

# AKM<sup>®</sup> 2G Servo Motors

The Next Generation of Servo Motors Offering Industry Leading Performance with a Compact Footprint



**KOLLMORGEN**<sup>®</sup>

*Because Motion Matters<sup>™</sup>*

## AKM<sup>®</sup> 2G represents the latest evolution of the industry leading AKM motor product family.

With average continuous torque increases of 30%, OEMs and users can achieve substantial machine performance increases without increasing the size of the motor.

The improved torque density allows a smaller motor to be used which reduces the machine footprint without sacrificing performance.

- Extensive Selection of Feedback options to match application and performance requirements
- Shaft, mounting and connector options for optimal flexibility
- Holding Brake option

**Cable Options:**

- Single Cable SFD3 / Hiperface DSL / ENDAT 2.2
- Dual Cable Resolver

**Connector Options:**

- Speedtec
- ytec

Average continuous torque increases of 30% or greater

Low Friction Shaft Seal Option For High Protection Class

**Feedback Options:**

- SFD3
- Hiperface DSL
- ENDAT 2.2
- Resolver

Holding Brake Option

**Thermal Sensor Options:**

- PT-1000 + Avalanche PTC
- PT-1000
- Avalanche PTC
- KTY84-130

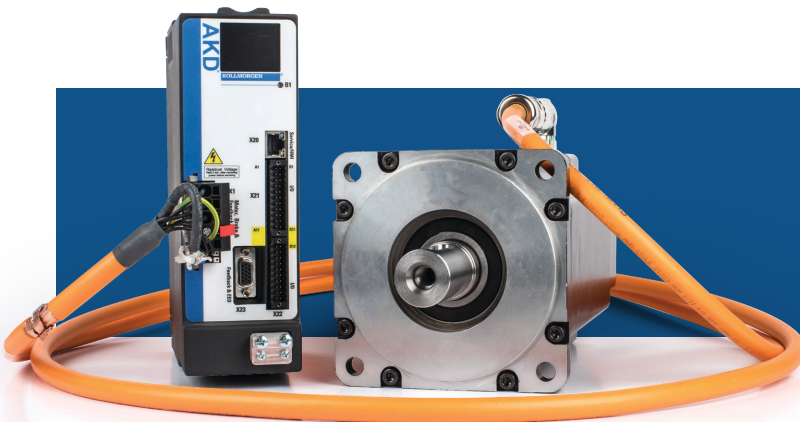
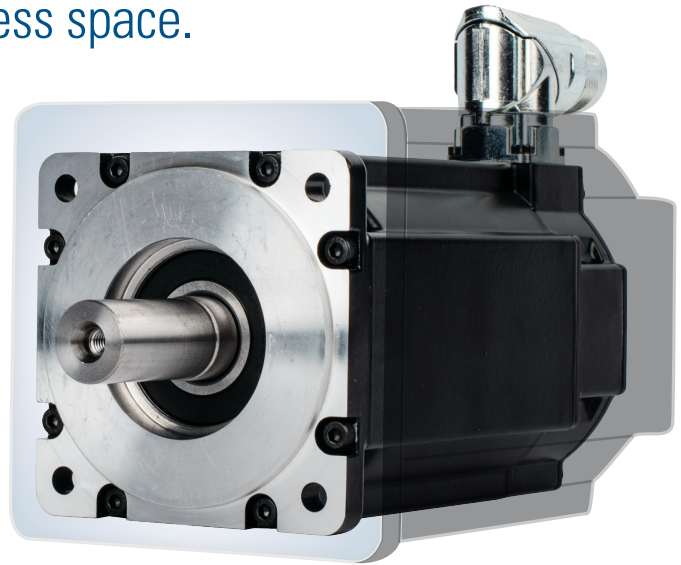


## Get the same performance in 20% less space.

For new machine designs, the AKM2G allows customers to decrease the size, footprint, and complexity of the machine, while still getting the power and performance they need.

