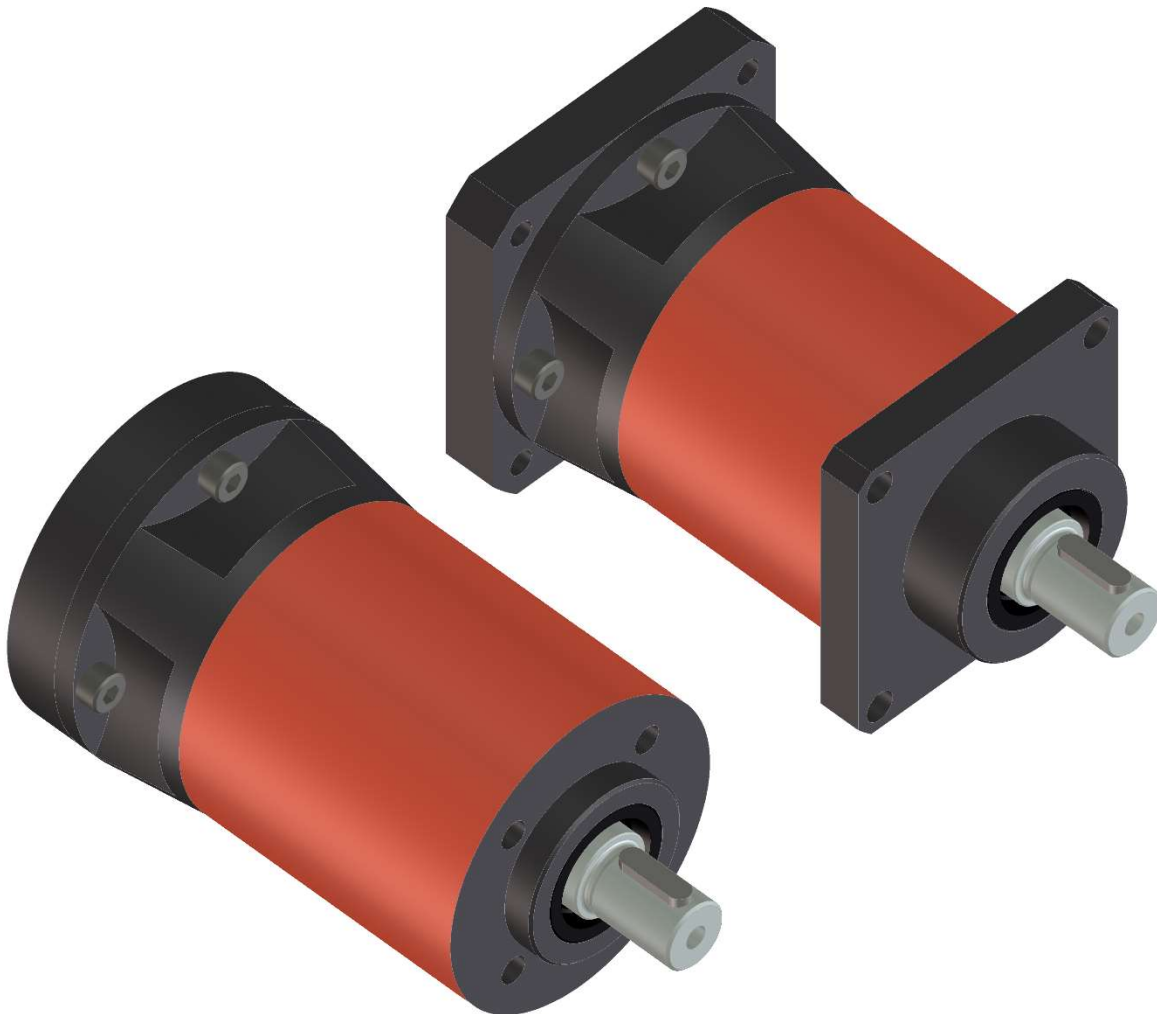


GPT Planetary Gear

Economy series with high torque and normal backlash



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This catalogue contains product specifications,
but no assurance of properties.
We reserve the right for technical changes and changes of

1. Description

GPT series planetary gears offer a combination of economy and dynamic, compact coaxial design.

They are ideally suited for applications where no reduced circumferential backlash is required at the output shaft.

Load distribution to 3 planetary wheels within the planetary gear results in high power density combined with compact design.

- Normal circumferential backlash
- High dynamics
- Low inertia torque
- High torsional stiffness
- High overload capacity
- High efficiency > 96%
- Service life = 20,000 h
- Lubrication and sealing for entire service life
- Coaxial drive and output

The **GPT series** consists of the following 5 sizes: GPT55, GPT75, GPT90, GPT120 and GPT150

- Torque ranges from 10 Nm to 500 Nm
- Transmission between $i = 3$ and $i = 100$

At the output side of the gear, the engineer has the choice between 4 types

- B14T
- B14A (larger flange and shaft)
- B5T
- B5A (larger flange and shaft)

Motor attachment is easy, safe and fast via clamp coupling. Motors of a variety of brands can be mounted due to drive-side adaptation via "flange and clamping shaft".

- The casing is made of rugged special nitrided steel
- The shafts are made of tempered steel
- The cogs are made of steel with ground tooth flanks
- The drive and output flanges are made of aluminium
- The bearing is high quality and generously dimensioned
- Packaging machinery
- Automation technology
- Machine tools
- Robots
- Printing machines
- Linear guides
- Woodworking equipment
- and many more.

GPT series planetary gears are ideally suited for dynamic positioning and continuous operation, such as for:

2. Order information

Dimensions	Transmission	Output shaft...	Output flange Design type	Hollow drive shaft Ø D32	Drive flange Code P	Installation Position
55						
75			B14A			H
GPT 90	3 - 100	12 - 40	B14T	6 - 38	P1 - P40	VO
120			B5A			VU
155			B5T			H90

For example:

GPT 75 - 5 - 12 - B14A - 9 - P15 - H

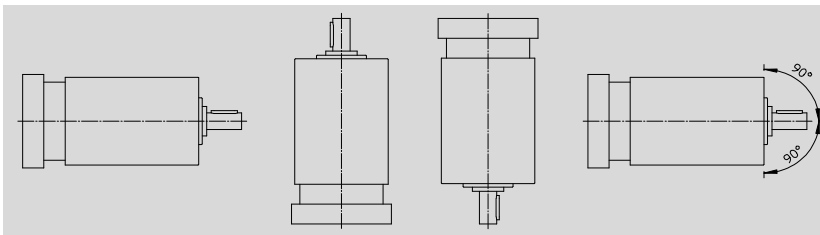
If the motor to be attached has different flange and shaft dimensions, please request the following dimensions from Heytraction:

Motor flange: Centering Ø, pitch circle Ø, hole Ø / thread

Motor shaft: Shaft Ø, shaft length

Installation Position

H	VO	VU	H90
Horizontal	Vertical Output top	Vertical Output bottom	Horizontal 90 ° swivel-type



Lubrication

Planetary gears are supplied with permanent lubrication and are therefore maintenance-free.

3D models

Models in neutral step format can be found on our website:

www.heytraction.de

For example: GPT75_ig-3-4-5-7-10_16_B14A_D32-all_P-all_3D_STEP.zip

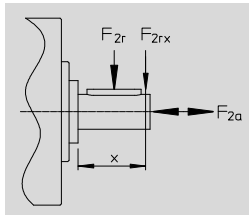
This zip-file contains planetary gear model GPT75 with transmission ig=5, output shaft ø12, output flange B14A, all drive flanges with Code P and all hollow shafts øD32.

