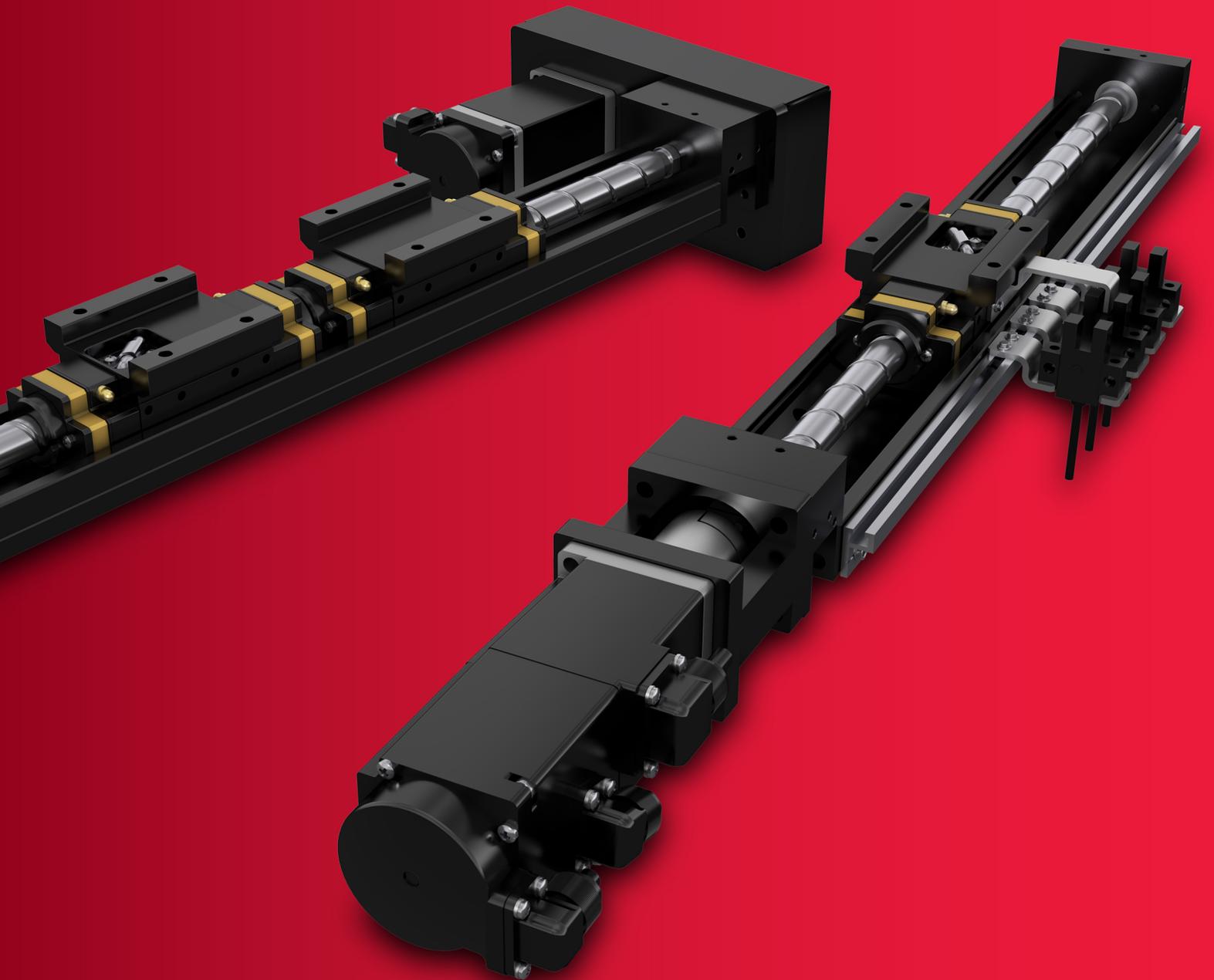


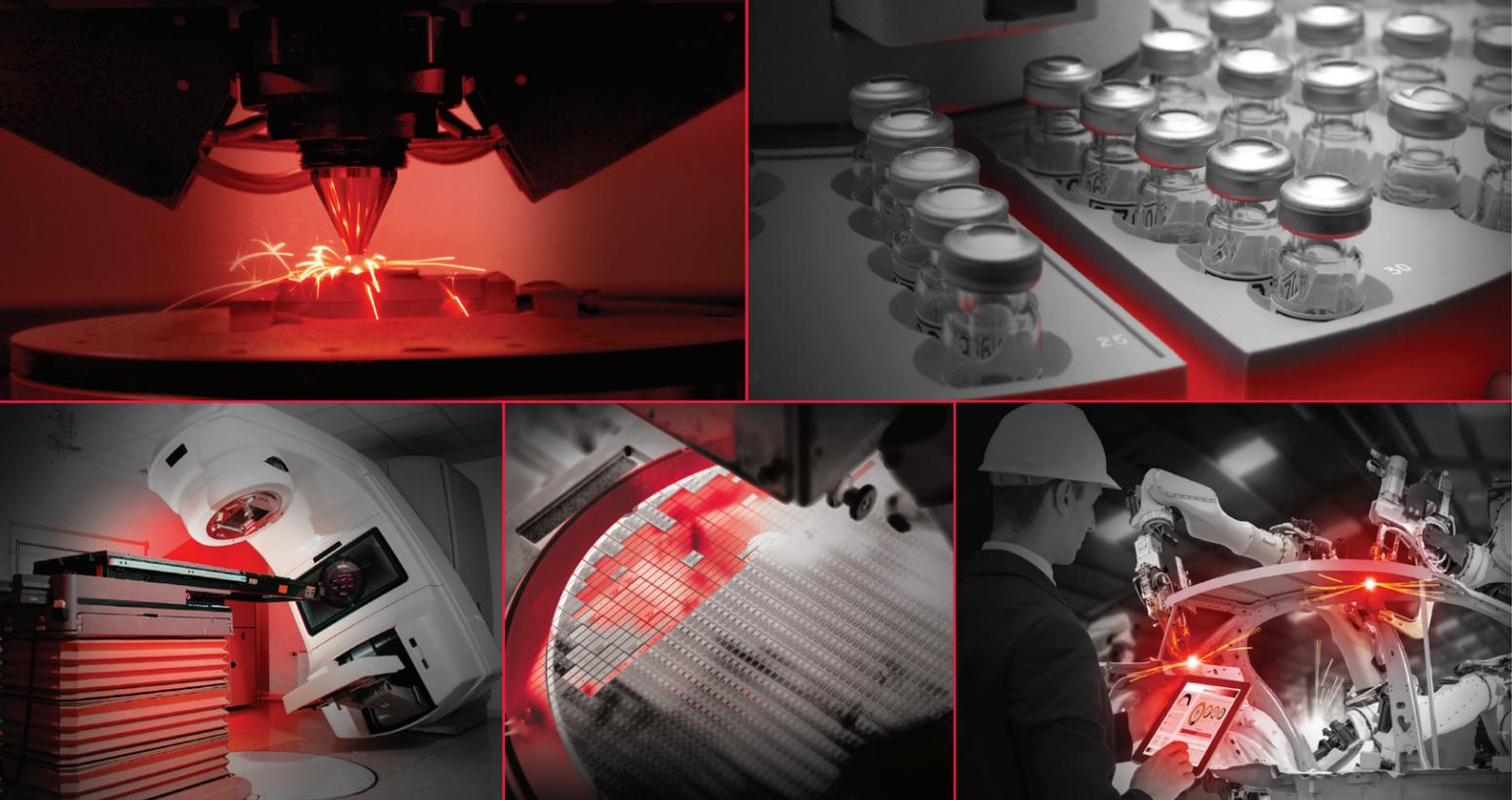


## MCE ELECTRIFIED MONOCARRIER™

PREASSEMBLED HIGH PERFORMANCE LINEAR ACTUATOR



STAY IN MOTION. STAY IN CONTROL.



**INTEGRATED, ELECTRIFIED  
PRECISION: MCE**

With our pioneering Monocarrier™ series, NSK seamlessly integrates our accumulated expertise with ball screws, linear guides, and support bearings into a lightweight, compact and highly precise single-axis actuator. NSK has expanded our line of Monocarriers to deliver the MCE series: a preassembled and pretested motorized actuator. For NSK automation customers, the MCE Electrified Monocarrier™ is a turnkey solution that offers significant benefits:

- › Streamline – consolidating multiple components into a single, compact and customizable part number
- › Simplify – reducing design, test and installation time
- › Support – dedicated collaboration, project management and technical expertise from NSK and Sanyo Denki



**ENABLING  
AUTOMATION**

**NSK MECHATRONIC SYSTEM SOLUTIONS**

For decades, NSK has specialized in developing electromechanical solutions – integrating our precision machine components with control technology – to deliver advanced, reliable and precise motion and control.

