Baumann™ Low Flow Valves

Technology and ***Innovation*** in Process Control

FISHER

EMERSON
Process Management

Baumann™ Products

The Company

Fisher® Controls International LLC, Baumann™ Valves, 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 food and beverage, fine chemical, industrial semiconductor, pharmaceutical, biotechnology, and renewable fuels industry segments.

Baumann™ 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, Baumann™ became an integral part of the world's largest global supplier of control valves and instrumentation serving the final control element needs of our 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™ is committed to ***Uncompromising*** **Customer Service** and is dedicated in its pursuit of meeting customer application requirements and critical on site delivery schedules.

Low Flow Valves and Specialty Products

Reliable Control in Compact, Quality, Customizing Products

What is important to you? Do words like economy, high quality and quick delivery come to mind? Baumann products deliver this and more to bring you control solutions that exceed your expectations.

Baumann low flow technology offers increasing rangeability with decreasing Cv ratings. This enables the valves to control over a wide flow range minimizing the need to change out trim sets when flow conditions vary between batches.

All care and consideration is taken into account during the design phase resulting in compact, rugged, corrosion resistant assemblies that are among the lightest weight in their class, reducing your installation, maintenance and operational costs.

With the use of FIELDVUE® devices and the PlantWeb® digital plant architecture, overall plant throughput and availability can increase; a powerful combination when used with Baumann low flow valves.

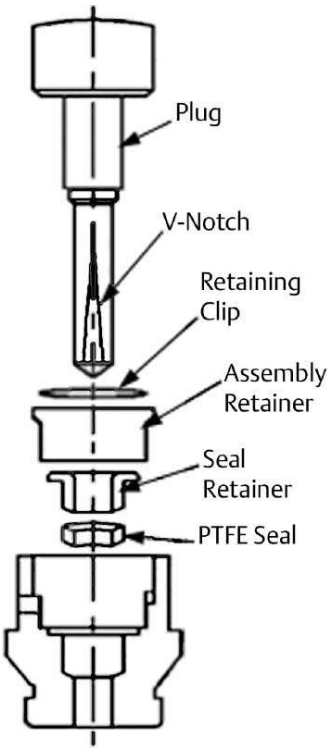
Many industries can benefit from Baumann low flow valve offerings including aerospace, chemical, pharmaceutical, biotechnology, laboratories, food & beverage, semiconductor, pulp & paper and many more. Applications range from CIP systems, pH control, chemical injection systems and pure gas control.

Deliveries are fast, with standard products typically shipping within two to three weeks of your order.

Low Flow Trim Technology

The Technology: Baumann™ Type 151 Trims

This unique design is perfect for precision low flow control of gases and clean fluids. It incorporates ASME CLVI tight shutoff with low flow control rangeability up to 1000:1.



A PTFE seal surrounds the valve plug to eliminate clearance flow typical of lapped-in metal-to-metal close clearance micro trims. Flow is directed over the valve plug and forced through a v-notch path as the plug moves above the PTFE ring providing precise and predictable control over its entire travel range. When the v-notch moves below the PTFE ring, CLVI primary shutoff is achieved.

A live loaded metal seal retainer fully retains the PTFE ring. The valve plug seats against the metal seal retainer providing CLIV secondary shutoff. In addition, the fluid process pressure combines with the actuator seating force to form a hydraulic seal within the fully retained PTFE ring. Therefore, the higher the process pressure the tighter the shutoff.

LOW FLOW TRIM
Rated Cv
0.45
0.20
0.10
0.06
0.03
0.015
0.008
0.004
0.002
0.001
0.0005
0.00025
0.00013

