a world of

REGULATORS, VALVES & SYSTEMS

Pressure controls for your industry.

TESCOM

EMERSON
Process Management

CONTENTS

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.

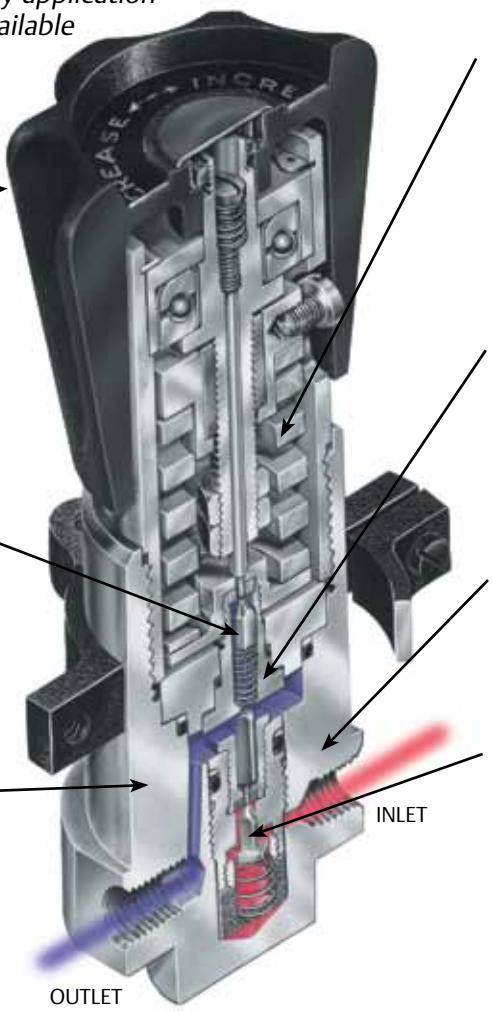
Captured venting configuration includes extra port to pipe away expelled fluids from a regulator's vent valve.

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 [1 bar], ranging up to 300-20,000 PSIG [21-1,379 bar]



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 [1,035 bar] with a signal of only 100 PSIG [6.9 bar]. 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 [35 bar].
Piston sensors provide high strength integrity for high outlet pressures up to 20,000 PSIG [1,379 bar].

INLET PRESSURE RANGES
Sub-atmospheric to 20,000 PSIG [1,379 bar].

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
BB-1 Series: Miniature • Lightweight, compact design • Piston sensed for high cycle life • Designed for liquid or gas media • Non-venting • Field adjustable or pre-set ranges	6,000 PSIG [414 bar]	0-80, 0-140, 0-220, 0-700, 0-1200, 0-1800 PSIG [0-5.5, 0-9.7,0-15.2, 0-48.3, 0-83, 0-124 bar]	C_V=.06	Aluminum, 316 SST
BB-5 Series: Miniature, Two Stage • Lightweight, compact design • Interstage relief port • Piston sensed for high cycle life • Non-venting	6,000 PSIG [414 bar]	0-80, 0-140, 0-220, 0-700, 0-1200 PSIG [0-5.5, 0-9.7,0-15.2, 0-48.3, 0-83 bar]	C_V=.06	Aluminum, 316 SST
44-1100 Series: High Pressure • Excellent sensitivity • Piston sensed for high cycle life • Inlet & outlet gauge ports standard • 40 micron (nominal) inlet filter • Removable valve module for easy field repair • Self-venting standard	6,000, 10,000 PSIG [414, 690 bar]	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414 bar]	C_V=.02 C_V=.06 C_V=.12	Brass, 300 SST, 316 SST
44-1800 Series: Economy • General purpose use • Compact design • Adjustable stop limits maximum outlet pressure • Inlet & outlet gauge ports standard • Non-venting standard	6,000 PSIG [414 bar]	15-2500 PSIG [1-172.4]	C_V=.06 C_V=.24	Brass, 300 SST, 316 SST
26-1000 Series: Versatile • Outlet pressure ranges are field changeable • Numerous porting options • Optional inlet pressures to 20,000 PSIG (1,379 bar) • Large handknob provides fast low-torque pressure settings • Self-venting standard	6,000 & 10,000 PSIG [690, 414 bar]	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 14-690 bar]	C_V=.02 C_V=.06 C_V=.12 C_V=.3	Brass, 300 SST, 316 SST
26-2000 Series: Versatile • Designed for both hydraulic and pneumatic service • Captured vent standard • Designed for heavy duty shock and vibration service • Choice of metal to metal or soft seat • Optional inlet pressures up to 30,000 PSIG [2070 bar] & outlet pressures up to 20,000 PSIG [1379 bar] • Compatible with TESCOM Electronic Controllers (p. 11-12)	6,000, 10,000, & 15,000 PSIG [690, 414, 1,035 bar]	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 14-690 bar]	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

