

FAGOR AUTOMATION

Ordering Handbook

FKM AC FEED AXIS SERVOMOTORS for QC-PDS

Ref.2403

Original instructions



DENOMINATIONS

FKM - **K**

MOTOR SERIES	
SIZE	1, 2, 4, 6, 8, 9
LENGTH	1, 2, 3, 4, 5, 6
RATED SPEED	20 2000 rev/min 45 4500 rev/min 30 3000 rev/min 50 5000 rev/min 40 4000 rev/min 60 6000 rev/min
WINDING	A 400 Vac F 220 Vac
FEEDBACK TYPE	
A3 Multi-turn absolute sinusoidal 1Vpp encoder ·1024 ppt· ·taper shaft· A4 Multi-turn absolute sinusoidal 1Vpp encoder ·128 ppt· E3 Sinusoidal 1Vpp encoder ·1024 ppt· ·taper shaft· E4 Sinusoidal 1Vpp encoder ·128 ppt· I0 TTL incremental encoder ·2500 ppt·	
FLANGE AND SHAFT	
0 With keyway ·half-key balancing· IP 64 1 Cylindrical ·with no keyway· IP 64 2 Shaft with keyway and seal IP 65 3 Keyless shaft with seal IP 65 8 Special configuration with seal IP 65 9 Special configuration IP 64	
HOLDING BRAKE OPTION	
0 Without holding brake 1 With standard holding brake · 24 Vdc · 2 With extra holding brake · 24 Vdc ·	
FAN AND INERTIA OPTION	
0 Standard 1 Electro-ventilated 8 Low inertia 9 Low inertia and electro-ventilated	
WINDING OPTION	
- / 1 Standard 2 Optimized for ACSD-16H 3 Small size	
TEMPERATURE SENSOR	
- / 0 PTC KTY84-130 thermistor 1 RTD Pt1000 thermoresistance 2 PTC 111-K13-140 thermistor	
EXTRAS	
- None K Special configuration	
SPECIFICATION 01 ... 99 Only when it has a special configuration ·K·	

Notes:

The encoders with reference: **I0**, only available on FKM2/4/6 series with 'F' type winding option.
E3/A3, only available on FKM2/4/6/8/9 series.
E4/A4, only available on FKM1 series.

The temperature sensor:
PTC KTY84-130, only available on FKM9 series.
PTC 111-K13-140, only available on FKM1 series.
RTD Pt1000, only available on FKM2/4/6/8 series.

The FKM1/8/9 servomotor series do not offer the 'F' type winding option.

The **FKM96** model does not offer the holding brake option.

ELECTRICAL DATA AND POWER CABLE

Motor model with 'A' winding 400 Vac	Rated speed	Stall torque	Rated torque	Stall current	Calc. power	Rated power	Poles pairs	POWER connector	POWER cable		FAN connector
	nN	Mo	Mn	Io	Pcal	Pn	p		brakeless	with brake	
	1/min	N·m	N·m	A	kW	kW			Nr wires x mm ²	Nr wires x mm ² +(2x1.5)	
FKM43.20A.□.□□0.□□	2000	9.0	7.8	3.6	1.88	1.6	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM44.20A.□.□□0.□□	2000	11.6	9.2	4.6	2.4	1.9	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM63.20A.□.□□0.□□	2000	12.5	11.0	4.9	2.6	2.3	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM64.20A.□.□□0.□□	2000	16.5	13.6	6.5	3.5	2.8	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM66.20A.□.□□0.2□	2000	23.5	16.7	9.4	4.9	3.5	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM66.20A.□.□□1.2□	2000	32.0	22.7	12.8	6.7	4.8	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	MC-20/6
FKM82.20A.□.□□0.□□	2000	32.0	25.0	13.2	6.7	5.2	4	MC-61/6	MPC-4x2.5-□M	MPC-4x2.5+(2x1.5)-□M	-
FKM83.20A.□.□□0.□□	2000	41.0	32.0	17.0	8.6	6.7	4	MC-61/6	MPC-4x2.5-□M	MPC-4x2.5+(2x1.5)-□M	-
FKM84.20A.□.□□0.□□	2000	52.0	38.0	21.5	10.9	7.9	4	MC-61/6	MPC-4x4-□M	MPC-4x4+(2x1.5)-□M	-
FKM84.20A.□.□□1.□□	2000	80.0	68.0	33.0	16.7	14.2	4	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	MC-20/6
FKM85.20A.□.□□0.□□	2000	74.0	46.0	29.3	15.5	15.5	4	MC-61/6	MPC-4x6-□M	MPC-4x6+(2x1.5)-□M	-
FKM85.20A.□.□□1.□□	2000	100.0	88.0	39.6	20.9	18.4	4	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	MC-20/6
FKM94.20A.□.□□0.□□	2000	68.0	56.0	25.4	14.2	11.7	3	MC-61/6	MPC-4x6-□M	MPC-4x6+(2x1.5)-□M	-
FKM95.20A.□.□□0.□□	2000	93.0	70.0	33.1	19.5	14.7	3	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	-
FKM96.20A.□.□□0.□□	2000	115.0	85.0	42.1	24.0	17.8	3	MC-61/6	MPC-4x16-□M	-	-
FKM22.30A.□.□□0.□□	3000	3.2	2.6	2.4	1.0	0.8	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM42.30A.□.□□0.□□	3000	6.3	4.6	4.6	2.0	1.4	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM43.30A.□.□□0.□□	3000	9.0	6.5	5.5	2.82	2.0	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM44.30A.□.□□0.2□	3000	11.6	7.4	7.0	3.6	2.3	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-

Motor model with •A• winding 400 Vac	Rated speed	Stall torque	Rated torque	Stall current	Calc. power	Rated power	Poles pairs	POWER connector	POWER cable		FAN connector
	nN	Mo	Mn	Io	Pcal	Pn	p		brakeless	with brake	
	1/min	N·m	N·m	A	kW	kW			Nr wires x mm ²	Nr wires x mm ² +(2x1.5)	
FKM62.30A.□.□□0.□□	3000	8.9	7.5	7.1	2.8	2.4	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM63.30A.□.□□0.□□	3000	12.5	9.5	9.2	3.9	2.9	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM64.30A.□.□□0.□□	3000	16.5	11.2	12.1	5.2	3.5	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM66.30A.□.□□0.□□	3000	23.5	12.2	16.4	7.4	3.8	3	MC-20/6	MPC-4x2.5-□M	MPC-4x2.5+(2x1.5)-□M	-
FKM66.30A.□.□□1.□□	3000	32.0	16.6	22.3	10.0	5.2	3	MC-30/6	MPC-4x4-□M	MPC-4x4+(2x1.5)-□M	MC-30/6
FKM82.30A.□.□□0.□□	3000	32.0	20.0	19.8	10.1	6.3	4	MC-61/6	MPC-4x4-□M	MPC-4x4+(2x1.5)-□M	-
FKM83.30A.□.□□0.□□	3000	41.0	21.0	27.1	12.9	6.6	4	MC-61/6	MPC-4x6-□M	MPC-4x6+(2x1.5)-□M	-
FKM83.30A.□.□□1.□□	3000	60.0	45.0	39.6	18.8	14.1	4	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	MC-20/6
FKM84.30A.□.□□0.□□	3000	52.0	17.0	32.2	16.3	5.3	4	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	-
FKM84.30A.□.□□1.□□	3000	80.0	60.0	49.5	25.1	18.8	4	MC-61/6	MPC-4x16-□M	MPC-4x16+(2x1.5)-□M	MC-20/6
FKM85.30A.□.□□1.□□	3000	91.0	57.0	60.0	28.6	17.9	4	MC-61/6	MPC-4x25-□M	MPC-4x25+(2x1.5)-□M	MC-20/6
FKM43.40A.□.□□0.□□	4000	9.0	4.5	8.2	3.77	1.9	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM44.40A.□.□□0.□□	4000	11.6	5.1	10.7	4.9	2.1	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM62.40A.□.□□0.□□	4000	8.9	6.7	9.3	3.7	2.8	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM63.40A.□.□□0.□□	4000	12.5	6.6	12.3	5.2	2.7	3	MC-20/6	MPC-4x2.5-□M	MPC-4x2.5+(2x1.5)-□M	-
FKM64.40A.□.□□0.□□	4000	16.5	6.6	16.2	6.9	2.8	3	MC-20/6	MPC-4x2.5-□M	MPC-4x2.5+(2x1.5)-□M	-
FKM82.40A.□.□□0.□□	4000	32.0	12.0	26.4	13.4	5.0	4	MC-61/6	MPC-4x6-□M	MPC-4x6+(2x1.5)-□M	-
FKM82.40A.□.□□1.□□	4000	40.0	31.0	33.0	16.7	13.0	4	MC-61/6	MPC-4x10-□M	MPC-4x10+(2x1.5)-□M	MC-20/6
FKM12.45A.□.□□0.02	4500	0.54	0.48	0.93	0.25	0.22	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM14.45A.□.□□0.02	4500	0.95	0.85	1.15	0.45	0.40	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM42.45A.□.□□0.□□	4500	6.3	3.3	6.9	3.0	1.6	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM22.50A.□.□□0.□□	5000	3.2	1.9	4.0	1.7	1.0	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM21.60A.□.□□0.□□	6000	1.7	0.8	2.8	1.1	0.5	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM22.60A.□.□□0.□□	6000	3.2	1.5	4.5	2.0	1.0	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM42.60A.□.□□0.□□	6000	6.3	1.9	8.5	4.0	1.2	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-
FKM62.60A.□.□□0.□□	6000	8.9	3.4	13.1	5.6	2.2	3	MC-20/6	MPC-4x1.5-□M	MPC-4x1.5+(2x1.5)-□M	-

RECOMMENDED SERVOMOTOR/DRIVE COMBINATION

The drive selecting procedure always depends on the application.

- The peak current of the drive must be higher than the stall current of the motor. ($I_p \text{ drive} > I_o \text{ motor}$)
- If the application is going to demand from the motor a rated duty cycle or lower than 100 %, it will suffice to have the drive provide the rated torque of the motor.
- Usually, in particular moments and during very short periods of time, a higher torque than the stall torque is required (for example during a rapid approach in G00). In these cases, a drive must be selected whose peak torque is between 2 and 4 times the stall torque of the motor.
- The peak torque that the drive can provide must never exceed the peak torque of the motor. When this occurs, the peak torque of the drive must be limited.

The peak torque that the drive can provide is $M_p \text{ drive} = K_t \text{ motor} \times I_p \text{ drive}$, where: $K_t \text{ motor} = M_o \text{ motor} / I_o \text{ motor}$.

Modular single-drive / feed axis servomotor matching
Modular single-drive for feed axis servomotor control. $f_c = 8 \text{ kHz}$. Internal ventilation.

$f_c = 8 \text{ kHz}$		Vline: 400 Vac		QC-DR-●-F□-□									
		007	012	021	030	040	055	080	120	160	225	275	
Rated current	$I_n \text{ (A)}$	3.5	5.4	9.8	15.0	20.0	27.5	40.0	60.0	80.0	112.5	137.5	
Peak current	$I_p, 0.5 \text{ s (A)}$	7.0	10.8	19.6	30.0	40.0	55.0	80.0	120.0	160.0	225.0	275.0	

 Selecting the QC-DR-□-F□-□ feed axis modular single-drives to control the FKM□□.□A.□.□□□.□□ servomotors. $f_c = 8 \text{ kHz}$.

Motor model with •A• winding 400 Vac	Stall torque	Stall peak torque	Rated speed	Stall current	Peak current	DRIVE (Mp) / SERVOMOTOR (Mo)														
						Mo	Mp	nN	io	Ip	QC-DR-●-F□-□									
											007	012	021	030	040	055	080	120	160	225
FKM43.20A.□.□□0.□□	9.0	36	2 000	3.6	14.4	-	2.7	4.0												
FKM44.20A.□.□□0.□□	11.6	47	2 000	4.6	19.0	-	2.3	4.0												
FKM63.20A.□.□□0.□□	12.5	51	2 000	4.9	20.1	-	-	3.7	4.0											
FKM64.20A.□.□□0.□□	16.5	66	2 000	6.5	26.0	-	-	3.0	4.0											
FKM66.20A.□.□□0.2□	23.5	94	2 000	9.4	37.0	-	-	2.0	3.2	4.0										
FKM66.20A.□.□□1.2□	32.0	94	2 000	12.8	37.0	-	-	-	2.3	2.9										
FKM82.20A.□.□□0.□□	32.0	96	2 000	13.2	39.0	-	-	-	2.2	3.0										
FKM83.20A.□.□□0.□□	41.0	123	2 000	17.0	51.0	-	-	-	-	2.3	3.0									
FKM84.20A.□.□□0.□□	52.0	156	2 000	21.5	64.0	-	-	-	-	-	2.5	3.0								
FKM84.20A.□.□□1.□□	80.0	156	2 000	33.0	64.0	-	-	-	-	-	-	2.0	2.1							
FKM85.20A.□.□□0.□□	74.0	222	2 000	29.3	87.0	-	-	-	-	-	-	2.7	3.0							
FKM85.20A.□.□□1.□□	100.0	222	2 000	39.6	87.0	-	-	-	-	-	-	2.0	2.2							
FKM94.20A.□.□□0.□□	68.0	204	2 000	25.4	99.0	-	-	-	-	-	2.2	3.0								
FKM95.20A.□.□□0.□□	93.0	279	2 000	33.1	129.0	-	-	-	-	-	-	2.4	3.0							
FKM96.20A.□.□□0.□□	115.0	345	2 000	42.1	164.0	-	-	-	-	-	-	-	2.8	3.0						
FKM22.30A.□.□□0.□□	3.2	13	3 000	2.4	10.0	2.9	4.0													
FKM42.30A.□.□□0.□□	6.3	25	3 000	4.6	19.0	-	2.3	4.0												
FKM43.30A.□.□□0.□□	9.0	36	3 000	5.5	21.8	-	-	3.1	4.0											
FKM44.30A.□.□□0.2□	11.6	47	3 000	7.0	28.0	-	-	2.8	4.0											
FKM62.30A.□.□□0.□□	8.9	35	3 000	7.1	28.0	-	-	2.7	3.9											
FKM63.30A.□.□□0.□□	12.5	51	3 000	9.2	37.1	-	-	-	2.9	3.8	4.0									
FKM64.30A.□.□□0.□□	16.5	66	3 000	12.1	48.0	-	-	-	2.5	3.3	4.0									
FKM66.30A.□.□□0.□□	23.5	94	3 000	16.4	66.0	-	-	-	-	2.4	3.3	4.0								
FKM66.30A.□.□□1.□□	32.0	94	3 000	22.3	66.0	-	-	-	-	-	2.5	2.9								
FKM82.30A.□.□□0.□□	32.0	96	3 000	19.8	59.0	-	-	-	-	2.0	2.7	3.0								
FKM83.30A.□.□□0.□□	41.0	123	3 000	27.1	81.0	-	-	-	-	-	2.0	2.9	3.0							
FKM83.30A.□.□□1.□□	60.0	123	3 000	39.6	81.0	-	-	-	-	-	-	2.0	2.1							
FKM84.30A.□.□□0.□□	52.0	156	3 000	32.2	96.0	-	-	-	-	-	-	2.5	3.0							
FKM84.30A.□.□□1.□□	80.0	156	3 000	49.5	96.0	-	-	-	-	-	-	-	2.2							
FKM85.30A.□.□□1.□□	91.0	222	3 000	60.0	145.0	-	-	-	-	-	-	-	2.0	2.4						
FKM43.40A.□.□□0.□□	9.0	36	4 000	8.2	32.7	-	-	2.0	3.2	4.0										
FKM44.40A.□.□□0.□□	11.6	47	4 000	10.7	43.0	-	-	-	2.8	3.8	4.0									
FKM62.40A.□.□□0.□□	8.9	35	4 000	9.3	37.0	-	-	2.1	3.0	3.9										
FKM63.40A.□.□□0.□□	12.5	51	4 000	12.3	49.5	-	-	-	-	2.4	3.4	4.0								
FKM64.40A.□.□□0.□□	16.5	66	4 000	16.2	64.0	-	-	-	-	2.4	3.3	4.0								
FKM82.40A.□.□□0.□□	32.0	96	4 000	26.4	79.0	-	-	-	-	-	2.0	3.0								
FKM82.40A.□.□□1.□□	40.0	96	4 000	33.0	79.0	-	-	-	-	-	-	2.4								
FKM12.45A.□.□□0.02	0.54	2.2	4 500	0.93	4.3	4.0														
FKM14.45A.□.□□0.02	0.95	3.8	4 500	1.15	5.3	4.0														
FKM42.45A.□.□□0.□□	6.3	25	4 500	6.9	28.0	-	-	2.8	4.0											
FKM22.50A.□.□□0.□□	3.2	13	5 000	4.0	16.0	-	2.7	4.0												
FKM21.60A.□.□□0.□□	1.7	7	6 000	2.8	11.0	2.4	3.4	4.0												
FKM22.60A.□.□□0.□□	3.2	13	6 000	4.5	18.0	-	2.4	4.0												
FKM42.60A.□.□□0.□□	6.3	25	6 000	8.5	34.0	-	-	2.3	3.3	4.0										
FKM62.60A.□.□□0.□□	8.9	35	6 000	13.1	52.0	-	-	-	2.3	3.0	3.9									

