Specifications

For other materials or modifications, please consult TESCOM.

OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

Maximum Inlet Pressure
300 psig / 20.7 bar

Outlet Pressure Ranges
0-20, 0-50, 0-100, 0-150, 0-250 psig
0-1.4, 0-3.4, 0-6.9, 0-10.3, 0-17.2 bar

Design Proof Pressure
150% of rated pressure

Leakage
Bubble-tight

Operating Temperature
-20°F to 300°F / -28°C to 148°C

Flow Capacity
1/2" Port Size: C_V = 2.5
3/4" Port Size: C_V = 3.5
1 and 1-1/2" Port Size: C_V = 5.0

MEDIA CONTACT MATERIALS

Body
316L Stainless Steel

Diaphragm
PTFE

Seat, Valve
Ethylene Propylene

O-Rings
Ethylene Propylene

Valve Spring
Cobalt Chrome Nickel Alloy (Eligiloy®)

Remaining Parts
316 Stainless Steel

OTHER

Internal Surface Finish
20 R_a, 30 R_a microinch / 0.63, 0.80 micrometer

Connections
Sanitary Fittings
Tube Ends
High Purity Internal Connections (H.P.I.C.) (gauge port only)

Cleaning
CGA 4.1 and ASTM G93 Clean Service Certificate of Conformance available

Weight
16 lbs / 7 kg

VCR® is a registered trademark of Cajon Co.
Gylon® is a registered trademark of Garlock, Inc.
Elgiloy® is a registered trademark of Elgiloy Specialty Metals.

TESCOM PH-1600 Series is part of our Pharmpure™ product line. This high purity, high flow single-stage regulator offers a compact, USP Class VI and BPE compliant design suitable for biotech and pharmaceutical applications. This regulator provides gas flows up to 400 SCFM / 11,320 SLPM. Its Gylon® diaphragm ensures gas purity and integrity.

Applications

- Clean steam for sanitization
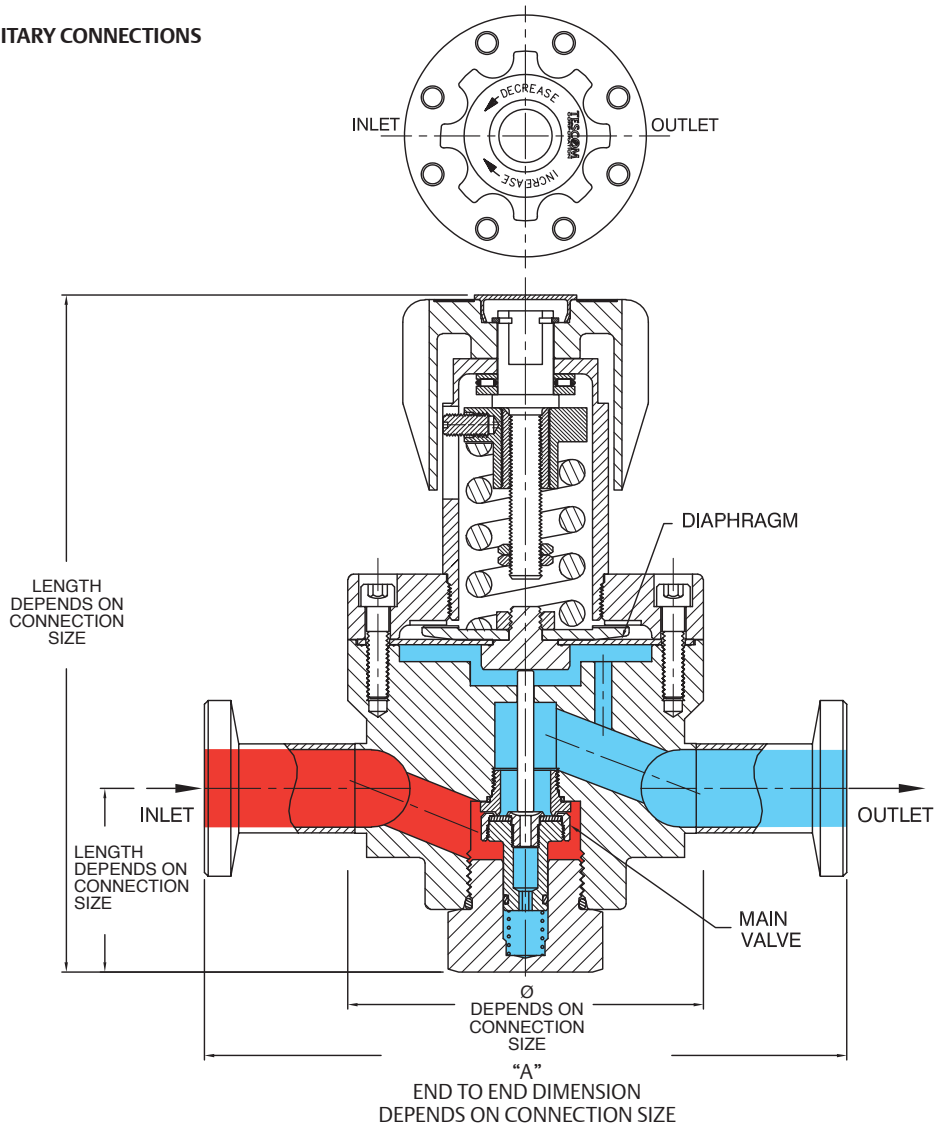- Vessel headspace pressurization