DK Series

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
26-1500 Series: Non-venting • Non-venting regulator • Compact design • Elastomeric diaphragm - highly sensitive • Dome loading available • For liquid or gas service	6,000 PSIG 5,000 PSIG [414, 345 bar]	4-50, 4-150, 4-250 PSIG [.28-3.5, .28-10.4, .28-17.2 bar]	C_V=.08 C_V=.24	Brass or 316 SST
26-1600 Series: Self-venting • Elastomeric diaphragm - highly sensitive • Controls up to 500 PSIG • Dome loading available • For liquid or gas service • Works with TESCOM motorized actuator for remote control	6,000 PSIG 5,000 PSIG [414, 345 bar]	2-50, 2-150, 3-250, 5-500 PSIG [.14-3.5, .14-10.4, .2-17.2, .35-35 bar]	C_V=.08 C_V=.24	Brass or 316 SST
44-5200 Series: Economical/Venting/Non-Venting • Replaces 44-2200**V** • Large piston - good sensitivity • For liquid or gas service	3,500, 400 PSIG [241.3, 27.6 bar]	0-25, 0-50, 0-100, 0-250, 0-500, 0-600 PSIG [0-1.7, 0-3.5, 0-6.9, 0-17.2, 0-35, 0-41.4 bar]	C_V=.06 C_V=.15	Brass or 316 SST
DK Series: Segregated & Captured Venting • Improves control and resolution at medium flows & pressures • Remote control capability with TESCOM 26-1200 regulator • Designed for use with TESCOM ER3000 (p. 11)	1,000 PSIG [69 bar]	Airload: 0-600 PSIG [0-41.4 bar] Dome load: 0-700 PSIG [0-48.3 bar]	C_V=.35	Brass or 316 SST

Low Pressure - Vacuum & Absolute

44-4700 Back Pressure

Product Series/Features (Absolute)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
44-4600 Series: Absolute Pressure • Controlled Pressure Range: 28" Hg to 15 PSIG • Large diaphragm - excellent sensitivity	120 PSIG 3,500 PSIG [8.2, 241.3 bar]	28" Hg Vac to 15 PSIG [1 bar]	C_V=.06 C_V=.24	316L SST
DA Series: Absolute Pressure • Sub-atmospheric to 350 PSIG • Non-venting regulator • Elastomeric diaphragm sensor - highly sensitive • Economical • Low knob torque, quick response • Dome loaded option	4,500 PSIG 500 PSIG [310.3, 35 bar]	Vac. to 15 PSIG [1 bar] Vac. to 50 PSIG [3.5 bar] Vac. to 100 PSIG [6.9 bar] Vac. to 350 PSIG [10.4 bar]	C_V=.06	Brass or Aluminum

DV Vacuum Control

Product Series/Features (Vacuum)	Controlled Pressure Ranges	Flow Capacity	Body Material
44-4700 Series: Sub-atmospheric, Back Pressure • High Flow capacity • Negative spring bias • Controls sub-atmospheric to positive pressures	28" Hg vac - 15 PSIG [1 bar] 28" Hg vac - 50 PSIG [3.5 bar] 28" Hg vac - 100 PSIG [6.9 bar] 28" Hg vac - 150 PSIG [10.4 bar]	C_V=.04 C_V=.30	316L SST
DV Series: Vacuum control • Elastomeric diaphragm - highly sensitive • Highly accurate: ±1% • Dome loaded option • Choice of constant or no bleed	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

