

4 Technical data 8LSA5 version 3

Product ID	8LSA53. ee030ffgg-3	8LSA53. ee045ffgg-3	8LSA54. ee020ffgg-3	8LSA54. ee030ffgg-3	8LSA54. ee045ffgg-3	8LSA55. ee022ffgg-3
Motor						
Nominal speed n_N [min ⁻¹]	3000	4500	2000	3000	4500	2200
Number of pole pairs	4					
Nominal torque M_N [Nm]	4	3.9	8.1	7.7	7.3	11.8
Nominal power P_N [W]	1257	1838	1696	2419	3440	2719
Nominal current I_N [A]	2.5	3.6	3.3	4.7	6.7	5.3
Stall torque M_0 [Nm]	4.5		9		12.5	
Stall current I_0 [A]	2.8	4.1	3.7	5.5	8.2	5.6
Maximum torque M_{max} [Nm]	13.8		27.6		41.4	
Maximum current I_{max} [A]	10.5	16.5	14.6	20.9	33	23.6
Maximum speed n_{max} [rpm]	9000					
Torque constant K_T [Nm/A]	1.63	1.09	2.44	1.63	1.09	2.22
Voltage constant K_E [V/1000 rpm]	98.44	65.97	147.65	98.44	65.97	134.04
Stator resistance R_{zph} [Ω]	5.13	2.222	4.026	2.16	0.926	2.265
Stator inductance L_{zph} [mH]	40.33	19.33	44.37	21.52	8.67	24.29
Electrical time constant t_{el} [ms]	7.9	8.7	11	10.6	10.9	10.7
Thermal time constant t_{therm} [min]	33		37		40	
Moment of inertia J [kgcm ²]	3.62		6.04		8.19	
Weight without brake m [kg]	6.2		8.5		10.4	
Holding brake						
Holding torque of the brake M_{Br} [Nm]	15					
Weight of brake [kg]	1.49		1.43		1.47	
Moment of inertia for the brake J_{Br} [kgcm ²]	1.66					
Recommendations						
ACOPOS servo drive 8Vxxxx.xx...	1045		1090			
ACOPOSmulti inverter module 8BVlxxxx...	0028	0055		0110	0055	
Cross section for B&R motor cables [mm ²]	1.5				4	1.5
Connector type	SpeedTec					
Connector size	1.0					

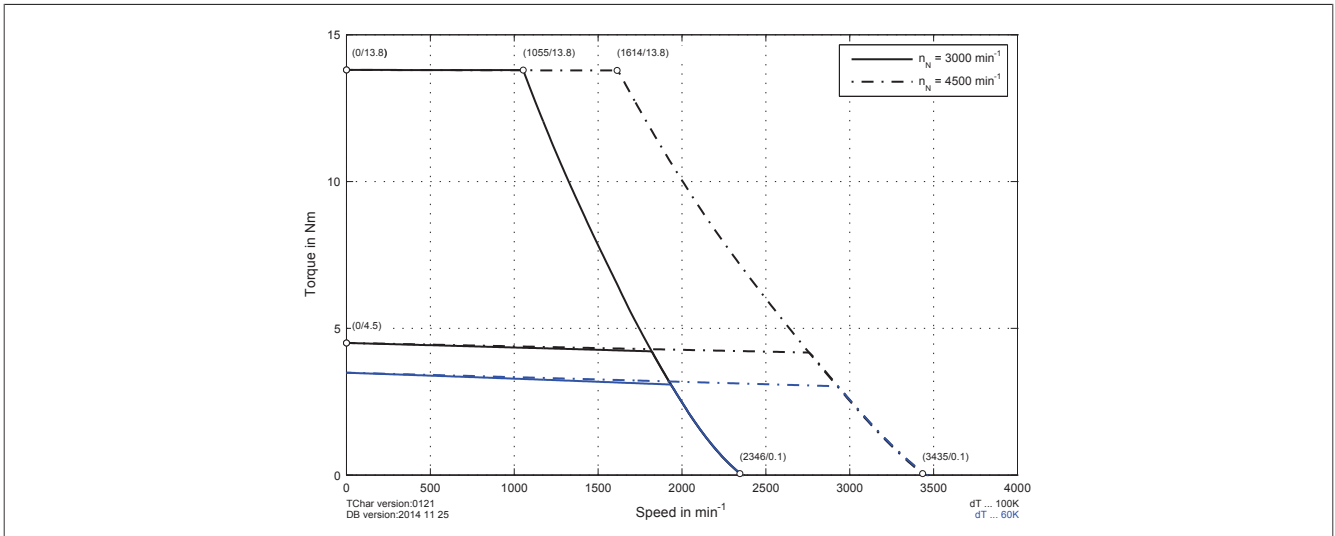
Technical data 8LSA5 version 3

Product ID	8LSA55.ee030ffgg-3	8LSA55.ee045ffgg-3	8LSA56.ee022ffgg-3	8LSA56.ee030ffgg-3	8LSA56.ee045ffgg-3
Motor					
Nominal speed n_N [min ⁻¹]	3000	4500	2200	3000	4500
Number of pole pairs	4				
Nominal torque M_N [Nm]	11.6	9.5	14.4	13.9	12.7
Nominal power P_N [W]	3644	4477	3318	4367	5985
Nominal current I_N [A]	7.1	8.7	6.5	8.5	11.6
Stall torque M_0 [Nm]	12.5		16		
Stall current I_0 [A]	7.7	11.5	7.2	9.8	14.7
Maximum torque M_{max} [Nm]	41.4		55.2		
Maximum current I_{max} [A]	33	47.3	30.8	41.8	65.9
Maximum speed n_{max} [rpm]	9000				
Torque constant K_T [Nm/A]	1.63	1.09	2.22	1.63	1.09
Voltage constant K_E [V/1000 rpm]	98.44	65.97	134.04	98.44	65.97
Stator resistance R_{zph} [Ω]	1.127	0.51	1.51	0.75	0.341
Stator inductance L_{zph} [mH]	12.5	4.96	17.6	8.16	4.08
Electrical time constant t_{el} [ms]	11.1	9.7	11.6	10.9	12
Thermal time constant t_{therm} [min]	40		43		
Moment of inertia J [kgcm ²]	8.19		10.66		
Weight without brake m [kg]	10.4		13		
Holding brake					
Holding torque of the brake M_{Br} [Nm]	15				
Weight of brake [kg]	1.47		1.44		
Moment of inertia for the brake J_{Br} [kgcm ²]	1.66				
Recommendations					
ACOPOS servo drive 8Vxxxx.xx...	1090	1180	1090	1180	
ACOPOS multi inverter module 8BVlxxxx...	0110				0220
Cross section for B&R motor cables [mm ²]	1.5	4	1.5	4	
Connector type	SpeedTec				
Connector size	1.0				

