

*a world of*

# REGULATORS, VALVES & SYSTEMS



*Pressure controls for your industry.*

**TESCOM**

  
**EMERSON**  
Process Management

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## WHAT TO CONSIDER WHEN CHOOSING A REGULATOR

Major considerations in the selection of a regulator are listed here. Within the requirements of your specific application, use this catalog to find the regulator that matches your parameters. Our standard products are only a starting point. We can modify or create a control that will solve any application problem. Detailed information is available through your local Tescom representative.

### HANDKNOB

Large handknob provides easy, low torque pressure setting. Wrench or screwdriver adjust options on some models.

### VENTING

Self-venting feature enables relieving of the outlet pressure when the handknob is turned in the “decrease” direction.

Captured venting configuration includes extra port to pipe away expelled fluids from a regulator’s vent valve.

Non-venting feature available for hydraulic or other applications where venting is not desirable.

### FLOW CAPACITY – $C_v$

$C_v$  is a measure 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.

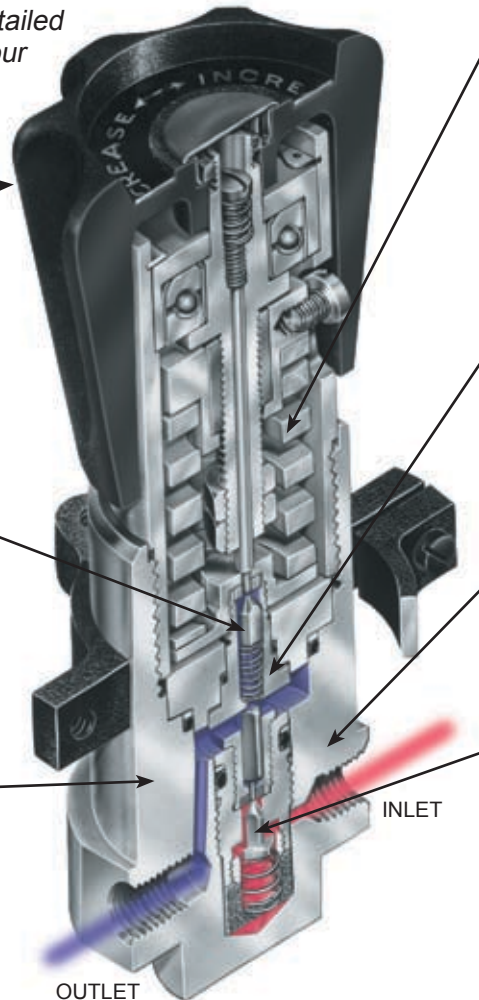
### BODY MATERIALS

Brass, aluminum or stainless steel (Type 300, 316) and others.

### OUTLET PRESSURE RANGES AVAILABLE

Starting at 28" Hg. Vac. to 15 PSIG, ranging up to 300-20,000 PSIG.

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### LOADING – Spring, Dome, Air Actuated, Electronic

Loading refers to the method used to balance the 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. Air Actuator provides outlet pressures up to 15,000 PSIG with a signal of only 100 PSIG. A Tescom electronic controller is another loading option (p.11).

### PANEL MOUNTING

Standard on some models. Extra option on others.

### SENSING – Diaphragm or Piston

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

Piston sensors provide high strength integrity for high outlet pressures up to 20,000 PSIG.

### INLET PRESSURE RANGES

Subatmospheric to 20,000 PSIG.

### PORTS

Sizes: 1/8" to 1"

Types: NPT (all models), SAE, Aminco, MS33649, Slimline, BSP, welded fittings.

### MAIN VALVES – Balanced and Unbalanced

Balanced design is used to reduce the effect of decaying inlet pressure and in certain models provides increased flow capacity.

Unbalanced valve offers simplicity and economy.

### ADDITIONAL CONSIDERATIONS

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

# High Pressure - Pressure Reducing Regulators



BB-1 Miniature



44-1100 High Pressure



26-1000 Versatile



26-2000 Versatile

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>BB-1 Series: Miniature</b> <ul style="list-style-type: none"> <li>Lightweight, compact design</li> <li>Piston sensed for high cycle life</li> <li>Designed for liquid or gas media</li> <li>Non-venting</li> <li>Field adjustable or pre-set ranges</li> </ul>	6,000 PSIG	0-80, 0-140, 0-220, 0-700, 0-1200, 0-1800 PSIG	$C_V = .06$	Aluminum, 316 SST
<b>BB-5 Series: Miniature, Two Stage</b> <ul style="list-style-type: none"> <li>Lightweight, compact design</li> <li>Interstage relief port</li> <li>Piston sensed for high cycle life</li> <li>Non-venting</li> </ul>	6,000 PSIG	0-80, 0-140, 0-220, 0-700, 0-1200 PSIG	$C_V = .06$	Aluminum, 316 SST
<b>44-1100 Series: High Pressure</b> <ul style="list-style-type: none"> <li>Excellent sensitivity</li> <li>Piston sensed for high cycle life</li> <li>Inlet &amp; outlet gauge ports standard</li> <li>40 micron (nominal) inlet filter</li> <li>Removable valve module for easy field repair</li> <li>Self-venting standard</li> </ul>	10,000 & 6,000 PSIG	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000 PSIG	$C_V = .02$ $C_V = .06$ $C_V = .12$	Brass, 300 SST, 316 SST
<b>44-1800 Series: Economy</b> <ul style="list-style-type: none"> <li>General purpose use</li> <li>Compact design</li> <li>Adjustable stop limits maximum outlet pressure</li> <li>Inlet &amp; outlet gauge ports standard</li> <li>Non-venting standard</li> </ul>	6,000 PSIG	15-2500 PSIG	$C_V = .06$ $C_V = .24$	Brass, 300 SST, 316 SST
<b>26-1000 Series: Versatile</b> <ul style="list-style-type: none"> <li>Outlet pressure ranges are field changeable</li> <li>Numerous porting options</li> <li>Optional inlet pressures to 20,000 PSIG</li> <li>Large handknob provides fast low-torque pressure settings</li> <li>Self-venting is standard</li> </ul>	6,000 & 10,000 PSIG	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG	$C_V = .02$ $C_V = .06$ $C_V = .12$ $C_V = .3$	Brass, 300 SST, 316 SST
<b>26-2000 Series: Versatile</b> <ul style="list-style-type: none"> <li>Designed for both hydraulic and pneumatic service</li> <li>Captured vent standard</li> <li>Designed for heavy duty shock and vibration service</li> <li>Choice of metal to metal or soft seat</li> <li>Compatible with Tescom Electronic Controllers (p. 11-12)</li> </ul>	6,000, 10,000, & 15,000 PSIG	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG	$C_V = .02$ $C_V = .06$ $C_V = .12$ $C_V = .3$	Brass, 316 SST

