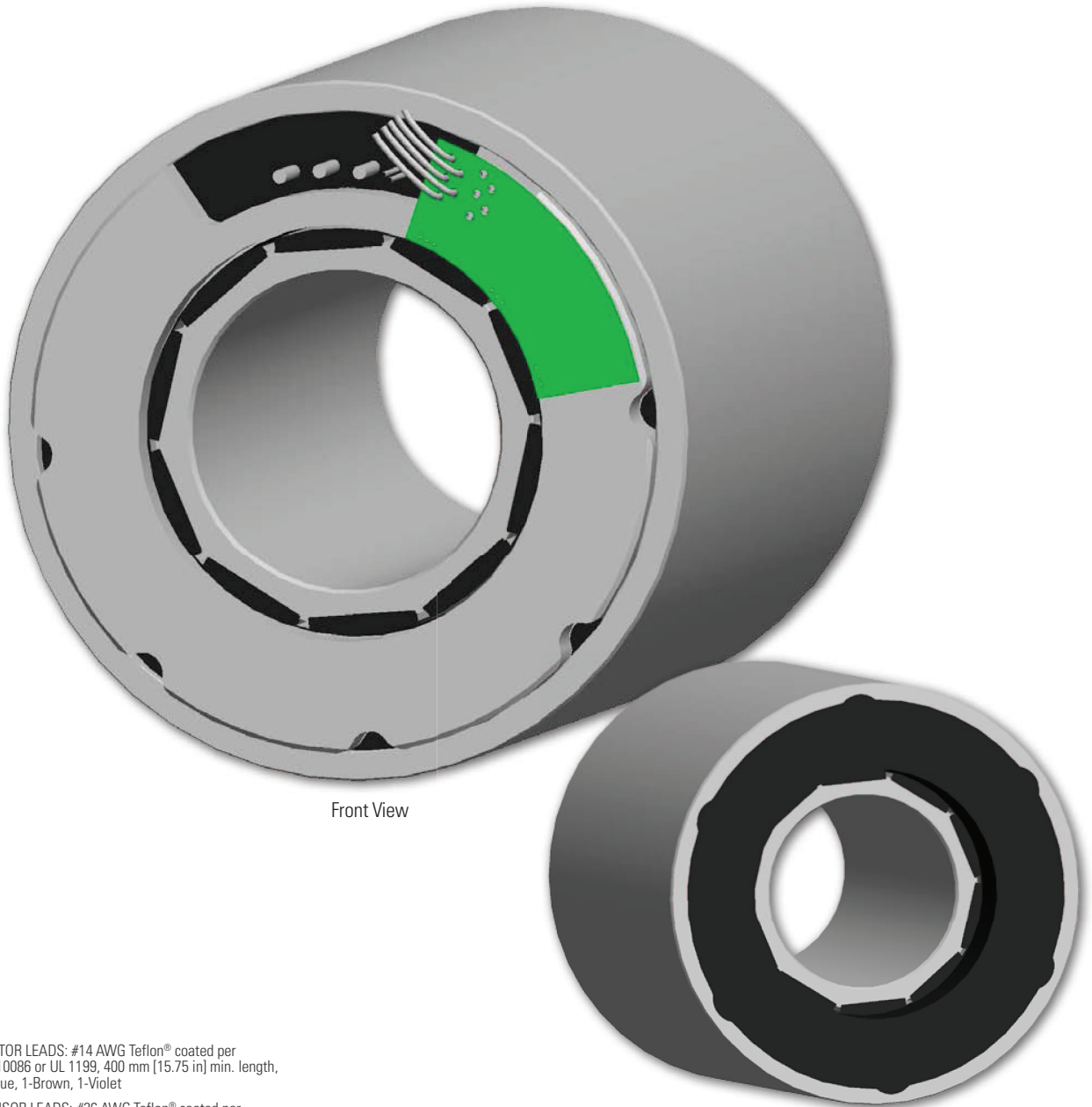


KBM 25 Frameless Motors

The KBM(S)-25 series is designed to operate over a broad speed range with high acceleration. Designed for maximum torque density with minimal cogging by using a variable air gap, the KBM(S)-25 is an ideal choice to meet or exceed your compact frameless motor application needs.



