Installation of Replacement Diaphragms

What you should know before installation

As metering diaphragms are directly in contact with the metered medium, they are naturally subject to maximum stress. Even if this was taken into account during construction, a failure of the diaphragm due to wear is likely.

The operational life can be increased considerably if the pressures admissible for the diaphragm (10 bar) are not exceeded. This means that, in addition to the operating pressure against which the pump must work, other pressures must be taken into consideration, which occur due to piping losses, geodesic heads (observe specific density of medium!), accelerations (during the pump stroke), nonreturn valves and injections nozzles.

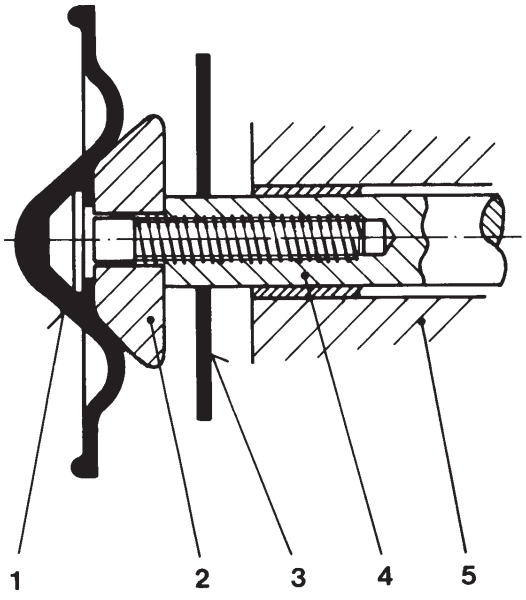
Especially in the case of acceleration pressure peaks which depend not only on the pump drive but also on the line length, the use of pulsation dampeners is recommended which ensure safe operation for a long time due to their air or nitrogen preload.

Replacing the diaphragm

The diaphragm must be removed and replaced according to the operating instructions of the individual pumps. The purpose of the following description is to point out certain points.

In order to protect the push rod against distortion, the stroke length must be set "0" so that the return spring is initially stressed.

1. Determine the reason for the rupture of the diaphragm. Have the aforementioned points been taken into account?
   Will they be considered when installing the new diaphragm?
2. Before the new diaphragm is installed please check if a support plate is required (see table). If so, the old support plate must have a smooth surface, or a new one must be used.
3. There must be no impurity between the support plate and the diaphragm.
4. The diaphragm must be tightened firmly against the push rod so that the support plate is clamped rigidly. An improperly fitted support plate would cause the fabric to chafe due to the relative movement between the diaphragm and the support plate.



1. Diaphragm
2. Support plate (if listed in the table)
3. Deflector plate
4. Push rod
5. Gear

Support plate

Depending on the type or capacity, diaphragm metering pumps are fitted with different diaphragms. These differ from each other by

– diameter
– material
– design
– use with or without support plate.

When ordering replacement diaphragms make sure to order the appropriate support plate, if required if the support plate used until then is affected chemically for example or if the profile of the support plate is damaged by wear. By no means must support plates be used if not listed in the table.

* P=EPDM/PTFE-coated
V=Viton
H=Hypalon

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Diaphragm ø	Material	Part No.	appropriate support plate	used in metering pump
20	P	81683	without	MK 01, DE / DX 01
				E, EL, FL 01
32	P	81424	without	MK 03, 07
				DE / DX 03, 07
				E, EL, FL 03,07
			29312	MK 2, 4
				DE / DX 2, 4
				E, EL, FL 2,4
			37093	LT 02, 06
			37094	LT 1, 3, 4, 6 / LC 2, 4, 6
38	P	81463	23892	MK 8, DE / DX 8
				E, EL, FL 8
				LT 10
	V	81252	10205	A 3, 5, 8
52	P	81464	33897 Spacer	DE / DX12
				E, EL, FL 12
				LT 17
			without	M 4, 8
				Memdos E / DX 4 ... 26
				A 14, A 24
64	P	81465	28977	MD 20, DE / DX 20
				TM 10 ... 45
				M 10 ... 45
				Memdos E / DX 50 ... 76
	V	81047	21598	MD 20, DE / DX 20
			10134	TM 10 ... 45
				M10 ... 45
90	P	81466	without	MD 40, DE / DX 40
				MR 50 ... 115
				ML 75
				Memdos E / DX 110 ... 156
	P conductible	81796	without	MR 50 ... 115
				Memdos E 110 ... 156
120	P	81467	without	MD 100, DE / DX 100
				ML 150
				Memdos E / DX 160 ... 260
				MR 140, 210
	P conductible	81793	without	MR 140, 210
				Memdos E 160 ... 260
150	P	81468	without	MR 290
				Memdos E/DX 300 / 380
				ML 270
	P conductible	81794	without	MR 290
				Memdos E 300 / 380
185	P	81469	without	Memdos MR 400 ... 980
	P conductible	81795	without	