



### Pumpelement DMF-A

- for GMF, PMW, GMA, GMZ
- adjustable

#### A = Connector

Thread	Pipe AD	Order no.
M12x1,5	6	110.070-64
M14x1,5	8	110.080-64
M16x1,5	10	110.090-64
7/16-20 UNF-2A	1/4"	110.102-64
1/2-20 UNF-2A	5/16"	110.103-64
9/16-18 UNF-2A	3/8"	110.104-64
M16x1,5	8S <sup>1)</sup>	110.088-64
9/16 UNF	8T <sup>2)</sup>	110.095-64

<sup>1)</sup> Heavy series

<sup>2)</sup> Triple Lok 6 JIC 37°  
without cap nut

#### B = Sieve

Mesh width: 400 µm  
 Material: 1.4301  
 Order no.: 913.300-21

**C = Tolerance quality marking**  
(no marking in case of fit quality I)

**D = red ring for denoting**  
the element with piston ø8

#### Minimum delivery volume at the maximum adjustment:

Piston-ø6: 0,08 cm<sup>3</sup>  
 Piston-ø8: 0,15 cm<sup>3</sup>

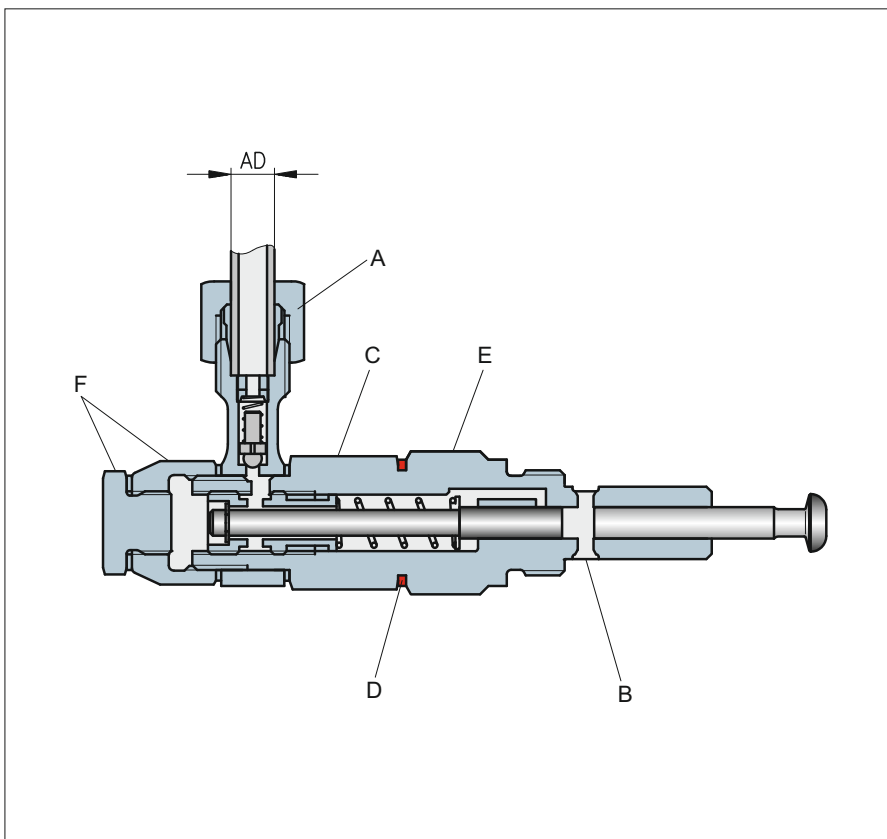
Pump elements for GMG see spare parts E0793 and E0704.