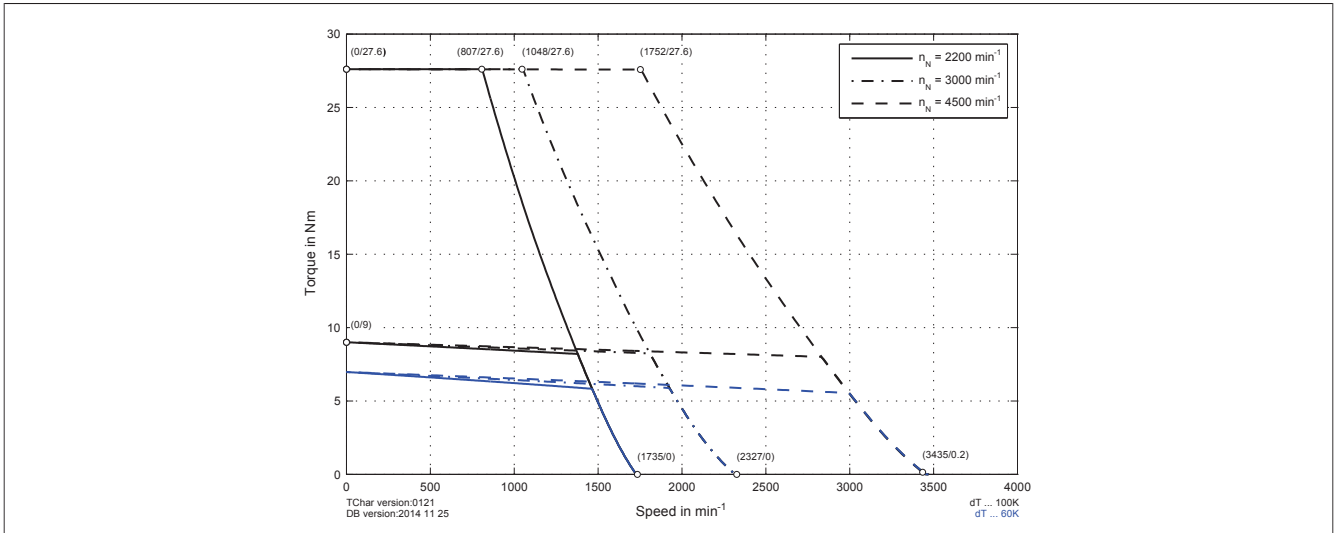
Product ID	8LSA57.ee022ffgg-3	8LSA57.ee030ffgg-3	8LSA57.ee045ffgg-3
Motor			
Nominal speed n_N [min ⁻¹]	2200	3000	4500
Number of pole pairs		4	
Nominal torque M_N [Nm]	18	17.5	15
Nominal power P_N [W]	4147	5498	7069
Nominal current I_N [A]	8.1	10.7	13.7
Stall torque M_0 [Nm]		20	
Stall current I_0 [A]	9	12.3	18.3
Maximum torque M_{max} [Nm]		69	
Maximum current I_{max} [A]	38.4	52.6	82.6
Maximum speed n_{max} [rpm]		9000	
Torque constant K_T [Nm/A]	2.22	1.63	1.09
Voltage constant K_E [V/1000 rpm]	134.04	98.44	65.97
Stator resistance R_{zph} [Ω]	1.13	0.62	0.29
Stator inductance L_{zph} [mH]	13.17	7.21	3.2
Electrical time constant t_{el} [ms]	11.7	11.6	11
Thermal time constant t_{therm} [min]		46	
Moment of inertia J [kgcm ²]		13.13	
Weight without brake m [kg]		14.5	
Holding brake			
Holding torque of the brake M_{Br} [Nm]		15	
Weight of brake [kg]		1.3	
Moment of inertia for the brake J_{Br} [kgcm ²]		1.66	
Recommendations			
ACOPOS servo drive 8Vxxxx.xx...	1090		1180
ACOPOS multi inverter module 8BVIxxxx...	0110		0220
Cross section for B&R motor cables [mm ²]		4	
Connector type		SpeedTec	
Connector size		1.0	

