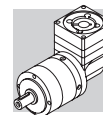


LCK



BONFIGLIOLI



SUMMARY

Chapter Contents

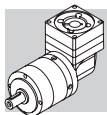


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Revisions

Refer to page 22 for the catalogue revision index.

Visit www.tecnoingranaggi.it to search for catalogues with up-to-date revisions.



1 GENERAL INFORMATION

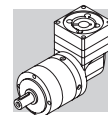
1.1 SYMBOLS, UNITS AND DEFINITIONS

Values depending on the **APPLICATION**

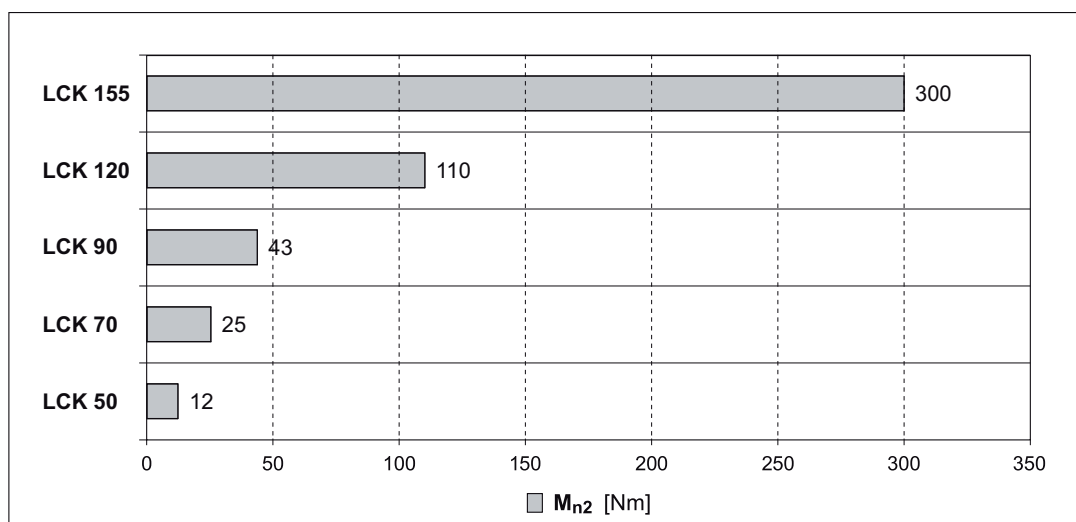
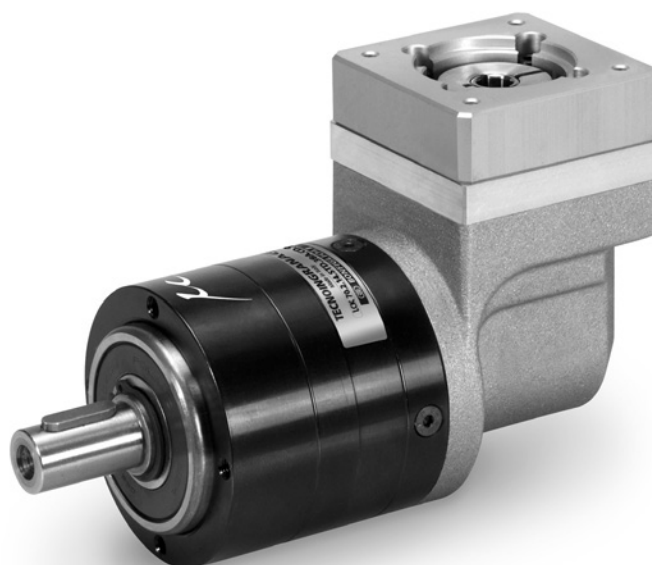
term	u.m.	definition
A₂	[N]	Thrust force on output shaft
R₂	[N]	Radial force on output shaft
ED	[min]	Loading time
ED%	[%]	Loading time %
L_{10h}	[h]	Bearings' basic rating life
M_{1PEAK}	[Nm]	Maximum input torque (usually motor)
M_{2(1) ... M_{2(n)}}	[Nm]	Output torque at each of the time periods t ₁ ... t _n
M_{2EQU}	[Nm]	Equivalent output torque
M_{2MAX}	[Nm]	Maximum output torque in case of emergency
n_{2(1) ... n_{2(n)}}	[min ⁻¹]	Output speed based on the time periods t ₁ ... t _n
n_{2EQU}	[min ⁻¹]	Equivalent output speed
n_{2MAX}	[min ⁻¹]	Maximum output speed
n₂	[min ⁻¹]	Output speed
T	[°C]	Ambient temperature
t₁ ... t_n	[s]	Time periods of motion
t_Σ	[s]	Cycle duration including pause
Z	[1/h]	Cycle number per hour

Values depending on the **GEAR DRIVE SELECTION**

term	u.m.	definition
A_n	[N]	Admissible thrust force
A_{n'}	[N]	Thrust force acting simultaneously with the rated radial force
R_n	[N]	Admissible radial force at midpoint of output shaft
C_t	$\left[\frac{\text{Nm}}{\text{arcmin}} \right]$	Torsional stiffness
f_n	—	Speed factor
f_z	—	Cycle factor
f_T	—	Temperature correction factor
i	—	Gearbox ratio
J_G	[kgm ²]	Mass moment of inertia of the gearhead
L_Z	[mm]	Factor for bearing's lifetime calculation
M_{T2ref}	[Nm]	Reference tilting moment
C_B	[Nm]	Constant for bearing's lifetime calculation
p	—	Bearing lifetime exponent
M_{n2}	[Nm]	Rated output torque
M_{a2}	[Nm]	Maximum acceleration output torque
M_{p2}	[Nm]	Emergency stop output torque
n_{1ref}	[min ⁻¹]	Reference input speed of the gearhead
n_{1max}	[min ⁻¹]	Maximum momentary input speed. The speed the unit can be driven at occasionally and in non-repetitive conditions. For cycle duty type S5, it cannot be applied continuously for more than 30 seconds
η	[%]	Gear efficiency
φ_S	[arcmin]	Standard backlash is calculated in static conditions and with the application of a torque equal to 2% of the gear unit rated torque
φ_R	[arcmin]	Reduced backlash is calculated in static conditions and with the application of a torque equal to 2% of the gear unit rated torque

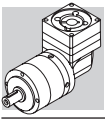


1.2 FEATURES OF LCK SERIES

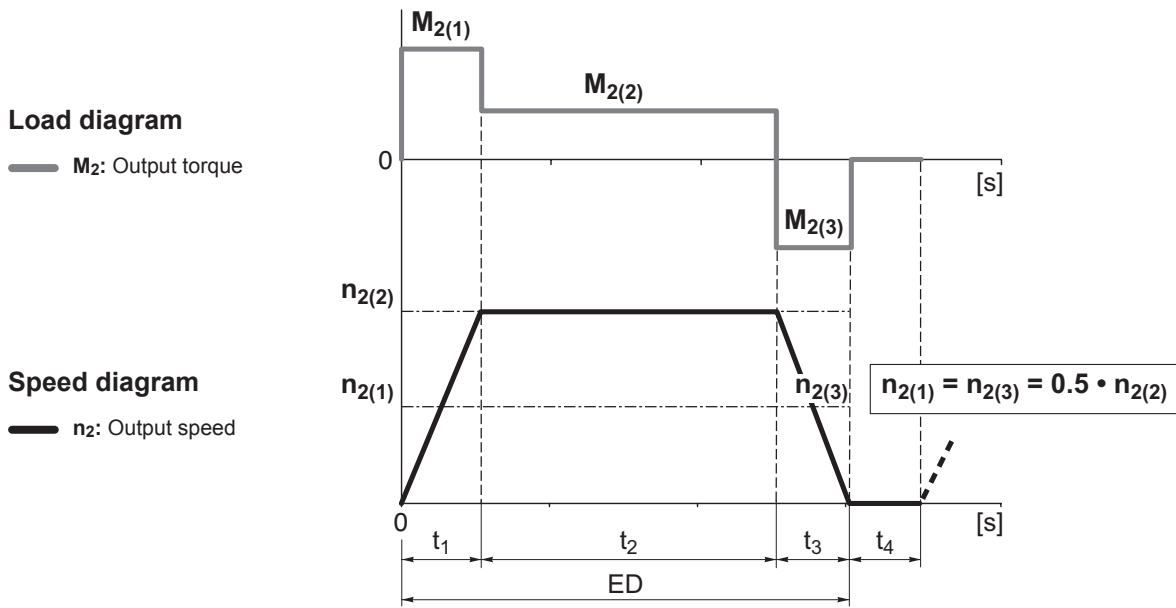


Gear units of series LCK replicate in the right angle layout the brilliant features that are already typical of the in-line products of the LC series, with the additional benefit of a facilitated installation in tight spaces.

