

7 Technical Data

All data valid for 40°C environmental temperature and 100K overtemperature of the winding. Determination of nominal dates with constant temperature of adapter flange of 65°C. The data can have a tolerance of +/- 10%.

7.1 Dictionary for technical data tables

7.1.1 Motor

English	Deutsch	Italiano	Español
Data	Daten	Dati	Datos
Symbol [Unit]	Symbol [Einheit]	Simbolo [unità]	Símbolo [unidad]
Electrical data	Elektrische Daten	Dati elettrici	Datos eléctricos
Standstill torque	Stillstands Drehmoment	Coppia cont. allo stallo	Par motor de parada
Standstill current	Stillstandsstrom	Corrente cont. allo stallo	Corriente de parada
max. Mains voltage	max. Netz-Nennspannung	Tensione di rete nom. max.	Tensión max del red
Rated speed	Nenndrehzahl	Velocità nominale	Velocidad nominal
Rated torque	Nenndrehmoment	Coppia nominale	Par motor nominal
Rated power	Nennleistung	Potenza nominale	Potencia nominal
Peak current	Spitzenstrom	Corrente di picco	Corriente máxima
Peak torque	Spitzendrehmoment	Coppia di picco	Par motor motor máximo
Torque constant	Drehmomentkonstante	Costante di coppia	Constante de par motor
Voltage constant	Spannungskonstante	Costante di tensione	Constante de tensión
Winding resistance	Wicklungswiderstand	Resistenza avvolgimento	Resistencia de la bobina
Winding inductance	Wicklungsinduktivität	Induttività avvolgimento	Inductividad de la bobina
Mechanical data	Mechanische Daten	Dati meccanici	Datos mecánicos
Rotor moment of inertia	Rotorträgheitsmoment	Momento di inerzia del rotore	Momento de inercia del rotor
Pole number	Polzahl	Numero di poli	N° de polos
Static friction torque	Statisches Reibmoment	Momento di aderenza statica	Par estático de fricción
Thermal time constant	Thermische Zeitkonstante	Costante di tempo termica	Constante térmica de tiempo
Weight standard	Gewicht standard	Peso standard	Peso de estándar
Radial load permitted at shaft end	Zulässige Radialkraft am Wellenende	Soll. radiale ammessa sull estr. dell'albero	Fuerza radial admitido en el extremo del eje
Axial load permitted	Zulässige Axialkraft	Soll. assiale ammessa	Fuerza axial admitido
Minimum cross section	Minimaler Querschnitt	Sezione max.	Sección máx.
Reference flange	Bemessungsflansch	Flangia di calcolo	Brida de la referencia
Derating for feedback, brake, shaft seal	Begrenzung der Nennwerte bei eingebautem Encoder (und Bremse)	Riducendo le imposte nel caso del codificatore (e del freno) incorporati	El reducir la capacidad normal en caso de codificador (y de freno) incorporados

7.1.2 Brake

English	Deutsch	Italiano	Español
Brake data	Bremsendaten	Dati freno	Datos de frenos
Holding torque	Haltemoment	Coppia di arresto	Momento de parada
Operating voltage	Anschlussspannung	Tensione di allacciamento	Tensión de conexión
Electrical power	Elektrische Leistung	Potenza elettrica	Potencia eléctrica
Moment of inertia	Trägheitsmoment	Momento d'inerzia	Momento de inercia
Release delay time	Lüftverzögerungszeit	Ritardo al rilascio	Tiempo de respuesta
Engage delay time	Einfallverzögerungszeit	Ritardo all'incidenza	Tiempo de reacción
Weight of the brake	Gewicht der Bremse	Peso del freno	Peso de freno
Typical backlash	typisches Spiel	Gioco tipico	Contragolpe típico

7.2 Technical Data AKM2G-2x Series

7.2.1 Technical Data AKM2G-21

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					21D	21E	21G
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	240	240
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	0.639	0.644	0.652
				lb-in	5.65	5.70	5.77
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.17	2.73	4.18
	Max. Continuous Torque for ΔT winding = 60°C (2) (4)	Nom	Tmc	Nm	0.497	0.501	0.506
				lb-in	4.40	4.43	4.48
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	2.50	2.52	2.55
lb-in				22.1	22.3	22.6	
Peak Current	Nom	Ip	Arms	8.66	10.9	16.7	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.591	0.577	0.547
				lb-in	5.23	5.11	4.84
	Rated Speed		Nrtd	rpm	4300	5600	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.266	0.339	0.458
				Hp	0.357	0.454	0.614
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.536	0.536	
				lb-in	4.75	4.74	
	Rated Speed		Nrtd	rpm	8000	8000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.449	0.449	
				Hp	0.602	0.602	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.525		
				lb-in	4.65		
	Rated Speed		Nrtd	rpm	8000		
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.440		
				Hp	0.590		
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.520		
				lb-in	4.60		
	Rated Speed		Nrtd	rpm	8000		
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.436		
				Hp	0.584		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	0.297	0.238	0.157
				lb-in/Arms	2.63	2.11	1.39
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	19.5	15.6	10.3
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.0897	0.0903	0.0913
				lb-in/ \sqrt{W}	0.794	0.799	0.808
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	7.30	4.63	1.97
	Inductance Q-Axis (line-line)		Lqll	mH	16.3	10.5	4.55
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	15	19	29
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					21D	21E	21G
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.093		
				lb-in-s ²	8.23E-05		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.040		
				lb-in-s ²	3.54E-05		
	Weight (8)		W	kg	1.1		
				lb	2.4		
	Static Friction (1)		Tf	Nm	0.0040		
				lb-in	0.04		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0017		
				lb-in/krpm	0.015		
	Thermal Time Constant		TCT	mins.	9.6		
	Thermal Resistance		R _{thw-a}	°C/W	1.33		
	Pole Pairs		PP		3		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

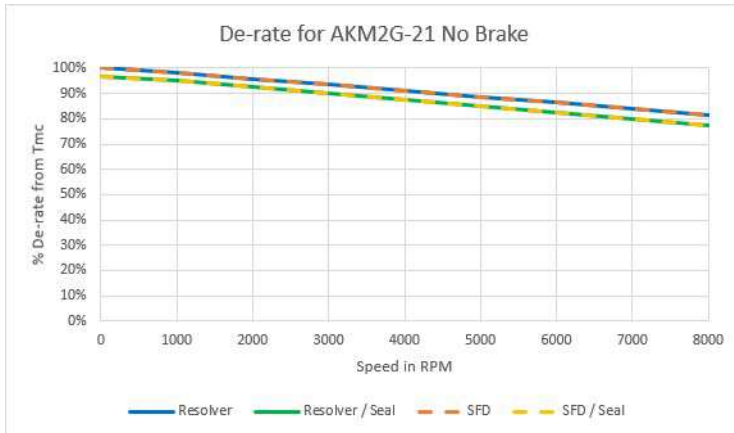
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.2.1.1 AKM2G-21 Derates for Different Options

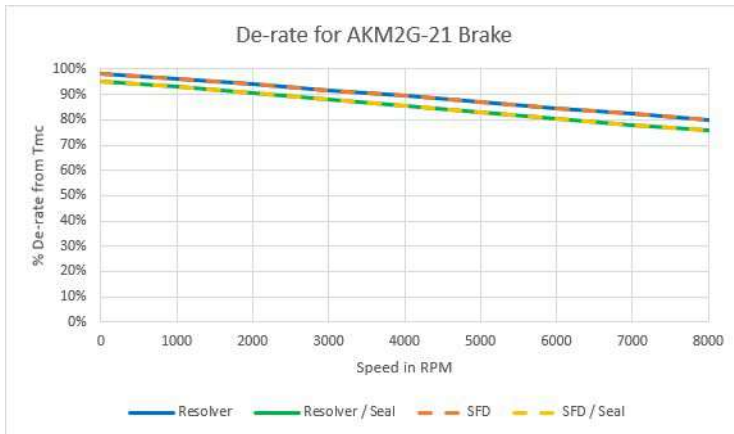
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%	84.0%	81.5%
Resolver / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%	79.9%	77.3%
SFD	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%	84.0%	81.5%
SFD / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%	79.9%	77.3%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	98.2%	96.4%	94.1%	91.7%	89.4%	87.0%	84.6%	82.2%	79.8%
Resolver / Seal	95.0%	93.1%	90.6%	88.2%	85.7%	83.2%	80.6%	78.1%	75.6%
SFD	98.2%	96.4%	94.1%	91.7%	89.4%	87.0%	84.6%	82.2%	79.8%
SFD / Seal	95.0%	93.1%	90.6%	88.2%	85.7%	83.2%	80.6%	78.1%	75.6%



7.2.2 Technical Data AKM2G-22

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					22C	22D	22E
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	240
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	1.11	1.11	1.12
				lb-in	9.86	9.87	9.92
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	1.65	2.37	2.93
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	0.863	0.865	0.868
				lb-in	7.64	7.66	7.68
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	4.37	4.37	4.39
				lb-in	38.7	38.7	38.9
	Peak Current	Nom	Ip	Arms	6.62	9.49	11.7
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.08	1.06	1.04
				lb-in	9.57	9.39	9.20
	Rated Speed		Nrtd	rpm	1800	2700	3600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.204	0.300	0.392
Hp				0.273	0.402	0.526	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.02	0.964	0.906
				lb-in	9.01	8.53	8.02
	Rated Speed		Nrtd	rpm	4200	6100	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.448	0.616	0.759
Hp				0.600	0.826	1.02	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.918	0.890	
				lb-in	8.12	7.88	
	Rated Speed		Nrtd	rpm	7500	8000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.721	0.746	
Hp				0.967	1.00		
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	0.896	0.879	
				lb-in	7.93	7.78	
	Rated Speed		Nrtd	rpm	8000	8000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.751	0.737	
Hp				1.01	0.99		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	0.674	0.470	0.383
				lb-in/Arms	5.97	4.16	3.39
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	44.2	30.9	25.1
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.144	0.144	0.144
				lb-in/ \sqrt{W}	1.27	1.27	1.28
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	14.7	7.11	4.69
	Inductance Q-Axis (line-line)		Lqll	mH	37.9	18.5	12.2
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	13	19	24
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					22C	22D	22E
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.155		
				lb-in-s ²	1.37E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.040		
				lb-in-s ²	3.54E-05		
	Weight (8)		W	kg	1.4		
				lb	3.1		
	Static Friction (1)		Tf	Nm	0.004		
				lb-in	0.04		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0033		
				lb-in/krpm	0.030		
	Thermal Time Constant		TCT	mins.	10.8		
	Thermal Resistance		Rthw-a	°C/W	1.14		
	Pole Pairs		PP		3		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

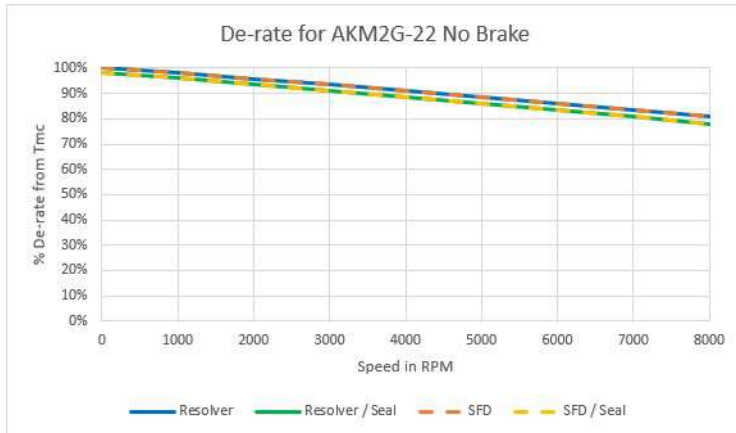
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of Vbus
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.2.2.1 AKM2G-22 Derates for Different Options

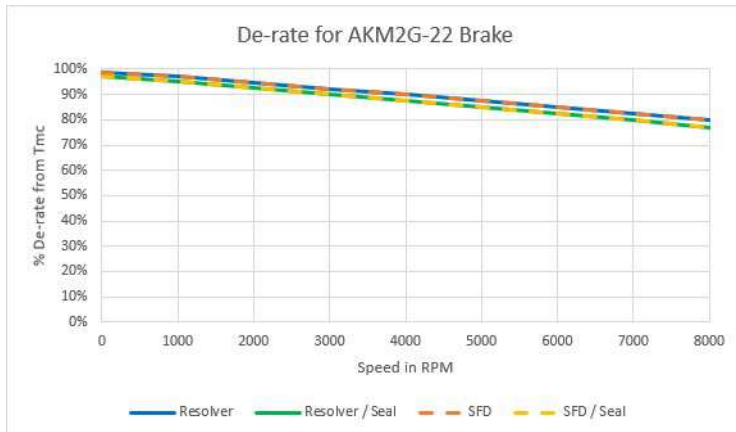
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	98.2%	95.8%	93.4	91.0	88.5	86.0	83.5	80.9
Resolver / Seal	98.2	96.3	93.8	91.3	88.7	86.1	83.5	80.9	78.1
SFD	100.0%	98.2%	95.8%	93.4	91.0	88.5	86.0	83.5	80.9
SFD / Seal	98.2	96.3	93.8	91.3	88.7	86.1	83.5	80.9	78.1



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	98.9	97.1	94.7	92.3	89.9	87.4	84.9	82.4	79.8
Resolver / Seal	97.1	95.2	92.7	90.2	87.6	85.1	82.4	79.8	77.1
SFD	98.9	97.1	94.7	92.3	89.9	87.4	84.9	82.4	79.8
SFD / Seal	97.1	95.2	92.7	90.2	87.6	85.1	82.4	79.8	77.1



7.2.3 Technical Data AKM2G-23

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					23D	23E	23F
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	240
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	1.49	1.49	1.51
				ib-in	13.2	13.2	13.4
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.11	2.92	4.07
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	1.157	1.158	1.175
				lb-in	10.2	10.2	10.4
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	5.86	8.85	5.93
				lb-in	51.8	51.7	52.5
	Peak Current	Nom	Ip	Arms	8.45	11.7	16.3
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.44	1.41	1.37
				lb-in	12.8	12.5	12.2
	Rated Speed		Nrtd	rpm	1800	2700	4000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.272	0.398	0.576
Hp				0.365	0.534	0.772	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.35	1.27	1.17
				lb-in	11.9	11.2	10.4
	Rated Speed		Nrtd	rpm	4100	5800	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.579	0.772	0.980
Hp				0.777	1.03	1.31	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.19	1.14	
				lb-in	10.6	10.1	
	Rated Speed		Nrtd	rpm	7300	8000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.913	0.953	
Hp				1.22	1.28		
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.15	1.12	
				lb-in	10.2	9.9	
	Rated Speed		Nrtd	rpm	8000	8000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.963	0.937	
Hp				1.29	1.26		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	0.707	0.510	0.372
				lb-in/Arms	6.26	4.52	3.29
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	46.1	33.3	24.2
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.186	0.187	0.189
				lb-in/ \sqrt{W}	1.65	1.65	1.67
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	9.60	4.99	2.57
	Inductance Q-Axis (line-line)		Lqll	mH	26.5	13.8	7.32
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	19	27	37
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					23D	23E	23F
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.217		
				lb-in-s ²	1.92E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.040		
				lb-in-s ²	3.54E-05		
	Weight (8)		W	kg	1.7		
				lb	3.7		
	Static Friction (1)		Tf	Nm	0.004		
				lb-in	0.04		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0050		
				lb-in/krpm	0.044		
	Thermal Time Constant		TCT	mins.	11.9		
	Thermal Resistance		R _{thw-a}	°C/W	1.07		
	Pole Pairs		PP		3		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

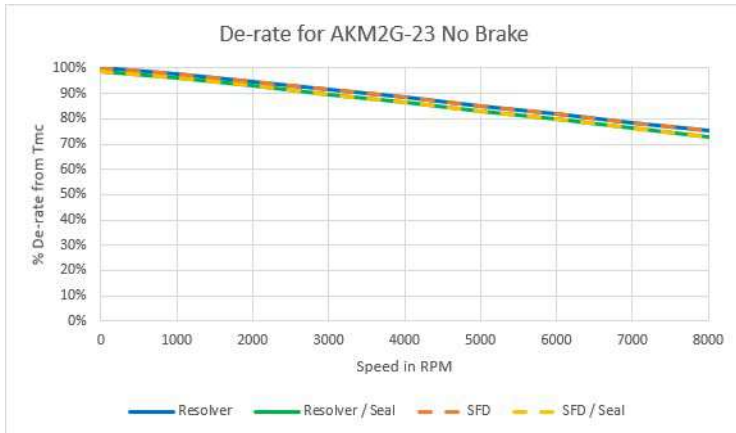
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.2.3.1 AKM2G-23 Derates for Different Options

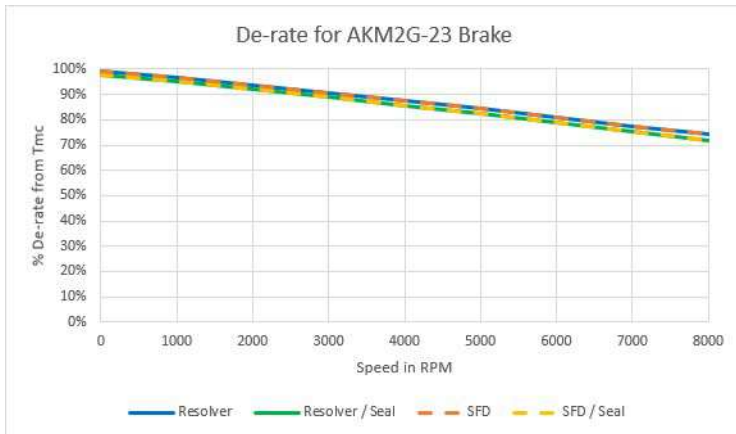
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	97.6	94.6	91.5	88.3	85.1	81.8	78.5	75.1
Resolver / Seal	98.6	96.2	93.0	89.8	86.5	83.2	79.8	76.3	72.8
SFD	100.0%	97.6	94.6	91.5	88.3	85.1	81.8	78.5	75.1
SFD / Seal	98.6	96.2	93.0	89.8	86.5	83.2	79.8	76.3	72.8



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	99.2	96.8	93.7	90.6	87.5	84.3	81.0	77.6	74.2
Resolver / Seal	97.8	95.3	92.2	89.0	85.7	82.3	78.9	75.5	71.9
SFD	99.2	96.8	93.7	90.6	87.5	84.3	81.0	77.6	74.2
SFD / Seal	97.8	95.3	92.2	89.0	85.7	82.3	78.9	75.5	71.9



7.2.4 Technical Data AKM2G-24

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					24D	24E	24F
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	1.82	1.82	1.85
				lb-in	16.1	16.1	16.3
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.11	2.92	4.11
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	1.41	1.42	1.44
				lb-in	12.5	12.6	12.7
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	7.11	7.14	7.22
				lb-in	63.0	63.2	63.9
	Peak Current	Nom	Ip	Arms	8.45	11.7	16.4
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.76	1.73	1.69
				lb-in	15.6	15.3	15.0
	Rated Speed		Nrtd	rpm	1500	2300	3400
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.277	0.417	0.603
Hp				0.372	0.559	0.809	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.66	1.58	1.43
				lb-in	14.6	13.9	12.7
	Rated Speed		Nrtd	rpm	3500	4900	7200
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.607	0.808	1.08
Hp				0.813	1.08	1.45	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.48	1.34	1.31
				lb-in	13.1	11.8	11.6
	Rated Speed		Nrtd	rpm	6100	8000	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.948	1.12	1.09
Hp				1.27	1.50	1.47	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.39	1.31	1.27
				lb-in	12.27	11.62	11.23
	Rated Speed		Nrtd	rpm	7400	8000	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.07	1.10	1.06
Hp				1.44	1.48	1.43	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	0.860	0.626	0.450
				lb-in/Arms	7.61	5.54	3.98
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	55.7	40.5	29.1
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.224	0.225	0.228
				lb-in/ \sqrt{W}	1.98	1.99	2.02
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	9.84	5.15	2.58
	Inductance Q-Axis (line-line)		Lqll	mH	28.4	15.0	7.75
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	21	29	41
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					24D	24E	24F
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.279		
				lb-in-s ²	2.47E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.040		
				lb-in-s ²	3.54E-05		
	Weight (8)		W	kg	2.0		
				lb	4.4		
	Static Friction (1)		Tf	Nm	0.004		
				lb-in	0.04		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0067		
				lb-in/krpm	0.059		
	Thermal Time Constant		TCT	mins.	13.0		
	Thermal Resistance		R _{thw-a}	°C/W	1.04		
	Pole Pairs		PP		3		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.2.4.1 AKM2G-24 Derates for Different Options

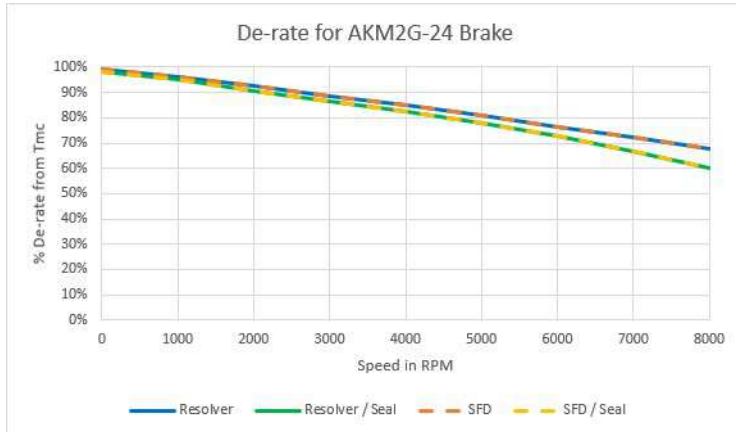
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	97.1	93.3	89.5	85.6	81.5	77.4	73.1	68.8
Resolver / Seal	98.9	95.7	91.6	87.4	83.1	78.7	74.2	69.5	64.6
SFD	100.0%	97.1	93.3	89.5	85.6	81.5	77.4	73.1	68.8
SFD / Seal	98.9	95.7	91.6	87.4	83.1	78.7	73.3	67.2	60.8



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	99.3	96.3	92.6	88.7	84.8	80.8	76.6	72.3	67.9
Resolver / Seal	98.1	94.9	90.8	86.6	82.3	77.9	72.9	66.8	60.3
SFD	99.3	96.3	92.6	88.7	84.8	80.8	76.6	72.3	67.9
SFD / Seal	98.1	94.9	90.8	86.6	82.3	77.9	72.9	66.8	60.3



