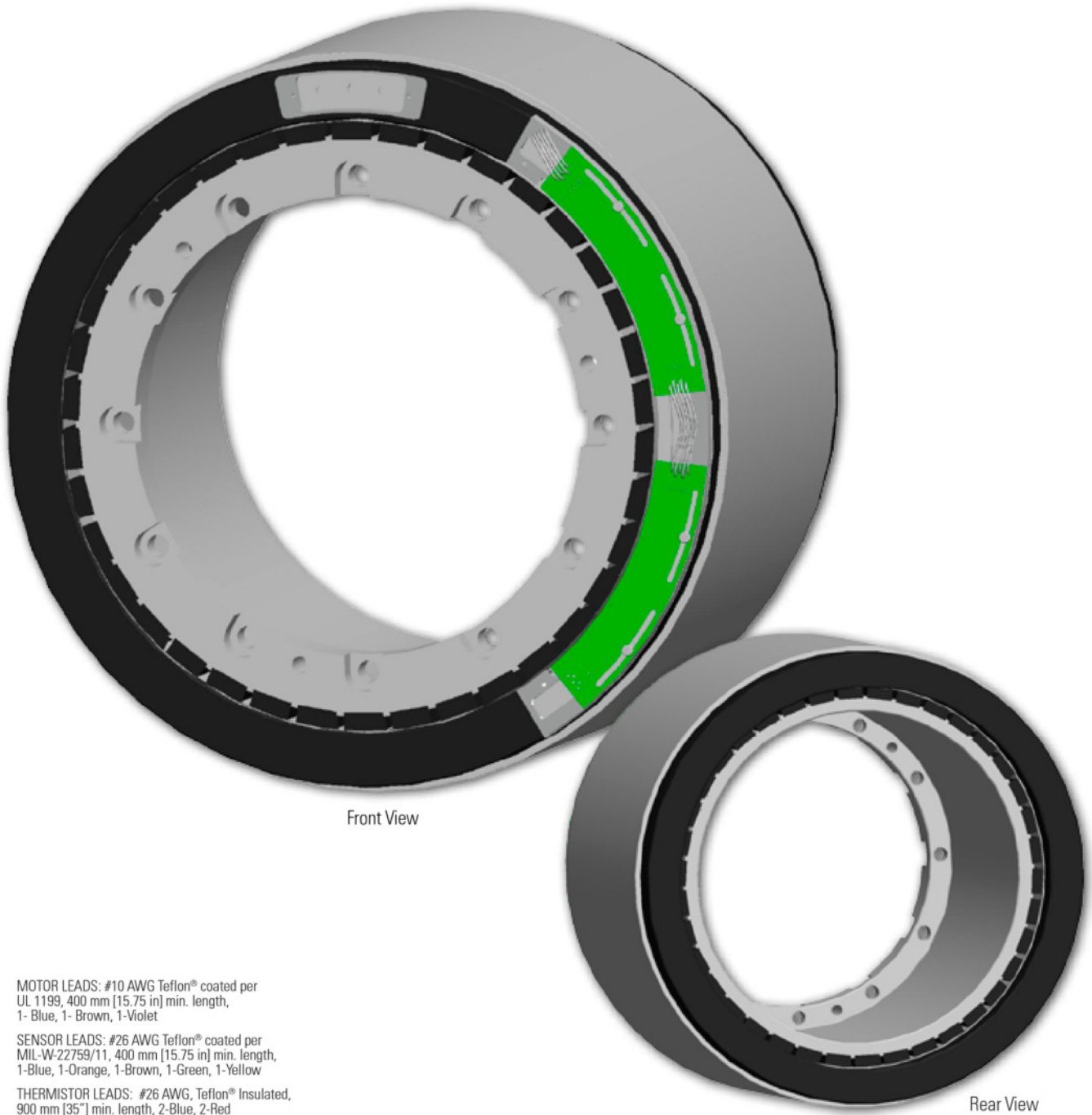


KBM 118 Frameless Motors

K B M 1 1 8

The KBM(S)-118 series provides a classic torque motor footprint - large diameter with a short axial length. With a skewed stator, low cogging, and low harmonic distortion these motors produce extremely smooth rotation. In addition, the high pole count and excellent torque / volume ratio makes the KBM(S)-118 an ideal fit for direct drive applications requiring high torque at low to moderate speeds.



