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**HIWIN**<sup>®</sup>

Linear Motion Products & Technology

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*2012 HIWIN*

*New Product Introduction*

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**HIWIN**<sup>®</sup>

Linear Motion Products & Technology

# 2012 HIWIN Catalogue

## BS

- *Super-SE Series*
- *New Circulating Series*
- *Roller Screw*
- *Recirculation Divide Series*
- *Dustproof BS*
- *R2 Series*
- *CRBD*

## GW

- *QR Series*
- *WE Series*
- *QW Screw*
- *MG Series*
- *TM Series*
- *MG Carbon Steel Rail with  
Hard Chrome*
- *IR Series*

## IR

- *New Product*
  - *KK 80*
  - *KA Series*
  - *KS Screw*
  - *KE Series*
  - *All Series Product*
  - *HIWIN GREASE*



# *2012 HIWIN New Product Introduction*

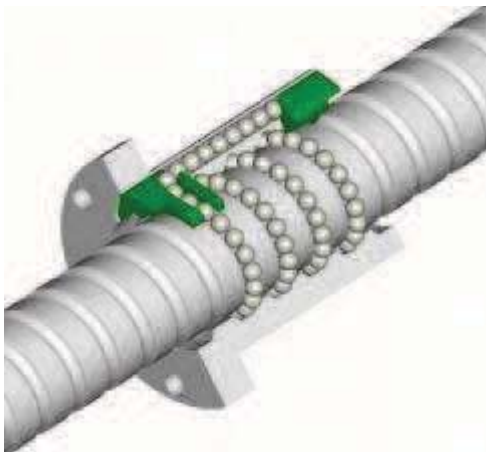
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*BS*  
*Super-SE Series*  
*New Circulating Series*  
*Roller Screw*  
*Recirculation Divide Series*  
*Dustproof BS*  
*R2 Series*  
*CRBD*





# Super-SE Series



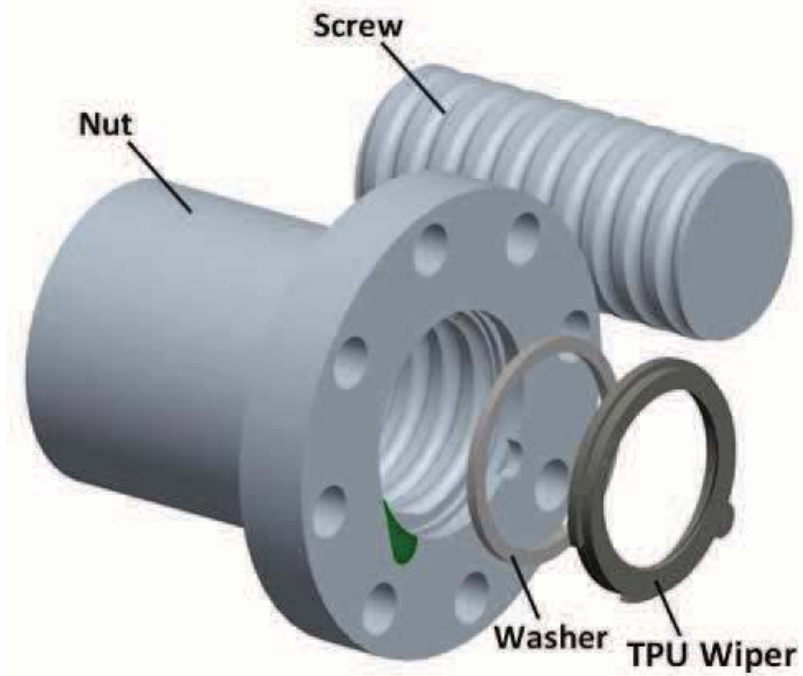
● Space Saving Design  
According to DIN specifications.



## ● Feature: ↵

- Low noise :↵  
5~7dB lower than traditional series ↵
- High acceleration and deceleration velocity↵
- Space-saving and weight- lightening design:↵  
The ballnut diameter is 18%~32% smaller than ↵  
traditional series, according to DIN specifications.↵
- DustProof ↵  
The effective components are designed to improve the dustproof ability of ballscrews.↵
- accuracy grade ↵  
Rolled ballscrews available in JIS Grade C6~C10. ↵

## ➤ EW Type Wiper Design



### ■ Dust-Proof & Seal Test :

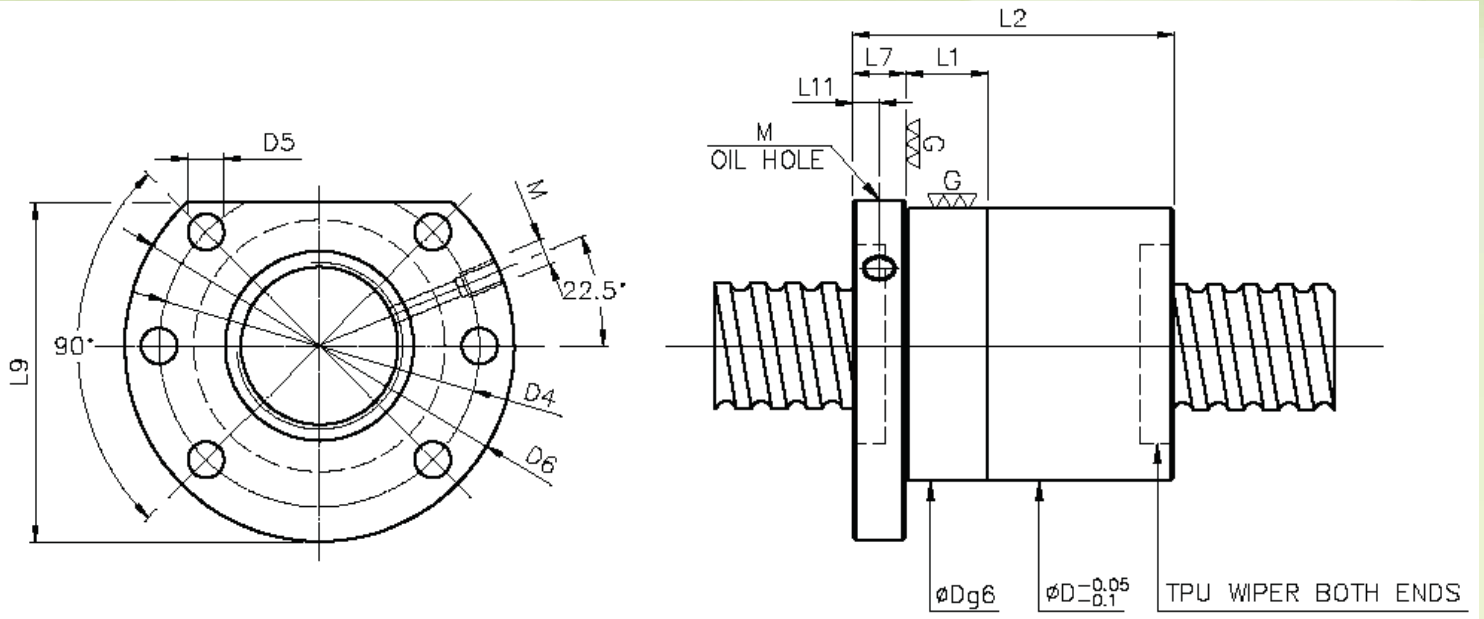


Dust-Proof Test



Seal Test

## HIWIN - E Series VS. STAR FEM-E-C

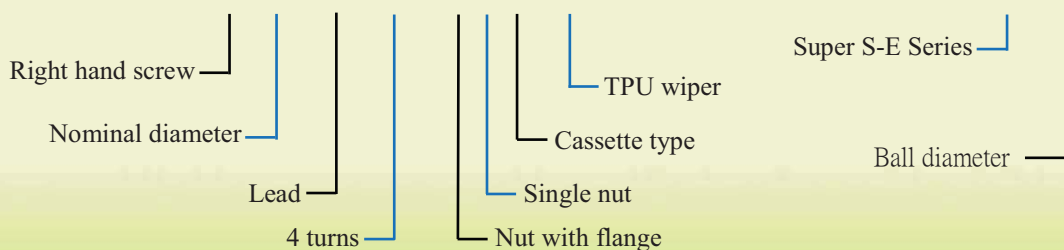


STAR FEM-E-C	HIWIN E Series	HIWIN Nut			HIWIN Flange						
		L1	L2	D	D4	D5	D6	H1	L7	L11	M-Oil Hole
* 16 x 5R x 3 -4	R15 -5K4 -E -3	10	38	28	38	5.5	48	40	12	6	M6×1P
* 16 x 10R x 3 -3	R15 -10K3 -E -3	10	45	28	38	5.5	48	40	12	6	M6×1P
* 16 x 16R x 3 -3	R15 -16K3 -E -3	10	61	28	38	5.5	48	40	12	6	M6×1P
* 20 x 5R x 3 -4	R20 -5K4 -E -3	10	40	36	47	6.6	58	44	12	6	M6×1P
20 x 20R x 3.5 -3	R20 -20K3 -E -3.175	10	77	36	47	6.6	58	44	12	6	M6×1P
* 25 x 5R x 3 -4	R25 -5K4 -E -3	10	45	40	51	6.6	62	48	12	6	M6×1P
* 25 x 10R x 3 -4	R25 -10K4 -E -3	10	64	40	51	6.6	62	48	12	6	M6×1P
25 x 25R x 3.5 -3	R25 -25K3 -E -3.175	10	95	40	51	6.6	62	48	12	6	M6×1P
* 32 x 5R x 3.5 -4	R32 -5K4 -E -3.175	10	48	50	65	9	80	62	13	6.5	M6×1P
* 32 x 10R x 3.969 -5	R32 -10K5 -E -3.969	10	77	50	65	9	80	62	13	6.5	M6×1P
32 x 20R x 3.969 -3	R32 -20K3 -E -3.969	20	84	50	65	9	80	62	13	6.5	M6×1P
32 x 32R x 3.969 -3	R32 -32K3 -E -3.969	20	88	50	65	9	86	62	13	6.5	M6×1P