Front View

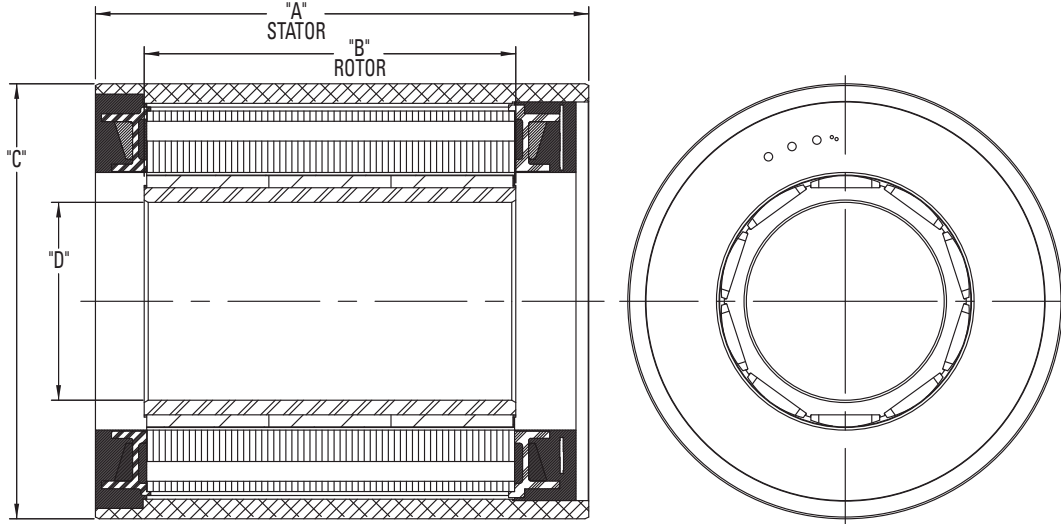
Rear View

MOTOR LEADS: #14 AWG Teflon® coated per UL 10086 or 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

KBM 25 Outline Drawings

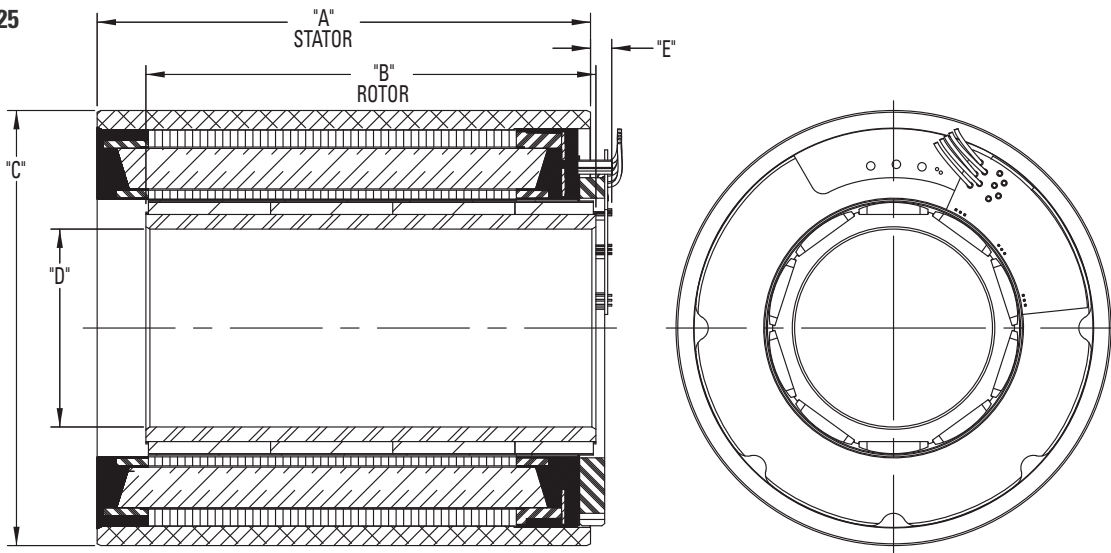
KBM 25



Model Number	"A" mm[inch]	"B" mm[inch]	Ø "C" mm[inch]	Ø "D" mm[inch]
KBM-25X01	62.70 [2.469]	32.16 [1.266]	109.965 [4.3293]	50.012 [1.9689]
KBM-25X02	93.70 [3.689]	63.05 [2.482]	109.965 [4.3293]	50.012 [1.9689]
KBM-25X03	124.70 [4.909]	93.93 [3.698]	109.965 [4.3293]	50.012 [1.9689]
KBM-25X04	155.70 [6.130]	124.82 [4.914]	109.965 [4.3293]	50.012 [1.9689]

