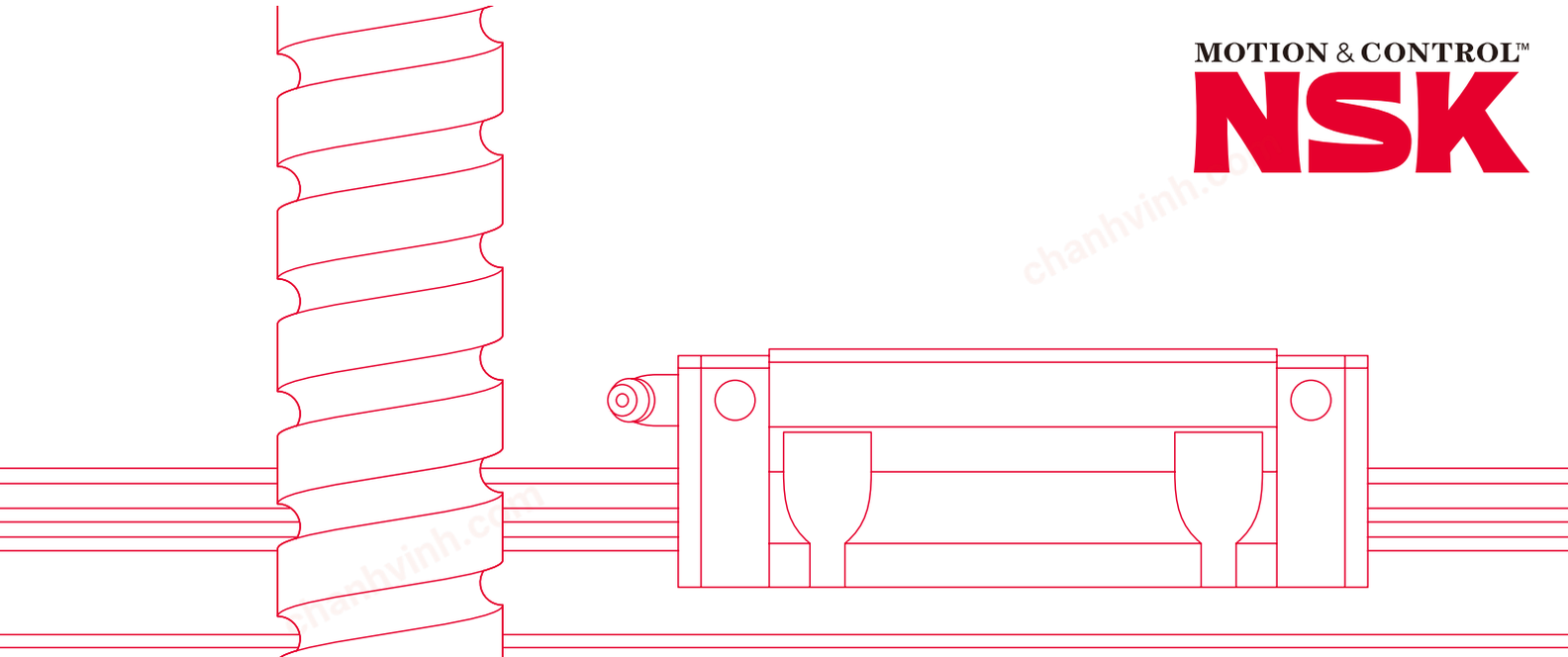
chanhvinh.com

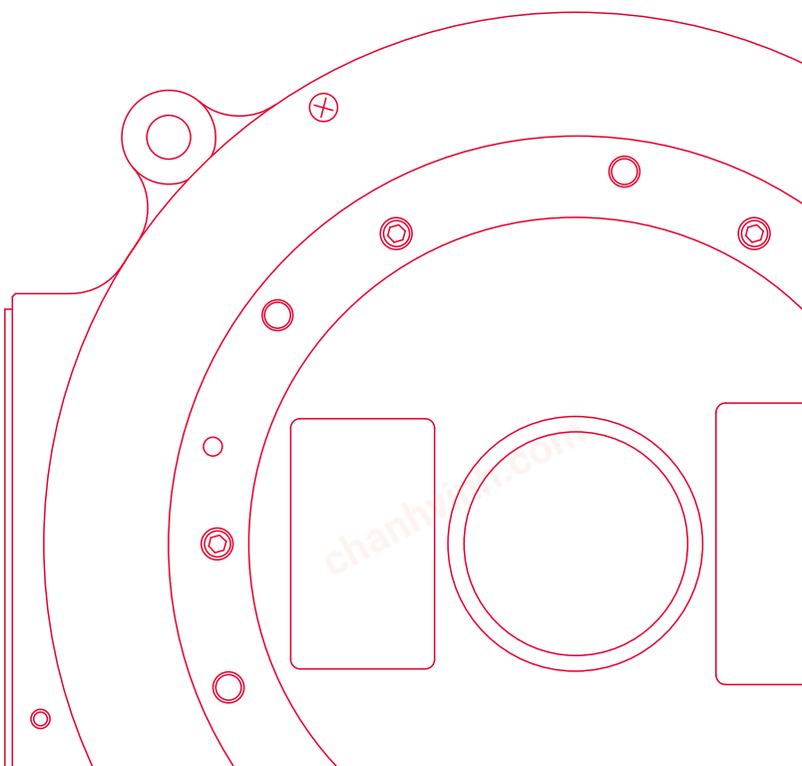
MOTION & CONTROL™
NSK



PRECISION MACHINE COMPONENTS

STANDARD ITEMS

LINEAR GUIDES
BALL SCREWS
SUPPORT UNITS
MONOCARRIERS
LUBRICATION
MEGATORQUE MOTORS



chanhvinh.com

MOTION & CONTROL™
NSK

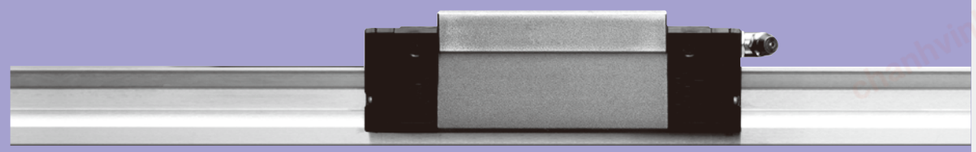
PRECISION MACHINE COMPONENTS

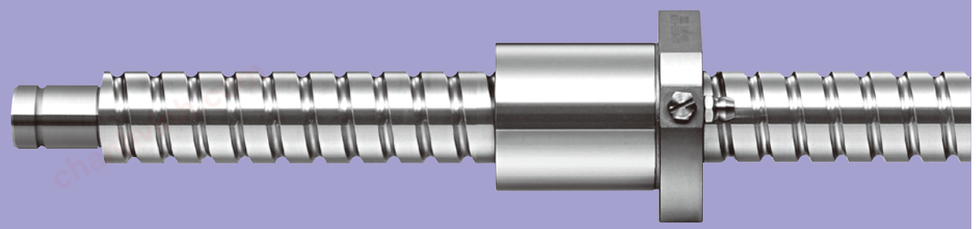
STANDARD ITEMS

LINEAR GUIDES
BALL SCREWS
SUPPORT UNITS
MONOCARRIERS
LUBRICATION
MEGATORQUE MOTORS

chanhvinh.com

chanhvinh.com

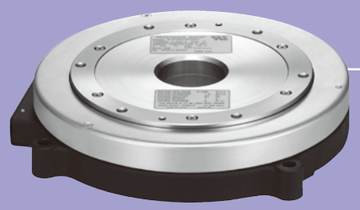




Contents



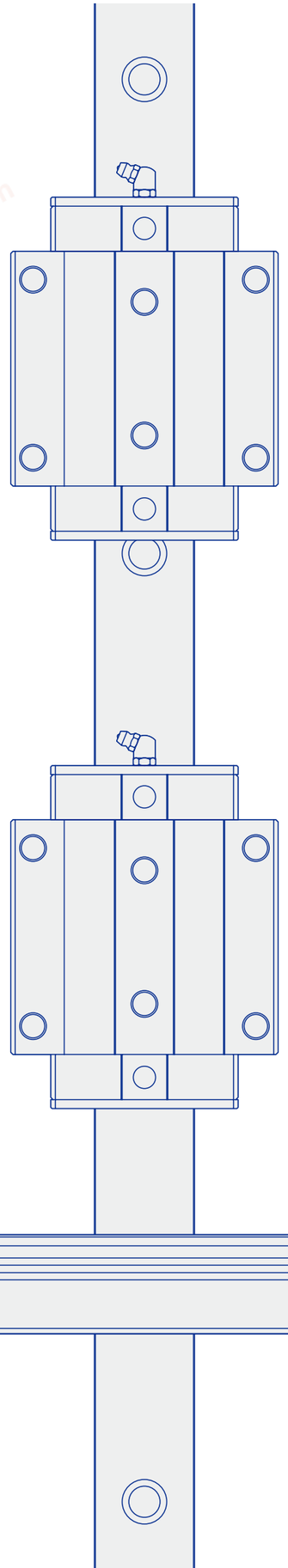




The following products are trademarks of NSK Ltd.
NSK Linear Guide Monocarrier NSK K1 Megatorque Motor

