures high leak integrity.
- Cleaned for O_2 service is standard.

Operating Conditions	
Maximum Inlet	*based on C_V Option*
C_V 0.04	3,500 psig (240 barg)
C_V 0.2	1,250 psig (86 barg)
Outlet Option	-25 in Hg - 0-30 psig
Temperature	-40°F to 150°F (-40°C to 65°C)

Functional Performance	
Flow Capacity	
Cv Options	C_V 0.04 (std) or C_V 0.2
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	
C_V 0.04	0.6 psig/100 psig
C_V 0.2	1.5 psig/100 psig

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6	7
Sample:	**959**	**30**	**S**	**4P**	**OL**	**30**	**4**	**TH**

Finished Order: **95930S4POL304TH**

1 Range

NPR959 = -25 in Hg 0 - 30 psig

2 Body Material

S = 316L Stainless Steel

H = Hastelloy C-22® *Includes Hastelloy C-22® body, diaphragm, compresson member, poppet and Inconel® spring*

3 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*

6P = 6 Ports *Two X's for gauge ports*

See Regulator Porting Guide for additional options and port layouts

4 Outlet Gauge

V3 = -30 in Hg 0 - 30 psig

V1 = -30 in Hg 0 - 100 psig

X = No Gauge

Additional ranges available upon request

5 Inlet Gauge

V3 = -30 in Hg 0 - 30 psig

V1 = -30 in Hg 0 - 100 psig

X = No Gauge

Additional ranges available upon request

6 Port Style

4 = 1/4" NPT Female

All Gauge Ports are 1/4" NPT Female

7 Optional Features

This section can have multiple options

2 = 0.2 C_V

DO = Dome Loaded

PM = Panel Mount

R = Relief Valve *4PB, 5P and 6P Only*

TH = Hastelloy Trim *Available on Stainless Steel body, only. Includes Hastelloy C-22® diaphragm, compresson member, poppet and screen with an Inconel® spring*

VESP = Vespel® Seat *Recommended for N_2O Service*

16 Series

316L SS, High Pressure, High Flow Valve

Product Features & Benefits

- Metal diaphragm sealed.
- Spring type design.
- Minimal particle generation.
- High cycle life.
- Cleaned for O_2 service.
- 3,000 psig for both manual and pneumatic styles.

Operating Conditions	
Pressure Rating	Vacuum to 3,000 psig
Actuation Pressure	70 psig min to 125 psig max
Max Differential Back Pressure	200 psid
Temperature	-65°F to 150°F (-54°C to 66° C)

Functional Performance	
Flow Capacity	C_V 0.3
Leak Rate	
Internal *(NPT Threaded)*	Bubble Tight
Internal *(Welded)*	2 x 10^{-8} scc/sec He *(Outboard Test Method)*
External	2 x 10^{-9} scc/sec He *(Outboard Test Method)*

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4	5	6
Sample:	**93-16**	**88**	**2**	**VM**	**VM**	**-PI**

Finished Order: **93-16882VMVM-PI**

1 Basic Series
16- = Handwheel
93-16 = Pnuematic

2 Port Size
88 = 1/2” Inlet/Outlet

3 Body Material
2 = 316L Stainless Steel

4 Inlet Connection
C = A-LOK®
F = 1/2” NPT Female
M = 1/2” NPT Male
TW = Tube Stub
VF = VacuSeal™ Female
VM = VacuSeal™ Male

5 Outlet Connection
C = A-LOK®
F = 1/2” NPT Female
M = 1/2” NPT Male
TW = Tube Stub
VF = VacuSeal™ Female
VM = VacuSeal™ Male

6 Optional Features
-PI = Vespel® Seat Material
PM = Panel Mount Rings

NV17 Series

316L SS, High Pressure, Compact Size Valve

Product Features & Benefits

- Internally threadless and springless.
- High cycle life.
- Compact size.
- Cleaned for oxygen service.
- Low internal volume.
- Metal-to-metal seal to atmosphere.
- Low actuation pressure for AOP configuration.
- Tamper resistant bonnet design.

Functional Performance	
Flow Capacity	
Standard	C_V 0.17
Lever	C_V 0.15
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

Operating Conditions	
Operating Pressure	
Manual	vacuum to 3500 psig (241 barg)
AOPNO	vacuum to 500 psig (34.47 barg)
AOP1	vacuum to 250 psig (17.24 barg)
AOP2	vacuum to 500 psig (34.47 barg)
AOP3	vacuum to 250 psig (17.24 barg)
Actuation Pressure	
AOPNO	50 psig min. (3.45 barg) at 500 psig inlet
AOP1	65 psig min. (4.48 barg)
AOP2	75 psig min. (5.17 barg)
AOP3	40 psig min. (2.75 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4
Sample: **NV17**	**AOP2**	**S**	**44MF**	**VESP**

Finished Order: **NV17AOP2S44MFVESP**

1 Type

AOPNO	=	Air Operated, Normally Open
AOP1	=	Air Operated, Normally Closed
AOP2	=	Air Operated, Normally Closed
AOP3	=	Air Operated, Normally Closed
I	=	Indicating Handwheel
L	=	Lever
S	=	Spin handwheel
M	=	Mini Lever

2 Material

S = Stainless Steel
B = Brass

3 Connections

44TM	=	1/4” Compression in and 1/4” NPT male out
44MT	=	1/4” NPT in and 1/4” Compression out
44TT	=	1/4” Compression in and out
44FF	=	1/4” Female NPT in and out
44MM	=	1/4” Male NPT in and out
44MF	=	1/4” Male NPT in and Female NPT out

4 Optional Features

This section can have multiple options

PEEK= PEEK™ Seat
VESP= Vespel® Seat

Note: Vespel seat material is recommended for Nitrous Oxide (N_2O) service. Compression ends include nuts and ferrules)

NV55 Series

316L SS, High Flow, Compact Size Valve

Product Features & Benefits

- Internally threadless and springless.
- High cycle life.
- Compact size.
- Positive, consistent shut off.
- Metal-to-metal seal to atmosphere.
- Cleaned for O_2 service.
- Ideal for high flow applications.
- Fully functional from vacuum to 125 psig for AOP valves and 250 psig for manual valves.