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

KBMS 25

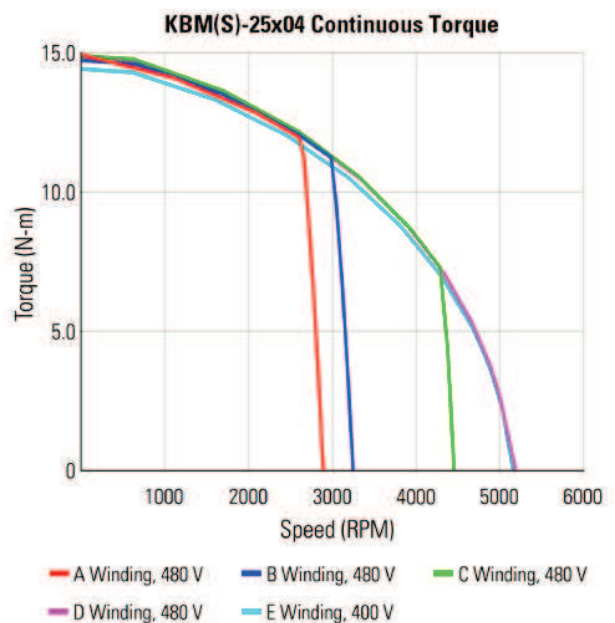
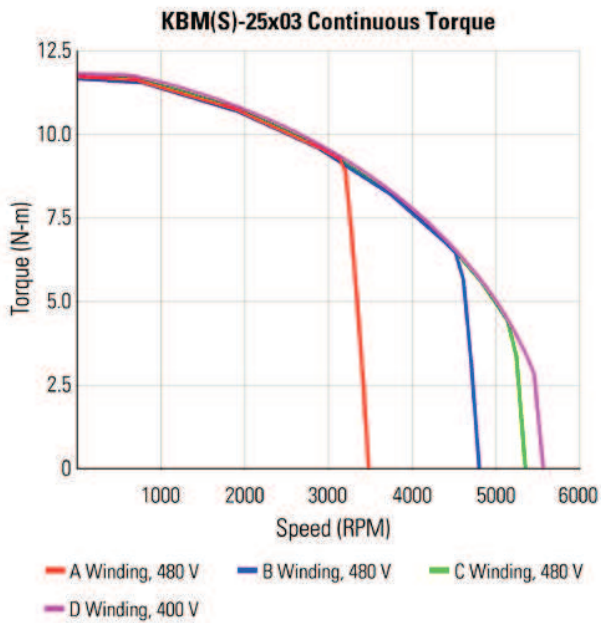
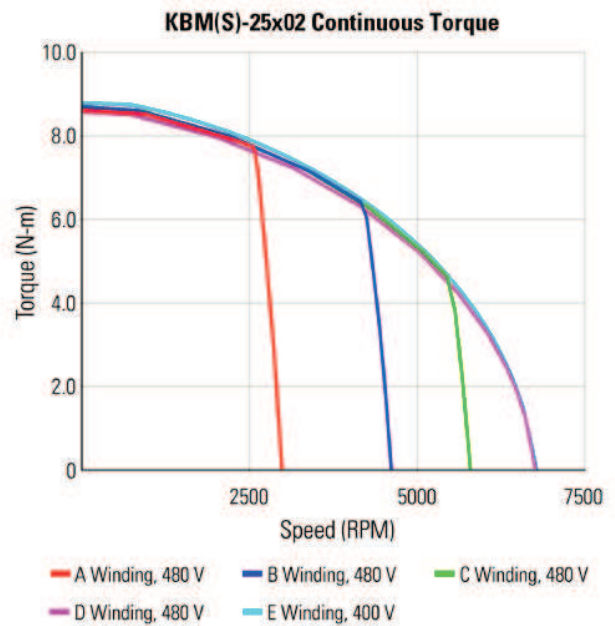
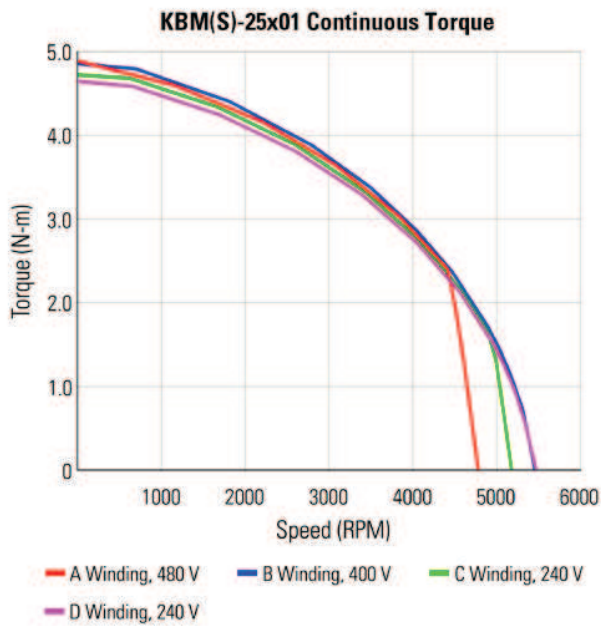


