

MICRO-Axial piston pumps

Type AKP

500 bar

0,1 up to 0,36 cm³/rev

Features

- High volumetric efficiency (also by very low speed rates)
- Low noise level
- Various speed ranges
- Continuous self lubrication and cooling through the suction flow
- Small mounting dimensions
- Automatic venting by raising and lowering the pressure or by switching the motor on and off several times
- Venting time can be shortened essentially through a pre-filling

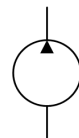


Design

- Design with 3 or 5 pistons
- Valve controlled on pressure and suction side (not usable as motor)
- Swash shaft with large dimensioned rolling bearings
- Rotating swash plate

Applications

- Offshore
- Oil and gas
- Metering systems
- Hydraulics systems with small displacements
- Usable even in unfavourable ambient conditions
- Small units



Technical data

Hydraulic fluid	Mineral oil according to DIN 51524 (other fluids on request)
Fluid temperature range	-20 to 80 °C
Ambient temperature range	-30 to 50 °C
Viscosity range	5 to 220 mm ² /s
Max. operating pressure	500 bar
Operation pressure at suction port	-0,2 bar to 0,5 bar gauge pressure
Filtration (recommendation)	According to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12
Weight	see table
Axial force onto driving shaft	Not allowed
Radial force onto driving shaft	On request
Max. speed range	100-5000 min ⁻¹
Direction of rotation	any
Installation position	According mounting drawing
Material	Housing: aluminium anodised Pump head: steel blued

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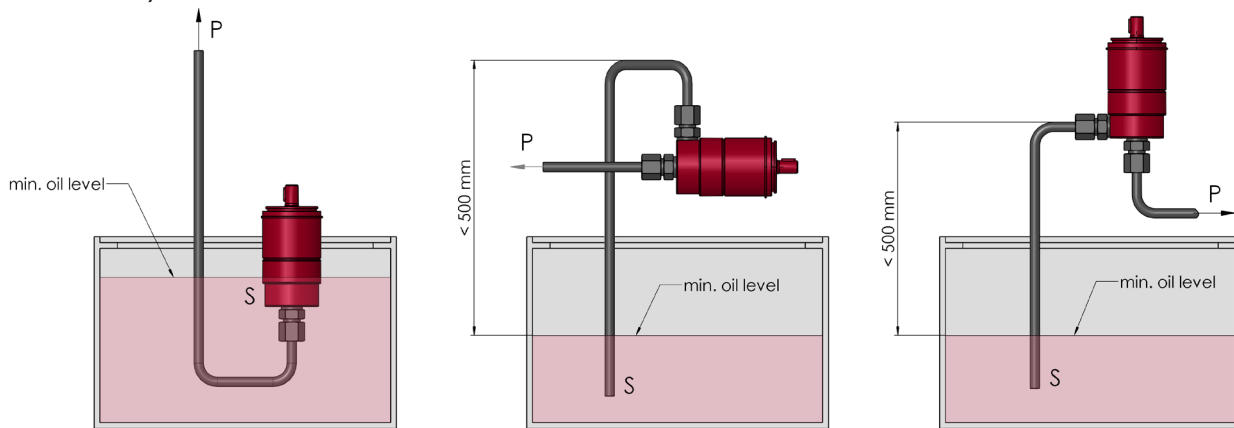
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Ordering code

Example	AKP 103 - 0,10 - 500 - V -	00
Axial piston pump		Special design 01 ... 99 (00 for standard)
Size	103 105 36	
Displacement [cm³/rev]	see product inform.	
Max. operating pressure [bar]	see product information	
Seal material	V [FPM] other seal materials on request	
		Part index Please leave it blank (small letters a-z; different letters do not effect interchangeability)
		Design revision see dimension drawings (capital letters A-Z; identical letters equal same connecting dimensions)

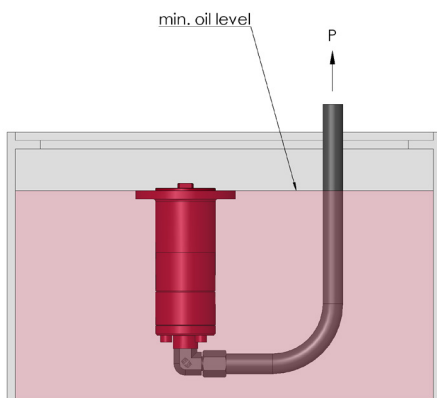
Mounting

Size AKP103/105



Suction filter recommended

Size AKP36



Product information

Size	Displacement [cm ³ /rev]	max. Operating pressure [bar]	max. speed [rpm]	Number of pistons	Weight ca. [kg]	max. Torque [Nm]	max. Power [kW]	Part No.
103	0,1	500	5000	3	0,9	1,05	0,55	3678021
103-Light	0,1	500	5000	3	0,69	1,05	0,55	4054819
105	0,3	500	5000	5	0,9	2,99	1,57	3678024
36	0,12	350	5000	3	0,64	0,88	0,46	4074013
36	0,28	350	5000	5	0,64	1,95	1,03	4074014
36	0,36	250	4000	5	0,64	2,51	1,32	4074045

Attention: The flange (part no. 3683105) has to be ordered separately!