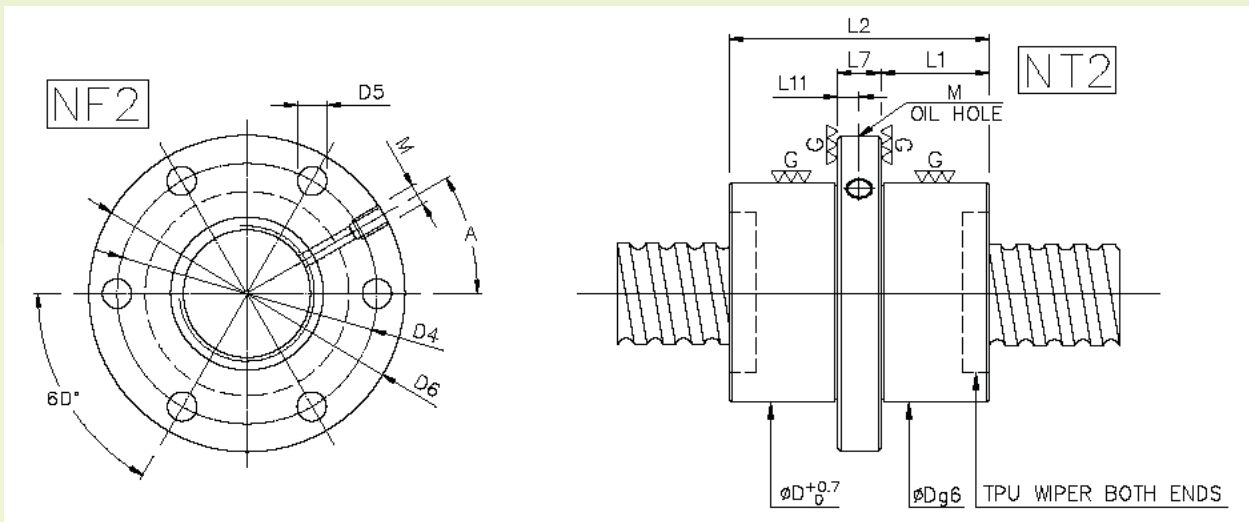
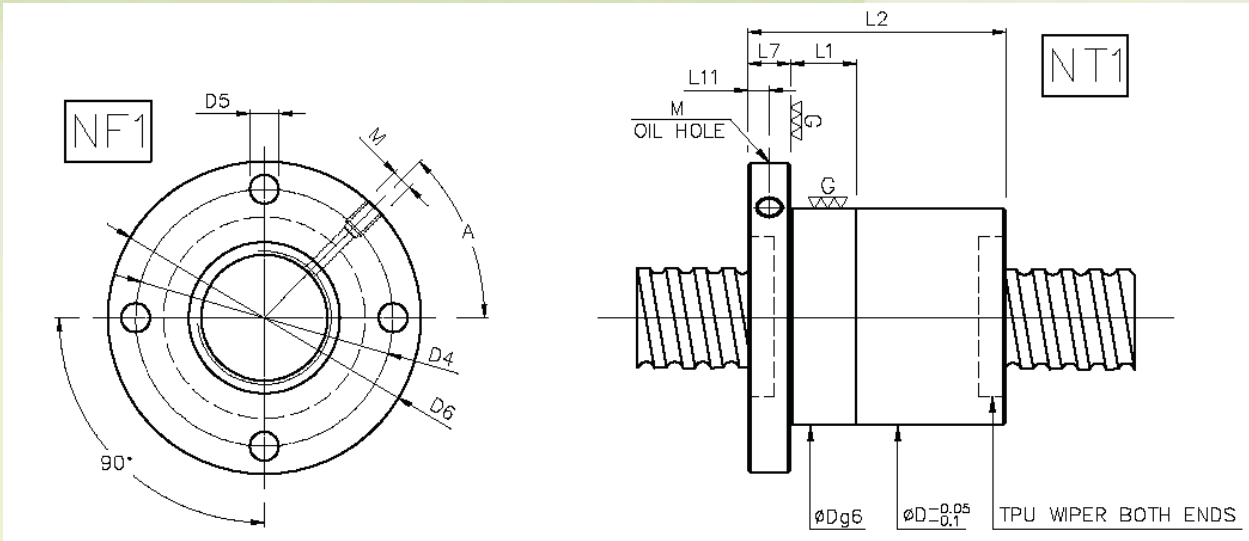
Remark asterisks (\*) : New Development

### ● Pattern Nomenclature:

Ex : **R40-10K4 -FSCEW -800 -1000 - 0.05 - E - 3**



## HIWIN - E Series VS. STAR FEM-E-S



STAR FEM -E -S	HIWIN E Series	HIWIN Nut				HIWIN Flange							
		L1	L2	D	TYPE	D4	D5	D6	L7	L11	A	TYP E	M-Oil Hole
* 12 x 5R x 2 -3	R12 -5K3 -E -2	10	28	24	NT1	32	4.5	40	12	6	30	NF2	M6×1P
* 12 x 10R x 2 -2	R12 -10K2 -E -2	16	33	24	NT1	32	4.5	40	12	6	30	NF2	M6×1P
* 16 x 5R x 3 -4	R15 -5K4 -E -3	10	38	28	NT1	40	6.6	53	12	6	45	NF1	M6×1P
* 16 x 10R x 3 -3	R15 -10K3 -E -3	16	45	28	NT1	40	6.6	53	12	6	45	NF1	M6×1P
* 16 x 16R x 3 -2	R15 -16K2 -E -3	15	45	33	NT2	45	6.6	58	15	7.5	30	NF2	M6×1P
* 20 x 5R x 3 -4	R20 -5K4 -E -3	10	40	33	NT1	45	6.6	58	12	6	30	NF2	M6×1P
* 20 x 20R x 3.5 -2	R20 -20K2 -E -3.175	18.5	57	38	NT2	50	6.6	63	20	10	30	NF2	M6×1P
* 25 x 5R x 3 -4	R25 -5K4 -E -3	10	45	38	NT1	50	6.6	63	12	6	30	NF2	M6×1P
* 25 x 10R x 3 -4	R25 -10K4 -E -3	16	64	38	NT1	50	6.6	63	12	6	30	NF2	M6×1P
* 25 x 25R x 3.5 -2	R25 -25K2 -E -3.175	22.5	70	48	NT2	60	6.6	73	25	12.5	18	NF2	M6×1P
* 32 x 5R x 3.5 -4	R32 -5K4 -E -3.175	10	48	48	NT1	60	6.6	73	13	6.5	30	NF2	M6×1P
* 32 x 10R x 3.969 -5	R32 -10K5 -E -3.969	16	77	48	NT1	60	6.6	73	13	6.5	30	NF2	M6×1P
* 32 x 20R x 3.969 -2	R32 -20K2 -E -3.969	25	64	56	NT1	68	6.6	80	15	7.5	30	NF2	M6×1P
* 32 x 32R x 3.969 -2	R32 -32K2 -E -3.969	34	88	56	NT2	68	6.6	80	20	10	30	NF2	M6×1P

Remark asterisks (\*) : New Development





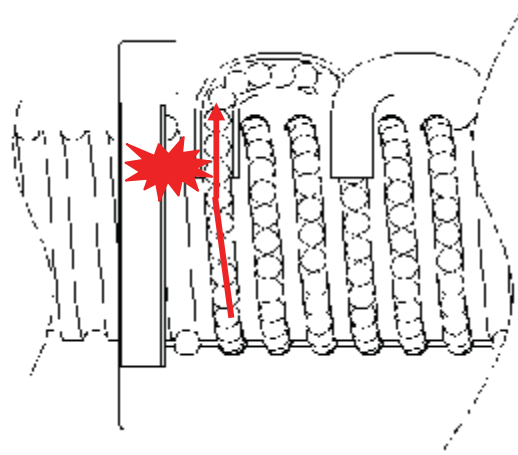
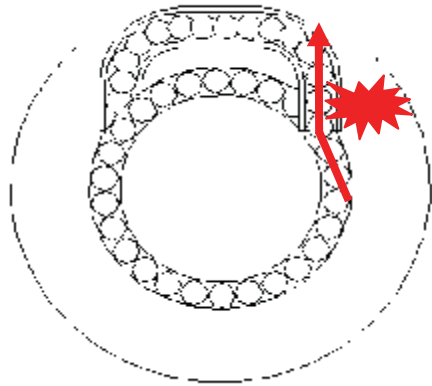
# *NCQ2 Series*

*New Circulating Series with SynchMotion™ Technology*

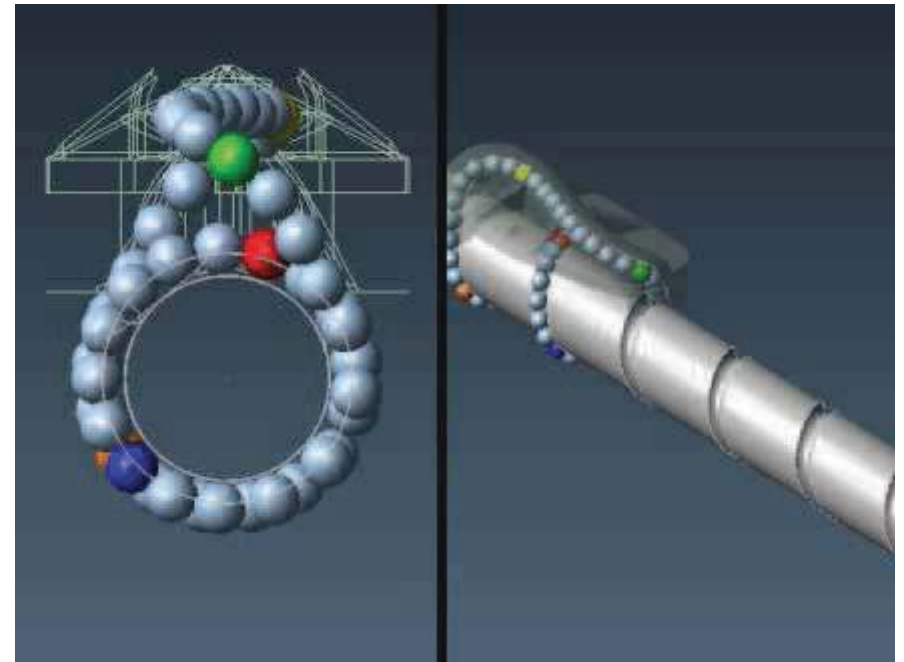
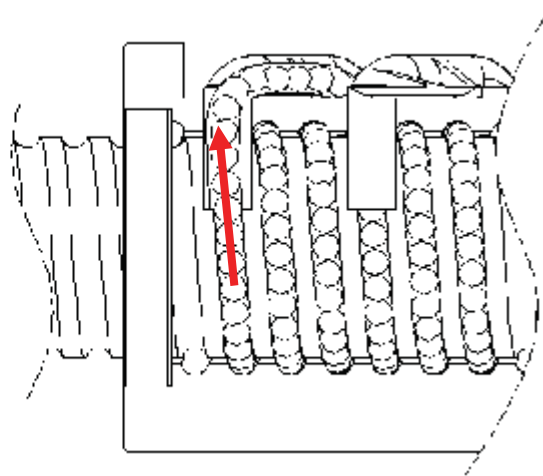
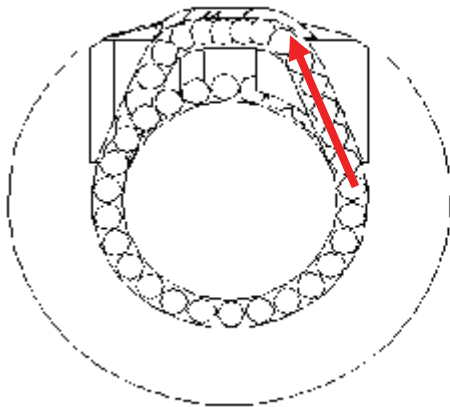