Robotic surgery. Medical imaging. Biomedicine. Semiconductor. 3D printing. Factory automation. Our customers are vast and diverse, united by precision-critical applications and NSK’s ability to achieve coherent mechatronic solutions that offer:

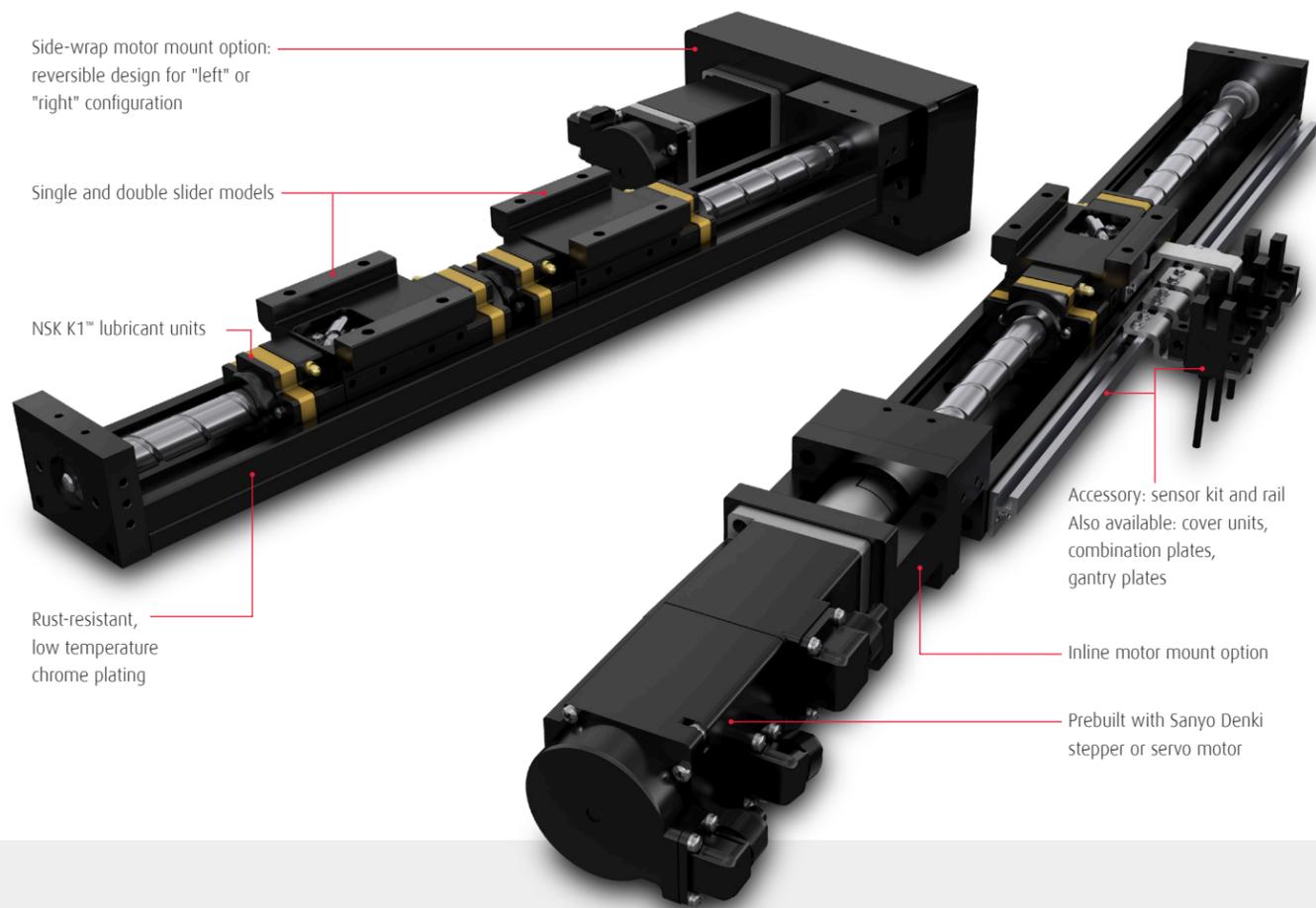
- › Augmented machine function and accuracy
- › Optimized system performance, space and life
- › Reduced costs and complexity

From complex systems to single-axis solutions, NSK delivers innovative and ideal integrated motion solutions to enable automation and accuracy in machine function, and delivers a competitive edge to our customers.

