



# KeDrive DMS Synchronous Motors



**KEBA**<sup>®</sup>

Automation by innovation.

# KeDrive DMS Synchronmotoren

The synchronous servomotors are suitable for almost all servo applications in automation.

The high torque density permits a particularly compact design with maximum torques up to 345 Nm. Everything from analogue encoder through to modern, digital safety encoder are available, depending on the requirements for precision and safety technology. With the high resolution Hiperface DSL encoders, safe high performance applications can be realized with just one cable.

The digital encoders are available both in single-turn and in multi-turn versions. The electronic nameplate with parameter memory permits problem-free commissioning of the drive system. The motors attain protection rating IP 65 as standard thanks to being fitting with a shaft sealing ring.





## KeDrive – Overview

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# KeDrive DMS

## Synchronous Motors

### Overview

- Maximum reliability
- High overload capacity
- Low torque ripple
- One common cable for power supply and encoder signal



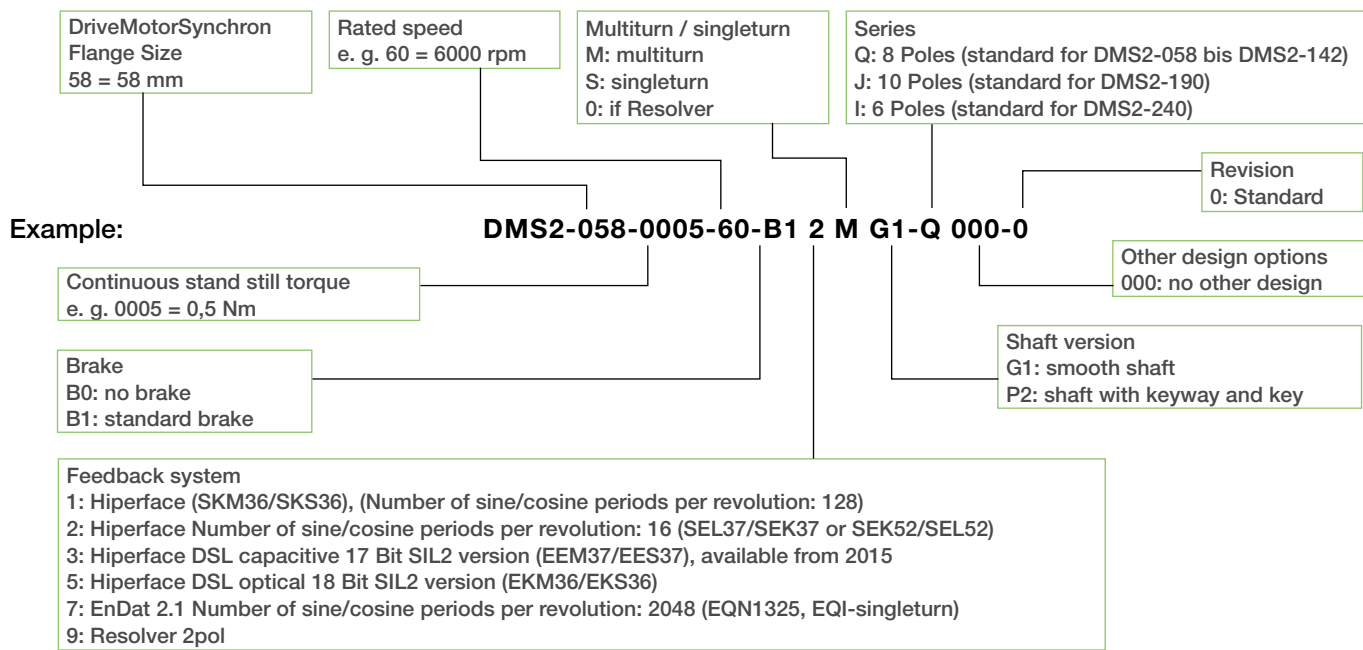
### Brief description

The KEBA servomotors of the series DMS2 fulfill the highest standards of accuracy and of smooth running and are characterized particularly by a wide power spectrum and a wide speed range. The fine graduation of torque and speed over 7 flange sizes allows optimum motor dimensioning for each application. The high torque density makes the engine compact and dynamic.

The moments of inertia are adapted especially for robotics and motion applications and therefore allow an optimal control mode, especially for linked axes.

Depending on the application, the motors can be customized in a variety of possible options specifically to the respective needs. Depending on the required positioning accuracy the motors can be delivered with several encoder types. For encoders singleturn as well as multiturn versions are available.

## Ordering Code



Other available options: reinforced bearings, smaller plugs, different shaft designs, air ventilation, water cooling, ATEX, etc.

## Symbols and abbreviations

Symbol	Description
$P_N$	Output at rated speed
$T_N$	Rated torque
$n_N$	Rated speed
$T_0$	Stall torque
$T_{max}$	Peak torque
$I_N$	Rated current
$I_0$	Stall current
$I_{max}$	Peak current
<b>J</b>	Moment of inertia
<b>L</b>	Length

The length of the motors may vary according to the selected motor feedback (encoder, resolver, etc.).

# KeDrive DMS2-058

## Synchronous Motors

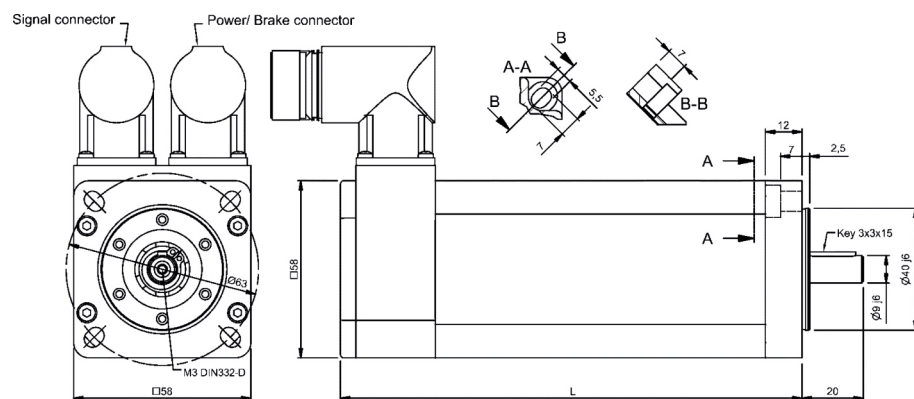
### Flange Dimension 58 mm

	$P_N$ W	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-058-0007-30	229,3	0,73	3000	0,75	3,0	0,50	0,52	2,46	0,19	126,5
DMS2-058-0010-30	304,7	0,97	3000	1,00	4,0	0,67	0,69	3,28	0,25	138,5
DMS2-058-0012-30	380,1	1,21	3000	1,25	5,0	0,83	0,86	4,10	0,31	150,5
DMS2-058-0002-60	151	0,24	6000	0,25	1,0	0,33	0,34	1,65	0,07	102,5
DMS2-058-0005-60	295	0,47	6000	0,50	2,0	0,65	0,69	3,30	0,13	114,5
DMS2-058-0007-60	440	0,70	6000	0,75	3,0	0,96	1,03	4,95	0,19	126,5
DMS2-058-0010-60	584	0,93	6000	1,00	4,0	1,28	1,37	6,60	0,25	138,5
DMS2-058-0012-60	729	1,16	6000	1,25	5,0	1,59	1,72	8,25	0,31	150,5

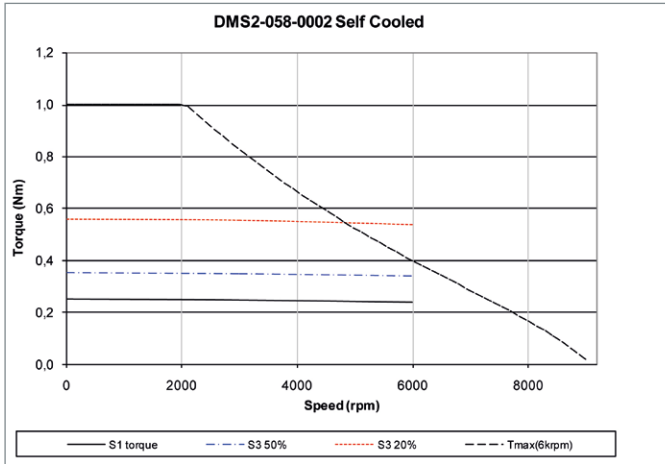
\*) With brake the torque of inertia is higher by 0.12 kgcm<sup>2</sup>

