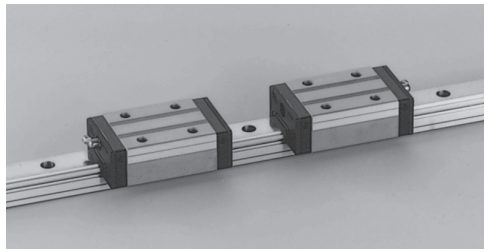
A-4-2.3 DS Model



1. Features

(1) Double the life of standard linear guides

DS model is based on our proven, highly reliable standard NS model that feature an optimized groove shape. Applying our special TF heat treatment achieves even longer life.

What is TF (Tough) Technology?

NSK's TF technology is an exclusive heat treatment developed and cultivated over years of experience with rolling bearings and materials. TF technology helps suppress surface flaking on the raceway.

Load ratings are 1.25 times higher and service life is doubled compared to conventional NS model*1. DS linear guide offers greatly improved life at the same size and equal or longer life to the next smallest conventional model, allowing for equipment downsizing.

*1: Representative values for model.

(2) Ball circulation path with excellent high-speed property

By reexamining the design for the ball circulation path, we have attained smooth ball circulation and reduced noise. DS models are suited for high-speed applications same as NS models.

(3) All mounting dimensions are the same as the NS Model

The dimensions surrounding the mounting (assembled dimensions), such as mounting height, width, mounting hole diameter/pitch, etc. of the DS model are identical to the NS model, allowing for easy replacement without design changes.

(4) High self-aligning capability (rolling direction)

Similar to a DF arrangement of angular contact bearings, DS models offer large self-aligning capability with the internal intersection of the contact lines of the balls and grooves reducing moment rigidity.

This increases the capacity to absorb errors in installation.

(5) High vertical load carrying capacity

The contact angle is set at 50 degrees, thus increasing load carrying capacity as well as rigidity in the vertical direction.

(6) High resistance against impact load

The bottom ball groove forms a Gothic arch and the center of the top and bottom grooves are offset as shown in **Fig. 2**.

Vertical load is generally carried by the top rows at two contact points, but with this design, the bottom rows also carry load when a large impact load is applied vertically as shown in **Fig. 3**. This assures high resistance to impact load.

(7) High accuracy

As shown in **Fig. 4**, fixing the measuring rollers to the ball grooves is simple thanks to the Gothic arch groove. This makes for easy and accurate measuring of ball grooves.

(8) Easy to handle and designed with safety in mind.

Balls are retained in the retainer and do not fall out when the ball slide is withdrawn from the rail.

(9) Abundant variations and sizes

The DS model comes in several sizes and ball slide shapes, allowing for use in a variety of applications.

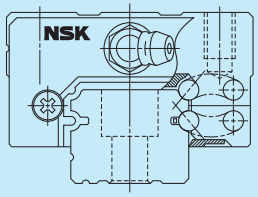


Fig. 1 DS Model

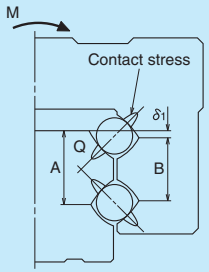


Fig. 2 Enlarged illustration of the offset Gothic arch groove

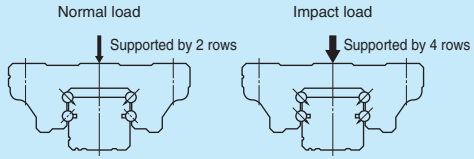


Fig. 3 When load is applied

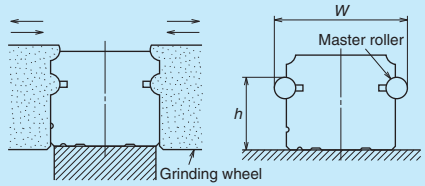
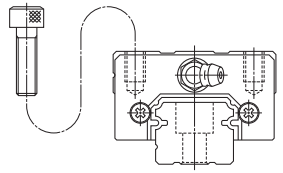
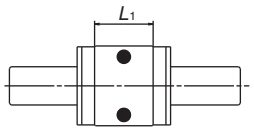
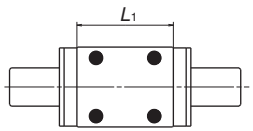
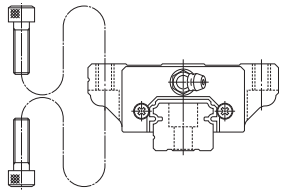
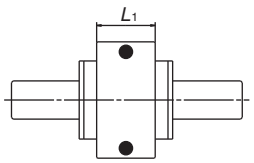
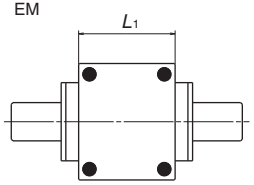


Fig. 4 Rail-grinding and measuring

2. Ball slide shape

Ball slide shape code	Shape/installation method	Type (Upper row, Rating: Lower row, Ball slide length)	
		Medium-load	High-load
		Standard	Long
AL CL		CL 	AL 
EM JM		JM 	EM 

