

# 64-5000 Series

## Regulators - Pressure Reducing

D64501781X012

### Specifications

For other materials or modifications, please consult TESCO.™

#### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

**Maximum Inlet Pressure**

120, 600, or 3500 psig / 8.3, 41.4, or 241 bar

**Outlet Pressure Ranges**

50 mm Hg absolute - 15 psig / 1.0 bar

50 mm Hg absolute - 30 psig / 2.1 bar

50 mm Hg absolute - 60 psig / 4.1 bar

50 mm Hg absolute - 100 psig / 6.9 bar

**Design Proof Pressure**

150% of maximum rated

**Inboard Leak Rate**

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

**Operating Temperature**

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

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

**Flow Capacity**

$C_v = 0.24$  (120 psig / 8.3 bar model)

$C_v = 0.15$  (600 psig / 41.4 bar model)

$C_v = 0.06$  (3500 psig / 241 bar model)

#### MEDIA CONTACT MATERIALS

**Body**

316L Stainless Steel Electropolish or

316L VAR Stainless Steel Electropolish

**Valve Seat**

Teflon® or PCTFE

**Diaphragm**

316L Stainless Steel

**Valve Stem, Spring, and Valve Guide**

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 and ES 500 Particle Certified for internal electropolish models

**Internal Volume**

2.9 cc

**Weight**

2.0 lbs / 0.9 kg

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

Hastelloy® is a registered trademark of Haynes International, Inc.

VCR® is a registered trademark of Cajon Co.



TESCOM 64-5000 Series ultra high purity, absolute/subatmospheric pressure reducing regulator offers a 10  $R_a$  surface finish. Inlet pressures are 120, 600, or 3500 psig / 8.3, 41.4, or 241 bar with outlet pressures ranges from 50 mm Hg absolute - 15 to 100 psig / 50 mm Hg absolute - 1.0 to 6.9 bar.

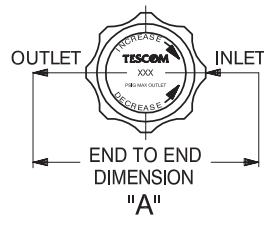
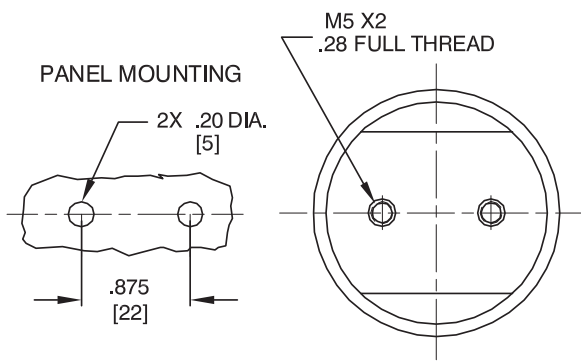
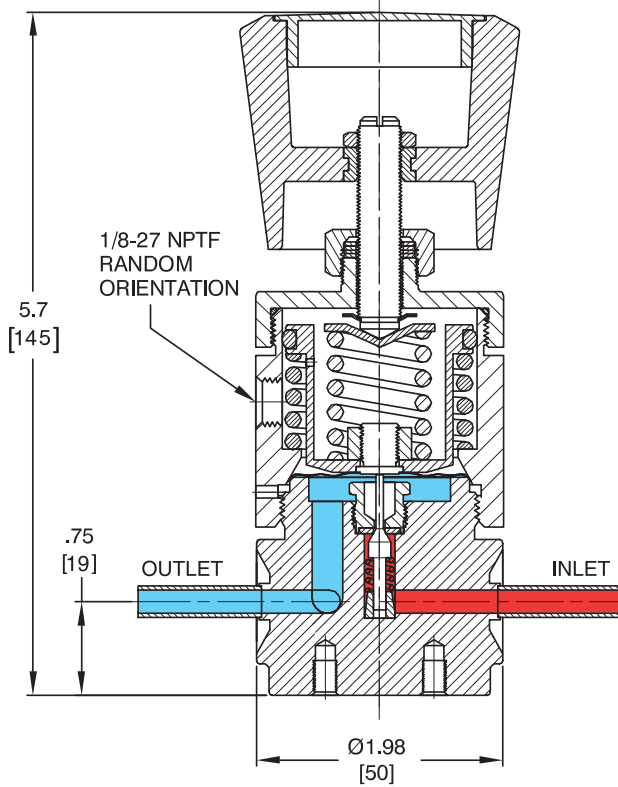
### Applications

- Vacuum pressure control
- Toxic gas analysis
- Valve manifold boxes
- Gas cabinets
- Semiconductor manufacturing

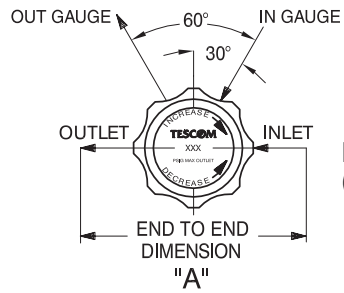
### Features and Benefits

- Negative bias for controlling vacuum and low positive pressures
- 10  $R_a$  microinch / 0.25 micrometer internal surface finish
- Metal-to-metal diaphragm to body seal for high leak integrity
- Hastelloy® trim option is available

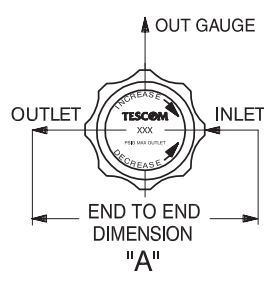
64-5000 Series Regulator Drawing



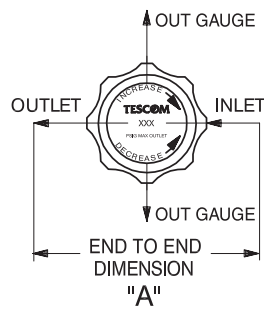
**Figure A**  
(no gauges)



