

# Sanitary Process Valves and Regulators



## Baumann Inc.

# Company History

**B**aumann Inc. is an ISO 9001 certified, PED compliant manufacturer of general utility, precision micro flow, sanitary control valves, and low noise static resistance plates, serving the fine chemicals, industrial semiconductor, pharmaceuticals and biotechnology industry segments.

Baumann, Inc. was acquired by Emerson; a Fortune 100 U.S. company listed on the New York stock exchange, and was integrated into the Emerson Process Management family of companies. With this acquisition, we became an integral part of the world's largest global supplier of control valves and instrumentation serving the final control element needs of our global customers.

Emerson delivers the true potential of your facility through an unparalleled combination of industry experts, best-in-class technologies, and PlantWeb...the best-in-class systems architecture for next generation digital plants.

Baumann Inc. is committed to [Uncompromising Customer Service](#) and is dedicated in its pursuit to meeting customer application requirements and critical on site delivery schedules.



# World Leader in “Smart” Aseptic Process Control

**BIOPROCESSING** - The manufacture of genetically engineered products ranging from plant growth hormones, polymers, chemical feedstocks, adhesives, AIDS vaccines and artificial blood.

**ASEPTIC** - Free of pathogenic organisms.

**PATHOGENIC** - Capable of producing or causing disease.

**STERILE** - Free of bacteria or other micro organisms.

**CLEAN-IN-PLACE (C.I.P.)** - A system of pumps, tanks and piping distribution to circulate detergents, disinfectants and flushing liquids through process equipment systems without need to dismantle, hand clean and then reassemble.

**SELF-DRAINING** - Equipment that is provided with low point drains from inlet to outlet.

**SANITIZE-IN-PLACE (S.I.P.)** - Similar to CIP system except distributes clean steam to sanitize equipment after cleaning.

**WATER FOR INJECTION (W.F.I.)** - High purity water produced by multiple stage distillation.

**DEMINERALIZED WATER (D.M.W.)** - Produced by processing water through an ion exchange device.

**REVERSE OSMOSIS WATER (R.O.W.)** - Produced by processing D.M.W. water through a reverse osmosis system.

## Hygienic Hierarchy



BIOPROCESSING

ASEPTIC

PATHOGENIC

STERILE

CLEAN-IN-PLACE

SELF-DRAINING

SANITIZE-IN-PLACE

WATER FOR INJECTION

DEMINERALIZED WATER

REVERSE OSMOSIS WATER



**Emerson Process Management brings the biotechnology and pharmaceutical industries an unprecedented opportunity to reduce the time to market through the PlantWeb Architecture.**

**O**ur sanitary valves are designed to satisfy the stringent demands of the pharmaceutical and biotechnology industries, and are approved by the 3A council. They have mechanically polished internal surfaces  $\leq 35$  Ra Microinch (0.89 Micron) or optional  $\leq 20$  Ra Microinch (0.51 Ra Micron) which are mechanically polished and then electropolished (ASME BPE SVF5). Self-draining designs for CIP/SIP. Unreliable and difficult to clean reciprocating o-ring stem seals are not used. Valves are machined 316L stainless steel with tri-clover or optional butt-weld ends. Series 83000 and 84000 valves can handle temperature up to 310°F making them suitable for sterile steam throttling.



**Combining Flow Control Technology to provide the right valve .... for the right application... for the right results.**

## **Sanitary and Aseptic Valves**

**B**aumann Sanitary valves are a different breed ... superior flow control, high rangeability, and compact size designed to meet the additional demands that come with CIP and SIP service.

And, as an added benefit, the ability to use the FIELDVUE Digital Valve Controller means that your sanitary valves can become a proactive component of your process validation protocols.





**P**ressure regulation for your sanitary process.

The 84000 series control valves and regulators are designed specifically for those applications requiring precision pressure regulation in a sanitary environment.