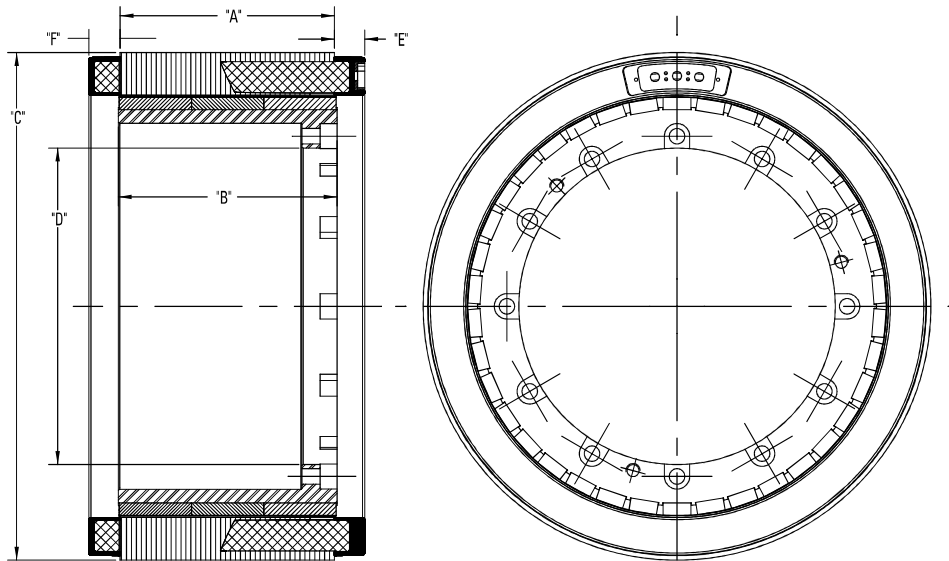
MOTOR LEADS: #10 AWG Teflon® coated per UL 1199, 400 mm [15.75 in] min. length, 1- Blue, 1- Brown, 1- Violet

SENSOR LEADS: #26 AWG Teflon® coated per MIL-W-22759/11, 400 mm [15.75 in] min. length, 1-Blue, 1-Orange, 1-Brown, 1-Green, 1-Yellow

THERMISTOR LEADS: #26 AWG, Teflon® Insulated, 900 mm [35"] min. length, 2-Blue, 2-Red