Products	Series & Type	Page
Linear Guides	Types of Linear Guides / Accuracy / Accessories	5
	LH Series	11
	LS Series	15
	SH Series	19
	SS Series	25
	RA Series	29
	LW Series	35
	TS Series	37
	PU Series	39
	PE Series	41
Ball Screws	Types of Ball Screws / Part Number / Series Matrices	45
	Compact FA Series: PSS Type	53
	Compact FA Series: FSS Type	73
	Compact FA Series: USS Type	81
	A Series: Finished Shaft-End	87
	KA Series: Stainless Steel Product (Finished Shaft End)	145
	S Series: Blank Shaft-End	169
	V Series: Finished Shaft-End	197
	R Series: Rolled Ball Screws	209
Life and Basic Load Rating		225
Support Units	Types of Support Units / Part Number	231
	WBK Series	233
Monocarriers	Types of Monocarriers	249
	MCM Series: Light Weight Type / Accessories	251
	MCH Series: Rigid Type / Accessories	285
	Basic Load Rating	303
	Sensor Specifications	305
Lubrication	NSK Grease Unit	309
	NSK K1 Lubrication Unit	317
Megatorque Motors	Features / Types of Megatorque Motors	321
	PS Series	325
	PN Series	329

chanhvinh.com



Linear Guides

- Quick delivery due to advanced random-matching
- Wide ranging series of ball and roller guides available

chanhvinh.com

Types of Linear Guides

Series	Features	Ball slide model				Size & Preload		Dimension table
LH/SH Series	LH Series • NSK basic series • General versatility for heavy-duty applications • Large load carrying capacity against vertical direction Stainless steel is available (#15–30). SH Series • Silent and smooth featured LH incorporated with retainer piece	AN, BN	AL, BL	AN, AL	BN, BL	Size	Preload	Page 11-14 19-24
		EM, GM		EM	GM	LH/SH15 LH/SH20 LH/SH25 LH/SH30 LH/SH35 LH/SH45 LH/SH55 LH65	Slight preload ZZ	
LS/SS Series	LS Series • Compact designed NSK basic series • General versatility for fine application • Large load carrying capacity against vertical direction Stainless steel is available (#15–35). SS Series • Silent and smooth featured LS incorporated with retainer piece	AL, CL		AL	CL	Size	Preload	Page 15-18 25-28
		EM, JM		EM	JM	LS/SS15 LS/SS20 LS/SS25 LS/SS30 LS/SS35	Slight preload ZZ	
RA Series	• A roller guide with super high load capacity and rigidity • Super high accuracy and smooth motion • Highly dust proof and maintenance free	AL , BL	AN, BN	AL, AN	BL, BN	Size	Preload	Page 29-34
		EM, GM		EM	GM	RA15 RA20 RA25 RA30 RA35 RA45 RA55 RA65	Medium preload Z	
LW Series	• Wide rail type linear guide • Ideal for use of single rail • Large load carrying capacity against vertical direction	EL		EL		Size	Preload	Page 35-36
						LW17 LW21 LW27 LW35 LW50	Slight preload ZZ	
TS Series	• Low price linear guide best fit for transportation equipments • Long-term maintenance free by regularly equipped NSK K1	AN		AN		Size	Preload	Page 37-38
						TS15 TS20 TS25 TS30 TS35	Maximum clearance 60 µm S	
PU Series	• Lightweight designed miniature linear guide • Reduced noise and smooth motion • High corrosion resistance (stainless steel)	AL, TR, UR, BL		AL, TR	BL, UR	Size	Preload	Page 39-40
						PU05 PU07 PU09 PU12 PU15	Maximum clearance 3 µm ZT	
PE Series	• Lightweight designed wide rail miniature linear guide • Ideal for use of single rail • Reduced noise and smooth motion • High corrosion resistance (stainless steel)	AR, TR, UR, BR		AR, TR	BR, UR	Size	Preload	Page 41-42
						PE05 PE07 PE09 PE12 PE15	Maximum clearance 3 µm ZT	

chanhvinh.com

Accuracy

Accuracy Standard

• Table 1, Figure 1 and Figure 2 show accuracy characteristics.

Table 1 Definition of accuracy

Characteristics	Definition (Figures 1, 2)
Mounting height *H*	Distance from A (rail bottom datum face) to C (ball slide top face)
Variation of *H*	Variation of *H* in ball slides assembled to the rails of a set of linear guides
Mounting width W_2 or W_3	Distance from B (rail side datum face) to D (ball slide side datum face). Applicable only to the reference linear guide.
Variation of W_2 or W_3	Difference of the width (W_2 or W_3) between the assembled ball slides, which are installed in the same rail. Applicable only to the reference linear guide.
Running parallelism of ball slide, face C to face A	Variation of C (ball slide top face) to A (rail bottom datum face) when ball slide is moving
Running parallelism of ball slide, face D to face B	Variation of D (ball slide side datum face) to B (rail side datum face) when ball slide is moving

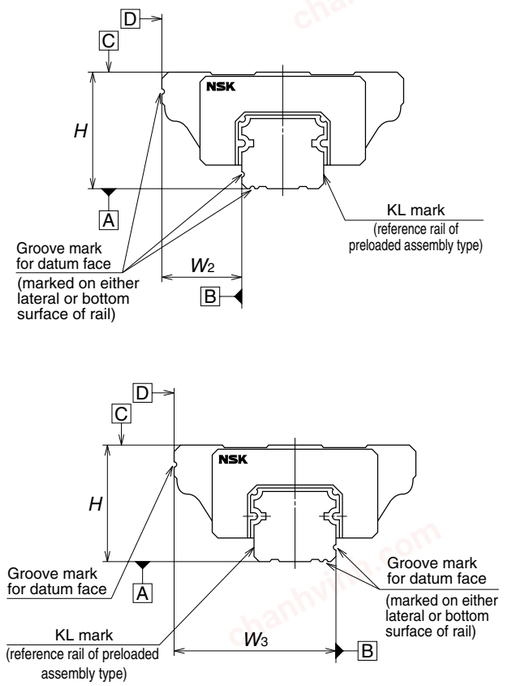


Fig. 1 Assembled accuracy (height and width)

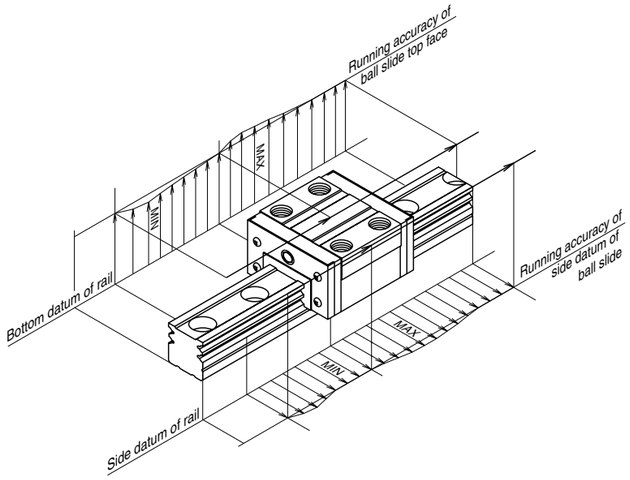


Fig. 2 Running parallelism of ball slide

Assembly dimension tolerance of random-matching type

Unit: μm

Series	LH/SH Series		LS/SS Series	RA Series	LW Series	TS Series	PU/PE Series
Size	15 – 35	45 – 65	15 – 35	15 – 65	17 – 50	15 – 35	05 – 15
Mounting height *H*	±20	±30	±20	±20	±20	±100	±20
Variation of mounting height *H*	15*1 30*2	20*1 30*2	15*1 30*2	15*1 30*2	15*1 30*2	–	15*1 30*2
Mounting width W_2 or W_3	±30	±35	±30	±25	±30	–	±20
Variation of Mounting width W_2 or W_3	25	30	25	20	25	–	20

*1 Variation of mounting height *H* is specified on one rail.
*2 Variation of mounting height *H* is specified on multiple rails.

Running parallelism tolerance of random-matching type: A//C or B//D

Unit: μm

Rail length (mm) over or under	LH/SH Series LS/SS Series LW Series PU/PE Series	RA Series	TS Series
– 50	6	4.5	Max. 100
50 – 80	6	5	
80 – 125	6.5	5.5	
125 – 200	7	6	
200 – 250	8	7	
250 – 315	9	8	
315 – 400	11	9	
400 – 500	12	10	
500 – 630	14	12	
630 – 800	16	14	
800 – 1 000	18	16	
1 000 – 1 250	20	17	
1 250 – 1 600	23	19	
1 600 – 2 000	26	21	
2 000 – 2 500	29	22	
2 500 – 3 150	32	25	
3 150 – 4 000	34	30	

Available rail length (max. length)

Unit: mm

Series	LH/SH Series		LS/SS Series		RA Series	TS Series	PU Series	PE Series
Size	Std. steel	Stainless	Std. steel	Stainless	Std. steel	Std. steel	Stainless	Stainless
05	–	–	–	–	–	–	210	150
07	–	–	–	–	–	–	375	600
09	–	–	–	–	–	–	600	800
12	–	–	–	–	–	–	800	1 000
15	2 000	1 800	2 000	1 800	2 000	1 960	1 000	1 200
20	3 960	3 500	3 960	3 500	3 000	2 920	–	–
25	3 960	3 500	3 960	3 500	3 000	4 000	–	–
30	4 000	3 500	4 000	3 500	3 500	4 040	–	–
35	4 000	–	4 000	3 500	3 500	4 040	–	–
45	3 990	–	–	–	3 500	–	–	–
55	3 960	–	–	–	3 500	–	–	–
65	3 900	–	–	–	3 500	–	–	–

LW Series	
Size	Std. steel
17	1 000
21	1 600
27	2 000
35	2 400
50	3 000

chanhvinh.com

Accessories

Double Seal and Protector

- Double seal (a combination of two end seals) to enhance seal function.
- Protector (a steel plate added on end seal) to prevent high temperature fine particles, such as welding spatter and other foreign matter, from entering the ball slide.
- When a double seal or protector is installed, the ball slide becomes longer by the sizes shown in Tables 2 and 3.
- When attaching a grease fitting to the end-cap after the double seal or protector is equipped, a connector, shown in Fig. 3, is required. Please specify the connector set when ordering.