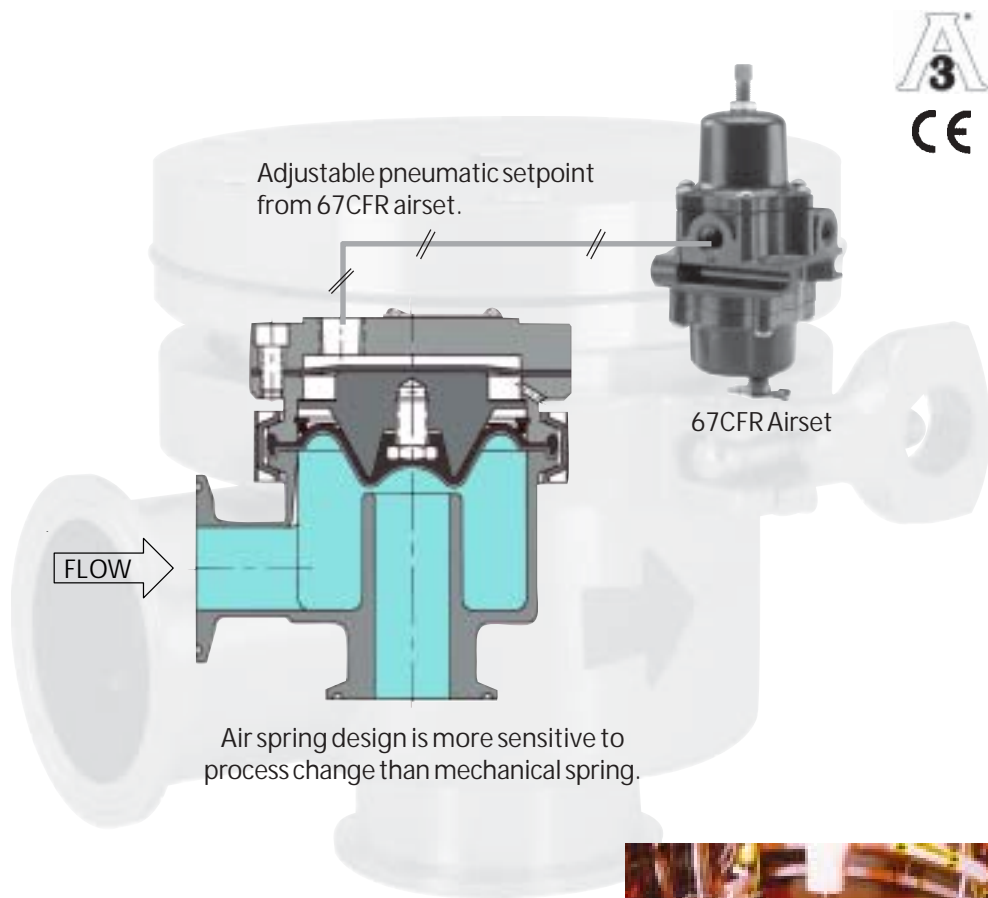
Polished, stainless steel body and trim components ensure efficient cleaning and sanitizing giving you confidence that your processing environment produces the highest purity.

All of the 84000 series regulators provide self-draining design, zero dead leg options, and 3A approvals.



## 84000ABR Air-Loaded Back Pressure Regulator

The most accurate back pressure sanitary regulator in the industry. Recommended for use with centrifuges for media separation at varying densities. Remote setpoint adjustment is accomplished with the Fisher Controls model 67CFR airset.



- 1 inch, 1-1/2 inch, & 2 inch end connections
- Tri-clamp / Tri-clover<sup>(R)</sup> end connection standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP
- Closure diaphragm meets FDA Specification 177
- Quick-disconnect bonnet
- Remotely adjustable set point capability