# Product Feature

## Traditional Type



## NC Type



# Compare with Competitor

	HIWIN <i>NC Series</i>	T. company <i>HBN</i>	N. company <i>SRC</i>
Spec	8 ~ 40	32 ~63	50 ~120
Outer Dia. of Nut	Small	Big	Small
DmN Value	160,000	130,000	140,000 ~ 160,000
With Spacer	Y	Y	Y
With Chain	Y	N	N
Temperature	Lower than 80 °C	Lower than 80 °C	Lower than 70 °C



# Specification

Developing

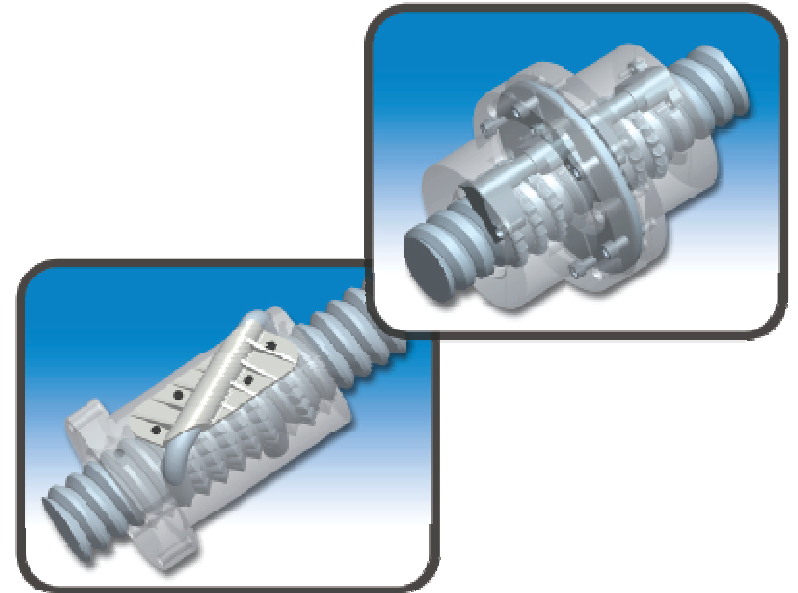
<i>Number of Turns</i>	<i>Nominal Dia.</i>	<i>Lead</i>	<i>Ball Dia.</i>
A	12	5	2.381
A	12	10	2.381
B	15	10	3.175
A	15	20	3.175
A	20	20	3.175
A	25	25	3.969
B	36	16	6.35
B	40	12	7.144
B	12	5	2.381
A	15	20	3.175
B	40	8	4.763
B	40	10	6.35