51000 Low Flow Control Valve

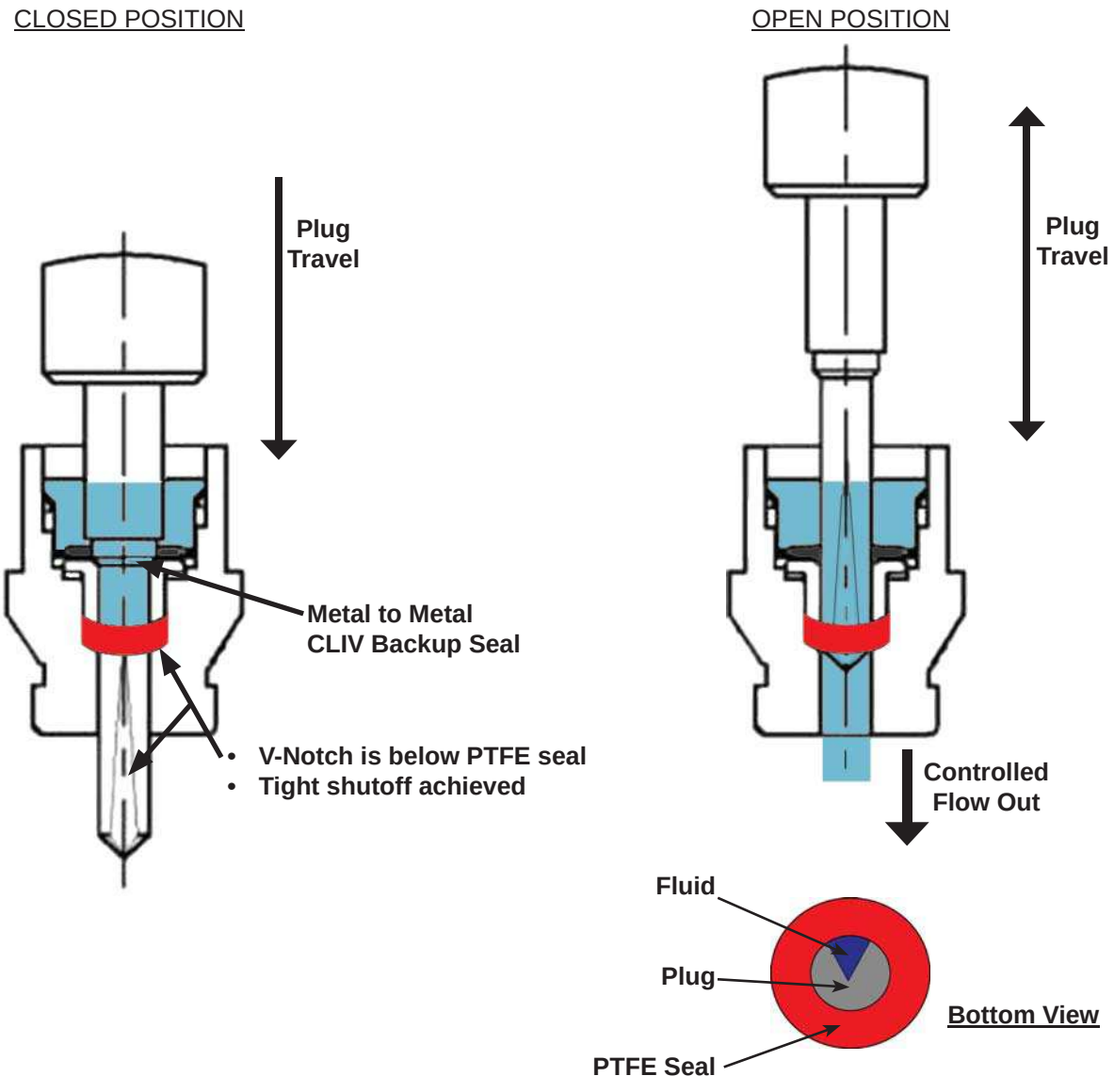
Photo courtesy of New Brunswick Scientific.

Low Flow Trim Technology

Type 151 low flow trims are available in the 24000F, 24000S, 24000SVF, 24000SB, and 51000 control valves. With a wide variety of end connections, valve materials of construction, packing seals and bellows bonnets, most application needs can be met.

The Technology: Baumann™ Type 151 Trims

Fluid enters the trim cage and will flow only when the v-notch is above the PTFE seal. As the plug is lifted, the v-notch is exposed and fluid is allowed to travel through the v-notch. The v-notch itself is shallow and narrow at its beginning becoming wider and deeper as it reaches the base of the plug. By varying the v-notch position relative to the PTFE seal the amount of flow allowed to pass is precisely controlled.