Operating Conditions	
Operating Pressures	
Manual	vacuum to 250 psig (17.2 barg)
AOPLP	vacuum to 125 psig (8.6 barg)
Actuator Pressure	70 - 125 psig (4.8 - 8.6 barg)
Temperature	-15°F to 150°F (-26°C to 66°C)

Functional Performance	
Flow Capacity	
AOP versions, Indicator Knob and Handwheel	C_V 0.55
Lever versions	C_V 0.48
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight

** For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4
Sample: **NV55**	**LL**	**S**	**44MM**	**VESP**

Finished Order: **NV55LLS44MMVESP**

1 Type

AOPLPNC	=	Air Operated, Low Pressure, Normally Closed
AOPLPNO	=	Air Operated, Low Pressure, Normally Open
I	=	Indicator Knob
L	=	Lever
LL	=	Locking Lever
M	=	Mini Lever
S	=	Spin Handwheel

2 Material

S = Stainless Steel

3 Connections

44MM	=	1/4" Male NPT In & Out
44FF	=	1/4" Female NPT In & Out
44TT	=	1/4" Compression In & Out
66MM	=	3/8" Male NPT In & Out
66FF	=	3/8" Female NPT In & Out
66TT	=	3/8" Compression In & Out
88MM	=	1/2" Male NPT In & Out
88FF	=	1/2" Female NPT In & Out
88TT	=	1/2" Compression In & Out

Compression ends include nuts and ferrules

4 Optional Features

This section can have multiple options

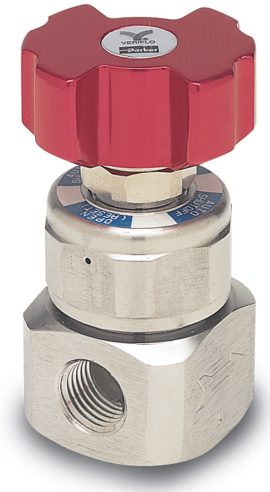
PM	=	Panel Mount *(not available with Indicator Knob (I) or AOP units (AOPLPNC or AOPLPNO)*
PEEK	=	PEEK™ Seat *(not available with VESP option)*
VESP	=	Vespel® Seat *(not available with PEEK™ option)*

Note: Vespel seat material is recommended for Nitrous Oxide (N_2O) service.

FS190 Series

316L SS, Excess Flow Shut-Off Valve

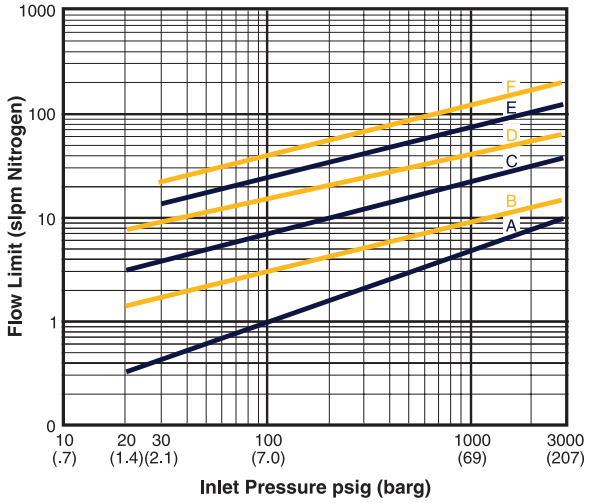
Product Features & Benefits



- Offered with 6 different pressure/flow limits.
- Differential pressure that is created is not affected by mounting orientation (non-attitude sensitive).
- Cleaned for O_2 service.
- Actuating knob designed to manually operate valve and clearly indicate relative operating position - Open (Reset) or Auto (Shut off).
- Pneumatic actuator available to reset the valve remotely.

Operating Conditions	
Temperature	-10°F to 150°F (-23°C to 66°C)
Supply Pressure	*Based upon Flow Limit Setting*
A - D Flow Limits:	10 psig to 3,500 psig (0.7 barg to 241 barg)
E - F Flow Limits:	20 psig to 3,500 psig (1.4 barg to 241 barg)
Differential Pressure	5 psig or 12 psig (0.3 barg or 0.8 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*



Ordering Information

	1	2	3	4
Sample: **FS190**	**S**	**A**	**FSFM**	**AOP**
Finished Order: **FS190SAFSFMAOP**				

1 Material

S = 316L Stainless Steel

2 Flow Limit Setting

Nominal Flow Limit at:

	1000 psig Inlet	30 psig Inlet
A	= 4.8 SLPM	0.4 SLPM
B	= 9.1 SLPM	1.7 SLPM
C	= 21.8 SLPM	3.9 SLPM
D	= 39.5 SLPM	9.0 SLPM
E	= 72.3 SLPM	14.4 SLPM
F	= 120.6 SLPM	22.5 SLPM

3 Connection (Inlet & Outlet)

P = 1/4" NPTF
FSMM = 1/4" FS Male In, Male Out
FSFF = 1/4" FS Female In, Female Out
FSFM = 1/4" FS Female In, Male Out
FSMF = 1/4" FS Male In, Female Out
TS = 1/4" Welded Tube Stubs

4 Optional Features

This section can have multiple options

AOP = Air Operated
EX = 10 Ra microinch Finish *(not available with P Connection Option)*
TH = Hastelloy C-22® Trim Internals *(Includes compression member, poppet, spring and orifice)*
3.46 = FLV 110 Dimensional Replacement *(3.46" end-to-end dimensions)*
3.70 = FLV 120 Dimensional Replacement *(3.70" end-to-end dimensions)*
5.25 = 5.25" end-to-end dimensions
5.75 = 5.75" end-to-end dimensions

VR7 Series

316L SS or Brass, Pressure Relief Valve

Product Features & Benefits

The VR7 Series is an economical relief valve designed to vent excess pressure from a regulator should a minor seat leak occur. This valve is recommended for use with regulators to protect the regulator and outlet pressure gauge and is not intended for applications where repeated or frequent venting is required.

