



Master Catalogue of KSS Products

**Ball Screws & Actuators**

Vol. 13.3

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KSS  
co.,LTD.

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## Introduction

Thank you for your interest in KSS products.

With the recent rapid development of mechatronics products, there is an ever-increasing demand for greater precision and reduced size for a wide range of mechanisms.

Since its founding in 1960, KSS has widened its manufacturing scope from a base of manufacturing technology in the ultra-precision field. Beginning with thread gauges, our product line has grown to include Precision Lead Screws, Precision Miniature Ball Screws, as well as Standard Miniature Ball Screws, that have anticipated later demand.

We are confident that such developments have resulted from our diligence in the field of ultra precision technology, which has fulfilled the needs of society.

With the release of this new Catalogue, both standardized & customized new models have been added.

In addition, Lead Screws, Resin Lead Screws have been combined as well as Unit-products such as Ball screw Support Unit, Linear Actuators, Z- $\theta$  Actuators and so on.

There are many choices of KSS products for customer satisfaction to use.

We trust that you will be able to find all of the products you require among the comprehensive range of KSS products in this catalogue, and we are sure that these products will play a vital role in meeting today's needs in precision positioning, further miniaturization in drive technology, cost reductions, and assisting in the design and development of a wide variety of products.

We will continue to apply our expertise and technology to the development of new technology and new products, as we work to satisfy our customers' most advanced needs.

We hope you find our new catalogue, featuring the latest products from KSS, be helpful.



What dose the KSS logo signify?

**Manufacturing Division:**

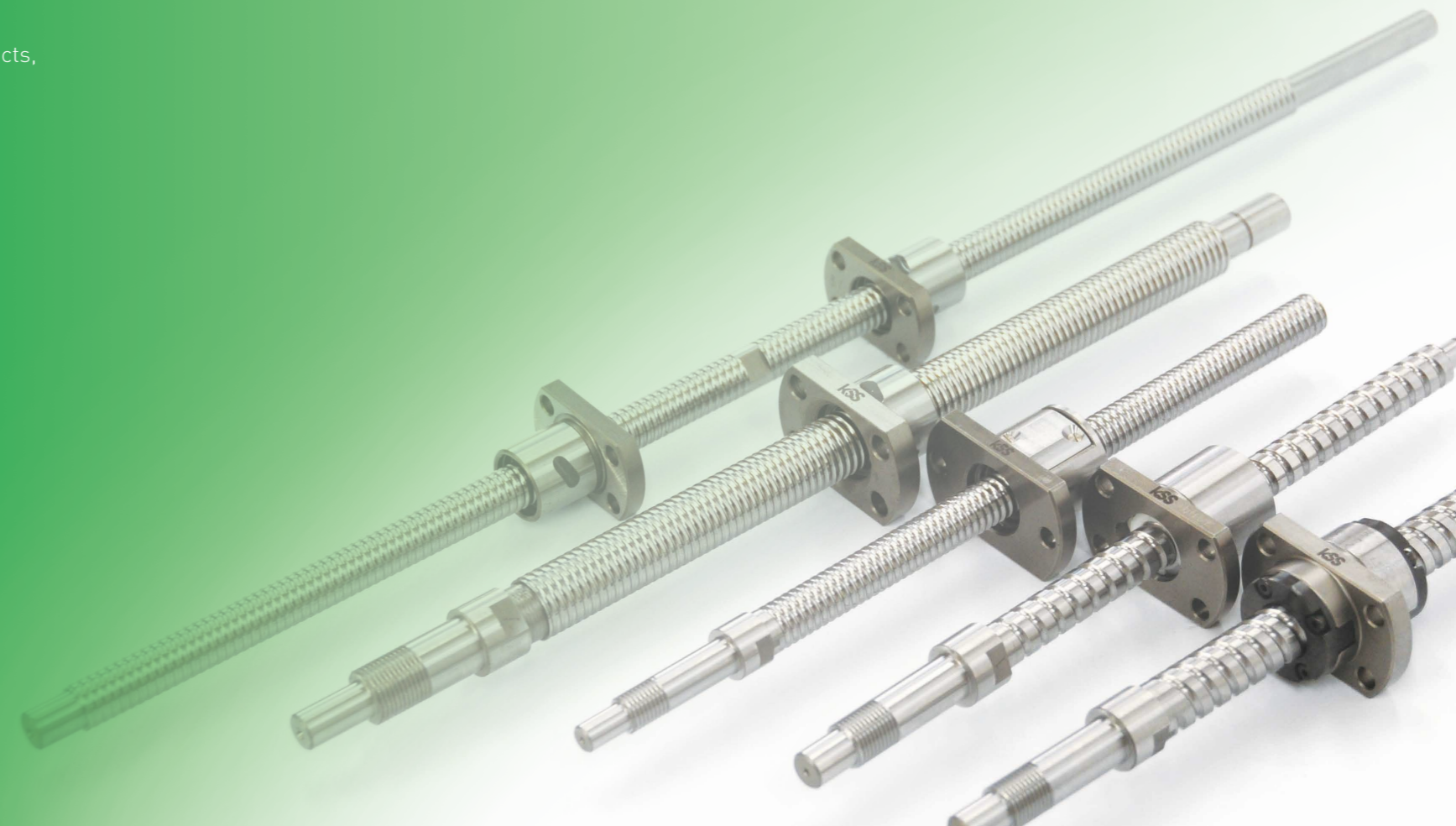
Know-How  
Superior Quality  
Safety Motion

**Sales Division:**

Kindness  
Speed  
Service

The letters KSS extend out from the triangular logo, symbolizing our constant technological breakthroughs.