KBM 118 Outline Drawings

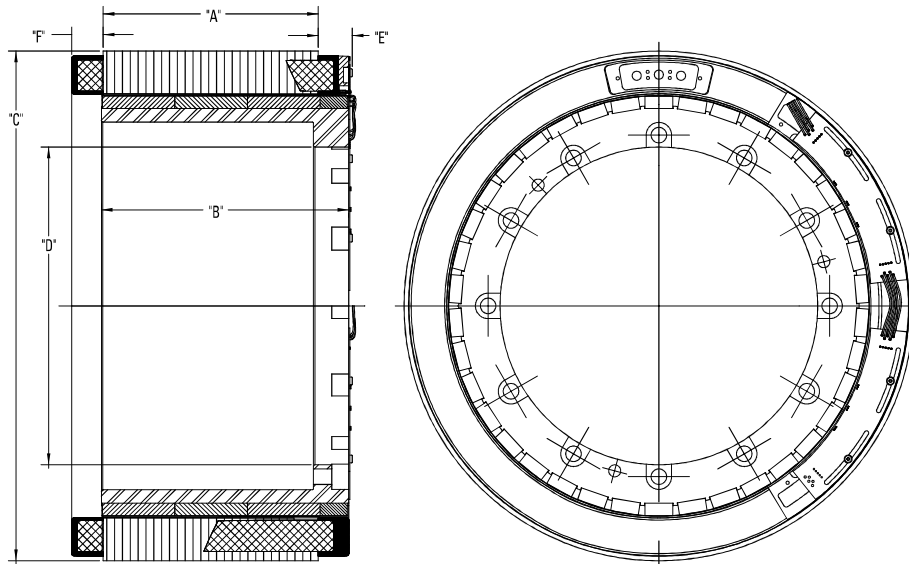
KBM 118



Model Number	"A" mm[inch]	"B" mm[inch]	Ø "C" mm[inch]	Ø "D" mm[inch]	"E" MAX mm[inch]	"F" MAX mm[inch]
KBM-118X00	50.80 [2.000]	50.71 [2.075]	361.11 [14.217]	225.04 [8.860]	21.59 [.850]	22.23 [.875]
KBM-118X01	101.60 [4.000]	104.14 [4.100]				
KBM-118X02	152.40 [6.000]	155.58 [6.125]				
KBM-118X03	203.20 [8.000]	207.26 [8.160]				
KBM-118X04	254.00 [10.000]	258.69 [10.185]				

All dimensions are nominal. For more detailed and interactive 3D models with 2D product views, visit www.kollmorgen.com/kbm

KBMS 118



Model Number	"A" mm[inch]	"B" mm[inch]	Ø "C" mm[inch]	Ø "D" mm[inch]	"E" MAX mm[inch]	"F" MAX mm[inch]
KBMS-118X00	50.80 [2.000]	72.39 [2.850]	361.11 [14.217]	225.04 [8.860]	26.03 [1.025]	22.23 [.875]
KBMS-118X01	101.60 [4.000]	123.83 [4.875]				
KBMS-118X02	152.40 [6.000]	175.26 [6.900]				
KBMS-118X03	203.20 [8.000]	226.70 [8.925]				
KBMS-118X04	254.00 [10.000]	278.13 [10.950]				

All dimensions are nominal. For more detailed and interactive 3D models with 2D product views, visit www.kollmorgen.com/kbm

KBM 118 Performance Data

KBM(S)-118XXX PERFORMANCE DATA & MOTOR PARAMETERS											
Motor Parameter	Symbol	Units	TOL	KBM(S)-118X00-X			KBM(S)-118X01-X		KBM(S)-118X02-X		
				A	B	C	A	B	A	B	C
Continuous Stall Torque at 25°C Amb. (1)	Tc	Nm	NOM	172	172	172	325	325	446	446	446
		lb-ft		127	127	127	239	239	329	329	329
Continuous Current	Ic	Arms	NOM	21.6	27.0	40.2	43.7	76.5	47.0	57.0	94.5
Peak Stall Torque (25°C winding temp)	Tp	Nm	NOM	498	498	498	994	994	1451	1451	1255
		lb-ft		367	367	367	733	733	1070	1070	925
Peak Current	Ip	Arms	NOM	67.0	84.0	135	151	265	171	206	343
Rated Continuous Output Power at 25°C Amb. (1)	P Rated	Watts		7780	7780	7780	9000	9000	10350	10350	10350
