

# 23 Series

## Regulators - Pressure Reducing

D23XX1787X012

### Specifications

For other materials or modifications, please consult TESCOM.

#### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

**Maximum Inlet Pressure**

150 or 250 psig / 10.3 or 17.2 bar

**Outlet Pressure Ranges**

0-30, 0-60, 0-100 psig / 0-2.1, 0-4.1, 0-6.9 bar

**Design Proof Pressure**

150% maximum rated

**Certified Maximum Inboard Leak Rate**

$<1 \times 10^{-9}$  atm cc/sec He

**Operating Temperature**

**Teflon® Seat:** -40°F to 160°F / -40°C to 71°C

**PCTFE Seat:** -40°F to 140°F / -40°C to 60°C

**Flow Capacity**

$C_v = 1.8$



#### MEDIA CONTACT MATERIALS

**Body**

316L VAR Stainless Steel with Electropolish

**Valve Seat**

Teflon® or PCTFE

**Diaphragm**

316L Stainless Steel

**Stem**

316L Stainless Steel

**Seal**

316 Stainless Steel

**Remaining Parts**

316 Stainless Steel

#### OTHER

**Internal Surface Finish**

10  $R_a$  microinch / 0.25 micrometer

**Connections**

Welded female or male VCR®

Tube stubs

High Purity Internal Connections (H.P.I.C.)

Internal style of VCR®, compatible with male swivel VCR®

**Cleaning**

DI water electronic grade cleaned

**Internal Volume**

18.5 cc with 1/2" VCR

**Weight**

3.2 lbs / 1.5 kg

Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.

VCR® is a registered trademark of Cajon Co.

TESCOM 23 Series ultra high purity in-line regulator offers 10  $R_a$  microinch finish with high flow capabilities up to 950 SLPM. The tied diaphragm 23 Series provides an internally springless and threadless design with inlet pressure of 250 psig / 17.2 bar and outlet pressure up to 100 psig / 6.9 bar.

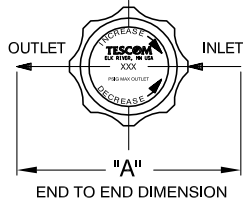
### Application

- High flow in-line regulator excellent for purging

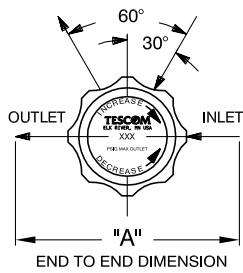
### Features and Benefits

- Smooth unobstructed flow path for complete purging
- Minimized particle generation because of springless and threadless construction
- Positive shut-off seal with positionable bonnet
- Excellent leak integrity is created by metal-to-metal diaphragm to body seal
- Meets SEMI F19, UHP Grade

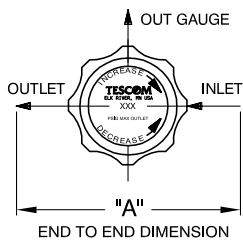
23 Series Regulator Drawing



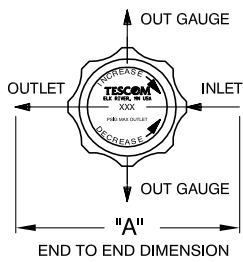
**Figure A (No Gauges)**



**Figure B (2 Gauges)**

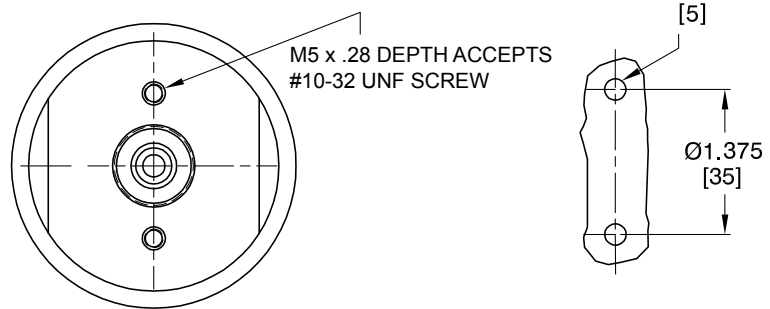
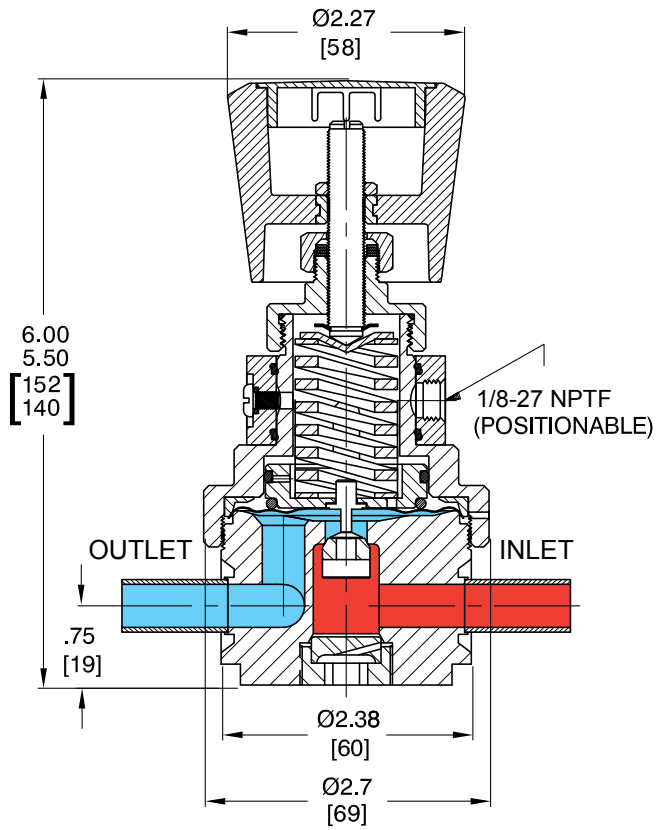


