

**1ST EDITION**

# **METRIC ONLINE PRODUCT GUIDE**

**MECHANICAL COMPONENTS  
FOR ASSEMBLY AUTOMATION**



# MiSUMI





## WHY MISUMI?

Our mission is to provide innovative configurable products that fulfill our customers' needs for high quality, competitive prices and short delivery times. MISUMI currently serves over 150,000 customers worldwide. MISUMI's products can be utilized in a diverse range of industries including automotive, medical, semiconductor, packaging and 3D Printing.



# Find the product you're looking for easily & quickly on **misumiusa.com**.

**Jump from paper to web by product type in seconds**

MISUMI e-commerce makes it possible to find, configure, download CAD Data and place orders. Just type the product Web Code or Product Keyword.

**Insert Web Code or Keyword** (ex: #SFP or Linear Shaft)

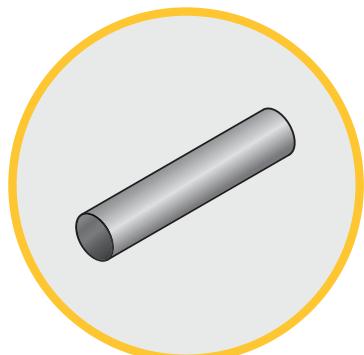
The screenshot shows the MiSUMI USA website homepage. A yellow box highlights the search bar at the top left, which contains the placeholder "Enter Keyword or Part Number". To the right of the search bar is a magnifying glass icon. Below the search bar is a sidebar with categories like "Automation Components", "Press Die Components", and "Plastic Mold Components". The main content area features a search bar with the placeholder "Enter Keyword or Part Number" and a magnifying glass icon. A callout bubble labeled "Search by Web Code (ex: #SFP)" points to the search bar. Another callout bubble labeled "Search by Keyword or Category" points to a large green button labeled "Rotary Shafts / Drive Shafts". The page displays various product categories such as "Linear Motion", "Locating, Positioning, Jigs & Fixtures", "Rotary Motion", and "Casters & Leveling Mounts". Each category has a sub-section with small images of the products and their respective part numbers.



# Configurable ordering made easy.

**Only MISUMI offers a completely configurable choice.**

Configuring your MISUMI components to your exact specifications is easy with our 3D CAD downloads, free engineering support, and over 9 million configurable components.

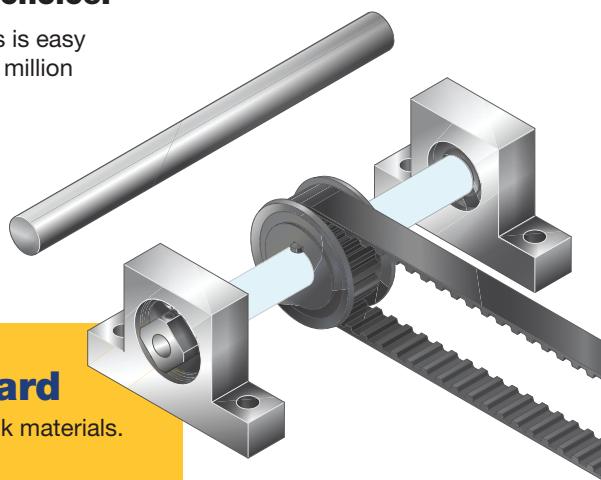


1 →

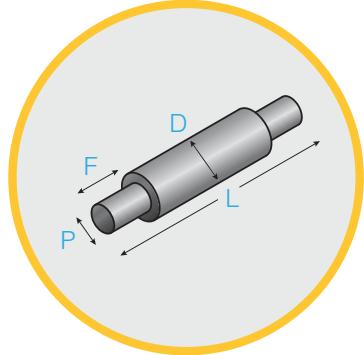
Select Part  
Select Material

## Standard

Off the shelf, stock materials.



vs.



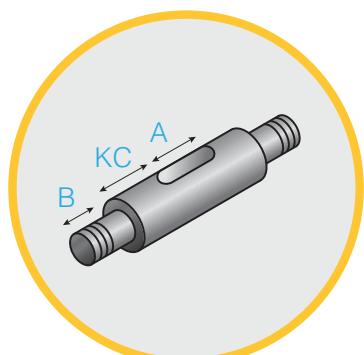
2

Configure Size  
(Diameter,  
Length, etc.)

## Configurable

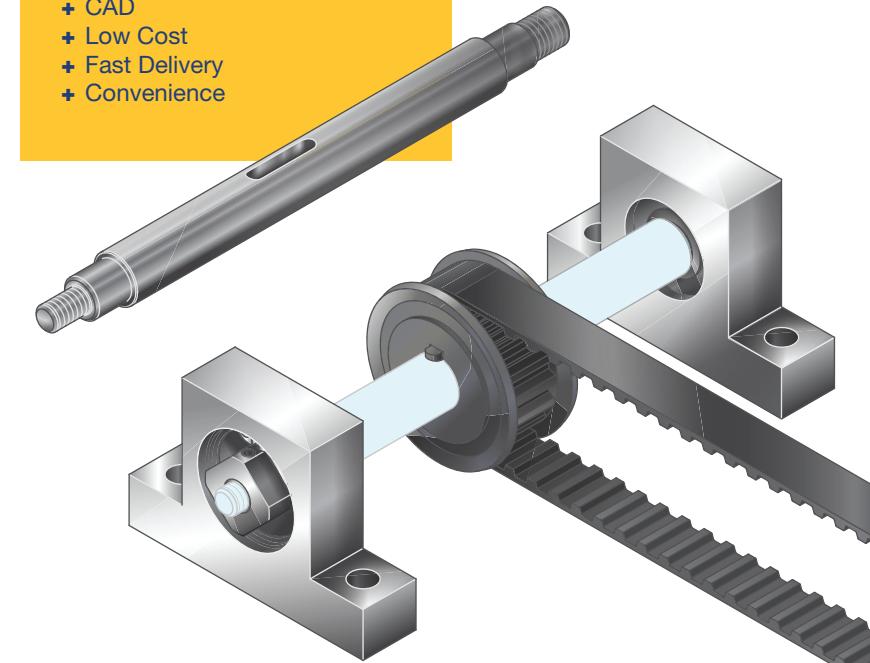
Only MISUMI offers:

- + Flexibility
- + Unlimited Selection
- + Uncompromised Design
- + Smart Universal Part Number
- + CAD
- + Low Cost
- + Fast Delivery
- + Convenience

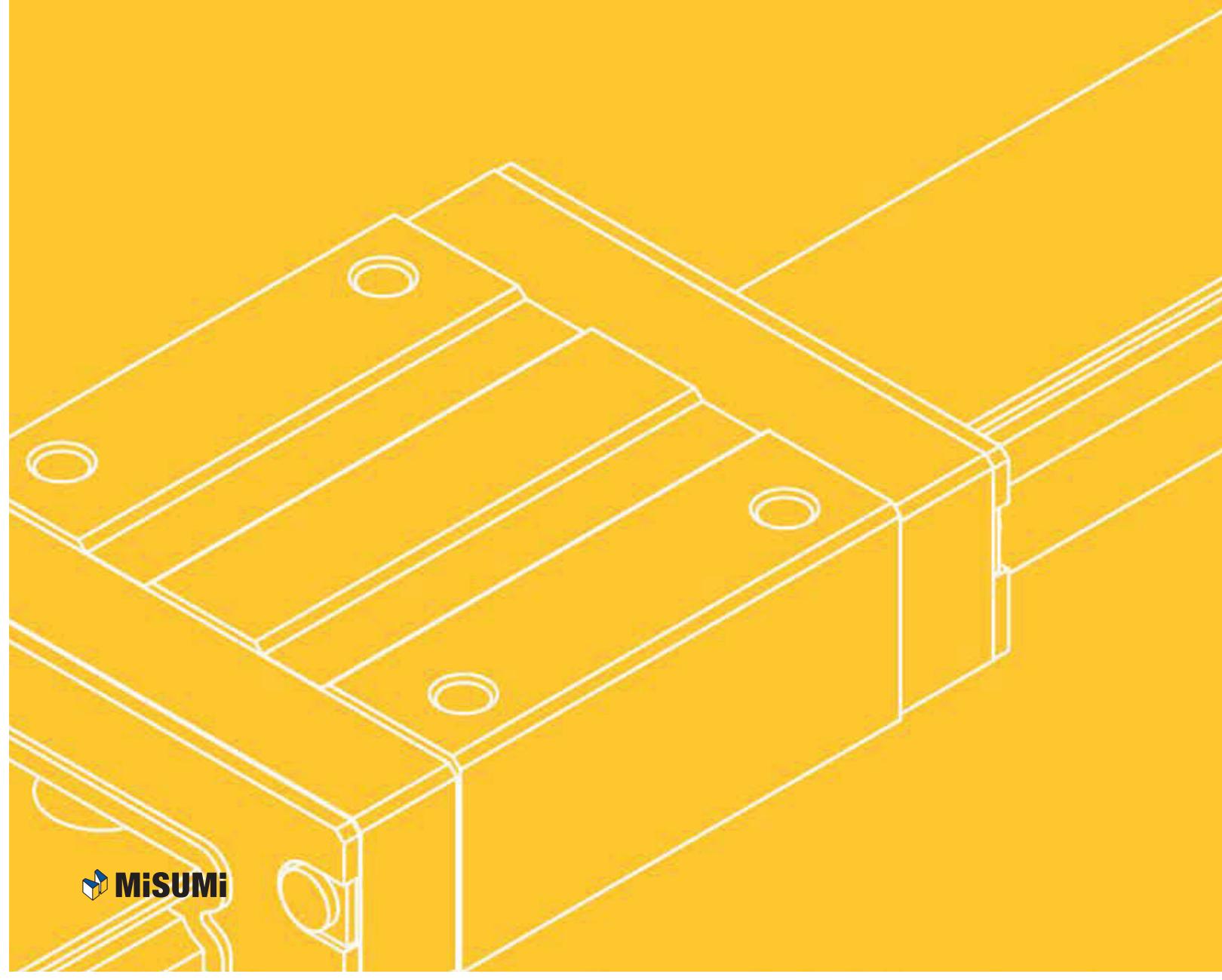


3 →

Add Features  
& Refine



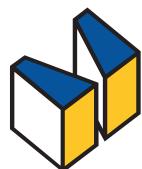
**MISUMI USA** has more than 9 million configurable components from which to choose, in as fine as 0.01mm. There are no minimum orders, no set up charges, free CAD downloads, and same day shipping on stock components.

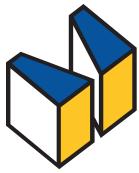


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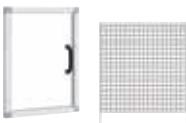
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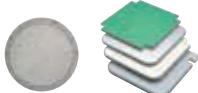
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#SFAU