bold	Drive with optimized features. Recommended if high torque is required at low rpm.
<i>italic</i>	Cost-optimal drive but not suitable for working at high torque and low rpm. The I ² t error can be activated.
normal	Drive that allows maximum peak motor torque to be delivered.

Modular dual-drive / feed axis servomotors matching
Modular dual-drives for two feed axis servomotors control. $f_c = 4$ kHz. Internal ventilation.

$f_c = 4$ kHz	Vline: 400 Vac	QC-DR-●-FD2-□			
		07+07	12+12	21+21	30+30
Rated current	I_n (A)	3.5 + 3.5	6.0 + 6.0	10.5 + 10.5	15.0 + 15.0
Peak current	I_p , 0.5 s (A)	7.0 + 7.0	12.0 + 12.0	21.0 + 21.0	30.0 + 30.0

 Selecting the QC-DR-□-FD2-□ feed axis modular dual-drives to control the FKM□□.□A.□□□.□□ two servomotors. $f_c = 4$ kHz.

Motor model with A winding 400 Vac	Stall torque	Stall peak torque	Rated speed	Stall current	Peak current	DRIVE (Mp) / SERVOMOTOR (Mo)			
	Mo	Mp	nN	Io	Ip	QC-DR-●-FD2-□			
	N·m	N·m	1/min	A	A	07+07	12+12	21+21	30+30
FKM43.20A.□.□□0.□□	9.0	36	2 000	3.6	14.4	-	3.0	4.0	
FKM44.20A.□.□□0.□□	11.6	47	2 000	4.6	19.0	-	2.6	4.0	
FKM63.20A.□.□□0.□□	12.5	51	2 000	4.9	20.1	-	2.3	3.9	4.0
FKM64.20A.□.□□0.□□	16.5	66	2 000	6.5	26.0	-	-	3.2	4.0
FKM66.20A.□.□□0.2□	23.5	94	2 000	9.4	37.0	-	-	2.2	3.2
FKM82.20A.□.□□0.□□	32.0	96	2 000	13.2	39.0	-	-	-	2.2
FKM22.30A.□.□□0.□□	3.2	13	3 000	2.4	10.0	2.9	4.0		
FKM42.30A.□.□□0.□□	6.3	25	3 000	4.6	19.0	-	2.5	4.0	
FKM43.30A.□.□□0.□□	9.0	36	3 000	5.5	21.8	-	-	3.4	4.0
FKM44.30A.□.□□0.2□	11.6	47	3 000	7.0	28.0	-	-	3.0	4.0
FKM62.30A.□.□□0.□□	8.9	35	3 000	7.1	28.0	-	-	2.8	3.9
FKM63.30A.□.□□0.□□	12.5	51	3 000	9.2	37.1	-	-	2.0	2.9
FKM64.30A.□.□□0.□□	16.5	66	3 000	12.1	48.0	-	-	-	2.5
FKM43.40A.□.□□0.□□	9.0	36	4 000	8.2	32.7	-	-	2.2	3.2
FKM44.40A.□.□□0.□□	11.6	47	4 000	10.7	43.0	-	-	-	2.8
FKM62.40A.□.□□0.□□	8.9	35	4 000	9.3	37.0	-	-	2.1	3.0
FKM12.45A.□.□□0.02	0.54	2.2	4 500	0.93	4.3	4.0			
FKM14.45A.□.□□0.02	0.95	3.8	4 500	1.15	5.3	4.0			
FKM42.45A.□.□□0.□□	6.3	25	4 500	6.9	28.0	-	-	3.0	4.0
FKM22.50A.□.□□0.□□	3.2	13	5 000	4.0	16.0	-	3.0	4.0	
FKM21.60A.□.□□0.□□	1.7	7	6 000	2.8	11.0	2.4	4.0		
FKM22.60A.□.□□0.□□	3.2	13	6 000	4.5	18.0	-	2.6		
FKM42.60A.□.□□0.□□	6.3	25	6 000	8.5	34.0	-	-	2.3	3.3
FKM62.60A.□.□□0.□□	8.9	35	6 000	13.1	52.0	-	-	-	2.3

- bold** Drive with optimized features. Recommended if high torque is required at low rpm.
- italic* Cost-optimal drive but not suitable for working at high torque and low rpm. The I²t error can be activated.
- normal Drive that allows maximum peak motor torque to be delivered.

Compact single-drive / feed axis servomotor matching
Compact single-drives for feed axis servomotor control. fc = 8 kHz. Internal ventilation.

fc = 8 kHz	Vline: 400 Vac	QC-CD-●-F□-□									
				021	030	040	055				
Rated current	In (A)			9.8	15.0	20.0	27.5				
Peak current	Ip, 0.5 s (A)			19.6	30.0	40.0	55.0				

Selecting the QC-CD-□-F□-□ feed axis compact single-drives to control the FKM□□.□A.□.□□□.□□ servomotors. fc = 8 kHz.

Motor model with •A• winding 400 Vac	Stall torque	Stall peak torque	Rated speed	Stall current	Peak current	DRIVE (Mp) / SERVOMOTOR (Mo)													
						QC-CD-●-F□-□													
						Mo	Mp	nN	Io	Ip			021	030	040	055			
	N·m	N·m	1/min	A	A														
FKM43.20A.□.□□0.□□	9.0	36	2 000	3.6	14.4	-	-	4.0											
FKM44.20A.□.□□0.□□	11.6	47	2 000	4.6	19.0	-	-	4.0											
FKM63.20A.□.□□0.□□	12.5	51	2 000	4.9	20.1	-	-	3.7	4.0										
FKM64.20A.□.□□0.□□	16.5	66	2 000	6.5	26.0	-	-	3.0	4.0										
FKM66.20A.□.□□0.2□	23.5	94	2 000	9.4	37.0	-	-	-	-	4.0									
FKM66.20A.□.□□1.2□	32.0	94	2 000	12.8	37.0	-	-	-	-	2.9									
FKM82.20A.□.□□0.□□	32.0	96	2 000	13.2	39.0	-	-	-	2.2	3.0									
FKM83.20A.□.□□0.□□	41.0	123	2 000	17.0	51.0	-	-	-	-	2.3	3.0								
FKM84.20A.□.□□0.□□	52.0	156	2 000	21.5	64.0	-	-	-	-	-	2.5								
FKM94.20A.□.□□0.□□	68.0	204	2 000	25.4	99.0	-	-	-	-	-	2.2								
FKM42.30A.□.□□0.□□	6.3	25	3 000	4.6	19.0	-	-	4.0											
FKM43.30A.□.□□0.□□	9.0	36	3 000	5.5	21.8	-	-	3.1	4.0										
FKM44.30A.□.□□0.2□	11.6	47	3 000	7.0	28.0	-	-	2.8	4.0										
FKM62.30A.□.□□0.□□	8.9	35	3 000	7.1	28.0	-	-	2.7	3.9										
FKM63.30A.□.□□0.□□	12.5	51	3 000	9.2	37.1	-	-	-	2.9	3.8	4.0								
FKM64.30A.□.□□0.□□	16.5	66	3 000	12.1	48.0	-	-	-	2.5	3.3	4.0								
FKM66.30A.□.□□0.□□	23.5	94	3 000	16.4	66.0	-	-	-	-	2.4	3.3								
FKM66.30A.□.□□1.□□	32.0	94	3 000	22.3	66.0	-	-	-	-	-	2.5								
FKM82.30A.□.□□0.□□	32.0	96	3 000	19.8	59.0	-	-	-	-	2.0	2.7								
FKM83.30A.□.□□0.□□	41.0	123	3 000	27.1	81.0	-	-	-	-	-	2.0								
FKM43.40A.□.□□0.□□	9.0	36	4 000	8.2	32.7	-	-	2.0	3.2	4.0									
FKM44.40A.□.□□0.□□	11.6	47	4 000	10.7	43.0	-	-	-	2.8	3.8	4.0								
FKM62.40A.□.□□0.□□	8.9	35	4 000	9.3	37.0	-	-	2.1	3.0	3.9									
FKM63.40A.□.□□0.□□	12.5	51	4 000	12.3	49.5	-	-	-	-	2.4	3.4								
FKM64.40A.□.□□0.□□	16.5	66	4 000	16.2	64.0	-	-	-	-	2.4	3.3								
FKM82.40A.□.□□0.□□	32.0	96	4 000	26.4	79.0	-	-	-	-	-	2.0								
FKM42.45A.□.□□0.□□	6.3	25	4 500	6.9	28.0	-	-	2.8	4.0										
FKM22.50A.□.□□0.□□	3.2	13	5 000	4.0	16.0	-	-	4.0											
FKM21.60A.□.□□0.□□	1.7	7	6 000	2.8	11.0	-	-	4.0											
FKM22.60A.□.□□0.□□	3.2	13	6 000	4.5	18.0	-	-	4.0											
FKM42.60A.□.□□0.□□	6.3	25	6 000	8.5	34.0	-	-	2.3	3.4	4.0									
FKM62.60A.□.□□0.□□	8.9	35	6 000	13.1	52.0	-	-	-	2.3	3.0	3.9								

bold	Drive with optimized features. Recommended if high torque is required at low rpm.
<i>italic</i>	Cost-optimal drive but not suitable for working at high torque and low rpm. The I ² t error can be activated.
normal	Drive that allows maximum peak motor torque to be delivered.

SERVOMOTOR/DRIVE POWER CABLES

The following table shows the range of MPC-4xS-...-□M power cables to connect a **FKM** servomotor and a **QuerCus** drive. They are supplied without connectors because the power connector will usually be different depending on the motor series to which it will be connected. The number of meters available upon request. Available lengths: 5, 10, 12, 15, 20, 30, 40, 50, 75, 100, 150, 200, 250 and 300 m for sections up to 10 mm² (included) and 5, 7, 10, 12, 15, 20, 25, 30, 35, 40, 45, 50, 75 and 100 m for larger sections.

ON BRAKELESS FKM

Code	Reference	Code	Reference	Code	Reference
04040500	MPC-4x1.5-5M	04040600	MPC-4x2.5-5M	04040700	MPC-4x4-5M
04040501	MPC-4x1.5-10M	04040601	MPC-4x2.5-10M	04040701	MPC-4x4-10M
04040513	MPC-4x1.5-12M				
04040502	MPC-4x1.5-15M	04040602	MPC-4x2.5-15M	04040702	MPC-4x4-15M
04040503	MPC-4x1.5-20M	04040603	MPC-4x2.5-20M	04040703	MPC-4x4-20M
04040504	MPC-4x1.5-30M	04040604	MPC-4x2.5-30M	04040704	MPC-4x4-30M
04040505	MPC-4x1.5-40M	04040605	MPC-4x2.5-40M	04040705	MPC-4x4-40M
04040506	MPC-4x1.5-50M	04040606	MPC-4x2.5-50M	04040706	MPC-4x4-50M
04040507	MPC-4x1.5-75M	04040607	MPC-4x2.5-75M	04040707	MPC-4x4-75M
04040508	MPC-4x1.5-100M	04040608	MPC-4x2.5-100M		
		04040609	MPC-4x2.5-150M		
04040511	MPC-4x1.5-250M				
04040512	MPC-4x1.5-300M				

Code	Reference	Code	Reference	Code	Reference
04040800	MPC-4x6-5M	04040900	MPC-4x10-5M	04041000	MPC-4x16-5M
				04041001	MPC-4x16-7M
04040801	MPC-4x6-10M	04040901	MPC-4x10-10M	04041002	MPC-4x16-10M
04040802	MPC-4x6-15M	04040902	MPC-4x10-15M		
04040803	MPC-4x6-20M	04040903	MPC-4x10-20M	04041005	MPC-4x16-20M
04040804	MPC-4x6-30M	04040904	MPC-4x10-30M	04041007	MPC-4x16-30M
				04041008	MPC-4x16-35M
04040805	MPC-4x6-40M	04040905	MPC-4x10-40M		
04040806	MPC-4x6-50M	04040906	MPC-4x10-50M	04041011	MPC-4x16-50M
04040807	MPC-4x6-75M				
				04041013	MPC-4x16-100M
		04040910	MPC-4x10-200M		

Code	Reference	Code	Reference	Code	Reference
04041370	MPC-4x25-5M				
04041372	MPC-4x25-10M				
04041374	MPC-4x25-15M				
04041375	MPC-4x25-20M				
04041376	MPC-4x25-25M				
04041378	MPC-4x25-35M				
04041381	MPC-4x25-50M				
04041383	MPC-4x25-100M				