3. Accuracy and preload

(1) Running parallelism of ball slide

Table 1

Unit: μm

Rail length (mm) over	or less	Accuracy grade: Preloaded assembly — Ultra precision P3	Super precision P4	High precision P5	Precision grade P6	Normal grade PN
–	50	2	2	2	4	5
50 –	80	2	2	3	4	5
80 –	125	2	2	3	4	5
125 –	200	2	2	3.5	5	6
200 –	250	2	2.5	4.5	6	7.5
250 –	315	2	2.5	5	6.5	8.5
315 –	400	2	3	5.5	7	9.5
400 –	500	2	3	6	7.5	11
500 –	630	2	3.5	6.5	8.5	12
630 –	800	2	4	7	9.5	13
800 –	1 000	2.5	4.5	7.5	10	15
1 000 –	1 250	3	5	8.5	12	16
1 250 –	1 600	3.5	5.5	9.5	13	17
1 600 –	2 000	4	6.5	11	14	19
2 000 –	2 500	4.5	7.5	12	16	21
2 500 –	3 150	5.5	8.5	13	18	23
3 150 –	4 000	6	9.5	14	19	25

(2) Accuracy standard

The preloaded assembly has five accuracy grades; Ultra precision P3, Super precision P4, High precision P5, Precision P6 and Normal PN grades.

- **Tolerance of preloaded assembly**

Table 2

Unit: μm

Characteristics \ Accuracy grade	Ultra precision P3	Super precision P4	High precision P5	Precision grade P6	Normal grade PN
Mounting height H Variation of H (All ball slides on a set of rails)	±8 3	±10 5	±20 7	±40 15	±80 25
Mounting width W_2 or W_3 Variation of W_2 or W_3 (All ball slides on reference rail)	±10 3	±15 7	±25 10	±50 20	±100 30
Running parallelism of surface C to surface A Running parallelism of surface D to surface B	See **Table 1**, **Fig. 5**				

(3) Combinations of accuracy and preload

Table 3

		Accuracy grade: Ultra precision	Super precision	High precision	Precision grade	Normal grade
Without NSK K1-L lubrication unit		P3	P4	P5	P6	PN
With NSK K1-L lubrication unit		L3	L4	L5	L6	LN
With NSK K1 for food and medical equipment		F3	F4	F5	F6	FN
Preload	Fine clearance Z0	○	○	○	○	○
	Slight preload Z1	○	○	○	○	○
	Medium preload Z3	○	○	○	○	—

(4) Assembled accuracy

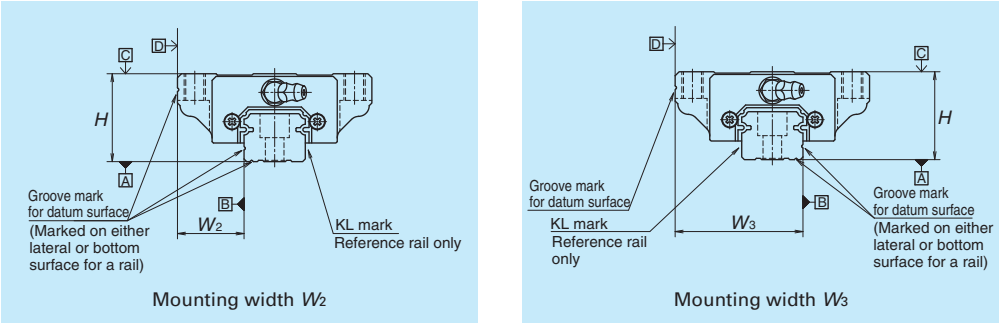


Fig. 5

(5) Preload and rigidity

We offer three levels of preload: Slight preload Z1, Medium preload Z3 and Fine clearance Z0.

• **Preload and rigidity of preloaded assembly**

Table 4

	Model No.	Preload (N)		Rigidity (N/μm)			
				Vertical direction		Lateral direction	
		Slight preload Z1	Medium preload Z3	Slight preload Z1	Medium preload Z3	Slight preload Z1	Medium preload Z3
High-load	DS15 AL, EM	69	390	127	226	88	167
	DS20 AL, EM	88	540	147	284	108	206
	DS25 AL, EM	147	880	206	370	147	275
	DS30 AL, EM	245	1 370	255	460	186	345
	DS35 AL, EM	345	1 960	305	550	216	400
Medium-load	DS15 CL, JM	49	294	78	147	59	108
	DS20 CL, JM	69	390	108	186	78	137
	DS25 CL, JM	98	635	127	235	88	177
	DS30 CL, JM	147	980	147	275	108	206
	DS35 CL, JM	245	1 370	186	335	137	245

Note: Clearance for Fine clearance Z0 is 0 to 3μm. Therefore, preload is zero.
However, Z0 of PN grade is 0 to 15μm.

4. Maximum rail length

Table 5 shows the limitations of rail length (maximum length). However, the limitations vary by accuracy grade.

