

# 8KSL8/8KSM8

## Technical data



8KSL82.ee011ffgg-0      8KSL82.ee016ffgg-0      8KSL82.ee020ffgg-0      8KSL82.ee025ffgg-0      8KSL82.ee030ffgg-0      8KSL84.ee011ffgg-0      8KSL84.ee016ffgg-0      8KSL84.ee020ffgg-0      8KSL84.ee025ffgg-0      8KSL84.ee030ffgg-0

### Motor

	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000
Nominal speed $n_N$ [rpm]	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000
Number of pole pairs						3				
Nominal torque $M_N$ [Nm]	120	115	115	110	105	160	150	145	140	130
Nominal power $P_N$ [W]	13823	19268	24086	28798	32987	18431	25133	30369	36652	40841
Nominal current $I_N$ [A]	27.3	37.6	46.3	54	58	35.7	46.5	57	67	74
Stall torque $M_0$ [Nm]	130	130	130	130	130	175	175	175	175	175
Stall current $I_0$ [A]	29.3	41.8	53	65	73	39	53	68	84	98
Maximum torque $M_{max}$ [Nm]	305	305	305	305	305	405	405	405	405	405
Maximum current $I_{max}$ [A]	76	108	138	170	190	101	138	175	215	250
Maximum speed $n_{max}$ [rpm]	1800	2600	3300	4050	4300	1800	2500	3150	3900	4300
Torque constant $K_T$ [Nm/A]	4.63	3.24	2.55	2.08	1.85	4.61	3.38	2.66	2.15	1.84
Voltage constant $K_E$ [V/1000 rpm]	300	210	165	135	120	300	220	173	140	120
Stator resistance $R_{zph}$ [ $\Omega$ ]	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 <sup>2</sup> ]	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 <sup>2</sup> ]	40

### Recommendations

ACOPOS servo drive 8Vxxx.00-x1	1320	1640	1640	128M	128M	1640	1640	128M	128M	128M
ACOPOSmulti inverter module 8BV1...	0330	0660	0660	0880	0880	0440	0660	0880	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



	8KSL85.ee011ffgg-0	8KSL85.ee016ffgg-0	8KSL85.ee020ffgg-0	8KSL85.ee025ffgg-0	8KSL85.ee030ffgg-0	8KSL86.ee011ffgg-0	8KSL86.ee016ffgg-0	8KSL86.ee020ffgg-0	8KSL86.ee025ffgg-0	8KSL86.ee030ffgg-0
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### Motor

	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000
Nominal speed $n_N$ [rpm]	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000
Number of pole pairs	3									
Nominal torque $M_N$ [Nm]	195	185	175	165	155	230	215	205	190	175
Nominal power $P_N$ [W]	22462	30997	36652	43197	48695	26494	36024	42935	49742	54978
Nominal current $I_N$ [A]	40.4	55	68	79	90	52	69	81	91	99
Stall torque $M_0$ [Nm]	215	215	215	215	215	260	260	260	260	260
Stall current $I_0$ [A]	45	65	84	103	125	59	84	103	125	146
Maximum torque $M_{max}$ [Nm]	505	505	505	505	505	610	605	605	605	605
Maximum current $I_{max}$ [A]	117	170	215	265	325	150	215	265	325	380
Maximum speed $n_{max}$ [rpm]	1650	2450	3150	3850	4300	1800	2600	3200	3000	3600
Torque constant $K_T$ [Nm/A]	4.99	3.46	2.69	2.18	1.79	4.61	3.23	2.61	2.15	1.84
Voltage constant $K_E$ [V/1000 rpm]	325	225	175	141	116	300	210	170	140	120
Stator resistance $R_{2ph}$ [ $\Omega$ ]	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 <sup>2</sup> ]	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 <sup>2</sup> ]	40