NC Series

NCQ2 Series



# *Roller Screw*



# *TYPE 1 — Cross Type*

**TYPE 1**

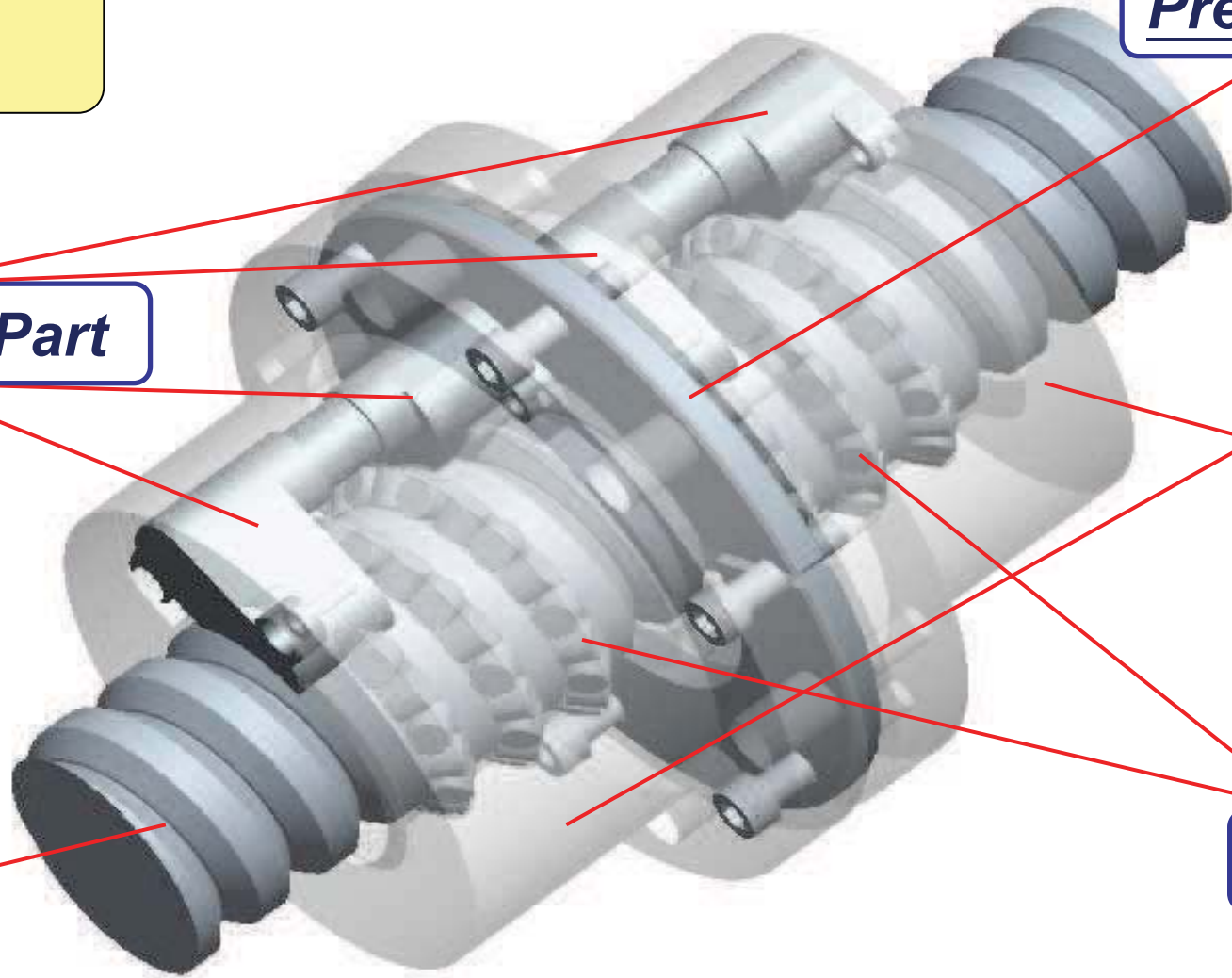
**Circulation Part**

**Preload Piece**

**Ball Nut**

**Shaft**

**Roller**



# TYPE 2 — Thrust Load

**TYPE 2**

**Circulation Part**

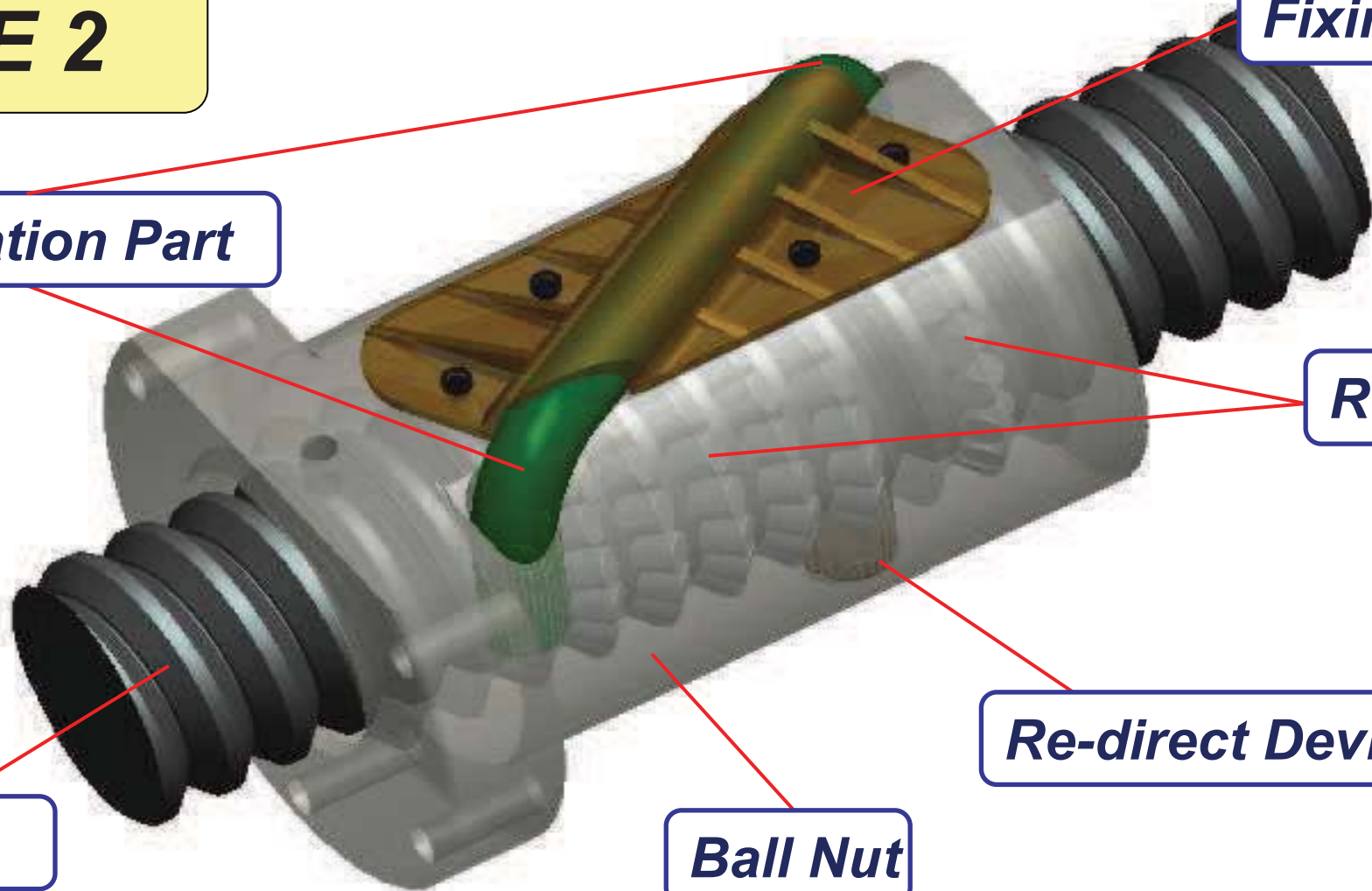
**Fixing Part**

**Roller**

**Re-direct Device**

**Shaft**

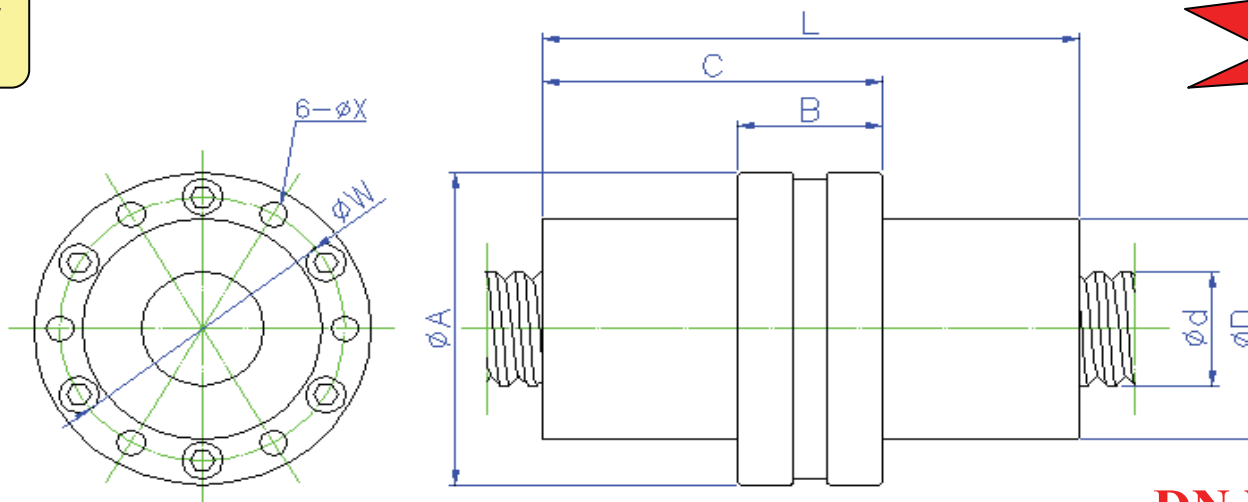
**Ball Nut**



# Specification – Cross Type

## TYPE 1

Developing



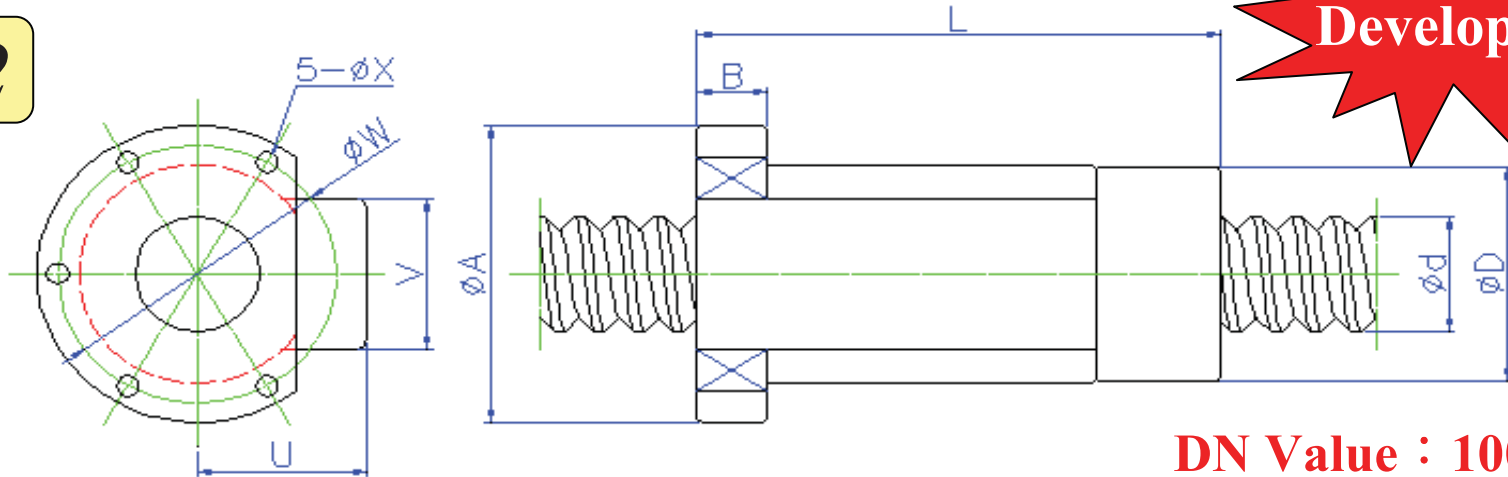
DN Value : 100,000

Spec	Nominal Dia.	Lead	Roller	No. of Circuit	Stat. / Dyna. Load		Dimension of Nut						
					C (kN)	Co (kN)	D	A	B	C	L	W	X
32-10K6	32	10	5	6	90 (65)	504 (171)	70	102	47	111	175	85	9
36-10K6	36	10	5	6	96 (69)	590 (194)	74	106	47	111	175	89	9
40-10K6	40	10	5	6	100 (73)	631 (217)	78	110	47	111	175	93	9
45-10K6	45	10	5	6	105 (78)	707 (252)	83	115	47	111	175	98	9
50-10K6	50	10	5	6	112 (81)	809 (275)	88	120	47	111	175	103	9



# Specification – Thrust Load

## TYPE 2



**DN Value : 100,000**

Spec	Nominal Dia.	Lead	Roller	No. of Circuit	Stat. / Dyna. Load		Dimension of Nut							
					C (kN)	Co (kN)	D	A	B	L	W	X	MAX U	MAX V
50-16K8	50	16	10	8	357 (306)	2150 (818)	95	129	28	210	112	9	68	66
63-16K8	63	16	10	8	401 (343)	2692 (1050)	105	139	28	210	122	9	72	76
80-16K8	80	16	10	8	445 (382)	3369 (1340)	120	154	32	210	137	9	80	92
63-20K8	63	20	13	8	575 (457)	3634 (1320)	117	157	32	265	137	11	83	81
80-20K8	80	20	13	8	646 (511)	4550 (1690)	130	170	32	265	150	11	90	96
100-20K8	100	20	13	8	700 (571)	5466 (2140)	145	185	32	265	165	11	97	113
80-25K8	80	25	16	8	832 (663)	5506 (2020)	145	185	40	330	165	11	102	100
100-25K8	100	25	16	8	936 (734)	6893 (2550)	159	199	40	330	179	11	108	118

# Comparison with Ball Screw

<b>Ball Dia.</b>	$\Phi$ 6.35	$\Phi$ 12.7	$\Phi$ 15.875	$\Phi$ 19.05
<b>Roller Dia.</b>	$\Phi$ 5	$\Phi$ 10	$\Phi$ 13	$\Phi$ 16
<b>TYPE1</b>	○	○		
	<b>Shaft Dia.</b> 32~50	<b>Shaft Dia.</b> 63		
<b>TYPE2</b>		○	○	○
		<b>Shaft Dia.</b> 50~80	<b>Shaft Dia.</b> 63~100	<b>Shaft Dia.</b> 80~100