CP32
Pilot Operated

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
26-1100 Series: Compact/High Flow • Diaphragm sensed - highly sensitive • Modular construction - easy service • External sensing available for improved accuracy • Balanced main valve increases seat life	6,000, 10,000 PSIG [414, 690 bar]	55-6,000, 55-10,000 PSIG [3.8-414, 3.8-690 bar]	C_V=.46 C_V=1.3	Brass, 300 SST or 316 SST
26-1200 Series: High Flow • Similar to 26-1100 above with higher flow capacity	6,000 PSIG [414 bar]	100-6,000 PSIG [6.9-414 bar]	C_V=3.3 C_V=6.0 Cv=12.0	300 SST or 316 SST
44-1300 Series: Versatile • Excellent sensitivity • Self-venting • Extremely reliable • Spring, dome or air ratio loading	3,750, 4,500 5,000, 6,000 PSIG [259, 310, 345, 414 bar]	10-300, 15-600, 20-1,000, 50-1,500, 50-3,000 PSIG [.69-20.1, 1-41.4, 1.4-69, 1.4-103, 1.4-207 bar]	C_V=.8 C_V=2.0	Brass, 300 SST or 316 SST
44-1500 Series: High Flow • Captured self-venting • 6,000 PSIG inlet • Spring, dome or air ratio loading available	6,000 PSIG [414 bar]	10-200, 10-400, 10-600 PSIG [.69-14, .69-27.6, .69-41.4 bar]	C_V=.3	Brass or 316 SST
44-4000 Series: Tracking • Captured self-venting standard • Adjustable bias pressures • Air actuated models are compatible with TESCOM electronic pressure controllers (p. 11-12)	6,000 PSIG [414 bar]	50-1,500 PSIG [3.5-103.4 bar] Plus Bias Pressures Pressures to 350 PSIG [24.1 bar]	C_V=.7 C_V=2.0	Brass, 300 SST or 316 SST
44-4200 Series: Economical • Dome loaded • Piston sensed - highly reliable • Compatible with TESCOM electronic pressure controllers (p. 11-12)	6,000 PSIG [414 bar]	0-5,000 PSIG [0-345 bar]	C_V=.8 C_V=2.0	Brass, 300 SST or 316 SST
CP32 Series: Pilot Operated • High flow, low droop • Gauge port option • Excellent sensitivity and repeatability	3,000 PSIG [207 bar]	500 PSIG [35 bar]	C_V=1.0	Brass or 316 SST
DH Series: Low Pressure • Diaphragm sensed - highly sensitive • Excellent repeatability • Very high flows at low pressures	500 PSIG [35 bar]	0-20, 0-50, 0-100, 0-150, 2-250 PSIG [0-1.4, 0-3.5, 0-6.9, 0-10.4, .14-17.2 bar]	C_V=5.0	Brass or 316 SST
DG Series: Low Pressure • Diaphragm sensed • High flow - up to 1400 scfm • NPT & welded connections	300 PSIG [21 bar]	0-20, 0-50, 0-100 0-250 PSIG [0-1.4, 0-3.5, 0-6.9, 0-17.2 bar]	C_V=10	316 SST

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
26-1700 Series: Versatile • Extremely sensitive • Ideal for both gas & liquid service • High temperature versions available up to 650°F (343°C) • Accuracy : ±1% of relief pressure range	5-500, 5-800, 10-1,500 15-2,500, 25-4,000, 50-6,000, 200-10,000, 200-15,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4, 1.7-275.8, 3.5-414, 14-690, 14-1,035 bar]	C_V=.02 C_V=.10 C_V=.14 C_V=.60	316 SST
26-2300 Series: High Accuracy • Precise pressure control • Diaphragm sensed -highly sensitive • Crack to reseat: 2% of set pressure • Bubble-tight shutoff at all reseating pressures	5-50, 10-150, 10-250 PSIG [.35-3.5, .69-10.4, .69-17.2 bar]	C_V=.06 C_V=.60 C_V=1.0	300 or 316 SST
26-2500 Series: High Flow • Large Gylon® diaphragm for excellent sensitivity • Bubble-tight shutoff at all reseating pressures • 1/2", 3/4" and 1" NPT inlet and outlet port sizes	0-20, 0-50, 0-125, 0-200 PSIG [0-1.4, 0-3.5, 0-8.6, 0-14 bar]	C_V=5.0	Brass or 316 SST
26-2900 Series: Tracking • High Flow • Negative spring bias • Designed for BIBS application • Diaphragm sensed - highly sensitive	1,000 PSIG [69 bar]	C_V=2.0	Brass or 300 SST
44-1700 Series: Economical • Piston sensed - highly reliable • Compact design • Close pressure differential between crack and reseat • Adjustable pressure stop standard	40-150, 100-700 or 100-800 PSIG [2.8-10.4, 6.9-48.3, 6.9-55.2 bar]	C_V=.10	Brass or 316 SST
BB-3 Series: Miniature • Economical & extremely compact • Durable piston sensor design • High temperature (to 400°F/204.4°C) version • High flow capacity	0-80, 0-140, 0-220, 0-250*, 0-3000* PSIG [0-5.5, 0-9.7, 0-15.2, 0-17.2*, 0-207* bar] *dome load only	C_V=.20 C_V=.50	Aluminum or 316 SST
44-2300 Series: Economical • Hand adjustable • Diaphragm-sensed • Dome loaded • Four control pressure ranges	0-25, 0-50, 0-100, 0-250 PSIG [0-1.7, 0-3.5, 0-6.9, 0-17.2 bar]	C_V=.08	Brass or 316L SST
44-4700 Series: Sub-atmospheric • Metal to metal diaphragm assures minimum inboard/outboard leakage • Controls sub-atmospheric to positive pressures • High flow capacity • Negative spring bias	28" Hg VAC - 15 PSIG [1 bar] 28" Hg VAC - 50 PSIG [3.5 bar] 28" Hg VAC - 100 PSIG [6.9 bar] 28" Hg VAC - 150 PSIG 10.4 bar]	C_V=.04 C_V=.30	316L SST