Both Ends Threaded with Wrench Flats, Hole



#SAFM

Both Ends Threaded with Undercuts



#SAFU

Both Ends Threaded with Undercut, with Wrench Flats, Hole



#SFAQ

Straight, One End Threaded



#SFAN

One End Threaded



#SFAS

One End Threaded, One End Tapped with Wrench Flats, Hole



#SAFN

One End Threaded with Undercut



#SAFS

One End Threaded with Wrench Flats, Hole



#SFAQ

One End Stepped and Threaded, Both Ends Stepped and Threaded



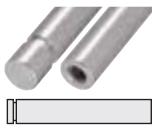
#SFAB

One End Threaded, One End Stepped/Tapped



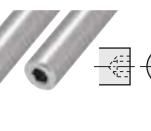
#PSFC

Fully Plated



#SFJQ

Set Screw Grooves



#SFBH

Hexagon Socket



#SFDG

One End Two Tapped Holes



#SFAR

Retaining Ring Grooves on Both Ends



#SFAK

Key Groove on One End



#SFLU

One End Tapered, One End Tapped



#SFIG

With Tapped Pilot



#VFJW

Both Ends Tapped with Wrench Flats – Precision



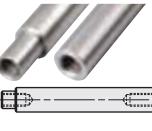
#VFJC

One End Tapped with Wrench Flats, Hole – Precision



#VFAH

Both Ends Stepped and Tapped – Precision



#VFAA

One End Stepped, Both Ends Tapped – Precision



#VFAG

One End Stepped and Tapped – Precision



#VFAZ

One End Threaded, One End Tapped – Precision



#VAFD

One End Threaded with Undercut, One End Tapped – Precision



#VFAD

One End Stepped and Threaded, One End Tapped – Precision



#VFBM

Both Ends Threaded with Wrench Flats – Precision



#VAFM

Both Ends Threaded with Undercut, with Wrench Flats – Precision



#VFBN

One End Threaded with Wrench Flats – Precision



#VAFN

One End Threaded with Wrench Flats, Hole – Precision



#SPJ

Pipe (Hollow) Shafts



#SPJT

Hollow-One End Tapped with Wrench Flats



#SPJM

Hollow-Both Ends Threaded



#SPJD

Hollow-One End Threaded, One End Tapped

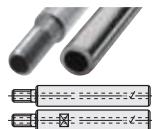


#SPJW

Hollow-Both Ends Tapped with Wrench Flats

## Linear Shafts



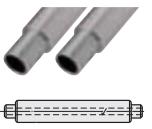


#SPJN

Hollow-One End Threaded,  
with Wrench Flats

#SPJG

Hollow-One End Stepped

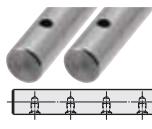


#SPJQ

Hollow-Both Ends Stepped



#SPJA

Hollow-One End Stepped,  
One End Tapped

#SFAE

Hollow-Continuous Support



#FSFJ

Hollow-One End Threaded,  
with Wrench Flats

#FSPJ

Hollow, Shaft End Shapes  
Specified

## Shaft Supports



#ATHC

Flanged Mount, Thick Sleeve



#STHI

Flanged Mount with Pilot



#STHC

Flanged Mount with Dowel Holes



#STH1

Flanged Mount



#STH3

Flanged Mount with Pilot,  
Thick Sleeve

#STH2

Flanged Mount with Dowel Holes



#STHW

Flanged Mount, Clamp-On



#STH6

Flanged Mount with Pilot, Clamp-On



#STH5

Flanged Mount with Dowel Holes,  
Clamp-On

#STHM

Compact, Clamp



#STH4

Flanged Mount with Keyway



#STHX

Flanged Mount, Back Mount



#STHP

Flanged, Two Piece Clamp



#SHF

Flange Mount, Cast



#SHFL

Flange Mount, Cast, Long Sleeve



#SHA

T-Shaped Casting, Clamp-On



#SHAN

Wide T-Shaped Casting, Clamp-On



#SHT2

T-Shaped Casting



#SHTC

T-Shaped Casting, Side Clamp-On



#SHT3

Compact T-Shaped Casting,  
Side Clamp-On

#SHTD

Two-Piece T-Shaped Casting



#SHT4

Two-Piece Wide T-Shaped Casting



#SHTA

T-Shaped, Set Screw



#SHTB

T-Shaped, Wide



#SHST

T-Shaped, Clamp-On



#SHS3

Wide T-Shaped, Clamp-On



#SHWT

T-Shaped, Side Clamp-On

Enter Web Code (ex. #SFJ)



NEW NEW PRODUCT

★ BEST SELLER

✓ TYPICALLY IN STOCK

#SHW2  
Wide T-Shaped, Side Clamp-On#SHPT  
Two-Piece T-Shaped#SHP2  
Two-Piece Wide T-Shaped#SHM3  
Compact, Standard#SHMT  
Compact, Wide#SHMW  
Compact, Standard, Side Clamp-On#SHMP  
Two-Piece Compact#SHM2  
Two-Piece Wide Compact#SHS4  
T-Shaped with Clamp Lever#SHHT  
T-Shaped, Hinged#SHKH  
L-Shaped, Hinged#SHK2  
L-Shaped#SHK3  
L-Shaped, Clamp-On#SHK4  
L-Shaped, Side Clamp-On#SHKP  
Two Piece L-Shaped#SHKL  
L-Shaped Cast#SHKS  
L-Shaped Cast, Clamp-On#SHKW  
L-Shaped Cast, Side Clamp-On#SHKB  
Two-Piece L-Shaped Cast#SHBM  
Bottom Mount#SHB2  
Bottom Mount, Wide#SHSB  
Bottom Mount, Clamp-On#SHS2  
Wide Bottom Mount, Clamp-On#SHSP  
Two-Piece Bottom Mount#SHSN  
Two-Piece Wide Bottom Mount#SHSW  
Bottom Mount, Side Clamp#SHQB  
Side Mount#SHYA  
Side Mount, Clamp-On#SHUA  
Side Mount, Side Clamp#SHZA  
Two-Piece Side Mount

## Shaft Collars

#SCC  
Set Screw#SCS  
One-Piece Clamp-On#SCSP  
Two-Piece Clamp-On#SCD  
One-Piece Clamp-On with Urethane



**#SCSD**  
Two-Piece Clamp-on with Urethane



**#SCS1**  
Plastic, One-Piece Clamp-on



**#SCS3**  
Plastic, Two-Piece Clamp-on



**#SCSA**  
Aluminum, One-Piece Clamp-on



**#SCNP**  
Aluminum, Two-Piece Clamp-on



**#SCBR**  
Set Screw, Short Shoulder  
(for Bearings)



**#SCBN**  
Clamp-On, Short Shoulder  
(For Bearings)



**#SCMN**  
Set Screw with 2 Holes



**#SCSG**  
With Counterbored Holes



**#SCSM**  
2 Tapped Holes



**#SCST**  
3 Holes, 3 Tapped Holes



**#SCS2**  
Two-Piece Clamp-on, with 2 Holes



**#SCWM**  
Insert Lock, 2 Holes, Threads



**#SCWD**  
With Clamp Lever, Wedge, D Cut



**#SCWR**  
Insert Lock, 3 Holes, Threads



**#SCWJ**  
With Clamp Lever, Wedge,  
Side Mounting Holes



**#SCKL**  
With Clamp Lever, Standard



**#SCDK**  
With Clamp Lever, D Cut



**#SCJK**  
With Clamp Lever, Side Mounting  
Holes



**#SDSN**  
D Cut, Set Screw



**#SDS**  
D Cut, Compact, Clamp



**#SDN**  
Two-Piece D-Cut



**#SCJS**  
Side Mounting Holes, Clamp



**#SCJP**  
Two-Piece Clamp-on with Side  
Mounting Holes



**#SCJN**  
2-Flats, Cut Surface Mount Hole



**#SCSH**  
Hinged



**#SCPK**  
2-Flats, Cut Surface Mount Hole



**#WSC**  
One Touch



**#SCCN**  
Threaded I.D., Set Screw



**#SCSN**  
Threaded I.D., Clamp-on



**#SCKS**  
With Key Groove/Set Screw



**#SCSK**  
With Key Groove, Clamp-on



Product Name	Linear Bushings	Oil Free Bushings	Ball Splines	Linear Guides	Linear Bushings
Page	pgs. 15–16	pgs. 18–19	pg. 17	pgs. 21–22	
Usage/Picture					
Typical Usage	Provides smooth linear motion. Runs at higher speed than plain bushings. Used with hardened shafts.	Used for heavy loads in dirty environments. Can be used with hardened and unhardened shafts. Most don't require lubrication.	Use for high speed linear motion under high torsional loads.	Used for smooth and high accuracy motion under heavy loads and moment loads.	
Motion Type	Linear*	Linear / Rotary	Linear	Linear	
Size	Ø3–50 mm	Ø5–100 mm	Ø6–30 mm	Height 6–42 mm	
Materials	– Steel – Stainless Steel	– Copper Alloys (Brass, Bronze) – Steel – Resins (PTFE, Polyacetal)	– Steel – Stainless Steel	– Steel – Stainless Steel	
Available Coatings	– Electroless Nickel – Low Temperature Black Chrome	N/A	N/A	– Low Temperature Black Chrome	
Load Capacity	Medium	Medium–High	Medium–High	High	
Operating Temp.	-20 to 120 °C	-200 to 200 °C	-10 to 120 °C	Standard (-10 to 120 °C) Heat Resistant (-100 to 150 °C)	
Accuracy	Medium	Low	Medium–High	Medium–High	
Cost \$	\$\$	\$	\$\$\$\$	\$\$\$\$	

Unit Conversions: °F = (°C \* 1.8) + 32 (Example: °F = (100°C \* 1.8) + 32 = 212°F)

\*Stroke bushings can handle rotary motion

## Linear Bushings

#LHFC  
Flanged Linear Bushings – Single#LHFW  
Flanged Linear Bushings – Double#LHIF  
Flanged Linear Bushings with Pilot-Single#LHIW  
Flanged Linear Bushings with Pilot-Double#LHMW  
Flanged Linear Bushings – Center Flange#LHRK  
Compact, Single#LHFD  
Flanged Linear Bushings – Medium Lg.#LHIC  
Flanged Linear Bushings with Pilot, Medium Lg.#LHMC  
Flanged Linear Bushings – Medium Lg., Center Flanged#LHKC  
Flanged Linear Bushings, Long Lg.#LHKM  
Flanged Linear Bushings with Long Pilot, Long Lg.#LMU  
Linear Bushings – Standard, Single#LMUW  
Linear Bushings – Standard, Double#LMUT  
Linear Bushings – Short#LMUD  
Linear Bushings – Medium#LMK  
Linear Bushings – Compact, Single#LHBW  
Wide Pillow Block Bushings#LHBBW  
Long and Wide Pillow Block Bushings#LHSS  
Pillow Block Bushings



## Linear Bushings


**#LHSW**  
Pillow Block Bushings, Double

**#LHSD**  
Pillow Block Bushings, Tall Block

**#LHGS**  
Pillow Block Bushings, Wide Mount

**#LHSL**  
Pillow Block Bushings with Clamp

**#LHBBC**  
Wide Pillow Block Bushings with Clamp


## Ball Guides


**#LHRC**  
Flanged Linear Bushings with Clamp Lever

**#LCSC**  
Height Adjust Spacers for Linear Bushings

**#LBS**  
Spacers for Linear Bushings

**#LMST**  
Stoppers for Linear Bushings

**#LMUM**  
Linear Bushings with MX Unit

**#LHFX**  
Flanged Linear Bushings with MX Unit

**#LHFM**  
Flanged Linear Bushings-Double w/ MX Unit

**#LHMM**  
Flanged Linear Bushings w/ MX Unit-Center Flange

**#LHIM**  
Flanged Linear Bushings w/ MX Unit- w/Pilot

**#LHIX**  
Flanged Linear Bushings w/ MX Unit-Double Bushing w/ Pilot

**#LHSM**  
Pillow Block w/MX Unit

**#LHBM**  
Wide Pillow Block w/ MX Unit

**#LBUS**  
Stroke Ball Bushings

**#LBHR**  
Flanged Stroke Ball Bushings

## Ball Guides


**#BGZ**  
Miniature Ball Bearing Guide Sets

**#BGA**  
Miniature Ball Bearing Guide Sets – One End Tapped

**#BGY**  
Miniature Ball Bearing Guide Sets – Both Ends Tapped

**#BGSZ**  
Miniature Ball Bearing Guide Sets – With Retaining Ring

**#BGBP**  
Shafts for Miniature Ball Bearing Guides – Straight

**#BGST**  
Shafts for Miniature Ball Bearing Guides – With Retaining Ring

**#BGDP**  
Shafts for Miniature Ball Bearing Guides – One End Tapped

**#BGEF**  
Shafts for Miniature Ball Bearing Guides – One End Threaded

**#BGAP**  
Hollow Shafts for Miniature Ball Bearing Guides – One End Tapped

**#BGFP**  
Shafts for Miniature Ball Bearing Guides – Both Ends Tapped

**#BGHP**  
Shafts for Miniature Ball Bearing Guides – One End Threaded, One End Tapped

**#BGCP**  
Hollow Shafts for Miniature Ball Bearing Guides – Both Ends Tapped Hollow

**#BGB**  
Bushings for Miniature Ball Bearing Guides

**#BGHT**  
Flanged Bushings for Miniature Ball Bearing Guides



**#BGS**  
Miniature Ball Bearing Guide  
Components – Ball Slider

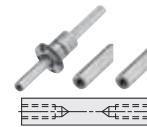


**#BYS**  
Miniature Ball Bearing Guide –  
Ball Slider Compact

## Ball Splines



**#BHSM**  
Ball Splines – Standard



**#BSHM**  
Ball Splines – Both Ends Tapped



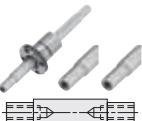
**#BSFM**  
Ball Splines – One End Tapped