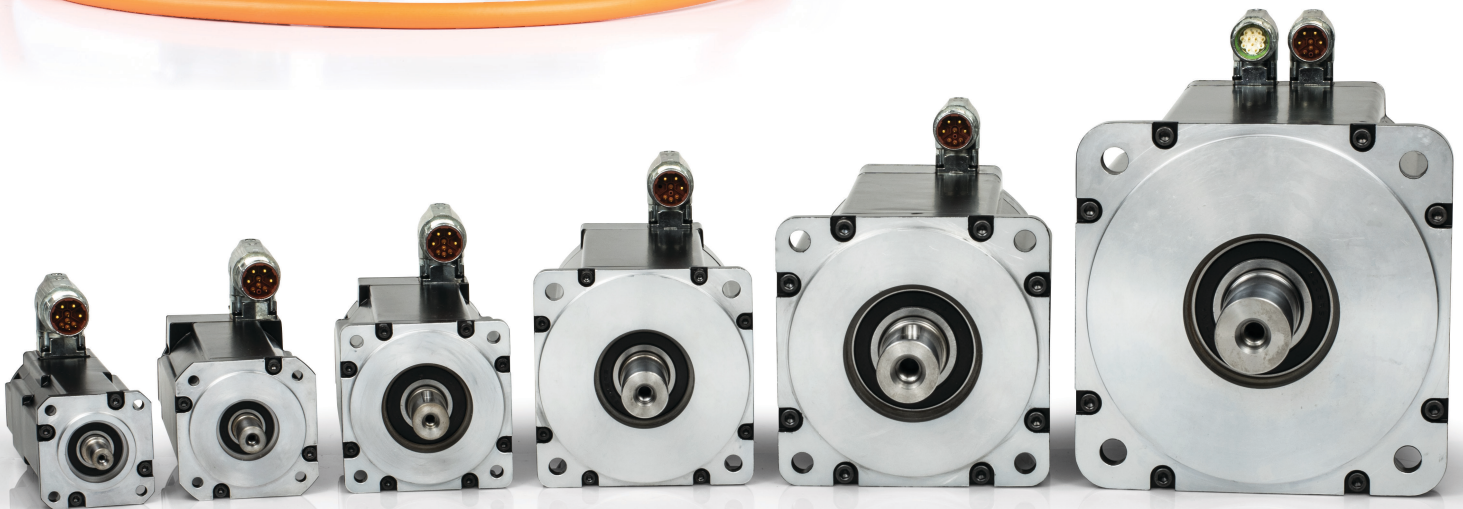
The AKM2G drops right into existing machine designs to increase performance, when compared to competing motors, without increasing the size of the motor.

The AKM2G features six sizes with performance levels between 0.18 and 12 kW. It offers selectable options such as feedbacks, mounting configurations, and performance capabilities. Due to the modular structure of the products, Kollmorgen is better equipped than competitors to adapt motors to the requirements of a specific application in parallel with standard production needs. Machine builders are then able to choose from a wider range of standard models that leverage Kollmorgen's extensive product and application knowledge.



AKM2G motors are optimized for use with the Kollmorgen AKD<sup>®</sup> Servo Drive and the forthcoming AKD<sup>®</sup> 2G family of new generation servo drives, but are also capable of providing all their design benefits in conjunction with the customer's choice of servo drives.

Kollmorgen has been offering single-cable technology since 1995.



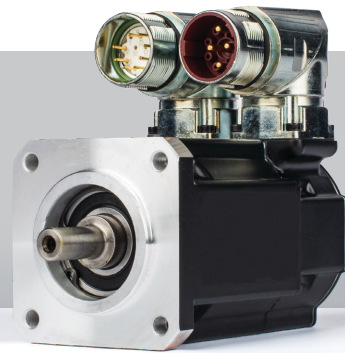
*AKM2G Series Servo Motor Family*

**AKM2G Performance Data\***

Parameters	Sym	Units	Frame														
			AKM2G-2x					AKM2G-3x					AKM2G-4x				
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Continuous Torque at Stall	T <sub>C</sub>	Nm	0.65	1.12	1.51	1.85	–	1.70	2.90	3.86	–	–	2.87	5.12	6.98	8.51	–
		lb-in	5.76	9.92	13.4	16.3	–	15.1	25.7	34.1	–	–	25.4	45.3	61.8	75.3	–
Rated Speed	N <sub>rtd</sub>	rpm	8000	8000	8000	8000	–	8000	7600	8000	–	–	6000	6000	6000	5400	–
Rotor Inertia	J <sub>m</sub>	kg-cm <sup>2</sup>	0.0930	0.1549	0.2169	0.2789	–	0.4264	0.8130	1.200	–	–	0.774	1.36	1.95	2.53	–
		lb-in-s <sup>2</sup>	8.23E-05	1.37E-04	1.92E-04	2.47E-04	–	3.77E-04	7.20E-04	1.06E-03	–	–	6.85E-04	1.20E-03	1.72E-03	2.24E-03	–