Table 5 Length limitations of rails

Unit: mm

Model	Size / Material	15	20	25	30	35
DS	Special high carbon steel	2 920	3 960	3 960	4 000	4 000

Note: Rails can be butted if user requirements exceed the rail length shown in the table. Please consult NSK.

5. Installation

(1) Permissible values of mounting error

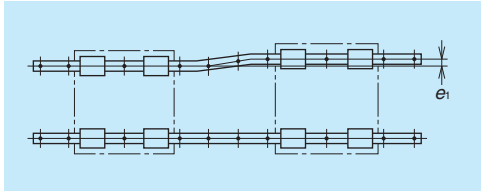


Fig. 6

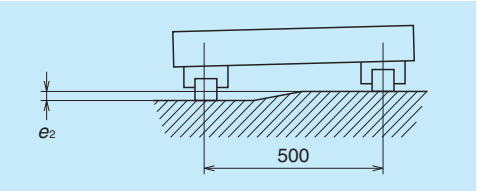


Fig. 7

Table 6

Unit: μm

Value	Preload	Model No. DS15	DS20	DS25	DS30	DS35
Permissible values for parallelism error of two rails e_1	Z0	20	22	30	35	40
	Z1	15	17	20	25	30
	Z3	12	15	15	20	25
Permissible values for height error of two rails e_2	Z0	375 μm/500 mm				
	Z1, Z3	330 μm/500 mm				

(2) Shoulder height of the mounting surface and corner radius r

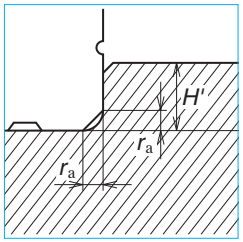


Fig. 8 Shoulder for the rail datum surface

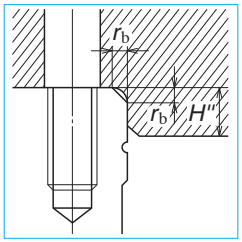


Fig. 9 Shoulder for the ball slide datum surface

Table 7

Unit: mm

Model No.	Corner radius (maximum) r_a	Corner radius (maximum) r_b	Shoulder height H'	Shoulder height H''
DS15	0.5	0.5	4	4
DS20	0.5	0.5	4.5	5
DS25	0.5	0.5	5	5
DS30	0.5	0.5	6	6
DS35	0.5	0.5	6	6

6. Maximum allowable speed

Table 8 indicates the maximum allowable speed for 10,000 km operation when using an DS model under normal conditions. However, the maximum allowable speed can be affected by accuracy of installation, operating temperature, external load, etc. If the operation is made exceeding the permissible distance and speed, please consult NSK.

Table 8 Maximum allowable speed

Unit: m/min

Model / Size	15	20	25	30	35
DS	300				

7. Lubrication components

Refer to pages A58 and D13 for the lubrication of linear guides.

(1) Types of lubrication accessories

Fig. 10 and **Table 9** show grease fittings and tube fittings.

We provide lubrication accessories with an extended thread body length (*L*) for the addition of dust-resistant accessories such as NSK K1-L lubrication units, double seals and protectors. We provide suitable lubrication accesories for special dust-resistant requirements upon request.

NSK can also provide extended length threads for ease of replenishment.

Please contact NSK if stainless lubrication accessories are required.

(2) Mounting position of lubrication accessories

The standard position for grease fittings is at the end face of the ball slide, but we can mount them on the side of the end cap as an option. (**Fig. 11**)

Please consult NSK for the installation of grease or tube fittings to the ball slide body.

Using a piping unit with thread of M6 × 1, requires a connector to connect to a grease fitting mounting hole with M6 × 0.75. The connector is available from NSK.

