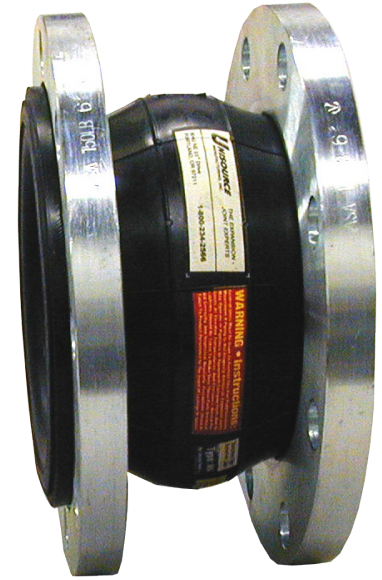


Series 301 “Ultra-Sphere” Spherical Expansion Joint

Series 301 “Ultra-Sphere” single sphere expansion joints are designed to handle a multitude of industrial or HVAC applications. The Ultra-Sphere will perform double-duty as an expansion joint, absorbing pipe movements, or as a vibration eliminating pump connector.

Ultra-Sphere connectors are precision molded in hydraulic presses. The spherical design insures that internal pressures are exerted in all directions, distributing the forces evenly over a large area. The spherical design acts as a free-flowing arch, reducing turbulence and growth due to pressure thrust forces. These connectors are standard with a high-quality EPDM rubber tube and cover, and Nylon tire cord reinforcing. Special elastomers such as Neoprene, Nitrile, Hypalon, and Chlorobutyl are also available. FDA styles in either EPDM or Nitrile are also an option. Zinc plated steel floating flanges are recessed to engage the rubber beaded end of the expansion joint and rotate easily for speed of installation.



The face-to-face dimensions of these single sphere connectors match the corresponding dimensions of spool-type expansion joints, facilitating direct replacements. This short face-to-face dimension translates to economy of space in the piping system and ease of handling and installation.

Series 301 “Ultra-Sphere” expansion joints are ideal for many demanding industrial applications such as water & waste treatment, power generation, pulp & paper, chemical handling, mine processing, and marine. Spool type expansion joints should always be installed using split steel retaining rings. Control units are always required in unanchored piping systems and are recommended in all other pressure applications as a back-up safety device in the event of anchor failure.

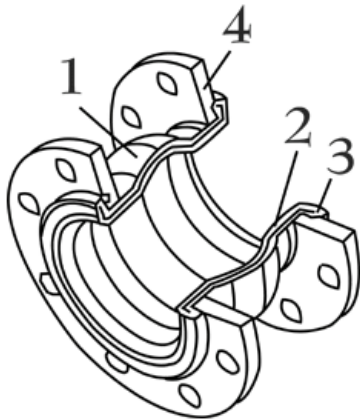
Ultra-Sphere connectors are manufactured to meet or exceed the pressure, movement, and dimensional ratings of the Rubber Expansion Joint Division, Fluid Sealing Association.

Materials & Temperatures:

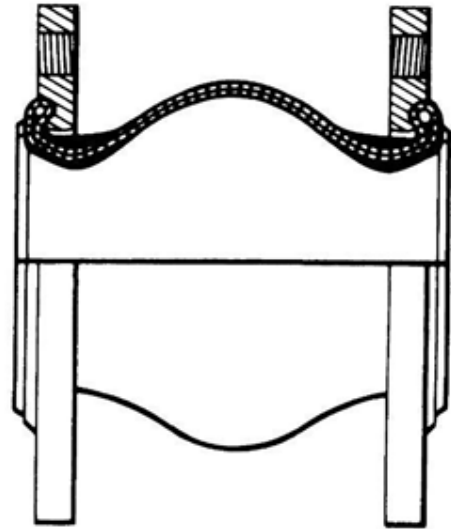
Style Number	Cover Elastomer	Tube Elastomer	Max. Operating Temp
301EE	EPDM	EPDM	212°F (121°C) 1
301BB	Chlorobutyl	Chlorobutyl	212°F (121°C) 1
301NN	Neoprene	Neoprene	212°F (107°C)
301NP	Neoprene	Nitrile	212°F (100°C)
301HH	CSM	CSM	212°F (100°C)
301FD	EPDM	FDA EPDM	212°F (121°C)
301NJ	Neoprene	FDA Nitrile	212°F (100°C)

1) 250 Deg. F. for blower service.

Series 301 "Ultra-Sphere" Spherical Expansion Joint



- 1) Rubber tube and cover
- 2) Nylon reinforcing
- 3) Beaded end with wire to engage flange
- 4) Plated carbon steel floating flanges



SERIES 301 SINGLE SPHERE - SIZES, MOVEMENTS, PRESSURE RATINGS, WEIGHTS

Size (I.D.) (In.)	F/F (In.)	Allowable Movements From Neutral Face-to-Face (in.)				Effective Area (Sq. In.)	Pressure Ratings ⁴		Weights	
		Axial Comp	Axial Ext	Lateral Deflection	Angular Rotation		Positive (PSIG)	Vacuum (in. Hg.)	Exp Jt.	Control Rods ³
1-1/2	6	0.50	0.38	0.50	15	6.49	225	26	6	6
2	6	0.50	0.38	0.50	15	7.07	225	26	9	7
2-1/2	6	0.50	0.38	0.50	15	11.05	225	26	12	7
3	6	0.50	0.38	0.50	15	13.36	225	26	14	7
4	6	0.63	0.38	0.50	15	22.69	225	26	18	8
5	6	0.63	0.38	0.50	15	30.02	225	26	23	8
6	6	0.63	0.38	0.50	15	41.28	225	26	27	9
8	6	0.63	0.38	0.50	15	63.62	225	26	41	12
10	8	0.63	0.50	0.75	15	103.87	225	26	57	16
12	8	0.75	0.50	0.75	15	137.89	225	26	83	16
14	8	0.75	0.50	0.75	15	182.65	115	26	115	20
16	8	0.75	0.50	0.75	15	240.53	115	26	165	20
18	8	0.75	0.50	0.75	15	298.65	115	26	167	21
20	8	0.75	0.50	0.75	15	363.05	115	26	168	21
24	10	0.75	0.50	0.75	15	510.70	115	26	255	32

- 1) For double sphere, see Unisource Series 302 style.
- 2) See chart on opposite page for temperature ratings.
- 3) Control unit weight is based on a two-rod set.
- 4) Pressure and vacuum ratings are calculated at 70 Deg. F.

Sealing Information: When installing rubber expansion joints, it is the responsibility of the installer to ensure bolting forces are evenly distributed to provide optimum clamping force to prevent the connection from leaking. When the expansion joint is being installed in non-ferrous piping systems, such as PVC, reinforcement of the mating flanges may be required to increase the mating flange rigidity. Unisource recommends the use of ring gaskets or full face gaskets when a rubber expansion joint is being installed against a raised face flange. The use of ring gaskets or full face gaskets may be required when installing PTFE lined expansion joints. If you should have any questions pertaining to the installation, please call Unisource or refer to the Fluid Sealing Association Technical Handbook for Non-Metallic Expansion Joints.