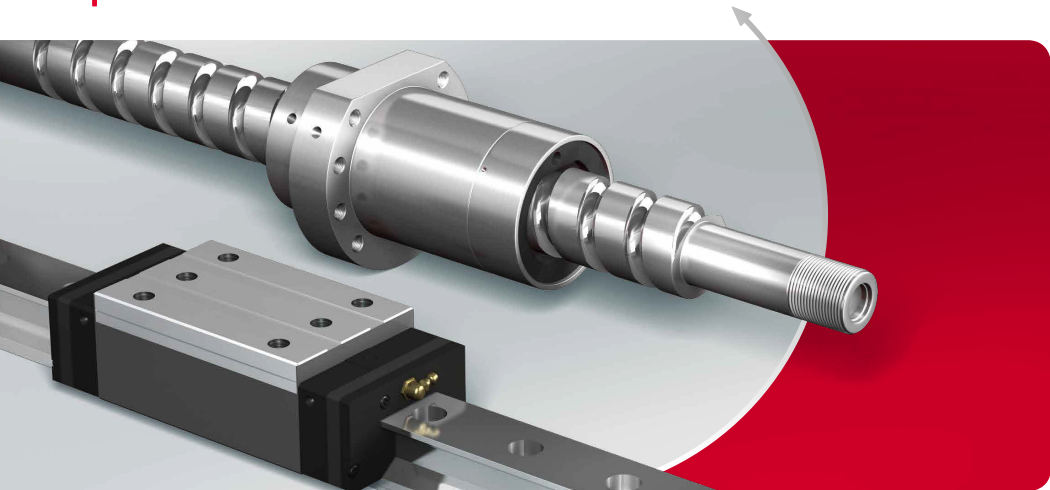


MOTION & CONTROL™

NSK

POCKET GUIDE

LINEAR MOTION



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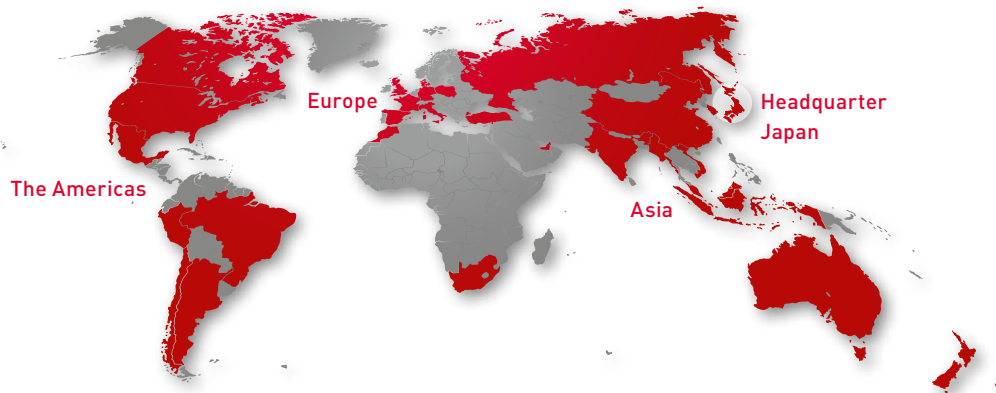
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Our most important product: Our customers' satisfaction

We are among the leading manufacturers for rolling bearings, linear technology components and steering systems worldwide. We can be found on almost every continent – with production facilities, sales offices and technology centres – because our customers appreciate short decision-making channels, prompt deliveries and local service.



The NSK Company

NSK commenced operations as the first Japanese manufacturer of rolling bearings back in 1916. Ever since, we have been continuously expanding and improving not only our product portfolio but also our range of services for various industrial sectors. In this context our worldwide research and production facilities are linked together in a global network. Here we concentrate not only on the development of new technologies, but also on the continuous optimisation of quality – at every process stage. Among other things, our research activities include product design, simulation applications using a variety of analytical systems and the development of different steels and lubricants for rolling bearings.

More about NSK under: www.nskeurope.com

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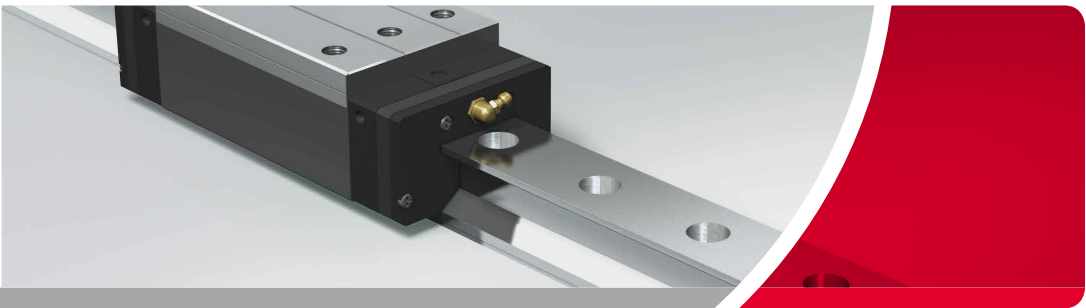
Linear Guides

Linear Ball Guides

- NH series
- NS series
- LW series
- NH/NS Rails with bottom-tapped mounting holes
- Slider optional components
- Miniature PU&PE-Series

Linear Roller Guides

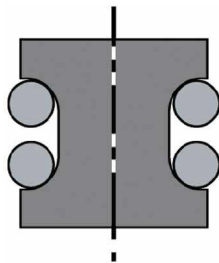
- RA series



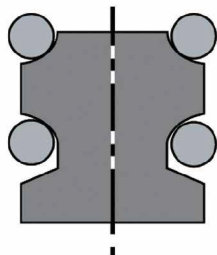
Linear Ball Guides

Technical features

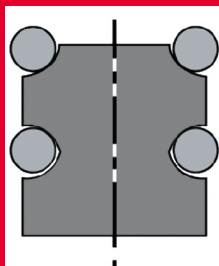
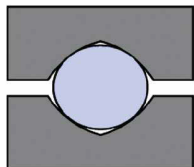
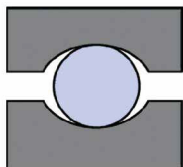
Groove types



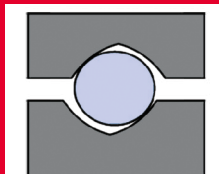
Circular groove



Gothic-arch groove



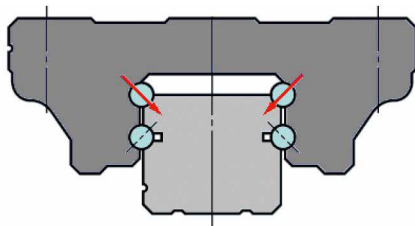
Offset gothic-arch groove



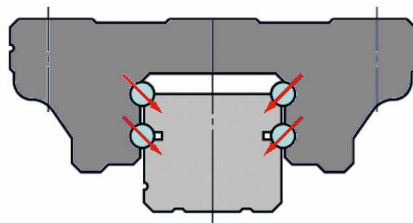
NSK



Normal load



Impact load

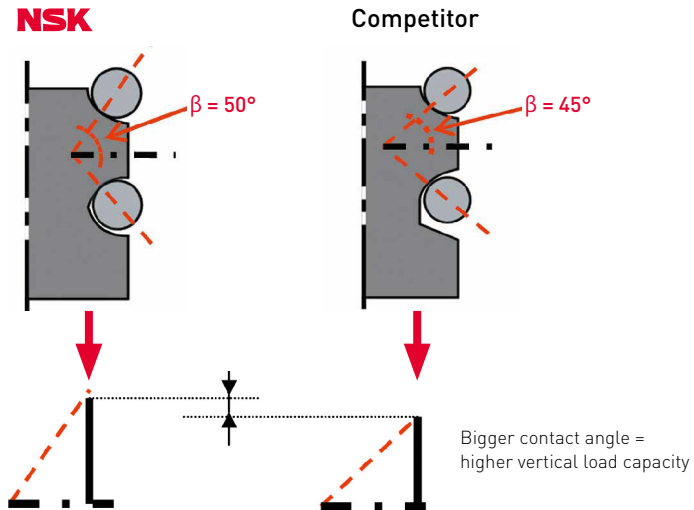


Thanks to the ball groove configuration and to the offset gothic-arch groove, the bottom rows will help carry loads when a large impact load is applied vertically, increasing the number of contact points and static load capacity.

