

8KSJ8

Technical data



8KSJ82.ee010ffgg-0 8KSJ82.ee015ffgg-0 8KSJ82.ee020ffgg-0 8KSJ82.ee025ffgg-0 8KSJ82.ee030ffgg-0 8KSJ84.ee010ffgg-0 8KSJ84.ee015ffgg-0 8KSJ84.ee020ffgg-0 8KSJ84.ee025ffgg-0 8KSJ84.ee030ffgg-0

Motor

	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000	
Nominal speed n_N [rpm]	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000	
Number of pole pairs						3					
Nominal torque M_N [Nm]	175	170	165	165	150	230	225	215	210	200	
Nominal power P_N [W]	18326	26704	34558	43197	47124	24086	35343	45029	54978	62832	
Nominal current I_N [A]	39.1	55	67	82	86	52	70	86	102	115	
Stall torque M_0 [Nm]	180	180	180	180	180	240	240	240	240	240	
Stall current I_0 [A]	40.4	58	73	90	101	54	74	93	116	135	
Maximum torque M_{max} [Nm]	340	340	340	340	340	450	450	450	450	450	
Maximum current I_{max} [A]	85	121	155	190	210	113	155	195	240	280	
Maximum speed n_{max} [rpm]	1850	2650	3350	4100	4300	1850	2500	3200	3950	4300	
Torque constant K_T [Nm/A]	4.65	3.26	2.56	2.09	1.86	4.63	3.39	2.67	2.16	1.85	
Voltage constant K_E [V/1000 rpm]	296	207	163	133	118	296	217	171	138	118	
Stator resistance R_{zph} [Ω]	0.64	0.32	0.2	0.13	0.1	0.42	0.22	0.14	0.09	0.07	
Stator inductance L_{zph} [mH]	19.4	9.6	6	4	3.1	14.6	7.8	4.8	3.2	2.3	
Electrical time constant t_{el} [ms]	31.66	31	30.6	34.17	32.4	35.67	36.64	35.71	32.6	40	
Thermal time constant t_{therm} [min]						0					
Moment of inertia J [kgcm ²]	450	450	450	450	450	580	580	580	580	580	
Weight without brake m [kg]	175	175	175	175	175	200	200	200	200	200	

Holding brakes

Holding torque of the brake M_{Br} [Nm]	200
Weight of brake [kg]	13
Moment of inertia for the brake J_{Br} [kgcm ²]	40

Recommendations

ACOPOS servo drive 8Vxxx.00-x1	1640	1640	128M	128M	128M	1640	128M	128M	128M	-	
ACOPOSmulti inverter module 8BV1...	0660	0660	0880	1650	1650	0660	0880	1650	1650	1650	
Connector type						Terminal box					

NOTE – Servo drive: The recommended servo drive / inverter module is designed for 1.1x the stall current. If more than double the amount is needed during the acceleration phase, the next larger servo drive should be selected. This recommendation is only a guideline, detailed inspection of the corresponding speed - torque characteristic curve can result in deviations of the servo drive size (one size larger or smaller).

NOTE – Cable cross section: No pre-assembled cables are offered for the 8KS motor.

The cable cross section depends on the cabling method used (see relevant standards and regulations) and the recommendations from the respective manufacturer, among other things.

NOTE – Thermal time constant: "0" is a place holder, values available on request

Technical data



	8KSJ85.ee010ffgg-0	8KSJ85.ee015ffgg-0	8KSJ85.ee020ffgg-0	8KSJ85.ee025ffgg-0	8KSJ85.ee030ffgg-0	8KSJ86.ee010ffgg-0	8KSJ86.ee015ffgg-0	8KSJ86.ee020ffgg-0	8KSJ86.ee025ffgg-0	8KSJ86.ee030ffgg-0
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Motor

