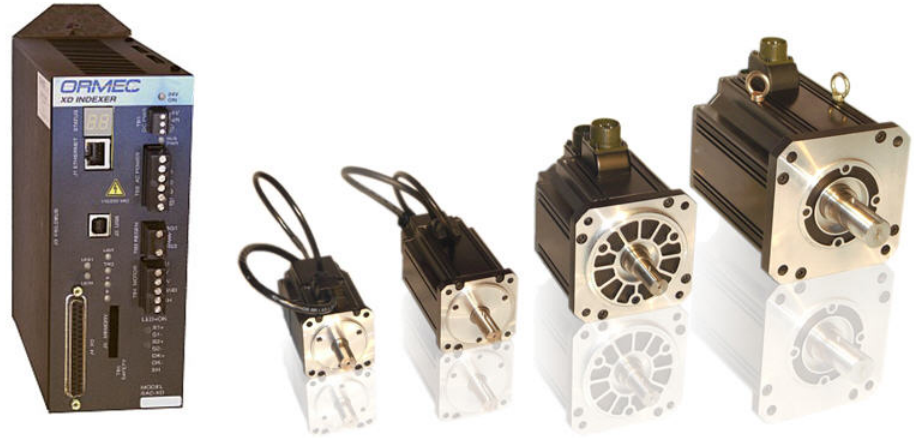ORMEC's XD-Indexer integrates with the cost-effective M-series AC brushless servo motors. The motors provide high torque-to-inertia ratios and **excellent** continuous torque and peak torque performance in a compact design. These industrial quality servo motors incorporate high performance neodymium magnets and a highly efficient stator winding design which results in excellent power density.

The M-series servo motors' compact design with high power density feature extremely durable construction with heavy duty bearings.

The XD-Indexer integrates with the cost-effective M-Series of motors.

Motor Features

❒ 230 or 460 VAC versions
❒ UL certified and CE marked
❒ Continuous stall torques from 1.4 to 845 in-lb (0.16 to 95.5 N-m)
❒ Peak torques up to three times the rated torque
❒ Output power from 50 to 16,000 watts (0.07 to 21.5 HP)
❒ High maximum speeds from 3,000 to 5,000 RPM
❒ Standard incremental encoder resolution 12,000 counts
❒ Class F insulation over Class B temperature rise provides additional thermal headroom for longer winding life under rated operating conditions
❒ Minimum torque ripple & cogging for smooth low-speed performance
❒ Totally Enclosed Non-Ventilated (TENV) standard IP-65 except shaft opening, optional shaft oil seal is available.
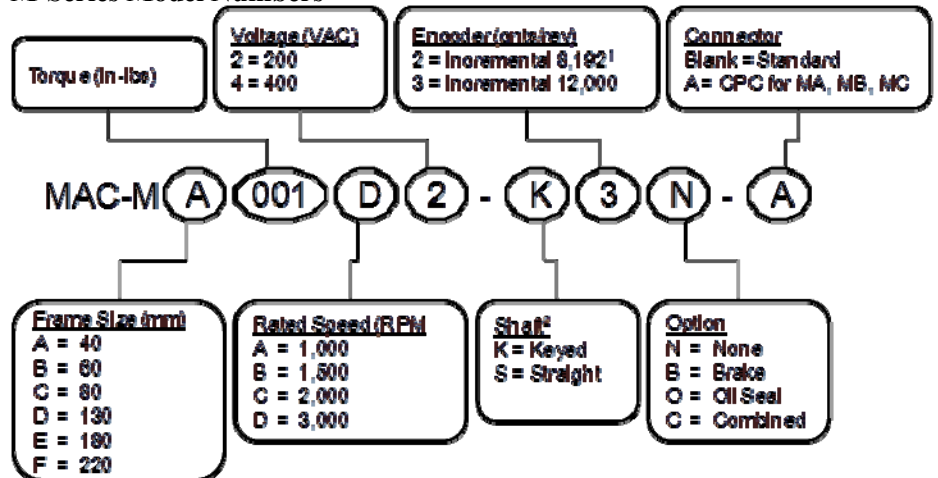❒ Optional fail-safe holding brakes

Performance

The performance of these servo motors is a direct function of the factory-matched servo motor/drive combination.

ORMEC's XD-Indexer provides software controlled all-digital performance for consistent operation that totally eliminates analog potentiometer adjustments. High bandwidth operation and a quality high resolution encoder provide the accuracy and response required for demanding applications. Peak torques, up to three times the rated torque, are available for a few seconds, allowing the motor/drive to handle high inertial loads and heavy duty cycle requirements. The motor parameters are configured in software for high performance and RMS current limiting.