	HP Rated	HP		10.4	10.4	10.4	12.1	12.1	13.9	13.9	13.9
Speed at Rated Power	N Rated	RPM		830	830	830	785	785	710	710	710
Torque Sensitivity (2)	Kt	Nm / Arms	+/-10%	8.24	6.59	4.40	7.58	4.33	9.66	8.05	4.83
		lb-ft / Arms		6.07	4.86	3.25	5.59	3.20	7.13	5.94	3.56
Back EMF Constant	Kb	Vrms/kRPM	+/- 10%	498	399	266	459	262	584	487	292
Motor Constant	Km	Nm/√watt	+/-10%	7.44	7.44	7.44	11.8	11.8	14.6	14.6	14.6
		lb-ft / √watt		5.49	5.49	5.49	8.70	8.70	10.8	10.8	10.8
Resistance (line to line)	Rm	Ohms	+/- 10%	0.817	0.518	0.228	0.276	0.088	0.292	0.191	0.073
Inductance	Lm	mH		5.7	3.7	1.6	2.5	0.82	2.7	1.9	0.70
Inertia (KBM)	Jm	Kg-m ²		0.129			0.267		0.396		
		lb-ft-s ²		0.095			0.197		0.292		
Weight (KBM)	Wt	Kg		18.9			37.1		53.5		
		lb		41.7			81.8		118		
Inertia (KBMS)	Jm	Kg-m ²		0.176			0.315		0.403		
		lb-ft-s ²		0.13			0.232		0.297		
Weight (KBMS)	Wt	Kg		21.2			39.2		56.2		
		lb		46.8			86.4		124		
Max Static Friction	Tf	Nm		3.2			6.39		9.57		
		lb-ft		2.36			4.71		7.06		
Cogging Friction (peak-to-peak)	Tcog	Nm		1.63			3.16		4.79		
		lb-ft		1.2			2.33		3.53		
Viscous Damping	Fi	Nm/ kRPM		14.5			38.8		59.7		
		lb-ft / kRPM		10.7			28.6		44.0		
Thermal Resistance (3)	TPR	°C / watt		0.156			0.110		0.089		
Number of Poles	P	-		38			38		38		
Recommended Kollmorgen AKD Drive				02407							
Recommended Kollmorgen S700 Drive					S748	S748	S748	S772	S748	S772	S772
Voltage Req'd at Rated Output	Vac Input	Vac		480	400	240	400	240	480	400	240
Peak Stall Torque (4) (Motor with Drive)	Tp Drive	Nm	+/-10%	357	498	380	677	558	846	1024	641
		lb-ft		263	367	280	499	412	624	755	473
Cont. Stall Torque (4) (Motor with Drive)	Tc Drive	Nm	+/-10%	172	172	172	325	300	446	446	331
		lb-ft		127	127	127	240	221	329	329	244

