

Monday, March 5, 2018

## Hydronic Pump Piping and Trim: Flexible Diffuser Fittings

Monday Morning Minutes | by Norm Hall, March 5, 2018

Pump installations tend to require a great number of spool pieces to meet the Hydraulic Institute's and the equipment manufacturers' recommendations. Before we get into the recommendations for pump suction piping, let's look at a new product that may reduce the number of fittings required. Today, the R. L. Deppmann Monday Morning Minutes introduces Vaneflex and Suction Diffuser Flex for energy saving pump connectors.

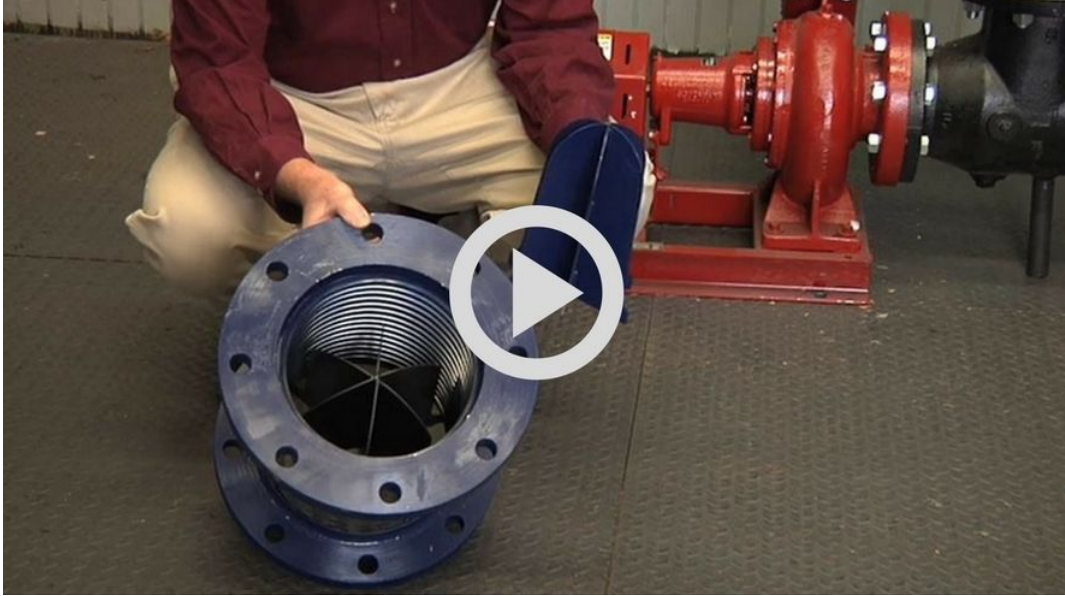


I normally do not spend a great deal of time talking about product introductions in this blog. Today's article will introduce something that will help reduce the installation cost of pumps. I felt it was important to understand some flexible connector options before we get to the piping to the pump next week.

## Use Metraflex Pump Discharge VaneFlex to Avoid a Spool Piece

Two weeks ago, the R. L. Deppmann Monday Morning Minutes introduced the need for a spool piece of five pipe diameters ahead of the check valve. This meets Metraflex's and most other check valve manufacturers' installation requirement. Some manufacturers may require up to ten pipe diameters. Metraflex recognizes the extreme cost of that spool piece in the larger pipe so they developed a flexible connector with straightening vanes as a better solution.

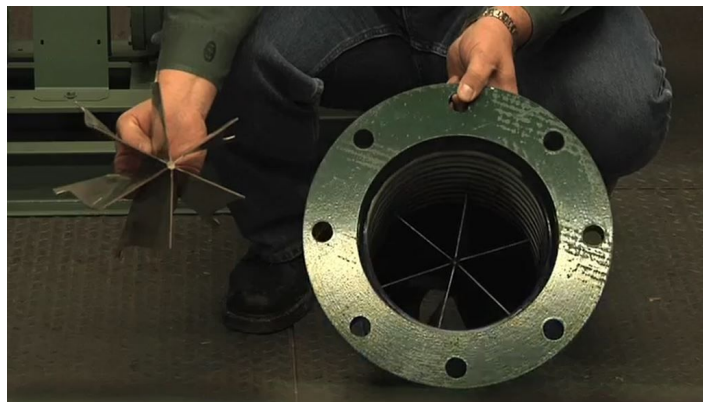
VaneFlex could be used on the pump discharge to provide a combination flex and straightening vane to avoid the spool piece. It could also include the concentric reducer at the pump discharge.



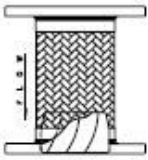
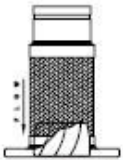

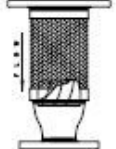
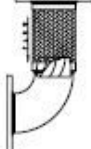

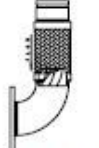
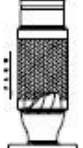
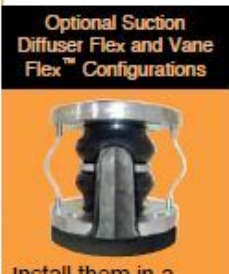

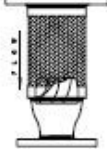
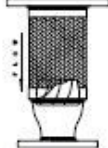
If you want to view a short video exploring this product and its value, view the link in our Monday Morning Minutes.

## Use Metraflex SDF Pump Suction Diffuser Flex

Just as the discharge piping requires spool pieces and reducers, the suction piping to a pump has many of the same requirements. Last week, we discussed the value of a suction diffuser to save piping installation and pressure drop. Sometimes, the suction diffuser does not match the pipe sizes or when it does, the pressure drop is too great. For those cases, Metraflex created the Suction Diffuser Flex connector.



### Standard Suction Diffuser Flex Configurations

Long Radius Elbow	Short Radius Elbow	90° Reducing Elbow
 Suction Diffuser Flex with 150# plate flanges for connecting to a long radius elbow	 Suction Diffuser Flex with 150# plate flange x groove end for connecting to a long radius elbow	 Suction Diffuser Flex with 150# plate flange with 90° reducing elbow
 Suction Diffuser Flex with 150# plate flanges with concentric reducer for connecting to a long radius elbow	 Suction Diffuser Flex with 150# plate flanges with long radius 90° elbow	 Suction Diffuser Flex with 150# plate flange x groove end with 90° reducing elbow
 Suction Diffuser Flex with 150# plate flange x groove end with long radius 90° elbow	 Suction Diffuser Flex with 150# plate flange x groove end with concentric reducer for connecting to a long radius elbow	 Optional Suction Diffuser Flex and Vane Flex™ Configurations
 Suction Diffuser Flex with 150# plate flange x groove end with short radius 90° elbow	 Suction Diffuser Flex with 150# plate flange with concentric reducer for connecting to a short radius elbow	 Suction Diffuser Flex with 150# plate flange x groove end with concentric reducer for connecting to a short radius elbow

This product can replace much of the piping for those times when a suction diffuser may not be the best option. The beauty of using these products is that they can be listed as a voluntary alternative to some piping configurations.

We will discuss more on this subject in next week's R. L. Deppmann Monday Morning Minutes.