M-Series Model Numbers

	Voltage (VAC)	Encoder (cnts/rev)	Connector
Torque (in-lbs)	2 = 200 4 = 400	2 = Incremental 8,192[1] 3 = Incremental 12,000	Blank = Standard A = CPC for MA, MB, MC

MAC-M (A) 001 (D) (2) - (K) (3) (N) - (A)

Frame Size (mm)	Rated Speed (RPM)	Shaft[2]	Option
A = 40 B = 60 C = 80 D = 130 E = 180 F = 220	A = 1,000 B = 1,500 C = 2,000 D = 3,000	K = Keyed S = Straight	N = None B = Brake O = Oil Seal C = Combined

[1] The 8,192 Encoder is only available with the MA-Series Motor, all other motors will have the 12,000 Incremental encoder.
[2] Other shaft options may be available with special order.

MAC-MA, MAC-MB, MAC-MC and MAC-MD motors are UL approved. All motors carry the CE mark and are RoHS compliant.

The available encoder resolutions [shown post quadrature] for each motor family are noted in this chart:

MA	MB	MC	MD	ME	MF
8,192					
	12,000	12,000	12,000	12,000	12,000

XD-Indexer – M-Series Motor Selection Charts

ORMEC's all-digital drive technology provides the ability to control a range of servo motors with the XD-Indexer Servo Drive. The chart (below) provides the recommended Indexer/M-Series motor combination.

The recommended Indexer (✪) provides sufficient power to provide the continuous torque specified for the corresponding servo motor.

230VAC

XD-Indexer SAC -XD / Servo Motor	203	205	210	215	225	235	260	Motor Cable	Encoder Cable
MAC-MA001D2	✪							CBL-MM1*	CBL-ME1*
MAC-MB003D2	✪							CBL-MM1*	CBL-ME1*
MAC-MB006D2	✪							CBL-MM1*	CBL-ME1*
MAC-MB011D2	✪							CBL-MM1*	CBL-ME1*
MAC-MC016D2		✪						CBL-MM2	CBL-ME2
MAC-MC022D2		✪						CBL-MM2	CBL-ME2
MAC-MC028D2			✪					CBL-MM2	CBL-ME2
MAC-MD025B2		✪						CBL-MM2	CBL-ME2
MAC-MD025D2		✪						CBL-MM2	CBL-ME2
MAC-MD028D2			✪					CBL-MM2	CBL-ME2
MAC-MD050B2			✪					CBL-MM2	CBL-ME2
MAC-MD050D2			✪					CBL-MM2	CBL-ME2
MAC-MD070B2			✪					CBL-MM2	CBL-ME2
MAC-MD070D2				✪				CBL-MM2	CBL-ME2
MAC-MD095B2				✪				CBL-MM2	CBL-ME2
MAC-MD095D2					✪			CBL-MM2	CBL-ME2
MAC-ME100B2				✪				CBL-MM3	CBL-ME2
MAC-ME160B2					✪			CBL-MM3	CBL-ME2
MAC-ME250B2						✪		CBL-MM4	CBL-ME2
MAC-ME335B2							✪	CBL-MM4	CBL-ME2
MAC-ME420B2							✪	CBL-MM4	CBL-ME2
MAC-MF475B2							✪	CBL-MM5	CBL-ME2
MAC-MF620B2							✪	CBL-MM5	CBL-ME2

460 VAC

XD-Indexer SAC -XD / Servo Motor	403	405	410	417	425	435	450	Motor Cable	Encoder Cable
MAC-MD025B4	✪							CBL-MM6	CBL-ME2
MAC-MD025D4	✪							CBL-MM6	CBL-ME2
MAC-MD050B4		✪						CBL-MM6	CBL-ME2
MAC-MD050D4		✪						CBL-MM6	CBL-ME2
MAC-MD070B4		✪						CBL-MM6	CBL-ME2
MAC-MD070D4			✪					CBL-MM6	CBL-ME2
MAC-MD095B4			✪					CBL-MM6	CBL-ME2
MAC-MD095D4			✪					CBL-MM6	CBL-ME2
MAC-ME100B4			✪					CBL-MM6	CBL-ME2
MAC-ME160B4				✪				CBL-MM7	CBL-ME2
MAC-ME250B4			✪					CBL-MM7	CBL-ME2
MAC-ME335B4					✪			CBL-MM3	CBL-ME2
MAC-ME420B4					✪			CBL-MM3	CBL-ME2
MAC-MF475B4						✪		CBL-MM5	CBL-ME2
MAC-MF620B4						✪		CBL-MM5	CBL-ME2
MAC-MF845B4							✪	CBL-MM5	CBL-ME2

*Optional connector available.
Note: Flexible Cable options are available. Consult ORMEC Sales Support at (585) 385-3520 or email: sales@ormec.com

ORMEC's XD-Indexer integrates N-series AC brushless servo motors provide high torque-to-inertia ratios and excellent continuous torque and peak torque performance. With a compact design, these industrial-quality servo motors incorporate high performance permanent magnets and a highly efficient stator winding design. This provides excellent power density.

The N-series servo motors completely eliminate brush wear maintenance problems and feature extremely durable construction. They include heavy duty bearings.

The XD-Indexer integrates with the cost-effective N-Series of motors.