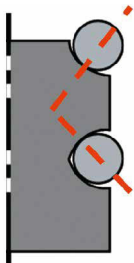
Linear Ball Guides

Technical features

Contact angle configuration



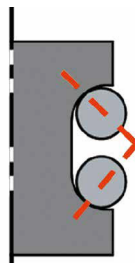
NSK



DF configuration (X)

- Contact angle "crosses" inside the rail.
- High self-aligning capability
- High rigidity by parallel installed rails

Competitor



DB configuration (O)

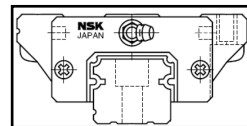
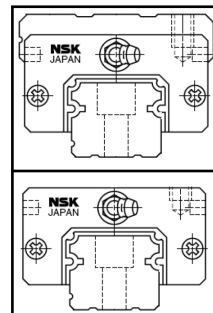
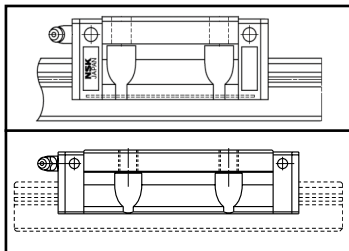
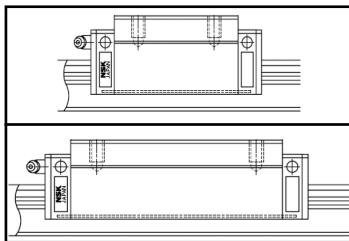
- Contact angle "crosses" outside the rail.
- High stiffness in monorail applications
- High accuracy machinable is necessary

NH | Standard-Series

- Sizes: 15, 20, 25, 30, 35, 45, 55, 65 (on order: LH 8, 10, 12)
- Slider types: AN, AL, BN, BL, EM, GM
- Preload: Z, H
- Options: slider with or without NSK K1/K1-L mounted, steel protector and double seal
- Available in Martensitic stainless steel (sizes 15-30), anti-corrosion Fluoride Raydent Plated treatment (sizes 15-65) or Duralloy TDC/TDC-LC treatment (sizes 15-65)
- Options:
 - Mounting caps covering the drill holes
 - Bottom tapped rails
 - Bellows

Contact angle: 50°
DF configuration (X)

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
15	2.980	M4	60
20	3.960	M5	60
25	3.960	M6	60
30	4.000	M8	80
35	4.000	M8	80
45	3.990	M12	105
55	3.960	M14	120
65	3.900	M16	150

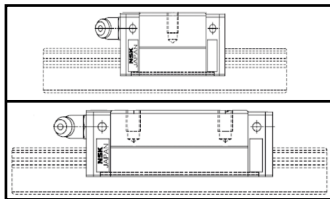


NS | Standard-Series

- Sizes: 15, 20, 25, 30, 35
- Slider types: CL, AL, JM, EM
- Preload: Z, H
- Options: slider with or without NSK K1/K1-L mounted, steel protector and double seal
- Available in Martensitic stainless steel, anti-corrosion Fluoride Raydent Plated treatment or Duralloy TDC/TDC-LC treatment
- Options:
 - Mounting caps covering the drill holes
 - Bottom tapped rails
 - Bellows

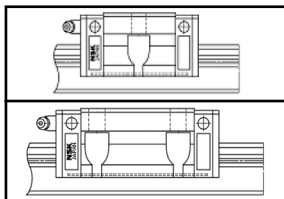
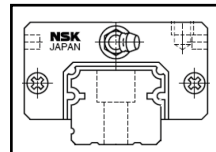
**Contact angle: 50°
DF configuration (X)**

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
15	2.920	M4	60
20	3.960	M5	60
25	3.960	M6	60
30	4.000	M6	80
35	4.000	M8	80



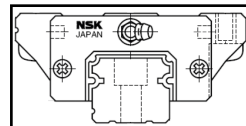
CL

AL



JM

EM

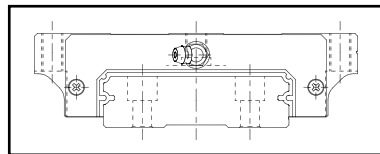
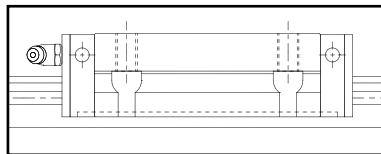


LW | Standard-Series

- Sizes 17, 21, 27, 35, 50
- 1 slider type: EL
- 1 preload type: Z
- Options: slider with or without NSK K1 mounted, steel protector and double seal
- Available in anti-corrosion Fluoride Raydent Plated treatment or Duralloy TDC/TDC-LC treatment
- Option: Mounting caps covering the drill holes

**Contact angle: 50°
DF configuration (X)**

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
17	1.000	M4	60
21	1.600	M4	60
27	2.000	M4	60
35	2.000	M6	80
50	2.000	M8	80



Rails with bottom-tapped mounting holes

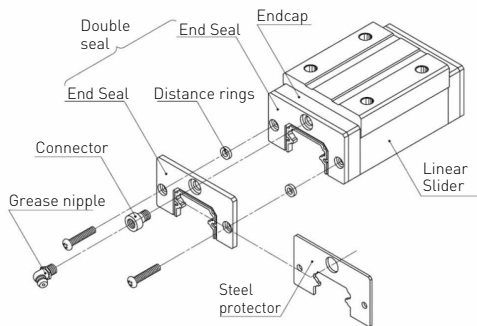


NH/NS-Rails

Reference number	Maximum single rail length [mm]	Mounting holes metric
N1H15	3.980	M5 x 0.80
N1H20	3.960	M6 x 1.00
N1H25		
N1H30		
N1H35	4.000	M8 x 1.25
N1H45	3.990	M12 x 1.75
N1H55	3.960	M14 x 2.00
N1H65 (on order)	3.900	M16 x 2.00
N1S15	3.980	M5 x 0.80
N1S20	3.960	M6 x 1.00
N1S25		
N1S30		
N1S35	4.000	M8 x 1.25

- Double seal: Extra-sealing capability
- Steel protector: Protect slider against solid dust particles