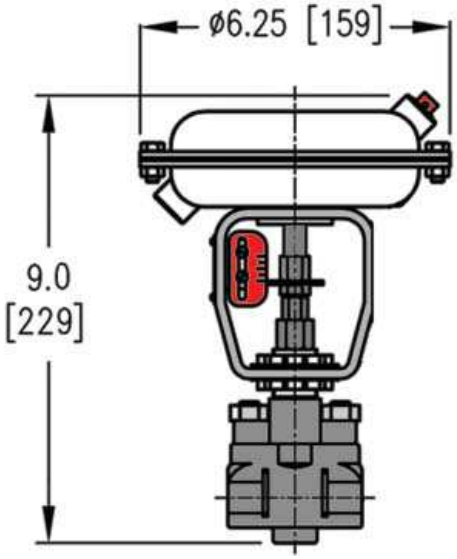
51000 Low Flow Control Valve

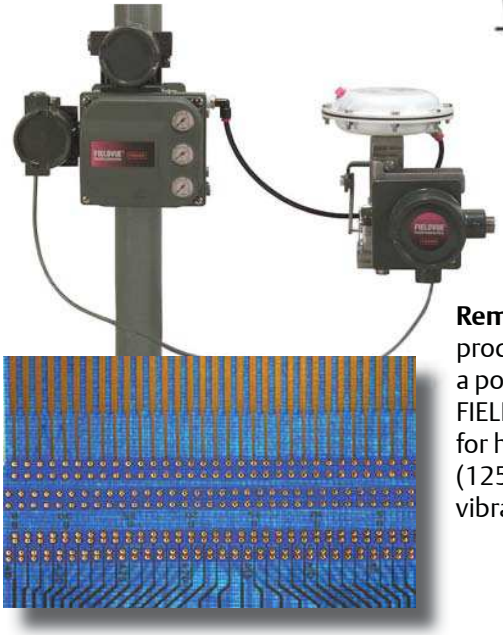
Optimally designed for demanding low flow control found in laboratories and pilot plants, the 51000 is your best possible choice. A perfect fit for areas where space is at a premium!

LOW FLOW TECHNOLOGY

- "V-Notched" Plug for precision control down to the seat - 1000:1 rangeability.
- PTFE seat surrounding plug ensures Class VI shutoff.
- Rated Cv changed by changing the plug only!

- Investment cast stainless steel body, 1/4 inch or 1/2 inch, with optional alloy construction available.
- Small footprint, less than 10 inches tall.
- Light weight, a mere 6 pounds before adding a positioner.
- Cv's as low as 0.00013.
- Rugged design with durable bolted bonnet.
- Corrosion resistant actuator with stainless steel yoke for long service life.

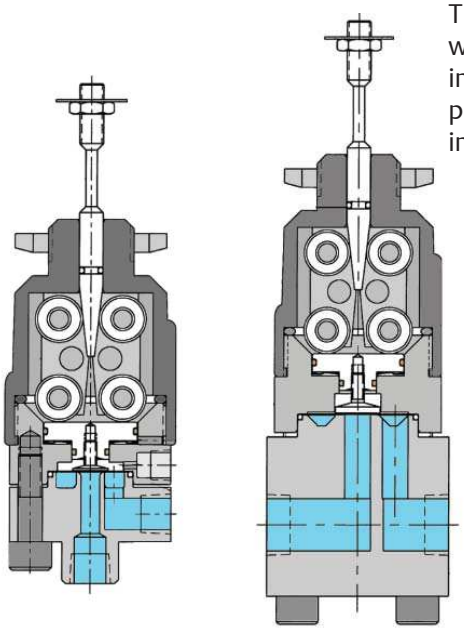




Remote Mounting - With today's unique process environments, you can't always mount a positioner on the valve. A remote-mounted FIELDVUE® Digital Valve Controller can be used for high temperature environments up to 257°F (125°C), smaller valves, small footprints, high vibration and inaccessible locations.