**E = Tightening torque**  
for pump element 30 Nm

**F = Tightening torque**  
for locking screw/pressure control  
valve/manometer connector  
25 Nm



Illustration shows example



- Subject to modifications -

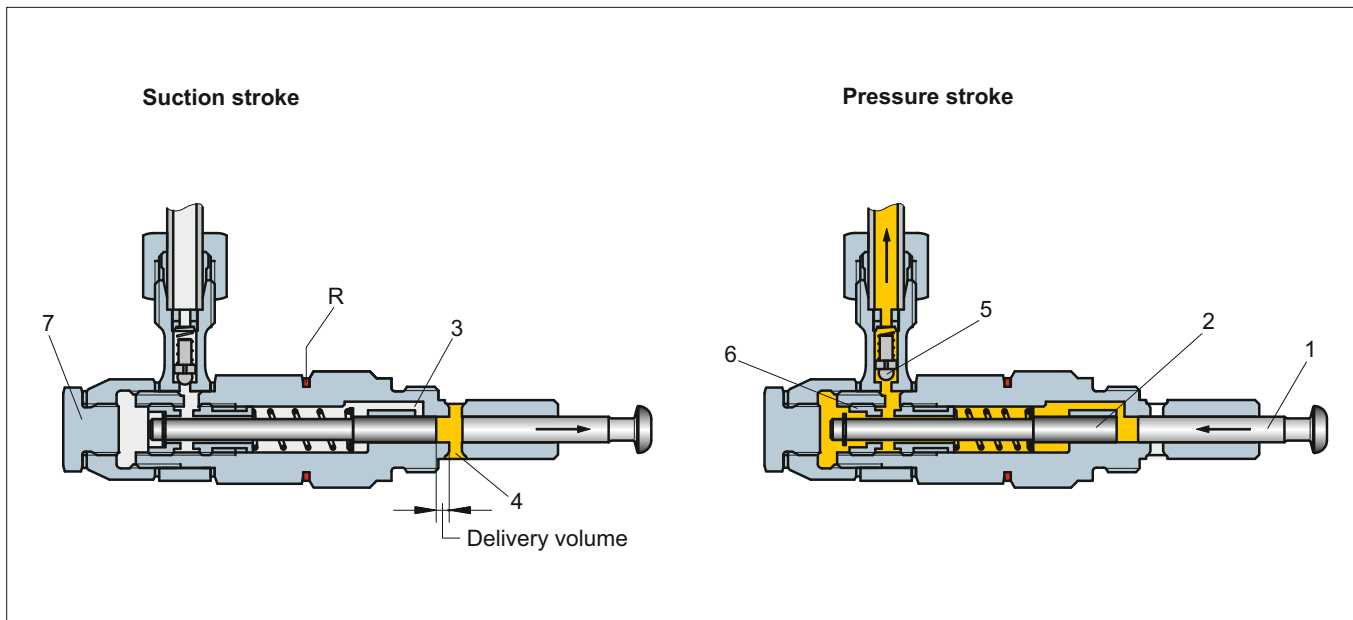
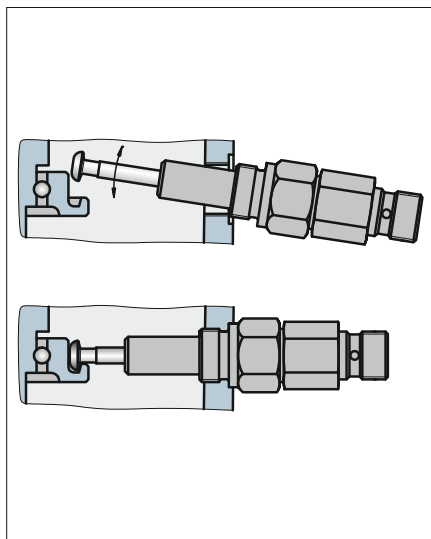


**Pump elements assembly:**

When fitting another pump element into the reciprocating pump, please proceed as shown in the sketch beside: With the delivery piston being approximately pulled out half, insert the pump element diagonally upward into the casing's reception hole. Insertion and operation will be easier when the hole that serves to accommodate the delivery piston is filled with grease. Do not put the pump element into horizontal position and screw in, unless the delivery piston's head touches the pressure ring and ratches into the latter's groove. When demounting, pull the pump element cautiously out of the casing such that the delivery piston will remain within the pump element.