	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000
Nominal speed n_N [rpm]	1000	1500	2000	2500	3000	1000	1500	2000	2500	3000
Number of pole pairs	3									
Nominal torque M_N [Nm]	290	285	275	265	255	350	345	330	320	305
Nominal power P_N [W]	30369	44768	57596	69377	80111	36652	54192	69115	83776	95819
Nominal current I_N [A]	62	87	109	130	150	80	112	135	160	175
Stall torque M_0 [Nm]	305	305	305	305	305	360	360	360	360	360
Stall current I_0 [A]	64	92	119	147	180	83	118	146	180	205
Maximum torque M_{max} [Nm]	555	555	555	555	555	665	665	665	665	665
Maximum current I_{max} [A]	130	190	240	300	365	170	240	300	365	425
Maximum speed n_{max} [rpm]	1700	2450	3150	3900	4300	1850	2650	3250	3950	4300
Torque constant K_T [Nm/A]	4.96	3.43	2.67	2.16	1.78	4.57	3.2	2.59	2.13	1.83
Voltage constant K_E [V/1000 rpm]	321	222	173	140	115	296	207	168	138	118
Stator resistance R_{2ph} [Ω]	0.36	0.17	0.1	0.07	0.05	0.24	0.12	0.08	0.05	0.04
Stator inductance L_{2ph} [mH]	13.6	6.5	4	2.5	1.74	9.6	4.6	3.1	2.09	1.53
Electrical time constant t_{el} [ms]	38.72	37.11	40.4	44	45	41	40.17	39.5	35.67	39.5
Thermal time constant t_{therm} [min]	0									
Moment of inertia J [kgcm ²]	710	710	710	710	710	840	840	840	840	840
Weight without brake m [kg]	225	225	225	225	225	250	250	250	250	250

Holding brakes

Holding torque of the brake M_{Br} [Nm]	200
Weight of brake [kg]	13
Moment of inertia for the brake J_{Br} [kgcm ²]	40

Recommendations

ACOPOS servo drive 8Vxxxx.00-x1	128M	128M	-	-	-	128M	-	-	-	-
ACOPOSmulti inverter module 8BVI...	0880	1650	1650	1650	-	1650	1650	1650	-	-
Connector type	Terminal box									

NOTE – Servo drive: The recommended servo drive / inverter module is designed for 1.1x the stall current. If more than double the amount is needed during the acceleration phase, the next larger servo drive should be selected. This recommendation is only a guideline, detailed inspection of the corresponding speed - torque characteristic curve can result in deviations of the servo drive size (one size larger or smaller).

NOTE – Cable cross section: No pre-assembled cables are offered for the 8KS motor.

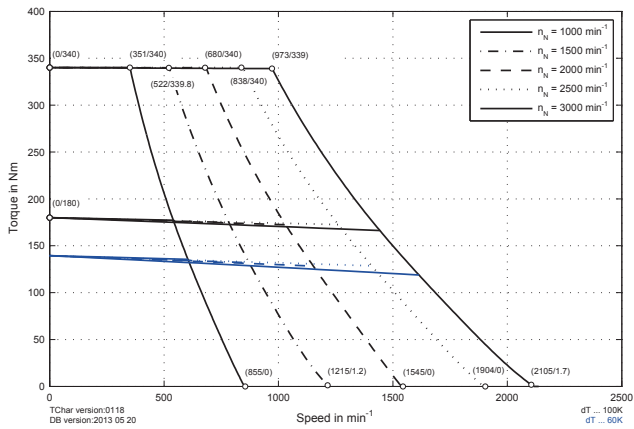
The cable cross section depends on the cabling method used (see relevant standards and regulations) and the recommendations from the respective manufacturer, among other things.

NOTE – Thermal time constant: "0" is a place holder, values available on request

8KSJ8

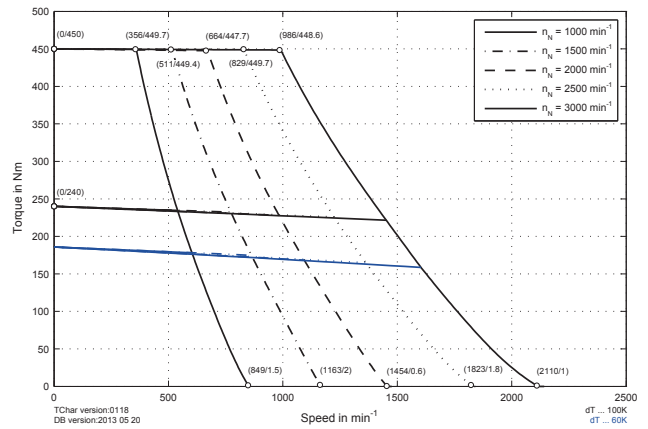
Speed-torque characteristics for DC bus voltage of 325 VDC