ON FKM WITH HOLDING BRAKE

Code	Reference	Code	Reference	Code	Reference
04040550	MPC-4x1.5+(2x1.5)-5M	04040650	MPC-4x2.5+(2x1.5)-5M	04040750	MPC-4x4+(2x1.5)-5M
04040551	MPC-4x1.5+(2x1.5)-10M	04040651	MPC-4x2.5+(2x1.5)-10M	04040751	MPC-4x4+(2x1.5)-10M
04040552	MPC-4x1.5+(2x1.5)-15M	04040652	MPC-4x2.5+(2x1.5)-15M	04040752	MPC-4x4+(2x1.5)-15M
04040553	MPC-4x1.5+(2x1.5)-20M	04040653	MPC-4x2.5+(2x1.5)-20M	04040753	MPC-4x4+(2x1.5)-20M
04040554	MPC-4x1.5+(2x1.5)-30M	04040654	MPC-4x2.5+(2x1.5)-30M	04040754	MPC-4x4+(2x1.5)-30M
04040555	MPC-4x1.5+(2x1.5)-40M	04040655	MPC-4x2.5+(2x1.5)-40M	04040755	MPC-4x4+(2x1.5)-40M
04040556	MPC-4x1.5+(2x1.5)-50M	04040656	MPC-4x2.5+(2x1.5)-50M	04040756	MPC-4x4+(2x1.5)-50M
04040557	MPC-4x1.5+(2x1.5)-75M	04040657	MPC-4x2.5+(2x1.5)-75M	04040757	MPC-4x4+(2x1.5)-75M
04040558	MPC-4x1.5+(2x1.5)-100M	04040658	MPC-4x2.5+(2x1.5)-100M		
04040560	MPC-4x1.5+(2x1.5)-200M	04040660	MPC-4x2.5+(2x1.5)-200M	04040760	MPC-4x4+(2x1.5)-200M
04040561	MPC-4x1.5+(2x1.5)-250M				
04040562	MPC-4x1.5+(2x1.5)-300M	04040662	MPC-4x2.5+(2x1.5)-300M		

Code	Reference	Code	Reference	Code	Reference
04040850	MPC-4x6+(2x1.5)-5M	04040950	MPC-4x10+(2x1.5)-5M	04041050	MPC-4x16+(2x1.5)-5M
04040851	MPC-4x6+(2x1.5)-10M	04040951	MPC-4x10+(2x1.5)-10M		
04040852	MPC-4x6+(2x1.5)-15M	04040952	MPC-4x10+(2x1.5)-15M	04041052	MPC-4x16+(2x1.5)-10M
04040853	MPC-4x6+(2x1.5)-20M	04040953	MPC-4x10+(2x1.5)-20M		
04040854	MPC-4x6+(2x1.5)-30M	04040954	MPC-4x10+(2x1.5)-30M		
04040855	MPC-4x6+(2x1.5)-40M	04040955	MPC-4x10+(2x1.5)-40M		
04040856	MPC-4x6+(2x1.5)-50M	04040956	MPC-4x10+(2x1.5)-50M	04041056	MPC-4x16+(2x1.5)-25M
04040857	MPC-4x6+(2x1.5)-75M			04041057	MPC-4x16+(2x1.5)-30M
04040858	MPC-4x6+(2x1.5)-100M	04040958	MPC-4x10+(2x1.5)-100M		
				04041059	MPC-4x16+(2x1.5)-40M
		04040960	MPC-4x10+(2x1.5)-200M		
		04040961	MPC-4x10+(2x1.5)-250M		

Code	Reference	Code	Reference	Code	Reference
04041200	MPC-4x25+(2x1.5)-5M				
04041202	MPC-4x25+(2x1.5)-10M				
04041204	MPC-4x25+(2x1.5)-15M				
04041205	MPC-4x25+(2x1.5)-20M				
04041206	MPC-4x25+(2x1.5)-25M				
04041207	MPC-4x25+(2x1.5)-30M				
04041212	MPC-4x25+(2x1.5)-75M				

POWER TERMINAL STRIP OF THE SERVOMOTOR
POWER TERMINAL STRIP OF THE FAN

Code	Reference
84080060	MC-20/6
84080070	MC-30/6

Code	Reference
04000310	MC-61/6

Code	Reference
84080060	MC-20/6
84080070	MC-30/6

Code	Reference

ENCODER/DRIVE CABLES

QC-EEC-□ MOTOR FEEDBACK CABLES

The **QC-EEC-□** cables (2x4x0.25+1x2x0.5) are indicated for FKM motor with SinCos Stegmann 1Vpp sinusoidal encoder. It has a 15-pin male HD, Sub-D connector at one end for connecting the drive and an **EOC-12** connector at the other end to connect it to the encoder of the motor. Available lengths: 03, 05, 10, 15, 20, 30, 35, 40, 45 and 50 m. Connectors included.

For QC-DR-□-F□-□ and QC-CD-□-F□-□ drives:

Code	Reference	Length	Code	Reference	Length	Code	Reference	Length
04084003	QC-EEC-03	3 m	04084015	QC-EEC-15	15 m	04084035	QC-EEC-35	35 m
04084005	QC-EEC-05	5 m	04084020	QC-EEC-20	20 m	04084040	QC-EEC-40	40 m
						04084045	QC-EEC-45	45 m
04084010	QC-EEC-10	10 m	04084030	QC-EEC-30	30 m	04084050	QC-EEC-50	50 m

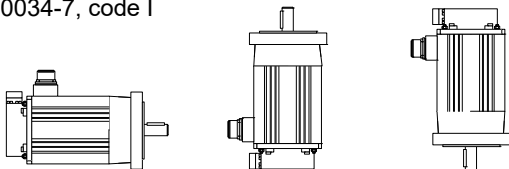
CA-X4-E21 CONNECTOR ADAPTER + EEC-SP-□ MOTOR FEEDBACK CABLES

The **CA-X4-E21** Connector Adapter is an accessory that allows you to compatibilise the X4 connector pin of the motor feedback connector of any drive that forms part of a **DDS** system with the motor feedback **E21A** connector pin (and **E21B** on modular dual-drives only) of any drive that forms part of a **QuerCus** system.

Code	Reference	Length	Code	Reference	Length	Code	Reference	Length
04084000	CA-X4-E21	0.22 m						

MOUNTING POSSIBILITIES

IEC 60034-7, code I



Code I	Built
IM B5	Flange mounting, horizontal shaft.
IM V3	Flange mounting, vertical shaft facing up.
IM V1	Flange mounting, vertical shaft facing down.

IM B5 IM V3 IM V1

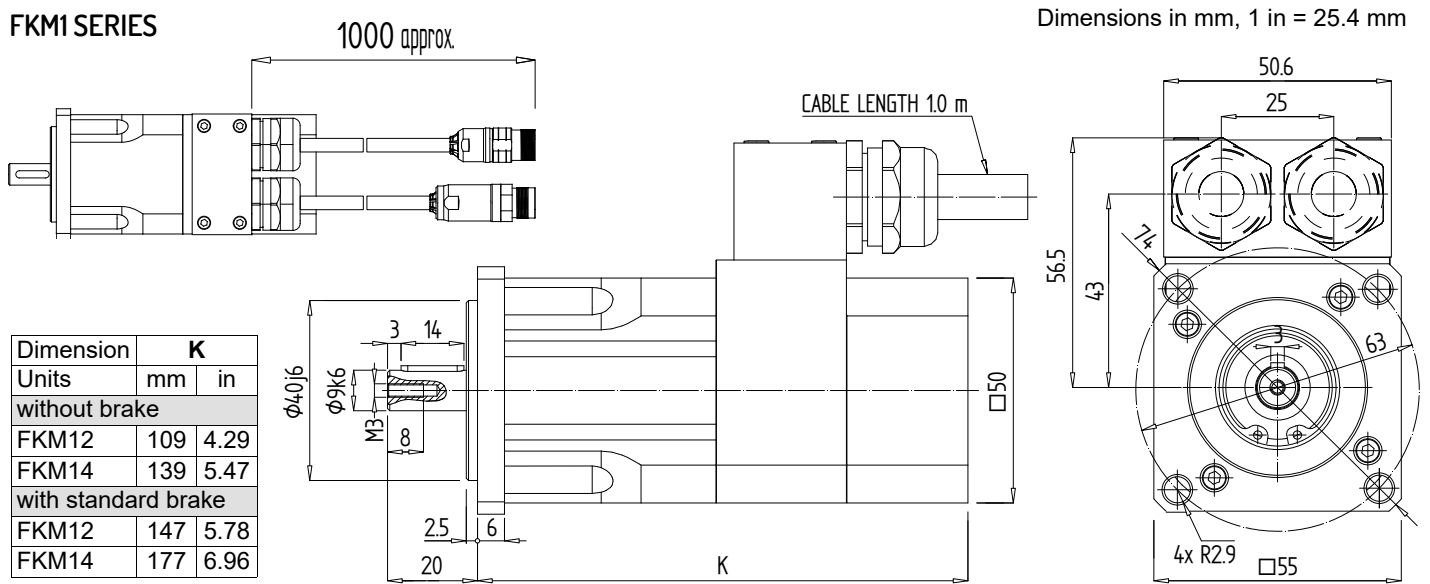
DIMENSIONS

FKM1 SERIES

1000 approx.

CABLE LENGTH 1.0 m

Dimensions in mm, 1 in = 25.4 mm

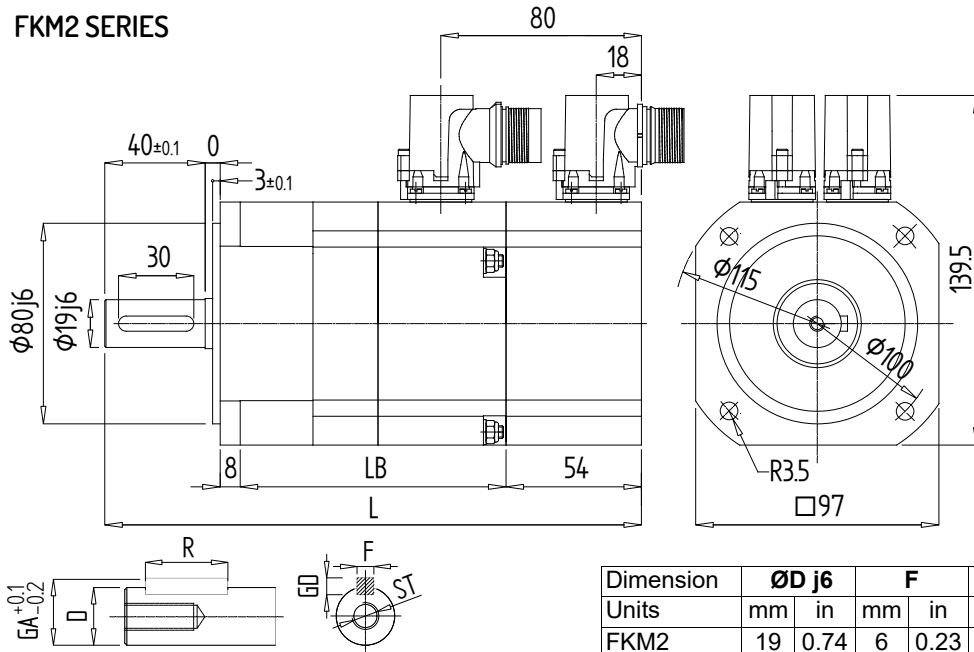


Dimension	K	
Units	mm	in
without brake		
FKM12	109	4.29
FKM14	139	5.47
with standard brake		
FKM12	147	5.78
FKM14	177	6.96

Other dimensions shown in drawings: $\phi 40 \pm 0.06$, $\phi 9 \pm 0.06$, M3, 3, 14, 8, 2.5, 6, 20, 50.6, 25, 56.5, 43, 114, 63, 4x R2.9, $\square 55$.

FKM2 SERIES

Dimensions in mm, 1 in = 25.4 mm

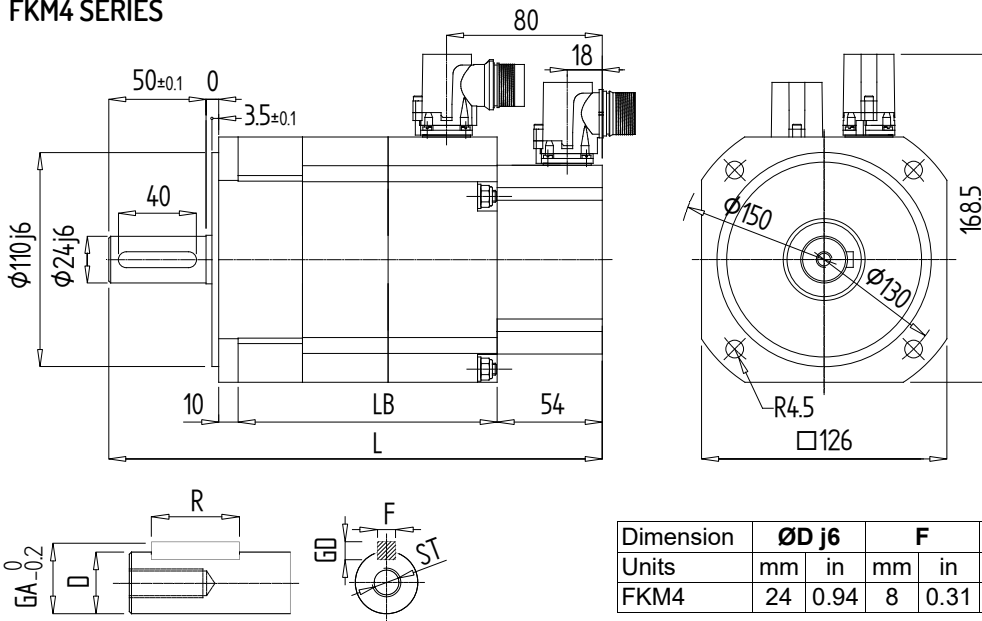


Dimension	LB		L	
Units	mm	in	mm	in
FKM21	106	4.17	208	8.19
FKM22	130	5.11	232	9.13

Dimension	ØD j6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM2	19	0.74	6	0.23	6	0.23	30	1.18	21.5	0.84	M6x16

FKM4 SERIES

Dimensions in mm, 1 in = 25.4 mm



with standard brake / without brake

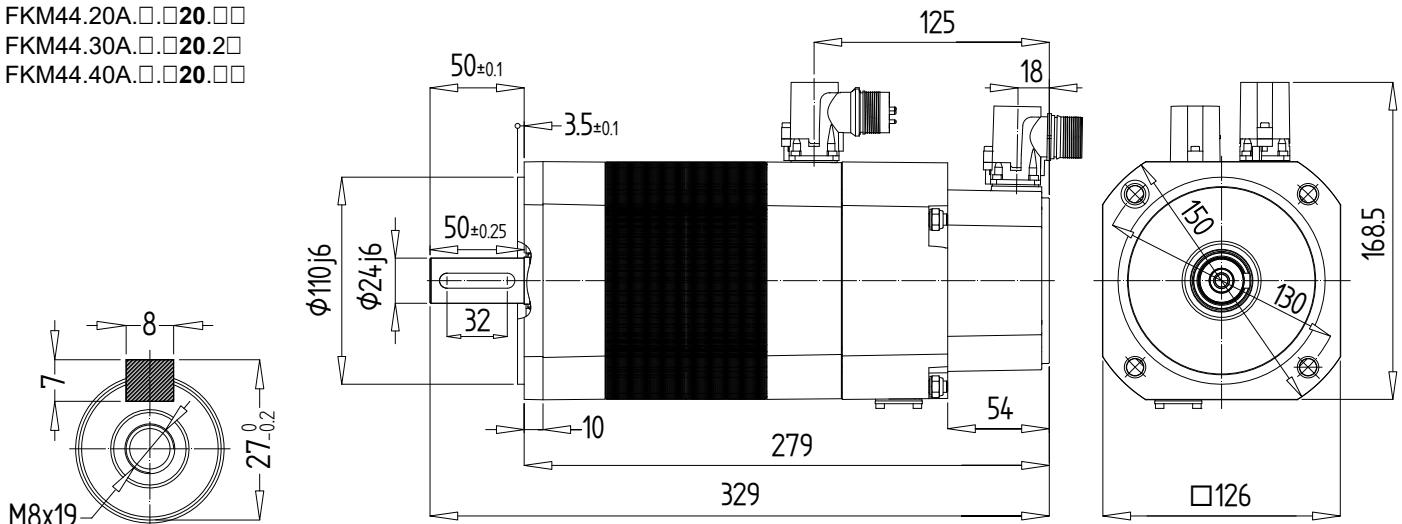
Dimension	LB		L	
Units	mm	in	mm	in
FKM42	133	5.23	247	9.72
FKM43	175	6.88	289	11.38
FKM44	175	6.88	289	11.38

