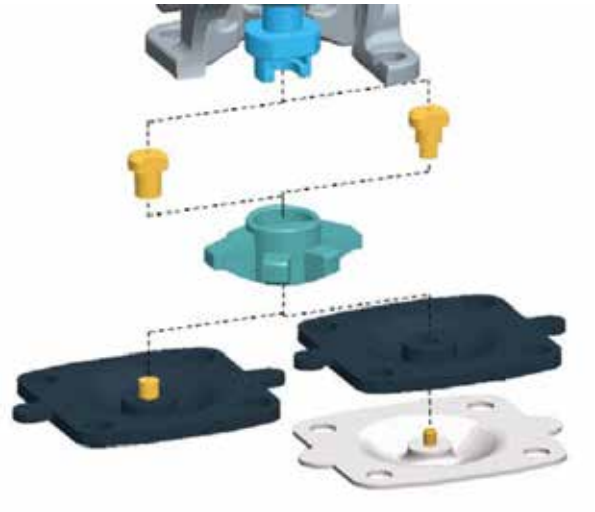
SED Diaphragms

Diaphragm Change Guide



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Introduction

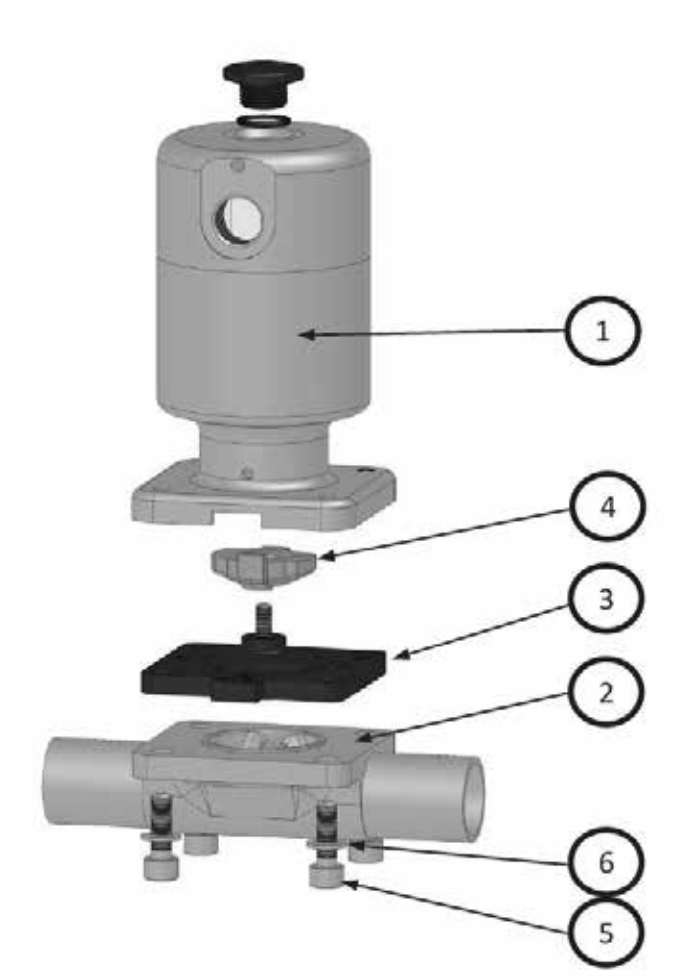
The diaphragm has to be controlled for wear after max. 100.000 (≥ MA80 50.000) switching operations. Depending on working load, the control period has to be reduced according to valid regulations and rules. Particles in the working media can be abrasive – reduce control period accordingly.

Only use diaphragms which are suitable for your application.

All diaphragm materials of the same size have the same engagement with the valve operating mechanism and may be interchanged in the valve without changing the diaphragm compressor and spindle.

Danger of injury through high pressure!
Pressure acting on lines and valves may cause severe injuries! Before disconnecting any lines and valves, the pressure must be switched off and the lines must be vented.