**#BSJM**  
Ball Splines – Both Ends Stepped



**#BSDM**  
Ball Splines – One End Stepped



**#BSLM**  
Ball Splines – Both Ends Stepped  
and Tapped



**#BSBM**  
Ball Splines – One End Stepped and  
Threaded, One End Tapped



**#BSYM**  
Ball Splines – Both Ends Stepped  
and Threaded

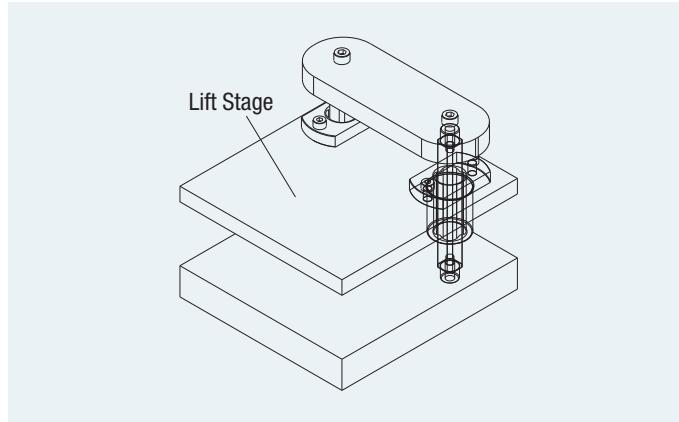
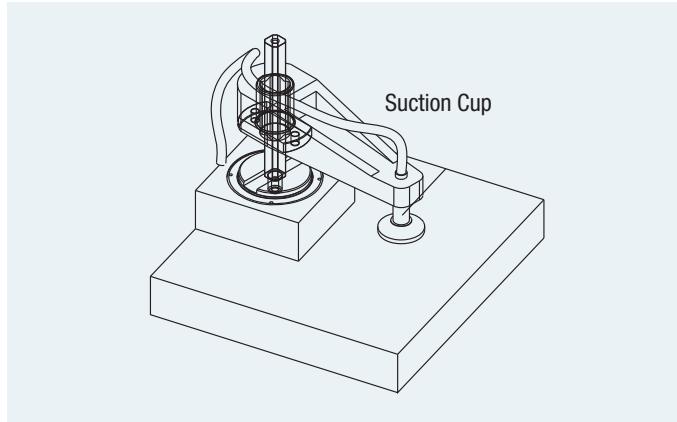
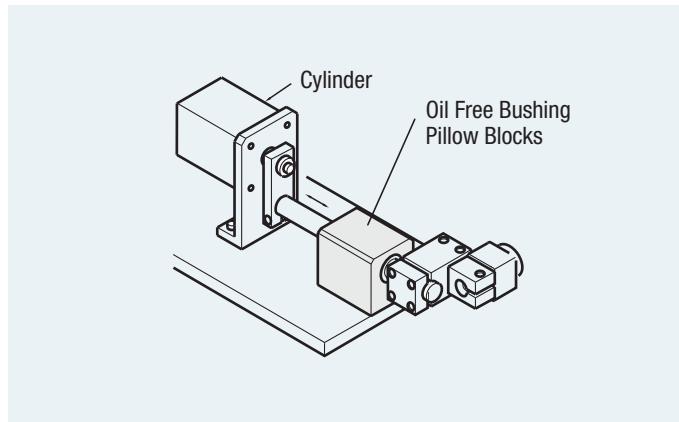
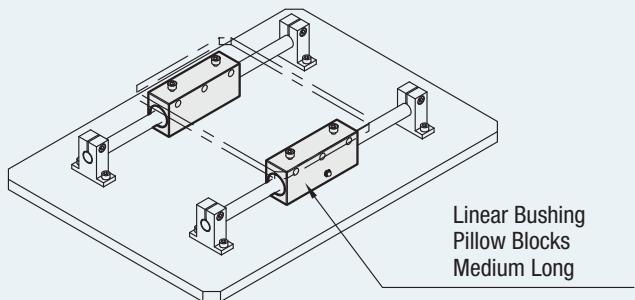


**#BSKM**  
Ball Splines – One End Stepped  
and Threaded



**#RGPF**  
Needle Bearing Guide Sets

### Example





Product Name	Copper Alloy (Bronze)	Copper Alloy (Brass)	Cast Iron	Multi-Layer (PTFE Filler)	Multi-Layer (Fluororesin Filler)	Resin (Polyacetal)	Resin (PTFE)				
Usage, Picture											
Typical Usage	Best suited for high speed and low load applications when lubricated.	Best suited for high load and low speed applications.	Best suited for medium load and low speed applications.	Thin wall and light weight. Best suited for high load and low speed applications.	Thin wall and light weight. Best suited for high speed applications.	Light weight. Best suited for high speed and food applications.	Light weight. Best suited for high speed and food applications.				
Lubrication Type	Grease Oil	Grease Oil	Grease Oil	Lube Free	Lube Free	Lube Free	Lube Free				
Rotation, Oscillating & Reciprocation Motion	•	•	•	•	•	•	•				
Recommended Mating Shaft Tolerance	f8, g6	d8, e7, f8, g6	e7, h7, g6	f8	f8, h7, g6	h7, g6	g6				
Operating Temp.	-40 to 150 °C	-40 to 150 °C	-40 to 200 °C	-40 to 150 °C	-195 to 280 °C	-50 to 140 °C	-40 to 80 °C	-200 to 200 °C			
Load vs. Velocity	Allowable Load [N/mm²]	10.0	29.0, 98.0*	5.0	8.0	49.0, 137.0*	6.0	17.5	7.0		
	Allowable Speed [m/s]	1.66	5.00	0.50	1.00	0.15	0.25	0.65	3.33	0.85	1.65
	Allowable PV Value [N/mm² * m/s]	1.65	3.25	1.65	3.25	0.50	0.80	3.60	0.98	2.45	1.00
	Air	G	G	G	G	G	G	G	G		
Environmental Conditions	Oil	G	G	G	G	P	G	G			
	Water	P	P	—	P	A	P	A	G		
	Seawater	P	P	—	P	P	P	A	G		
	Chemicals	P	P	—	P	A	P	A	G		
	Corrosive Atmosphere	P	A	P	A	G	A	G	G		
	Cost \$	\$\$	\$\$	\$\$\$	\$	\$\$\$\$	\$	\$\$	\$\$		

\*Allowable static surface pressure (no sliding motion or extremely low speed)

Unit Conversions: 1. °F = (°C \* 1.8) + 32 (Example: °F = (100°C \* 1.8) + 32 = 212°F) 2. kgf = N x 0.10192

Good Acceptable Poor

<b>Oil-Free Bushings / Washers</b>				
#MPBZ Oil-Free Bushings – Copper Alloy, Standard, I.D. F7, O.D. m6				
#MPBP Oil-Free Bushings – Copper Alloy, Standard, I.D. G6, O.D. h6				
#MPFU Oil-Free Bushings – Copper Alloy, Flanged, Thin Wall				
#MPCZ Flanged Oil-Free Bushings – Center Flange				
#MPWZ Oil-Free Copper Alloy Washers				
#MFCK Center Flanged Oil-Free Bushings – Double Bushing				
#MFKL Oil-Free Bushings – Flanged, Standard				
#MFIK Pilot, Flanged Oil-Free Bushings – Single Bushing				
#MHUT Oil-Free Bushing Pillow Block – Tall Block, Single Bushing				
#MHUA Oil-Free Bushing Wide Pillow Block – Single Bushing				



**#MHCT**  
Oil-Free Bushing Compact Pillow Block



**#MHCA**  
Oil-Free Bushings Wide Pillow Block



**#SMZ**  
Oil-Free Metal Bushings



**#MDZB**  
Multi-Layer LF Bushings – Straight



**#MHSR**  
Metal Bushings with Mounting Flanged



**#MDZF**  
Multi-Layer LF Bushings – Flanged



**#SMZH**  
Oil-Free Bushings – Casting, Flanged



**#MDZW**  
Thrust Washers – Multi-Layer LF



**#BFLB**  
Oil-Free Bushings – High Precision



**#MDCA**  
Flanged Housings with Oil-Free Bushings



**#MDBA**  
Wide Pillow Blocks with Oil-Free Bushings



**#MDBC**  
Compact Pillow Blocks with Oil-Free Bushings



**#MDWB**  
Tall Pillow Blocks with Oil-Free Bushings



**#JZB**  
Oil-Free Bushings – Polyacetal Resin, Straight



**#JZF**  
Oil-Free Bushings – Polyacetal Resin, Flanged



**#JZW**  
Oil-Free Resin Washers



**#TFZB**  
Oil-Free Bushings – PTFE Resin, Straight



**#JFMA**  
Pillow Blocks with Resin Bushings



**#TFZF**  
Oil-Free Bushings – PTFE Resin, Flanged



**#JFBA**  
Flanged Housing Unit with Resin Bushings

## Oil-Free Plates / Guide Rails



**#GRR1**  
Guide Rails – Standard with Dowel Hole



**#GRRM**  
Guide Rails – Steel, Oil Groove



**#GRMZ**  
Guide Rails – Lubrication-Free Copper Alloy



**#GRRP**  
Guide Rails – Plastic



**#GRRF**  
Guide Rails – Length and Screw Hole Pitch Configurable



**#SGRM**  
Guide Rails – Oil-Free Copper Alloy



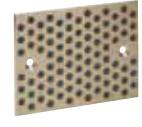
**#GRMF**  
Guide Rails – Copper Alloy, Length and Screw Hole Pitch Configurable



**#SLD**  
Guide Rails – Block



**#STR1**  
Oil-Free Slide Plates – Copper Alloy (Top-Bottom Surface Ground)



**#GRPZ**  
Oil-Free Slide Plates – Copper Alloy Configurable



**#UTW**  
Oil-Free Slide Plates – Copper Alloy (Top-Bottom Surface Ground)



**#STW**  
Oil-Free Slide Plates – Copper Alloy



**#GRFZ**  
Oil-Free Slide Plates – Multi-Layer



**#SGRA**  
Gibs



Product Name	HIGH LOW	PRECISION SPEED			LOW HIGH
	Motorized Stages	LX Actuator	KU Actuator	RS Actuator	MSA Belt-Driven Actuator
Usage, Picture					
Typical Usage	Ideal for short positioning motions where high accuracy and repeatability are key.	High precision, compact linear motion unit.	High moment load, precision linear motion unit.	Fully integrated system with motor and controller.	Ideal for long stroke, fast motion and high acceleration.
Integrated Motor	Yes	Optional	Optional	Yes	Optional
Drive Mechanism	– Precision Ball Screw – Worm Gear	– Precision Ball Screw	– Rolled/Precision Ball Screw	– Rolled/Precision Ball Screw – Belt	– Belt
Pneumatic Options	No	No	Yes	No	No
Positioning Repeatability	0.5 microns	3 to 5 microns	5 to 8 microns	10 to 40 microns	25 microns
Stroke Range	13 to 50 mm	17 to 530 mm	130 to 610 mm	50 to 1,050 mm (Screw) 150 to 3,050 mm (Belt)	184 to 5,992 mm
Max. Speed	10 mm/sec	1,040 mm/sec	1,550 mm/sec	1,800 mm/sec	15,000 mm/sec
Actual Load/ Basic Load Ratings	Up to 10kg (Horizontal) Up to 5kg (Vertical)	Check Online for Sizing Software		Up to 80 kg (Horizontal) Up to 30kg (Vertical)	Up to 1,130kg (Horizontal) Up to 567kg (Vertical)

\*NEMA/Metric Standard motor plates for LX, KU and MSA, can be specified to match your motor.

## Linear Actuators



## #ACLX

High Precision Ball Screw Actuators &amp; Accessories

#ACRS  
RS Actuators

NEW

#MSA  
Belt Driven Actuators

NEW

NEW

#ACKU  
High Moment Load Ball Screw Actuators#MSG  
Motorized Stages#SV  
Servo Motors & Drivers#ST  
Stepper Motors & Drives



## Linear Guides



Linear Guides



**#BETA**  
Height Adjusting Blocks for Linear Guides



**#GETA**  
Height Adjusting Blocks for Miniature Linear Guides



**#SBLT**  
Stopper Bolts for Linear Guides



**#SVP**  
Linear Guide Block Stopper Plates



**#PSGL**  
Slide Guide Mounting Hole Caps (Pack)



**#SGU**  
Linear Guide Lock Units



**#LLT**  
Linear Locks



**#LLTA**  
Simplified Linear Locks



**#LLPU**  
Linear Guide Lock Plates, Threaded



**#LLPL**  
Linear Guide Lock Plates, Grooved



**#LLTG**  
Linear Lock Lock Units



**#LLKA**  
Linear Guide Lock Plates, Counterbored

## Cross Rollers



**#CRT**  
Cross Roller Tables with Counterbored Holes and Tapped Holes



**#CRU**  
Cross Roller Tables



**#CRV**  
Cross Roller Guides



**#BSG**  
Ball Slide Guides with Counterbored Holes and Tapped Holes

## Telescopic Slide Rails



**#SAR2**  
Telescopic Slide Rails – Aluminum Alloy, Light Load, Two Step



**#SAR3**  
Telescopic Slide Rails – Light Load, Aluminum Alloy



**#SRY2**  
Telescopic Slide Rails – Light Load



**#SSRP**  
Telescopic Slide Rails – Light Load



**#SRXY**  
Telescopic Slide Rails – Light Load, Three Step Slide



**#SSRX**  
Telescopic Slide Rails – Light Load, Stainless Steel



**#SR36**  
Telescopic Slide Rails – Medium Load, Steel, Two Step Slide



**#SSRN**  
Telescopic Slide Rails – Medium Load, Stainless Steel, Two Step Slide



**#SRX3**  
Telescopic Slide Rails – Medium Load, Steel, Three Step Slide



**#SSR3**  
Telescopic Slide Rails – Medium Load, Stainless Steel, Three Step Slide



**#SRR3**  
Telescopic Slide Rails with Lock Mechanism



**#SRH1**  
Telescopic Slide Rails – Heavy Load, Three Step Slide



**#SSRR**  
Telescopic Slide Rails – Stainess Steel with Lock Mechanism



**#SSRH**  
Telescopic Slide Rails – Heavy Load, Stainless Steel, Two Step Slide



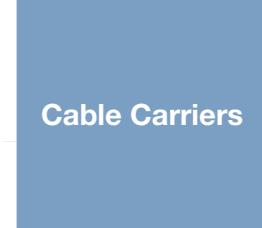
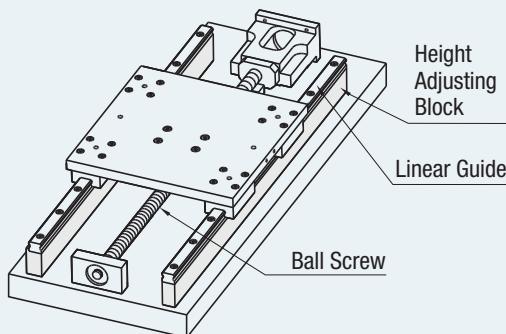
**Slide Packs / V Guides / Linear Rails**