3. Gear selection

These conditions should be checked			Calculation of the required transmission torque				
			Intermittent periodic operation S3 mode		Continuous operation S1 mode		
1.	Torque: Application to gear	$T_{App} \leq T_{2N}$	$T_{App} = T_M * i * v * fz \leq T_{2N}$		$T_{App} = \frac{T_M * i * v * fz}{0,65} \leq T_{2N}$		
			Cycles per hour				
			Cycle factor fz	≤ 1000 1	≥ 1000 1.2	≥ 2000 1.5	≥ 3000 2
2.	Torque: Application to gear	$T_{App} \leq T_{2B}$	Only possible for short cycle times, please contact Heytraction				
3.	Speed: Motor to gear	$n_M \leq n_{1n}$					
4.	Radial force at output shaft: Application to gear	$F_{rApp} \leq F_{2r}$					
5.	Axial force at output shaft: Application to gear	$F_{aApp} \leq F_{2a}$					
6.	Motor attachment: Motor to gear	Flange and shaft					

Radial force, not at the centre of gear output shaft

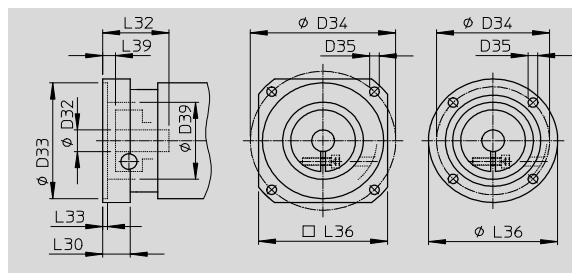
	GPT55	GPT75	GPT90	GPT120	GPT155
$F_{2rx} = \frac{F_{2r} * a}{b + a}$					
a	27	46	56	77	95
b	18	32	39	52	64



Technical specifications: Description			
Planetary gear			
i	Transmission	-	$i=n1/n2$
Step	Number of gear steps	-	
T^{2N}	Nominal output torque	Nm	
T^{2B}	Output torque during acceleration	Nm	
T^{2NOT}	Emergency stop output torque	Nm	Permissible 1000 times during gearbox lifetime
v	Dynamic efficiency	-	
G	Weight	kg	
n^{1N}	Nominal drive speed	min-1	
n^{1max}	Maximum drive speed	-	
F^{2r}	Output shaft nominal radial force	N	At $n2=100\text{min-1}$ and $Lh=20000\text{h}$; $F2r=$ centre of output shaft; for conversion to other working point, see page
F^{2a}	Output shaft nominal axial force	N	At $n2=100\text{min-1}$ and $Lh=20000\text{h}$; $F2r=$ centre of output shaft; for conversion to other working point, see page
α^{2max}	Maximum circumferential backlash	arcmin	Measured at output shaft with input shaft blocked at 2% $T2N$
ct	Torsional rigidity	Nm/ arcmin	
L^h	Service life	h	Bearing service life
L^{PA}	Operating noise	dB(A)	At $n1=3000\text{min-1}$
J^{1min}	Minimum moment of inertia on input shaft	kgcm ²	
J^{1max}	Maximum moment of inertia on input shaft	kgcm ²	
f^z	Cycle factor		
Motor			
T^M	Nominal motor torque	Nm	
T^{M0}	Motor torque at standstill	Nm	
n^M	Nominal motor speed	min-1	
n^{Mmax}	Maximum motor speed	min-1	
Torque for application			
T_{App}	Required application torque	Nm	

GPT55 Drive side, flange and hollow shaft

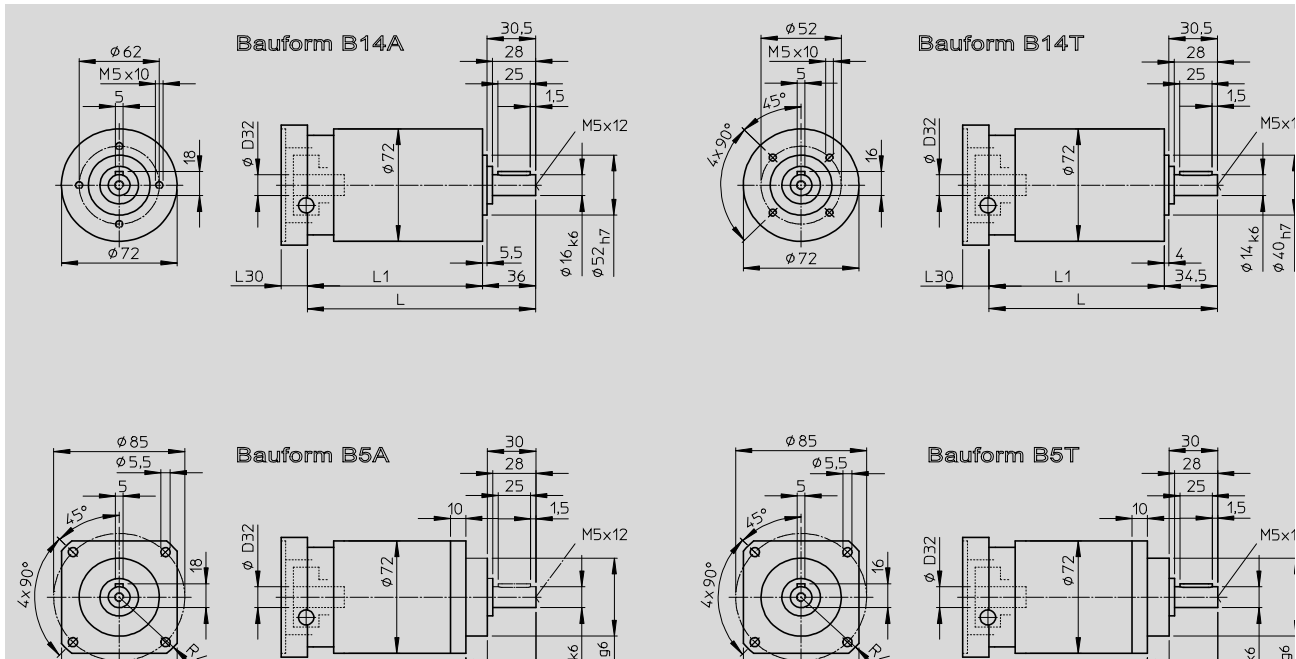
Code	Motor mounting Page 16 Section 6-7	Drive flange							Hollow gear shaft																	
		∅ D32 H7	∅ D34	∅ D35	∅ D39	L30	L33	□ ∅ L36	∅ D32																	
									∅ 6	∅ 6.35	∅ 7	∅ 8	∅ 9	∅ 9.52	∅ 11	L32 max	L39	L32 max	L39	L32 max	L39	L32 max	L39			
P01	x	22	43.82	4.5	22	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P02	x	38.1	66.67	5.5	32	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P03	x	40	63	5.5	32	10	3.5	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P04		60	75	6.5	32	10.5	3.5	70	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5
P05		70	85	6.5	32	10.5	3.5	105	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5
P06		73.02	98.42	6	32	11	3.5	80	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8
P07		80	100	6.5	32	11.5	4	95	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5
P08		95	115	9	32	11.5	4	98	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5	31.5	8.5
P09		110	130	9	32	12	4.5	116	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P10	x	26	39	4.5	26	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P11	x	32	42	4.5	32	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P12	x	32	46	4.5	32	10	3.5	65	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P13	x	50	65	5.5	32	10	3.5	80	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P14	x	20	39	4.5	20	10	2.5	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P15		60	90	5.8	32	12	3.5	75	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P16	x	30	45	3.5	30	14	7	60	34	11	34	11	34	11	34	11	34	11	34	11	34	11	34	11	34	11
P17		50	70	4.5	32	16.5	8	60	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5	36.5	13.5
P18		50	60	M 4	32	10.5	3.5	60	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5
P19	x	25	36	4.5	25	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P20		50	70	5.5	32	10.5	3.5	60	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5	30.5	7.5
P21	x	30	46	4.5	30	10	3	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P22		36	70.71	4.5	32	10	2	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P23		50	70	5.5	32	15.5	3.5	62	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5	35.5	12.5
P24		70	90	5.8	32	12	3.5	75	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P25		55	85	5.8	32	12	3.5	70	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P26	x	34	65.5	5.5	33	10	3.5	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P27		50	95	6.5	32	12	3.5	80	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P28		38.1	66.67	M 4	32	9	2.5	60	29	6	29	6	29	6	29	6	29	6	29	6	29	6	29	6	29	6
P29		30	45	M 3	32	11	4	60	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8
P30		60	85	5.8	32	12	3.5	70	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9	32	9
P31		50	70	M 4	32	11	3.5	62	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8
P32		40	65	M 5	32	10	3.5	60	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P33		60	99	5.5	35	11	3.5	85	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8
P34		40	73.54	M 4	32	10	3.5	65	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7	30	7
P35		36	70.71	M 4	32	14	2	60	34	11	34	11	34	11	34	11	34	11	34	11	34	11	34	11	34	11
P36		73.02	98.42	6	35	15	3.5	85	35	12	35	12	35	12	35	12	35	12	35	12	35	12	35	12	35	12
P38		30	48	M 3	32	11	7	60	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8	31	8