7.3 Technical Data AKM2G-3x Series

7.3.1 Technical Data AKM2G-31

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					31C	31D	31E
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	1.68	1.68	1.70
				lb-in	14.9	14.9	15.1
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	1.48	2.06	2.90
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	1.30	1.31	1.33
				lb-in	11.5	11.6	11.8
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
Peak Torque (1)(2)(4)	Nom	Tp	Nm	5.99	6.01	6.06	
			lb-in	53.1	53.2	53.7	
Peak Current	Nom	Ip	Arms	5.90	8.23	11.6	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.67	1.68	1.69
				lb-in	14.8	14.9	15.0
	Rated Speed		Nrtd	rpm	1000	1500	2300
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.175	0.264	0.407
Hp				0.235	0.354	0.546	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.65	1.63	1.61
				lb-in	14.6	14.4	14.2
	Rated Speed		Nrtd	rpm	2400	3500	5000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.415	0.597	0.843
Hp				0.556	0.801	1.13	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.60	1.55	1.48
				lb-in	14.2	13.7	13.1
	Rated Speed		Nrtd	rpm	4300	6100	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.720	0.990	1.24
Hp				0.966	1.33	1.66	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	1.57	1.50	1.44
				lb-in	13.9	13.3	12.7
	Rated Speed		Nrtd	rpm	5200	7300	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.855	1.15	1.21
Hp				1.15	1.54	1.62	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.16	0.836	0.601
				lb-in/Arms	10.3	7.399	5.318
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	75.6	54.4	39.1
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.205	0.206	0.209
				lb-in/ \sqrt{W}	1.82	1.83	1.85
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	21.4	10.9	5.49
	Inductance Q-Axis (line-line)		Lqll	mH	46.9	24.2	12.5
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	20	28	39	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					31C	31D	31E
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.426		
				lb-in-s ²	3.77E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.120		
				lb-in-s ²	3.54E-05		
	Weight (8)		W	kg	1.8		
				lb	4.0		
	Static Friction (1)		Tf	Nm	0.035		
				lb-in	0.31		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0039		
				lb-in/krpm	0.035		
	Thermal Time Constant		TCT	mins.	17		
	Thermal Resistance		R _{thw-a}	°C/W	0.980		
	Pole Pairs		PP		4		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

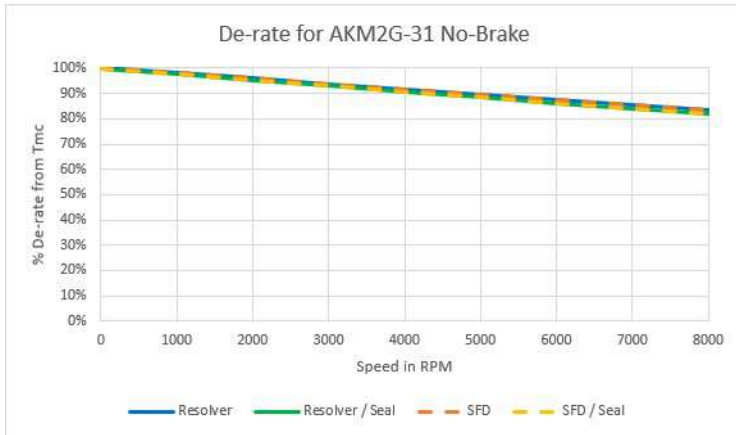
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.72 kg [1.6 lbs]
9. Shaft seal increases Static Friction by 0.017 Nm [0.15 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.3.1.1 AKM2G-31 Derates for Different Options

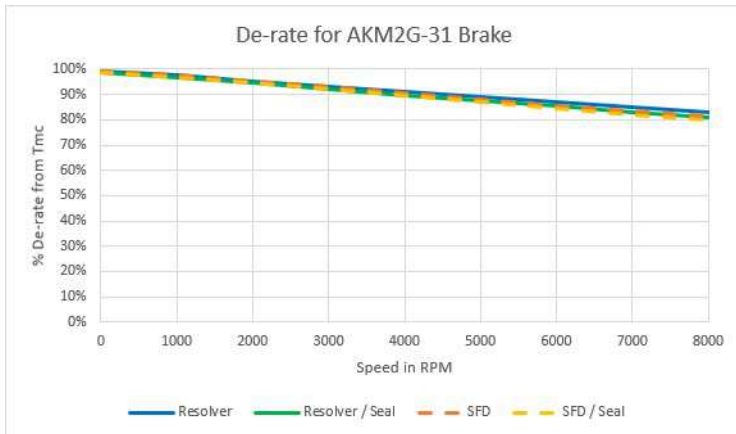
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	98.2%	96.0%	93.8%	91.7%	89.6%	87.6%	85.6%	83.7%
Resolver / Seal	99.5%	97.6%	95.2%	92.9%	90.6%	88.3%	86.1%	84.0%	81.9%
SFD	100.0%	98.2%	96.0%	93.8%	91.7%	89.6%	87.5%	85.3%	83.4%
SFD / Seal	99.5%	97.6%	95.2%	92.9%	90.6%	88.3%	86.1%	84.0%	81.9%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	99.3%	97.5%	95.3%	93.1%	90.9%	88.8%	86.8%	84.8%	82.9%
Resolver / Seal	98.8%	96.9%	94.5%	92.1%	89.8%	87.6%	85.3%	83.2%	81.0%
SFD	99.3%	97.5%	95.3%	93.1%	90.5%	87.9%	85.5%	83.3%	81.2%
SFD / Seal	98.8%	96.9%	94.5%	92.1%	89.7%	86.9%	84.4%	82.1%	79.9%



7.3.2 Technical Data AKM2G-32

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					32D	32E	32G
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	2.81	2.80	2.90
				lb-in	24.9	24.8	25.7
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.17	2.75	4.24
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	2.18	2.18	2.26
				lb-in	19.3	19.3	20.0
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	10.4	10.3	10.7
lb-in				91.7	91.6	94.3	
Peak Current	Nom	Ip	Arms	8.66	11.0	17.0	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		2.78	2.82
				lb-in		24.6	25.0
	Rated Speed		Nrtd	rpm		1300	2300
	Rated Power (speed) (1)(2)(4)		Prtd	kW		0.378	0.680
Hp					0.507	0.912	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	2.72	2.67	2.60
				lb-in	24.1	23.6	23.0
	Rated Speed		Nrtd	rpm	2200	2900	4700
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.628	0.811	1.28
Hp				0.842	1.09	1.72	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	2.58	2.46	2.17
				lb-in	22.9	21.8	19.2
	Rated Speed		Nrtd	rpm	3900	5000	7600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.06	1.29	1.72
Hp				1.42	1.73	2.31	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	2.50	2.33	
				lb-in	22.1	20.6	
	Rated Speed		Nrtd	rpm	4700	6100	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.23	1.49	
Hp				1.65	1.99		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.33	1.05	0.701
				lb-in/Arms	11.8	9.26	6.20
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	86.1	67.7	45.4
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.326	0.325	0.337
				lb-in/ \sqrt{W}	2.88	2.88	2.99
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	11.14	6.90	2.87
	Inductance Q-Axis (line-line)		Lqll	mH	24.7	15.3	6.8
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	36	46	68	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					32D	32E	32G
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.813		
				lb-in-s ²	7.2E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.120		
				lb-in-s ²	1.06E-04		
	Weight (8)		W	kg	2.5		
				lb	5.6		
	Static Friction (1)		Tf	Nm	0.070		
				lb-in	0.62		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0078		
				lb-in/krpm	0.069		
	Thermal Time Constant		TCT	mins.	21		
	Thermal Resistance		Rthw-a	°C/W	0.868		
	Pole Pairs		PP		4		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

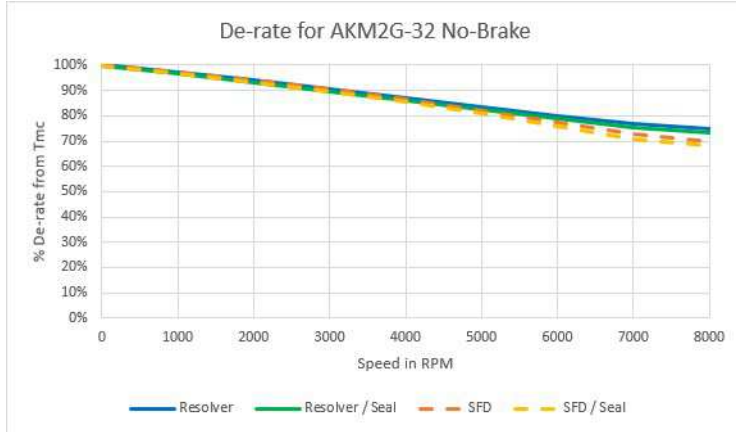
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.3.2.1 AKM2G-32 Derates for Different Options

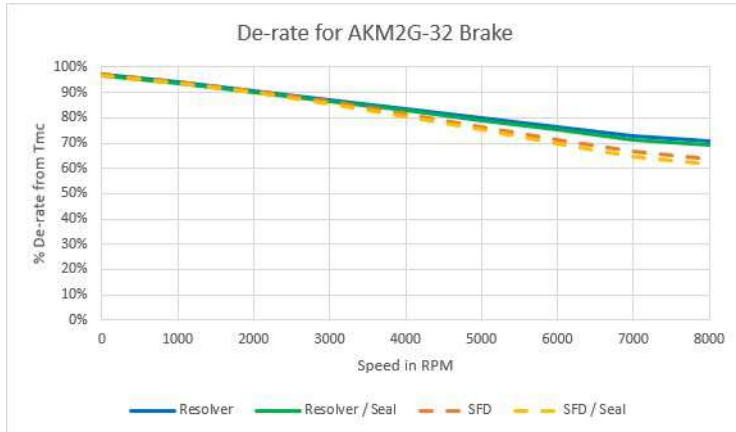
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	97.3%	93.9%	90.5%	87.0%	83.6%	80.1%	76.7%	74.6%
Resolver / Seal	99.7%	96.9%	93.3%	89.7%	86.1%	82.5%	78.9%	75.3%	73.1%
SFD	100.0%	97.3%	93.9%	90.5%	86.6%	81.9%	77.2%	72.7%	70.0%
SFD / Seal	99.7%	96.9%	93.3%	89.7%	85.6%	80.7%	75.8%	70.9%	68.1%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	97.0%	94.2%	90.7%	87.2%	83.7%	80.1%	76.5%	73.0%	70.8%
Resolver / Seal	96.7%	93.8%	90.2%	86.5%	82.8%	79.0%	75.3%	71.5%	69.2%
SFD	97.0%	94.2%	90.7%	86.5%	81.5%	76.5%	71.4%	66.5%	63.5%
SFD / Seal	96.7%	93.8%	90.2%	85.7%	80.5%	75.2%	69.9%	64.6%	61.5%



7.3.3 Technical Data AKM2G-33

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					33E	33G	33H
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	3.86	3.81	3.85
				ib-in	34.1	33.7	34.1
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.99	4.24	5.80
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	3.00	2.97	3.01
				lb-in	26.5	26.3	26.7
	Max. mechanical speed (5)	Nom	Nmax	rpm	8000	8000	8000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	14.6	14.4	14.6
				lb-in	129	128	129
	Peak Current	Nom	Ip	Arms	12.0	16.9	23.2
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		3.71	3.68
				lb-in		32.8	32.5
	Rated Speed		Nrtd	rpm		1600	2250
	Rated Power (speed) (1)(2)(4)		Prtd	kW		0.622	0.866
Hp					0.833	1.16	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	3.64	3.44	3.20
				lb-in	32.2	30.4	28.3
	Rated Speed		Nrtd	rpm	2300	3350	4600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.878	1.21	1.54
Hp				1.18	1.62	2.07	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	3.33	2.83	1.88
				lb-in	29.5	25.1	16.6
	Rated Speed		Nrtd	rpm	4000	5800	8000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.39	1.72	1.57
Hp				1.87	2.31	2.11	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	3.14	2.42	
				lb-in	27.8	21.4	
	Rated Speed		Nrtd	rpm	4800	7000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.58	1.77	
Hp				2.11	2.38		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.33	0.924	0.683
				lb-in/Arms	11.7	8.18	6.04
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	85.6	59.7	44.1
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.429	0.426	0.431
				lb-in/ \sqrt{W}	3.80	3.77	3.82
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	6.35	3.14	1.67
	Inductance Q-Axis (line-line)		Lqll	mH	15.1	7.3	4.0
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	54.4	78.0	105.5	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					33E	33G	33H
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	1.200		
				lb-in-s ²	1.06E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.120		
				lb-in-s ²	1.06E-04		
	Weight (8)		W	kg	3.3		
				lb	7.2		
	Static Friction (1)		Tf	Nm	0.105		
				lb-in	0.93		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0117		
				lb-in/krpm	0.104		
	Thermal Time Constant		TCT	mins.	25		
	Thermal Resistance		R _{thw-a}	°C/W	0.795		
	Pole Pairs		PP		4		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

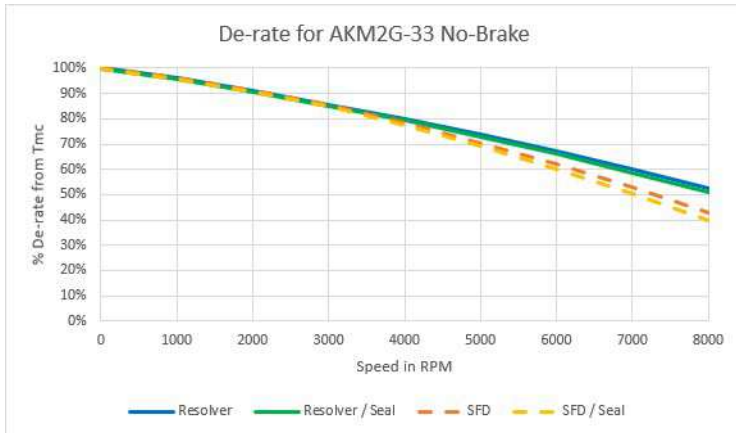
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.72 kg [1.6 lbs]
9. Shaft seal increases Static Friction by 0.017 Nm [0.15 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.3.3.1 AKM2G-33 Derates for Different Options

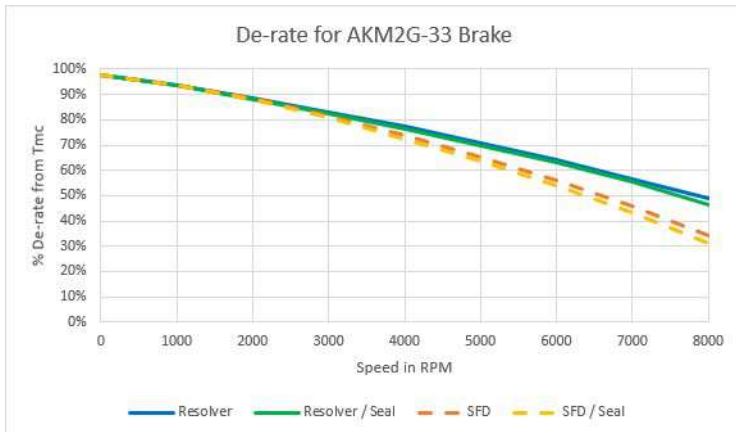
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	100.0%	96.1%	91.1%	85.6%	79.9%	73.8%	67.2%	60.1%	52.5%
Resolver / Seal	99.8%	95.8%	90.6%	85.1%	79.2%	72.9%	66.1%	58.8%	50.9%
SFD	100.0%	96.1%	91.1%	85.6%	78.4%	70.4%	61.9%	52.8%	42.8%
SFD / Seal	99.8%	95.8%	90.6%	85.0%	77.4%	69.1%	60.2%	50.5%	39.9%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM								
	0	1000	2000	3000	4000	5000	6000	7000	8000
Resolver	97.7%	93.8%	88.6%	83.1%	77.2%	70.8%	64.1%	56.7%	48.7%
Resolver / Seal	97.5%	93.5%	88.2%	82.5%	76.4%	69.9%	62.9%	55.4%	46.4%
SFD	97.7%	93.8%	88.6%	81.5%	73.6%	65.0%	55.8%	45.7%	34.3%
SFD / Seal	97.5%	93.5%	88.2%	80.7%	72.5%	63.6%	53.9%	43.2%	30.9%



7.4 Technical Data AKM2G-4x Series

7.4.1 Technical Data AKM2G-41

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					41D	41E	41G
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V _{bus}	V _{ac}	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	T _{mc}	Nm	2.85	2.87	2.86
				lb-in	25.2	25.4	25.3
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	I _{mc}	Arms	2.32	2.92	4.53
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	T _{mc}	Nm	2.22	2.24	2.24
				lb-in	19.7	19.8	19.9
	Max. mechanical speed (5)	Nom	N _{max}	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	T _p	Nm	7.25	7.26	7.26
				lb-in	64.2	64.2	64.2
	Peak Current	Nom	I _p	Arms	9.27	11.7	18.1
120 V AC	Rated Torque (speed) (1)(2)(4)		T _{rtd}	Nm	2.84	2.84	2.79
				lb-in	25.1	25.1	24.7
	Rated Speed		N _{rtd}	rpm	900	1200	2100
	Rated Power (speed) (1)(2)(4)		P _{rtd}	kW	0.267	0.357	0.613
Hp				0.358	0.478	0.823	
240 V AC	Rated Torque (speed) (1)(2)(4)		T _{rtd}	Nm	2.76	2.73	2.57
				lb-in	24.4	24.2	22.7
	Rated Speed		N _{rtd}	rpm	2100	2700	4500
	Rated Power (speed) (1)(2)(4)		P _{rtd}	kW	0.607	0.773	1.21
Hp				0.814	1.04	1.62	
400 V AC	Rated Torque (speed) (1)(2)(4)		T _{rtd}	Nm	2.62	2.52	2.28
				lb-in	23.2	22.3	20.1
	Rated Speed		N _{rtd}	rpm	3800	4800	6000
	Rated Power (speed) (1)(2)(4)		P _{rtd}	kW	1.04	1.27	1.43
Hp				1.40	1.70	1.92	
480 V AC	Rated Torque (speed) (1)(2)(4)		T _{rtd}	Nm	2.53	2.38	2.19
				lb-in	22.4	21.1	19.4
	Rated Speed		N _{rtd}	rpm	4600	5900	6000
	Rated Power (speed) (1)(2)(4)		P _{rtd}	kW	1.22	1.47	1.37
Hp				1.63	1.97	1.85	
	Torque Constant (1)	+/- 10%	K _t	Nm/Arms	1.24	0.99	0.64
				lb-in/Arms	11.0	8.76	5.64
	Back EMF Constant (6)	+/- 10%	K _e	V _{rms} /krpm	82.2	65.6	42.2
	Motor Constant (1)	Nom	K _m	Nm/√W	0.327	0.329	0.330
				lb-in/√W	2.89	2.91	2.92
	Resistance (line-line) (6)	+/- 10%	R _m	Ω	9.61	6.04	2.49
	Inductance Q-Axis (line-line)		L _{qll}	mH	56.5	36.0	14.9
	Inductance D-Axis (line-line)		L _{dll}	mH			
	Inductance Saturation Current		L _{isat}	Arms	11.9	15.0	23.3
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					41D	41E	41G
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	0.774		
				lb-in-s ²	6.85E-04		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.360		
				lb-in-s ²	3.19E-04		
	Weight (8)		W	kg	2.90		
				lb	6.39		
	Static Friction (1)		Tf	Nm	0.0230		
				lb-in	0.2036		
	Viscous Damping (1)		Kdv	Nm/krpm	0.00450		
				lb-in/krpm	0.0398		
	Thermal Time Constant		TCT	mins.	17		
	Thermal Resistance		R _{thw-a}	°C/W	0.880		
	Pole Pairs		PP		5		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

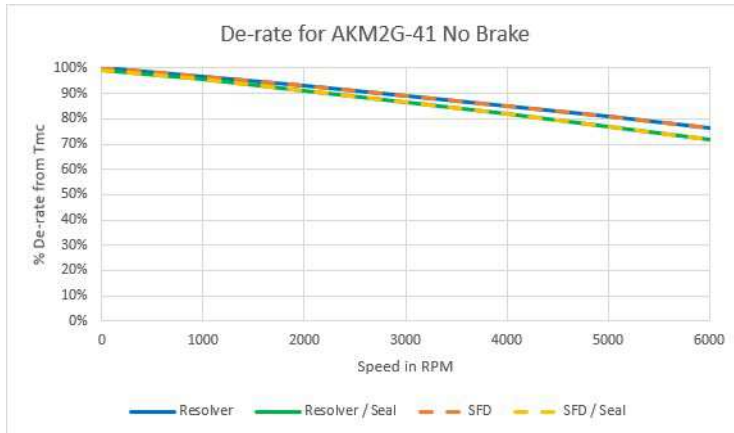
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.4.1.1 AKM2G-41 Derates for Different Options

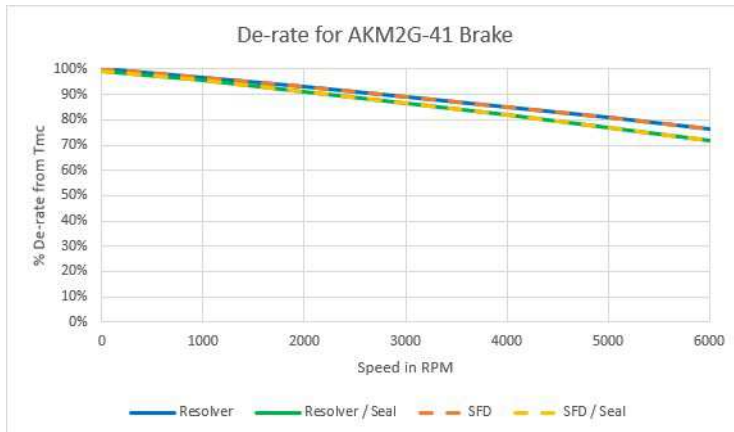
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%
Resolver / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%
SFD	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%
SFD / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	96.9%	93.0%	89.0%	84.9%	80.7%	76.4%
Resolver / Seal	99.1%	95.6%	91.1%	86.5%	81.8%	77.0%	71.9%
SFD	100.0%	96.9%	93.0%	89.0%	84.9%	80.7%	76.4%
SFD / Seal	99.1%	95.6%	91.1%	86.5%	81.8%	77.0%	71.9%



7.4.2 Technical Data AKM2G-42

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					42D	42E	42H
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	5.04	5.08	5.12
				ib-in	44.6	45.0	45.3
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.27	2.88	5.64
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	3.93	3.97	4.02
				lb-in	34.8	35.1	35.6
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	14.35	14.40	14.44
				lb-in	127.0	127.4	127.8
	Peak Current	Nom	Ip	Arms	9.07	11.5	22.6
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			5.00
				lb-in			44.3
	Rated Speed		Nrtd	rpm			1500
	Rated Power (speed) (1)(2)(4)		Prtd	kW			0.79
Hp						1.05	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	4.94	4.93	4.65
				lb-in	43.8	43.6	41.1
	Rated Speed		Nrtd	rpm	1200	1600	3200
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.62	0.83	1.56
Hp				0.83	1.11	2.09	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	4.79	4.71	3.87
				lb-in	42.4	41.7	34.3
	Rated Speed		Nrtd	rpm	2100	2700	5600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.05	1.33	2.27
Hp				1.41	1.78	3.04	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	4.69	4.56	3.56
				lb-in	41.5	40.4	31.5
	Rated Speed		Nrtd	rpm	2600	3300	6000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.28	1.58	2.23
Hp				1.71	2.11	3.00	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.24	1.77	0.913
				lb-in/Arms	19.8	15.7	8.1
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	149.2	118.2	60.8
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.52	0.53	0.53
				lb-in/ \sqrt{W}	4.63	4.67	4.73
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	12.19	7.52	1.94
	Inductance Q-Axis (line-line)		Lqll	mH	81.9	51.4	13.6
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	13.4	16.9	32.9	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					42D	42E	42H
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	1.36		
				lb-in-s ²	1.20E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.36		
				lb-in-s ²	3.19E-04		
	Weight (8)		W	kg	3.86		
				lb	8.5		
	Static Friction (1)		Tf	Nm	0.030		
				lb-in	0.27		
	Viscous Damping (1)		Kdv	Nm/krpm	0.009		
				lb-in/krpm	0.08		
	Thermal Time Constant		TCT	mins.	22		
	Thermal Resistance		R _{thw-a}	°C/W	0.725		
	Pole Pairs		PP		5		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