**#SROM**  
Simplified Slide Rails – Aluminum, Oil-Free

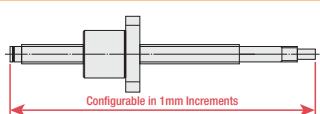


**#KSRM**  
Simplified Slide Rails – Stainless Steel Retainer Sets

#RSR  
Roller Slide Rails#PLRC  
Linear Slide Rails – Preload,  
Stainless Steel Bearing#KSRL  
Simplified Slide Rails –  
Aluminum with Ball Bearing#KSR  
Simplified Slide Rails – Aluminum,  
Bearing#JKSC  
Simplified Slide Rails – Aluminum  
Block and Rail with Ball Bearings#BJKR  
Simplified Linear Guides –  
Steel with Ball Rollers#BVGH  
V Guide Systems – Stainless Steel  
Wheel#BVGB  
V Guide Systems – Bushing#BVGT  
V Guide Systems – Track with  
Mounting Hole, L Configurable#BVGR  
V Guide Systems –  
Double Sided Tracks#BVGU  
V Guide System Units – Set#MVH  
V Guide Systems – 70° Wheels,  
Short#MVR  
V Guide Systems – 70° Wheels,  
Double Sided Track#SE14  
With Split Opening#MHPK  
Compact, No-Flaps#MHPU  
With Flaps and Mounting Brackets#FHPS  
Fully Enclosed, with Flaps#MPSC  
Low Particles, Low Noise#FHP2  
Low Friction, Low Noise#CBC  
Supporter Channels**EX. Example**



## Screw Shaft Length



## Screw Shaft Machined



## Support Units



Screw Shaft Dia. (mm)	6	8	10	12	14	15	20	25	28	32									
Lead (mm)	1	1	2	4	2	4	5	10	5	10	20	5	10	20	25	6	10	32	
Max. Length (mm)	205	255	400	380	585	600	585	445	800	450	800	800	1200	2000	2000	1500	2000	2000	2000
Rolled Ball Screw			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Precision Ground Ball Screw	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Accuracy Grade (C3,C5,C7,C10)	C3	C3	ALL	C10	C3 C5 C7 C10	C10	C3 C5 C7 C10	C10	C5 C7 C10	C10	ALL	C5 C7 C10	C5 C7 C10	C10	C10	C10	C10	C10	C10
Support Unit (size)	Rolled Ball Screw	—	6		8, 8S			10, 10S			12		15		20		20		25
	Precision Ground Screw	6	8		8, 8S	10S	10	8 (10 for C3)	10S (8 for C3)		—	12		15		20	—	—	—

EX: Accuracy vs. Price

Type	Ball Screw Size (mm)	Max. Length Available (mm)	Accuracy Grade	Axial Clearance (mm)	Price Level
Rolled	15 x 5	1200	C7	0.03 or Less	\$
		1200	C10	0.10 or Less	\$
		590	C3	0 (Preload)	\$\$\$\$
Precision Ground	15 x 5	1095	C5	0.005 or Less	\$\$\$
		1095	C7	0.030 or Less	\$\$

## Ball Screws



## #BC08

Rolled Ball Screw – Compact Nuts, Shaft Dia. 8, Lead 2



## #BR08

Rolled Ball Screws – Shaft Dia. 8, Lead 2 or 4



## #BC10

Rolled Ball Screw – Compact Nut, Shaft Dia. 10, Lead 4



## #BR10

Rolled Ball Screw – Shaft Dia. 10, Lead 2, 4 or 10



## #BR12

Rolled Ball Screw – Shaft Dia. 12 or 14, Lead 4, 5 or 10



## #BC15

Rolled Ball Screw – Compact Nut, Shaft Dia. 15, Lead 5, 10



## #BR15

Rolled Ball Screw – Shaft Dia. 15, Lead 5, 10 or 20



## #BC20

Rolled Ball Screw – Compact Nut, Shaft Dia. 20, Lead 5, 10



## #BC20

Rolled Ball Screw – Shaft Dia. 20, Lead 5, 10 or 20



## #BR25

Rolled Ball Screw – Compact Nut, Shaft Dia. 25, Lead 5, 10 or 25, C7 or C10



## #BR28

Rolled Ball Screw – Shaft Dia. 28 or 32, Lead 6, 10 or 32



## #BSBR

Rolled Ball Screw – Shaft Dia. 15, 20 or 25, Lead 5 or 10



## #BSS0

Precision Ball Screws – Shaft Dia. 6 or 8, Lead 1 or 2



## #BS10

Precision Ball Screws – Shaft Dia. 10, Lead 2, 4 or 10



## #BS12

Precision Ball Screws – Shaft Dia. 12, Lead 2, 4, 5 or 10



## #BS15

Precision Ball Screws – Shaft Dia. 15, Lead 5, 10, 20 or 40



#BS20

Precision Ball Screws –  
Shaft Dia. 20, Lead 5, 10, 20

#BS25

Precision Ball Screws –  
Shaft Dia. 25, Lead 5, 10, 20

#BNFA

Ball Screw Nut Brackets

Ball Screw

## Support Units



#BSW

Support Units – Fixed Side, Square



#BUN

Support Units – Square, Support  
Side, Standard

#BRW

Support Units – Fixed Side, Round



#BUR

Support Units – Round, Support Side,  
Standard

#BSQ

Support Units – Square, Fixed Side,  
Compact

#BSV

Support Units – Square, Fixed Side,  
Low Profile

#BSA

Support Units – Square, Fixed Side,  
4 Mounting Holes

#BUQ

Support Units – Square, Support  
Side, Compact, Low Profile

#BUV

Support Units – Square, Support  
Side, Low Profile

#BUA

Support Units – Square, Support  
Side, Mounting Hole Narrow Pitch

#BSWD

Standard Units with Dampers –  
Fixed Side, Economy, Square

#BSWG

Support Units – Fixed Side, Square  
with Dowel Holes

#BUND

Support Units with Dampers –  
Support Side, Square

#BTN

Support Units – Square, Support Side  
Retaining Ring

#BSWE

Support Units – Fixed Side,  
Economy, Square

#BSWZ

Support Units – Fixed Side, Radial  
Bearing

#BRWE

Support Units – Fixed Side,  
Economy, Round

#BRWZ

Support Units with Radial Bearings –  
Fixed Side, Economy, Round

#BTR

Support Units – Round, Support Side  
Retaining Ring

#BJS

For Ball Screws and Motors



#BTP

Stopper for Ball Screws



#BUSC

Spacers for Ball Screw  
Support Units



Product Name	Slide Screws	Lead Screws	Ball Screws
Page	pg. XX	pg. XX	pg. XX
Usage/Picture			
Max. Available Size (Dia x Length) (mm)	12 x 550 mm	50 x 1200 mm	32 x 2000 mm
Accuracy	Medium	Medium	High
Allowable Rotational Speed	Low Speed	Medium Speed	High Speed
Max Allowable Axial Load (Ref. Only)	540 N	30,000 N	9,960 N
Efficiency	0.7	0.8	0.95
Friction	High	High	Low
Grease	Not Required	Not Required	Required
Noise Level	Low	Low/Medium	High
Cost \$	\$\$	\$	\$\$\$\$

## Lead Screws / Slide Screws

#MTWK  
Lead Screw, Ends Fit Support Units#MTWZ  
Lead Screws – Fixed Side Support Units#MTUZ  
Lead Screws – Support Side Support Units#MRWZ  
Round Support Units – Fixed Side#MRUZ  
Lead Screw Support Units – Round, Support Side#MTSC  
Compact Flanged Lead Screw Nuts#MTS5  
Flanged Lead Screw Nuts with Pilot, Right-Hand Thread#MTSJ  
Flanged Lead Screw Nuts – Slotted Holes, Right-Hand Thread#MTRF  
Flanged Lead Screw Nuts – Fine Pitch#MTSE  
Flanged Lead Screw Nuts – with Tapped Holes, Right-Hand Thread#MTBL  
Lead Screw Nuts – Anti-Backlash#MTSM  
Oil-Free Lead Screw Nuts – Flanged#MTSS  
Lead Screw Nuts – Straight#MTS3  
Resin Lead Screw Nuts – Heavy Load#MTSF  
Resin Lead Screw Nuts#MTSN  
Block Style Lead Screw Nuts#MTSH  
Wide Block Lead Screw Nuts#DNBA  
Lead Screw Nut Brackets#MTKL  
Spacers for Wide Block



**#MTS1**  
Lead Screws – Multi-Pitch, Both Ends Stepped



**#MTS4**  
Lead Screws – Right and Left-Hand Thread, Center h7, Both Ends Stepped



**#MTSK**  
Lead Screws – One End Stepped, One End Double Stepped



**#MTSA**  
Lead Screws – Right and Left-Hand Thread, Center h7, One End Stepped, One End Double Stepped



**#MTSRA**  
Lead Screws – One End Stepped

Lead Screws / Slide Screws



**#MTS2**  
Lead Screws – One End Double Stepped



**#MTSX**  
Lead Screws – Both Ends Double Stepped



**#MTSR**  
Lead Screws – Straight



**#MTSW**  
Lead Screws – Straight, Right and Left-Hand Thread



**#DPLL**  
Large Digital Positioning Indicators – Standard



**#DPRL**  
Large Digital Positioning Indicators – Front



**#DPZL**  
Large Digital Positioning Indicators – Vertical



**#DPNL**  
Digital Positioning Indicators



**#DPLM**  
Digital Positioning Indicators – Front Display



**#DPLT**  
Digital Positioning Indicators – Vertical Spindle



**#DPQK**  
Clamp Plates for Large Positioning Indicators with Lever



**#DPQB**  
Clamp Plates for Large Positioning Indicators with Lever and Bearing



**#DPNK**  
Clamp Plates for Compact Positioning Indicator with Lever



**#DPNB**  
Clamp Plates for Compact Positioning Indicator with Lever and Bearing



**#MTQD**  
Stop Plate For Lead Screws



**#MTQA**  
Stop Plates for Lead Screws – Round, Flanged



**#MTSBW**  
Stop Plate Sets for Lead Screw – Two Screw Mount



**#MTSB**  
Stop Plates for Lead Screws – Square



**#MSSA**  
Miniature Slide Screws with Nuts – One End Stepped

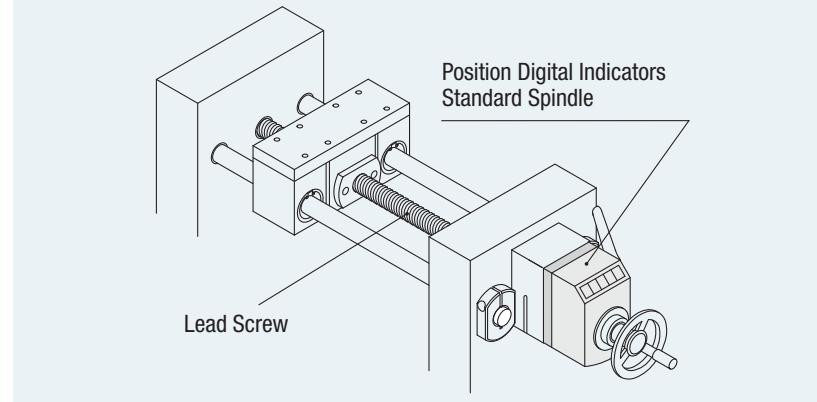


**#MSSR**  
Miniature Lead Screws with Nuts – Straight



**#MSSW**  
Miniature Slide Screws with Nuts – Both Ends Stepped

**EX. Example**





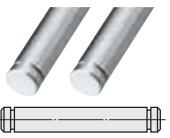
## Rotary Shafts / Drive Shafts



**#HFR**  
Rotary Shafts – Straight



**#SFGK**  
Rotary Shafts – Straight with Key Grooves



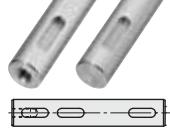
**#SFRR**  
Rotary Shafts – with Retaining Ring Grooves



**#SFGR**  
Rotary Shafts – with Retaining Ring Grooves and Key Grooves



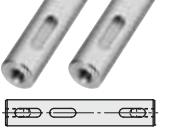
**#HFRT**  
Rotary Shafts – One End Tapped