5. GPT75 Technical Data and Dimensions, $T_{2N} = 22 - 36 \text{ Nm}$

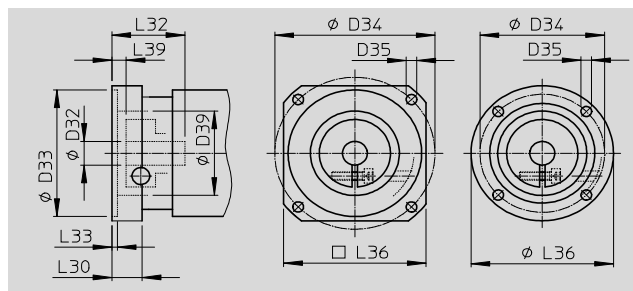
i		3	4	5	7	10	9	12	16	20	25	28	35	40	50	70	100	
Number of steps		1					2											
T_{2N}	[Nm]	22	28	32	28	20	26	32	36	36	36	36	36	36	36	30	22	
T_{2B}	[Nm]	40	45	50	45	40	50	60	60	60	60	60	60	60	60	50	45	
T_{2NOT}	[Nm]	80	90	100	90	80	100	120	120	120	120	120	120	120	120	100	90	
n_{1N}	[min-1]	4000																
n_{1max}	[min-1]	5000																
F_{2f}	[N]	1800																
F_{2a}	[N]	1400																
G	[kg]	1.4					2											
α_{2max}	[arcmin]	15'					20'											
V	-	0.96					0.93											
C_t	[Nm/arcmin]	3.5			3.0			3.5						3.0				
L_h	[h]	~20,000																
Lubrication		Service life																
L_{pA}	[dB(A)]	<70																

Type	L1	80	102.5
B14A	L	116	138.5
	L1	81.5	104
B14T	L	116	138.5
	L1	70	92.5
B5A	L	116	138.5
	L1	70	92.5
B5T	L	116	138.5
	$\phi D32$	6 - 6.35 - 7 - 8 - 9 - 9.25 - 11 - 12 - 12.7 - 14	6 - 6.35 - 7 - 8 - 9 - 9.25 - 11 - 12 - 12.7 - 14



GPT75 Drive side, flange and hollow shaft

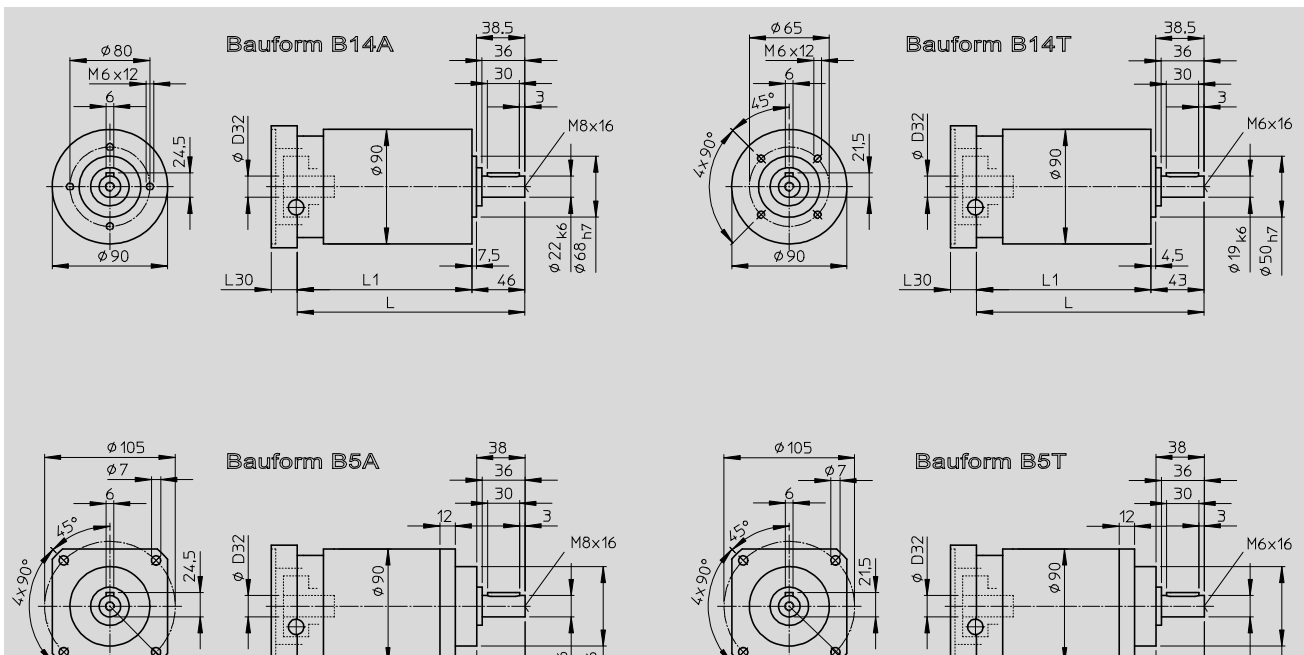
Code	Motor mounting Page 16 Section 6-7	Drive flange							Hollow gear shaft																			
		∅ D33 H7	∅ D34	∅ D35	∅ D39	L30	L33	□ ∅ L36	∅ D32																			
									L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max						
P01	x	∅ 22	∅ 43.82	∅ 4.5	∅ 22	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P02	x	∅ 38.1	∅ 66.67	∅ 5.5	∅ 32	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P03	x	∅ 40	∅ 63	∅ 5.5	∅ 32	10	3.5	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P04		∅ 60	∅ 75	∅ 6.5	∅ 32	10.5	3.5	∅ 70	35.5	5	35.5	5	35.5	5	26.5	7	26.5	7	35.5	7	26.5	7	35.5	7	35.5	7	35.5	7
P05		∅ 70	∅ 85	∅ 6.5	∅ 32	10.5	3.5	∅ 105	35.5	5	35.5	5	35.5	5	26.5	7	26.5	7	35.5	7	26.5	7	35.5	7	35.5	7	35.5	7
P06		∅ 73.02	∅ 98.42	∅ 6	∅ 35	11	3.5	∅ 80	36	5.5	36	5.5	36	5.5	27	7.5	27	7.5	36	7.5	27	7.5	36	7.5	36	7.5	36	7.5
P07		∅ 80	∅ 100	∅ 6.5	∅ 32	11.5	4	∅ 95	36.5	6	36.5	6	36.5	6	27.5	8	27.5	8	36.5	8	27.5	8	36.5	8	36.5	8	36.5	8
P08		∅ 95	∅ 115	∅ 9	∅ 32	11.5	4	∅ 98	36.5	6	36.5	6	36.5	6	27.5	8	27.5	8	36.5	8	27.5	8	36.5	8	36.5	8	36.5	8
P09		∅ 110	∅ 130	∅ 9	∅ 32	12	4.5	∅ 116	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P10	x	∅ 26	∅ 39	∅ 4.5	∅ 26	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P11	x	∅ 32	∅ 42	∅ 4.5	∅ 32	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P12	x	∅ 32	∅ 46	∅ 4.5	∅ 32	10	3.5	∅ 65	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P13	x	∅ 50	∅ 65	∅ 5.5	∅ 32	10	3.5	∅ 80	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P14	x	∅ 20	∅ 39	∅ 4.5	∅ 20	10	2.5	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P15		∅ 60	∅ 90	∅ 5.8	∅ 32	12	3.5	∅ 75	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P16	x	∅ 30	∅ 45	∅ 3.5	∅ 30	14	7	∅ 60	39	8.5	39	8.5	39	8.5	30	10.5	30	10.5	39	10.5	30	10.5	39	10.5	39	10.5	39	10.5
P17		∅ 50	∅ 70	∅ 4.5	∅ 32	16.5	8	∅ 60	41.5	11	41.5	11	41.5	11	32.5	13	32.5	13	41.5	13	32.5	13	41.5	13	41.5	13	41.5	13
P18		∅ 50	∅ 60	M 4	∅ 32	10.5	3.5	∅ 60	35.5	5	35.5	5	35.5	5	26.5	7	26.5	7	35.5	7	26.5	7	35.5	7	35.5	7	35.5	7
P19	x	∅ 25	∅ 36	∅ 4.5	∅ 25	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P20		∅ 50	∅ 70	∅ 5.5	∅ 32	10.5	3.5	∅ 60	35.5	5	35.5	5	35.5	5	26.5	7	26.5	7	35.5	7	26.5	7	35.5	7	35.5	7	35.5	7
P21	x	∅ 30	∅ 46	∅ 4.5	∅ 30	10	3	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P22		∅ 36	∅ 70.71	∅ 4.5	∅ 32	10	2	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P23		∅ 50	∅ 70	∅ 5.5	∅ 32	15.5	3.5	∅ 62	40.5	10	40.5	10	40.5	10	31.5	12	31.5	12	40.5	12	31.5	12	40.5	12	40.5	12	40.5	12
P24		∅ 70	∅ 90	∅ 5.8	∅ 32	12	3.5	∅ 75	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P25		∅ 55	∅ 85	∅ 5.8	∅ 32	12	3.5	∅ 70	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P26	x	∅ 34	∅ 65.5	∅ 5.5	∅ 33	10	3.5	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P27		∅ 50	∅ 95	∅ 6.5	∅ 32	12	3.5	∅ 80	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P28		∅ 38.1	∅ 66.67	M 4	∅ 32	9	2.5	∅ 60	34	3.5	34	3.5	34	3.5	25	5.5	25	5.5	34	5.5	25	5.5	34	5.5	34	5.5	34	5.5
P29		∅ 30	∅ 45	M 3	∅ 32	11	4	∅ 60	36	5.5	36	5.5	36	5.5	27	7.5	27	7.5	36	7.5	27	7.5	36	7.5	36	7.5	36	7.5
P30		∅ 60	∅ 85	∅ 5.8	∅ 32	12	3.5	∅ 70	37	6.5	37	6.5	37	6.5	28	8.5	28	8.5	37	8.5	28	8.5	37	8.5	37	8.5	37	8.5
P31		∅ 50	∅ 70	M 4	∅ 32	11	3.5	∅ 62	36	5.5	36	5.5	36	5.5	27	7.5	27	7.5	36	7.5	27	7.5	36	7.5	36	7.5	36	7.5
P32		∅ 40	∅ 65	M 5	∅ 32	10	3.5	∅ 60	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P33		∅ 60	∅ 99	∅ 5.5	∅ 32	11	3.5	∅ 85	36	5.5	36	5.5	36	5.5	27	7.5	27	7.5	36	7.5	27	7.5	36	7.5	36	7.5	36	7.5
P34		∅ 40	∅ 73.54	M 4	∅ 32	10	3.5	∅ 65	35	4.5	35	4.5	35	4.5	26	6.5	26	6.5	35	6.5	26	6.5	35	6.5	35	6.5	35	6.5
P35		∅ 36	∅ 70.71	M 4	∅ 32	14	2	∅ 60	39	8.5	39	8.5	39	8.5	30	10.5	30	10.5	39	10.5	30	10.5	39	10.5	39	10.5	39	10.5
P36		∅ 73.02	∅ 98.42	∅ 6	∅ 35	15	3.5	∅ 85	40	9.5	40	9.5	40	9.5	35	11.5	31	11.5	40	11.5	35	11.5	40	11.5	40	11.5	40	11.5
P38		∅ 30	∅ 48	M 3	∅ 32	11	7	∅ 60	36	5.5	36	5.5	36	5.5	27	7.5	27	7.5	36	7.5	27	7.5	36	7.5	36	7.5	36	7.5



