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ORIGINAL REPLACEMENT DIAPHRAGMS



Our range of diaphragms has been designed to meet the highest standards of reliability and quality. Full traceability is available for EPDM #7, and TFM backed EPDM diaphragms. Each diaphragm carries a molded identification number and is available with a certificate of FDA conformity for your regulatory requirements.

EPDM #7 and TFM backed EPDM diaphragms have been designed specifically to improve performance in applications requiring frequent steam cycles. Innovative formulations in EPDM and PTFE technology mean that the diaphragms can stay in service significantly longer than conventional diaphragms.

EPDM #7 compound complies with 21 CFR 177.2600 and conforms to USP Class VI. TFM backed EPDM conforms to 21 CFR 177.1550, and conforms to USP Class VI. All diaphragm testing was undertaken by an independent accredited laboratory. A complete validation package is available for trouble free validation and a quality guarantee. All finished diaphragms are sealed in individual packages to prevent damage from handling and transit.

QUALITY ASSURANCE

The compounds and molded TFM diaphragm with #7 EPDM backing complies to 21 CFR 177.1550 (a), and test requirements as outlined in USP XXIV Class VI Biological Reactivity Tests section #87 and #88. The compounds and molded peroxide cured #7 EPDM complies to 21 CFR 177.2600, and test requirements as outlined in USP XXIV Class VI Biological Reactivity Tests section #87 and #88.

Testing was undertaken by the independent accredited laboratory, NAMSA. The diaphragm is fully traceable to European specification: EN10204.31B. A physical properties certificate is available upon request.

Further information regarding the qualitative identification will be available upon written request under supplier/customer confidentiality agreement.



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QUALITY CONTROL

Our range of diaphragms are manufactured under strict adherence to ISO 9001 Quality Control Standards. All raw materials are carefully selected and are repeatedly checked to assure compliance to FDA and USP norms. Identification numbers are molded onto the edge tab of the finished diaphragm allowing the manufacturing history to be traced back to the raw material blend. All finished diaphragms are sealed in individual packages to maintain cleanliness and to prevent damage from shipping and handling. In order to assure consistent quality control and performance, stringent tests are conducted periodically to determine diaphragm life and performance ratings. Diaphragms are an integral part of the valve being used in the biopharmaceutical environment. No changes to polymer formulations will be made without consultation and prior notice.

TFM™ 1600 PTFE DIAPHRAGMS



TFM™ 1600 PTFE Diaphragms PTFE is one of the purest fluoropolymers available today with virtually zero extractables or leachable. TFM 1600 PTFE is a modified polytetrafluoroethylene (PTFE) that maintains the exceptional chemical and heat resistance properties of conventional PTFE, but has a significantly lower viscosity giving better fusion during sintering resultant smoother surfaces.

BENEFITS

- Substantially lower deformation under load – reduced cold flow
- Lower permeability
- Denser polymer structure – reduces the risk of trapped contaminants
- Smooth, pore free surface – allows for easier cleaning during CIP cycles
- Lower melt viscosity and better fusion during sintering
- Higher tensile strength
- Excellent for diaphragms in process applications involving frequent Steam sterilization (SIP)

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This innovative formulation allows diaphragms to stay in service substantially longer than conventional diaphragms without deformation.

TFM™ 1600 PTFE WITH EPDM RUBBER BACKING

- Excellent creep and compression resistance
- Superior thermo-mechanical performance
- Lower porosity
- Longer flex life
- Tensile Strength = 32N/mm³
- Elongation at break = 650%
- Max. Intermittent Steam Temp. Recommended = 165 °C
- Max. Continuous Steam Temp. Recommended = 145 °C

EPDM DIAPHRAGM CHARACTERISTIC



Our range of diaphragms are manufactured from the highest grade of FDA conforming lead-free ingredients. Each diaphragm is fully traceable using date/batch identification numbers molded onto the diaphragm.

EPDM DIAPHRAGM

EPDM (ethylene, propylene terpolymer, organic peroxide cured) compound is comprised of high molecular weight terpolymer, which provides increased mechanical properties while reducing compression set.

Ethylene-propylene compounds have excellent resistance to water, acids, alkalis, salt solutions, ketones, alcohols, glycols and phosphate esters. In addition it has excellent ozone and steam resistance up to 200 °C. This uncured or unvulcanized material is then calendered into continuous sheets (as seen above).