ACOPOS



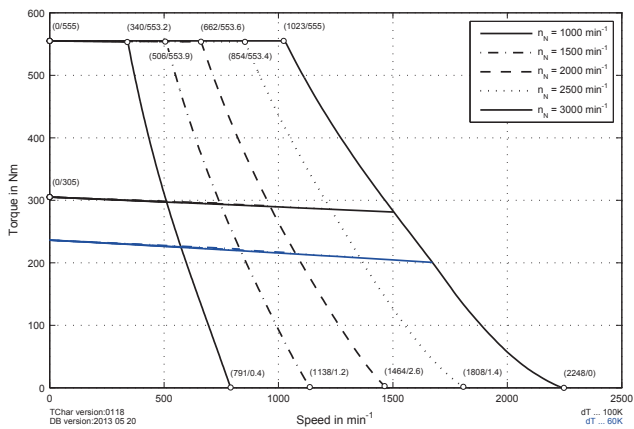
8KSJ82.eennffgg-0

ACOPOS



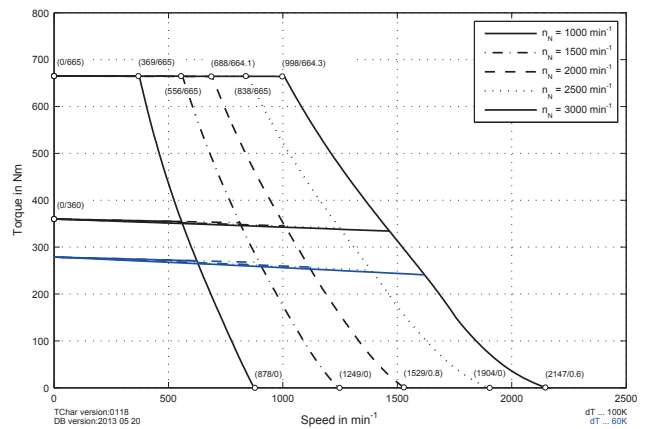
8KSJ84.eennffgg-0

ACOPOS



8KSJ85.eennffgg-0

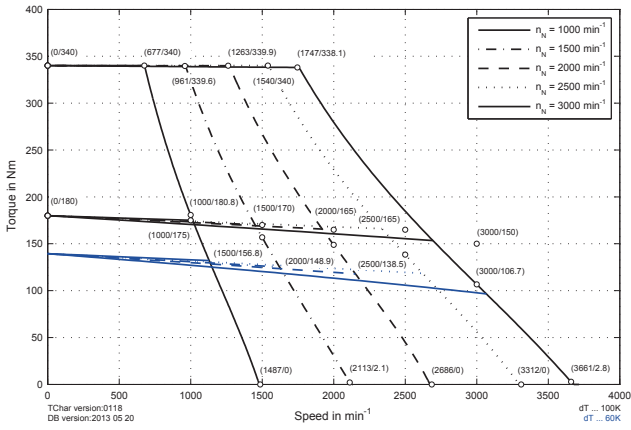
ACOPOS



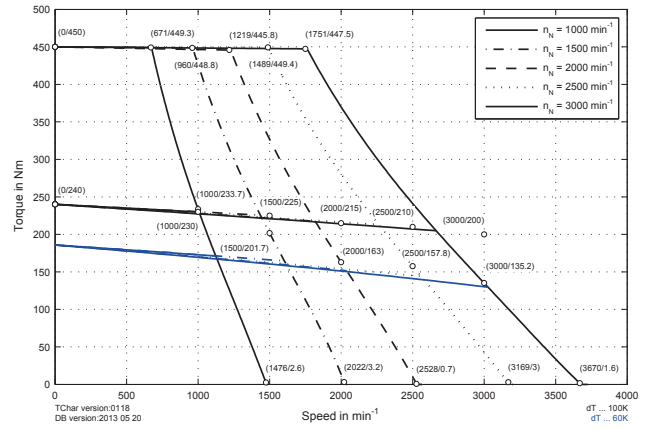
8KSJ86.eennffgg-0

Speed-torque characteristics for DC bus voltage of 560 VDC

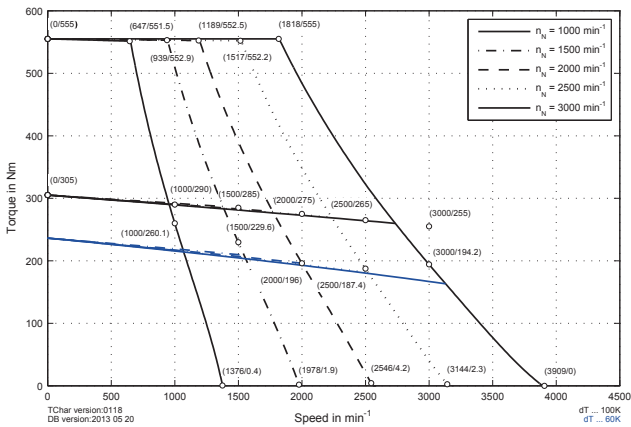
ACOPOS