Dimension	ØD j6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM4	24	0.94	8	0.31	7	0.27	40	1.57	27	1.06	M8x19

with extra-torque brake

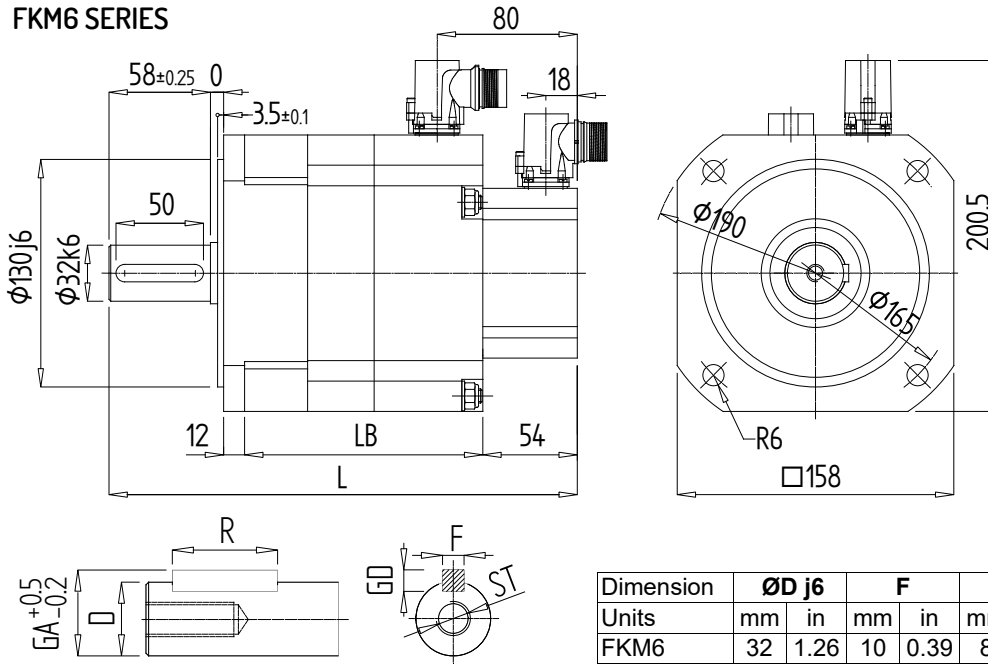
- FKM44.20A.□.□20.□□
- FKM44.30A.□.□20.2□
- FKM44.40A.□.□20.□□

Dimensions in mm, 1 in = 25.4 mm



FKM6 SERIES

Dimensions in mm, 1 in = 25.4 mm



with standard brake / without brake

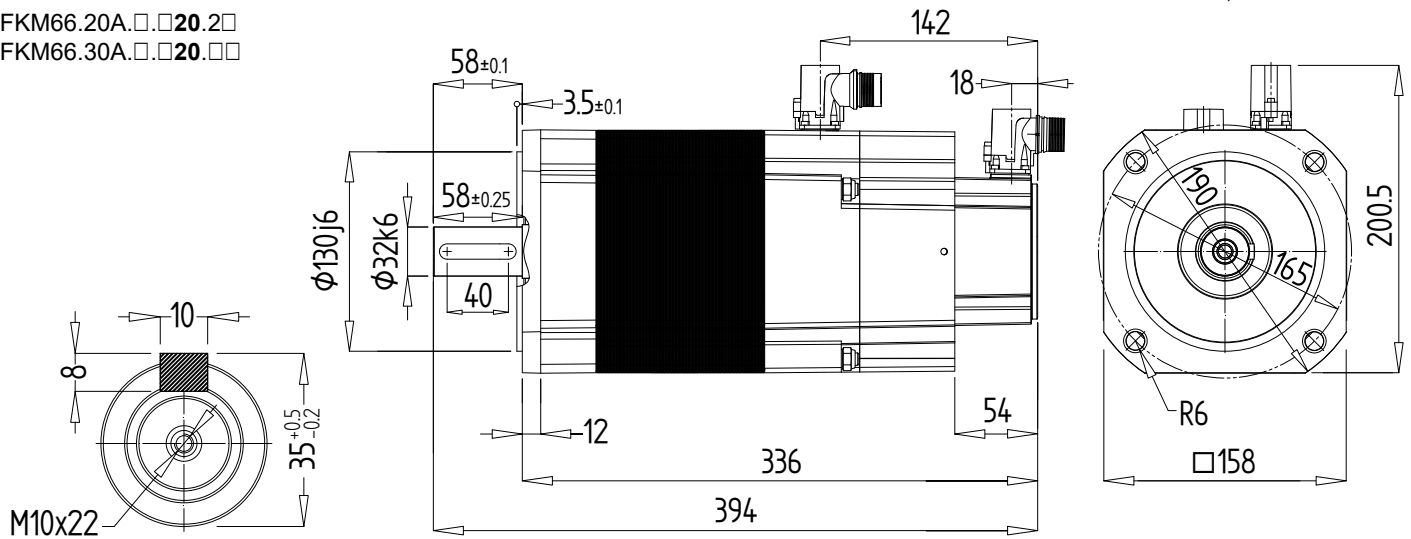
Dimension	LB		L	
	mm	in	mm	in
FKM62	136	5.35	260	10.24
FKM63	172	6.77	296	11.65
FKM64	172	6.77	296	11.65
FKM66	208	8.18	332	13.07

Dimension	ØD j6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM6	32	1.26	10	0.39	8	0.31	50	1.96	35	1.37	M10x22

with extra-torque brake

FKM66.20A.□.□20.2□
FKM66.30A.□.□20.□□

Dimensions in mm, 1 in = 25.4 mm

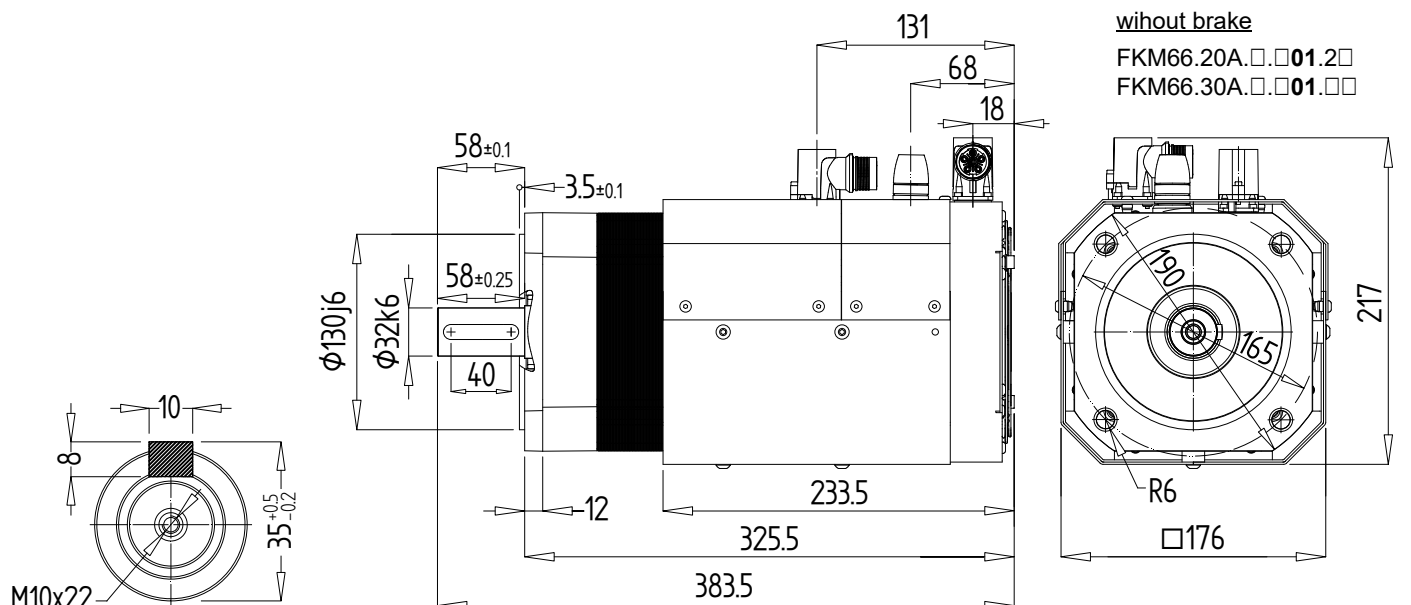


FKM6/V SERIES

Dimensions in mm, 1 in = 25.4 mm

without brake

FKM66.20A.□.□01.2□
FKM66.30A.□.□01.□□



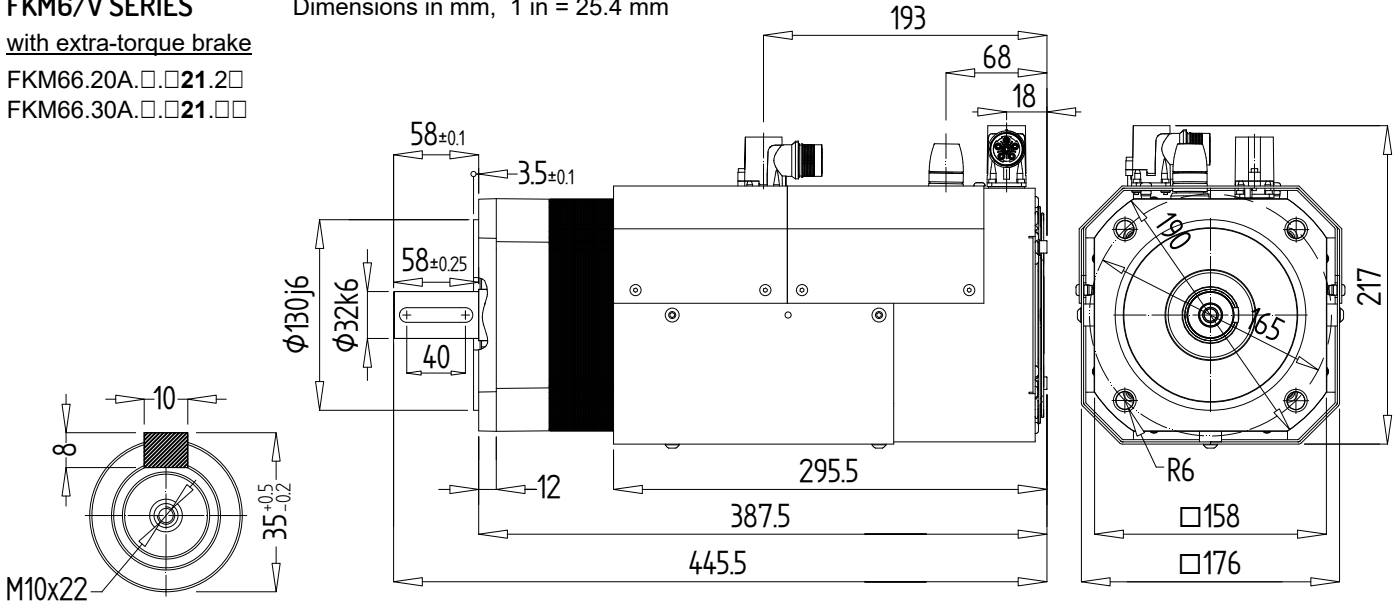
FKM6/V SERIES

Dimensions in mm, 1 in = 25.4 mm

with extra-torque brake

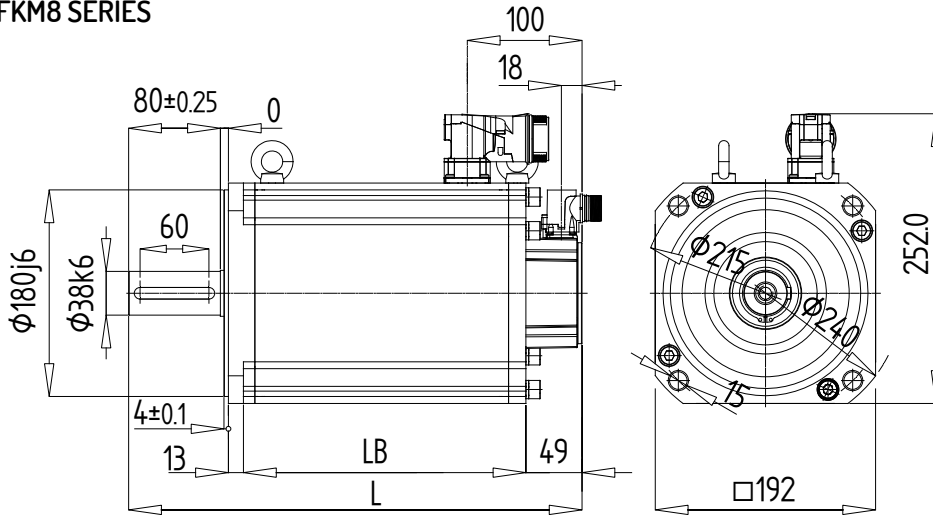
FKM66.20A.□.□21.□□

FKM66.30A.□.□21.□□



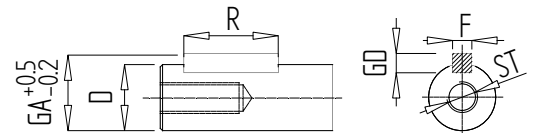
FKM8 SERIES

Dimensions in mm, 1 in = 25.4 mm



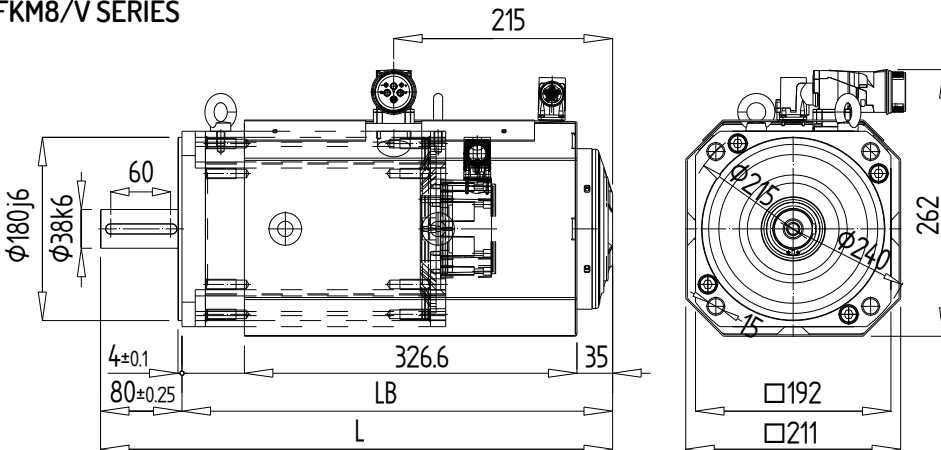
Dimension	LB		L	
Units	mm	in	mm	in
without brake				
FKM82	246	9.68	388	15.27
FKM83	296	11.65	438	17.24
FKM84	346	13.62	488	19.21
FKM85	396	15.59	538	21.18
with standard brake				
FKM82	296	11.65	438	17.24
FKM83	346	13.62	488	19.21
FKM84	396	15.59	538	21.18
FKM85	446	17.55	588	23.14

