

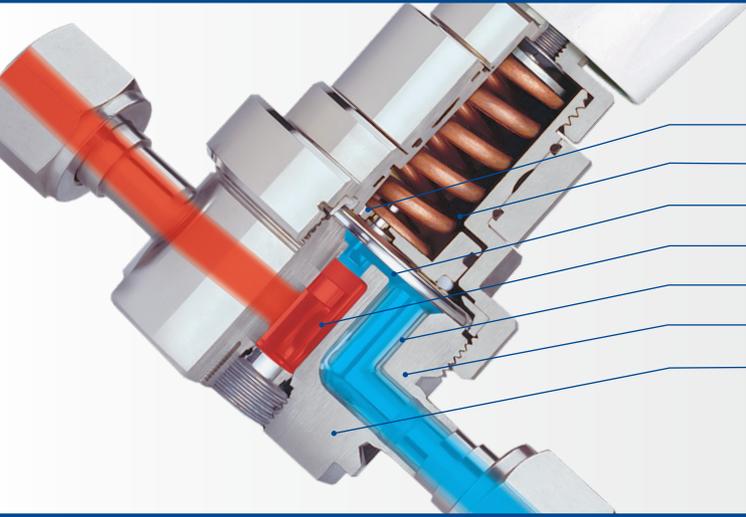


Product Selection Guide

TESCOM™ High Purity Regulators



TESCOM™ High Purity Regulator Selection Guide



Key Features

- Diaphragm seals (metal to metal)
- Poppet style (free poppet or tied diaphragm)
- Flow capacity (10 sccm to 42,000 slpm)
- Internal design (threaded or internally threadless & springless)
- Surface passivation (electropolish, internal electropolish or Precision Electro-Polish)
- Internal surface finish (10 or 25 Ra microinch)
- Body material (316L Stainless or 316L VAR Stainless Steel)

Four Step Product Selection Process

The simple four step process outlined below will help you use this guide to find the product that meets your specific application requirements.

- 1. Semiconductor Application:** Choose from one of the five semiconductor application tables that follow on pages 1-5. Specific applications, e.g., gas trays, gas jungles, and valve manifold boxes are listed at the very top of each table. As an example, a regulator that is located at the process tool and used to deliver a specialty gas is likely a 1/4" Point-of-Use Regulator. Gas Cabinet Regulators are used to deliver compressed or liquefied cylinder gases.
- 2. Pressures & Flow Rates:** Narrow your search by referencing your required source pressure, outlet pressure and flow rate. Leak rate and body materials are provided in the tables as a further reference point.
- 3. Features:** Check the bullet points under the regulator model name for a short list of key features.
- 4. Poppet Types:** Free poppet regulators are recommended for inert gases and point of use process gases. Tied diaphragm regulators offer a mechanically assisted shutoff to prevent leakage across the seat. The tied diaphragm regulators are recommended for high pressure toxic, corrosive and flammable gases.

To place an order:

Once you have selected a product, you may call the number below for your local distributor or go to www.emerson.com/tescom and click on Sales Office Locator.

Need assistance or further specifications?

- Visit us online at www.emerson.com/TESCOM. Click on VIEW PRODUCTS to begin your search and download a PDF file of the relevant catalog sheet.
- Refer to Regulator Recommendations for Semiconductor Gases in our catalog or on our website.
- Call the number below for a factory application specialist or the number of a TESCO distributor near you:
800-447-1250 or 877-483-7266.
- Learn more about Emerson's Semiconductor solutions at www.emerson.com/semiconductor

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1/4" Point of use pressure regulators