- Notes
- 1) Winding temperature = 155°C at continuous stall, at rated output, and for performance curves.
 - 2) To calculate no-load Kt and Kb at 25°C, multiply by 1.064.
 - 3) TPR assumes the motor is housed and mounted to a heat sink.
 - 4) Peak torque may be limited by drive current, see www.kollmorgen.com for complete drive ratings.

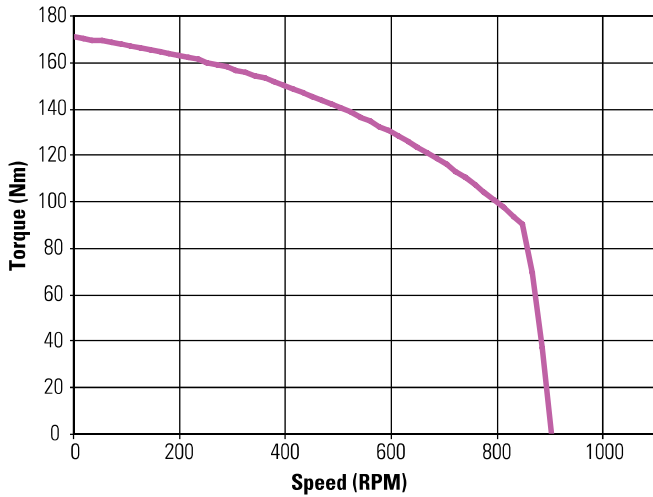
KBM(S)-118XXX PERFORMANCE DATA & MOTOR PARAMETERS									
Motor Parameter	Symbol	Units	TOL	KBM(S)-118X03-X			KBM(S)-118X04-X		
				A	B	C	A	B	C
Continuous Stall Torque at 25°C Amb. (1)	Tc	Nm	NOM	560	560	560	672	672	672
		lb-ft		413	413	413	495	495	495
Continuous Current	Ic	Arms	NOM	44.0	54.0	89.5	42.8	51.5	86.0
Peak Stall Torque (25°C winding temp)	Tp	Nm	NOM	1932	1932	1661	2400	2400	2068
		lb-ft		1425	1425	1224	1770	1770	1524
Peak Current	Ip	Arms	NOM	171	206	343	171	206	343.0
Rated Continuous Output Power at 25°C Amb. (1)	P Rated	Watts		17000	17000	17000	19850	19850	19850
	HP Rated	HP		22.8	22.8	22.8	26.6	26.6	26.6
Speed at Rated Power	N Rated	RPM		535	535	535	420	420	420
Torque Sensitivity (2)	Kt	Nm / Arms	+/-10%	12.8	10.7	6.40	16.0	13.4	8.00
		lb-ft / Arms		9.46	7.88	4.72	11.8	9.8	5.90
Back EMF Constant	Kb	Vrms/kRPM	+/- 10%	775	646	387	969	808	484
Motor Constant	Km	Nm/√watt	+/-10%	17.1	17.1	17.1	19.4	19.4	19.4
		lb-ft /√watt		12.6	12.6	12.6	14.3	14.3	14.3
Resistance (line to line)	Rm	Ohms	+/- 10%	0.373	0.259	0.093	0.455	0.298	0.112
Inductance	Lm	mH		4.3	3.0	1.1	4.5	3.0	1.2
Inertia (KBM)	Jm	Kg-m ²		0.542			0.648		
		lb-ft-s ²		0.400			0.478		
Weight (KBM)	Wt	Kg		71.7			88.5		
		lb		158			195		
Inertia (KBMS)	Jm	Kg-m ²		0.591			0.698		
		lb-ft-s ²		0.436			0.515		
Weight (KBMS)	Wt	Kg		73.9			90.7		
		lb		163			200		
Max Static Friction	Tf	Nm		12.8			16.0		
		lb-ft		9.42			11.8		
Cogging Friction (peak-to-peak)	Tcog	Nm		6.39			8.13		
		lb-ft		4.71			6.00		
Viscous Damping	Fi	Nm/ kRPM		81.3			100		
		lb-ft / kRPM		60.0			74.0		
Thermal Resistance (3)	TPR	°C / watt		0.078			0.069		
Number of Poles	P	-		38			38		
Recommended Kollmorgen AKD Drive									
Recommended Kollmorgen S700 Drive				S748	S772	S772	S748	S772	S772
Voltage Req'd at Rated Output	Vac Input	Vac		480	400	240	480	400	240
Peak Stall Torque (4) (Motor with Drive)	Tp Drive	Nm	+/-10%	1122	1358	850	1402	1698	1062
		lb-ft		828	1002	627	1034	1252	783
Cont. Stall Torque (4) (Motor with Drive)	Tc Drive	Nm	+/-10%	560	560	438	678	678	547
		lb-ft		413	413	323	500	500	403

- Notes 1) Winding temperature = 155°C at continuous stall, at rated output, and for performance curves.
2) To calculate no-load Kt and Kb at 25°C, multiply by 1.064.
3) TPR assumes the motor is housed and mounted to a heat sink.
4) Peak torque may be limited by drive current, see www.kollmorgen.com for complete drive ratings.

KBM 118 Performance Curves

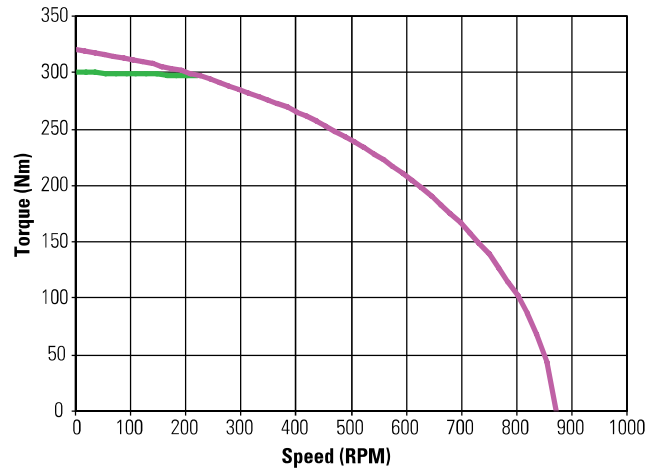
Continuous duty capability for 130°C rise in a 25°C ambient using recommended AKD, or S700, servo drive and sinusoidal commutation.