## Low Pressure - Pressure Reducing



26-1600 Self-Venting



44-5200 Economical/Venting

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>26-1500 Series: Non-venting</b>				
<ul style="list-style-type: none"> <li>Non-venting regulator</li> <li>Compact design</li> <li>Elastomeric diaphragm - highly sensitive</li> <li>Dome loading available</li> <li>For liquid or gas service</li> </ul>	6,000 PSIG 5,000 PSIG	4-50, 4-150, 4-250 PSIG	$C_V = .08$ $C_V = .24$	Brass or 316 SST
<b>26-1600 Series: Self-venting</b>				
<ul style="list-style-type: none"> <li>Elastomeric diaphragm - highly sensitive</li> <li>Controls up to 500 PSIG</li> <li>Dome loading available</li> <li>For liquid or gas service</li> <li>Works with Tescom motorized actuator for remote control</li> </ul>	6,000 PSIG 5,000 PSIG	2-50, 2-150, 3-250, 5-500, PSIG	$C_V = .08$ $C_V = .24$	Brass or 316 SST
<b>44-5200 Series: Economical/Venting/Non-Venting</b>				
<ul style="list-style-type: none"> <li>Replaces 44-2200V</li> <li>Large piston - good sensitivity</li> <li>For liquid or gas service</li> </ul>	3,500 PSIG 400 PSIG	0-25, 0-50, 0-100, 0-250, 0-500, 0-600 PSIG	$C_V = .06$ $C_V = .15$	Brass or 316 SST

## Low Pressure - Vacuum & Absolute



44-4700 Back Pressure



DV Vacuum Control

Product Series/Features (Absolute)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>44-4600 Series: Absolute Pressure</b>				
<ul style="list-style-type: none"> <li>Controlled Pressure Range: 28" Hg to 15 PSIG</li> <li>Large diaphragm - excellent sensitivity</li> </ul>	120 PSIG 3,500 PSIG	28" Hg Vac to 15 PSIG	$C_V = .06$ $C_V = .24$	316L SST
<b>DA Series: Absolute Pressure</b>				
<ul style="list-style-type: none"> <li>Subatmospheric to 350 PSIG</li> <li>Non-venting regulator</li> <li>Elastomeric diaphragm sensor - highly sensitive</li> <li>Economical</li> <li>Low knob torque, quick response</li> <li>Dome loaded option</li> </ul>	4,500 PSIG 500 PSIG	Vac. to 15 PSIG Vac. to 50 PSIG Vac. to 100 PSIG Vac. to 350 PSIG	$C_V = .06$	Brass or Aluminum
Product Series/Features (Vacuum)	Controlled Pressure Ranges		Flow Capacity	Body Material
<b>44-4700 Series: Subatmospheric</b>				
<ul style="list-style-type: none"> <li>High Flow capacity</li> <li>Negative spring bias</li> <li>Controls subatmospheric to positive pressures</li> </ul>	28" Hg vac - 15 PSIG 28" Hg vac - 50 PSIG 28" Hg vac - 100 PSIG 28" Hg vac - 150 PSIG		$C_V = .04$ $C_V = .30$	316L SST
<b>DV Series: Vacuum control</b>				
<ul style="list-style-type: none"> <li>Elastomeric diaphragm - highly sensitive</li> <li>Highly accurate: <math>\pm 1\%</math></li> <li>Dome loaded option</li> <li>Choice of constant or no bleed</li> </ul>	0 PSIG - 28" Hg (non-bleed) 0 PSIG - 25" Hg (constant bleed)		$C_V = .25$	Brass or Aluminum