Features and Benefits

- Up to C_V = 5.0 flow capacity
- Gylon® diaphragm
- Low droop, high flow
- Five outlet pressure ranges
- Accurately regulates pressures up to 250 psig / 17.2 bar
- Welded sanitary connections and tube ends are available
- Soft goods USP Class VI compliant
- BPE 2009 compliant design

PH-1600 SERIES

PH-1600 Series Regulator Drawing
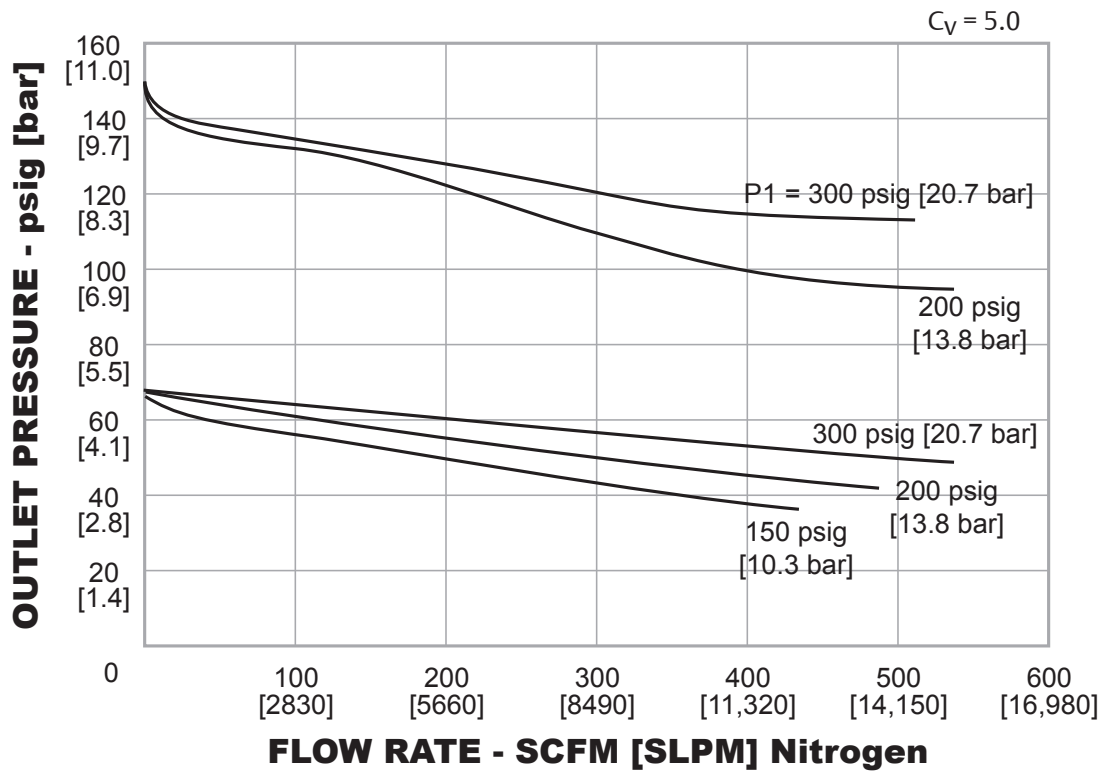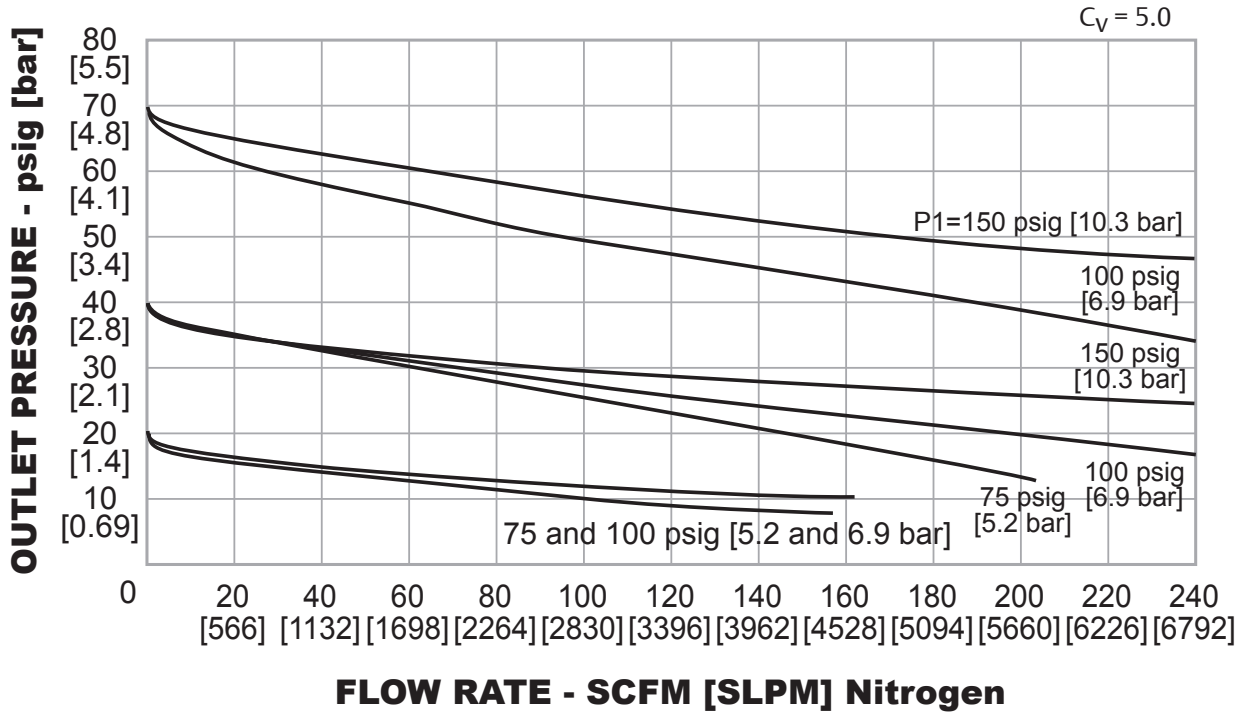
SHOWN WITH SANITARY CONNECTIONS