### Recommendations

ACOPOS servo drive 8Vxxxx.00-x1	1640	128M	128M	128M	-	128M	128M	128M	-	-
ACOPOSmulti inverter module 8BVI...	0660	0880	1650	1650	1650	0660	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

# 8KSL8/8KSM8

## Technical data



8KSM82.ee011ffgg-0      8KSM82.ee016ffgg-0      8KSM82.ee020ffgg-0      8KSM82.ee025ffgg-0      8KSM82.ee030ffgg-0      8KSM84.ee011ffgg-0      8KSM84.ee016ffgg-0      8KSM84.ee020ffgg-0      8KSM84.ee025ffgg-0      8KSM84.ee030ffgg-0

### Motor

	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000	
Nominal speed $n_N$ [rpm]	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000	
Number of pole pairs						3					
Nominal torque $M_N$ [Nm]	120	115	115	110	105	160	150	145	140	130	
Nominal power $P_N$ [W]	13823	19268	24086	28798	32987	18431	25133	30369	36652	40841	
Nominal current $I_N$ [A]	27.3	37.6	46.3	54	58	35.7	46.5	57	67	74	
Stall torque $M_0$ [Nm]	130	130	130	130	130	175	175	175	175	175	
Stall current $I_0$ [A]	29.3	41.8	53	65	73	39	53	68	84	98	
Maximum torque $M_{max}$ [Nm]	305	305	305	305	305	405	405	405	405	405	
Maximum current $I_{max}$ [A]	76	108	138	170	190	101	138	175	215	250	
Maximum speed $n_{max}$ [rpm]	1800	2600	3300	4050	4300	1800	2500	3150	3900	4300	
Torque constant $K_T$ [Nm/A]	4.63	3.24	2.55	2.08	1.85	4.61	3.38	2.66	2.15	1.84	
Voltage constant $K_E$ [V/1000 rpm]	300	210	165	135	120	300	220	173	140	120	
Stator resistance $R_{zph}$ [ $\Omega$ ]	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 <sup>2</sup> ]	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 <sup>2</sup> ]	40

### Recommendations

ACOPOS servo drive 8Vxxx.00-x1	1320	1640	1640	128M	128M	1640	1640	128M	128M	128M
ACOPOSmulti inverter module 8BV1...	0330	0660	0660	0880	0880	0440	0660	0880	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



	8KSMB5.ee011ffgg-0	8KSMB5.ee016ffgg-0	8KSMB5.ee020ffgg-0	8KSMB5.ee025ffgg-0	8KSMB5.ee030ffgg-0	8KSMB6.ee011ffgg-0	8KSMB6.ee016ffgg-0	8KSMB6.ee020ffgg-0	8KSMB6.ee025ffgg-0	8KSMB6.ee030ffgg-0
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### Motor

	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000	
Nominal speed $n_N$ [rpm]	1100	1600	2000	2500	3000	1100	1600	2000	2500	3000	
Number of pole pairs						3					
Nominal torque $M_N$ [Nm]	195	185	175	165	155	230	215	205	190	175	
Nominal power $P_N$ [W]	22462	30997	36652	43197	48695	26494	36024	42935	49742	54978	
Nominal current $I_N$ [A]	40.4	55	68	79	90	52	69	81	91	99	
Stall torque $M_0$ [Nm]	215	215	215	215	215	260	260	260	260	260	
Stall current $I_0$ [A]	45	65	84	103	125	59	84	103	125	146	
Maximum torque $M_{max}$ [Nm]	505	505	505	505	505	610	605	605	605	605	
Maximum current $I_{max}$ [A]	117	170	215	265	325	150	215	265	325	380	
Maximum speed $n_{max}$ [rpm]	1650	2450	3150	3850	4300	1800	2600	3200	3000	3600	
Torque constant $K_T$ [Nm/A]	4.99	3.46	2.69	2.18	1.79	4.61	3.23	2.61	2.15	1.84	
Voltage constant $K_E$ [V/1000 rpm]	325	225	175	141	116	300	210	170	140	120	
Stator resistance $R_{2ph}$ [ $\Omega$ ]	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 <sup>2</sup> ]	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 <sup>2</sup> ]	40

### Recommendations

ACOPOS servo drive 8Vxxxx.00-x1	1640	128M	128M	128M	-	128M	128M	128M	-	-
ACOPOSmulti inverter module 8BVI...	0660	0880	1650	1650	1650	0660	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.