4.1 Speed-torque characteristics at 325 VDC bus voltage

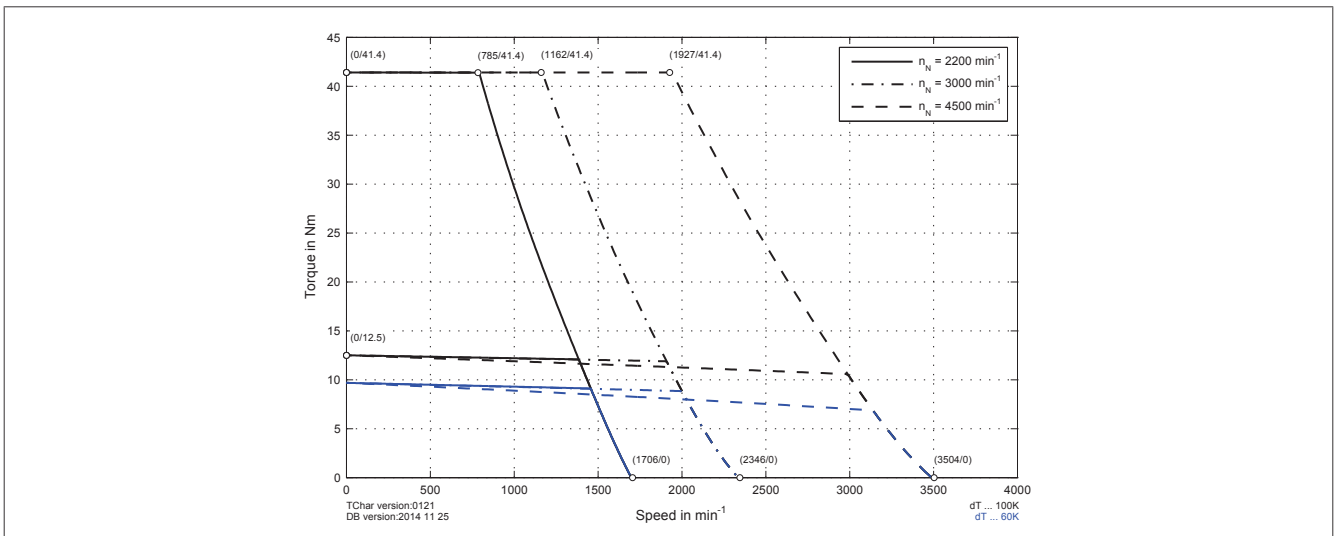
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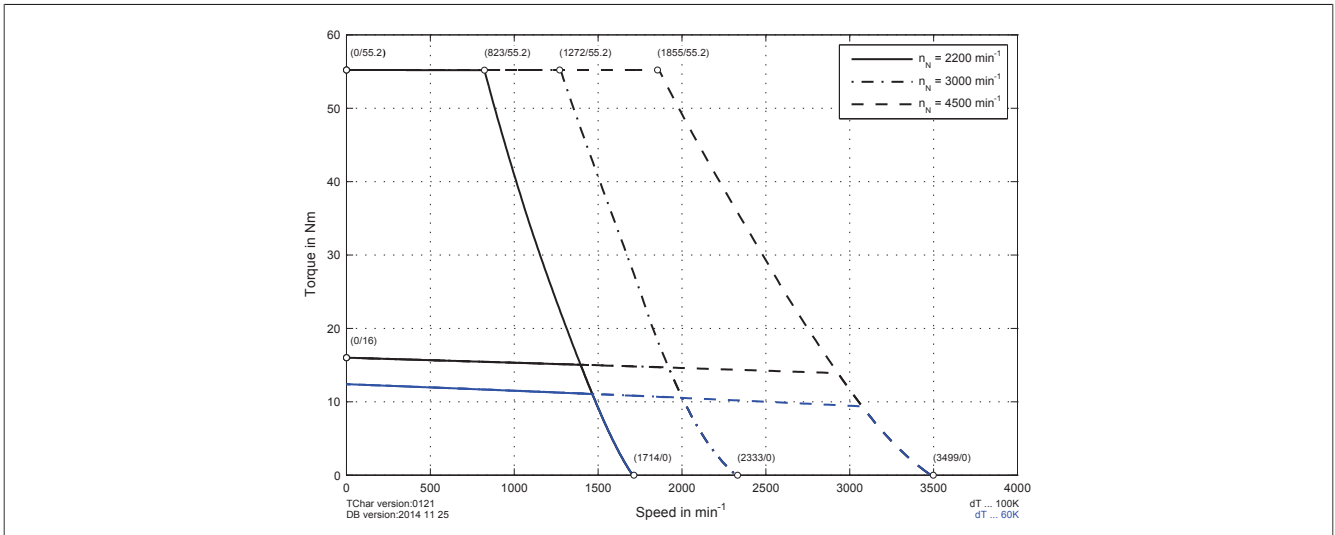
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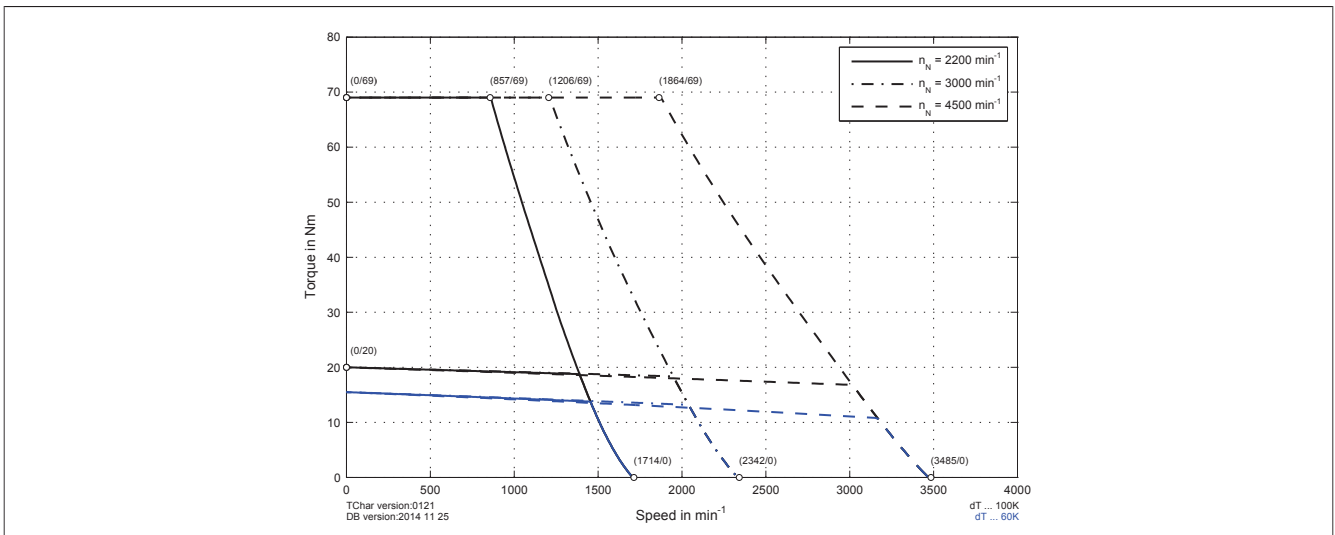
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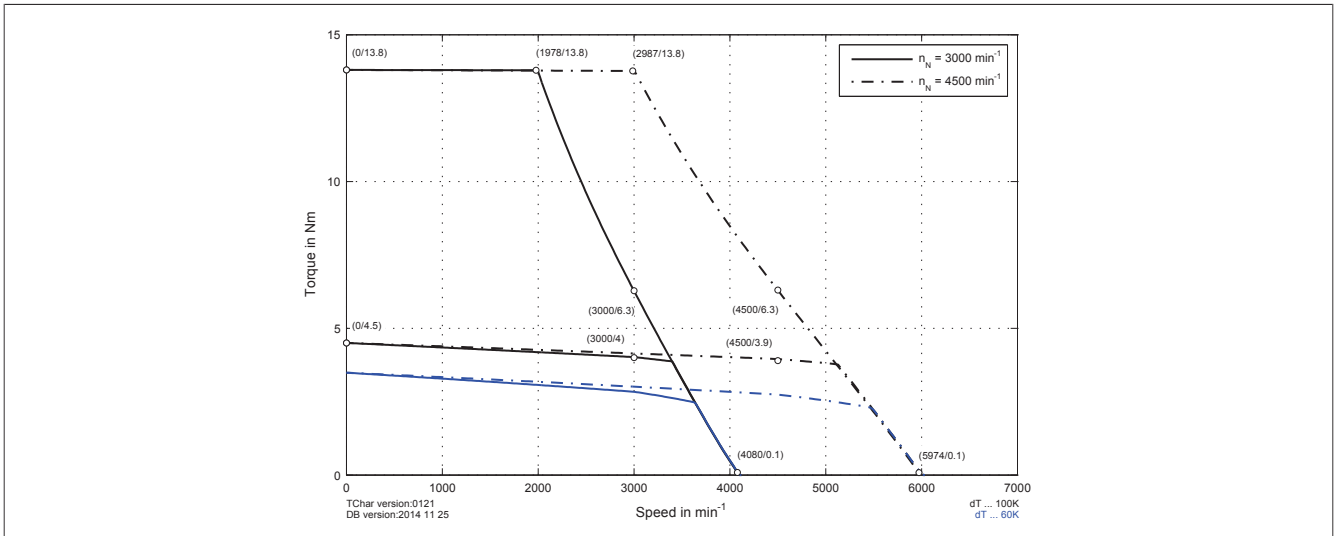


