

Diaphragm TFM PTFE configuration

Material

The diaphragm is manufactured from 100% **TFM™ PTFE** bar, PolyTetraFluorEthylene from Dyneon™ - 3M.
Available in six different model with the followings different sizes from ¼" @ 4"
after the machining, on it is fixed a special AISI 316L screwed bush in order to fix it on the stem.
Surface roughness : smooth (hydrophobic)

In compliance with

All diaphragms are manufactured with materials in compliance with FDA regulation # 177.1550 supplied with statement
The diaphragm meets USP Class VI

Design Pressure

Min. -1 bar to Max. 6 bar g. (-14,5 to 87,0 psi)

(the applied valve body and actuator may have different design temperature and /or pressure limits. The weakest component in the assembled product determines the maximum design temperature and pressure limits)

Design Temperature

Continuos use : Min. -10 °C to Max. 150 °C

Short term use* : Min. -10 °C to Max. 240 °C

(* sterilization cycles with steam 1h continuously)

Inspection intervals

The inspection check and maintenance intervals can depends from operating conditions as temperature, pressure and fluid type, butt it is better keep to the following :

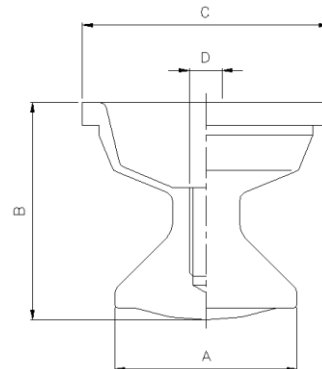
For water use with temp. <100°C = every 3.000 h

For steam use with Max. temp. 150°C = every 500 h

However, always remain to the user, the responsibility to fix a suitable procedure with the intervals and formality in order to replace the diaphragm based on own experience.

MVA-...T Nominal Dimensions in mm

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Dimensions Type	A mm	B mm	C mm	D Screw	Manual		Pneumatically	
					Max press.	Stroke	Max press.	Stroke
MVA-075-T	22	26,5	36	M6	8 bar	4,0 mm	8 bar	5,0 mm
MVA-100-T	32	39	49	M8	8 bar	6,0 mm	8 bar	6,0 mm
MVA-150-T	45	55	61	M8	8 bar	7,0 mm	8 bar	6,5 mm
MVA-200-T	58	72,6	97,5	M10	8 bar	7,5 mm	8 bar	9,0 mm
MVA-300-T	90	91,5	112	M10	8 bar	15,0 mm	3 bar	15,0 mm
MVA-400-T	120	130	163	M10	8 bar	25,0 mm	3 bar	25,0 mm

In the interests of development and improvement of the product, we reserve the right to change the specifications without prior notice.



Dyneon™



a 3M Company

Modified granular PTFE for molding and ram extrusion

Features and Benefits

- Meets ASTM D4894 Type III, Grade 2 resin
- Molding and ram extrusion powder with very good free flow properties
- Good metering properties
- Good mold filling behavior
- Improved particle coalescence
- Denser polymer structure
- Lower permeability
- Substantially lower deformation under load
- Improved weldability
- Good electrical and mechanical properties
- Increased modulus of elasticity

Typical properties (Data not for specification purposes)

Powder properties

Property	Value	Unit	Test Method
Bulk density	830	g/l	ASTM D 4894-98a
Average particle size	450	μ	ASTM D 4894-98a

Mechanical properties, measured at 23°C (73°F) on sintered moldings

Property	Value	Unit	Test Method
Tensile Strength	4600	psi	ASTM D 4894-98a
Elongation at break	450	%	ASTM D 4894-98a
Specific gravity	2.16	g/cc	ASTM D 4894-98a
Shrinkage	3.5	%	ASTM D 4894-98a
Tensile Modulus	94,250	psi	ASTM D 638
Deformation under Load		%	ASTM D 621
2175 psi – 24 hrs	8		
2175 psi – 100 hrs	9		
2175 psi – permanent	4		

Thermal properties

Property	Value	Unit	Test Method
Flammability	V-0		UL94
Melt point (initial)	342 ± 10	°C	ASTM D 4894-98a
(second)	327 ± 10	°C	ASTM D 4894-98a
Service Temperature Range	-200°C to 260°C (-328°F to 500°F)	°C °F	

Electrical Properties

Property	Value	Unit	Test Method
Dielectric Strength	2.6	kV/mil	ASTM D149-95a

Processing Information

If transport or storage temperatures are too high the material can agglomerate in its container. In such cases, it is advisable to store the material for 48 hours at below 23°C (73°F) and then sieve it (mesh size 4 mm) (.16 in) before filling the mold. To achieve optimum properties, compression molding should be carried out within a temperature range of 23°C to 26°C (73°F to 78°F) at a pressure of 20-25 MPa (2900-5100 psi). The sintering temperature should be in the range of 375°C to 380°C (707°F to 716°F).

Product Form and Packaging

Dyneon TFM PTFE is supplied in moisture and dust-tight plastic drums with a polyethylene liner.
Quantity per drum: 50 kg (110 lbs.)
Order quantity per pallet: 330 kg (660 lbs.)

Storage and Material Handling

Dyneon TFM PTFE has an unlimited shelf life provided it is stored in a clean, dry place. Dyneon TFM 1600 PTFE is hydrophobic, and generally do not require drying before processing unless high humidity conditions create surface moisture adsorption.

Management System - ISO 9001 and ISO 14001

All Dyneon design, development, production and service facilities have achieved a global ISO 9001 registration for their quality management system. In addition, our Gendorf, Germany location has achieved ISO 14001 for its environmental management system.

Regulatory

Dyneon TFM 1600 PTFE is in compliance with FDA regulation 21 CFR 177.1550. It is the responsibility of the user to determine whether its specific formulation and intended use comply with applicable laws and are suitable for its intended applications.

Safety/Toxicology

These are fluoroplastic materials, so normal precautions observed with fluoroplastics should be followed. Before processing these products, consult the Material Safety Data Sheet and follow all label directions and handling precautions. General handling/processing precautions include: (1) Process only in well-ventilated areas; (2) Do not smoke in areas contaminated with powder/residue from these products; (3) Avoid eye contact; (4) After handling these products wash any contacted skin with soap and water. Potential hazards, including evolution of toxic vapors, can exist if processing occurs under excessively high temperature conditions. Vapor extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with an open flame or in a furnace.

Technical Information and Test Data

Technical information, test data, and advice provided by Dyneon personnel are based on information and tests we believe are reliable and are intended for persons with knowledge and technical skill sufficient to analyze tests types and conditions, and to handle and use raw polymers and related compounding ingredients. No license under any Dyneon or third party intellectual rights is granted or implied by virtue of this information.

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