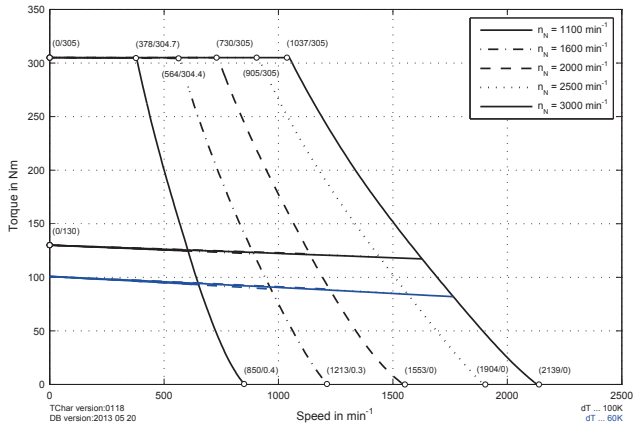
The cable cross section depends on the cabling method used (see relevant standards and regulations) and the recommendations from the respective manufacturer, among other things.

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

# 8KSL8/8KSM8

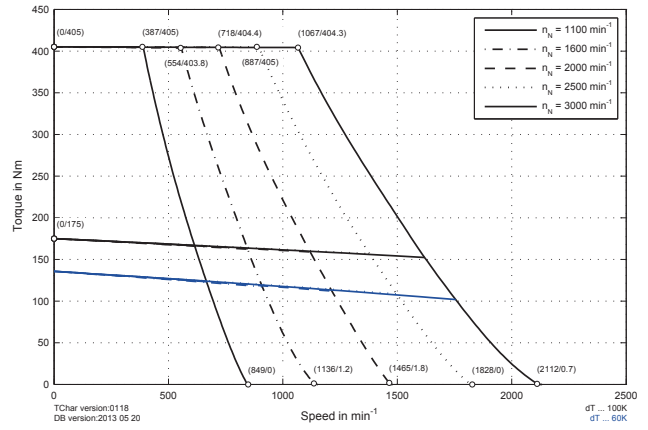
## Speed-torque characteristics for DC bus voltage of 325 VDC

