

Radial piston pumps

Type BRK701/702

heavy version

up to **700 bar**

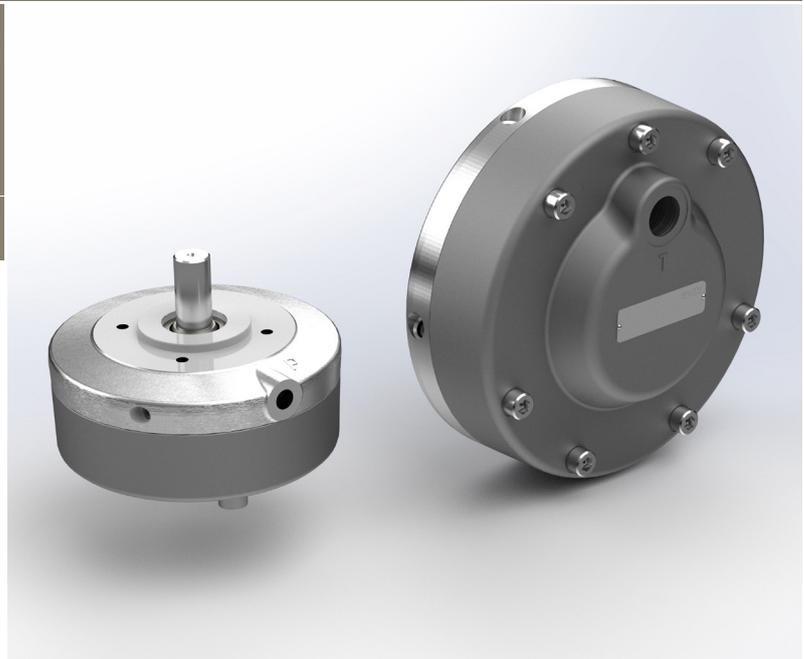
0.24 to 8.14 cm³/rev

500 bar → see data sheet BRK501/502

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)

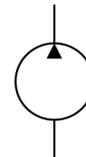


Applications

- Specially designed for demanding applications with continuous pressures up to 700 bar → long economic lifetime!
- Machine tools
- Clamping device
- Power units (e.g. for presses)
- Test benches
- Accumulator charging systems
- Lifting and advancing systems

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 | 700 bar |
| Operating pressure suction side | -0.2 bar to 0.5 bar gauge pressure |
| Displacement volume | 0.24 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 to 3600 rpm (see overview "Product information") |
| 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 |

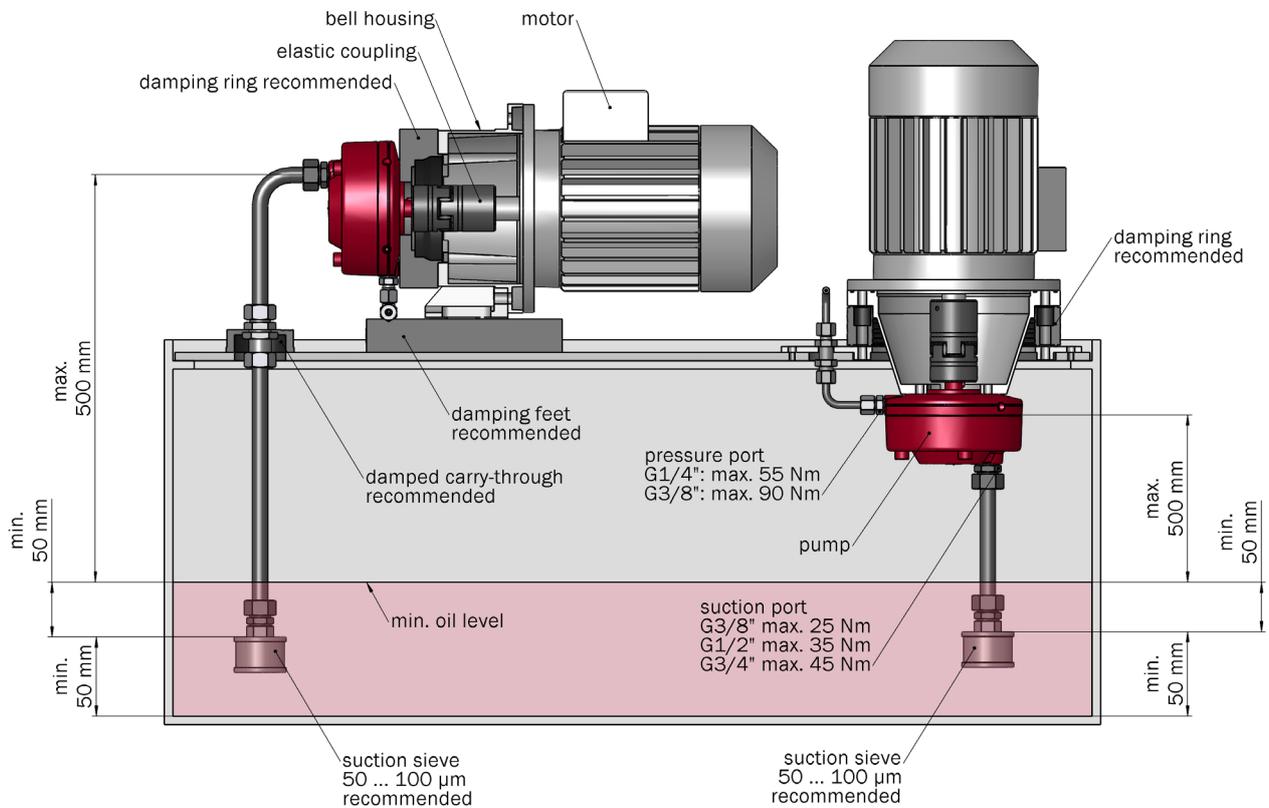
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Type code