6. GPT90 Technical Data and Dimensions, $T_{2N} = 50 - 75 \text{ Nm}$

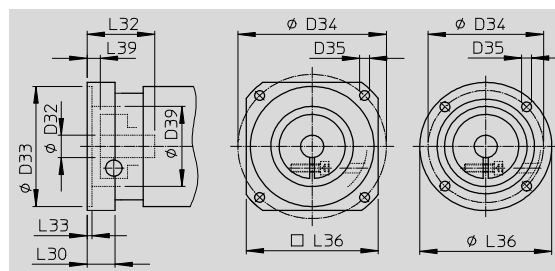
i	3	4	5	7	10	9	12	16	20	25	28	35	40	50	70	100	
Number of steps	1					2											
T_{2N} [Nm]	50	55	60	55	50	65	70	75	75	75	75	75	75	75	65	55	
T_{2B} [Nm]	80	90	100	90	80	100	110	120	120	120	120	120	120	120	100	90	
T_{2NOT} [Nm]	160	180	200	180	160	200	220	240	240	240	240	240	240	240	200	180	
n_{1N} [min ⁻¹]	4000																
n_{1max} [min ⁻¹]	5000																
F_{2r} [N]	2600																
F_{2a} [N]	2000																
G [kg]	2.8					3.7											
α_{2max} [arcmin]	15'					20'											
v	0.96					0.93											
c_t [Nm/arcmin]	9.0				7.5		9.0									7.5	
L_h [h]	~20,000																
Lubrication	Service life																
L_{pA} [dB(A)]	<70																

B14A	L1	98	127	
	L	144	173	
B14T	L1	101	130	
	L	144	173	
B5A	L1	88	117	
	L	144	173	
B5T	L1	88	117	
	L	144	173	
$\phi D32$	9 - 9.525 - 11 - 12 - 12.7 - 14 15.87 - 16 - 19		9 - 9.525 - 11 - 12 - 12.7 - 14 15.87 - 16 - 19	