Dimension	ØD k6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM8	38	1.49	10	0.39	8	0.31	70	2.75	41	1.61	M12x30

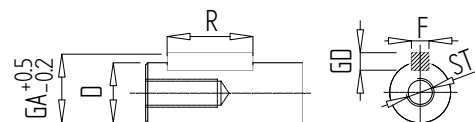


FKM8/V SERIES

Dimensions in mm, 1 in = 25.4 mm



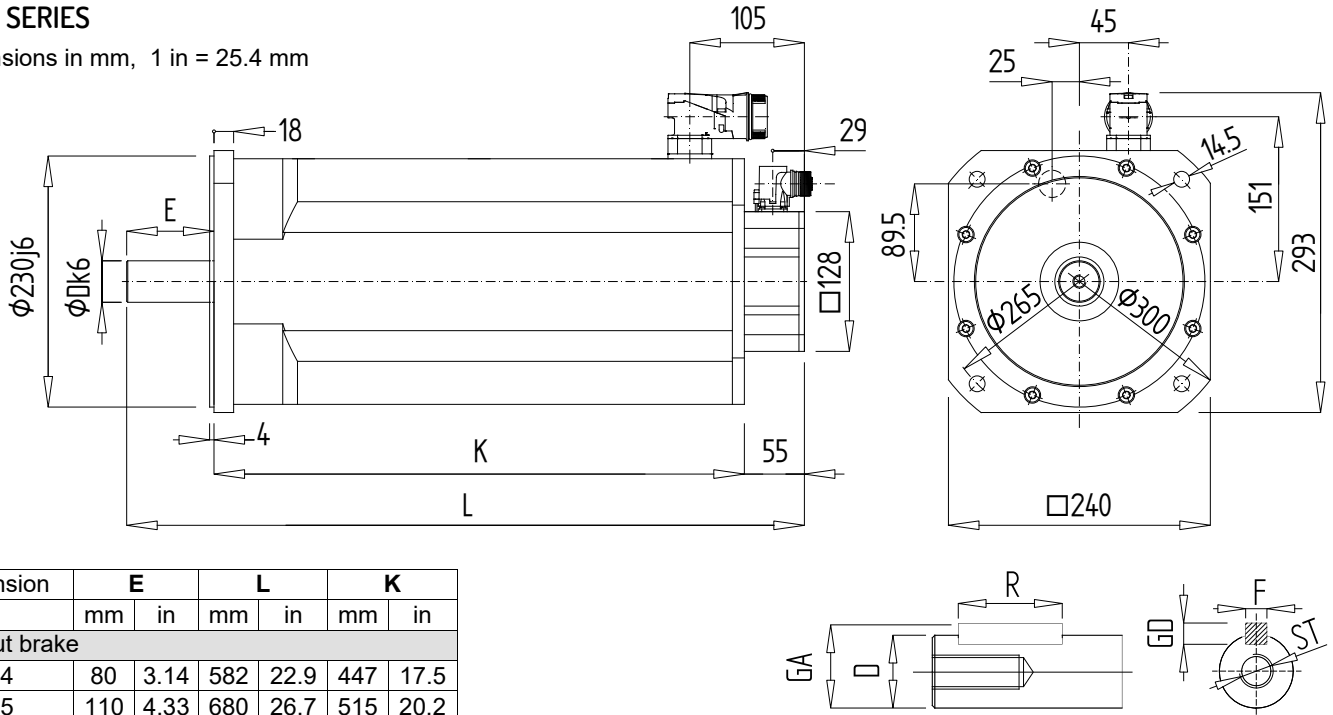
Dimension	LB		L	
Units	mm	in	mm	in
without brake				
FKM82/V	423	16.65	503	19.80
FKM83/V	473	18.62	553	21.77
FKM84/V	523	20.59	603	23.74
FKM85/V	573	22.55	653	25.70
with standard brake				
FKM82/V	473	18.62	553	21.77
FKM83/V	523	20.59	603	23.74
FKM84/V	573	22.55	653	25.70
FKM85/V	623	24.52	703	27.67



Dimension	ØD k6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM8/V	38	1.49	10	0.39	8	0.31	70	2.75	41	1.61	M12x30

FKM9 SERIES

Dimensions in mm, 1 in = 25.4 mm



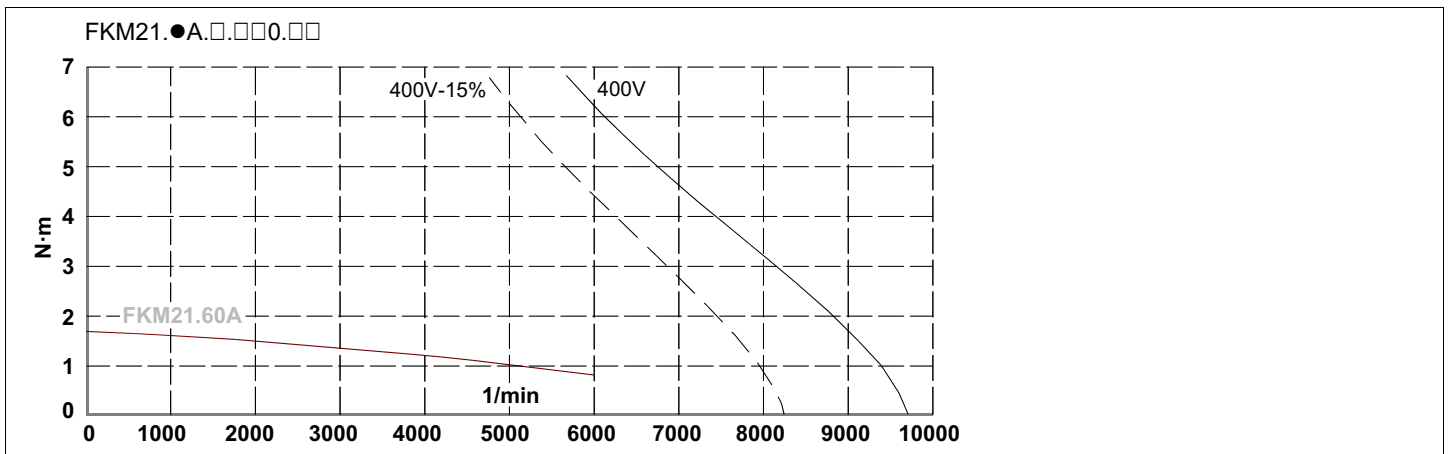
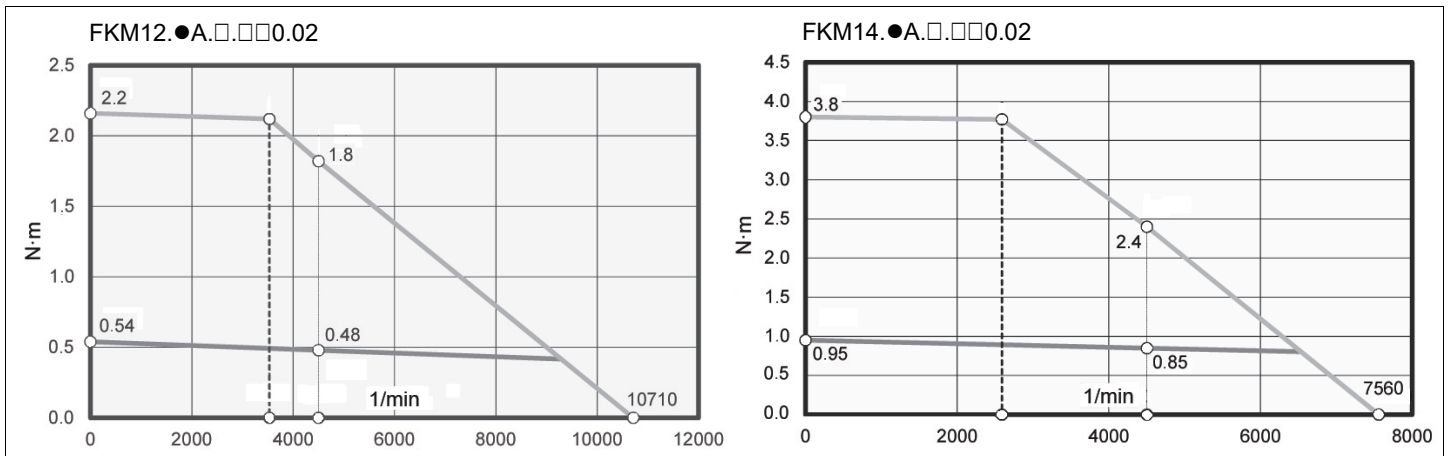
Dimension	E		L		K	
Units	mm	in	mm	in	mm	in
without brake						
FKM94	80	3.14	582	22.9	447	17.5
FKM95	110	4.33	680	26.7	515	20.2
FKM96	110	4.33	748	29.4	583	22.9
with standard brake						
FKM94	80	3.14	676	26.6	541	21.3
FKM95	110	4.33	775	30.5	610	24.0

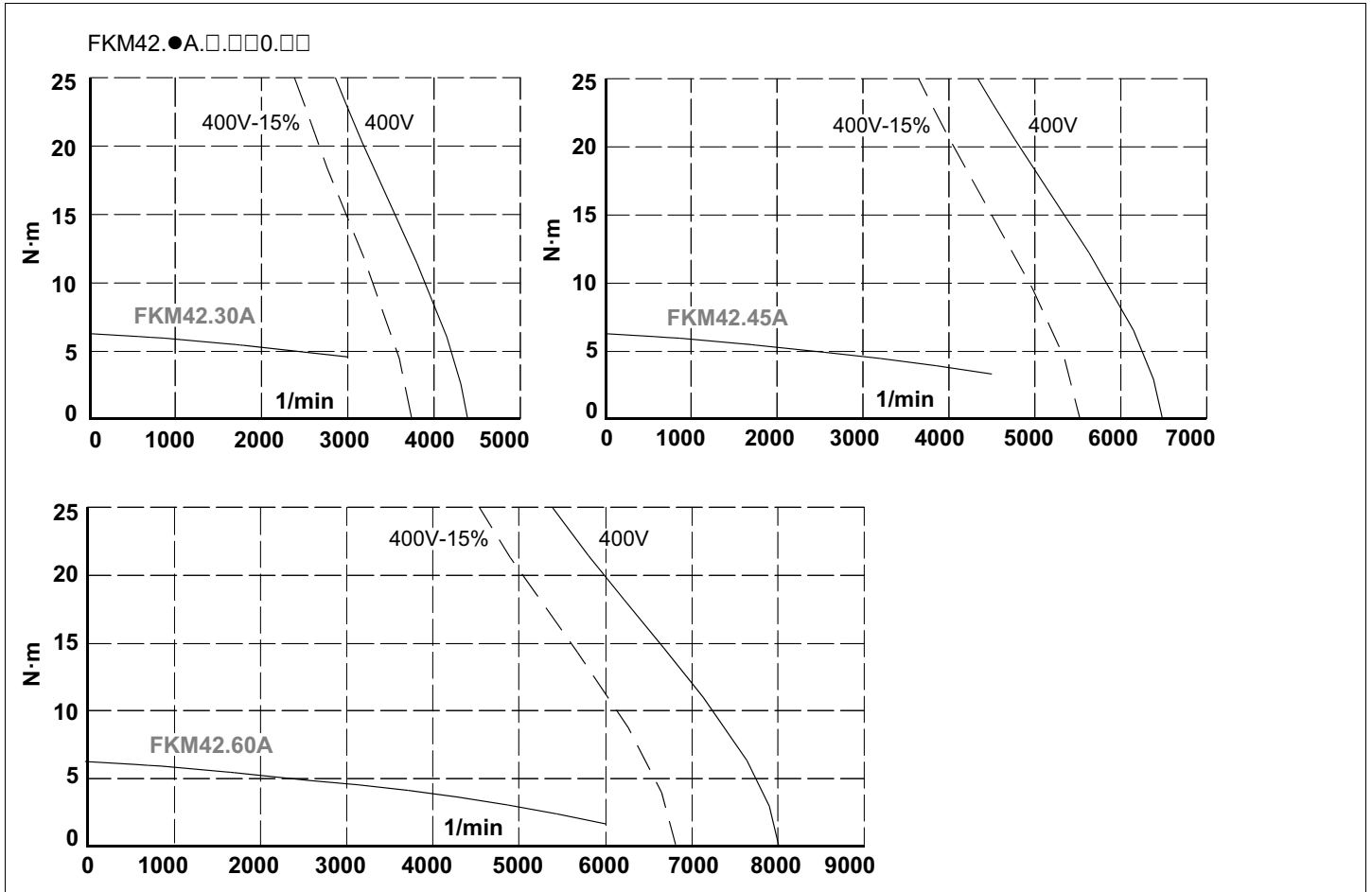
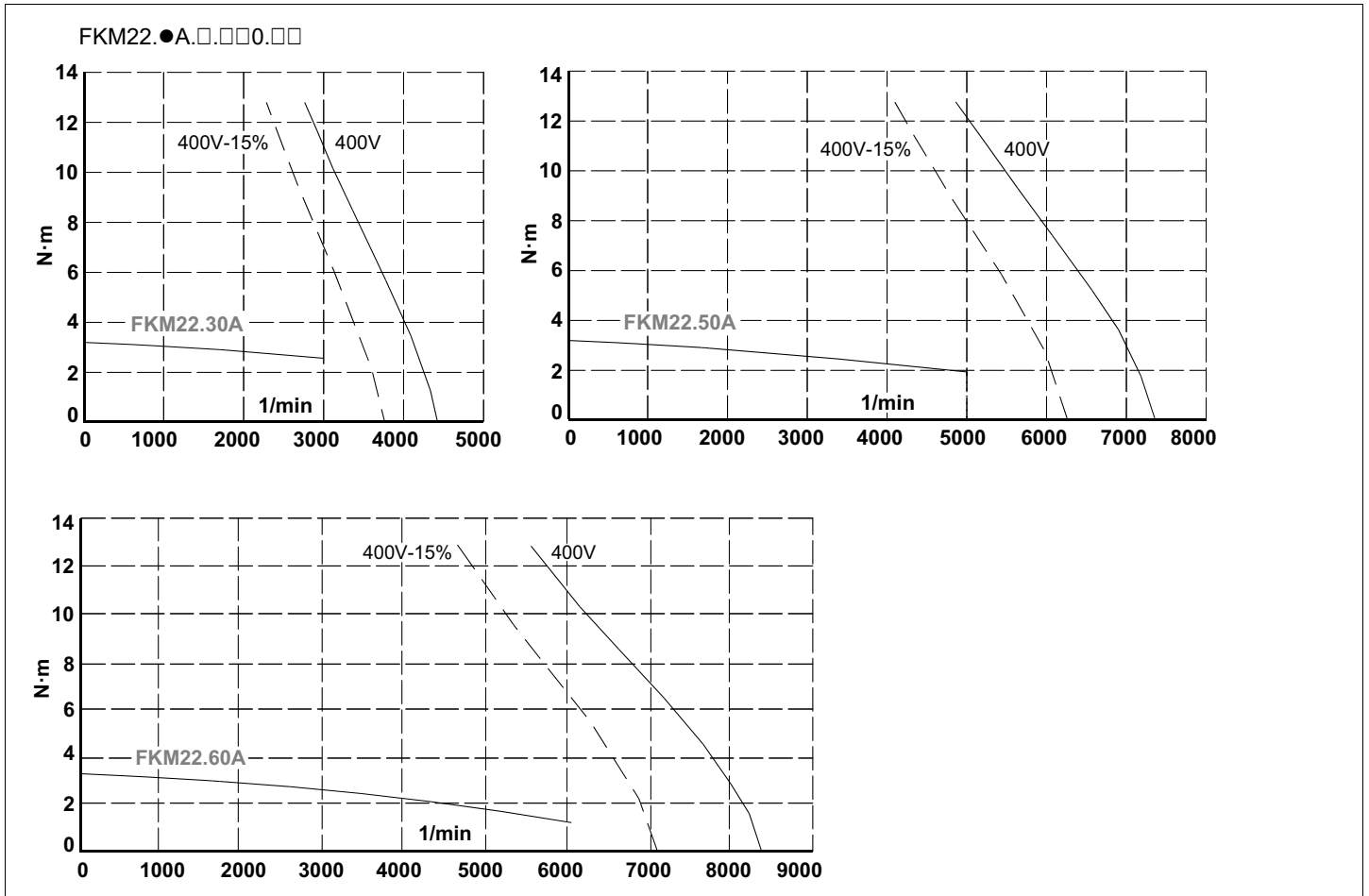
Dimension	ØD k6		F		GD		R		GA		ST
Units	mm	in	mm	in	mm	in	mm	in	mm	in	mm
FKM94	38	1.49	10	0.39	8	0.31	63	2.48	41.4	1.62	M12x30
FKM95	42	1.65	12	0.47	8	0.31	63	2.48	45.2	1.77	M12x30
FKM96	42	1.65	12	0.47	8	0.31	63	2.48	45.2	1.77	M12x30