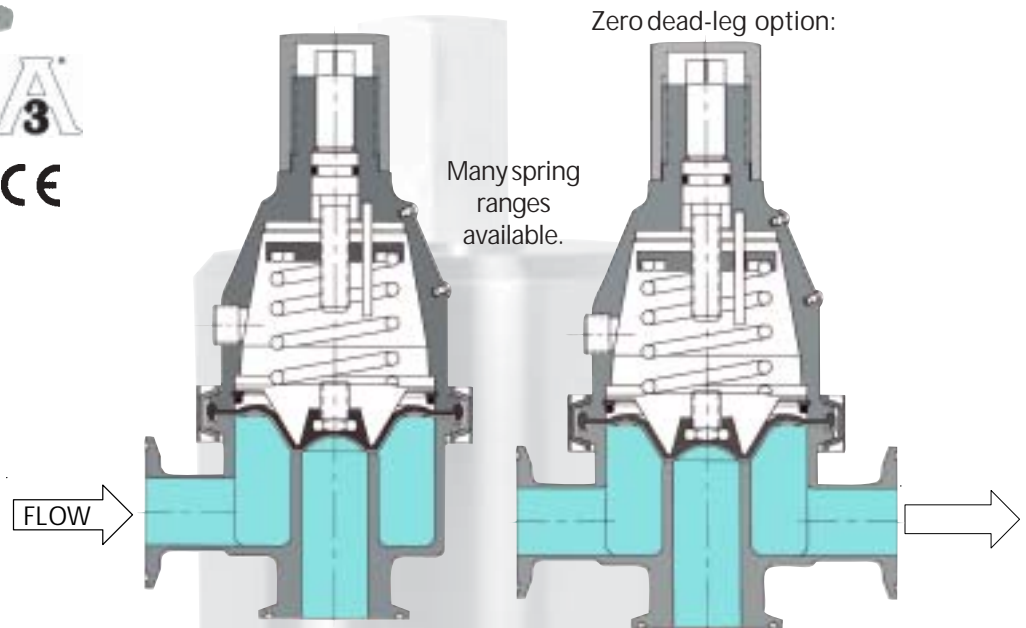


## 84000BR Back Pressure Regulator



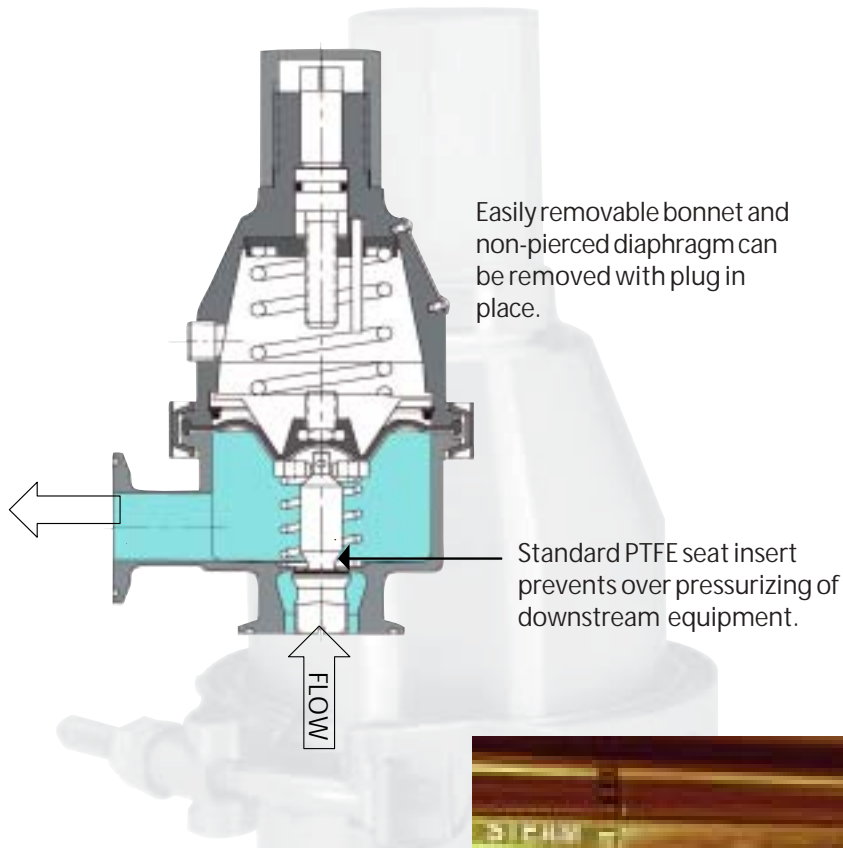
- 1 inch, 1-1/2 inch, & 2 inch end connections
- Tri-clamp / Tri-clover<sup>®</sup> end connection standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP
- Closure diaphragm meets FDA Specification 177
- Quick-disconnect bonnet
- Flow capacities:
  - 3- 30 gpm wafer
  - 12-155 scfh air
  - 30-500 lbs/hr saturated steam
- Pressure regulation from 2 psi - 100 psi