**#SFGT**  
Rotary Shafts – One End Tapped with Key Grooves



**#HFRW**  
Rotary Shafts – Both Ends Tapped



**#SFGW**  
Rotary Shafts – Both Ends Tapped with Key Grooves



**#HFRP**  
Rotary Shafts – One End Stepped



**#SFRF**  
Rotary Shafts – One End Stepped, One End Tapped



**#HFRN**  
Rotary Shafts – One End Stepped and Threaded



**#SFRD**  
Rotary Shafts – One End Stepped and Threaded, One End Tapped



**#SFRG**  
Rotary Shafts – One End Stepped and Tapped



**#SFRA**  
Rotary Shafts – One End Stepped, Both Ends Tapped



**#HFRQ**  
Rotary Shafts – Both Ends Stepped



**#HFRM**  
Rotary Shafts – Both Ends Stepped and Threaded



**#SFRH**  
Rotary Shafts – Both Ends Stepped and Tapped



**#SFRX**  
Rotary Shafts – One End Stepped with Retaining Ring Groove



**#SFRZ**  
Rotary Shafts – Both Ends Stepped with Retaining Ring Groove



**#SFRE**  
Rotary Shafts – Both Ends Stepped, One End Threaded



**#SFRB**  
Rotary Shafts – Both Ends Stepped, One End Threaded, One End Tapped



**#SFRJ**  
Rotary Shafts – Both Ends Double Stepped



**#PFR**  
Hollow Rotary Shafts – Straight



**#SFRV**  
Rotary Shafts – D Cut



**#SFRT**  
Rotary Shafts for Tension



**#SFRM**  
Rotary Shafts for Tension – Push, Pull



**#SFR1**  
Rotary Shafts – End Shape Selectable



**#KZAC**  
Drive Shafts – Straight



**#KZBC**  
Drive Shafts – One End Stepped



**#KZCC**  
Drive Shafts – Both Ends Stepped



**#KZDC**  
Drive Shafts – One End Stepped, One End Double Stepped



**#KZEC**  
Drive Shafts – Flanged



**#KZFC**  
Drive Shafts – One End Stepped with Flange



## Cantilever Shafts



**#FXAA**  
Standard Shoulder, Threaded with  
Retaining Ring Groove



**#FXBA**  
Stepped Shoulder, Threaded with  
Retaining Ring Groove



**#LXAA**  
Hex Shoulder, Threaded with  
Retaining Ring Groove



**#FXAB**  
Standard Shoulder, Threaded with  
Tapped End



**#FXBB**  
Stepped Shoulder, Threaded with  
Tapped End



**#LXAB**  
Hex Shoulder, Threaded with  
Tapped End



**#FXAC**  
Standard Shoulder, Both Ends  
Threaded



**#FXBC**  
Stepped Shoulder, Both Ends  
Threaded



**#LXAC**  
Hex Shoulder, Both Ends Threaded



**#FXCA**  
Standard Shoulder, with Pilot,  
Threaded with Retaining Ring  
Groove



**#FXDA**  
Stepped Shoulder – Pilot,  
Threaded with Retaining Ring  
Groove



**#LXCA**  
Hex Shoulder- Pilot, Threaded with  
Retaining Ring Groove



**#FXCB**  
Standard Shoulder – Pilot, Threaded  
with Tapped End



**#FXDB**  
Stepped Shoulder – Pilot, Threaded  
with Tapped End



**#LXCB**  
Hex Shoulder – Pilot, Threaded with  
Tapped End



**#FXCC**  
Standard Shoulder – Pilot, Both  
Ends Threaded



**#FXDC**  
Stepped Shoulder – Pilot, Both  
Ends Threaded



**#LXCC**  
Hex Shoulder – Pilot, Both Ends  
Threaded



**#FXHA**  
Bolt Mount, Standard with Retaining  
Ring



**#FXJA**  
Bolt Mount, Stepped with Retaining  
Ring Groove



**#LXHA**  
Bolt Mount, Hexagon with  
Retaining Ring Groove



**#FXHB**  
Bolt Mount, Tapped End



**#FXJB**  
Bolt Mount, Stepped with  
Tapped End



**#LXHB**  
Bolt Mount, Hexagon with  
Tapped End



**#FXHC**  
Bolt Mount, Standard with  
Threaded End



**#FXJC**  
Bolt Mount, Stepped with  
Threaded End



**#LXHC**  
Bolt Mount, Hexagon with  
Threaded End



**#FXMA**  
Heavy Load with Retaining Ring  
Groove



**#FXMB**  
Heavy Load with Tapped End



**#FXEA**  
Flanged with Retaining Ring Groove



**#FXEB**  
Flanged with Tapped End



**#FXFC**  
Flanged with Threaded End



**#FXKA**  
For Tension, Threaded with  
Retaining Ring



**#FXKB**  
For Tension, Threaded with  
Tapped End

## Cantilever Shafts



## Fulcrum Pins



#CBD Standard Thread Length



#FCBD Configurable Thread Length



#CBDW Wrench Flats



#CBDR Hex Socket



#CBDL Hex Head



#CMSG Low Head, Stepped

## Hinge Pins



#CMG Straight, Cotter Pins



#CCG Straight, Retaining Rings



#HCMG Flanged, Cotter Pin



#HCCG Flanged, Retaining Ring



#CLBD Flanged, Threaded with Lock Nut



#CLBR Flanged, Hex Socket Head, Threaded with Lock Nut



#CLBK Low Hex Socket Head, Threaded with Lock Nut



#HCLB Flanged, Tapped



#CLB2 Flanged, Hex Socket Head, Tapped



#CLBM Both Ends Tapped



#CLBN Both Ends Threaded



#CLKG With Keyway



#HPK Keys



#CLSG Straight with Set Screw Flat



#HCLS Flanged, Set Screw Flat



#CLSW Two Set Screw Flats, D-Cut



#FCLA End Shape Selectable



#KCLB D Tolerance Selectable



#CNPR With Two Retaining Rings



#CNPP With Two Retaining Rings, Tapped Ends



Product Name	Ball Bearings				Roller Bearings	Combination Bearings
	Deep Groove Ball Bearings	Self-Aligning	Angular Ball Bearings	Thrust Bearings	Needle Bearings	
Usage, Picture						
Bore Size (mm)	Ø3~50	Ø10~20	Ø10~50	Ø10~30	Ø4~30	Ø7~50
Load Capacity	G	G	G	—	—	E
Axial	F	P	G	G	E	E
Speed	E	G	E	F	P	F
Accuracy Class	Class 0 (JIS) / ABEC-1 (ASTM)					

● Excellent ● Good ● Acceptable ● Fair ● Poor

### Bearings / Bearings with Housings / Accessories



## #BGHS

Bearings with Housings – Block

Bearings with Housings – Flanged

Bearings with Housings – T-Shaped

Bearings with Housings – L-Shaped



## #BGPB

Pillow Block Bearings



## #BRGS

Ball Bearings

## #NDBG

Needle Bearings



## #CFRF

Cam Followers, Roller Followers

## #BGLN

Bearing Lock Nuts

## #BGSS

Bearing Shaft Screws

## #BGSR

Bearing Spacers

## #BCO

Bearing Cover Plates



Product Name	Disc	Flex	Oldham	Jaw	Bellow	Rigid	Universal Joints	Chain Coupling
Usage, Picture								
Bore Size	Ø2~45 mm	Ø2~18 mm	Ø1~38 mm	Ø3~40 mm	Ø3~14 mm	Ø5~24 mm	Ø6~30 mm	Ø14~55 mm
Hybrid Couplings (Inch Bores)	Yes	Yes	Yes	Yes	No	Yes	No	No
Recommended Motor	– Servo Motor – Stepper Motor	– Servo Motor – Stepper Motor	– General Purpose Motor	– Stepper Motor – General Purpose Motor	– Stepper Motor	– Servo Motor – Stepper Motor	– Stepper Motor – General Purpose Motor	– General Purpose Motor
Torque	0.1 to 250 N·m	0.1 to 8 N·m	0.3 to 80 N·m	0.7 to 180 N·m	0.3 to 3 N·m	0.3 to 6 N·m	20 to 495 N·m	100 to 2372 N·m
Zero Backlash	E	E	P	P	G	E	P	P
Angular Misalignment	G	G	E	F	E	P	E	F
Lateral Misalignment	F	F	E	F	F	P	P	F
Axial Misalignment	G	F	G	P	E	P	P	P
Cost \$	\$\$\$	\$\$	\$\$	\$\$\$	\$\$	\$	\$\$	\$\$\$\$

Excellent Good Fair Poor

## Shaft Couplings



**#MCSL**  
High Torque Disc, Clamping (Double Disc)



**#MCSS**  
High Torque Disc, Clamping (Single Disc)



**#CPO**  
Oldham – Clamping/Set Screw



**#CPOS**  
Spacer for Oldham Couplings (CPO, CPOC)



**#CPGX**  
Flex – Clamping, Set Screw



**#CPLX**  
Flex Duraluminum – Clamping Long



**#CPLC**  
Flex-Clamping



**#CPL**  
Flex-Set Screw



**#CPDW**  
Disc, Clamping



**#SCPS**  
High Rigidity Disc, Clamping



**#SCXW**  
High Positioning Accuracy Disc, Clamping, Keyway



**#CPDH**  
High Rigidity Disc, O.D. 65 mm, Clamping



**#CPAH**  
High Rigidity Disc, O.D. 65 mm, Keyless, Clamping



**#CPSW**  
High Rigidity Disc, O.D. 87mm, Keyway, Clamping



**#CPSN**  
High Rigidity Disc, O.D. 87mm, One Side Keyless, Both Sides Keyless



**#CPAS**  
High Rigidity Disc, O.D.40mm



**#CPDD**  
Disc, Stepped, Clamping



**#MCGL**  
Standard Torque Disc, Set Screw



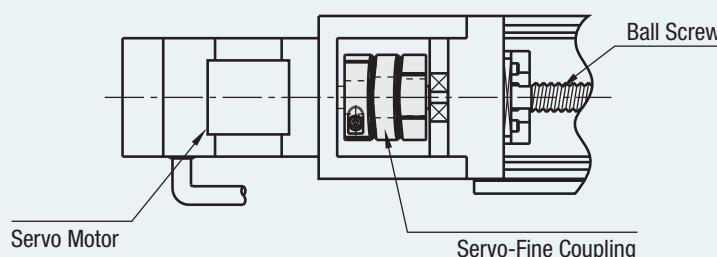
**#MCGC**  
Standard Torque Disc, Clamping

#MCKL  
High Torque Disc, Set Screw#MCKC  
High Torque Disc, Clamping#MCO  
Oldham, Set Screw#MCOS  
Spacer for Oldham Couplings  
(MCO, MCOC)#MCOC  
Oldham, Clamping

Shaft Couplings

#MCOG  
High Rigidity, Oldham, Set Screw#MC01  
High Rigidity, Oldham, Clamping#MFJ  
Oldham, Large Shaft Diameter#MFJS  
Spacer for Oldham Couplings  
(MFJ, MFJC)#MFJG  
Oldham – High Rigidity, Large Bore  
Sizes#CPOC  
Oldham – Blue/Green Spacer,  
Set Screw and Clamping#SCOC  
Super Short Oldham, Clamping#CPF  
Sleeve, Set Screw#CPJL  
Jaw, Spider#CPJ  
Jaw, Setscrew with Key Groove#CPJC  
Jaw, Clamping with Key Groove#MMJN  
Jaw, Clamping#CPN  
N Couplings (Keyless)#BHE  
Chain Couplings#CPR  
Rigid, Setscrew#CPRC  
Rigid, Clamping#CPSR  
Rigid, Two-Piece Clamping#CPND  
Rigid, One-Piece Long, Clamping#UNCA  
Universal Joints, Set Pin#UNKA  
Universal Joints – Keyway,  
Set Screw#CPB  
Bellows, Set Screw, Clamping#MCJN  
Resin

## [ex] Example





## Rollers

## Rollers

#CORO  
Conveyor Rollers#ROLE  
Rollers#ENGB  
Bearings with Resin#BALR  
Ball Rollers#GURL  
Guide Rollers#COWH  
Conveyor Wheels#ROCR  
Roller Carriers#ROCV  
Gravity Conveyors, Chutes#ROLJ  
Pipe Rollers with Shafts#RORS  
Precision Rollers#USH  
Rollers with Shafts – Urethane, Straight#USRH  
Rollers with Shafts – Urethane, Configurable Liner Thickness#BWP  
One-Sided Rollers#TGR1  
Vertical Guide Rollers – Metal#TGRU  
Vertical Guide Rollers – Urethane

NEW

#RONA  
Belt Tensioners – Screw#ROBJ  
Belt Tensioners – Spring-Loaded



Type	Standard	Heavy Duty	Built-In Drive	Slim	Dual Track
Usage, Picture					
Width	30 to 300 mm	100 to 500 mm	60 to 300 mm	10, 20mm	80 to 300 mm
Length	200 to 3,000 mm	440 to 6,000 mm	370 to 2,000 mm	245 to 2,000 mm	255 to 3,000 mm
Width Increment	1, 10 mm	100 mm	10 mm	—	1, 10 mm
Length Increment	5 mm	5 mm	5 mm	5 mm	5 mm
Power	6, 25, 40 W	60, 90 W	3.5, 6 W	6 W	6, 25, 40 W
Voltage	100, 110, 115, 200, 220, 230V (Single Phase)		200, 220, 230V (Three Phase)		DC24V (Built-In Drive Only)
Speed	– Variable Speed    – Constant Speed				
Position	– End – Center	– End – Center	– Built-In	– End – Center	– End – Center
Belt Type	– Flat Belts – Guided Flat Belts – Cleated Belts	– Flat Belts – Guided Flat Belts	– Flat Belts	– Timing Belts	– Timing Belts – Plastic Chains
Recommended Load	Up to 15 kg	Up to 50 kg	Up to 15 kg	Up to 15 kg	Up to 35 kg