Components



The image shown to the left is an example of a diaphragm valve. Your valve may look different, ask for the installation manual if in doubt.

1: Actuator

2: Valve body

3: Diaphragm

4: Compressor

5: Bolt

6: Washer

Change of one-piece diaphragms

- Disassemble valve:
  - Open the valve
  - Loosen bolts (5) crosswise
  - Laying aside the bolts (5) and washers (6)
  - Remove actuator (1) incl. diaphragm (3) from valve body (2)
  - If parts are dirty, clean them. Defect parts have to be replaced by original spare parts from SED Flow Control.
- Bring valve in close position.
- Screw out diaphragm anticlockwise (≥MA10) or respectively unplug it (MA8)..
- Insert compressor and position it correctly.
- Screw in diaphragm by hand up to the stop or respectively plug it in. Then position diaphragm by turning it back anticlockwise in a way that the wholes of the diaphragm and valve body fit together.

Attention! Do not turn back more than 180°! Also take care for correct position of the diaphragm flap. If the diaphragm isn't assembled correctly, point loading can occur! This can lead to leakage and damage of the diaphragm.

- Bring valve in open position.
- Place actuator on the valve body. Take care for correct orientation of diaphragm and weir.
- Position bolts and fasten hand-tight.
- Close pneumatic actuator or respectively close manual actuator up to 80%.
- Fasten bolts or nuts crosswise.
- Tightening torques see Table 1.
- Check the valve at the pass and to the outside for tightness and function. Take care for equal compression of the diaphragm – about 10% depending on material and version. Especially PTFE diaphragms show a setting behavior. Check the valve after the first thermal load latest and re-fasten bolts if necessary.

Diaphragm size (MA)	Diaphragm material		Bolt size	Quantity bolts
	EPDM, FPM, NBR	PTFE/EPDM		
MA 8	0,5 Nm	0,5 Nm	M4	4
MA 10	1,5 Nm	2 Nm	M5	4
MA 25	5 Nm	5 Nm	M8	4
MA 40	9 Nm	12 Nm	M10	4
MA 50	14 Nm	18 Nm	M12	4
MA 65	50 Nm	60 Nm	M16	4
MA 80	50 Nm	60 Nm	M16	4
MA 100	40 Nm	50 Nm	M12	8

Table 1: Torque bolts, depending on size and material

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Change of two-piece diaphragms

- Disassemble valve:
  - Open the valve
  - Loosen bolts (5) crosswise
  - Laying aside the bolts (5) and washers (6)
  - Remove actuator (1) incl. diaphragm (3) from valve body (2)
  - If parts are dirty, clean them. Defect parts have to be replaced by original spare parts from SED Flow Control.
- Bring valve in close position.
- Screw out diaphragm anticlockwise (≥MA10) or respectively unplug it (MA8)..
- Insert compressor and position it correctly.
- At first place the support diaphragm in correct position on the actuator and its compressor. Invert the PTFE diaphragm and screw in clockwise up to the stop. Then position diaphragm by turning it back anticlockwise in a way that the wholes of the diaphragm and valve body fit together.

Attention! Do not turn back more than 180°! Also take care for correct position of the diaphragm flap. If the diaphragm isn't assembled correctly, point loading can occur! This can lead to leakage and damage of the diaphragm.

- Evert PTFE diaphragm in initially position.
- Bring valve in open position.
- Place actuator on the valve body. Take care for correct orientation of diaphragm and weir.
- Position bolts and fasten hand-tight.
- Close pneumatic actuator or respectively close manual actuator up to 80%.
- Fasten bolts or nuts crosswise.
- Tightening torques see Table 1.
- Check the valve at the pass and to the outside for tightness and function. Take care for equal compression of the diaphragm – about 10% depending on material and version. Especially PTFE diaphragms show a setting behavior. Check the valve after the first thermal load latest and re-fasten bolts if necessary.

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