

# Petro-Chemical & Analyzer Sampling Systems



TESCOM

  
**EMERSON**  
Process Management

Tescom offers over 50 standard regulator and valve models that control pressure from **sub-atmospheric to 20,000 PSIG**. Our 89 years in business has produced an impressive stock of modifications that satisfy most every pressure control need and can be delivered to your doorstep in a **matter of days**. To fulfill your most demanding application needs, Tescom offers **knowledgeable** engineering/tech support and **custom** capabilities second to none.

## When choosing a regulator...

Major considerations in the selection of a regulator are listed here. Within the requirements of your specific application, use this diagram as a guide to find the regulator that matches your parameters best. Remember, our standard products are only a starting point. Tescom will modify or custom create a component to meet or exceed your application needs and expectations. Detailed information is available through your local Tescom representative.

### FLOW CAPACITY

$C_v$  is a measurement of regulator flow capacity. The flow coefficient refers to the flow of one GPM of water at one PSI drop across the main valve. The coefficient for gaseous service must be determined from the ratio of inlet to outlet pressure.

### MAIN VALVES - UNBALANCED

*Unbalanced* valve offers simplicity and economy.

### INLET PRESSURE RANGES

Subatmospheric to 3500 PSIG.

### OUTLET PRESSURE RANGES

#### AVAILABLE

Starting at 28" Hg. Vac. to 15 PSIG, up to 500 PSIG.

### ADDITIONAL CONSIDERATIONS

Gauge ports: 1/8" or 1/4"  
Temperature range  
Corrosion resistance  
Welded connections  
Soft goods: Buna-N, PCTFE, Teflon®, Viton-A®, VespeI® and EPDM.

### LOADING - SPRING, DOME OR ELECTRONIC

Loading refers to the method used to adjust outlet pressure.

*Spring loading* is used with direct acting regulators with handknob adjustment. *Dome loading* is most often used in high flow, quick response type applications.

*Electronic* controllers are another loading option - please contact your local representative for more information.

### SENSING - DIAPHRAGM

*Diaphragms* provide sensitive and accurate regulation for outlet pressure ranges up to 500 PSIG.

### VENTING

*Non-venting* is standard.

### BODY MATERIALS

316L Stainless Steel, Hastelloy® or Monel

### PORTS

Sizes: 1/8" to 1/4"  
Types: NPT (all models), welded fittings are also available.