GPT90 Drive side, flange and hollow shaft

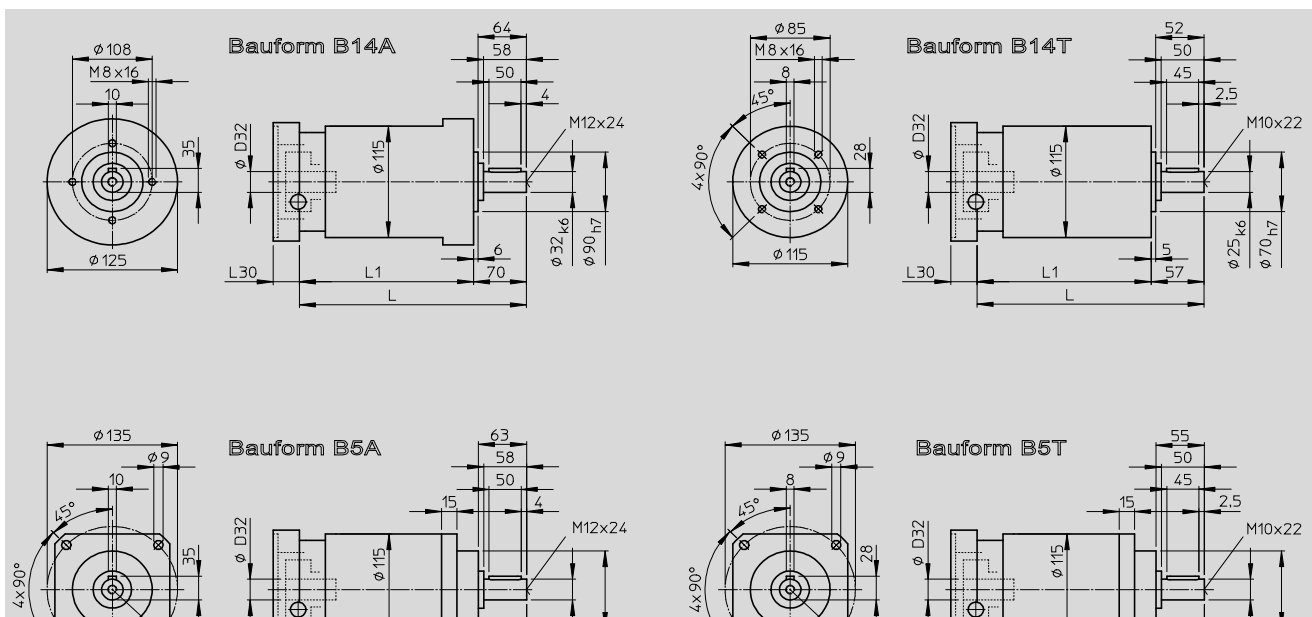
Code	Motor mounting Page 16 Section 6-7	Drive flange							Hollow gear shaft																	
		ø D33 H7	ø D34	ø D35	ø D39	L30	L33	□ ø L36	ø D32																	
									L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max						
P01	x	ø 38.1	ø 66.67	ø 5.5	ø 38.1	12	3	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P02		ø 55.52	ø 125.72	ø 7	ø 45	11	3	□ 106.5	43	5.5	43	8	28	8	43	8	43	8	43	8	43	8	43	8	43	8
P03	x	ø 60	ø 75	ø 5.5	ø 45	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P04	x	ø 70	ø 85	ø 6.5	ø 45	12	3.5	ø 105	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P05		ø 73.02	ø 98.425	ø 6.5	ø 45	12	3	□ 82.5	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P06		ø 80	ø 100	ø 6.5	ø 45	13	4	□ 90	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P07		ø 95	ø 115	ø 8.5	ø 45	13	4.5	□ 100	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P08		ø 110	ø 130	ø 9	ø 45	13	4.5	□ 116	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P09	x	ø 26	ø 39	ø 4.5	ø 26	12	4	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P10	x	ø 50	ø 65	ø 5.5	ø 45	12	3.5	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P11		ø 115	ø 166	ø 9	ø 50	32	11	□ 150	64	26.5	64	29	49	29	64	29	64	29	64	29	64	29	64	29	64	29
P12	x	ø 70	ø 90	ø 6.5	ø 32	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P14	x	ø 70	ø 90	ø 6	ø 32	19	9	ø 105	51	13.5	51	16	36	16	51	16	51	16	51	16	51	16	51	16	51	16
P15	x	ø 50	ø 70	ø 4.5	ø 45	17	8	ø 80	49	11.5	49	14	34	14	49	14	49	14	49	14	49	14	49	14	49	14
P16		ø 130	ø 165	ø 11	ø 45	13	4.5	□ 142	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P17	x	ø 40	ø 63	ø 5.5	ø 40	12	3.5	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P18		ø 110	ø 145	M 8	ø 32	31	7	□ 130	63	25.5	63	28	48	28	63	28	63	28	63	28	63	28	63	28	63	28
P19	x	ø 60	ø 90	ø 6.5	ø 32	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P20	x	ø 55	ø 85	ø 5.5	ø 36	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P21		ø 50	ø 95	M 6	ø 45	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P22	x	ø 50	ø 70	M 4	ø 45	12	4	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P23		ø 60	ø 75	M 5	ø 45	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P24	x	ø 30	ø 46	M 4	ø 30	12	4	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P26		ø 40	ø 65	M 5	ø 40	12	3.5	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P27		ø 36.8	ø 82.02	M 6	ø 36.8	14	10	□ 80	46	8.5	46	11	31	11	46	11	46	11	46	11	46	11	46	11	46	11
P28		ø 80	ø 100	ø 6.5	ø 45	28	4	□ 90	60	22.5	60	25	45	25	60	25	60	25	60	25	60	25	60	25	60	25
P29	x	ø 50	ø 66.67	ø 5.5	ø 45	12	3	ø 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P30		ø 80	ø 130	ø 9	ø 45	13	4	□ 115	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P31	x	ø 44	ø 56	M 6	ø 36.8	14	10	□ 80	46	8.5	46	11	31	11	46	11	46	11	46	11	46	11	46	11	46	11
P32		ø 70	ø 90	M 6	ø 32	12	3.5	□ 80	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9
P33		ø 110	ø 145	ø 9	ø 45	13	4.5	□ 130	45	7.5	45	10	30	10	45	10	45	10	45	10	45	10	45	10	45	10
P34		ø 80	ø 100	M 6	ø 45	19	5	□ 90	51	13.5	51	16	36	16	51	16	51	16	51	16	51	16	51	16	51	16
P36		ø 95	ø 115	M 8	ø 45	25	4.5	□ 100	57	19.5	57	22	42	22	57	22	57	22	57	22	57	22	57	22	57	22
P37		ø 60	ø 98.99	M 6	ø 32	12	3.5	□ 85	44	6.5	44	9	29	9	44	9	44	9	44	9	44	9	44	9	44	9



7. GPT120 Technical data and dimensions

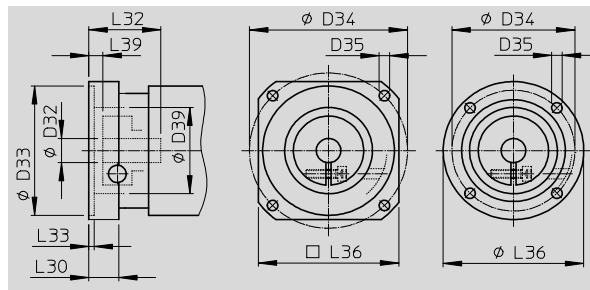
i	3	4	5	7	10	9	12	16	20	25	28	35	40	50	70	100
Number of steps	1					2										
T _{2N} [Nm]	120	150	180	150	100	150	180	220	220	220	220	220	220	220	170	110
T _{2B} [Nm]	190	240	290	220	180	240	290	350	350	350	350	350	350	350	270	200
T _{2NOT} [Nm]	400	500	600	460	380	500	600	700	700	700	700	700	700	700	540	400
n _{1N} [min ⁻¹]	3000															
n _{1max} [min ⁻¹]	4000															
F _{2r} [N]	4500															
F _{2a} [N]	4000															
G [kg]	7.5					8										
α _{2max} [arcmin]	15'					20'										
v	0.96					0.93										
C _t [Nm/arcmin]	32.0				28.0	32.0										28.0
L _h [h]	20,000															
Lubrication	Service life															
L _{pA} [dB(A)]	<70															

At ø D32 [mm]							
B14A	L1	115.8	134.8	148.4	167.4		
	L	185.8	185.8	218.4	218.4		
B14T	L1	120.8	139.8	153.4	173.4		
	L	177.8	196.8	210.4	229.4		
B5A	L1	102.8	121.8	135.4	154.4		
	L	185.8	204.8	218.4	237.4		
B5T	L1	102.8	121.8	135.4	154.4		
	L	177.8	196.8	210.4	229.4		
øD32		12.7 - 14 - 15.87 - 16 - 19	22 - 24 - 25 - 28	12.7 - 14 - 15.87 - 16 - 19	22 - 24 - 25 - 28		