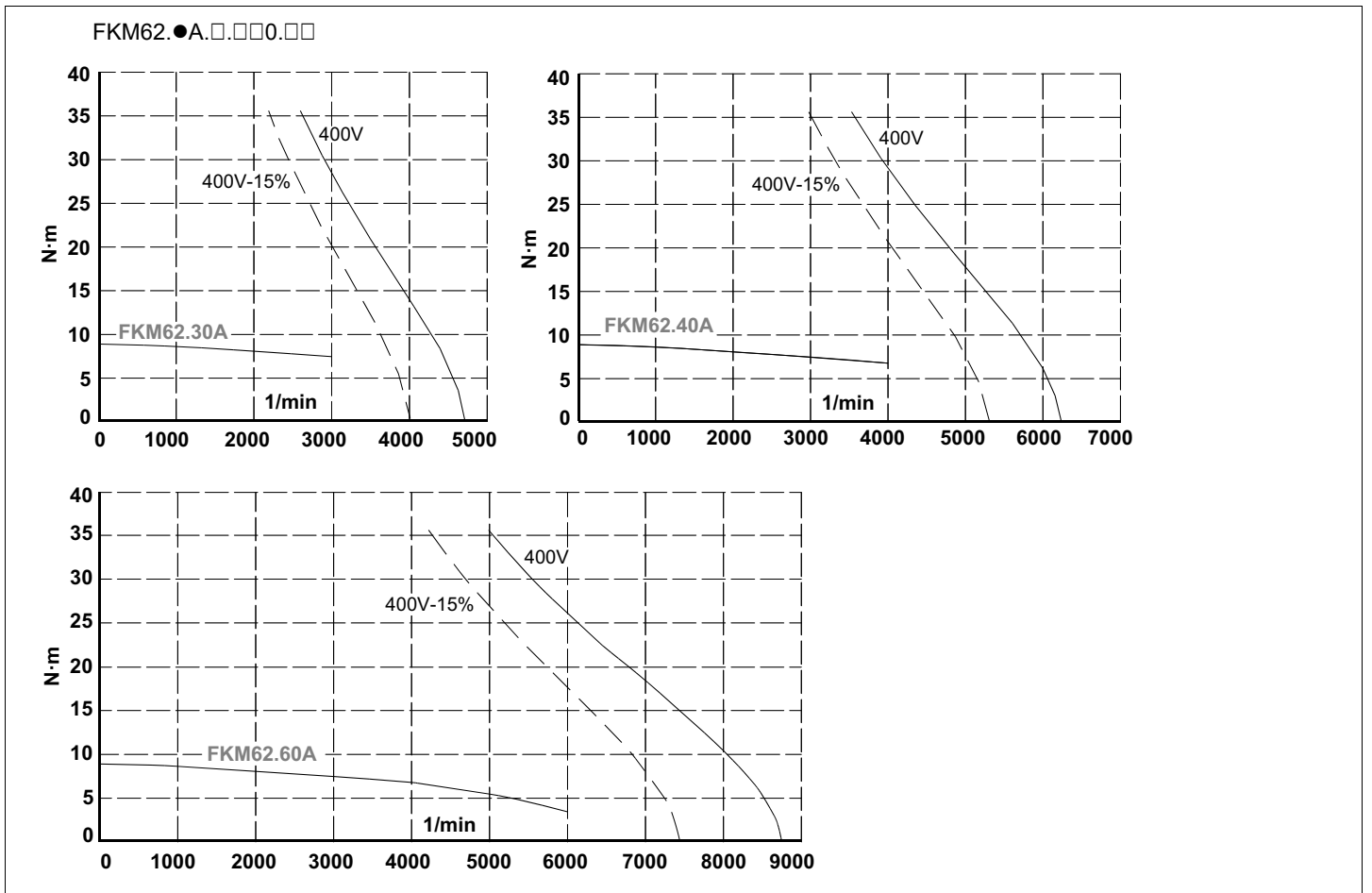
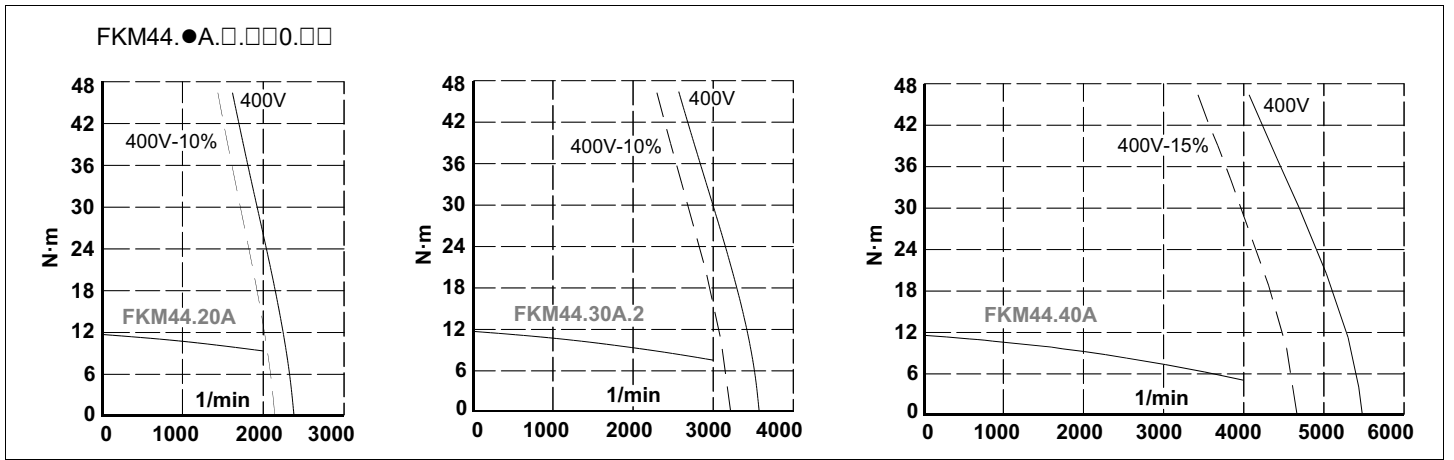
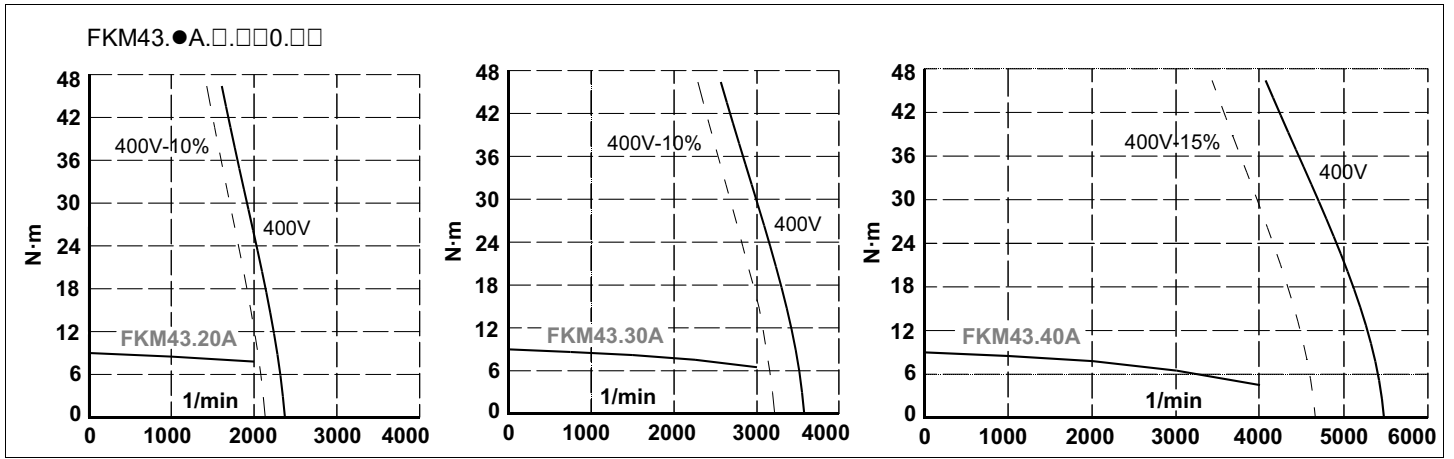
Note:
The FKM96 model does not offer the brake option.

