

Stock-types for Groschopp- / Yaskawa- motors

# PD 120

$M_2$  up to 110 Nm

modern, smooth compact-gearbox

## planetary gearbox w. low tolerance

for AC-, DC-, servo- and stepping motors  
(up to shaft-  $\varnothing$  24 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





## technical data

<b>backlash</b>	<b>1-staged</b>	< 10 arcmin
	<b>2-staged</b>	< 15 arcmin
<b>efficiency factor</b>	<b>1-staged</b>	96% (at nominal torque)
	<b>2-staged</b>	94% (at nominal torque)
<b>torque <math>n_1</math></b>	<b>nom./ max.</b>	3000 / 5000 min <sup>-1</sup>
<b>weight</b>	<b>1-staged</b>	ca. 6,0 kg
	<b>2-staged</b>	ca. 8,6 kg
<b>life expectancy (base on <math>n_2=100</math> min<sup>-1</sup>)</b>		20.000 h
<b>operation temperature</b>		-25 up to + 90°C (for short intervalls +120°C)
<b>mounting position</b>		adjustable
<b>protection class</b>		IP64
<b>sound emission</b>		≤ 70 dB (A)
<b>chassis version</b>		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 machinery.

### 1-staged

ratios	i	3:1	4:1	5:1	7:1	10:1
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nominal output torque $M_2$	[Nm]	85	90	110	90	80
acceleration torque $M_2^{(1)}$	[Nm]	160	180	210	160	160
$M_2$ emergency-stop <sup>**)</sup>	[Nm]	255	270	330	270	240
mass moment of inertia	[kgcm <sup>2</sup> ]	3,66	2,97	2,68	2,48	2,39

<sup>\*)</sup> maximum 1.000 cycles per hour  $M_{28}$ -portion of total run time < 5%.

<sup>\*\*)</sup> maximum 1.000-times during the gearbox-lifetime

### 2-staged

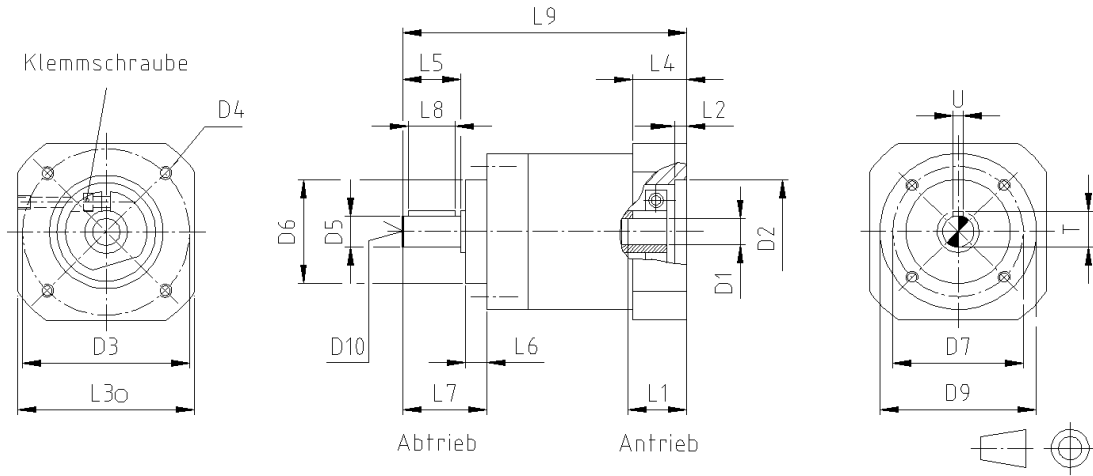
ratios	i	16:1	20:1	25:1	28:1	35:1	40:1	50:1	70:1	100:1
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nominal output torque $M_2$	[Nm]	100	100	110	100	110	100	110	95	85
acceleration torque $M_2^{(1)}$	[Nm]	180	180	210	180	210	180	210	175	160
$M_2$ emergency-stop <sup>**)</sup>	[Nm]	300	300	330	300	330	300	330	285	255
mass moment of inertia	[kgcm <sup>2</sup> ]	2,96	2,68	2,67	2,48	2,47	2,40	2,39	2,39	2,39

<sup>\*)</sup> maximum 1.000 cycles per hour  $M_{28}$ -portion of total run time < 5%..

<sup>\*\*)</sup> maximum 1.000-times during the gearbox-lifetime.

drawings PD 120



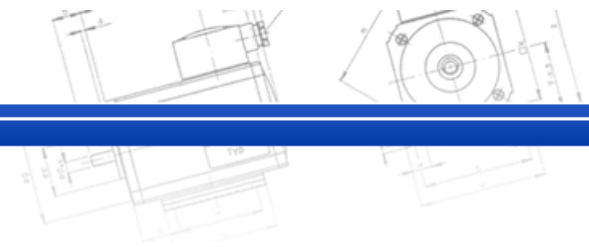
axial length L9

1-staged 196

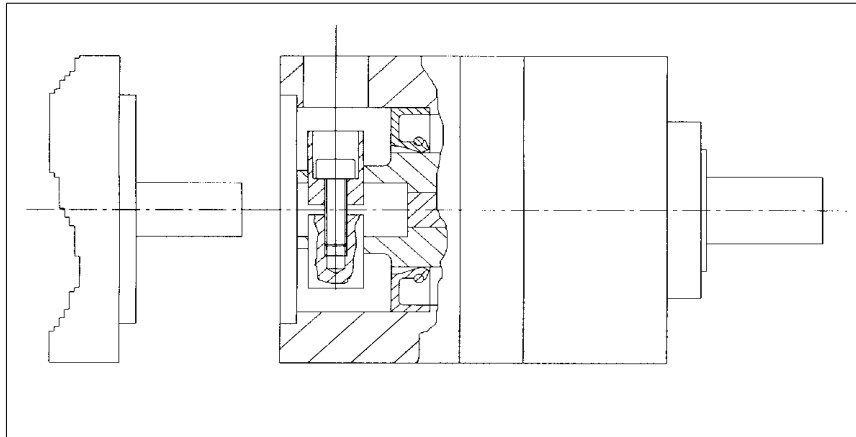
2-staged 232

rest-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	chassis	center DIN332	feather-key	height of feather key

1-,2-staged	50	10	61	40	25 k6	80 h7	100	M8x16	120	DM 10	8	28
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simple engine mounting with shaft coupling / clamp ring



tightening torque for the clamp screw M8: 43 Nm

radial and axial shaft toughness

