



MACK
MOTOR
— MKM —



0.16 - 11
Nm

50 - 3500
W

P. N. : D.S. / 12.06.18 / MKM / 14

SERIES		MKM 42		MKM 60		MKM 70			MKM 85			MKM 120		
SIZE		M	L	M	L	S	M	L	S	M	L	S	M	L
Power	(W)	50	100	200	400	280	470	630	570	1050	1600	1300 ²	2400 ²	3500 ²
Mo stall Torque ($\Delta t=100^{\circ}\text{C}$)	(Nm)	0.16	0.32	0.65	1.3	0.9	1.5	2.0	1.8	3.3	5	4	7.5	11
Mo¹ stall Torque ($\Delta t=70^{\circ}\text{C}$)	(Nm)	0.15	0.3	0.6	1.2	0.8	1.35	1.8	1.65	3	4.5	3.6	6.8	10

WINDING CODE		—	—	—	—	*	*	*	Q28	Q38	Q48	V28	V38	V48
400 VAC Drive's Voltage	Io ¹ Stall Current (Arms)	—	—	—	—	*	*	*	1.1	2	2.8	2.3	4.3	6.5
	K _T Torque Constant (Nm/Arms)	—	—	—	—	*	*	*	1.5	1.5	1.6	1.55	1.6	1.55
	N _n Rated Speed (Rpm)	—				3000								

WINDING CODE			F36	F46	J36	J46	K26	K36	K46	Q26	Q36	Q46	V28	V38	V48
230 VAC Drive's Voltage	Io ¹	Stall Current (Arms)	0.5	0.9	1.45	2.4	1.1	1.5	2	2	3.3	4.7	2.3	4.3	6.5
	K _T	Torque Constant (Nm/Arms)	0.33	0.33	0.41	0.5	0.7	0.9	0.9	0.8	0.9	0.95	1.55	1.6	1.55
	N _n	Rated Speed (Rpm)	3000										1500		

W weight	kg	0.35	0.5	1.0	1.4	1.35	1.9	2.4	2.2	3.2	4.2	4.9	7.3	9.7
W1 weight with brake	kg	0.44	0.59	1.4	1.8	1.55	2.1	2.6	2.5	3.5	4.5	5.8	8.2	10.6
W2 weight with Hith Inertia Rotor	kg	-	-	-	-	1.7	2.3	2.8	3.0	4.0	5.0	6.9	9.3	11.7
J Rotor Inertia (std)	(Kg ^{m2})·10 ⁻⁴	0.03	0.04	0.14	0.24	0.35	0.7	1.0	1.3	2.2	3.1	9	14	19
J_H Higher Rotor Inertia (opt)	(Kg ^{m2})·10 ⁻⁴	N.A.	N.A.	N.A.	N.A.	1.9	2.2	2.5	6.3	7.2	8.2	30	35	40
J_B Rotor Inertia with brake	(Kg ^{m2})·10 ⁻⁴	0.05	0.06	0.15	0.25	0.4	0.75	1.05	1.5	2.4	3.3	9.5	14.5	19.5
BRAKE stall torque (24 VDC +6% -10%)		0.4 Nm (0.5 A _{DC})		2 Nm (0.5 A _{DC})		2 Nm (0.45 A _{DC})			4.5 Nm (0.5 A _{DC})			9 Nm (0.8 A _{DC})		

Mo¹ : 5-100rpm - mounted on AL flange (300x300x6.5 mm, 65°C max) - no brake (with brake **Mo¹** -5%) * See 230VAC version ² Power refers to 400VAC / 3000Rpm