These unique regulating valves are designed especially for the biotechnology industry. The 84000BR is suitable for back pressure control and relief of fluids and ultraclean steam or air. It's light weight is ideal for thin-wall tubing.

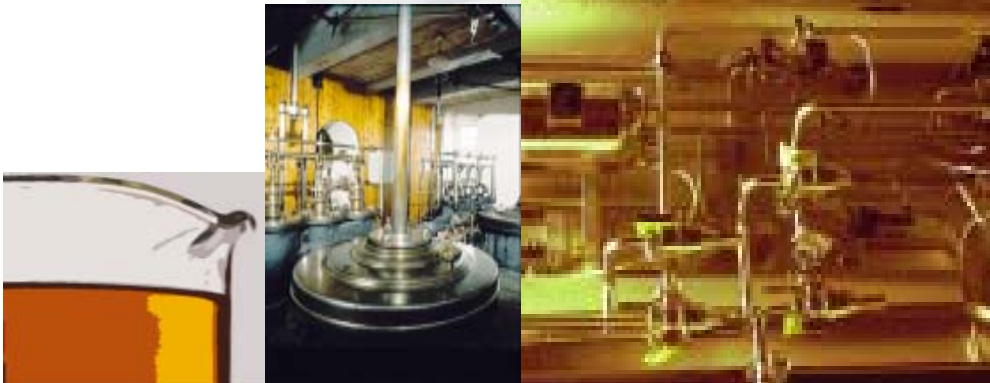


## 8400RR Pressure Reducing Regulator

This self-draining sanitary regulator is ideal for pressure reducing applications such as sterile steam and high purity gases.



- 1 inch end connection
- Tri-clamp / Tri-clover<sup>®</sup> end connections standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining from outlet to inlet and suitable for continuous saturated sterile steam applications (SIP).
- Sensing diaphragm meets FDA Specification 177
- Quick-disconnect bonnet
- Adjustable ranges 5 - 50 psig
- Plug does not penetrate diaphragm preventing leakage and process contamination
- Diaphragm / bonnet assembly can be removed in one piece



