motor technology
servo + automation solutions

KOLLMORGEN

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Synchronous Servomotors AKM

Driven by SERVOSTAR®

Solutions by DANAHER MOTION

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english

Synchronous servomotors AKM

These new servomotors can be driven by all Danaher Motion servo amplifiers. Seven flange sizes and a large number of winding options with optional feedback systems provide maximum flexibility for machine design. A special production process facilitates the delivery of different frame lengths, winding versions, fixing methods (IEC-NEMA-JIS), various feedback systems and connection methods, all in the shortest possible time.
The motors are powder coated mat black.

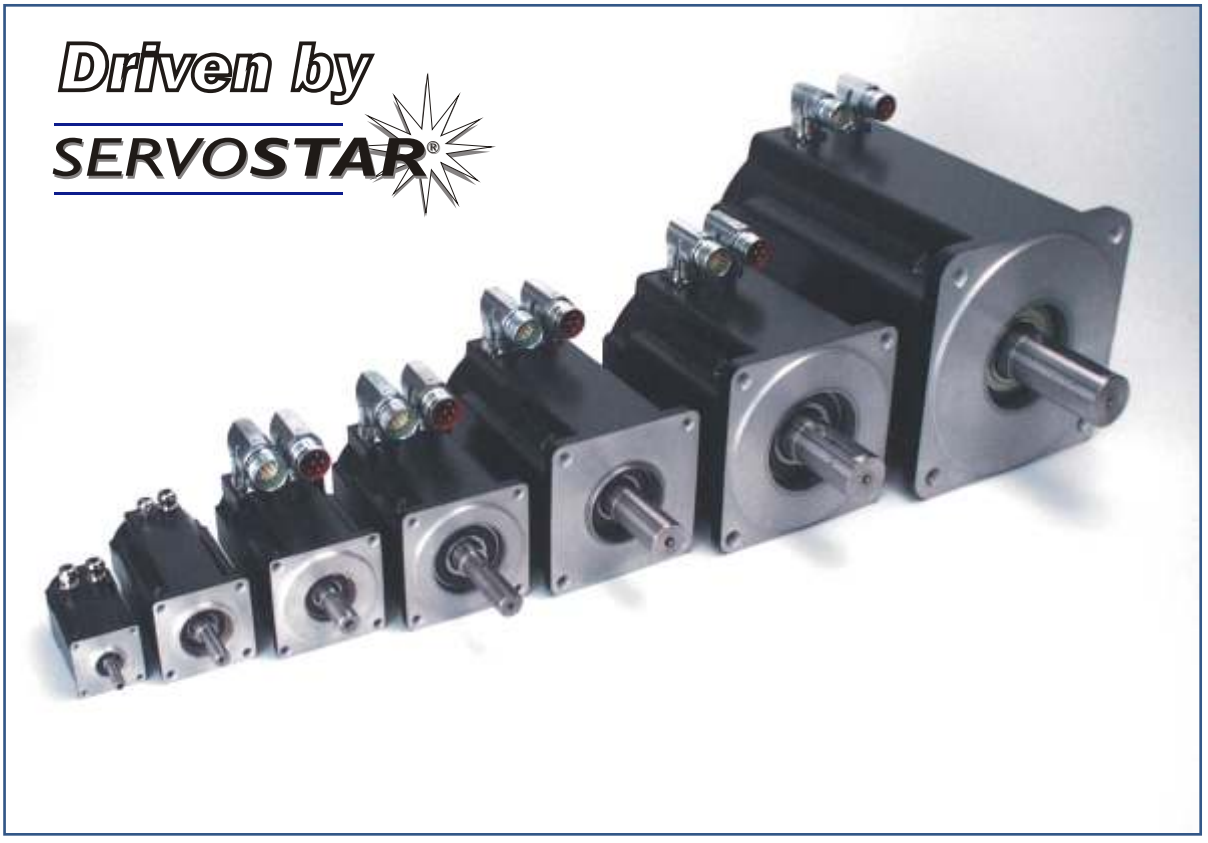
- **Power output and dynamics**
  Compared with everyday servomotors from other manufacturers, AKM motors have a considerably higher power output for a given frame size. The motors have low inertia rotors for high dynamic performance and they exhibit very low cogging .