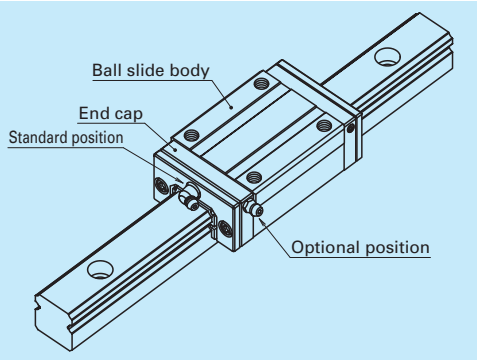


Fig. 11 Mounting position of lubrication accessories

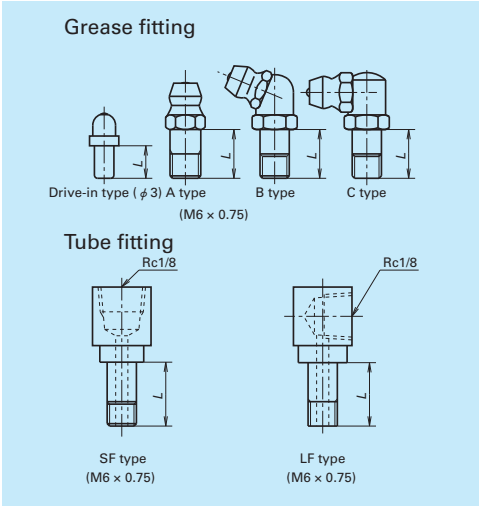


Fig. 10 Grease fitting and tube fitting

Table 9 Unit: mm

Model No.	Dust-resistant specification	Dimension *L*		
		Grease fitting /Drive-in type	Tube fitting SF type	Tube fitting LF type
DS15	Standard	5	–	–
	With NSK K1-L	10	–	–
	Double seal	*	–	–
	Protector	*	–	–
DS20	Standard	5	–	–
	With NSK K1-L	10	–	–
	Double seal	8	–	–
	Protector	8	–	–
DS25	Standard	5	6	6
	With NSK K1-L	12	11	11
	Double seal	10	9	9
	Protector	10	9	9
DS30	Standard	5	6	6
	With NSK K1-L	14	12	13
	Double seal	12	10	11
	Protector	12	10	11
DS35	Standard	5	6	6
	With NSK K1-L	14	12	13
	Double seal	12	10	11
	Protector	12	10	11

*) A connector is required for this model. Please contact NSK.

8. Dust-resistant components

(1) Standard specification

Under normal applications, the DS model can be used without modification thanks to its dust resistance. As standard equipment, the ball slides have an end seal on both ends, and bottom seals at the bottom.

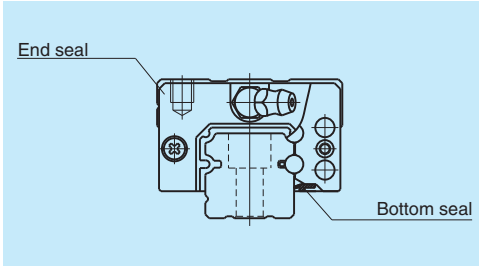


Fig. 12

Table 10 Seal friction per ball slide (maximum value)

Unit: N

Model \ Size	15	20	25	30	35
DS	8	9	9	9	10

(2) NSK K1-L™ and NSK K1™ lubrication units for food processing machinery/ medical equipment

Table 11 shows linear guide dimensions when equipped with NSK K1-L lubrication units.

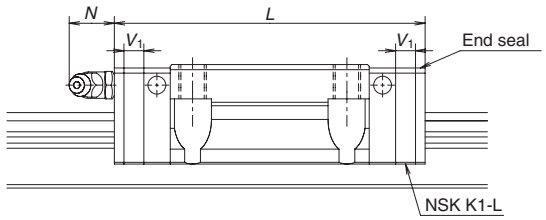


Table 11 Dimensions when equipped with NSK K1-L lubrication units Unit: mm

Model No.	Ball slide length	Ball slide shape code	Standard ball slide length	Ball slide length with two NSK K1-L units *L*	Thickness of single NSK K1-L unit V_1	Protrusion of grease fitting *N*
DS15	Standard	AL, EM	56.8	66.4	4.8	(5)
	Short	CL, JM	40.4	50		
DS20	Standard	AL, EM	65.2	75.8	5.3	(14)
	Short	CL, JM	47.2	57.8		
DS25	Standard	AL, EM	81.6	92.2	5.3	(14)
	Short	CL, JM	59.6	70.2		
DS30	Standard	AL, EM	96.4	108.4	6	(14)
	Short	CL, JM	67.4	79.4		
DS35	Standard	AL, EM	108	121	6.5	(14)
	Short	CL, JM	77	90		

Notes: 1) When using NSK K1 for food processing machinery/medical equipment, refer toTable 12.
2) Slide length when equipped with NSK K1-L = (standard ball slide length) + (V_1 thickness of single NSK K1-L unit) × (number of K1-L units).

Table 12 shows linear guide dimensions when equipped with NSK K1 for food processing machinery/ medical equipment.

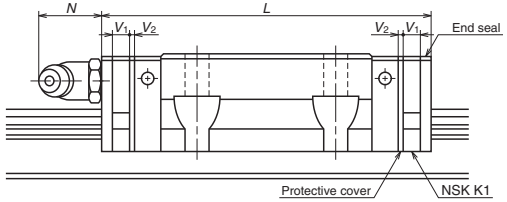


Table 12 Dimensions when equipped with NSK K1 for food processing machinery/medical equipment

Unit: mm

Model No.	Ball slide length	Ball slide shape code	Standard ball slide length	Ball slide length with two NSK K1 installed L	Thickness of single NSK K1 V_1	Protective cover thickness V_2	Protrusion of grease fitting N
DS15	Standard	AL, EM	56.8	66.4	4.0	0.8	(5)
	Short	CL, JM	40.4	50			
DS20	Standard	AL, EM	65.2	75.8	4.5	0.8	(14)
	Short	CL, JM	47.2	57.8			
DS25	Standard	AL, EM	81.6	92.2	4.5	0.8	(14)
	Short	CL, JM	59.6	70.2			
DS30	Standard	AL, EM	96.4	108.4	5.0	1.0	(14)
	Short	CL, JM	67.4	79.4			
DS35	Standard	AL, EM	108	121	5.5	1.0	(14)
	Short	CL, JM	77	90			

Note: Slide length when equipped with NSK K1 for food processing machinery/medical equipment = (standard ball slide length) + (V_1 thickness of single NSK K1 unit) × (number of K1 units) + (V_2 thickness of the protective cover) × 2.

