

Diaphragm Seals

Type T Series Diaphragm Seal Elements for Corrosive Applications

DESCRIPTION

Mansfield & Green T Series diaphragm seals have a molded TFE TEFLON® diaphragm making them ideally suited for a wide range of process media. They are especially well-suited for applications involving corrosive media.

Type T Series diaphragm seals employ diaphragms retained between two bolted members. In the clean-out design, the diaphragms are situated between the top and middle ring. In the plain design, the diaphragms are located between the top and bottom. The diaphragm is self-retained in the upper housing for easy repair or replacement. This extends the life of the seal element and allows for easy replacement and service.

The interior of the seal's upper housing is contoured to accommodate the movement of the diaphragm at maximum deflection, while minimizing distortion. Type T seal elements have a volumetric displacement of .40 cubic inches.



FEATURES

- Removable molded TEFLON diaphragm
 - Exceptional long-term value
- Continuous duty
- Ideal for corrosive applications
- Volumetric displacement of .40 cubic inches
- Upper contoured housing
 - Maximum allowable flexing
 - Minimum diaphragm distortion
- Seal ratings to 2500 psig (172 bar)
- Available with flushing connection
- Available in DIN and metric sizes

SEAL CONFIGURATIONS

Threaded Seal Elements

There are four basic versions of T Series diaphragm seals with threaded attachments. The TB seal element is used for pressure applications only and has a pressure rating of 2500 psig at 100°F (172 bar at 38°C). The TG seal element is similar to the TB seal, except that it has a 1/4 NPT flushing connection. The TA seal element has a standard pressure rating of 2500 psig at 100°F (172 bar at 38°C). The TH seal element is similar to the TA seal element except that it features a 1/4 NPT flushing connection.

Flanged Seal Elements

There are two basic versions of flanged T Series seal elements. The flange is a standard raised face style. The TC seal element can be supplied in .5" and .75" with Class 150 thru 1500 ANSI flange ratings. A 1" thru 4" version can be supplied with a Class 150 thru 600 ANSI rating. The TD seal is similar to the TC except it is equipped with a flushing connection. Type TC and TD seal elements are also available in DIN and metric sizes.

In-line Flow Thru Seal Elements

In-line flow thru T Series diaphragm seals include the TJ versions for 3.5" and larger pipe connections. The TK versions are available with 1/4, 3/8, or 1/2 NPT or socket weld process connections. The TM version is for pipe sizes from .75" to 2.5" Schedule 40 pipe (other schedules available) where the diaphragm seal element is to be directly welded to the process pipe. The TN version is for pipe sizes from .75" to 3" requiring ANSI ratings of Class 150 or 300. Class 600 to 2500 available in some sizes. 1" to 3" may be supplied with an optional TEFLON liner. The TP versions are for pipe sizes from 4" to 10" and with ANSI ratings of Class 150 or 300.

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MODEL T SERIES SELECTION GUIDE

SEAL TYPE	SEAL MOUNTING	OPERATING TEMPERATURE	OPERATING PRESSURE	PROCESS APPLICATION	FLUSHING CONNECTION
TA	Thread	100°F (38°C)	2500 psig (172 bar)	General Purpose	No Flush
TB	Thread	100°F (38°C)	2500 psig (172 bar)	General Purpose	No Flush
TG	Thread	100°F (38°C)	2500 psig (172 bar)	General Purpose	With Flushing Connection
TH	Thread	100°F (38°C)	2500 psig (172 bar)	General Purpose	With Flushing Connection
TC	Flange	100°F (38°C)	Flange Dependent	General Purpose	No Flush
TD	Flange	100°F (38°C)	Flange Dependent	General Purpose	With Flushing Connection
TR	Flange	100°F (38°C)	Flange Dependent	Severe Service	No Flush
TJ	In-Line Flow Thru ^a	100°F (38°C)	1500 psig (103 bar)	Saddle Mounts	No Flush
TK	In-Line Flow Thru ^b	100°F (38°C)	1500 psig (103 bar)	Thread Attached	No Flush
TM	In-Line Flow Thru ^c	100°F (38°C)	1500 psig (103 bar)	Butt Weld	No Flush
TN	In-Line Flow Thru ^d	100°F (38°C)	Flange & Schedule Dependent	Small Pipe	No Flush
TP	In-Line Flow Thru ^e	100°F (38°C)	Flange & Schedule Dependent	Large Pipe	No Flush

NOTE:

^a In-line flow thru welded by user

^b In-line flow thru thread-attached or socket weld connection

^c In-line flow thru welded by user, pipe supplied, schedule dependent

^d In-line flow thru for .75" to 3" pipe diameters

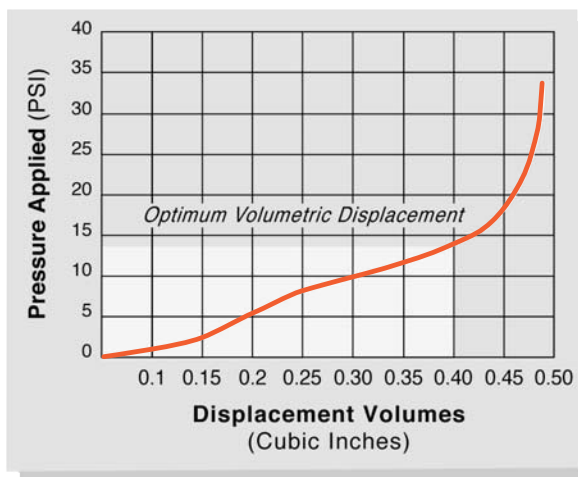
^e In-line flow thru for 4" to 10" pipe diameters

Application Note

Avoid fill liquid columns which develop a static head pressure that is too high relative to the instrument's span, zero suppression, or elevation capability.

Special Requests

The diaphragm seal combinations in this catalog represent AMETEK's more commonly ordered products. If you don't find a seal combination in this specification sheet, or if you are in need of a special application or material, call us. AMETEK can supply you with the safe and reliable solution for most applications.



Pressure vs. Volumetric Displacement

Displacement curves are provided to assist in selecting a diaphragm seal with minimal full span displacement bias effects. This graph is for reference only and may not accurately represent the maximum displacement that may be used. Contact AMETEK for exact specifications.

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