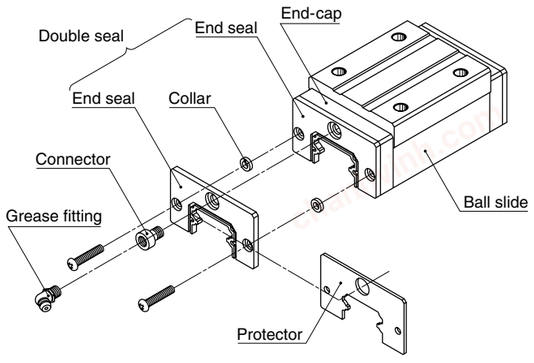


Fig. 3

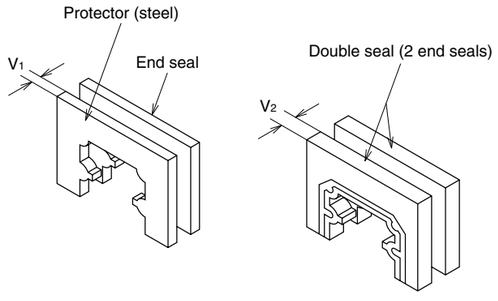


Fig. 4

Table 2 Double-seal set Unit: mm

Model No.	Part No. Without connector	Part No. With connector	Increased thickness V_2
LH/SH15	LH15WS-01	***	2.5
LH/SH20	LH20WS-01	LH20WSC-01	2.5
LH/SH25	LH25WS-01	LH25WSC-01	2.8
LH/SH30	LH30WS-01	LH30WSC-01	3.6
LH/SH35	LH35WS-01	LH35WSC-01	3.6
LH/SH45	LH45WS-01	LH45WSC-01	4.3
LH/SH55	LH55WS-01	LH55WSC-01	4.3
LH65	LH65WS-01	LH65WSC-01	4.9
LS/SS15	LS15WS-01	***	2.8
LS/SS20	LS20WS-01	LS20WSC-01	2.5
LS/SS25	LS25WS-01	LS25WSC-01	2.8
LS/SS30	LS30WS-01	LS30WSC-01	3.6
LS/SS35	LS35WS-01	LS35WSC-01	3.6
LW17	LW17WS-01	***	2.6
LW21	LW21WS-01	LW21WSC-01	2.8
LW27	LW27WS-01	LW27WSC-01	2.5
LW35	LW35WS-01	LW35WSC-01	3
LW50	LW50WS-01	LW50WSC-01	3.6

*** Consult with NSK when attaching a connector to a drive-in type grease fitting.

Table 3 Protector set Unit: mm

Model No.	Part No. Without connector	Part No. With connector	Increased thickness V_1
LH/SH15	LH15PT-01	***	2.7
LH/SH20	LH20PT-01	LH20PTC-01	2.9
LH/SH25	LH25PT-01	LH25PTC-01	3.2
LH/SH30	LH30PT-01	LH30PTC-01	4.2
LH/SH35	LH35PT-01	LH35PTC-01	4.2
LH/SH45	LH45PT-01	LH45PTC-01	4.9
LH/SH55	LH55PT-01	LH55PTC-01	4.9
LH65	LH65PT-01	LH65PTC-01	5.5
LS/SS15	LS15PT-01	***	3
LS/SS20	LS20PT-01	LS20PTC-01	2.7
LS/SS25	LS25PT-01	LS25PTC-01	3.2
LS/SS30	LS30PT-01	LS30PTC-01	4.2
LS/SS35	LS35PT-01	LS35PTC-01	4.2
LW17	LW17PT-01	***	3.2
LW21	LW21PT-01	LW21PTC-01	3.2
LW27	LW27PT-01	LW27PTC-01	2.9
LW35	LW35PT-01	LW35PTC-01	3.6
LW50	LW50PT-01	LW50PTC-01	4.2

Cap to Cover Bolt Hole for Rail Mounting

- After the rail is mounted to the machine base, a cap is used to cover the bolt hole to prevent foreign matter from clogging up the hole or from entering the ball slide (Fig. 5).
- The cap for the bolt hole is made of synthetic resin, which is superb in its resistance to oil and wear.
- Table 4 shows sizes of the bolts for each model number as well as reference numbers of caps.
- To insert a cap into the rail bolt hole, use a flat tool (Fig. 6). Pound the cap gradually until its top becomes flush with the rail top face.

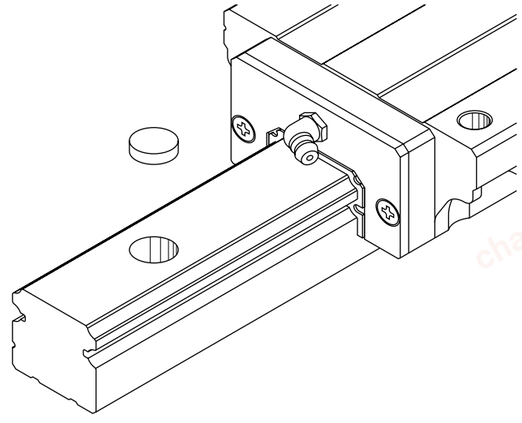


Fig. 5

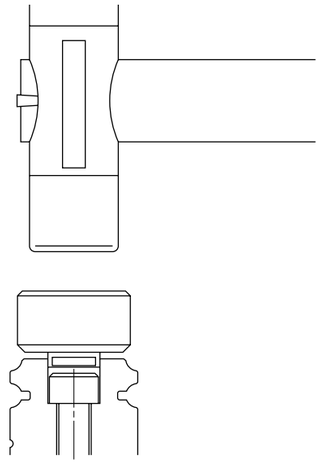


Fig. 6

Table 4 Caps to cover rail bolt hole

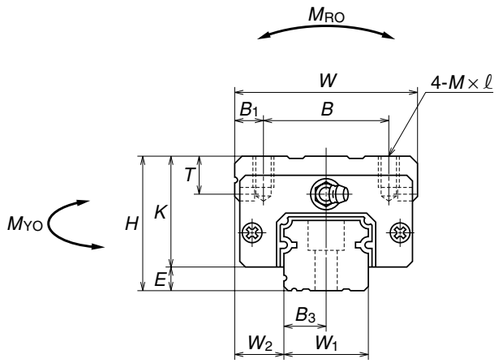
Model No.	Bolt to secure rail	Cap Part No.	Quantity /case
SS15 (for M3) LS15 (for M3) PU09 (TR, UR) PU12 (TR, UR) PU15 PE09 (TR, UR)	M3	LG-CAP/M3	20
SH15 SS15 (for M4) LH15 LS15 (for M4) RA15 LW17 LW21 LW27 TS15	M4	LG-CAP/M4	20
SH20 SS20 LH20 LS20 RA20 TS20	M5	LG-CAP/M5	20
SH25 SS25 SS30 LH25 LS25 LS30 RA25 LW35 TS25	M6	LG-CAP/M6	20
SH30 SH35 SS35 LH30 LH35 LS35 RA30 RA35 LW50 TS30 TS35	M8	LG-CAP/M8	20
LH45 RA45	M12	LG-CAP/M12	20
LH55 RA55	M14	LG-CAP/M14	20
LH65 RA65	M16	LG-CAP/M16	20

chanhvinh.com

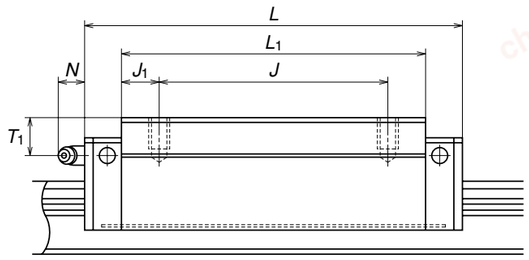
Linear Guides LH Series

Ball Slide Models: AL, AN, BL, BN

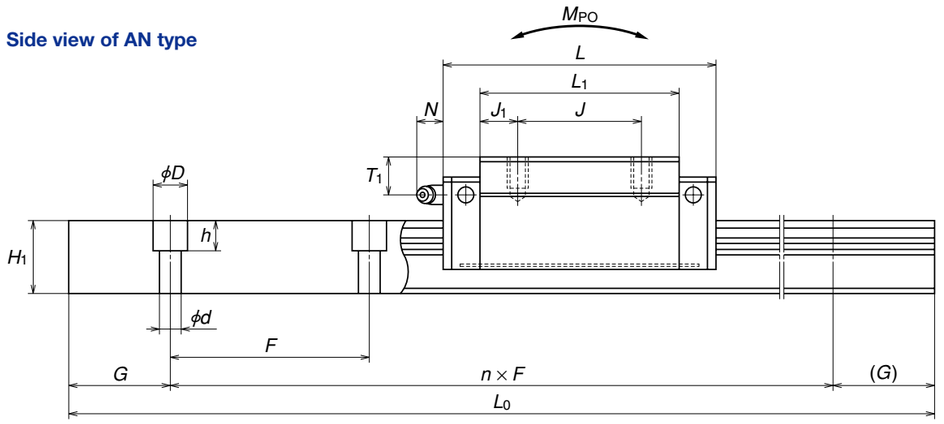
Front view of AL and AN, BL and BN types