Easy Assembling



Slider optional components

Model nr.	Double seal set		Steel protector set	
	No connector*	With connector*	No connector*	With connector*
NH 15	LH15WS-01	-	LH15PT-01	-
NH 20	LH20WS-01	LH20WSC-01	LH20PT-01	LH20PTC-01
NH 25	LH25WS-01	LH25WSC-01	LH25PT-01	LH25PTC-01
NH 30	LH30WS-01	LH30WSC-01	LH30PT-01	LH30PTC-01
NH 35	LH35WS-01	LH35WSC-01	LH35PT-01	LH35PTC-01
NH 45	LH45WS-01	LH45WSC-01	LH45PT-01	LH45PTC-01
NH 55	LH55WS-01	LH55WSC-01	LH55PT-01	LH55PTC-01
NH 65	LH65WS-01	LH65WSC-01	LH65PT-01	LH65PTC-01
NS 15	LS15WS-01	-	LS15PT-01	-
NS 20	LS20WS-01	LS20WSC-01	LS20PT-01	LS20PTC-01
NS 25	LS25WS-01	LS25WSC-01	LS25PT-01	LS25PTC-01
NS 30	LS30WS-01	LS30WSC-01	LS30PT-01	LS30PTC-01
NS 35	LS35WS-01	LS35WSC-01	LS35PT-01	LS35PTC-01
LW 17	LW17WS-01	-	LW17PT-01	-
LW 21	LW21WS-01	LW21WSC-01	LW21PT-01	LW21PTC-01
LW 27	LW27WS-01	LW27WSC-01	LW27PT-01	LW27PTC-01
LW 35	LW35WS-01	LW35WSC-01	LW35PT-01	LW35PTC-01
LW 50	LW50WS-01	LW50WSC-01	LW50PT-01	LW50PTC-01

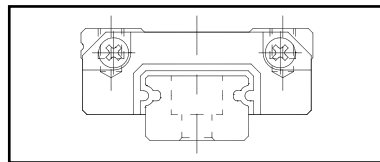
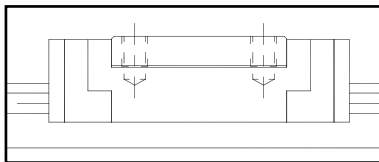
* Grease extension connector

PU | Standard-Series

- Miniature Linear Guides
- Sizes 05, 07, 09, 12, 15
- Fine clearance: T (on order: preload Z1 for assembly)
- Stainless steel
- Resin recirculation path
- Light weight and smooth movement
- Options: Slider with or without NSK K1 mounted

**Contact angle: 45°
DB configuration (0)**

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
05	210	M2	15
07	375	M2	15
09	600	M3	20
12	800	M3	25
15	1.000	M3	40

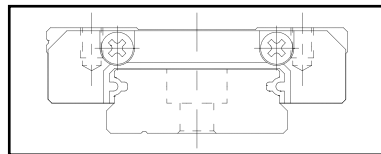
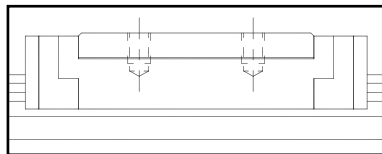


PE | Standard-Series

- Miniature Wide Body Linear Guides
- Sizes 05, 07, 09, 12, 15
- Fine clearance: T (on order: preload Z1 for assembly)
- Stainless steel
- Resin recirculation path
- Light weight and smooth movement
- Options: Slider with or without NSK K1 mounted

**Contact angle: 45°
DB configuration (0)**

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
05	150	M2.5	20
07	600	M3	30
09	800	M3	30
12	1.000	M4	40
15	1.200	M4	40

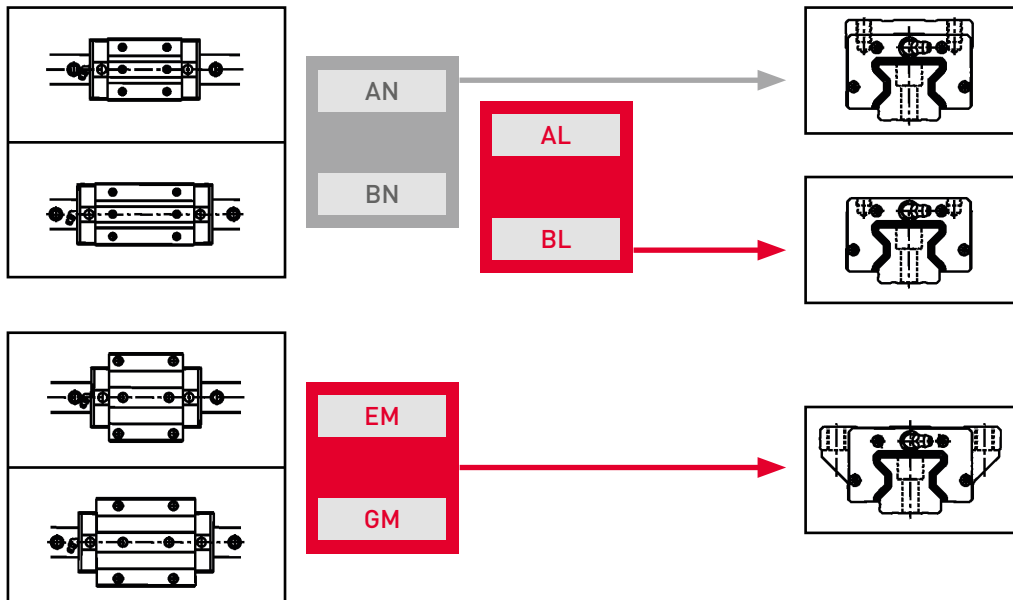


RA | Linear Roller Guides | RA-Series

- Sizes 15, 20, 25, 30, 35, 45, 55, 65
- Slider types AN, AL, BN, BL, EM, GM
- Only high preload H type
- Options: slider with or without NSK K1/K1-L mounted, double seal, V1 seal and steel protector
- Available in anti-corrosion Fluoride Raydent Plated treatment or Duralloy TDC/TDC-LC treatment (only rails)
- Options:
 - Mounting caps covering the drill holes
 - Rail cover
 - Bottom tapped rails

**Contact angle: 45°
DB configuration (O)**

Size	Maximum single rail length [mm]	Mounting bolt metric	Distance between mounting holes [mm]
15	2.000	M4	30
20	3.000	M5	30
25	3.900	M6	30
30	3.900	M8	40
35	3.900	M8	40
45	3.650	M12	52.5
55	3.600	M14	60
65	3.600	M16	75

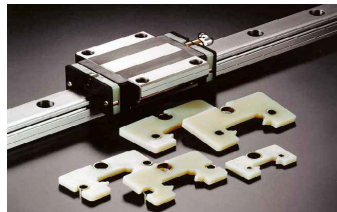


K1/K1-L Lubrication System

NSK K1 lubrication unit made up of 70% mineral oil and 30% porous resin.

- Maintenance free system
- Minimum waste of oil - No excess
- Contact seal capability with low friction
- Also available for special environments (like food, medical, etc.) FDA approved
- Possible to assemble NSK K1 lubrication unit for high demanding applications

The porous resin contains a large amount of lubrication oil. NSK K1 lubrication units constantly supplies fresh oil which is released from the resin, lubricating the rail surface and all balls at point of contacts.



Test without Grease:

- Slider: NAH30AN
- Speed: 200m/min
- Stroke: 1800mm

Running distance (km)

NSK K1

30.000

Without NSK K1

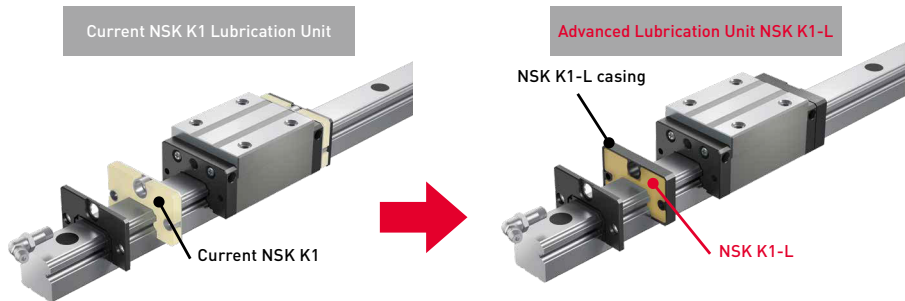
79

NSK K1 system is available for all series and sizes of linear guides. Slider total length increases between 5 and 10mm per mounted piece.