## 96000 Series Pneumatic Pressure Controller

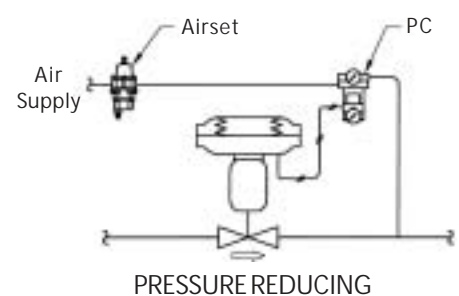
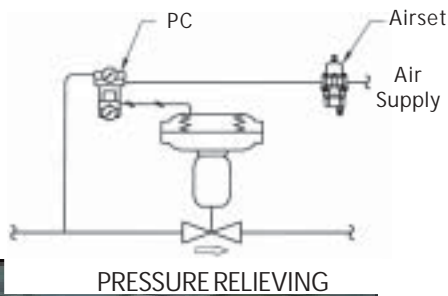
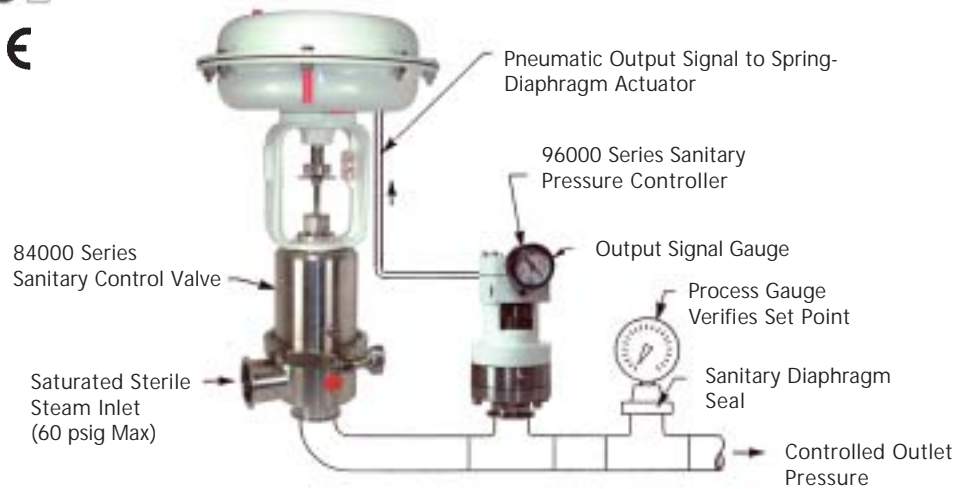


This sanitary unit has a self-draining design which allows for clean-in-place (CIP) and sanitize-in-place (SIP) procedures and is used for the control of high purity steam, gases, and fluids.

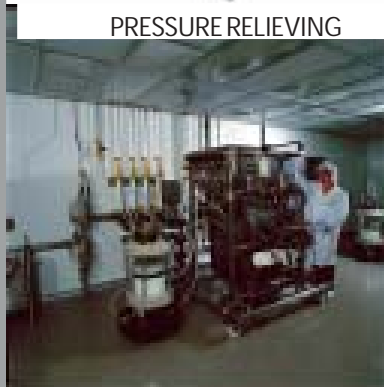
The all pneumatic design allows for use in hazardous combustible areas by operating without costly electronic pressure transmitters, controllers and current to pneumatic valve signal converters.



### Typical Installation of Sanitary Controller for High Purity Media Applications



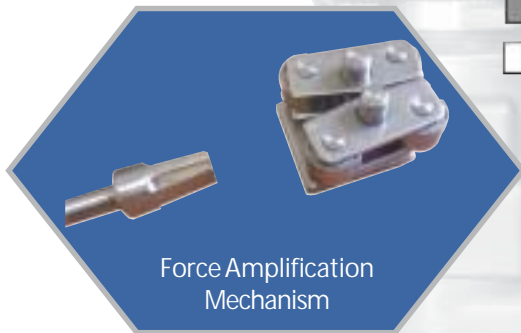
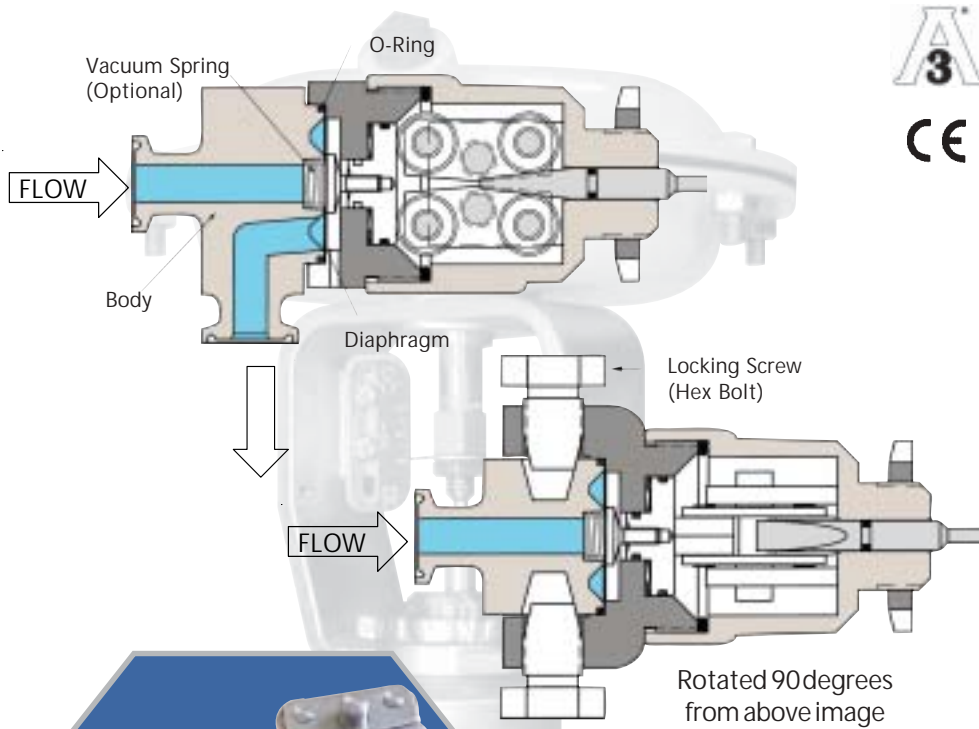
- 1-1/2 inch Tri-clamp/Tri-clover<sup>®</sup> process connection
- Selectable range springs
- Self-draining sensing connection
- Double diaphragm seal assures process isolation
- Available tell-tale pressure connection
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Extremely compact and economical