## DESIGN AND OPERATIONAL BENEFITS

### CUSTOMIZABLE FEATURES FOR OPTIMIZED PERFORMANCE

NSK's MCE series actuator is a highly compact and cost-effective alternative to building a linear motion system from multiple, separately-sourced components. Optimally designed for ease and accuracy, MCE Monocarriers are supplied preassembled, pretested and ready to install.



### DESIGN FEATURES

- › Lightweight, compact, maintenance-free linear actuator that integrates a high accuracy NSK ball screw, linear guide and support bearings
- › Prebuilt with a Sanyo Denki stepper/servo motor
- › Inline or side wrap motor mount options
- › Available in single and double slider models
- › With long term, maintenance-free NSK K1™ lubrication units
- › Rust-resistant, low temperature chrome plating on bodies and sliders; fluoride chrome plating for increased rust protection is available upon request
- › Multiple datum planes – the bottom and a lateral side of the rail – facilitate highly accurate installation
- › Optional accessories including covers, sensors, combination and gantry plates available

## MCE COMPONENTS AND ACCESSORIES

### EXPANDING THE PERFORMANCE ENVELOPE



### MOTOR MOUNTS

Selected and preassembled (with motor) with your MCE electrified actuator:

- › Pre-machined inline brackets for a straight motor mount
- › Side-wrap mounting kit consisting of timing belt, pulleys, motor plate and belt cover to install motor parallel with the Monocarrier,™ reducing overall unit length

### COMBINING AND GANTRY PLATES

- › Combining plates - machined aluminum plate & fasteners to combine two MCE assemblies into an XY system
  - › D style – X and Y axis sliders facing upward
  - › G style – X axis slider facing upward, Y axis slider facing sideways
- › Gantry plates - machined aluminum plate and fasteners to add a support rail for severe cantilevered Y axis load conditions in an XY system

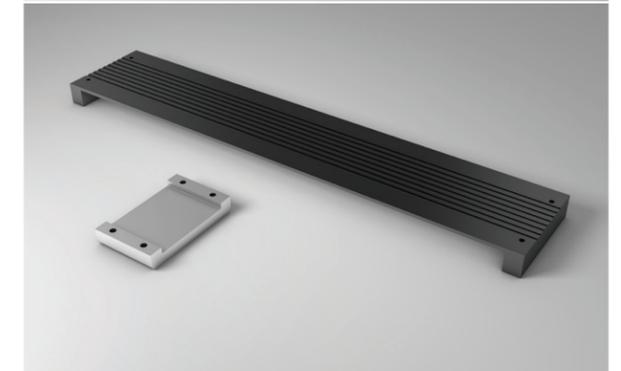
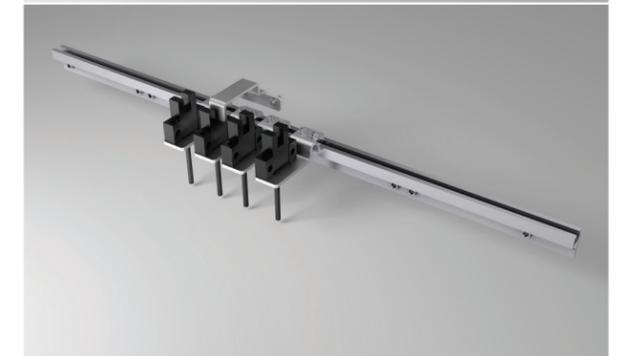
### SENSOR RAIL AND KITS

- › Sensor kits consist of 3 sensors, a sensor flag, and fasteners
- › Two sensor kit options:
  - › Proximity Switch (Normally Open or Normally Closed)
  - › Photo Sensor: NPN and PNP Type
- › Sensor rail must be ordered separately
- › RoHS compliant

### COVER UNITS

- › Top- or full-cover options available to protect from contaminants
- › Spacer plates to accommodate cover units for select models

Ready to configure an MCE electrified Monocarrier™?  
Visit [www.nskautomation.com/mc](http://www.nskautomation.com/mc)



