

High Soft Membrane for diaphragm seals



With our new **High Soft Membrane for diaphragm seals** you can achieve, in combination with electrical pressure transmitters or other pressure measuring instruments, a pressure measurement that is almost free of temperature-caused errors.

- Our new trapezoidal membrane, called **HIGH SOFT MEMBRANE** sets new benchmarks regarding temperature-caused errors in the range of -40 °C up to 400 °C (see table on page 2)
These errors are that low that it is "free of temperature-caused errors". When using transmitters with mounted chemical seals the accuracy class is being retained.
- At a process connection DN 50 with integrated High Soft Membrane the additional error is lower than a process connection DN 80 with sinus-shaped-membrane.
An important economic advantage for the operation is that you can use the smaller and also cheaper process connection DN 50.
- A further advantage is the "thickness of the membrane". We also offer thicker membranes for processes with a high importance of a thick membrane because of robustness / corrosion resistance (durability). The measuring results are at least as accurate as with the previous sinus-shaped membrane.
- Therefore we apply our new **High Soft Membrane** with immediate effect, instead of the previous sinus-shaped membrane, made of stainless steel (316 L and 316 Ti) and all special materials as standard, to all flange- and cellular type chemical seal models

• 7510, 7520, 7550 and 7560

DN 50 resp. NPS 2" and above

Further positive aspects of our **High Soft Membrane**, which are not only **features**, but also **convincing arguments**:

- The High Soft Membrane convinces by a fast transient oscillation of the membrane
- at static pressures < 1 bar abs, sufficient long-term stability
- completely vacuum-appropriate up to 150 °C
- less influence of restraint at flange mounting
- higher mechanical load by lower corrugation
- improved cleaning possibilities by the contour of the new membrane



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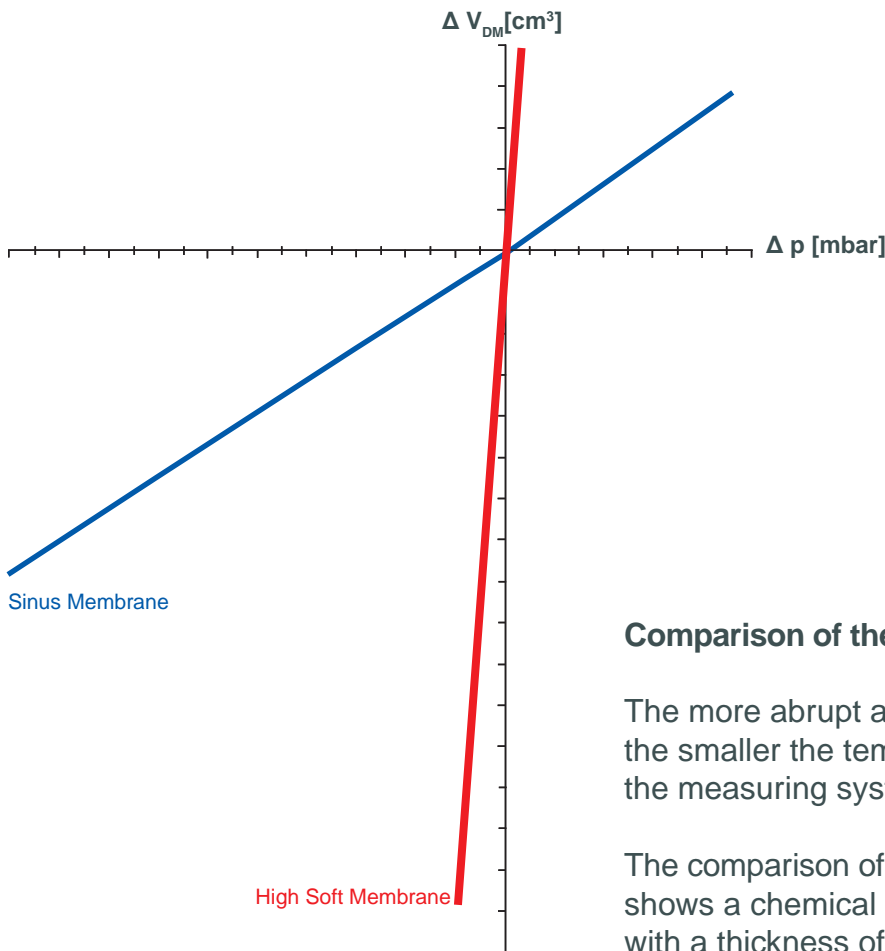
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Measuring results



Comparison of the characteristic curves

The more abrupt a characteristic curve, the smaller the temperature influence on the measuring system.

The comparison of the characteristic curve shows a chemical seal system DN 80 (3") with a thickness of 0.075 mm.