ACOPOS



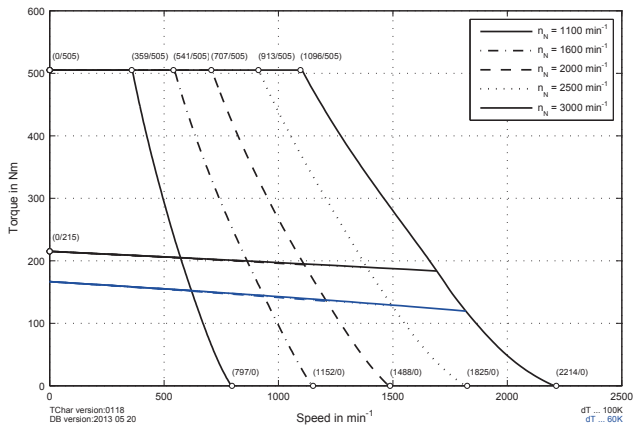
8KSL82.eennffgg-0 / 8KSM82.eennffgg-0

ACOPOS



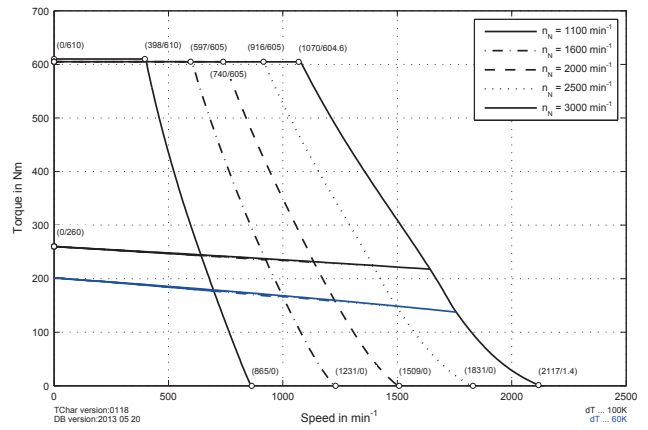
8KSL84.eennffgg-0 / 8KSM84.eennffgg-0

ACOPOS



8KSL85.eennffgg-0 / 8KSM85.eennffgg-0

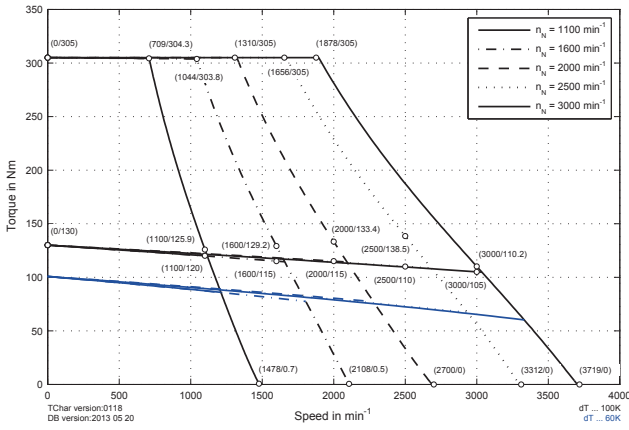
ACOPOS



8KSL86.eennffgg-0 / 8KSM86.eennffgg-0

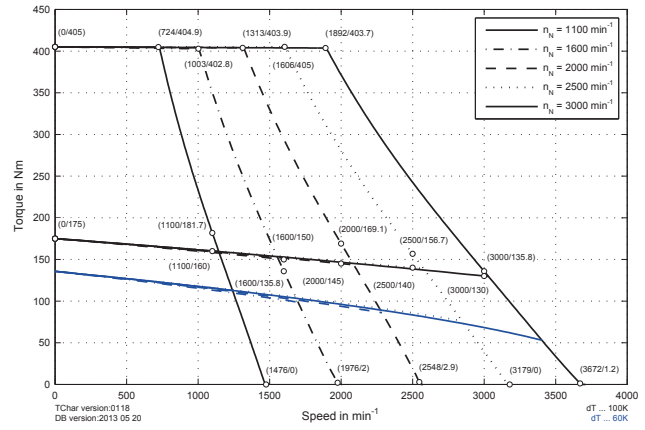
## Speed-torque characteristics for DC bus voltage of 560 VDC