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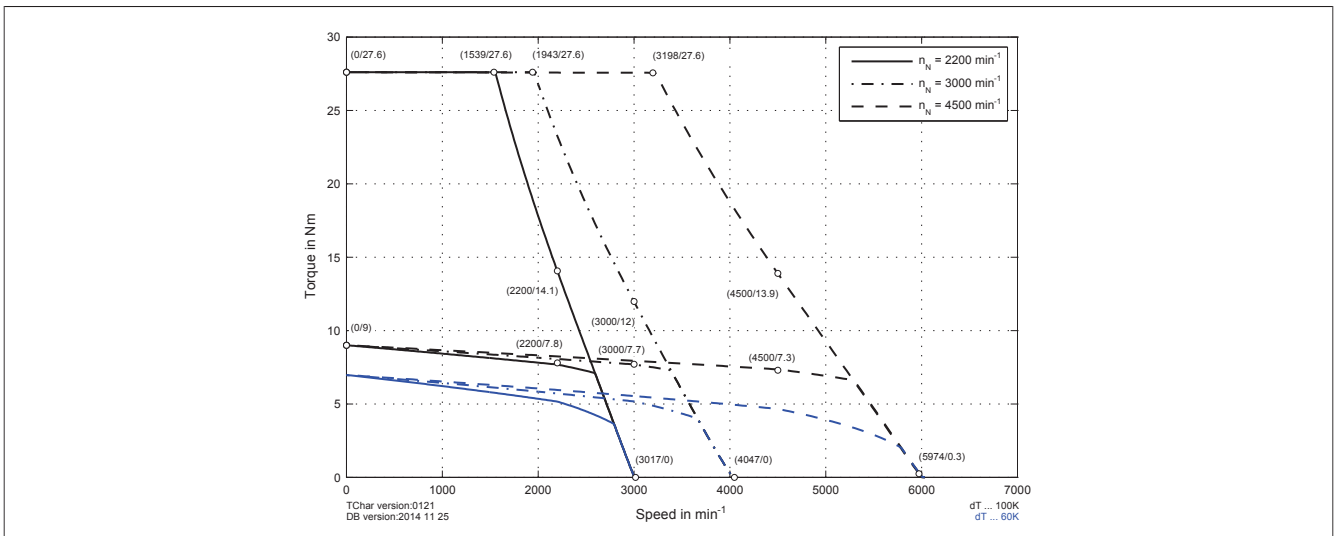