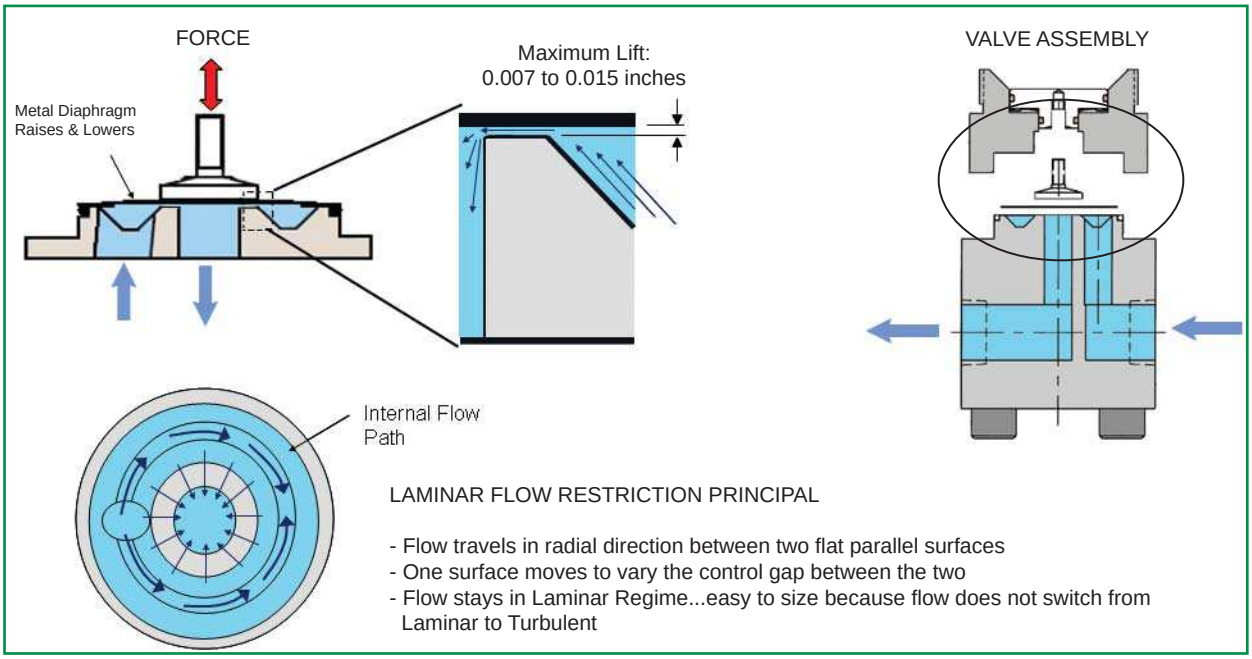
81000 Mikroseal™ Packless Control Valve

The 81000 presents a moderately priced alternative for high accuracy metering of corrosive gases and fluids. Available in type 316 stainless steel or high nickel alloy body materials.



The 81000 packless construction is available with special end connections and 1/4 and 1/2 inch sizes. It is ideally suited for use with ultra pure gases, such as found in the semiconductor industry.

- Suited for applications where leakage prone stem packing cannot be tolerated.
- Force amplification mechanism promotes 1000:1 rangeability.
- Precise control is created by converting 1/2 inch actuator travel to as little as 0.007 inch valve diaphragm travel.
- FIELDVUE® Digital Valve Controller available for remote calibration and diagnostics.



24000F Wafer Body Control Valve

The 24000F wafer body control valve has the strength of a flanged body globe valve , but is significantly lighter and easier to install.

TYPICAL APPLICATIONS

Food and Beverage

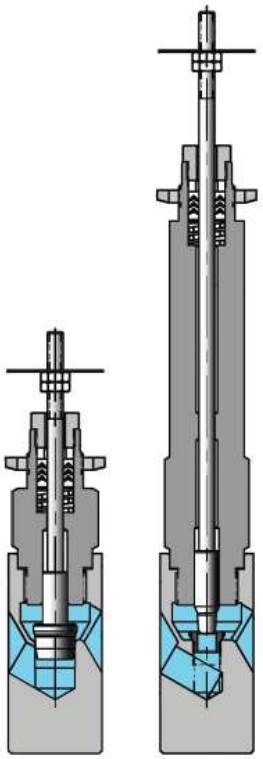
CIP Systems - Caustic or Acid
Heat Exchangers - Ammonia, Refrigerants R12-R22, Sylthern
Blending Systems, Product Transfer or Purification -

Paper Mills

Utility - Roller Pressure Control
An extension bonnet is available for applications ranging from -320°F to 1000°F (-160°C to 537°C).