\*\*) With brake approx. 30 mm longer

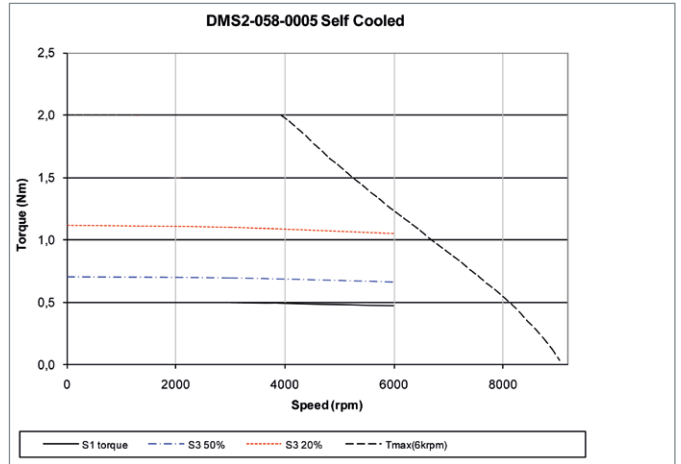
### Dimensions DMS2-058



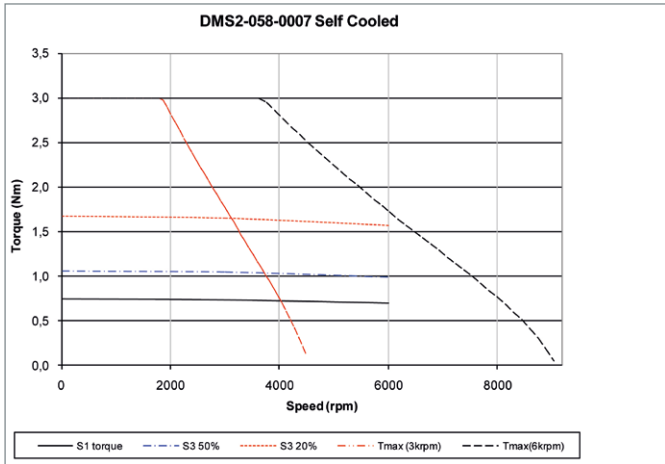
Motor characteristics DMS2-058-0002



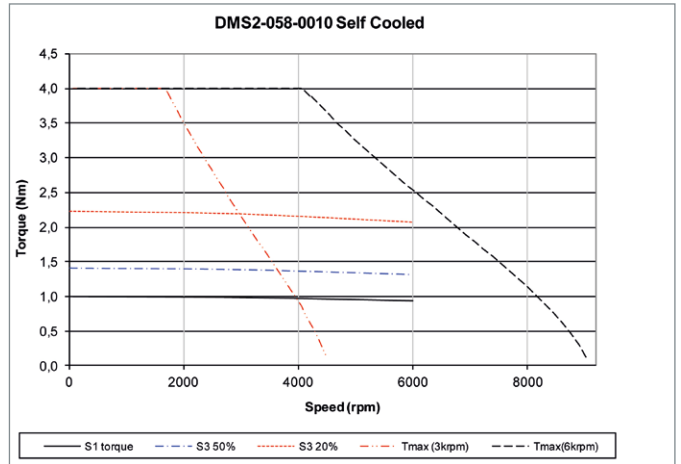
Motor characteristics DMS2-058-0005



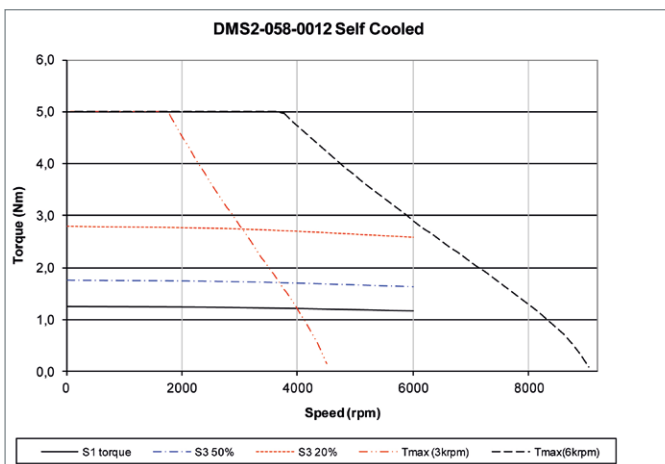
Motor characteristics DMS2-058-0007



Motor characteristics DMS2-058-0010



Motor characteristics DMS2-058-0012



# KeDrive DMS2-070

## Synchronous Motors

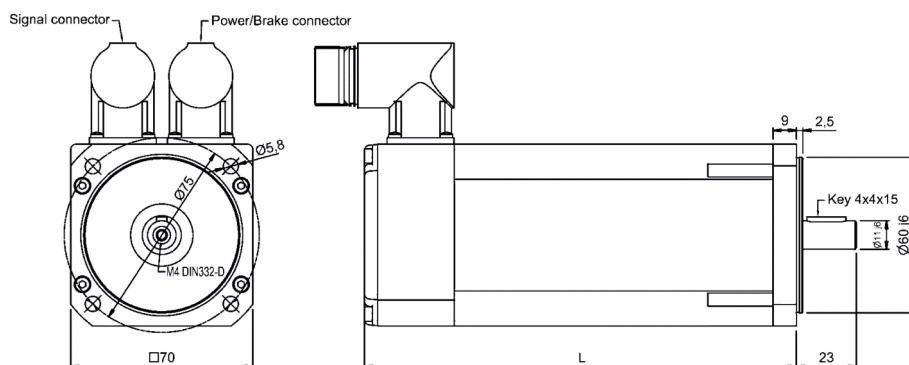
### Flange Dimension 70 mm

	$P_N$ W	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-070-0006-30	172,8	0,55	3000	0,6	2,1	0,4	0,4	1,8	0,25	119
DMS2-070-0012-30	345,6	1,10	3000	1,2	4,2	0,8	0,8	3,6	0,44	134
DMS2-070-0018-30	518,4	1,65	3000	1,8	6,3	1,1	1,2	5,4	0,63	149
DMS2-070-0024-30	691,2	2,20	3000	2,4	8,5	1,5	1,7	7,3	0,82	164
DMS2-070-0006-60	314,2	0,5	6000	0,6	2,1	0,7	0,8	3,6	0,25	119
DMS2-070-0012-60	628,0	1,0	6000	1,2	4,2	1,4	1,6	7,2	0,44	134
DMS2-070-0018-60	942,5	1,5	6000	1,8	6,3	2,1	2,5	10,8	0,63	149
DMS2-070-0024-60	1255	2,0	6000	2,4	8,5	2,7	3,3	14,7	0,82	164

\*) With brake the torque of inertia is higher by 0.38 kgcm<sup>2</sup>

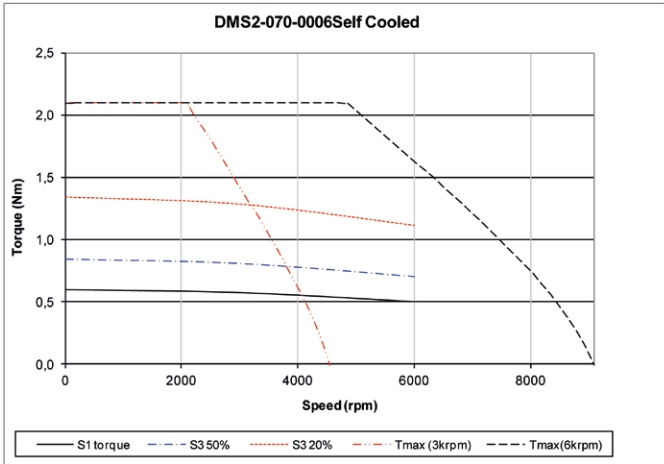
\*\*) With brake approx. 35 mm longer

### Dimensions DMS2-070

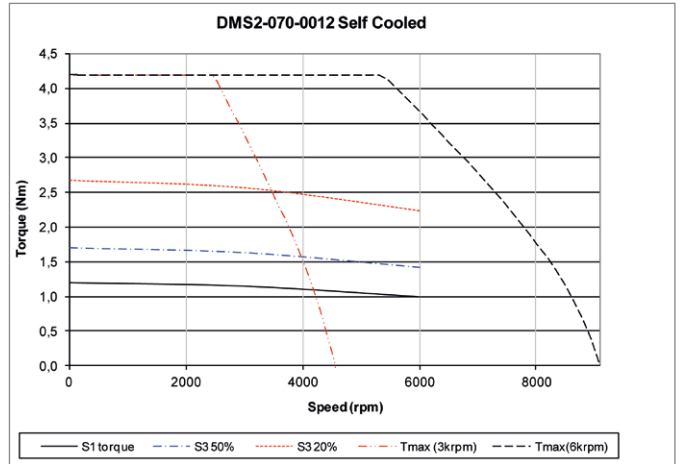




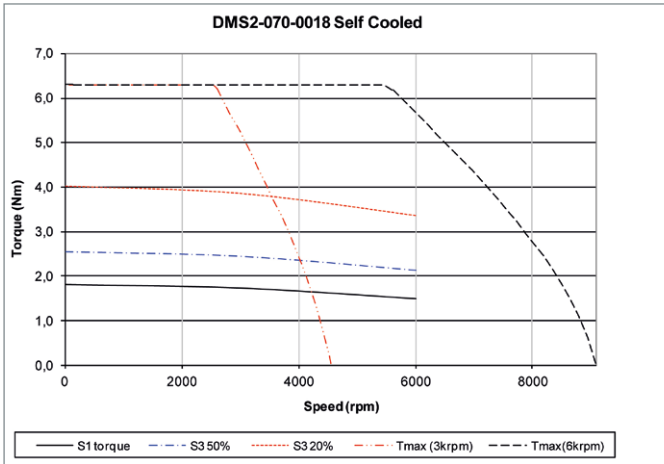
Motor characteristics DMS2-070-0006



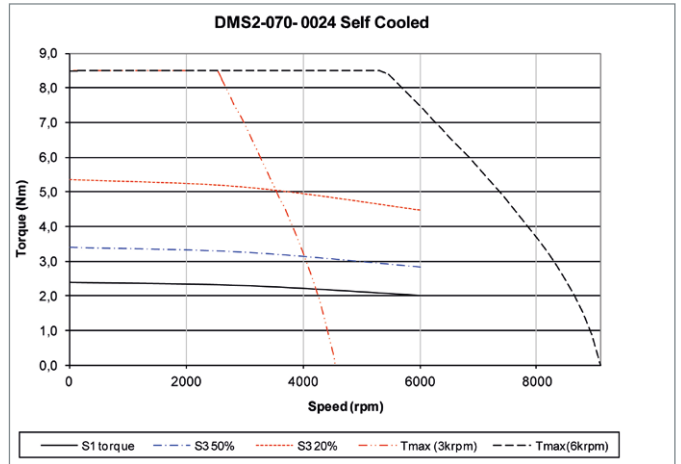
Motor characteristics DMS2-070-00012



Motor characteristics DMS2-070-00018



Motor characteristics DMS2-070-00024



# KeDrive DMS2-091

## Synchronous Motors

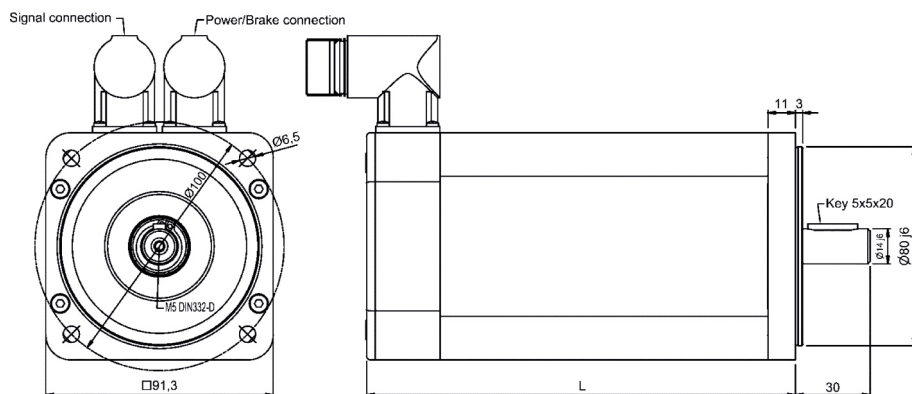
### Flange Dimension 91 mm

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-091-0013-30	0,4	1,3	3000	1,35	5	0,8	0,8	3,6	0,47	137
DMS2-091-0026-30	0,8	2,5	3000	2,6	10	1,5	1,6	7,1	0,88	159
DMS2-091-0035-30	1,0	3,1	3000	3,5	14	1,9	2,1	10,0	1,09	174
DMS2-091-0045-30	1,2	3,9	3000	4,5	18	2,4	2,8	12,7	1,40	194
DMS2-091-0013-60	0,6	1,0	6000	1,35	5	1,2	1,7	7,1	0,47	137
DMS2-091-0026-60	1,1	1,7	6000	2,6	10	2,1	3,2	14,3	0,88	159
DMS2-091-0035-60	1,3	2,0	6000	3,5	14	2,5	4,3	20,0	1,09	174
DMS2-091-0045-60	1,4	2,3	6000	4,5	18	2,8	5,6	25,4	1,40	194