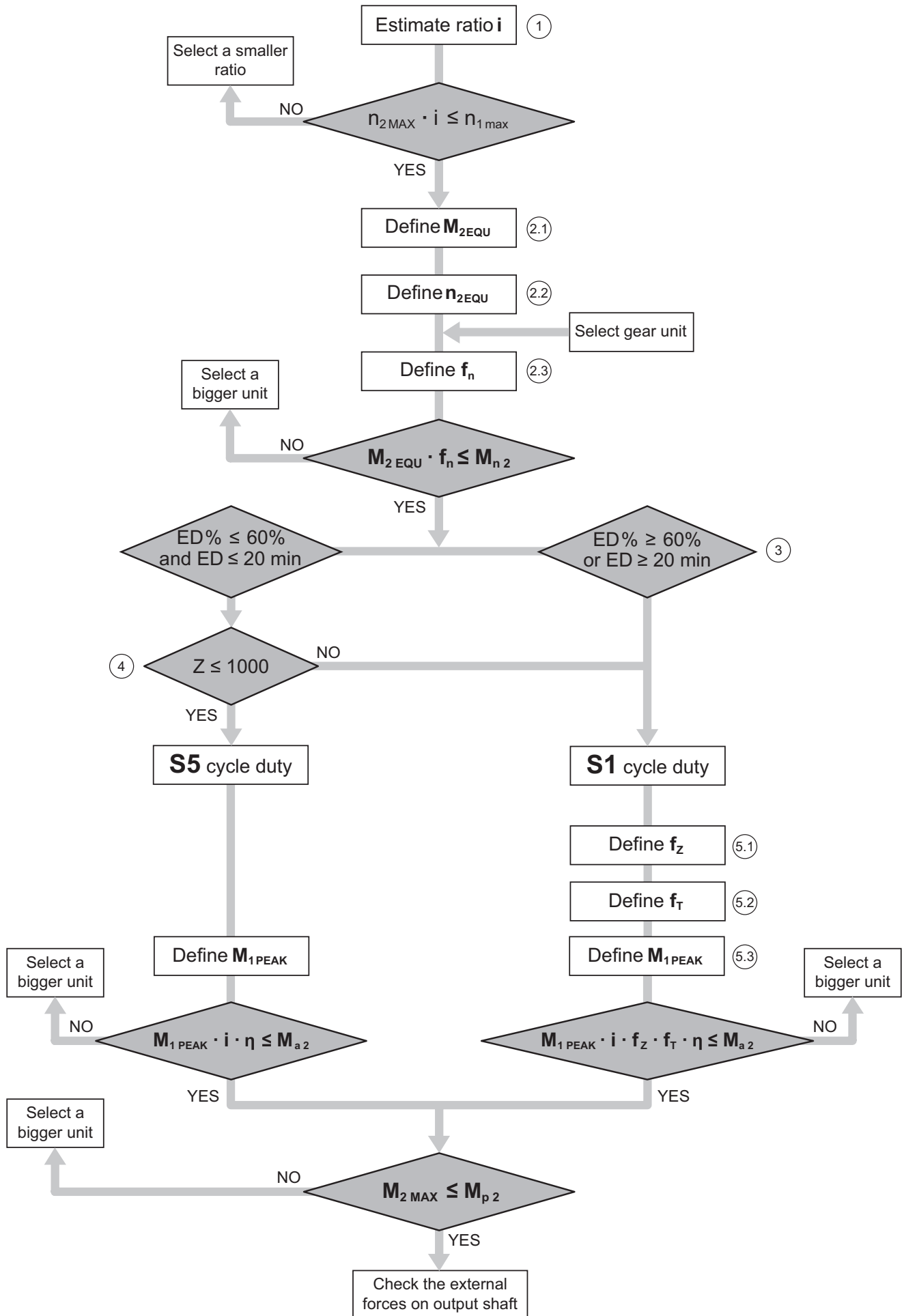
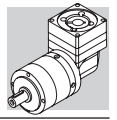
- Available in one only backlash option, corresponding to following values:
 - $\varphi_s = 6'$ double reduction gearheads
 - $\varphi_s = 8'$ triple reduction gearheads
- Degree of protection IP64
- Oil seals from Viton® compound as standard
- Max. noise level $L_p \leq 70$ dB(A) @ $n_1 = 3000$ min⁻¹
- Wide range of adapter flanges matching the most popular brands of motors
- Units are factory filled with synthetic grease to NLGI consistency class 00, suitable for installation in any mounting position and at ambient temperature within the range 0°C...40°C.
In the absence of contamination the lubricant does not require periodical changes.

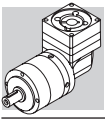


1.3 SELECTING THE GEAR UNIT

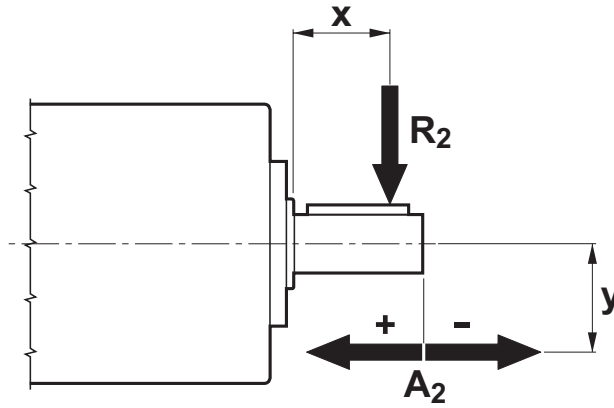


Ratio	i	—	$i = \frac{n_1}{n_2}$	①														
Equivalent output torque	M_{2EQU}	[Nm]	$M_{2EQU} = \sqrt[3]{\frac{n_{2(1)} \cdot t_1 \cdot M_{2(1)} ^3 + \dots + n_{2(n)} \cdot t_n \cdot M_{2(n)} ^3}{n_{2(1)} \cdot t_1 + \dots + n_{2(n)} \cdot t_n}}$	②.1														
Equivalent output speed	n_{2EQU}	[min ⁻¹]	$n_{2EQU} = \frac{n_{2(1)} \cdot t_1 + n_{2(2)} \cdot t_2 + \dots + n_{2(n)} \cdot t_n}{t_1 + t_2 + \dots + t_n}$	②.2														
Speed factor	f_n	—	If $n_{2EQU} \cdot i \leq n_{1ref} \Rightarrow f_n = 1$ If $n_{2EQU} \cdot i > n_{1ref} \Rightarrow f_n = \sqrt[3]{\frac{n_{2EQU} \cdot i}{n_{1ref}}}$	②.3														
Loading time	ED%	[%]	$ED\% = \frac{t_1 + t_2 + \dots + t_n}{t_\Sigma} \cdot 100$	③														
Loading time	ED	[min]	$ED = t_1 + t_2 + \dots + t_n$															
Cycle number	Z	[1/h]	$Z = \frac{3600}{t_\Sigma}$	④														
Cycle factor	f_z	—	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Z</th> <th>f_z</th> </tr> </thead> <tbody> <tr> <td>$Z \leq 1000$</td> <td>1.00</td> </tr> <tr> <td>$1000 < Z \leq 1500$</td> <td>1.25</td> </tr> <tr> <td>$1500 < Z \leq 2500$</td> <td>1.50</td> </tr> <tr> <td>$2500 < Z \leq 4000$</td> <td>1.75</td> </tr> <tr> <td>$4000 < Z \leq 6000$</td> <td>2.00</td> </tr> <tr> <td>$Z > 6000$</td> <td>contact us</td> </tr> </tbody> </table>	Z	f_z	$Z \leq 1000$	1.00	$1000 < Z \leq 1500$	1.25	$1500 < Z \leq 2500$	1.50	$2500 < Z \leq 4000$	1.75	$4000 < Z \leq 6000$	2.00	$Z > 6000$	contact us	⑤.1
Z	f_z																	
$Z \leq 1000$	1.00																	
$1000 < Z \leq 1500$	1.25																	
$1500 < Z \leq 2500$	1.50																	
$2500 < Z \leq 4000$	1.75																	
$4000 < Z \leq 6000$	2.00																	
$Z > 6000$	contact us																	
Temperature factor	f_T	—	If $T \leq 20^\circ\text{C} \Rightarrow f_T = 1$ If $T > 20^\circ\text{C} \Rightarrow f_T = 1 + \frac{T - 20^\circ\text{C}}{100^\circ\text{C}}$	⑤.2														
Maximum input torque	M_{1PEAK}	[Nm]	a) maximum possible application torque b) limited motor torque by inverter c) maximum motor torque	⑤.3														