4.2 Speed-torque characteristics at 560 VDC bus voltage

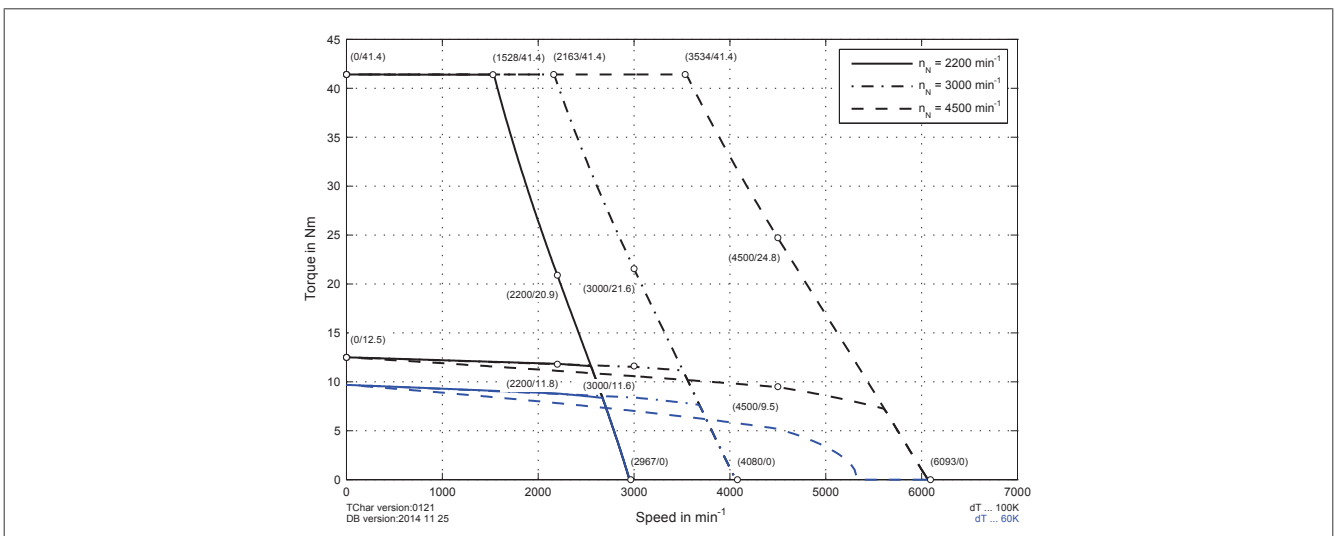
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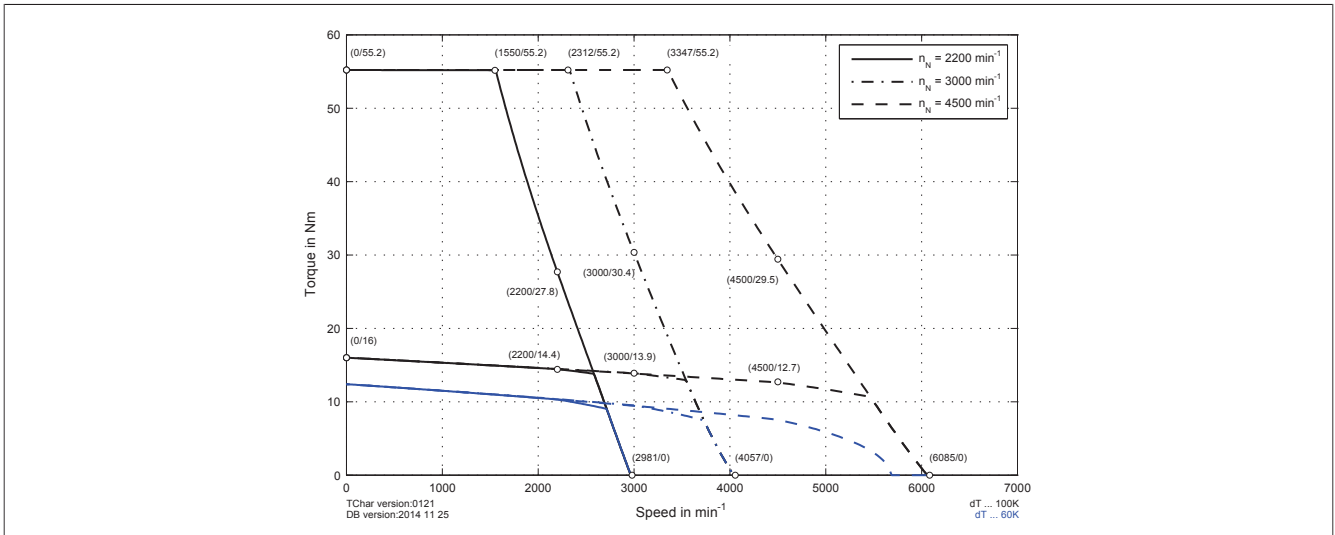
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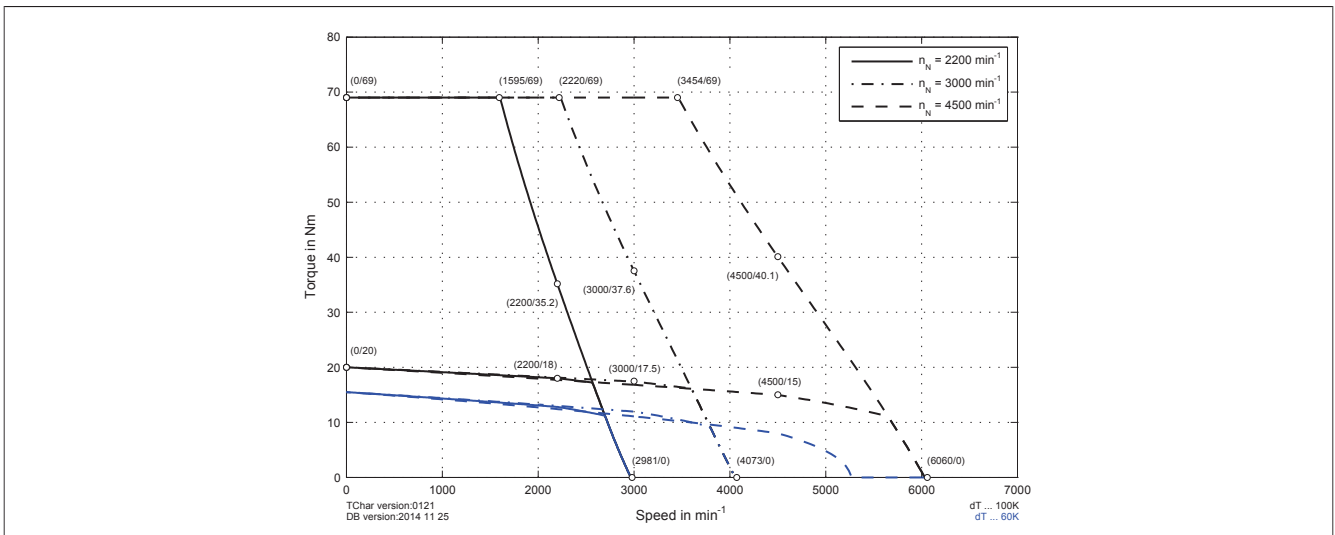
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8LSA56.eennffgg-3