Selection table for the number of K1 lubrication units per Slider

Type	Preload	External Load / Dynamic load rating			
NH, NS, LW	ZZ, ZT	up to 8 % C _a	up to 11 % C _a	up to 16 % C _a	over 16 % C _a
	ZH	up to 5 % C _a	up to 10 % C _a	up to 15 % C _a	over 15 % C _a
PU, PE	ZT	up to 5 % C _a	up to 8 % C _a	up to 12 % C _a	over 12 % C _a
RA	ZH	-	up to 5 % C _a	up to 10 % C _a	over 10 % C _a
Required maintenance free life.	up to 3.000 km	2 pieces	4 pieces	4 pieces	Please request NSK
	up to 5.000 km			6 pieces	
	up to 10.000 km				
	up to 20.000 km				
	up to 50.000 km				
	over 50.000 km				

K1/K1-L Lubrication System



- Advanced developed material:
 - Enables an increased oil content of 85% in total weight
 - Life is 1.8 times than that of current K1 material by the increased supply of lubrication oil
- Casing:
 - The fixing and pressing rings are built into the casing structure
 - Prevents oil leakage while protecting oiled components from damage
- 20% reduction of friction force by improving contact design on rail
- A single K1-L unit on side (total 2 units) is the same size as the current K1 model

- NSK K1-L has much longer running distance than that with NSK K1
- In testing linear guide runs for more than 100,000 km with NSK K1-L and initial grease filling



Extended maintenance-free periods

Test without grease:

Linear Guide: NH25

Preload: very light preload

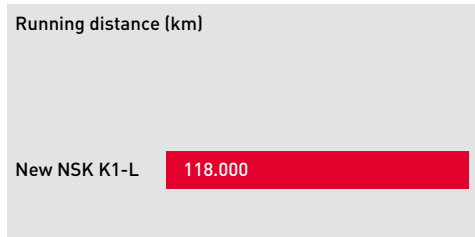
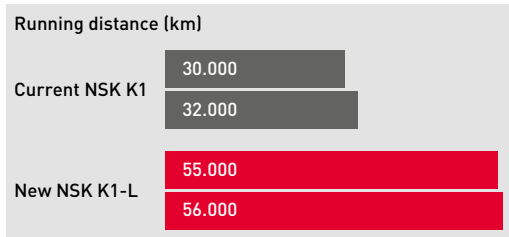
Speed: 192 m/min

Test with grease (initial grease filling):

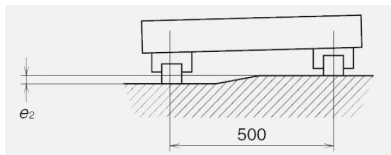
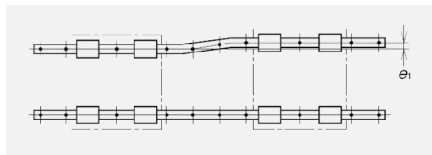
Linear Guide: NH25

Preload: very light preload

Speed: 192 m/min

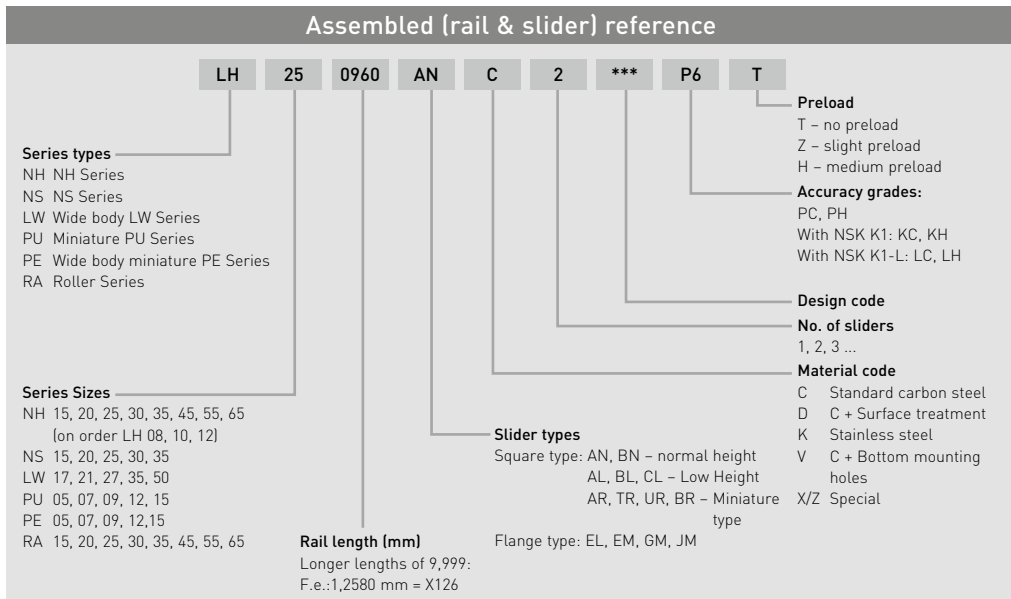


Linear Guides | Mounting tolerances



Tolerance	Preload	NH									NS					RA (H only)							
		Size (μm)									Size (μm)					Size (μm)							
		15	20	25	30	35	45	55	65	15	20	25	30	35	15	20	25	30	35	45	55	65	
e ₁	ZT	22	30	40	45	55	65	80	110	20	22	30	35	40	-	-	-	-	-	-	-	-	
	ZZ	18	20	25	30	35	45	55	70	15	17	20	25	30	-	-	-	-	-	-	-	-	
	ZH	13	15	20	25	30	40	45	60	12	15	15	20	25	5	7	9	11	13	17	19	30	
e ₂	ZT	375 μm / 500 mm									375 μm / 500 mm					-							
	ZZ, ZH	330 μm / 500 mm									330 μm / 500 mm					150 μm / 500 mm							

Tolerance	Preload	PU					PE					LW				
		Size (μm)					Size (μm)					Size (μm)				
		5	7	9	12	15	5	7	9	12	15	17	21	27	35	50
e ₁	ZT	10	12	15	20	25	10	12	15	18	22	20	20	25	38	50
	Z1, ZZ	7	10	13	15	21	5	7	10	13	17	9	9	13	23	34
e ₂	ZT	150 μm / 200 mm					50 μm / 200 mm					100 μm / 500 mm				
	Z1, ZZ	90 μm / 200 mm					35 μm / 500 mm					45 μm / 500 mm				



Linear Guides | NSK reference system

Interchangeable slider reference

LA H 25 AN Z - K

Slider types:

NA All Series
LA All Series
PA PU/PE Series
RA Roller Series

Series types

H NH Series (LH)
S NS Series
W LW Series
U PU Series
E PE Series
A Roller Series

Sizes

NH 15, 20, 25, 30, 35, 45, 55, 65
(on order: LH 08, 10, 12)
NS 15, 20, 25, 30, 35
LW 17, 21, 27, 35, 50
PU 05, 07, 09, 12, 15
PE 05, 07, 09, 12, 15
RA 15, 20, 25, 30, 35, 45, 55, 65