Model Number	"A" mm[inch]	"B" mm[inch]	Ø "C" mm[inch]	Ø "D" mm[inch]	"E" MAX mm[inch]
KBMS-25X01	62.70 [2.469]	51.97 [2.046]	109.965 [4.3293]	50.012 [1.9689]	5.75 [.226]
KBMS-25X02	93.70 [3.689]	82.86 [3.262]	109.965 [4.3293]	50.012 [1.9689]	5.75 [.226]
KBMS-25X03	124.70 [4.909]	113.74 [4.478]	109.965 [4.3293]	50.012 [1.9689]	5.75 [.226]
KBMS-25X04	155.70 [6.130]	144.63 [5.694]	109.965 [4.3293]	50.012 [1.9689]	5.75 [.226]

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

KBM 25 Performance Curves

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



KBM 25 Performance Data

KBM(S) Frameless Motor Series

KBM(S)-25XXX PERFORMANCE DATA & MOTOR PARAMETERS																				
Motor Parameter	Symbol	Units	KBM(S)-25X01-X				KBM(S)-25X02-X					KBM(S)-25X03-X				KBM(S)-25X04-X				
			A	B	C	D	A	B	C	D	E	A	B	C	D	A	B	C	D	E
Continuous Stall Torque at 25°C Amb. (1)	Tc	N-m	4.90	4.96	4.85	4.75	8.70	8.75	8.75	8.62	8.85	11.9	11.9	11.9	11.9	14.8	14.9	15.0	14.9	14.6
		lb-ft	3.62	3.66	3.58	3.50	6.42	6.45	6.45	6.36	6.53	8.75	8.75	8.75	8.80	10.9	11.0	11.1	11.0	10.8
Continuous Current	Ic	Arms	3.10	5.34	6.45	7.95	3.33	5.18	6.50	8.00	10.2	5.30	7.27	8.20	10.2	5.50	6.25	8.70	10.7	12.8
Peak Stall Torque (25°C winding temp)	Tp	N-m	14.4	14.6	15.0	14.9	29.4	29.7	29.7	29.8	29.8	42.2	42.3	42.4	42.6	54.4	53.8	54.4	54.8	53.8
		lb-ft	10.6	10.8	11.1	11.0	21.7	21.9	21.9	22.0	22.0	31.1	31.2	31.3	31.4	40.1	39.7	40.1	40.4	39.7
Peak Current	Ip	Arms	10.9	19.3	27.6	34.3	13.9	22.0	27.8	35.1	43.3	23.9	33.0	37.0	47.0	25.0	27.5	38.5	48.5	62.5
Rated Continuous Output Power at 25°C Amb. (1)	P Rated	Watts	1110	730	1025	1100	1765	2545	2535	1790	1850	2700	2890	2585	2605	2865	3090	3255	1990	1940
	HP Rated	HP	1.49	0.979	1.37	1.42	2.37	3.41	3.40	2.40	2.48	3.62	3.87	3.47	3.49	3.84	4.14	4.36	2.67	2.60
Speed at Rated Power	N Rated	RPM	3800	4900	4225	4000	2300	4000	5000	6000	6000	2900	4150	4725	2700	2400	2700	3850	4700	4700
Torque Sensitivity (2)	Kt	N-m / Arms	1.66	0.950	0.766	0.613	2.67	1.73	1.38	1.11	0.890	2.29	1.66	1.49	1.19	2.76	2.46	1.79	1.44	1.08
		lb-ft / Arms	1.22	0.701	0.565	0.452	1.97	1.27	1.02	0.818	0.656	1.69	1.22	1.10	0.881	2.03	1.81	1.32	1.06	0.799
Back EMF Constant (3)	Kb	Vpk / kRPM	142	81.2	65.5	52.4	229	148	118	94.8	76.1	196	142	127	102	236	210	153	123	92.6