Motor Features

- ❒ Continuous stall torques from 28 to 620 in-lb (3 to 70 N-m)
- ❒ High peak torques from 85 to 1550 in-lb (10 to 175 N-m)
- ❒ Output power from 1000 to 11,000 watts (1 to 15 HP)
- ❒ High maximum speeds from 2,000 to 6,000 RPM
- ❒ 200 VAC and 400 VAC operation
- ❒ Incremental and absolute encoder resolutions up to one million counts per revolution
- ❒ Class F insulation provides additional thermal headroom for longer winding life under rated operating conditions
- ❒ Minimum torque ripple & cogging for smooth low-speed performance
- ❒ Totally Enclosed Non-ventilated (TENV) standard IP-67 rating except shaft opening, optional shaft oil seal is available.
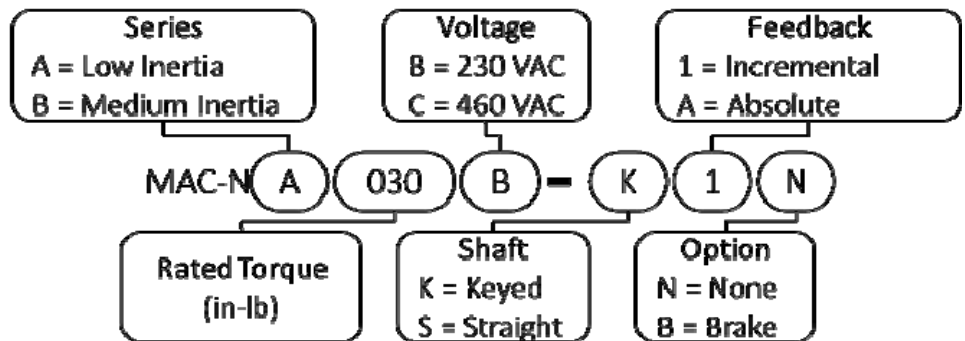- ❒ Optional fail-safe holding brakes.

Performance

The performance of these servo motors is a direct function of the factory-matched servo motor/drive combination.

ORMEC's XD-Indexer provides software controlled all-digital performance for consistent operation that totally eliminates analog potentiometer adjustments. High bandwidth operation and a high-resolution serial pulse encoder provide the accuracy and response required for demanding applications. Peak torques, up to three times the rated torque, are available for a few seconds, allowing the motor/drive to handle high inertial loads and heavy duty cycle requirements. The motor parameters are configured in software for high performance and RMS current limiting.

N-Series Model Numbers

Series
A = Low Inertia
B = Medium Inertia

Voltage
B = 230 VAC
C = 460 VAC

Feedback
1 = Incremental
A = Absolute

MAC-N (A)(030)(B) – (K)(1)(N)

Rated Torque (in-lb)

Shaft
K = Keyed
S = Straight

Option
N = None
B = Brake

XD-Indexer – N-Series Motor Selection Charts

ORMEC's all-digital drive technology provides the ability to control a range of servo motors with the XD-Indexer Servo Drive. The chart (below) provides the recommended Indexer/M-Series motor combination.

The recommended Indexer (✪) provides sufficient power to provide the continuous torque specified for the corresponding servo motor.

Motor Model Numbers	SAC-XDxxx-N												Input Power[1] [2] Watts/amps
	230 VAC Drives					460 VAC Drives							
	210	215	225	235	260	403	405	410	417	425	435	450	
MAC-NA030B	✪												1,100 / 4.8
MAC-NA030C						✪							1,100 / 2.4
MAC-NA055B		✪											2,100 / 9.1
MAC-NA055C								✪					2,100 / 4.6
MAC-NA090B			✪	✔									3,300 / 14
MAC-NA090C								✪					3,300 / 7.2
MAC-NA110B			✪	✔	✔								4,290 / 19
MAC-NA110C									✪	✔			4,290 / 9.3
MAC-NA140B				✪	✔								5,390 / 23
MAC-NA140C									✪	✔			5,390 / 12
MAC-NB055B	✪												940 / 4.1
MAC-NB055C							✪						940 / 2.0
MAC-NB080B		✪											1,430 / 6.2
MAC-NB080C								✪					1,430 / 3.1
MAC-NB100B			✪										1,980 / 8.6
MAC-NB100C								✪					1,870 / 4.1
MAC-NB200B			✪	✔									3,190 / 14
MAC-NB200C									✪				3,190 / 7
MAC-NB300B				✪	✔								4,840 / 21
MAC-NB300C									✪	✔			4,840 / 11
MAC-NB330B					✪								6,050 / 26
MAC-NB330C										✪			6,050 / 13
MAC-NB465B					✪								8,250 / 36
MAC-NB465C										✪	✔		8,250 / 18
MAC-NB700B					✪								12,100 / 53
MAC-NB700C											✪		12,100 / 26
MAC-NB840C												✪	16,500 / 35.9
MAC-N1200C												✪	24,200 / 52.6

✪ Recommended drive model ✔ Compatible drive model

Note: Flexible Cable options are available. Consult ORMEC Sales Support at (585) 385-3520 or email: sales@ormec.com

ORMEC-MKT-1200-02