## 83000 Series Sanitary Angle Control Valves

This sanitary control valve is excellent for the control of high purity fluids or gaseous media. A low friction force amplification mechanism, comprised of a roller bearing cartridge, produces high positioning resolution suitable for direct operation from remote I/P signal converters.

The 83000 series features a packless design and is intended for flow rates of 0.001 to 6 liters per minute.

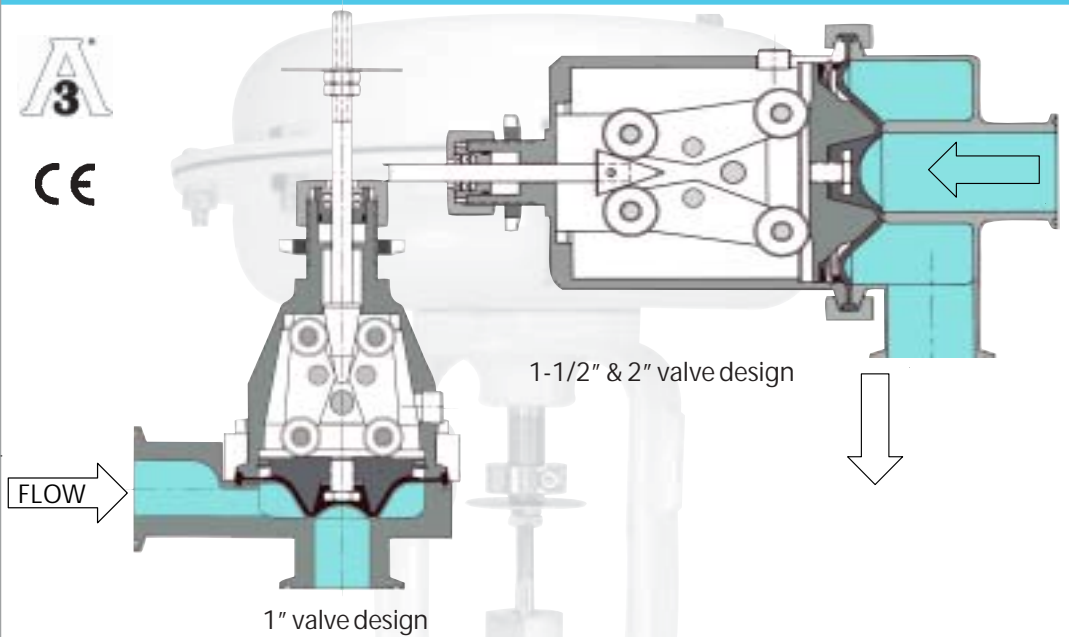


- 1/2 inch end connection
- Tri-clamp / Tri-clover<sup>(R)</sup> end connections standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP
- Closure diaphragm is polished 316 stainless steel
- Quick-disconnect bonnet aids closure diaphragm replacement