NSK K1 lubrication unit

without NSK K1
K with NSK K1
L with NSK K1-L
F Surface treatment

Preload

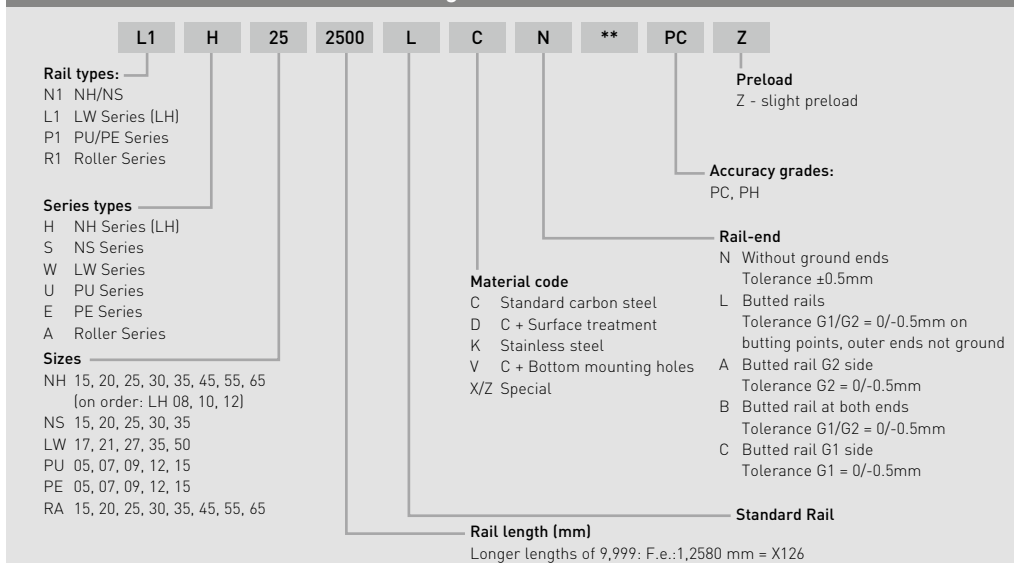
no preload
Z - slight preload
H - medium preload

Slider types

Square type: AN, BN - normal height
AL, BL, CL - Low Height
AR, TR, UR, BR - Miniature type

Flange type: EL, EM, GM, JM

Interchangeable rail reference



Monocarrier

- Standard MCM Type
- High rigidity MCH Type



MCM/MCH | Monocarrier | Compact single axis linear actuator

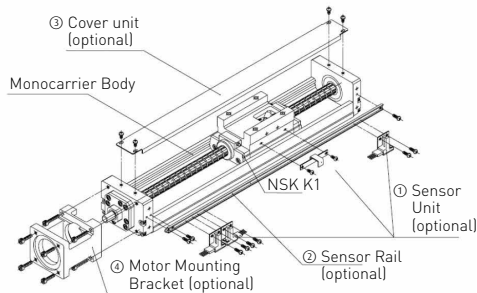
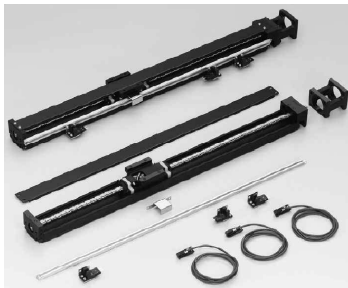
- Sizes 02, 03, 05, 06, 08, 09, 10
- Single or double slider
- Standard type (MCM) or high rigidity type (MCH)
- Options: Covers, sensors and motor brackets

	Size	Ball Screw Lead [mm]	Single Slider max. Stroke [mm]	Double Slider max. Stroke [mm]
MCM Type (Standard)	02	1 / 2	150	-
	03	1 / 2 / 5 / 10 / 12 / 15	250	-
	05	5 / 10 / 20 / 30	600	510
	06	5 / 10 / 20	800	710
	08	5 / 10 / 20 / 30	800	680
	10	10 / 20 / 30	1000	870
MCH Type (High rigidity)	06	5 / 10 / 20	500	400
	MCL06	5 / 10 / 20	500	-
	09	5 / 10 / 20	800	650
	10	10 / 20	1.200	1.050

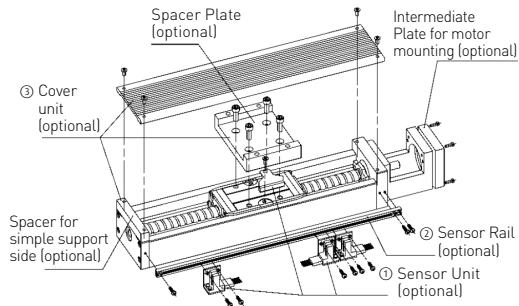
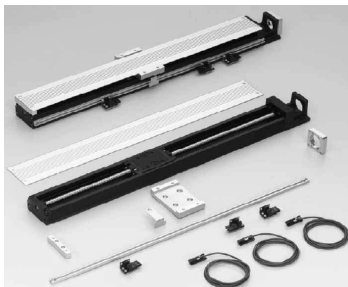
L Type: MCH Series low profile rail (only for size 06)

MCM/MCH | Monocarrier | Compact single axis linear actuator

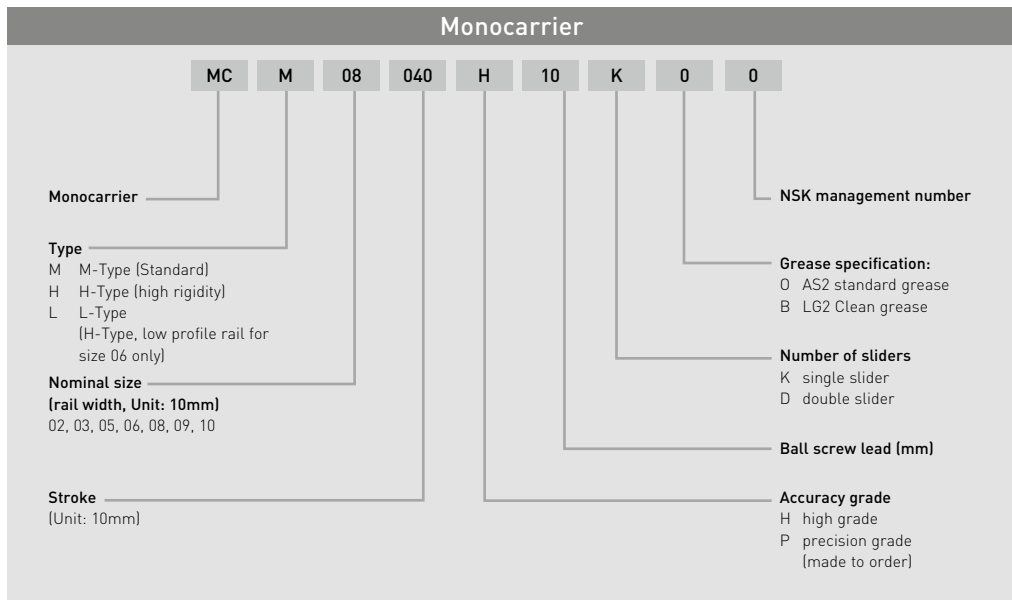
MCM Type



MCH Type



Monocarrier | NSK reference system








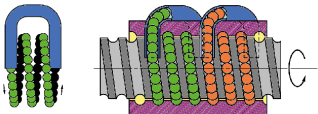
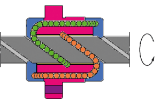
Ball Screws

- R-BS - Rolled Ball Screw Series
- Interchangeable Ball Screw
- PR/LPR - Precision Rolled Ball Screw Series
- PSS - Ground Ball Screw Compact FA Series
- FSS - Ground Ball Screw Compact FA Series
- DIN Ball Screw Series
- Ball Screw Reference System
- WBK - Support Units
- BSBD - Support Bearings