GPT120 drive side, flange and hollow shaft

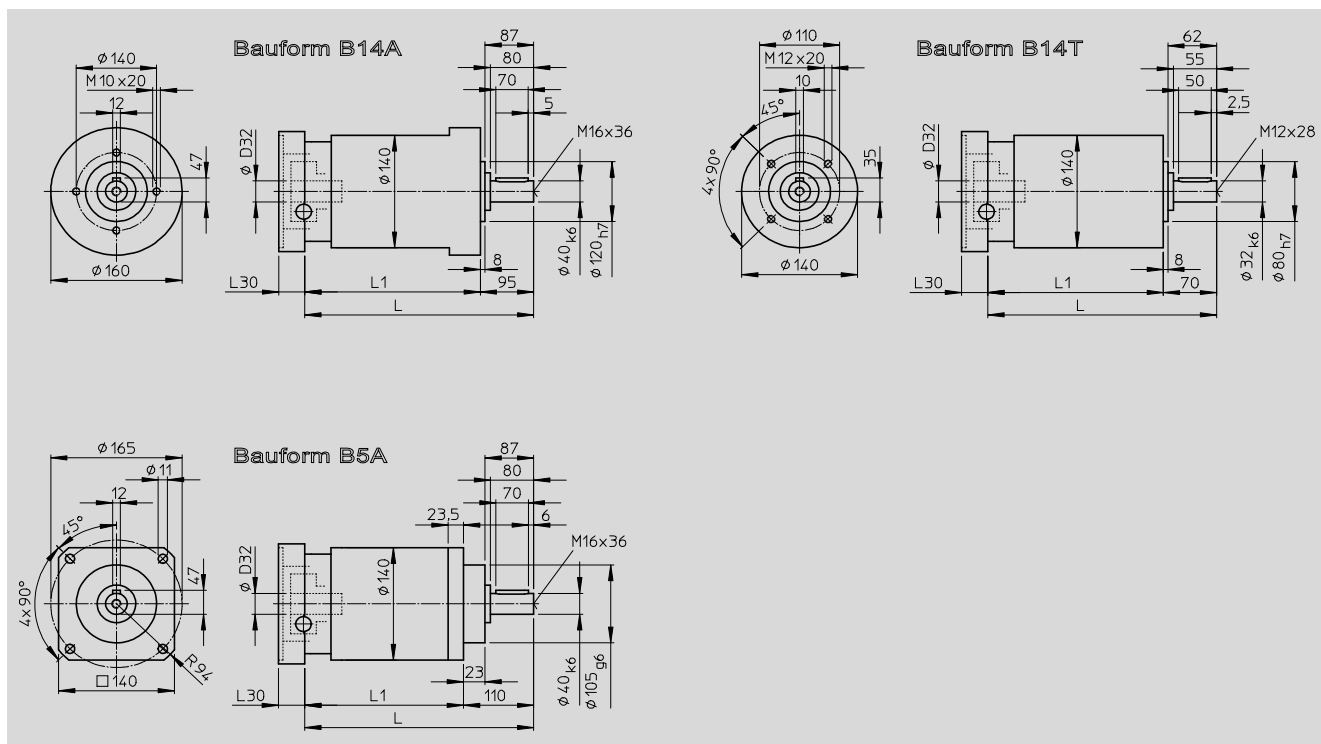
Code	Motor mounting Page 20 Section 6-7	Drive flange							Hollow gear shaft																			
		ø D33 H7	ø D34	ø D35	ø D39	L30	L33	□ ø L36	ø D32																			
									L32 max	L39	ø 12.7	ø 14	ø 15.87	ø 16	ø 19	ø 22	ø 24	ø 25	ø 28	L32 max	L39	L32 max	L39	L32 max	L39	L32 max	L39	
P01	x	ø 55.52	ø 125.72	ø 6.5	ø 55.52	13	3	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P02	x	ø 60	ø 75	ø 5.5	ø 60	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P03	x	ø 70	ø 85	ø 6.5	ø 60	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P04	x	ø 73.02	ø 98.42	ø 6.5	ø 60	13	3	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P05	x	ø 80	ø 100	ø 6.5	ø 60	13	4	□ 120	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P06	x	ø 95	ø 115	ø 9	ø 60	13	4.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P07		ø 110	ø 130	ø 8.5	ø 60	13	4.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P08		ø 130	ø 165	ø 11	ø 60	13	4.5	□ 142	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P09		ø 180	ø 215	ø 13	ø 60	14	4.5	□ 192	44	7	36	7	44	7	44	7	44	7	63	7	63	7	63	7	63	7	63	7
P10	x	ø 50	ø 65	ø 6.5	ø 50	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P11		ø 110	ø 145	M 8	ø 60	31	7	□ 130	61	24	53	24	61	24	61	24	61	24	80	24	80	24	80	24	80	24	80	24
P12		ø 110	ø 145	M 8	ø 60	17	7	□ 130	47	10	39	10	47	10	47	10	47	10	66	10	66	10	66	10	66	10	66	10
P13		ø 110	ø 130	M 8	ø 60	13	4.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P14	x	ø 50	ø 70	ø 6.5	ø 50	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P15		ø 70	ø 90	M 5	ø 60	11	3.5	□ 115	41	4	33	4	41	4	41	4	41	4	60	4	60	4	60	4	60	4	60	4
P17	x	ø 70	ø 90	ø 6.5	ø 60	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P18		ø 95	ø 130	ø 8.5	ø 60	13	4.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P19	x	ø 50	ø 95	ø 6.5	ø 50	13	3.5	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P20		ø 60	ø 99	M 6	ø 60	13	4	□ 115	43	6	35	6	43	6	43	6	43	6	62	6	62	6	62	6	62	6	62	6
P21	x	ø 82.5	ø 106	ø 12.5	ø 60	26.3	15	□ 130	56.5	19.5	48.5	19.5	56.5	19.5	56.6	19.5	56.5	19.5	75.5	19.5	75.5	19.5	75.5	19.5	75.5	19.5	75.5	19.5
P22		ø 110	ø 165	ø 11	ø 60	15	4.5	□ 144	45	8	37	8	45	8	45	8	45	8	64	8	64	8	64	8	64	8	64	8
P23	x	ø 40	ø 63	ø 5.5	ø 40	11	3.5	□ 115	41	4	33	4	41	4	41	4	41	4	60	4	60	4	60	4	60	4	60	4
P24		ø 80	ø 100	M 6	ø 60	18	7	□ 120	48	11	40	11	48	11	48	11	48	11	67	11	67	11	67	11	67	11	67	11



8. GPT155 Technical data and dimensions

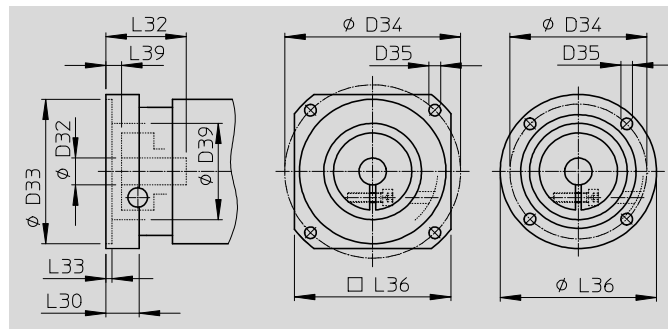
i	3	4	5	7	10	9	12	16	20	25	28	35	40	50	70	100
Number of steps	1					2										
T _{2N} [Nm]	240	320	380	300	220	320	400	500	500	500	500	500	500	500	350	250
T _{2B} [Nm]	420	540	600	480	400	480	600	750	750	750	750	750	750	750	560	460
T _{2NOT} [Nm]	880	1140	1260	1000	850	1000	1250	1500	1500	1500	1500	1500	1500	1500	1120	920
n _{1N} [min ⁻¹]	3000															
n _{1max} [min ⁻¹]	4000															
F _{2r} [N]	Types B14A and B5A: 6500 / Type B14T: 5300															
F _{2a} [N]	Types B14A and B5A: 3250 / Type B14T: 2650															
G [kg]	10.9					15.7										
α _{2max} [arcmin]	15'					20'										
v	0.96					0.93										
C _t [Nm/arcmin]	1.0			0.9		1.0										0.9
L _h [h]	~20,000															
Lubrication	Service life															
L _{pA} [dB(A)]	<70															

Bei ø D32 [mm]	15.87 - 16 - 19 - 22 - 24	28 - 32 - 35 - 38	15.87 - 16 - 19 - 22 - 24	28 - 32 - 35 - 38
Type B14A L1 [mm]	156	181	197.5	222.5
Type B14A L [mm]	251	276	292.5	317.5
Type B14T L1 [mm]	156	181	197.5	222.5
Type B14T L [mm]	226	251	292.5	292.5
Type B5A L1 [mm]	141	166	182.5	207.5
Type B5A L [mm]	251	276	292.5	317.5