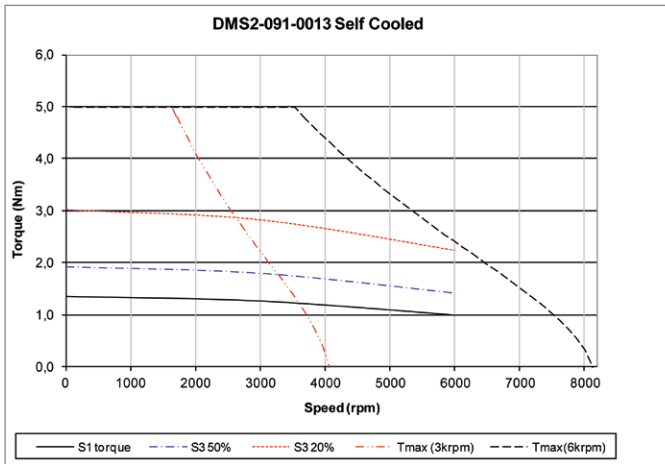
\*) With brake the torque of inertia is higher by 0.38 kgcm<sup>2</sup>

\*\*) With brake approx. 35 mm longer

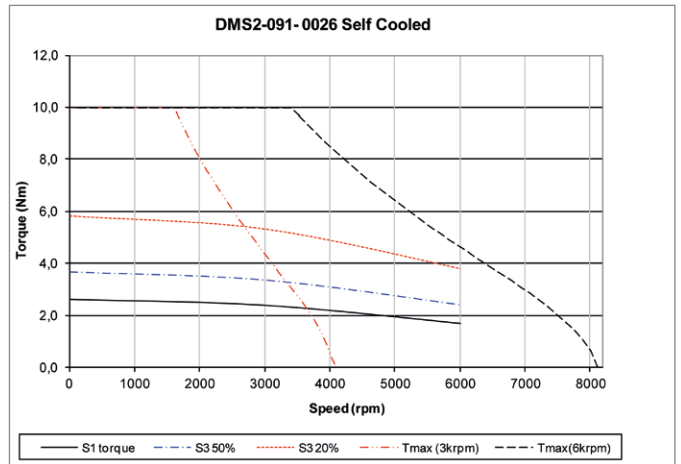
### Dimensions DMS2-091



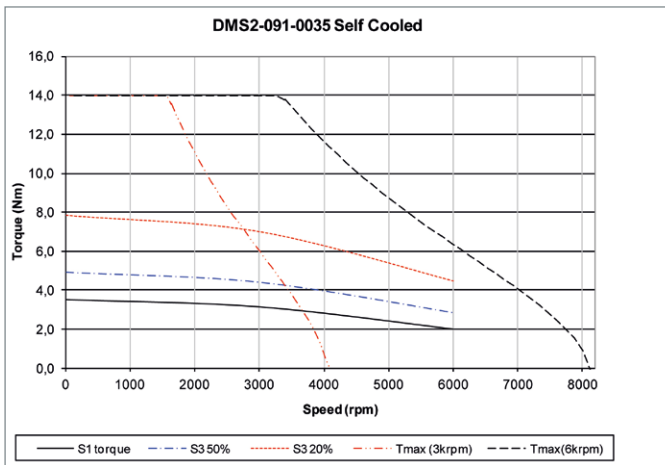
Motor characteristics DMS2-091-0013



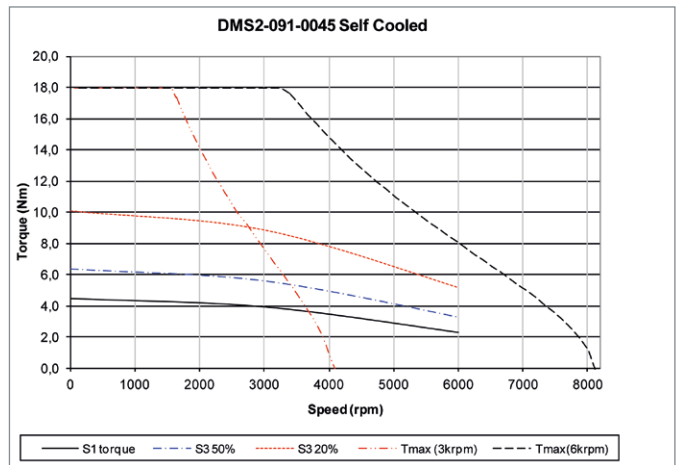
Motor characteristics DMS2-091-0026



Motor characteristics DMS2-091-0035



Motor characteristics DMS2-091-0045



# KeDrive DMS2-100

## Synchronous Motors

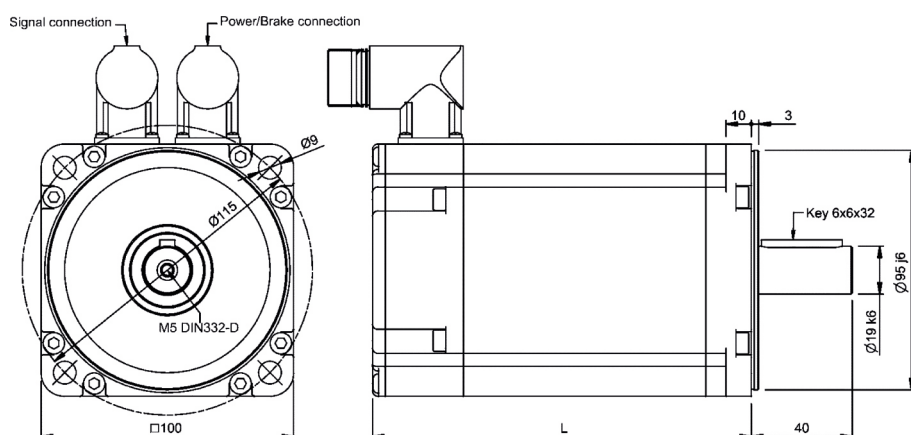
### Flange Dimension 100 mm

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-100-0040-30	1,1	3,50	3000	4,0	12	2,1	2,5	11,6	1,87	185
DMS2-100-0060-30	1,6	5,25	3000	6,0	18	3,2	3,7	17,4	2,67	205
DMS2-100-0080-30	2,4	7,50	3000	8,0	24	4,6	4,9	23,2	3,47	229
DMS2-100-0100-30	2,7	8,75	3000	10,0	30	5,4	6,1	29,0	4,27	249
DMS2-100-0040-45	1,5	3,10	4500	4,0	12	2,8	3,7	17,3	1,87	185
DMS2-100-0060-45	2,2	4,65	4500	6,0	18	4,3	5,5	26,0	2,67	205
DMS2-100-0080-45	2,9	6,20	4500	8,0	24	5,7	7,4	34,6	3,47	229
DMS2-100-0100-45	3,6	7,70	4500	10,0	30	7,1	9,2	43,3	4,27	249
DMS2-100-0040-60	1,5	2,40	6000	4,0	12	2,9	4,9	23,2	1,87	185
DMS2-100-0060-60	2,3	3,60	6000	6,0	18	4,4	7,4	34,8	2,67	205
DMS2-100-0080-60	3,0	4,80	6000	8,0	24	5,9	9,8	46,4	3,47	229
DMS2-100-0100-60	3,8	6,00	6000	10,0	30	7,4	12,3	58,0	4,27	249

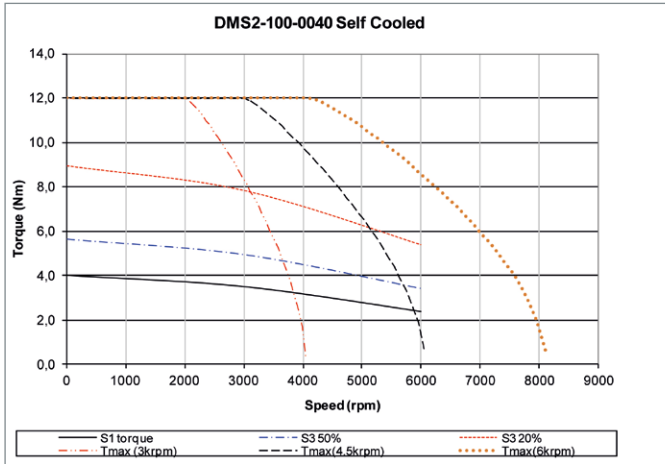
\*) With brake the torque of inertia is higher by 0.54 kgcm<sup>2</sup>