(3) Double seal

Use a double seal set as shown in **Table 13** when installing an extra seal to completed standard products. (**Fig. 13**)
When installing a grease fitting after the installation of double seals, a connector as shown in **Fig.14** is required.

(4) Protector

Use a protector set as shown in **Table 14** when installing a protector to completed standard products. (**Fig. 14**)
When installing a grease fitting after the installation of protectors, a connector as shown in **Fig. 14** is required.

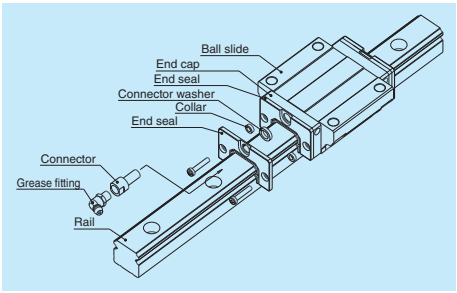


Fig. 13 Double seal

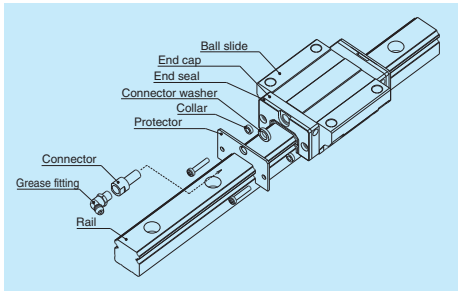


Fig. 14 Protector

Table 13 Double seal set

Model No.	Reference No. Without connector	Reference No. With connector	Increased thickness V_3 (mm)
DS15	LS15WS-01	*	2.8
DS20	LS20WS-01	LS20WSC-01	2.5
DS25	LS25WS-01	LS25WSC-01	2.8
DS30	LS30WS-01	LS30WSC-01	3.6
DS35	LS35WS-01	LS35WSC-01	3.6

Table 14 Protector set

Model No.	Reference No. Without connector	Reference No. With connector	Increased thickness V_4 (mm)
DS15	LS15PT-01	*	3
DS20	LS20PT-01	LS20PTC-01	2.7
DS25	LS25PT-01	LS25PTC-01	3.2
DS30	LS30PT-01	LS30PTC-01	4.2
DS35	LS35PT-01	LS35PTC-01	4.2

*) For installation of a connector to a drive-in grease fitting, contact NSK.

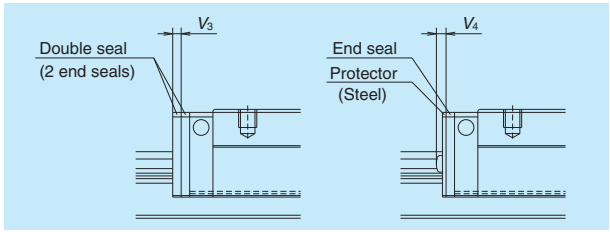


Fig. 15

(5) Caps to plug the rail mounting bolt hole

Table 15 Caps to plug rail bolt hole

Model No.	Bolt to secure rail	Cap reference No.	Quantity /case
DS15	M3	LG-CAP/M3	20
DS15	M4	LG-CAP/M4	20
DS20	M5	LG-CAP/M5	20
DS25, DS30	M6	LG-CAP/M6	20
DS35	M8	LG-CAP/M8	20

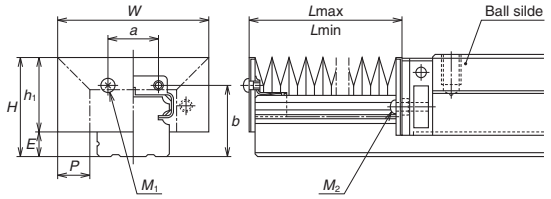
(6) Bellows

- A bellows fastener kit, which includes one bellows faster, two M_1 set screws, two M_2 set screws, and two collars for M_2 set screws as shown in Fig. 7.7 on page A69, is supplied with bellows for the ends.
- Middle bellows are supplied with four set screws and four collars.
- Use a bellows fastener kit as shown in **Table 16**, when installing bellows to completed standard products.
- When NSK K1-L units, NSK K1 for food and medical equipment, double seals, or protectors are used, the set screws of bellows fastener kits cannot be used.
  Please contact NSK for details.
- Bellows fasteners are available only for horizontal mounting positions; other mounting positions require a sliding plate (see **Fig. 7.10** on page A70).
  To fix the bellows to the rail, make tap holes on the rail end surface. Fix the bellows mounting plate to the rail end surface through these tap holes with a machine screw. NSK prepares tap holes on the rail end surface when bellows are ordered with a linear guide.