Hydraulic Regulators - Pressure Reducing & Back Pressure

50-2000 High 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
50-2000 Series: High Pressure/Reducing • Stem & seal designed to extend service life in crucial high pressure water-based hydraulic applications • Segregated captured venting • Tapered poppet design for better pressure control	10,000 PSIG 15,000 PSIG [690, 1,035 bar]	5-500, 5-800, 10-1500, 15-2500 25-4000, 50-6000, 200-10,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 14-690 bar]	C_V=.02 C_V=.06 C_V=.12 C_V=.30	316 SST
54-2000 Series: High Pressure/Reducing • Rugged design, high pressure service • Hardened metal to metal seats for heavy duty service • System pressures to 20,000 PSIG [1379 bar] available • Captured venting standard	10,000 PSIG [690 bar]	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414,14-690 bar]	C_V=.06	300 or 316 SST
54-2200 Series: High Pressure • High flow capacity: C_V=2.0 • Hardened metal to metal seats for heavy duty service • Self-venting is standard	8,000 PSIG 10,000 PSIG [552, 690 bar]	5-500, 5-800, 10-1500, 15-2500, 25-400, 50-6000, 200-10,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414,14-690 bar]	C_V=2.0	300 SST
54-2800 Series: High Flow/Reducing • Flow capacity: C_V=8.0 • Inlet & outlet pressures up to 5,000 PSIG • Choice of air ratio or dome loading • Hardened metal to metal seats for heavy duty service	5,000 PSIG [345 bar]	50-1500, 200-5000 PSIG [3.5, 103.4, 14-345 bar]	C_V=8.0	300 SST