**Notes to operation:**

Reciprocating pumps must be operated with clean oil or grease from original drums only. If, upon start-up, filling is not made via the filling nipple, the pump, in case of initial filling, has to be filled with gear oil up to the stirrer wing's level. This way, proper deaeration is ensured. The lubricant leads must be cleaned and have no obstructions. They shall not be connected with the lubrication points, unless lubricant comes out free of bubbles. All delivery pipe connections should be checked for leakage.



**Pump elements mode of operation:**

**Suction stroke** is accomplished by delivery piston **1** and control piston **2**. In this process, delivery piston **1** is actuated by the eccentric shaft, whilst the spring actuates control piston **2**. The control piston closes pressure hole **3** and is kept in a certain position as determined by the preset delivery volume. The delivery piston moves on, causing a vacuum to be built up in the proportioning space. When the delivery piston has opened suction hole **4**, lubricant starts to be sucked from the reservoir.

In case of **pressure stroke**, delivery piston **1** moves to the left. In this motion, suction hole **4** is closed and control piston **2** displaced by virtue of the lubricant being avail-

able in between the delivery and control pistons until it releases pressure hole **3** and the lubricant is delivered through the delivery piston to the outlet. The pump elements are delivered with maximum delivery volume, i. e. they are set to full stroke.

The **delivery volume** can be reduced to minimum of appr. 25% of the rated one. After having removed lock screw **7**, the stroke is to be changed by means of the enclosed spanner through adjustment nipple **6**. When turning the nipple to the right, delivery volume will decrease. At the adjustment nipple, there is a hexagon against which a spring loaded piston is pressing radially. Thus, any independent change of the deliv-

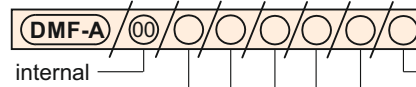
ery volume will be prevented. At the same time, the latching serves as a measure for setting the delivery volume. Six latches equal one rotation of the adjustment nipple and a reduction of the nominal delivery volume by appr. 33%. Precise setting to a specific delivery volume per stroke must ensue, based on volumetric measurements.

The element having a piston diameter of 8 mm = 0,15 cm<sup>3</sup>/stroke is marked with a red ring "R".

- Subject to modifications -



**Order designation:**



Piston-ø	Connector A for pipe				Sieve	Fit	Version	Delivery volume
6 ⑥	AD6 mm	⑥	AD3/8"	①	with	Quality I	Standard	max. volume (Standard)
	AD8 mm	⑧	AD8 mm <sup>1)</sup>	⑧S	⑤	①	①	①
	AD10 mm	⑩	AD10 mm 3/8" <sup>2)</sup>	⑧T				
8 ⑧	AD1/4"	①	without connector	①	without	(Special version upon request)	(Special version upon request)	adjusted (please denote delivery volume)
	AD5/16"	②			①			②

<sup>1)</sup> Heavy series      <sup>2)</sup> Triple Lok 6 JIC 37° without cap nut

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**Accessories:**

**Pressure control valve:**

Order no.	Opening pressure	Depiction	Mounting place	Use
110.566-64	70 bar		After removal of the locking screw at the pump element, the pressure control valve can be screwed in.	To limit max. operating pressure.
110.569-64	80 bar			
110.565-64	100 bar			
110.564-64	150 bar			
110.570-64	350 bar			
110.560-64	400 bar			
110.568-65	preset as per customer's specification: from 50 ... 160 bar			
110.562-65	from 160 ... 250 bar			

**Manometer connector:**

Order no.	Depiction	Mounting place	Use
110.068-65K		After removal of the locking cap at the pump element, the manometer connector can be screwed in.	To connect a manometer with G 1/4" male thread.

**Adjustment spanner:**

Order no.	Depiction	Use
110.004-65		After removal of the locking cap at the pump element, the delivery volume of the pump element can be adjusted by using the adjustment spanner (included in scope of delivery = i. e. 1 piece per pump each)

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