Side view of BN type



Side view of AN type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height *H*	*E*	*W*2	Ball slide Width *W*	Length *L*	Mounting hole *B*	*J*	*M* × pitch × ℓ	*B*1	*L*1	*J*1	*K*	*T*	Grease fitting Mounting hole size	*T*1	*N*	Rail Width *W*1	Height *H*1	Pitch *F*	Mounting bolt hole *d* × *D* × *h*	*B*3	G	Max. length (Single rail) *L*0max ( ) for stainless	Basic load rating Dynamic *C* (N)	Static *C*0 (N)	Static moment *MR*0 (N·m)	*MP*0 (N·m)	*MY*0 (N·m)	Ball diameter *DW*	Weight Ball slide (kg)	Rail (kg/m)
LH15AN	28	4.6	9.5	34	55	26	26	M4×0.7×6	4	39	6.5	23.4	8	ϕ3	8.5	3.3	15	15	60	4.5×7.5×5.3	7.5	20	2 000	10 800	20 700	108	95	80	3.175	0.18	1.6
LH15BN					74					58	16												(1 800)	14 600	32 000	166	216	181		0.26	
LH20AN	30	5	12	44	69.8	32	36	M5×0.8×6	6	50	7	25	12	M6×0.75	5	11	20	18	60	6×9.5×8.5	10	20	3 960	17 400	32 500	219	185	155	3.968	0.33	2.6
LH20BN					91.8		50			72	11												(3 500)	23 500	50 500	340	420	355		0.48	
LH25AL	36	7	12.5	48	79	35	35	M6×1×6	6.5	58	11.5	29	12	M6×0.75	6	11	23	22	60	7×11×9	11.5	20	3 960	25 600	46 000	360	320	267	4.762	0.46	3.6
LH25AN	40							M6×1×9				33			10								(3 500)	34 500	71 000	555	725	610		0.55	
LH25BL	36				107		50	M6×1×6		86	18	29			6															0.69	
LH25BN	40							M6×1×9				33			10															0.82	
LH30AL	42	9	16	60	85.6	40	40	M8×1.25×8	10	59	9.5	33	14	M6×0.75	7	11	28	26	80	9×14×12	14	20	4 000	31 000	51 500	490	350	292	5.556	0.69	5.2
LH30AN	45							M8×1.25×10				36			10								(3 500)	46 000	91 500	870	1 030	865		0.77	
LH30BL	42				124.6		60	M8×1.25×8		98	19	33			7															1.16	
LH30BN	45							M8×1.25×10				36			10															1.3	
LH35AL	48	9.5	18	70	109	50	50	M8×1.25×8	10	80	15	38.5	15	M6×0.75	8	11	34	29	80	9×14×12	17	20	4 000	47 500	80 500	950	755	630	6.350	1.2	7.2
LH35AN	55				143		72	M8×1.25×12		114	21	45.5			15									61 500	117 000	1 380	1 530	1 280		1.5	
LH35BL	48							M8×1.25×8				38.5			8															1.7	
LH35BN	55							M8×1.25×12				45.5			15															2.1	
LH45AN	70	14	20.5	86	139	60	60	M10×1.5×17	13	105	22.5	56	17	Rc1/8	20	13	45	38	105	14×20×17	22.5	22.5	3 990	81 000	140 000	2 140	1 740	1 460	7.937	3.0	12.3
LH45BN					171		80			137	28.5													99 000	187 000	2 860	3 000	2 520		3.9	
LH55AN	80	15	23.5	100	163	75	75	M12×1.75×18	12.5	126	25.5	65	18	Rc1/8	21	13	53	44	120	16×23×20	26.5	30	3 960	119 000	198 000	3 600	3 000	2 510	9.525	4.7	16.9
LH55BN					201		95			164	34.5													146 000	264 000	4 850	5 150	4 350		6.1	
LH65AN	90	16	31.5	126	193	76	70	M16×2×20	25	147	38.5	74	23	Rc1/8	19	13	63	53	150	18×26×22	31.5	35	3 900	181 000	281 000	6 150	4 950	4 150	11.906	7.7	24.3
LH65BN					253		120			207	43.5													235 000	410 000	8 950	10 100	8 450		10.8	

Note 1: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 2: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to *C*100 for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: LAH 25 AN S Z – K

- LAH: Random-matching ball slide
- 25: Size
- AN: Shape/height
- S: Stainless steel (LH15 to LH30 only) / No code: Carbon steel
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1H 25 1000 L C N *** PC Z

- L1H: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: LH 25 1000 AN C 2 *** PC Z

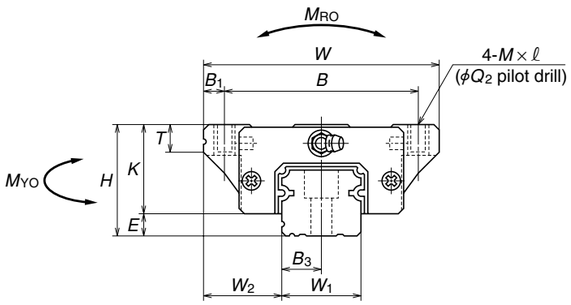
- LH: Series
- 25: Size
- 1000: Rail length (mm)
- AN: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) / KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

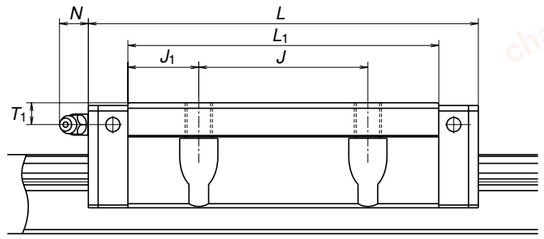
Linear Guides LH Series

Ball Slide Models: EM, GM

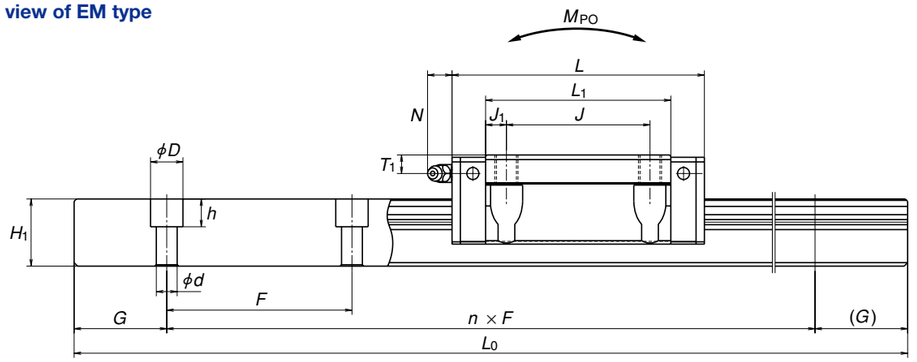
Front view of EM and GM types



Side view of GM type



Side view of EM type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height H	E	W2	Ball slide Width W	Length L	Mounting hole B	J	Q1 × ℓ M × pitch × ℓ	Q2	B1	L1	J1	K	T	Grease fitting Mounting hole size	T1	N	Rail Width W1	Height H1	Pitch F	Mounting bolt hole d × D × h	B3	G	Max. length (Single rail) Lomax ( ) for stainless	Basic load rating Dynamic C (N)	Static C0 (N)	Static moment MRO (N·m)	MPO (N·m)	MYO (N·m)	Ball diameter DW	Weight Ball slide (kg)	Rail (kg/m)
LH15EM	24	4.6	16	47	55	38	30	M5×0.8×7	4.4	4.5	39	4.5	19.4	8	ϕ3	4.5	3.3	15	15	60	4.5×7.5×5.3	7.5	20	2 000 (1 800)	10 800	20 700	108	94.5	79.5	3.175	0.17	1.6
LH15GM					74						58	14													14 600	32 000	166	216	181		0.25	
LH20EM	30	5	21.5	63	69.8	53	40	M6×1×9.5	5.3	5	50	5	25	10	M6×0.75	5	11	20	18	60	6×9.5×8.5	10	20	3 960 (3 500)	17 400	32 500	219	185	155	3.968	0.45	2.6
LH20GM					91.8						72	16													23 500	50 500	340	420	355		0.65	
LH25EM	36	7	23.5	70	79	57	45	M8×1.25×10 (M8×1.25×11.5)	6.8	6.5	58	6.5	29	11 (12)	M6×0.75	6	11	23	22	60	7×11×9	11.5	20	3 960 (3 500)	25 600	46 000	360	320	267	4.762	0.63	3.6
LH25GM					107						86	20.5													34 500	71 000	555	725	610		0.93	
LH30EM	42	9	31	90	98.6	72	52	M10×1.5×12 (M10×1.5×14.5)	8.6	9	72	10	33	11 (15)	M6×0.75	7	11	28	26	80	9×14×12	14	20	4 000 (3 500)	35 500	63 000	600	505	425	5.556	1.2	5.2
LH30GM					124.6						98	23													46 000	91 500	870	1 030	865		1.6	
LH35EM	48	9.5	33	100	109	82	62	M10×1.5×13	8.6	9	80	9	38.5	12	M6×0.75	8	11	34	29	80	9×14×12	17	20	4 000	47 500	80 500	950	755	630	6.35	1.7	7.2
LH35GM					143						114	26													61 500	117 000	1 380	1 530	1 280		2.4	
LH45EM	60	14	37.5	120	139	100	80	M12×1.75×15	10.5	10	105	12.5	46	13	Rc1/8	10	13	45	38	105	14×20×17	22.5	22.5	3 990	81 000	140 000	2 140	1 740	1 460	7.937	3	12.3
LH45GM					171						137	28.5													99 000	187 000	2 860	3 000	2 520		3.9	
LH55EM	70	15	43.5	140	163	116	95	M14×2×18	12.5	12	126	15.5	55	15	Rc1/8	11	13	53	44	120	16×23×20	26.5	30	3 990	119 000	198 000	3 600	3 000	2 510	9.525	5	16.9
LH55GM					201						164	34.5													146 000	264 000	4 850	5 150	4 350		6.5	
LH65EM	90	16	53.5	170	193	142	110	M16×2×24	14.6	14	147	18.5	74	23	Rc1/8	19	13	63	53	150	18×26×22	31.5	35	3 900	181 000	281 000	6 150	4 950	4 150	11.906	10	24.3
LH65GM					253						207	48.5													235 000	410 000	8 950	10 100	8 450		14.1	