Table 16 Bellows fastner kit reference No.

Model No.	Kit reference No.
DS15	LS15FS-01
DS20	LS20FS-01
DS25	LS25FS-01
DS30	LS30FS-01
DS35	LS35FS-01

Dimension tables for bellows
DS Model



Bellows reference number

J A S 15 L 08

- J: Bellows
- A: Bellows for the ends / B: Middle bellows
- S: Bellows for DS model
- 15: Size number of linear guide
- L: Low type
- 08: Number of BL (fold number)

Fig. 16 Dimensions of bellows

Table 17 Dimensions of bellows Unit: mm

Model No.	*H*	h_1	*E*	*W*	*P*	*a*	*b*	BL minimum length	M_1 Tap x depth	M_2 Tap x depth
JAS15L	23.5	18.9	4.6	43	10	8	16.5	17	M3 × 5	M3 × 14
JAS20L	27	21	6	48	10	13	19.7	17	M3 × 5	M2.5 × 14
JAS25L	32	25	7	51	10	15	23.2	17	M3 × 5	M3 × 18
JAS30L	41	32	9	66	15	16	29	17	M4 × 6	M4 × 19
JAS35L	47	36.5	10.5	72	15	22	33.5	17	M4 × 6	M4 × 22

Table 18 Numbers of folds (BL) and lengths of bellows Unit: mm

Model No.	Number of BL	2	4	6	8	10	12	14	16	18	20
	L_{min}	34	68	102	136	170	204	238	272	306	340
JAS15L	Stroke	106	212	318	424	530	636	742	848	954	1 060
	L_{max}	140	280	420	560	700	840	980	1 120	1 260	1 400
JAS20L	Stroke	106	212	318	424	530	636	742	848	954	1 060
	L_{max}	140	280	420	560	700	840	980	1 120	1 260	1 400
JAS25L	Stroke	106	212	318	424	530	636	742	848	954	1 060
	L_{max}	140	280	420	560	700	840	980	1 120	1 260	1 400
JAS30L	Stroke	176	352	528	704	880	1 056	1 232	1 408	1 584	1 760
	L_{max}	210	420	630	840	1 050	1 260	1 470	1 680	1 890	2 100
JAS35L	Stroke	176	352	528	704	880	1 056	1 232	1 408	1 584	1 760
	L_{max}	210	420	630	840	1 050	1 260	1 470	1 680	1 890	2 100

Note: The values of an odd number BL quantity (3, 5, 7, ...) can be obtained by adding two values of even number BL on both sides, then by dividing the sum by 2.

9. Reference number

A reference number (designation) is set and indicated on the specification drawing for an individual NSK linear guide when its specifications are finalized.
Please specify the reference number, except design serial number, to identify the product when ordering, requiring estimates, or inquiring about specifications from NSK.

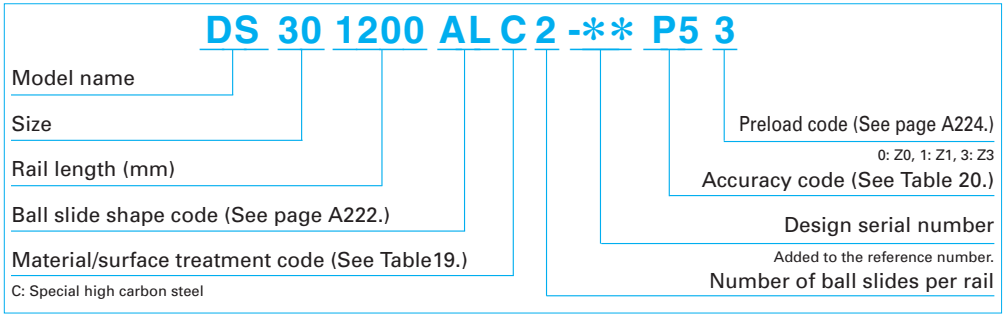


Table 19 Material/surface treatment code

Code	Description
C	Special high carbon steel
D	Special high carbon steel with surface treatment
Z	Other, special

Table 20 Accuracy code

Accuracy	Standard (Without NSK K1-L)	With NSK K1-L	With NSK K1 for food and medical equipment
Ultra precision grade	P3	L3	F3
Super precision grade	P4	L4	F4
High precision grade	P5	L5	F5
Precision grade	P6	L6	F6
Normal grade	PN	LN	FN

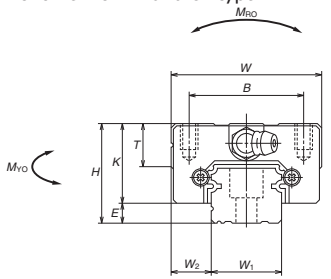
Note: Refer to page A58 for details on NSK K1-L lubrication units and to page A73 for details on NSK K1 lubricaiton units for food processing machinery/medical equipment.

