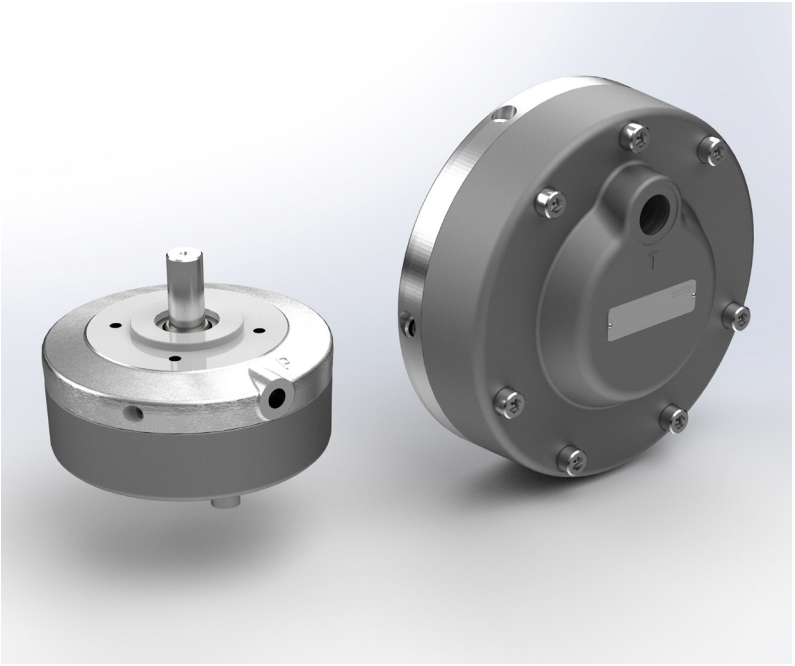
BIERI
HYDAC INTERNATIONAL

Radial piston pumps

Type BRK701/702

heavy version
up to **700 bar**
0.24 to 8.14 cm^3/rev

500 bar → see data sheet BRK501/502
1000 bar → see data sheet BRK1001/1002



Features

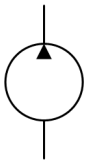
- High volumetric efficiency
- Self-venting and priming
- Low pulsation

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 (up to 5 bar on request)
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 revision
For internal purposes

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For internal purposes

Design
00 ... 99
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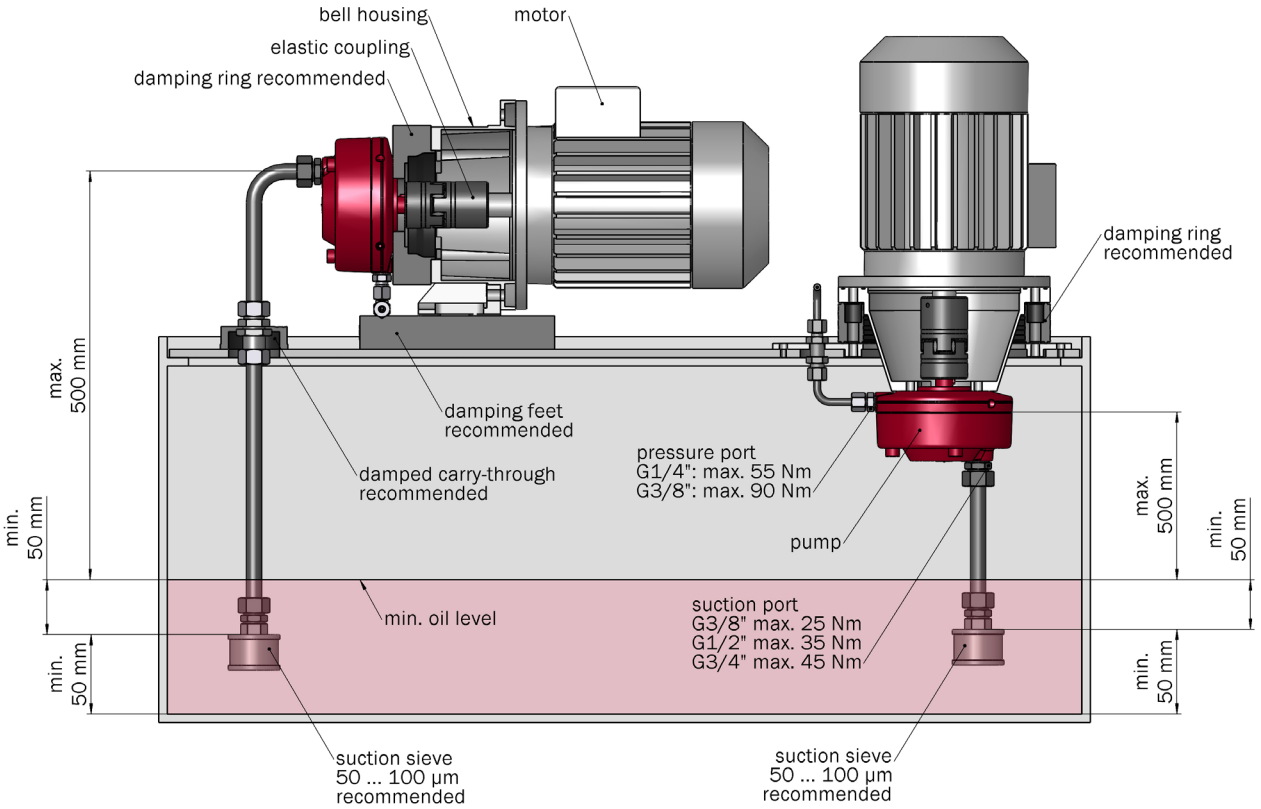
Mounting