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These sheets are then used with a high performance nylon reinforcement fabric, and molded into finished diaphragms.

DIAPHRAGM SELECTION

Our range of diaphragms offers a wide variety of diaphragms for all application levels. Avoid using diaphragms in applications that exceed the recommended temperature and pressure limits. Please see product warranty limitation and disclaimer terms. Our range of diaphragms offers a wide range of other diaphragm materials for industrial applications; please call for a complete listing and size availability.

Code	Diaphragm Material	Color	Temperature		Approvals	
			°F	°C		
D	Butyl Rubber	Black	-20 to 250	-29 to 121	yes	yes
P	BunaN	Black	10 to 80	-12 to 82	yes	yes
# 7	EPDM-Peroxide Cured	Black	-30 to 300	-34 to 156	yes	yes
TFM/V	Steam Grade TFM Viton backing	White face black backing	23 to 347	-5 to 175	no	no
TFM/7	Steam Grade TFM EPDM backing	White face black backing	-30 to 350	-34 to 176	yes	yes

Avoid using diaphragms in applications that exceed the recommended temperature and pressure limits. Please see product warranty limitation and disclaimer terms.



SELECTION OF YOUR REPLACEMENT DIAPHRAGMS

The diaphragm is a critical component in the complete valve assembly. Selection of a diaphragm material is contingent upon: pressures, temperatures, process media, FDA approval, USP Class VI approval, traceability of material for system validation.

CSKBIO -REPLACEMENT DIAPHRAGMS (by size and part number)						
Valve Manufacturer/ Diaphragm Type	Size Inch DN	1/2 DN 8	1/2 DN 15	3/4 DN 20	1 DN 25	1.5 DN 40
Saunders [®] style EPDM		DD03-SE7	DD05-SE7	DD07-SE7	DD10-SE7	DD15-SE7
Saunders [®] style Teflon backed EPDM		DD03-STFM	DD05-STFM	DD07-STFM	DD10-STFM	DD15-STFM
Saunders [®] style Teflon backed Viton		DD03-STFMV	DD05-STFMV	DD07-STFMV	DD10-STFMV	DD15-STFMV
ITT [®] style EPDM		DD03-IE7	DD05-IE7	DD07-IE7	DD10-IE7	DD15-IE7
ITT [®] style Teflon backed EPDM		DD03-ITFM	DD05-ITFM	DD07-ITFM	DD10-ITFM	DD15-ITFM
Gemu [®] style EPDM		DD03-GE7	NA	DD07-GE7	DD10-SE7	DD15-SE7
Gemu [®] style Teflon backed EPDM		DD03-GTFM	DD05-GTFM	DD07-GTFM	DD10-GTFM	DD15-GTFM

CSKBIO -REPLACEMENT DIAPHRAGMS (by size and part number)					
Valve Manufacturer/ Diaphragm Type	Size Inch DN	2 DN 50	2.5 DN 65	3 DN 80	4 DN 100
Saunders [®] style EPDM		DD20-SE7	DD25-SE7	DD30-SE7	DD40-SE7
Saunders [®] style Teflon backed EPDM		DD20-STFM	DD25-STFM	DD30-STFM	DD40-STFM
Saunders [®] style Teflon backed Viton		DD20-STFMV	DD25-STFMV	DD30-STFMV	DD40-STFMV
ITT [®] style EPDM		DD20-IE7	DD25-IE7	DD30-IE7	DD40-IE7
ITT [®] style Teflon backed EPDM		DD20-ITFM	DD25-ITFM	DD30-ITFM	DD40-ITFM
Gemu [®] style EPDM		DD20-SE7	DD25-SE7	DD30-SE7	DD40-SE7
Gemu [®] style Teflon backed EPDM		DD20-GTFM	DD25-GTFM	DD30-GTFM	DD40-GTFM

Our range of replacement diaphragms are sold and distributed by CSK-BIO, and Diaphragm Direct® brand replacement diaphragms are NOT manufactured, distributed or sold by any of the following companies:

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- 2) Gemu Valves, owners of the registered trademark Gemu®;
- 3) ITT Industries, owners of the registered trademark ITT®.

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Get more information at: sales@cskbio.com
The specifications or design are subject to change without prior notice.