GPT155 drive side, flange and hollow shaft

Code	Motor mounting Page 20 Section 6-7	Drive flange							Hollow gear shaft ø D32																	
		ø D33 H7	ø D34	ø D35	ø D39	L30	L33	□ ø L36	ø 15.87		ø 16		ø 19		ø 22		ø 24		ø 28		ø 32		ø 35		ø 38	
									L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max	L32 max	L39 max
P01	x	55.52	125.72	6.5	55.52	15	4	140	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P02	x	80	100	6.5	70	15	4	140	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P03	x	95	115	8.5	70	15	4.5	140	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P04	x	110	130	8.5	70	15	4.5	140	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P05		130	165	11	70	15	4.5	142	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P06		180	215	13	70	15	4.5	190	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P07		230	265	13	70	15	4.5	250	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P08		110	145	M 8	70	18	7	130	60.8	9.8	60.8	9.8	45.8	9.8	60.8	9.8	60.8	9.8	85.8	10.3	85.8	10.3	85.8	10.3	85.8	10.3
P09		114.3	200	13.5	70	22	11	180	64.8	13.8	64.8	13.8	49.8	13.8	64.8	13.8	64.8	13.8	89.8	14.3	89.8	14.3	89.8	14.3	89.8	14.3
P10		95	130	M 8	70	15	4.5	115	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P11		155	198	13.5	120	22	7	180	64.8	13.8	64.8	13.8	49.8	13.8	64.8	13.8	64.8	13.8	89.8	14.3	89.8	14.3	89.8	14.3	89.8	14.3
P12		200	235	13.5	70	15	5	220	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P13		130	215	13	70	15	4.5	190	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P14		110	165	11	70	15	4.5	142	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P15	x	70	90	6.5	70	15	4	150	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P16		114.3	177.8	10.5	70	15	3.5	146	57.8	6.8	57.8	6.8	42.8	6.8	57.8	6.8	57.8	6.8	82.8	7.3	82.8	7.3	82.8	7.3	82.8	7.3
P17		110	145	M 8	70	28	7	130	-	-	-	-	70.8	19.8	-	-	-	-	-	-	-	-	-	-	-	-
P18		80	100	M 6	70	22	6	140	64.8	13.8	64.8	13.8	49.8	13.8	64.8	13.8	64.8	13.8	89.8	14.3	89.8	14.3	89.8	14.3	89.8	14.3



9. Motor mounting

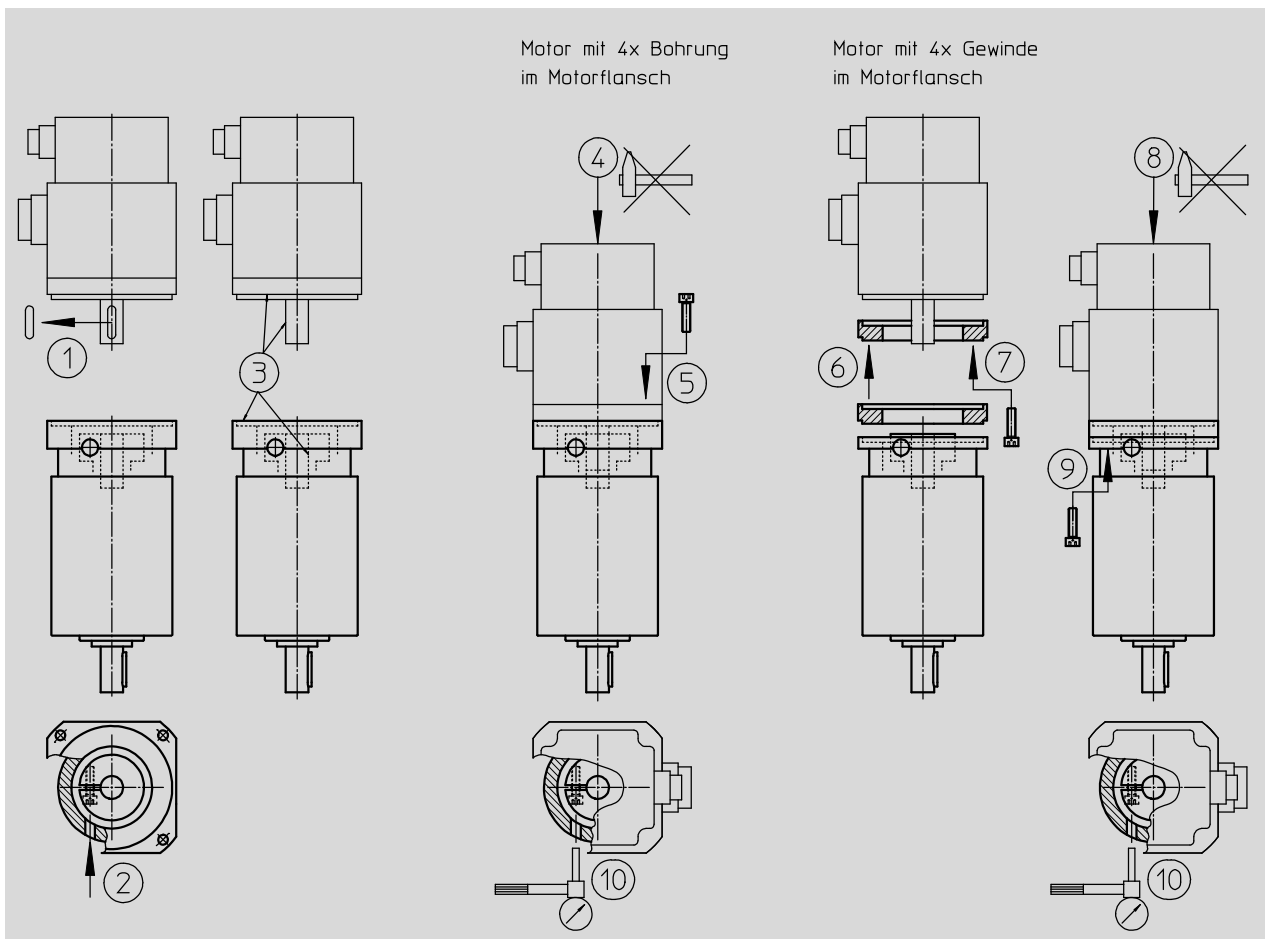
For motors with 4 bores at the motor flange

- ① Remove feather key from motor shaft.
- ② Loosen fastening screws of hollow shaft.
- ③ Clean contact surfaces on the engine and transmission and free from grease, i.e. hollow shaft bore, motor shaft and flange surfaces.
- ④+⑧ Slide motor onto gear without hitting.
- ⑤+⑨ Screw motor and gear together.
- ⑩ Tighten the fastening screws of the hollow shaft with torque wrench to the torque specified in the table.

For motors with 4 threads at the motor flange

Fastening screws at hollow shaft

ØD32	Hollow shaft diameter	mm	GPT55		GPT75		GPT90		GPT120		GPT155	
			6 - 11	6 - 14	9 - 14	15.87 - 19	12.7 - 14	15.87 - 19	22 - 28	15.87 - 19	22 - 28	32 - 38
S	Screw	DIN 912 Strength 12.9	M4	M4	M4	M5	M4	M5	M6	M6	M6	M6
SZ	Number of screws	---	1	1	1	1	1	1	2	1	2	3
SW	Wrench width	mm	3	3	3	4	3	4	5	5	5	5
M ^{An}	Tightening torque	Nm	4.8	4.8	4.8	9.4	4.8	9.4	16.2	16.2	16.2	16.2