ACOPOS



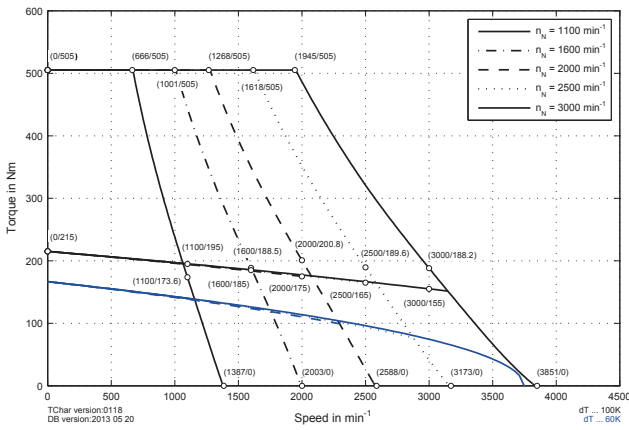
8KSL82.eennffgg-0 / 8KSM82.eennffgg-0

ACOPOS



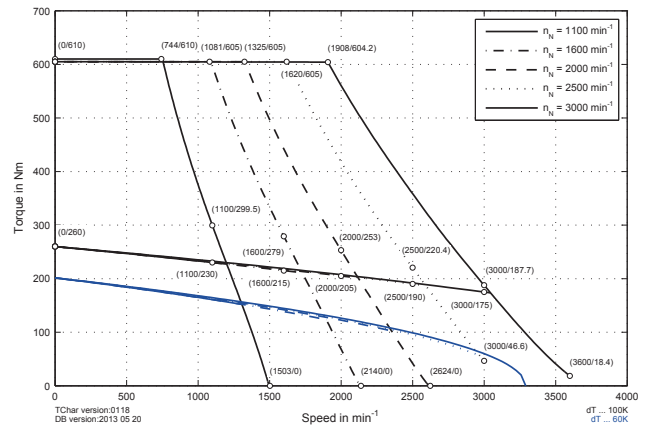
8KSL84.eennffgg-0 / 8KSM84.eennffgg-0

ACOPOS



8KSL85.eennffgg-0 / 8KSM85.eennffgg-0<sup>1)</sup>

ACOPOS



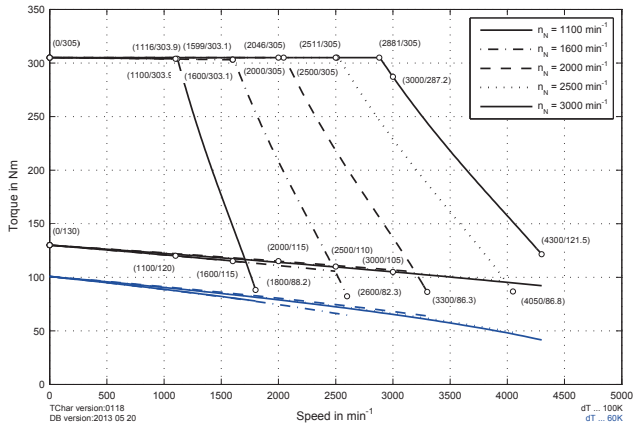
8KSL86.eennffgg-0 / 8KSM86.eennffgg-0

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

# 8KSL8/8KSM8

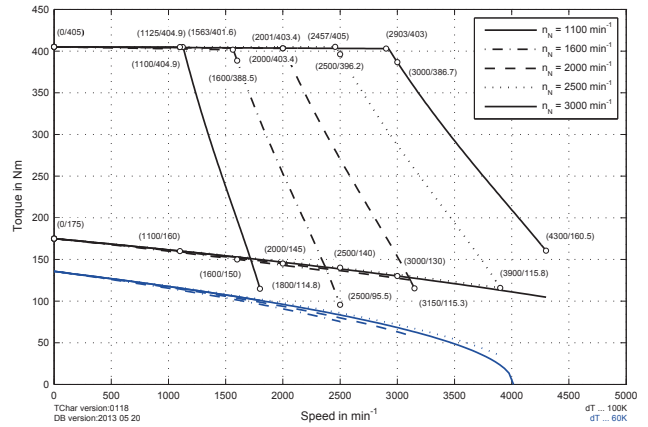
## Speed-torque characteristics for DC bus voltage of 750 VDC