Note 1: Parenthesized dimensions are for items made of stainless steel.
Note 2: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 3: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface. To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: LAH 25 EM S Z – K

- LAH: Random-matching ball slide
- 25: Size
- EM: Shape/height
- S: Stainless steel (LH15 to LH30 only); No code: Carbon steel
- Z: Preload Z: Slight preload (standard)
- K: Accessories K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1H 25 1000 L C N *** PC Z

- L1H: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting rail specification; N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: LH 25 1000 EM C 2 *** PC Z

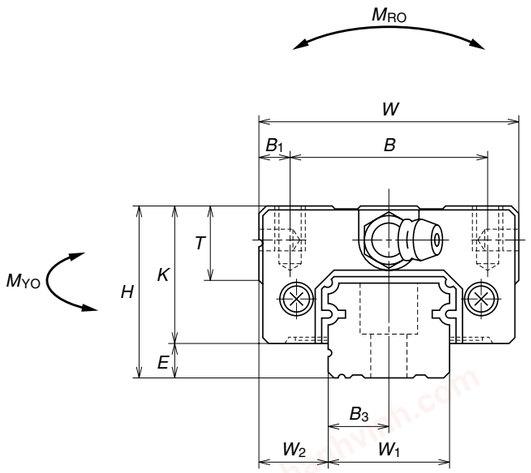
- LH: Series
- 25: Size
- 1000: Rail length (mm)
- EM: Shape/height
- C: Material/surface treatment; C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

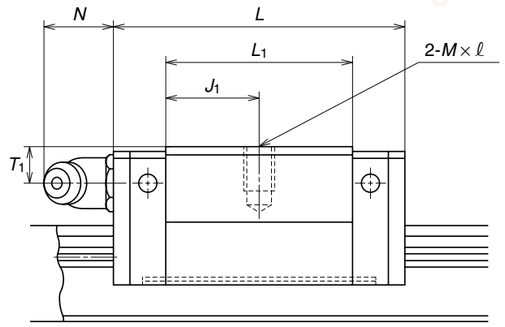
Linear Guides LS Series

Ball Slide Models: CL, AL

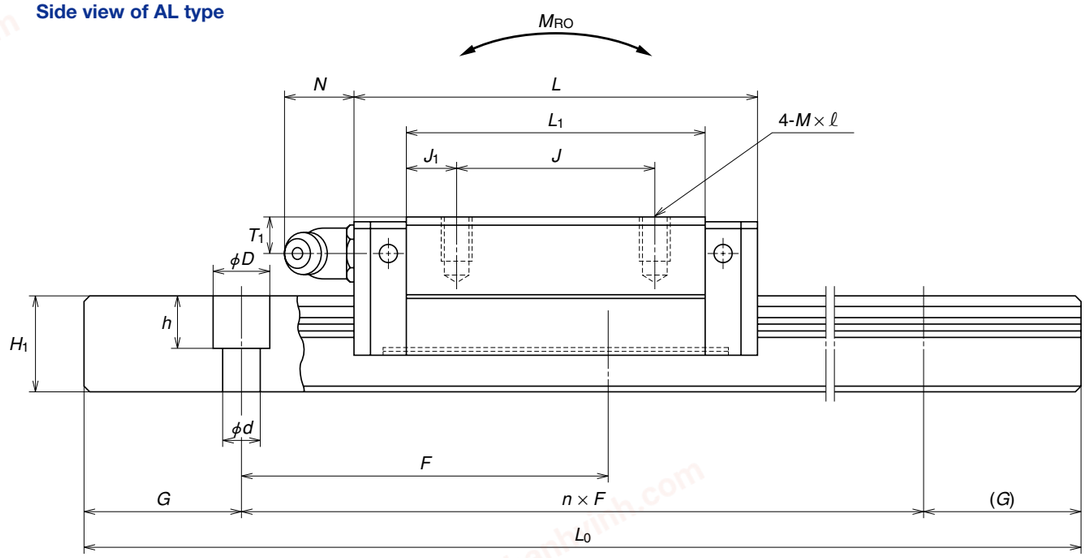
Front view of AL and CL types



Side view of CL type



Side view of AL type



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Ball slide											Rail								Basic load rating					Ball diameter	Weight	
	Height			Width	Length	Mounting hole							Grease fitting			Width	Height	Pitch	Mounting bolt hole			Max. length (Single rail)	Dynamic	Static	Static moment				Ball slide	Rail
	H	*E*	W_2	*W*	*L*	*B*	*J*	*M* × pitch × ℓ	B_1	L_1	J_1	*K*	*T*	Mounting hole size	T_1	*N*	W_1	H_1	*F*	*d* × *D* × *h*	B_3	G	L_{0max} ( ) for stainless	*C* (N)	C_0 (N)	M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	D_W	(kg)	(kg/m)
LS15CL	24	4.6	9.5	34	40.4	26	—	M4×0.7×6	4	23.6	11.8	19.4	10	ϕ3	6	3	15	12.5	60	*3.5×6×4.5	7.5	20	2 000 (1 700)	5 400	9 100	45.5	24.5	20.5	2.778	0.14	1.4
LS15AL					56.8		26			40	7									4.5×7.5×5.3				8 350	16 900	84.5	77	64.5		0.20	
LS20CL	28	6	11	42	47.2	32	—	M5×0.8×7	5	30	15	22	12	M6×0.75	5.5	11	20	15.5	60	6×9.5×8.5	10	20	3 960 (3 500)	7 900	13 400	91.5	46.5	39	3.175	0.19	2.3
LS20AL					65.2		32			48	8													11 700	23 500	160	133	111		0.28	
LS25CL	33	7	12.5	48	59.6	35	—	M6×1×9	6.5	38	19	26	12	M6×0.75	7	11	23	18	60	7×11×9	11.5	20	3 960 (3 500)	12 700	20 800	164	91	76	3.968	0.34	3.1
LS25AL					81.6		35			60	12.5													18 800	36 500	286	258	217		0.51	
LS30CL	42	9	16	60	67.4	40	—	M8×1.25×12	10	42	21	33	13	M6×0.75	8	11	28	23	80	7×11×9	14	20	4 000 (3 500)	18 700	29 600	282	139	116	4.762	0.58	4.8
LS30AL					96.4		40			71	15.5													28 800	55 000	520	435	365		0.85	
LS35CL	48	10.5	18	70	77	50	—	M8×1.25×12	10	49	24.5	37.5	14	M6×0.75	8.5	11	34	27.5	80	9×14×12	17	20	4 000 (3 500)	26 000	40 000	465	220	185	5.556	0.86	7.0
LS35AL					108		50			80	15													40 000	74 500	865	695	580		1.3	

Note 1: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 2: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.
*Standard mounting hole of LS15 rail is for M3 bolts (Hole size: 3.5×6×4.5).
If you require mounting hole for M4 bolts (Hole size: 4.5×7.5×5.3), please specify when ordering.

Part number for ball slide only

Example: **LAS 25 AL S Z – K**

- LAS: Random-matching ball slide
- 25: Size
- AL: Shape/height
- S: Stainless steel; No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: **L1S 25 1000 L C N *** PC Z**

- L1S: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard, LS15 mounting hole for M3 specification; T: LS15 mounting hole for M4 specification)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: **LS 25 1000 AL C 2 *** PC Z**

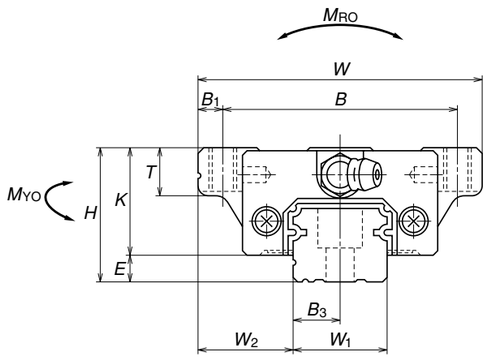
- LS: Series
- 25: Size
- 1000: Rail length (mm)
- AL: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