Temperature-caused additional error (mbar / 10k) in the range of -40 °C to 400 °C

	High Soft Membrane thickness of 0.075 mm	Sinus-shaped Membrane thickness of 0.075 mm
DN 50 (2")	0.20 mbar / 10k	0.42 mbar / 10k
DN 80 (3")	0.10 mbar / 10k	0.38 mbar / 10k

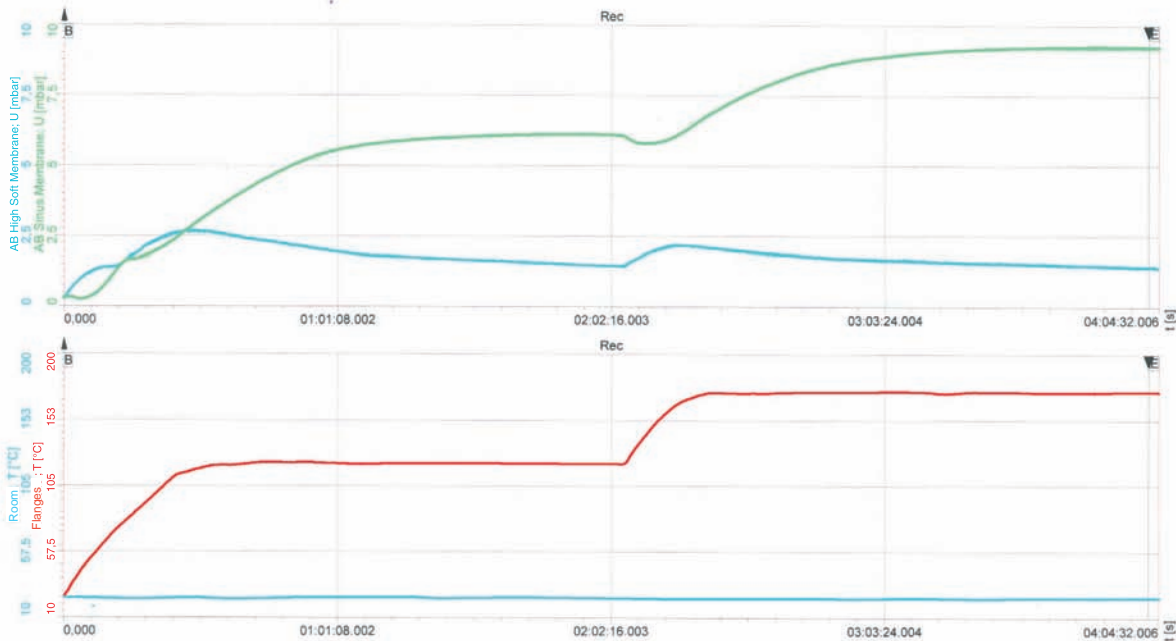
Because of the filling quality of the system, these values can only be guaranteed, if the pressure measuring instrument and the diaphragm seal are mounted, evacuated and filled in our factory.





Temperature test

AB Sinus Membrane: U [mbar]	AB High Soft Membrane: U [mbar]	Flanges: T [°C]	ACT Room: [°C]	ACT
9.16	1.44	172.40	24.00	



Zero deviation



MDM 7510 DN 80 (3") sinus-shaped with
pressure range 100 mbar
 Δp PTM -50-0-50 mbar
white oil 1, plus-side



MDM 7510 DN 80 (3") trapezoidal with
pressure range 100 mbar
 Δp PTM -50-0-50 mbar
white oil 1, minus-side



Result: In this case the properties of the **High Soft Membrane** are 17-times more accurate than the previous sinus-shaped membrane at same pressure and same temperature conditions.





Measuring results

Sinus-shaped Membrane



High Soft Membrane



MDM 7510 DN 80 (3") sinus-shaped
with Δp PTM -50-0-50 mbar
white oil 1, minus-side



MDM 7510 DN 80 (3") trapezoidal
with Δp PTM -50-0-50 mbar
white oil 1, plus-side



MDM 7510 DN 80 (3") sinus-shaped
with Δp PTM -50-0-50 mbar
white oil 1, plus-side



MDM 7510 DN 80 (3") trapezoidal
with Δp PTM -50-0-50 mbar
white oil 1, minus-side





High Soft Membrane for diaphragm seals

Technical information

- Standard for flange- and cellular type chemical seals of DN 50 resp. NPS 2"¹) and above MDM models 7510, 7520, 7550 and 7560
- **Temperature range:** -40 °C - +400 °C (-40 °F - +752 °F)

- **Material:**

Chemical seal body	High Soft Membrane	
1.4435	1.4435	
	1.4571	
	1.4539	Uranus B6
	1.4462	Duplex
	2.4610	Hastelloy C4
	2.4819	Hastelloy C 276
	2.4856	Inconel 625
	2.4360	Monel 400
	2.4068	Nickle
	–	Tantal

- **Field of application:** chemical industry
oil production, oil transport, oil processing
and others