\*\*) With brake approx. 32 mm longer

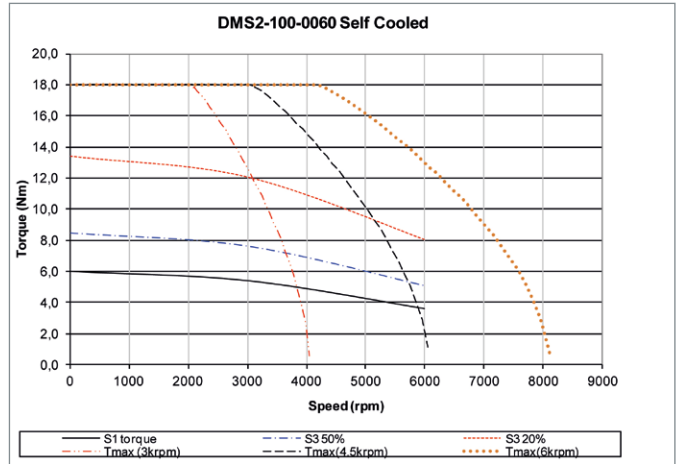
### Dimensions DMS2-100



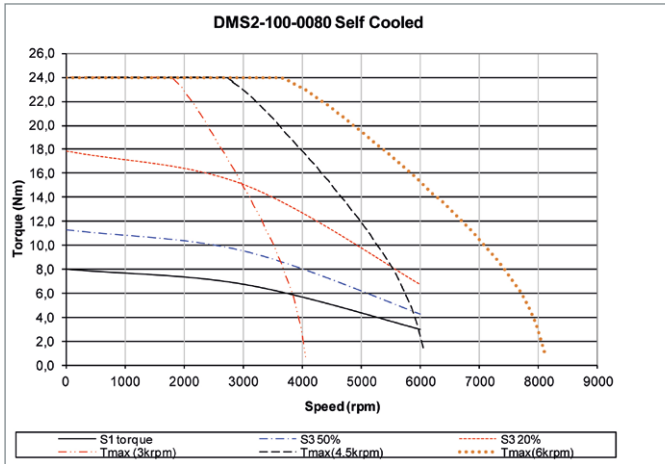
Motor characteristics DMS2-100-0040



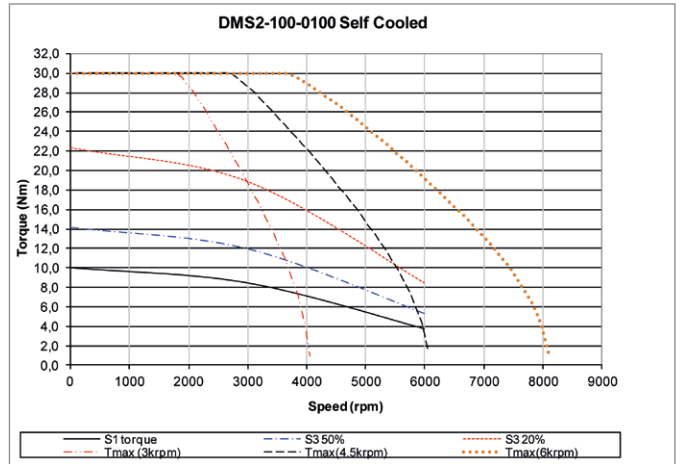
Motor characteristics DMS2-100-0060



Motor characteristics DMS2-100-0080



Motor characteristics DMS2-100-0100



# KeDrive DMS2-142

## Synchronous Motors

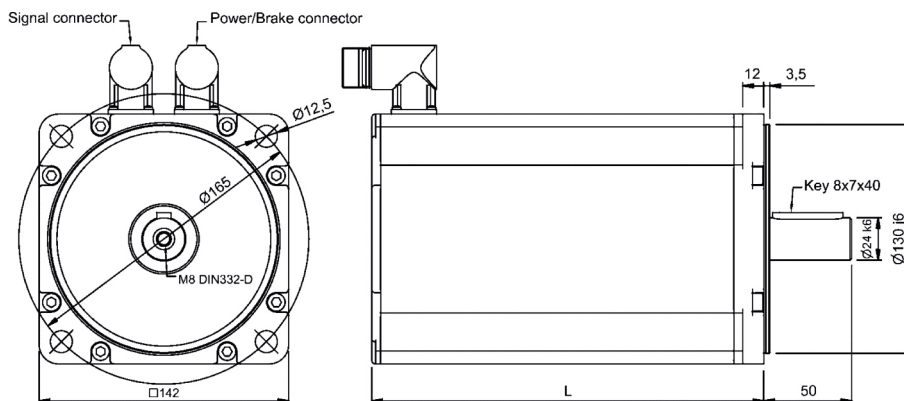
### Flange Dimension 142 mm (4,5 Nm – 26 Nm)

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-142-0045-20	0,9	4,2	2000	4,5	13,8	1,7	1,8	6,6	3,6	178 (213)
DMS2-142-0090-20	1,7	8,1	2000	9,0	27,6	3,3	3,7	13,1	6,0	203 (238)
DMS2-142-0125-20	2,5	11,8	2000	12,5	41,4	4,8	5,1	19,7	8,2	228 (258)
DMS2-142-0160-20	3,2	15,1	2000	16,0	55,2	6,2	6,6	26,2	10,7	253 (283)
DMS2-142-0200-20	3,9	18,5	2000	20,0	69,0	7,6	8,2	32,7	13,1	278 (303)
DMS2-142-0260-20	4,7	22,4	2000	26,0	96,6	9,2	10,6	45,9	18,4	328 (348)
DMS2-142-0045-30	1,3	4,0	3000	4,5	13,8	2,5	2,8	9,8	3,6	178 (213)
DMS2-142-0090-30	2,4	7,7	3000	9,0	27,6	4,7	5,5	19,7	6,0	203 (238)
DMS2-142-0125-30	3,6	11,6	3000	12,5	41,4	7,1	7,7	29,5	8,2	228 (258)
DMS2-142-0160-30	4,4	13,9	3000	16,0	55,2	8,5	9,8	39,3	10,7	253 (283)
DMS2-142-0200-30	5,5	17,5	3000	20,0	69,0	10,7	12,3	49,1	13,1	278 (303)
DMS2-142-0260-30	5,9	18,9	3000	26,0	96,6	11,6	16,0	68,8	18,4	328 (348)
DMS2-142-0045-45	1,8	3,9	4500	4,5	13,8	3,6	4,1	14,7	3,6	178 (213)
DMS2-142-0090-45	3,4	7,3	4500	9,0	27,6	6,7	8,3	29,3	6,0	203 (238)
DMS2-142-0125-45	4,5	9,5	4500	12,5	41,4	8,7	11,5	44,0	8,2	228 (258)
DMS2-142-0160-45	6,0	12,7	4500	16,0	55,2	11,7	14,7	58,6	10,7	253 (283)
DMS2-142-0200-45	6,9	14,6	4500	20,0	69,0	13,4	18,4	73,3	13,1	278 (303)
DMS2-142-0260-45	6,9	14,7	4500	26,0	96,6	13,5	23,9	102,7	18,4	328 (348)

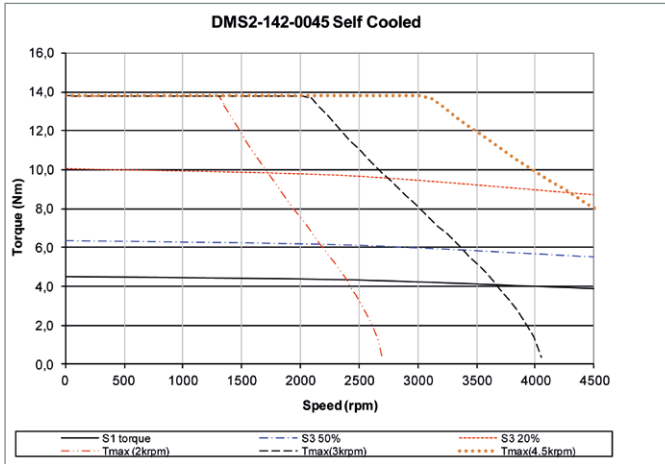
\*) With brake the torque of inertia is higher by 1.66 kgcm<sup>2</sup>

\*\*) Maximum length incl. encoder without brake (with brake)