Calculation of driving motor power

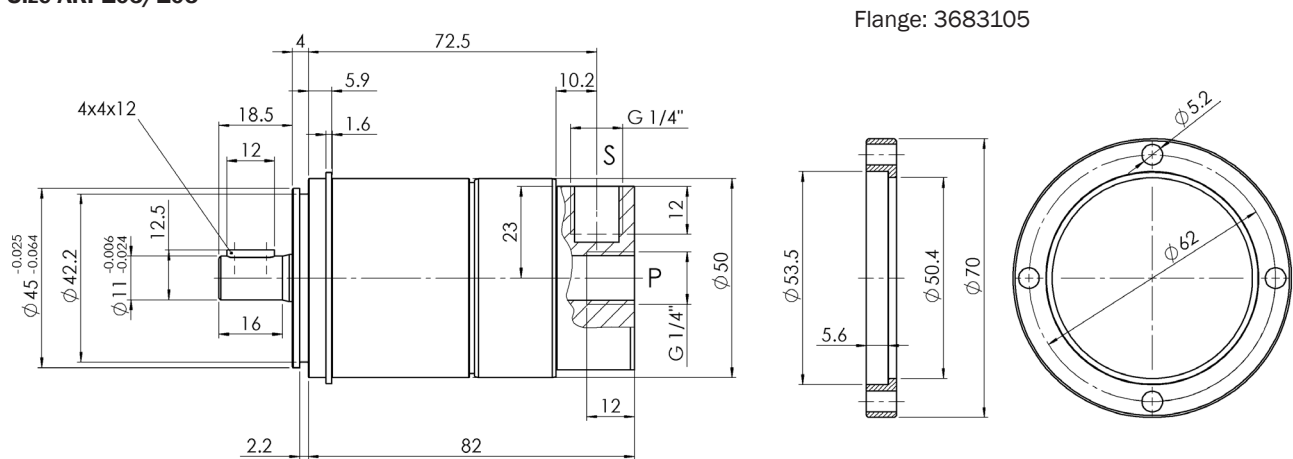
$$P = \frac{p \cdot V_g \cdot n \cdot k}{\eta_t \cdot 600 \cdot 10^3}$$

P = Driving power [kW]
 p = Operating pressure [bar]
 V_g = Displacement [cm³/rev]
 n = Speed [rpm]
 η_t = Overall efficiency approx. 0,8

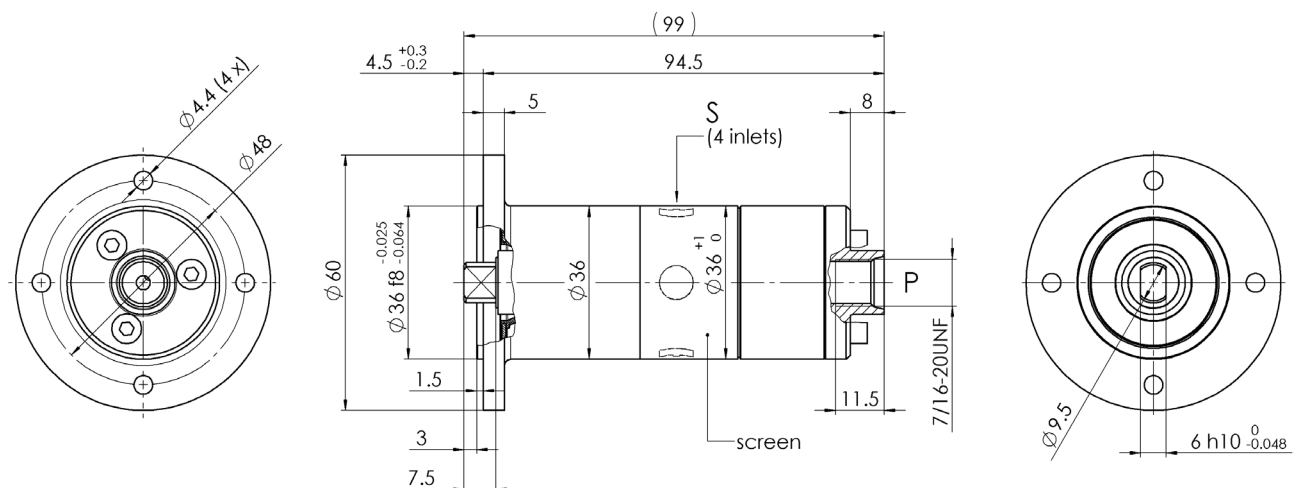
k = Pulsation factor
 - with 3 pistons: k approx. 1,05
 - with 5 pistons: k approx. 1,02