STANDARD FEATURES

- ♦ 8 Poles sinusoidal B.E.M.F.
- ♦ Medium - high rotor inertia
- ♦ Permanent rare earth magnets
- ♦ Very low torque fluctuation at minimum speed
- ♦ Feedback: **Mack®** Serial Encoder 13 bit DSL
- ♦ Ambient temp. ¹: operating 0 / + 40°C
storage - 20 / + 60°C
- ♦ Ambient Humidity ¹: operating & storage 85% RH max
- ♦ Altitude (a.m.s.l.): operating & storage 1000m
- ♦ Vibration: 5G max
- ♦ Insulation class: F
- ♦ Protection rating: IP54
- ♦ Ball-bearing life: >20'000h



NOTE: ¹ Free from condensation

OPTIONS

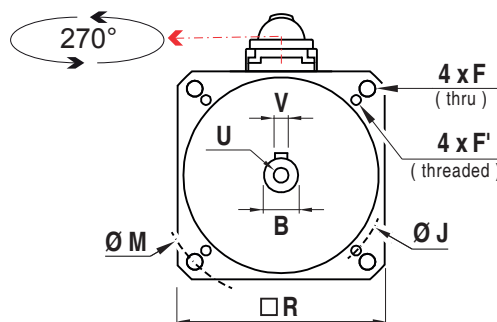
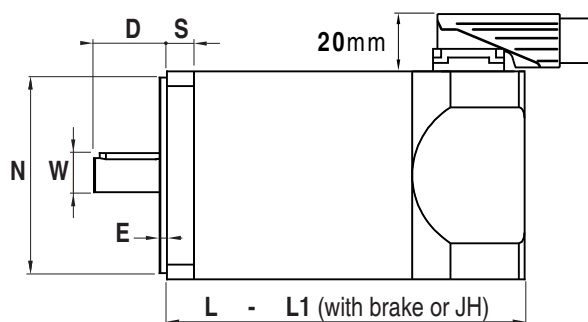
- ♦ Holding brakes
- ♦ Protection rating: IP65
- ♦ Special flanges and shafts
- ♦ JH Higher rotor inertia (additional)
- ♦ Thermal Switch
- ♦ **MKEC1** Commutation Enc. feedback
- ♦ **ES3** Mack® Serial Enc. 17 bit DSL
- ♦ **AS3** Mack® Absolute Multiturn Enc. 17 bit DSL
- ♦ **H01** Absolute Enc. feedback (**Endat 2.1**)

CABLE SPEC.

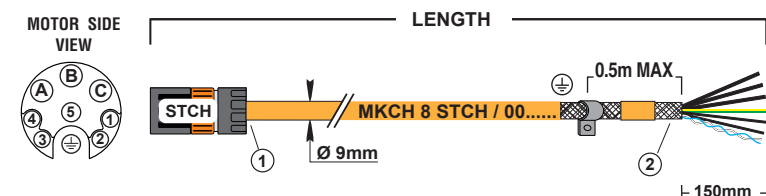
- ♦ Mobile usage for chain tracks
- ♦ External sheating: PUR polyurethane
- ♦ Flame / oil resistance
- ♦ Trailing speed: 300m / min. max
- ♦ Acceleration: 20m / sec²
- ♦ Cycles: 5 million
- ♦ Minimum bending radius: 7xØ
- ♦ Operating temperature: - 25°C / + 80°C
- ♦ Length > 10m use a 3 Ph choke (LXT20).
- ♦



TYPE	Mo	L	L1	B _{h7}	D	V _{h9}	W	U	N _{h6}	M	F	J	F'	E	S	R
	Nm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MKM 42 M	0.16	93	121	8	25	3 x 12	9.2	M3 x 10	30	45/48	3.2	-	-	2.5	7.5	42 □
MKM 42 L	0.32	107	135													
MKM 60 M	0.65	91	124	14	30	5 x 25	16	M4 x 10	50	70	5.2	-	-	2.5	7	60 □
MKM 60 L	1.3	105	138													
MKM 70 S	0.9	100	125	11	23	4 x 18	12.5	M4 x 10	60	90	5.5	75	Ø4.2 x 10	2.5	10	75 □
MKM 70 M	1.5	125	150													
MKM 70 L	2.0	150	175													
MKM 85 S	1.8	115	145	14	30	5 x 25	16	M4 x 10	80	100	6.5	-	-	3	11	85 □
MKM 85 M	3.3	145	175													
MKM 85 L	5	175	205													
MKM 120 S	4	135	170	19	40	6 x 32	21.5	M6 x 16	110	145	9	-	-	3.5	12.5	120 □
MKM 120 M	7.5	170	205													
MKM 120 L	11	205	240													