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

# Corrosion and petro-chemical

## PRESSURE REDUCING



04 Miniature/  
Lecture Bottle



44-2200 Compact



44-3400 Two Stage



44-2600  
General Purpose



44-5000  
Absolute Pressure

PRODUCT SERIES/ FEATURES	INLET PRESSURE (MAXIMUM)	OUTLET PRESSURE RANGES	FLOW CAPACITY	BODY MATERIAL
<b>04 Series: Miniature/Lecture Bottle</b>				
<ul style="list-style-type: none"> <li>Choice of 1/8" or 1/4" in &amp; out ports</li> <li>Minimal internal volume</li> </ul>	3500 PSIG	0-30, 0-60, 0-100 PSIG	C <sub>v</sub> = .06	Brass or 316L SST
<b>44-2200 Series: Compact/General Purpose</b>				
<ul style="list-style-type: none"> <li>1/4" inlet and outlet ports</li> <li>Diaphragm sensed - highly sensitive</li> <li>Various trim options available</li> </ul>	3500, 400 PSIG	1-25, 1-50, 1-100, 2-250, 2-500 PSIG	C <sub>v</sub> = .02 C <sub>v</sub> = .06 C <sub>v</sub> = .15 C <sub>v</sub> = .24	Brass, 316L SST, Hastelloy-C® or Monel
<b>44-2600 Series: General Purpose/Large Diaphragm</b>				
<ul style="list-style-type: none"> <li>Increased sensitivity, minimal droop</li> <li>Repeatability: ±1/2% of outlet pressure range</li> <li>Accuracy: ±1% of outlet pressure</li> </ul>	3500, 400 PSIG	1-25, 1-50, 1-100, 1-150 PSIG	C <sub>v</sub> = .02 C <sub>v</sub> = .06 C <sub>v</sub> = .15 C <sub>v</sub> = .24	316L SST
<b>44-2800 Series: Positive Seal</b>				
<ul style="list-style-type: none"> <li>Mechanical link between diaphragm &amp; main valve prevents pressure creep</li> <li>Adjustable captured vent bonnet</li> </ul>	3000 PSIG	1-25, 1-50, 1-100, 1-150 PSIG	C <sub>v</sub> = .16	316L SST
<b>44-3400 Series: General Purpose/Two Stage</b>				
<ul style="list-style-type: none"> <li>Decaying inlet characteristic: .04 per 100 PSIG inlet pressure change</li> <li>Various trim options available</li> </ul>	3500 PSIG	2-25, 2-50, 3-100, 3-150, 3-250 PSIG	C <sub>v</sub> = .05	Brass or 316L SST
<b>44-4600 Series: Absolute Pressure</b>				
<ul style="list-style-type: none"> <li>Controlled pressure range: 28" to 15 PSIG</li> <li>Large Diaphragm - excellent sensitivity</li> </ul>	120, 3500 PSIG	28" Hg Vac - 15 PSIG	C <sub>v</sub> = .06 C <sub>v</sub> = .24	316L SST
<b>44-5000 Series: Absolute Pressure</b>				
<ul style="list-style-type: none"> <li>Control pressure range: vacuum to low positive pressures</li> </ul>	120, 400, 3500 PSIG	28" Hg Vac-15 PSIG 28" Hg Vac-25 PSIG 28" Hg Vac-50 PSIG 28" Hg Vac-100 PSIG	C <sub>v</sub> = .06 C <sub>v</sub> = .15 C <sub>v</sub> = .24	316L SST

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# Corrosion and petro-chemical

## BACK PRESSURE



44-4700  
Subatmospheric

PRODUCT SERIES/FEATURES	CONTROLLED PRESSURE RANGES	FLOW CAPACITY	BODY MATERIAL
<b>44-2300 Series: Back Pressure</b>			
• Economical, general purpose	0-25, 0-50, 0-100, 0-250 PSIG	C <sub>V</sub> = .08	Brass or 316L SST
<b>44-4700 Series: Subatmospheric</b>			
• Metal to metal diaphragm assures minimum inboard/outboard leakage	28" Hg Vac - 15 PSIG 28" Hg Vac - 50 PSIG 28" Hg Vac - 100 PSIG 28" Hg Vac - 150 PSIG	C <sub>V</sub> = .04 C <sub>V</sub> = .30	316L SST
• Controls subatmospheric to positive pressures			
• High flow capacity			
• Negative spring bias			

## Changeovers



ACS012 Automatic  
Changeover



CS2200 Changeover  
System



NA-3 Changeover  
System

PRODUCT SERIES/FEATURES	INLET PRESSURE (MAXIMUM)	OUTLET PRESSURE RANGES	FLOW CAPACITY	BODY MATERIAL
<b>ACS012 Series: Automatic Changeover</b>				
• Eliminates downtime caused by depleted gas supplies	400 or 3500 PSIG	100, 150, 200, 250 PSIG	C <sub>V</sub> = .06	Brass or 316L SST
• Incorporates 44-2200 regulators				
<b>ACS3200 Series: High Flow Changeover</b>				
• High flow capacity: 50 scfm	3000 PSIG	160-200 PSIG	C <sub>V</sub> = 1.2	Brass or 316L SST
• Based on Tescom field-proven 44-3200 Series regulator				
• Eliminates downtime caused by depleted gas supplies				
<b>CR441800 Series: High Pressure Changeover</b>				
• Inlet pressures up to 6000 PSIG	3500, 6000 PSIG	5-500, 5-600, 10-700, 10-800, 10-900, 10-1000 PSIG	C <sub>V</sub> = .06	Brass or 316L SST
• Based on Tescom's field proven 44-1800 Series regulator				
• Eliminates downtime caused by depleted gas supplies				
<b>CS2200 Series: Changeover System</b>				
• Eliminates downtime caused by depleted gas supplies	3500 PSIG	0-25, 0-50, 0-100, 0-150 PSIG	C <sub>V</sub> = .06	Brass or 316L SST
• Single body changeover regulator plus a point-of-use regulator				
• Incorporates 44-2200 regulators				
<b>NA-3 Series: Changeover System</b>				
• Includes changeover and line regulator	3000 PSIG	0-100, 0-200 PSIG	C <sub>V</sub> = .06	Brass or 316L SST
• Cylinder, vent and outlet shutoff valves standard				
<b>NA-9 Series: Changeover System</b>				
• Identical to NA-3, but offers multiple bottle hook-ups	3000 PSIG	0-100, 0-200 PSIG	C <sub>V</sub> = .06	Brass or 316L SST