| | | | | | | | | | | | | |
|---|---|------------|----------|-------------|----------|------------|----------|----------|----------|----------|--|-----------|
| Example | BRK | 701 | - | 0,24 | - | 700 | - | V | - | C | | 00 |
| Radial piston pumps | | | | | | | | | | | | |
| Size | 701 702 | | | | | | | | | | | |
| 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 [cm ³ /rev] | max. operating pressure [bar] | max. rotation speed [rpm] | number of pumping elements | weight [kg] | max. torque [Nm] | max. power* [kW] | part no. |
|------|---|----------------------------------|------------------------------|----------------------------|----------------|---------------------|---------------------|------------|
| 701 | 0.24 | 700 | 3600 | 3 | 6.2 | 2.97 | 0.54 | on request |
| 701 | 0.34 | 700 | 3600 | 3 | 6.2 | 4.18 | 0.78 | on request |
| 701 | 0.47 | 700 | 3600 | 3 | 6.2 | 5.94 | 1.08 | 3845318 |
| 701 | 0.60 | 700 | 2000 | 3 | 6.2 | 7.26 | 1.39 | on request |
| 701 | 0.68 | 700 | 3600 | 3 | 6.2 | 8.36 | 1.56 | 3845320 |
| 701 | 0.76 | 700 | 2000 | 3 | 6.3 | 9.13 | 1.75 | on request |
| 701 | 0.79 | 700 | 3600 | 5 | 6.7 | 9.61 | 1.75 | 3845322 |
| 701 | 0.94 | 700 | 2000 | 3 | 6.3 | 11.22 | 2.16 | on request |
| 701 | 1.03 | 700 | 2000 | 3 | 6.2 | 14.51 | 2.37 | 3845335 |
| 701 | 1.13 | 700 | 3600 | 5 | 6.7 | 13.52 | 2.52 | 3845336 |
| 701 | 1.21 | 700 | 2000 | 3 | 6.2 | 14.51 | 2.77 | 3845337 |
| 701 | 1.31 | 700 | 2000 | 3 | 6.3 | 16.70 | 3.02 | 3845338 |
| 701 | 1.53 | 700 | 2000 | 3 | 6.3 | 18.25 | 3.51 | 3845340 |
| 701 | 1.66 | 700 | 2000 | 3 | 6.5 | 22.43 | 3.81 | 3850172 |
| 701 | 1.88 | 700 | 2000 | 3 | 6.5 | 22.43 | 4.33 | 3845344 |
| 701 | 2.01 | 700 | 2000 | 5 | 6.9 | 23.48 | 4.49 | 3845365 |
| 701 | 2.54 | 700 | 2000 | 5 | 7.0 | 29.53 | 5.68 | 3845366 |
| 701 | 2.71 | 700 | 2000 | 3 | 6.5 | 32.11 | 6.23 | 3845367 |
| 701 | 3.14 | 700 | 2000 | 5 | 7.0 | 36.29 | 7.01 | 3845369 |
| 701 | 4.52 | 500 | 2000 | 5 | 7.0 | 37.31 | 7.21 | 3845372 |
| 702 | 4.52 | 700 | 2000 | 5 | 15.1 | 51.95 | 10.09 | 3845374 |
| 702 | 5.65 | 700 | 2000 | 9 | 15.7 | 64.59 | 12.49 | 3845386 |
| 702 | 6.33 | 700 | 2000 | 7 | 15.4 | 72.14 | 13.99 | 3845387 |
| 702 | 7.31 | 700 | 2000 | 9 | 15.7 | 82.77 | 16.16 | 3845388 |
| 702 | 8.14 | 700 | 2000 | 9 | 15.7 | 92.45 | 17.99 | 3845389 |