- Choice of seal materials for system compatibility.
- Hex body provides wrench flats.
- Available with a variety of connections.
- Cleaned for O_2 service.

Note: The VR7 ***SHOULD ONLY*** be used to protect Article 3, Paragraph 3 category equipment as defined in Pressure Equipment Directive 97/23/EC Dated 29, May 1997.

Functional Performance	
Flow Capacity	0.37 C_V
Operating Conditions	
Maximum Pressure	750 psig (52 barg)
Temperature	-30°F to 400°F (-35°C to 204°C)
Adjustable Ranges	10 - 20 psig (0.6 - 1.4 barg) 20 - 100 psig (1.4 - 7 barg) 100 - 250 psig (7 - 17 barg) 250 - 500 psig (17 - 34 barg)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4
Sample: **VR7**	**44MF**	**1**	**S**	**V**

Finished Order: **VR744MF1SV**

1 Connection (Inlet & Outlet)

44MF = 1/4" NPTM x 1/4" NPTF
4FSF = 1/4" FS Female x 1/4" NPTF *(available for Stainless Steel body Only)*
4FSM = 1/4" FS Male x 1/4" NPTF *(available for Stainless Steel body Only)*

2 Adjustable Range

1 = 10 - 20 psig
2 = 20 - 100 psig
3 = 100 - 250 psig
4 = 250 - 500 psig

NOTE: After relieving, service is required.

3 Body Material

S = 316L Stainless Steel
B = Brass

4 Seal

K = FFKM
V = FKM

F9 Series

316L SS, All Welded Check Valve

Product Features & Benefits

- Noise Free Operation with the patented asymmetric spring design.
- Reduced footprint with the welded design.
- Two seal offerings to meet all SEMI gas compatibility requirements.
- Class 100 clean room assembled and packaged.
- Electropolished (EP) version for Ultra High Purity applications available.
- VeriClean™ 316L Stainless Steel enhances electropolishing and corrosion resistance.

Operating Conditions		
Based Upon Seal Options:	Fluorocarbon Elastomer (FKM)	Perfluoroelastomer (FFKM)
Maximum Operating Pressure	3,000 psig (206 barg)	1,000 psig (68 barg)
Maximum Back Pressure	3,000 psig (206 barg)	1,000 psig (68 barg)
Cracking	≤ 2 psig (0.13 barg)	≤ 2 psig (0.13 barg)
Reset	≤ 2 psig (0.13 barg)	≤ 2 psig (0.13 barg)
Temperature	-10°F to 150°F (-23°C to 66°C)	

Functional Performance	
Flow Capacity	*Flow curves available. Please consult factory.*
1/4" Tube Stub	C_V 0.45 (X_T 0.89)
1/4" & 1/2" Face Seal	C_V 0.90 (X_T 0.78)
3/8" & 1/2" Tube Stub	C_V 0.90 (X_T 0.78)
Leak Rate	
External	1 x 10^{-9} scc/sec He *Inboard Test Method*
Internal	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	①	②	③	④	⑤	⑥
Samples:	**F9**	**M**	**4**		**V**	**-EP**
	F9	**T**	**6**	**M**	**8**	**KR**
Finished Orders:	**F9M4V-EP**					
	F9T6M8KR					

① Inlet Port Type
M = Face Seal Male
T = Tube Stub

② Inlet Port Size
4 = 1/4"
6 = 3/8" *(Not available with Face Seal Male)*
8 = 1/2"

③ Outlet Port Type
M = Face Seal Male
T = Tube Stub

④ Outlet Port Size
4 = 1/4"
6 = 3/8" *(Not available with Face Seal Male)*
8 = 1/2"

⑤ Seal Material
V = Fluorocarbon Elastomer (FKM) *(rated at 3,000 psig max. pressure)*
KR = Perfluoroelastomer (FFKM) *(rated at 1,000 psig max. pressure)*

⑥ Internal Surface Finish
-EP = Electropolish 7 R_a *(blue label)*
Omit = Passivate 10 R_a *(gold label)*

LC223S Series

316L SS, High Pressure, Gas or Liquid Flow Controller

Product Features & Benefits

- Repeatability: Flow is stable within ±0.2% of flow value under the following conditions:
  1. Ambient temerature varies no more than 10°F.
  2. Inlet pressure remains constant.
  3. Downstream pressure does not vary by more than 70% of established value.
- Wide Flow Range: From 25scc/m to 40 slpm.
- Wide Pressure Range: From 200 to 5000 psig (14 to 345 barg).
- Corrosion resistant.

Operating Conditions	
Maximum Inlet	5,000 psig (345 barg)
Maximum Dome Pressure	5,000 psig (345 barg)
Required Differential Pressure	200 psig (14 barg)
Temperature	-20°F to 200°F (-29°C to 93°C)

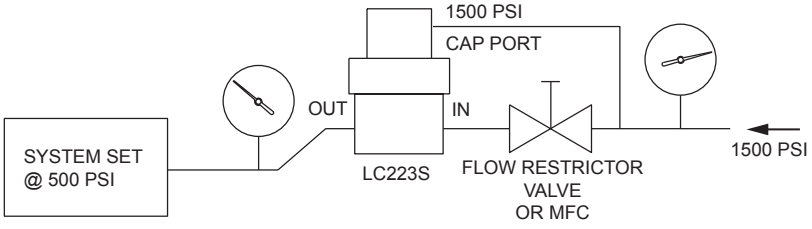
Functional Performance	
Flow Range	25 sccm to 40 slpm *Established by Customer supplied flow restriction device*
Internal Volume	
Dome	2.0 cc
Body	2.1 cc