ACOPOSmulti



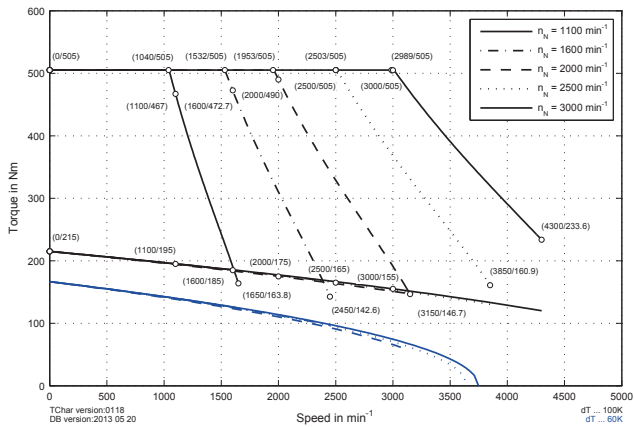
8KSL82.eennffgg-0 / 8KSM82.eennffgg-0

ACOPOSmulti



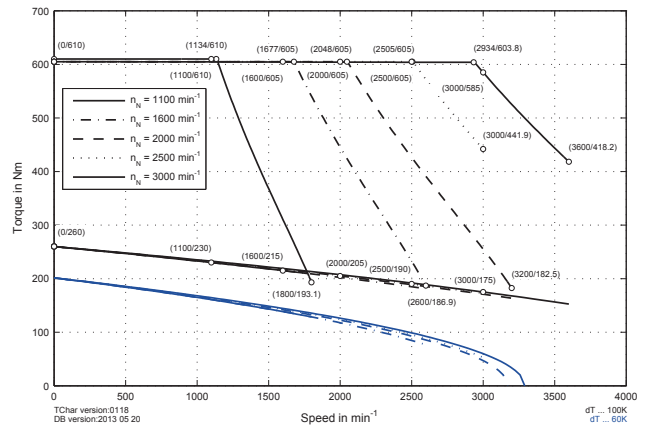
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ACOPOSmulti

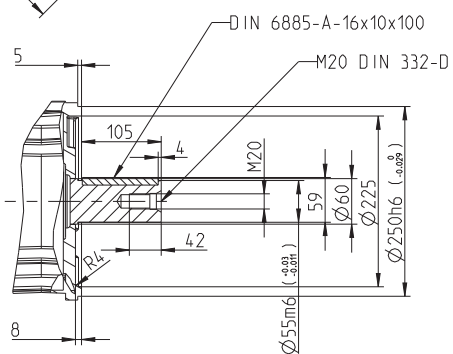
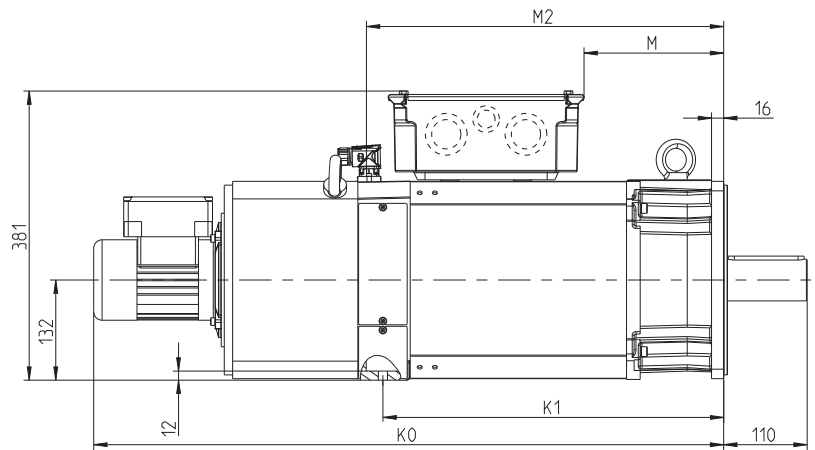
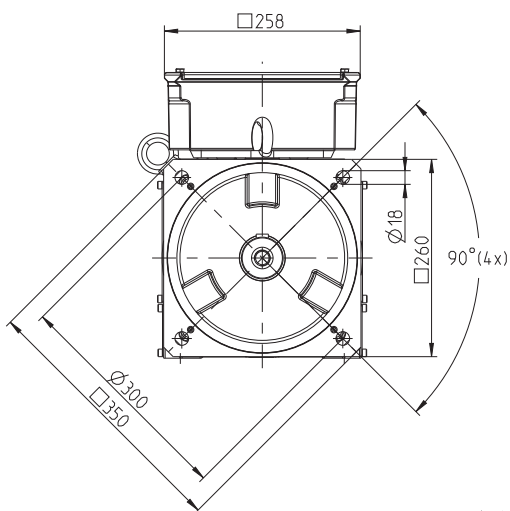