For process tools, gas trays, gas jungles, valve manifold boxes & tool hook-ups



64-2600 Series



74-2400 Series



12 Series Miniature

PRODUCT SERIES & FEATURES	SOURCE PRESSURE	DELIVERY PRESSURE	CERTIFIED INBOARD LEAK RATE*	FLOW RANGE	BODY MATERIAL
64-2600 Single Stage, Ultra-High Purity					
<ul style="list-style-type: none"> 10 R_a microinch finish Internal electropolish Free poppet design Hastelloy® trim available C_v = .15 	600 PSIG [41 bar]	30, 60, 100, 250 PSIG [2, 4, 7, 17 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST or 316L SST VAR
64-2800 Single Stage, Ultra-High Purity, Tied Diaphragm					
<ul style="list-style-type: none"> Tied diaphragm design Internal electropolish 10 R_a microinch finish C_v = .15 	1000 PSIG [70 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST or 316L SST VAR
64-3600 Single Stage, Ultra-High Purity, Low Droop					
<ul style="list-style-type: none"> 10 R_a microinch finishes Internal electropolish Free poppet design Hastelloy® trim available C_v = .15 	600 PSIG [41 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST or 316L SST VAR
64-5000 Single Stage, Ultra-High Purity, Absolute Pressure					
<ul style="list-style-type: none"> Subatmospheric to positive pressures 10 R_a microinch finish Internal electropolish C_v = .24 	120 PSIG [8 bar]	28" Hg-15, 30, 60, 100 PSIG [28" Hg-1, 2, 4, 7 bar]	<1 x 10 ⁻⁹	0-5 SLPM	316L SST or 316L SST VAR
74-2400 Single Stage, Ultra-High Purity					
<ul style="list-style-type: none"> Tied diaphragm design Internally springless & threadless Precision Electro-Polish 10 R_a microinch finish C_v = .15 	600 PSIG [41 bar]	30, 60, 100 PSIG [2, 4, 7 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST VAR
12 Single Stage, Ultra-High Purity, Miniature					
<ul style="list-style-type: none"> Tied diaphragm design 5 R_a or 10 R_a microinch finishes Internally springless & threadless Precision Electro-Polish 12F Series features integrated outlet filter Available with inlet & outlet filter 1-1/2", 1-1/8" "C" or "W" seal, VCR® 	150 PSIG [10 bar]	20" Hg-15, 30, 60, 100 PSIG [20" Hg-1, 2, 4, 7 bar]	<1 x 10 ⁻⁹	50 SLPM & 120 SLPM	316L SST VAR

*units are expressed in atm cc/sec. He

1/2" Point of use pressure regulators

For process tools, gas trays, gas jungles, valve manifold boxes & tool hook-ups



74-3800 Series



64-5400 Series

PRODUCT SERIES & FEATURES	SOURCE PRESSURE	DELIVERY PRESSURE	CERTIFIED INBOARD LEAK RATE*	FLOW RANGE	BODY MATERIAL
44-3200 Single Stage, High Flow					
<ul style="list-style-type: none"> 10 R_a microinch finish C_v = 1.0 or 1.8 	500 PSIG [35 bar]	25, 50, 100, 150, 200 PSIG [1.7, 3.5, 7, 10, 14 bar]	<2 x 10 ⁻⁸	0-550, 900 SLPM (0-19, 32 SCFM)	316L SST
64-3200 Single Stage, Ultra-High Purity, High Flow					
<ul style="list-style-type: none"> Tied diaphragm design 10 R_a microinch finish Hastelloy® trim available C_v = 1.2 	150 PSIG [10 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	0-900 SLPM (0-32 SCFM)	316L SST or 316L SST VAR
64-5400 Single Stage, Ultra-High Purity, High Flow					
<ul style="list-style-type: none"> Free poppet design 10 R_a microinch finish C_v = 1.0 	600 PSIG [41 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	550 SLPM (0-19 SCFM)	316L SST
74-3000 Single Stage, Ultra-High Purity, High Flow					
<ul style="list-style-type: none"> Internally threadless Precision Electro-Polish 10 R_a microinch finish Free poppet design C_v = .5 	600, 1000 PSIG [41, 70 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	0-500 SLPM (0-18 SCFM)	316L SST VAR
74-3800 Single Stage, Ultra-High Purity, High Flow					
<ul style="list-style-type: none"> Internally springless & threadless Precision Electro-Polish 10 R_a microinch finish Tied diaphragm design C_v = .5 	600 PSIG [41 bar]	30, 60, 100 PSIG [2, 4, 7 bar]	<1 x 10 ⁻⁹	0-500 SLPM (0-18 SCFM)	316L SST VAR
23 Single Stage, Ultra-High Purity, High Flow					
<ul style="list-style-type: none"> Internally springless & threadless Precision Electro-Polish 10 R_a microinch finish C_v = 1.8 	250, 150 PSIG [17, 10 bar]	30, 60, 100 PSIG [2, 4, 7 bar]	<1 x 10 ⁻⁹	0-950 SLPM (0-34 SCFM)	316L SST VAR

*units are expressed in atm cc/sec. He

Gas cabinet pressure regulators



64-3200 Series

PRODUCT SERIES & FEATURES	SOURCE PRESSURE	DELIVERY PRESSURE	CERTIFIED INBOARD LEAK RATE*	FLOW RANGE	BODY MATERIAL
64-2600 Single Stage, Ultra-High Purity					
<ul style="list-style-type: none"> 10 R_a microinch finish Free poppet design Internal electropolish C_v = .06 	3500 PSIG [241 bar]	30, 60, 100, 250, 500 PSIG [2, 4, 7, 17, 35 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST or 316L SST VAR
64-2800 Single Stage, Ultra-High Purity, Tied Diaphragm					
<ul style="list-style-type: none"> Tied diaphragm design 10 R_a microinch finish Hastelloy® trim available C_v = .06 (3500 PSIG max. inlet) C_v = .15 (1000 PSIG max. inlet) 	3500, 1000 PSIG [241, 70 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁹	0-100 SLPM	316L SST or 316L SST VAR
64-3200 Single Stage, Ultra-High Purity, High Flow, BSGS					
<ul style="list-style-type: none"> Tied diaphragm design 10 R_a microinch finish Hastelloy® trim available C_v = 1.2 	1500, 1000 PSIG [103, 70 bar]	30, 60, 100, 150, 200 PSIG [2, 4, 7, 10, 14 bar]	<1 x 10 ⁻⁹	0-900 SLPM	316L SST or 316L SST VAR