## *RD Series*

*Recirculation Divide Series \_ Heavy Load*

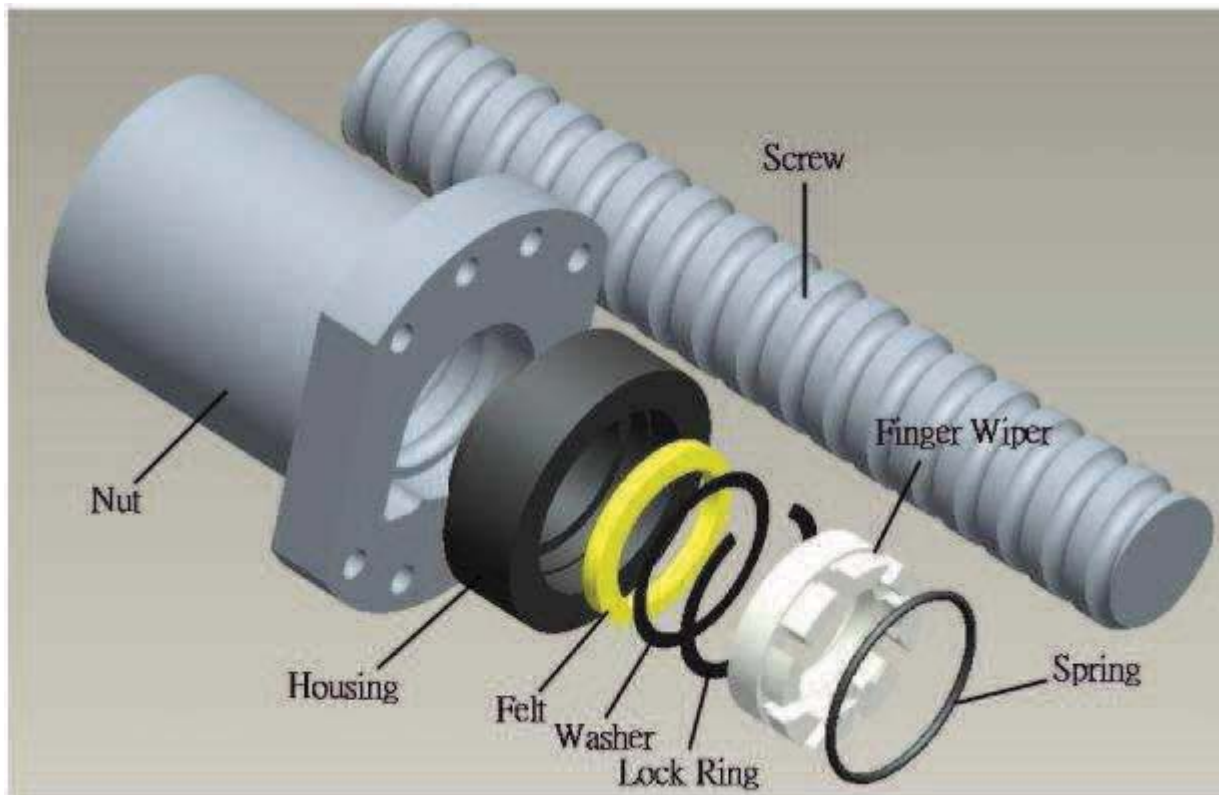


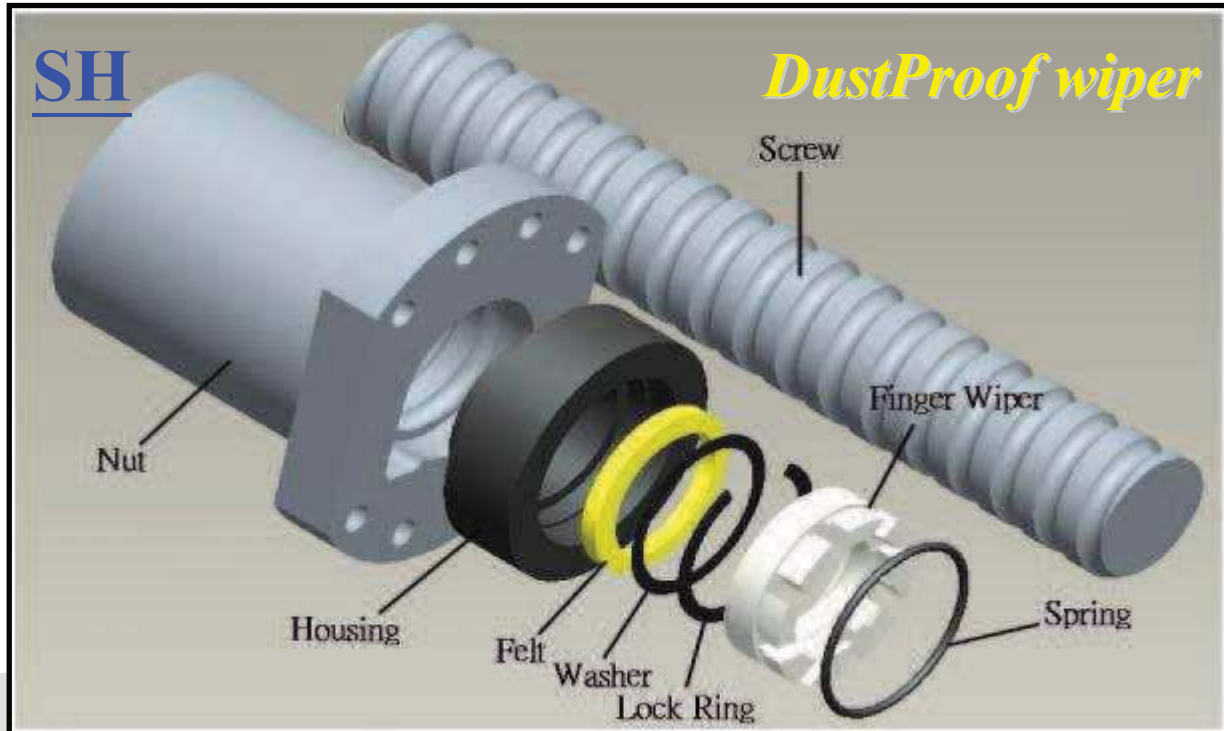
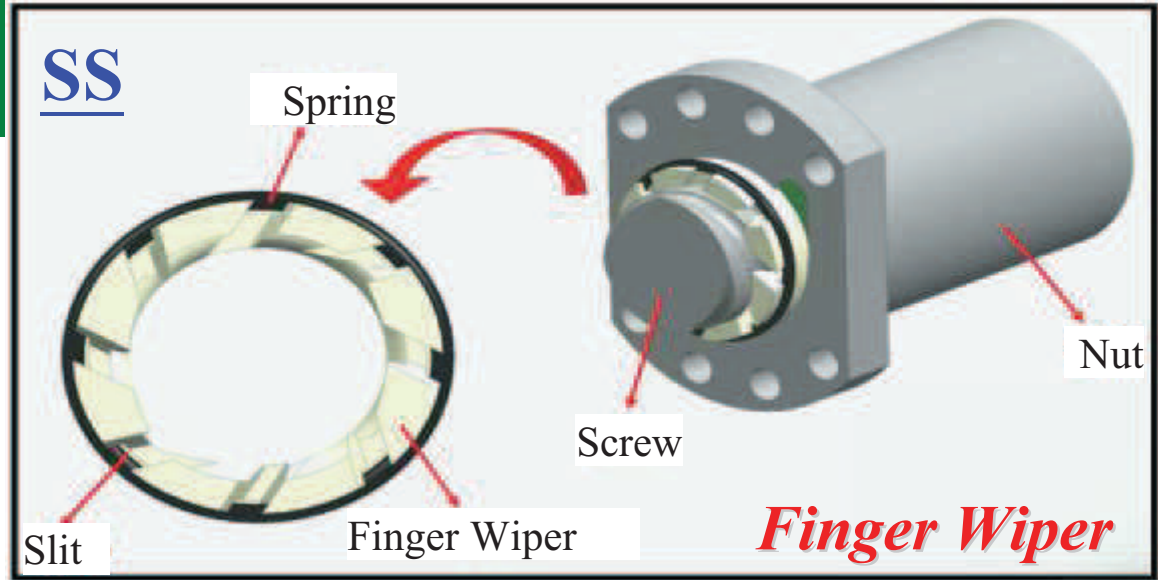
# *RD Series*

Nominal diameter	Lead	Ball Dia.	Number of Turns	With Spacer
50	16	12.7	8	V
63	16	12.7	8	V
63	16	12.7	10	V
80	16	12.7	10	V
63	20	15.875	8	V
80	20	15.875	10	V
100	20	15.875	10	V
120	20	15.875	8	V
63	25	15.875	10	V
80	25	19.05	8	V
100	25	19.05	8	V
120	25	19.05	10	V