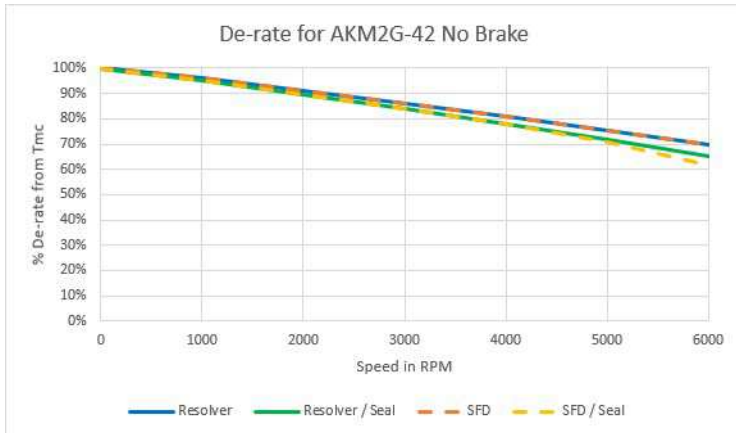
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 0.45 kg [1.0 lbs]
9. Shaft seal increases Static Friction by 0.020 Nm [0.21 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.4.2.1 AKM2G-42 Derates for Different Options

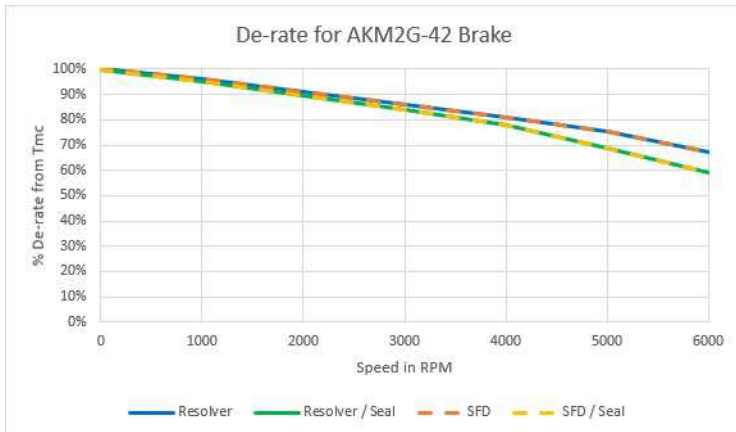
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	96.1%	91.1%	86.0%	80.8%	75.3%	69.5%
Resolver / Seal	99.5%	95.2%	89.6%	84.0%	78.1%	71.9%	65.1%
SFD	100.0%	96.1%	91.1%	86.0%	80.8%	75.3%	69.5%
SFD / Seal	99.5%	95.2%	89.6%	84.0%	78.1%	71.0%	61.4%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	96.1%	91.1%	86.0%	80.8%	75.2%	67.4%
Resolver / Seal	99.5%	95.2%	89.6%	84.0%	77.8%	68.9%	58.9%
SFD	100.0%	96.1%	91.1%	86.0%	80.8%	75.2%	67.4%
SFD / Seal	99.5%	95.2%	89.6%	84.0%	77.8%	68.9%	58.9%



7.4.3 Technical Data AKM2G-43

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					43D	43G	43I
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	6.97	6.97	6.98
				lb-in	61.7	61.7	61.8
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.33	4.52	7.14
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	5.44	5.46	5.51
				lb-in	48.1	48.3	48.8
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	21.1	21.1	21.1
				lb-in	187	187	187
	Peak Current	Nom	Ip	Arms	9.31	18.1	28.6
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			6.81
				lb-in			60.3
	Rated Speed		Nrtd	rpm			1400
	Rated Power (speed) (1)(2)(4)		Prtd	kW			1.00
Hp						1.34	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		6.61	6.21
				lb-in		58.5	55.0
	Rated Speed		Nrtd	rpm		1900	3000
	Rated Power (speed) (1)(2)(4)		Prtd	kW		1.32	1.95
Hp					1.76	2.62	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	6.67	6.10	4.83
				lb-in	59.0	54.0	42.7
	Rated Speed		Nrtd	rpm	1600	3200	5300
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.12	2.05	2.68
Hp				1.50	2.74	3.59	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	6.58	5.76	4.02
				lb-in	58.2	51.0	35.6
	Rated Speed		Nrtd	rpm	1900	3900	6000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.31	2.35	2.53
Hp				1.75	3.15	3.39	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	3.01	1.55	0.983
				lb-in/Arms	26.7	13.7	8.7
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	202	104	65.9
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.678	0.681	0.687
				lb-in/ \sqrt{W}	6.00	6.03	6.08
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	13.2	3.46	1.36
	Inductance Q-Axis (line-line)		Lqll	mH	95.5	25.3	10.2
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	15.0	29.1	45.9
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					43D	43G	43I
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	1.95		
				lb-in-s ²	1.72E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.36		
				lb-in-s ²	3.19E-04		
	Weight (8)		W	kg	4.81		
				lb	10.6		
	Static Friction (1)		Tf	Nm	0.0380		
				lb-in	0.336		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0125		
				lb-in/krpm	0.111		
	Thermal Time Constant		TCT	mins.	27		
	Thermal Resistance		R _{thw-a}	°C/W	0.637		
	Pole Pairs		PP		5		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

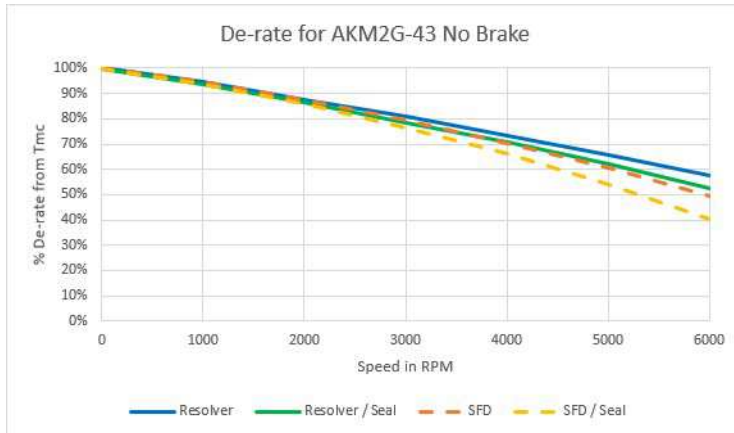
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 1.36 kg [3.0 lbs]
9. Shaft seal increases Static Friction by 0.023 Nm [0.20 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.4.3.1 AKM2G-43 Derates for Different Options

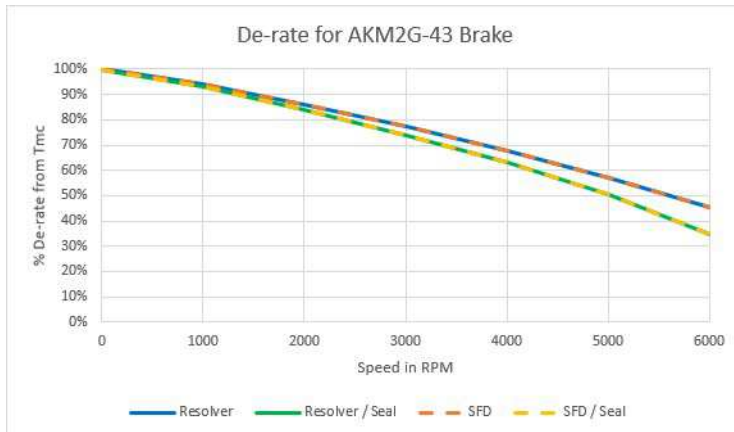
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	94.6%	87.7%	80.7%	73.4%	65.8%	57.7%
Resolver / Seal	99.6%	93.7%	86.3%	78.6%	70.6%	62.0%	52.7%
SFD	100.0%	94.6%	87.7%	79.4%	70.5%	60.6%	49.6%
SFD / Seal	99.6%	93.7%	85.9%	76.4%	66.0%	54.2%	40.1%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	94.3%	86.0%	77.2%	67.7%	57.3%	45.2%
Resolver / Seal	99.6%	93.3%	84.0%	74.0%	63.0%	50.3%	34.6%
SFD	100.0%	94.3%	86.0%	77.2%	67.7%	57.3%	45.2%
SFD / Seal	99.6%	93.3%	84.0%	74.0%	63.0%	50.3%	34.6%



7.4.4 Technical Data AKM2G-44

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					44E	44H	44J
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	8.48	8.51	8.47
				ib-in	75.0	75.3	75.0
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	2.99	5.87	7.30
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	6.63	6.69	6.70
				lb-in	58.6	59.2	59.3
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	26.9	27.0	26.9
				lb-in	238	239	238
	Peak Current	Nom	Ip	Arms	11.97	23.5	29.2
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		8.39	8.28
				lb-in		74.2	73.3
	Rated Speed		Nrtd	rpm		900	1200
	Rated Power (speed) (1)(2)(4)		Prtd	kW		0.79	1.04
Hp					1.06	1.40	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	8.31	7.92	7.58
				lb-in	73.5	70.1	67.0
	Rated Speed		Nrtd	rpm	900	2000	2600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.783	1.66	2.06
Hp				1.05	2.22	2.77	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	7.99	6.98	6.04
				lb-in	70.7	61.8	53.4
	Rated Speed		Nrtd	rpm	1700	3500	4500
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.42	2.56	2.84
Hp				1.91	3.43	3.81	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	7.80	6.32	4.92
				lb-in	69.1	56.0	43.6
	Rated Speed		Nrtd	rpm	2100	4300	5400
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.72	2.85	2.78
Hp				2.30	3.82	3.73	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.85	1.46	1.17
				lb-in/Arms	25.2	12.9	10.3
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	192	98.5	78.8
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.800	0.808	0.809
				lb-in/ \sqrt{W}	7.08	7.15	7.16
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	8.45	2.18	1.39
	Inductance Q-Axis (line-line)		Lqll	mH	63.6	16.7	10.7
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	21.0	41.0	51.3	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					44E	44H	44J
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	2.53		
				lb-in-s ²	2.24E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	0.360		
				lb-in-s ²	3.19E-04		
	Weight (8)		W	kg	5.76		
				lb	12.7		
	Static Friction (1)		Tf	Nm	0.0450		
				lb-in	0.398		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0163		
				lb-in/krpm	0.144		
	Thermal Time Constant		TCT	mins.	32		
	Thermal Resistance		R _{thw-a}	°C/W	0.598		
	Pole Pairs		PP		5		
	Heatsink Size				10" x 10" x 1/4" Aluminum Plate		

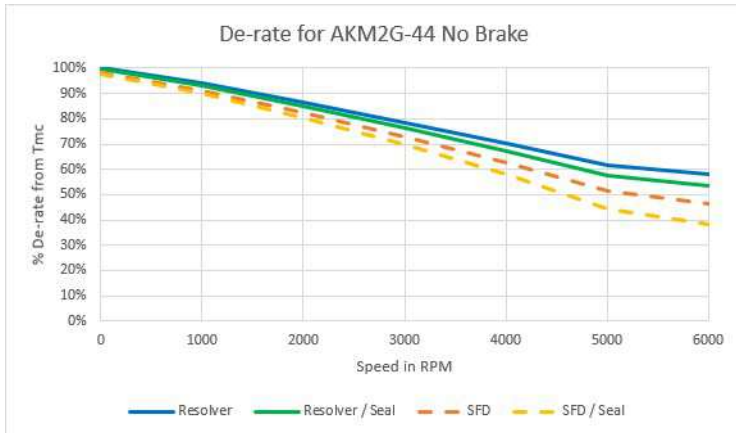
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 1.36 kg [3.0 lbs]
9. Shaft seal increases Static Friction by 0.023 Nm [0.20 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.4.4.1 AKM2G-44 Derates for Different Options

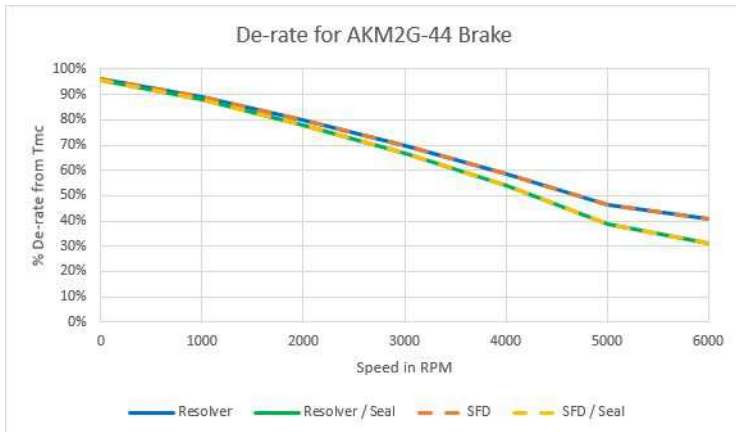
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	94.0%	86.4%	78.6%	70.4%	61.7%	58.1%
Resolver / Seal	99.6%	93.2%	85.0%	76.5%	67.4%	57.7%	53.5%
SFD	98.0%	91.2%	82.3%	72.9%	62.7%	51.3%	46.2%
SFD / Seal	97.6%	90.2%	80.5%	69.9%	58.2%	44.5%	38.2%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	96.2%	89.0%	79.7%	69.7%	58.7%	46.2%	40.6%
Resolver / Seal	95.8%	88.0%	77.7%	66.6%	53.9%	38.6%	31.2%
SFD	96.2%	89.0%	79.7%	69.7%	58.7%	46.2%	40.6%
SFD / Seal	95.8%	88.0%	77.7%	66.6%	53.9%	38.6%	31.2%



7.5 Technical Data AKM2G-5x Series

7.5.1 Technical Data AKM2G-51

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					51H	51I	51K
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	6.82	6.84	6.82
				ib-in	60.4	60.5	60.3
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	5.78	6.35	10.2
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	5.34	5.35	5.36
				lb-in	47.2	47.3	47.5
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	15.7	15.7	15.7
				lb-in	139	139	139
	Peak Current	Nom	Ip	Arms	17.3	19.1	30.5
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	6.74	6.73	5.56
				lb-in	59.6	59.6	58.1
	Rated Speed		Nrtd	rpm	1100	1200	2100
	Rated Power (speed) (1)(2)(4)		Prtd	kW	0.78	0.85	1.44
Hp				1.04	1.13	1.93	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	6.46	6.41	5.83
				lb-in	57.2	56.7	51.6
	Rated Speed		Nrtd	rpm	2400	2700	4500
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.62	1.81	2.75
Hp				2.18	2.43	3.69	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	5.94	5.80	4.80
				lb-in	52.6	51.4	42.5
	Rated Speed		Nrtd	rpm	4200	4600	6000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	2.61	2.80	3.01
Hp				3.50	3.75	4.04	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	5.60	5.38	
				lb-in	49.6	47.6	
	Rated Speed		Nrtd	rpm	5100	5700	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	2.99	3.21	
Hp				4.01	4.30		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.19	1.08	0.674
				lb-in/Arms	10.5	9.57	5.97
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	80.2	73.1	45.6
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	0.637	0.638	0.640
				lb-in/ \sqrt{W}	5.64	5.65	5.66
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	2.31	1.91	0.740
	Inductance Q-Axis (line-line)		Lqll	mH	20.8	17.2	6.70
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	65.4	71.8	115.1	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					51H	51I	51K
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	2.52		
				lb-in-s ²	2.23E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	1.20		
				lb-in-s ²	1.06E-03		
	Weight (8)		W	kg	5.13		
				lb	11.3		
	Static Friction (1)		Tf	Nm	0.0300		
				lb-in	0.266		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0125		
				lb-in/krpm	0.111		
	Thermal Time Constant		TCT	mins.	25		
	Thermal Resistance		Rthw-a	°C/W	0.585		
	Pole Pairs		PP		5		
	Heatsink Size				12" x 12" x 1/2" Aluminum Plate		

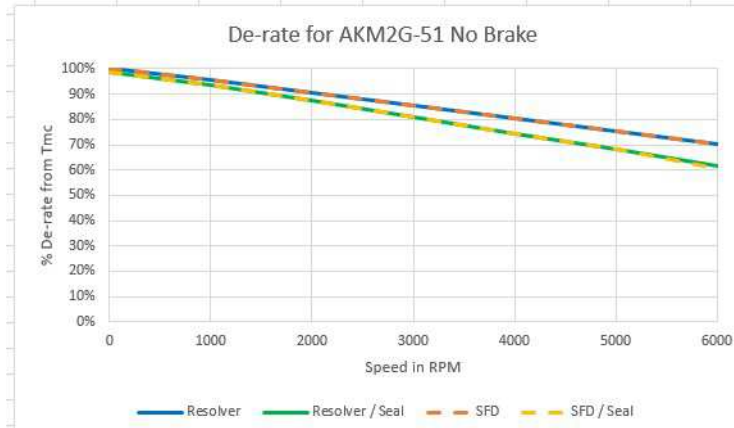
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 2.6 kg [5.7lbs]
9. Shaft seal increases Static Friction by 0.07 Nm [0.62 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.5.1.1 AKM2G-51 Derates for Different Options

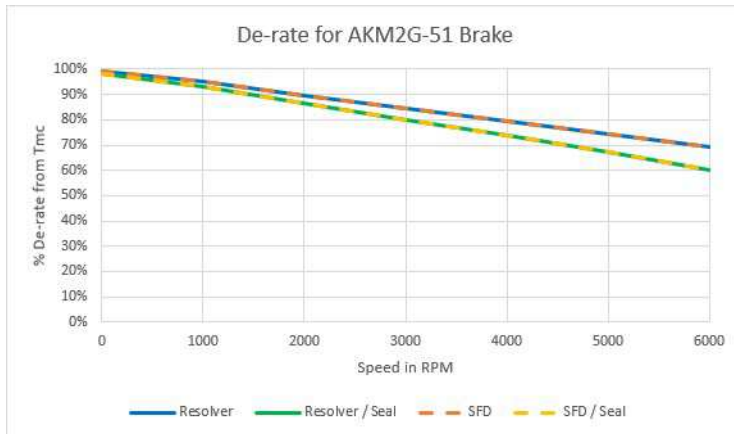
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%
Resolver / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%
SFD	100.0%	98.2%	95.8%	93.5%	91.1%	88.7%	86.4%
SFD / Seal	96.8%	94.9%	92.4%	89.9%	87.4%	84.9%	82.4%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	96.9%	93.0%	89.0%	84.9%	80.7%	76.4%
Resolver / Seal	99.1%	95.6%	91.1%	86.5%	81.8%	77.0%	71.9%
SFD	100.0%	96.9%	93.0%	89.0%	84.9%	80.7%	76.4%
SFD / Seal	99.1%	95.6%	91.1%	86.5%	81.8%	77.0%	71.9%



7.5.2 Technical Data AKM2G-52

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					52H	52K	52L
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	12.0	11.9	11.9
				lb-in	106	106	106
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	6.30	10.0	12.5
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	9.40	9.43	9.42
				lb-in	83.2	83.4	83.4
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	29.0	29.0	28.9
				lb-in	257	256	256
	Peak Current	Nom	Ip	Arms	18.9	30.1	37.6
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		11.7	11.5
				lb-in		103	102
	Rated Speed		Nrtd	rpm		1200	1500
	Rated Power (speed) (1)(2)(4)		Prtd	kW		1.47	1.80
Hp					1.97	2.42	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	11.5	10.8	10.2
				lb-in	102	95.6	90.4
	Rated Speed		Nrtd	rpm	1500	2500	3200
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.80	2.83	3.42
Hp				2.42	3.79	4.59	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	10.7	9.00	7.42
				lb-in	94.5	79.6	65.7
	Rated Speed		Nrtd	rpm	2700	4400	5600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.02	4.14	4.35
Hp				4.05	5.56	5.83	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	10.3	7.81	
				lb-in	90.7	69.1	
	Rated Speed		Nrtd	rpm	3200	5300	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.44	4.34	
Hp				4.61	5.82		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.91	1.20	0.956
				lb-in/Arms	16.9	10.6	8.46
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	129	80.9	64.7
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	1.02	1.03	1.03
				lb-in/ \sqrt{W}	9.07	9.09	9.09
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	2.32	0.902	0.578
	Inductance Q-Axis (line-line)		Lqll	mH	24.5	9.6	6.1
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	81	130	163	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					52H	52K	52L
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	4.58		
				lb-in-s ²	4.06E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	1.20		
				lb-in-s ²	1.06E-03		
	Weight (8)		W	kg	7.03		
				lb	15.5		
	Static Friction (1)		Tf	Nm	0.0560		
				lb-in	0.496		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0232		
				lb-in/krpm	0.205		
	Thermal Time Constant		TCT	mins.	32		
	Thermal Resistance		R _{thw-a}	°C/W	0.488		
	Pole Pairs		PP		5		
	Heatsink Size				12" x 12" x 1/2" Aluminum Plate		

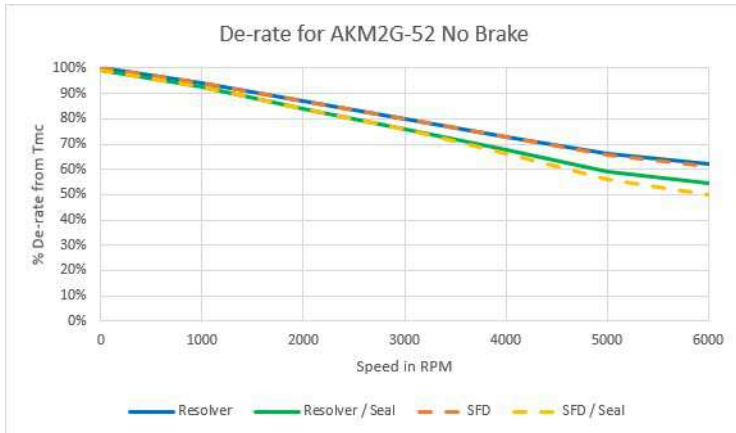
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 2.6 kg [5.7 lbs]
9. Shaft seal increases Static Friction by 0.07 Nm [0.62 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.5.2.1 AKM2G-52 Derates for Different Options