Belt Conveyors / Plastic Chain Conveyors

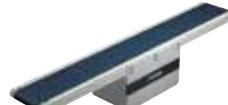
### Belt Conveyors / Plastic Chain Conveyors



NEW ★

#SVKA  
End Drive, 2-Groove Frame,  
Pulley Dia. 30 mm

NEW ★

#SVKB  
End Drive, Guided Belt, 2-Groove  
Frame, Pulley Dia. 30 mm

NEW

#SVKN  
Center Drive, 2-Groove Frame,  
Pulley Dia. 30 mm

NEW

#SVKR  
Center Drive, Guided Belt, 2-Groove  
Frame, Pulley Dia. 30 mm

NEW

#CVGA  
End Drive, 2-Groove Frame,  
Pulley Dia. 30 mm

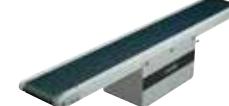
NEW

#CVGB  
End Drive, Guided Belt, 2-Groove  
Frame, Pulley Dia. 30 mm

NEW

#CVGC  
End Drive, 3-Groove Frame,  
Pulley Dia. 50 mm

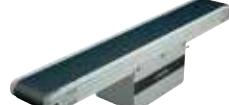
NEW

#CVGD  
End Drive, Guided Belt, 3-Groove  
Frame, Pulley Dia. 50 mm

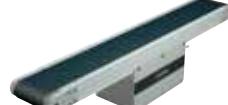
NEW

#CVGN  
Center Drive, 2-Groove Frame,  
Pulley Dia. 30 mm

NEW

#CVGP  
Center Drive, Guided Belt, 2-Groove  
Frame, Pulley Dia. 30 mm

NEW

#CVGR  
Center Drive, 3-Groove Frame,  
Pulley Dia. 50 mm

NEW

#CVGW  
Center Drive, Guided Belt, 3-Groove  
Frame, Pulley Dia. 50 mm

NEW

#CVSA  
End Drive, 2-Groove Frame,  
Pulley Dia. 30 mm

NEW

#CVS3  
End Drive, Guided Belt, 2-Groove  
Frame, Pulley Dia. 30 mm

NEW

#CVS2  
End Drive, 3-Groove Frame,  
Pulley Dia. 50 mm

NEW

#CVSD  
Guided Belt, 3-Groove Frame,  
Pulley Dia. 50 mm

NEW

#CVSE  
Heavy-Duty End Drive, 3-Groove  
Frame, Pulley Dia. 60 mm, 30 mm

NEW

#CVSF  
Heavy-Duty End Drive, Guided Belt,  
Pulley Dia. 60 mm, 30 mm

NEW

#CVSX  
Heavy-Duty Center Drive, 3-Groove  
Frame, Pulley Dia. 30 mm



**#CSVY**  
Center Drive, Heavy-Duty,  
Guided Belt, 3-Groove Frame,  
Pulley Dia. 30 mm



**#CVMA**  
Head Drive, 2-Groove Frame,  
Pully Dia. 30 mm



**#CVMB**  
Head Drive with Meandering  
Prevention Crosspiece,  
2-Groove Frame



**#CVLP**  
Center Drive, 1-Groove Frame,  
Pully Dia. 15 mm



**#CVSJ**  
Center Drive, Short Length,  
Guided Belt, 2-Groove Frame,  
Pulley Dia. 30 mm



**#CVSM**  
Motor Integrated, 3-Groove Frame,  
Pulley Dia. 70 mm



**#CVSB**  
Built-in Motor, 2-Slot Frame,  
Pulley Dia. 32 mm



**#CVDS**  
End Drive, Guided Belt, 3-Slot  
Frame, Pulley Dia. 50 mm



**#CVS4**  
Timing Belt, Center Drive,  
Belt Pitch Adjustable, Dual Track,  
2-Slot Frame



**#CVGT**  
Timing Belt, End Drive, Dual Track,  
2-Groove Frame



**#CVG2**  
Timing Belt, End Drive, Dual Track,  
3-Groove Frame



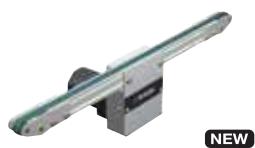
**#CVG3**  
Timing Belt Conveyors, Center  
Drive, Dual Track, 2-Groove Frame



**#CVG4**  
Timing Belt Conveyors, Center  
Drive, Dual Track, 3-Groove Frame



**#CVST**  
Timing Belt, Head Drive,  
Single Track, 2, 3-Groove Frame



**#CVRD**  
Timing Belt, Center Drive,  
Single Track, 2, 3-Groove Frame



**#CVSC**  
Plastic Chain, Single Track,  
End Drive, 3-Slot Frame  
(Sprocket Dia. 57 mm)



**#CVSP**  
Plastic Chain, Dual Track,  
End Drive, 3-Groove Frame  
(Sprocket Dia. 57 mm)



**#CVSS**  
Stainless Steel Belt Conveyor,  
End Drive, 3-Groove Frame  
(Pulley Dia. 50 mm)



**#FENB**  
Stainless Steel Sliding Plates



**#FSRP**  
Product Chutes



**#CSTP**  
Conveyor Stands Tube



**#CSTS**  
Conveyor Stands, I-Type



**#CSTW**  
Conveyor Stands, H-Type



**#CGF**  
Conveyor Support Stands



**#LGBR**  
Conveyor L-Type Mounting Brackets



**#CTCA**  
Transparent Covers for Conveyor



**#CGTA**  
Conveyor Work Benches Folding



**#CHOP**  
Conveyor Hoppers



**#CSHW**  
Conveyor Chute



**#CSHRA**  
Angle Adjustment Bracket  
Single Article



**#CDPT**  
Dust Pans



**#CSTE**  
Stoppers



**#CGNR**  
Transfer Rollers



**#CGST**  
Conveyor End Tables



**#CBRN**  
Conveyor Press Rollers – Small



#BFCB

Conveyor Sensor Brackets



#PCHN

Post-Assembly Insertion Nuts  
for Sensors

#CSAA

Conveyor Air Nozzle Stands



#HFSD

Conveyor Aluminum Extrusion



#CVBK

Conveyor Belt Support Cover K



#GPRF

Conveyor Belt Support Cover  
Reinforcements

#CHTD

Conveyor Drive Pulley



#CHRS

Conveyor Press Rollers, Standard



#NLBA

UHMW Guide Rails



#NLA

UHMW Guide Rail Shields



#NLTP

UHMW Tape



#RMT

Double-Sided Tape, Polyester



#SGL

Guide Rails



#CGPS

Conveyor Guide Rails – Straight



#CGPZ

Conveyor Guide Rails – Z-Type



#CGPY

Conveyor Guide Rails – Y-Type



#CGE

Engineering Plastic Rails –  
Adjustable with Slotted Holes

#CGVN

Guide Rail Brackets –  
Angle Bracket, Adjustable

#CGX

Conveyor Engineering Plastic  
Guide Rail Brackets – Standard

#CGY

Conveyor Engineering Plastic Guide  
Rail Brackets – Offset

#CGR

Round Bar Conveyor Guide Rails



#CGV

Round Bar Conveyor Guide Rail  
Brackets – Standard

#CGW

Round Bar Conveyor Guide Rail  
Brackets – Offset

#CGL

Conveyor Guide Rails – L-Shaped



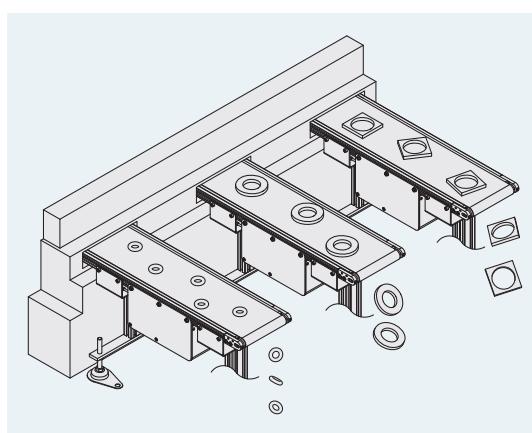
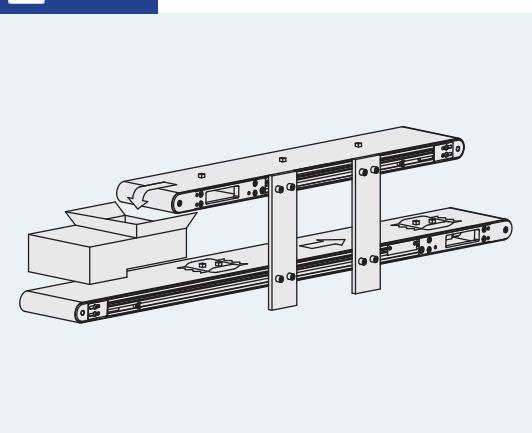
#CGK

Conveyor Guide Rail Brackets –  
Standard

#CGH

Conveyor Guide Rail Brackets –  
Offset

EX Example





Product Name	Friction Power Transmission		Synchronous Power Transmission	
	Flat Belts	Round Belts	Timing Belts	Chains
Usage, Picture				
Torque	Medium	Low	High	High
Speed	High	Medium	Low to High	Low-Medium
Efficiency	94–98%	92–97%	95–99%	91–98%
Advantages	<ul style="list-style-type: none"> <li>– Flexible (serpentine and twisted drives)</li> <li>– Transmit torque over long distance</li> <li>– Various materials (polyurethane, rubber, stainless steel) and colors</li> <li>– No lubrication</li> </ul>	<ul style="list-style-type: none"> <li>– Flexible (serpentine and twisted drives)</li> <li>– Soft belts (typically don't require additional tensioning)</li> <li>– No lubrication</li> </ul>	<ul style="list-style-type: none"> <li>– Quiet compare to chains</li> <li>– Require less tension than other belts</li> <li>– No stretch</li> <li>– No lubrication</li> <li>– No slippage</li> </ul>	<ul style="list-style-type: none"> <li>– Higher operating temp. than belts</li> <li>– Increased load capacity with multi-strand chains</li> <li>– Long operating life</li> <li>– No slippage</li> </ul>
Drawbacks	<ul style="list-style-type: none"> <li>– Creep and slip</li> <li>– High tension needed</li> <li>– Endless belts can't be repaired</li> <li>– Extreme temp. ranges, high moisture, oil, chemicals, etc can damage belts</li> </ul>	<ul style="list-style-type: none"> <li>– Creep and slip</li> <li>– Endless belts can't be repaired</li> <li>– Extreme temp. ranges, high moisture, oil, chemicals, etc can damage belts</li> </ul>	<ul style="list-style-type: none"> <li>– Tensioning</li> <li>– Vibrations</li> <li>– Endless belts can't be repaired</li> <li>– Extreme temp. ranges, high moisture, oil, chemicals, etc can damage belts</li> </ul>	<ul style="list-style-type: none"> <li>– Noise</li> <li>– Require lubrication</li> <li>– Can elongate due to wear</li> <li>– Limited flexibility</li> <li>– Usually limited to lower-speed applications</li> </ul>

## Flat Belts / Pulleys



**#RBW**  
Economy, Straight, Crowned, Centering Groove



**#RFW**  
Idlers for Flat Belts – Economy



**#ROBW**  
Centering Groove, Crowned



**#ROF1**  
Idlers for Flat Belts – Straight, Crowned, Centering Groove



**#RWC**  
With Urethane, Centering Groove, Crowned



**#RWBC**  
With Urethane, Centering Groove, Crowned



**#HPCJ**  
Shaft Pulleys for Round Belts



**#ROFA**  
Idlers for Flat Belts – Straight



**#ROFW**  
Idlers for Flat Belts – Straight



**#HBLT**  
Flat Belts – General Purpose



**#FTB**  
Flat Belts



## Round Belts / Pulleys



**#MBF**  
Idlers for Round Belts – Narrow



**#MBG**  
Idlers for Round Belts – Wide



**#MBWA**  
Pulleys for Round Belts – Double Grooves



**#MBXA**  
Idlers for Round Belts – Double Grooves



**#RNDB**  
Round Belts





Unit	Imperial Series (inch)				Metric Series (mm)							
Application	General			Light Load Conveyance	Heavy Load Conveyance	High Torque		Super High Torque				
Belt Type	MXL	XL	L	H	T5, T10	AT5, AT10	S2M-S14M	P2M-P8M	UP5M-UP8M	MTS8M	2GT-EV8YU	
Pitch	0.800"	0.200"	0.375"	0.5"	5, 10 mm	5, 10 mm	2, 3, 5, 8, 14 mm	2, 3, 5, 8 mm	5, 8 mm	5 mm	2, 3, 5, 8 mm	
Tooth Profile												
	Trapezoidal			Trapezoidal		Curvilinear Circular (S-Type)	Curvilinear with Dimple (R-Type)	Curvilinear Circular (S-Type)	Curvilinear with Dimple (R-Type)	Circular Round (H-Type)		
Backlash	Medium			Medium	Low	Low*		Low*		Very Low		
Endless Belt	•			•		•		•		•		
Open End Belt	—	•		•		• (selected pitches)		—	—	—		
Belt Material (Tension Cord)	Rubber (Glass Fiber)	—	Polyurethane (Steel Cord)			Chloroprene Rubber (Glass Fiber)		Chloroprene Rubber (Glass Fiber)	Rubber (Glass Fiber)	Chloroprene Rubber (Glass Fiber)		
	Polyurethane (Kevlar/Steel Cord)	—				Polyurethane (Aramid Fiber) (S2M, S3M, S5M only)						
Typical Applications	Conveying	•		•	•	—	—	—	—	—		
	Positioning	—	—		•	•	•	•	•	•		
	Power Transmission	—	—		—	•	•	•	•	•		
	High Speed	•	•		—	•	•	•	•	•		