Motor Constant	Km	N-m/√watt	0.452	0.458	0.445	0.439	0.729	0.733	0.733	0.723	0.742	0.939	0.936	0.944	0.947	1.11	1.12	1.13	1.13	1.10
		lb-ft/√watt	0.334	0.338	0.328	0.324	0.538	0.541	0.541	0.533	0.547	0.693	0.690	0.696	0.698	0.822	0.827	0.834	0.832	0.809
Resistance (line to line)	Rm	Ohms	8.98	2.87	1.97	1.30	8.96	3.70	2.35	1.57	0.960	3.97	2.10	1.66	1.06	4.08	3.20	1.66	1.08	0.650
Inductance	Lm	mH	37	12	7.9	5.2	45	19	12	7.8	5.0	21	11	9.1	5.7	23	18	10	6.2	3.5
Inertia (KBM)	Jm	Kg-m ²	2.66E-4				5.15E-4					7.66E-4				1.02E-3				
		lb-ft-s ²	1.96E-4				3.80E-4					5.65E-4				7.50E-4				
Weight (KBM)	Wt	Kg	1.79				3.27					4.72				6.17				
		lb	3.95				7.22					10.4				13.6				
Inertia (KBMS)	Jm	Kg-m ²	4.34E-4				6.78E-4					9.31E-4				1.18E-3				
		lb-ft-s ²	3.20E-4				5.00E-4					6.87E-4				8.72E-4				
Weight (KBMS)	Wt	Kg	2.02				3.50					4.90				6.35				
		lb	4.45				7.72					10.8				14.0				
Max Static Friction	Tf	N-m	9.25E-2				0.163					0.226				0.289				
		lb-ft	6.82E-2				0.120					0.167				0.213				
Cogging Friction (peak-to-peak)	Tcog	N-m	7.61E-2				0.132					0.183				0.230				
		lb-ft	5.61E-2				9.70E-2					0.135				0.170				
Viscous Damping	Fi	N-m/ kRPM	3.09E-2				3.95E-2					5.19E-2				5.74E-2				
		lb-ft / kRPM	2.28E-2				2.91E-2					3.83E-2				4.23E-2				
Thermal Resistance (4)	TPR	°C / watt	0.680				0.560					0.500				0.450				
Number of Poles	P	-	10				10					10				10				
Recommended Drive	AKD-█		00607	00607	01206	01206	00607	00607	01207	01207	01207	00607	01207	01207	01206	00607	01207	01207	01207	02407
Voltage Req'd at Rated Output	Vac Input	VAC	480	400	240	240	480	480	480	480	400	480	480	480	240	480	480	480	480	400
Peak Stall Torque (5) (Motor with AKD servo drive)	Tp Drive	N-m	14.4	14.0	15.0	13.8	29.4	26.2	29.7	27.6	23.0	36.0	41.5	38.3	32.0	44.0	53.8	47.0	39.5	45.0
		lb-ft	10.6	10.3	11.1	10.2	21.7	19.3	21.9	20.4	17.0	26.6	30.6	28.2	23.6	32.5	39.7	34.7	29.1	33.2

- * Notes 1) Winding temperature = 155°C at continuous stall, at rated output, and for performance curve.
 2) To calculate no-load Kt and Kb at 25°C, multiply by 1.064.
 3) Back EMF is peak (not RMS).
 4) TPR assumes motor is housed and mounted to a 12" x 12" x 1/2" heat sink or equivalent.
 5) Peak torque may be limited by AKD servo drive current, see page 11 for drive ratings or visit www.kollmorgen.com.