

## Radial piston pumps 500

### Type BRK501/502

light version

500 bar

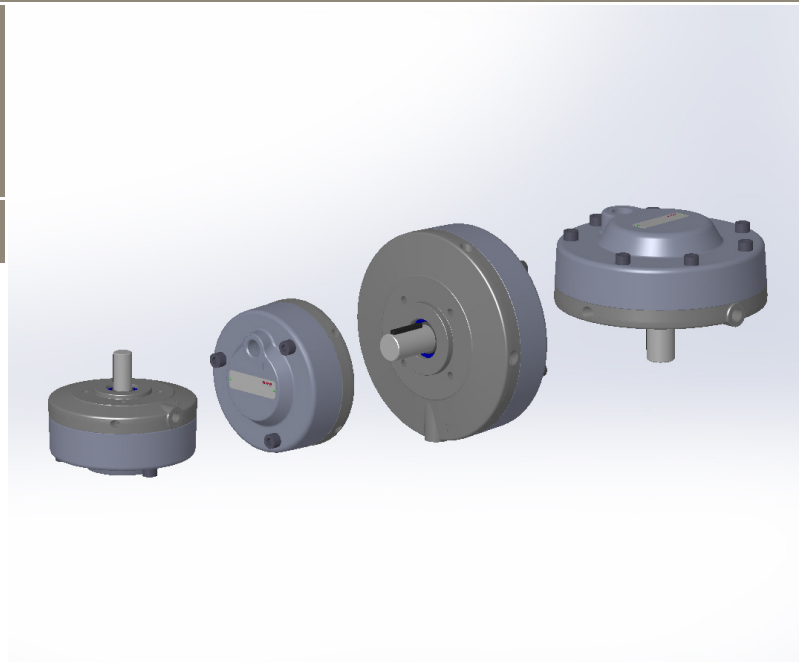
0,24 to 7,31 cm<sup>3</sup>/rev

700 bar → see data sheet BRK701/702

1000 bar → see data sheet BRK11/12

#### Features

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



#### Design

- Radial piston pump of modular design
- With valve controlled pump elements
- Can be supplied with 3, 5, 7 and 9 pistons per face (depending on size)

#### Applications

- Machine tools
- Clamping device
- Power units (e.g. for presses)
- Test stands
- Accumulator charging systems
- Lifting systems
- Hydraulic tools

#### Technical data

|                                             |                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| Hydraulic fluid                             | Mineral oil according to DIN 51524<br>(other fluids on request)                   |
| Fluid temperature range                     | -20 to 80 °C                                                                      |
| Ambient temperature range                   | -30 to 50 °C                                                                      |
| Viscosity range                             | 5 to 220 mm <sup>2</sup> /s (optimal: 15-35 mm <sup>2</sup> /s)                   |
| Max. operating pressure                     | 500 bar continuous pressure (S1)                                                  |
| Operation pressure at suction port          | -0,2 bar to 0,5 bar gauge pressure                                                |
| Filtration                                  | According to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12                         |
| Weight                                      | See product information                                                           |
| Radial force/Axial force onto driving shaft | Not allowed                                                                       |
| Max. speed range                            | 2000 min <sup>-1</sup>                                                            |
| Direction of rotation                       | Any                                                                               |
| Suction height                              | Max. 500 mm                                                                       |
| Material                                    | Pressure flange: hot forged aluminium<br>Driving shaft: steel<br>Cover: aluminium |

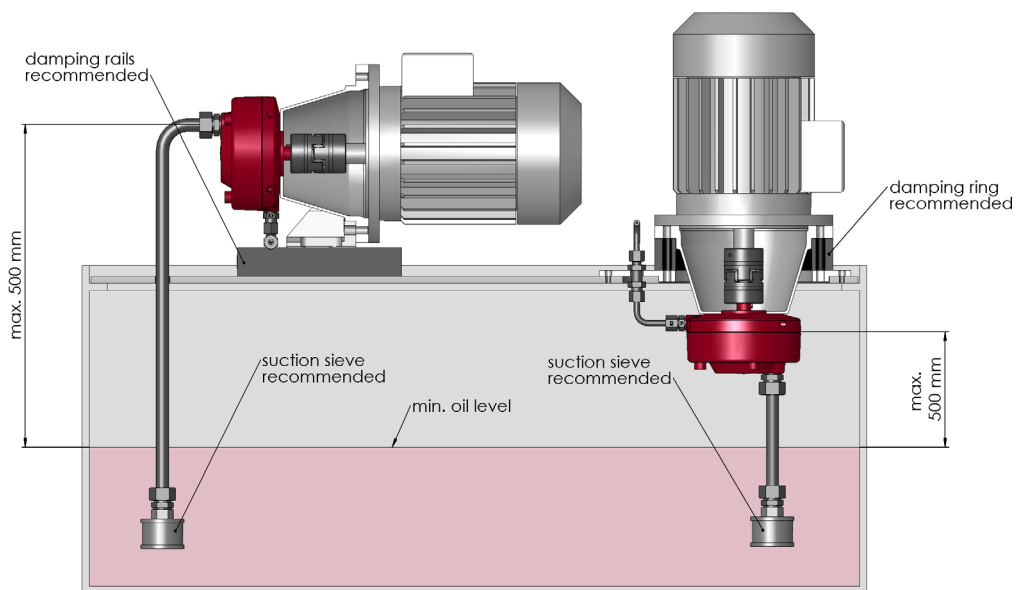
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## Ordering code