# Valves and special products



CC Metering Valve



VA & VG Air Operated  
ON/OFF Valves



VJ Bi-Directional  
Shut-off Valve



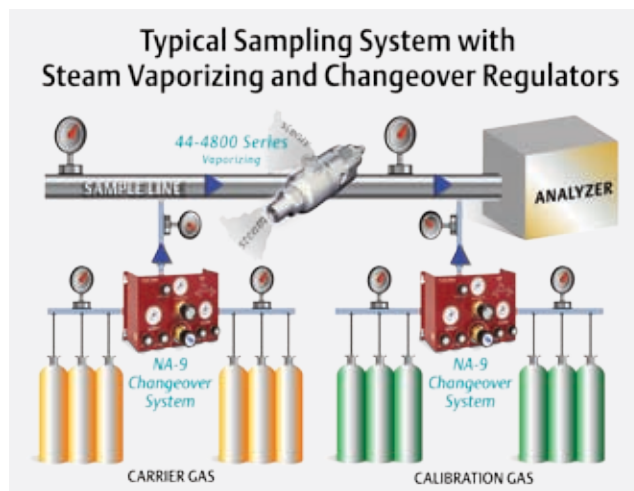
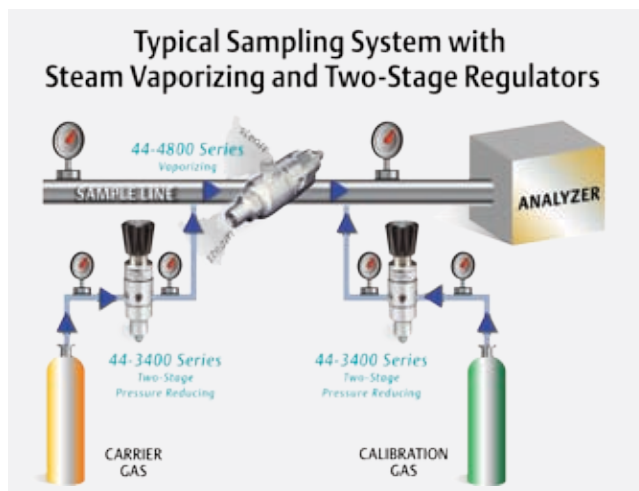
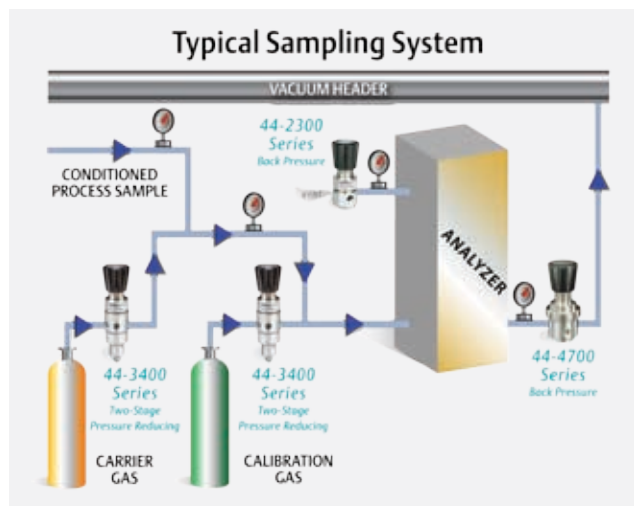
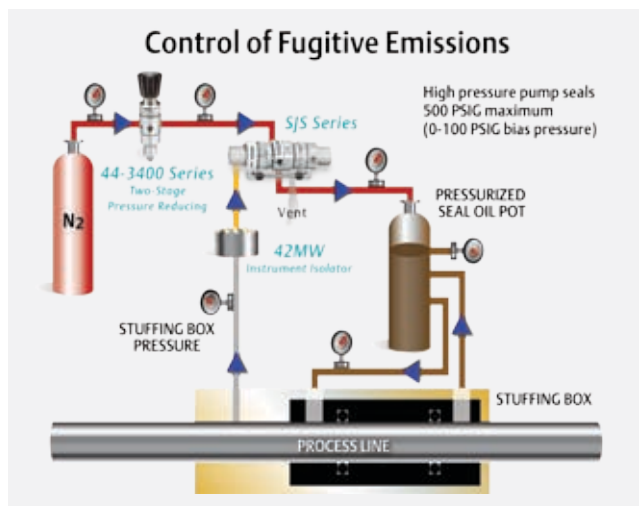
SJS Series Regulator