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

LC223S Part Number 54018192

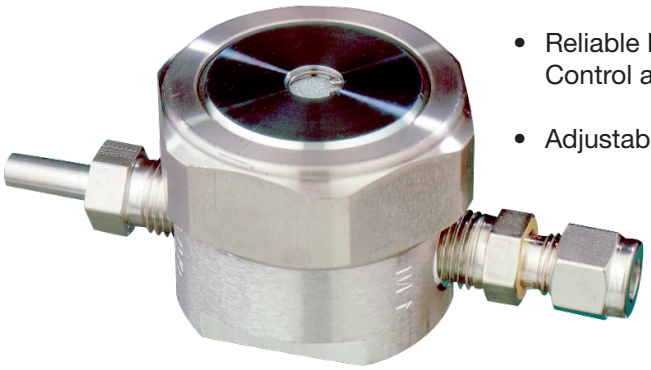
EXAMPLE APPLICATION



SC423XL Series

316L SS, Low Flow, Gas Flow Controller

Product Features & Benefits



- Rugged design.
- Reliable Precision Flow Control as low as 1 scc/m.
- Adjustable Flows.
- Hastelloy C-22® diaphragms.
- Stable flows as vacuum pressure changes from 28 in. Hg to 5 in. Hg.
- Tamper Proof.
- Stable flows over a wide temperature band.
- Color coded orifices.
- Special CFC Free cleaning.

Operating Conditions	
Maximum Inlet	Atmospheric
Outlet	Vacuum
Flow	As low as 1 scc/m
Temperature	-40°F to 200°F (-40°C to 94°C)

Functional Performance	
Leak Rate	Inboard Test Method
External	1 x 10^{-6} scc/sec He

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

	1	2	3	4
Sample: **SC423XL**	**S**	**24**	**4T**	**4TS**

Finished Order: **SC423XLS244T4TS**

1 Body Material
S = 316L Stainless Steel

2 Sample Time/Flow Rate
3 = 27.1 - 27.7 sccm (Yellow)
8 = 10.0 - 10.4 sccm (Green)
12 = 6.5 - 6.9 sccm (Blue)
24 = 3.1 - 3.4 sccm (Red)

3 Inlet Connection
4T = 1/4” A-LOK®

4 Outlet Connection
X = No Connections
4TS = 1/4” Tube Fitting

COSE Series

Changeover System

Product Features & Benefits

- Fully enclosed to protect internal components.
- Removable side panels for field maintenance.
- Allows change out of depleted cylinder(s) while maintaining gas flow.
- Especially suited for continuous on-stream analyzers.
- Alarm sensor port for systems integration allowing user to monitor gas consumption.
- Cleaned for Oxygen service.
- Regulator design integrates positive upward and downward stops which increases cycle life by preventing over stroking of the diaphragm.

Operating Conditions	
Maximum Inlet Pressure	3,000 psig (207 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

Functional Performance	
Flow Capacity	C_V= 0.06 *SEMI Flow Coefficient Test #F32-0998*
Supply Pressure Effect	0.4 psig/100psig (.03/7 barg) *without Outlet Regulator option*
Leak Rate	
External Seal	Bubble Tight
Internal Seal	Bubble Tight

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Ordering Information

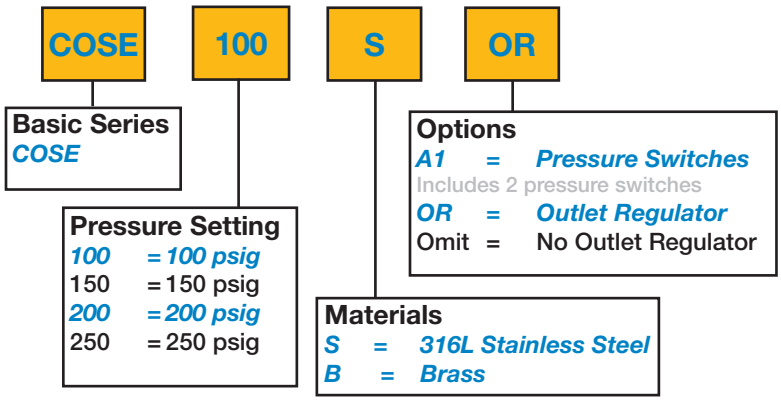
Note: Options in *blue/Italic* type are available for the *Express Service Program.*

Changeover System Flow Rates
(Based on 400 psig Cylinder Change)

COS Model	Maximum Recommended Flow
COS 200	70 slpm N_2
COS 250	70 slpm N_2
COS 150	70 slpm N_2
COS 100	100 slpm N_2
COS XXX OR*	70 slpm N_2

*** ChangeOver System with optional outlet regulators**

Notes:
ESP COSE's include outlet regulator as standard
Configurations without outlet regulator are available at standard lead times.
Inlet valves and gauges are standard on all units.
For audio/visual annunciator details, see COS Annunciator literature sheet.
Annunciator ordering part number: 54017373



COSM Series

Mini Changeover System, Compact Size

Product Features & Benefits

- Allows change out of depleted cylinder(s) while maintaining gas flow.
- Especially suited for continuous on-stream analyzers.
- Compact design reduces footprint.
- Max Inlet Pressure of 3,000 psig with 4 delivery options (100, 150, 200 or 250 psig).
- Outlet Regulator for constant or steady line pressure during change over.
- Regulator design integrates positive upward and downward stops which increases cycle life by preventing over stroking of the diaphragm.
- Available in Stainless Steel or Brass.

