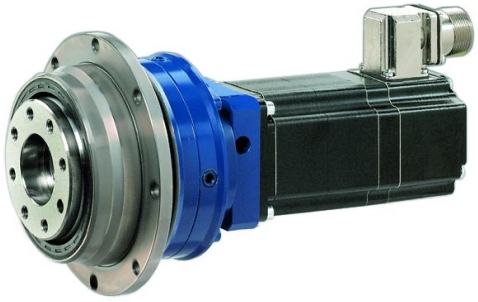
Rotation module RM368

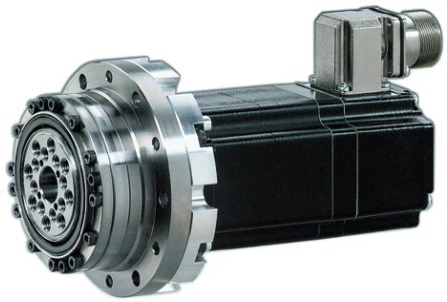
The rotation modules are especially well-suited for drive solutions with the highest requirements for precision and reliability in the range of gear ratios of up to 1:50 and output torque moments of up to 34 Nm.

The rotation modules are available with:
- **Harmonic-Drive gear** or with
- **Planetary gears** of the *Alpha Getriebebau* Company.

Standard rotation modules are driven with **Berger Lahr** stepping motors (3 phase technology) or with custom-made motors (e.g. servo motors)



RM368 with planetary gear



RM368 with Harmonic Drive gear

Features

- **RM368 with planetary gear**
  These low backlash gears can handle high torque moments, have a very high stiffness and a good efficiency rate. Modular parts allow a simple, safe and fast motor mounting.

- **RM368 with Harmonic Drive gear**
  These compact gears are free of backlash, they are highly dynamically at high single stage gear ratios and have an excellent positioning and repetitive accuracy.

Versions

Type key					Description
RM	**368-**	**50**	**-3400**	**/X**	
				X P	Harmonic drive gear planetary gear
			3400		max. output torque [Ncm]
		50			gear ratio
	368				**Berger Lahr** stepping motor **VRDM 368**
RM					Rotation Module

e.g.: **RM368-05-2500/P** Rotation Modul with 3 ph. **Berger Lahr** motor VRDM 368 and 1:5 planetary gear with max. output torque of 25 Nm

gear ratios from ***1:5***
up to ***1:50***

max. average drive speed ***4500 rpm***

max. average output torque ***34 Nm***

Harmonic Drive gear

Specifications

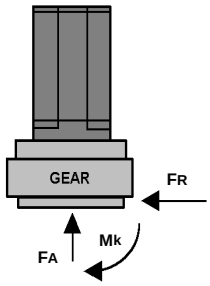
	RM368-50-3400/X
gear type	HFUC-2UH 20-SP
gear ratio	1 : 50
max. repetitive speed with grease	4000 min^{-1}
max. average speed with grease	3500 min^{-1}
positioning accuracy	0,7 angular minute
repetitive accuracy	± 0,5 angular second
max. average output torque	34 Nm
max. repetitive output torque	56 Nm
rotational inertia at the input side	0,193 $kgcm^2$
efficiency rate ①	85%
weight	0,98 kg
protection class ❑	IP-64
recommended Motor	**VRDM 368**

① at 30°C ambient temperature and 500 min^{-1} drive speed

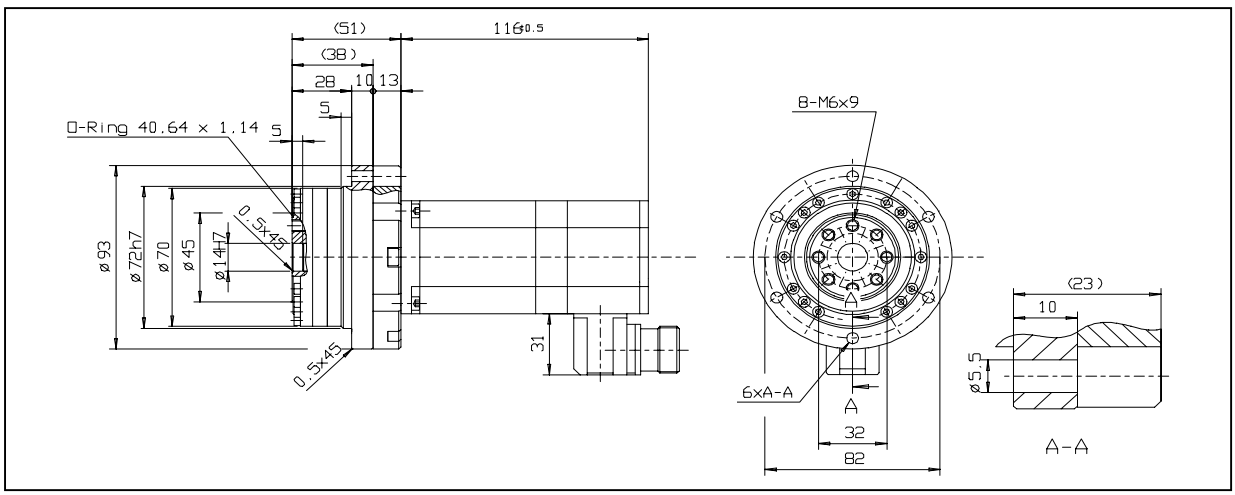
❑ only if motor is mounted

Maximum forces and torque

Max. radial force	F_R	2354 N
Max. axial force	F_A	3511 N
Max. turning moment	M_k	91 Nm
turning stiffness		37 Nm/arcmin