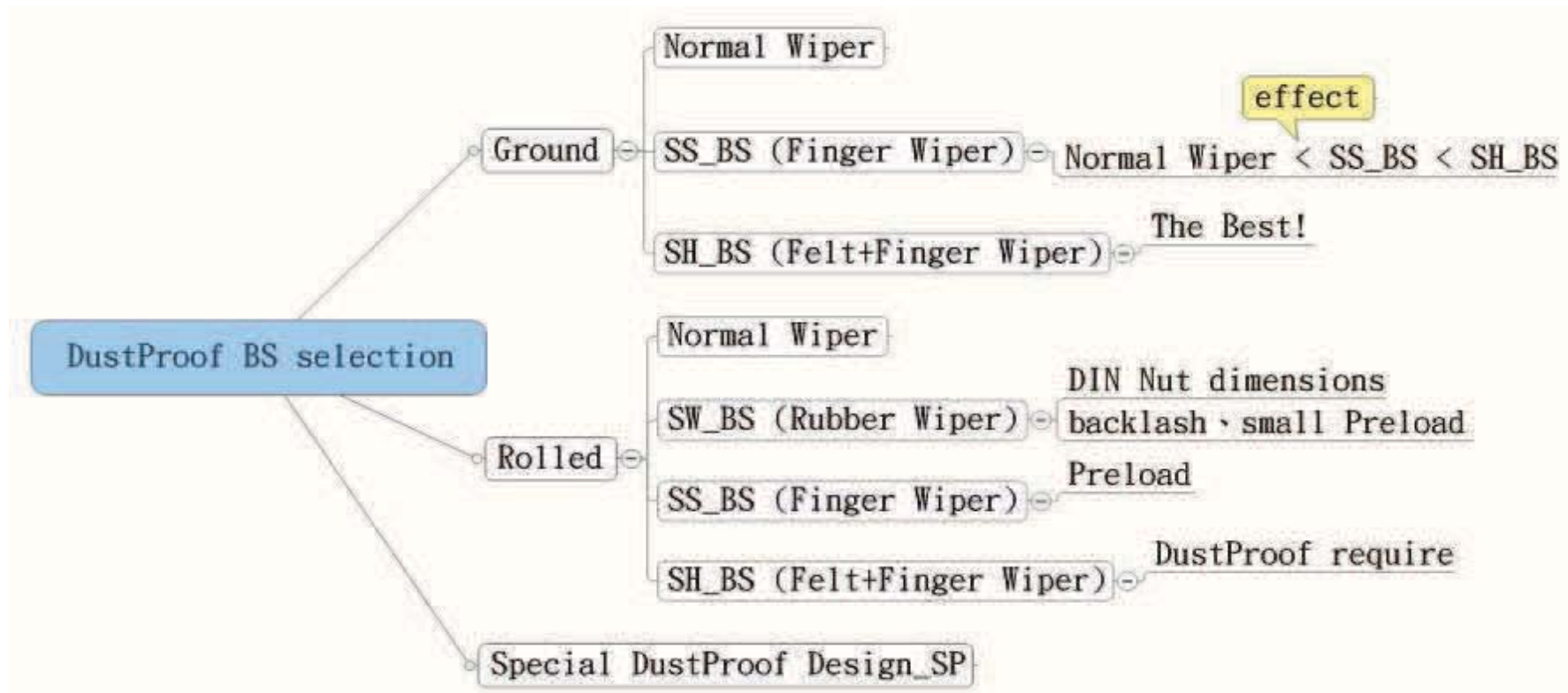
# *Dustproof BS*





# Selection

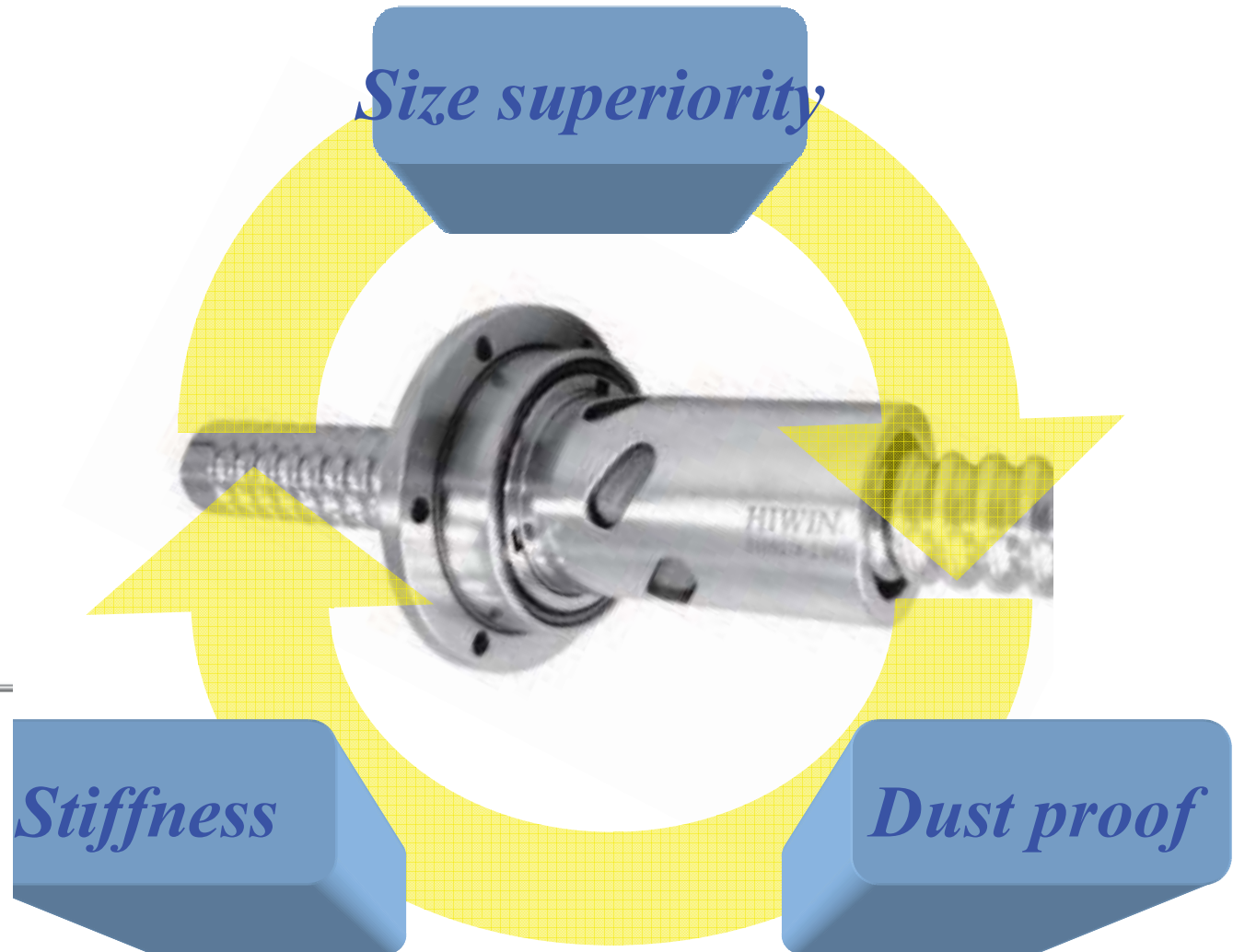
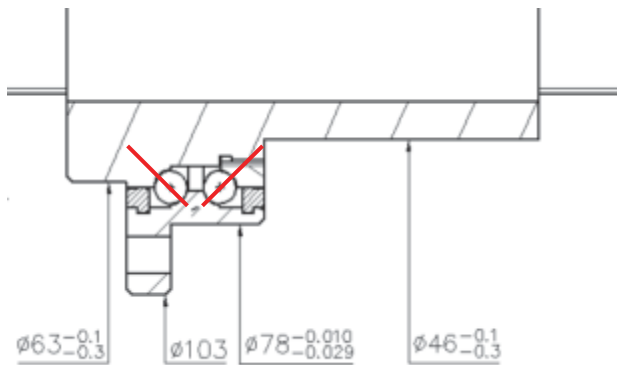
1. Identify the ballscrew: Ground or Rolled
2. For ground BS, the selection depends on the dustproof ability customers require.  
(dustproof effectiveness: SH > SS > Normal wiper)
3. For rolled BS, the selection depends on the set preload.



# R2 Series

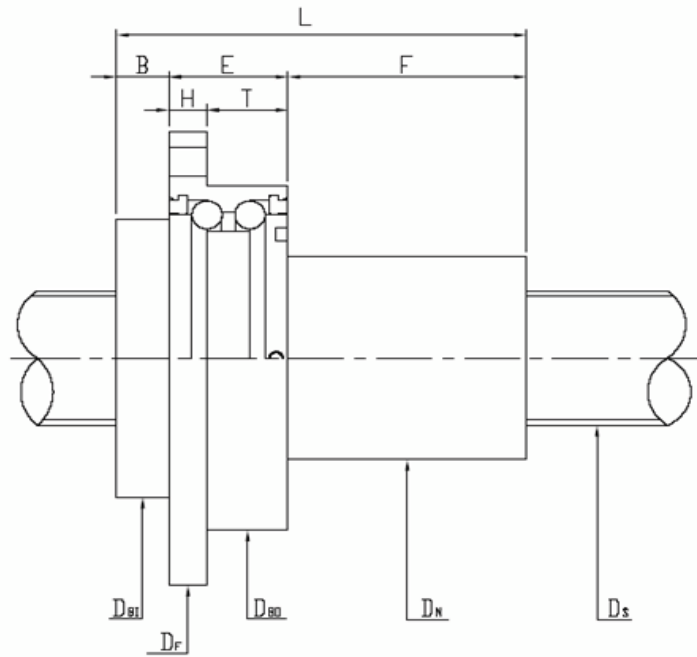
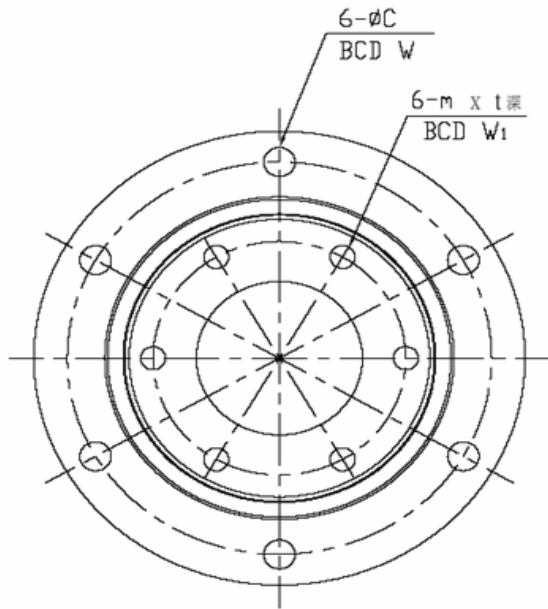
## Features:

1. Low volume of bearing part
2. Rigidity of bearing increased
3. Improve the ability of dustproof
4. Fabricate easily





# R2 Series



型號	螺桿外徑	導程	螺桿PCD	螺桿珠徑	動負荷	靜負荷	螺帽外徑																軸承部			
							D <sub>N</sub>	D <sub>B0</sub>	D <sub>F</sub>	D <sub>B1</sub>	L	F	E	B	H	T	m	t	W <sub>1</sub>	C	W	kgf	kgf	PCD	珠徑	
R16-5-T6	16	5	16.6	3.175	1326	2662	30	48	64	36	79	50	21	8	6	15	M4X0.7	6	30	4.5	56	865	1615	398	3.97	
R20-5-T6	20	5	20.6	3.175	1545	3533	34	56	72	43.5	80	50	21	9	6	15	M5X0.8	8	36	4.5	64	916	1835	45	3.97	
R25-5-T6	25	5	25.6	3.175	1773	4627	40	66	86	52	88	50	25	13	7	18	M6	10	43	5.5	75	1271	2647	54	4.76	
R25-10-T4	25	10	26	4.763	2038	4315	40	66	86	52	106	70	25	11	7	18	M6	10	43	5.5	75	1271	2647	54	4.76	
R32-5-T6	32	5	32.6	3.175	2027	6162	46	78	108	63	86	50	25	11	8	17	M6	10	53	6.6	89	2046	4277	65	6.35	
R32-6-T6	32	6	32.8	3.969	2624	7289	48	78	108	63	97	61	25	11	8	17	M6	10	53	6.6	89	2046	4277	65	6.35	
R32-10-T6	32	10	33.4	6.35	4607	10652	54	78	108	63	131	95	25	11	8	17	M6	10	53	6.6	89	2046	4277	65	6.35	
R36-10-T6	36	10	37.4	6.35	5009	12993	58	92	122	72	151	104	33	14	10	23	M8	12	61	9	105	2574	5594	75	7.14	
R40-10-T6	40	10	41.4	6.35	5369	14138	62	100	130	79.5	142	95	33	14	10	23	M8	12	67	9	113	2677	6135	82	7.14	
R40-12-T6	40	12	41.4	6.35	5369	14138	62	100	130	79.5	167	120	33	14	10	23	M8	12	67	9	113	2677	6135	82	7.14	

   生產過  
   設計完成  
   待設計

陳新和 2010/7/21

# CROSS ROLLER BEARING



# CRBD Interchangeable Table

TYPE	HIWIN	THK	NSK	IKO
Split outer ring type	CRBA	RB	NRXT	CRB CRBC
Split inner ring type	CRBB	RE		
Integral type	CRBC			CRBH..A
Split outer ring with mounting hole(inner screw hole, outer cap hole)	CRBD..A	RU..X (integral)		CRBF..AT (integral)
Split outer ring with mounting hole(identical direction of cap hole)	CRBD..B	RU (integral)		CRBF..A (integral)
Split outer ring with mounting hole(opposite direction of cap hole)	CRBD..C	RU..G (integral)		CRBF..AD (integral)
Integral with mounting hole(inner screw hole, outer cap hole)	CRBE..A	RU..X		CRBF..AT
Integral with mounting hole(identical direction of cap hole)	CRBE..B	RU		CRBF..A
Integral with mounting hole(opposite direction of cap hole)	CRBE..C	RU..G		CRBF..AD
Customized type	CRBX	RU108		
Thin type	Under development	RA RA..C		CRBS CRBS..V *

# *2012 HIWIN*

## *New Product Introduction*

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*GW*

*QR Series*

*WE Series*

*QW Screw*

*MG Series*

*TM Series*

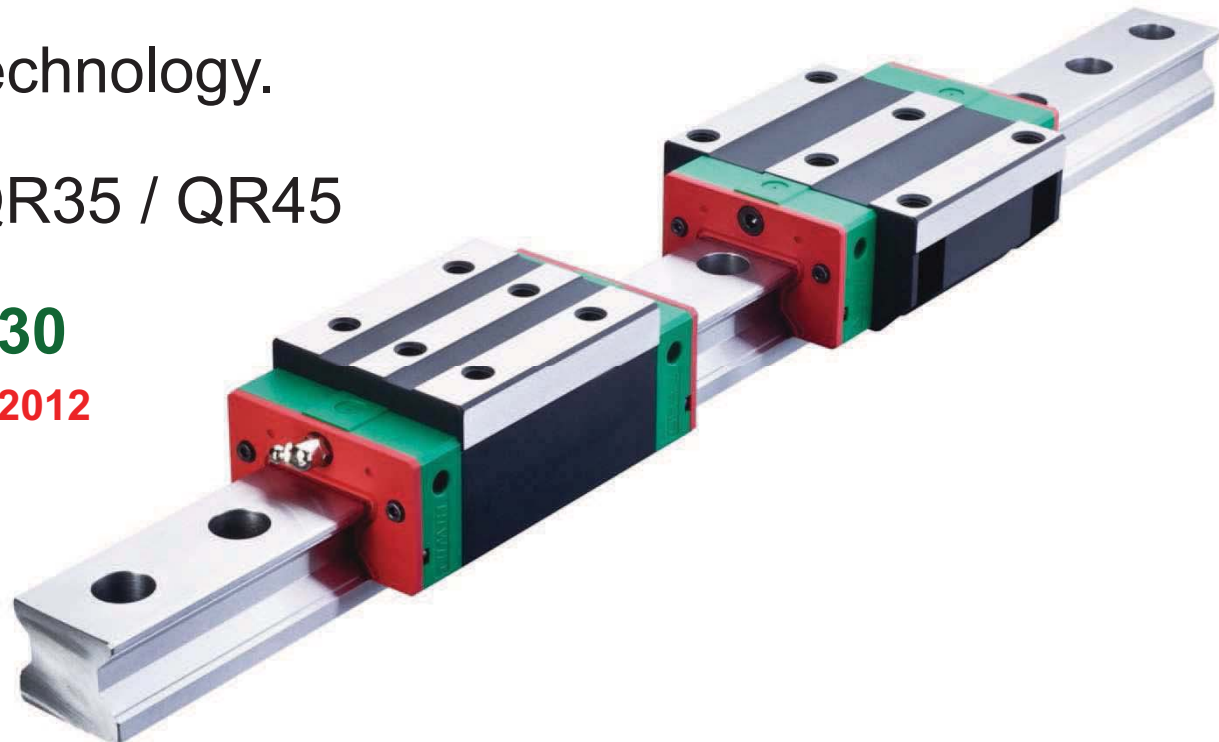
*MG Carbon Steel Rail with Hard Chrome*

# New Product

- Quiet Roller Type Linear Guideway - **QR Series**
  - ▶ Super high rigidity and super high load capacity.
  - ▶ Smooth Movement and Low Noise Design –  
*SynchMotion™* technology.
  - ▶ Size : QR20C / QR35 / QR45