\*MISUMI offers Special Zero Backlash S8M pulleys (For use with S-Type belts only)

## Timing Belts / Pulleys / Idlers / Accessories

#TIMP  
Timing Pulleys, Idlers



#TIMP  
Timing Pulleys, Idlers

#TIMB  
Timing Belts and Accessories



## Conveyer Timing Belts

#ATBT  
Timing Belts with Attachments – T5/T10



## Keyless Bushing

#MLN  
Keyless Bushings – Easy Mounting (Nut)



#MLS  
Keyless Bushings – Thin Wall

#MLM  
Keyless Bushings – Standard



#MLA  
Keyless Bushings – Straight



#MLAT  
Keyless Bushings – Straight for High Torque



#MLR  
Keyless Bushings – Compact



Product Name	Spur Gears	Helical Gears	Bevel Gears	Gear Racks	Worm Gears
Usage, Picture					
Efficiency	94–98%	94–98%	93–99%	98–99%	30–90%
Gear Axis	Parallel	Parallel and Intersecting Axis	Intersecting Axis	Non-Intersecting and Non-Parallel Axis	Non-Intersecting and Non-Parallel Axis
Advantages	<ul style="list-style-type: none"> <li>– Highly reliable, simplest in design and easiest to manufacture</li> <li>– Offer constant velocity ratio and are more efficient than helical gear of same size</li> <li>– Spur gear teeth are parallel to its axis and do not produce axial thrust</li> <li>– Used in efficient power transfer and low speed application (robotics application, machine tools etc.)</li> </ul>	<ul style="list-style-type: none"> <li>– Run more smoothly and quietly than spur gears due to angled teeth designed</li> <li>– Highly durable and are ideal for high-load applications</li> <li>– Load is distributed over several teeth, resulting in less wear</li> <li>– Used in high-speed, high-power mechanical systems like car gear boxes, machine tools, etc.</li> </ul>	<ul style="list-style-type: none"> <li>– This gear makes it possible to change the operating angle</li> <li>– Can be with straight or spiral teeth</li> <li>– Miter gears are a special type of bevel gear designed to operate in pairs with identical numbers of teeth and diametral pitches, and a 1:1 ratio</li> <li>– Transmission, Bevel Gear Differential, Printing, Material Handling</li> </ul>	<ul style="list-style-type: none"> <li>– Cheap</li> <li>– Compact</li> <li>– Robust</li> <li>– Easiest way to convert rotation motion into linear motion</li> <li>– Often used in traveling gantries and columns, pick and place robots etc.</li> </ul>	<ul style="list-style-type: none"> <li>– Worm gear drives operate silently and smoothly</li> <li>– Self-locking and occupy less space</li> <li>– Have high velocity ratio</li> <li>– Used for reducing speed and increasing torque (gear reduction boxes)</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>– Gear teeth experience a large amount of stress</li> <li>– Cannot transfer power between non-parallel shafts</li> <li>– Compared to other gears, generate more noise at high speeds</li> </ul>	<ul style="list-style-type: none"> <li>– More expensive than spur gears</li> <li>– Mashed helical gears create axial thrust that need adequate support (like thrust bearings)</li> <li>– Lower efficiency due to axial thrust generating more heat between sliding teeth</li> </ul>	<ul style="list-style-type: none"> <li>– One wheel of bevel gear is designed to work with its complementary wheel and no other</li> <li>– Must be precisely mounted</li> <li>– The shafts' bearings must be capable of supporting significant forces</li> <li>– Noisy at the higher speeds</li> </ul>	<ul style="list-style-type: none"> <li>– Inherent friction causes constant wear and part replacement after certain time</li> </ul>	<ul style="list-style-type: none"> <li>– Worm gear materials are expensive</li> <li>– Worm drives have high power losses</li> <li>– They produce a lot of heat</li> </ul>





NEW

#RGEH

Gear Racks – Ground, Pressure Angle 20 Deg.



NEW

#RGEL

Gear Racks – Ground, Hole Position Configurable, Pressure Angle 20 Deg.



★

#RGEA

Gear Racks – Pressure Angle 20 Deg., Standard L Dimension



★

#LRGE

Gear Racks – Pressure Angle 20 Deg., Configurable L Dimension

## Magnetic Transmission



#MDQ

TM Non-Contact Magnetic Transmission Drives



#MEQ

[Economy] TM Non-Contact Magnetic Transmission Drives

## Chains / Sprockets



#CHE1

Roller Chains



#SSP1

Sprockets – 11B/15B Series



#JMOC

Joint Links, Offset Links



#SP15

Sprockets – 15B Series



#SP25

Sprockets – 25B Series



#SP35

Sprockets – 35B Series



#SP40

Sprockets – 40B Series



#SP50

Sprockets – 50B Series



#SP60

Sprockets – 60B Series



#SP4S

Sprockets – Double Strand



#SP80

Sprockets – 80B Series



#SP5S

Sprockets – Double Strand



#LFSP

Keyless Sprockets – 35B/40B Series



#DRC

Idler Sprockets – Single Bearing



#DRCB

Idler Sprockets with Hub



#DRCBW

Idler Sprockets with Hub Double Pitch



#SDRC

Small Idlers



#IDP

Idler Pins



#GDCC

Chain Guides – Raised Track, Steel Framed



#GDC

Chain Guides – Raised Track



#GDRC

Chain Guides – Chanel, Flanged Steel Framed, Side Mount



#SGDT

Steel Chain Guides



#STRT

Turnbuckles – Standard, Long



#SRCL

Turnbuckle Components – Tapped Hex

Gears

Magnetic Transmission

Chains / Sprockets



#STBT Turnbuckles – Threaded



#HSBL Turnbuckle Components – Threaded Rod



#SJN Turnbuckle Components – Tapped Hex

Conveyer  
Chains /  
Sprockets

#SP20 Sprockets – Double Pitch



#JNTW Joint Links for Double Pitch Chains



#CHEL Roller Chains with Attachments



#CHEW Chains – Double Pitch



#WCHE Free Flow Conveyor Chains



#WESP Sprockets – Double Speed, Free Flow Conveyor Chains



#WCF Aluminum Frame for Double Speed – Free Flow Conveyor Chains



#RNG Return Guides for Double Speed – Free Flow Conveyor Chains

## Plastic Chains



#CHEC Engineering Plastic Block Chains – Single Strand



#CHES Sprockets – Engineered Plastic Chains, 2-Row



#TPCH Table Top Conveyor Chains



#TPSP Sprockets – Table Top Conveyor Chains



#TPDR Idler Sprockets – Table Top Conveyor Chains

## Tensioners



#TNSN Tensioning Units without Idler



#TNSL Tensioners without Idlers



#SDPT Slide Plate for #TNSN Unit



#THBS Chain Tensioners – Idler Set



#TSBX Chain Guide Tensioners





LOW CONFIGURABILITY LEVEL / COST HIGH

Product Name	Dowel Pins	Height Adjusting/ Support Pins	Locating Pins	Automotive Style Locating Pins
Usage/Picture				
Size (Shank Dia.)	Ø1 to 16 mm	Ø3 to 15 mm	Ø0.5 to 40mm	Ø3 to 35 mm
Max. Level of Configurability	•	•••	•••••	•••••
Pin Configurable Dimensions	P Selectable Configurability Level •	P Configurable Configurability Level •••	P, L, B Configurable Configurability Level ••••	Fully Configurable Configurability Level •••••
Picture				
D (Shank Dia.)	Standard	Standard	Standard	Standard
P (Head Dia.)	Standard	0.01 mm increment	0.01 mm increment	0.01 mm increment
B (Head Lg.)	Standard	Standard	0.1 mm increment	0.1 mm increment
L (Shank Lg.)	Standard	Standard	1 mm increment	1 mm increment
E (Lead Lg.)	Standard	Standard	Standard	0.1 mm increment
A (Lead Angle)	Standard	Standard	Standard	15° increment
Cost \$	\$	\$\$	\$\$\$	\$\$\$\$

Locating Pins / Bushings					
#AFPB	Large Head, Tapered, High Hardness Stainless Steel, Press Fit, Tapped, Threaded		#AKFA	High Hardness Stainless Steel, Tapered, Configurable Taper Angle	
#AKFQ	High Hardness Stainless Steel, Sphere Large Head, D and P Selectable Tolerance		#AFPQ	High Hardness Stainless Steel, Sphere Head	