R-BS | Rolled Ball Screw Series

- Low cost solution for non-high quality applications
- Interchangeability between nuts and shafts of same diameter and leads
- Multiple options for diameters and leads

Nut	RNFTL	RNFBL	RNCT	RNSTL	RNFCL
Design					
Recirculation	<p>Tube type</p> 				<p>End cap type</p> 
Assembly	Flange	Flange	V-thread	Direct mounting	Flange
Lead	Fine, medium, high	Fine and medium	Fine	Fine and medium	High and extra high

D	Lead (mm)															L _{max} (mm)
	3	4	5	6	8	10	12	16	20	25	32	40	50	64	80	
10	AC			AB												800
12					AB		AE									800
14		ABCD	ABCD													1,000
15									E							1,500
16						A	AE			E						1,500
18					ABCD											1,500
20			ABCD			ABD			AE		E					2,000
25			ABCD			ABCD				AE		E				2,500
28				ABCD												2,500
32						ABCD					AE			E (4000)		3,000
36						ABCD										3,000
40						ABC					AE				E (5000)	4,000
45							ACD									4,000
50						AC		AC					E			4,000

A = RNFTL | B = RNFBLL | C = RNCT | D = RNSTL | E = RNFL

Interchangeable Ball Screw

- 100% compliant to DIN 69051
- Nut and shaft are separately available and universally exchangeable
- Ct7 accuracy
- High-speed – low-noise
($d \cdot n = 160.000$, max. 5.000 rpm)
- Available with slight clearance
- Remarkable improvement in sealing performance due to introduction of grease retaining seal
- NSK K1 lubrication unit available

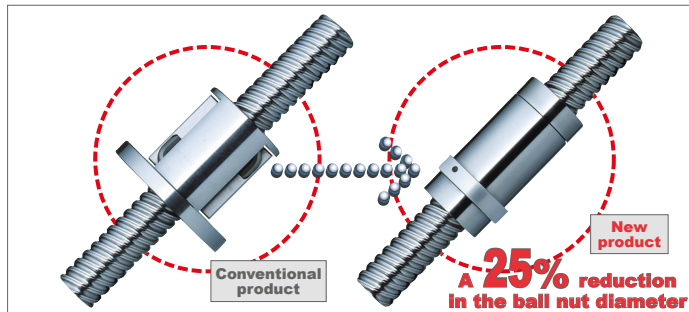


New
Product

Model No.	Shaft Diameter [mm]	Lead [mm]	screw shaft length [mm]			
			Short version (on stock available)		Long version (on demand)	
			Thread length	Total length	Thread length	Total length
FCN1205	12	5	617	800	-	-
FCN1210		10	617	800	-	-
FCN1505	15	5	1303	1486	1760	1900
FCN1510		10	1303	1486	1760	1900
FCN1520		20	1293	1476	1760	1900
FCN2005	20	5	1303	1486	1760	1900
FCN2010		10	1303	1486	1760	1900
FCN2020		20	1293	1476	1760	1900
FCN2505	25	5	1303	1486	1760	1900
FCN2510		10	1303	1486	1760	1900
FCN2520		20	1293	1476	1760	1900
FCN2525		25	1288	1471	1760	1900
FCN3205	32	5	1303	1486	1760	1900
FCN3210		10	1303	1486	1760	1900
FCN3220		20	1293	1476	1760	1900
FCN4010	40	10	1303	1486	1760	1900

PR/LPR | Precision Rolled Ball Screw Series

- 25% reduction in the ball nut diameter compared to the current series
- No backlash
- High speed and long stroke operation
- End deflector recirculation
- Ct7 Accuracy
- Suitable for rotating ball nut applications

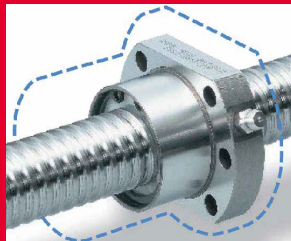


Model No.	Shaft Diameter [mm]	Lead [mm]	Maximum screw shaft length [mm]	
			Standard	On request
PR1205	12	5	200 - 900	- 1500
PR1505	15	5	200 - 1200	- 1500
PR1510		10	200 - 1200	- 1500
PR2005	20	5	300 - 1600	- 2000
PR2010		10	300 - 1600	- 2000
PR2505	25	5	300 - 3200	-
PR2510		10	300 - 3200	-
PR3210	32	10	300 - 3200	- 4000
PR3220		20	300 - 3200	- 4000
PR4010	40	10	300 - 3200	-
LPR2020	20	20	300 - 1600	- 2000
LPR2525	25	25	300 - 3200	-
LPR3232	32	32	300 - 3200	- 4000
LPR4040	40	40	500 - 4500	- 6500
LPR5050	50	50	500 - 4500	- 6500

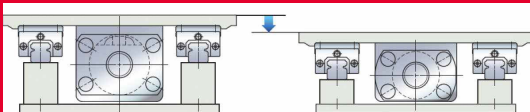
PSS | Ground Ball Screw Compact FA Series

- Ground Ball Screw Shaft
- End Deflector Recirculation
- Rotation speed up to 5,000 rpm
- Low noise and smooth movement
- No axial play
- C5 Accuracy
- Contact seal
- Compactness
- Fixed Machined shaft ends
- New range support units available

Nut up to 30% more compact



System up to 13% lower



D (mm)	Lead (mm)	Stroke (mm)													
		50	100	150	200	300	400	500	600	700	800	1,000	1,200	1,600	2,000
6	8			*											
	12			*											
8	10			*											
	15			*											
10	5														
	10														
12	5														
	10														
	20														
	30														
15	5														
	10														
	20														
	30														
20	5														
	10														
	20														
	30														
	40														
25	5														
	10														
	20														
	25														
	30														
	50														

*For shaft diameter 6 and 8 length shown is overall length

FSS | Ground Ball Screw Compact FA Series

- Ground Ball Screws
- Ct7 grade accuracy
- 24% more compact ball nut design
- Higher speed till 125 m/min
- 5 dB lower noise compared to existing series
- The nut has up to 10 μm axial play.
- Standard Stock Item
- Fixed support at machined shaft end
- Unfinished shaft end cut to a desired length
- Simple support unit mounted at shaft outside surface

D (mm)	Lead (mm)	Stroke (mm)								
		250	350	400	450	750	800	850	1250	1300
12	10	■		■	■					
	20		■					■		■
15	10			■					■	
	20			■			■		■	
20	10			■			■		■	
	20			■			■		■	
	25			■			■		■	
25	10			■			■		■	
	20			■			■		■	
	25			■			■		■	

For all sizes is the FSS Series in 8 variants available.



The simple support side unit, supports the ball screws outside diameter.

Cut the ball screw shaft end to the desired length and simply install a simple support unit on the shaft outside diameter, thus completing the ball screw assembly.

