

# Radial piston pumps

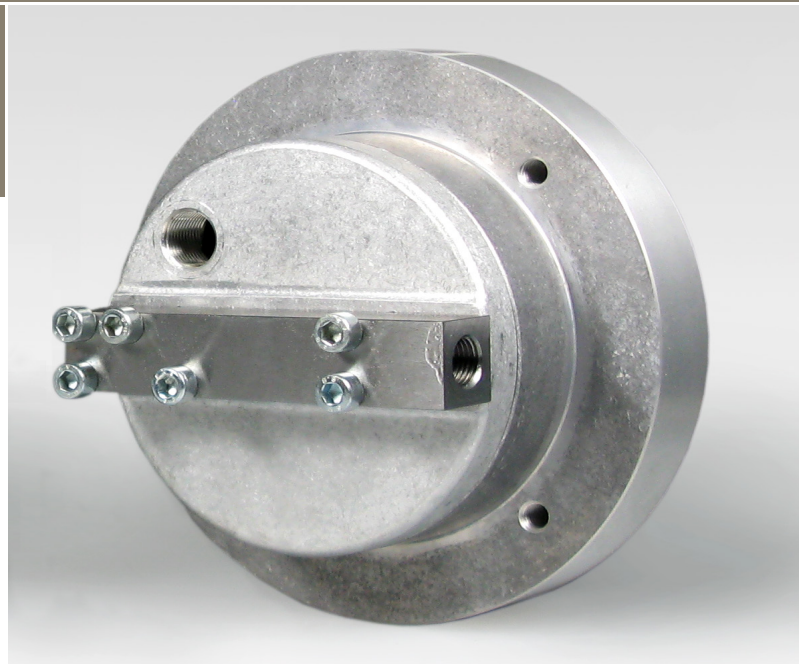
## Type HRK

up to 700 bar

0.12 to 0.34 cm<sup>3</sup>/rev

### Features

- High volumetric efficiency
- Self venting and priming
- Compact design
- Hollow shaft

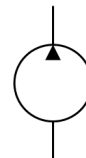


### Applications

- Machine tools
- Clamping device
- Power units (e.g. for presses)
- Pull-off fixtures
- Lifting systems
- Mobile power unit
- Small units
- For test benches and pulsing load, use a BRK701 radial piston pump

### Design

- With hollow shaft for direct assembly of motor without bell housing and coupling
- With 1 or 2 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	12 to 220 mm <sup>2</sup> /s	
Max. operating pressure	700 bar	
Operation pressure suction side	-0.2 bar to 0.5 bar gauge pressure	
Displacement volume	0.12 to 0.34 cm <sup>3</sup> /rev	
Filtration (recommendation)	according to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12	
Speed range	500 to 3600 rpm	
Installation position	in tank (any)	
Direction of rotation	any	
Suction height	max. 150 mm	
Weight	see overview „Product information“	
Materials	eccentric shaft:	steel
	pressure port body:	steel
	pump housing and flange:	aluminium

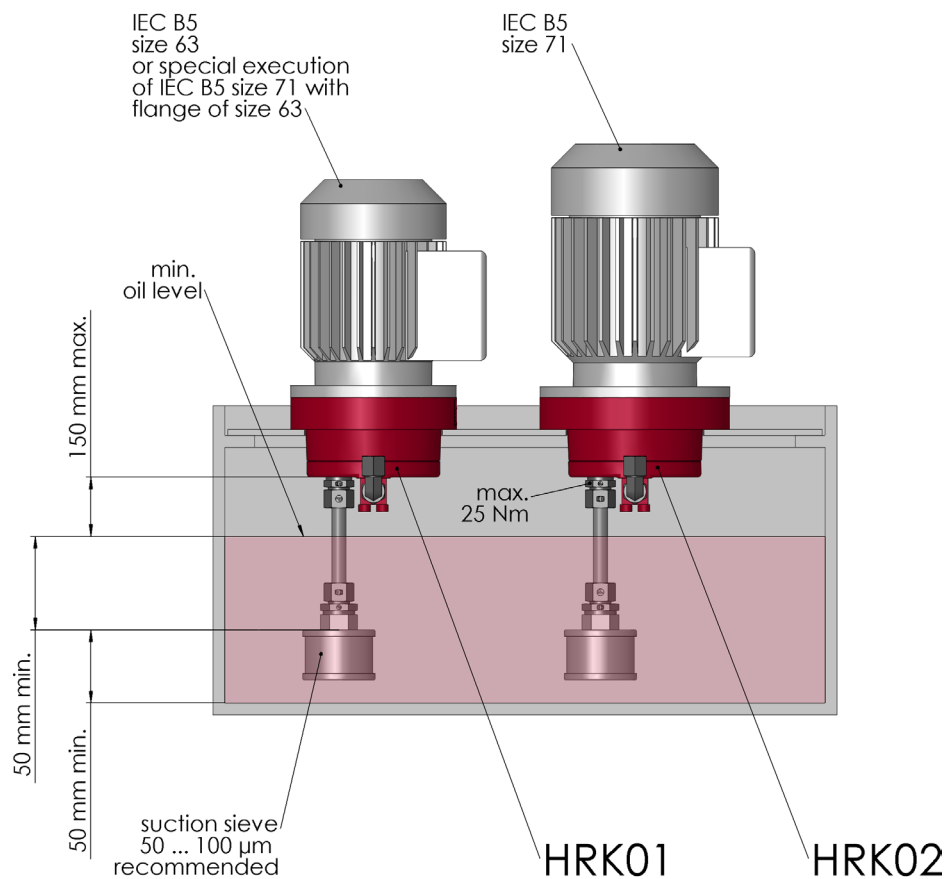
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## Type code