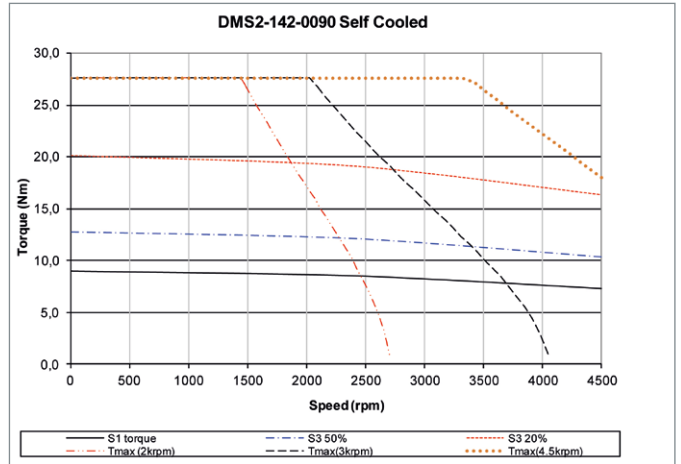
### Dimensions DMS2-142 , 4,5-26 Nm



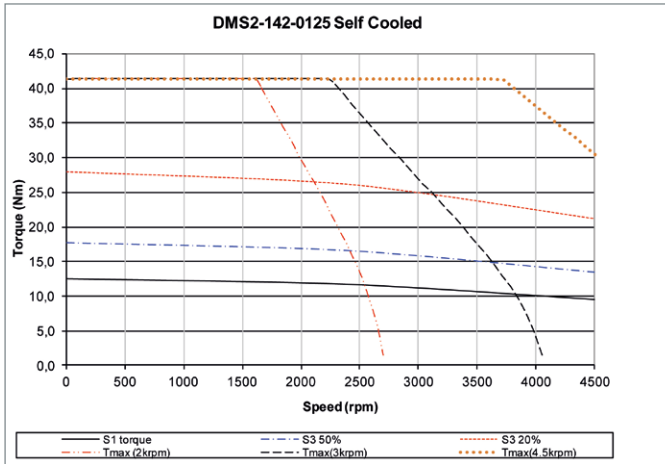
Motor characteristics DMS2-142-0045



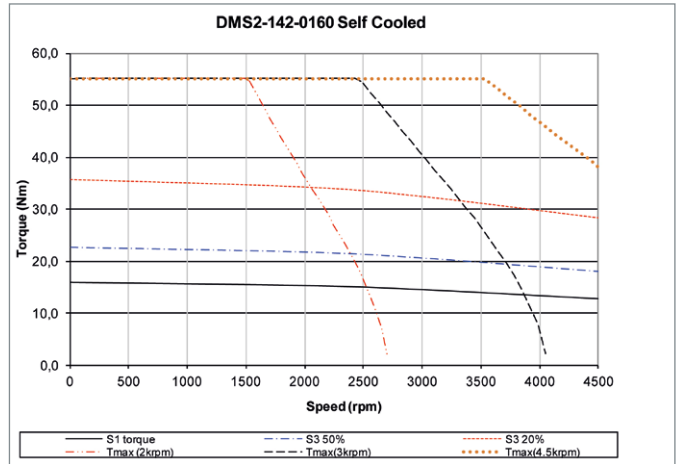
Motor characteristics DMS2-142-0090



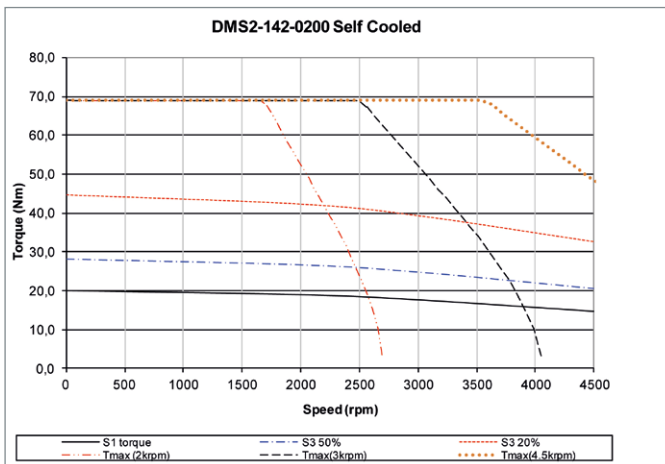
Motor characteristics DMS2-142-0125



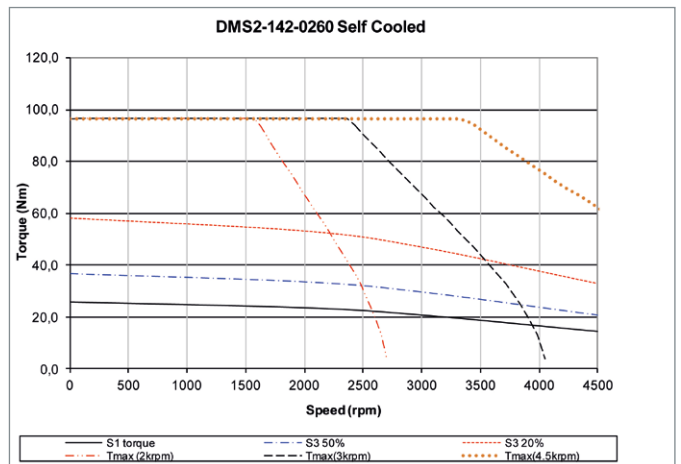
Motor characteristics DMS2-142-0160



Motor characteristics DMS2-142-0200



Motor characteristics DMS2-142-0260



# KeDrive DMS2-142

## Synchronous Motors

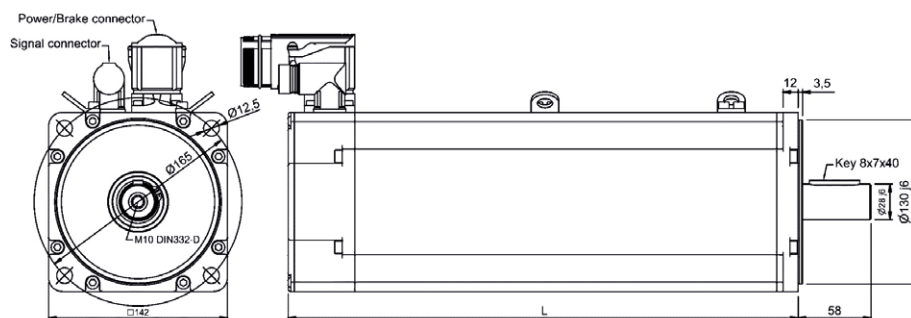
### Flange Dimension 142 mm (29 Nm – 38 Nm)

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-142-0290-20	5,0	23,9	2000	29,0	110,4	9,8	11,9	52,4	20,6	368
DMS2-142-0320-20	5,3	25,5	2000	32,0	124,2	10,4	13,1	58,9	23,0	390
DMS2-142-0350-20	5,6	26,7	2000	35,0	138,0	10,9	14,3	65,5	25,5	413
DMS2-142-0380-20	5,9	28,0	2000	38,0	151,0	11,5	15,6	72,1	28,0	435
DMS2-142-0290-30	6,4	20,3	3000	29,0	110,4	12,5	17,8	78,6	20,6	368
DMS2-142-0320-30	6,8	21,8	3000	32,0	124,2	13,4	19,7	88,4	23,0	390
DMS2-142-0350-30	7,2	23,0	3000	35,0	138,0	14,1	21,5	98,3	25,5	413
DMS2-142-0380-30	7,6	24,1	3000	38,0	151,0	14,8	23,3	108,1	28,0	435
DMS2-142-0290-45	7,2	15,3	4500	29,0	110,4	14,1	26,7	117,3	20,6	368
DMS2-142-0320-45	7,5	16,0	4500	32,0	124,2	14,7	29,5	131,9	23,0	390
As of this engine – see the power connector 1.5 as shown in the figure below										
DMS2-142-0350-45	7,7	16,4	4500	35,0	138,0	15,1	32,2	146,6	25,5	413
DMS2-142-0380-45	7,9	16,8	4500	38,0	151,0	15,5	35,0	161,3	28,0	435

\*) With brake the torque of inertia is higher by 3.6 kgcm<sup>2</sup>

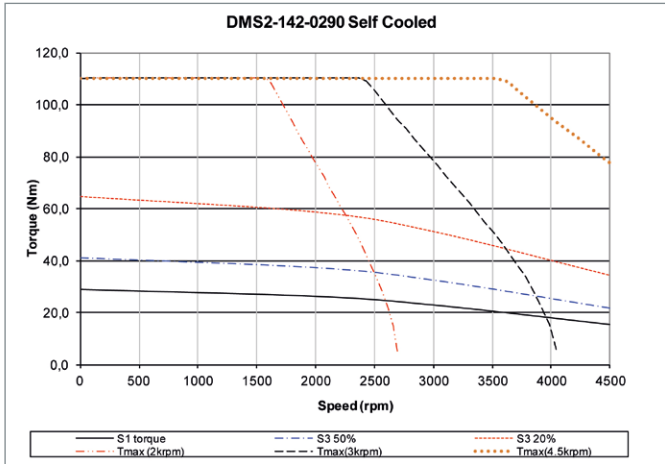
\*\*) With brake approx. 35 mm longer

### Dimensions DMS2-142

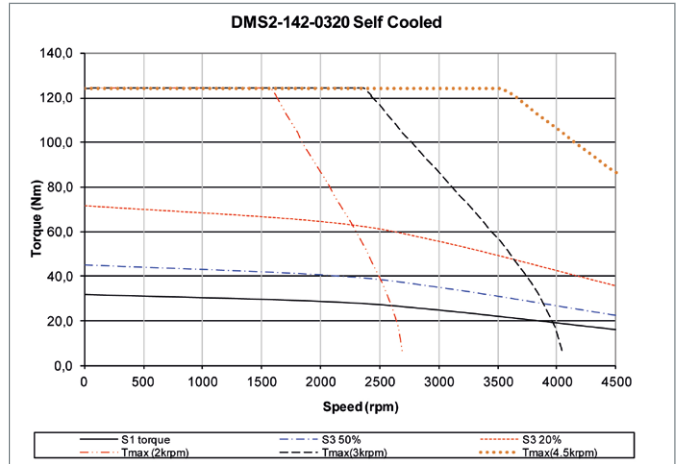




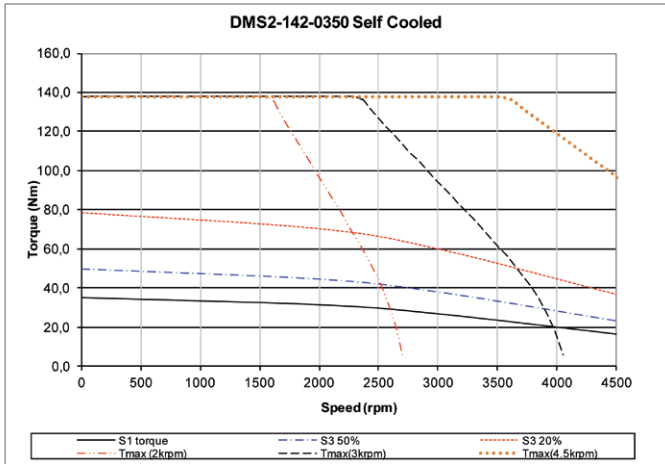
Motor characteristics DMS2-142-0290



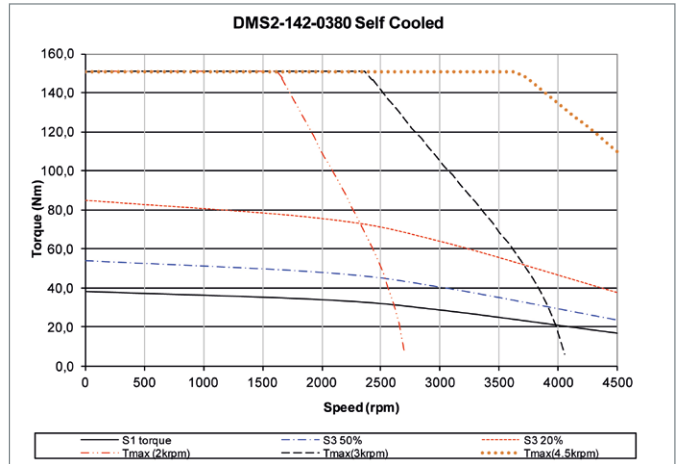
Motor characteristics DMS2-142-0320



Motor characteristics DMS2-142-0350



Motor characteristics DMS2-142-0380



# KeDrive DMS2-190 Synchronous Motors

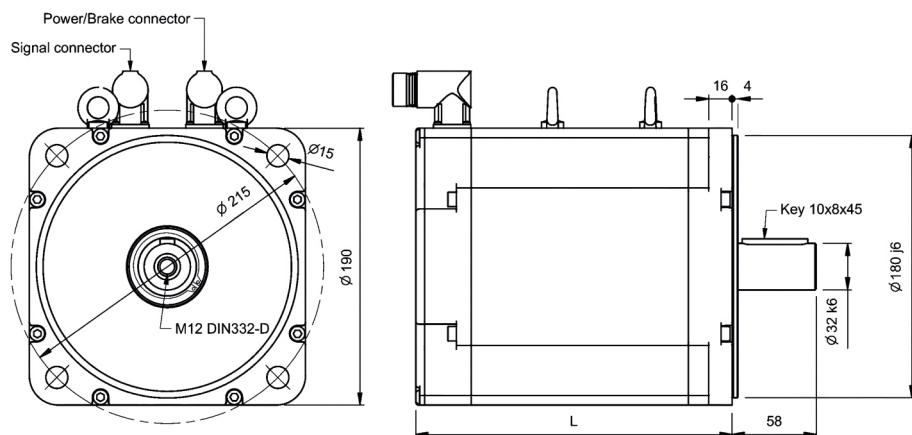
## Flange Dimension 190 mm (20-42Nm)