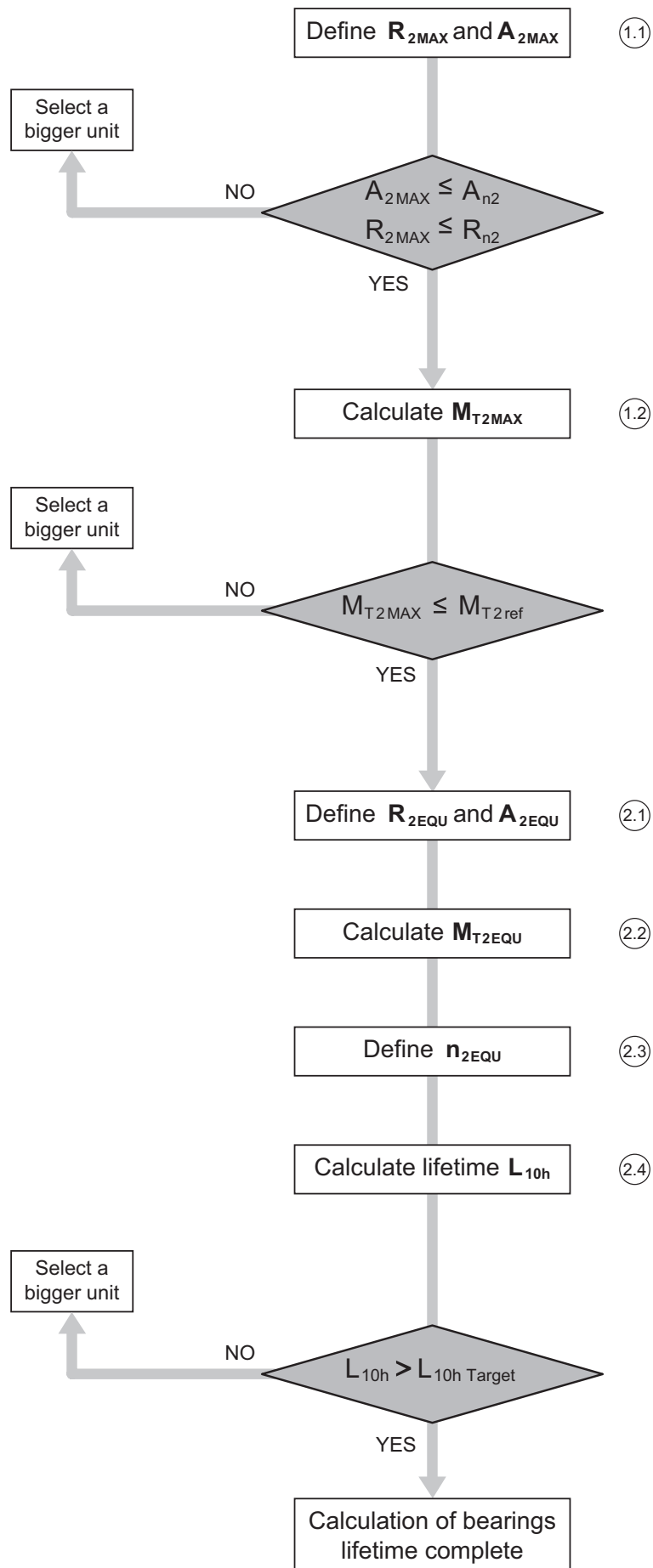
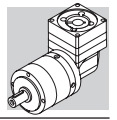


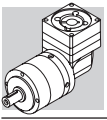
1.4 SERVICE LIFE OF BEARINGS



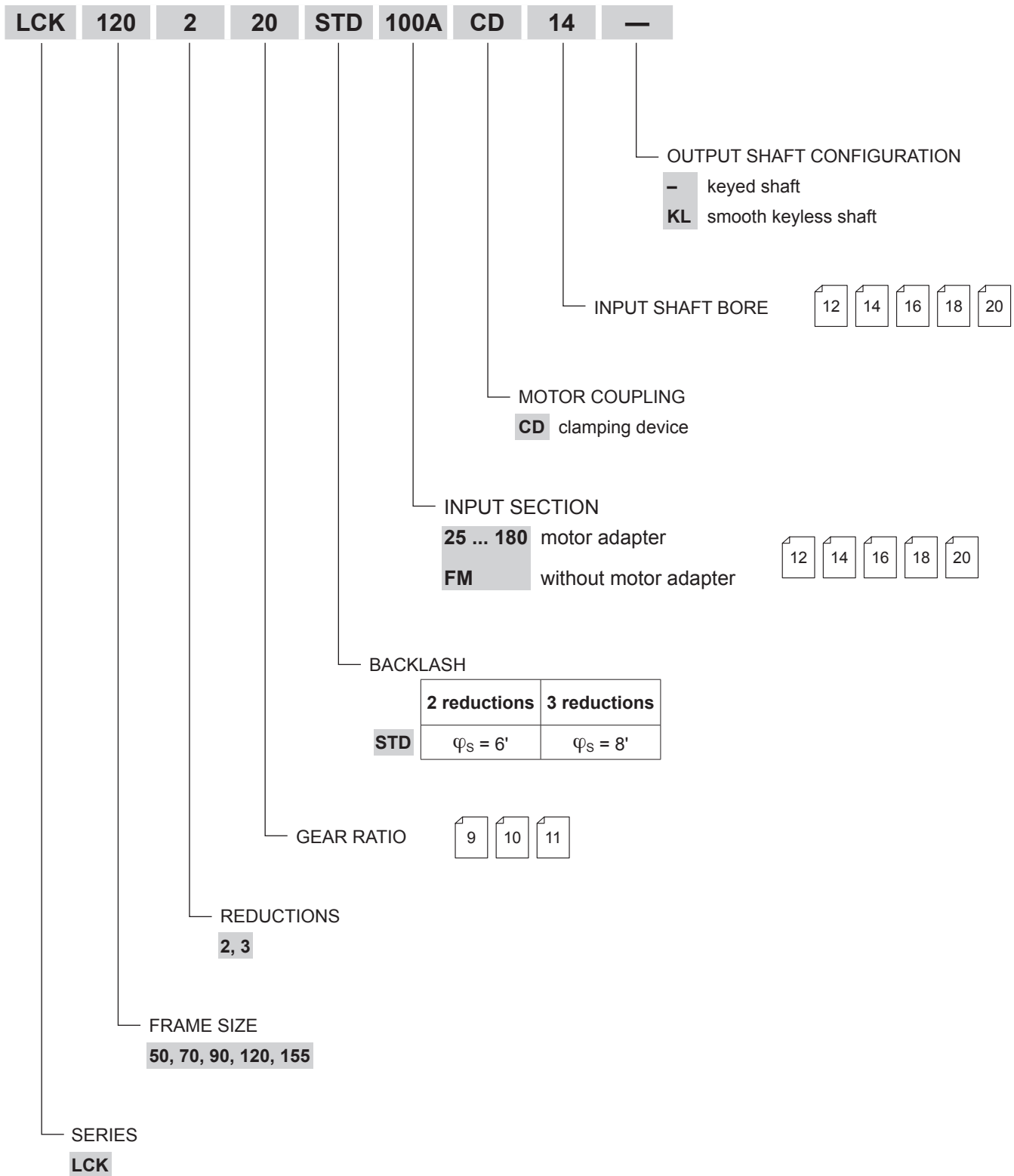
Maximum forces	$R_{2 \text{ MAX}}$ $A_{2 \text{ MAX}}$	[N] [N]	Please consider the specific conditions (e.g. belt drives under acceleration torque)	(1.1)
Maximum tilting moment	$M_{T2 \text{ MAX}}$	[Nm]	$M_{T2 \text{ MAX}} = \frac{R_{2 \text{ MAX}} \cdot (x + L_Z) \pm A_{2 \text{ MAX}} \cdot y}{1000}$	(1.2)
Equivalent forces	$R_{2 \text{ EQU}}$ $A_{2 \text{ EQU}}$	[N] [N]	$R_{2 \text{ EQU}} = \sqrt[3]{\frac{n_{2(1)} \cdot t_1 \cdot R_{2(1)} ^3 + \dots + n_{2(n)} \cdot t_n \cdot R_{2(n)} ^3}{n_{2(1)} \cdot t_1 + \dots + n_{2(n)} \cdot t_n}}$ $A_{2 \text{ EQU}} = \sqrt[3]{\frac{n_{2(1)} \cdot t_1 \cdot A_{2(1)} ^3 + \dots + n_{2(n)} \cdot t_n \cdot A_{2(n)} ^3}{n_{2(1)} \cdot t_1 + \dots + n_{2(n)} \cdot t_n}}$	(2.1)
Equivalent tilting moment	$M_{T2 \text{ EQU}}$	[Nm]	$M_{T2 \text{ EQU}} = \frac{R_{2 \text{ EQU}} \cdot (x + L_Z) + A_{2 \text{ EQU}} \cdot y}{1000}$	(2.2)
Equivalent output speed	$n_{2 \text{ EQU}}$	[min ⁻¹]	$n_{2 \text{ EQU}} = \frac{n_{2(1)} \cdot t_1 + n_{2(2)} \cdot t_2 + \dots + n_{2(n)} \cdot t_n}{t_1 + t_2 + \dots + t_n}$	(2.3)
Bearings' basic rating life	L_{10h}	[h]	$L_{10h} = \frac{16666}{n_{2 \text{ EQU}}} \cdot \left(\frac{C_B}{M_{T2 \text{ EQU}}} \right)^p$	(2.4)

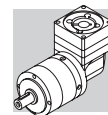
	LCK 50	LCK 70	LCK 90	LCK 120	LCK 155
L_Z	22	28	30	39	46
M_{T2 ref}	15	54	105	238	522
C_B	106	280	298	813	1588
p	3	3	3	3	3