Product Series/Features (Back Pressure)	Controlled Pressure Ranges	Flow Capacity	Body Material
54-2100 Series: Back Pressure/Relief Valve • Accuracy: ±1% of pressure range • Hardened metal to metal seats for heavy duty service • Eight pressure ranges up to 15,000 PSIG [1,035 bar]	0-500, 0-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000, 300-15,000 PSIG [.35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414, 14-690, 20.7-1,035 bar]	C_V=.08	300 or 316 SST
54-2300 Series: High Pressure/High Flow - BPR • Control pressures to 10,000 PSIG [690 bar] • Flow capacity: C_V=1.6 • Excellent crack to reseat ratio • Hardened metal to metal seats for heavy duty service	750, 1500, 3500 5000, 10,000 PSIG [51.7, 103.4, 241.3, 345, 690 bar]	C_V=1.6	300 SST
54-2700 Series: High Flow/Back Pressure • Flow capacity: C_V=5.0 • Choice of dome loaded, spring loaded, or air ratio device	5-500, 50-5500 PSIG [.35-35, .35-379 bar]	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
04 Series: Miniature/Lecture Bottle				
• Choice of 1/8" or 1/4" in & out ports • Minimal internal volume • Choice of 316 SST or brass	3,500 PSIG [241.3]	0-30, 0-60, 0-100 PSIG [0-2, 0-4.1, 0-6.9 bar]	C_V=.06	Brass or 316L SST
44-2200 Series: Compact/General Purpose				
• 1/4" inlet and outlet ports • Diaphragm sensed - highly sensitive • Various trim options available	3,500, 400 PSIG [241.3, 27.6 bar]	1-25, 1-50, 1-100, 2-250, 2-500 PSIG [.07-1.7, .07-3.5, .07-6.9, .14-17.2, .14-35 bar] maximum	C_V=.02 C_V=.06 C_V=.15 C_V=.24	Brass, 316L SST, Hastelloy-C® or Monel®
44-2600 Series: General Purpose/Large Diaphragm				
• Increased sensitivity, minimal droop • Repeatability: ±1/2% of outlet pressure range • Accuracy: ±1% of outlet pressure	3,500 PSIG 400 PSIG [241.3, 27.6 bar]	1-25, 1-50, 1-100, 1-150 PSIG [.07-1.7, .07-3.5, .07-6.9, .07-10.4 bar]	C_V=.02 C_V=.06 C_V=.15 C_V=.24	316L SST
44-2800 Series: Positive Seal				
• Mechanical link between diaphragm & main valve prevents pressure creep • Positionable captured vent bonnet	3,000 PSIG [207 bar]	1-25, 1-50, 1-100, 1-150 PSIG [.07-1.7, .07-3.5, .07-6.9, .07-10.4 bar]	C_V=.16	316L SST
44-3200 Series: High Flow/Purge				
• Ideal purge regulator • High pressure inlet version incorporates a balanced main valve to minimize inlet pressure fluctuation	500, 3,000 PSIG [35, 207 bar]	5-25, 5-50, 5-100, 5-150, 5-200 PSIG [.35-1.7, .35-3.5, .35-6.9, .35-10.4, .35-14 bar]	C_V=1.0 C_V=1.8	Brass or 316L SST
44-3400 Series: General Purpose/Two Stage				
• Decaying inlet characteristic: .04 per 100 PSIG inlet pressure change • Various trim options available	3,500 PSIG [241.3 bar]	2-25, 2-50, 3-100 3-150, 3-250 PSIG [.14-1.7, .14-3.5, .21-6.9, .21-10.4, .21-17.2 bar]	C_V=.05	Brass or 316L SST
44-5000 Series: Absolute Pressure				
• Control pressure range: vacuum to low positive pressures	120, 400, 3,500 PSIG [8.3, 27.6, 241.3 bar]	28" Hg Vac to 15 PSIG [1bar] 28" Hg Vac to 25 PSIG [1.7 bar] 28" Hg Vac to 50 PSIG [3.5 bar] 28" Hg Vac to 100 PSIG [6.9 bar]	C_V=.06 C_V=.15 C_V=.24	316L SST
FR 2000 Series: Facilities Regulator				
• Ideal purge regulator for low pressure systems • Negative bias spring enhances performance at low pressures • Balanced main valve minimizes inlet pressure fluctuations	500 PSIG [35 bar]	0-15, 0-30, 0-75, 0-150 PSIG [0-1, 0-2, 0-5.2, 0-10.4 bar]	C_V=1.8	316L SST

Product Series/Features (Back Pressure)	Controlled Pressure Ranges	Flow Capacity	Body Material
44-2300 Series: Back Pressure			
• Economical, general purpose	0-25, 0-50, 0-100, 0-250 PSIG [0-1.7, 0-3.5, 0-6.9, 0-17.2 bar]	C_V=.08	Brass or 316L SST

Corrosion Resistant, Specialty Gas & Petrochemical Regulators

44-5800 Electric Heated Vaporizing

TM Top Mount Regulator

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
44-5800 Series: Vaporizing Regulator • Available in steam heated & electric heated versions • Superior heat transfer technology with tolerance to voltage spikes & high ambient temperatures • Optional heating capacity up to 400 watts for faster response to flow variations • Electric unit designed for 120VAC/240VAC, 50/60 Hz • 4-20 mA analog output capability for remote temperature monitoring & data acquisition • Optional LCD temperature display	6,000 PSIG [414 bar]	Up to 500 PSIG [35 bar]	C_V=.02	316L SST or Monel®
TM Series: Top Mount Regulator • Reduces plumbing time and increases leak integrity • Compact size, small footprint • Complies to SP76 Standard	1,000 PSIG [69 bar]	0-30, 0-60, 0-100 PSIG [0-2, 0-4.1, 0-6.9 bar]	C_V=.02 C_V=.06	316L SST