10. Dimensions
DS-CL (Medium-load / Short)
DS-AL (High-load / Standard)

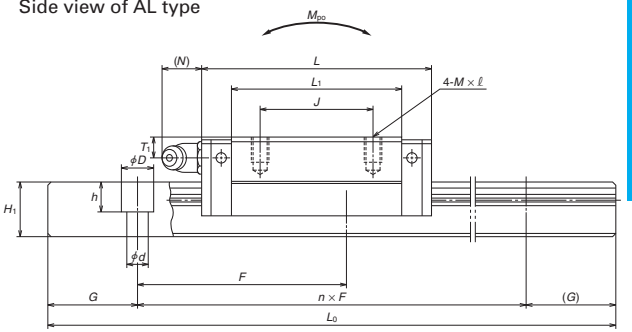
DS 30 1200 AL C 2 - P5 3**

- Model name
- Size
- Rail length (mm)
- Ball slide shape code (See page A222.)
- Material/surface treatment code (See Table 19.)
  - C: Special high carbon steel
- Number of ball slides per rail
- Design serial number
  - Added to the reference number.
- Accuracy code (See Table 20.)
- Preload code (See page A224.)
  - 0: Z0, 1: Z1, 3: Z3

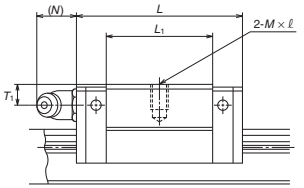
Front view of AL and CL type



Side view of AL type



Side view of CL type



Unit: mm

Model No.	Assembly			Ball slide											Width	Height
	Height			Width	Length	Mounting hole						Grease fitting				
	H	E	W_2	W	L	B	J	M × pitch × ℓ	L_1	K	T	Hole size	T_1	N	W_1	H_1
DS15CL	24	4.6	9.5	34	40.4	26	—	M4×0.7×6	23.6	19.4	10	ϕ3	6	3	15	12.5
DS15AL					56.8		26		40							
DS20CL	28	6	11	42	47.2	32	—	M5×0.8×7	30	22	12	M6×0.75	5.5	11	20	15.5
DS20AL					65.2		32		48							
DS25CL	33	7	12.5	48	59.6	35	—	M6×1×9	38	26	12	M6×0.75	7	11	23	18
DS25AL					81.6		35		60							
DS30CL	42	9	16	60	67.4	40	—	M8×1.25×12	42	33	13	M6×0.75	8	11	28	23
DS30AL					96.4		40		71							
DS35CL	48	10.5	18	70	77	50	—	M8×1.25×12	49	37.5	14	M6×0.75	8.5	11	34	27.5
DS35AL					108		50		80							

Rail				Basic load ratings							Weight	
Pitch	Mounting bolt hole	G	Max. length	[1]Dynamic [50km]	[1]Dynamic [100km]	Static	Static moment (N·m)				Ball slide	Rail
								M_{PO}		M_{YO}		
F	d × D × h	(reference)	L_{0max}	C_{50}(N)	C_{100}(N)	C_0 (N)	M_{RO}	One slide	Two slides	One slide	Two slides	(kg)	(kg/m)
60	*4.5×7.5×5.3	20	2 920	9 150	7 250	9 100	45.5	24.5	196	20.5	165	0.14	1.4
	3.5×6×4.5			14 100	11 200	16 900	84.5	77	470	64.5	395	0.20	
60	6×9.5×8.5	20	3 960	13 400	10 600	13 400	91.5	46.5	330	39	279	0.19	2.3
				19 700	15 600	23 500	160	133	755	111	630	0.28	
60	7×11×9	20	3 960	22 300	17 700	20 800	164	91	655	76	550	0.34	3.1
				33 000	26 100	36 500	286	258	1 470	217	1 230	0.51	
80	7×11×9	20	4 000	31 000	24 700	29 600	282	139	1 080	116	905	0.58	4.8
				48 000	38 000	55 000	520	435	2 650	365	2 220	0.85	
80	9×14×12	20	4 000	43 000	34 500	40 000	465	220	1 670	185	1 400	0.86	7.0
				66 500	52 500	74 500	865	695	4 000	580	3 350	1.3	

Note: 1) The basic load ratings comply with the ISO standard. (ISO 14728-1, 14728-2) For long-life DS model, the rated load is multiplied by a coefficient that reflects the effect of life improvement technologies based on these ISO standards.
C_{50}: the basic dynamic load rating for 50 km rated fatigue life C_{100}: the basic dynamic load rating for 100 km rated fatigue life
The basic static load rating shows static permissible load.

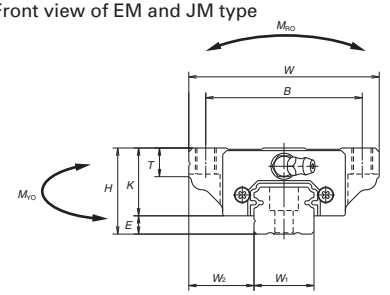
* Standard mounting hole of DS15 rail is for M4 bolts (Hole size: 4.5 × 7.5 × 5.3).
If you require mounting hole for M3 bolts (Hole size: 3.5 × 6 × 4.5), please specify when ordering.

