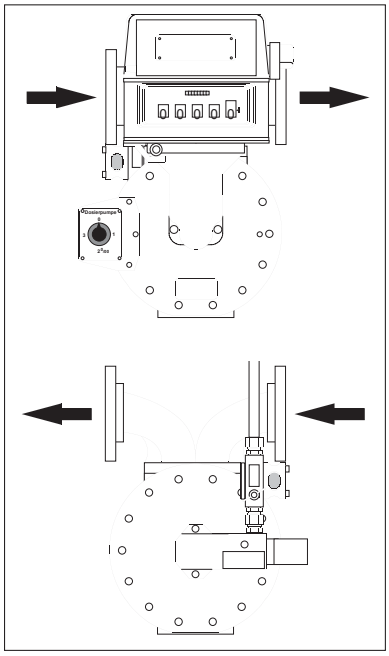
Metering Piston Pumps

DKP 2,7 - 4,8 A1 for MKA 2290
DKP 4,1 - 7,1 A1 for MKA 3350

General:



The metering system comprising metering piston pump DKP ... from Alfons Haar is a versatile system used for metering a wide range of additive products.

The metering piston pump is constructed as a separate part and is made of stainless steel and roller bearing steel.

The system is easy to operate via a knob.

- **Reliable**
  A crank drive fully supported by roller bearings, a Teflon-coated piston and a Teflon piston ring ensure optimum running behaviour even if the system is not sufficiently lubricated.

- **Requires almost no maintanance**
  Lubrication occurs automatically by means of the product; no deaeration is required at the cylinder since there is only a small volume between the cylinders and the respective valves.

Technical data:

Approved media:
- anti-icing additive
- mineral oil products

Gaskets: NBR 872
(for low temperatures)

Metering press. = max. 10 bar

Metering rates 0, 1, 2, 3 ‰

Tolerance ranges of the metering ratios:
at 1 ‰ = 1 - 1.5 ‰
at 2 ‰ = 1.8 - 2.2 ‰
at 3 ‰ = 2.7 - 3.3 ‰

Max. flow rate:

DKP 2,7 - 4,8 A1
(MKA 2290) = 2000 l/min

DKP 4,1 - 7,1 A1
(MKA 3350) = 3000 l/min

Order numbers and accessories:

Order numbers:

Metering chamber with
Metering piston pump and gear

MKA 2290... per type*

DKP 2,7 - 4,8 A1 **1640522**

MKA 3359... per type

DKP 4,1 - 7,1 A1 **1640603**

Accessories:

Flow rate indicator with vent valve

srew joint:
AD 18 **1652202**
AD 22/18 **1681814**

Strainer made of stainless steel, filter size 2µm.

srew joint:
AD 18 **1677841**
AD 22 **1677850**
AD 28/22 **1677868**

Ball valve made of stainless steel

DN 20 with screw joint DL 18 **2034916**
DN 22 with screw joint DL 22 **2012285**

Installation tools **on request**

* For MKA type R (CW rotating direction) the additive volume will not be metered

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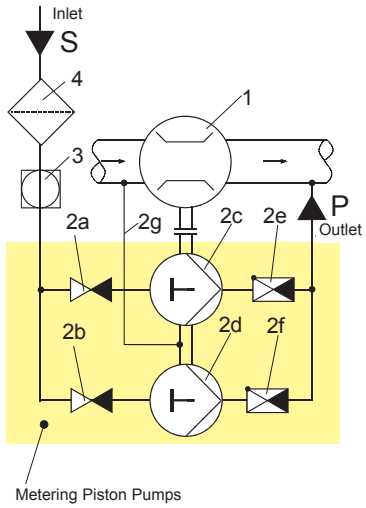
Design, function:



The individual metering rates (0, 1, 2, 3 ‰) are controlled by means of a selector shaft inside the metering piston pump. This selector shaft acts via two control pins on the inlet valves.

If one these control pins is actuated, the respective inlet valve is kept open, thus causing zero delivery of the pertaining pump cylinder. If the control pins are not actuated, one of the pump cylinders delivers 1 ‰ and the other 2 ‰. If both control pins are not actuated, the two cylinders deliver a total of 3 ‰.

A rod connects the eccentric shaft with the adjustment knob at the front of the meter. Using this knob, the metering rates can be set as required. The available settings are 0, 1, 2 and 3 ‰; intermediate values cannot be set.

1	Meter	2e, 2f	Non-return outlet valve
2	Metering piston pump	2g	Balancing line of the crankcase
2a, 2b	Controllable inlet valve	3	Flow rate indicator
2c	Metering piston, 1 ‰	4	Filter
2d	Metering piston, 2 ‰		

Typical installation diagram and notes regarding installation:

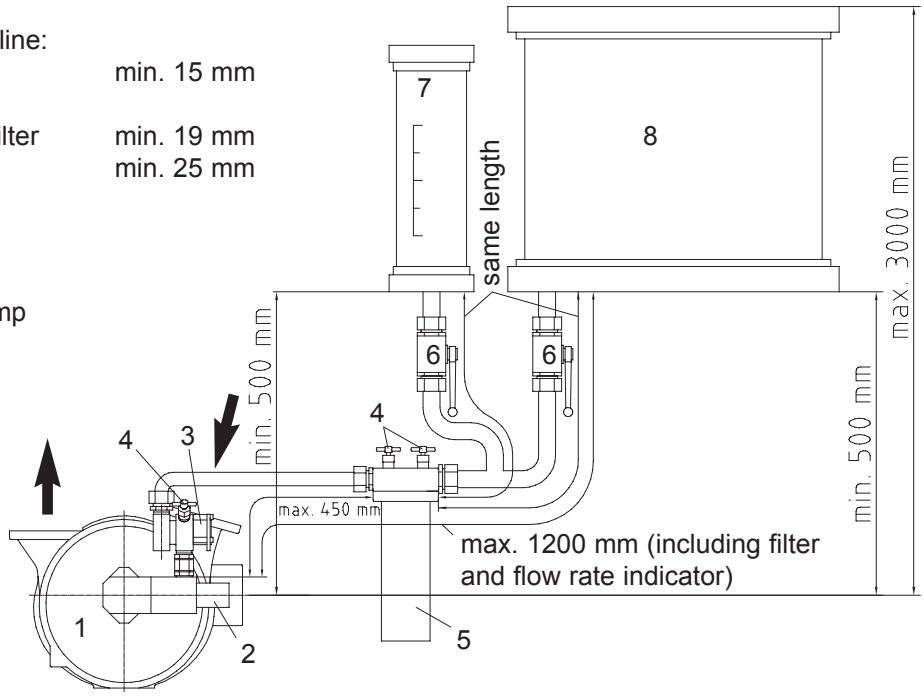
Permissible line length from the reservoir or measuring cylinder up to the metering piston pump max. 1200 mm (in special cases please contact Alfons Haar).

Inner diameter of the line:

for DKP 2,7 - 4,8 A1	min. 15 mm
for DKP 4,1 - 7,1 A1	
Flow rate indicator to filter	min. 19 mm
Filter to reservoir	min. 25 mm

Also for operation with 0‰ one of the ball valves (6) must always be open.

1 Metering chamber (back side)
2 Metering piston pump
3 Flow rate indicator
4 Vent valve
5 Filter 2 µm
6 Ball valve
7 Measuring cylinder for checking the metering rate
8 Reservoir



Pump pulsation can create cavitations in too long and too thin lines. This results in dosage faults.