Changeovers

ACS012 Automatic Changeover

CS2200 Changeover System

NA-3 Changeover System

Auto Cascade System

Product Series/Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
ACS012 Series: Automatic Changeover • Eliminates downtime caused by depleted gas supplies • Incorporates 44-2200 regulators	400, 3,500 PSIG [27.6, 241.3 bar]	100, 150, 200, 250 PSIG [6.9, 10.4, 14, 17.2 bar]	C_V=.06	Brass or 316L SST
ACS3200 Series: High Flow Changeover • High flow capacity: 50 scfm • Based on TESCOM field-proven 44-3200 Series Regulator • Eliminates downtime caused by depleted gas supplies	3,000 PSIG [207 bar]	160-200 PSIG [11-14 bar]	C_V=1.2	Brass or 316L SST
CR441800 Series: High Pressure Changeover • Inlet pressures up to 6,000 PSIG • Based on TESCOM's field proven 44-1800 Series Regulator • Eliminates downtime caused by depleted gas supplies	3,500, 6,000 PSIG [241.3, 414 bar]	5-500, 5-600, 10-700, 10-800, 10-900, 10-1,000 PSIG [.35-35, .35-41.4, .69-48.3, .69-55.2, .69-62, .69-69 bar]	C_V=.06	Brass or 316L SST
CS-2200 Series: Changeover System • Eliminates downtime caused by depleted gas supplies • Single body changeover regulator plus a point-of-use regulator • Incorporates 44-2200 regulators	3,500 PSIG [241.3 bar]	0-25, 0-50, 0-100, 0-150 PSIG [0-1.7, 0-3.5, 0-6.9, 0-10.3 bar]	C_V=.06	Brass or 316L SST
NA-3 Series: Changeover System • Includes changeover and line regulator • Cylinder, vent and outlet shutoff valves standard	3,000 PSIG [207 bar]	0-100, 0-200 PSIG [0-6.9, 0-14 bar]	C_V=.06	Brass or 316L SST
NA-9 Series: Changeover System • Identical to NA-3 but offers multiple bottle hook-ups	3,000 PSIG [207 bar]	0-100, 0-200 PSIG [0-6.9, 0-14 bar]	C_V=.06	Brass or 316L SST
Auto Cascade System • Automatic operation and priority fill • 10,000 PSIG (690 bar] maximum operating pressure • Simultaneously charge and dispense • Cartridge servicing for easy maintenance				

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 [1.4 to 1,379 bar]
- 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
20-1000 Series: Compressed Natural Gas				
• Balanced main valve minimizes inlet pressure fluctuations • Piston sensed - highly reliable • Water heat jacket standard	3,600 PSIG [248 bar]	0-500 PSIG [0-35 bar]	C_V = .5	Aluminum
20-1200 Series: High Pressure Hydrogen				
• Nickel-plated aluminum • Large piston sensor • All regulators tamper-proof	5,000 PSIG [345 bar]	0-500 PSIG [0-35 bar]	C_V = .5	Aluminum 316 SST
20-1400 Series: High Flow / Low Pressure				
• Diaphragm sensed - highly sensitive • Dome load spring bias ± 2 PSIG • Captured bonnet design for safety	250 PSIG [17.2 bar]	0-190 PSIG [0-13 bar]	C_V = 1.6	Aluminum
44-6000 Series: In-Line High Pressure				
• Balanced main valve design • Positive shutoff seal • Captured bonnet available	10,000 PSIG [690 bar]	120, 150, 300 PSIG [8.3, 10.4, 20.7 bar] (all pre-set)	C_V = .3	316 SST

Valves

30-1100 Shutoff Valve

CC Metering Valve

VA & VG Air-Operated ON/OFF Valves

VA Valve - toggle actuated

VJ Bi-Directional Shut-off Valve

Product Series/Features	Operating Pressure (maximum)	Flow Capacity	Body Material
30 Series: Shutoff Valves • Globe or angle pattern • Built-in metallic stop prevents over-torquing - reduces seat wear • 30-1100 Series: available with metering capability (long stem optional) • Bi-directional flow (all models)	10,000 PSIG [690 bar]	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
CC Series: Metering Valve • Precise control at very low flows • For liquid or gas applications • 20+ turns from shutoff to full open • Non-rotating stem reduces seat wear	Full vacuum to 10,000 PSIG [690 bar]	C_V=.00005 C_V=.00125	316 SST
VA & VG Series: Air Operated ON/OFF Valves • Normally open or normally closed • Balanced main valve - reduces required actuation pressure (30-60 PSIG) • Compact package • Toggle actuator optional • Solenoid valve actuation (pneumatic assist) optional	6,000, 10,000 15,000, 20,000 PSIG [414, 690, 1,035, 1,380 bar]	VA: C_V=.75 VG: C_V=2.0	Brass or 316 SST
VJ Series: Cartridge Valves • Bi-directional flow • Built-in metallic stop • Globe or angle pattern • O_2 compatible design	6,000, 10,000 PSIG [414, 690 bar]	angle: C_V=.49 globe: C_V=.28	Brass or 316 SST
VL Series: C_V=10 • Balanced main valve - reduces required actuation pressure • Normally closed • In-line flow configuration	6,000 PSIG [414 bar]	C_V=10	316 SST
VT Series: 3-Way Valve • High cycle life in compact design • 3 way, 2 position • Balanced main valve • Optional solenoid valve • Universal operation • Class VI shut-off	3,500 PSIG 6,000 PSIG 10,000 PSIG [241.3, 414, 1,035 bar]	C_V=.75	Brass or 316 SST

VL Series C_V=10 In-line Valve

VT Series 3-Way Valve

Clean Pharmpure™ Regulators for Biotech & Pharmaceutical

PH-1800 Low Pressure Very High Flow

PH-2200 - Low Flow

PH-2600 - Low Flow

PH-3200 - Medium Flow

All Pharmpure™ regulators are compliant with the MJ and SF sections of BPE-2005. Clean Service Certification option is available.