|                                          |                                                                                                                               |            |   |             |   |            |   |          |   |  |  |           |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------|---|-------------|---|------------|---|----------|---|--|--|-----------|
| <b>Example</b>                           | <b>BRK</b>                                                                                                                    | <b>501</b> | - | <b>0,24</b> | - | <b>500</b> | - | <b>V</b> | - |  |  | <b>00</b> |
| <b>Radial piston pump</b>                |                                                                                                                               |            |   |             |   |            |   |          |   |  |  |           |
| <b>Size</b>                              | 501<br>502                                                                                                                    |            |   |             |   |            |   |          |   |  |  |           |
| <b>Displacement [cm<sup>3</sup>/rev]</b> | see product information                                                                                                       |            |   |             |   |            |   |          |   |  |  |           |
| <b>Max. operating pressure [bar]</b>     | see product information                                                                                                       |            |   |             |   |            |   |          |   |  |  |           |
| <b>Seal material</b>                     | V [FPM]<br>other seal materials on request                                                                                    |            |   |             |   |            |   |          |   |  |  |           |
|                                          | <b>Special design</b><br>01 ... 99<br>(00 for standard)                                                                       |            |   |             |   |            |   |          |   |  |  |           |
|                                          | <b>Part index</b><br>Please leave it blank<br>(small letters a-z; different letters do not effect interchangeability)         |            |   |             |   |            |   |          |   |  |  |           |
|                                          | <b>Design revision</b><br>see dimension drawings<br>(capital letters A-Z; identical letters equal same connecting dimensions) |            |   |             |   |            |   |          |   |  |  |           |

## Mounting



## Product information

| Size | Displacement<br>[cm <sup>3</sup> /rev] | Operating pressure<br>max. [bar] | Number of<br>pumping elements | Weight<br>ca. [kg] | Part No.<br>[Bieri/SAP] |
|------|----------------------------------------|----------------------------------|-------------------------------|--------------------|-------------------------|
| 501  | 0,24                                   | 500                              | 3                             | 3,9                | 74021/3829341           |
| 501  | 0,34                                   | 500                              | 3                             | 3,9                | 74037/3829342           |
| 501  | 0,47                                   | 500                              | 3                             | 3,9                | 74022/3829343           |
| 501  | 0,60                                   | 500                              | 3                             | 3,9                | 74039/3829344           |
| 501  | 0,68                                   | 500                              | 3                             | 3,9                | 74024/3829365           |
| 501  | 0,76                                   | 500                              | 3                             | 3,9                | 74040/3829367           |
| 501  | 0,94                                   | 500                              | 3                             | 3,9                | 74041/3829368           |
| 501  | 1,13                                   | 500                              | 5                             | 4,4                | 74031/3829369           |
| 501  | 1,21                                   | 500                              | 3                             | 3,9                | 74026/3829370           |
| 501  | 1,31                                   | 500                              | 3                             | 3,9                | 74027/3829372           |
| 501  | 1,53                                   | 500                              | 3                             | 3,9                | 74028/3829373           |
| 501  | 1,88                                   | 500                              | 3                             | 3,9                | 74029/3829374           |
| 501  | 2,01                                   | 500                              | 5                             | 4,4                | 74032/3829375           |
| 501  | 2,54                                   | 500                              | 5                             | 4,4                | 74033/3829376           |
| 501  | 2,71                                   | 500                              | 3                             | 3,9                | 73853/3829377           |
| 501  | 3,14                                   | 500                              | 5                             | 5,4                | 74034/3829378           |
| 501  | 3,56                                   | 500                              | 7                             | 5,7                | 74072/3829380           |
| 501  | 4,52                                   | 400                              | 5                             | 5,4                | 73872/3829384           |
| 502  | 4,52                                   | 500                              | 5                             | 9,0                | 73991/3829387           |
| 502  | 5,65                                   | 500                              | 9                             | 9,8                | 74016/3829388           |
| 502  | 7,31                                   | 500                              | 9                             | 9,8                | 74018/3829390           |