Functional Performance	
Flow Capacity	C_V 0.06
Leak Rate	
Internal	Bubble Tight
External	Bubble Tight
Supply Pressure Effect	0.01 psig/100 psig (0.0007 barg/7 barg)
Operating Conditions	
Maximum Inlet	3000 psig (207 barg)
Temperature	-40°F to 150°F (-40°C to 66°C)

* *For detailed information on Materials of Construction, visit us at www.parker.com/veriflo to review the complete product literature sheet.*

Changeover System Flow Rates *(Based on 400 psig Cylinder Change)*	
COSM Model	**Maximum Recommended Flow**
COSM250	70 slpm N_2
COSM200	70 slpm N_2
COSM150	70 slpm N_2
COSM100	100 slpm N_2

Ordering Information

	1	2	3	4
Sample: **COSM**	**100**	**S**	**OR**	**G**

Finished Order: **COSM100SORG**

1 Pressure Setting
100 = 100 psig
150 = 150 psig
200 = 200 psig
250 = 250 psig

2 Body Material
S = 316L Stainless Steel
B = Nickel Plated Brass

3 Outlet Regulator
OR = Outlet Regulator *Std - no other options*

4 Optional Features
G = Gauges *Includes 2 inlet gauges and one outlet gauge*

CGA Valve Outlet Plugs & Caps
(Includes Ring and Chain)

53 Series
High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	Model Number	Part Number	Material	F Hex Flat	S Hex Flat	H Length	Gas-Tight*
320, 326, 346	53-30C-3PR	**44800681**	Stainless Steel with Polyethylene disc	1"	—	0.54"	No
330	53-33C-3PR	**44800331**	Stainless Steel with Polyethylene disc	1"	—	0.54"	No
350	53-350GTC-3R	**44800430**	Stainless Steel	1-1/8"	—	0.82"	Yes
510	53-510P-3TR	**44800584**	Stainless Steel with PTFE O-Ring	—	3/8"	1"	Yes
580	53-580P-3TR	**44800218**	Stainless Steel with PTFE O-Ring	—	3/8"	1"	Yes
590	53-590P-3TR	**44803061**	Stainless Steel with PTFE O-Ring	—	3/8"	1"	Yes
660	53-660C-3PR	**44800073**	Stainless Steel with Polyethylene disc	1-1/4"	—	0.54"	No
670, 677, 678 or 679	53-67C-3PR	**44800137**	Stainless Steel with Polyethylene disc	1-1/4"	—	0.54"	No
705	53-705C-3PR	**44803739**	Stainless Steel with Polyethylene disc	1-3/8"	—	0.54"	No

* Components not rated Gas-Tight are intended only to keep valve outlets clean and provide protection to threads. They must not be relied on to contain pressure if the valve leaks or is inadvertently opened.

CGA Inlet Connection Components
Nipples, Nuts, and Washers

56 Series
High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	End Connection	H Overall Length	Nipple Model Number	Nipple Part Number	Nut Model Number	Nut Part Number	F1 Flat Hex	Washer Model Number**	Washer Part Number*
170	1/4" Auto Tube Weld	1-1/4"	56-170-4TW2-P	**44803332**	55-170-3	**44800264**	11/16"	50-170-T	**44803474**
	1/8" NPT Male	1-1/4"	56-170-2M2-20	**44800891**				50-170-K	**44803475**
180	1/4" Auto Tube Weld	1-1/4"	56-180-4TW2-P	**44803336**	55-180-3	**44800139**	3/4"	50-180-T	**44803476**
	1/8" NPT Male	1-3/4"	56-180-2M2-28	**44800162**				50-180-K	**44803547**
290	1/4" Auto Tube Weld	2-5/8"	56-290-4TW2-P	**44803733**	55-290-3	**44800726**	1"	N/A	**N/A**
	1/4" NPT Male	2-1/4"	56-290-4M2-36	**44800724**					
296	1/4" Auto Tube Weld	2-5/8"	56-296-4TW2-P	**44800661**	55-296-3	**44800333**	7/8"	N/A	**N/A**
	1/4" Vac Male	2-3/4"	56-296-4VM2-P	**44803605**					
	1/4" NPT Male	3-1/2"	56-296-4M2-56	**44800385**					

-P indicates internal surface finish of 9 Ra Electropolish
Electropolished I.D. components designated by the "-P" suffix are cleaned and packaged in a clean room.
* All gaskets sold in 25 pack.
** Washer numbers ending in "T" are PTFE and those ending in "K" are PCTFE.