<b>Example</b>	<b>HRK</b>	<b>01</b>	-	<b>0,34</b>	-	<b>700</b>	-	<b>V</b>	-	<b>DV</b>	-				<b>00</b>
<b>Radial piston pumps</b>															
<b>Size</b>	01 02														
<b>Displacement volume [cm<sup>3</sup>/rev]</b>	See overview „Product information“														
<b>Max. operating pressure [bar]</b>	See overview „Product information“														
<b>Seal material</b>	V FKM other seal materials on request														
<b>Options</b>	DV (pressure relief valve) X (without pressure relief valve)														
	<b>Design</b> 00 ... 99 for internal purposes														
	<b>Index</b> Please leave blank for internal purposes														
	<b>Design revision</b> Please leave blank for internal purposes														

## Mounting



## Product information

Type code	size	displacement volume [cm <sup>3</sup> /rev]	number of pumping elements	DV <sup>1)</sup>	weight [kg]	max. torque <sup>2)</sup> [Nm]	max. power <sup>2)</sup> [kW]	part no.
HRK01-0,12-700-V-A*00	01	0.12	1	no	1.8	5.15	0.81	on request
HRK01-0,12-700-DV-V-A*00	01	0.12	1	yes	1.8	5.15	0.81	on request
HRK01-0,17-700-V-A*00	01	0.17	1	no	1.8	7.42	1.17	on request
HRK01-0,17-700-DV-V-A*00	01	0.17	1	yes	1.8	7.42	1.17	on request
HRK01-0,24-700-V-A*00	01	0.24	2	no	1.8	5.15	0.81	on request
HRK01-0,24-700-DV-V-A*00	01	0.24	2	yes	1.8	5.15	0.81	on request
HRK01-0,29-700-V-A*00	01	0.29	2	no	1.8	6.28	0.99	on request
HRK01-0,29-700-DV-V-A*00	01	0.29	2	yes	1.8	6.28	0.99	on request
HRK01-0,34-700-V-A*00	01	0.34	2	no	1.8	7.42	1.17	on request
HRK01-0,34-700-DV-V-A*00	01	0.34	2	yes	1.8	7.42	1.17	on request
HRK02-0,12-700-V-A*00	02	0.12	1	no	1.9	5.15	0.81	on request
HRK02-0,12-700-DV-V-A*00	02	0.12	1	yes	1.9	5.15	0.81	on request
HRK02-0,17-700-V-A*00	02	0.17	1	no	1.9	7.42	1.17	on request
HRK02-0,17-700-DV-V-A*00	02	0.17	1	yes	1.9	7.42	1.17	on request
HRK02-0,24-700-V-A*00	02	0.24	2	no	1.9	5.15	0.81	on request
HRK02-0,24-700-DV-V-A*00	02	0.24	2	yes	1.9	5.15	0.81	on request
HRK02-0,29-700-V-A*00	02	0.29	2	no	1.9	6.28	0.99	on request
HRK02-0,29-700-DV-V-A*00	02	0.29	2	yes	1.9	6.28	0.99	on request
HRK02-0,34-700-V-A*00	02	0.34	2	no	1.9	7.42	1.17	on request
HRK02-0,34-700-DV-V-A*00	02	0.34	2	yes	1.9	7.42	1.17	on request

<sup>1)</sup> DV: pressure relief valve

<sup>2)</sup> at n = 1500 rpm;  $\eta_t = 0,8$ ; p = p<sub>max</sub>

### 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 volume [cm<sup>3</sup>/rev]  
 n = speed [rpm]  
 η<sub>t</sub> = overall efficiency approx. 0.8

k = pulsation factor  
 - with 1 pumping element: k approx. 3.10  
 - with 2 pumping elements: k approx. 1.60

### Calculation of driving motor torque

$$M = \frac{p \cdot V_g}{62.8 \cdot \eta_t}$$

M torque [Nm]