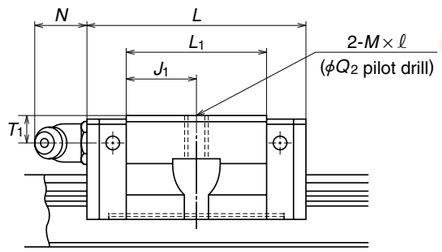
Linear Guides LS Series

Ball Slide Models: JM, EM

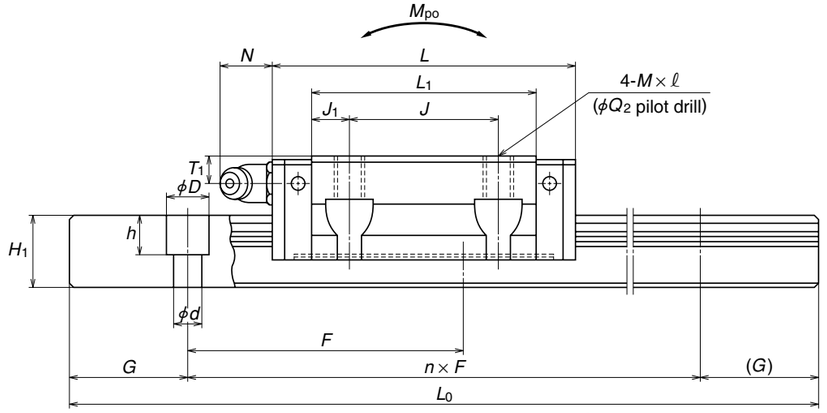
Front view of JM and EM types



Side view of JM type



Side view of EM type



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Ball slide													Rail								Basic load rating					Ball diameter	Weight	
	Height			Width	Length	Mounting hole								Grease fitting			Width	Height	Pitch	Mounting bolt hole			Max. length (Single rail)		Dynamic	Static	Static moment				Ball slide	Rail
	H	E	W_2	W	L	B	J	$Q_1 \times \ell$	Q_2	B_1	L_1	J_1	K	T	Mounting hole size	T_1	N	W_1	H_1	F	$d \times D \times h$	B_3	G	L_{0max} ( ) for stainless	C (N)	C_0 (N)	M_{RO} (N·m)	M_{PO} (N·m)	M_{YO} (N·m)	D_W	(kg)	(kg/m)
LS15JM	24	4.6	18.5	52	40.4	41	—	M5×0.8×7	4.4	5.5	23.6	11.8	19.4	8	ϕ3	6	3	15	12.5	60	*3.5×6×4.5	7.5	20	2 000 (1 700)	5 400	9 100	45.5	24.5	20.5	2.778	0.17	1.4
LS15EM					56.8		26				40	7									4.5×7.5×5.3				8 350	16 900	84.5	77	64.5		0.26	
LS20JM	28	6	19.5	59	47.2	49	—	M6×1×9 (M6×1×9.5)	5.3	5	30	15	22	10	M6×0.75	5.5	11	20	15.5	60	6×9.5×8.5	10	20	3 960 (3 500)	7 900	13 400	91.5	46.5	39	3.175	0.24	2.3
LS20EM					65.2		32				48	8													11 700	23 500	160	133	111		0.35	
LS25JM	33	7	25	73	59.6	60	—	M8×1.25×10 (M8×1.25×11.5)	6.8	6.5	38	19	26	11 (12)	M6×0.75	7	11	23	18	60	7×11×9	11.5	20	3 960 (3 500)	12 700	20 800	164	91	76	3.968	0.44	3.1
LS25EM					81.6		35				60	12.5													18 800	36 500	286	258	217		0.66	
LS30JM	42	9	31	90	67.4	72	—	M10×1.5×12 (M10×1.5×14.5)	8.6	9	42	21	33	11 (15)	M6×0.75	8	11	28	23	80	7×11×9	14	20	4 000 (3 500)	18 700	29 600	282	139	116	4.762	0.76	4.8
LS30EM					96.4		40				71	15.5													28 800	55 000	520	435	365		1.2	
LS35JM	48	10.5	33	100	77	82	—	M10×1.5×13 (M10×1.5×14.5)	8.6	9	49	24.5	37.5	12 (15)	M6×0.75	8.5	11	34	27.5	80	9×14×12	17	20	4 000 (3 500)	26 000	40 000	465	220	185	5.556	1.2	7
LS35EM					108		50				80	15													40 000	74 500	865	695	580		1.7	

Note 1: Parenthesized dimensions are for items made of stainless steel.
Note 2: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 3: Basic dynamic load rating C is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert C to C_{100} for a 100-km fatigue life, divide C by 1.26.
*Standard mounting hole of LS15 rail is for M3 bolts (Hole size: 3.5×6×4.5). If you require mounting hole for M4 bolts (Hole size: 4.5×7.5×5.3), please specify when ordering.

Part number for ball slide only

Example: LAS 25 EM S Z – K

- LAS: Random-matching ball slide
- 25: Size
- EM: Shape/height
- S: Stainless steel; No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1S 25 1000 L C N *** PC Z

- L1S: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard, LS15 mounting hole for M3 specification; T: LS15 mounting hole for M4 specification)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: LS 25 1000 EM C 2 *** PC Z

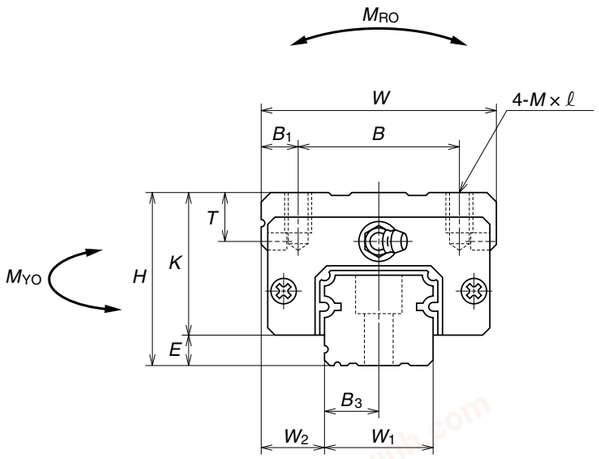
- LS: Series
- 25: Size
- 1000: Rail length (mm)
- EM: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

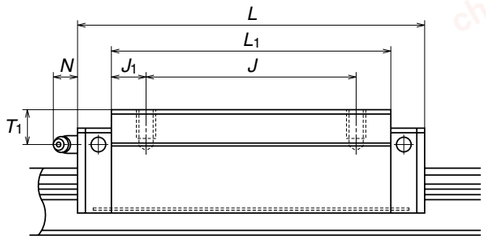
Linear Guides SH Series

Ball Slide Models: AN, BN

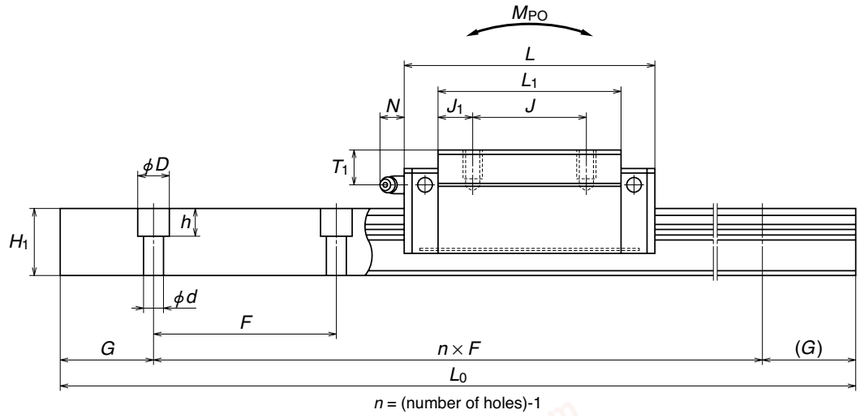
Front view of AN and BN types



Side view of BN type



Side view of AN type



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Ball slide												Rail								Basic load rating					Ball diameter	Weight	
	Height			Width	Length	Mounting hole							Grease fitting			Width	Height	Pitch	Mounting bolt hole			Max. length (Single rail)		Dynamic	Static	Static moment				Ball slide	Rail
	H	E	W_2	W	L	B	J	M × pitch × ℓ	B_1	L_1	J_1	K	T	Mounting hole size	T_1	N	W_1	H_1	F	d × D × h	B_3	G	L_{0max} ( ) for stainless	C (N)	C_0 (N)	M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	D_W	(kg)	(kg/m)
SH15AN	28	4.6	9.5	34	55	26	26	M4×0.7×6	4	39	6.5	23.4	8	ϕ3	8.5	3.3	15	15	60	4.5×7.5×5.3	7.5	20	2 000	10 100	18 800	98	87	73	3.175	0.18	1.6
SH15BN					74					58	16												(1 800)	13 400	28 200	147	193	162		0.26	
SH20AN	30	5	12	44	69.8	32	36	M5×0.8×6	6	50	7	25	12	M6×0.75	5	11	20	18	60	6×9.5×8.5	10	20	3 960	16 300	29 600	199	167	141	3.968	0.33	2.6
SH20BN					91.8		50			72	11												(3 500)	21 600	44 500	298	360	305		0.48	
SH25AN	40	7	12.5	48	79	35	35	M6×1×9	6.5	58	11.5	33	12	M6×0.75	10	11	23	22	60	7×11×9	11.5	20	3 960	22 400	37 500	295	246	207	4.762	0.55	3.6
SH25BN					107		50			86	18												(3 500)	32 000	62 500	490	615	515		0.82	
SH30AN	45	9	16	60	85.6	40	40	M8×1.25×10	10	59	9.5	36	14	M6×0.75	10	11	28	26	80	9×14×12	14	20	4 000	31 000	51 500	490	365	305	5.556	0.77	5.2
SH30BN					124.6		60			98	19												(3 500)	46 000	91 500	870	1 060	885		1.3	
SH35AN	55	9.5	18	70	109	50	50	M8×1.25×12	10	80	15	45.5	15	M6×0.75	15	11	34	29	80	9×14×12	17	20	4 000	47 500	80 500	950	780	655	6.35	1.5	7.2
SH35BN					143		72			114	21													61 500	117 000	1 380	1 600	1 340		2.1	
SH45AN	70	14	20.5	86	139	60	60	M10×1.5×17	13	105	22.5	56	17	Rc1/8	20	13	45	38	105	14×20×17	22.5	22.5	3 990	76 500	128 000	1 970	1 550	1 300	7.937	3.0	12.3
SH45BN					171		80			137	28.5													94 500	175 000	2 680	2 760	2 320		3.9	
SH55AN	80	15	23.5	100	163	75	75	M12×1.75×18	12.5	126	25.5	65	18	Rc1/8	21	13	53	44	120	16×23×20	26.5	30	3 960	113 000	181 000	3 300	2 640	2 210	9.525	4.7	16.9
SH55BN					201		95			164	34.5													140 000	247 000	4 550	4 800	4 050		6.1	

Note 1: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 2: Basic dynamic load rating C is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface. To convert C to C_{100} for a 100-km fatigue life, divide C by 1.26.