# High Flow - Pressure Reducing



26-1200  $C_v=12$



44-1300 Versatile



44-1500 High Flow



44-4000 Tracking

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>26-1100 Series: Compact/High Flow</b> <ul style="list-style-type: none"> <li>Diaphragm sensed - highly sensitive</li> <li>Modular construction - easy service</li> <li>External sensing available for improved accuracy</li> <li>Balanced main valve increases seat life</li> </ul>	6,000 PSIG 10,000 PSIG	55-6,000, 55-10,000 PSIG	$C_v = .46$ $C_v = 1.3$	Brass, 300 SST or 316 SST
<b>26-1200 Series: High Flow</b> <ul style="list-style-type: none"> <li>Similar to 26-1100 above with higher flow capacity</li> </ul>	6,000 PSIG	100-6,000 PSIG	$C_v = 3.3$ $C_v = 6.0$ $C_v = 12.0$	300 SST or 316 SST
<b>44-1300 Series: Versatile</b> <ul style="list-style-type: none"> <li>Excellent sensitivity</li> <li>Self-venting</li> <li>Extremely reliable</li> <li>Spring, dome or air ratio loading</li> </ul>	3,750 PSIG 4,500 PSIG 5,000 PSIG 6,000 PSIG	10-300, 15-600, 20-1,000, 50-1,500, 50-2,500 PSIG	$C_v = .8$ $C_v = 2.0$	Brass, 300 SST or 316 SST
<b>44-1500 Series: High Flow</b> <ul style="list-style-type: none"> <li>Captured self-venting</li> <li>6,000 PSIG inlet</li> <li>Spring, dome or air ratio loading available</li> </ul>	6,000 PSIG	10-200, 10-400, 10-600 PSIG	$C_v = .3$	Brass or 316 SST
<b>44-4000 Series: Tracking</b> <ul style="list-style-type: none"> <li>Captured self-venting standard</li> <li>Adjustable bias pressures</li> <li>Compatible with Tescom electronic pressure controllers (p. 11-12)</li> </ul>	6,000 PSIG	50-1,500 PSIG Plus Bias Pressures to 350 PSIG	$C_v = .7$ $C_v = 2.0$	Brass, 300 SST or 316 SST
<b>44-4200 Series: Economical</b> <ul style="list-style-type: none"> <li>Dome loaded</li> <li>Piston sensed - highly reliable</li> <li>Compatible with Tescom electronic pressure controllers (p.11-12)</li> </ul>	6,000 PSIG	0-5,000 PSIG	$C_v = .8$ $C_v = 2.0$	Brass, 300 SST or 316 SST
<b>CP32 Series: Pilot Operated</b> <ul style="list-style-type: none"> <li>High flow, low droop</li> <li>Gauge port option</li> <li>Excellent sensitivity and repeatability</li> </ul>	3,000 PSIG	500 PSIG	$C_v = 1.0$	Brass or 316 SST
<b>DH Series: Low Pressure</b> <ul style="list-style-type: none"> <li>Diaphragm sensed - highly sensitive</li> <li>Excellent repeatability</li> <li>Very high flows at low pressures</li> </ul>	500 PSIG	0-20, 0-50, 0-100, 0-150, 2-250 PSIG	$C_v = 5.0$	Brass or 316 SST
<b>DG Series: Low Pressure</b> <ul style="list-style-type: none"> <li>Diaphragm sensed</li> <li>High flow - up to 1400 scfm</li> <li>NPT &amp; welded connections</li> </ul>	300 PSIG	0-20, 0-50, 0-100 0-250 PSIG	$C_v = 10$	316 SST



CP32  
Pilot Operated



DH Low Pressure



DG Low Pressure

# Back Pressure Regulators



26-1700 Versatile



26-2300 High Accuracy



26-2500 High Flow



44-1700 Economical



BB-3 Miniature

Product Series/Features (Back Pressure)	Controlled Pressure Ranges	Flow Capacity	Body Material
<b>26-1700 Series: Versatile</b> <ul style="list-style-type: none"> <li>Extremely sensitive</li> <li>Ideal for both gas &amp; liquid service</li> <li>High temperature versions available</li> <li>Accuracy : <math>\pm 1\%</math> of relief pressure range</li> </ul>	5-500, 5-800, 10-1,500, 15-2,500, 25-4,000, 50-6,000, 200-10,000 200-15,000 PSIG	$C_V = .02$ $C_V = .10$ $C_V = .14$ $C_V = .60$	300 or 316 SST
<b>26-2300 Series: High Accuracy</b> <ul style="list-style-type: none"> <li>Precise pressure control</li> <li>Diaphragm sensed -highly sensitive</li> <li>Crack to reseal: 2% of set pressure</li> <li>Bubble-tight shutoff at all reseating pressures</li> </ul>	5-50, 10-150, 10-250 PSIG	$C_V = .06$ $C_V = .60$ $C_V = 1.0$	300 or 316 SST
<b>26-2500 Series: High Flow</b> <ul style="list-style-type: none"> <li>Large Gylon® diaphragm for excellent sensitivity</li> <li>Bubble-tight shutoff at all reseating pressures</li> <li>1/2", 3/4" and 1" NPT inlet and outlet port sizes</li> </ul>	0-20, 0-50, 0-125, 0-200 PSIG	$C_V = 5.0$	Brass or 316 SST
<b>26-2900 Series: Tracking</b> <ul style="list-style-type: none"> <li>High Flow</li> <li>Negative spring bias</li> <li>Designed for BIBS application</li> <li>Diaphragm sensed - highly sensitive</li> </ul>	1,000 PSIG	$C_V = 2.0$	Brass or 300 SST
<b>44-1700 Series: Economical</b> <ul style="list-style-type: none"> <li>Piston sensed - highly reliable</li> <li>Compact design</li> <li>Close pressure differential between crack and reseal</li> <li>Adjustable pressure stop standard</li> </ul>	40-150, 100-700 or 100-800 PSIG	$C_V = .10$	Brass or 316 SST
<b>BB-3 Series: Miniature</b> <ul style="list-style-type: none"> <li>Economical &amp; extremely compact</li> <li>Grove Mighty Mite® replacement</li> <li>Durable piston sensor design</li> <li>High temperature (to 400°F) version</li> <li>High flow capacity</li> </ul>	0-80, 0-140, 0-220, 0-250*, 0-3000* PSIG	$C_V = .20$ $C_V = .50$	Aluminum or 316 SST
	*dome load only		
<b>44-2300 Series: Economical</b> <ul style="list-style-type: none"> <li>Hand adjustable</li> <li>Diaphragm-sensed</li> <li>Dome loaded</li> <li>Four relief pressure ranges</li> </ul>	0-25, 0-50, 0-100, 0-250 PSIG	$C_V = .08$	Brass or 316L SST
<b>44-4700 Series: Subatmospheric</b> <ul style="list-style-type: none"> <li>Metal to metal diaphragm assures minimum inboard/outboard leakage</li> <li>Controls subatmospheric to positive pressures</li> <li>High flow capacity</li> <li>Negative spring bias</li> </ul>	28" Hg VAC - 15 PSIG 28" Hg VAC - 50 PSIG 28" Hg VAC - 100 PSIG 28" Hg VAC - 150 PSIG	$C_V = .04$ $C_V = .30$	316L SST