- **Feedback**
  The standard versions of these motors are fitted with 2-pole hollow-shaft resolvers. They can alternatively be fitted with additional feedback systems:
  - Smart Feedback Device (SFD, the intelligent Danaher Motion feedback system)
  - high-resolution EnDat encoder (in preparation)
  - Comcoder (incremental commutating encoder)

  Retrofitting is not possible. The length of the motor varies according to the type of feedback.

- **Holding Brake**
  The motors can be supplied with a built-in holding brake as an option. Retrofitting is not possible. The motor is longer if a brake has been built in.

- **Safety**
  The winding temperature is monitored and signaled by a PTC temperature sensor in the stator winding.



Features / Options

Features

- standard flange dimensions, j6 fit, accuracy as per DIN 42955, tolerance class N
- vibration class ISO G6.3
- insulated for 480V rated mains voltage (230V for AKM1x)
- insulation material class F as per DIN 57530
- shaft end without a fitted-keyway to DIN 748, with threaded hole
- Protection class IP 40
- Mounting sockets for feedback and power connections can be swiveled

Options

- Holding brake (AKM2...7)
- Keyway
- Shaft seal (Viton, IP 65)
- Various flange/pitch circle versions (on request)
- Various connection versions (on request)
- Built-in high-resolution EnDat encoder (under development)
- Built-in Smart Feedback device (AKM1...4)
- Built-in Comcoder (incremental commutating encoder)

Technical data

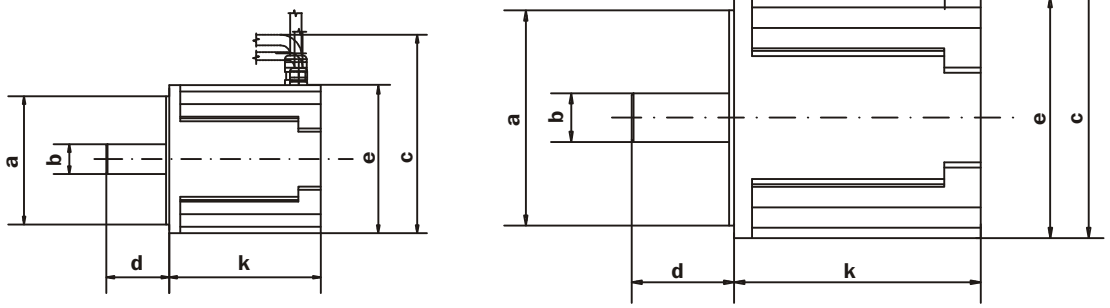
Nominal values at 40°C ambient temperature and 100 K temperature rise in the windings motor mounted to a reference mounting plate. Modern motors with compact designs may exhibit high surface temperatures, requiring a derating from the nominal values in some applications.

Stock item	Type	Standstill torque Mo[Nm]	Standstill current Io[A]	nominal speed at rated supply voltage 75 V DC n[1/min]	110 V AC n[1/min]	230 V AC n[1/min]	400 V AC n[1/min]	480 V AC n[1/min]	rotor inertia J[kg cm²]
	AKM11-B	0,18	1,16	-	4000	8000	-	-	0,017
	AKM11-C	0,19	1,45	-	6000	-	-	-	0,017
	AKM11-E	0,19	2,91	6000	-	-	-	-	0,017
	AKM12-C	0,31	1,51	-	4000	8000	-	-	0,031
	AKM12-E	0,30	2,72	3000	8000	-	-	-	0,031
	AKM13-C	0,41	1,48	-	3000	8000	-	-	0,045
	AKM13-D	0,40	2,4	2000	7000	-	-	-	0,045
	AKM21-C	0,48	1,58	-	2500	8000	-	-	0,107
	AKM21-E	0,5	3,11	2000	7000	-	-	-	0,107
	AKM21-G	0,5	4,87	4000	-	-	-	-	0,107
	AKM22-C	0,84	1,39	-	1000	3500	8000	8000	0,161
	AKM22-E	0,87	2,73	1000	3500	8000	-	-	0,161
	AKM22-G	0,88	4,82	2500	7000	-	-	-	0,161
	AKM23-C	1,13	1,41	-	1000	2500	5500	7000	0,216
	AKM23-D	1,16	2,19	-	1500	5000	8000	8000	0,216
	AKM23-F	1,18	4,31	1500	4500	8000	-	-	0,216
	AKM24-C	1,38	1,42	-	-	2000	4500	5500	0,27
	AKM24-D	1,41	2,21	-	1500	4000	8000	8000	0,27
	AKM24-F	1,42	3,89	1000	3000	8000	-	-	0,27
	AKM31-C	1,15	1,37	-	-	2500	5000	6000	0,33
	AKM31-E	1,2	2,99	750	2500	6000	-	-	0,33
	AKM31-H	1,23	5,85	2000	6000	-	-	-	0,33
	AKM32-C	2	1,44	-	-	1500	3000	3500	0,59
	AKM32-D	2,04	2,23	-	1000	2500	5500	6000	0,59
	AKM32-H	2,1	5,5	1200	3000	7000	-	-	0,59
	AKM33-C	2,71	1,47	-	-	1000	2000	2500	0,85
	AKM33-E	2,79	2,58	-	-	2000	4500	5000	0,85
	AKM33-H	2,88	5,62	800	2500	5500	-	-	0,85