All technical data only in relation to the gear
See VRDM 368 product data sheet for **Motor data**



Planetary gear

Specifications

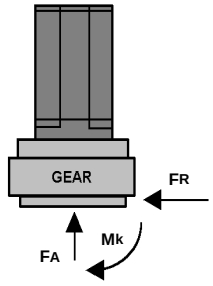
	RM368-05-2500/P	RM368-07-2500/P	RM368-10-1500/P	RM368-21-1500/P	RM368-31-2500/P
gear type	TP004-MF1-05	TP004-MF1-07	TP004-MF1-10	TP004-MF2-21	TP004-MF2-31
gear ratio	1 : 5	1 : 7	1 : 10	1 : 21	1 : 31
max. repetitive speed ①	6000 min^{-1}	6000 min^{-1}	6000 min^{-1}	6000 min^{-1}	6000 min^{-1}
max. average speed	3000 min^{-1}	3000 min^{-1}	3500 min^{-1}	4500 min^{-1}	4500 min^{-1}
repetitive accuracy	± 5 arcmin	± 5 arcmin	± 5 arcmin	± 5 arcmin	± 5 arcmin
max. average output torque	25 Nm	25 Nm	15 Nm	15 Nm	25 Nm
max. repetitive output torque ❑	40 Nm	40 Nm	32 Nm	32 Nm	40 Nm
rotational inertia at the input side	0,136 $kgcm^2$	0,11 $kgcm^2$	0,096 $kgcm^2$	0,058 gcm^2	0,056 $kgcm^2$
efficiency rate	> 96 %	> 96 %	> 96 %	> 93 %	> 93 %
weight	1,2 kg	1,2 kg	1,2 kg	1,3 kg	1,3 kg
protection class	IP-64	IP-64	IP-64	IP-64	IP-64
recommended motor	**VRDM 368**	**VRDM 368**	**VRDM 368**	**VRDM 368**	**VRDM 368**

① at 20°C ambient temperature

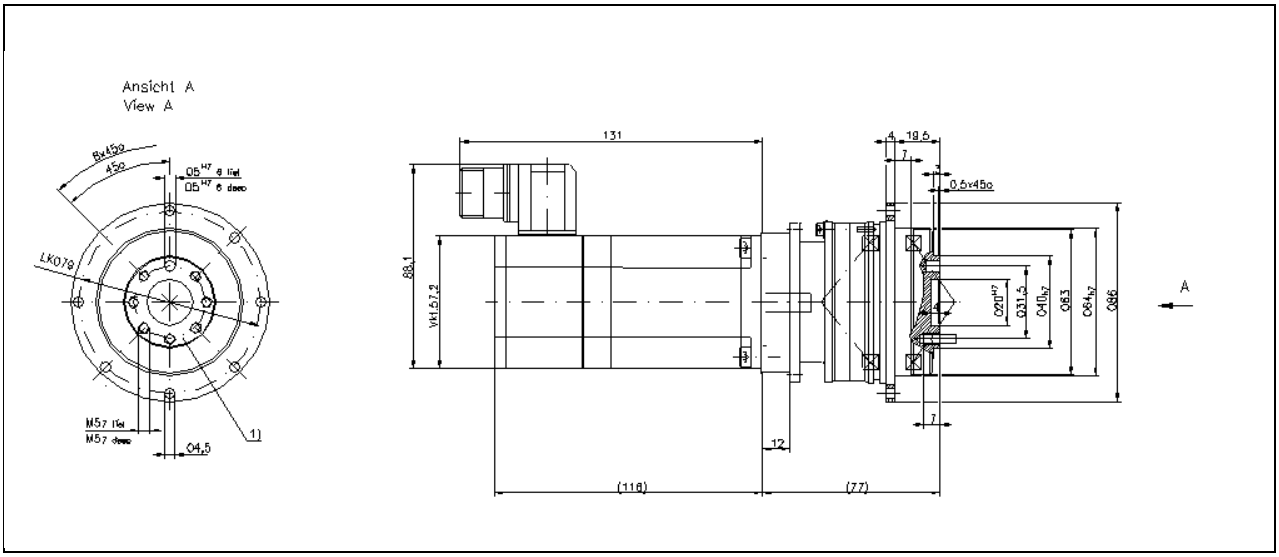
❑ 1000 cycles per hour

Maximum forces and torque

Max. radial force	F_R	1767 N
Max. axial force	F_A	1630 N
Max. turning moment	M_k	91 Nm
turning stiffness		85 Nm/arcmin



All technical data only in relation to the gear
See VRDM 368 product data sheet for **Motor data**



BERGER LAHR

INQUIRY

Please complete the following form and send it by mail or fax to your local **Berger Lahr Positec** sales office.

Within a few days you will receive a non-binding offer for your request.

Sender:

Contact _____

Company _____

Street/P.O. box _____

City/postal code_____

Phone _____

Fax _____

Date _____

Rotation module RM368

with Harmonic Drive gear

- ❑ RM368-50-3400/X

with Planetary gear

- ❑ RM368-05-2500/P
- ❑ RM368-07-2500/P
- ❑ RM368-10-1500/P
- ❑ RM368-21-1500/P
- ❑ RM368-31-2500/P

NOTE
The mounting of customized motors is possible.

The standard rotation module comes ready mounted with the according adapter plate.
Additional versions upon request.

Standard motor

VRDM 368 (1,65 Nm by approx. 200 min^{-1})
3 phase stepping motor

Motor connection

- ❑ with connector
- ❑ with terminal box

Motor options

- ❑ with encoder (only for motors with connector)
- ❑ with brake

ATTENTION
The max. motor input torque must be considered and adjusted with the motor current setting**.**

Remarks: