

04 Ballscrews For Automation Industry-PPR/ PTR Series

High applicability of shaft end

The shaft end has not been heat treated and the center holes at both ends of the screw are retained, making it easy to machine the shoulder size of the shaft end.

Short delivery time

Set the common specifications, tooth length, and end machining length of the ballscrews as the standard for stock products.

Low Price

The precision level is set with a clearance of C5 or C7, which reduces costs through mass production and makes prices more favorable.

PPR(Miniature Series)

Space saving

Adopting a special external circulation design, the steel ball can achieve a soothing effect of speed in the reflux section, reducing wear and extending service life.

Circulation way

Designed with a 3D S-line bending reflux path, allows the steel ball to achieve a soothing effect of speed in the reflux section, reducing wear and extending service life.

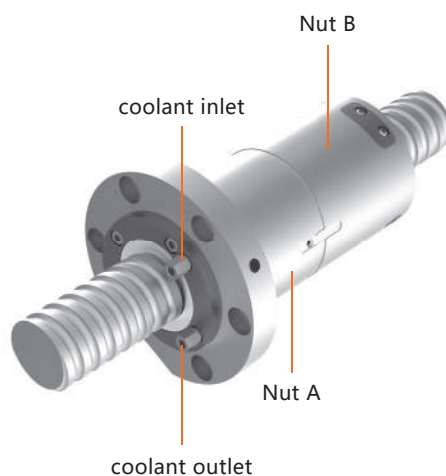
PTR(End Deflector Series)

Space saving

The length of the nut becomes shorter, and the outer diameter size can be reduced by 20-25%, which can reduce the overall size.

Circulation way

Adopting composite materials and a structural design with tangent paths, effectively reducing collisions and vibrations during steel ball cycling, and reducing noise levels



05 BallScrew of Nut Cooling

Multiple circulating cooling channels are made in the nut, through which the forced cooling liquid passes through, effectively suppressing the heat energy and thermal expansion generated by the rolling of steel balls, in order to achieve the goal of high-speed and high-precision ball screws.

Improve positioning accuracy and stability

It can suppress the temperature rise of the ballscrew, reduce thermal displacement, and achieve high-speed machine and high positioning accuracy.

Save the warm-up time

It can stabilize the temperature of ballscrew faster, thus shortening the warm-up time of the machine.

Maintain lubricating grease performance

When the temperature of the ball screw reaches a stable level, it can prevent the lubricating oil from deteriorating due to high temperature.

06 Ballscrews-Low Noise Type

NEW PRODUCT

Features:

Low Noise Type

V series: Suitable for plastic circulating bends with a lead of less than 12mm.

Optimized return path design can absorb the noise generated by the steel ball recirculator and reduce it by 4-5 dBA compared with generally products.

Quality Tone

Using a high rigidity and wear-resistant reflux system to keep the sound of the steel ball running low and smooth.

Circular Path of Tangent Design

The impact force of the steel ball entering the reflux system is significantly reduced, resulting in a reduced and smooth vibration of the nut during operation.

Application :

CNC Machinery / Industry Machinery / Semi-Conductor Equipment



FSWW

Cross Roller Bearing

To solve the problem of reducing the mechanism which use one bearing to replace to two bearings solution. Cross rolling bearing is a structure where the rollers are arranged in a 90 degree relative staggered arrangement between the outer and inner ring tracks of the bearing.

PMI designs and manufactures a variety of cross roller bearings that can handle axial load, radial, thrust and overturning moment loads at the same time. Significantly reduce the combination height required for bearings, achieving high rigidity and excellent load capacity.

Features:

- High Accuracy
- High Rigidity, High Load Capacity
- Saving space
- Specification Diversification
- Crowning Rollers

Application :

Special Mechanical Processing Center Precision Rotary Table / Industrial robot joint rotation part / Measuring instrument and IC manufacturing.



Precision/ Stability/ Durability/High Rigidity



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PRECISION MOTION INDUSTRIES
PRODUCTS DIRECTORY

- Ballscrews
- Linear Guideway
- Precision Ball Spline
- Ball Spline
- Actuator
- Cross Roller Bearing



Ballscrews

01 Ballscrews For Heavy Load - FSVH / FSDH Series

PMI has made improvements to the FSVH/FSDH type(contact angle between steel balls and threads, steel ball diameter,reflow method)to increase the dynamic load rating by more than 2 times that of the oldtype (FSVC).

Long life

The circulation structure adopted by PMI can evenly distribute the load in the nut and improve the service life of the ballscrew.

High DN value

PMI adopts a tangential circulation structure of steel balls and return tracks, which can be used for high speed requirements with high DN values.

Low Noise

Because it adopts a tangential circulation structure, it can eliminate the noise caused by the steel balls hitting the return pipe during reflow.

Diversified specification combination

PMI can produce standard specifications with a diameter of 40-120mm and a lead of 10-16mm



Application:

Injection molding machine /
Stamping and Forging Machine /
Die casting machine tool /
Semiconductor manufacturing equipment /
Industrial machinery

02 Ballscrews-End Deflector series Ballscrews - D-TYPE

For high lead ball screw, high rigidity, low noise, and temperature rise control are very important. PMI adopts the following countermeasures and patented designs to achieve the following characteristics:

High DN value

DN value can reach up to 220000.

Low noise

The average and accurate pitch circle diameter(PCD) of the steel ball on the thread enables the ball screw to achieve stable and consistent preloading torque and reduce noise value. Using a high rigidity and wear-resistant reinforced plastic material reflux system, the sound of the steel ball operation remains low and smooth.

Circulation way

The reflow path is tangent to the lead angle and tangent to the PCD, which can effectively improve its smoothness.

Application:

CNC machine tools /
Precision specialized machines /
High-speed machine tools /
Electronic production equipment /
Medical equipment



Space saving

The length of the nut becomes shorter, and the outer diameter size can be reduced by 20-25%, which can reduce the overall size by about 50%.

Circulation way

The reflow path is tangent to the lead angle and tangent to the PCD, which can effectively improve its smoothness.

03 Miniature Series Ballscrews-Miniature Series

For Miniature Series, using a small nut diameter and a unique reflux method has achieved more stable and high-precision equipment requirements.

Space saving

Using the external circulation method, the ballscrews does not need to be tailed. The special nut design makes the nut size as compact as the internal circulation method without occupying space.

Circulation way

Unique circulation method, designed with a 3D S-line bending reflux path, allows the steel ball to achieve a soothing effect of speed in the reflux section, reducing wear and extending service life.

Application:

Semiconductor manufacturing equipment /
Measuring machine /
Nano platform



Linear Guideway

01 Heavy Load Type, MSA Series / Compact Type, MSB Series

MSA and MAB series linear guides are designed with 4 circular isolated contact and 45° contact angle steel ball columns, providing the same rated load capacity in radial, reverse radial, and transverse directions. They can be used in various installation methods of X, Y, Z, and other axes, and can be uniformly pre-load while maintaining low friction and positive force, enhancing the rigidity of the four force directions, especially suitable for high-precision and high-load motion modes.

The patented lubricating oil circuit design can evenly inject lubricating grease into each circulation circuit, achieving the best lubrication effect regardless of various installation methods, and improving the overall smoothness and service life of walking, achieving high-precision, high reliability, and smooth and stable straight line motion requirements.

Features:

- Four way equal load
- Smooth Movement, Low Noise
- Self Alignment Capability
- Steel ball wire retainer design

Application:

Machine Center / NC Lathe / XYZ Axes of Heavy Cutting Machine Tools / Grinding Head Feeding / Axis of Grinding Machines / Milling Machine / Z Axis of Boring Machine and Machine Tools / EDM / Z Axis of Industrial Machine / Measuring Equipment / Precision XY Table / Welding Machine / Auto Packing Machine

02 Miniature Type, MSC / MSD Stainless Steel Series

MSC/MSD stainless steel series linear guideway adopts a 2-row Goethe arc contact type and 45° contact angle steel ball design, providing the same rated load capacity in radial, reverse radial, and transverse directions, regardless of X, Y, Z, etc., various installation methods of the shaft can be used. The design of ultra miniaturization and low friction resistance is suitable for use in miniaturized equipment.

Combined with the lubrication oil circuit design, it can evenly inject lubricating grease into each circulation circuit, achieving the best lubrication effect regardless of various installation methods, and improving the overall smoothness and service life of walking, achieving high-precision, high reliability, and smooth and stable linear motion requirements.

Features:

- Four way equal load
- Interchangeability
- Interchangeability
- Four way equal load
- Steel ball wire retainer design
- Application

Application:

IC / LSI Manufacturing Machine / Hard Disc Drive / Slide Unit of OA Equipment / Wafer Transfer / Inspection Equipment / Medical Equipment

03 Full Roller Type, MSR Series / Roller Chain Type, SMR Series

The roller type linear guide way can provide higher rigidity and load capacity on linear guide way of the same size due to the use of roller rolling elements instead of ordinary steel ball rolling elements. In addition to providing the MSR series with full roller type, we also introduce the SMR series linear guideway with roller chain belt type. Coupled with the patented design of roller chain belt type, it can make its operation more stable and smoother, especially suitable for equipment requirements that require high precision, high load, and high rigidity.

Features:

- Heavy Load, High Rigidity
- Ultra high rigidity
- Smoothwalking
- Optimization Design of Four way Load
- Roller chain belt design for
- Smooth Movement, Excellent lubrication effect

Application:

CNC Machining center / CNC lathe / grinding machine / 5 axes milling machine / Boring Machine / Drilling Machine / Horizontal Milling machine / Mold processing machine / EDM

04 Wide Rail Type, MSG Series

The MSG series linear guide rail adopts a steel ball row design with 4 rows of four circular arc contact and 45° contact angle, which is superior to MSA and MSB series increases rail width to improve torsional impedance and has a lower combination height, making it particularly suitable for use in limited spaces.

Features:

- Widened guide rail width with high torsion resistance.
- Adopting four rows of steel balls with a 45° contact angle, and designed with equal load in four directions.
- Self Alignment Capability, It can absorb assembly errors of the installation surface.
- High Positioning Accuracy and stability
- Reduce combination height

Application:

Machine Center / Auto Packing Machine / Laser Cutting Machine

05 SMA/SMB Series NEW PRODUCT

Features:

- Four-way Equal Load
- Self Alignment Capability
- Interchangeability
- MSB and SMB use one rail at the same time
- Smooth movement, Ball Chain Type Design
- Good lubricant effect

Application:

Machine Center / NC Lathe / XYZ axes of Heavy Cutting Machine Tools / Worktable for grinding machines / Feed axis milling machines / Vertical or Horizontal boring machines / Z-axis machines for Industrial machinery / Automatic coating machines / Industrial robots / Various high-speed material supply devices / Z-axis machines for general industrial machinery / punching machines for printed circuit boards / EDM machines / Measuring Equipment / Precision XY Table

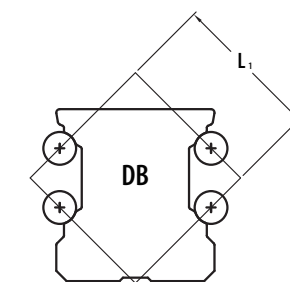
06 MSI Series NEW PRODUCT

Product structure:

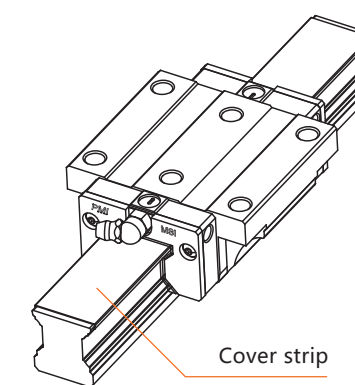
MSI series linear guide adopts 4-row arc contact and 45° contact angle steel ball row design, providing the same rated load capacity in the four directions of radial, reverse radial and transverse directions, regardless of various axes such as X, Y, and Z. All installation methods can be used, and preloading can be applied uniformly while maintaining low frictional resistance to enhance the rigidity in the four force directions. It is especially suitable for high-precision and high-load-free movements.

Features:

- High Moment-Resisting
The circular groove design adopts a back combination (DB combination).
- Can be paired with buckle type dustproof steel belt.
The guide rail can be made of special stainless-steel strips, suitable for high dust prevention situations.



- High Rigidity, Four-way equal load



KM Series

The technology and experience of PMI guide rails and screw rods, combined with the integrated design of nuts and sliders, and combined with a highly rigid U-shaped rail to optimize the cross-section, can achieve the best utilization of space and significantly reduce installation time, ensuring its high rigidity and precision requirements. The steel ball rolling surface adopts a superior design of 2 rows of Goethe arc and 45° contact angles, which also provides load capacity in four directions.

Features:

- Four-way equal load
- Space Saving
- High Rigidity
- High Precision

Application:

IC / LSI manufacturing machine / hard disc drive / slide unit of OA equipment / Wafer transport device / Inspection device / medical machine

STRA Series

Features:

By rotating or stopping the Ball Splines, a single ballscrew can simultaneously have two types of movements: rotation, straight line.

- High Positioning Accuracy
The spline tooth shape is a Gothic tooth, and there is no flow in the direction of rotation after applying preload, which can effectively improve its accuracy.
- Compact Design
The spline bearing sleeve and support bearing are designed as an integrated structure, and the weight of the spline can achieve the smallest and lightest design.
- Easy Installation
The spline bearing sleeve and support bearing are designed to be formed as a whole, and during assembly, only the screws and bearing sleeve need to be fixed on the support seat, which is very simple.
- Support Bearing
During operation, the precision spline only supports the bearing design with a 45° contact angle, and bears both axial and radial forces.

Application:

Industrial robots / Transporting equipment / Wire Winder / Automatic line machines / ATC (Automatic tool changing)/, etc.

PBSA Series

Features:

By applying or stopping Precision Ball Splines, a single screw can simultaneously have three modes of motion: rotation, straight line, and spiral.

- High Positioning Accuracy
- Excellent support bearing rigidity
- Easy Installation
- Lightweight and compact
- Low voice and smooth movement

Application:

SCARA machine, assembly robot / automatic cutting machine / initial machining center ATC devices, as well as combination devices suitable for rotating and linear motion.

SLT/SLF Series

Features:

- Large Load Capacity
- No Angular Backlash
- High Rigidity
- Ball Retaining Type

Application:

Industrial robots / Transporting equipment / Wire Winder / Automatic line machines / ATC (Automatic tool changing)/, etc.