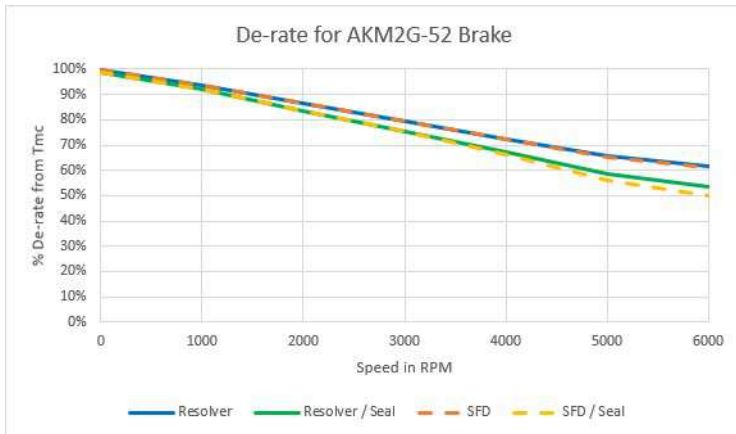
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	94.1%	86.8%	79.7%	72.8%	66.1%	62.2%
Resolver / Seal	99.2%	92.6%	84.2%	75.9%	67.6%	59.3%	54.4%
SFD	100.0%	94.1%	86.8%	79.7%	72.8%	65.6%	61.1%
SFD / Seal	99.2%	92.6%	84.2%	75.9%	66.3%	56.2%	49.9%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	99.5%	93.6%	86.3%	79.2%	72.2%	65.5%	61.5%
Resolver / Seal	98.8%	92.1%	83.7%	75.4%	67.0%	58.7%	53.7%
SFD	99.5%	93.6%	86.3%	79.2%	72.2%	65.4%	61.0%
SFD / Seal	98.8%	92.1%	83.7%	75.4%	66.2%	56.1%	49.9%



7.5.3 Technical Data AKM2G-53

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					53H	53L	53M
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	16.2	16.0	16.1
				lb-in	144	142	142
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	5.69	12.5	14.2
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	12.7	12.7	12.7
				lb-in	113	113	112
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	41.8	41.4	41.4
				lb-in	370	366	367
	Peak Current	Nom	Ip	Arms	17.1	37.6	42.5
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		15.6	15.4
				lb-in		138	136
	Rated Speed		Nrtd	rpm		1100	1300
	Rated Power (speed) (1)(2)(4)		Prtd	kW		1.80	2.09
Hp					2.41	2.81	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	15.7	14.1	13.5
				lb-in	139	124	120
	Rated Speed		Nrtd	rpm	1000	2400	2800
	Rated Power (speed) (1)(2)(4)		Prtd	kW	1.65	3.53	3.97
Hp				2.21	4.74	5.33	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	14.9	10.9	9.74
				lb-in	132	96.1	86.2
	Rated Speed		Nrtd	rpm	1800	4200	4800
	Rated Power (speed) (1)(2)(4)		Prtd	kW	2.81	4.77	4.90
Hp				3.77	6.40	6.57	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	14.4	8.64	
				lb-in	128	76.5	
	Rated Speed		Nrtd	rpm	2200	5100	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.32	4.61	
Hp				4.46	6.19		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.87	1.29	1.14
				lb-in/Arms	25.4	11.4	10.1
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	194	87.1	77.1
	Motor Constant (1)	Nom	Km	Nm/√W	1.32	1.32	1.32
				lb-in/√W	11.7	11.7	11.6
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	3.15	0.635	0.500
	Inductance Q-Axis (line-line)		Lqll	mH	35.5	7.15	5.60
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	81.3	181	205
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					53H	53L	53M
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	6.64		
				lb-in-s ²	5.88E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	120		
				lb-in-s ²	1.06E-03		
	Weight (8)		W	kg	8.89		
				lb	19.6		
	Static Friction (1)		Tf	Nm	0.0830		
				lb-in	0.735		
	Viscous Damping (1)		Kdv	Nm/krpm	0.033		
				lb-in/krpm	0.292		
	Thermal Time Constant		TCT	mins.	38		
	Thermal Resistance		Rthw-a	°C/W	0.440		
	Pole Pairs		PP		5		
	Heatsink Size				12" x 12" x 1/2" Aluminum Plate		

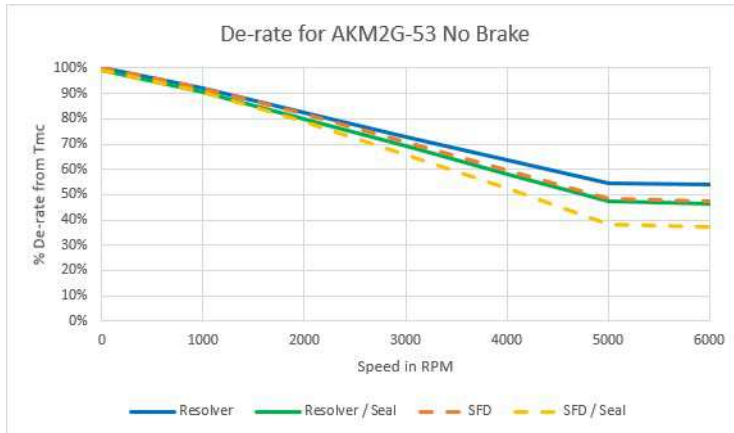
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 2.6 kg [5.7 lbs]
9. Shaft seal increases Static Friction by 0.07 Nm [0.62 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.5.3.1 AKM2G-53 Derates for Different Options

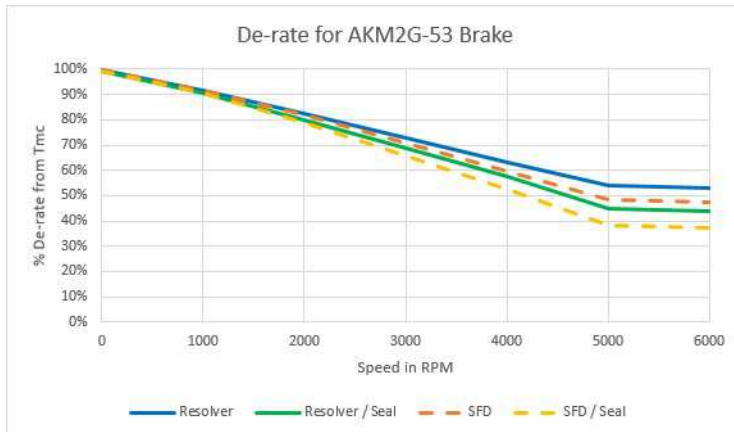
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	100.0%	92.2%	82.5%	73.0%	63.7%	54.7%	53.8%
Resolver / Seal	99.4%	90.8%	80.1%	69.2%	58.3%	47.6%	46.5%
SFD	100.0%	92.2%	81.7%	70.6%	59.5%	48.6%	47.5%
SFD / Seal	99.4%	90.8%	78.7%	65.8%	52.4%	38.4%	37.0%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	2000	3000	4000	5000	6000
Resolver	99.7%	91.8%	82.2%	72.6%	63.2%	54.2%	53.2%
Resolver / Seal	99.1%	90.5%	79.7%	68.8%	57.8%	45.1%	43.9%
SFD	99.7%	91.8%	81.7%	70.6%	59.5%	48.6%	47.5%
SFD / Seal	99.1%	90.5%	78.7%	65.8%	52.4%	38.4%	37.0%



7.5.4 Technical Data AKM2G-54

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					54L	54M	54N
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	20.1	20.0	20.0
				ib-in	178	177	177
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	10.6	14.6	16.3
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	15.9	15.9	15.9
				lb-in	141	141	141
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	54.8	54.7	54.7
				lb-in	485	484	484
	Peak Current	Nom	Ip	Arms	31.7	43.9	48.8
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		19.3	19.1
				lb-in		171	169
	Rated Speed		Nrtd	rpm		1100	1200
	Rated Power (speed) (1)(2)(4)		Prtd	kW		2.22	2.40
Hp					2.98	3.22	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	18.4	17.2	16.5
				lb-in	163	152	146
	Rated Speed		Nrtd	rpm	1600	2300	2600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.09	4.13	4.49
Hp				4.14	5.54	6.02	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	15.9	12.9	11.0
				lb-in	141	114	97.6
	Rated Speed		Nrtd	rpm	2800	3900	4500
	Rated Power (speed) (1)(2)(4)		Prtd	kW	4.66	5.28	5.20
Hp				6.25	7.08	6.97	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	14.3	9.80	
				lb-in	126	86.7	
	Rated Speed		Nrtd	rpm	3400	4800	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.08	4.92	
Hp				6.81	6.60		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.91	1.38	1.24
				lb-in/Arms	16.9	12.2	11.0
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	130	93.3	83.8
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	1.57	1.57	1.57
				lb-in/ \sqrt{W}	13.9	13.9	13.9
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	0.991	0.514	0.416
	Inductance Q-Axis (line-line)		Lqll	mH	11.6	6.0	4.9
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	163	226	251	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					54L	54M	54N
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	8.70		
				lb-in-s ²	7.70E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	1.20		
				lb-in-s ²	1.06E-03		
	Weight (8)		W	kg	10.8		
				lb	23.8		
	Static Friction (1)		Tf	Nm	0.110		
				lb-in	0.974		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0427		
				lb-in/krpm	0.378		
	Thermal Time Constant		TCT	mins.	43		
	Thermal Resistance		R _{thw-a}	°C/W	0.399		
	Pole Pairs		PP		5		
	Heatsink Size				12" x 12" x 1/2" Aluminum Plate		

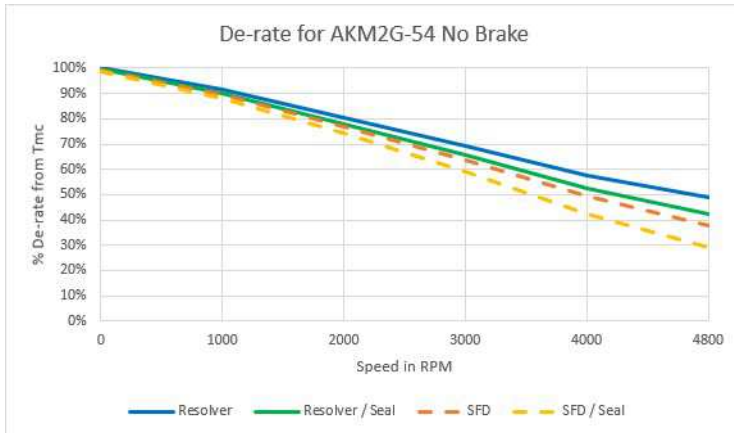
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 2.6 kg [5.7 lbs]
9. Shaft seal increases Static Friction by 0.07 Nm [0.62 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.5.4.1 AKM2G-54 Derates for Different Options

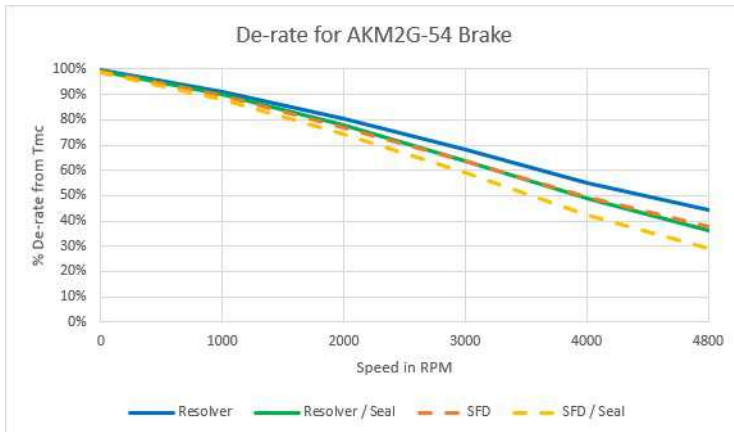
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM					
	0	1000	2000	3000	4000	4800
Resolver	100.0%	91.4%	80.4%	69.2%	57.8%	48.9%
Resolver / Seal	99.5%	90.1%	78.1%	65.5%	52.5%	42.4%
SFD	99.2%	89.5%	76.8%	63.5%	49.4%	37.9%
SFD / Seal	98.6%	88.1%	74.1%	59.0%	42.4%	28.9%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM					
	0	1000	2000	3000	4000	4800
Resolver	99.8%	91.2%	80.2%	68.1%	55.0%	44.4%
Resolver / Seal	99.3%	89.9%	77.8%	63.9%	48.7%	36.3%
SFD	99.2%	89.5%	76.8%	63.5%	49.4%	37.9%
SFD / Seal	98.6%	88.1%	74.1%	59.0%	42.4%	28.9%



7.6 Technical Data AKM2G-6x Series

7.6.1 Technical Data AKM2G-62

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					62K	62L	62M
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	15.3	15.2	15.1
				ib-in	135	134	134
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	9.32	11.6	14.6
				Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm
	ib-in	106	106				106
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	37.6	37.4	37.4
				ib-in	332	331	331
	Peak Current	Nom	Ip	Arms	28.0	34.9	43.7
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		14.9	14.6
				ib-in		132	130
	Rated Speed		Nrtd	rpm		1000	1300
	Rated Power (speed) (1)(2)(4)		Prtd	kW		1.56	1.99
Hp					2.09	2.67	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	14.4	13.8	13.1
				ib-in	127	122	116
	Rated Speed		Nrtd	rpm	1700	2200	2800
	Rated Power (speed) (1)(2)(4)		Prtd	kW	2.56	3.19	3.85
Hp				3.43	4.27	5.16	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	12.9	11.5	9.6
				ib-in	114	102	85
	Rated Speed		Nrtd	rpm	3000	3900	5000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	4.05	4.70	5.03
Hp				5.42	6.31	6.74	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	11.9	9.84	
				ib-in	105	87.1	
	Rated Speed		Nrtd	rpm	3700	4800	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	4.59	4.95	
Hp				6.16	6.63		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.64	1.31	1.04
				ib-in/Arms	14.5	11.6	9.2
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	111	88.3	70.3
	Motor Constant (1)	Nom	Km	Nm/√W	1.25	1.25	1.24
				ib-in/√W	11.1	11.0	11.0
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	1.15	0.732	0.468
	Inductance Q-Axis (line-line)		Lqll	mH	17.4	11.0	7.0
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	250	314	394	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					62K	62L	62M
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	9.10		
				lb-in-s ²	8.05E-03		
	Optional Brake Inertia (additional)		Jm	kgcm ²	3.60		
				lb-in-s ²	3.19E-03		
	Weight (8)		W	kg	10.0		
				lb	22.0		
	Static Friction (1)		Tf	Nm	0.0400		
				lb-in	0.354		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0370		
				lb-in/krpm	0.327		
	Thermal Time Constant		TCT	mins.	40		
	Thermal Resistance		R _{thw-a}	°C/W	0.448		
	Pole Pairs		PP		5		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

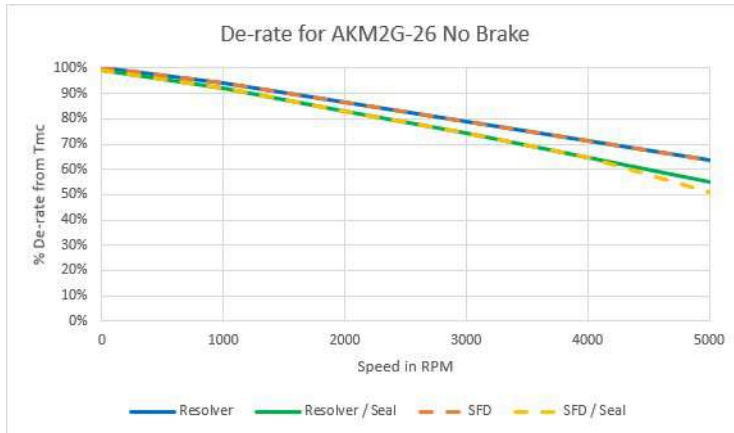
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 4.5 kg [10lbs]
9. Shaft seal increases Static Friction by 0.12 Nm [1.06 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.6.1.1 AKM2G-62 Derates for Different Options

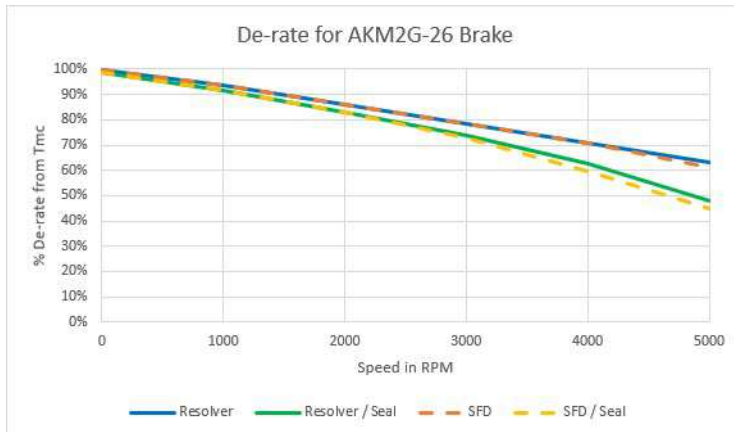
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM					
	0	1000	2000	3000	4000	5000
Resolver	100.0%	93.9%	86.3%	78.7%	71.1%	63.4%
Resolver / Seal	99.0%	92.0%	83.1%	74.2%	64.8%	55.1%
SFD	100.0%	93.9%	86.3%	78.7%	71.1%	63.4%
SFD / Seal	99.0%	92.0%	83.1%	74.2%	64.6%	50.7%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM					
	0	1000	2000	3000	4000	5000
Resolver	99.8%	93.7%	86.0%	78.5%	70.9%	63.0%
Resolver / Seal	98.8%	91.7%	82.9%	73.9%	62.4%	48.0%
SFD	99.8%	93.7%	86.0%	78.5%	70.8%	61.0%
SFD / Seal	98.8%	91.7%	82.9%	73.0%	59.8%	44.7%



7.6.2 Technical Data AKM2G-63

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					63K	63M	63N
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	21.5	21.4	21.4
				lb-in	190	189	189
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	9.79	15.2	16.8
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	16.9	16.9	16.9
				lb-in	150	149	149
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
Peak Torque (1)(2)(4)	Nom	Tp	Nm	54.7	54.5	54.5	
			lb-in	484	482	482	
Peak Current	Nom	Ip	Arms	29.4	45.5	50.5	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		20.9	20.7
				lb-in		185	183
	Rated Speed		Nrtd	rpm		1000	1100
	Rated Power (speed) (1)(2)(4)		Prtd	kW		2.19	2.39
Hp					2.93	3.20	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	20.5	19.2	18.7
				lb-in	181	170	166
	Rated Speed		Nrtd	rpm	1300	2100	2300
	Rated Power (speed) (1)(2)(4)		Prtd	kW	2.79	4.21	4.51
Hp				3.74	5.63	6.05	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	18.9	15.6	14.1
				lb-in	167	138	125
	Rated Speed		Nrtd	rpm	2200	3600	4100
	Rated Power (speed) (1)(2)(4)		Prtd	kW	4.35	5.88	6.07
Hp				5.84	7.89	8.14	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	17.8	12.84	
				lb-in	158	113.7	
	Rated Speed		Nrtd	rpm	2700	4500	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.03	6.05	
Hp				6.75	8.12		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.20	1.41	1.27
				lb-in/Arms	19.5	12.5	11.3
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	149	95.5	86.0
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	1.65	1.65	1.65
				lb-in/ \sqrt{W}	14.6	14.6	14.6
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	1.18	0.491	0.398
	Inductance Q-Axis (line-line)		Lqll	mH	19.8	8.2	6.6
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	282	439	488	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					63K	63M	63N
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	13.0		
				lb-in-s ²	1.15E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	3.60		
				lb-in-s ²	3.19E-03		
	Weight (8)		W	kg	12.3		
				lb	27.0		
	Static Friction (1)		Tf	Nm	0.060		
				lb-in	0.531		
	Viscous Damping (1)		Kdv	Nm/krpm	0.053		
				lb-in/krpm	0.469		
	Thermal Time Constant		TCT	mins.	50		
	Thermal Resistance		R _{thw-a}	°C/W	0.393		
	Pole Pairs		PP		5		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

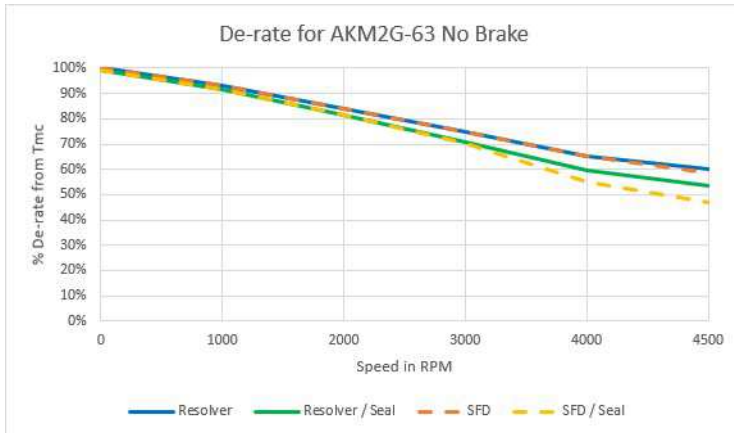
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 4.5 kg [10lbs]
9. Shaft seal increases Static Friction by 0.12 Nm [1.06 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.6.2.1 AKM2G-63 Derates for Different Options

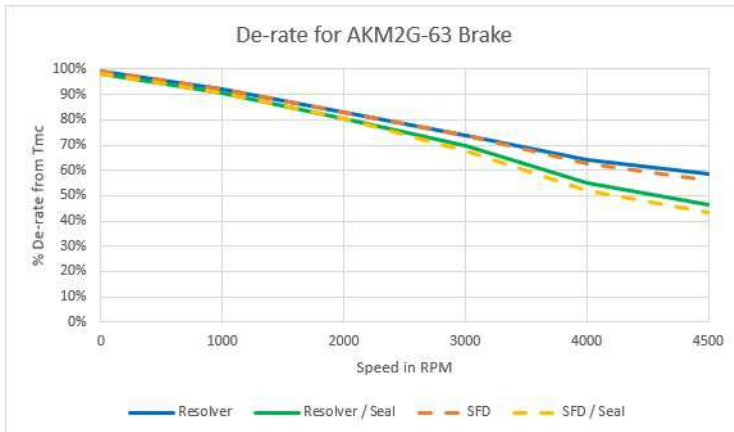
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM					
	0	1000	2000	3000	4000	4500
Resolver	100.0%	93.0%	84.1%	74.8%	65.1%	60.1%
Resolver / Seal	99.3%	91.5%	81.4%	70.8%	59.4%	53.6%
SFD	100.0%	93.0%	84.1%	74.8%	65.1%	58.8%
SFD / Seal	99.3%	91.5%	81.4%	70.3%	55.2%	46.8%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM					
	0	1000	2000	3000	4000	4500
Resolver	99.2%	92.2%	83.2%	73.8%	64.0%	58.5%
Resolver / Seal	98.4%	90.6%	80.5%	69.7%	54.9%	46.5%
SFD	99.2%	92.2%	83.2%	73.8%	62.4%	55.9%
SFD / Seal	98.4%	90.6%	80.5%	67.8%	52.0%	43.3%