Parameters	Sym	Units	AKM2G-5x					AKM2G-6x					AKM2G-7x				
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
			Continuous Torque at Stall	T <sub>C</sub>	Nm	6.83	12.0	16.2	20.1	–	–	15.3	21.5	27.0	32.7	23.0	41.1
lb-in	60.4	106			144	178	–	–	135	190	239	289	204	364	512	638	–
Rated Speed	N <sub>rtd</sub>	rpm	6000	5600	5100	4800	–	–	5000	4500	4200	3800	4900	3400	3200	3000	–
Rotor Inertia	J <sub>m</sub>	kg-cm <sup>2</sup>	2.52	4.58	6.64	8.70	–	–	9.10	13.0	16.9	20.8	25.9	46.8	67.7	88.6	–
		lb-in-s <sup>2</sup>	2.23E-03	4.06E-03	5.88E-03	7.70E-03	–	–	8.05E-03	1.15E-02	1.49E-02	1.84E-02	2.29E-02	4.14E-02	5.99E-02	7.84E-02	–

Kollmorgen continues to offer the other AKM<sup>®</sup> servo motors with performance levels between 0.075 and 19.5 kW, as well as food-grade, wash-down, and the innovative AKMH<sup>™</sup> Hygienic Stainless Steel motors for wash-down and food grade applications where machine builders and customers require the highest performance and most durable product in the harshest of environments.



**AKM2G Nomenclature**

**AKM2G - 3 1 A - A N C N C A 0 0**

①
② ③ ④
⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

1 Motor Series	Available Motor						
	AKM2G						
2 Flange	2	3	4	5	6	7	
Size in mm	58	72	88	114	142	192	
3 Rotor Stack Length							
1 = 1 stack	•	•	•	•	•	•	•
2 = 2 stacks	•	•	•	•	•	•	•
3 = 3 stacks	•	•	•	•	•	•	•
4 = 4 stacks	•	•	•	•	•	•	•
5 = 5 stacks	•	•	•	•	•	•	•
4 Motor Winding							
A, B, C...	•	•	•	•	•	•	•
5 Mount							
Metric IEC	•	•	•	•	•	•	•

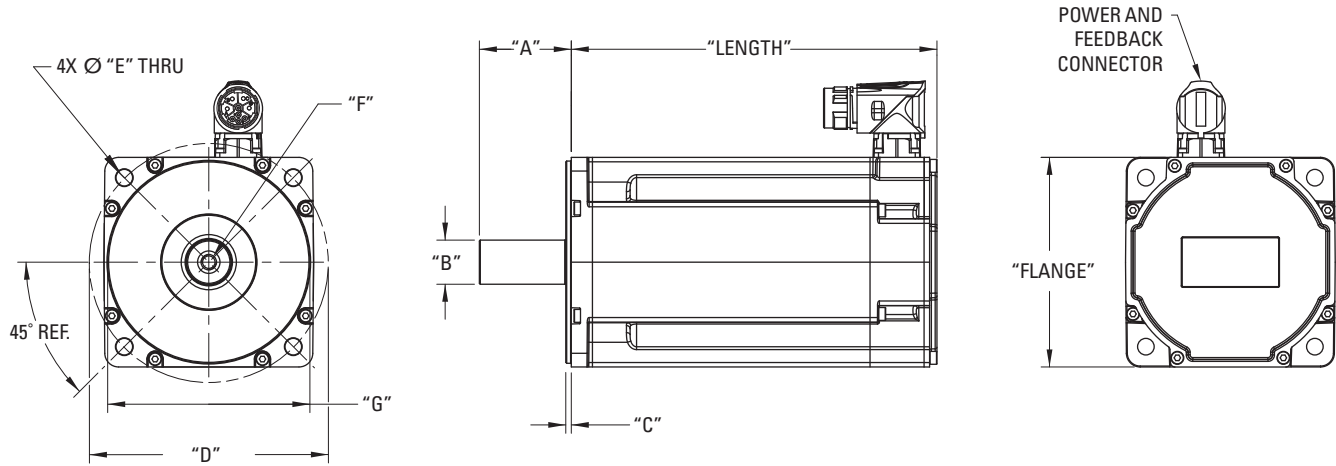
6 Shaft	Available Options						
	AKM2G						
Flange	2	3	4	5	6	7	
C = Closed Keyway	•	•	•	•	•	•	•
N = Smooth	•	•	•	•	•	•	•
7 Connector							
C = Dual right angle M23	•	•	•	•	•	•	•
D = Single right angle M23	•	•	•	•	•	•	•
G = Dual straight M23	•	•	•	•	•	•	•
H = Dual right angle M40	•	•	•	•	•	•	•
J = Single right angle M40	•	•	•	•	•	•	•
Y = y-tec <sup>®</sup> connector	•	•	•	•	•	•	•
8 Brake							
N = No Brake	•	•	•	•	•	•	•
2 = 24 V dc brake	•	•	•	•	•	•	•