# A BROAD PORTFOLIO OF MODEL OPTIONS

## BALL SCREW LEAD / STROKE COMBINATIONS

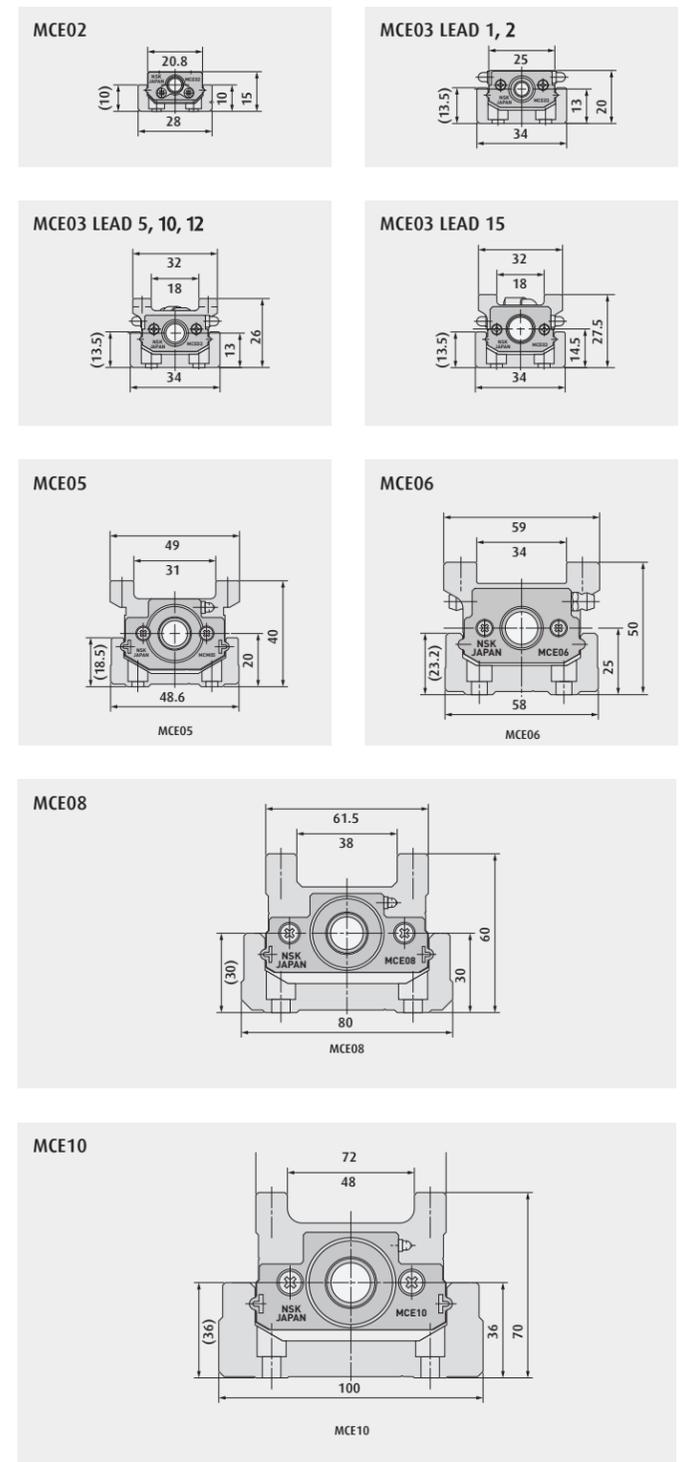


STANDARD COMBINATIONS - SINGLE SLIDER																									
MODEL		MCE02		MCE03				MCE05				MCE06			MCE08				MCE10						
LEAD		1	2	1	2	5	10	12	15	5	10	20	30	5	10	20	5	10	20	30	10	20	30		
STROKE	50																								
	100																								
	150																								
	200																								
	250																								
	300																								
	400																								
	500																								
	600																								
	700																								
800																									
900																									
1000																									

MCE model / lead / stroke combination available
  MCE model / lead / stroke combination available from Quick Ship

STANDARD COMBINATIONS - DOUBLE SLIDER												
MODEL		MCE05		MCE06			MCE08		MCE10			
LEAD		10	20	5	10	20	10	20	10	20		
STROKE	60											
	70											
	80											
	110											
	160											
	170											
	180											
	210											
	270											
	280											
	310											
	370											
	380											
	410											
	470											
	480											
	510											
	570											
	580											
	610											
670												
680												
710												
870												

MCE model / lead / stroke combination available
  MCE model / lead / stroke combination available from Quick Ship