# Hydraulic Regulators - Pressure Reducing & Back Pressure



54-2000  
High Pressure



54-2200  
High Pressure



54-2700 High Flow/  
Back Pressure



54-2800 High Flow/  
High Pressure

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>54-2000 Series: High Pressure/Reducing</b>				
<ul style="list-style-type: none"> <li>Rugged design, high pressure service</li> <li>Hardened metal to metal seats for heavy duty service</li> <li>System pressures to 20,000 PSIG available</li> <li>Captured venting standard</li> </ul>	10,000 PSIG	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG	$C_V = .06$	300 or 316 SST
<b>54-2200 Series: High Pressure</b>				
<ul style="list-style-type: none"> <li>High flow capacity: <math>C_V = 2.0</math></li> <li>Hardened metal to metal seats for heavy duty service</li> <li>Self-venting is standard</li> </ul>	8,000 PSIG 10,000 PSIG	5-500, 5-800, 10-1500, 15-2500, 25-400, 50-6000, 200-10,000 PSIG	$C_V = 2.0$	300 SST
<b>54-2800 Series: High Flow/Reducing</b>				
<ul style="list-style-type: none"> <li>Flow capacity: <math>C_V = 8.0</math></li> <li>Inlet &amp; outlet pressures up to 5,000 PSIG</li> <li>Choice of air ratio or dome loading</li> <li>Hardened metal to metal seats for heavy duty service</li> </ul>	5,000 PSIG	50-1500, 200-5000 PSIG	$C_V = 8.0$	300 SST
Product Series/Features (Back Pressure)	Controlled Pressure Ranges		Flow Capacity	Body Material
<b>54-2100 Series: Back Pressure/Relief Valve</b>				
<ul style="list-style-type: none"> <li>Accuracy: <math>\pm 1\%</math> of pressure range</li> <li>Hardened metal to metal seats for heavy duty service</li> <li>Eight pressure ranges up to 15,000 PSIG</li> </ul>	0-500, 0-800, 10-1500, 15-2500, 25-4000, 50-6000, 20-10,000, 300-15,000 PSIG		$C_V = .08$	300 or 316 SST
<b>54-2300 Series: High Pressure/High Flow - BPR/Relief Valve</b>				
<ul style="list-style-type: none"> <li>Control pressures to 10,000 PSIG</li> <li>Flow capacity: <math>C_V = 1.6</math></li> <li>Excellent crack to reseal ratio</li> <li>Hardened metal to metal seats for heavy duty service</li> </ul>	750, 1500, 3500 5000, 10,000 PSIG		$C_V = 1.6$	300 SST
<b>54-2700 Series: High Flow/Back Pressure</b>				
<ul style="list-style-type: none"> <li>Flow capacity: <math>C_V = 5.0</math></li> <li>Choice of dome loaded, spring loaded, or air ratio device</li> </ul>	5-500, 50-5500 PSIG		$C_V = 2.0$ $C_V = 5.0$	300 or 316 SST

# Corrosion Resistant, Specialty Gas & Petrochemical Regulators



04 Miniature/  
Lecture Bottle



44-2200 Compact



44-3200 High Flow/  
Purge



44-3400 Two Stage

Product Series /Features (Pressure Reducing)	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> <li>Choice of 316 SST or brass</li> </ul>	3,500 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>	3,500 PSIG 400 PSIG	1-25, 1-50, 1-100, 2-250, 2-500 PSIG maximum	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>	3,500 PSIG 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>Positionable captured vent bonnet</li> </ul>	3,000 PSIG	1-25, 1-50, 1-100, 1-150 PSIG	C <sub>V</sub> = .16	316L SST
<b>44-3200 Series: High Flow/Purge</b> <ul style="list-style-type: none"> <li>Ideal purge regulator</li> <li>High pressure inlet version incorporates a balanced main valve to minimize inlet pressure fluctuation</li> </ul>	500 or 3,000 PSIG	5-25, 5-50, 5-100, 5-150, 5-200 PSIG	C <sub>V</sub> = 1.0 C <sub>V</sub> = 1.8	Brass or 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>	3,500 PSIG	2-25, 2-50, 3-100, 3-150, 3-250 PSIG	C <sub>V</sub> = .05	Brass or 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, 3,500 PSIG	28" Hg Vac to 15 PSIG 28" Hg Vac to 25 PSIG 28" Hg Vac to 50 PSIG 28" Hg Vac to 100 PSIG	C <sub>V</sub> = .06 C <sub>V</sub> = .15 C <sub>V</sub> = .24	316L SST
<b>FR 2000 Series: Facilities Regulator</b> <ul style="list-style-type: none"> <li>Ideal purge regulator for low pressure systems</li> <li>Negative bias spring enhances performance at low pressures</li> <li>Balanced main valve minimizes inlet pressure fluctuations</li> </ul>	500 PSIG	0-15, 0-30, 0-75, 0-150 PSIG	C <sub>V</sub> = 1.8	316L SST
Product Series/Features (Back Pressure)	Controlled Pressure Ranges		Flow Capacity	Body Material
<b>44-2300 Series: Back Pressure</b> <ul style="list-style-type: none"> <li>Economical, general purpose</li> </ul>	0-25, 0-50, 0-100, 0-250 PSIG		C <sub>V</sub> = .08	Brass or 316L SST