7.6.3 Technical Data AKM2G-64

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					64L	64M	64N
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	27.0	26.9	26.8
				lb-in	239	238	237
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	11.4	15.8	17.8
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	21.3	21.3	21.2
				lb-in	188	188	188
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	70.7	70.5	70.3
				lb-in	626	624	622
	Peak Current	Nom	Ip	Arms	34.1	47.5	53.3
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			26.2
				lb-in			232
	Rated Speed		Nrtd	rpm			900
	Rated Power (speed) (1)(2)(4)		Prtd	kW			2.47
Hp						3.32	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	25.7	24.6	23.8
				lb-in	227	217	211
	Rated Speed		Nrtd	rpm	1200	1700	2000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.23	4.37	4.98
Hp				4.33	5.86	6.68	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	23.4	20.5	18.9
				lb-in	207	182	167
	Rated Speed		Nrtd	rpm	2100	3000	3400
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.15	6.45	6.72
Hp				6.91	8.65	9.01	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	21.9	17.66	15.2
				lb-in	194	156.3	134
	Rated Speed		Nrtd	rpm	2600	3700	4200
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.95	6.84	6.67
Hp				7.98	9.18	8.95	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.38	1.70	1.51
				lb-in/Arms	21.1	15.1	13.4
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	161	115.2	102.4
	Motor Constant (1)	Nom	Km	Nm/√W	1.99	1.98	1.98
				lb-in/√W	17.6	17.6	17.5
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	0.955	0.491	0.389
	Inductance Q-Axis (line-line)		Lqll	mH	16.9	8.7	6.8
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	349	488	549
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					64L	64M	64N
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	16.9		
				lb-in-s ²	1.49E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	3.60		
				lb-in-s ²	3.19E-03		
	Weight (8)		W	kg	14.5		
				lb	32.0		
	Static Friction (1)		Tf	Nm	0.0800		
				lb-in	0.708		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0680		
				lb-in/krpm	0.602		
	Thermal Time Constant		TCT	mins.	60		
	Thermal Resistance		R _{thw-a}	°C/W	0.359		
	Pole Pairs		PP		5		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

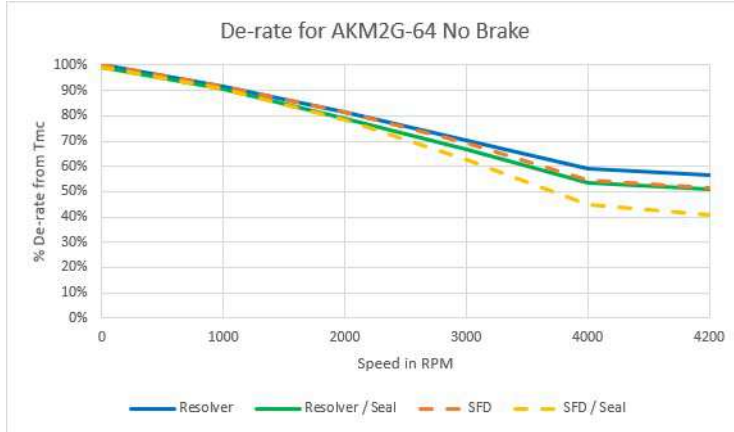
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 4.5 kg [10lbs]
9. Shaft seal increases Static Friction by 0.12 Nm [1.06 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.6.3.1 AKM2G-64 Derates for Different Options

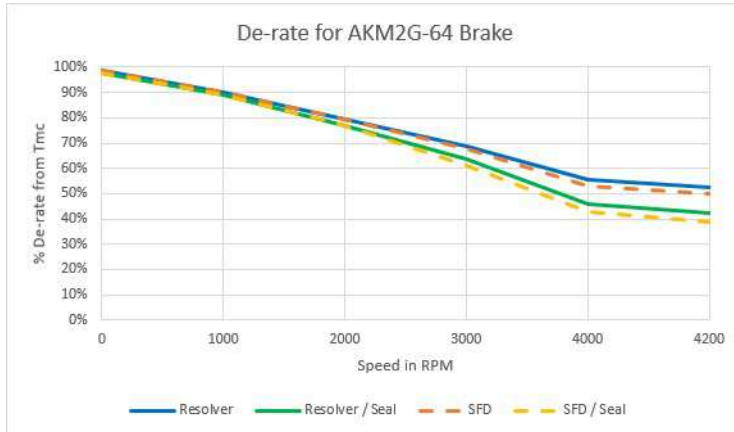
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM					
	0	1000	2000	3000	4000	4200
Resolver	100.0%	91.8%	81.3%	70.3%	58.9%	56.5%
Resolver / Seal	99.4%	90.5%	78.9%	66.5%	53.5%	50.8%
SFD	100.0%	91.8%	81.3%	69.0%	54.6%	51.6%
SFD / Seal	99.4%	90.5%	78.3%	62.6%	44.7%	40.9%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM					
	0	1000	2000	3000	4000	4200
Resolver	98.5%	90.3%	79.6%	68.5%	55.5%	52.6%
Resolver / Seal	97.9%	88.9%	77.1%	63.4%	45.8%	42.1%
SFD	98.5%	90.3%	79.6%	67.5%	53.0%	49.9%
SFD / Seal	97.9%	88.9%	76.9%	61.0%	42.8%	38.9%



7.6.4 Technical Data AKM2G-65

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					65L	65M	65N
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	32.6	32.6	32.7
				lb-in	289	289	289
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	12.4	15.3	19.0
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	25.8	25.8	25.9
				lb-in	228	228	230
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	86.8	86.8	87.0
lb-in				768	768	770	
Peak Current	Nom	Ip	Arms	37.1	45.9	56.9	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			
				lb-in			
	Rated Speed		Nrtd	rpm			
	Rated Power (speed) (1)(2)(4)		Prtd	kW			
Hp							
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	31.1	30.3	29.5
				lb-in	275	268	261
	Rated Speed		Nrtd	rpm	1100	1400	1700
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.58	4.44	5.25
Hp				4.80	5.96	7.04	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	28.5	26.7	23.6
				lb-in	252	236	209
	Rated Speed		Nrtd	rpm	1900	2400	3100
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.67	6.71	7.67
Hp				7.60	8.99	10.28	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	26.8	24.3	19.6
				lb-in	237	215	173
	Rated Speed		Nrtd	rpm	2300	2900	3800
	Rated Power (speed) (1)(2)(4)		Prtd	kW	6.46	7.38	7.79
Hp				8.67	9.90	10.44	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	2.65	2.14	1.73
				lb-in/Arms	23.4	18.9	15.3
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	179	144	117
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	2.28	2.29	2.30
				lb-in/ \sqrt{W}	20.2	20.2	20.4
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	0.896	0.584	0.378
	Inductance Q-Axis (line-line)		Lqll	mH	16.4	10.7	7.0
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	394	488	603	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					65L	65M	65N
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	20.8		
				lb-in-s ²	1.84E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	3.60		
				lb-in-s ²	3.19E-03		
	Weight (8)		W	kg	16.8		
				lb	37.0		
	Static Friction (1)		Tf	Nm	0.100		
				lb-in	0.885		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0840		
				lb-in/krpm	0.743		
	Thermal Time Constant		TCT	mins.	75		
	Thermal Resistance		R _{thw-a}	°C/W	0.324		
	Pole Pairs		PP		5		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

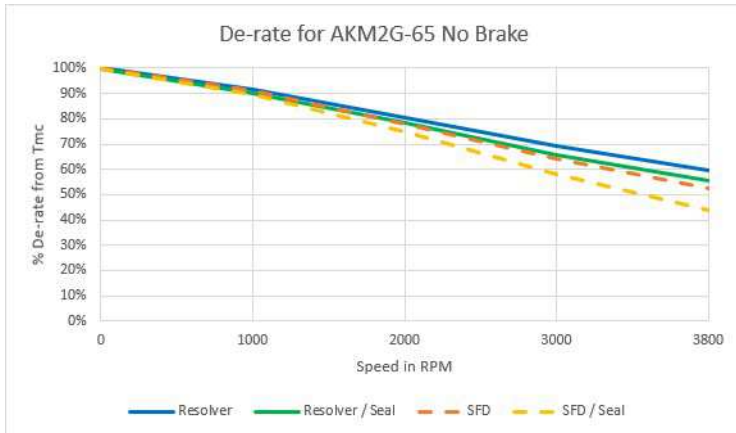
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 4.5 kg [10lbs]
9. Shaft seal increases Static Friction by 0.12 Nm [1.06 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.6.4.1 AKM2G-65 Derates for Different Options

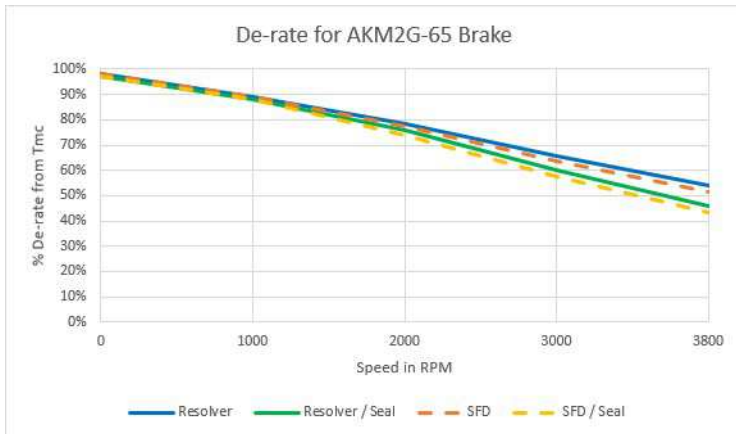
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM				
	0	1000	2000	3000	3800
Resolver	100.0%	91.5%	80.6%	69.2%	59.8%
Resolver / Seal	99.5%	90.3%	78.4%	65.8%	55.3%
SFD	100.0%	91.1%	78.1%	64.2%	52.3%
SFD / Seal	99.5%	89.4%	74.7%	58.3%	43.8%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM				
	0	1000	2000	3000	3800
Resolver	98.0%	89.3%	78.2%	65.7%	54.2%
Resolver / Seal	97.4%	88.1%	75.9%	60.0%	46.1%
SFD	98.0%	89.3%	77.4%	63.5%	51.6%
SFD / Seal	97.4%	88.1%	74.0%	57.6%	43.1%



7.7 Technical Data AKM2G-7x Series

7.7.1 Technical Data AKM2G-71

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					71L	71N	71P
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	23.0	23.0	23.2
				ib-in	203	203	205
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	12.2	17.5	21.4
				Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm
	lb-in	159	159				161
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	49.6	49.6	50.0
				lb-in	439	439	442
	Peak Current	Nom	Ip	Arms	30.4	43.8	53.4
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		21.7	21.7
				lb-in		192	192
	Rated Speed		Nrtd	rpm		1200	1400
	Rated Power (speed) (1)(2)(4)		Prtd	kW		2.73	3.18
Hp					3.66	4.27	
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	21.1	19.7	18.9
				lb-in	187	175	167
	Rated Speed		Nrtd	rpm	1650	2400	2950
	Rated Power (speed) (1)(2)(4)		Prtd	kW	3.65	4.96	5.84
Hp				4.89	6.65	7.84	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	18.9	15.9	13.4
				lb-in	168	140	119
	Rated Speed		Nrtd	rpm	2800	4100	5000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	5.55	6.81	7.02
Hp				7.44	9.13	9.41	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	17.6	13.3	
				lb-in	156	117	
	Rated Speed		Nrtd	rpm	3400	5000	
	Rated Power (speed) (1)(2)(4)		Prtd	kW	6.27	6.95	
Hp				8.41	9.32		
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	1.90	1.32	1.09
				lb-in/Arms	16.8	11.7	9.7
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	127	88.3	73.3
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	1.69	1.69	1.71
				lb-in/ \sqrt{W}	14.9	14.9	15.1
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	0.845	0.407	0.274
	Inductance Q-Axis (line-line)		Lqll	mH	17.6	8.5	5.8
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	86	124	149	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					71L	71N	71P
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	25.9		
				lb-in-s ²	2.29E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	12.3		
				lb-in-s ²	1.09E-02		
	Weight (8)		W	kg	16.8		
				lb	37.0		
	Static Friction (1)		Tf	Nm	0.135		
				lb-in	1.19		
	Viscous Damping (1)		Kdv	Nm/krpm	0.0865		
				lb-in/krpm	0.766		
	Thermal Time Constant		TCT	mins.	38		
	Thermal Resistance		R _{thw-a}	°C/W	0.360		
	Pole Pairs		PP		4		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

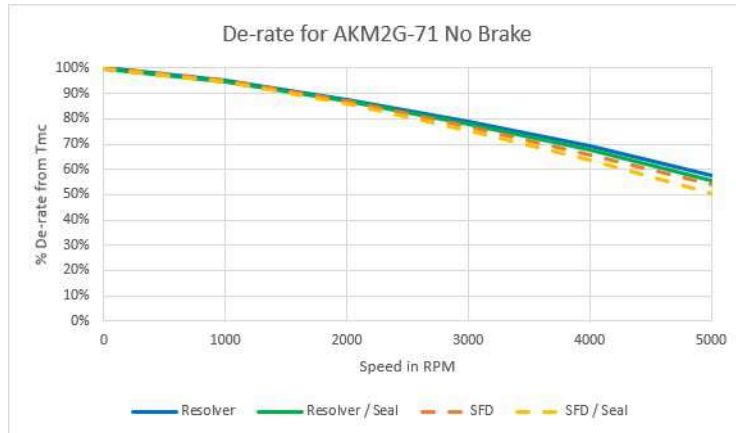
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 9.1 kg [20lbs]
9. Shaft seal increases Static Friction by 0.25 Nm [2.2 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.7.1.1 AKM2G-71 Derates for Different Options

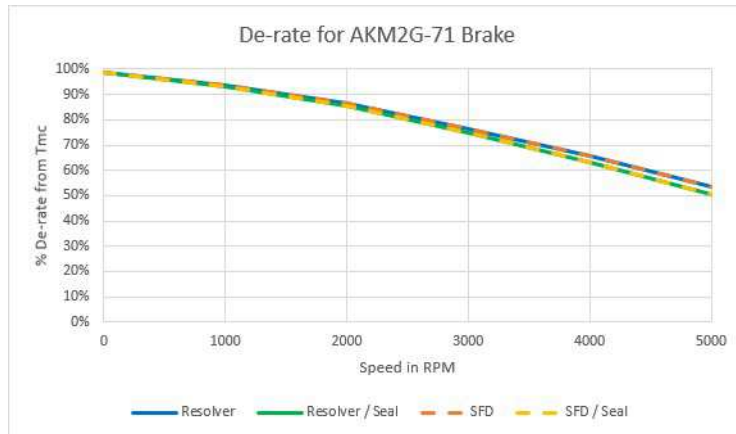
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM					
	0	1000	2000	3000	4000	5000
Resolver	100.0%	94.9%	87.6%	79.0%	69.1%	57.7%
Resolver / Seal	99.9%	94.5%	86.9%	78.0%	67.6%	55.6%
SFD	100.0%	94.9%	87.1%	76.8%	65.8%	53.8%
SFD / Seal	99.9%	94.5%	86.2%	75.2%	63.4%	50.4%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM					
	0	1000	2000	3000	4000	5000
Resolver	98.8%	93.7%	86.3%	76.6%	65.6%	53.7%
Resolver / Seal	98.7%	93.3%	85.6%	75.0%	63.2%	50.3%
SFD	98.8%	93.7%	86.3%	76.6%	65.6%	53.7%
SFD / Seal	98.7%	93.3%	85.6%	75.0%	63.2%	50.3%



7.7.2 Technical Data AKM2G-72

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					72L	72N	72P
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V _{bus}	V _{ac}	480	480	400
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	T _{mc}	Nm	42.0	42.8	42.4
				lb-in	372	379	375
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	I _{mc}	Arms	12.8	19.6	22.2
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	T _{mc}	Nm	32.9	33.6	33.3
				lb-in	291	298	295
	Max. mechanical speed (5)	Nom	N _{max}	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	T _p	Nm	91.7	93.1	92.4
lb-in				812	824	818	
Peak Current	Nom	I _p	Arms	32.0	48.9	55.4	
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			
				lb-in			
	Rated Speed		N _{rtd}	rpm			
	Rated Power (speed) (1)(2)(4)		Prtd	kW			
Hp							
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	39.7	39.0	37.9
				lb-in	352	345	335
	Rated Speed		N _{rtd}	rpm	1000	1450	1650
	Rated Power (speed) (1)(2)(4)		Prtd	kW	4.13	5.93	6.54
Hp				5.58	7.95	8.77	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	37.5	34.6	32.3
				lb-in	332	306	285
	Rated Speed		N _{rtd}	rpm	1600	2450	2800
	Rated Power (speed) (1)(2)(4)		Prtd	kW	6.28	8.87	9.46
Hp				8.43	11.9	12.7	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	36.2	31.9	28.7
				lb-in	321	282	254
	Rated Speed		N _{rtd}	rpm	1950	2950	3400
	Rated Power (speed) (1)(2)(4)		Prtd	kW	7.40	9.86	10.2
Hp				9.92	13.2	13.7	
	Torque Constant (1)	+/- 10%	K _t	Nm/Arms	2.30	2.20	1.92
				lb-in/Arms	29.2	19.5	17.0
	Back EMF Constant (6)	+/- 10%	K _e	V _{rms} /krpm	221	147	129
	Motor Constant (1)	Nom	K _m	Nm/√W	2.76	2.82	2.79
				lb-in/√W	24.4	24.9	24.7
	Resistance (line-line) (6)	+/- 10%	R _m	Ω	0.950	0.405	0.315
	Inductance Q-Axis (line-line)		L _{qll}	mH	22.6	10.0	7.7
	Inductance D-Axis (line-line)		L _{dll}	mH			
Inductance Saturation Current		L _{isat}	Arms	100	149	171	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					72L	72N	72P
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	46.8		
				lb-in-s ²	4.14E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	12.3		
				lb-in-s ²	1.09E-02		
	Weight (8)		W	kg	22.9		
				lb	50.5		
	Static Friction (1)		Tf	Nm	0.158		
				lb-in	1.40		
	Viscous Damping (1)		Kdv	Nm/krpm	0.173		
				lb-in/krpm	1.53		
	Thermal Time Constant		TCT	mins.	43		
	Thermal Resistance		R _{thw-a}	°C/W	0.289		
	Pole Pairs		PP		4		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

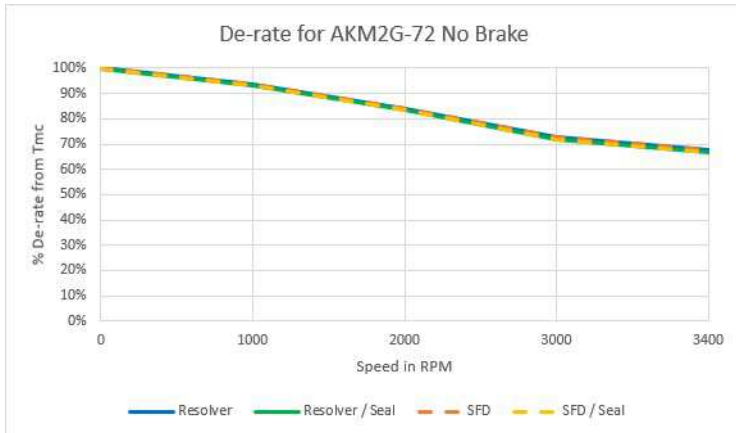
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 9.1 kg [20lbs]
9. Shaft seal increases Static Friction by 0.25 Nm [2.2 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.7.2.1 AKM2G-72 Derates for Different Options

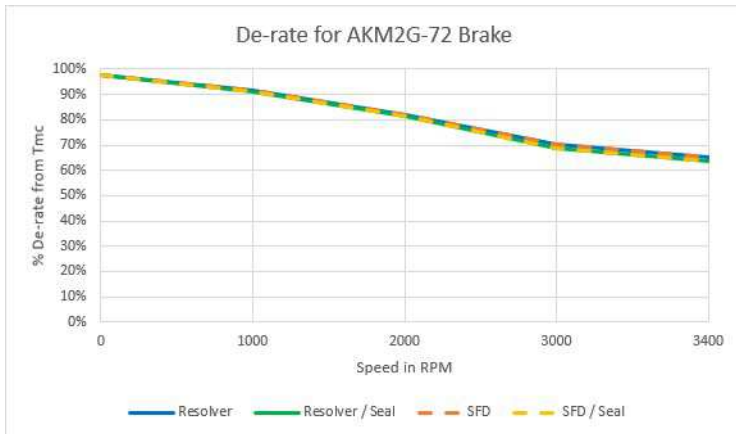
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM				
	0	1000	2000	3000	3400
Resolver	100.0%	93.6%	84.1%	72.9%	67.8%
Resolver / Seal	99.9%	93.3%	83.6%	71.9%	66.7%
SFD	100.0%	93.6%	84.1%	72.9%	67.8%
SFD / Seal	99.9%	93.3%	83.6%	72.0%	66.7%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM				
	0	1000	2000	3000	3400
Resolver	97.9%	91.4%	81.8%	70.2%	65.1%
Resolver / Seal	97.8%	91.1%	81.2%	68.9%	63.5%
SFD	97.9%	91.4%	81.8%	70.2%	65.1%
SFD / Seal	97.8%	91.1%	81.2%	68.9%	63.5%



7.7.3 Technical Data AKM2G-73

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					73L	73N	73Q
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	57.9	59.4	58.9
				lb-in	512	525	521
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	11.9	18.1	28.3
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	45.4	46.6	46.4
				lb-in	402	413	410
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	129.5	132.2	131.4
				lb-in	1146	1170	1163
	Peak Current	Nom	Ip	Arms	29.7	45.1	70.8
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			
				lb-in			
	Rated Speed		Nrtd	rpm			
	Rated Power (speed) (1)(2)(4)		Prtd	kW			
Hp							
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm		55.2	51.4
				lb-in		488	455
	Rated Speed		Nrtd	rpm		1000	1550
	Rated Power (speed) (1)(2)(4)		Prtd	kW		5.78	8.34
Hp					7.75	11.2	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	53.1	51.0	42.2
				lb-in	470	451	373
	Rated Speed		Nrtd	rpm	1100	1650	2600
	Rated Power (speed) (1)(2)(4)		Prtd	kW	6.12	8.80	11.5
Hp				8.20	11.8	15.4	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	51.8	47.9	35.9
				lb-in	459	242	317
	Rated Speed		Nrtd	rpm	1300	2000	3200
	Rated Power (speed) (1)(2)(4)		Prtd	kW	7.05	10.0	12.0
Hp				9.46	13.5	16.1	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	4.89	3.30	2.09
				lb-in/Arms	43.3	29.2	18.5
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	328	221	140
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	3.58	3.68	3.65
				lb-in/ \sqrt{W}	31.7	32.5	32.3
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	1.24	0.537	0.217
	Inductance Q-Axis (line-line)		Lqll	mH	31.2	14.2	5.7
	Inductance D-Axis (line-line)		Ldll	mH			
	Inductance Saturation Current		Lisat	Arms	101	149	236
	Maximum Demagnetization Current		Midpeak	Arms			

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					73L	73N	73Q
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	67.7		
				lb-in-s ²	5.99E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	12.3		
				lb-in-s ²	1.09E-02		
	Weight (8)		W	kg	19.0		
				lb	64.0		
	Static Friction (1)		Tf	Nm	0.236		
				lb-in	2.09		
	Viscous Damping (1)		Kdv	Nm/krpm	0.260		
				lb-in/krpm	2.30		
	Thermal Time Constant		TCT	mins.	49		
	Thermal Resistance		R _{thw-a}	°C/W	0.255		
	Pole Pairs		PP		4		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