The **green** corporate color signifies a business that is youthful, bright, and active.



# Outline of KSS Products

## ■ Ball Screws



### Standard products Precision Ball Screws / Rolled Ball Screws (A101~)

These series are KSS standard Ball Screws, Precision & Rolled type. These types of products can be delivered shortly with end-journal machining. End-journal profile is also standardized.



### Customized products Precision Ball Screws / Rolled Ball Screws (A501~)

In order to meet the needs of customer's requested design, we offer customized products. To reduce design process at customer, each Nut type is standardized.

## ■ Grease



### Original Grease for Miniature Ball Screws (B101~)

This grease has high lubrication performance without deteriorating Ball Screw function. The original Grease for Clean room usage is also available.

## ■ Precision Lead Screws



### Precision Lead Screws (C101~)

Ultra Fine Pitch is available, which only Lead Screws achieve. With precise grinding technology on flank surface, fine surface roughness and low wobble become reality. This is the triangular Screw with low torque and less wear.

## ■ Lead Screws with Plastic Nuts



### Resin Lead Screws (D101~)

This series have good corrosion resistance by a combination of Stainless Shaft and Plastic Nut. It is reasonable price and suitable for transport with light Load.

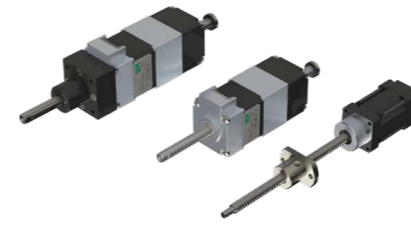
## ■ Ball Screw with Ball Spline



### Miniature Ball Screw with Ball Spline (F101~)

This is a combined product which is possible for linear and rotary motion as well as suction at the same time with one unit. Achieved developing very compact product as "Overlap type" using Miniature Ball Screws and Miniature Ball Splines .

## ■ Actuator



### Ball Screw Linear Actuators (P101~)

This is a Ball Screw type compact electric Linear Actuator which combined with Stepping Motor. 3 types of Linear Actuators, External, Captive and Non-Captive type are available for customer usage.



### Single axis Actuators (Q101~)

Single axis Actuator is the stage-type compact Actuator which is made of small sized Ball Screw and Linear Guide. Variety of options are available such as External photo-sensor or Brake unit.



### V-Z-θ Actuators (R101~)

This is our state of the art product which applied the KSS miniature Ball Screw with Ball Spline (BSSP), and realized three functions, linear (Z), rotary ( $\theta$ ) and vacuum (V) with one product. KSS provides 3-types of multi-functional VZ $\theta$  Actuator, which are Direct Drive type, Hybrid Drive type and Belt Drive type.

## ■ Attachments related KSS products



### Ball Screw Support Units (E101~)

KSS Support Units are suitable for Miniature Ball Screw end journal. Several types of Support Units are available with Ball Screws.

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# Table of Shaft dia. and Lead combination

[Description]

Shaft dia (mm)	Lead (mm)	
	0.5	
1.8	A205 SG	A505 FBS
3	A205 SG	A505 FBS

Standard Products in stock  
Customized Products  
Model No. page

# Nut style list for Precision Ball Screws & Rolled Ball Screws.

Nut style	Precision Ball Screws				Precision Rolled Ball Screws	Rolled Ball Screws			
	Standard Products		Customized Products		Standard Products	Standard Products		Customized Products	
Single Nut with Flange	SG		FKB FBS FDB FEB		PSR PSRT	SR SSR SRT SSRT		MRB	
Sleeve type Single Nut	-		BS		-		BSR		
Single Nut with M-thread	-		MS		-		MSR		
Square type Single Nut	-		KS		-		-		
Bi-directional Nut with Flange	SD		FBS* FKB*		-		-		

※Please refer to page A201 regarding the detail of Standard Products Note)\* means Bi-directional Nut with Flange.