# Corrosion Resistant, Specialty Gas & Petrochemical Regulators



44-4800 Electric Heated Vaporizing



TM Top Mount Regulator

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>44-4800 Series: Vaporizing Regulator</b> <ul style="list-style-type: none"> <li>Available in steam heated &amp; electrically heated versions</li> <li>Field replaceable heat exchanger tubes</li> <li>Electric unit available in 120 volt/150 watt or 250 volt/150 watt version. Meets National Electric Code requirements for Class 1, DIV 1 - Groups B, C &amp; D CSA approved 50 watt version and CENELEC approved 100 watt (230 VAC) version available. (Class 1, DIV 1 - Groups C &amp; D)</li> <li>Media heated before and after pressure reduction. Temperature changes accomplished quickly, accurately</li> </ul>	3,500 PSIG	Up to 500 PSIG	$C_v = .06$	316L SST
<b>TM Series: Top Mount Regulator</b> <ul style="list-style-type: none"> <li>Reduces plumbing time and increases leak integrity</li> <li>Compact size, small footprint</li> <li>Complies to SP76 Standard</li> </ul>	1,000 PSIG	0-30, 0-60, 0-100 PSIG	$C_v = .02$ $C_v = .06$	316L SST

## 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> <ul style="list-style-type: none"> <li>Eliminates downtime caused by depleted gas supplies</li> <li>Incorporates 44-2200 regulators</li> </ul>	400 or 3,500 PSIG	100, 150, 200, 250 PSIG	$C_v = .06$	Brass or 316L SST
<b>ACS3200 Series: High Flow Changeover</b> <ul style="list-style-type: none"> <li>High flow capacity: 50 scfm</li> <li>Based on Tescom field-proven 44-3200 Series Regulator</li> <li>Eliminates downtime caused by depleted gas supplies</li> </ul>	3,000 PSIG	160-200 PSIG	$C_v = 1.2$	Brass or 316L SST
<b>CR441800 Series: High Pressure Changeover</b> <ul style="list-style-type: none"> <li>Inlet pressures up to 6,000 PSIG</li> <li>Based on Tescom's field proven 44-1800 Series Regulator</li> <li>Eliminates downtime caused by depleted gas supplies</li> </ul>	3,500 PSIG 6,000 PSIG	5-500, 5-600, 10-700, 10-800, 10-900, 10-1,000 PSIG	$C_v = .06$	Brass or 316L SST
<b>CS-2200 Series: Changeover System</b> <ul style="list-style-type: none"> <li>Eliminates downtime caused by depleted gas supplies</li> <li>Single body changeover regulator plus a point-of-use regulator</li> <li>Incorporates 44-2200 regulators</li> </ul>	3,500 PSIG	0-25, 0-50, 0-100, 0-150 PSIG	$C_v = .06$	Brass or 316L SST
<b>NA-3 Series: Changeover System</b> <ul style="list-style-type: none"> <li>Includes changeover and line regulator</li> <li>Cylinder, vent and outlet shutoff valves standard</li> </ul>	3,000 PSIG	0-100, 0-200 PSIG	$C_v = .06$	Brass or 316L SST
<b>NA-9 Series: Changeover System</b> <ul style="list-style-type: none"> <li>Identical to NA-3 but offers multiple bottle hook-ups</li> </ul>	3,000 PSIG	0-100, 0-200 PSIG	$C_v = .06$	Brass or 316L SST

# Custom Pressure Reducing & Back Pressure Regulators



Cartridge Regulator  
(BB Series)



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



Air Actuator  
(26-2000 Series)

## Cartridge Regulators

- Cartridge style externally threaded regulators are designed to be easily installed in a manifold block
- Obvious benefits include: reduced piping, elimination of connections, reduced space requirement, ease of service
- Can be furnished in a wide variety of pressure reducing or back pressure styles
- Contact factory for application assistance

## Differential/Tracking Regulators

- Designed to provide a controlled pressure which is the sum of a signal (reference) pressure and a bias pressure (bias can be positive or negative)
- Applications include: automatic pressure compensation for mechanical (pump) seals, control of fugitive emissions, reduction of breathing gases in commercial or military diving

## SJS Series Regulator

- Maintains accurate differential pressure when incorporated into a double seal system
- Tracks upsets in system pressure and decreases downtime by increasing seal life

## 42 MW Welded Diaphragm Instrument Isolator

- Isolates and protects the regulator from corrosive process media
- Intended for use with our wide range of tracking regulators
- Assists in the control of pressure in fugitive emission and/or mechanical seals applications

