

## DIAPHRAGM TECHNOLOGY

### *The Heart of AODD Pumps*

**Neo-Flex**  
DIAPHRAGM TECHNOLOGY

**Neo-Tef**  
DIAPHRAGM TECHNOLOGY

The majority of diaphragm pump maintenance cost is attributed to the Primary Wear Part - The Diaphragm. At Neoflux, we understand that increased diaphragm life will decrease down time, reduce maintenance cost, and maximize return on investment. To this end, Neoflux engineered the Longest-Lasting diaphragm in the industry.

**Neo-Flex** technology for Rubber Diaphragms & **Neo-Tef** PTFE Diaphragms incorporates many revolutionary design concepts, which reduce internal stress.

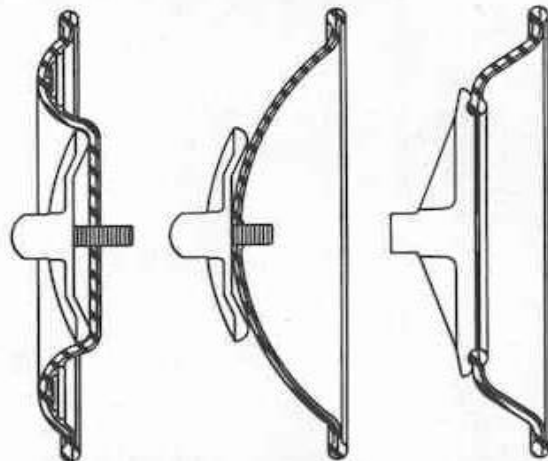
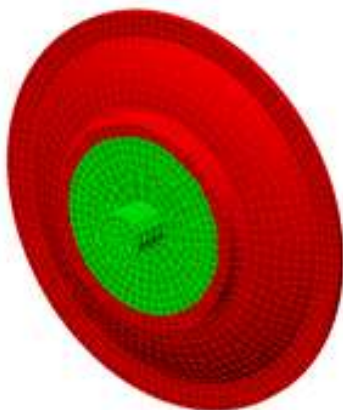
Diaphragm's life not only depends on a diaphragm's chemical compatibility with the process fluid but also on the diaphragm's ability to flex. Diaphragm life will vary depending on the following factors:

- Shelf Life (Rubber Diaphragms Shelf-Life should not be more than 1 Year)
- Flex Life (Diaphragm Ability To Flex)
- Resistance to Media - Abrasiveness of your process fluid
- Pumping Temperature
- Size of Diaphragm
- Suction Lift Conditions
- Initial Cost



**Neo-Flex** & **Neo-Tef** diaphragm is molded in an "Operational Shape" such that stress concentration is minimized throughout its entire stroke length. The transition radii are tailored to minimize stress throughout the dynamic area of the flex path.

**Neo-Flex** hardware (Shaft, Pistons, & Spacers) maximizes the amount of diaphragm material involved in the diaphragm's movement. This improvement decreases the unit loading on the diaphragm and alleviates stress concentrations. Controlled fabric placement decreases tensile loading to further reduce stress.



**Neo-Tef Design**

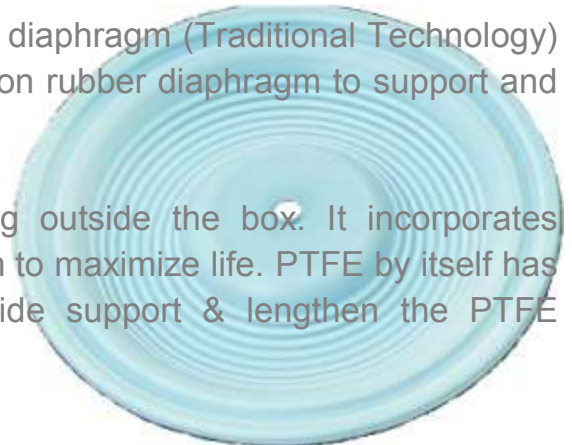
**Dome Design**

**Traditional Design**

PTFE is one of the most chemically inert compounds available today.