CGA Inlet Connection Components

Nipples, Nuts, and Washers

56 Series

High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	End Connection	H Overall Length	Nipple Model Number	Nipple Part Number	Nut Model Number	Nut Part Number	F1 Flat Hex	Washer Model Number**	Washer Part Number*
320	1/4" Auto Tube Weld	1-3/4"	56-32-4TW2-P	**44800083**	55-320-3	**44800219**	1-1/8"	50-320-T	**44803477**
	1/4" Vac Male	1-3/4"	56-32-4VM2-P	**44800199**					
	1/4" Auto Tube Weld	2-1/2"	56-32-4TW2-40-P	**44803734**					
	1/4" NPT Male	2-1/2"	56-32-4M2-40	**44800322**				50-320-K	**44803478**
	1/4" NPT Male	4"	56-32-4M2-64	**44803728**					
326	1/4" Auto Tube Weld	2-1/4'	56-326-4TW2-P	**44800307**	55-326-3	**44800306**	1-1/8"	N/A	**See Seal Enhancers**
	1/4" Vac Male	2-1/4"	56-326-4VM2-P	**44800493**					
	1/4" NPT Male	3"	56-326-4M2-48	**44800343**					
330	1/4" Auto Tube Weld	1-3/4"	56-32-4TW2-P	**44800083**	55-330-3	**44800108**	1-1/8"	50-320-T	**44803477**
	1/4" Vac Male	1-3/4"	56-32-4VM2-P	**44800199**					
	1/4" Auto Tube Weld	2-1/2"	56-32-4TW2-40-P	**44803734**					
	1/4" NPT Male	2-1/2"	56-32-4M2-40	**44800322**				50-320-K	**44803478**
	1/4" NPT Male	4"	56-32-4M2-64	**44803728**					
346	1/4" Auto Tube Weld	2-5/16"	56-346-4TW2-P	**44803631**	55-346-3	**44800395**	1-1/8"	N/A	**See Seal Enhancers**
	1/4" Vac Male	2-1/4"	56-346-4VM2-P	**44803738**					
	1/4" NPT Male	3"	56-346-4M2-48	**44800414**					
350	1/4" Auto Tube Weld	2-5/16"	56-350-4TW2-P	**44800128**	55-350-3	**44800078**	1-1/8"	N/A	**See Seal Enhancers**
	1/4" Vac Male	2-1/4"	56-350-4VM2-P	**44800234**					
	1/4" Auto Tube Weld	2-1/2"	56-350-4TW2-40-P	**44803735**					
	1/4" NPT Male	3"	56-350-4M2-48	**44800160**					
	1/4" NPT Male	4"	56-350-4M2-64	**44803729**					
510	1/4" Auto Tube Weld	2-5/8"	56-50-4TW2-P	**44800044**	55-510-3	**44800292**	1-1/8"	N/A	**N/A**
	1/4" Vac Male	2-3/4"	56-50-4VM2-P	**44800043**					
	1/4" Auto Tube Weld	2-1/2"	56-50-4TW2-40-P	**44803736**					
	1/4" NPT Male	3-1/2"	56-50-4M2-56	**44800070**					
	1/4" NPT Male	4"	56-50-4M2-64	**44803730**					
	1/4" NPT Male	4-1/2"	56-50-4M2-72	**44803731**					
540	1/4" Auto Tube Weld	2-1/4"	56-54-4TW2-P	**44800257**	55-540-3	**44800188**	1-1/8"	N/A	**N/A**
	1/4" Vac Male	2-1/4"	56-54-4VM2-P	**44800422**					
	1/4" NPT Male	3"	56-54-4M2-48	**44800275**					

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CGA Inlet Connection Components

Nipples, Nuts, and Washers

56 Series

High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	End Connection	H Overall Length	Nipple Model Number	Nipple Part Number	Nut Model Number	Nut Part Number	F1 Flat Hex	Washer Model Number**	Washer Part Number*
555	1/4" Auto Tube Weld	2-1/4"	56-54-4TW2-P	**44800257**	55-555-3	**44803175**	1-1/8"	N/A	**N/A**
	1/4" Vac Male	2-1/4"	56-54-4VM2-P	**44800422**					
	1/4" NPT Male	3"	56-54-4M2-48	**44800275**					
580	1/4" Auto Tube Weld	2-5/8"	56-50-4TW2-P	**44800044**	55-580-3	**44800027**	1-1/8"	N/A	**N/A**
	1/4" Vac Male	2-3/4"	56-50-4VM2-P	**44800043**					
	1/4" Auto Tube Weld	2-1/2"	56-50-4TW2-40-P	**44803736**					
	1/4" NPT Male	3-1/2"	56-50-4M2-56	**44800070**					
	1/4" NPT Male	4"	56-50-4M2-64	**44803730**					
	1/4" NPT Male	4-1/2"	56-50-4M2-72	**44803731**					
590	1/4" Auto Tube Weld	2-5/8"	56-50-4TW2-P	**44800044**	55-590-3	**44800173**	1-1/8"	N/A	**N/A**
	1/4" Vac Male	2-3/4"	56-50-4VM2-P	**44800043**					
	1/4" Auto Tube Weld	2-1/2"	56-50-4TW2-40-P	**44803736**					
	1/4" NPT Male	3-1/2"	56-50-4M2-56	**44800070**					
	1/4" NPT Male	4"	56-50-4M2-64	**44803730**					
	1/4" NPT Male	4-1/2"	56-50-4M2-72	**44803731**					
660	1/4" Auto Tube Weld	2-3/16"	56-60-4TW2-P	**44800159**	55-660-3	**44800123**	1-1/4"	50-60-T	**44803479**
	1/4" Vac Male	1-7/8"	56-60-4VM2-P	**44800082**					
	1/4" Auto Tube Weld	2-1/2"	56-60-4TW2-40-P	**44803737**				50-60-K	**44803480**
	1/4" NPT Male	2-5/8"	56-60-4M2-42	**44800273**					
	1/4" NPT Male	4"	56-60-4M2-64	**44803732**					
670	1/4" Auto Tube Weld	2-3/16"	56-60-4TW2-P	**44800159**	55-670-3	**44800423**	1-1/4"	50-60-T	**44803479**
	1/4" Vac Male	1-7/8"	56-60-4VM2-P	**44800082**					
	1/4" Auto Tube Weld	2-1/2"	56-60-4TW2-40-P	**44803737**					
	1/4" NPT Male	2-5/8"	56-60-4M2-42	**44800273**				50-60-K	**44803480**
	1/4" NPT Male	4"	56-60-4M2-64	**44803732**					
678	1/4" Auto Tube Weld	2-1/2"	56-678-4TW2-P	**44800470**	55-678-3	**44800387**	1-1/4"	50-66-T	**44803481**
	1/4" Vac Male	2"	56-678-4VM2-P	**44800508**					
	1/4" NPT Male	2-3/8"	56-678-4M2-38	**44803514**				50-66-K	**44803482**
679	1/4" Auto Tube Weld	2-1/2"	56-679-4TW2-P	**44800673**	55-679-3	**44800545**	1-1/4"	50-110-T	**44803472**
	1/4" Vac Male	2"	56-679-4VM2-P	**44803707**					
	1/4" NPT Male	2-1/2"	56-679-4M2-40	**44803624**					

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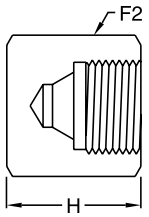
CGA Outlet Adapters, Blank Caps & Plugs