**Figure C (1 Gauge)**



**Figure D (1 Out Gauges)**

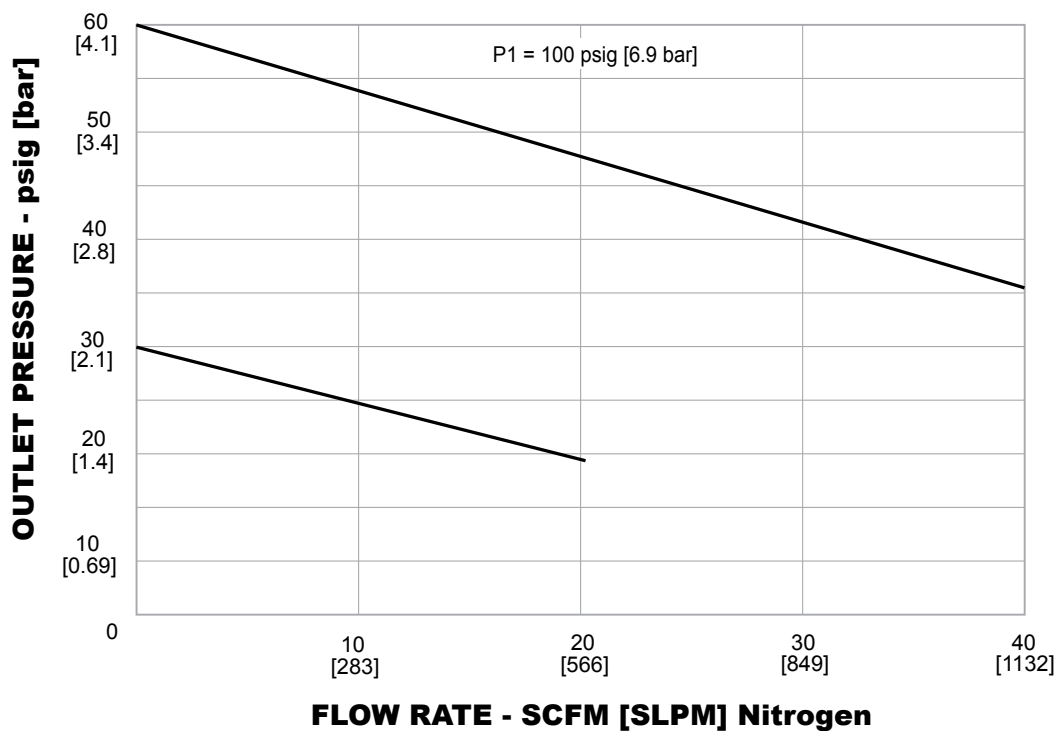
23-3  
TIED DIAPHRAGM DESIGN



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

## 23 Series Regulator Flow Chart



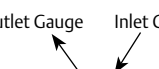
For more information on how to read flow curves, please refer to the Flow Curves and Calculations document (debul2007x012) in the TESCOM catalog or on [www.tescom.com](http://www.tescom.com).



## 23 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:

23-3	B	1	5	AA	GF4GF4	Z
BASIC SERIES	INLET PRESSURE  INTERNAL SURFACE FINISHES AND BODY/TRIM/ SEAT MATERIAL	OUTLET PRESSURE	ADJUSTMENT METHOD AND COLOR	PORTING CONFIGURATION - TYPE AND SIZE*		OPTIONS  CHOOSE ONE ONLY
				GAUGE PORT OPTIONS	INLET AND OUTLET PORT  END-TO-END DIMENSION 'A'	
23-3 Tied diaphragm/ positive shutoff	<b>B</b> – 250 psig 17.2 bar – <b>10 Ra finishes</b> – 316L VAR Stainless Steel body with Eletropolish – 316 Stainless Steel trim – PCTFE seat  <b>C</b> – 150 psig 10.3 bar – <b>10 Ra finishes</b> – 316L VAR Stainless Steel body with Eletropolish – 316 Stainless Steel trim – Teflon® seat	<b>0</b> – 30 psig 2.1 bar  <b>1</b> – 60 psig 4.1 bar  <b>2</b> – 100 psig 6.9 bar	<b>5</b> – Handknob – White	 AA – No gauge ports	<b>EN7EN7</b> 1/4" MVCR, fixed - 3.97"  <b>HF4HF4</b> 1/2" FVCR - 5.59"  <b>GF4GF4</b> 1/2" MVCR - 5.59"  <b>FB7FB7</b> 1/2" Tube - 3.70"  <b>UR2UR2</b> 3/4" Tube - 5.75"	<b>Z</b> – None  <b>T</b> – Test Report (typical) (Includes Helium Leak Certification and Particle Count Certification)  <b>C</b> – Certification of Conformance  <b>E</b> – Centerline to bottom (0.680")
				 AB – 1/4" H.P.I.C. AC – 1/4" FVCR AD – 1/4" MVCR, swivel AE – 1/4" MVCR, fixed		
				 AM – 1/4" H.P.I.C. AN – 1/4" FVCR AP – 1/4" MVCR, swivel AR – 1/4" MVCR, fixed		
* Consult factory for other porting configurations, type and size.						



**WARNING!** Do not attempt to select, install, use or maintain this product until you have read and fully understood the *TESCOM Safety, Installation and Operation Precautions*.