Part number for ball slide only

Example: **SAH 25 AN S Z–K**

- SAH: Random-matching ball slide
- 25: Size
- AN: Shape/height
- S: Stainless steel (SH15 to SH30 only); No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: **L1H 25 1000 L C N *** PC Z**

- L1H: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: **SH 25 1000 AN C 2 *** PC Z**

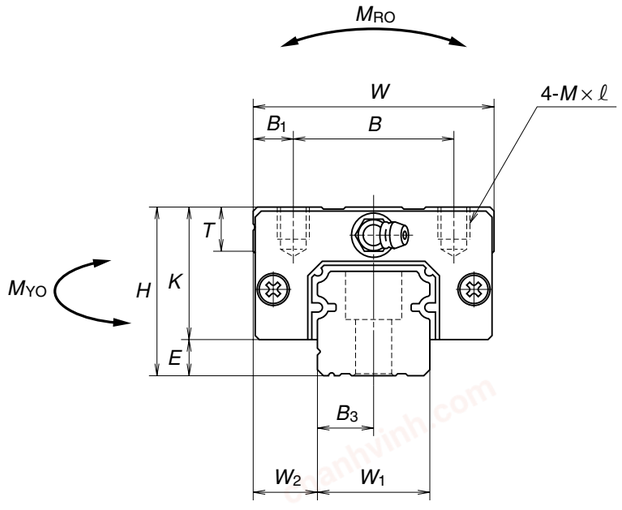
- SH: Series
- 25: Size
- 1000: Rail length (mm)
- AN: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

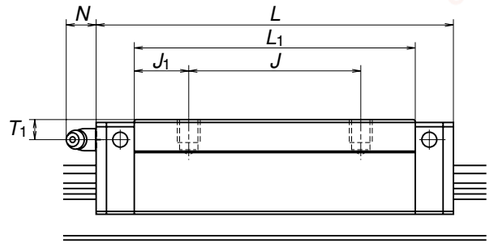
Linear Guides SH Series

Ball Slide Models: AL, BL

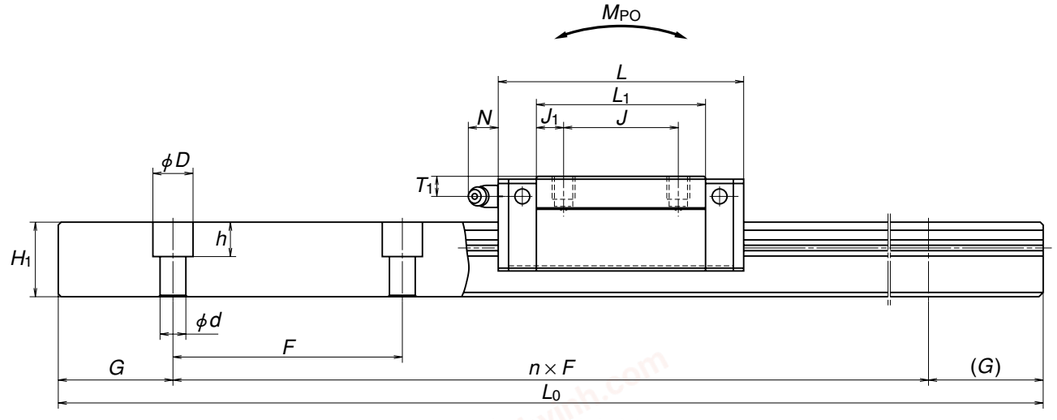
Front view of AL and BL types



Side view of BL type



Side view of AL type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height H	E	W2	Ball slide Width W	Length L	Mounting hole B	J	M × pitch × ℓ	B1	L1	J1	K	T	Grease fitting Mounting hole size	T1	N	Rail Width W1	Height H1	Pitch F	Mounting bolt hole d × D × h	B3	G	Max. length (Single rail) L0max ( ) for stainless	Basic load rating Dynamic C (N)	Static C0 (N)	Static moment MR0 (N·m)	MP0 (N·m)	MY0 (N·m)	Ball diameter DW	Weight Ball slide (kg)	Rail (kg/m)
SH25AL **SH25BL**	36	7	12.5	48	79 107	35	35 50	M6×1×6	6.5	58 86	11.5 18	29	12	M6×0.75	6	11	23	22	60	7×11×9	11.5	20	3 960 (3 500)	22 400 32 000	37 500 62 500	295 490	246 615	207 515	4.762	0.46 0.69	3.6
SH30AL **SH30BL**	42	9	16	60	85.6 124.6	40	40 60	M8×1.25×8	10	59 98	9.5 19	33	14	M6×0.75	7	11	28	26	80	9×14×12	14	20	4 000 (3 500)	31 000 46 000	51 500 91 500	490 870	365 1 060	305 885	5.556	0.69 1.16	5.2
SH35AL **SH35BL**	48	9.5	18	70	109 143	50	50 72	M8×1.25×8	10	80 114	15 21	38.5	15	M6×0.75	8	11	34	29	80	9×14×12	17	20	4 000	47 500 61 500	80 500 117 000	950 1 380	780 1 600	655 1 340	6.35	1.2 1.7	7.2

Note 1: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 2: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: **SAH 25 AL S Z – K**

- SAH: Random-matching ball slide
- 25: Size
- AL: Shape/height
- S: Stainless steel (SH15 to SH30 only) / No code: Carbon steel (NSK standard)
- Z: Preload Z: Slight preload (standard)
- K: Accessories K: With NSK K1 / F: Fluoride low-temperature chrome plating + AS2 grease / F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: **L1H 25 1000 L C N *** PC Z**

- L1H: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting rail specification (N: Non-butting L: Butting)
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

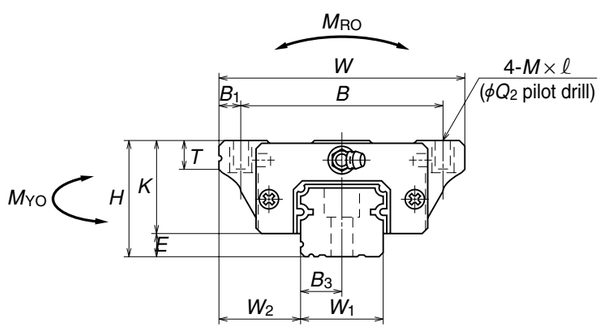
Example: **SH 25 1000 AL C 2 *** PC Z**

- SH: Series
- 25: Size
- 1000: Rail length (mm)
- AL: Shape/height
- C: Material/surface treatment (C: Carbon steel (NSK standard) / K: Stainless steel / D: Carbon steel + surface treatment / H: Stainless steel + surface treatment)
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) / KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

