

PROCO™

SERIES 4400



convoluted heavy-duty molded PTFE bellows

The PROCO Series 4400 PTFE Molded Bellows Expansion Joints are used for corrosive applications found in: Chemical-Petrochemical, Industrial Process Piping Systems, Power Generating Plants, Pulp/Paper Plants, Water/Wastewater Sewage and Pollution Control Systems where metallic joints/lap joints of PTFE & FEP-lined rubber expansion joints may have been previously used or specified. Specify PROCO Series 4400 Expansion Joints for installation between anchor points or next to mechanical equipment such as: Absorption Machines, Blowers, Chillers, Compressors, Fans, Graphite Heat Exchangers, Glass Lined Vessels, Pumps, and Exotic Alloy/Glass Lined Piping Systems. The Series 4400 Expansion Joints are designed to: (1) Absorb Pipe Movements/Stress, (2) Reduce System Noise, (3) Reduce Mechanical Vibration, (4) Compensate Alignment/Offset, (5) Eliminate Electrolysis, (6) Protect Against Start-up/Surge Forces. Our history in the manufacture of expansion joint products dates back to 1930. When an engineered solution is needed to solve a piping problem, call PROCO.

Engineered For Your Application. The PROCO Series 4400 PTFE Expansion Joints are hot formed from a PTFE tube made with a tape wrapping process. The tube is processed so that the PTFE has a low level of crystallinity, which translates into an improved service life. The seamless PTFE tube is also engineered to have a controlled wall thickness and production methods ensure optimum hoop strength, therefore providing an excellent pressure/vacuum to temperature ratio in the finished product. In most cases this can match that of PTFE lined steel pipe and fittings.

The PROCO Series 4400 is available in 2 convolute through 10 convolute configurations. Each convolute profile offers different overall lengths (face-to-face dimensions) and movements to fit the required specification.

Absorbs Pipe-Wall And Fluid-Borne Noise. The PROCO quiet-operating Series 4400 expansion joints are a replacement for "sound transmitting" metallic/lap joints. Pipe-Wall sound loses energy and is absorbed as the noise carried by the piping enters and exits the PTFE section. Fluid-Borne noise is absorbed by the volumetric expansion (breathing of the connector). This action cushions water hammer and smoothes out pumping impulses.

Isolates Vibration And Motion. PROCO Series 4400 PTFE Expansion Joints should be installed right after and ahead of equipment generating vibration in order to isolate the rotating/vibrating equipment from the rest of the piping system. This layout will improve the overall operating performance of the piping system. For optimum performance, the Series 4400 expansion joints should be installed horizontally to the shaft. Vertical and perpendicular installations are also acceptable, as these expansion joints will accept axial, lateral and angular movements as well as vibration. **Note: For maximum vibration transmission reduction, the pipe section beyond the PTFE expansion joints must be anchored or sufficiently rigid.**

Reduces System Stress and Strain. Rigid attachment of piping to critical or mechanical equipment can produce excessive loading. Thermal or mechanically created strain/stress/shock are cushioned and absorbed with the installation of a flexible PROCO Series 4400 PTFE Expansion Joint. The Series 4400 expansion joint adds a flexible component to the system that automatically self-corrects for misalignment created by structural movements caused by settling, pipe expansion or ground shifts.

Tested Force Pound And Spring Rate Tables. At PROCO we have machine tested several sizes of the Series 4400 expansion joints for Axial Spring Rates and can provide Thrust/Force factors so designers can properly design system restraints. It should be noted that the Series 4400 Molded PTFE Expansion Joints are in accordance with the performance characteristics of the Fluid Sealing Association's Rubber Expansion Joint Division, Technical Handbook Section on Convoluted PTFE Bellows.

Flange And Limit Rods. All PROCO Series 4400 expansion joint flange configurations are made of ductile iron, coated with a rust inhibitive primer to prevent corrosion and are dimensionally tapped to ANSI 125/150# Standards. Hole drilling on centerline, other drilling standards, or other flange materials, (such as epoxy coated flanges), are available on special order. In addition, all PTFE expansion joints are supplied with factory set limit rods to prevent over-extension during operation.

Chemical Service Capability at Minimal Cost. Expensive, exotic metal or PTFE or FEP lined rubber expansion joints for severe chemical service can be replaced with the PROCO Series 4400 PTFE Expansion Joints. The PTFE bellows are vanstoned to ductile iron flanges, which allows all wetted surfaces to come in contact with the PTFE material. Specify the Series 4400 expansion joints where high temperatures coupled with lower pressures or lower temperatures coupled with higher pressures are proposed. Molded from PTFE materials, the Series 4400 offers a low-cost expansion joint that is impervious to chemical attack. Use the PROCO "Chemical to Elastomer Guide" for reference on chemical compatibility.

Services And Locations. PROCO Series 4400 PTFE Expansion Joints have been supplied to, and successfully used by a range of customers worldwide in the process industries for use in both organic and inorganic chemical processing and production, including such demanding applications as agrochemical and pharmaceutical chemical production, acid processing and food manufacture.

Information • Ordering • Pricing • Delivery. Day or night, weekends and holidays ... the PROCO phones are monitored 24 hours around the clock. When you have a question, you can call us.

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The Expansion Joint People

Protecting Piping And Equipment Systems From Stress/Motion



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