BIERI
HYDAC INTERNATIONAL

Radial piston pumps

Type BRK501/502

light version
up to **500 bar**
0.76 to 8.14 cm^3/rev

700 bar → see data sheet BRK701/702
1000 bar → see data sheet BRK11/12

Features

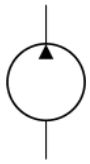
- High volumetric efficiency
- Self-venting and priming
- Low pulsation
- Combination with gear pump possible (see separate data sheet BKP)

Applications

- Machine tools
- Clamping device
- Power units (e.g. for presses)
- Lifting systems
- Hydraulic tools
- For applications in test benches use BRK701/702 or BRK11/1002

Design

- Radial piston pump of modular design
- With valve controlled pumping elements
- With 3, 5, 7 or 9 pumping elements



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, peak pressure 700 bar (reduces bearing life)
Operating pressure suction side	-0.2 bar to 0.5 bar gauge pressure
Displacement volume	0.76 to 8.14 cm^3/rev
Filtration (recommendation)	according to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12
Axial force onto driving shaft	can't be taken up
Radial force onto driving shaft	on request
Max. rotation speed	2000 rpm
Direction of rotation	any
Suction height	max. 500 mm
Weight	see overview "Product information"
Materials	pressure flange: forged steel driving shaft: steel cover: diecast aluminium

Type BRK501/502

light version
up to 500 bar
0.76 to 8.14 cm³/rev

Type code

Example BRK 501 - 1,31 - 500 - V - C [ ] 00

Radial piston pumps

Size 501, 502

Displacement volume [cm³/rev] See overview "Product information"

Max. operating pressure [bar] See overview "Product information"

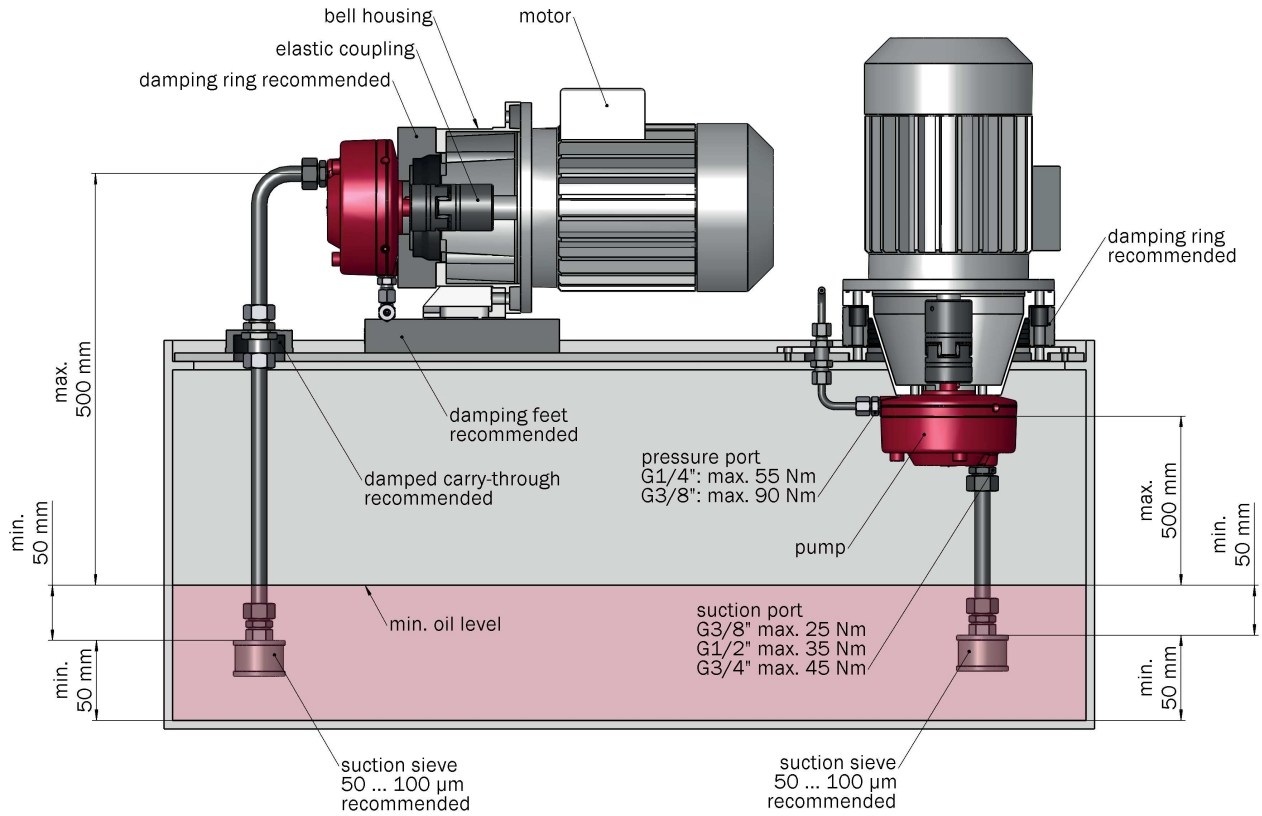
Seal material V FKM, other seal materials on request