**KBM(S)-118X00
ContinuousTorque**



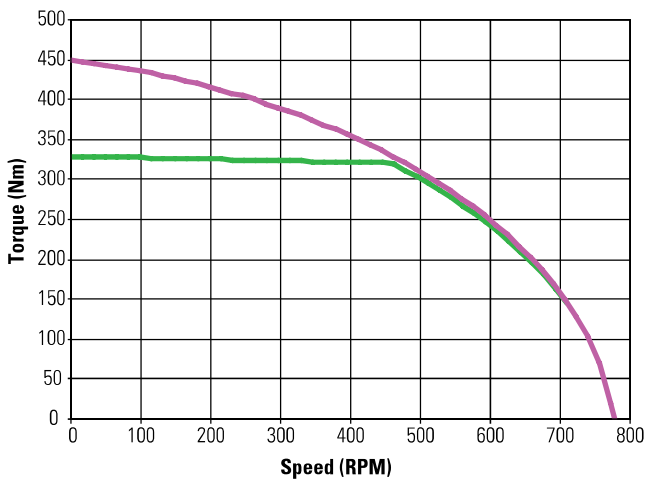
— A Winding-480 Vac / B Winding-400 Vac / C Winding-240 Vac

**KBM(S)-118X01
ContinuousTorque**



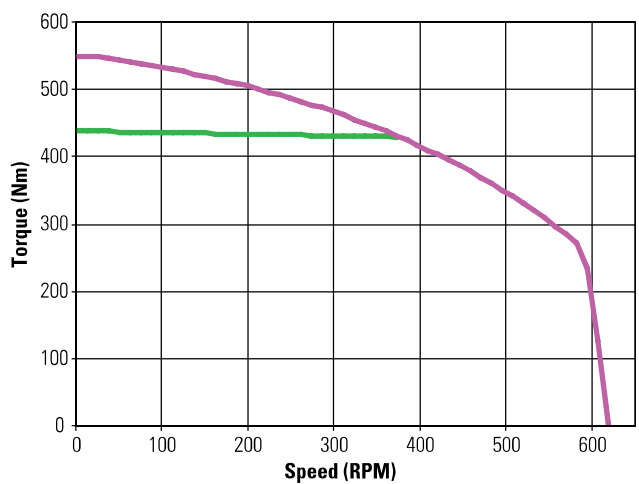
— A Winding-400 Vac — B Winding-240 Vac

**KBM(S)-118X02
ContinuousTorque**



— A Winding-480 Vac / B Winding-400 Vac — C Winding-240 Vac

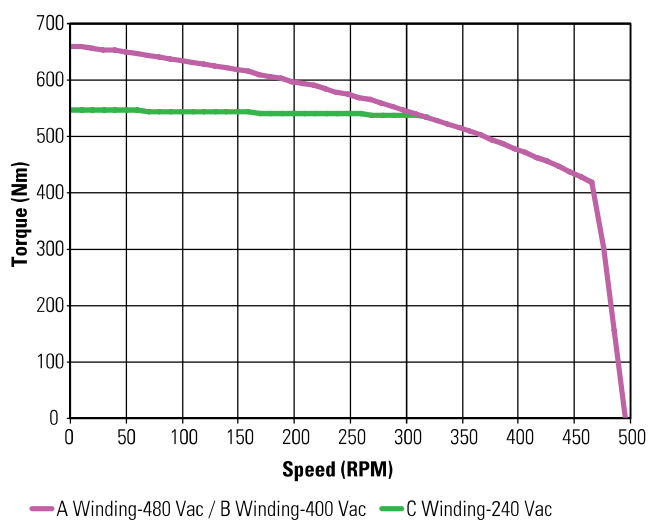
**KBM(S)-118X03
ContinuousTorque**



— A Winding-480 Vac / B Winding-400 Vac — C Winding-240 Vac

Low Voltage optimized windings available.

**KBM(S)-118X04
Continuous Torque**



Low Voltage optimized windings available.

Notes

