Stock-types for Groschopp- / Yaskawa- motors

PD 085

M_2 up to 58 Nm

modern, smooth compact-gearbox

planetary gearbox w. low tolerance

- for AC-, DC-, servo- and stepping motors (up to shaft- Ø 19 mm)
- high output torque for compact models
- load balancing between 3 planetary wheels
- ratios from 3:1 to 100:1 possible
- low backlash
- high dynamic due to small moment of inertia
- high turning stiffness
- high overload reserves
- optimal efficiency
- many types for Groschopp- / Yaskawa- motors in stock and deliverable

Certifications

CE

BRETZEL GmbH · Antriebs- und Elektrotechnik
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technical data

backlash	**1-staged**	< 10 arcmin
	2-staged	< 15 arcmin
efficiency factor	**1-staged**	96% (at nominal torque)
	2-staged	94% (at nominal torque)
torque n_1	**nom./ max.**	3000/ 5000 min^{-1}
weight	**1-staged**	ca. 2,6 kg
	2-staged	ca. 3,5 kg
life expectancy (base on n_2=100 min^{-1})		20.000 h
operation temperature		-25 up to + 90°C (for short intervalls +120°C)
mounting position		adjustable
protection class		IP64
sound emission		≤ 70 dB (A)
chassis version		powder coated, RAL3020, flange Al

available ratios / nominal torque

The output torque refers to a life expectancy of 20.000 h, nominal- and input torque, operation factor 1 and mode of operation S1 for electric maschinery.

1-staged

ratios	i	3:1	4:1	5:1	7:1	10:1
nominal output torque M_2	[Nm]	35	45	45	43	35
acceleration torque M_2 *)	[Nm]	70	88	90	86	70
M_2 emergency-stop **)	[Nm]	105	135	135	129	105
mass moment of inertia	[$kgcm^2$]	1,62	1,44	1,36	1,30	1,27

*) maximum 1.000 cycles per hour M_{2B}-portion of total run time < 5%.

**) maximum 1.000-times during the gearbox-lifetime

2-staged

ratios	i	16:1	20:1	25:1	28:1	35:1	40:1	50:1	70:1	100:1
nominal output torque M_2	[Nm]	55	55	58	55	58	55	58	50	35
acceleration torque M_2 *)	[Nm]	98	98	105	98	105	98	105	90	70
M_2 emergency-stop **)	[Nm]	165	165	174	165	174	165	174	150	105
mass moment of inertia	[$kgcm^2$]	1,42	1,35	1,35	1,29	1,29	1,26	1,26	1,26	1,20

*) maximum 1.000 cycles per hour M_{2B}-portion of total run time < 5%..

**) maximum 1.000-times during the gearbox-lifetime.

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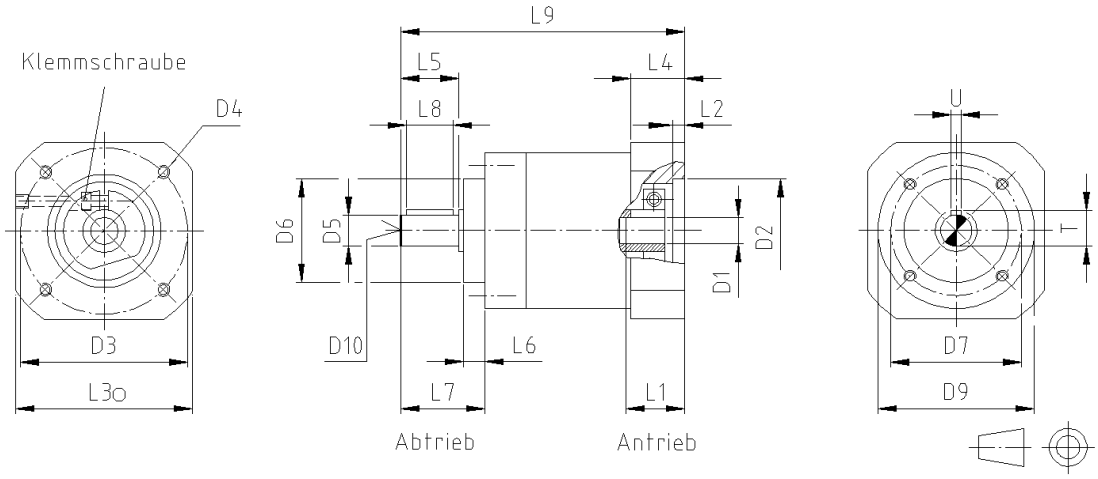
drawings PD 085



axial length	L9
1-staged	161
2-staged	192

flange dimensons	L1	L2	L3	L4	shape	D1	D2	D3	D4
	L-motor-shaft	centering-shaft	flange-dimension	flange-width	---	motor-shaft Ø	centering Ø	hole circle Ø	thread/ bore hole Ø
Groschopp...									
...BGK 65-xx NR	26	3	Ø 87	28	round	11	60	75	M5
...BGK 80-xx NR	30	4		28		14	80	95	M6
...BGK 80-xx NR	40	4		28		19	95	110	M8
...BGK 65-xx NV	24			28		9	32	45	Ø 5
...BGK 80-xx NV	24			28		9	50	65	Ø 6
...BGK 90-xx NV	27	4		28		11	60	75	Ø 6