Pharmaceutical and Biotechnology

Caustic Solutions - pH Control
CIP - Chemical (detergent)

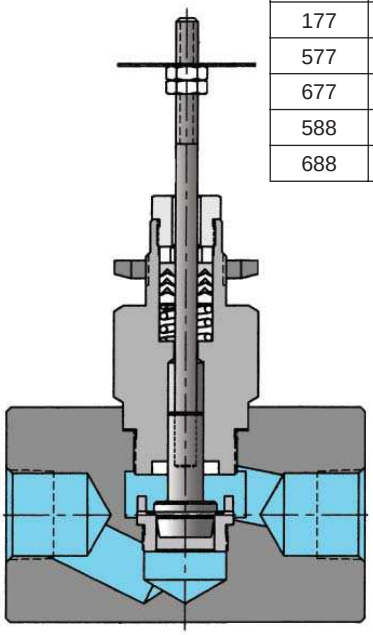


- Universal valve body construction mates with ASME CL150, 300 & 600FF and EN PN10-40 line flanges.
- Multiple trim capacity reductions available to meet changing process requirements with Cv ratings as low as 0.00013.
- Optional extension bonnet for applications ranging from -320°F (-160°C) to 1000°F (537°C).
- ENVIRO-SEAL® packing system is available to meet critical emission control requirements.

24000SB Barstock Control Valve

The 24000SB barstock control valve is recommended for low flow, high pressure, industrial control applications.

Trim Types	Leakage Class	Cv Ranges	Temp Ranges
102	IV	0.02 to 0.2	-320 to 1000°F
151	VI	0.00013 to 0.45	-100 to 400°F
177	VI	0.0005 to 0.05	-100 to 400°F
577	VI	1.0 to 6.8	-100 to 400°F
677	VI	0.1 to 4.0	-100 to 400°F
588	IV	0.2 to 6.8	-320 to 1000°F
688	IV	0.5 to 6.8	-320 to 1000°F



Alloy valve assemblies available for caustic and acidic applications

- Suitable for maximum service of 3000 psig.
- Multiple trim capacity reductions available to meet changing process requirements with Cv ratings as low as 0.00013.
- Optional extension bonnet for applications ranging from -320°F (-160°C) to 1000°F (537°C).
- Various end connections available; threaded (standard), buttweld, and flanged add versatility to this high pressure product line.
- ENVIRO-SEAL® packing system is available to meet critical emission control requirements.

ENVIRO-SEAL® PACKING:

The ENVIRO-SEAL® PTFE packing system is suitable for 100 ppm environmental applications on services up to 750 psig (51.7 barg) and process temperatures ranging from -50°F to 450°F (-46°C to 232°C).

For non-environmental applications, this packing system offers superior performance at the same temperature range up to the maximum valve working pressure.

Temperature limits apply to packing arrangements only. Complete valve assembly temperature limits may differ, refer to appropriate pressure/temperature ratings.

26000 Corrosion Resistant Control Valve

The 26000 PTFE lined control valve is available with a solid R05200 tantalum or N10276 nickel alloy plug and pressure assisted seat.