## Air Actuators

- Available for a wide range of pressure reducing and back pressure regulators
- Allows regulator to be remote actuated by an air signal from an external air source or by one of Tescom's electronic controllers
- Control pressures may vary from 20 to 20,000 PSIG
- Ratios between actuator pressure and control pressure are available from 3:1 to 150:1
- Compared to conventional spring loading, air actuation offers improved regulator performance

## Alternative Fuels



20-1200 High  
Pressure Hydrogen



20-1400 High Flow/  
Low Pressure



44-6000 In-Line

Product Series /Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
<b>20-1000 Series: Compressed Natural Gas</b> <ul style="list-style-type: none"> <li>• Balanced main valve minimizes inlet pressure fluctuations</li> <li>• Piston sensed - highly reliable</li> <li>• Water heat jacket standard</li> </ul>	3,600 PSIG	0-500 PSIG	$C_v = .5$	Aluminum
<b>20-1200 Series: High Pressure Hydrogen</b> <ul style="list-style-type: none"> <li>• Nickel-plated aluminum</li> <li>• Large piston sensor</li> <li>• All regulators tamper-proof</li> </ul>	5,000 PSIG 10,000 PSIG	0-500 PSIG	$C_v = .5$	Aluminum 316 SST
<b>20-1400 Series: High Flow/Low Pressure</b> <ul style="list-style-type: none"> <li>• Diaphragm sensed - highly sensitive</li> <li>• Dome load spring bias <math>\pm 2</math> PSIG</li> <li>• Captured bonnet design for safety</li> </ul>	250 PSIG	0-190 PSIG	$C_v = 1.6$	Aluminum
<b>44-6000 Series: In-Line High Pressure</b> <ul style="list-style-type: none"> <li>• Balanced main valve design</li> <li>• Positive shutoff seal</li> <li>• Captured bonnet available</li> <li>• Patent pending</li> </ul>	10,000 PSIG	120, 150, 300 PSIG (all pre-set)	$C_v = .3$	316 SST

# Valves



30-1100 Shutoff Valve



CC Metering Valve



FL7000 Flow Limit Valve



VA & VG Air-Operated ON/OFF Valves



VA Valve - toggle actuated

Product Series/Features	Operating Pressure (maximum)	Flow Capacity	Body Material
<b>30 Series: Shutoff Valves</b> <ul style="list-style-type: none"> <li>Globe or angle pattern</li> <li>Built-in metallic stop prevents over-torquing - reduces seat wear</li> <li>30-1100 Series: available with metering capability (long stem optional)</li> <li>Bi-directional flow (all models)</li> </ul>	10,000 PSIG	30-1100 globe: $C_V = .28$ 30-1100 angle: $C_V = .49$ 30-1300 globe: $C_V = 1.57$ 30-1300 angle: $C_V = 2.30$ 30-1200 globe: $C_V = 8.0$ 30-1200 angle: $C_V = 10.0$ 30-1400 globe: $C_V = 20.0$	300 SST
<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	$C_V = .00005$ $C_V = .00125$	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 pre-set limit</li> <li>Flow range: 0-6 SCFM (<math>N_2@1000</math> PSIG)</li> <li>Protects downstream personnel &amp; equipment from exposure to hazardous media</li> </ul>	100-1,000 PSIG 300-2,500 PSIG 600-5,000 PSIG		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> <li>Solenoid valve actuation (pneumatic assist) optional</li> </ul>	6,000, 10,000 15,000, 20,000 PSIG	VA: $C_V = .75$ VG: $C_V = 2.0$	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><math>O_2</math> compatible design</li> </ul>	6,000 or 10,000 PSIG	angle: $C_V = .49$ globe: $C_V = .28$	Brass or 316 SST
<b>VL Series: <math>C_V=10</math></b> <ul style="list-style-type: none"> <li>Balanced main valve - reduces required actuation pressure</li> <li>Normally closed</li> <li>In-line flow configuration</li> <li>U.S. patent pending</li> </ul>	6,000 PSIG	$C_V=10$	316 SST