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-190-0200-20	3,8	18,3	2000	20,0	75	7,5	8,2	38	33	223 (253)
DMS2-190-0280-20	5,2	24,7	2000	28,0	108	10,1	11,4	55	46	246 (276)
DMS2-190-0360-20	6,3	30,1	2000	36,0	144	12,3	14,7	74	60	268 (298)
DMS2-190-0420-20	7,6	36,1	2000	42,0	180	14,8	17,2	92	74	291 (321)
DMS2-190-0200-30	5,1	16,1	3000	20,0	75	9,9	12,3	57	33	223 (253)
DMS2-190-0280-30	6,9	22,0	3000	28,0	108	13,5	17,2	83	46	246 (276)
DMS2-190-0360-30	8,8	28,0	3000	36,0	144	17,2	22,1	111	60	268 (298)
DMS2-190-0420-30	10,2	32,5	3000	42,0	180	19,9	25,8	139	74	291 (321)

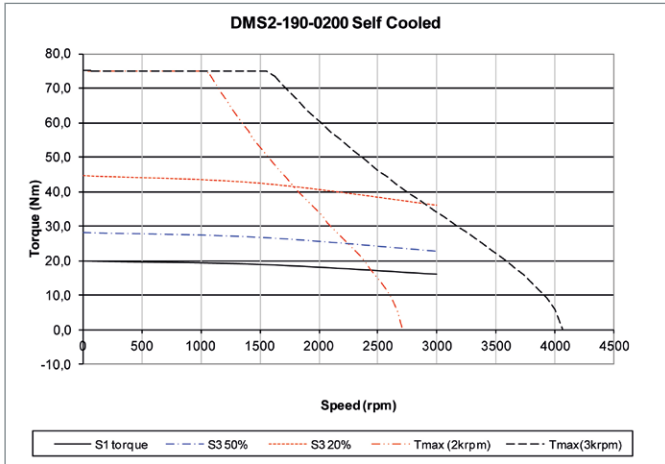
\*) With brake the torque of inertia is higher by 32 kgcm<sup>2</sup>

\*\*) Maximum length incl. encoder without brake (with brake)

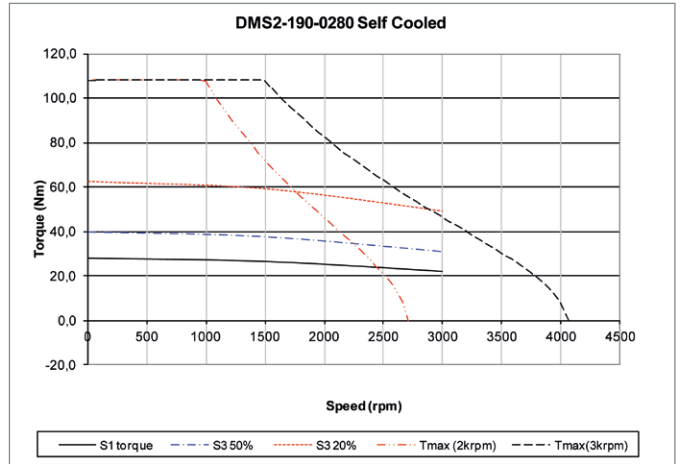
## Dimensions DMS2-190, 20-42 Nm



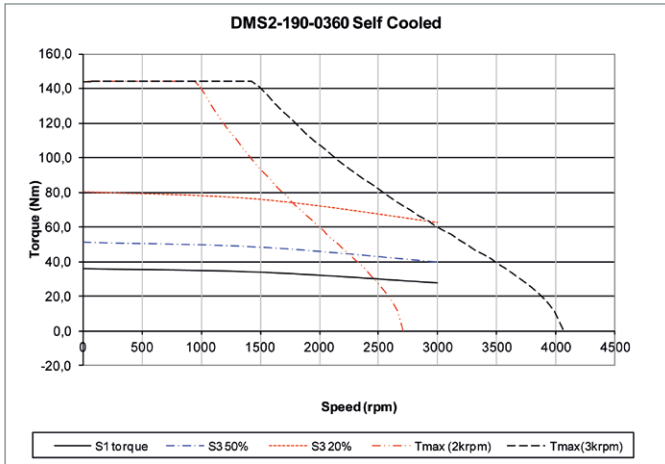
Motor characteristics DMS2-190-0200



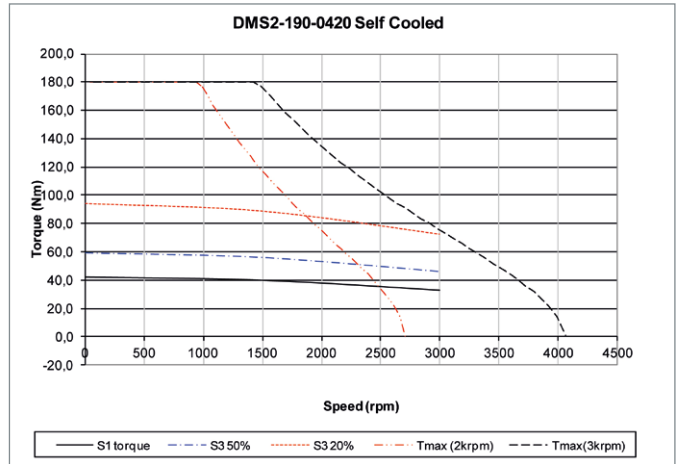
Motor characteristics DMS2-190-0280



Motor characteristics DMS2-190-0360



Motor characteristics DMS2-190-0420



# KeDrive DMS2-190 Synchronous Motors

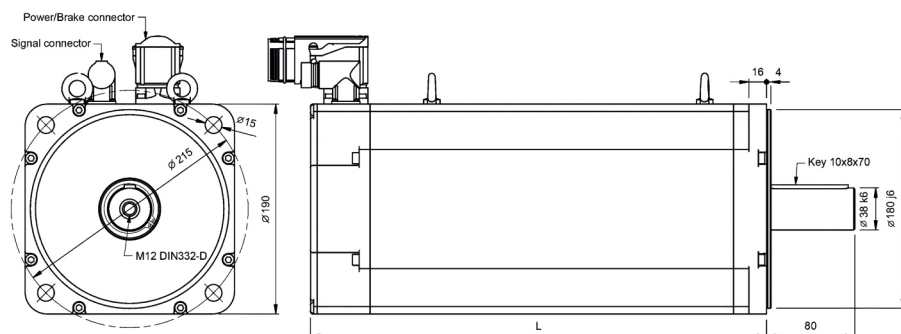
## Flange Dimension 190 mm (56-80 Nm)

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-190-0560-20	9,3	44,5	2000	56,0	230	18,2	22,9	129	102	336 (366)
DMS2-190-0680-20	10,7	50,9	2000	68,0	322	20,8	27,8	166	130	381 (411)
As of this engine – see the power connector 1.5 as shown in the figure below										
DMS2-190-0800-20	12,1	57,8	2000	80,0	396	23,6	32,7	265	158	442 (472)
DMS2-190-0560-30	11,6	37,0	3000	56,0	230	22,7	34,4	194	102	336 (366)
DMS2-190-0680-30	12,8	40,9	3000	68,0	322	25,1	41,7	249	130	381 (411)
DMS2-190-0800-30	13,8	44,0	3000	80,0	396	27,0	49,1	302	158	442 (472)

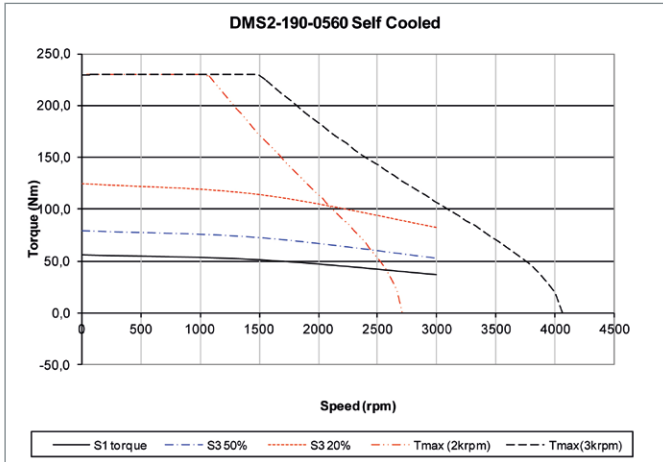
\*) With brake the torque of inertia is higher by 32 kgcm<sup>2</sup>

\*\*\*) Maximum length incl. encoder without brake (with brake)

