

Life Sciences



Pressure control solutions for your industry.

TESCOM™


EMERSON™
Process Management

Ultra-clean hygienic pressure control: *a cost-effective solution!*

From process air and clean steam to specialty gas control, you'll find TESCO™ products in all facets of R&D and manufacturing. Emerson specializes in precision, hygienic control that is very cost-effective. By using barstock bodies, we minimize additional finishing processes, which at the same time, allows for flexible porting.

Only Emerson delivers full integration of precision pressure regulators and electronic controllers for process automation.

What we can do for you:

- Provide a wide array of low pressure, high flow regulators
- Offer flexibility with low flow models providing flows as low as **2 cc/min**, high flow models with flows in excess of **1400 scfm**
- Deliver ultra-precise control or process **automation** with fully tunable, closed loop electronic pressure controls. Achieve control within **+/- .1 psig!**



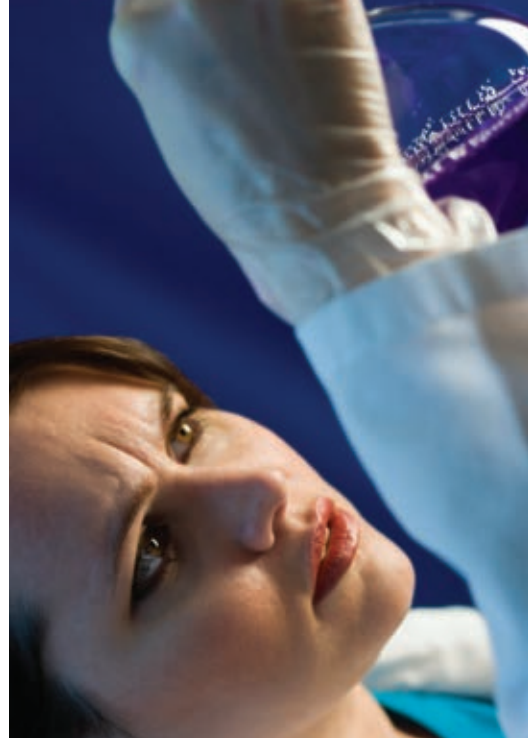
Typical product features

- Designs compliant with ASME BPE-2009
- Compact bar stock body designs standard
- USP Class VI soft goods available
- ANSI Class Six shutoff
- Electropolished 316L stainless steel construction available
- Integral and/or welded gauge ports - available on most models
- All regulators cleaned for O₂ service per ASTM G93 & CGA 4.1
- Very low internal volumes
- Simple trim designs - easy to service
- Models are available with sanitary, tube, NPT and compression fittings






Typical applications for TESCO hygienic products

- Pressure control for utilities and instrumentation
- Clean steam for bioreactors and fermenters
- Sparge gas control for bioreactors and fermenters
- APR regulators
- Differential pressure control of agitator seals
- Differential pressure control for add-can options
- Gas manifold systems (automatic changeover systems) for specialty gas and breathing air
- Tank blanketing & pressurization systems
- Cylinder and wall-mount regulator stations
- Point-of-use laboratory specialty gas regulators
- Bulk gas pressure control
- Pressure control for packaging test stations & product integrity test stands
- Automation of crucial pressure processes
- CE marking available for 15 Series Ultra-High Flow Regulators





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Gylon® is a registered trademark of Garlock, Inc.
VCR® is a registered trademark of Cajon Co.