VJ Bi-Directional Shut-off Valve



VL Series  $C_V=10$  In-line Valve

# Clean Pharmpure™ Regulators for Biotech & Pharmaceutical



PH-1800 Low Pressure  
Very High Flow



PH-2200 - Low Flow



PH-3200 - Medium Flow



DH-16 - High Flow

Regulator Series/Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body & Finishes
<b>PH-1600: Low Pressure, High Flow</b> <ul style="list-style-type: none"> <li>FDA Title 21 &amp; USP Class VI Materials</li> <li>Flows to 250 SCFM N<sub>2</sub></li> <li>Gas and clean steam versions</li> <li>Ports to 1" NPT, tube ends, sanitary</li> <li>Clean Service Certificate optional</li> </ul>	300 PSIG	1-20, 1-50, 1-100, 2-300 PSIG	C <sub>V</sub> =5.0	Brass or 316L SST 25 R <sub>a</sub> available (SST version only)
<b>PH-1800: Low Pressure, Very High Flow</b> <ul style="list-style-type: none"> <li>FDA Title 21 &amp; USP Class VI Materials</li> <li>Flows to 1400 SCFM N<sub>2</sub></li> <li>Gas and clean steam versions</li> <li>1/4" ports - NPT, tube ends, sanitary</li> <li>Clean Service Certificate optional</li> </ul>	300 PSIG	1-20, 1-50, 1-100, 2-150 PSIG	C <sub>V</sub> =10	Brass or 316L SST 25 R <sub>a</sub> available (SST version only)
<b>PH-2200: Compact, Low Pressure, Low Flow</b> <ul style="list-style-type: none"> <li>FDA Title 21 &amp; USP Class VI Materials</li> <li>Flows to 5 SCFM for specialty gas &amp; clean air applications</li> <li>1/4" ports - NPT, tube ends, sanitary</li> <li>Clean Service Certificate optional</li> </ul>	150 PSIG	1-10, 1-25, 1-50, 1-100 PSIG	C <sub>V</sub> =.06 C <sub>V</sub> =.15 C <sub>V</sub> =.24	Brass or 316L SST 15 or 32 R <sub>a</sub> available (SST version only)
<b>PH-3200: Compact, Low Pressure, Medium Flow</b> <ul style="list-style-type: none"> <li>FDA Title 21 &amp; USP Class VI Materials</li> <li>Gas and clean steam versions</li> <li>Tracking version for agitator seals</li> <li>Gas flows to 50 SCFM N<sub>2</sub></li> <li>Ports to 3/4" NPT, tube ends, sanitary</li> </ul>	500 PSIG	5-25, 5-50, 5-100 PSIG	C <sub>V</sub> =1.0 C <sub>V</sub> =1.8	Brass or 316L SST 15 or 32 R <sub>a</sub> available (SST version only)
<b>DH-16 Series: Low Pressure, High Flow</b> <ul style="list-style-type: none"> <li>Gas flows to 250 SCFM N<sub>2</sub></li> <li>Gas and clean steam versions</li> <li>Ports to 1" NPT, tube ends, sanitary</li> </ul>	300 PSIG	0-20, 0-50, 0-100, 0-150, 0-250, 0-300* PSIG	C <sub>V</sub> =5.0	Brass or 316L SST 25 R <sub>a</sub> standard  *dome load only
<b>DG Series: Low Pressure, Very High Flow</b> <ul style="list-style-type: none"> <li>Gas flows to 500 SCFM N<sub>2</sub></li> <li>Gas and clean steam versions</li> <li>Ports to 2" NPT, tube ends, sanitary</li> </ul>	300 PSIG	0-20, 0-50, 0-100, 0-150, 0-250 PSIG	C <sub>V</sub> =10	Brass or 316L SST 25 R <sub>a</sub> available

## Custom Manifolds & Systems



Custom Test Stand

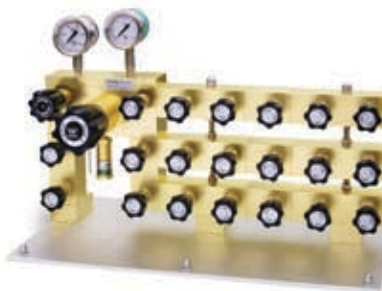
Tescom's Systems Group designs and builds unique pressure and flow control solutions. We provide standard designs and from-scratch custom remedies from the component level up – capabilities not found with other system integrators.

- Our engineers offer in-depth understanding of fluid control. We've designed pressure controls, manifolds and assemblies for more than forty years.
- Controlling gases and liquids across a wide range of pressures and flows, our systems are capable of 60,000 PSIG.
- Utilizing manifold technology, Tescom systems minimize potential leak paths, saving space and service time while reducing cost.
- We offer a wide array of mechanical and electro-mechanical systems from charging carts to test stands with custom software.
- Meeting stringent domestic and international performance requirements has become standard operation procedure at Tescom.

## Custom Manifolds & Systems - continued



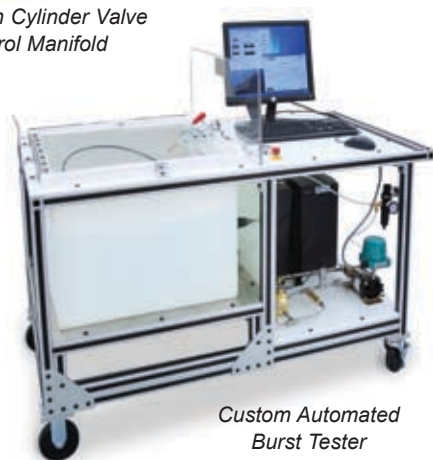
Hydrogen Cylinder Valve  
Control Manifold



Custom Diving Manifold



Automated Multiple  
Pressure Delivery System



Custom Automated  
Burst Tester



Aircraft Charging Cart  
(3 bottle version)

## Electronic Pressure Controls



ER3000 Digital Pressure  
Controller



ER3040 Series



Pressure Transducers

### ER300X Series Digital Pressure Controller

- Precise accuracy:  $\pm .1\%$  FSO! (ER3001 in Internal Feedback Mode)
- Features controlled outlet pressure from 0-100 PSIG as a stand alone unit
- Compatible pressure regulators available offering vacuum to 20,000 PSIG control
- Selectable setpoint signal source:
  - External analog: 4-20 mA or 1-5 VDC (0-10 VDC optional)
  - Digital RS485
  - Downloaded profile
- Selectable feedback signal source:
  - Internal 0-100 PSIG sensor
  - External analog: 4-20 mA or 1-5 VDC (0-10 VDC optional)
- Selectable failsafe features
- Non-interacting zero and span
- NEMA 4X enclosure
- As many as 32 ER3000 Controllers can be networked at a distance up to 4,000 feet away via a 2-wire RS485 link
- CE and CSA approved
- Two enhanced (extra cost) versions, ER3000 FI and FV, offer additional analog/digital inputs allowing the user even more sophisticated control. These models also include analog sensor output.
- Free Windows™ tuning and interface software provided
- RS485 convertors, power supplies and pre-wired models also available