8KSL85.eennffgg-0 / 8KSM85.eennffgg-0

ACOPOSmulti



8KSL86.eennffgg-0 / 8KSM86.eennffgg-0

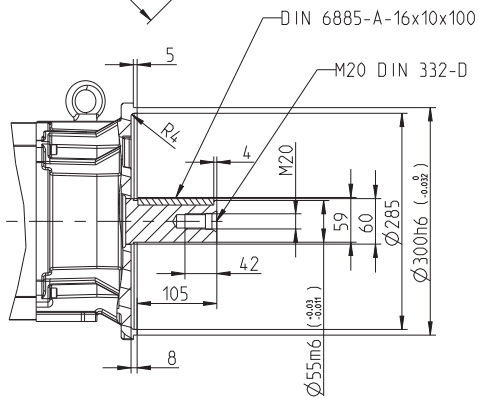
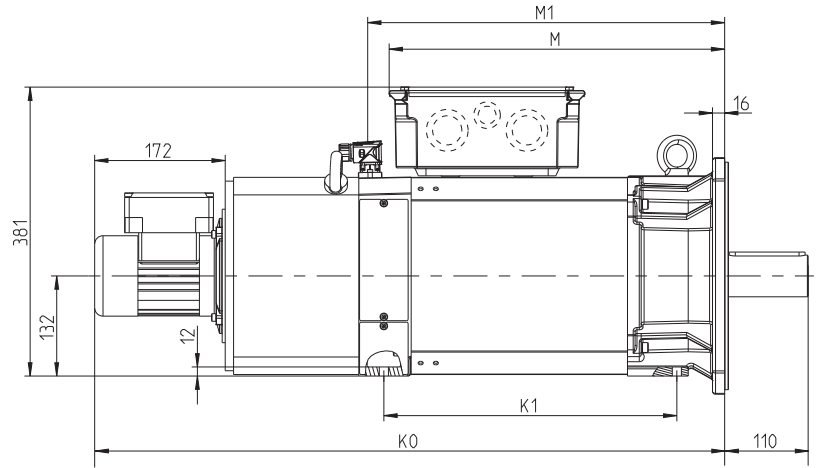
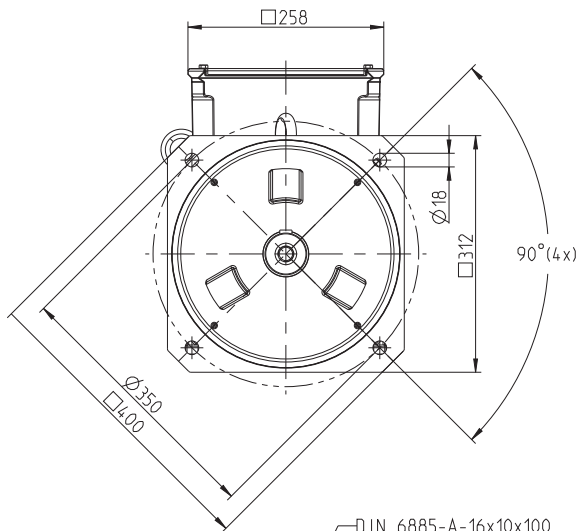


### 8KSL8 dimensions

Model number	K <sub>0</sub>	K <sub>1</sub>	M	M <sub>2</sub>	Extension of K <sub>0</sub> or K <sub>1</sub> and M <sub>2</sub> with brake
8KSL82.eennnffgg-0	780	399	134	417	On request
8KSL84.eennnffgg-0	830	449	184	467	On request
8KSL85.eennnffgg-0	880	499	234	517	On request
8KSL86.eennnffgg-0	930	549	284	567	On request