Ultra-Clean Pharmpure™ Hygienic Regulators for Life Sciences

PRODUCT SERIES & FEATURES		INLET PRESSURE (max.)	OUTLET PRESSURE (max.)	C _v	BODY & FINISHES
PH-1600 Series: Low Pressure, High Flow <ul style="list-style-type: none"> Flows to 400 SCFM for N₂ Gas and clean steam versions Ports to 1.5" - sanitary, tube USP Class VI compliant 		300 psig 21 bar	20, 50, 100, 150 psig 1.5, 3.5, 7, 10 bar	5.0	316L SST 20 R _a finish (SFV-1) standard
PH-1800 Series: Low Pressure, Very High Flow <ul style="list-style-type: none"> Flows to 1400 SCFM for N₂ Gas and clean steam versions Ports to 2" - sanitary, tube USP Class VI compliant 		300 psig 21 bar	20, 50, 100, 150 psig 1.5, 3.5, 7, 10 bar	10.0	316L SST 20 R _a finish (SFV-1) standard
PH-2200 Series: Compact, Low Pressure, Low Flow <ul style="list-style-type: none"> Flows to 5 SCFM for N₂ & clean air applications Ports are 3/8", 1/2" - sanitary, tube USP Class VI compliant 		150 psig 10 bar	10, 25, 50, 100 psig 1, 2, 3.5, 7 bar	.06 .15 .24	316L SST 32 R _a finish (SFV-3) standard 15 R _a finish (SFV-4) available
PH-2600 Series: Compact, Low Pressure, Low Flow <ul style="list-style-type: none"> Flows to 10 SCFM for N₂ Minimal droop Ports are 3/8" tube, 1/2" - sanitary, tube USP Class VI compliant 		150 psig 10 bar	10, 25, 50, 100 psig 1, 2, 3.5, 7 bar	.02 .06 .15 .24	316L SST 32 R _a finish (SFV-3) standard 15 R _a finish (SFV-4) available
PH-3200 Series: Compact, Low Pressure, Medium Flow <ul style="list-style-type: none"> Flows to 50 SCFM for N₂ Gas and clean steam versions Ports to 1" tube - sanitary, tube USP Class VI compliant 		500 psig 34.5 bar	25, 50, 100 psig 2, 3.5, 7 bar	1.0 1.8	316L SST 32 R _a finish (SFV-3) standard 15 R _a finish (SFV-4) available





General Purpose Regulators for Life Sciences

PRODUCT SERIES & FEATURES		INLET PRESSURE (max.)	OUTLET PRESSURE (max.)	C _v	BODY & FINISHES
DG Series: Low Pressure, Very High Flow <ul style="list-style-type: none"> Flows to 1400 SCFM for N₂ Gas and clean steam versions Ports to 2" - sanitary, tube, NPT 		300 psig 21 bar	20, 50, 100, 150, 300 psig 1.5, 3.5, 7, 10, 21 bar	10.0	316 SST
DH Series: Low Pressure, High Flow <ul style="list-style-type: none"> Excellent repeatability Very high flows at low pressures Ports to 1" - NPT 		500 psig 35 bar	20, 50, 100, 150 psig 1.5, 3.5, 7, 10 bar	5.0	316 SST
ER5100 Series: High Flow Control <ul style="list-style-type: none"> Integrates with 44-4000 venting regulator 		4500 psig 310 bar	400, 900 psig 28, 62 bar	0.7 2.0	Integrated digital electropneumatic pressure control
15-001 Series: Ultra-High Flow <ul style="list-style-type: none"> Internally threadless 10 R_a microinch finishes Spring load: C_v = 8 Dome load: C_v = 20 		300 psig 21 bar	130 psig 9 bar	8.0 20.0	316L SST 10 R _a finish standard





Most TESCOM regulators are SIP-capable. Please inquire.

All Pharmpure™ regulators are available with sanitary or tube ends. All General Purpose regulators are available with NPT threads, tube ends, sanitary or compression fittings. Gauge ports are available on most models.

General Purpose Regulators for Life Sciences - *continued*

PRODUCT SERIES & FEATURES		INLET PRESSURE (max.)	OUTLET PRESSURE (max.)	C _v	BODY & FINISHES
26-2500 Series: High Flow, Back Pressure <ul style="list-style-type: none"> • Large Cylon® diaphragm for excellent sensitivity • Bubble-tight shutoff at all reseating pressures • Ports to 1" - NPT, tube, sanitary 		20, 50, 125, 200 psig 1.5, 3.5, 8.5, 14 bar	NA	5.0	316 SST
44-2200: Compact/General Purpose <ul style="list-style-type: none"> • Diaphragm sensed - highly sensitive • Various trim options available • Ports are 1/4" - NPT 		400, 3500 psig 27.5, 241 bar	25, 50, 100, 150, 200 psig 2, 3.5, 7, 10, 14 bar	.02 .06 .15 .24	316L SST
44-3200 Series: High Flow/Purge <ul style="list-style-type: none"> • Ideal purge regulator • High pressure inlet version available 		500, 3000 psig 34.5, 207 bar	25, 50, 100, 150, 200 psig 2, 3.5, 7, 10, 14 bar	1.0 1.8	316L SST
44-4700 Series: Subatmospheric, Back Pressure <ul style="list-style-type: none"> • Absolute pressure control • Negative spring bias • Controls subatmospheric to positive pressures 		28" Hg vac to 15, 50, 100, 150 psig 28" Hg vac to 1, 3.5, 7, 10 bar	NA	.04 .3	316L SST