**Figure B**  
(2 gauges)



**Figure C**  
(1 gauge)

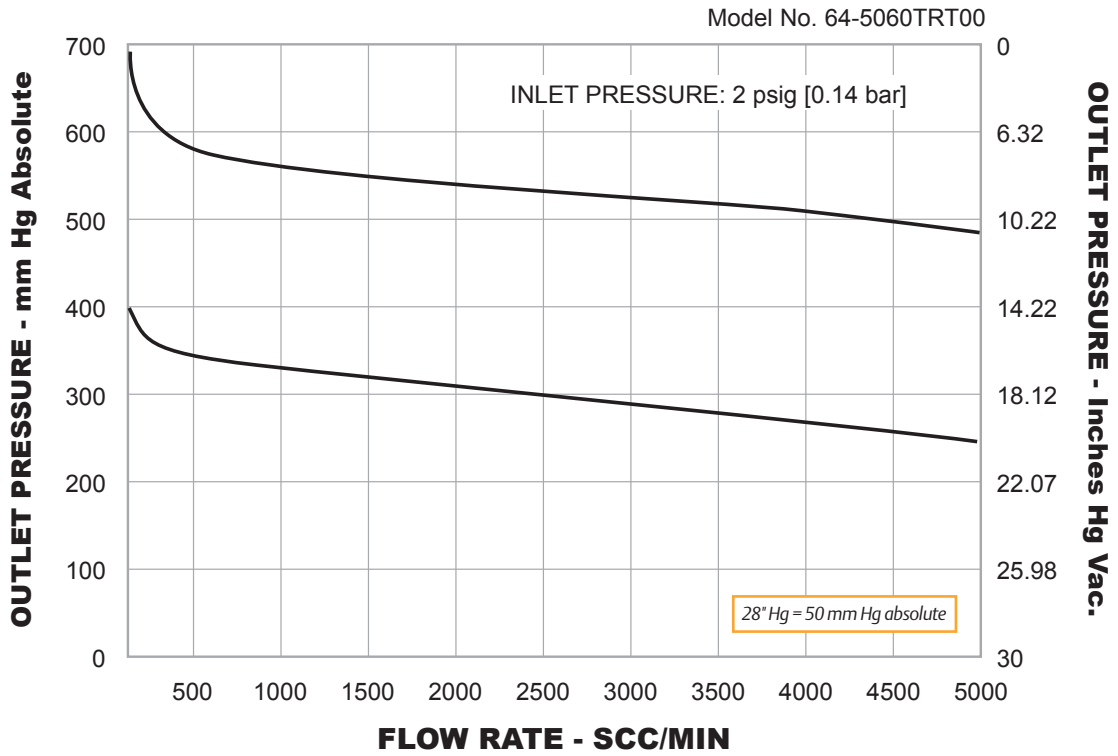


**Figure D**  
(2 out gauges)

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

### 64-5000 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).



## 64-5000 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:

64-50	6	0	T	A4	1	0		
BASIC SERIES	BODY MATERIAL	OUTLET PRESSURE RANGES <sup>3</sup>	SEAT MATERIAL	INLET AND OUTLET PORT SIZE AND TYPE	'A' ± .06"	MAXIMUM INLET PRESSURE C <sub>v</sub>	GAUGE PORT OPTION	NO. OF GAUGE PORTS (FIGURE)
64-50	4 – 316L Stainless Steel Electropolish: 10 R <sub>a</sub> <sup>1</sup>	0 – 50 mm Hg absolute - 15 psig / 1.0 bar	K – PCTFE T – Teflon®	A4 – 1/4" H.P.I.C.	–	0 – 120 psig 8.3 bar C <sub>v</sub> = 0.24	0 – None	0 (Figure A)
				RK – 1/2" Male Swivel	4.75"		1 – 1/4" H.P.I.C.	1 (Figure C)
	6 – 316L VAR Stainless Steel Electropolish: 10 R <sub>a</sub> <sup>2</sup>	1 – 50 mm Hg absolute - 30 psig / 2.1 bar		RL – 1/2" Female Swivel	4.75"	1 – 3500 psig 241 bar C <sub>v</sub> = 0.06	2 – 1/4" H.P.I.C.	2 (Figure B)
				RM – 1/4" Male Swivel	3.70"		3 – 1/4" H.P.I.C.	2 (Figure D)
		2 – 50 mm Hg absolute - 60 psig / 4.1 bar		RT – 1/4" Female Swivel	3.70"	2 – 600 psig 41.4 bar C <sub>v</sub> = 0.15	4 – 1/4" Male Swivel	2 (Figure D)
				RU – IN Port: 1/4" Male; OUT Port: 1/4" Female	3.70"		5 – 1/4" Male Swivel	1 (Figure C)
		3 – 50 mm Hg absolute - 100 psig / 6.9 bar		RV – IN Port: 1/4" Female; OUT Port: 1/4" Male	3.70"		6 – 1/4" Male Swivel	2 (Figure B)
				T4 – 1/4" Tube Stub	3.00"		7 – 1/4" Female Swivel	2 (Figure D)
							8 – 1/4" Female Swivel	1 (Figure C)
							9 – 1/4" Female Swivel	2 (Figure B)
							S – 1/4" Fixed Male	2 (Figure B)
							T – 1/4" Fixed Male	1 (Figure C)
							U – 1/4" Fixed Male	2 (Figure D)

1. Per ASTM B 912  
2. Per SEMI F19, HP grade  
3. 28" Hg = 50 mm Hg absolute



**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.

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