### 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<sub>g</sub> = Displacement [cm<sup>3</sup>/rev]  
 n = Speed [rpm]  
 η<sub>t</sub> = 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

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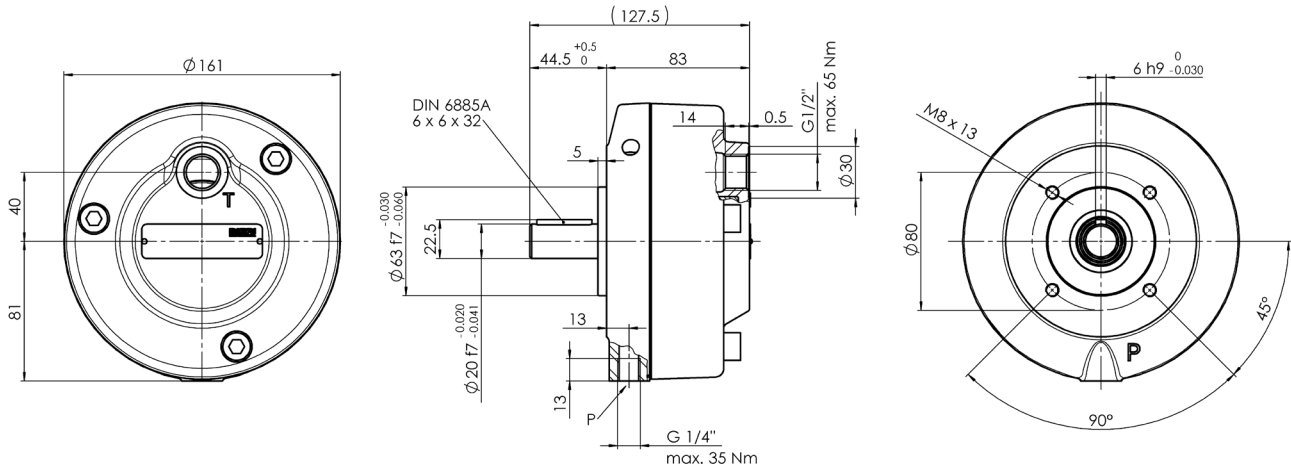
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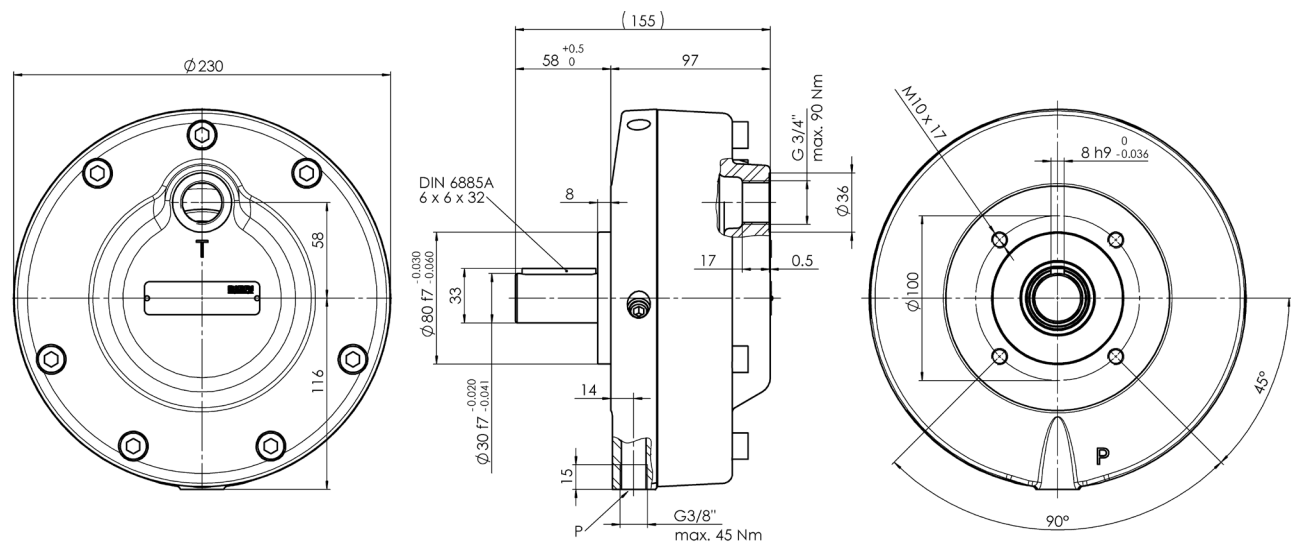
0,24 to 7,31 cm<sup>3</sup>/rev

## Dimensional drawings

### Size BRK501 / Design revision C



### Size BRK502 / Design revision C



## 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

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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.

BRK501\_502\_1113