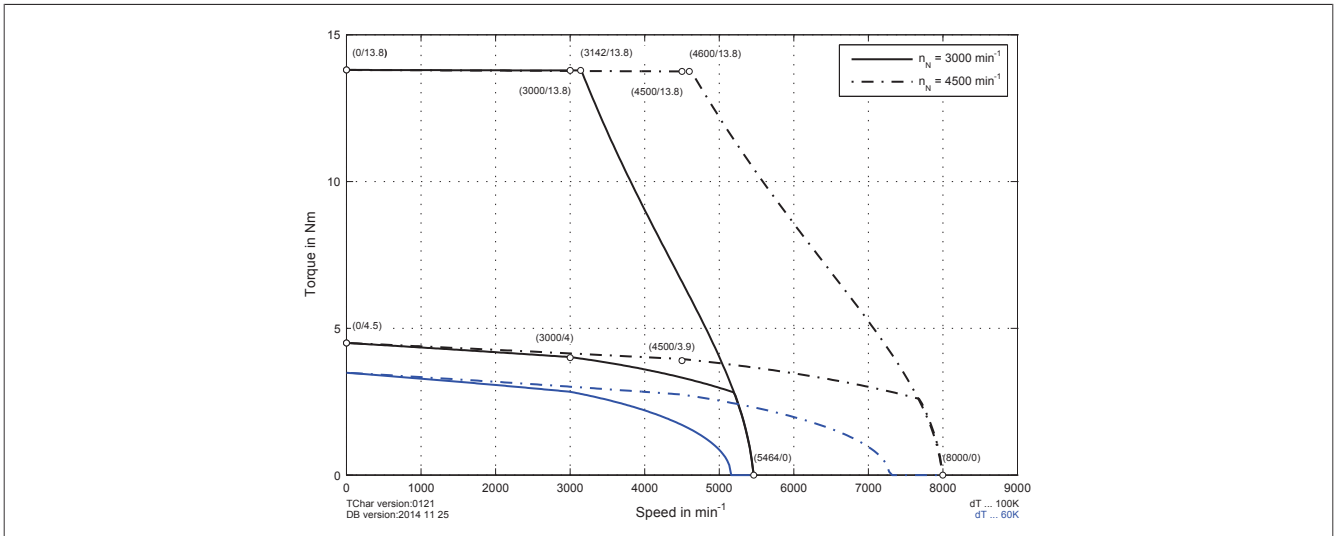


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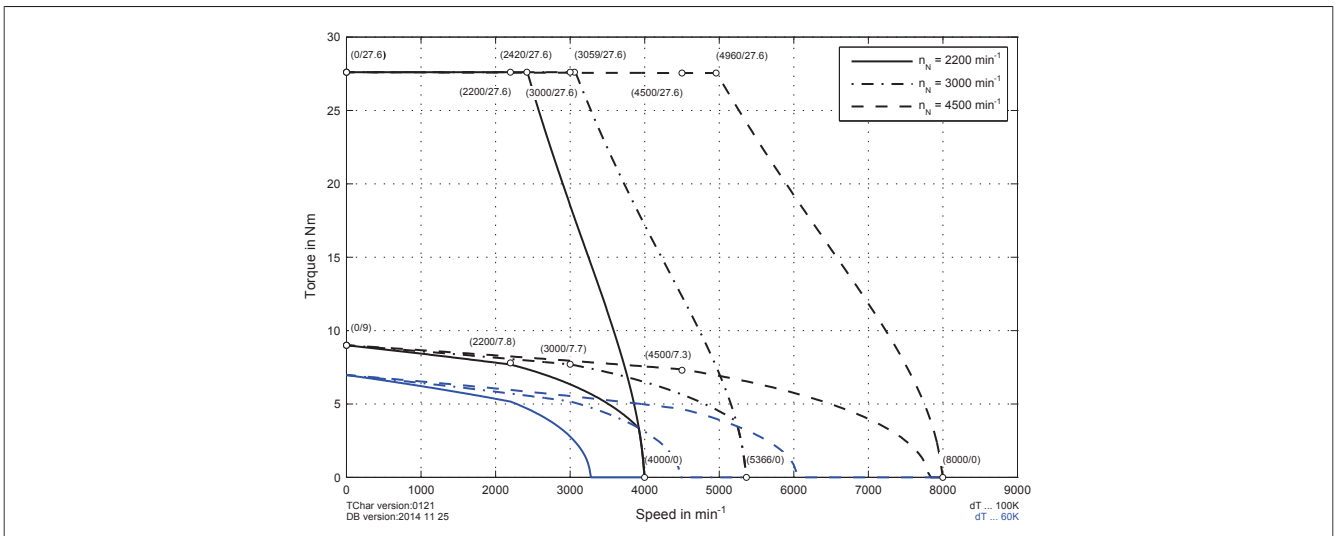