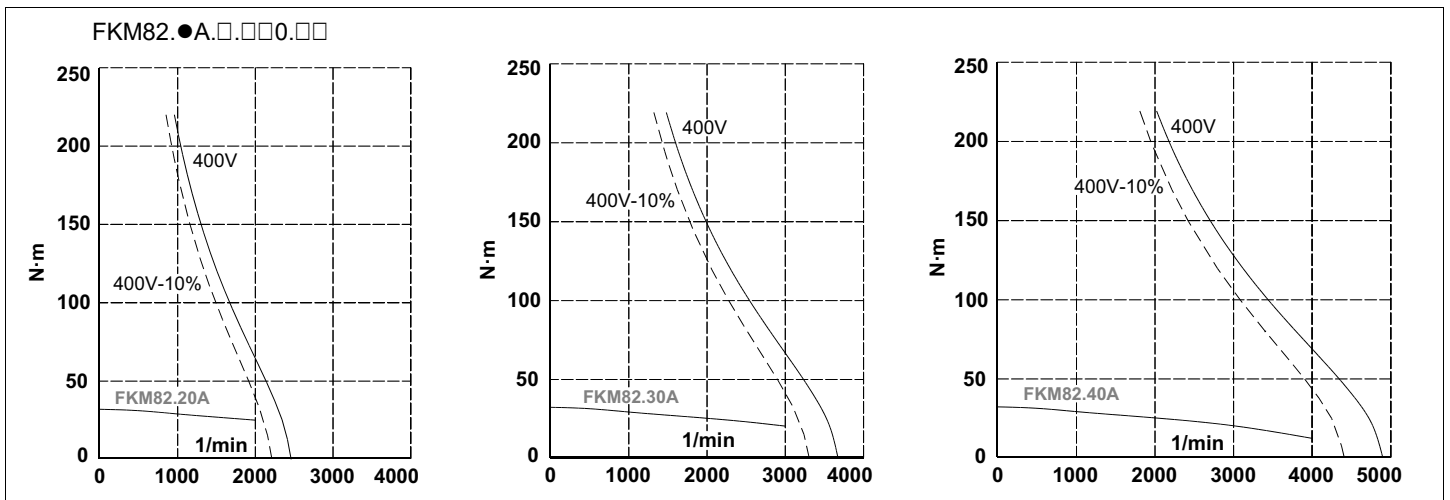
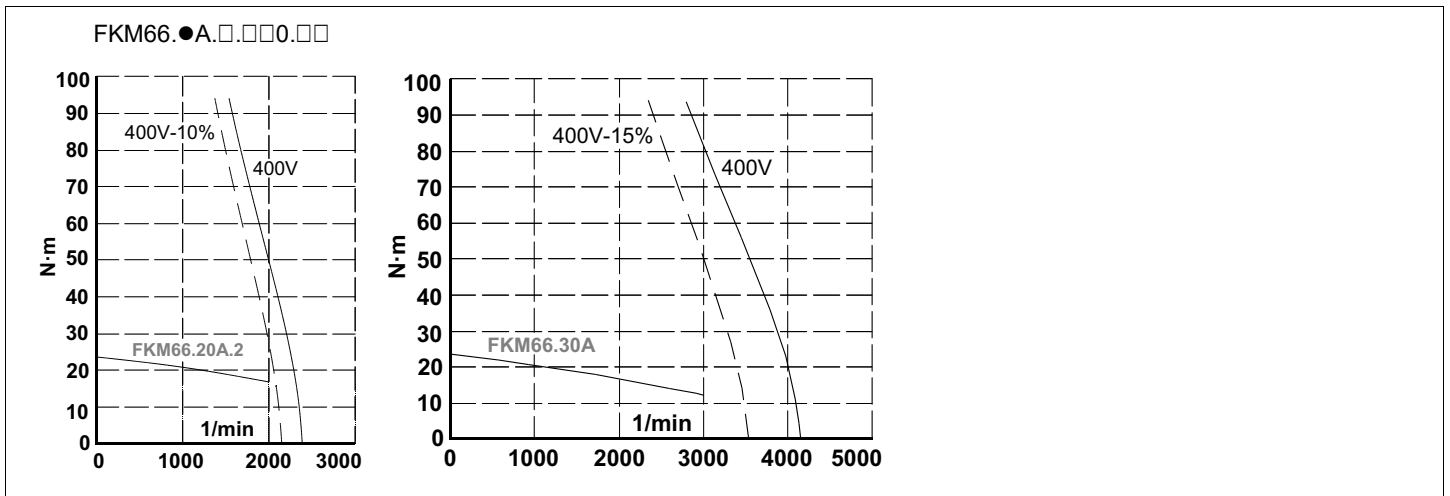
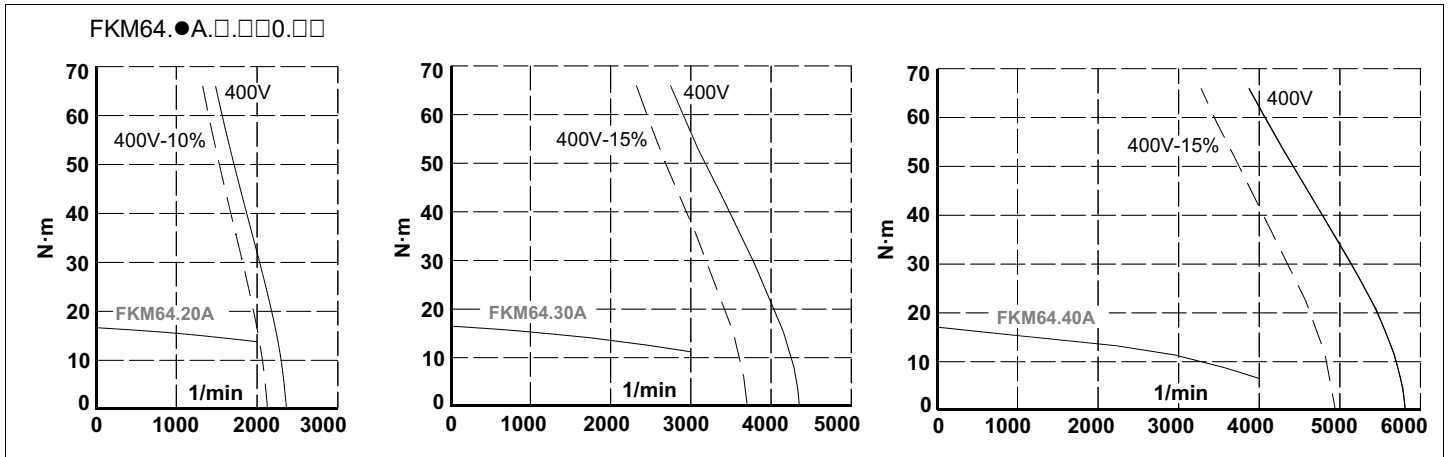
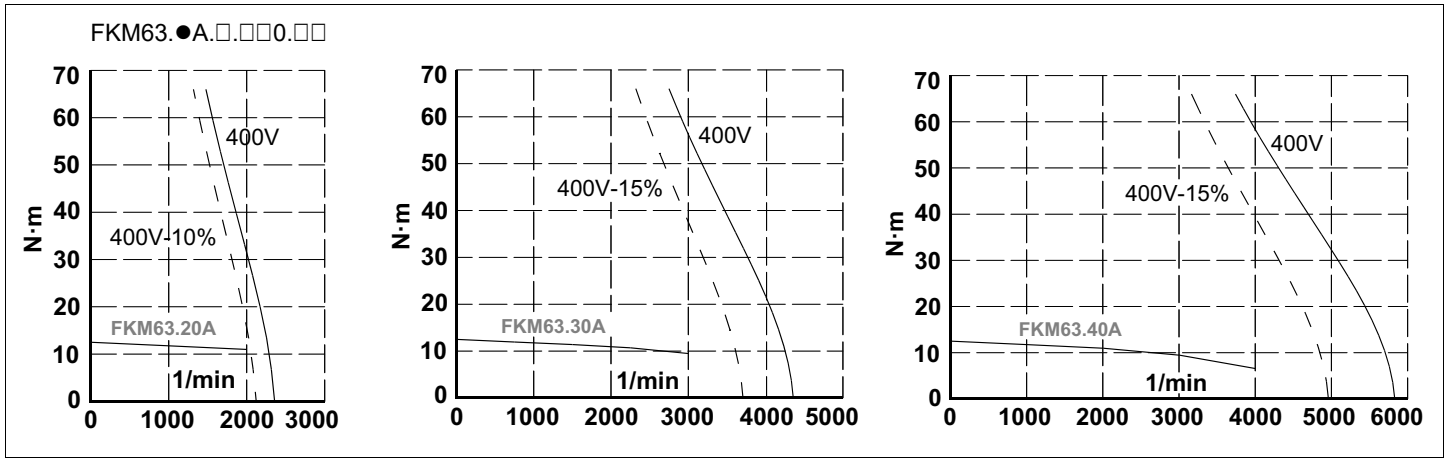
POWER|SPEED AND TORQUE|SPEED GRAPHICS

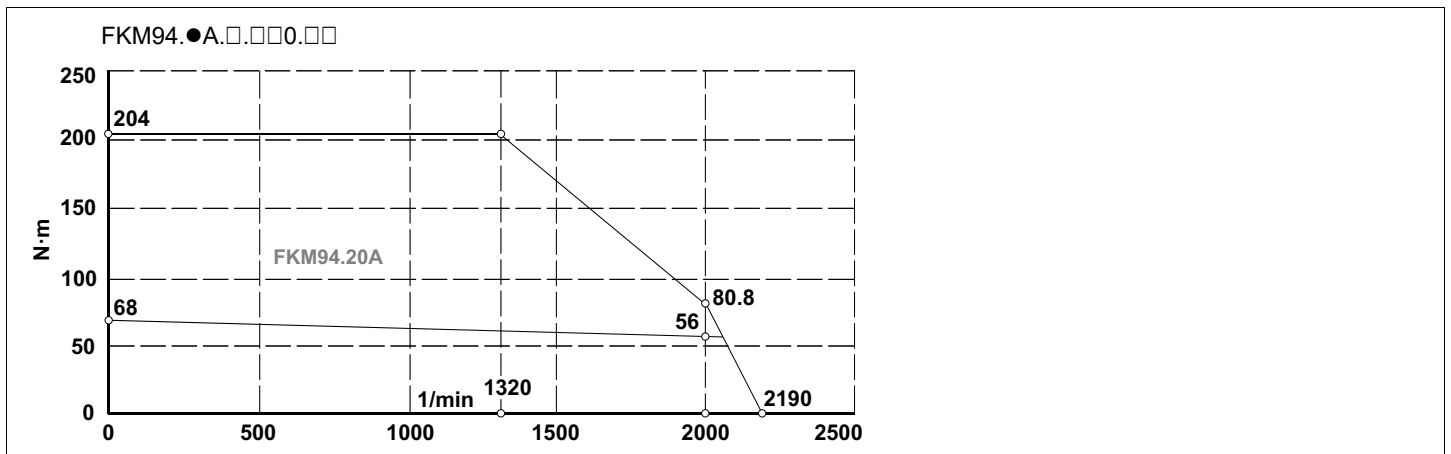
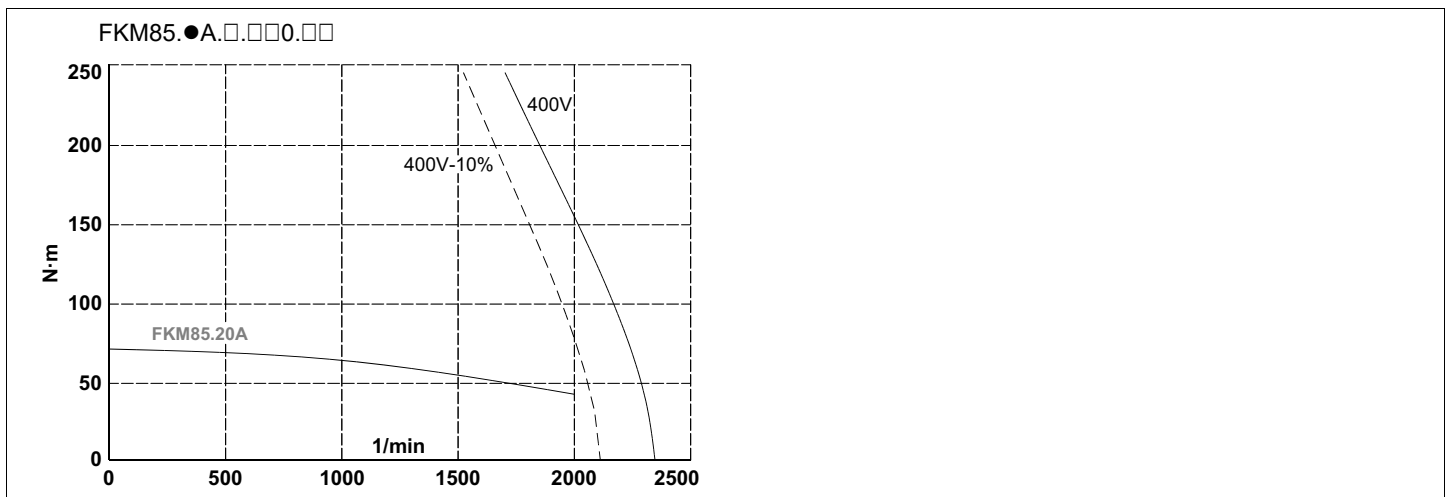
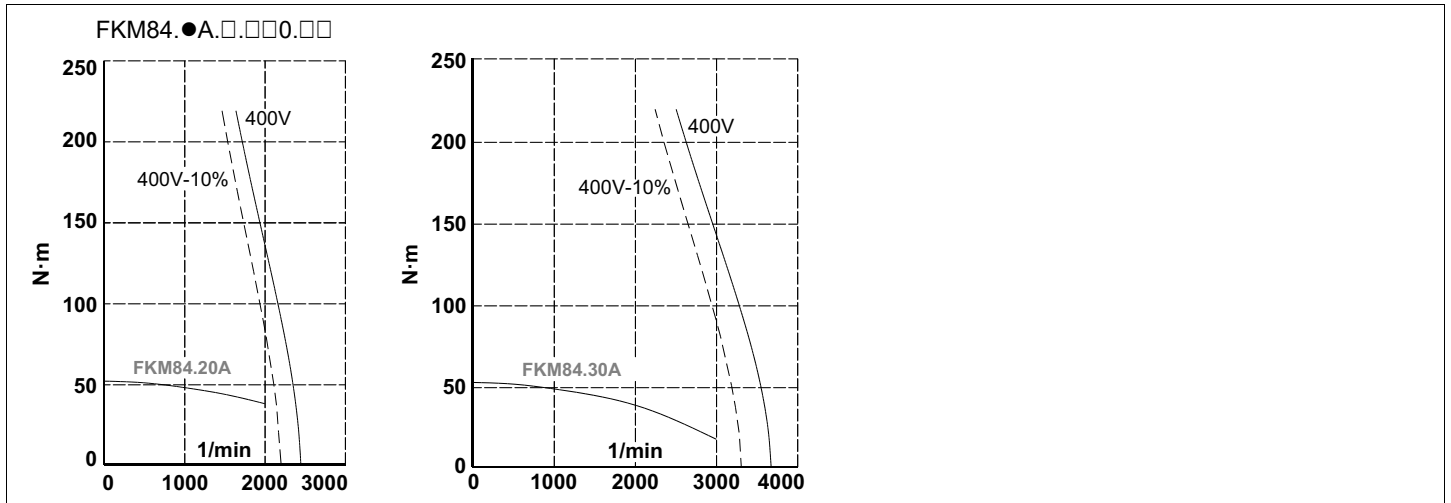
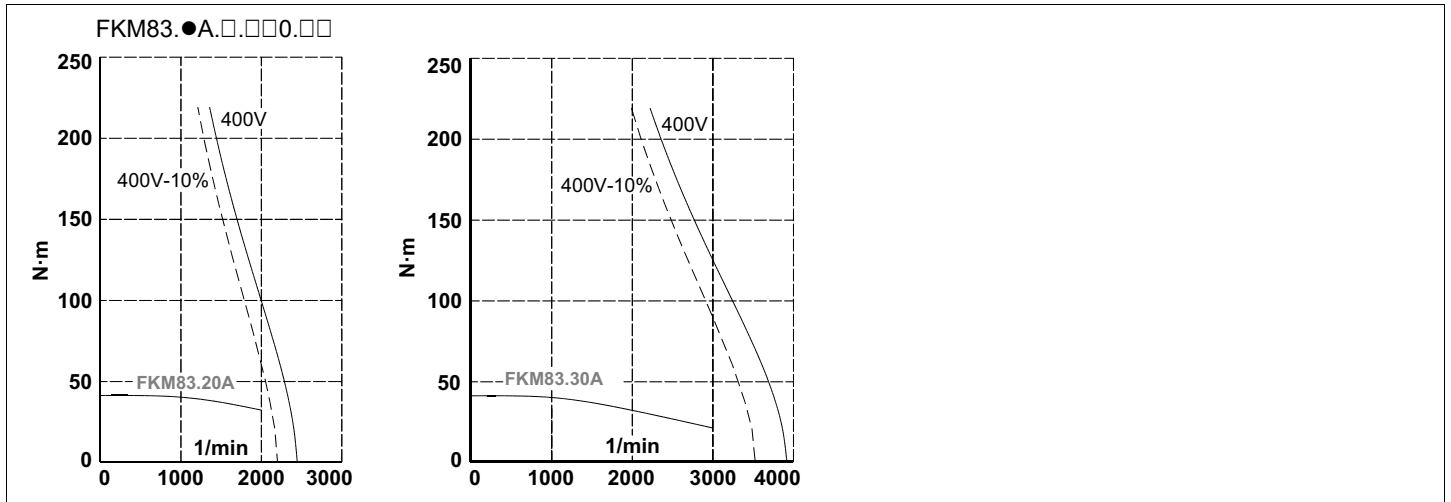
NON-VENTILATED FKM WITH 'A' WINDING - 400 Vac -