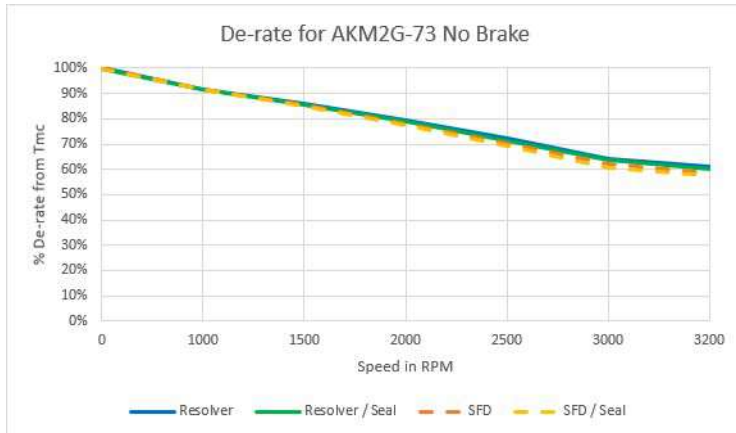
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 9.1 kg [20lbs]
9. Shaft seal increases Static Friction by 0.25 Nm [2.2 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.7.3.1 AKM2G-73 Derates for Different Options

De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	1000	1500	2000	2500	3000	3200
Resolver	100.0%	91.7%	85.8%	79.3%	72.2%	64.3%	60.9%
Resolver / Seal	99.9%	91.5%	85.4%	78.8%	71.5%	63.4%	59.9%
SFD	100.0%	91.7%	85.7%	78.1%	70.2%	62.1%	58.7%
SFD / Seal	99.9%	91.5%	85.2%	77.4%	69.3%	60.8%	57.4%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	1000	1500	2000	2500	3000	3200
Resolver	97.1%	88.3%	80.6%	72.5%	64.0%	55.1%	51.5%
Resolver / Seal	97.0%	88.0%	80.1%	71.7%	62.9%	53.7%	49.9%
SFD	97.1%	88.3%	80.6%	72.5%	64.0%	55.1%	51.5%
SFD / Seal	97.0%	88.0%	80.1%	71.7%	62.9%	53.7%	49.9%



7.7.4 Technical Data AKM2G-74

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					74P	74Q	74R
Electrical data							
	Max. Rated Equivalent Line Voltage	Max	V bus	V ac	480	480	480
	Max. Continuous Torque for ΔT winding = 100°C (1)(2)(4)	Nom	Tmc	Nm	74.4	74.2	73.9
				ib-in	658	657	654
	Max. Continuous Current for ΔT winding = 100°C (1)(2)(4)	Nom	Imc	Arms	23.8	29.8	33.6
	Max. Continuous Torque for ΔT winding = 60°C (2)(4)	Nom	Tmc	Nm	58.7	58.6	58.4
				lb-in	520	519	517
	Max. mechanical speed (5)	Nom	Nmax	rpm	6000	6000	6000
	Peak Torque (1)(2)(4)	Nom	Tp	Nm	168.7	168.4	167.9
				1493	1490	1486	770
	Peak Current	Nom	Ip	Arms	59.5	74.6	84.1
120 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm			
				lb-in			
	Rated Speed		Nrtd	rpm			
	Rated Power (speed) (1)(2)(4)		Prtd	kW			
Hp							
240 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	68.1	65.1	63.7
				lb-in	603	576	564
	Rated Speed		Nrtd	rpm	1000	1300	1450
	Rated Power (speed) (1)(2)(4)		Prtd	kW	7.13	8.87	9.68
Hp				9.57	11.9	13.0	
400 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	60.9	54.6	50.2
				lb-in	539	483	445
	Rated Speed		Nrtd	rpm	1700	2200	2500
	Rated Power (speed) (1)(2)(4)		Prtd	kW	10.8	12.6	13.2
Hp				14.5	16.9	17.6	
480 V AC	Rated Torque (speed) (1)(2)(4)		Trtd	Nm	56.0	47.4	42.3
				lb-in	496	420	374
	Rated Speed		Nrtd	rpm	2100	2700	3000
	Rated Power (speed) (1)(2)(4)		Prtd	kW	12.3	13.4	13.3
Hp				16.5	18.0	17.8	
	Torque Constant (1)	+/- 10%	Kt	Nm/Arms	3.14	2.50	2.21
				lb-in/Arms	27.8	22.1	19.5
	Back EMF Constant (6)	+/- 10%	Ke	Vrms/krpm	210	167	148
	Motor Constant (1)	Nom	Km	Nm/ \sqrt{W}	4.39	4.38	4.37
				lb-in/ \sqrt{W}	38.8	38.8	38.6
	Resistance (line-line) (6)	+/- 10%	Rm	Ω	0.341	0.217	0.170
	Inductance Q-Axis (line-line)		Lqll	mH	9.2	5.9	4.6
	Inductance D-Axis (line-line)		Ldll	mH			
Inductance Saturation Current		Lisat	Arms	210	264	299	
Maximum Demagnetization Current		Midpeak	Arms				

U _N	Parameter	Tolerance	Symbol	Units	AKM2G		
					74P	74Q	74R
Mechanical Data							
	Inertia (incl. Resolver feedback) (3)		Jm	kgcm ²	88.6		
				lb-in-s ²	7.84E-02		
	Optional Brake Inertia (additional)		Jm	kgcm ²	12.3		
				lb-in-s ²	1.09E-02		
	Weight (8)		W	kg	35.2		
				lb	77.5		
	Static Friction (1)		Tf	Nm	0.315		
				lb-in	2.79		
	Viscous Damping (1)		Kdv	Nm/krpm	0.346		
				lb-in/krpm	3.06		
	Thermal Time Constant		TCT	mins.	56		
	Thermal Resistance		R _{thw-a}	°C/W	0.229		
	Pole Pairs		PP		4		
	Heatsink Size				18" x 18" x 1/2" Aluminum Plate		

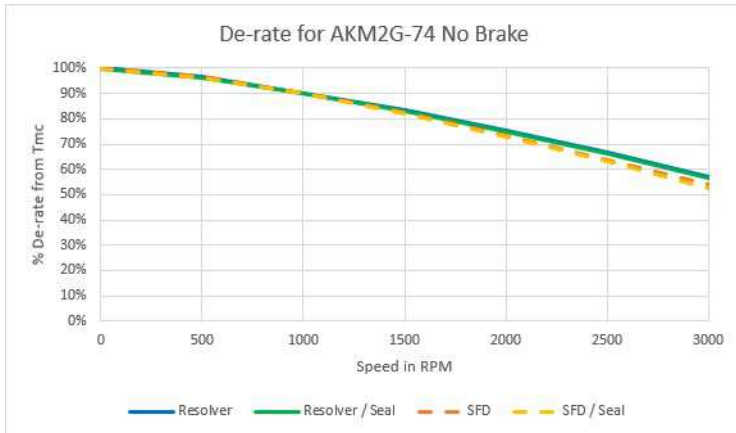
1. Motor winding at temp. rise, $\delta T = 100^{\circ}\text{C}$, at 40°C ambient
2. All data referenced to sinusoidal commutation
3. Add parking brake if applicable for total inertia
4. Motor with resolver feedback and standard heat sink
5. May be limited at some values of V_{bus}
6. Measured at 25°C
7. See de-rate chart for the de-rate of different motor options.
8. Brake motor adds 9.1 kg [20lbs]
9. Shaft seal increases Static Friction by 0.25 Nm [2.2 lb-in]

Brake options are listed in chapter "Technical Data Brakes" from (→ # 239).

7.7.4.1 AKM2G-74 Derates for Different Options

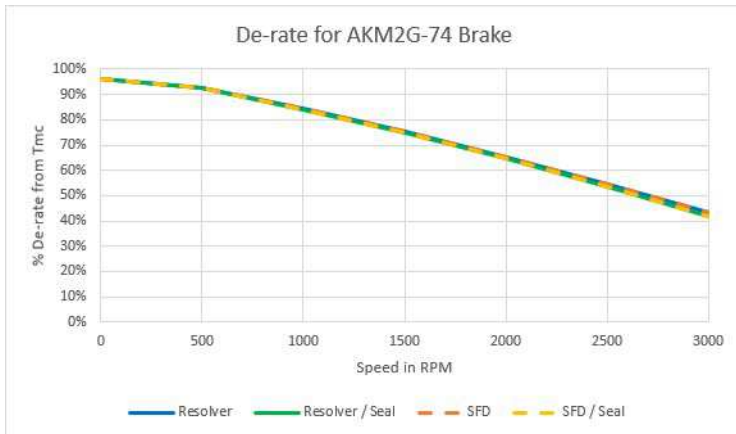
De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - No Brake	Speed: RPM						
	0	500	1000	1500	2000	2500	3000
Resolver	100.0%	96.5%	90.2%	83.3%	75.5%	66.9%	57.2%
Resolver / Seal	99.9%	96.4%	90.0%	82.9%	75.0%	66.2%	56.3%
SFD	100.0%	96.5%	90.2%	82.3%	73.3%	63.8%	53.8%
SFD / Seal	99.9%	96.4%	90.0%	81.9%	72.7%	62.9%	52.5%



De-rates are referenced to the Max Continuous Torque ΔT wdg. = 100°C

Options - Brake	Speed: RPM						
	0	500	1000	1500	2000	2500	3000
Resolver	96.1%	92.6%	84.4%	75.1%	65.2%	54.6%	43.1%
Resolver / Seal	96.1%	92.4%	84.1%	74.6%	64.5%	53.5%	41.6%
SFD	96.1%	92.6%	84.4%	75.1%	65.2%	54.6%	43.1%
SFD / Seal	96.1%	92.4%	84.1%	74.6%	64.5%	53.5%	41.6%



7.8 Technical Data Brakes

FAILSAFE, HOLDING BRAKE

The holding brake is designed to provide static holding torque to the motor shaft with the brake coil de-energized. The brake must first be released (coil energized) prior to commanding motor rotation as determined by its drop-out time. The brake is intended for holding or “parking” of a stationary motor. It is not intended for dynamic braking. There should be absolutely no motion of the rotor when power is removed from the brake coil.

It may be used for a limited number of emergency stop conditions, however such use will eventually cause wear, leading to eventual malfunction of the brake. Number of emergency stops strongly depends on applied load. Contact Kollmorgen for proper calculation of energy that needs to be absorbed during emergency stops in application.

Contamination of the motor internal compartment by oil or other foreign materials will result in failure of the brake. Check the suitability of motor sealing for the working environment.

Motor Family	-	AKM2G2	AKM2G3	AKM2G4	AKM2G5	AKM2G6	AKM2G7	Notes
Nominal Operating Voltage	VDC ±10%	24						
Minimum Dry Static Torque, 120°C	Nm	2.0	3.3	7.0	16.0	32.0	80.0	1
Maximum Speed	rpm	8000	8000	6000	6000	6000	3500	
Maximum Acceleration	rad/s ²	56000	28500	23000	14000	9000	4000	11,12
Coil Resistance, 25°C	Ω ±7%	50.5	45.7	39.1	27.7	19.5	15.0	
Maximum Release Voltage (New Brake)	VDC	18						2,14
Minimum Re-Engage Voltage (New Brake)	VDC	≥1,5						3,14
Current @24V, 25°C	ADC	0.47	0.53	0.61	0.87	1.23	1.65	10
Maximum Release Current (New Brake), 25°C	ADC	0.54	0.60	0.70	0.99	1.40	1.85	16
Power Consumption @24V, 25°C	Watt ±7%	11.4	12.6	14.7	20.8	29.5	40.0	
Response (Engage/Closing) Time	ms	10	17	20	50	70	65	6,8,9
Release (Opening) Time	ms	40	55	85	110	150	300	6,7
Maximum Backlash	deg.	1.0	1.0	1.0	1.0	1.0	1.0	4,5,12
Typical Backlash	deg.	0.30	0.60	0.55	0.60	0.30	0.20	4,5,12
Inertia Adder	kg.cm ²	0.04	0.12	0.36	1.2	3.6	12.3	
Weight Adder	kg	0.45	0.72	1.36	2.6	4.5	9.1	
B _{10d}	-	20.000.000				12.000.000		13
Temperature Range	°C	+5°C to 120°C						

Notes:

Note 1: Minimum Dry Static Torque - max. torque that can be applied to a brake without the risk of slipping.

Note 2: Maximum Release Voltage - value of voltage where the brake is 100% OPEN. The brake is mounted inside of the motor.

Note 3: Minimum Re-Engage Voltage - value of voltage where the brake is 100% CLOSED. The brake is mounted inside of the motor.

Note 4: Backlash - amount of clearance, or free rotation, from a point based in one direction to a point in the opposite direction with torque applied, between the drive connection of the brake to the motor shaft. 50% of the rated torque of the brake can be applied during the backlash measurement.

Note 5: Maximum Backlash is calculated using worst-case tolerancing, and typical backlash is calculated using statistical tolerancing.

Note 6: Release and response times measured on standalone brakes with Kollmorgen AKD drive. Release/Response Time of the brake measured with a diode and a transistor in power supply circuit.

Note 7: Brake release time, i.e. the time for the brake to release when the power is applied to the brake, is fairly consistent regardless of how the brake is switched.

Note 8: Brake response time, i.e. the time taken for the brake to re-engage when the power is cut if the circuit contains any form of arc suppression over the switching, then the decay circuit within the brake, when the power is cut, will be prolonged.

Note 9: Cutting the brake supply on the 'dc' side, i.e. a clean cut in the brake supply at the brake connection, will give the fastest possible switching.

Note 10: Current of the brake is calculated from nominal voltage and nominal resistance at 25°C

Note 11: Acceleration calculated from maximum acceleration of Kollmorgen AKM2G motor with the brake and with an inertial load of 3x.

Note 12: Brake is able to perform 12,000,000 reverse cycles with maximum acceleration and backlash up to 1.0°.

Note 13: B_{10d} is number of operations where 10% of the sample would fail to danger.

Note 14: New brake - brake mounted in the motor without previous usage. Parameters could be influenced by number of emergency stops absorbed by brake during lifetime.

Note 15: 'B10d' and 'Number of Springs' is specific to AKM motors with brakes that are labeled 'Made in Czech Republic'. Please contact Kollmorgen for all other inquiries.

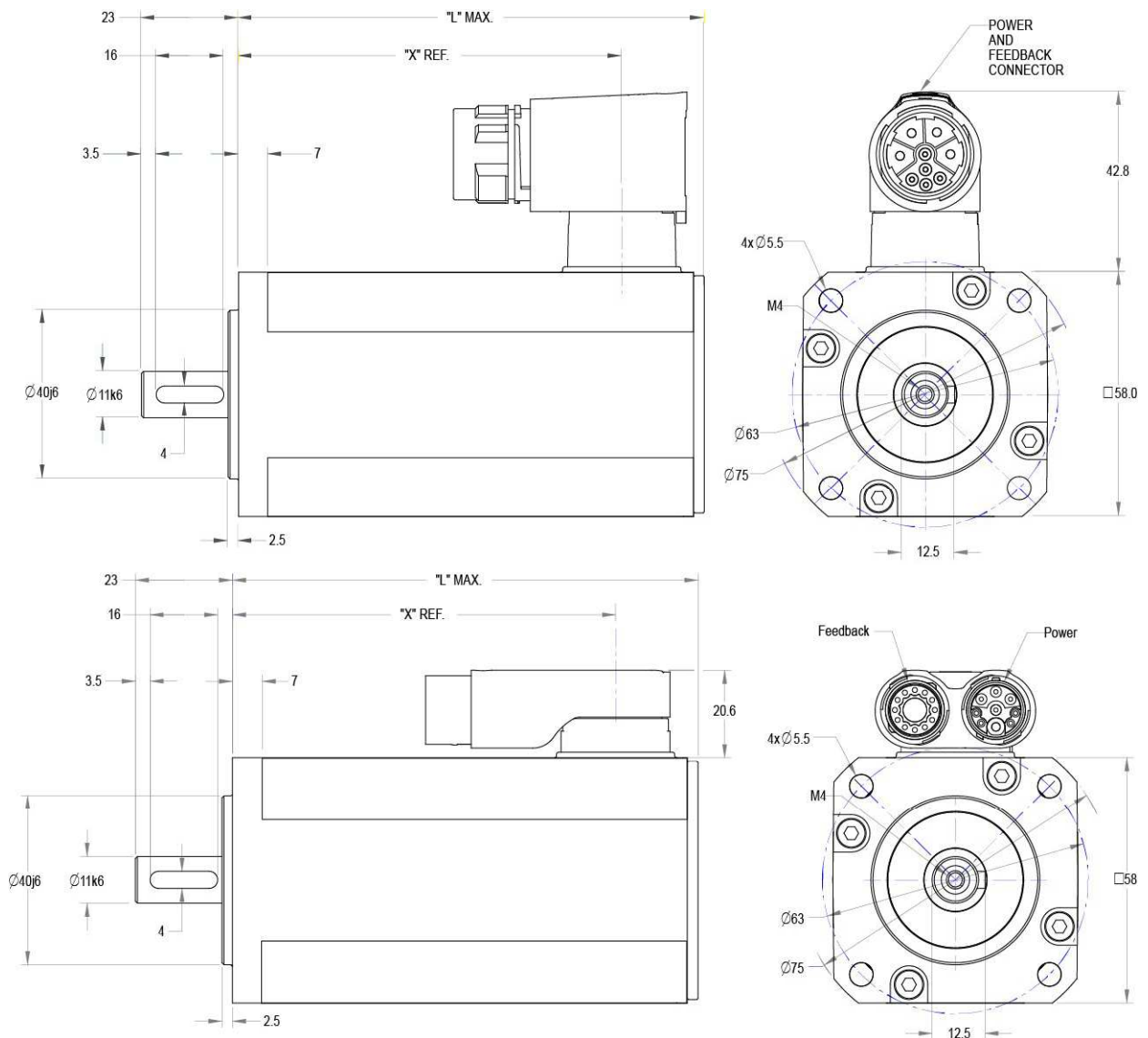
Note 16: Please contact Kollmorgen for detailed specification and all other inquiries.

8 Dimension drawings

All drawings in this chapter are drawings in principle (not scaled). 3D Models are available from www.kollmorgen.com.

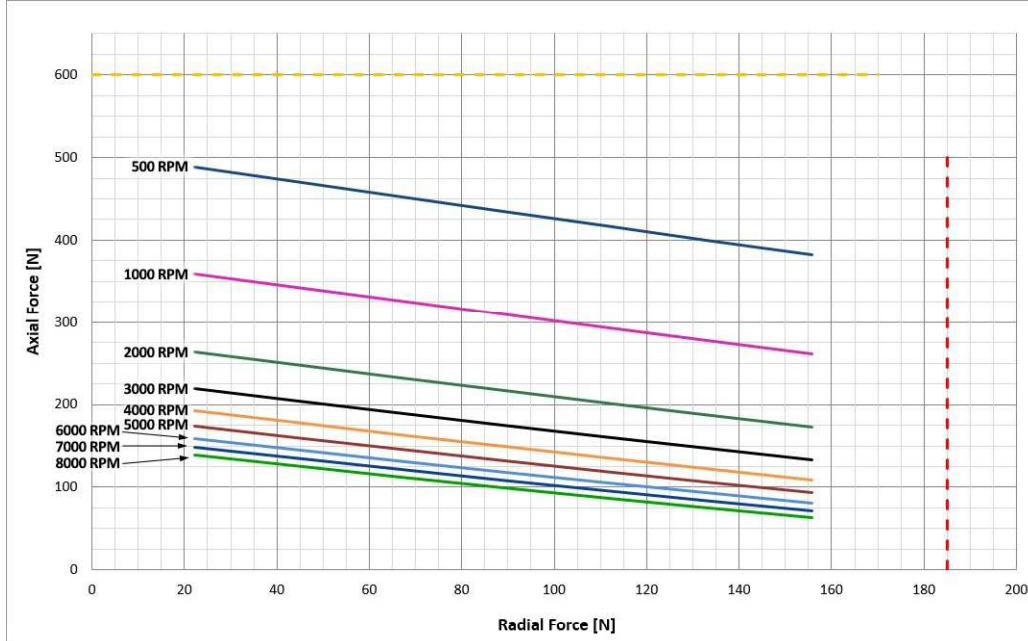
8.1	Dimensions/Radial Forces AKM2G2 (Ax flanges)	242
8.2	Dimensions/Radial Forces AKM2G3 (Ax flanges)	244
8.3	Dimensions/Radial Forces AKM2G4 (Ax flanges)	246
8.4	Dimensions/Radial Forces AKM2G5 (Ax flanges)	248
8.5	Dimensions/Radial Forces AKM2G6 (Ax flanges)	250
8.6	Dimensions/Radial Forces AKM2G7 (Ax flanges)	252

8.1 Dimensions/Radial Forces AKM2G2 (Ax flanges)

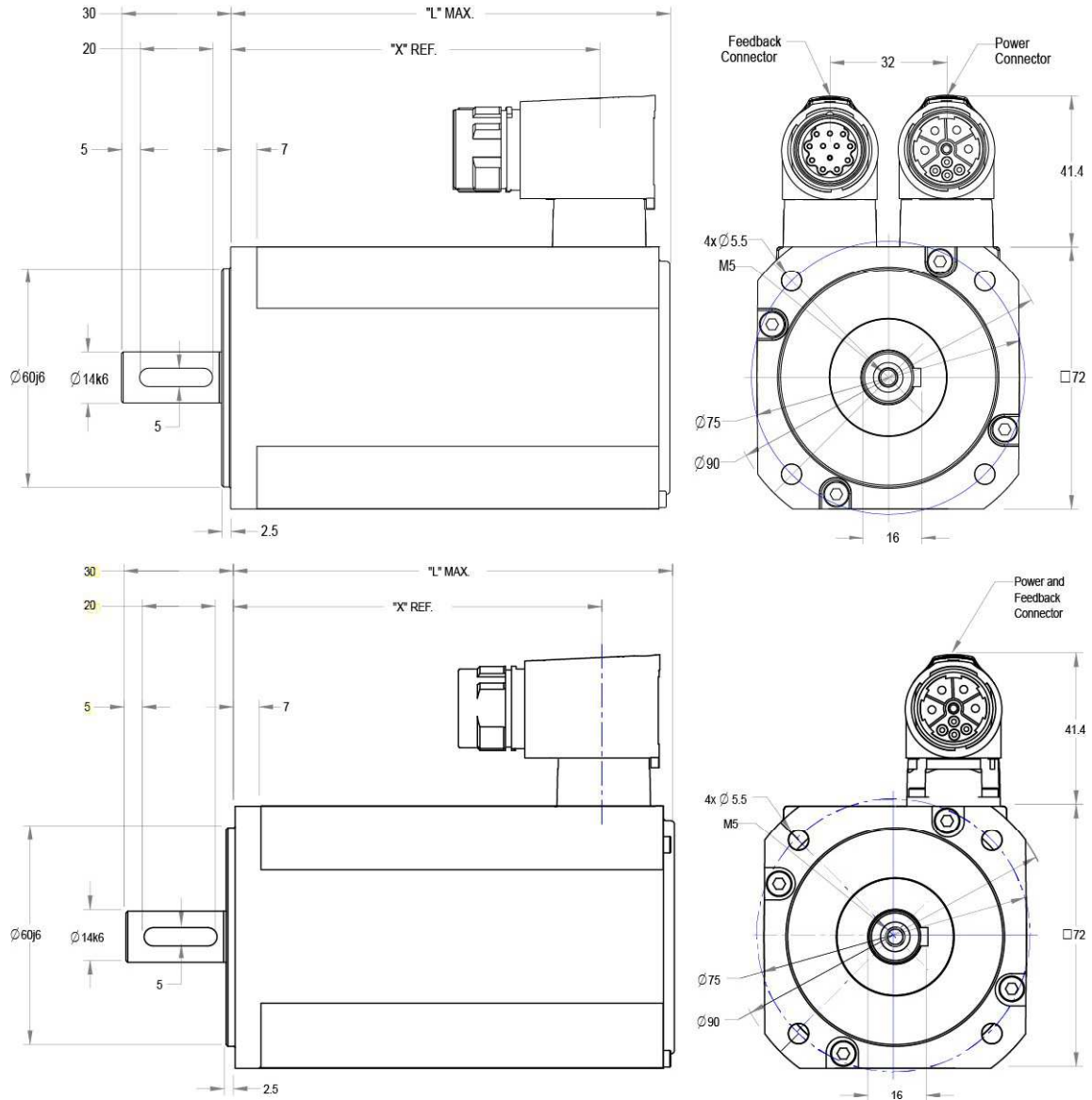


Model	No Brake		Brake	
	X	L	X	L
AKM2G-21	90.75	111.15	129.75	150.15
AKM2G-22	110.00	130.40	149.00	169.40
AKM2G-23	129.25	149.65	168.25	188.65
AKM2G-24	148.50	168.90	187.50	207.90