## 84000 Series Angle Sanitary Control Valves



This sanitary control valve is designed for higher flow rates of 1-500 liters per minute. A unique low friction force amplification mechanism, similar to our 83000 series roller bearing linkage, produces high positioning resolution suitable for direct operation from remote I/P signal converters.



- 1 inch, 1-1/2 inch, & 2 inch end connections
- Tri-clamp / Tri-clover<sup>(R)</sup> end connections standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP
- Closure diaphragm meets FDA Specification 177
- Quick-disconnect bonnet

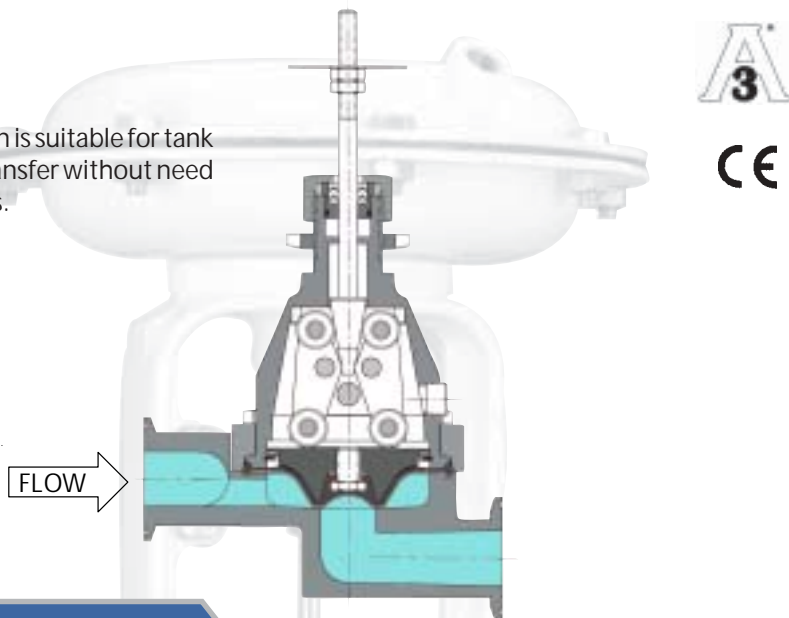
Intelligent PlantWeb field devices, such as Baumann valves with FIELDVUE DVCs (Fisher Digital Valve Controllers), provide critical information not only about the devices but the process as well.



## 84000 Series In-Line Sanitary Control Valves

This sanitary control valve is identical to our size 1 inch 84000 angle valve, except the valve body has been designed for in-line installation. A unique low friction force amplification mechanism, similar to our 83000 series roller bearing cartridge, produces high positioning resolution suitable for direct operation from remote I/P signal converters.

This in-line design is suitable for tank to tank media transfer without need for piping elbows.



- 1 inch in-line end connection
- Tri-clamp / Tri-clover<sup>®</sup> end connections standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP
- Closure diaphragm meets FDA Specification 177