Design 00 ... 99, For internal purposes

Index Please leave blank, For internal purposes

Design revision For internal purposes

Mounting



Product information

size	displacement volume [cm³/rev]	max. operating pressure [bar]	max. rotation speed [rpm]	number of pumping elements	weight [kg]	max. torque [Nm]	max. power* [kW]	part no.
501	0.76	500	2000	3	6.2	6.93	1.25	3829367
501	0.94	500	2000	3	6.2	8.52	1.55	3829368
501	1.31	500	2000	3	6.2	12.69	2.15	3829372
501	1.53	500	2000	3	6.2	13.87	2.50	3829373
501	2.01	500	2000	5	6.7	17.85	3.20	3829375
501	2.54	500	2000	5	6.7	22.59	4.06	3829376
501	2.71	500	2000	3	6.5	25.91	4.45	3829377
501	3.14	500	2000	5	6.9	29.36	5.01	3829378
501	3.56	500	2000	7	7.3	32.15	5.62	3829380
501	4.52	400	2000	5	7.0	34.08	5.77	3829384
501	6.33	250	2000	7	7.3	29.66	5.00	4000810
502	4.52	500	2000	5	14.5	41.69	7.21	3829387
502	5.65	500	2000	9	15.2	51.91	8.92	3829388
502	6.33	500	2000	7	14.9	58.22	9.99	4000894
502	7.31	500	2000	9	15.2	66.84	11.54	3829390
502	8.14	450	2000	9	15.2	68.05	11.57	3958951

* at n = 1500 rpm; η_t = 0,8; p = p_{max}

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 volume [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. 1.02
- with 7 pumping elements: k approx. 1.01
- with 9 pumping elements: k approx. 1.00