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## Dimensions drawings

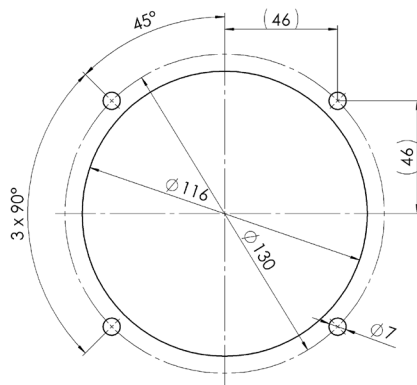
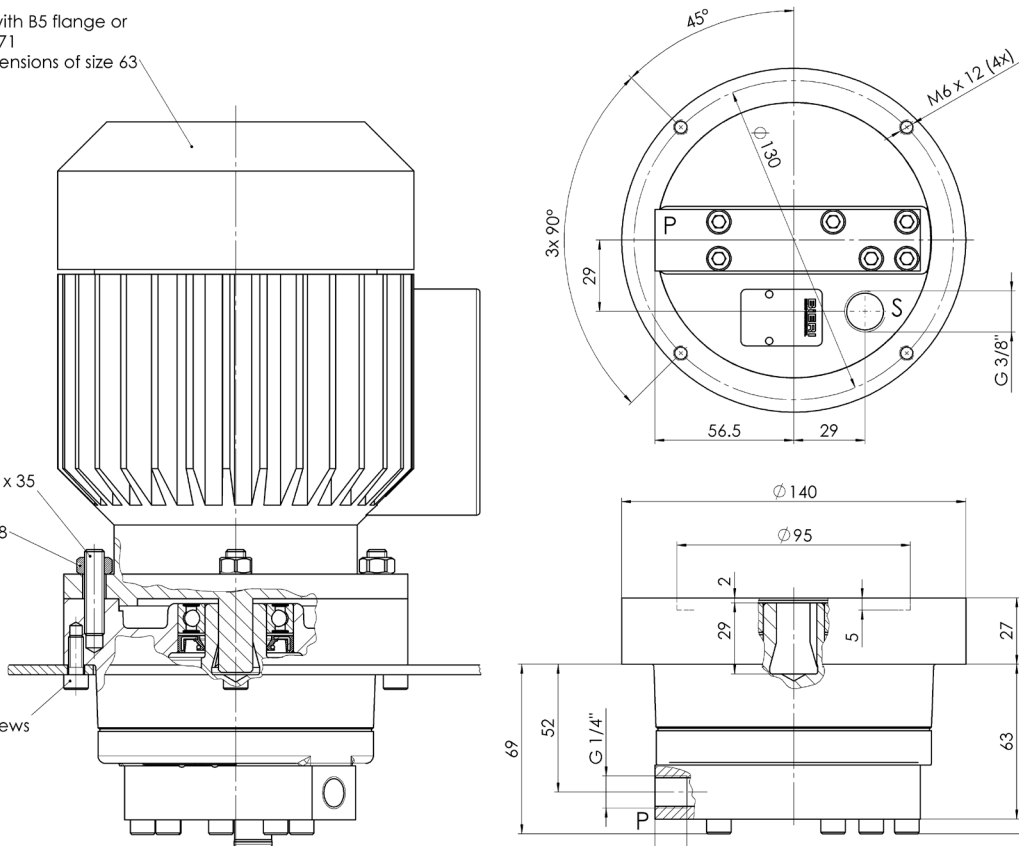
### Size HRK01

2) IEC motor size 63 with B5 flange or special motor size 71 with B5 flange dimensions of size 63

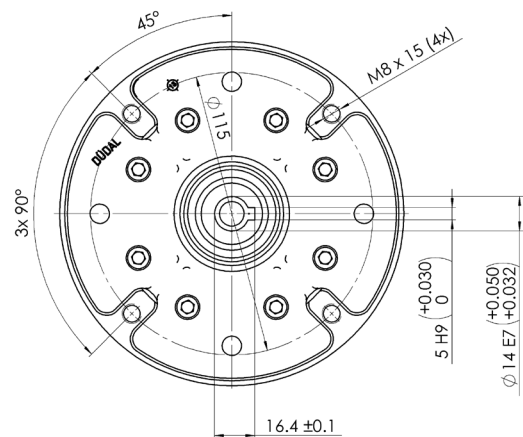
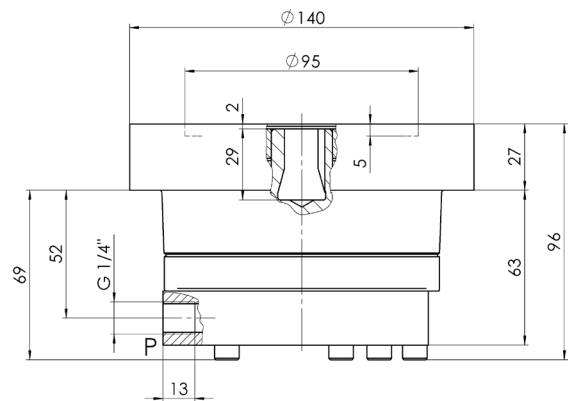
2) threaded bolts M8 x 35

2) hexagonal nuts M8

2) M6 screws



tank lid bore pattern



2) Not included in the scope of supplier