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flange dimensons	L1	L2	L3	L4	shape	D1	D2	D3	D4
	L-motor-shaft	centering -shaft	flange-dimension	flange-width	---	motor-shaft Ø	centering Ø	hole circle Ø	thread/ bore hole Ø
Yaskawa									
...SGMAV 02	30			28	quadr.	14	50	70	M5
...SGMAV 04	30			28	quadr.	14	50	70	M5
...SGMAV 08	40	4	□85	28	quadr.	16	70	90	M6

other-dimensions	L5	L6	L7	L8	D5	D6	D7	D8	D9	D10	U	T
	shaft	centering -bunch	assembly dimension	feather - key length	output-shaft	centering	hole-circle	thread	casing	center DIN332	feather key	height of feather key
1-,**2**-staged	40	8	49	32	20 k6	55 h7	70	M6x12	85	DM 6	6	22,5

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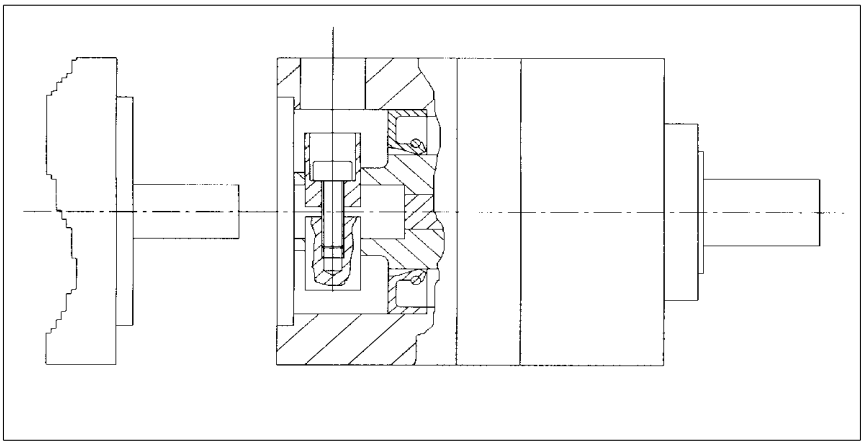
simple engine mounting with shaft coupling / clamp ring



tightening torque for the clamp screw	M5: 8,3 Nm (for hollow shaft Ø 14 mm) M8: 43 Nm (for hollow shaft Ø 19 mm)

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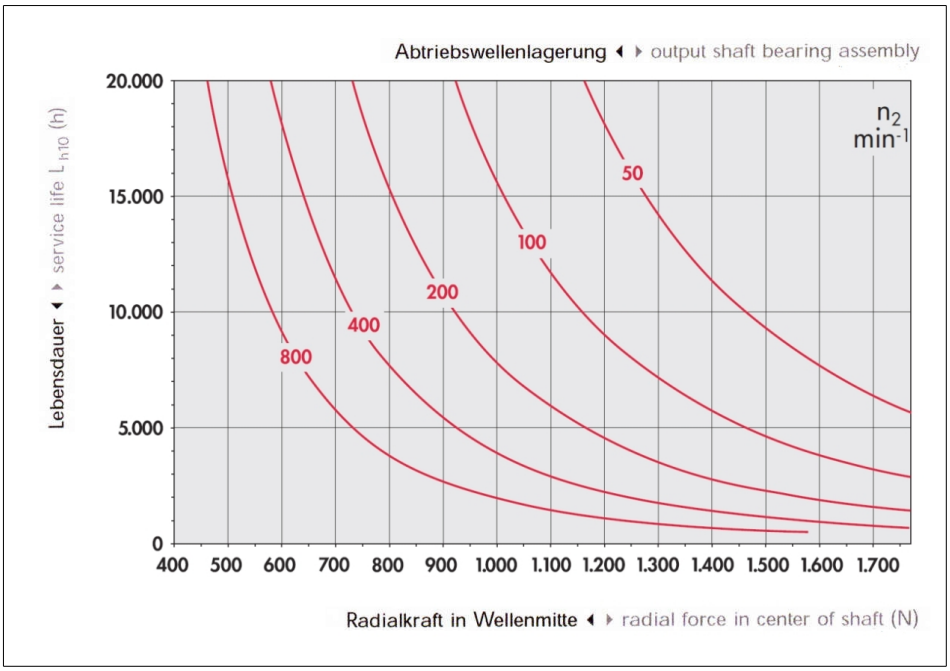
radial and axial shaft thoughness



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