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.
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

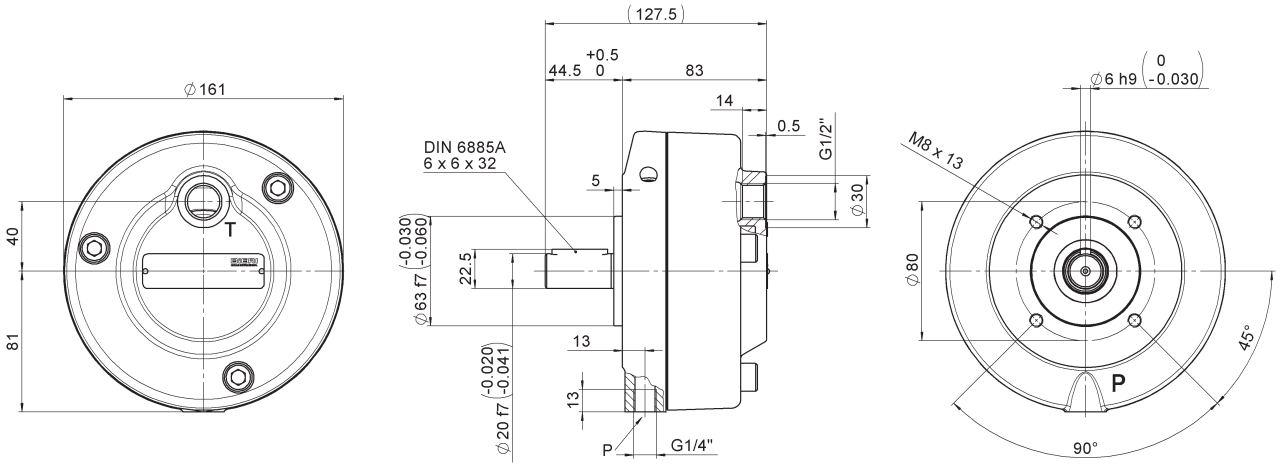
Calculation of driving motor torque

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

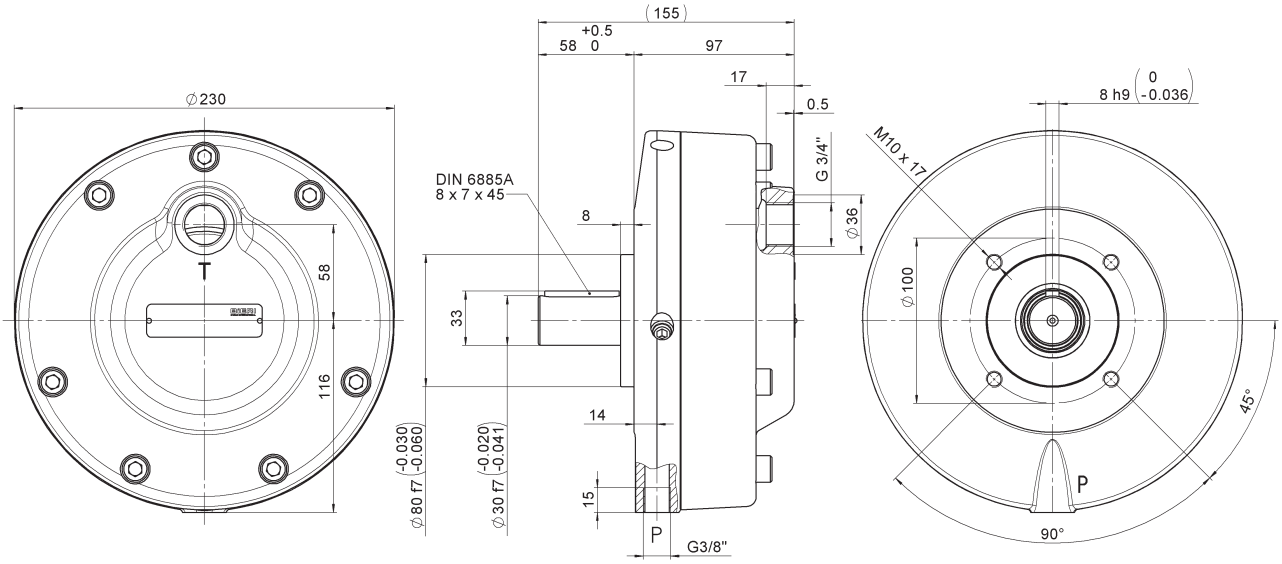
M = torque [Nm]

Dimensional drawings

Size BRK701



Size BRK702



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