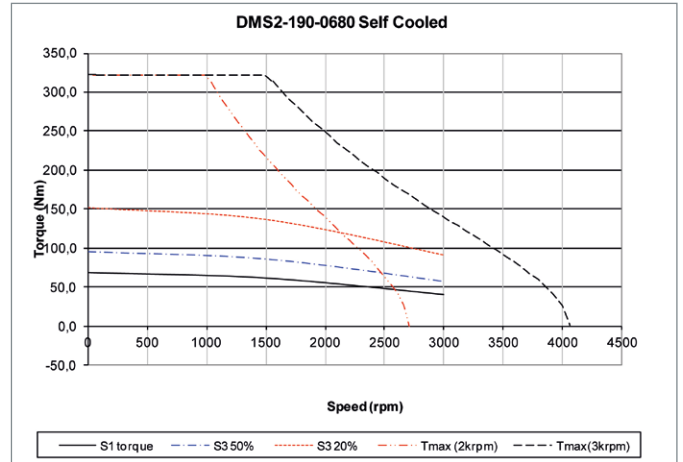
## Dimensions DMS2-190, 56-80 Nm



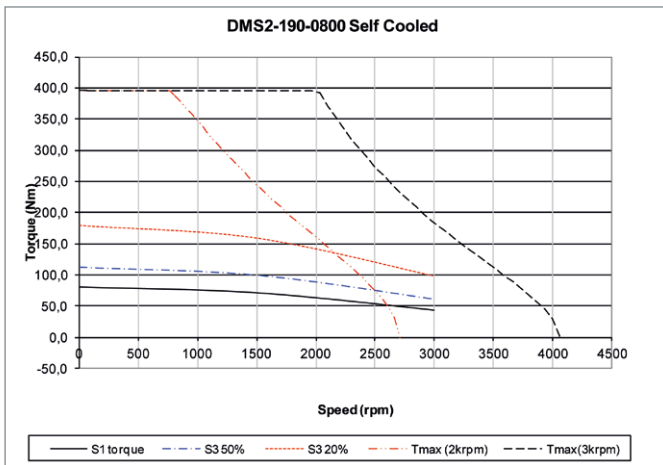
Motor characteristics DMS2-190-0560



Motor characteristics DMS2-190-0680



Motor characteristics DMS2-190-0800



# KeDrive DMS2-240

## Synchronous Motors

### Flange Dimension 240 mm (42 Nm – 73 Nm)

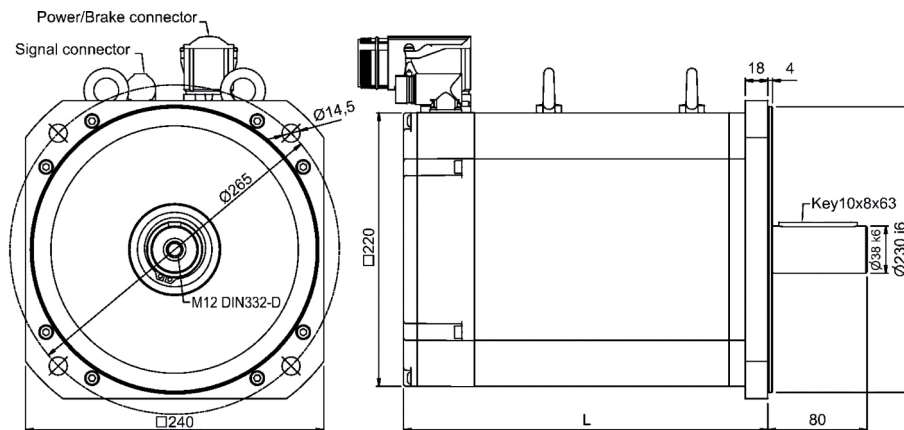
	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-240-0420-15	5,6	35,5	1500	42,0	120	10,9	12,9	45,2	65	331
DMS2-240-0580-15	7,4	47,0	1500	58,0	162	14,4	17,8	63,3	90	371
DMS2-240-0730-15	9,2	58,5	1500	73,0	204	17,9	22,4	81,4	114	411
DMS2-240-0420-20	6,8	32,5	2000	42,0	120	13,3	17,2	60,3	65	331
DMS2-240-0580-20	9,0	43,0	2000	58,0	162	17,6	23,7	84,4	90	371
DMS2-240-0730-20	11,2	53,5	2000	73,0	204	21,9	29,9	108,5	114	411
DMS2-240-0420-30	8,6	27,5	3000	42,0	120	16,9	25,8	90,4	65	331
DMS2-240-0580-30	12,0	38,2	3000	58,0	162	23,4	35,6	126,6	90	371
DMS2-240-0730-30	15,4	48,9	3000	73,0	204	30,0	44,8	162,8	114	411

All motors of flange dimension DMS2-240 – see the power connector 1.5 as shown in the figure below

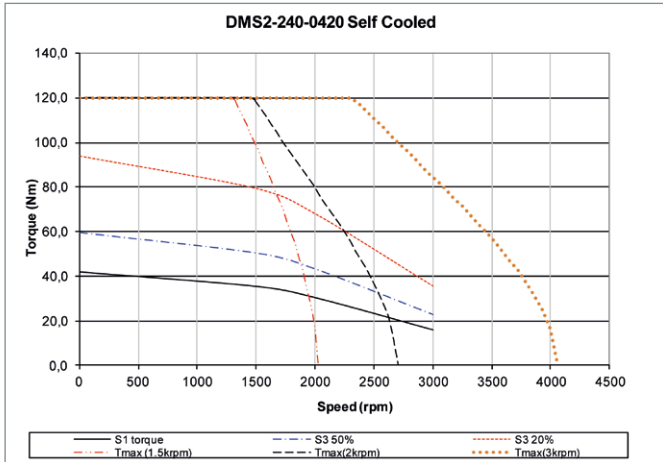
\*) With brake the torque of inertia is higher by 52,87 kgcm<sup>2</sup>

\*\*) With brake approx. 50 mm longer

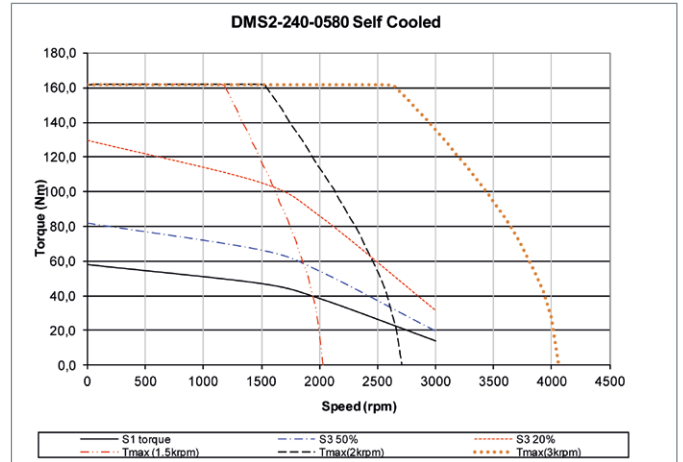
### Dimensions DMS2-240, 42-73Nm



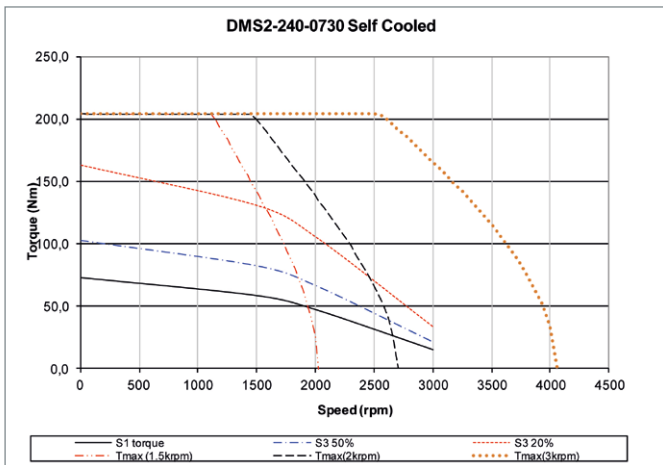
Motor characteristics DMS2-240-0420



Motor characteristics DMS2-240-0580



Motor characteristics DMS2-240-0730



# KeDrive DMS2-240

## Synchronous Motors

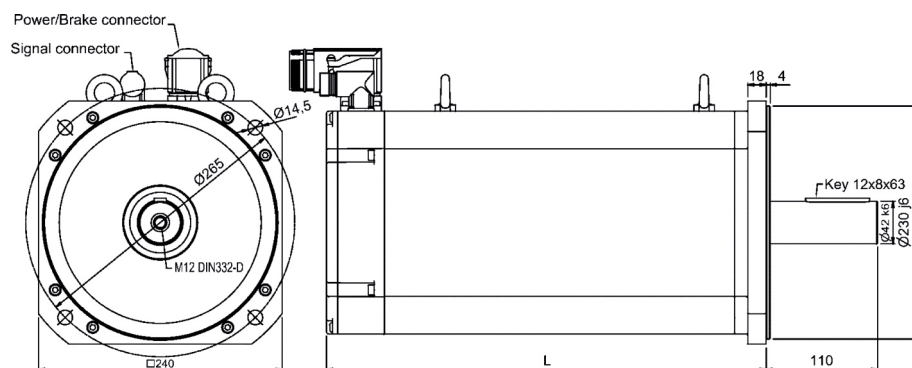
### Flange Dimension 240 mm (81 Nm – 120 Nm)

	$P_N$ kW	$T_N$ Nm	$n_N$ rpm	$T_0$ Nm	$T_{max}$ Nm	$I_N$ $A_{rms}$	$I_0$ $A_{rms}$	$I_{max}$ $A_{rms}$	$J^*)$ kgcm <sup>2</sup>	$L^{**})$ mm
DMS2-240-0810-15	10,2	65,0	1500	81,0	231	19,9	24,8	90,5	126	431
DMS2-240-0980-15	12,2	77,5	1500	98,0	280	23,8	30,1	108,5	150	471
DMS2-240-1200-15	14,8	94,5	1500	120,0	345	29,0	36,8	135,7	192	531
DMS2-240-0810-20	12,6	60,0	2000	81,0	231	24,6	33,1	120,6	126	431
DMS2-240-0980-20	15,2	72,50	2000	98,0	280	29,7	40,1	144,7	150	471
DMS2-240-1200-20	17,9	85,5	2000	120,0	345	35,0	49,1	180,9	192	531
DMS2-240-0810-30	16,8	53,5	3000	81,0	231	32,8	49,7	180,9	126	431
DMS2-240-0980-30	19,0	60,5	3000	98,0	280	37,1	60,1	217,1	150	471
DMS2-240-1200-30	21,0	67,0	3000	120,0	345	41,1	73,6	271,3	192	531