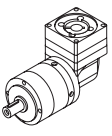



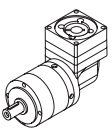

1.5 ORDERING CODE

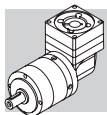




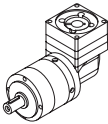
2 TECHNICAL SPECIFICATIONS AND MASS MOMENT OF INERTIA

LCK 50												
	i	M_{n2} [Nm]	M_{a2} [Nm]	M_{p2} [Nm]	$n_{1\text{ ref}}$ [min ⁻¹]	$n_{1\text{ max}}$ [min ⁻¹]	φ_s [arcmin]	R_{n2} [N]	A_{n2} [N]	η %	 J_G [kgcm ²]	
											$6 \leq D \leq 9.52$	$10 \leq D \leq 14$
LCK 50 2_6	6	10	16	28	2400	5000	6'	500	600	94	0.23	0.25
LCK 50 2_8	8	12	20	30	2400	5000	6'	500	600	94	0.23	0.24
LCK 50 2_10	10	12	20	30	2400	5000	6'	500	600	94	0.23	0.24
LCK 50 2_14	14	12	20	30	2400	5000	6'	500	600	94	0.23	0.24
LCK 50 3_24	24	12	20	30	2400	5000	8'	500	600	91	0.23	0.25
LCK 50 3_30	30	12	20	30	2000	5000	8'	500	600	91	0.23	0.25
LCK 50 3_50	50	12	20	30	2400	5000	8'	500	600	91	0.23	0.24
LCK 50 3_70	70	12	20	30	2400	5000	8'	500	600	91	0.23	0.24
LCK 50 3_90	90	12	20	30	2400	5000	8'	500	600	91	0.22	0.24

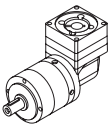
LCK 70												
	i	M_{n2} [Nm]	M_{a2} [Nm]	M_{p2} [Nm]	$n_{1\text{ ref}}$ [min ⁻¹]	$n_{1\text{ max}}$ [min ⁻¹]	φ_s [arcmin]	R_{n2} [N]	A_{n2} [N]	η %	 J_G [kgcm ²]	
											$6 \leq D \leq 9.52$	$10 \leq D \leq 14$
LCK 70 2_6	6	18	30	45	2400	5000	6'	1300	1400	94	0.25	0.26
LCK 70 2_8	8	25	35	60	2400	5000	6'	1300	1400	94	0.24	0.25
LCK 70 2_10	10	25	35	70	2400	5000	6'	1300	1400	94	0.23	0.25
LCK 70 2_14	14	25	35	70	2400	5000	6'	1300	1400	94	0.23	0.24
LCK 70 2_20	20	18	30	60	2400	5000	6'	1300	1400	94	0.23	0.24
LCK 70 3_24	24	25	35	70	2400	5000	8'	1300	1400	91	0.24	0.26
LCK 70 3_30	30	25	35	70	2400	5000	8'	1300	1400	91	0.24	0.26
LCK 70 3_50	50	25	35	70	2400	5000	8'	1300	1400	91	0.23	0.24
LCK 70 3_70	70	25	35	70	2400	5000	8'	1300	1400	91	0.23	0.24
LCK 70 3_80	80	25	35	70	2400	5000	8'	1300	1400	91	0.23	0.24
LCK 70 3_100	100	25	35	70	2400	5000	8'	1300	1400	91	0.23	0.24

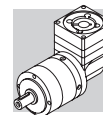


LCK 90

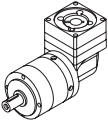
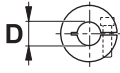
	i	M _{n2} [Nm]	M _{a2} [Nm]	M _{p2} [Nm]	n _{1 ref} [min ⁻¹]	n _{1 max} [min ⁻¹]	φ _s [arcmin]	R _{n2} [N]	A _{n2} [N]	η %	J _G [kgcm ²]	
											8 ≤ D ≤ 12.7	14 ≤ D ≤ 19.05
LCK 90 2_6	6	30	55	90	1600	5000	6'	2200	1900	94	0.85	1.03
LCK 90 2_8	8	32	60	120	1500	5000	6'	2200	1900	94	0.79	0.98
LCK 90 2_10	10	32	60	150	1700	5000	6'	2200	1900	94	0.77	0.96
LCK 90 2_14	14	35	70	160	1600	5000	6'	2200	1900	94	0.75	0.94
LCK 90 2_20	20	37	70	150	1700	5000	6'	2200	1900	94	0.74	0.93
LCK 90 3_24	24	43	80	160	1900	5000	8'	2200	1900	91	0.81	1.00
LCK 90 3_30	30	43	80	160	2400	5000	8'	2200	1900	91	0.81	1.00
LCK 90 3_50	50	43	80	160	2400	5000	8'	2200	1900	91	0.76	0.94
LCK 90 3_70	70	43	80	160	2400	5000	8'	2200	1900	91	0.74	0.93
LCK 90 3_80	80	43	80	160	2400	5000	8'	2200	1900	91	0.74	0.93
LCK 90 3_100	100	43	80	160	2400	5000	8'	2200	1900	91	0.74	0.93

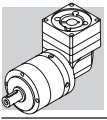
LCK 120

	i	M _{n2} [Nm]	M _{a2} [Nm]	M _{p2} [Nm]	n _{1 ref} [min ⁻¹]	n _{1 max} [min ⁻¹]	φ _s [arcmin]	R _{n2} [N]	A _{n2} [N]	η %	J _G [kgcm ²]		
											11 ≤ D ≤ 12.7	14 ≤ D ≤ 19	22 ≤ D ≤ 24
LCK 120 2_6	6	85	150	225	1500	4500	6'	3500	3000	94	1.74	1.82	2.01
LCK 120 2_8	8	90	140	300	1500	4500	6'	3500	3000	94	1.52	1.60	1.79
LCK 120 2_10	10	90	140	360	1700	4500	6'	3500	3000	94	1.44	1.52	1.71
LCK 120 2_14	14	95	140	360	1800	4500	6'	3500	3000	94	1.37	1.45	1.63
LCK 120 2_20	20	95	160	300	2000	4500	6'	3500	3000	94	1.32	1.40	1.59
LCK 120 3_24	24	110	190	360	2000	4500	8'	3500	3000	91	1.64	1.72	1.90
LCK 120 3_30	30	110	190	360	2000	4500	8'	3500	3000	91	1.63	1.71	1.89
LCK 120 3_50	50	110	190	360	2000	4500	8'	3500	3000	91	1.40	1.48	1.67
LCK 120 3_70	70	110	190	360	2000	4500	8'	3500	3000	91	1.34	1.42	1.61
LCK 120 3_80	80	110	190	360	2000	4500	8'	3500	3000	91	1.31	1.39	1.58
LCK 120 3_100	100	110	190	360	2000	4500	8'	3500	3000	91	1.31	1.39	1.58



LCK 155

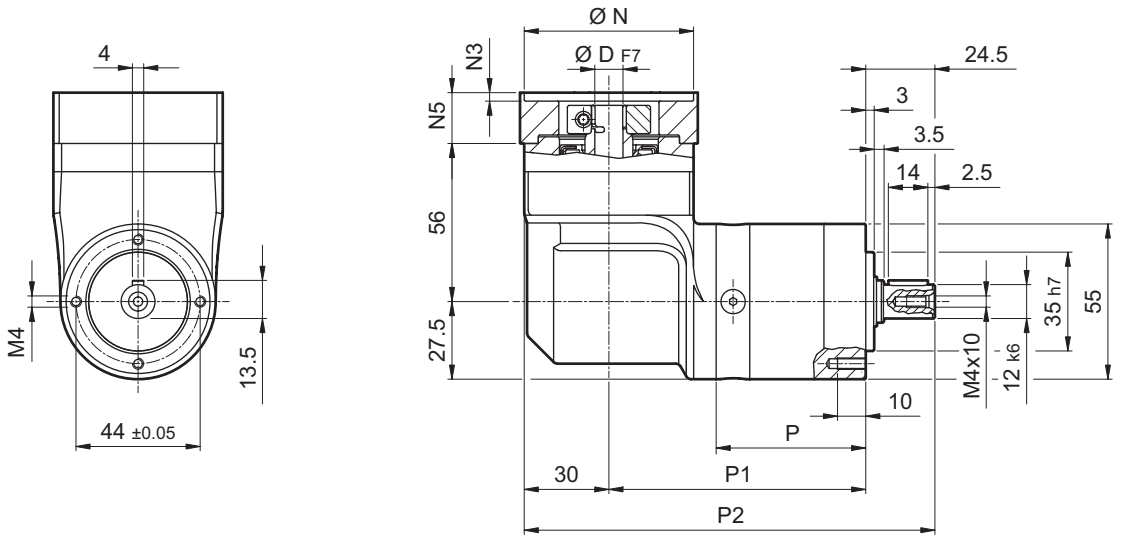
	i	M _{n2} [Nm]	M _{a2} [Nm]	M _{p2} [Nm]	n _{1 ref} [min ⁻¹]	n _{1 max} [min ⁻¹]	φ _s [arcmin]	R _{n2} [N]	A _{n2} [N]	η %	 J _G [kgcm ²]		
											14 ≤ D ≤ 19	22 ≤ D ≤ 24	D = 28
LCK 155 2_6	6	250	360	510	1600	4500	6'	6000	5000	94	7.94	8.13	8.53
LCK 155 2_8	8	300	450	680	1600	4500	6'	6000	5000	94	7.11	7.30	7.70
LCK 155 2_10	10	300	450	850	1600	4500	6'	6000	5000	94	6.78	6.96	7.36
LCK 155 2_14	14	300	450	900	1600	4500	6'	6000	5000	94	6.48	6.67	7.07
LCK 155 2_20	20	230	350	750	1600	4500	6'	6000	5000	94	6.31	6.49	6.90
LCK 155 3_24	24	300	450	900	1600	4500	8'	6000	5000	91	7.18	7.37	7.77
LCK 155 3_30	30	300	450	900	1600	4500	8'	6000	5000	91	7.14	7.33	7.73
LCK 155 3_50	50	300	450	900	1600	4500	8'	6000	5000	91	6.49	6.68	7.08
LCK 155 3_70	70	300	450	900	1600	4500	8'	6000	5000	91	6.33	6.52	6.92
LCK 155 3_80	80	300	450	700	1600	4500	8'	6000	5000	91	6.25	6.43	6.83
LCK 155 3_100	100	300	450	900	1600	4500	8'	6000	5000	91	6.24	6.43	6.83