# 8KSL8/8KSM8

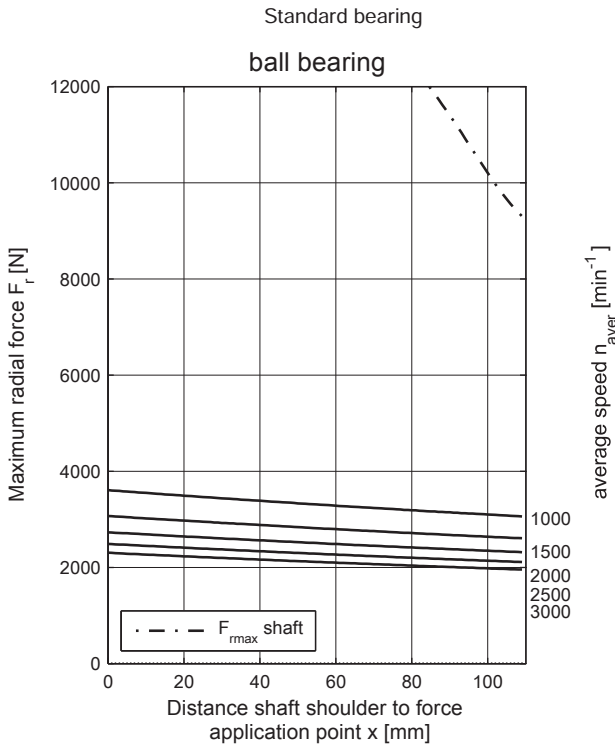


## 8KSM8 dimensions

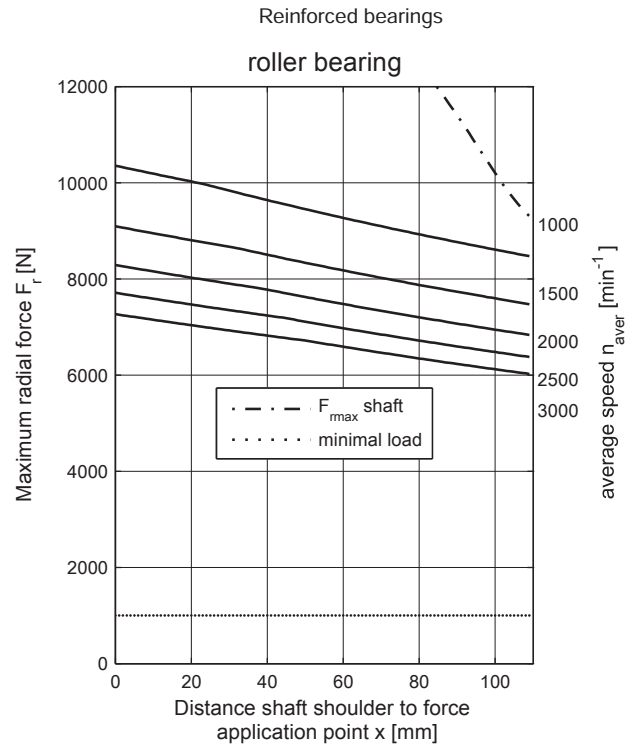
Model number	$K_0$	$K_1$	$M$	$M_1$	Extension of $K_0$ or $K_1$ and $M_1$ with brake
8KSM82.eennnffgg-0	780	336	134	417	On request
8KSM84.eennnffgg-0	830	386	184	467	On request
8KSM85.eennnffgg-0	880	436	234	517	On request
8KSM86.eennnffgg-0	930	486	284	567	On request

## Maximum shaft load

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



Shaft Strength durability for maximal motor torque



Shaft Strength durability for maximal motor torque