Technical data

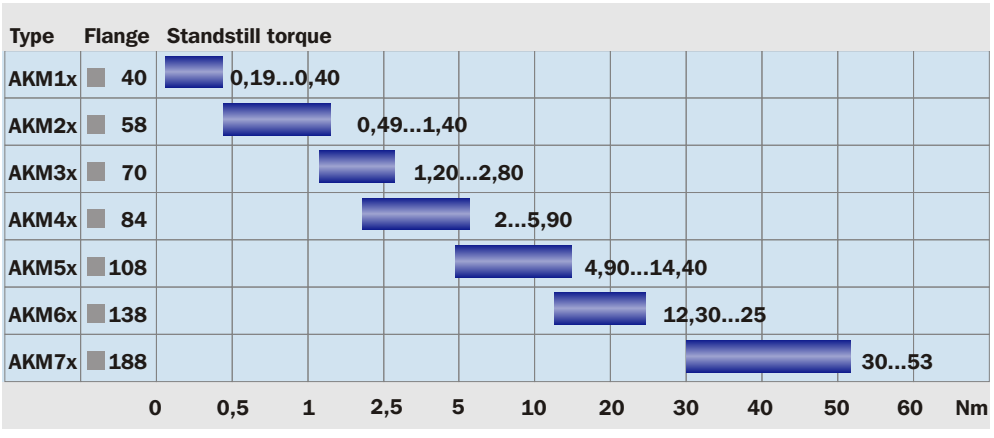
Stock item	Type	Standstill torque Mo[Nm]	Standstill current Io[A]	nominal speed at rated supply voltage 75 V DC n[1/min]	110 V AC n[1/min]	230 V AC n[1/min]	400 V AC n[1/min]	480 V AC n[1/min]	rotor inertia J[kg cm²]
	AKM41-C	1,95	1,46	-	-	1200	3000	3500	0,81
■	AKM41-E	2,02	2,85	-	1200	3000	6000	6000	0,81
	AKM41-H	2,06	5,6	1000	3000	6000	-	-	0,81
	AKM42-C	3,35	1,4	-	-	-	1500	2000	1,45
■	AKM42-E	3,42	2,74	-	-	1800	3500	4000	1,45
	AKM42-G	3,53	4,8	-	-	3500	6000	6000	1,45
	AKM42-J	3,56	8,4	-	3000	6000	-	-	1,45
	AKM43-E	4,7	2,76	-	-	1500	2500	3000	2,09
■	AKM43-G	4,8	4,87	-	-	2500	5000	6000	2,09
	AKM43-K	4,9	9,6	-	2500	6000	-	-	2,09
	AKM44-E	5,76	2,85	-	-	1200	2000	2500	2,73
■	AKM44-G	5,88	5	-	-	2000	4000	5000	2,73
	AKM44-J	6	8,8	-	-	4000	6000	6000	2,73
	AKM51-E	4,7	2,75	-	-	1200	2500	3000	3,42
■	AKM51-G	4,75	4,84	-	-	2500	5000	6000	3,42
	AKM51-K	4,9	9,4	-	2500	5500	-	-	3,42
	AKM52-E	8,34	3	-	-	-	1500	2000	6,22
	AKM52-G	8,43	4,72	-	-	1500	2500	3000	6,22
■	AKM52-K	8,6	9,3	-	-	3000	5500	6000	6,22
	AKM52-M	8,6	13,1	-	-	4500	-	-	6,22
	AKM53-G	11,37	4,77	-	-	1000	2000	2400	9,12
■	AKM53-K	11,6	9,4	-	-	2000	4000	4500	9,12
	AKM53-M	11,37	13,4	-	-	3000	-	-	9,12
	AKM53-P	11,37	19,1	-	-	5000	-	-	9,12
	AKM54-G	14,26	5	-	-	-	1500	2000	11,92
■	AKM54-K	14,4	9,7	-	-	1800	3500	4000	11,92
	AKM54-L	14,11	12,5	-	-	2500	4500	-	11,92
	AKM54-N	14,11	17,8	-	-	3500	-	-	11,92
	AKM62-G	11,9	4,85	-	-	-	1800	2000	16,9
■	AKM62-K	12,2	9,6	-	-	2000	3500	4500	16,9
	AKM62-M	12,2	13,4	-	-	3000	6000	6000	16,9
	AKM62-P	12,3	18,8	-	-	4500	-	-	16,9
	AKM63-G	16,5	4,48	-	-	-	1200	1500	24,2
■	AKM63-K	16,8	9,9	-	-	1500	3000	3500	24,2
	AKM63-M	17	13,8	-	-	2000	4000	4500	24,2
	AKM63-N	17	17,4	-	-	3000	5000	6000	24,2
	AKM64-K	20,8	9,2	-	-	1200	2000	2500	31,6
■	AKM64-L	21	12,8	-	-	1500	3000	3500	31,6
	AKM64-P	20,4	18,6	-	-	2500	4500	5500	31,6
	AKM65-K	24,8	9,8	-	-	1000	2000	2200	40
	AKM65-M	25	13,6	-	-	1500	2500	3000	40
■	AKM65-N	24,3	17,8	-	-	2000	3500	4000	40
	AKM72-K	29,7	9,3	-	-	-	1500	1800	64,5
	AKM72-M	30	13	-	-	-	2000	2500	64,5
■	AKM72-P	29,4	18,7	-	-	1800	3000	3500	64,5
	AKM73-M	42	13,6	-	-	-	1500	1800	92,1
■	AKM73-P	41,6	19,5	-	-	1300	2400	2800	92,1
	AKM74-L	53	12,9	-	-	-	1200	1400	119,7
■	AKM74-P	52,5	18,5	-	-	-	1800	2000	119,7

