

# 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:**

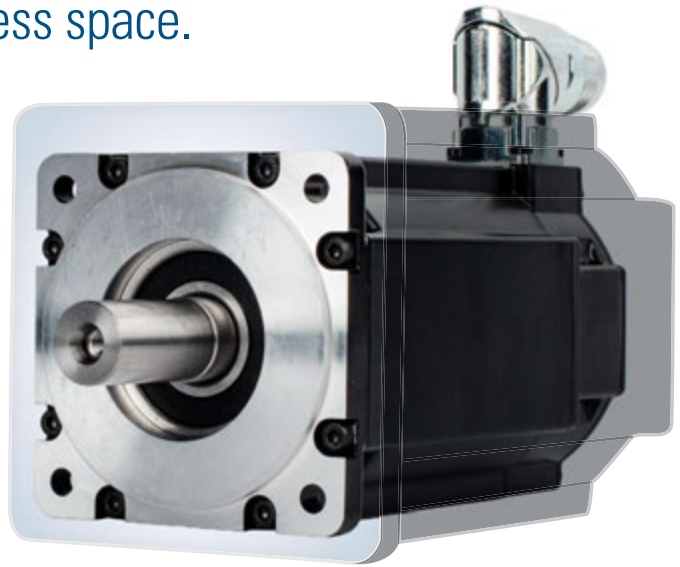
- PT-1000 + Avalanche PTC
- PT-1000
- Avalanche PTC
- KTY84-130

## 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 0.3 and 10kW. It will offer selectable options such as feedbacks, mounting configurations, and performance capabilities. Due to the modular structure of their 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® Servo Drive and the forthcoming AKD® 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\*

			Frame														
			AKM2G-2x					AKM2G-3x					AKM2G-4x				
Parameters	Sym	Units	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	1.10	1.49	1.80	–	1.72	2.92	3.84	–	–	2.82	5.17	7.13	8.64	–
		lb-in	5.76	9.74	13.19	15.93	–	15.22	25.84	33.99	–	–	24.96	45.76	63.11	76.47	–
Rated Speed	N <sub>rtd</sub>	rpm	8000	8000	8000	8000	–	8000	8000	8000	–	–	6000	6000	6000	5600	–
Rotor Inertia	J <sub>m</sub>	kg-cm <sup>2</sup>	0.0930	0.1549	0.2169	0.2789	–	0.4264	0.8130	1.1996	–	–	0.7738	1.3597	1.9455	2.5314	–
		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	–

			AKM2G-5x					AKM2G-6x					AKM2G-7x				
Parameters	Sym	Units	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Continuous Torque at Stall	T <sub>C</sub>	Nm	6.75	11.8	16.0	19.9	–	–	15.9	22.1	27.3	32.0	23.8	44.2	61.4	75.2	–
		lb-in	59.74	104.44	141.61	176.13	–	–	140.73	195.60	241.63	283.22	210.65	391.2	543.44	665.58	–
Rated Speed	N <sub>rtd</sub>	rpm	6000	5800	5300	4600	–	–	6000	5000	4300	3800	5000	3500	3200	3000	–
Rotor Inertia	J <sub>m</sub>	kg-cm <sup>2</sup>	2.5246	4.5822	6.6398	8.6974	–	–	9.1010	12.9863	16.8715	20.7568	25.8569	46.7815	67.7062	88.6308	–
		lb-in-s <sup>2</sup>	2.23E-03	4.06E-03	5.88E-03	7.70E-03	–	–	8.06E-03	1.15E-02	1.49E-02	1.84E-02	2.29E-02	4.14E-02	5.99E-02	7.84E-02	–

Kollmorgen will continue 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-31A-ANCNR-00**

	Available Motor					
1 Motor Series	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	•	•	•	•	•	•