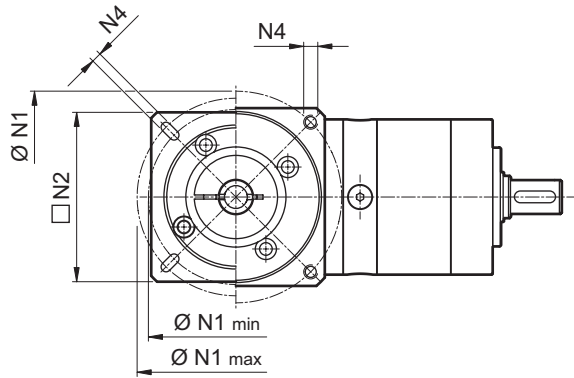
LCK 50

3 DIMENSIONS

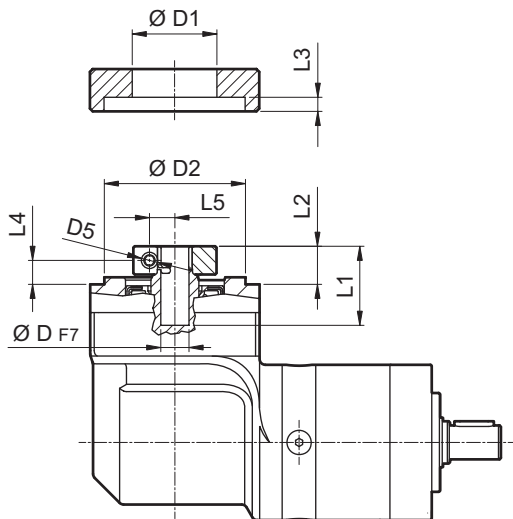
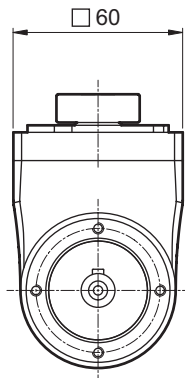
LCK 50



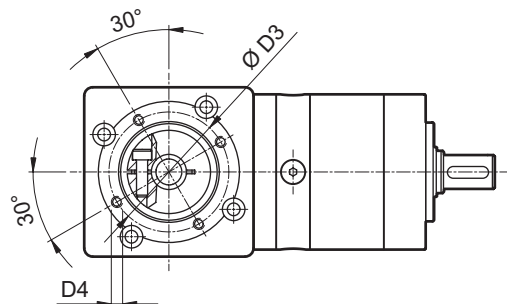
	P	P1	P2
LCK 50 2	53	91	145.5
LCK 50 3	66.8	104.8	159.3

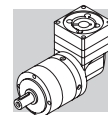



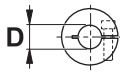
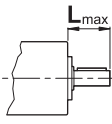
LCK 50 FM

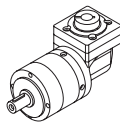
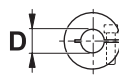


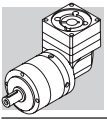
	Kg
LCK 50 2	1.6
LCK 50 3	1.8





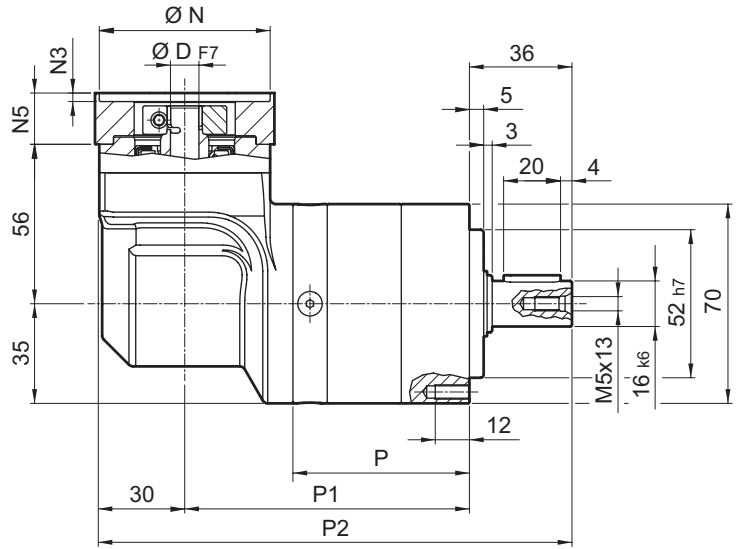
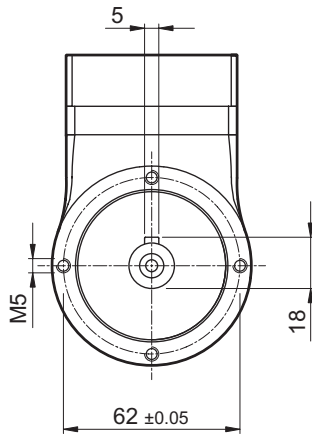
												N	N1		N2	N3	N4	N5	
	min	max																	
25AH	6	6.35	7	8	9	9.52	-	-	-	-	-	25	39	56					
26AH	6	6.35	7	8	9	9.52	-	-	-	-	-	26	39	56					
28AH	6	6.35	7	8	9	9.52	-	-	-	-	-	28	39	56					
30AH	6	6.35	7	8	9	9.52	-	-	-	-	-	30	39	56					
32AH	6	6.35	7	8	9	9.52	-	-	-	-	-	32	40	56	55	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	-	-	-	-	-	34	42	56					
36AH	6	6.35	7	8	9	9.52	-	-	-	-	-	36	44	56					
39AH	6	6.35	7	8	9	9.52	-	-	-	-	-	39	47	56					
40AH	6	6.35	7	8	9	9.52	-	-	-	-	-	40	48	56					
38A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	38.1	66.6	60	3	M4x10	18	25	
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	-	40	63	60	3	M4x10	18	25	
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	50	60	60	3	M4x10	18	25	
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65	60	3	M5x12	23	30	
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65	65	3	5	23	30	
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70	60	3	M4x10	23	30	
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	-	55	80	65	2	5.5	16	23	
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	60	75	63	3	M5x12	18	25	
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75	63	3	M5x12	23	30	
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85	75	3	M5x12	23	30	
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90	75	3	M5x12	23	30	
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85	75	3	M6x15	23	30	
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90	75	3	M5x12	23	30	
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4	85	3	M5x12	25	32	
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100	85	3	M6x15	23	30	

					D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
	D													
LCK 50	6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8
	8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9
	11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11
	14				35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11.5

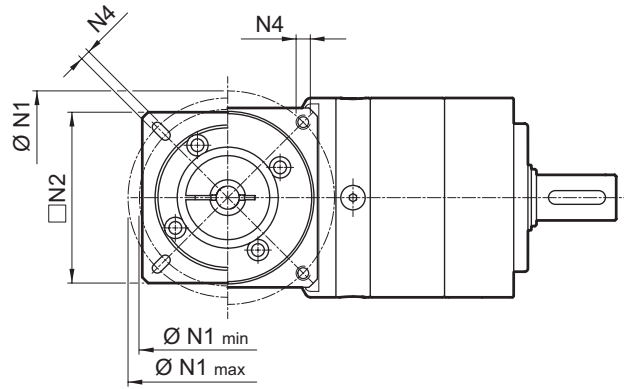


LCK 70

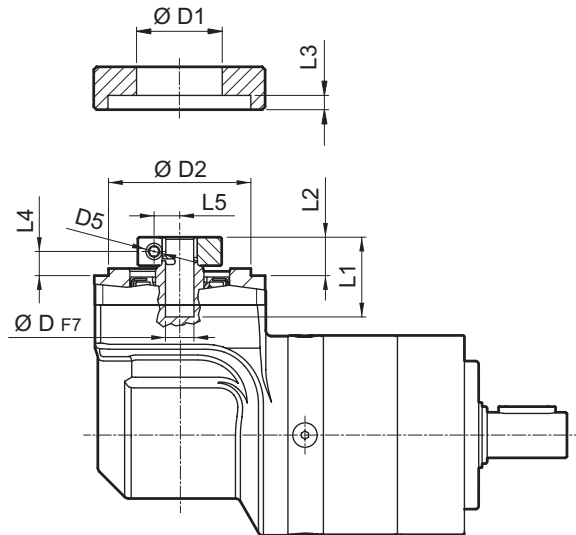
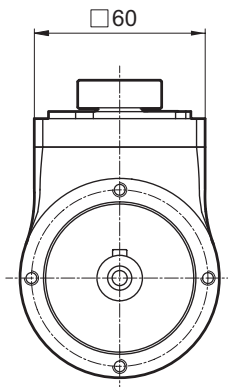
LCK 70