57 Series

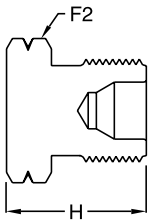
High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	End Connection	Model Number	Part Number	H Overall Length	F2 Flat Hex
180	1/4" NPT Female	57-180M4F-2	**44800409**	1.38”	3/4”
296	Blank Cap	57-296FXX-3	**44800712**	1.37"	1-1/8"
	1/4" VacuSeal™ Male	57-296F4VM-2	**44803297**	2.00"	
	1/4" NPT Female	57-296F4F-2	**44803438**	2.00"	
320	Blank Plug	57-320MXX-3	**44800374**	1.12"	1"
	1/4" VacuSeal™ Male	57-320M4VM-2	**44803070**	1.74"	
	1/4" NPT Female	57-320M4F-2	**44800265**	1.12"	
326	Blank Plug	57-326MXX-3	**44800543**	1.12"	1"
	1/4" VacuSeal™ Male	57-326M4VM-2	**44800740**	1.74"	
	1/4" NPT Female	57-326M4F-2	**44800713**	1.31"	
330	Blank Plug	57-330MXX-3	**44800269**	1.12"	1"
	1/4" VacuSeal™ Male	57-330M4VM-2	**44800567**	1.74"	
	1/4" NPT Female	57-330M4F-2	**44800203**	1.31"	
346	Blank Plug	57-346MXX-3	**44803441**	1.12"	1"
	1/4" VacuSeal™ Male	57-346M4VM-2	**44803440**	1.88"	
	1/4" NPT Female	57-346M4F-2	**44803439**	1.31"	
350	Blank Plug	57-350MXX-3	**44800164**	1.12"	1"
	1/4" VacuSeal™ Male	57-350M4VM-2	**44800308**	1.88"	
	1/4" NPT Female	57-350M4F-2	**44800358**	1.31"	
510	Blank Cap	57-510FXX-3	**44800740**	1.37"	1-1/4"
	1/4" VacuSeal™ Male	57-510F4VM-2	**44800510**	2.00"	
	1/4" NPT Female	57-510F4F-2	**44800599**	2.00"	
540	Blank Plug	57-540MXX-3	**44800436**	1.12"	1"
	1/4" VacuSeal™ Male	57-540M4VM-2	**44800411**	1.87"	
	1/4" NPT Female	57-540M4F-2	**44800685**	1.25"	
580	Blank Cap	57-580FXX-3	**44800122**	1.37"	1-1/4"
	1/4" VacuSeal™ Male	57-580F4VM-2	**44800238**	2.00"	
	1/4" NPT Female	57-580F4F-2	**44800214**	2.00"	
590	Blank Cap	57-590FXX-3	**44800317**	1.37'	1-1/4"
	1/4" VacuSeal™ Male	57-590F4VM-2	**44800592**	2.00"	
	1/4" NPT Female	57-590F4F-2	**44800487**	2.00"	
660	Blank Plug	57-660MXX-3	**44800226**	0.88"	1-1/8"
	1/4" VacuSeal™ Male	57-660M4VM-2	**44800444**	1.50"	
	1/4" NPT Female	57-660M4F-2	**44800097**	1.25"	
670	Blank Plug	57-670MXX-3	**44800664**	0.88"	1-1/8"
	1/4" VacuSeal™ Male	57-670M4VM-2	**44800477**	1.50"	
	1/4" NPT Female	57-670M4F-2	**44800711**	1.25"	
678	Blank Plug	57-678MXX-3	**44800671**	1.00"	1-1/8"
	1/4" VacuSeal™ Male	57-678M4VM-2	**44800565**	1.50"	
679	Blank Plug	57-679MXX-3	**44800708**	0.88"	1-1/8"
	1/4" VacuSeal™ Male	57-679M4VM-2	**44800315**	1.75"	
	1/4" NPT Female	57-679M4F-2	**44800570**	1.25"	

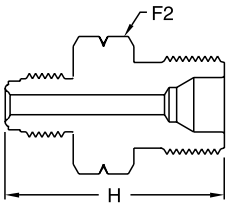
Blank Cap
CGA 580



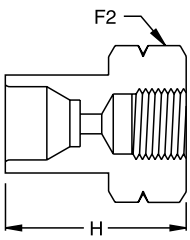
Blank Plug
CGA 350



Vac Male
CGA 350



NPT Female
CGA 350



CGA Pigtail Connections

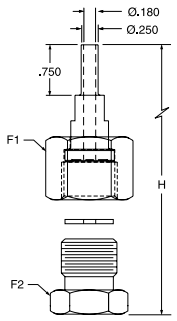
58 Series

High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

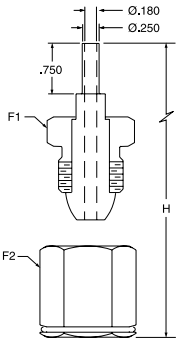
CGA Number	Drawing	Model Number	Part Number	H Overall Length	F1 Hex Flat	F2 Hex Flat	Washer Material
296	B	58-296-4TW2-P	**44800293**	3.03	7/8"	1-1/8"	—
320	A	58-320-4TW2-P	**44800178**	2.96	1-1/8"	1"	PCTFE
326	A	58-326-4TW2-P	**44800168**	3.01	1-1/8"	1"	—
330	A	58-330-4TW2-P	**44800072**	2.96	1-1/8"	1"	PCTFE
346	A	58-346-4TW2-P	**44803741**	2.97	1-1/8"	1"	—
350	A	58-350-4TW2-P	**44800028**	2.96	1-1/8"	1"	—
510	B	58-510-4TW2-P	**44800432**	3.03	1-1/8"	1-1/4"	—
540	A	58-540-4TW2-P	**44800129**	2.96	1-1/8"	1"	—
555	A	58-555-4TW2-P	**44803742**	2.96	1-1/8"	1"	—
580	B	58-580-4TW2-P	**44800021**	3.03	1-1/8"	1-1/4"	—
590	B	58-590-4TW2-P	**44800147**	3.03	1-1/8"	1-1/4"	—
660	A	58-660-4TW2-P	**44800068**	2.96	1-1/4"	1-1/8"	PCTFE
670	A	58-670-4TW2-P	**44800424**	2.96	1-1/4"	1-1/8"	PCTFE
678	A	58-678-4TW2-P	**44800428**	3.08	1-1/4"	1-1/8"	PCTFE
679	A	58-679-4TW2-P	**44800237**	2.96	1-1/4"	1-1/8"	PTFE