DS-JM (Medium-load / Short)
DS-EM (High-load / Standard)

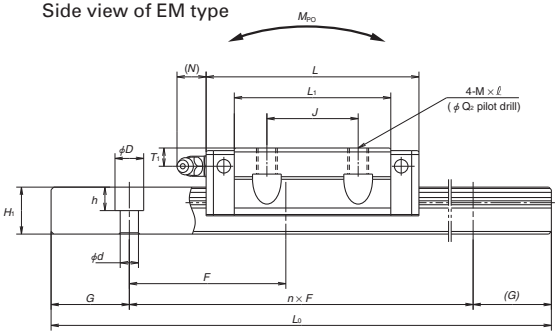
DS 30 1200 EM C 2 - P5 3**

- DS: Model name
- 30: Size
- 1200: Rail length (mm)
- EM: Ball slide shape code (See page A222.)
- C: Material/surface treatment code (See Table 19.)
  - C: Special high carbon steel
- 2: Number of ball slides per rail
- -**: Design serial number
  - Added to the reference number.
- P5: Accuracy code (See Table 20.)
- 3: Preload code (See page A224.)
  - 0: Z0, 1: Z1, 3: Z3

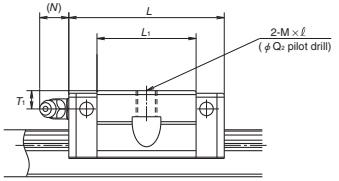
Front view of EM and JM type



Side view of EM type



Side view of JM type



Unit: mm

Model No.	Assembly Height H	E	W_2	Ball slide Width W	Length L	Mounting hole B	J	$M \times$ pitch $\times \ell$	Q_2	L_1	K	T	Grease fitting Hole size	T_1	N	Width W_1	Height H_1
DS15JM	24	4.6	18.5	52	40.4	41	—	M5×0.8×7	4.4	23.6	19.4	8	ϕ3	6	3	15	12.5
DS15EM					56.8		26			40							
DS20JM	28	6	19.5	59	47.2	49	—	M6×1×9	5.3	30	22	10	M6×0.75	5.5	11	20	15.5
DS20EM					65.2		32			48							
DS25JM	33	7	25	73	59.6	60	—	M8×1.25×10	6.8	38	26	11	M6×0.75	7	11	23	18
DS25EM					81.6		35			60							
DS30JM	42	9	31	90	67.4	72	—	M10×1.5×12	8.6	42	33	11	M6×0.75	8	11	28	23
DS30EM					96.4		40			71							
DS35JM	48	10.5	33	100	77	82	—	M10×1.5×13	8.6	49	37.5	12	M6×0.75	8.5	11	34	27.5
DS35EM					108		50			80							

Rail Pitch F	Mounting bolt hole $d \times D \times h$	G (reference)	Max. length L_{0max}	Basic load ratings [1]Dynamic [50km] C_{50}(N)	[100km] C_{100}(N)	Static C_0 (N)	Static moment (N·m) M_{RO}	M_{PO} One slide	M_{PO} Two slides	M_{YO} One slide	M_{YO} Two slides	Weight Ball slide (kg)	Rail (kg/m)
60	✻4.5×7.5×5.3	20	2 920	9 150	7 250	9 100	45.5	24.5	196	20.5	165	0.17	1.4
	3.5×6×4.5			14 100	11 200	16 900	84.5	77	470	64.5	395	0.26	
60	6×9.5×8.5	20	3 960	13 400	10 600	13 400	91.5	46.5	330	39	279	0.24	2.3
				19 700	15 600	23 500	160	133	755	111	630	0.35	
60	7×11×9	20	3 960	22 300	17 700	20 800	164	91	655	76	550	0.44	3.1
				33 000	26 100	36 500	286	258	1 470	217	1 230	0.66	
80	7×11×9	20	4 000	31 000	24 700	29 600	282	139	1 080	116	905	0.76	4.8
				48 000	38 000	55 000	520	435	2 650	365	2 220	1.2	
80	9×14×12	20	4 000	43 000	34 500	40 000	465	220	1 670	185	1 400	1.2	7
				66 500	52 500	74 500	865	695	4 000	580	3 350	1.7	

Note: 1) The basic load ratings comply with the ISO standard. (ISO 14728-1, 14728-2) For long-life DS model, the rated load is multiplied by a coefficient that reflects the effect of life improvement technologies based on these ISO standards.
C_{50}: the basic dynamic load rating for 50 km rated fatigue life C_{100}: the basic dynamic load rating for 100 km rated fatigue life
The basic static load rating shows static permissible load.

✻ Standard mounting hole of DS15 rail is for M4 bolts (Hole size: 4.5 × 7.5 × 5.3).
If you require mounting hole for M3 bolts (Hole size: 3.5 × 6 × 4.5), please specify when ordering.