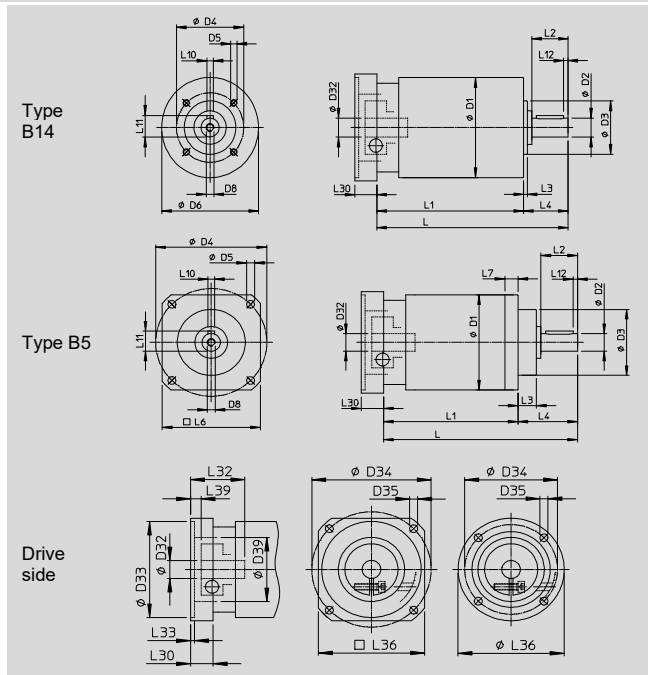


10. Moment of inertia at drive shaft J_1 [kgcm²]

i		3	4	5	7	10	9	12	16	20	25	28	35	40	50	70	100	
Number of steps		1					2											
GPT55	øD32	6	0.07	0.06	0.06	0.06	0.05	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
		6.35	0.07	0.06	0.06	0.06	0.05	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
		7	0.07	0.06	0.06	0.06	0.05	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
		8	0.09	0.08	0.07	0.07	0.07	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
		9	0.09	0.08	0.07	0.07	0.07	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07
		9.525	0.09	0.08	0.07	0.07	0.07	0.09	0.09	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
		11	0.09	0.08	0.08	0.07	0.07	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07
GPT75	øD32	6	0.17	0.12	0.11	0.09	0.09	0.16	0.16	0.12	0.12	0.1	0.09	0.09	0.09	0.09	0.09	0.09
		6.35	0.17	0.12	0.11	0.09	0.09	0.16	0.16	0.12	0.12	0.1	0.09	0.09	0.09	0.09	0.09	0.09
		7	0.17	0.12	0.11	0.09	0.09	0.16	0.16	0.12	0.12	0.1	0.09	0.09	0.09	0.09	0.09	0.09
		8	0.18	0.13	0.12	0.11	0.1	0.17	0.17	0.13	0.13	0.12	0.11	0.11	0.1	0.1	0.1	0.1
		9	0.18	0.13	0.12	0.11	0.1	0.17	0.17	0.13	0.13	0.12	0.11	0.11	0.1	0.1	0.1	0.1
		9.525	0.18	0.13	0.12	0.11	0.1	0.17	0.17	0.13	0.13	0.12	0.11	0.11	0.1	0.1	0.1	0.1
		11	0.2	0.14	0.13	0.12	0.11	0.19	0.18	0.14	0.14	0.13	0.12	0.12	0.11	0.11	0.11	0.11
		12	0.2	0.15	0.14	0.12	0.12	0.19	0.18	0.15	0.14	0.13	0.12	0.12	0.12	0.12	0.12	0.12
		12.7	0.2	0.14	0.13	0.12	0.11	0.19	0.18	0.14	0.14	0.13	0.12	0.12	0.11	0.11	0.11	0.11
		14	0.22	0.16	0.15	0.14	0.13	0.21	0.2	0.16	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.13
GPT90	øD32	9	0.53	0.35	0.29	0.24	0.21	0.53	0.51	0.34	0.34	0.28	0.24	0.23	0.21	0.21	0.21	
		9.525	0.53	0.35	0.29	0.24	0.21	0.53	0.51	0.34	0.34	0.28	0.23	0.23	0.21	0.21	0.21	
		11	0.54	0.36	0.3	0.25	0.22	0.54	0.52	0.35	0.35	0.29	0.24	0.24	0.22	0.22	0.22	
		12	0.54	0.36	0.3	0.25	0.23	0.55	0.53	0.35	0.35	0.29	0.25	0.25	0.23	0.23	0.23	
		12.7	0.54	0.36	0.3	0.25	0.23	0.55	0.53	0.35	0.35	0.29	0.25	0.25	0.23	0.22	0.22	
		14	0.56	0.38	0.32	0.27	0.25	0.56	0.55	0.37	0.37	0.31	0.27	0.27	0.24	0.24	0.24	
		15.87	0.76	0.58	0.52	0.47	0.44	0.76	0.74	0.57	0.57	0.51	0.46	0.46	0.44	0.44	0.44	
		16	0.76	0.58	0.52	0.47	0.44	0.76	0.74	0.57	0.57	0.51	0.46	0.46	0.44	0.44	0.44	
19	0.73	0.55	0.49	0.44	0.41	0.73	0.71	0.54	0.53	0.48	0.43	0.43	0.41	0.41	0.41			
GPT120	øD32	12.7	2.02	1.13	0.86	0.62	0.51	2	1.92	1.07	1.05	0.8	0.61	0.6	0.5	0.49	0.49	
		14	2.08	1.19	0.91	0.68	0.56	2.06	1.97	1.13	1.1	0.86	0.66	0.65	0.55	0.55	0.54	
		15.87	2.25	1.36	1.08	0.85	0.73	2.23	2.14	1.3	1.28	1.03	0.83	0.82	0.72	0.72	0.71	
		16	2.25	1.36	1.08	0.85	0.73	2.23	2.14	1.3	1.28	1.03	0.83	0.82	0.72	0.72	0.71	
		19	2.22	1.33	1.05	0.82	0.7	2.2	2.11	1.27	1.24	0.99	0.8	0.79	0.69	0.68	0.68	
		22	4.36	3.47	3.19	2.96	2.84	4.34	4.26	3.41	3.39	3.14	2.94	2.94	2.83	2.83	2.83	
		24	4.32	3.43	3.15	2.92	2.8	4.3	4.22	3.37	3.35	3.1	2.9	2.9	2.79	2.79	2.79	
		28	4.17	3.28	3.01	2.77	2.66	4.15	4.07	3.22	3.2	2.95	2.76	2.75	2.65	2.64	2.64	
GPT155	øD32	15.87	6.97	4.45	3.57	2.86	2.49	6.84	6.55	4.22	4.16	3.38	2.78	2.76	2.45	2.44	2.44	
		16	6.97	4.45	3.57	2.86	2.49	6.84	6.55	4.22	4.16	3.38	2.78	2.76	2.45	2.44	2.44	
		19	7.01	4.48	3.6	2.89	2.52	6.87	6.59	4.25	4.19	3.41	2.81	2.8	2.48	2.48	2.47	
		22	8.24	5.72	4.84	4.13	3.76	8.11	7.83	5.49	5.43	4.65	4.05	4.03	3.72	3.71	3.71	
		24	8.21	5.68	4.8	4.09	3.72	8.07	7.79	5.45	5.4	4.62	4.02	4	3.69	3.68	3.67	
		28	12.21	9.69	8.8	8.09	7.73	12.07	11.79	9.45	9.4	8.62	8.02	8	7.69	7.68	7.67	
		32	14.05	11.53	10.64	9.93	9.57	13.91	13.63	11.29	11.24	10.46	9.86	9.84	9.53	9.52	9.51	
		32	13.92	11.4	10.51	9.81	9.44	13.79	13.51	11.17	11.11	10.33	9.73	9.71	9.4	9.39	9.39	
		38	13.59	11.07	10.19	9.48	9.11	13.46	13.18	10.84	10.78	10	9.4	9.38	9.07	9.06	9.06	

11. Designations

Planetary gear		
øD1	Housing diameter	
L ±2	Gear length	
L1 ±2	Housing length	
Planetary gear output		
øD2	Shaft diameter	
øD3	Centring of flange diameter	
øD4	Flange bolt circle diameter	
D5	Flange thread x depth	4x
øD6	Flange diameter	
D8	Shaft thread x depth	
L2	Shaft length	
L3	Centering of flange length	
L4	Flange bolt circle distance	
L10	Feather key, shape x width x height x length	DIN 6885 T1
L11	Feather key height	
L12	Feather key at shaft front side	
Planetary gear drive		
Ø D32	Hollow shaft diameter	
Ø D33H7	Centring of flange diameter	
Ø D34	Flange bolt circle diameter	
Ø D35	Flange drilling diameter	
Ø D39	Flange inside diameter	
L30	Flange length	
L32max	Hollow shaft length	
L33	Centering of flange length	
L36	Flange section	
L39	Hollow shaft distance	



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