**QR25 / QR30**

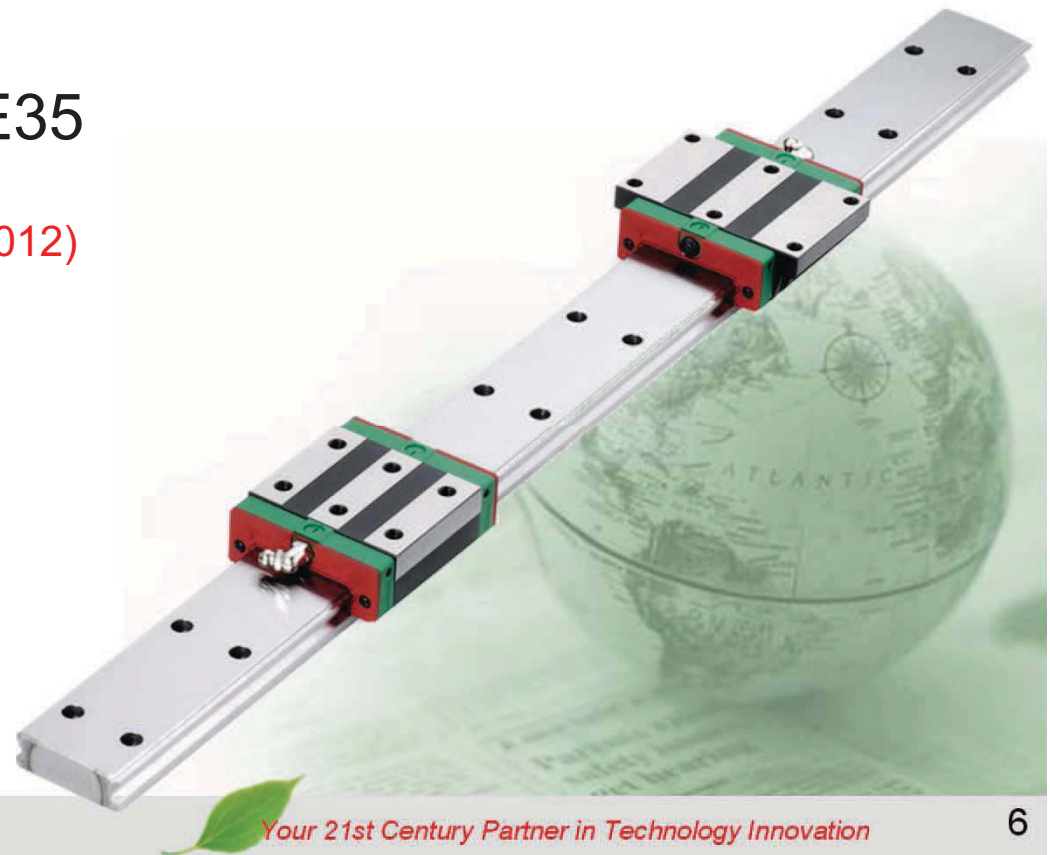
Available in Q1 2012



# New Product

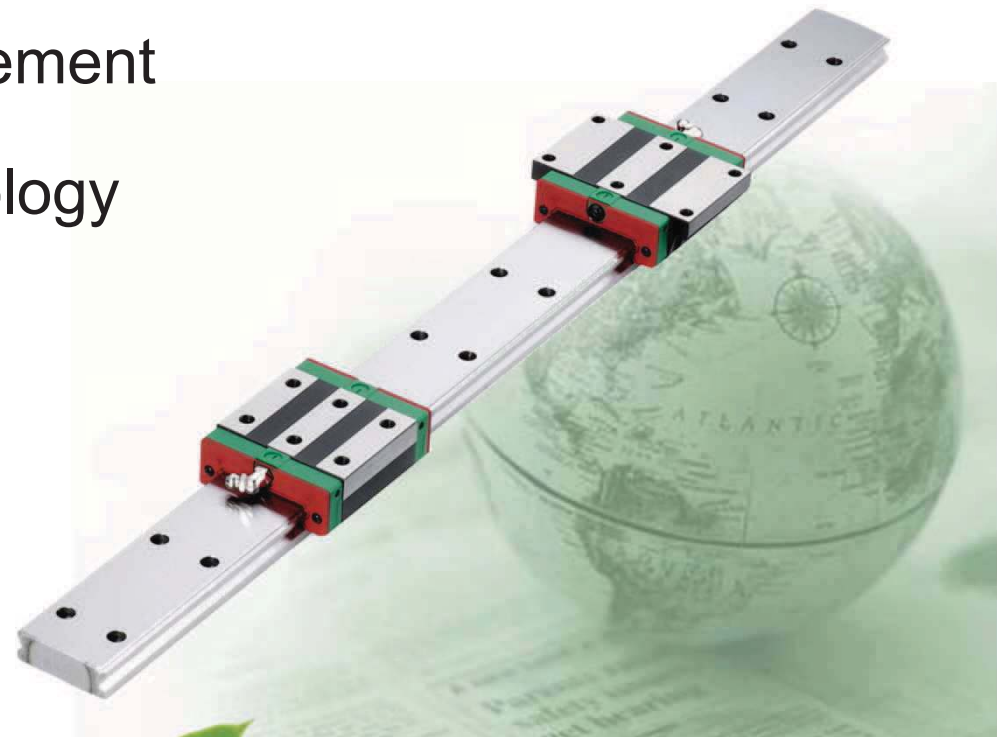
- Wide Linear Guideway - **WE Series**
  - ▶ Wider and Lower with Very High Moment Load Capacity
  - ▶ 4 Directions Equal Load
  - ▶ Size : WE21 / WE27 / WE35

**WE17** (Available in Q2 2012)



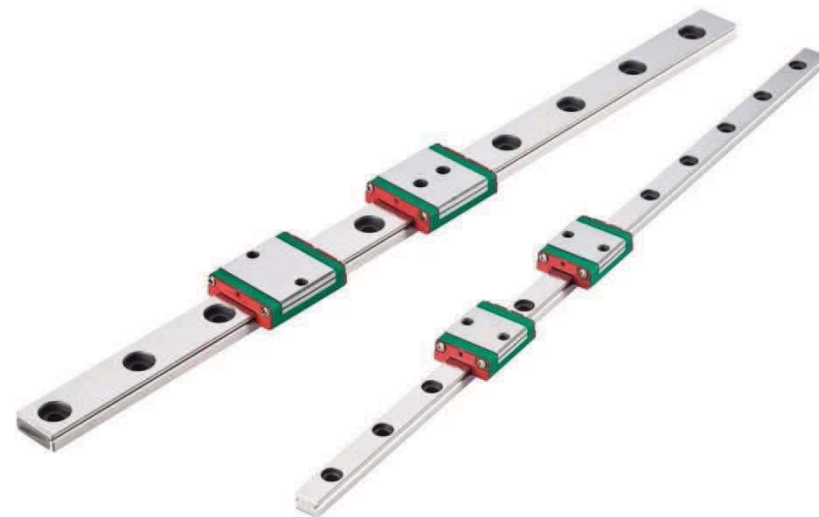
# New Product

- Quiet Wide Rail Guideway – **QW Series**
  - ▶ Wider and Lower with Very High Moment Load Capacity
  - ▶ For Low Noise, self-Lubricating,  
High-Speed & Smooth Movement
  - ▶ With SynchMotion™ Technology
  - ▶ Size : **QW27 / QW35**  
available in Q1 2012



# New Product

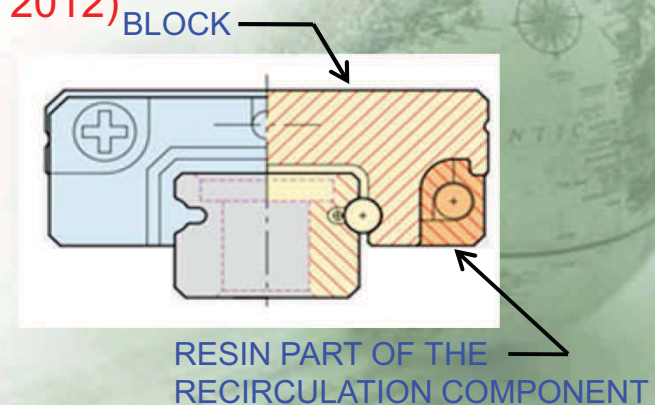
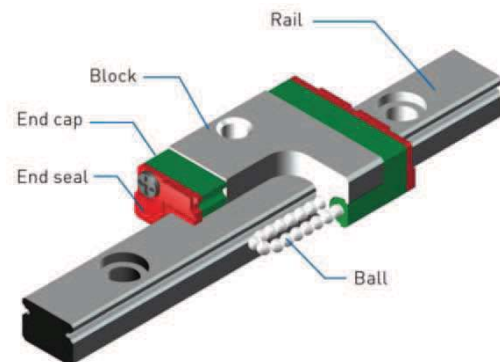
- Miniature Guideway – **MG Series**
  - ▶ Miniature size : High Reliability in limited space
  - ▶ Stainless steel type : Great anti-corrosion ability
  - ▶ Gothic arc design : Sustain the load from all directions
  - ▶ High Accuracy & Interchangeable
  - ▶ Sizes : **MGN5 / MGW5**





# New Product

- Miniature Guideway – **TM Series**
  - ▶ Light Weight : Reduce about 20% weight
  - ▶ Low Noise : Reduce metal to metal contact
  - ▶ Smooth Motion Performance : Integrated design in recirculation system
  - ▶ High Accuracy & Interchangeable
  - ▶ Size : **TMN9C / TMN12C** (Available in Q1 2012)