Regulator Series /Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body & Finishes
PH-1600: Low Pressure, High Flow				
• FDA Title 21 & USP Class VI Materials • Flows to 250 SCFM N_2 • Gas and clean steam versions • Ports from $^1/_2$" - 1 $^1/_2$" tube ends, sanitary	300 PSIG [20.7 bar]	1-20, 1-50, 1-100, 2-300 PSIG [.07-1.4, .07-3.5, .07-6.9, .14-20.7 bar]	C_V=5.0	Brass or 316L SST 25 R_a available (SST version only)
PH-1800: Low Pressure, Very High Flow				
• FDA Title 21 & USP Class VI Materials • Flows to 1400 SCFM N_2 • Gas and clean steam versions • Ports from $^3/_4$" - 1 $^1/_2$" tube ends, sanitary	300 PSIG [20.7 bar]	1-20, 1-50, 1-100, 2-150 PSIG [.07-1.4, .07-3.5, .07-6.9, .14-10.4 bar]	C_V=10	Brass or 316L SST 25 R_a available (SST version only)
PH-2200: Compact, Low Pressure, Low Flow				
• FDA Title 21 & USP Class VI Materials • Flows to 5 SCFM for specialty gas & clean air applications • Ports from $^3/_8$" - $^1/_2$" tube ends, sanitary	150 PSIG [10.4 bar]	1-10, 1-25, 1-50, 1-100 PSIG [.07-.69, .07-1.7 .07-3.5, .07-6.9 bar]	C_V=.06 C_V=.15 C_V=.24	Brass or 316L SST 15 or 32 R_a available (SST version only)
PH-2600: Compact, Low Pressure, Low Flow				
• FDA Title 21 & USP Class VI Materials • Flows to 10 SCFM for specialty gas & clean air applications • Ports from $^3/_8$" - $^1/_2$" tube ends, sanitary	150 PSIG [10.4 bar]	1-10, 1-25, 1-50,1-100 PSIG [.07-.69, .07-1.7 .07-3.5, .07-6.9 bar]	C_V=.06 C_V=.15 C_V=.24	Brass or 316L SST 15 or 32 R_a available (SST version only)
PH-3200: Compact, Low Pressure, Medium Flow				
• FDA Title 21 & USP Class VI Materials • Gas and clean steam versions • Tracking version for agitator seals • Gas flows to 50 SCFM N_2	500 PSIG [35 bar]	5-25, 5-50, 5-100 PSIG [.35-1.7, .35-3.5, .35-6.9 bar]	C_V=1.0 C_V=1.8	Brass or 316L SST 15 or 32 R_a available (SST version only)

Custom Manifolds & Systems

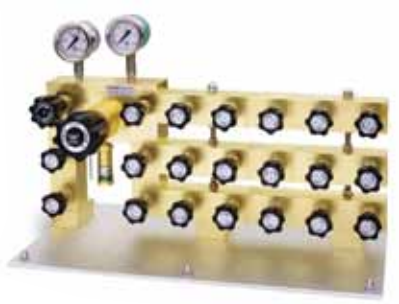
Custom Test Stand

TESCOM's Systems Group designs and builds unique pressure and flow control solutions. We provide standard designs and 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 [4,137 bar].
- Utilizing manifold technology, TESCOM systems minimize potential leak paths, save 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 operating procedure at TESCOM.