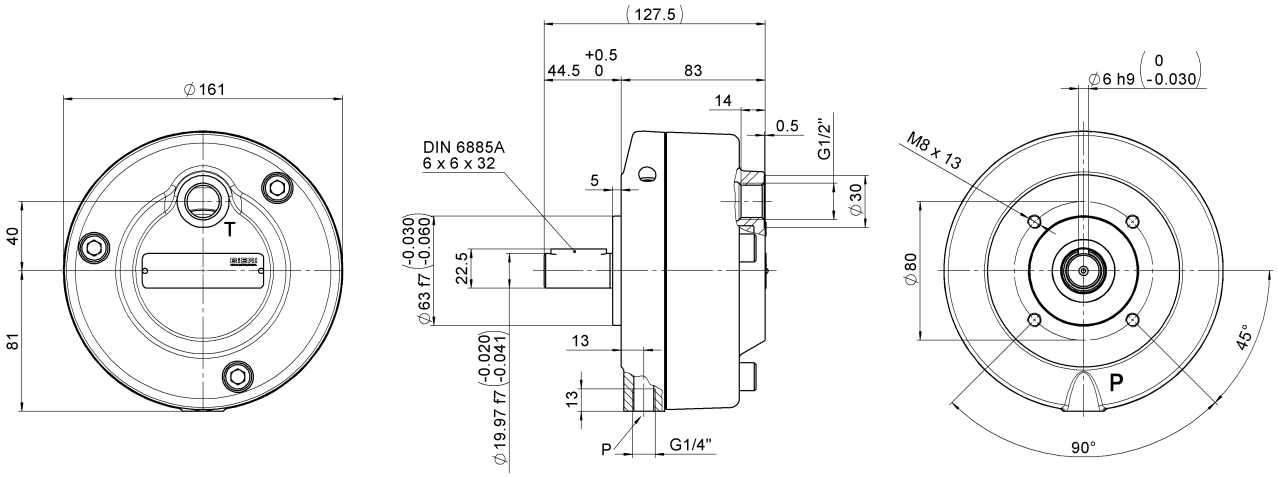
Calculation of driving motor torque

$$M = \frac{p \cdot V_g}{62{,}8 \cdot \eta_t}$$

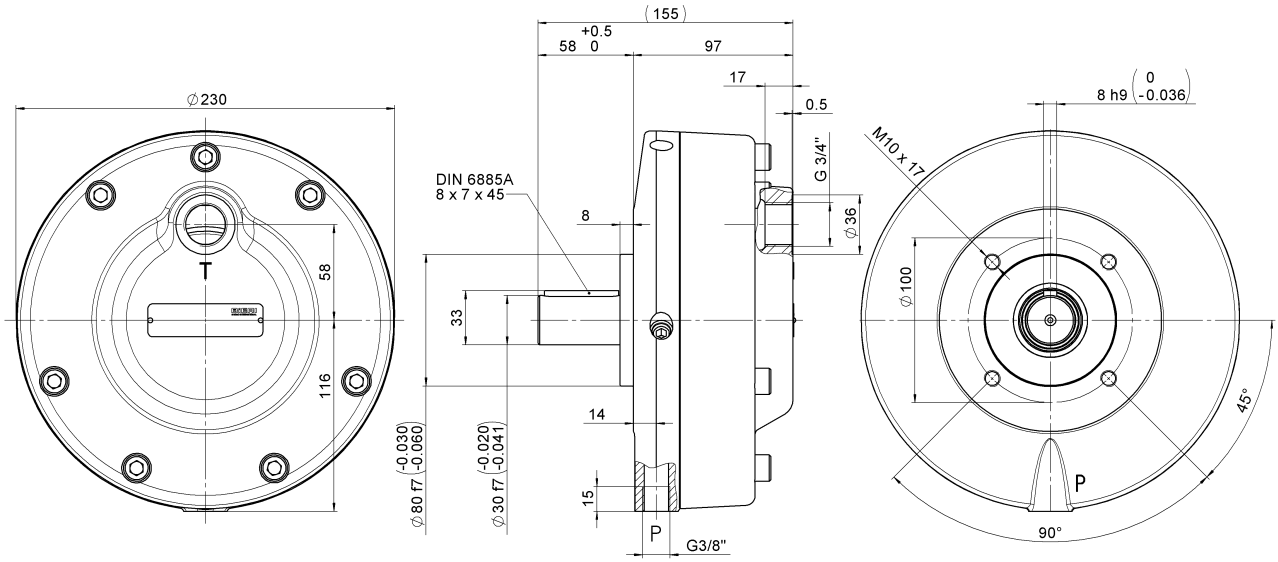
M = torque [Nm]

Dimensional drawings

Size BRK501



Size BRK502



Spare parts

item description	part no.
seals kit for BRK501	4006555
seals kit for BRK502	4006559

Bieri Hydraulik AG
Könizstrasse 274
CH-3097 Liebefeld
Tel. +41 31 970 09 09 | Fax +41 31 970 09 10
info@bierihydraulics.com | www.bierihydraulics.com