### RANGE OF AVAILABILITY

- › 6 model sizes, with optimized combinations of lead and stroke
- › Single and double slider options
- › Ball screw shaft diameters ranging from 6 to 20 mm
- › Stroke length as short as 50 mm, as long as 1000 mm
- › Inline or side-wrap motor mount options

### QUICK SHIP

- › For customers purchasing quantities up to 15 units with quick turnaround requirements
- › Ideal solution for customers in product development / prototype phase
- › Available within a 4-6 week delivery time

# MCE SERIES MOTOR OPTIONS

# MCE SERIES DESIGNATION SYSTEM



MCE SERIES MOTOR OPTIONS													
MODEL	LEAD	STEPPING MOTOR			SERVO MOTOR								
		NEMA 11	NEMA 17 (33 MM)	NEMA 17 (59.5 MM)	30 W		100 W		200 W		400 W		
		No Brake			No Brake	Brake	No Brake	Brake	No Brake	Brake	No Brake	Brake	
MCE02	1, 2												
MCE03	1, 2												
	5												
	10, 12, 15												
MCE05	5, 10, 20, 30												
MCE06	5, 10, 20												
MCE08	5, 10, 20, 30												
MCE10	10, 20, 30												

MCE model / lead / stroke combination available
  MCE model / lead / stroke combination available from Quick Ship

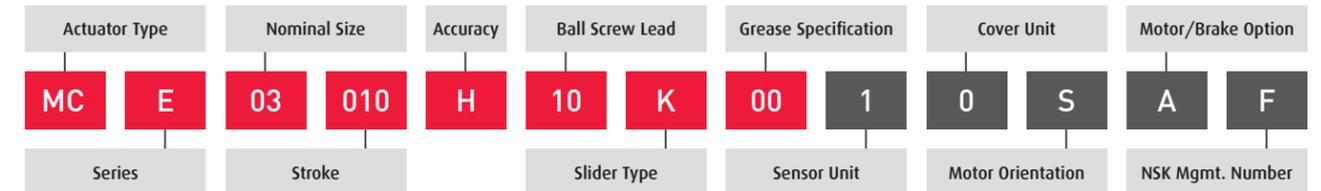
## INTEGRATED STEPPING / SERVO MOTOR

When you purchase an MCE series electrified Monocarrier™, a Sanyo Denki motor is included – preassembled and pretested for easy installation and maintenance-free performance.

For stepping and servo system requirements and support, please contact Sanyo Denki directly or visit [SanyoDenki.com/America](http://SanyoDenki.com/America).

Ready to configure an MCE electrified Monocarrier™?

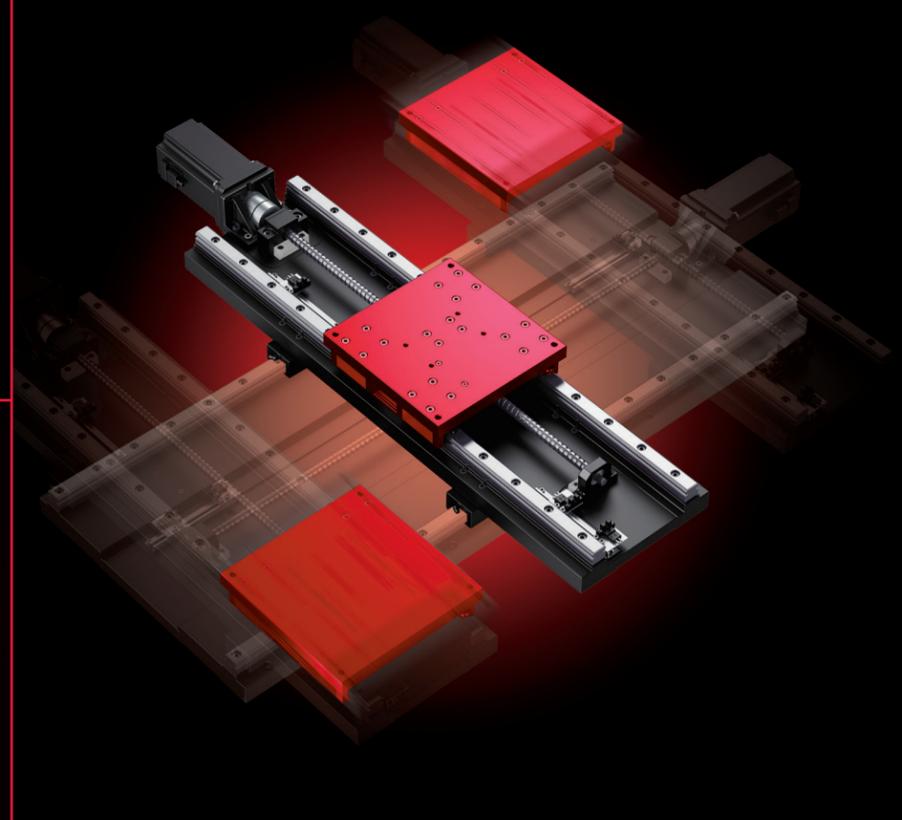
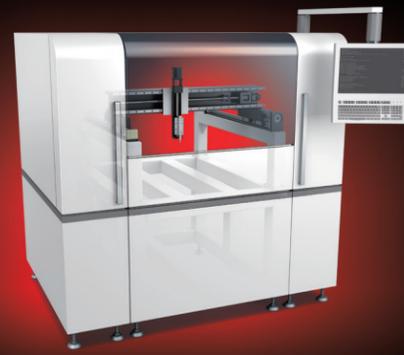
Visit [www.nskautomation.com/mc](http://www.nskautomation.com/mc)