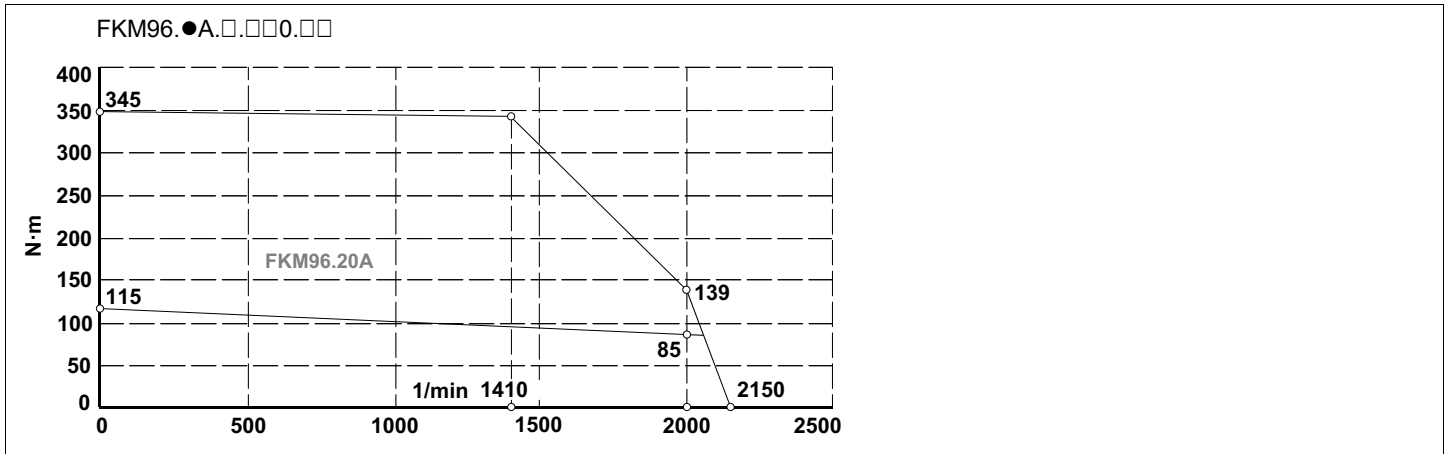
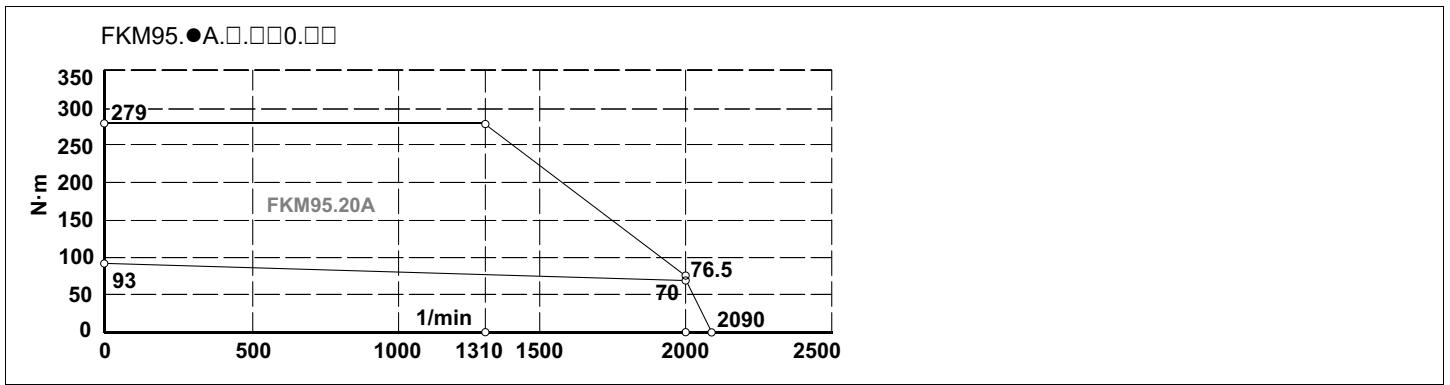




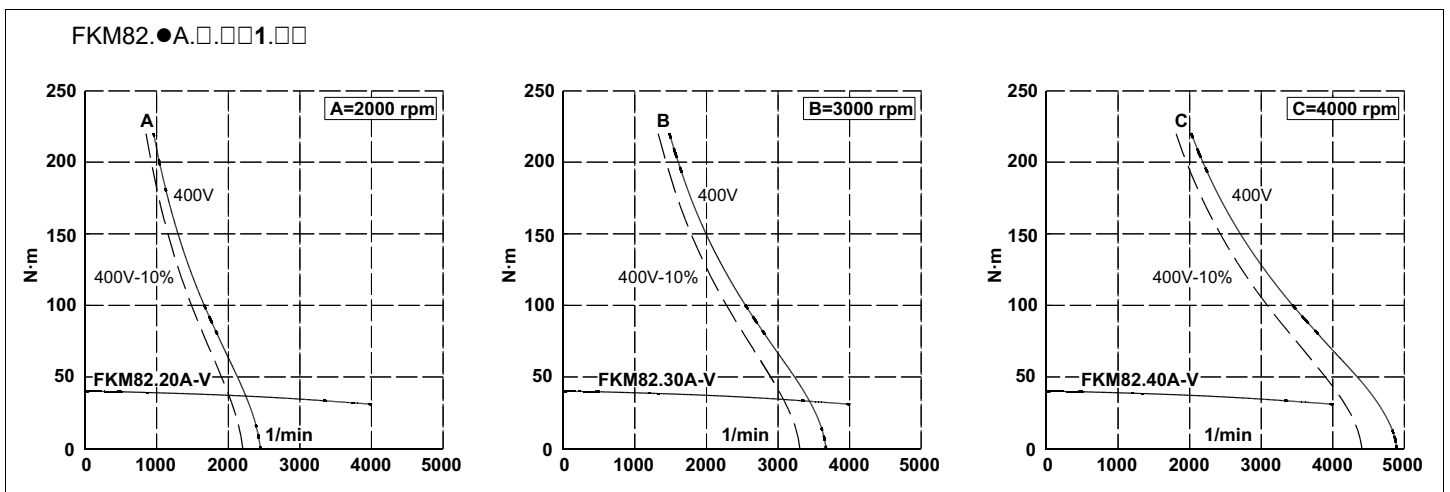
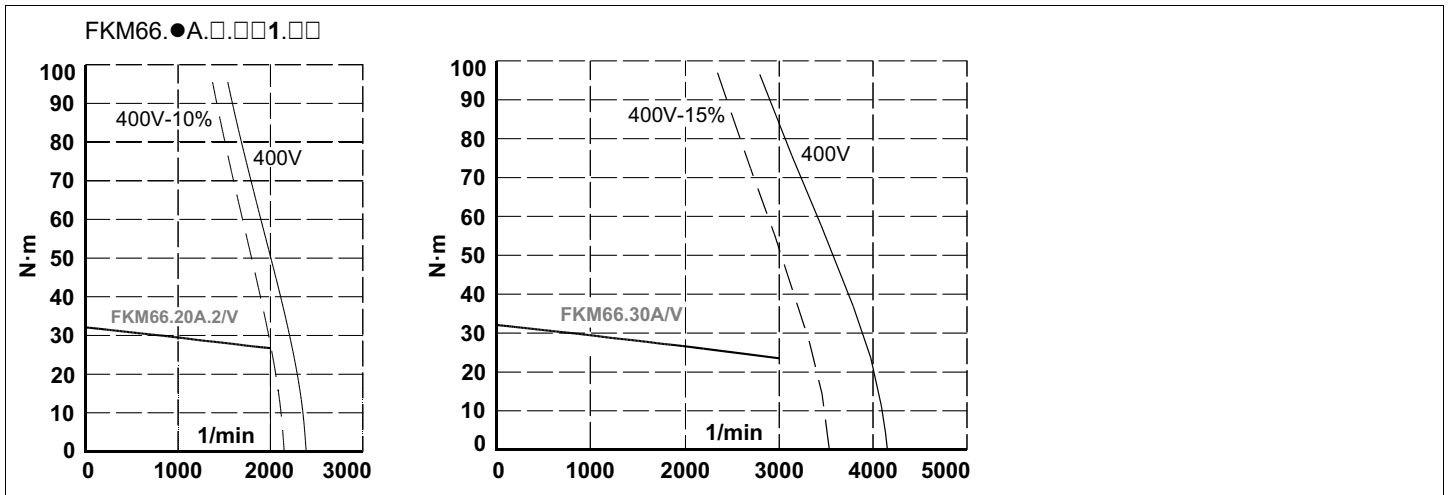


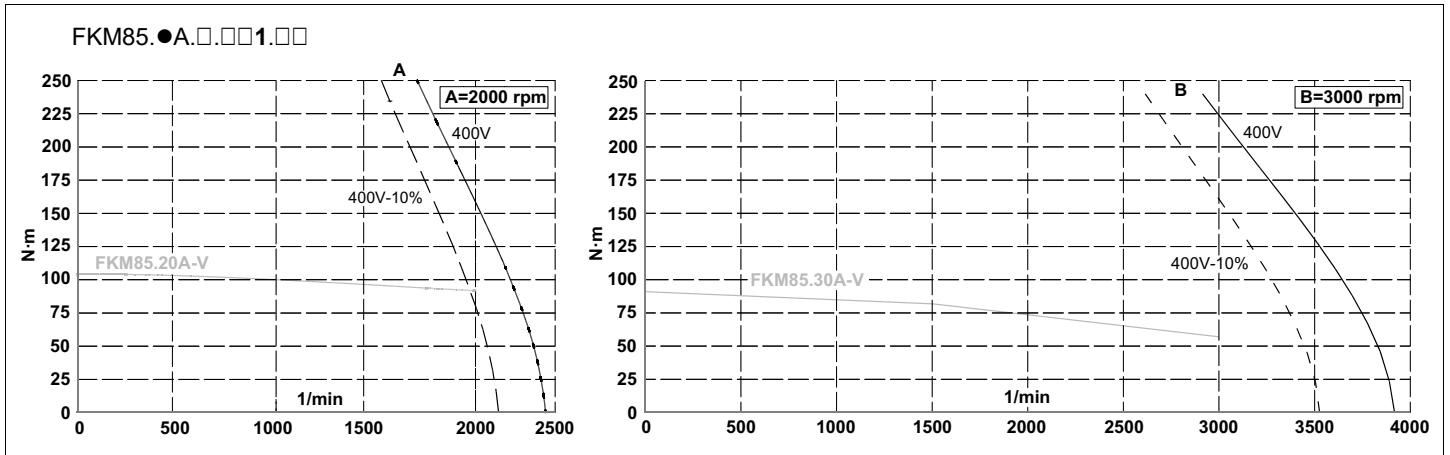
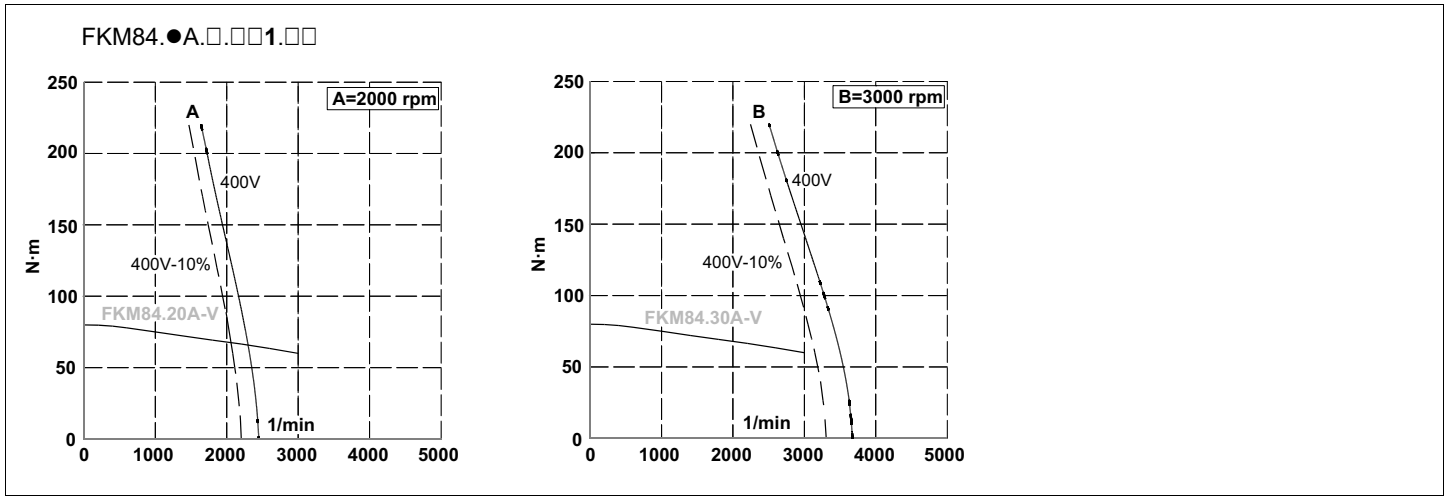
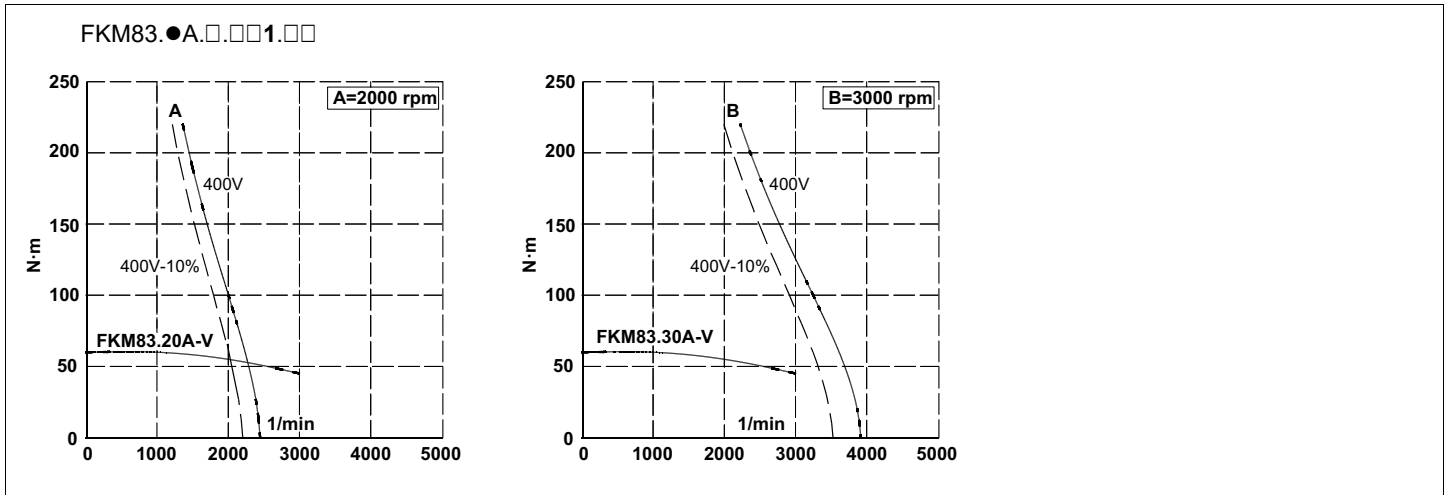






VENTILATED FKM WITH 'A' WINDING · 400 Vac ·





Fagor Automation shall not be held responsible for any printing or transcribing errors in the Ordering Handbook and reserves the right to make any changes to the characteristics of its products without prior notice. You must always compare the data with that appearing in the manual.

Fagor Automation S.Coop.
B.º San Andrés 19, Apdo. 144
E-20500 Arrasate - Mondragón
Spain



www.fagorautomation.com
E-mail: contact@fagorautomation.es
Tel. 34-943 03 98 00
Fax. 34-943 79 17 12