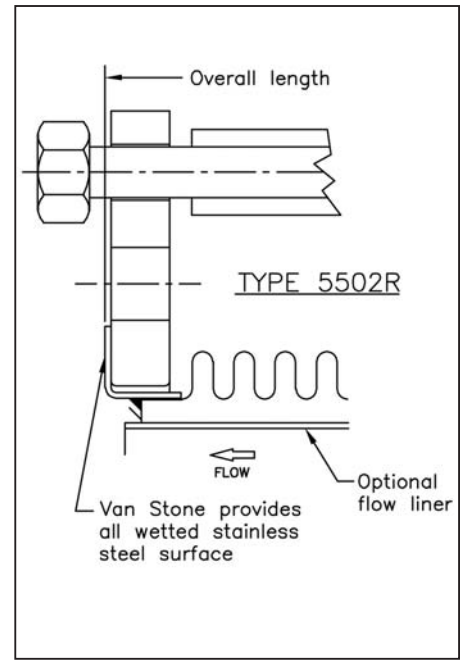
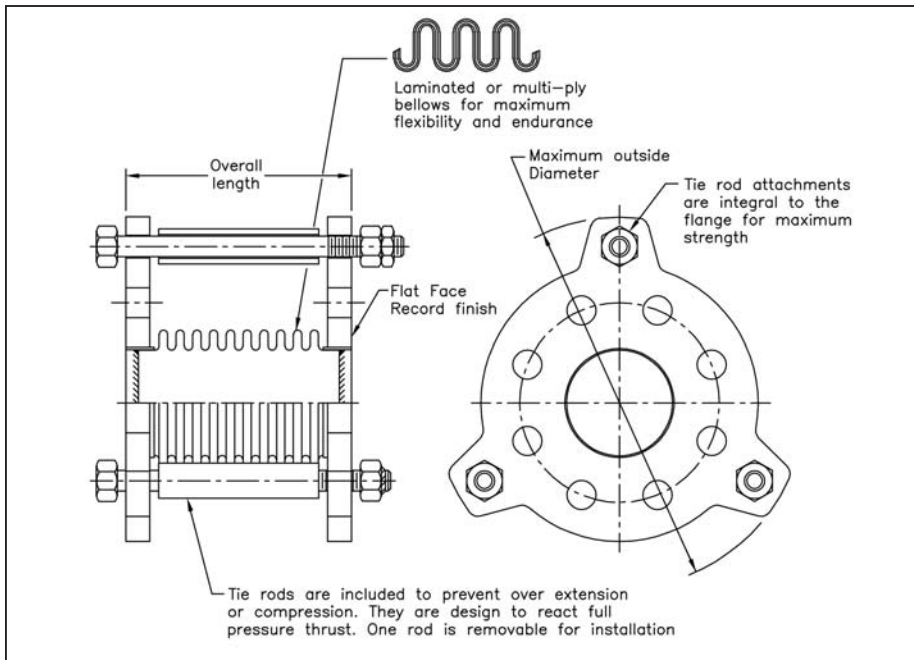


## Design Features



## Flow Liners

Flow liners or internal sleeves are optional features on standard Series 5500 Bellows Pump Connectors. Their purpose is to: minimize pressure loss, prevent bellows resonance in turbulent flow, prevent erosion of the bellows if the media contain abrasive material or to prevent direct impingement of high temperature flow on the bellows.

The guidelines published by the Standards of the Expansion Joint Manufacturers Association, Inc. are: flow liners are recommended for gas flow with velocities exceeding 4 ft./sec. per inch of diameter through 6" NPS, and 25 ft./sec. for sizes larger than 6" NPS. For liquid flow, liners are

recommended for velocities exceeding 2 ft./sec. per inch of diameter through 6" NPS, and over 10 ft./sec. for sizes over 6" NPS. If extremely turbulent flow conditions exist, the actual flow velocity should be multiplied by 4 to use these criteria.

Series 5500 flow liners are designed for unidirectional flow, and flow conditions normally experienced in industrial and HVAC applications. For conditions involving bi-directional flow, high velocities, abrasive materials or extreme turbulence, consult the factory.

**Table 1 Allowable Movements Bellows Pump Connectors, Types 5501R & 5502R 150 & 300 psig**

Nominal Sizes (NPS)	Allowable Movements - inches		
	1 1/2"-8"	10"-16"	18"-24"
Axial Compression	0.50	0.75	1.00
Axial Extension	0.25	0.25	0.25
Installation Offset	0.13	0.13	0.13

Offset is measured from the centerline