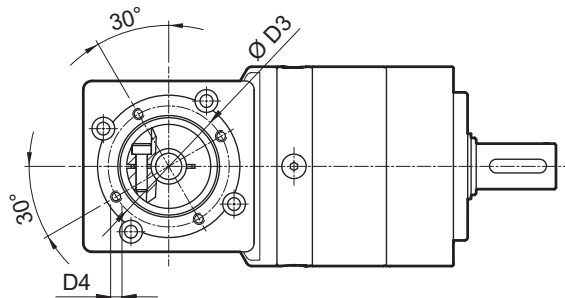
	P	P1	P2
LCK 70 2	62	100	166
LCK 70 3	78.7	116.7	182.7

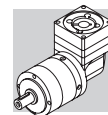



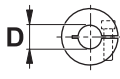
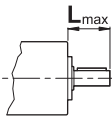
LCK 70 FM

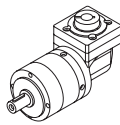
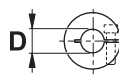


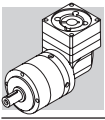
	 Kg
LCK 70 2	2.7
LCK 70 3	3.0





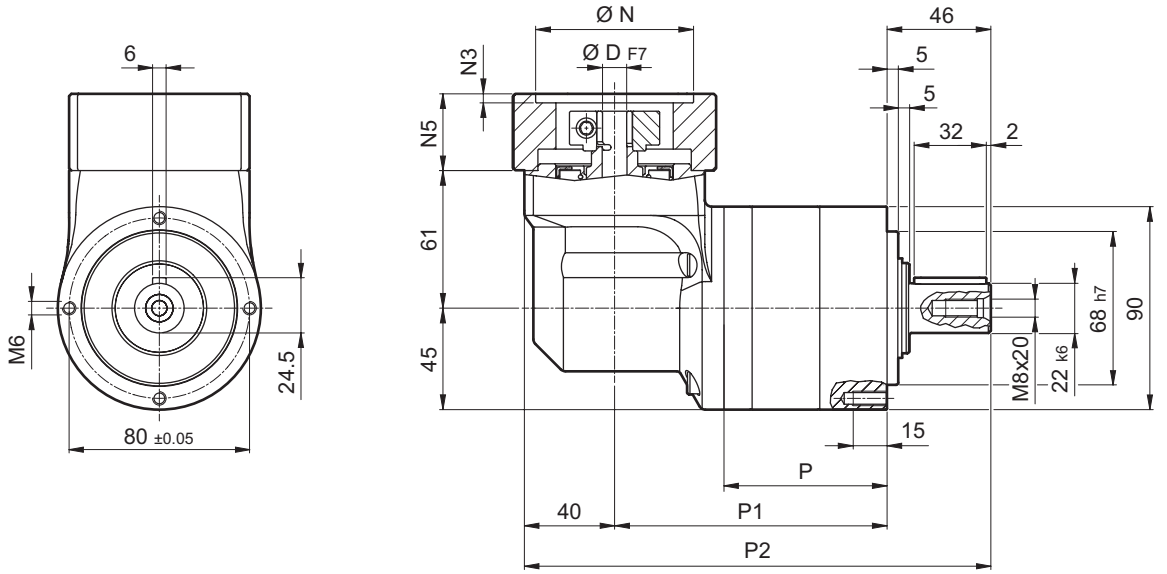
												N	N1		N2	N3	N4	N5	
	min	max																	
25AH	6	6.35	7	8	9	9.52	-	-	-	-	-	25	39	56					
26AH	6	6.35	7	8	9	9.52	-	-	-	-	-	26	39	56					
28AH	6	6.35	7	8	9	9.52	-	-	-	-	-	28	39	56					
30AH	6	6.35	7	8	9	9.52	-	-	-	-	-	30	39	56					
32AH	6	6.35	7	8	9	9.52	-	-	-	-	-	32	40	56	55	3.5	4.5	25	25
34AH	6	6.35	7	8	9	9.52	-	-	-	-	-	34	42	56					
36AH	6	6.35	7	8	9	9.52	-	-	-	-	-	36	44	56					
39AH	6	6.35	7	8	9	9.52	-	-	-	-	-	39	47	56					
40AH	6	6.35	7	8	9	9.52	-	-	-	-	-	40	48	56					
38A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	38.1	66.6	60	3	M4x10	18	25	
40B	6	6.35	7	8	9	9.52	10	11	12	12.7	-	40	63	60	3	M4x10	18	25	
50A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	50	60	60	3	M4x10	18	25	
50B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65	60	3	M5x12	23	30	
50BH	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	65	65	3	5	23	30	
50C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	50	70	60	3	M4x10	23	30	
55MH	6	6.35	7	8	9	9.52	10	11	12	12.7	-	55	80	65	2	5.5	16	23	
60A	6	6.35	7	8	9	9.52	10	11	12	12.7	-	60	75	63	3	M5x12	18	25	
60A1	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	75	63	3	M5x12	23	30	
60B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	85	75	3	M5x12	23	30	
60C	6	6.35	7	8	9	9.52	10	11	12	12.7	14	60	90	75	3	M5x12	23	30	
70A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	85	75	3	M6x15	23	30	
70B	6	6.35	7	8	9	9.52	10	11	12	12.7	14	70	90	75	3	M5x12	23	30	
73A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	73	98.4	85	3	M5x12	25	32	
80A	6	6.35	7	8	9	9.52	10	11	12	12.7	14	80	100	85	3	M6x15	23	30	

					D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
	D													
LCK 70	6	6.35	7		32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	8
	8	9	9.52	10	32.5	50	42.5	M4x8	M4	28	13.5	3	8.5	9
	11	12	12.7		35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11
	14				35.5	50	42.5	M4x8	M4	23	13.5	3	8.5	11.5

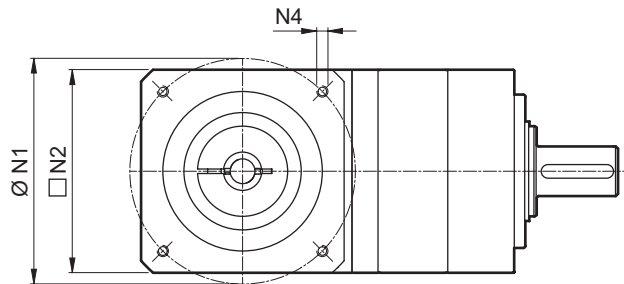


LCK 90

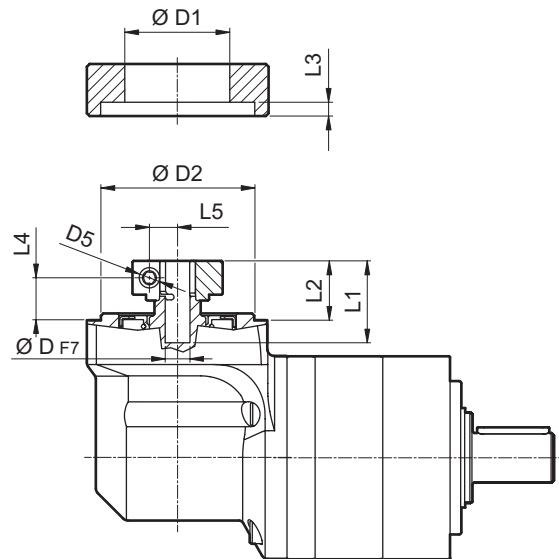
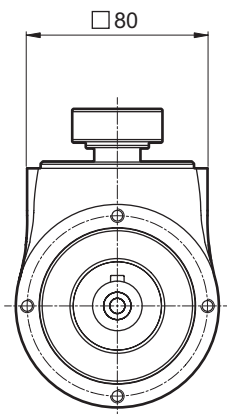
LCK 90




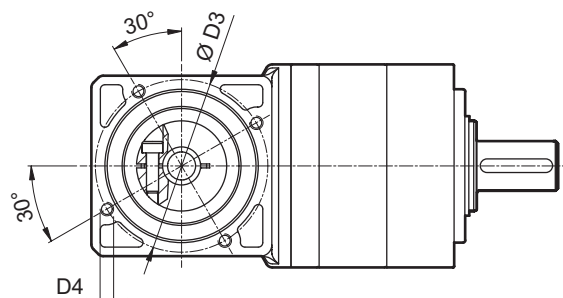
	P	P1	P2
LCK 90 2	72.3	120.8	206.8
LCK 90 3	98.8	147.3	233.3