HYBRID: Power + MKES Serial Encoder



NOTE: ① All shields (int. and ext.) wired to housing ② Int. and ext. shields wrapped together

STCH	FUNCTION	WIRE COLOR	MARK
A / C / B	U / V / W MOTOR	BLACK	U-1/V-2/W-3
1 / 2	(+) / (-) BRAKE	WHITE / BLACK	-
4 / 3	SE+ / SE-	BLU / WHITE	-
⊕	PE	GREEN YELLOW	-
5	N.C.	-	-
HOUSING	ALL SHIELDS	-	-

MACK® MOTOR

ORDERING CODE

MKM85 M Q36

- 000 D 00 X

P 0 MKES1 ST R 1 X X

- Sxxx

SERIES:
MKM 42 - 60 - 70
85 - 120

SIZE: S, M, L

WINDING CODE:
See table on reverseMOUNTING FLANGE:
000 = standard
001-499 = IEC metric
501-999 = ReservedMOUNTING HOLES:
D = B5 thru holes (std)
C = B14 threaded holes (opt)SHAFT KEY:
X = with key (std)
W = w/out key (opt)SHAFT DIAMETER:
00 = standard
01-49 = IEC metric
51-99 = ReservedTH.PROT.:
P = PTC (std)
N = w/outBRAKE:
0 = w/out (std), 1 = with (opt)

FEEDBACK + CONNECTOR TYPE:

MKES1 ST = Mack® Serial Enc. 13bit DSL + STCH (std)

ES3 ST = Mack® Serial Enc. 17bit DSL + STCH (opt)

AS3 ST = Mack® Absolute Multiturn Enc. 17bit DSL + STCH (opt)

MKES1 S = Mack® Serial Enc. 13bit DSL + SCH - Hybrid M23 Screw 8p (opt)

MKEC1 SC = Mack® Comm. Enc. 2048 P/rev + 2xM23 (power 8p / signal 17p) (opt)

H01 SC = EQ1130 Absolute Enc. Endat 2.1 + 2xM23 (power 8p / signal 17p) (opt)

For cables see CBLS datasheet

CONNECTOR
ORIENTATION:
R = Rear (std)
F = Front (opt)
T = Top (opt)GEARBOX: R = With, X = W/out
INERTIA: X = (std), H = High (opt)
IP RATING: 1 = IP54 (std), 2 = IP65 (opt)

SPEC

FLANGES & SHAFT OPTIONAL	B _{h7}	D	V _{h9}	W	U	N _{h6}	M	F	J	F'	E	S	R
090D14X (MKM70 all)	14	30	5x25	16	M4x10	60	90	5.2	75	4.2x10	2.5	10	75
100D19X (MKM85 all)	19	40	6x32	21.5	M6x16	80	100	6.5	-	-	3	11	85
115D19X (MKM85 all)	19	40	6x32	21.5	M6x16	95	115	9	-	-	3	11	100

MACK® CABLE ORDERING CODE

MKCH

8STCH

/ 00 - 030 Sxxx

CABLE LINE:
Preassembled
Hybrid cablesASSEMBLY MOTOR SIDE:
8STCH = 8 Arms cable + M15 Springtec connectorASSEMBLY DRIVE SIDE:
00 = Flying leads (no connector)SPEC
LENGTH:
030 = 3m
050 = 5m
070 = 7m
100 = 10m