#AFPD	#AFPS	#ALPS	#FPBA	#FPBT

#FPNA	#KFAA	#FPTM	#FPQA

#FPQT	#FPQN	#KFQA	#FPDC	#FPDT





## Locating Pins / Bushings



**#FPFN**  
Large Flat Head, Threaded,  
P Configurable



**#KFFA**  
Large Flat Head, Threaded,  
P/L/B Configurable



**#FPYN**  
Side Locating – Standard



**#JPRB**  
Large Head, Round Tapered,  
Standard



**#KFPBA**  
Large Head, Round Tapered,  
D/P Tolerance Selectable



**#LPDE**  
Selectable Pilot Shape – Standard,  
p6 Shank



**#LPAA**  
Selectable Pilot Shape –  
Straight Tapped



**#LPAA**  
Selectable Pilot Shape – Threaded



**#LPAL**  
Selectable Pilot Shape – Threaded,  
Pilot Length Configurable



**#JPNG**  
Full Thread



**#JPLR**  
Marker Pins Hexagon Socket



**#JPLB**  
Marker Pins



**#FPCH**  
Bullet Nose, Miniature, Press Fit



**#JPPH**  
Large Head, Tapered, Plastic Tip



**#JPZA**  
Resin Locating Pins – Large Head,  
Sphere, P Configurable, Standard



**#HPSF**  
Locating Pilot Pins – Standard



**#WPG**  
Double Pilot, Standard,  
Configurable



**#CFPL**  
Locating Pins for Height Adjusting



**#AFPM**  
Large Head Round,  
Nonmagnetic , Standard



**#FPSA**  
Small Head, Round, Standard,  
P Standard



**#FPST**  
Small Head, Tapped, P Configurable



**#KFSA**  
Small Head, Standard,  
P/L/B & Pilot Configurable



**#JPCT**  
Setscrew Mounting Shank –  
Circumference Groove



**#FPQS**  
Spherical Small Head – Standard,  
P Configurable



**#FPQ2**  
Spherical Small Head – Tapped,  
P Configurable



**#KFQS**  
Spherical Small Head – Standard,  
P/L/B Configurable



**#JPCQ**  
Spherical Large Head – Setscrew  
Mounting Shank



**#FPDS**  
Small Flat Head, Standard,  
P Configurable



**#FPD2**  
Small Flat Head, Tapped,  
P Configurable



**#KFFS**  
Small Flat Head, Standard,  
P/L/B Configurable



**#JPRS**  
Small Head, Round Tapered,  
Standard



**#KFPS**  
Small Head, Round Tapered,  
Standard, DP Tolerance,  
R Selectable



**#JPZS**  
Resin Locating Pins – Small Head,  
Tapered, P Configurable



**#PPFJ**  
Pusher Pins – Straight, Flat



**#PPFS**  
Pusher Pins – Small Head, Flat



#LPST

Locating Pin – Straight,  
D Tolerance, Tapped

#LPSQ

Straight, Sphere, Standard, Tapped



#FPJA

Shoulder, Standard, P Standard



#FPUA

Shoulder, Tapped, P Standard



#FPTN

Shoulder, Threaded, P Configurable



#KFHA

Shoulder, P/L/B Configurable,  
Threaded, Pilot Configurable

#FPJAT

Configurable Shoulder Thickness &  
Standard

#FPJATD

Configurable Shoulder Thickness &  
Diameter, Standard

#JPCJ

Shoulder, Set Screw Mounting  
Shank, Notch Shape

#LPMB

Selectable Pilot Shape, Configurable  
Shoulder Thickness, Threaded

#LPZ

Bolt Fixing, Standard



#JPMA

Bolt Fixing with Pilot



#LBNA

Large Bolt Fixing



#JPEA

Eccentric, Standard



#MASA

Flanged Locating Pins, Flat



#FLPA

Flanged Locating Pins, Tapered,  
Standard

#KKB

Height Adjusting Blocks –  
Standard

#IPMA

Locating Pins for Grippers –  
Stepped

#CMPA

Plate Centering Pins



#LPN

With Air Vent, Threaded



#SNPB

Resin Locating Pins – Small  
Diameter, Sphere, Standard  
Tolerance

#FPAJ

Resin Locating Pins – Bolt Fixing,  
Precision Class

#SFKK

Small Diameter Locating Pins –  
High Hardness Stainless Steel  
Straight

#SFSK

Small Diameter Locating Pins –  
High Hardness Stainless Steel  
Small Head

#SFSZ

Small Diameter with Head, Flat,  
Standard Tolerance

#SFHH

Small Diameter Height  
Adjusting Pins

#DSDP

Spring Loaded Small Diameter  
Pin Units

#SFKS

Small Diameter, Flat, Standard  
Tolerance

#SFNN

Small Diameter Locating Pins –  
Small Head

#SFPS

Small Diameter with Shouldered  
Head

#SFPN

Small Diameter with Shoulder,  
Threaded Shank

#FESM

Feed Pins – Standard



#FESG

Feed Pins – Tapped



#FEPS

Feed Pins – Threaded



#FEPM

Feed Pins with Shoulder – Standard



## Locating Pins / Bushings



#FEPG

Feed Pins with Shoulder – Tapped



#FEPN

Feed Pins with Shoulder – Threaded



#SDPA

Support Pins – Round, Pilot



#SHFJ

Support Pins – Pilot, Round, Straight, Standard



#LSPA

Support Pins – Tip Shape Selectable



#SRPA

Support Pins – Pilot Shape Selectable, Stepped Pilot



#JPRA

Height Adjust Pins – Hex/B/F Standard



#SRTA

Hex, Medium Accuracy, Threaded



#JPRM

Height Adjust Pins – Tapped, Hex



#SRTB

Hex, Medium Accuracy, Tapped



#JPHF

Height Adjust Pins with Shoulder – F Standard



#JPHA

Height Adjust Pins with Shoulder – F Standard



#JPH2

Height Adjust Pins – Tapped, Round



#JPAM

Height Adjust Pins – Press Fit, L Configurable



#JPHU

Height Adjust Pins – Counterbored



#SPFA

Support Pins – Flat, Round, Flat, Threaded



#JPSSR

Height Adjusting Pins Small Head Threaded



#JPTU

Height Adjust Pins



#JPTC

Height Adjusting Caps



#LPHB

Compact Flange – Bolt Fixing



#JBA

Bushings for Locating Pins – Straight, Standard



#JBAAU

Bushings for Locating Pins – Straight, Thin Wall



#JBAF

Bushings for Locating Pins – Straight, Standard, Configurable



#JBAAUF

Bushings for Locating Pins – Straight, Thin Wall, Configurable



#JBH

Bushings for Locating Pins – Flanged, Standard



#JBHU

Bushings for Locating Pins – Flanged, Thin Wall



#JBHF

Bushings for Locating Pins – Flanged, Standard, Configurable



#JBHUF

Bushings for Locating Pins – Flanged, Thin Wall, Configurable



#JBAG

Bushings for Locating Pins – Straight, Retaining



#JBHG

Bushings for Locating Pins – Flanged



#JBHY

Bushings for Locating Pins – Notched



#JBEH

Bushings for Locating Pins Oval – Compact Flange



#JBE

Bushings for Locating Pins – Oval, Shoulder



#JBAD

Bushings for Locating Pins – Copper Alloy, Straight



#JBHD

Bushings for Locating Pins – Copper Alloy, Shoulder



#JBC

Bushings for Locating Pins – Ceramic



#LCB

Bushings for Locating Pins with Oil Grooves – Hardened



#JBT

Bushings for Locating Pins – Round Flanged, P/L Standard



#JBS

Bushings for Locating Pins – Square Flanged, P/L Standard



#JBOK

Bushings for Locating Pins Compact Flange – Economy



#JBN

Bushings for Locating Pins – Compact Flanged, P/L Standard



#ELAN

Standard Grade, Shoulder, Threaded



#ELAT

Standard (h7), Shoulder, Circumference Groove



#SELA

Standard (h7), Shoulder, Threaded, Tip Shape Selectable, Plated



#SELT

Standard (h7), Shoulder, Circumference Groove, Tip Shape Selectable, Plated



#ELNN

Locating Pins for Jigs – Standard (h7), Threaded



#ELNT

Locating Pins for Jigs – Standard (h7), Circumference Groove



#SELN

Standard (h7), Threaded, Tip Shape Selectable, Plated



#SEL4

Standard (h7), Circumference Groove, Tip Shape Selectable, Plated



#LANAN

Precision (g6), Shoulder, Threaded



#LATA

Precision (g6), Shoulder, Set Screw



#SLAN

Precision (g6), Shoulder, Threaded, Tip Shape Selectable, Plated



#SLAT

Precision (g6), Shoulder, Set Screw, Tip Shape Selectable, Plated



#LNNAN

Locating Pins for Jigs – Precision (g6), Threaded



#LNTA

Locating Pins for Jigs – Precision (g6), Set Screw Fixing



#SLNN

Precision (g6), Threaded, Tip Shape Selectable, Plated



#SLNT

Precision (g6), Set Screw Fixing, Tip Shape Selectable, Plated



#FLAN

Locating Pins for Jigs – Configurable, Shoulder, Threaded



#FLAT

Configurable, Shoulder, Circumference Groove



#FLNN

Locating Pins for Jigs – Configurable, Threaded



#FLNT

Locating Pins for Jigs – Configurable, Circumference Groove



#ELAS

Standard Grade, Short Set Screw, Shouldered



#ELNS

Standard (h7) Set Screw, Circumference Groove



#ELAC

Locating Pins for Jigs – Standard (h7) Set Screw, Notch Shape



#ELNC

Locating Pins for Jigs – Standard (h7) Set Screw, Notch Shape



#LNNAR

Locating Pins for Jigs – Long Head, Shoulder, Threaded, Plated



#ELAB

Standard Class (h6), Shoulder, Bolt Fixing



#ELAC

Locating Pins for Jigs – Standard Class (h6), No Shoulder, Bolt Fixing



#ELNB

Locating Pin for Jig Round Edge Shoulder Nut



#RANA

Locating Pin for Jig Round Edge Shoulder Nut



## Locating Pins / Bushings



#RNNA

Locating Pin for Jig Round Edge No Shoulder Nut



#HATA

Locating Pin for Jigs – Bullet Nose, Shoulder



#HNTA

Bullet Nose, Selectable Shank, No Shoulder



#LANQ

Locating Pins for Jigs – Square Head, Shoulder, Threaded



#LNNQ

Locating Pins for Jigs – Square Head, No Shoulder, Threaded

## Stop Pins / Stopper Blocks



#NLAN

Locating Pins for Jigs – Oval, Shoulder, Threaded



#NLNN

Locating Pins for Jigs – Oval, Threaded



#ZLA

Insulating Locating Pins for Jigs &amp; Fixtures – Threaded



#HUPN

Height Adjusting Pins for Fixtures – Lock Nut



#HUPT

Height Adjusting Pins for Fixtures – Set Screw



#NUTK

Detection Pins for Weld Nuts



NEW

#PICP

Tapered Spring Loaded Locating Pins

## Stop Pins / Stopper Blocks



#STMH

Stop Pins – Press-Fit



#USTM

Stop Pins – Press-Fit Urethane



#USTH

Stop Pins – Screw with Urethane



★ ✓

#SSTE

Stop Pins – Screw, T Standard



#BSTE

Stop Pins – Spherical, H Standard



#SSTH

Stop Pins – Screw with Wrench Hole



#UPPL

Stoppers with Plates – Urethane, Low Elastic Rubber



#UPWH

Stoppers with Washers – Urethane, Low Elastic Rubber



#SBHB

Stopper Blocks – Straight, Through Hole



#SBNB

Stopper Blocks Tapped Hole Tapped Hole



#SBFB

Stopper Blocks – Plate



#SBUB

Stopper Blocks with Urethane – Block



#SEBE

Stopper Blocks with Urethane – Cylinder



#AST

Round Stoppers – Standard



#ASTM

Round Stoppers Tapped Hole



#ASTC

Shims for Round Stoppers



#FSWJ

Flat Stoppers – Standard



#FSWS

Flat Stoppers with One Hole



#FSWN

Shims for Flat Stoppers



**#PDAP**  
Point Pads – Tapped

### Adjusting Screws / Threaded Stopper Blocks



**#ANB**  
Adjusting Stopper Screws –  
Hexagon Socket, L Configurable,  
Fine Thread



**#ANS**  
Adjusting Stopper Screws –  
Wrench Flat, L Selectable,  
Fine Thread



**#HAB**  
Adjusting Stopper Screws –  
L Selectable, Fine Thread



**#ANH**  
Adjusting Stopper Screws –  
Hexagon Bolt, Fine Thread



**#ANKB**  
Adjusting Stopper Screws with  
Knurled Knob – Fine Thread



**#STBB**  
Locating Bolts – Round Head,  
Fine Thread



**#STBA**  
Locating Bolts, Round Tip R, Fine  
Thread



**#STRB**  
Stopper Bolts – Hexagon Socket,  
Fine Thread



**#STSC**  
Stopper Screws



**#TSB**  
Threaded Stopper Blocks –  
Counterbore, Fine Thread



**#TABB**  
Threaded Stopper Blocks – Counterbore  
Tapped Hole, Fine Thread



**#PAFN**  
Brackets for Stopper Screws –  
Hex, Fine Thread



**#PABN**  
Brackets for Adjustment Screws Bolt  
Fine Thread



**#SNTB**  
Threaded Stopper Block – Standard



**#STBN**  
Threaded Stopper Blocks –  
Counterbore, Fine Thread



**#AJSN**  
Threaded Stopper Blocks,  
Counterbore & Tapped Hole –  
H Configurable



**#AJLT**  
Threaded Stopper Blocks –  
L-Shaped, Lengthways Adjustable



**#AJTN**  
Threaded Stopper Blocks –  
T-Shaped, Fine Thread



**#AJLC**  
Threaded Stopper Blocks –  
L-Shaped, Widthways Adjustable



**#AJFN**  
Threaded Stopper Blocks – Side  
Counterbored, Fine Thread



**#AJLN**  
Threaded Stopper Blocks –  
L-Shaped, Bottom Mounting



**#AJWB**  
Threaded Stopper Blocks –  
Two Hole



**#UST**  
Stopper Bolts with Bumpers –  
Standard, Straight Shape



**#USS**  
Stopper Bolts with Bumpers –  
Straight



**#PSCB**  
Stopper Bolts with Bumpers –  
Hexagon Socket Head Cap Screw



**#UNAM**  
Stopper Screws Head Hexagon  
Socket – MC Nylon



**#UNAH**  
Stopper Bolts With Bumpers –  
Hexagon Socket Head



**#UNBH**  
Stopper Bolts With Bumpers –  
Hexagon Socket Tip



**#UNST**  
Bolts with Low Elastic Rubber



**#UNSH**  
Head Hexagon Socket Cap Screws  
with Low Elastic Rubber



**#AJST**  
Adjusting Bolts – Hex, Coarse, Fine



**#AJSR**  
Adjusting Bolts – Hex Head with  
Hex Socket



**#AJKT**  
Adjusting Bolts – Knurled Head with  
Hex Socket



## Adjusting Screws / Threaded Stopper Blocks

#AJSK  
Adjusting Bolts – Knurled Knobs#AJKB  
Blocks for Adjusting Bolts – Standard#AJSB  
Blocks for Adjusting Bolts – Side Mounting#AJLB  
Blocks for Adjusting Bolts – L-Shaped, H Selectable#AJSL  
Blocks for Adjusting Bolts – Side Mounting , L-Shaped, H Selectable#AJP  
Adjusting Pins – Retaining Ring#SJKB  
Screw Jacks#LVW  
Leveling Screws – Standard#LVGB  
Leveling Screws Large Holes for Adjustment Wrench Flat#LVB  
Leveling Screws – Screw Tip#LVN  
Lock Nuts#RSM  
Clamping Screws – Ball#FSM  
Clamping Screws – Angle#FSMB  
Clamping Screws – Non-Reverse#FSGM  
Clamping Screws – Non-Reverse, Serrated#BALA  
High Locked Screws – SR Shape#BALT  
High Locked Screws – Flat Shape#HRSM  
Clamping Screws – Ball#HFS2  
Clamping Screws – Angle#HFS2  
Clamping Screws – Non-Reverse#HFMG  
Clamping Screws – Non-Reverse, Serrated#BRAS  
Clamping Screws – Tip Clamp, Ball#BFAS  
Clamping Screws – Tip Clamp, Angle#BRSM  
Clamping Screws – Head Clamp, Ball#BFSM  
Clamping Screws – Head Clamp, Angle#SGBS  
Grub Screw Sets with Ball Point#SGTP  
Grub Screw Sets with Thrust Point#SGKS  
Grub Screw Sets – Stainless Steel#SGKG  
Grub Screw Sets – Rubber Pads#SGKA  
Grub Screw Sets – Flanged#PCW  
Clamp Plates – Standard#CPWC  
Shims for Clamp Plates – Standard#CMAJ  
Blocks for Shim Adjustment of Welding Jigs – Straight#CMAC  
Blocks for Shim Adjustment of Welding Jigs – Shim Sets#CMAL  
Blocks for Shim Adjustment of Welding Jigs – L-Shaped