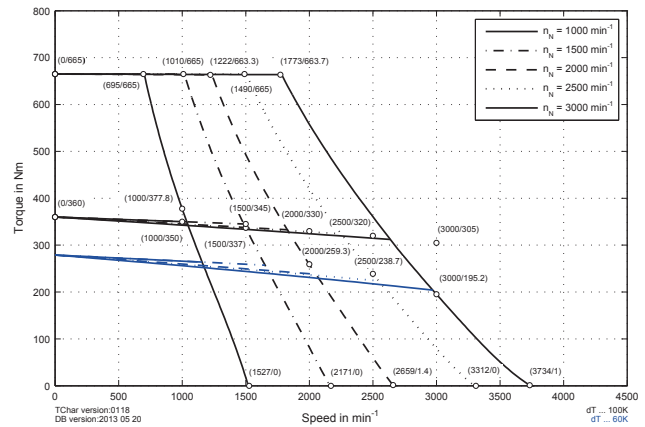
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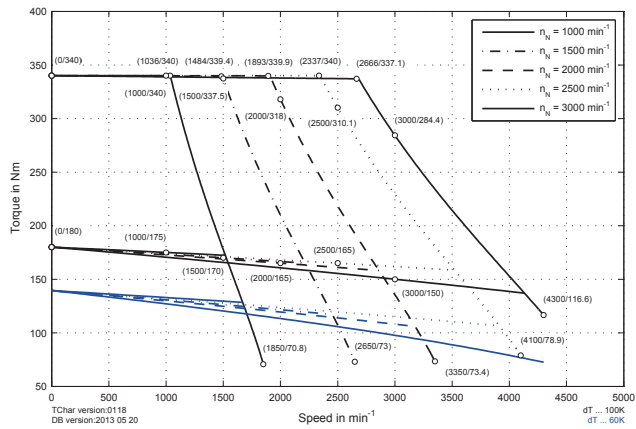


¹⁾ At some speeds, the nominal values are only achieved with field weakening or with 750 VDC!

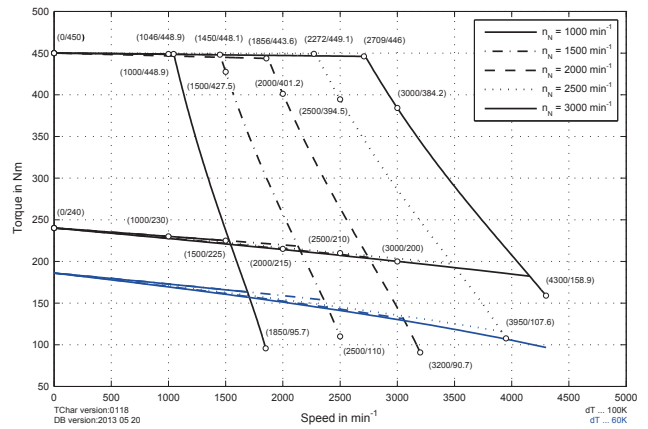
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Speed-torque characteristics for DC bus voltage of 750 VDC

