










LM System Types and Features




Type	LM Guide	Ball spline	Linear bushing
Appearance			
Features	<ul style="list-style-type: none"> • Ideal structure with four raceways, circular-arc grooves, and two-point contact • Superb error-absorbing capability with DF design • Averages accuracy by absorbing mounting surface error • Large permissible load and high rigidity • Low friction coefficient 	<ul style="list-style-type: none"> • Large torque load capacity • Optimal for torque-transmitting mechanisms and locations where torque and radial load are simultaneously applied • No angular backlash • Ball retention 	<ul style="list-style-type: none"> • Interchangeability • LM System capable of performing infinite linear motion at a low price
Stroke	Infinite stroke	Infinite stroke	Infinite stroke
Major applications	<ul style="list-style-type: none"> • Surface grinders • Electric discharge machines • High-speed transfer equipment • NC lathes • Injection molding machines • Woodworking machines • Semiconductor manufacturing equipment • Inspection equipment • Food-related machines • Medical equipment 	<ul style="list-style-type: none"> • Assembly robot Z axes • Automatic loaders • Transfer machines • Automatic conveyance systems • Wire winders • Grinding machine spindle drive shafts • Construction vehicle steering mechanisms • Blood test equipment • Automatic tool changers • Golf training machines 	<ul style="list-style-type: none"> • Measuring instruments • Digital 3D measuring instruments • Printing machines • OA equipment • Vending machines • Medical equipment • Food packaging machines
Introduced on page	B1-1 and on	B3-1 and on	B4-1 and on

Type	LM stroke	Precision linear pack	Cross-roller guide
Appearance			
Features	<ul style="list-style-type: none"> • Capable of performing rotary motion, straight motion, and complex motion • Capable of performing rolling motion with an extremely small friction coefficient • Low cost 	<ul style="list-style-type: none"> • Ultra-thin and lightweight • Reduced design and assembly costs 	<ul style="list-style-type: none"> • Long service life and high rigidity • Easy clearance adjustment
Stroke	Finite stroke	Infinite stroke	Finite stroke
Major applications	<ul style="list-style-type: none"> • Press die settings • Printing machine ink roll units • Optical measuring instruments • Spindles • Solenoid valve guides • Press post guides • Load cells • Photocopiers • Inspection machines 	<ul style="list-style-type: none"> • Magnetic disc devices • Electronic equipment • Semiconductor manufacturing equipment • Medical equipment • Measuring equipment • Plotting machines • Photocopiers 	<ul style="list-style-type: none"> • Measuring instruments • Component mounters • Printed circuit board drilling machines • Inspection equipment • Small stages • Handling mechanisms • Automatic lathes • Tool grinders • Internal grinding machines • Small surface grinding machines
Introduced on page	B5-1 and on	B6-1 and on	B7-1 and on

Selection Criteria

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Type	Cross-roller table	Linear ball slide	LM roller
Appearance			
Features	<ul style="list-style-type: none"> • Easily installable unit • Choose from several modes of use 	<ul style="list-style-type: none"> • Easily installable unit • Lightweight and compact • Capable of performing compact rolling motion with an extremely small friction coefficient • Low cost 	<ul style="list-style-type: none"> • Compact with large load capacity • Automatic skewing adjustment
Stroke	Finite stroke	Finite stroke	Infinite stroke
Major applications	<ul style="list-style-type: none"> • Measuring equipment stages • Optical stages • Tool grinders • Printed circuit board drilling machines • Medical equipment • Automatic lathes • Internal grinding machines • Small surface grinding machines 	<ul style="list-style-type: none"> • Small electronic part assembly machines • Handlers • Automatic recorders • Measuring equipment stages • Optical stages • Medical equipment 	<ul style="list-style-type: none"> • Precision press ram guides • Press mold exchangers • Heavy load conveyor systems • Bending machines
Introduced on page	B 8-1 and on	B 9-1 and on	B 10-1 and on

Type	Flat roller	Slide pack	Slide rail
Appearance			
Features	<ul style="list-style-type: none"> • Large load capacity • Combined accuracy of a 90° V-shaped surface and a flat surface available as standard 	<ul style="list-style-type: none"> • Interchangeable • Low-cost and simple 	<ul style="list-style-type: none"> • Thin and compact design • Low-cost and simple • High strength and high durability
Stroke	Infinite stroke	Infinite stroke	Finite stroke
Major applications	<ul style="list-style-type: none"> • Planers • Horizontal milling machines • Roll grinding machines • Surface grinders • Cylindrical grinders • Optical measuring instruments 	<ul style="list-style-type: none"> • Amusement machines • High-grade furniture • Light and heavy doors • Tool cabinets • Kitchen equipment • Automatic feeders • Computer peripherals • Photocopiers • Medical equipment • Office equipment 	<ul style="list-style-type: none"> • Amusement machines • High-grade furniture • Light and heavy doors • Office equipment • Store fixtures • Stockers
Introduced on page	B 11-1 and on	B 12-1 and on	B 13-1 and on