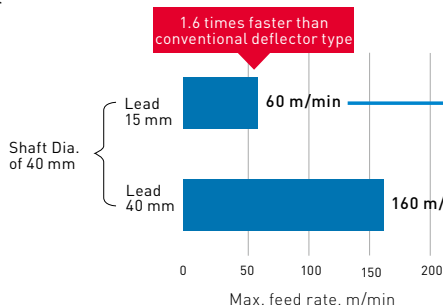
This makes ball screws available with the flexible stroke setting in combination with a fixed -simple support configuration to increase the critical speed



Screw shaft diameter	Fixed support side unit	Simple support side unit
12	WBK08-01B	WBK12SF-01B
15	WBK12-01B	WBK15SF-01B
20	WBK15-01B	WBK20SF-01B
25	WBK20-01	WBK25SF-01

DIN Ball Screw Series

- Dimensions according to DIN-Norm (DIN Standard/extended nut)
- High load capacity
- Low torque variation
- High-speed capability (d·n value of 150.000 - 160.000)
- Recirculation systems:
 - Internal deflector (for leads of 10 – 30 mm)
 - End deflector (for leads of 20 and 40 mm)
- Available from stock for prototypes ($\leq 1500\text{mm}$)
- Low noise
- Offset preload system
- TF steel technology

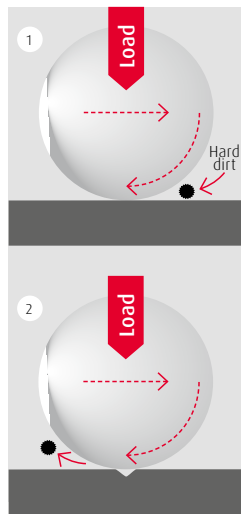


Internal deflector type ball screw

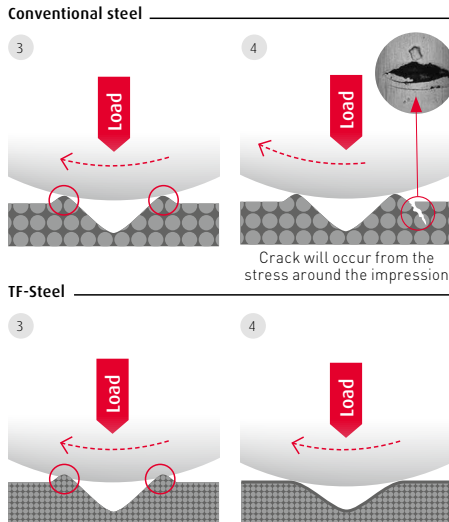


End deflector type ball screw

TF steel technology increases the robustness and lifespan of the new DIN ball screw series. Using this material extends the ball screw life by avoiding external early flaking due to stress at impressions.



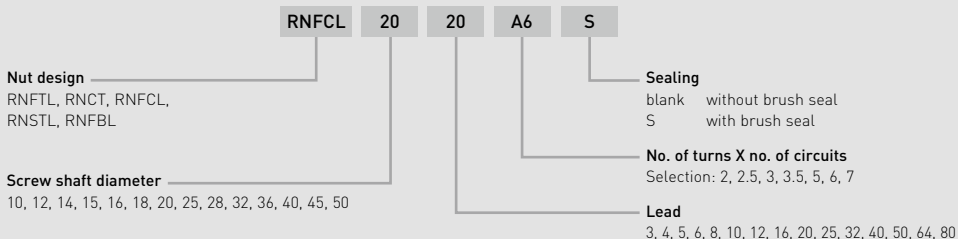
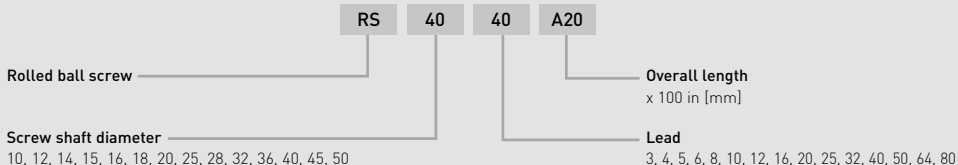
Theory of decreasing the stress concentration around the impression



No extra stress present

Ball Screws | NSK reference system

Rolled ball screw reference



PR/LPR - Precision rolled ball screw reference

V S P 40 40 K 1 D 2002 S A1

Accuracy grade and axial play
VSP (Ct7, axial play 0 mm)

Screw shaft diameter (mm)

Lead (mm)

K: Equipped with NSK K1 unit
N: No NSK K1 unit
(Equipped with grease retaining seal only)

Number of nut

Bearing journal for fixed support side: please refer to the configuration of the screw shaft end outlined in the catalog.

Bearing journal for simple support side: please refer to the configuration of the screw shaft end outlined in the catalog.

Overall length of screw shaft
If the length is less than 1000 mm, enter 0 to the fourth digit.

Position of ball nut flange
D: Screw shaft drive side
S: Opposite to drive side

Ball Screws | NSK reference system

Interchangeable ball screw reference

Shaft

F C S 15 10 S A 1486

Accuracy

F: C7

Specification

C: Interchangeable

Item

S: Shaft

Spindle diameter (mm)

lead (mm)

Shaft total length

1486: length shaft

Specification

A, D: Internal design

Clearance

S: Less than 0.020 mm

Nut

F C N 15 10 S D 3

Accuracy

F: C7

Specification

C: Interchangeable

Item

N: Nut

Spindle diameter (mm)

lead (mm)

2, 3, 4, 5: Nut turn

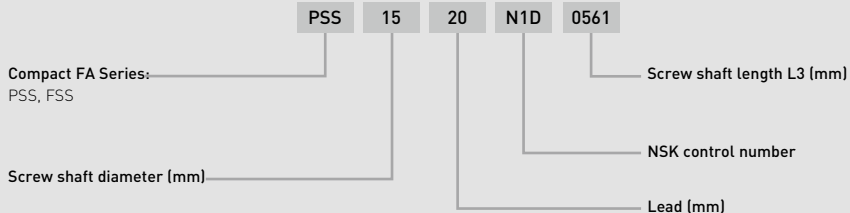
Specification

D: DIN Dimensions

Clearance

S: Less than 0.020 mm

Compact FA & FSS reference

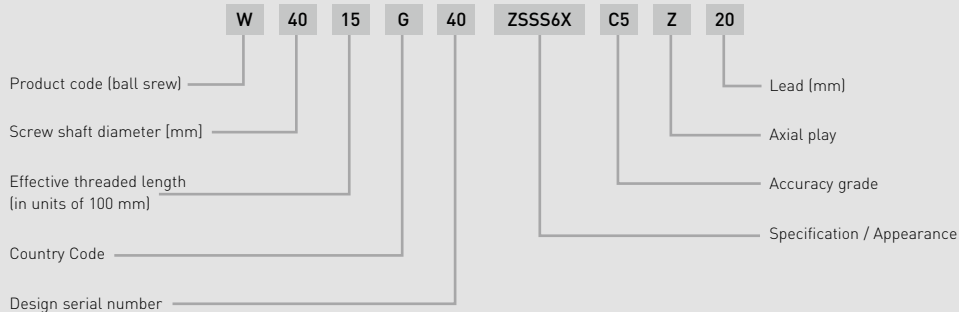


PSS: Compact , low noise and high speed

FSS: Compact FA for transportation

Ball Screws | NSK reference system

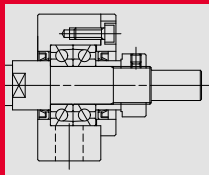
DIN ball screw reference



- High dust prevention
- Low friction torque

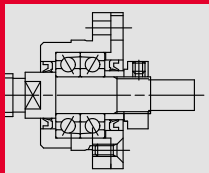
Supporting Method	Application	Rigidity	Critical Speed	Buckling Load	Length	Economical	Easy Installation
Fixed - Fixed		↑ (+)	↑ (+)	↑ (+)	↑ (+)	↓ (-)	↓ (-)
Fixed - Simple		↑ (+)	↑ (+)	↑ (+)	↑ (+)	↓ (-)	↓ (-)
Fixed - Free		↓ (-)	↓ (-)	↓ (-)	↓ (-)	↑ (+)	↑ (+)

WBK | Support Units



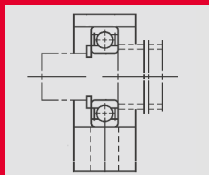
WBK**-01*

- Fixed support side
(Driving motor side)
- Square
- $\varnothing 4 - \varnothing 25$