9 Feedback Device	Available Options						
	AKM2G						
Flange (mm)	2	3	4	5	6	7	
R = Resolver	•	•	•	•	•	•	•
CA = Smart Feedback Device (SFD3)	•	•	•	•	•	•	•
GU = Multi-turn hiperface DSL	•	•	•	•	•	•	•
LD = Multi-turn inductive ENDAT 2.2	•	•	•	•	•	•	•
10 Thermal Sensor							
0 = PT-1000 + Avalanche PTC	•	•	•	•	•	•	•
1 = PT-1000	•	•	•	•	•	•	•
2 = Avalanche PTC	•	•	•	•	•	•	•
3 = KTY84-130 (or equivalent)	•	•	•	•	•	•	•
11 Shaft Seal/Customization							
0 = No seal	•	•	•	•	•	•	•
V = Viton spring lip seal (wet enviro.)	•	•	•	•	•	•	•
T = Mineral filled PTFE (dry enviro.)	•	•	•	•	•	•	•

\*Values shown are representative of each model. Refer to the AKM2G Selection Guide, Motioneering, or the AKM2G Installation Manual for exact information on specific models.



## AKM2G Servo Motor Dimensional Overview



AKM2G Series	Flange IEC	Length					A	Ø B	C	Ø D	Ø E	F	Ø G
		Stacks											
		1	2	3	4	5							
AKM2G2x w/ Brake	58 [2.28]	111 [4.38]	130 [5.13]	149 [5.89]	168 [6.65]	-	23.0 [0.91]	11.0 [0.433]	2.50 [0.98]	63.0 [2.48]	5.5 [0.217]	M4 DIN 332	40.0 [1.57]
		150 [5.91]	169 [6.67]	189 [7.43]	208 [8.19]	-							
AKM2G3x w/ Brake	72 [2.83]	121 [4.78]	153 [6.01]	184 [7.23]	-	-	30.0 [1.18]	14.0 [0.551]	2.50 [0.98]	75.0 [2.95]	5.5 [0.217]	M5 DIN 332	60.0 [2.36]
		163 [6.40]	194 [7.63]	225 [8.85]	-	-							
AKM2G4x w/ Brake	88 [3.46]	125 [4.91]	151 [5.94]	177 [6.97]	203 [8.01]	-	40.0 [1.57]	19.0 [0.748]	3.00 [0.118]	100.0 [3.94]	6.6 [0.259]	M6 DIN 332	80.0 [3.15]
		172 [6.79]	199 [7.82]	225 [8.85]	251 [9.89]	-							
AKM2G5x w/ Brake	114 [4.49]	143 [5.62]	172 [6.78]	202 [7.94]	231 [9.09]	-	50.0 [1.97]	24.0 [0.945]	3.00 [0.118]	130.0 [5.12]	9.0 [0.354]	M8 DIN 332	110.0 [4.33]
		200 [7.87]	229 [9.02]	259 [10.18]	288 [11.34]	-							
AKM2G6x w/ Brake	142 [5.59]	-	168 [6.62]	190 [7.49]	212 [8.35]	234 [9.22]	58.0 [2.28]	32.0 [1.26]	3.50 [0.138]	165.0 [6.50]	10.19 [0.401]	M12 DIN 332	130.0 [5.12]
		-	234 [9.21]	256 [10.07]	278 [10.94]	300 [11.81]							
AKM2G7x w/ Brake	192 [7.56]	169 [6.66]	203 [7.99]	237 [9.33]	271 [10.67]	-	80.0 [3.15]	38.0 [1.50]	4.00 [0.157]	215.0 [8.47]	13.4 [0.527]	M12 DIN 332	180.0 [7.087]
		247 [9.71]	281 [11.05]	315 [12.38]	349 [13.72]	-							

Dimensions in mm [inches]

Nominal dimensions shown for resolver and Smart Feedback SFD3 motors of less than 20 amps continuous. See individual motor schematics for tolerances and complete dimensions, including other feedbacks and motors rated greater than 20 amps continuous.



## 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 in North America, contact us at: 540-633-3545, [support@kollmorgen.com](mailto:support@kollmorgen.com) or visit [www.kollmorgen.com](http://www.kollmorgen.com) for a global contact list.



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