4.3 Speed-torque characteristics at 750 VDC bus voltage

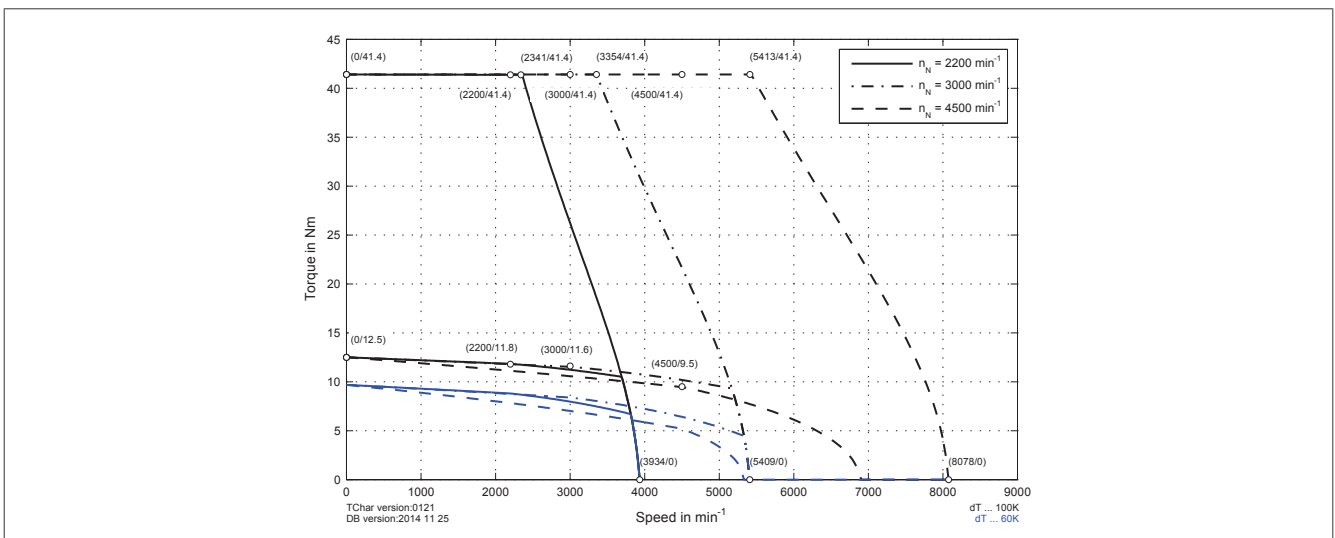
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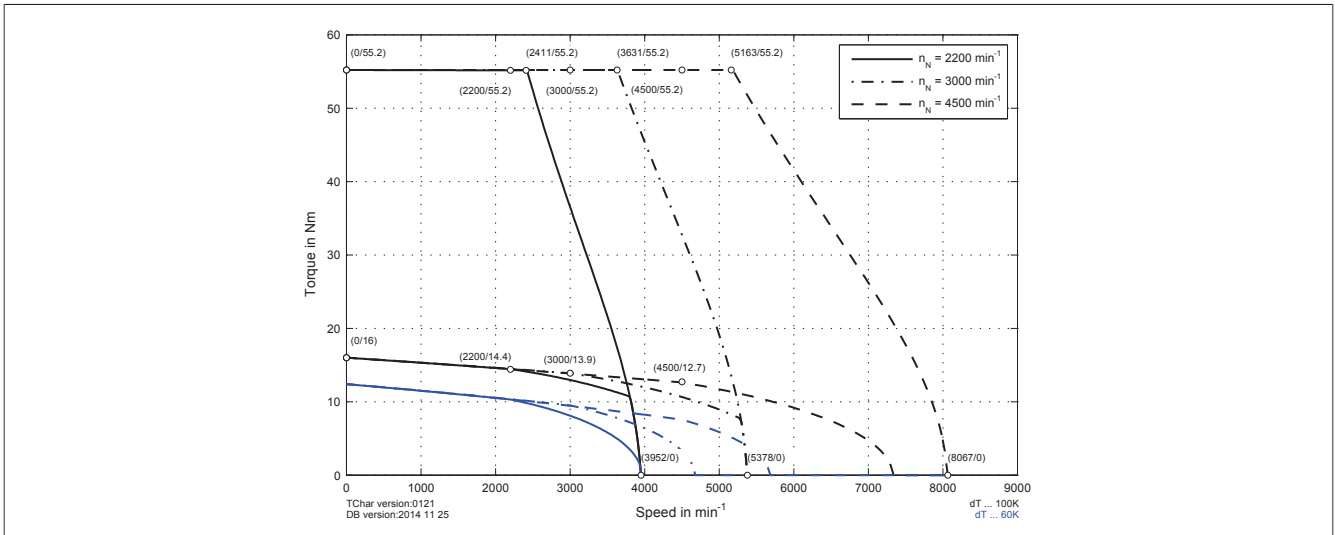
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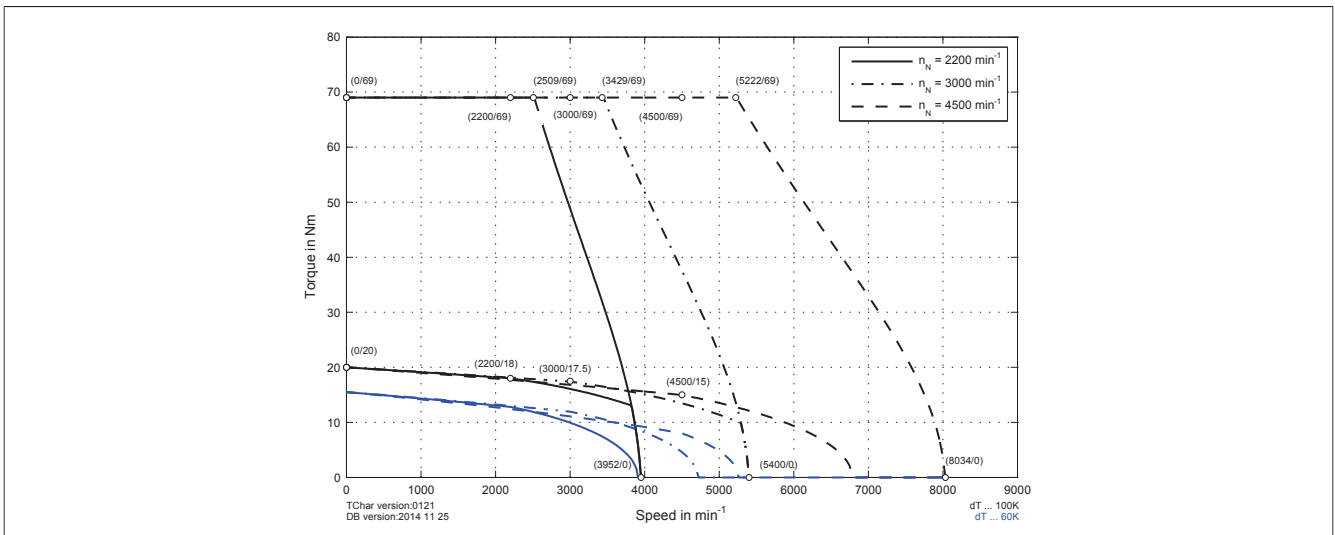
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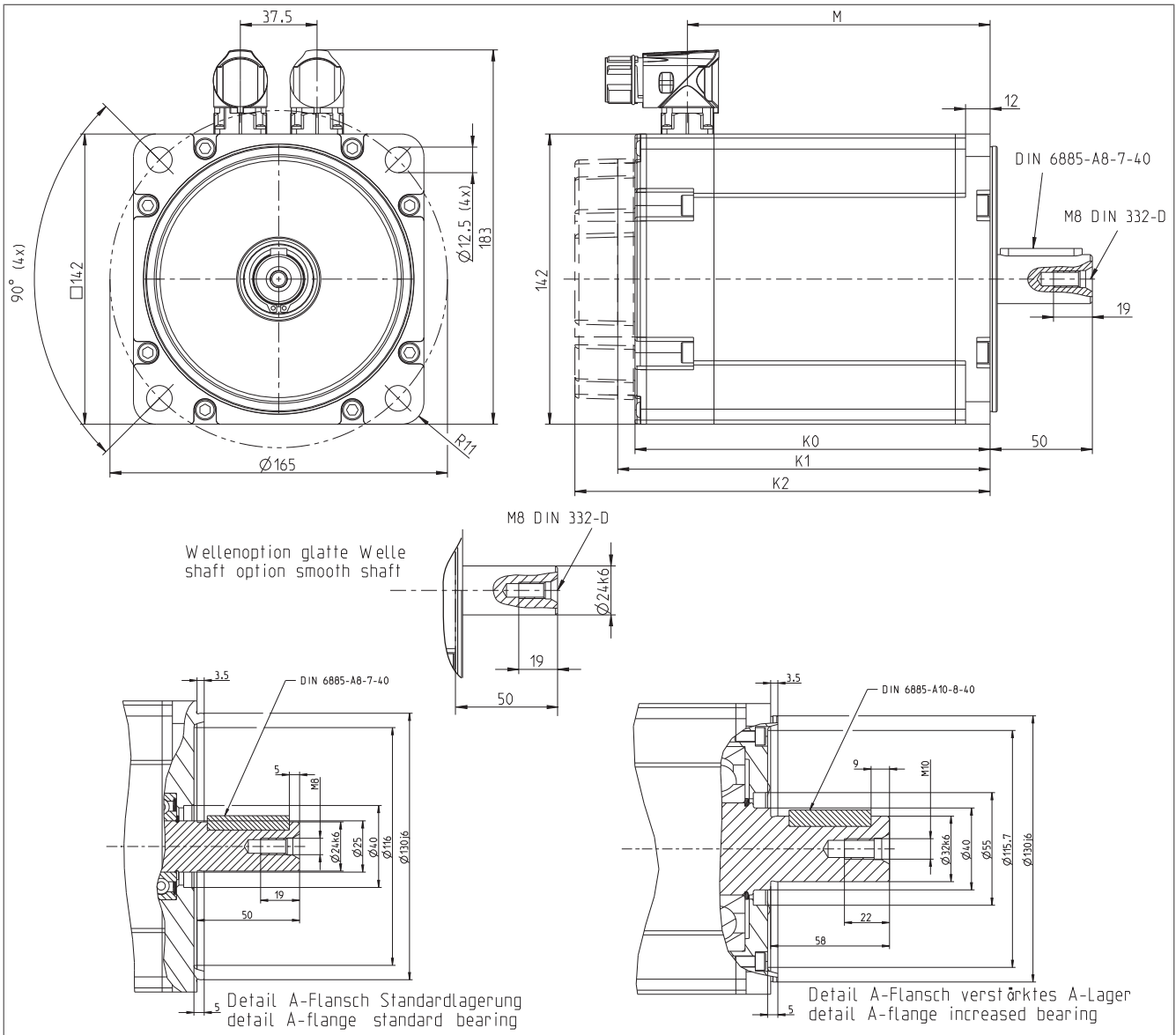
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8LSA57.eennffgg-3



4.4 Dimensions 8LSA5 version 3



EnDat / Resolver feedback					Extension of K_0 , K_1 and K_2 depending on motor option [mm]				
Encoder type	DA,DB,SA,SB,R2	EA,EB	D0,D1,E0,E1,S0,S1	M	Holding brake	Reinforced hold- ing brake	Reinforced bearing	A-side bearing	
Model number	K_0	K_1	K_2						
8LSA53.eennffgg-3	148	159	178	123	35	50	15		
8LSA54.eennffgg-3	173	184	203	148	35	50	10		
8LSA55.eennffgg-3	198	209	228	173	35	45	10		
8LSA56.eennffgg-3	223	234	253	198	35	45	5		
8LSA57.eennffgg-3	248	259	278	223	35	40	5		

Using an oil seal ring has no influence on the motor length