Dimensional drawing

Size AKP103/105



Size AKP36



Type AKP

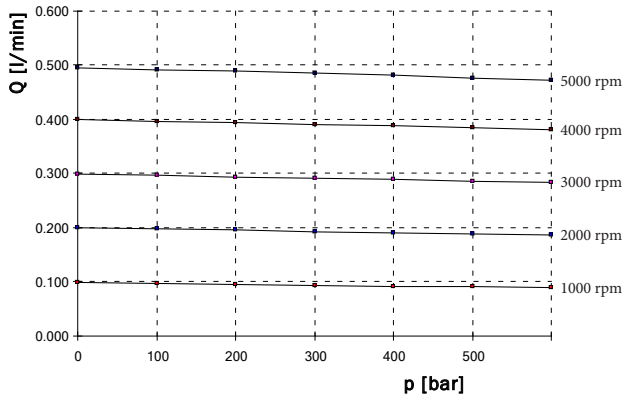
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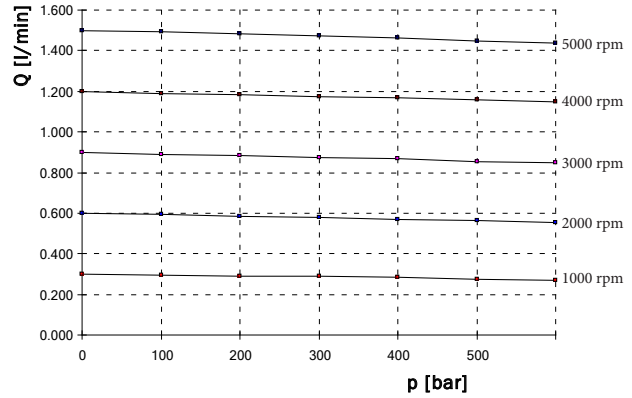
Characteristics

(measured at $v = 30 \text{ mm}^2/\text{s}$, $T = 40 \text{ }^\circ\text{C}$)

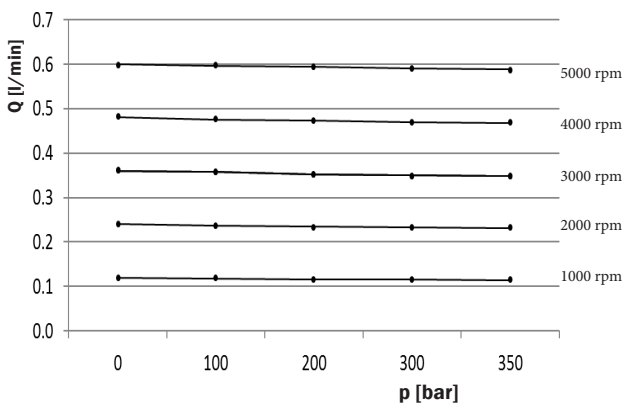
Size AKP103



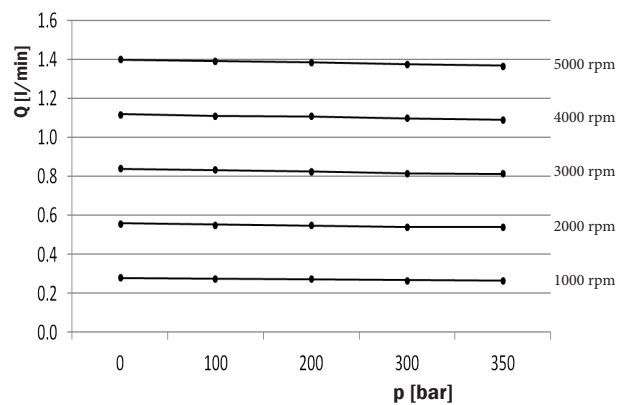
Size AKP105



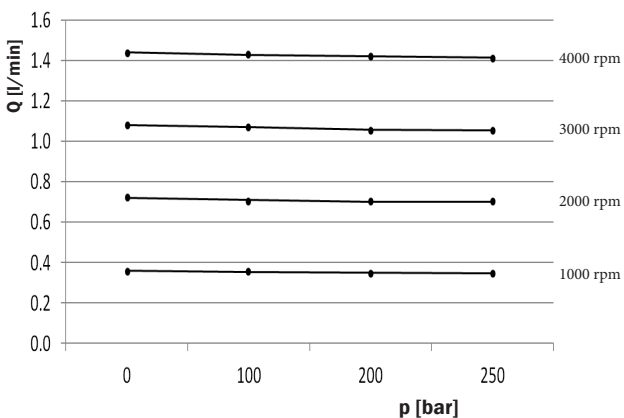
Size AKP36-0,12



Size AKP36-0,28



Size AKP36-0,36



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The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.