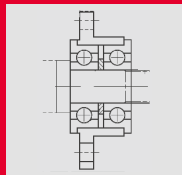
WBK**-11*

- Fixed support side
(Driving motor side)
- Flange
- $\varnothing 4 - \varnothing 25$



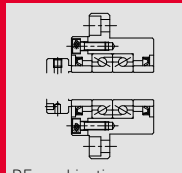
WBK**S-01*

- Simple support side
(Opposite to drive motor)
- Square
- $\varnothing 6 - \varnothing 25$



WBK**R-11*

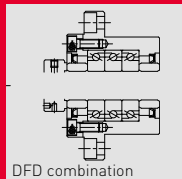
- Fixed support side
(Driving motor side)
- Flange
- $\varnothing 4 - \varnothing 6$



DF combination

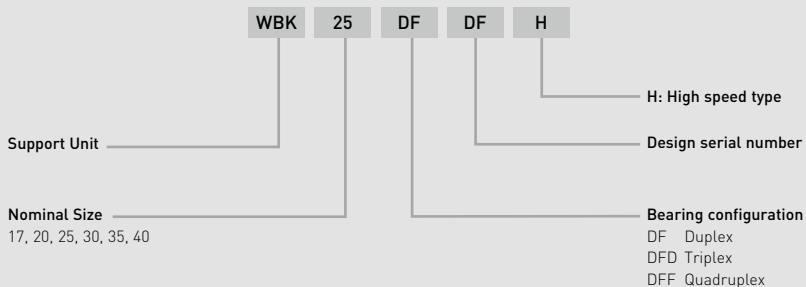
WBK**DF*-31H

- Fixed support side
(Driving motor side)
- $\varnothing 17 - \varnothing 40$



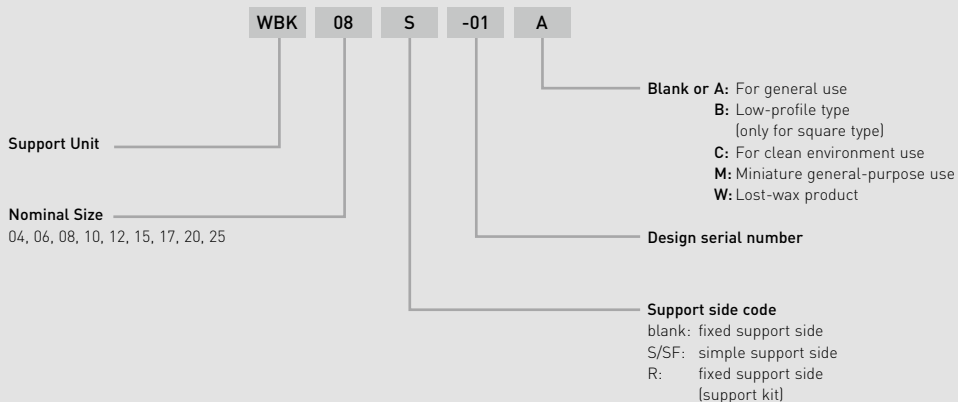
DFD combination

For heavy load



Support Units | NSK reference system

For light load

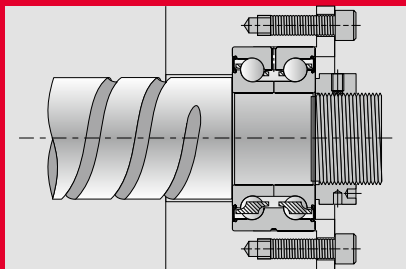


- Angular contact thrust ball bearings with 60° contact angle
- Double row configuration (DB)
- Supports large axial forces in both directions
- Two types:
 - BSN – Housing mounting
 - BSF – Face mounting
- Low friction contact lip seals
- Heavy series available on some sizes
- For higher loads matched bearingpairs (DT) are available

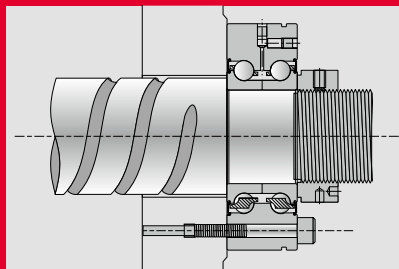


BSBD | Ball Screw Support Bearings

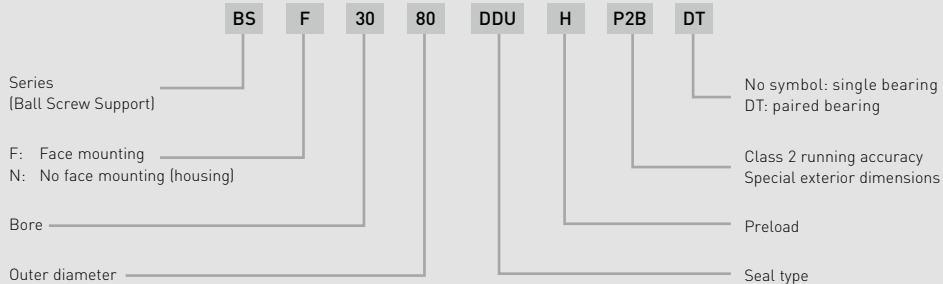
BSN – Housing mounting



BSF – Face mounting



Ball Screw Support Bearings



Solid Components | CAD-Data at Internet

Multi language Catalogues

Search engine

Calculation software

Product information, including dimensions and load capacities

The screenshot displays the website interface for NSK Precision Europe GmbH. The main content area features a product page for the B55 Serie ball screw nuts, including technical drawings and a table of specifications. The table lists model numbers, types, diameters, and various load capacities.

Model No.	Type	Screw shaft diam., d	Integrality	Effective turn of balls	Basic load ratings Dynamic, C _d	Basic load ratings Static, C _{0a}	Axial rigidity	D	A	L	B
B551000-3E	Ball screw Nut B55	10	05	3	2930	4790	126	23	43	29	11
B551010-2E	Ball screw Nut B55	10	10	2	1970	3010	77	23	43	32	11
B551200-3E	Ball screw Nut B55	12	05	3	3200	5860	146	24	44	30	11
B551210-3E	Ball screw Nut B55	12	10	3	3200	5860	142	24	44	43	11
B551220-2E	Ball screw Nut B55	12	20	2	2150	3610	83	24	44	50	11
B551230-2E	Ball screw Nut B55	12	30	2	2150	3610	75	24	44	70	11

www.solidcomponents.com

<https://www.nsk-literature.com/en/category/products/linear-components>

The screenshot shows a web browser window displaying the NSK website. The page title is "Technical Guides and Brochures" with the URL <https://www.nsk-literature.com/en/category/products/linear-components>. The NSK logo is visible in the top right corner.

Below the header, there is a grid of language selection buttons, each with a flag icon and the language name:

English	Deutsch	Español	Français	Italiano	Türkçe	Русский	Polski	Български
Čeština	Hrvatski	Magyar	Македонски	Română	Srpski	Slovenščina	Slovensky	Bosanski

Below the language grid, there is a button labeled "Back to Products category".

The main section is titled "Linear Components" and features four product categories, each with a thumbnail image and a "Download PDF" button:

- Precision Machine Components** (PMCC/E/05.20 - E3162 h)
- Linear Motion Control - Standard Range** (LMS/S/A/E/05.21)
- Linear Guides NH series, NS series** (NHNS/C/E/10.20)
- Din Ball Screws - For The Machine Tool Industry** (DIN/S/E/03.21)



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