\*) With brake the torque of inertia is higher by 52,87 kgcm<sup>2</sup>

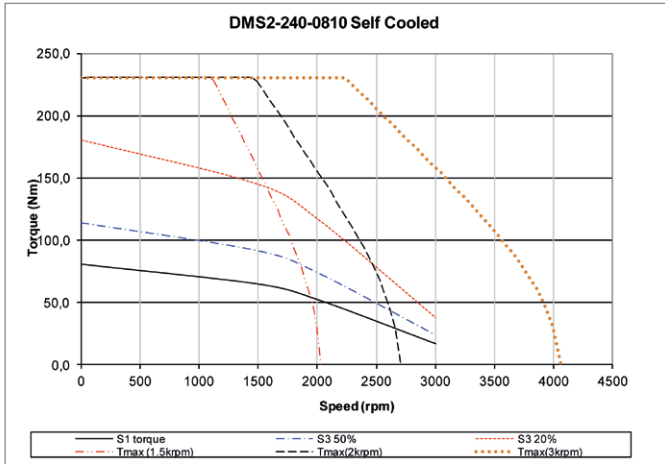
\*\*\*) With brake approx. 50 mm longer

### Dimensions DMS2-240, 81-120 Nm

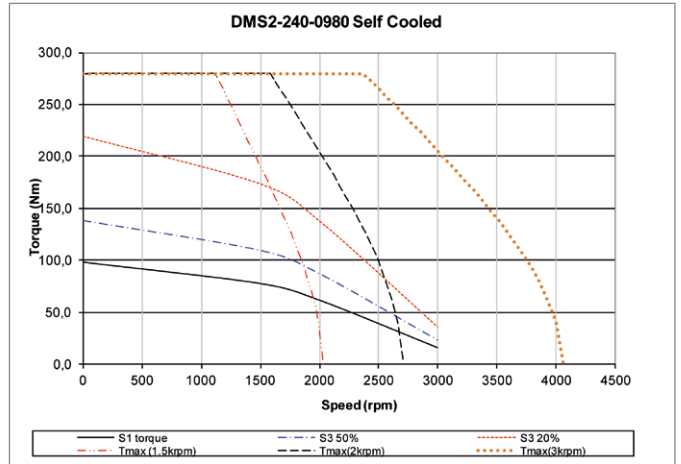




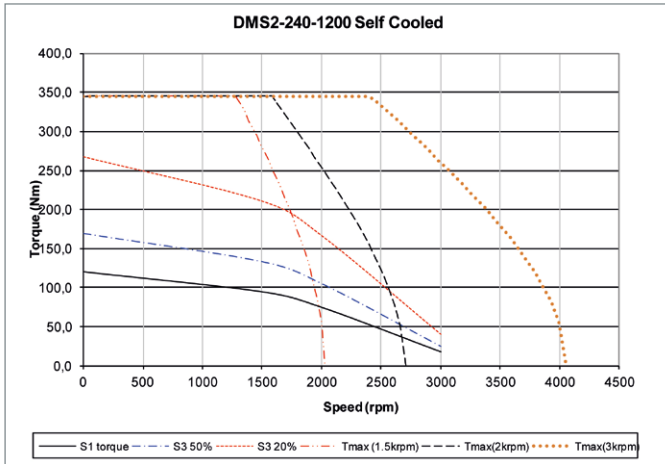
Dimensions DMS2-240-0810



Dimensions DMS2-240-0980

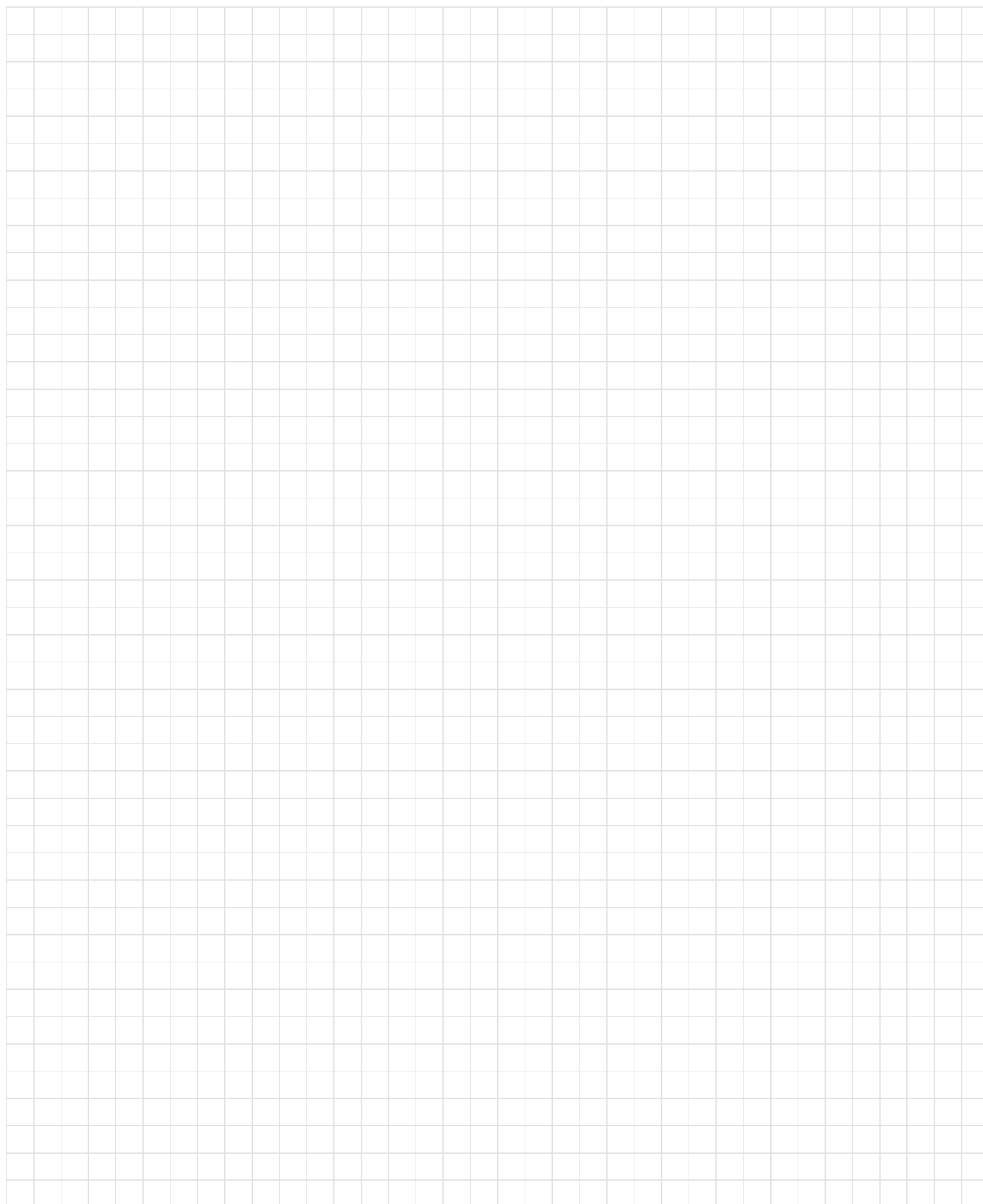


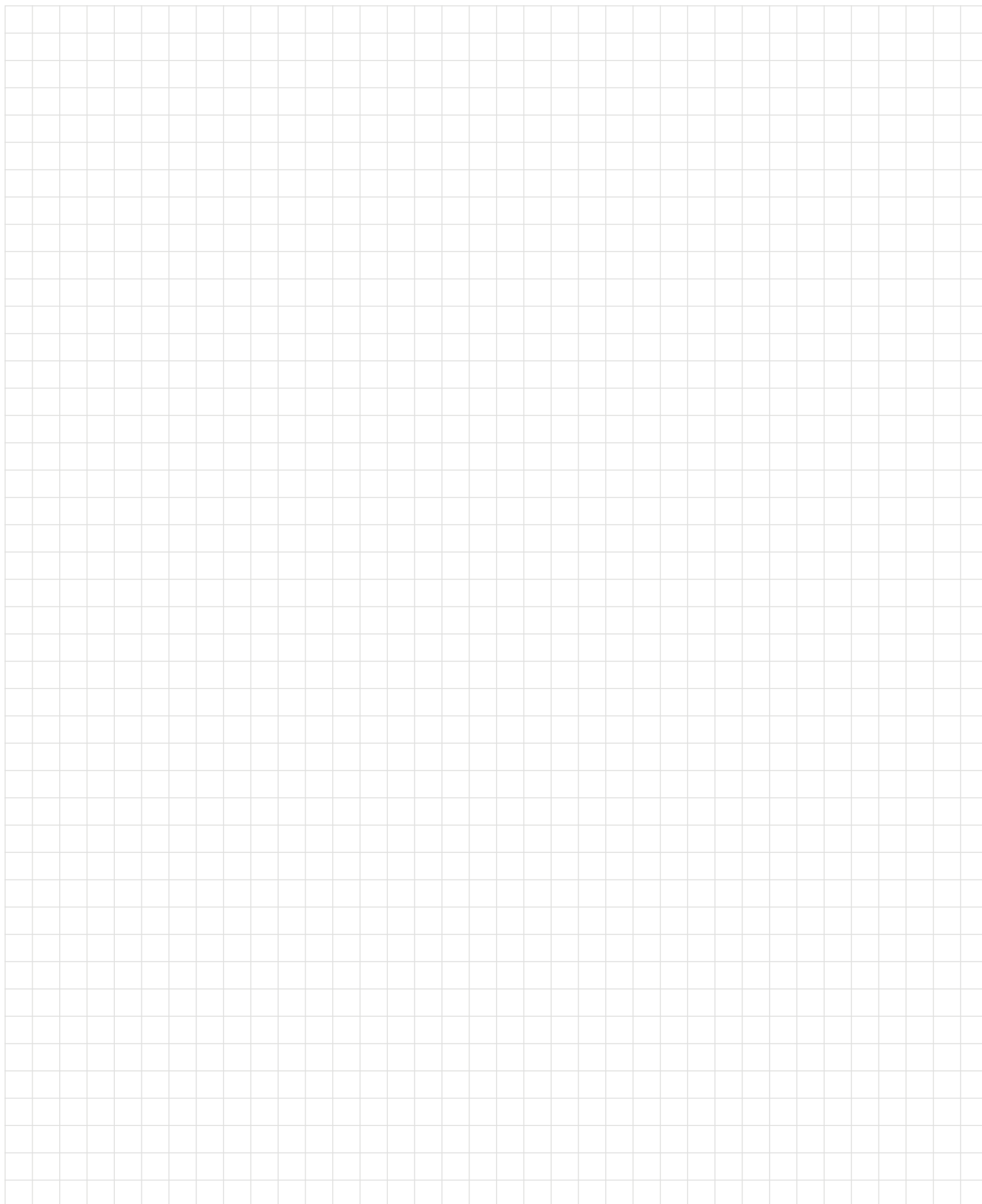
Dimensions DMS2-240-1200



# KeDrive DMS

## Notes





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**KEBA AG Headquarters**, Gewerbepark Urfahr, 4041 Linz/Austria,  
Phone: +43 732 7090-0, Fax: +43 732 730910, [keba@keba.com](mailto:keba@keba.com)

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