INLET — OUTLET

DECREASE

INCREASE

INLET — OUTLET

DIAPHRAGM

LENGTH
DEPENDS ON
CONNECTION
SIZE

LENGTH
DEPENDS ON
CONNECTION
SIZE

MAIN
VALVE

Ø
DEPENDS ON
CONNECTION
SIZE

"A"
END TO END DIMENSION
DEPENDS ON CONNECTION SIZE

PART NUMBER	DIMENSION "A"	PART NUMBER	DIMENSION "A"
PH16XXXXXXAAX	7.25 / 7.13	PH16XXXXXX66X	9.91 / 9.79
PH16XXXXXXBBX	7.25 / 7.13	PH16XXXXXX77X	9.91 / 9.79
PH16XXXXXXCCX	7.25 / 7.13	PH16XXXXXX88X	9.91 / 9.79
PH16XXXXXXDDX	7.19 / 7.07	PH16XXXXXXWWX	9.91 / 9.79

All dimensions are reference & nominal
Metric [millimeter] equivalents are in brackets

EMERSON™   Visit our website at emerson.com or contact us at (800) 447-1250   **TESCOM**™

PH-1600 Series Regulator Flow Charts

For more information on how to read flow curves, please refer to the Flow Curves and Calculations document (debul2007x012) in the TESCOM catalog or on www.tescom.com.

$C_V = 5.0$

OUTLET PRESSURE - psig [bar]

P1=150 psig [10.3 bar]

100 psig [6.9 bar]

150 psig [10.3 bar]

100 psig [6.9 bar]

75 psig [5.2 bar]

75 and 100 psig [5.2 and 6.9 bar]

FLOW RATE - SCFM [SLPM] Nitrogen

| 0 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 |
| [566] | [1132] | [1698] | [2264] | [2830] | [3396] | [3962] | [4528] | [5094] | [5660] | [6226] | [6792] |

$C_V = 5.0$

OUTLET PRESSURE - psig [bar]

P1 = 300 psig [20.7 bar]

200 psig [13.8 bar]

300 psig [20.7 bar]

200 psig [13.8 bar]

150 psig [10.3 bar]

FLOW RATE - SCFM [SLPM] Nitrogen

| 0 | 100 | 200 | 300 | 400 | 500 | 600 |
| [2830] | [5660] | [8490] | [11,320] | [14,150] | [16,980] |

*Note: Flow curves shown with 1" ports. Smaller ports will limit the maximum flow reached. Additional flow curves are available, please consult TESCOM.*

PH-1600 SERIES

PH-1600 Series Regulator Part Number Selector

Repair Kits, Accessories & Modifications may be available for this product. Please contact TESCOM for more information.

Example for selecting a part number:
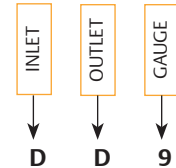
							INLET	OUTLET	GAUGE

PH16	H	A	1	G	N	B	A	D	D	9

BASIC SERIES	LOAD TYPE	BODY MATERIAL / BODY SURFACE FINISH	OUTLET PRESSURE	SOFT GOODS	VENT SEAT	CERTIFICATE OF CONFORMANCE	GAUGE PORT CONFIGURATION	INLET, OUTLET AND GAUGE PORTS
PH16	**D** – Dome load **H** – Spring load, handknob **W** – Spring load, wrench adjust	**A** – 316L Stainless Steel / 20 R_a SFV1 **C** – 316L Stainless Steel / 30 R_a SFV3	**0** – 0-20 psig 0-1.4 bar **1** – 0-50 psig 0-3.4 bar **2** – 0-100 psig 0-6.9 bar **3** – 0-150 psig 0-10.3 bar **5** – 0-250 psig 0-17.2 bar	**G** – **Diaphragm:** PTFE **O-rings:** E.P. **Seat:** E.P. 1. Port size limits regulator to C_V = 2.5 2. Port size limits regulator to C_V = 3.5	**N** – Non-Venting	**A** – None **B** – Clean Service Certificate	**A** – No gauge ports **D** – One outlet gauge at 90°	**A** – 1/2" Sanitary[1] **B** – 3/4" Sanitary[2] **C** – 1" Sanitary **D** – 1-1/2" Sanitary **6** – 1/2" Tube[1] **7** – 3/4" Tube[2] **8** – 1" Tube **W** – 1-1/2" Tube **Y** – 1/4" HPIC **9** – None

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