# New Product

- **MG Carbon Steel Rail with Hard Chrome**

- ▶ Anti-Corrosion , Anti-Rust
- ▶ Better Rust resistance
- ▶ Size : Rail of **MG series**



	<b>Stainless Steel</b>	<b>Carbon Steel with hard chrome</b>
Composition	X65Cr13	JIS S55C
Coating Thickness	--	3μm
Surface Hardness	HRc 58-62	HRc 58-62
Characteristics	Anti-corrosion Anti-Rust	Anti-corrosion Anti-Rust
Salt spray test	<b>2hr</b> begin to rust	<b>10hr</b> begin to rust



# *2012 HIWIN*

## *New Product Introduction*

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*IR*

*New Product*

*KK 80*

*KA Series*

*KS Screw*

*KE Series*

*All Series Product*

*HIWIN GREASE*

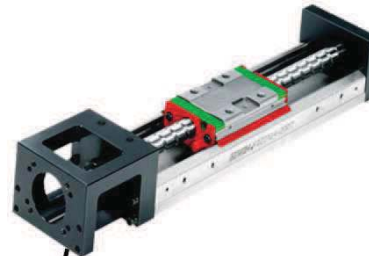
# Industrial Robot

- Single-axis linear motion module

**KK Series**  
40/50/60/86/  
100/130



**SK Series**  
60/86



**KA Series**  
90/100/120/136  
150//170/200



Quiet

Light Weight  
Ballscrew or  
Belt Driven

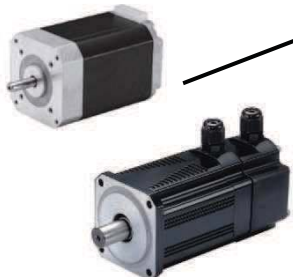
High rigidity  
High Precision

**HIWIN®**  
Industrial Robot

Motor  
Drivers



Servo & Stepping  
Motors



Economy

**KE Series**  
30/40/50/65  
70/90



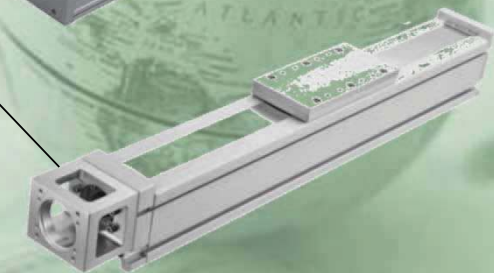
High Dust-proof

**KS Series**  
90/100/120  
140/150/180



High Rigid  
Easy  
Installation

**KU Series**  
60/80



\*Launched in 1Q of 2012

# New Product

New  
Product

- Single Axis Robot- **KK Series**
  - ▶ Convenient for Application and Installation
  - ▶ Compact Profile Design
  - ▶ High Precision, High Rigidity
  - ▶ Size : **KK80** (Available in Q2 2012)



# KA Features

New  
Product

- Industrial Robot KA Series
  - ▶ Standard/ Customized Flexibility for Applications
  - ▶ Easy Installation, High Accuracy
  - ▶ Fit with Different Types of Motors
  - ▶ High repeatability  $\pm 0.02\text{mm}$
  - ▶ Standard Spec. : 90/100 /120/ 136 /150/

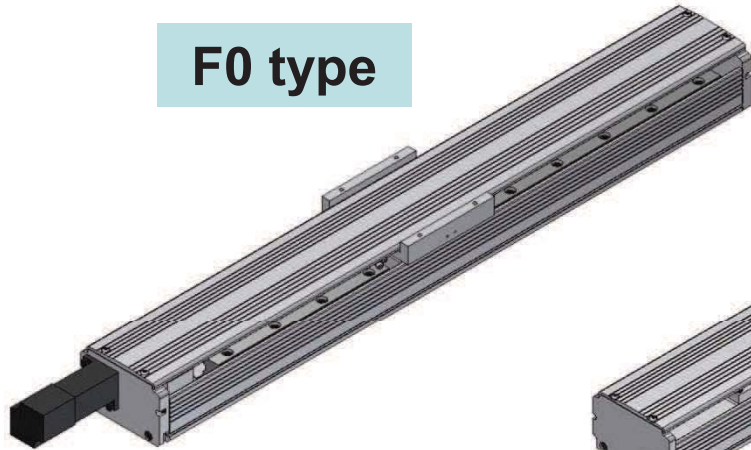
170 / 200  
(Available in Q1 2012)



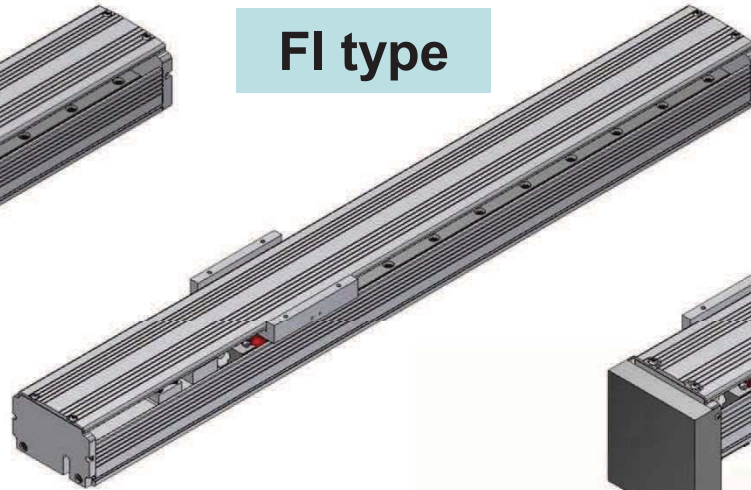
# Industrial Robot– KA

## Motor flange types

F0 type



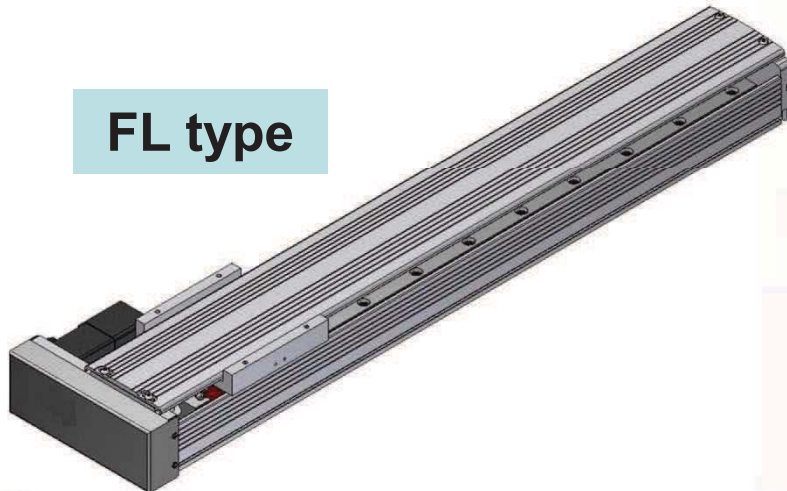
F1 type



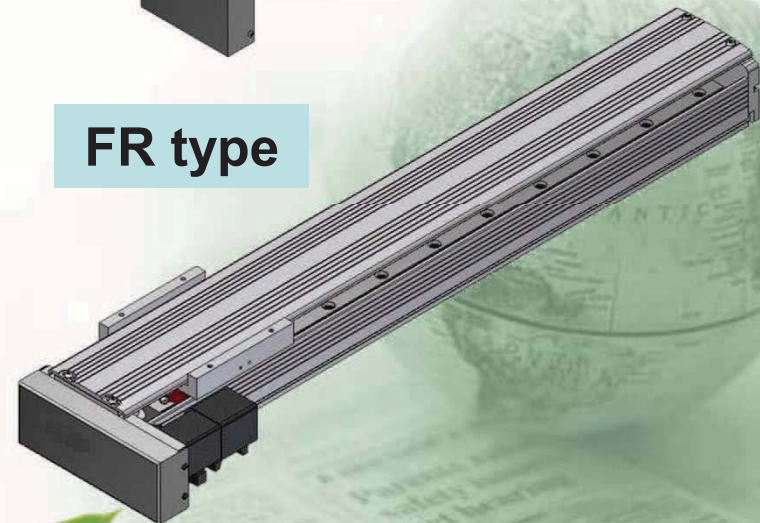
FD type



FL type



FR type



# KS Features

New  
Product

- Industrial Robot **KS** Series
  - ▶ Dust proof
  - ▶ Reasonable price
  - ▶ Use in clean room
  - ▶ Stainless strip covers
  - ▶ Built-in AC servo motor
  - ▶ High repeatability  $\pm 0.02\text{mm}$
  - ▶ Standard size: **90/100/120/140/150/180**  
(Available in Q1 2012)





# KE Features

New  
Product

- Industrial Robot **KE** Series
  - ▶ Easy system installation and maintenance
  - ▶ Compact and lightweight
  - ▶ MG is made of stainless steel for anti-corrosion purpose. Closed design
  - ▶ Support brands of servo motors
  - ▶ High repeatability  $\pm 0.02\text{mm}$
  - ▶ Standard size: **030/040/050/065/070/090**  
(Available in Q1 2012)



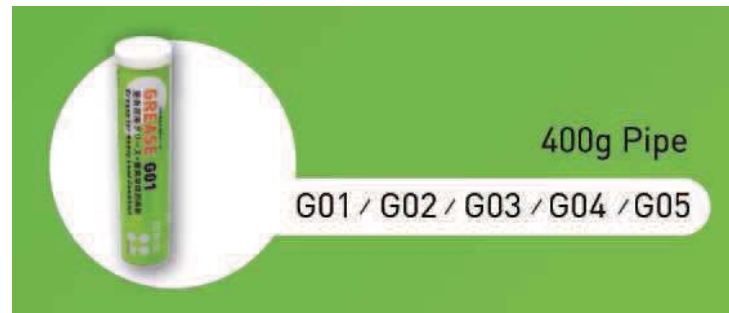
# All series products

<i>HIWIN</i>	KK	SK	KA	KS	KU	KE
	40	60	90*	090*	60	25*
	50	86	100	100	80	30*
	60	-	120*	120*	-	40*
	80*	-	136	140	-	50
	86	-	150*	150*	-	65
	100	-	170	180	-	70
	130	-	200		-	90

\* Under development



# HIWIN Grease



# HIWIN Grease

HIWIN Grease	Application	Operational Condition	Base Oil Viscosity (cst/40 °C)	Service Temperature Range (°C)	NLGI Grade	Origin
HIWIN G01	Heavy Load	Heavy Load BS	500	-15~115	1	Germany
HIWIN G02	Low Dust Generation	DN <120,000	100	-30~140	2	Germany
HIWIN G03	Low Dust Generation (High speed)	DN >120,000	30	-45~125	2	Germany
HIWIN G04	High speed	DN >120,000	25	-35~120	2	Germany
HIWIN G05	General purpose	DN <120,000	200	-35~120	2	Germany

# Thank You