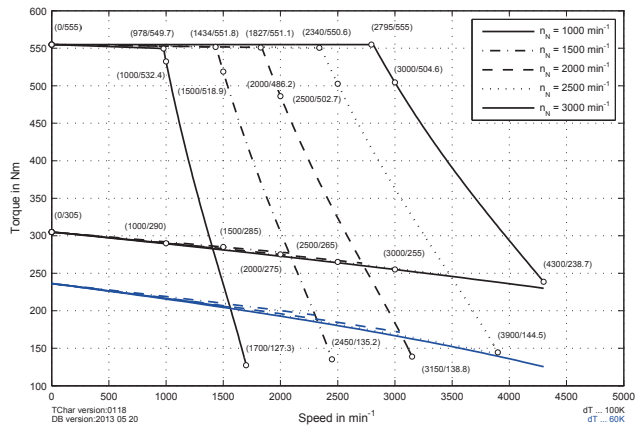
ACOPOSmulti



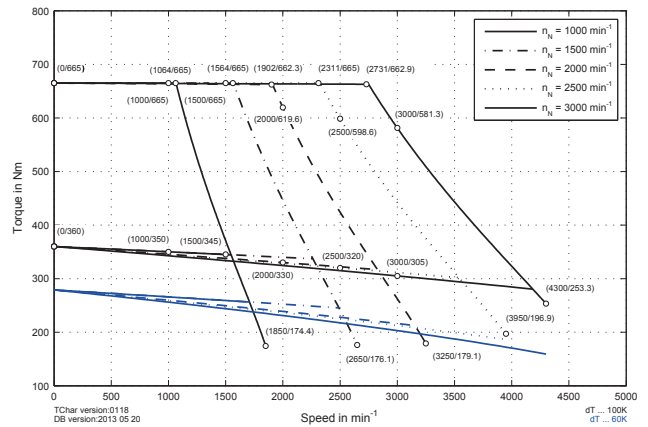
ACOPOSmulti

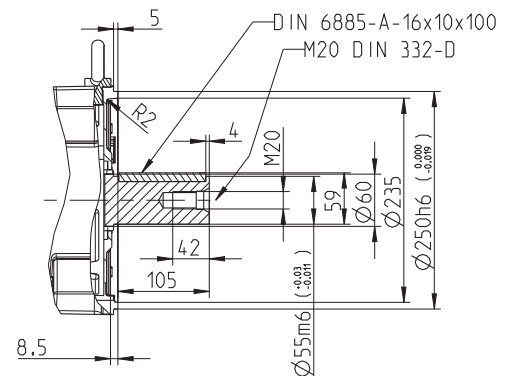
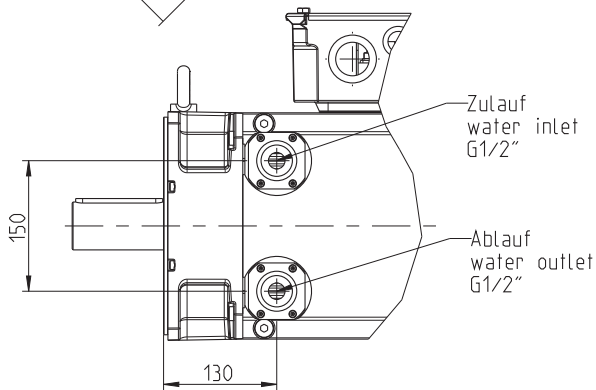
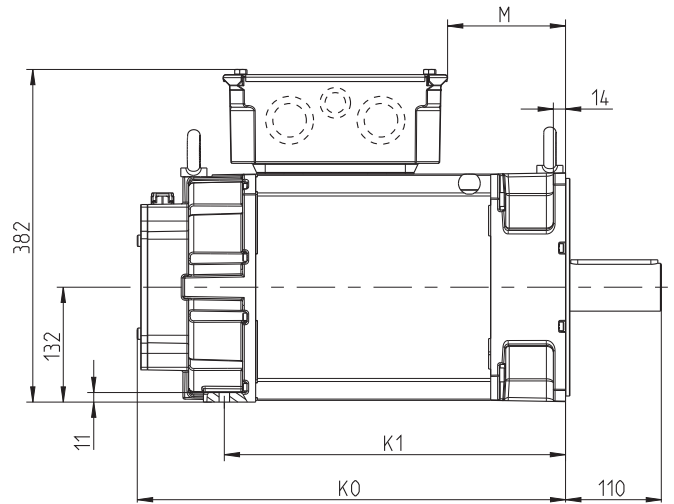
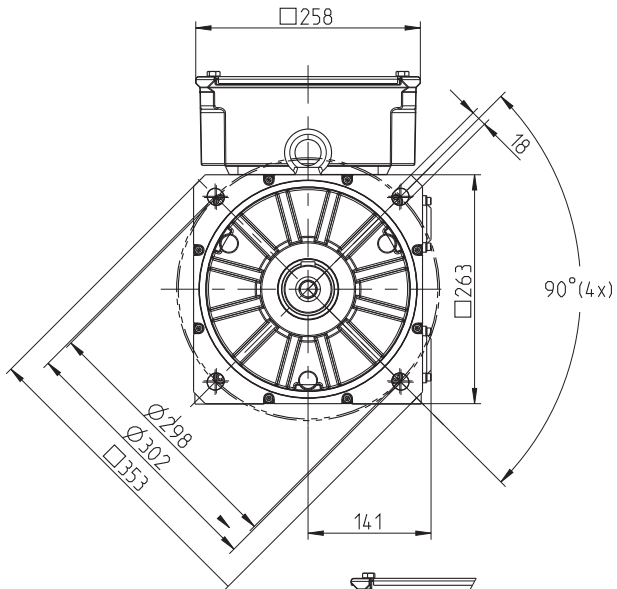