* at n = 1500 rpm; $\eta_t = 0.8$; 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

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

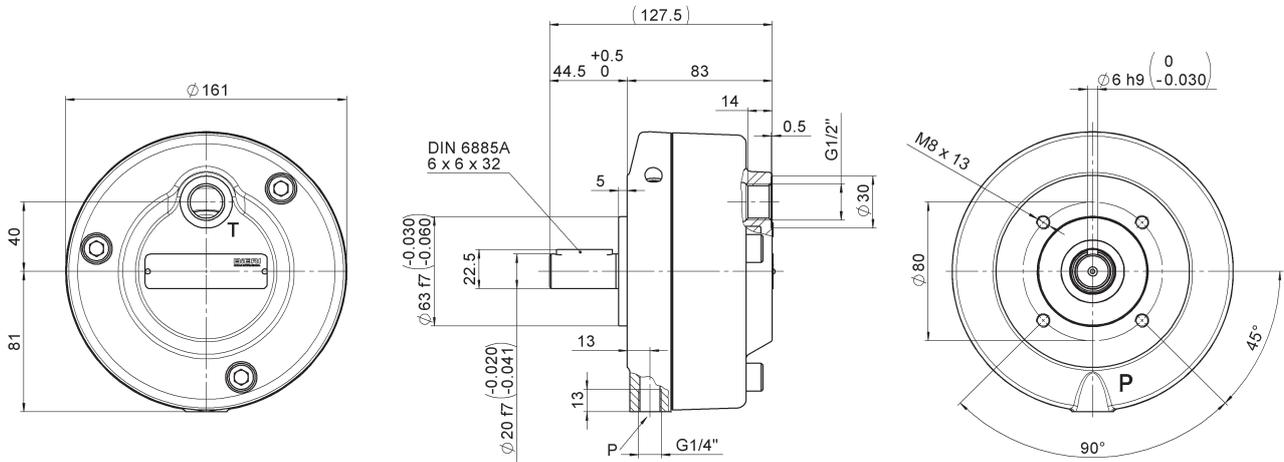
M = torque [Nm]

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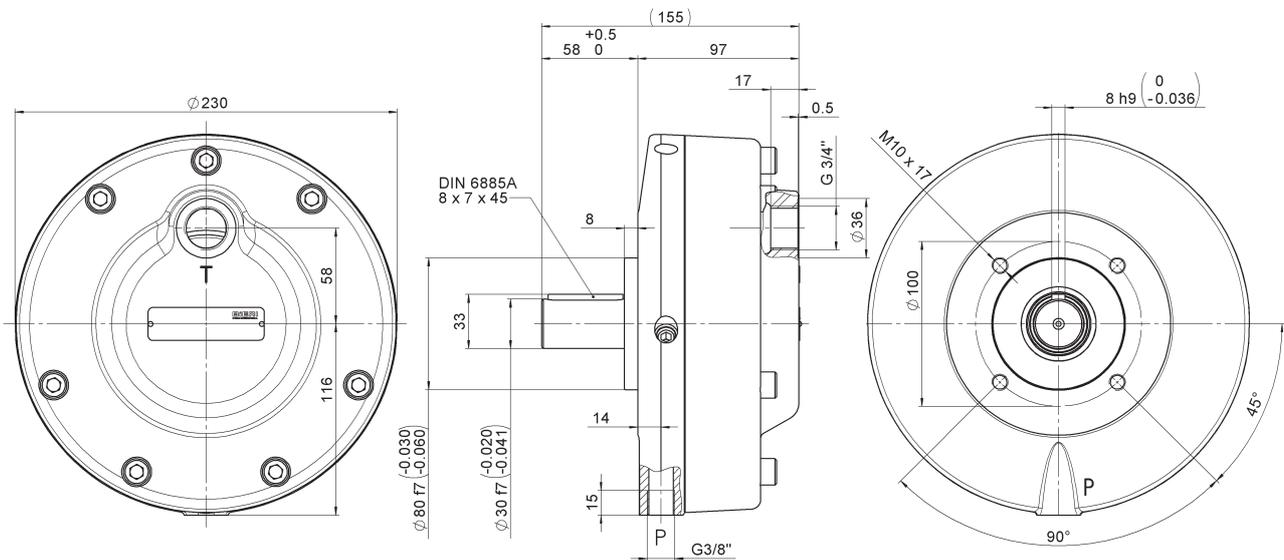
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Dimensional drawings

Size BRK701



Size BRK702



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

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.