Custom Manifolds & Systems - continued

Hydrogen Cylinder Valve Control Manifold



Custom Diving Manifold

Bracket Assembly with Regulator Component

Automatic Changeover for UHP Hydrogen Service

Burst Test Stand - Hydro-static testing of car radiator hoses

Aircraft Charging Cart (3 bottle version)

Electronic Pressure Controls

ER3000 Digital Pressure Controller

ER300X Series Digital Pressure Controller

- Precise accuracy: ± .1% FSO! (ER3001 in Internal Feedback Mode)
- Features controlled outlet pressure from 0-100 PSIG [0-6.9 bar] as a stand alone unit
- Compatible pressure regulators available offering vacuum to 20,000 PSIG [1,379 bar] control
- Selectable setpoint signal source:
  – External analog, digital RS485, downloadable profile
- Selectable feedback signal source:
  – Internal 0-100 PSIG [0-6.9 bar] sensor, external analog
- Selectable failsafe features
- NEMA 4X enclosure
- 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

Electronic Pressure Controls - continued

ER3040 Series

ER3110 Compact Integrated Unit

269-529 Low Pressure/ High Flow Regulator

70-2000 Motorized Actuator

Pressure Transducers

ER3000E Series Explosion-Proof Control

- FM approved enclosure for Class 1, Division 1, Group B, C and D.
- Same features and benefits as ER3000

ER3040 Series

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

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 [1,379 bar]
- Excellent for calibration systems

ER3020 Series - High Pressure, Low Flow Integrated Systems

- Integrates with 26-1000 Dual Piston Regulator to achieve 10-9000 PSIG [.69-620 bar] in 395 milliseconds
- Choice of outlet pressure ranges to 10,000 PSIG [690 bar]
- Gas or liquid applications
- Segregated venting
- Flow capacity: C_V=0.06
- Other integrated regulators available

ER3100 Series - High Flow Control

- Integrates with 44-4000 venting regulator
- Choice of 500 or 900 PSIG [35 or 62 bar] outlet ranges
- Flow capacity: C_V=0.7 or 2.0
- Available in brass or stainless steel

ER3110 Series - Compact Integrated Unit

- Integrates with 44-5200 regulator, standard options available
- Features identical to the ER3000 (shown on page 11)
- Choice of outlet pressure ranges to 500 PSIG [35 bar]
- Reference pressure: 100 PSIG [6.9 bar]
- Flow capacity: C_V=0.06 or 0.15
- Venting or non-venting

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

- Maximum inlet pressure: 300 PSIG [20 bar]
- Controlled outlet pressure to 100 PSIG [6.9 bar], some models up to 300 PSIG [20 bar]
- NPT ports from 1/4" to 2-1/2"
- Flow capacity: C_V values up to 45
- Exceptional low pressure control throughout flow range

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

Pressure Transducers

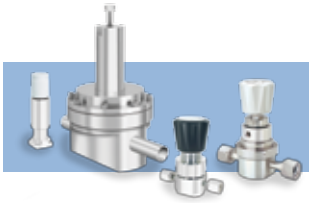
- Ideal for use in ER3000 applications where an external feedback is required
- Provides extremely stable and repeatable hydraulic and pneumatic pressure measurements
- .1%, 0.25% and 0.5% accuracy available
- Choice of 4-20 mA, 0-10 VDC versions
- Wide choice of pressure ranges (including sub-atmospheric)

Gauges & Filters

Gauges

Mini In-Line Filters
98 Series

Product Series/Features	Operating Pressure (maximum)	Body Material
Pressure Gauges (2" & 2.5"dia.)		
• Brass or Stainless Steel construction • Pressure ranges from sub-atmospheric to 10,000 PSIG [690 bar] • 1/4" NPT connections	sub-atmospheric to 10,000 PSIG [690 bar]	Brass or 316 SST
Filters - High Pressure (10 micron)		
• 98-1010 Series Mini In-Line filter: • For systems with size limitations	6,000 PSIG [414 bar]	304 SST
• 98-1110 Series T-Type Filter: • Designed for high flow applications • Features cleanable element • Available options: electrical, visual, bypass valve, visual pressure differential indicator, bypass relief valve, electrical bypass	6,000, 10,000 PSIG [414, 690 bar]	300 SST
• 98-1210 Series In-Line Filter: • For systems with size limitations • Cleanable element	3,000, 6,000, 10,000 PSIG [207, 414, 690 bar]	300 and 17-4 SST



Ultra-high purity pressure controls are available. These products are designed for semiconductor, flat panel displays, photovoltaic and other microelectronic industries.

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TESCOM designs and manufactures a wide range of standard and custom engineered pressure control solutions for a diverse world market. Whether your needs are components like regulators and valves or pressure systems and assemblies, TESCOM provides expert application and customer support from simple industrial applications to high tech complex projects. Market application know-how includes Aerospace & Defense, Alternative Fuels, Diving & Life Support, Laboratory & Research, Life Sciences, Medical, Oil & Gas and Semiconductors to name just a few. Close collaboration between worldwide design and manufacturing groups ensure the usage of state-of-the-art production technologies to provide the innovation and highest quality product that TESCOM customers have come to expect.

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DBROC1753X012