One Piece, Rubber with PTFE laminated / Bonded diaphragm (Traditional Technology) is also available in the market. PTFE lamination is done on rubber diaphragm to support and lengthen the diaphragm life.

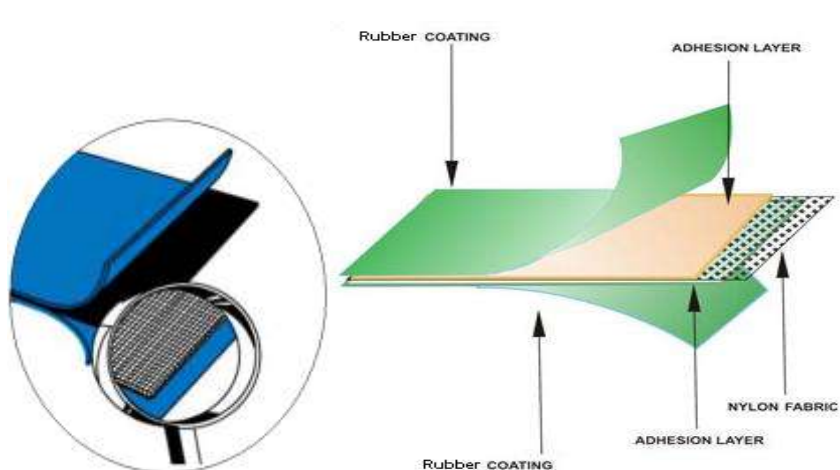
But **Neo-Tef** Diaphragm technology is something outside the box. It incorporates concentric ribs to control the flex pattern of the diaphragm to maximize life. PTFE by itself has zero memory. A back-up Diaphragm is used to provide support & lengthen the PTFE Diaphragm life.



## LONGER LIFE GUARANTEE:





The reduction of stress is the key to long diaphragm life. A coated nylon fabric mesh is positioned within rubber diaphragms during the molding process to strengthen the diaphragm while dispersing stress. Molding is done in number of layers. (Similar method of manufacturing Automobile tires). It features a stress-optimized bead shape instead of the traditional disk shape, which results in a lower load exerted on the diaphragm over the course of the pump cycle.

All **Neo-Flex** diaphragms are guaranteed to deliver longer life than other traditional designed diaphragms. If less flex life is realized, Neoflux will send you a new set of **Neo-Flex** diaphragms free of charge. This comparison must be conducted in the same pump, utilizing the same diaphragm material on the same application. Failures due to misapplication, as well as consequential damage to other pump components and/or associated equipment are not covered by this guarantee.



Neo-Flex Double Coat Diaphragm Design with Fabric Reinforcement

*Neo-Flex & Neo-Tef Diaphragm Options:*

Compound	Description	Application	Temperature Range
<p><b>Neoprene</b></p> 	<p>An excellent general purpose diaphragm for use in non-aggressive applications</p>	<p>Water-based Slurries, Well Water or Sea Water. Exhibits excellent flex life</p>	<p>-18°C (0°F) TO 93°C (200°F)</p>
<p><b>Buna-N</b></p> 	<p>Versatile multi-purpose diaphragm for oil containing slurries,  Good chemical Resistance against mineral oils, grease and fuels</p>	<p>Petroleum/oil based fluids such as Leaded Gasoline, Fuel Oils, Non-Synthetic Hydraulic Oils, Kerosene, Turpentine's and Motor Oils.</p>	<p>-12°C (10°F) TO 82°C (180°F)</p>
<p><b>Viton</b></p> 	<p>special diaphragm for chemicals and High Temperatures.</p>	<p>Outstanding Resistance against High Temperatures, Aromatic Hydrocarbons</p>	<p>-40°C (-44°F) TO 120°C (310°F)</p>
<p><b>PTFE</b></p> 	<p>Excellent choice when pumping Highly Aggressive fluids</p>	<p>Aromatic or Chlorinated Hydrocarbons, Acids, Caustics, Ketones and Acetates. Exhibits good flex life compared to Rubber Diaphragm.</p>	<p>4°C (-39°F) TO 105°C (219°F)</p>

*We look forward to being of assistance in your process equipment requirements*

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