Radial/axial forces at shaft end

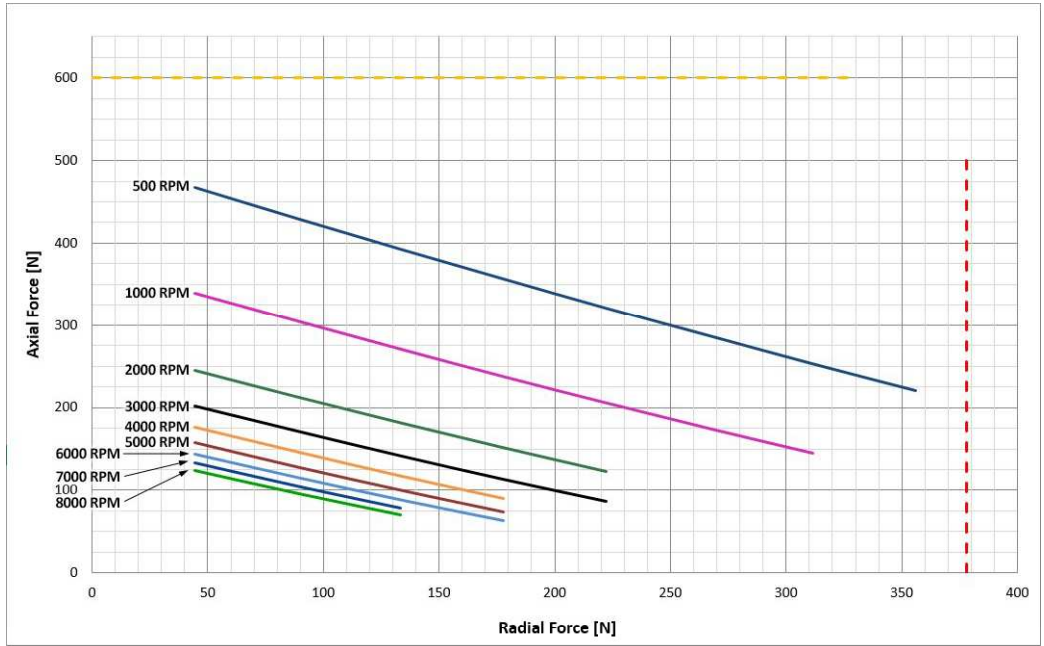


8.2 Dimensions/Radial Forces AKM2G3 (Ax flanges)

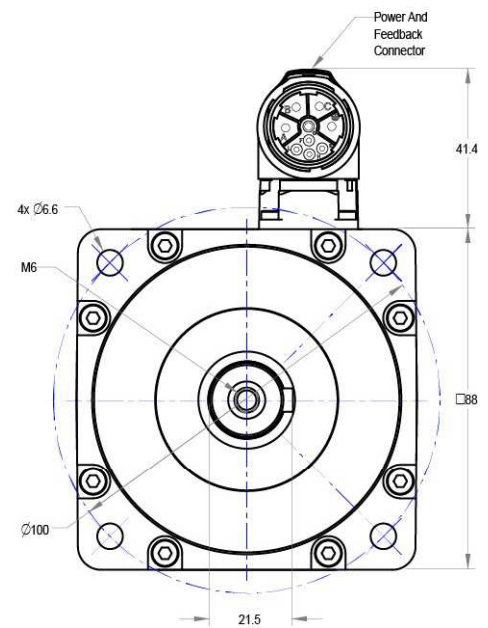
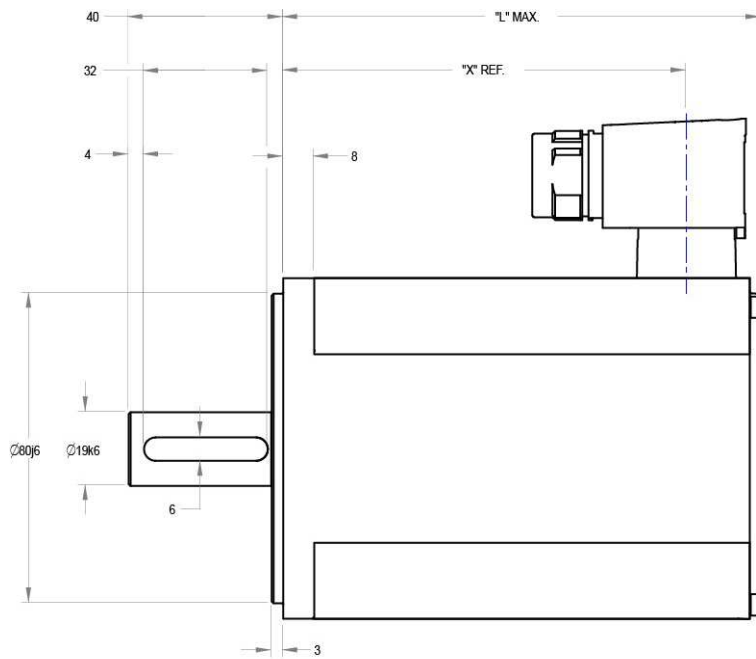
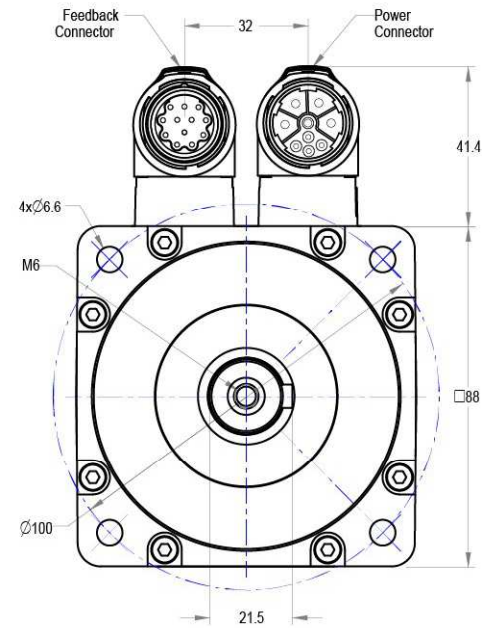
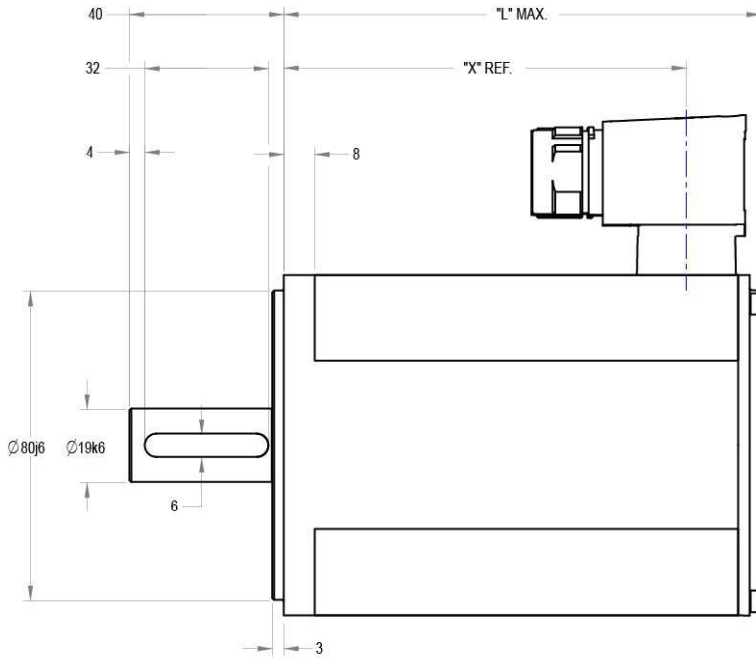


Model	No Brake		Brake	
	X	L	X	L
AKM2G-31	101.10	121.40	142.30	162.60
AKM2G-32	132.25	152.55	173.45	193.75
AKM2G-33	163.40	183.70	204.60	224.90

Radial/axial forces at shaft end

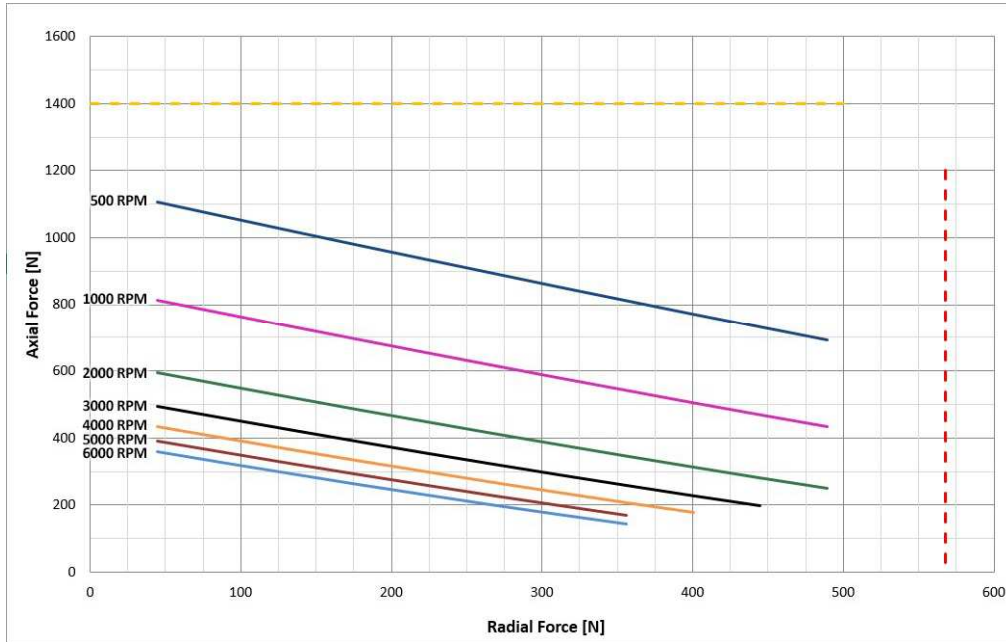


8.3 Dimensions/Radial Forces AKM2G4 (Ax flanges)

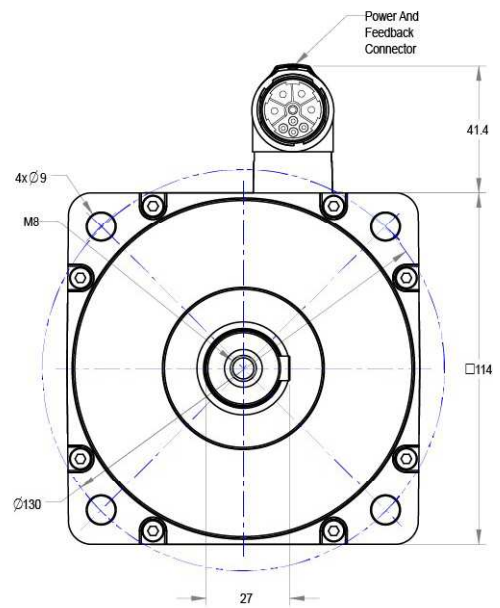
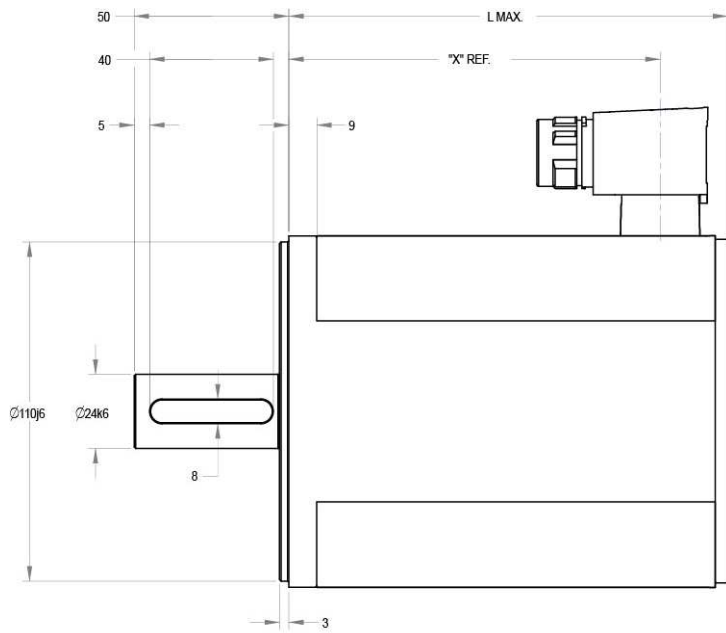
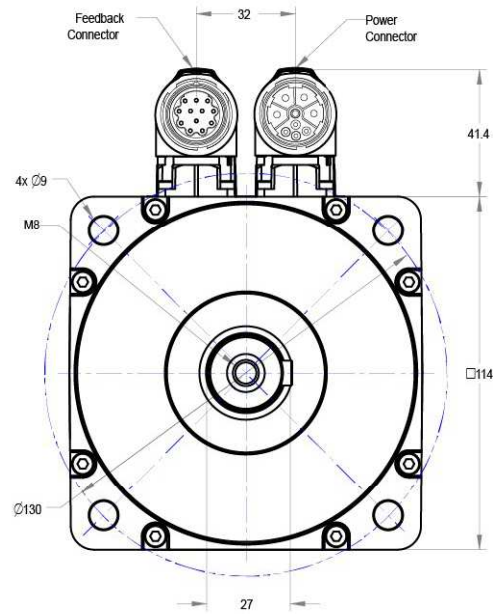
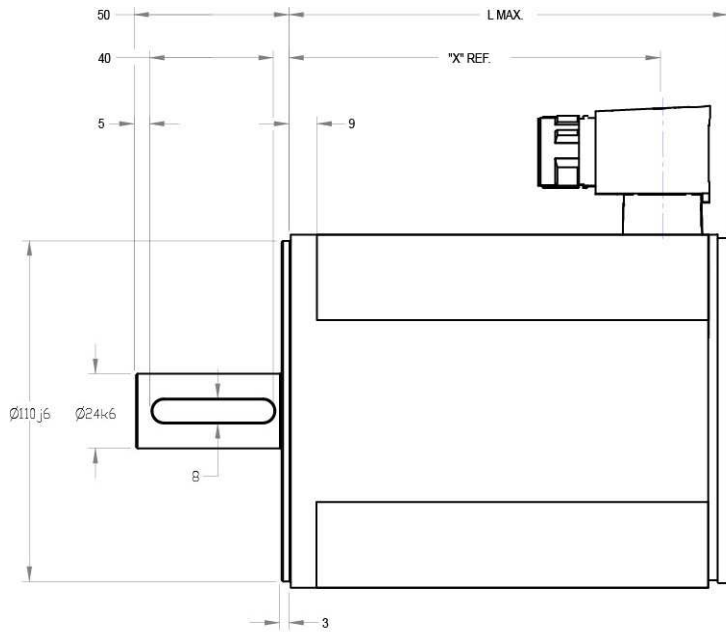


Model	No Brake		Brake	
	X	L	X	L
AKM2G-41	104.30	124.60	152.10	172.40
AKM2G-42	130.55	150.85	178.35	198.65
AKM2G-43	156.80	177.10	204.60	224.90
AKM2G-44	183.05	203.35	230.85	251.15

Radial/axial forces at shaft end

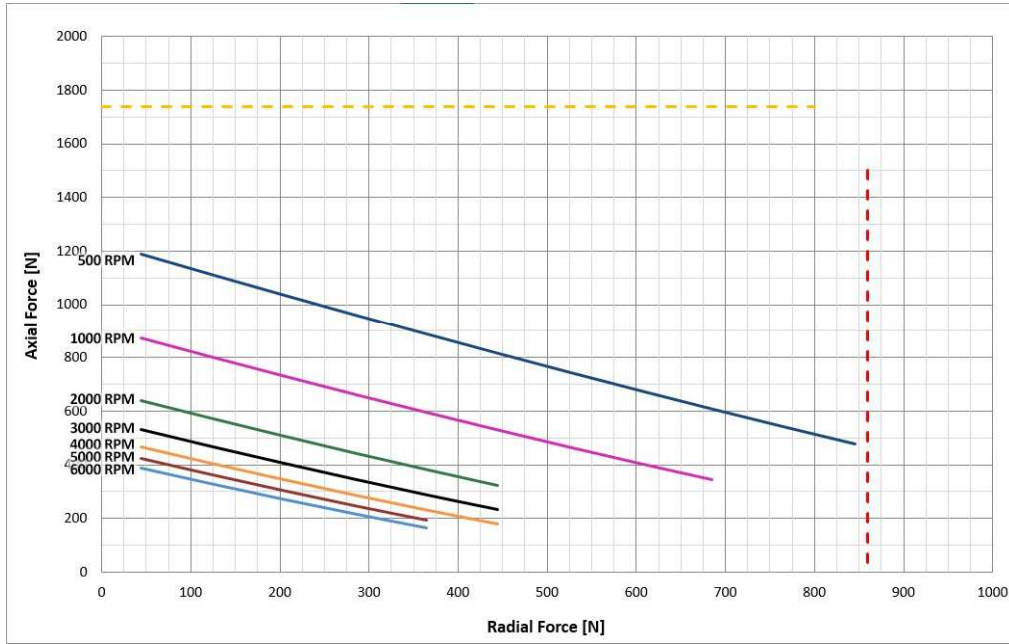


8.4 Dimensions/Radial Forces AKM2G5 (Ax flanges)

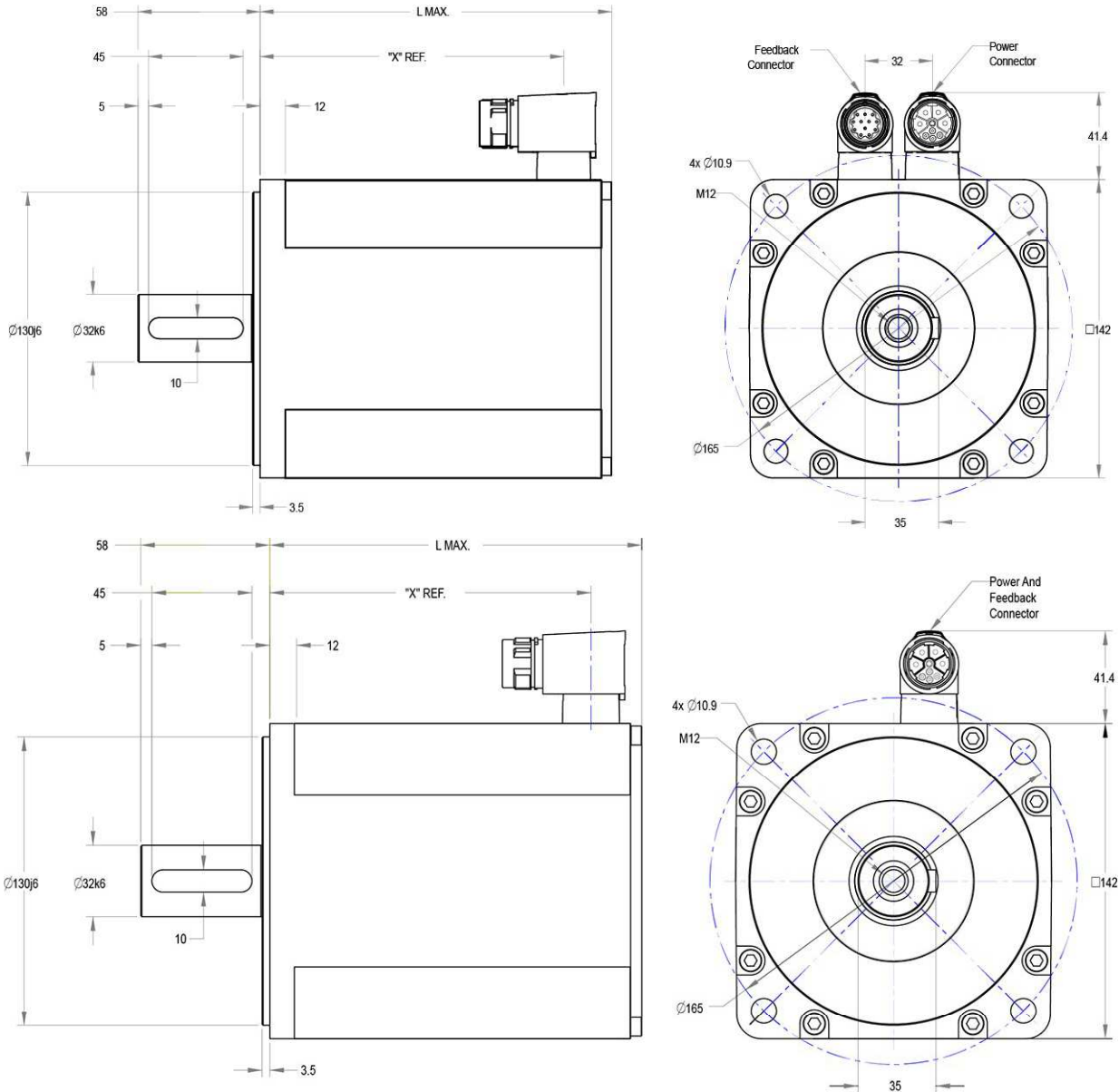


Model	No Brake		Brake	
	X	L	X	L
AKM2G-51	120.10	142.80	177.10	199.80
AKM2G-52	149.50	172.20	206.50	229.20
AKM2G-53	178.90	201.60	235.90	258.60
AKM2G-54	208.30	231.00	265.30	288.00