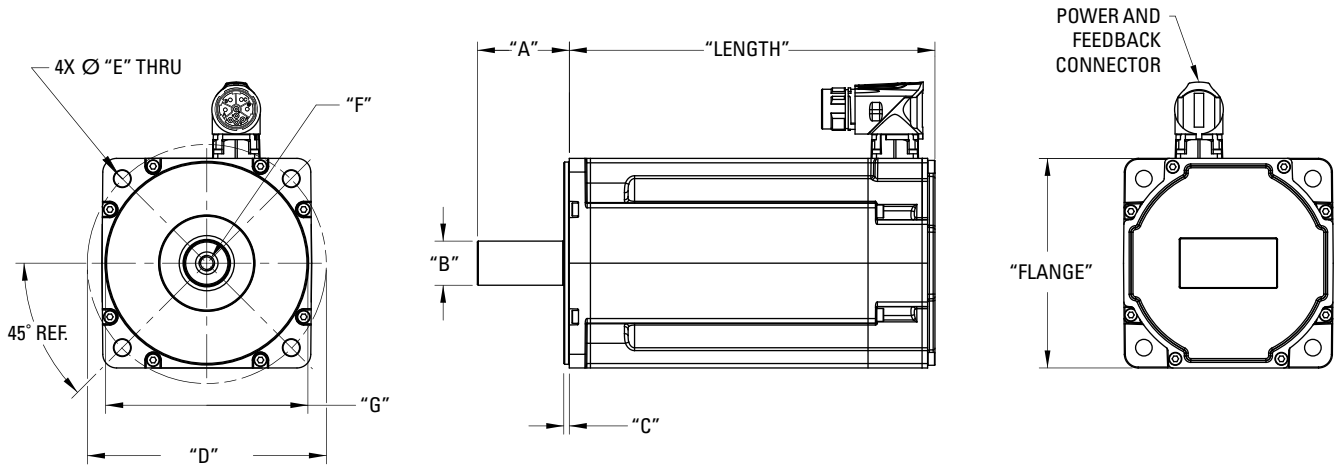
	Available Options					
Motor Series	AKM2G					
Flange	2	3	4	5	6	7
6 Shaft						
C = Closed Keyway	•	•	•	•	•	•
N = Smooth	•	•	•	•	•	•
7 Connector						
C = Dual right angle M23	•	•	•	•	•	•
D = Single right angle M23	•	•	•	•	•	•
H = Dual right angle M40	•	•	•	•	•	•
Y = y-tec <sup>®</sup> connector	•	•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

	Available Options					
Motor Series	AKM2G					
Flange (mm)	2	3	4	5	6	7
9 Feedback Device						
R = Resolver	•	•	•	•	•	•
CA = Smart Feedback Device (SFD3)	•	•	•	•	•	•
GF = 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.)	•	•	•	•	•	•

\*Preliminary technical data – please consult factory for final technical data and product availability



**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	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]	5.59 [0.220]	M4 DIN 332	40.0 [1.57]
		150 [5.91]	169 [6.67]	189 [7.43]	208 [8.19]	-							
AKM2G3x	72 [283]	121 [4.78]	153 [6.01]	184 [7.23]	-	-	30.0 [1.18]	14.0 [0.551]	2.50 [0.98]	75.0 [12.95]	5.59 [0.220]	M5 DIN 332	60.0 [2.36]
		163 [6.40]	194 [7.63]	225 [8.85]	-	-							
AKM2G4x	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]	6.71 [0.264]	M6 DIN 332	80.0 [3.15]
		172 [6.79]	199 [7.82]	225 [8.85]	251 [9.89]	-							
AKM2G5x	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]	9.11 [0.359]	M8 DIN 332	110.0 [4.33]
		200 [7.87]	229 [9.02]	259 [10.18]	288 [11.34]	-							
AKM2G6x	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]	11.35 [0.447]	M12 DIN 332	130.0 [5.12]
		-	234 [9.21]	256 [10.07]	278 [10.94]	300 [11.81]							
AKM2G7x	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]	13.85 [0.545]	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. See individual motor schematics for tolerances and complete dimensions.

\*Preliminary technical data – please consult factory for final technical data and product availability

