BIERI
HYDAC INTERNATIONAL

Axial piston pumps

Type AKP

500 bar

0,1 up to 0,30 cm^3/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 pumping elements
- 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

Technical data

Hydraulic fluid	Mineral oil according to DIN 51524 (other fluids on request)
Fluid temperature range	-30 to 80 °C
Ambient temperature range	-30 to 50 °C
Viscosity range	5 to 220 mm^2/s (optimal: 15-35 mm^2/s)
Max. operating pressure	500 bar
Filtration	According to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12
Weight	0,9 kg
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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Ordering code

Example AKP | 103 | - | 0,1 | - | 500 | - | P | - | | | 00

Axial piston pump

Size
103
105

Displacement [cm³/rev]
see product inform.

Max. operating pressure [bar]
see product information

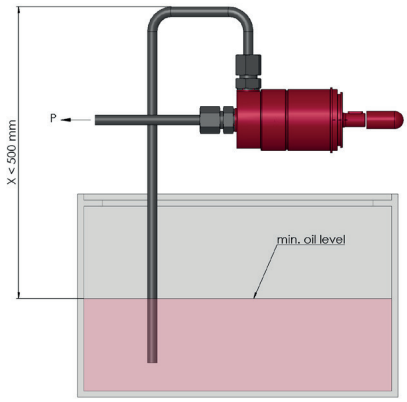
Seal material
V [FPM]
other seal materials on request

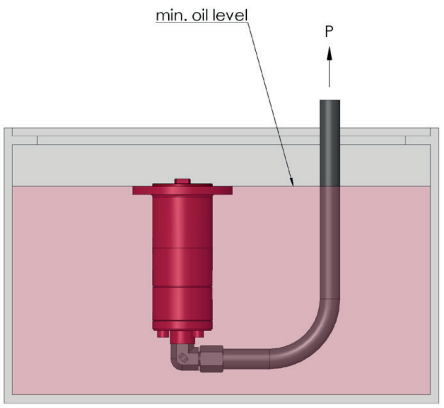
Design revision
see dimension drawings
(capital letters A-Z; identical letters equal same connecting dimensions)

Part index
Please leave it blank
(small letters a-z; different letters do not effect interchangeability)

Special design
01 ... 99
(00 for standard)

Mounting





Product information

Size	Displacement [cm³/rev]	Operating pressure max. [bar]	Number of pumping elements	Weight ca. [kg]	Part No. [Bieri/SAP]
103	0,1	500	3	0,7	62885/3678020
105	0,3	500	5	1,0	62397/3678023

Attention: The flange (part no. 45911/3683105) has to be ordered seperately!

Calculation of driving motor power

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

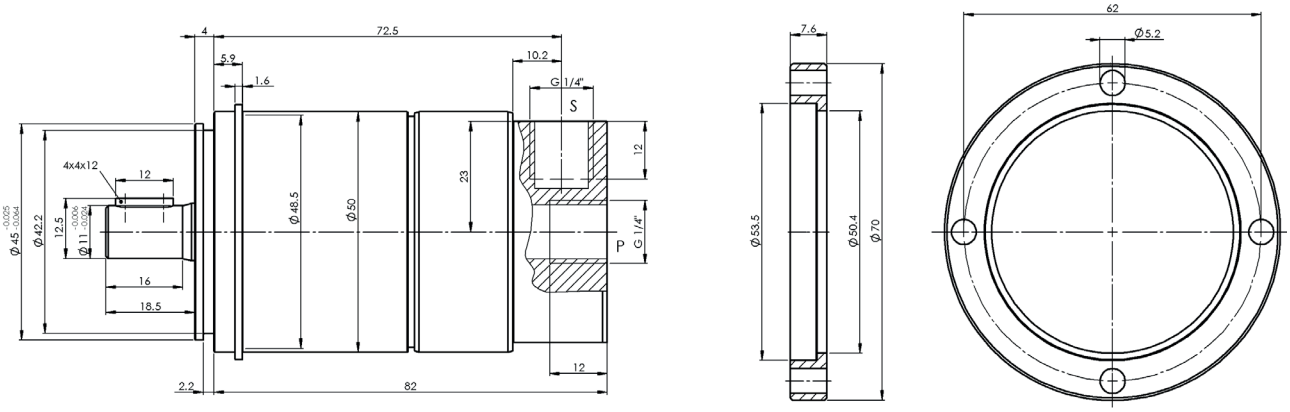
P = Driving power [kW]
p = Operating pressure [bar]
V_g = Displacement [cm³/rev]
n = Speed [rpm]
η_t = Overall efficiency approx. 0,8

k = Pulsation factor
- with 3 pumping elements: k approx. 1,05
- with 5 pumping elements: k approx. 1,0
- with 7 pumping elements: k approx. 1,0
- with 9 pumping elements: k approx. 1,0

Dimensional drawing

Size AKP103/105

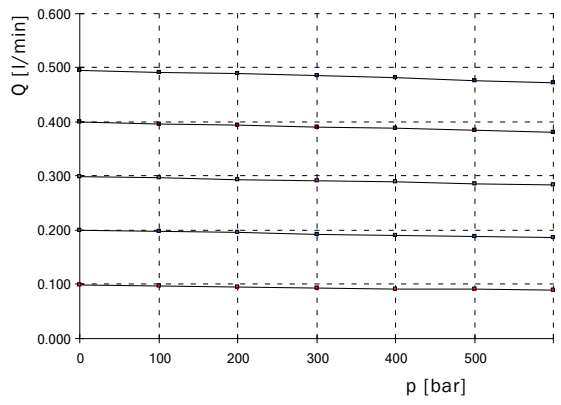
Flange



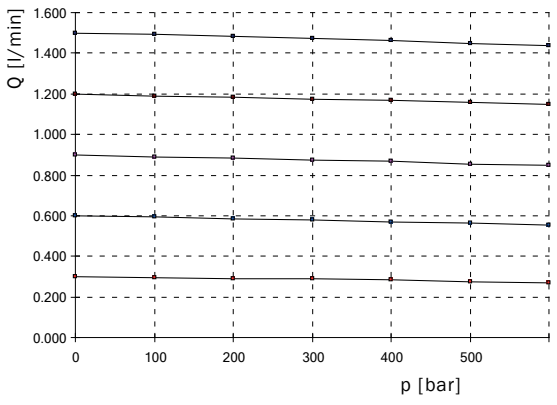
Characteristics

(measured at v = 30 mm²/s, T = 40 °C)

Size AKP103



Size AKP105



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