Radial/axial forces at shaft end

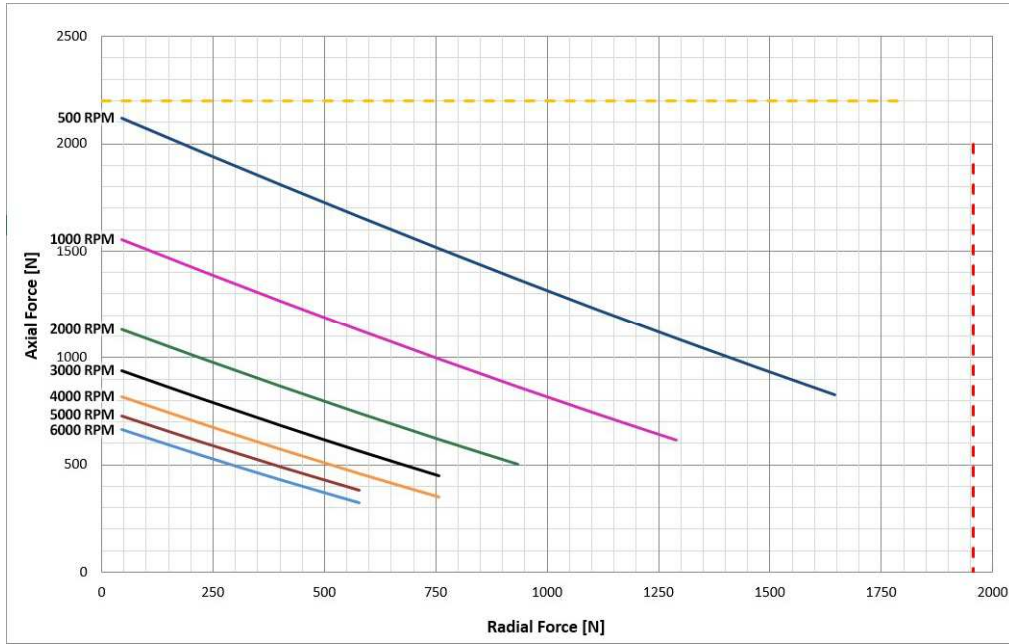


8.5 Dimensions/Radial Forces AKM2G6 (Ax flanges)



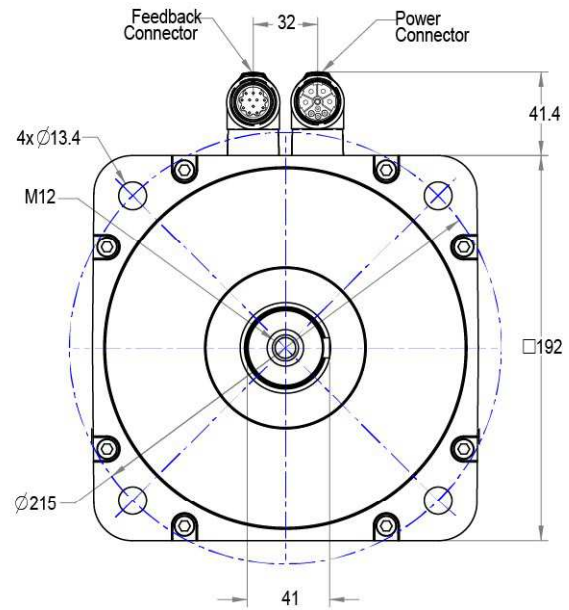
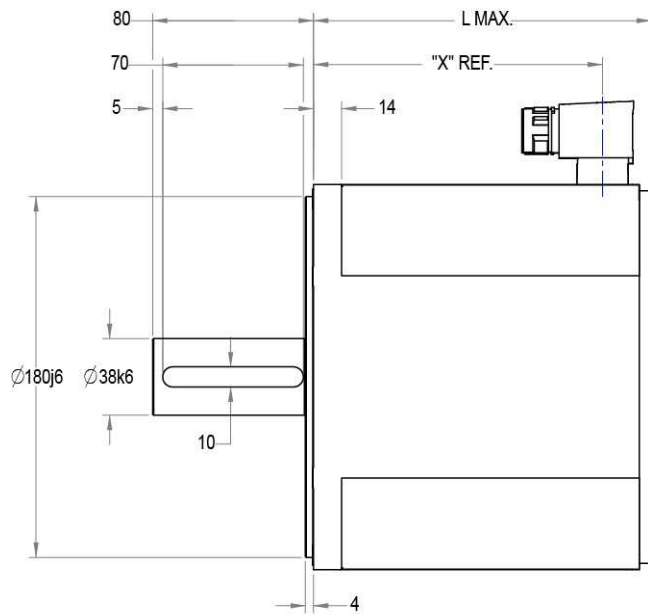
Model	No Brake		Brake	
	X	L	X	L
AKM2G-62	144.40	168.10	210.10	233.80
AKM2G-63	166.45	190.15	232.15	255.85
AKM2G-64	188.50	212.20	254.20	277.90
AKM2G-65	210.55	234.25	276.25	299.95

Radial/axial forces at shaft end

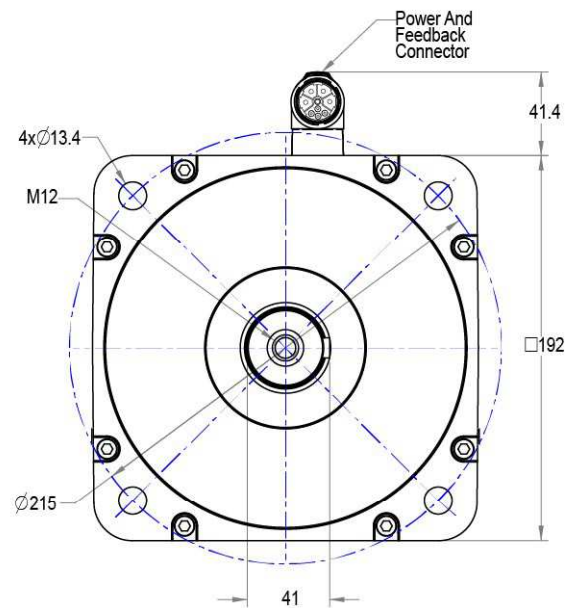
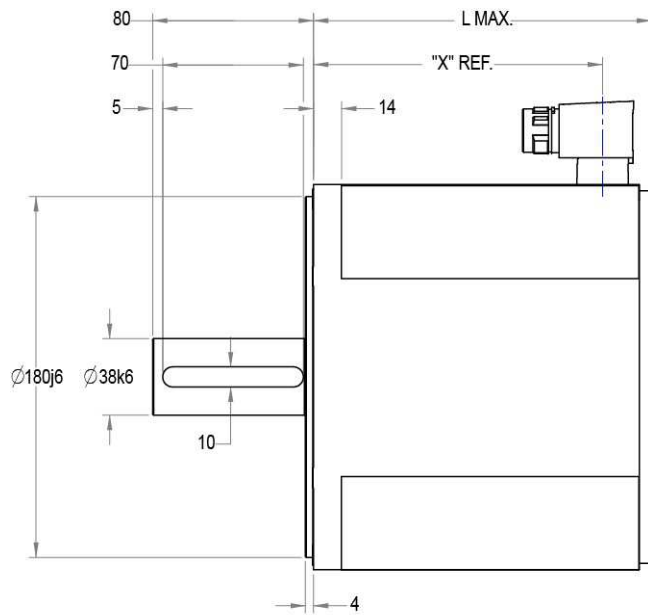


8.6 Dimensions/Radial Forces AKM2G7 (Ax flanges)

Dimensions of AKM2G7ACCNR

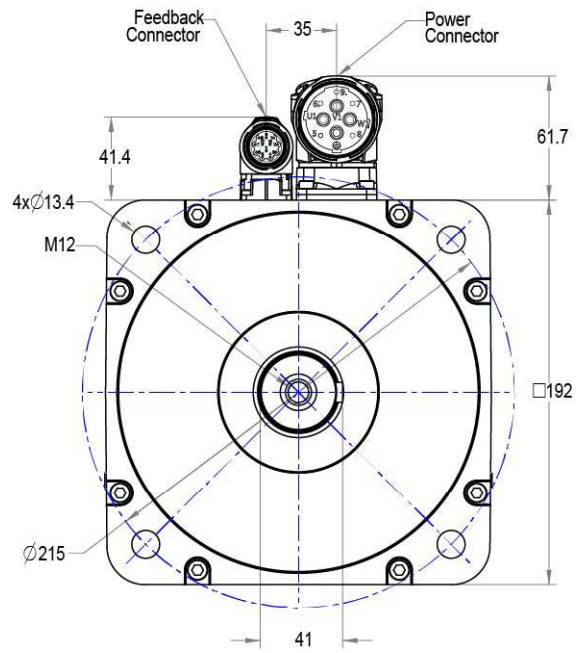
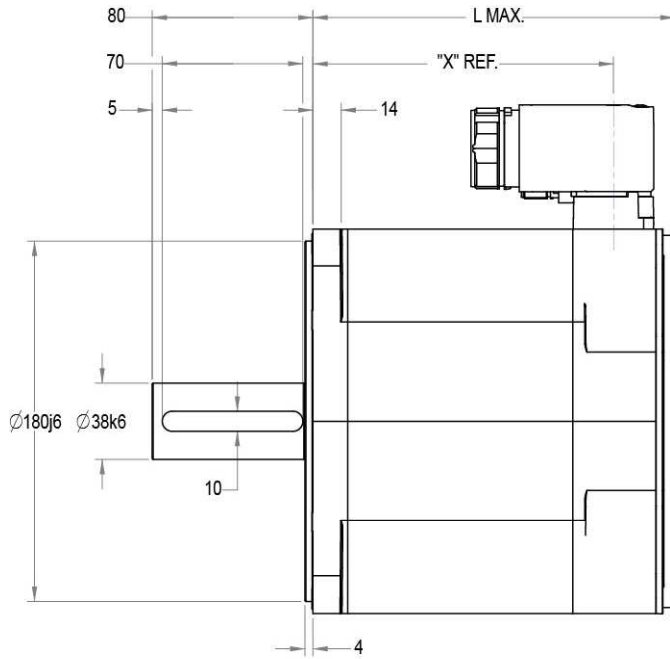


Dimensions of AKM2G7ACDNC

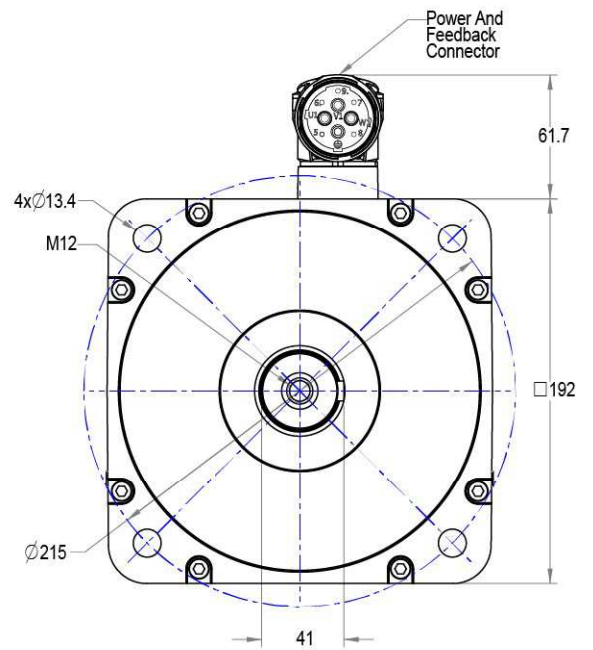
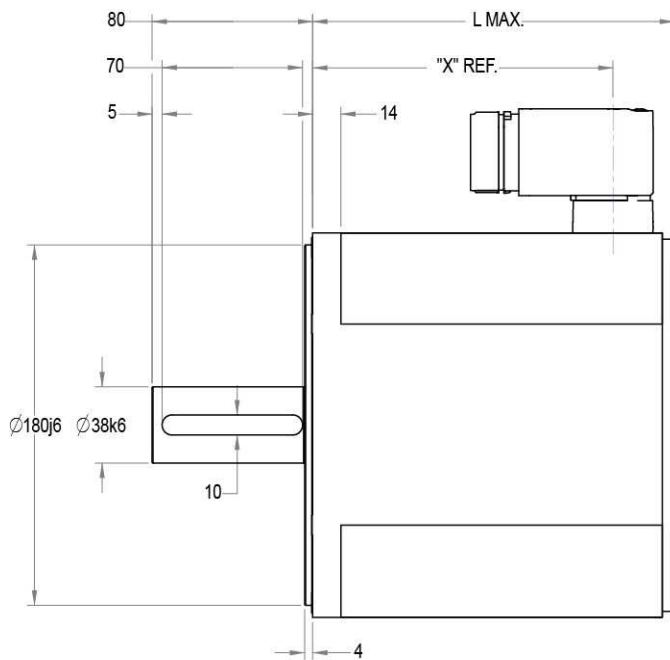


Model	No Brake		Brake	
	X	L	X	L
AKM2G-71	143.90	169.10	221.35	246.55
AKM2G-72	177.85	203.05	255.35	280.55
AKM2G-73	211.80	237.00	289.30	314.50
AKM2G-74	245.75	270.95	323.25	348.45

Dimensions of AKM2G7ACHNR

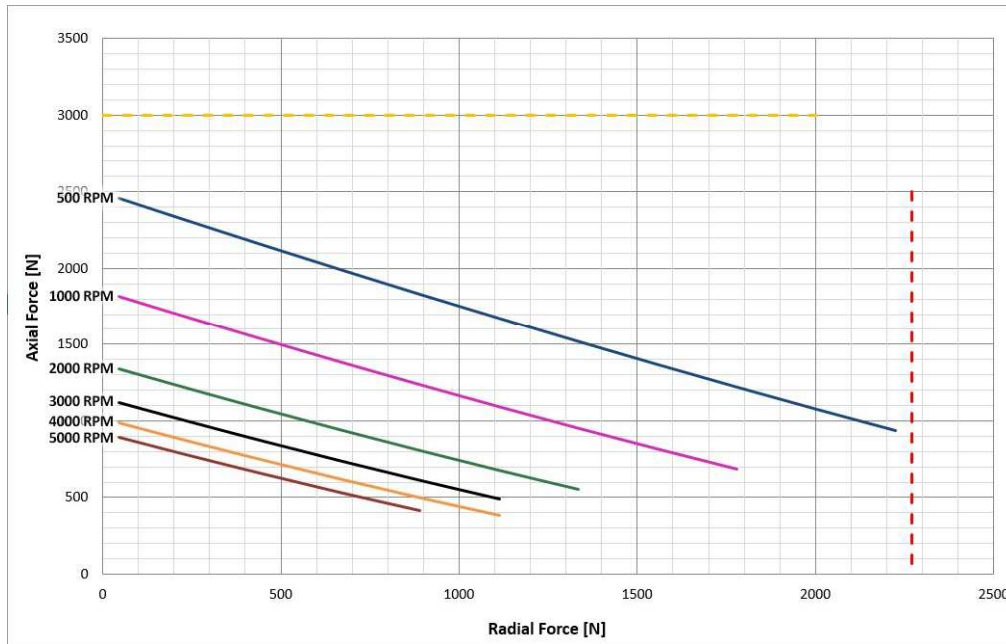


Dimensions of AKM2G7ACJNC



Model	No Brake		Brake	
	X	L	X	L
AKM2G-71	149.60	181.10	227.05	258.55
AKM2G-72	183.55	215.05	261.05	292.55
AKM2G-73	217.50	249.00	295.00	326.50
AKM2G-74	251.45	282.95	328.95	360.45

Radial/axial forces at shaft end



9 Connector Pinout

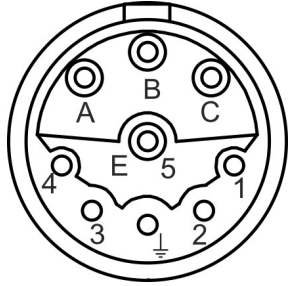

All connector views: facing front. Abbreviations used :

U	Motor phase U	BR	Motor holding brake	Up	Sensor Voltage supply
V	Motor phase V	TH	Thermal sensor	0V	Ground for Sensor Voltage supply
W	Motor phase W	Z	Zero pulse		
PE	Protection Earth	n.c.	not connected		

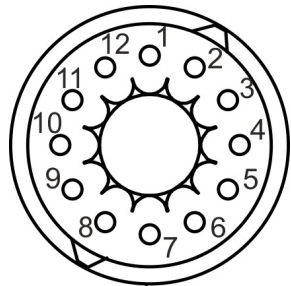
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9.1 Connector codes Y: AKM2G2

9.1.1 Power

	Pin	Function	Pin	Function
	1	BR +	A	U
	2	BR -	B	W
	3	n.c.	C	V
	4	n.c.	E	n.c.
5	n.c.		PE	

9.1.2 Resolver (Feedback code R-)

	Pin	Function	Pin	Function
	1	n.c.	7	S2, cos+
	2	TH +	8	S1, sin+
	3	S4, cos-	9	R1, ref+
	4	S3, sin-	10	n.c.
	5	R2, ref-	11	n.c.
6	TH -	12	n.c.	

9.2 Connector codes C, G, H: AKM2G3 - AKM2G7

9.2.1 Power

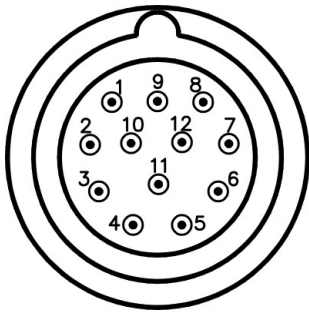
Connector codes C, G for AKM2G3 - AKM2G7

	Pin	Function	Pin	Function
	A	U	F	BR +
		PE	G	BR -
			E	n.c.
	C	W	H	n.c.
	B	V	L	n.c.

Connector code 1, H for AKM2G7

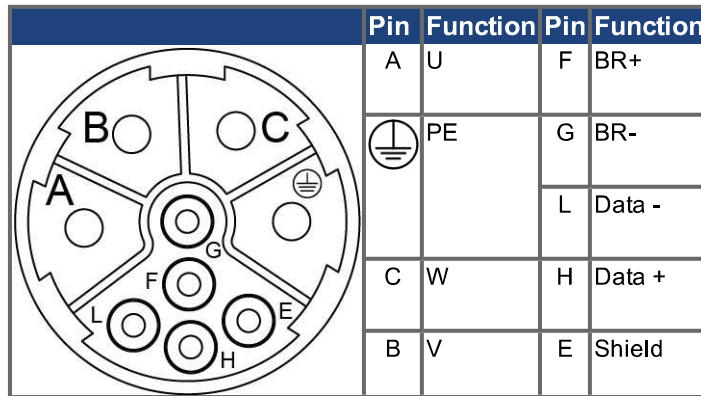
	Pin	Function	Pin	Function
	U	U	5	BR +
	V	V	8	BR -
	W	W	6	n.c.
		PE	7	n.c.
			9	n.c.

9.2.2 Resolver (Feedback code R-)

			
Pin	Function	Pin	Function
1	n.c.	7	S2, cos+
2	TH +	8	S1, sin+
3	S4, cos-	9	R1, ref+
4	S3, sin-	10	n.c.
5	R2, ref-	11	n.c.
6	TH -	12	n.c.

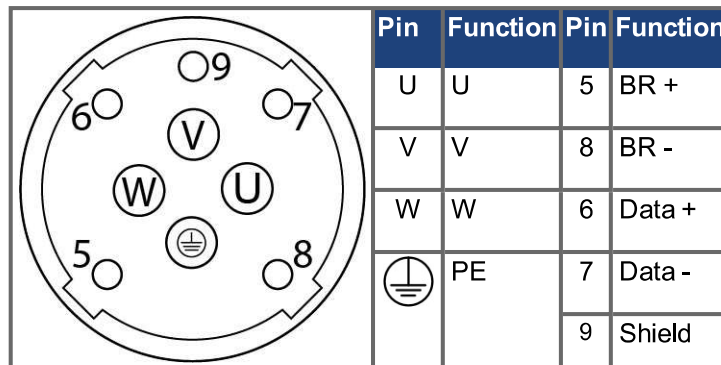
9.3 Connector code D: AKM2G2 - AKM2G7

9.3.1 Power & SFD3 AKM2G2 - AKM2G7 (Feedback codes CA)



9.4 Connector code J: AKM2G7

9.4.1 Power & SFD3 AKM2G7 (Feedback code CA)



10 Approvals

Certificates can be found on KDN (the Kollmorgen Developer Network) on the [Approvals](#) page.

10.1	Conformance with UL	261
10.2	Conformance with CE	261
10.3	Conformance with EAC	261
10.4	Conformance with RoHS	261
10.5	Conformance with REACH	261

10.1 Conformance with UL

Recognized for USA and Canada in **File E61960**.

10.2 Conformance with CE

The motors have been tested by an authorized testing laboratory in a defined configuration. Any divergence from the configuration and installation described in this documentation means that the user will be responsible for carrying out new measurements to ensure conformance with regulatory requirements.

NOTICE

Feedback systems and contacts must not be tested with high voltage. Feedback systems are not suitable for high voltage testing, it is allowed to exclude sensitive electronic components from these tests. Feedback systems might be destroyed during a high voltage test. CE Declaration of Conformity can be found on the Kollmorgen website.

NOTE

Kollmorgen declares the conformity of the product series AKM2G with the following directives:

- **EC Directive 2014/35/EU, Low voltage**
- **EC Directive 2014/30/EU, Electromagnetic compatibility**

10.3 Conformance with EAC

EAC is the abbreviation for EurAsian Conformity. The mark is used in the states of the Eurasian Customs Union (Russia, Belarus, Kazakhstan) similar to the European CE mark.

Kollmorgen declares, that the AKM2G has passed all required conformity procedures in a member state of the Eurasian Customs Union, and that the AKM2G meets all technical requirements requested in the member states of the Eurasian Customs Union :

- Low voltage (TP TC 020/2011)
- Electromagnetic Compatibility (TP TC 004/2011)

Contact in Russia:

Intelligence Automatics LLC. , Bakuninskaya Str. d 14, Building 1, RU-105005 Moskau

10.4 Conformance with RoHS

Directive 2011/65/EC of the European Union on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) became operative as from the 3rd of January, 2013. Following substances namely are involved

Lead (Pb), Cadmium (Cd), Hexavalent chromium (CrVI), Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Mercury (Hg)

The AKM2G motor series is manufactured RoHS conformal.

10.5 Conformance with REACH

EU Regulation no. 1907/2006 deals with the registration, evaluation, authorisation and restriction of chemical substances 1 (abbreviated to "REACH").

AKM2G motors do not contain any substances (CMR substances, PBTsubstances, vPvB substances and similar hazardous substances stipulated in individual cases based on scientific criteria) above 0.1 mass percent per product that are included on the candidate list.

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About KOLLMORGEN

Kollmorgen is a leading provider of motion systems and components for machine builders. Through world-class knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions that are unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.

For assistance with your application needs, visit www.kollmorgen.com or contact us at:

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