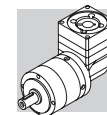



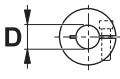
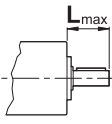
LCK 90 FM

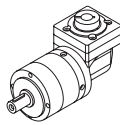
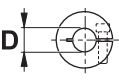


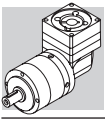
	
LCK 90 2	5.5
LCK 90 3	6.5





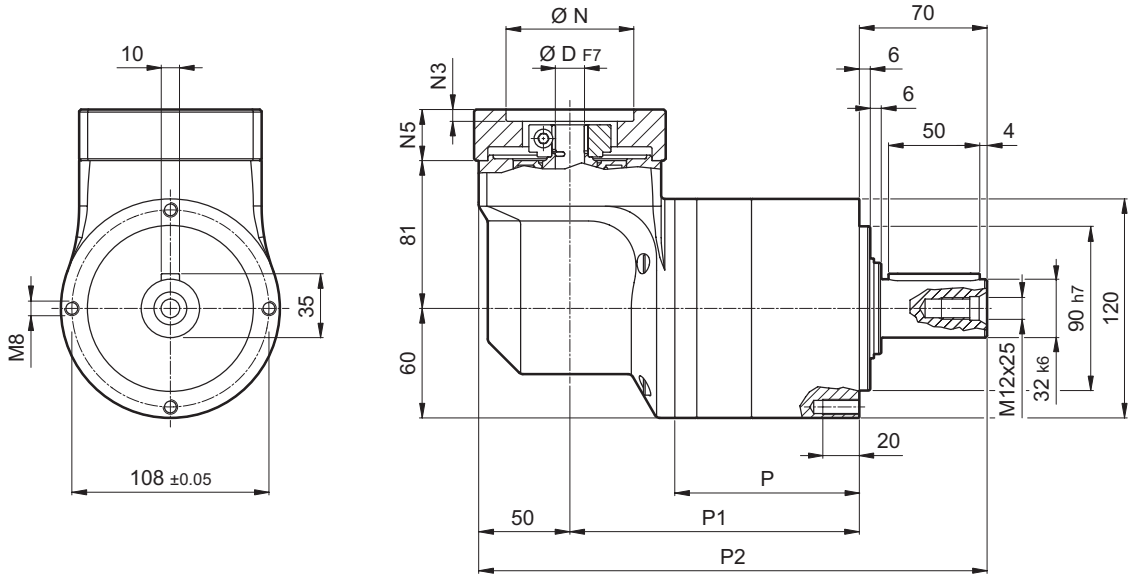
												N	N1	N2	N3	N4	N5		
40B	8	9	9.52	-	-	-	-	-	-	-	-	40	63	80	4	M4x10	34	40	
45A	8	9	9.52	11	12	12.7	-	-	-	-	-	45	63	80	4	M4x10	34	40	
50B	8	9	9.52	11	12	12.7	14	-	-	-	-	50	65	80	4	M5x16	34	40	
50BH	8	9	9.52	11	12	12.7	14	-	-	-	-	50	65	80	4	5.5	34	40	
50C	8	9	9.52	11	12	12.7	14	-	-	-	-	50	70	80	4	M4x10	34	40	
50D	8	9	9.52	11	12	12.7	14	-	-	-	-	50	95	80	4	M6x10	34	40	
55A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	55.5	127.5	105	4	M6x16	34	40
60A	8	9	9.52	11	12	12.7	14	-	-	-	-	60	75	80	4	M5x16	34	40	
60AH	8	9	9.52	11	12	12.7	14	-	-	-	-	60	75	90	4	5.5	34	40	
60B	8	9	9.52	11	12	12.7	14	15.875	16	-	-	60	85	80	4	M5x16	34	40	
60C	8	9	9.52	11	12	12.7	14	15.875	16	-	-	60	90	80	4	M5x16	34	40	
60MH	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	60	108.5	90	2	6.5	20	26
70A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	80	4	M6x20	34	40
70AH	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	85	90	4	6.5	34	40
70B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	70	90	80	4	M5x16	34	40
73A	8	9	9.52	11	12	12.7	14	-	-	-	-	73	98.4	85	4	M5x16	34	40	
78AH	8	9	9.52	11	12	12.7	14	-	-	-	-	78	63.5	90	4	6.5	34	40	
80A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	80	100	90	4	M6x16	34	40
95A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	115	100	4	M8x20	34	40
95B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	95	130	115	4	M8x20	34	40
110A	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	130	115	4	M8x20	34	40
110B	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	44	50
110B1	8	9	9.52	11	12	12.7	14	15.875	16	17	19	19.05	110	145	120	6.5	M8x20	54	60

				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	
LCK 90	8	9	9.52	38	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	10.5	
	11	12	12.7	43	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	12.5	
	14	15.875	16	17	48	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	14.5
	19	19.05	51	68	76.5	M6x10	M6	36.3	26.3	9.5	18.8	16.5		

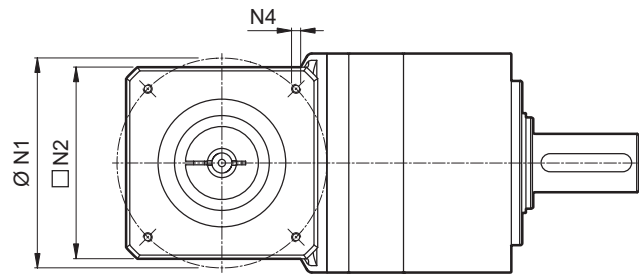


LCK 120

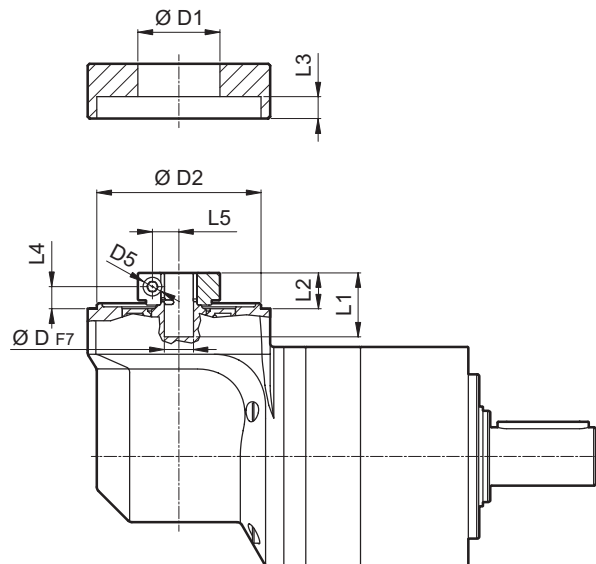
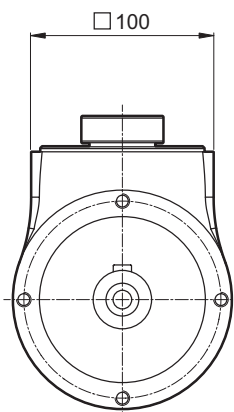
LCK 120



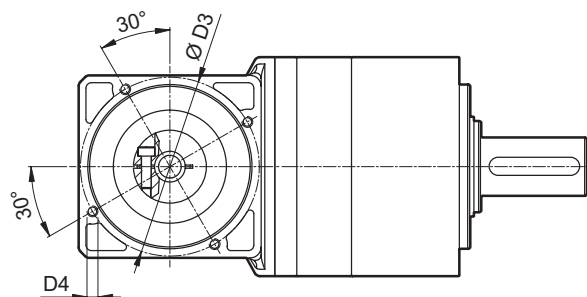
	P	P1	P2
LCK 120 2	101.1	158.6	278.6
LCK 120 3	133.6	191.1	311.1

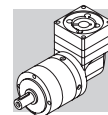



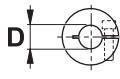
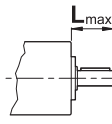
LCK 120 FM

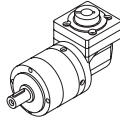
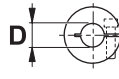