### ER3000E Series Explosion-Proof Control

- FM approved enclosure for Class 1, Division 1, Group B, C and D.
- Designed for use in hazardous environments
- Same features and benefits as ER3000 (above)

### ER3040 Series

- Features of the ER3000 with OEM base, no cover
- Not available in Explosion-Proof

# Electronic Pressure Controls - continued



70-2000 Motorized Actuator



ER3020 for Integrated Systems



269-529 Low Pressure/High Flow Regulator



ER3110 Compact Integrated Unit

## UI4000 Series User Interface for ER3000

- Pre-programmed software displays process variables
- UI4000 allows user to download profiles and recipes
- Digital inputs to start/stop or pause profiles with a PLC or external switch
- Digital outputs provide inputs to a PLC or trigger relays on field control devices
- Remote mounting of UI4000 up to 4,000 feet from the ER3000
- Security code and weatherproof enclosure protect your system
- Infrared remote can scroll through menu, change screens or program values into memory

## Pressure Transducers

- Ideal for use in ER3000 applications where an external feedback is required
- Provides extremely stable and repeatable hydraulic and pneumatic pressure measurements
- .1%, 0.25% and 0.5% accuracy available
- Choice of 4-20 mA, 0-10 VDC versions
- Wide choice of pressure ranges (including subatmospheric)

## 70-2000 Series Motorized Actuator

- 24 VDC motorized actuator provides remote adjustment of regulator setpoint
- Adaptable to 26-1000, 26-1600, 26-1700, 26-2300, 54-2000 and 54-2100 Series Regulators
- Variable speed control with adjustable limit stops to prevent over-travel

## ER3020 Series - High Pressure, Low Flow Integrated Systems

- Integrates with 26-1000 Dual Piston Regulator to achieve 10-9000 PSIG in 395 milliseconds
- Choice of outlet pressure ranges to 10,000 PSIG
- Gas or liquid applications
- Segregated venting
- Flow capacity:  $C_v=0.06$
- Other integrated regulators available

## 269-529 Series - Low Pressure/High Flow Pressure Regulator

- Maximum inlet pressure: 300 PSIG
- Controlled outlet pressure to 100 PSIG, some models up to 300 PSIG
- NPT ports from 1/4" to 2-1/2"
- Flow capacity:  $C_v$  values up to 45
- Exceptional low pressure control throughout flow range

## ER3000/26-2000 Series - High Accuracy, High Pressure Control

- Designed for applications where high accuracy and reliability are critical
- Choice of outlet pressure ranges to 20,000 PSIG
- Excellent for calibration systems

## ER3110 Series - Compact Integrated Unit

- Features identical to the ER3000 (shown on page 11)
- Choice of outlet pressure ranges to 500 PSIG
- Reference pressure: 100 PSIG
- Flow capacity:  $C_v=0.06$  or 0.15
- Venting or non-venting
- Integrates with 44-5200 regulator, standard options available

## ER3100 Series - High Flow Control

- Integrates with 44-4000 venting regulator
- Choice of 500 or 900 PSIG outlet ranges
- Flow capacity:  $C_v=0.7$  or 2.0
- Available in brass or stainless steel

# Gauges & Filters



Gauges



Mini In-Line Filters

Product Series/Features	Operating Pressure (maximum)	Body Material
<b>Pressure Gauges (2" &amp; 2.5" dia.)</b> <ul style="list-style-type: none"> <li>• Brass or Stainless Steel construction</li> <li>• Pressure ranges from subatmospheric to 10,000 PSIG</li> <li>• 1/4" NPT connections</li> </ul>	subatmospheric to 10,000 PSIG	Brass or 316 SST
<b>Filters - High Pressure (10 micron)</b> <ul style="list-style-type: none"> <li>• 98-1010 Series Mini In-Line filter:               <ul style="list-style-type: none"> <li>• For systems with size limitations</li> </ul> </li> <li>• 98-1110 Series T-Type Filter:               <ul style="list-style-type: none"> <li>• Designed for high flow applications</li> <li>• Features cleanable element</li> <li>• Available options: electrical, visual, bypass valve, visual pressure differential indicator, bypass relief valve, electrical bypass</li> </ul> </li> <li>• 98-1210 Series In-Line Filter:               <ul style="list-style-type: none"> <li>• For systems with size limitations</li> <li>• Cleanable element</li> </ul> </li> </ul>	6,000 PSIG 6,000, 10,000 PSIG 3,000, 6,000, 10,000 PSIG	304 SST 300 SST 300 and 17-4 SST

## Tescom Manufacturing & Distributor Network ... *a global presence!*



Industrial Controls & Systems Group

### Industrial Controls and Systems Group

Elk River, Minnesota USA

Tescom's Industrial Controls provides standard and custom pressure control solutions. They design, manufacture and sell a wide range of regulators and valves to a diverse global market. The Systems Group designs and manufactures leading technology pressure systems, assemblies and manifolds.



High Purity Controls

### High Purity Controls

Elk River, Minnesota USA

High Purity Controls designs and manufactures ultra-clean pressure regulators, valves and integrated gas system components for the semiconductor manufacturing, fiber optic, biotechnology and pharmaceutical industries.



Tescom Europe

### Tescom Europe

Selmsdorf, Germany

Located to directly meet the needs of the European customer, Tescom Europe is a complete design, manufacture and service facility offering a full range of pressure control solutions.

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