42MW Welded Diaphragm  
Instrument Isolator  
(shown with SJS Series regulator)

PRODUCT SERIES/FEATURES	OPERATING PRESSURE (MAXIMUM)	FLOW CAPACITY	BODY MATERIAL
<b>CC Series: Metering Valve</b>			
<ul style="list-style-type: none"> <li>Precise control at very low flows</li> <li>For liquid or gas applications</li> <li>20+ turns from shutoff to full open</li> <li>Non-rotating stem reduces seat wear</li> </ul>	Full vacuum to 10,000 PSIG	C <sub>v</sub> = .00005 C <sub>v</sub> = .00125	316 SST
<b>FL7000 Series: Flow Limit Valve</b>			
<ul style="list-style-type: none"> <li>Designed to stop flow automatically when flow exceeds a preset limit</li> <li>Flow range: 0-6 SCFM (N<sub>2</sub> @ 1000 PSIG)</li> <li>Protects downstream personnel &amp; equipment from exposure to hazardous media</li> </ul>	100-1000, 300-2500, 600-5000 PSIG	N/A	316 SST
<b>VA &amp; VG Series: Air Operated ON/OFF Valves</b>			
<ul style="list-style-type: none"> <li>Normally open or normally closed</li> <li>Balanced main valve - reduces required actuation pressure (30-60 PSIG)</li> <li>Compact package</li> <li>Toggle actuator optional</li> </ul>	6000, 10,000, 15,000, 20,000 PSIG	VA: C <sub>v</sub> = .75 VG: C <sub>v</sub> = 2.0	Brass or 316 SST
<b>VJ Series: Cartridge Valves</b>			
<ul style="list-style-type: none"> <li>Bi-directional flow</li> <li>Built-in metallic stop</li> <li>Globe or angle pattern</li> <li>O<sub>2</sub> compatible design</li> </ul>	6000, 10,000 PSIG	angle: C <sub>v</sub> = .49 globe: C <sub>v</sub> = .28	Brass or 316 SST
<b>SJS Series Regulator</b>			
<ul style="list-style-type: none"> <li>Maintains accurate differential pressure when incorporated into a double seal system</li> <li>Tracks upsets in system pressure and decreases downtime by increasing seal life</li> </ul>			
<b>42MW Welded Diaphragm Instrument Isolator</b>			
<ul style="list-style-type: none"> <li>Designed to be used with Tescom's tracking regulators.</li> <li>Keeps corrosive media away from regulator.</li> </ul>			

# Typical petro-chemical applications



**This is only a start! Call your local Tescom Representative for more application solutions.**

Global technical support & distribution • Design & manufacturing facilities in the U.S.A. & Germany.

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