DESIGNATION	ATTRIBUTE	
Actuator Type	MC	Monocarrier
Series	E	lightweight, electrified type
Nominal Size		rail width, unit: 10 mm
Stroke		unit: 10 mm
Accuracy Grade	H	high precision
	P	precision grade
Ball Screw Lead		in millimeters
Slider Type	K	single slider
	D	double slider
Grease Specification	00	standard AS2
	B0	clean grease LG2
Sensor Unit	0	no sensor unit
	1	proximity switch, normally closed (3 pieces)
	2	proximity switch, normally open (3 pieces)
	3	proximity switch, normally open (1 piece), normally closed (2 pieces)
	4	photo sensor, NPN (3 pieces)
	5	photo sensor, PNP (3 pieces)

DESIGNATION	ATTRIBUTE	
Cover Unit	0	no cover
	1	top cover
	-	full cover
Motor Orientation	S	straight, inline motor mount
	L	left, side-wrap motor mount
	R	right, side-wrap motor mount
Motor / Brake Option	A	servo motor - 30 W, no brake
	B	servo motor - 30 W, with brake
	C	servo motor - 100 W, no brake
	D	servo motor - 100 W, with brake
	E	servo motor - 200 W, no brake
	F	servo motor - 200 W, with brake
	G	servo motor - 400 W, no brake
	H	servo motor - 400 W, with brake
	J	stepping motor - NEMA 11, no brake
	K	stepping motor - NEMA 17 (33 mm), no brake
L	stepping motor - NEMA 17 (59.5 mm), no brake	
NSK Mgmt. No.	F	NSK Precision America, Inc. - Franklin

- Note: 1) Sensor rail is not included with a sensor unit and must be requested.
- 2) A full cover unit cannot be used in conjunction with a sensor unit.
- 3) For side-wrap motor mount, left or right is defined by the motor's position relative to the non-driven end of the MCE Monocarrier™.



## ACCUMULATED EXPERTISE, OPTIMAL SUPPORT

For your precision machine component and integrated system requirements, you can rely on the optimum interaction of NSK design solutions, comprehensive engineering support, domestic manufacturing capabilities and access to our global technology network. Our local automation experts will collaborate closely with you through all aspects of design, provide intensive project management and extend comprehensive technical support. We aim to deliver our customers the ideal motion and control solution and experience.

Visit [nskautomation.com](http://nskautomation.com) to review products and services, case studies and videos, and to find an NSK distributor near you.

[www.nskautomation.com](http://www.nskautomation.com)



## NSK AMERICAS

### United States

NSK Corporation

Franklin IN

1.317.738.4308

Ann Arbor MI

1.734.913.7110

San Jose CA

1.408.678.3402

### Canada

NSK Canada Inc.

1.877.994.6675

### Mexico

NSK Rodamientos Mexicana,  
S.A.de C.V.

52.472.103.9400

### Brazil

NSK Brasil Ltda.

55.11.3269.4700

### Argentina

NSK Argentina SRL

54.11.4762.6556

### Latin America

NSK Latin America Inc.

1.305.477.0605

### Website:

[www.nskautomation.com](http://www.nskautomation.com)

NSK Global: [www.nsk.com](http://www.nsk.com)

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