Electropolished I.D. components designated by the "-P" suffix are cleaned and packaged in a clean room.
-P indicates internal surface finish of 9 Ra Electropolish

A



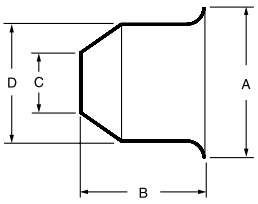
B



Seal Enhancers

(10 Per Package)

Material	Model Number	Part Number	A Overall Length	B Overall Length	C Overall Length	D Overall Length
Nickel 200	50-326-NI	**44801258**	.54	.45	.22	.43
Nickel 200	50-346-NI	**44801077**	.62	.54	.29	.50
Nickel 200	50-350-NI	**44801079**	.62	.54	.29	.50

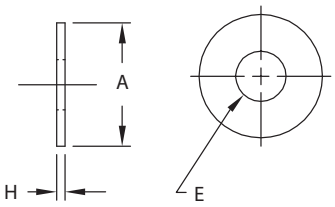


Washers

(25 Per Package)

High Integrity for high purity-specialty gases in Instrument/Analyzer and Process Applications

CGA Number	Material	Model Number	Part Number	A Overall Length	H Overall Width	E Overall Bore
170	PTFE	50-170-T	**44803474**	.425	.1	.187
170	PCTFE	50-170-K	**44803475**	.425	.1	.187
180	PTFE	50-180-T	**44803476**	.437	.094	.320
180	PCTFE	50-180-K	**44803547**	.437	.094	.320
320, 330	PTFE	50-320-T	**44803477**	.703	.094	.250
320, 330	PCTFE	50-320-K	**44803478**	.718	.064	.265
660, 670	PTFE	50-60-T	**44803479**	.938	.063	.383
660, 670	PCTFE	50-60-K	**44803480**	.937	.062	.375
678	PTFE	50-66-T	**44803481**	.609	.062	.295
678	PCTFE	50-66-K	**44803482**	.609	.062	.295
679	PTFE	50-110-T	**44803472**	.531	.063	.312



Flexible Pigtails

Part Number	Material	End Connections	H Overall Length	Maximum Working Pressure
44803751	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	12"	3625 PSI
44803752	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	24"	3625 PSI
44803753	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	36"	3625 PSI
44803754	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	48"	3625 PSI
44803755	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	60"	3625 PSI
44803756	316 Double Braided Stainless Steel Hose	1/4” MNPT x 1/4” FNPT	72"	3625 PSI

Torque Wrenches

77 Series

Model Number	Part Number	Factory Set Torque	For Use With	CGA 326, 346, 350 Hex Flat
77-350-TW	**44803230**	40 ft-lbs	Nickel Seal Enhancers	1-1/8”

Torque wrenches are specifically designed for use with the Compressed Gas Association’s CGA 326, 346 and 350 series of connections. Torque is factory set to the CGA recommendations. Calibration service is also available and is recommended every six months or 4,000 cycles, whichever comes first.

Notes

Express Service Program

Available on Select Products Only

The Express Service Program is the next generation of customer service designed to provide customers with an array of standard products in a 5 day delivery window. The ESP program offers a standard lead time of 5 working days from receipt of order to the ship date. Using the Ordering Information shown, you can identify the product configurations offered in the program by the *Blue Italic Print.* If the configuration you select is in black print, the product will be ready to ship in the standard lead time. Please contact your local Parker Hannifin Distributor or the factory for any questions regarding the scope of the Express Service Program.

Safety Guide and Installation and Operating Instructions available at
www.parker.com/veriflo

Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 1-800-C-Parker.

AEROSPACE

Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes

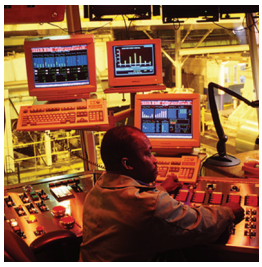
CLIMATE CONTROL

Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products

- CO^2 controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



ELECTROMECHANICAL

Key Markets

- Aerospace
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products

- AC/DC drives & systems
- Electric actuators, gantry robots & slides
- Electrohydrostatic actuation systems
- Electromechanical actuation systems
- Human machine interface
- Linear motors
- Stepper motors, servo motors, drives & controls
- Structural extrusions

FILTRATION

Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators

FLUID & GAS HANDLING

Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects

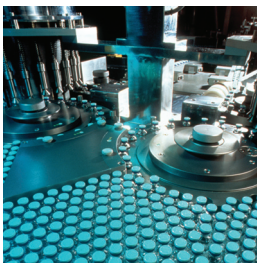
HYDRAULICS

Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



PNEUMATICS

Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products

- Air preparation
- Brass fittings & valves
- Manifolds
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves & controls
- Quick disconnects
- Rotary actuators
- Rubber & thermoplastic hose & couplings
- Structural extrusions
- Thermoplastic tubing & fittings
- Vacuum generators, cups & sensors

PROCESS CONTROL

Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds

SEALING & SHIELDING

Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

Parker | Veriflo

ENGINEERING YOUR SUCCESS.

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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

Parker Hannifin Corporation
Veriflo Division
Partek Operation
7075 East Southpoint Road
Tucson, Arizona 85706

phone 520 574 2600
fax 520 574 2700
partek.sales@parker.com

www.parker.com/partek