Changeover Regulator Systems - *for continuous gas flow from compressed gas sources*

PRODUCT SERIES & FEATURES		INLET PRESSURE (max.)	OUTLET PRESSURE (max.)	C _v	BODY & FINISHES
ACS012 Series: Automatic Changeover <ul style="list-style-type: none"> • Eliminates downtime caused by depleted gas supplies • Incorporated 44-2200 regulators 		400, 3500 psig 27.5, 241 bar	0-100, 0-150, 0-200, 0-250 psig 0-7, 0-10, 0-14, 0-17 bar	.06	Brass or 316L SST
ACS3200 Series: High Flow Changeover <ul style="list-style-type: none"> • High flow capacity: 50 scfm • Based on TESCOM's field-proven 44-3200 Series regulator • Eliminates downtime caused by depleted gas supplies 		3000 psig 207 bar	160-200 psig 11-14 bar	1.2	Brass or 316L SST
CS2200: Changeover System <ul style="list-style-type: none"> • Eliminates downtime caused by depleted gas supplies • Single body changeover regulator plus a point-of-use regulator • Incorporated 44-2200 regulators 		3500 psig 241 bar	0-25, 0-50, 0-100, 0-150 psig 0-2, 0-3.5, 0-7, 0-10 bar	.06	Brass or 316L SST
NA-4 Series: Changeover System <ul style="list-style-type: none"> • Complete systems can include CGA connections, hoses, check valves, purge valves, pressure switches & alarms • Supports up to eight cylinders per side - 16 total • Brass or SST regulators and valves • Flexibility in shutoff valve type and location for increased customizing 		3000 psig 207 bar	Multiple Ranges: 0-30 to 0-1500 psig 0-2 to 0-103 bar	.06	316L SST

Ultra-clean Pharmpure™ regulators for the Life Sciences

Emerson offers you the Pharmpure™ line of hygienic ultra-clean pressure regulators for bioprocess applications that are highly sensitive to extractables and leachables. Like all of our regulators, Pharmpure™ regulators are made from barstock bodies and trim parts, eliminating the need for mechanical polishing to achieve surface flatness. All wetted soft goods are **USP Class Six-compliant**, ensuring the most inert flow path available. Additionally, Pharmpure™ regulators are compliant with the **MJ and SF sections of BPE-2009**. By ensuring compliance with these specifications, you are assured of using non-contaminating pressure regulators in your most sensitive processes.

We offer a **Clean Service C of C** documentation package that includes a list of all wetted parts by part number and their respective material

of construction. This includes actual mill certs for the body and ferrules, ASTM material specs for metal trim parts, and the USP Class VI certification for all soft goods. Each weld is numbered, and detailed weld records are provided to you along with a gas purity certification from our gas supplier.

Each TESCO M regulator is serial numbered for traceability. No other regulator manufacturer provides you with such a detailed level of traceability. Such thorough documentation **speeds up the 21 CFR Part 211.65 IQ/OQ process**, making regulator validation *ultra pain-free!*



Automate your pressure control and achieve surprising accuracy!

An electronic pressure controller in conjunction with a dome-loaded pressure regulator provides **closed-loop pressure control**. The pressure controller senses downstream pressure changes and automatically compensates by adjusting the dome pressure of the mechanical regulator. Factors such as droop, decaying inlet, and changes due to shifts in ambient temperature are **virtually eliminated!** With the use of a closed-loop controller, pressures can be controlled **within .1 psig!**

Additionally, the use of a pressure controller enables the user to **automate process pressure control**, permitting pressure changes as part of a process control scheme. Gas pressures can be precisely controlled

in applications like add-can systems. Pressure controllers also permit accurate control in tank blanketing and time/pressure liquid filling operations by maintaining a precise head pressure in a pressurized product tank.

Emerson offers several pressure controllers for **use with most TESCO M pressure regulators**. The ER5000 provides digital and analog communications with computers, PLCs, and process controllers, and is available in NEMA 4 or NEMA 7 enclosures. Pressure accuracy of .1% of the control range is possible with the ER5000. The ER5100 features an ER5000 pressure controller integrated with any one of several mechanical regulators. *Ask your sales representative for more details.*





We are your global partner in precision pressure control.



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