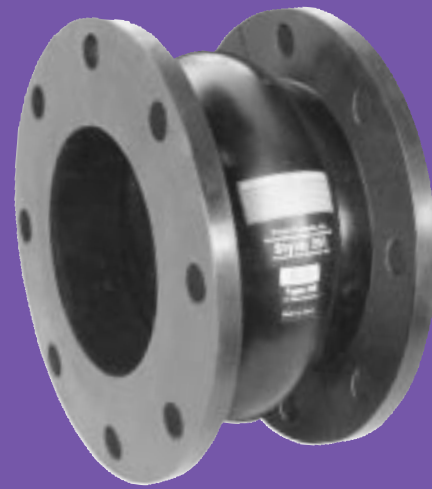


# PROCO™

## SERIES 251

### wide-arch expansion joints



The PROCO Series 251 Wide-Arch Expansion Joint is interchangeable with and replaces handmade spool-type and spherical expansion joints. Installed between the anchor points of a piping system or next to mechanical equipment such as: Pumps, Chillers, Cooling Towers, Compressors, Blowers, Fans, Absorption Machines, etc.; specify the PROCO Series 251 to: (1) Absorb Pipe Movement/Stress, (2) Reduce System Noise, (3) Isolate Mechanical Vibration, (4) Compensate Alignment/Offset, (5) Eliminate Electrolysis, (6) Protect Against Start-Up/Surge Forces. The PROCO Series 251 is engineered for tough, demanding, industrial and commercial applications, as found in: Air Conditioning-Heating and Ventilating Systems, Chemical-Petrochemical and Industrial Process Piping Systems, Power Generating Plants, Steel Mills, Marine Services, Pulp/Paper Systems, Water-Wastewater-Sewage and Pollution Control Systems, where metallic joints/hose or old design rubber expansion joints may have been previously used or specified. Our history in the manufacture of expansion joint products dates back to 1930. PROCO Products is a member of the Rubber Expansion Joint Division, Fluid Sealing Association. When you need an engineered rubber solution to a piping system problem, call PROCO.

In the early 1930's, the U.S. Rubber Company invented the spool-type rubber expansion joint. In 1968, the spherical-type rubber expansion joint was introduced by The Metraflex Company. Today, most makers of expansion joints use similar designs for their standard products. Both designs, spherical and spool-type, had certain strengths and weaknesses. Combining the best design features of the sphere/spool-type with sophisticated manufacturing technology; PROCO has developed the Series 251 Wide-Arch Rubber Expansion Joint. Here are some of the many advantages of our Series 251:

- **Greater Movements:** The Series 251 utilizes the spherical long flowing arch for maximum movements, when compared to the narrow high arch of the spool-type design. Self-flushing, this arch is great for slurries and reduces turbulence; eliminating the need for a "filled arch".
- **Easier Sealing:** The Series 251 design utilizes the full-faced rubber/fabric flange of the spool-type joint for a quick and sure seal at the flange when compared to the small lip seal of the spherical design.
- **Less Weight:** The metal flanges of the spherical design are very heavy when compared to the Series 251 with full-faced rubber flanges and retaining rings. Less weight means less freight and ease of installation.
- **Looks Familiar:** From the outside, the Series 251 looks very much like the spool-type joint your maintenance people have used for years. They are more comfortable with the proven appearance of the spool-type when compared to the spherical-type.

**High Pressure With Full Safety Factors.** The PROCO Series 251 pressure ratings meet or exceed the requirements of the Rubber Expansion Joint Division, Fluid Sealing Association, for Series A and B. More importantly, our conservative ratings are fully tested and based on a minimum of four-to-one safety factor. With competitive products the safety factor is often calculated, unknown and in one case a published three-to-one. For pressure protection, specify PROCO.

**Less Turbulence Or Material Entrapment.** The molded integral flange of the Series 251 joins the body at a true 90 degree angle. Our product will install snug against the mating pipe flange without voids. Because this flange/body angle is difficult to form, many competitors severely radius the edge angle. The resulting void can create flow disturbance, allow for material entrapment or bacteria growth. You can avoid these problems by specifying PROCO.

**Absorbs Pipe-Wall And Fluid-Borne Noise.** The quiet-operating PROCO Series 251 is a replacement for "sound transmitting" metallic expansion joints and hose. Pipe-Wall sound loses energy and is absorbed as the noise carried by the piping both enters and leaves the rubber section. Fluid-Borne noise is absorbed by the volumetric expansion (breathing) of the connector. This action cushions water hammer, and smooths out pumping impulses.

**Isolates Vibrations And Motion.** Vibration originating from mechanical equipment is absorbed by the PROCO Series 251. Rubber connectors should be installed right after and ahead of the equipment generating the vibration, thus isolating the equipment. As most machinery vibrates in a radial direction from the main shaft, for optimum performance the PROCO connector should be installed horizontally and parallel to this shaft. Vertical and perpendicular installations are acceptable as the PROCO Wide-Arch will accept both axial and lateral movements and vibrations. Installation of the Series 251 in a system enables isolated equipment to move freely on its vibration mountings. **Note: For maximum vibration transmission reduction the piping section beyond the rubber connector must be anchored or sufficiently rigid.**

**Chemical Or Abrasive Service Capability At Minimal Cost.** Expensive, exotic metal expansion joints for chemical service can be replaced with the PROCO Series 251. High pressure molded with low-cost chemical resistant elastomers such as: Chlorobutyl, EPDM, Hypalon®, Neoprene and Nitrile; assures a rubber expansion joint compatible with the fluid being pumped or piped. (See Table 1) Our Neoprene products should be specified when handling abrasive slurries. Use the PROCO "Chemical to Elastomer Guide" to specify an elastomer for your requirement.

**Reduces System Stress And Strain/Compensate For Misalignment.** 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 low "force-to-deflect" PROCO Rubber Series 251. The PROCO Wide-Arch Joint adds a flexible component that is automatically self-correcting for misalignment created by structural movements caused by settling, expansion or ground shifts.

**Wide Service Range With Low Cost.** Engineered to operate up to 200 PSIG and 250°F, the PROCO Series 251 can be specified for a wide range of piping system requirements. Compared to competitive products, you will invest less money when specifying the engineered design, industrial quality PROCO Wide-Arch Expansion Joint.

**Large Inventories Mean Same-Day Shipment.** We maintain the largest inventory of elastomer expansion joints in the Americas. Every size cataloged item is in stock in several elastomers. We can ship your requirement when you need it. In fact, when it comes to rubber expansion joints, **if PROCO doesn't have your requirement ... nobody does!**

**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.

Table 1: Available Styles • Materials • Temperatures

For Specific Elastomer Recommendations, See: PROCO™ "Chemical To Elastomer Guide"					
PROCO™ Style Number	Type of Elastomer		Maximum Operating Temp. °F	Branding Label Color	F.S.A. Material Class
	Cover/Outside	Tube/Inside			
251/BB	Butyl	Butyl	250°	Black	STD. III
251/EE	EPDM	EPDM <sup>3</sup>	250°	Red	STD. III
251/NH	Neoprene	Hypalon <sup>®</sup>	230°	Green	STD. II
251/NN	Neoprene	Neoprene <sup>2</sup>	230°	Blue	STD. II
251/NP	Neoprene	Nitrile	230°	Yellow	STD. II

Notes: 1. Hypalon® is a trademark of DuPont Dow Elastomers, L.L.C.

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