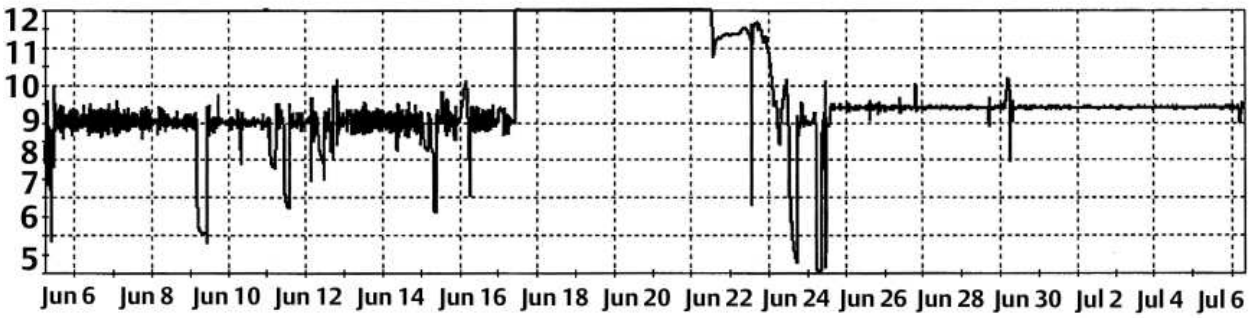
- Provides tight Class VI shut-off.
- Rangeabiity in excess of 1000:1.
- Suited to demanding pH control of acid or caustic solutions in all industries.
- 316 stainless steel body with PTFE interior.
- Solid R05200 tantalum or N10276 nickel alloy valve plug.
- Flangeless body construction, unique thru-hole wafer design, is available for installation between 1" (DN25) CL150 or 300RF and PN10 through PN25 line flanges.
- FIELDVUE® Digital Valve Controller available for remote calibration and diagnostics.

A Case-In-Point

A carton manufacturer in Europe solved a pH control issue involving a pH sensitive glue. The glue, added to the cartons, had a target 9.4 pH that was varying by an unacceptable 2 pH.

The customer installed a 26000 valve and the variation of the pH decreased down to 0.5 pH. With the addition of a FIELDVUE® Digital Valve Controller and Micro Motion Meter, the end result has been a variation of a mere .01 pH.

Before installation of a 26000 valve, pH varies from 5 - 12.



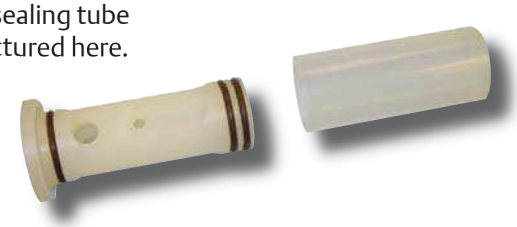
After addition of 26000 valve, FIELDVUE® Digital Valve Controller, and Micro Motion meter, pH varies by 0.01 (<<<1 ppm).

86000 Flexsleev™ Packless Control Valve

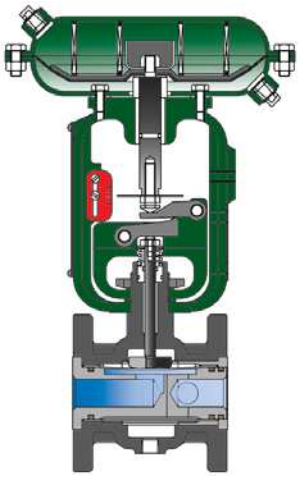
The 86000 Flexsleev™ valve incorporates the benefits of packless valves with the corrosion resistance of all-plastic wetted parts.

This valve is compact, light weight and offers multiple trim capacity reductions to meet changing process requirements.

Baumann's durable Flexsleev™ sealing tube and seating core design are pictured here.



- Ideal product for control of acids or caustic process media.
- A flexing PTFE sleeve surrounds a machined ECTFE valve core. Fluid passes between the sleeve and the core.
- External stainless steel amplifying lever with PTFE guides provides very sensitive control action.
- Incorporates the benefits of packless valves with the corrosion resistance of all-plastic wetted parts.
- Available with a wide range of analog pneumatic and electropneumatic positioners and transducers.
- FIELDVUE® Digital Valve Controller available for remote calibration and diagnostics.



Fisher® is a part of Emerson Process Management.

- **Emerson Process Management is a powerful, global, single source of process improvement technology and expertise. Together with Emerson, we help industry optimize their plants and processes to achieve higher quality, greater reliability and faster time to market, while steadily advancing productivity and profitability.**
- **Fisher® application experience partnered with Emerson technology know-how enables us to deliver the proven performance and reliability you expect.**
- **PlantWeb® architecture, and your favorite brands, including Micro Motion® and Rosemount®, provide the winning combination to deliver better process, plant and business results.**

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