Dimensions



Type	Mo/Nm	Mmax/Nm	No. of poles	a/mm	b/mm	c/mm	d/mm	e/mm	k/mm
AKM11	0,19	0,6	6	30	8	72	25	40	69,6
AKM12	0,30	1,1	6	30	8	72	25	40	88,6
AKM13	0,40	1,4	6	30	8	72	25	40	107,6
AKM21	0,49	1,5	6	40	9	90	20	58	95,4
AKM22	0,87	2,7	6	40	9	90	20	58	114,4
AKM23	1,16	3,8	6	40	9	90	20	58	133,4
AKM24	1,40	4,8	6	40	9	90	20	58	152,4
AKM31	1,20	4,0	8	60	14	109	30	70	109,8
AKM32	2,00	7,0	8	60	14	109	30	70	140,8
AKM33	2,80	10,0	8	60	14	109	30	70	171,8
AKM41	2,00	6,3	10	80	19	123	40	84	118,8
AKM42	3,40	11,3	10	80	19	123	40	84	147,8
AKM43	4,80	16,1	10	80	19	123	40	84	176,8
AKM44	5,90	20,2	10	80	19	123	40	84	205,8
AKM51	4,90	11,7	10	110	24	147	50	108	127,5
AKM52	8,60	21,7	10	110	24	147	50	108	158,5
AKM53	11,60	29,8	10	110	24	147	50	108	189,5
AKM54	14,40	37,8	10	110	24	147	50	108	220,5
AKM62	12,30	30,1	10	130	32	177	58	138	153,7
AKM63	17,00	42,6	10	130	32	177	58	138	178,7
AKM64	21,00	53,5	10	130	32	177	58	138	203,7
AKM65	25,00	64,5	10	130	32	177	58	138	228,7
AKM72	30,00	80,0	10	180	38	227	80	188	192,5
AKM73	42,00	112,0	10	180	38	227	80	188	226,5
AKM74	53,00	142,0	10	180	38	227	80	188	260,5

Smaller ... Stronger ... Low-priced



SERVOSTAR® 200

SERVOSTAR® 300

SERVOSTAR® 400

SERVOSTAR® 600

You'll find information to the drive series in the associated product brochures or on the internet at **www.DanaherMotion.net**

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