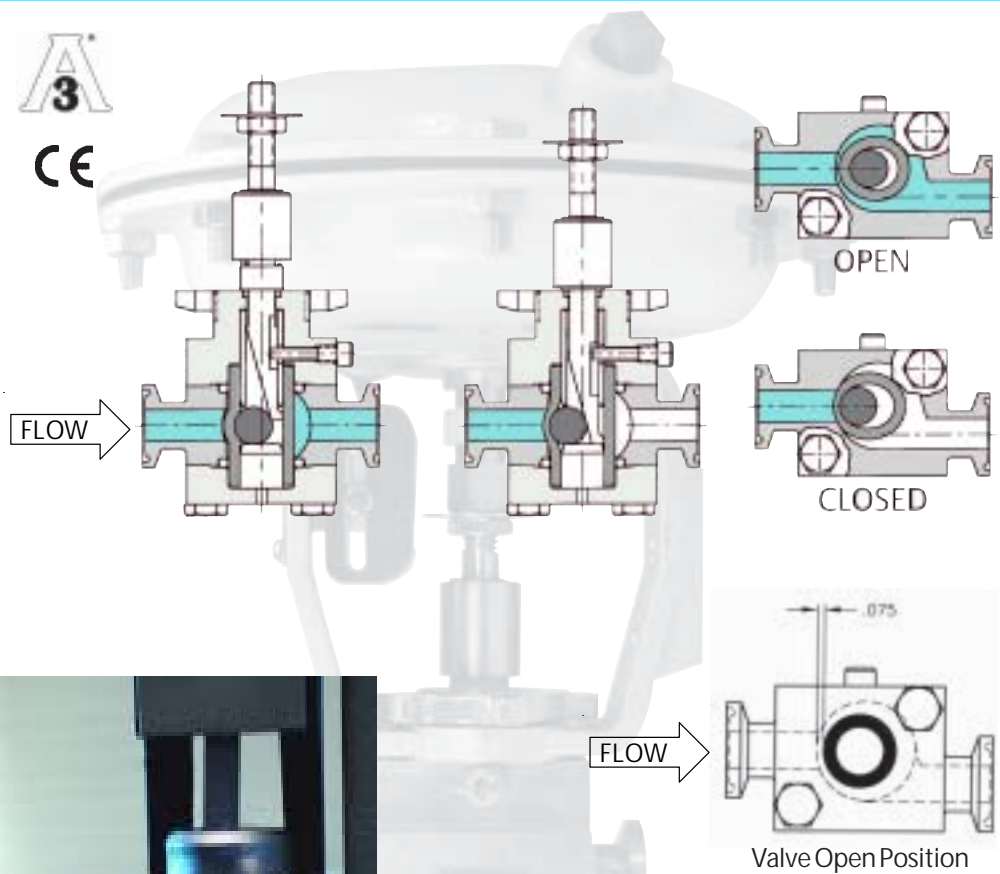
## 87000 Series Flexsleev Sanitary Valves



Highly recommended for fluid containing particulates or mild slurries and for glucose. This valve features packless construction, high rangeability, modified linear flow characteristics and is self-draining. Meets CIP/SIP requirements. Unlike diaphragm valves, operation is not affected by vacuum.



- 1/2 inch Tri-clamp/Tri-clover<sup>®</sup> end connections standard with optional welded connections
- Wetted interior finished to  $\leq 35$  Ra Microinch (optional  $\leq 20$  Ra Microinch)
- Self-draining design for effective CIP and SIP (Recommended mounting for self-draining, see picture)
- Choice of silicone, Viton, EPDM, or Kalrez<sup>™</sup> elastomers meets FDA 21CFR 177.



## Actuators and Accessories

Baumann diaphragm actuators offer a powerful yet compact device to operate control valves, louvers, dampers and mechanical speed adjusting devices. They produce exceptionally low friction due to the absence of side loads imposed by single coil springs. Multiple spring design significantly lowers the profile of the actuator. Every actuator is field reversible without special tools or additional parts. Special travel stops, auxiliary top-mounted handwheels, and other accessories are available.



Size 16 Actuator



Size 32 Actuator with Dual Stop



Size 54 Actuator with Handwheel



Sanitary Resistance Plate Design



FIELDVUE Digital Valve Controllers open a window to the process by giving a view of the valve's actual position and operating characteristics as well as diagnostics of the entire valve assembly and instrument.

Plant personnel can now make better-informed decisions, leading to increased availability, reduced variability, process optimization, increased throughput and enhanced product quality.

By using the power of intelligent devices, you can dramatically reduce your capital and engineering expenses, as well as ongoing operations and maintenance costs. You now have the opportunity to revolutionize the way you manage your plant.





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