*units are expressed in atm cc/sec. He

Facility pressure regulators



22-2200 BA Grade



22-5400 BA Grade



PRODUCT SERIES & FEATURES	SOURCE PRESSURE	DELIVERY PRESSURE	CERTIFIED INBOARD LEAK RATE*	FLOW RATE	BODY MATERIAL
22-2200 BA Grade					
<ul style="list-style-type: none"> • Metal to metal diaphragm seals • 25 R_a microinch finish • C_v = .24 	250 PSIG [17 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<2 x 10 ⁻⁸	0-100 SLPM	316 SST
22-5400 Single Stage, BA Grade, High Flow					
<ul style="list-style-type: none"> • Free poppet design • 25 R_a microinch finish • C_v = 1.0 	600 PSIG [41 bar]	30, 60, 100, 150 PSIG [2, 4, 7, 10 bar]	<1 x 10 ⁻⁸	550 SLPM	316L SST
44-2200 Single Stage, Low Flow					
<ul style="list-style-type: none"> • Metal to metal diaphragm seals • NPT porting • C_v = 0.15 	400 PSIG [28 bar]	25, 50, 100, 250 PSIG [1.7, 3.5, 7, 17 bar]	≤ 2 x 10 ⁻⁸	0-100 SLPM	316 SST or brass
44-3200 Single Stage, Ultra-High Flow					
<ul style="list-style-type: none"> • Metal to metal diaphragm seals • NPT porting • C_v = 1.0 & 1.8 	500 PSIG [35 bar]	25, 50, 100, 150, 200 PSIG [1.7, 3.5, 7, 10, 14 bar]	<2 x 10 ⁻⁸	1000 SLPM (35 SCFM)	316 SST or brass
449-260 High Flow					
<ul style="list-style-type: none"> • 10 R_a microinch finish • C_v = 2.8 	500 PSIG [35 bar]	25, 50, 100, 150, 200 PSIG [1.7, 3.5, 7, 10, 14 bar]	<2 x 10 ⁻⁸	1700 SLPM (60 SCFM)	316L SST
DH-16 BA Grade, Single Stage, High Flow					
<ul style="list-style-type: none"> • 25 R_a microinch finish • C_v = 5.0 	300 PSIG [21 bar]	50, 100, 150 PSIG [3.5, 7, 10 bar]	N/A	7075 SLPM (250 SCFM)	316 SST
15 Series High Purity, Ultra-High Flow					
<ul style="list-style-type: none"> • Internally threadless • 10 R_a microinch finish • Spring load: C_v = 8 • Bellows dome load: C_v = 20 	300 PSIG [21 bar]	130 PSIG [9 bar]	<1 x 10 ⁻⁹	11,300 SLPM (400 SCFM) 28,300 SLPM (1000 SCFM)	316L SST

*units are expressed in atm cc/sec. He

μ-Stik™ miniature pressure controls



M1 MicroStik



PRODUCT & FEATURES	SOURCE PRESSURE	DELIVERY PRESSURE	CERTIFIED INBOARD LEAK RATE*	FLOW RANGE	BODY MATERIAL
M1 MicroStik Regulator & Valve Manifold					
<ul style="list-style-type: none"> • 12 Series regulator & 14 Series valve • 10 R_a microinch finish • Internally springless & threadless • Internal filter available - 12F 	150 PSIG [10 bar]	20" Hg-15, 30, 60, 100 PSIG [20" Hg-1, 2, 4, 7 bar]	<1 x 10 ⁻⁹	50 or 120 SLPM	316L SST VAR
M4 MicroStik Regulator & Valve Manifold with Gauge Tee Assembly					
<ul style="list-style-type: none"> • 12 Series regulator & 14 Series valve • 10 R_a microinch finish • Internally springless & threadless • Internal filter available - 12F 	150 PSIG [10 bar]	20" Hg-15, 30, 60, 100 PSIG [20" Hg-1, 2, 4, 7 bar]	<1 x 10 ⁻⁹	50 or 120 SLPM	316L SST VAR

*units are expressed in atm cc/sec. He

Ideal for the semiconductor industry, TESCOM high purity regulators are simple and lightweight – featuring high accuracy and reliability, large flow ranges, and minimal internal volumes to reduce media contact points. As a global organization, Emerson will help you meet your production needs with both standard and custom solutions, fast delivery, and local support.

Your local contact: [Emerson.com/contactus](https://emerson.com/contactus)



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