# Table of Shaft dia. and Lead combination (Model distinction)

Shaft dia (mm)	Lead (mm)								Lead (mm)																			
	0.5	1	1.5	2	2.5	3	4	5	6	8	10	12	15	20	30													
1.8	A505 FBS																											
3	A207 SG	A505 FBS	A208 SG	A505 FBS A529 BS																								
4	A505 FBS	A209 SG A239 SD A247 SR A248 SR(K) A289 SRT A290 SRT(K) A323 PSR A324 PSRT A325 PSR(K) A326 PSRT(K)	A505 FKB A505 FBS A529 BS A539 MS A545 FKB* A551 MRB A551 MRB(K) A559 BSR A563 MSR	A210 SG A249 SR A291 SRT	A505 FBS A529 BS A551 MRB A559 BSR		A505 FEB			A505 FEB																		
5	A507 FBS	A507 FKB A507 FBS A529 BS A545 FKB*					A211 SG A250 SR A292 SRT	A507 FBS A529 BS A551 MRB A559 BSR																				
6	A509 FBS	A212 SG A240 SD A251 SR A252 SR(K) A281 SSR A293 SRT A294 SRT(K) A315 SSRT A327 PSR A328 PSRT A329 PSR(K) A330 PSRT(K)	A509 FKB A509 FBS A529 BS A543 KS A545 FKB* A551 MRB A551 MRB(K) A559 BSR	A509 FBS A529 BS	A213 SG A253 SR A295 SRT	A509 FBS A529 BS	A214 SG			A215 SG A254 SR A296 SRT	A509 FEB A551 MRB		A216 SG A255 SR A297 SRT	A509 FEB A551 MRB	A509 FEB													
8	A511 FBS	A217 SG A241 SD A256 SR A257 SR(K) A282 SSR A298 SRT A299 SRT(K) A316 SSRT A331 PSR A332 PSRT A333 PSR(K) A334 PSRT(K)	A511 FKB A511 FBS A531 BS A543 KS A545 FKB* A553 MRB A553 MRB(K) A559 BSR	A511 FKB A511 FBS A531 BS A539 MS A545 FKB*	A218 SG A242 SD A258 SR A259 SR(K) A283 SSR A300 SRT A301 SRT(K) A317 SSRT A335 PSR A336 PSRT A337 PSR(K) A338 PSRT(K)	A511 FKB A511 FBS A531 BS A539 MS A543 KS A545 FKB* A553 MRB A553 MRB(K) A559 BSR A563 MSR	A219 SG A260 SR A302 SRT	A513 FDB A513 FBS A531 BS A539 MS	A513 FBS A531 BS A539 MS	A220 SG	A513 FBS A531 BS A539 MS		A221 SG A261 SR A303 SRT	A513 FBS A531 BS A539 MS A553 MRB A559 BSR A563 MSR	A222 SG A262 SR A304 SRT	A513 FEB A553 MRB	A263 SR	A513 FEB A553 MRB	A223 SG A264 SR A305 SRT A339 PSR A340 PSRT	A513 FEB A553 MRB								
10	A224 SG	A515 FKB A515 FBS A533 BS A543 KS A545 FKB*	A515 FKB A515 FBS A533 BS A545 FKB*	A225 SG A243 SD A265 SR A266 SR(K) A284 SSR A306 SRT A307 SR(K) A318 SSRT A341 PSR(K) A342 PSRT(K)	A515 FKB A515 FBS A533 BS A541 MS A543 KS A545 FKB* A555 MRB A555 MRB(K) A561 BSR A563 MSR		A515 FKB A515 FBS A533 BS A545 FKB*	A517 FBS A533 BS A545 FBS* A555 MRB A561 BSR A563 MSR	A226 SG A267 SR	A517 FBS A533 BS A545 FBS* A555 MRB A561 BSR		A227 SG A268 SR A308 SRT	A517 FDB A517 FBS A533 BS A545 FBS* A555 MRB A561 BSR	A555 MRB A561 BSR		A228 SG A269 SR A309 SRT	A517 FEB A555 MRB		A555 MRB	A229 SG A270 SR A310 SRT	A517 FEB A555 MRB	A271 SR A311 SRT	A517 FEB A555 MRB	A517 FEB				
12		A519 FKB A519 FBS A535 BS A547 FKB*	A230 SG A244 SD A272 SR A273 SR(K) A312 SRT A313 SRT(K) A343 PSR(K) A344 PSRT(K)	A519 FKB A519 FBS A535 BS A541 MS A547 FKB* A555 MRB A555 MRB(K) A561 BSR A563 MSR		A519 FKB A519 FBS A535 BS A547 FKB*	A519 FKB A519 FBS A535 BS A547 FKB*		A519 FBS A535 BS A541 MS A547 FBS*		A519 FBS A535 BS		A231 SG A274 SR A314 SRT	A521 FEB A521 FBS A555 MRB														
13																					A521 FEB A557 MRB				A521 FEB A557 MRB		A521 FEB A557 MRB	
14		A523 FBS A535 BS A547 FBS*	A232 SG A275 SR	A523 FKB A523 FBS A535 BS A541 MS A547 FKB* A557 MRB A561 BSR A563 MSR		A523 FKB A523 FBS A535 BS A547 FKB*	A523 FKB A523 FBS A535 BS A547 FKB*		A233 SG A276 SR	A523 FKB A523 FBS A535 BS A541 MS A547 FKB* A547 MRB A561 BSR A563 MSR		A523 FBS A535 BS A547 FBS*																
15																										A236 SG A279 SR	A525 FEB A525 FBS A557 MRB	A525 FEB
16		A527 FBS A537 BS A549 FBS*		A527 FKB A527 FBS A537 BS A549 FKB*		A527 FKB A527 FBS A537 BS A549 FKB*																						