ACOPOSmulti



ACOPOSmulti





8KSJ8 dimensions

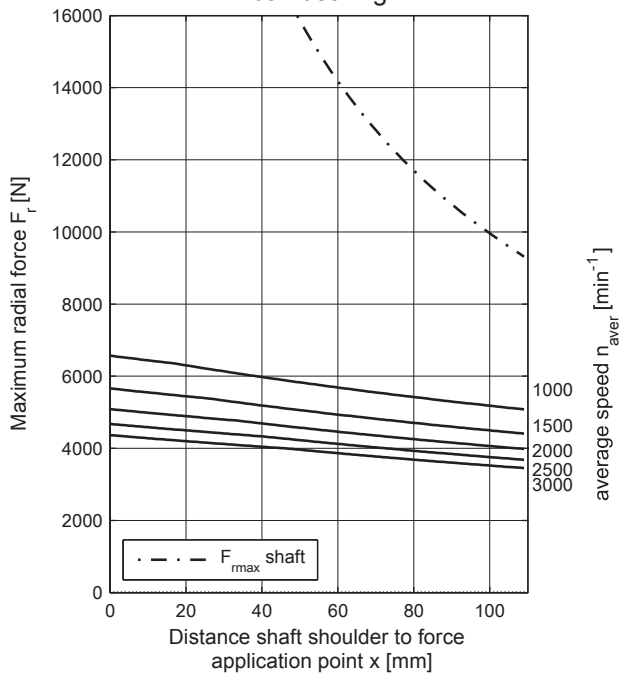
Model number	K_0	K_1	M	Extension of K_0 or K_1 with brake
8KSJ82.eennffgg-0	442	342	86	140
8KSJ84.eennffgg-0	492	392	136	140
8KSJ85.eennffgg-0	542	442	186	140
8KSJ86.eennffgg-0	592	492	236	140

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Maximum shaft load

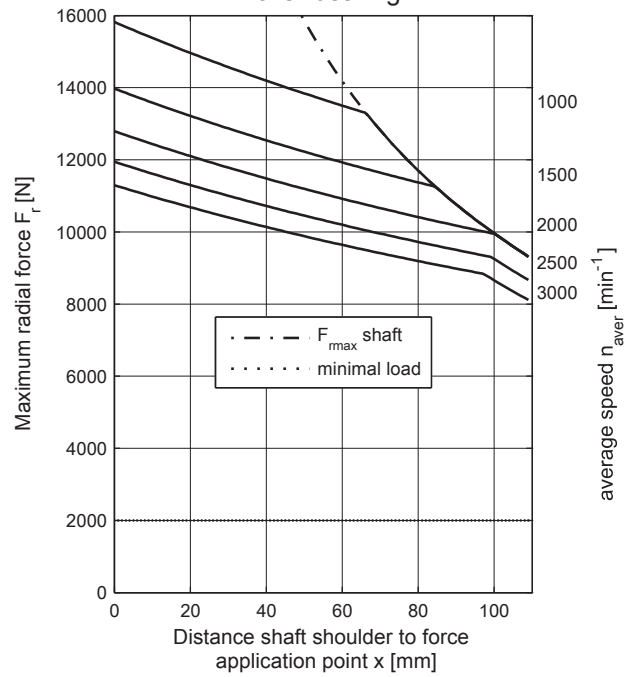
The values in the diagram below are based on a mechanical lifespan of the bearings of 20,000 operating hours.

Standard bearing
ball bearing



Shaft Strength durability for maximal motor torque

Reinforced bearings
roller bearing



Shaft Strength durability for maximal motor torque