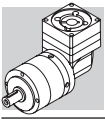
	Kg
LCK 120 2	12.0
LCK 120 3	14.0





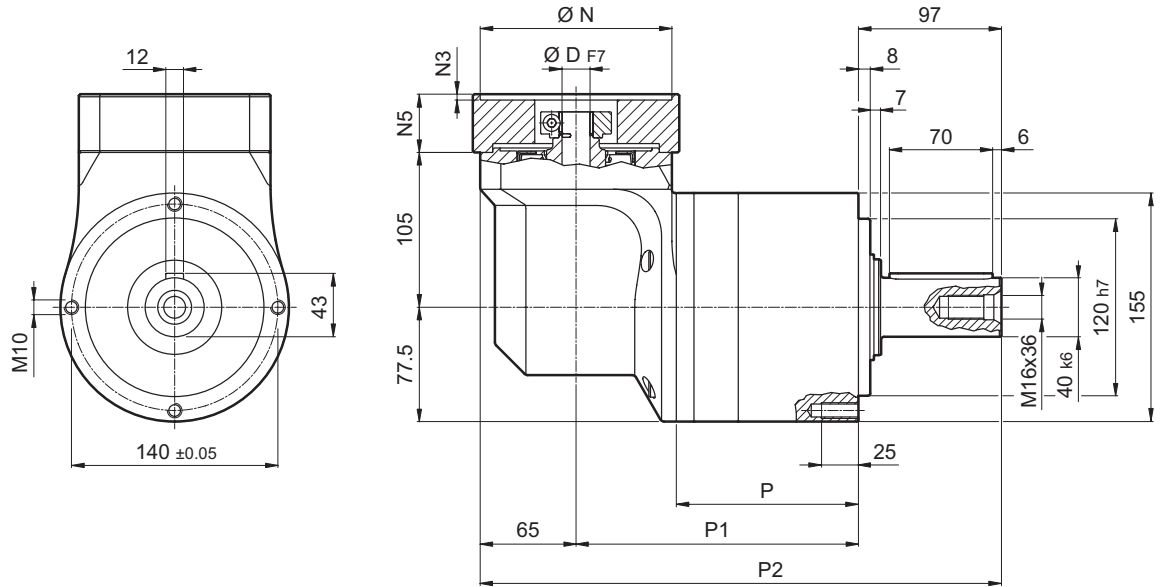
												N	N1	N2	N3	N4	N5	
50D	11	12	12.7	14	15	15.875	16	19	-	-	50	95	100	5	M6x14	28	40	
55A	11	12	12.7	14	15	15.875	16	19	-	-	55.5	125.7	105	5	M6x16	28	40	
60A	11	12	12.7	14	15	15.875	16	19	-	-	60	75	100	5	M5x14	28	40	
60AH	11	12	12.7	14	15	15.875	16	19	-	-	60	75	100	5	6.5	33	40	
60B	11	12	12.7	14	15	15.875	16	19	-	-	60	85	100	6.5	M5x14	28	40	
70A	11	12	12.7	14	15	15.875	16	19	-	-	70	85	100	5	M6x14	28	40	
70AH	11	12	12.7	14	15	15.875	16	19	-	-	70	85	100	5	6	33	40	
70B	11	12	12.7	14	15	15.875	16	19	-	-	70	90	100	5	M5x12	28	40	
80A	11	12	12.7	14	15	15.875	16	19	-	-	80	100	100	5	M6x16	28	40	
80AH	11	12	12.7	14	15	15.875	16	19	-	-	80	100	100	5	6.5	28	40	
95A	11	12	12.7	14	15	15.875	16	19	-	-	95	115	100	5	M8x18	28	40	
95A1	11	12	12.7	14	15	15.875	16	19	22	24	95	115	100	5	M8x18	38	50	
95B	11	12	12.7	14	15	15.875	16	19	-	-	95	130	115	5	M8x18	28	40	
110A	11	12	12.7	14	15	15.875	16	19	-	-	110	130	115	5	M8x18	28	40	
110A1	11	12	12.7	14	15	15.875	16	19	22	24	110	130	115	6.5	M8x20	38	50	
110B	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	38	50	
110B1	11	12	12.7	14	15	15.875	16	19	22	24	110	145	120	6.5	M8x20	48	60	
130A	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x20	38	50	
130A1	11	12	12.7	14	15	15.875	16	19	22	24	130	165	140	6.5	M10x25	48	60	

					D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
LCK 120	11	12	12.7		43	90	98	M6x15	M6	35	19.5	7.6	12.1	12.5
	14	15	15.875	16	48	90	98	M6x15	M6	35	19.5	7.6	12.1	14.5
	19				51	90	98	M6x15	M6	35	19.5	7.6	12.1	16.5
	22	24			56.5	90	98	M6x15	M6	37	21.5	7.6	12.1	19

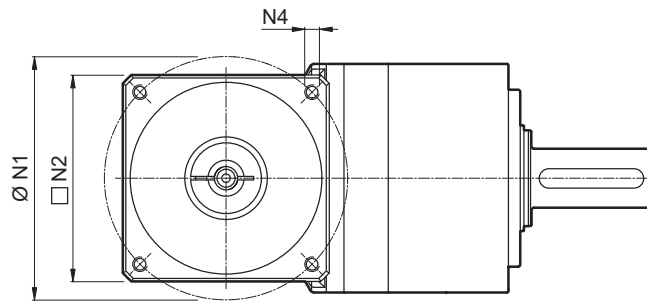


LCK 155

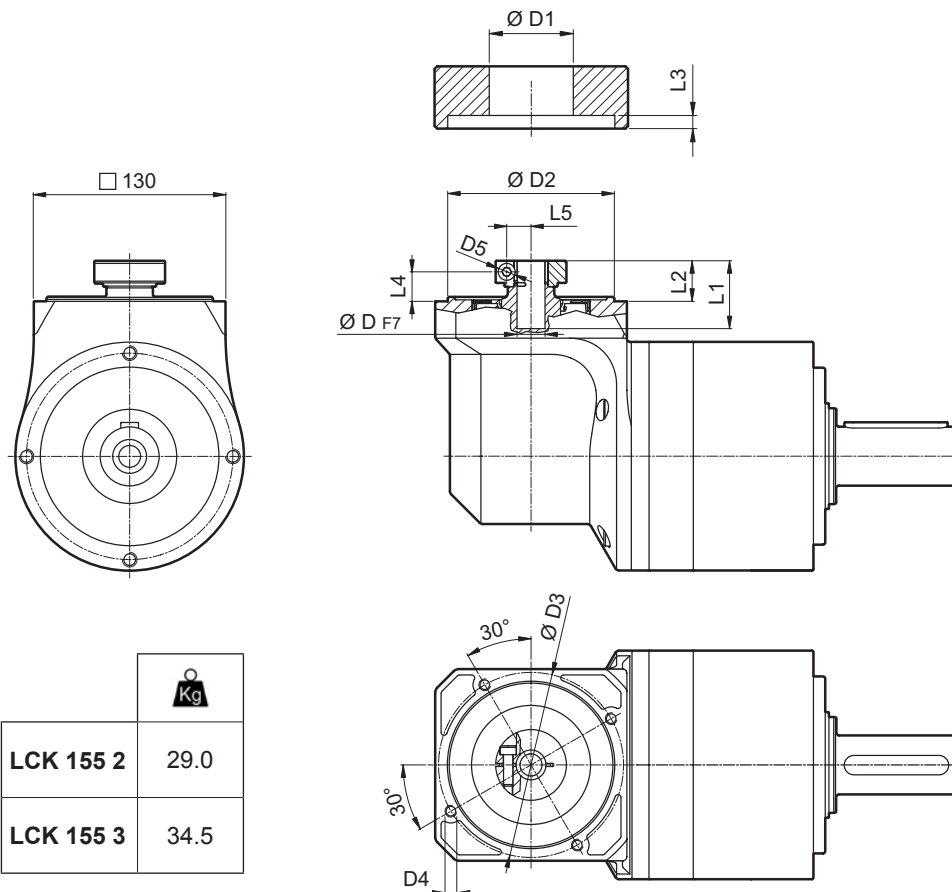
LCK 155



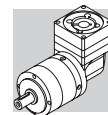
	P	P1	P2
LCK 155 2	123.5	191.5	353.5
LCK 155 3	163	231	393


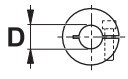
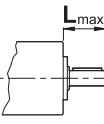


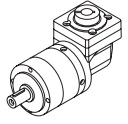
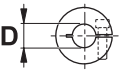
LCK 155 FM

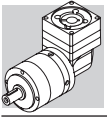


LCK 155 2	29.0
LCK 155 3	34.5



								N	N1	N2	N3	N4	N5	
55A	14	15.875	16	19	-	-	-	55.5	125.7	130	4	M6x15	39.5	50
80A	14	15.875	16	19	-	-	-	80	100	130	4	M6x15	39.5	50
95A	14	15.875	16	19	22	24	-	95	115	130	4	M8x20	39.5	50
110A	14	15.875	16	19	22	24	-	110	130	130	4	M8x20	39.5	50
110B	14	15.875	16	19	22	24	-	110	145	130	6.5	M8x20	49.5	60
114A	14	15.875	16	19	22	24	28	114.3	200	170	5.5	M12x25	69.5	80
130A	14	15.875	16	19	22	24	-	130	165	140	4	M10x20	39.5	50
130A1	14	15.875	16	19	22	24	28	130	165	140	4	M10x20	49.5	60
180A	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	49.5	60
180A1	14	15.875	16	19	22	24	28	180	215	190	5.5	M14x25	69.5	80

				D1	D2	D3	D4	D5	L1	L2	L3	L4	L5
LCK 155	14	15.875	16	48	113	125.5	M8x15	M6	46	27.5	6	20	14.5
	19			51	113	125.5	M8x15	M6	46	27.5	6	20	16.5
	22	24		56.5	113	125.5	M8x15	M6	47.5	29	6	20	19
	28			67	113	125.5	M8x15	M8	47.5	29	6	20	22.5



INDEX OF REVISIONS (R)

R0

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