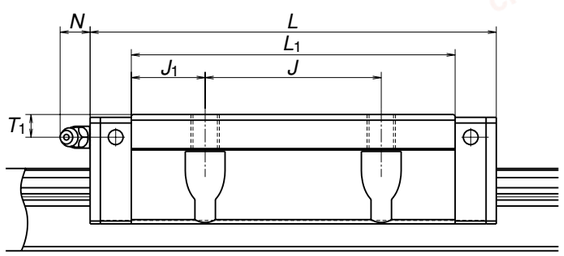
chanhvinh.com

Ball Slide Models: EM, GM

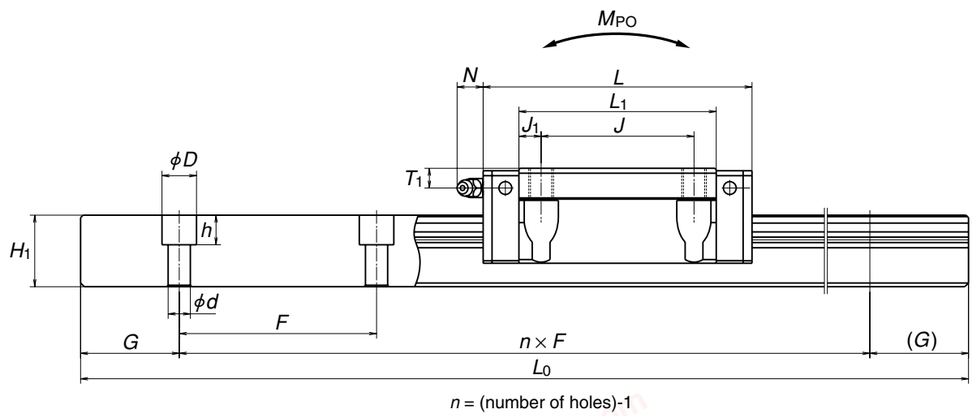
Front view of EM and GM types



Side view of GM type



Side view of EM type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height H	E	W_2	Ball slide Width W	Length L	Mounting hole B	J	$Q_1 \times \ell$ M × pitch × ℓ	Q_2	B_1	L_1	J_1	K	T	Grease fitting Mounting hole size	T_1	N	Rail Width W_1	Height H_1	Pitch F	Mounting bolt hole d × D × h	B_3	G	Max. length (Single rail) L_{0max} ( ) for stainless	Basic load rating Dynamic C (N)	Static C_0 (N)	Static moment M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	Ball diameter D_W	Weight Ball slide (kg)	Rail (kg/m)
SH15EM **SH15GM**	24	4.6	16	47	55 74	38	30	M5×0.8×7	4.4	4.5	39 58	4.5 14	19.4	8	φ3	4.5	3.3	15	15	60	4.5×7.5×5.3	7.5	20	2 000 (1 800)	10 100 13 400	18 800 28 200	98 147	87 193	73 162	3.175	0.17 0.25	1.6
SH20EM **SH20GM**	30	5	21.5	63	69.8 91.8	53	40	M6×1×9.5	5.3	5	50 72	5 16	25	10	M6×0.75	5	11	20	18	60	6×9.5×8.5	10	20	3 960 (3 500)	16 300 21 600	29 600 44 500	199 298	167 360	141 305	3.968	0.45 0.65	2.6
SH25EM **SH25GM**	36	7	23.5	70	79 107	57	45	M8×1.25×10 (M8×1.25×11.5)	6.8	6.5	58 86	6.5 20.5	29	11 (12)	M6×0.75	6	11	23	22	60	7×11×9	11.5	20	3 960 (3 500)	22 400 32 000	37 500 62 500	295 490	246 615	207 515	4.762	0.63 0.93	3.6
SH30EM **SH30GM**	42	9	31	90	98.6 124.6	72	52	M10×1.5×12 (M10×1.5×14.5)	8.6	9	72 98	10 23	33	11 (15)	M6×0.75	7	11	28	26	80	9×14×12	14	20	4 000 (3 500)	35 500 46 000	63 000 91 500	600 870	540 1 060	450 885	5.556	1.2 1.6	5.2
SH35EM **SH35GM**	48	9.5	33	100	109 143	82	62	M10×1.5×13	8.6	9	80 114	9 26	38.5	12	M6×0.75	8	11	34	29	80	9×14×12	17	20	4 000	47 500 61 500	80 500 117 000	950 1 380	780 1 600	655 1 340	6.35	1.7 2.4	7.2
SH45EM **SH45GM**	60	14	37.5	120	139 171	100	80	M12×1.75×15	10.5	10	105 137	12.5 28.5	46	13	Rc1/8	10	13	45	38	105	14×20×17	22.5	22.5	3 990	76 500 94 500	128 000 175 000	1 970 2 680	1 550 2 760	1 300 2 320	7.937	3.0 3.9	12.3
SH55EM **SH55GM**	70	15	43.5	140	163 201	116	95	M14×2×18	12.5	12	126 164	15.5 34.5	55	15	Rc1/8	11	13	53	44	120	16×23×20	26.5	30	3 960	113 000 140 000	181 000 247 000	3 300 4 550	2 640 4 800	2 210 4 050	9.525	5.0 6.5	16.9

Note 1: Dimensions in parentheses are for items made of stainless steel.
Note 2: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 3: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: **SAH 25 EM S Z – K**

- SAH: Random-matching ball slide
- 25: Size
- EM: Shape/height
- S: Stainless steel (SH15 to SH30 only) / No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: **L1H 25 1000 L C N *** PC Z**

- L1H: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

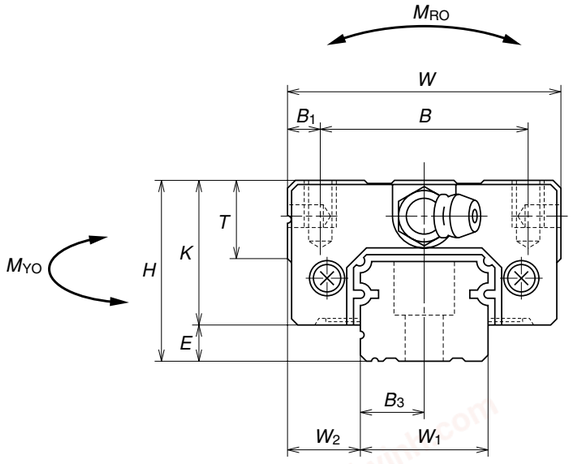
Example: **SH 25 1000 EM C 2 *** PC Z**

- SH: Series
- 25: Size
- 1000: Rail length (mm)
- EM: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard) K: Stainless steel D: Carbon steel + surface treatment H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

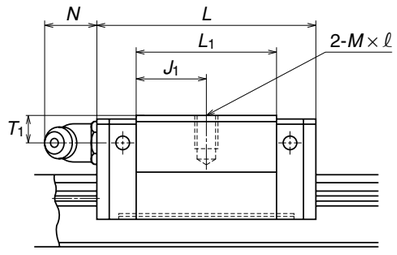
chanhvinh.com

Ball Slide Models: AL, CL

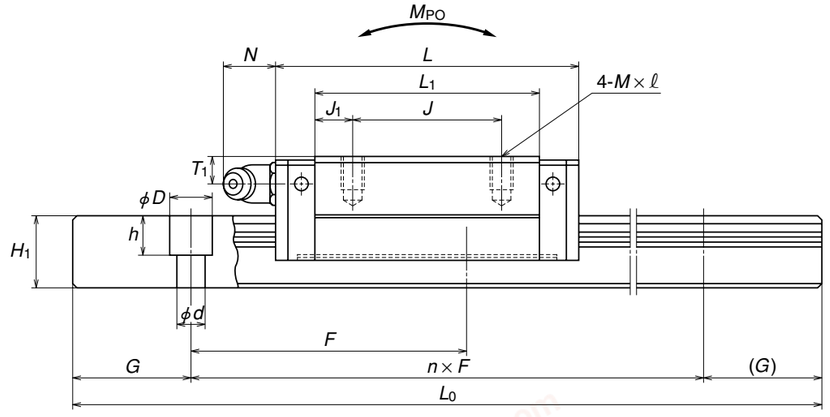
Front view of AL and CL types



Side view of CL type



Side view of AL type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height H	E	W2	Ball slide Width W	Length L	Mounting hole B	J	M × pitch × ℓ	B1	L1	J1	K	T	Grease fitting Mounting hole size	T1	N	Rail Width W1	Height H1	Pitch F	Mounting bolt hole d × D × h	B3	G	Max. length (Single rail) Lomax ( ) for stainless	Basic load rating Dynamic C (N)	Static C0 (N)	Static moment MR0 (N·m)	MP0 (N·m)	MY0 (N·m)	Ball diameter Dw	Weight Ball slide (kg)	Rail (kg/m)
SS15CL	24	4.6	9.5	34	40.4	26	–	M4×0.7×6	4	23.6	11.8	19.4	10	ϕ3	6	3	15	12.5	60	*3.5×6×4.5	7.5	20	2 000	4 900	7 800	39	21.1	17.7	2.778	0.14	1.4
SS15AL					56.8		26			40	7									4.5×7.5×5.3			(1 700)	7 900	15 600	78	73.5	61.5		0.2	
SS20CL	28	6	11	42	47.2	32	–	M5×0.8×7	5	30	15	22	12	M6×0.75	5.5	11	20	15.5	60	6×9.5×8.5	10	20	3 960	7 250	11 800	80	40.5	34	3.175	0.19	2.3
SS20AL					65.2		32			48	8												(3 500)	11 100	21 800	149	124	104		0.28	
SS25CL	33	7	12.5	48	59.6	35	–	M6×1×9	6.5	38	19	26	12	M6×0.75	7	11	23	18	60	7×11×9	11.5	20	3 960	12 700	20 800	164	96.5	81	3.968	0.34	3.1
SS25AL					81.6		35			60	12.5												(3 500)	17 900	33 500	266	242	203		0.51	
SS30CL	42	9	16	60	67.4	40	–	M8×1.25×12	10	42	21	33	13	M6×0.75	8	11	28	23	80	7×11×9	14	20	4 000	18 700	29 600	282	153	128	4.762	0.58	4.8
SS30AL					96.4		40			71	15.5												(3 500)	27 300	50 500	480	415	350		0.85	
SS35CL	48	10.5	18	70	77	50	–	M8×1.25×12	10	49	24.5	37.5	14	M6×0.75	8.5	11	34	27.5	80	9×14×12	17	20	4 000	26 000	40 000	465	234	196	5.556	0.86	7
SS35AL					108		50			80	15												(3 500)	38 000	68 500	800	620	520		1.3	

Note 1: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 2: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.
*Standard mounting hole of SS15 rail is for M3 bolts (Hole size: 3.5×6×4.5).
If you require mounting hole for M4 bolts (Hole size: 4.5×7.5×5.3), please specify when ordering.

Part number for ball slide only

Example: SAS 25 AL S Z – K

- SAS: Random-matching ball slide
- 25: Size
- AL: Shape/height
- S: Stainless steel (SS15 to SS35 only); No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1S 25 1000 L C N *** PC Z

- L1S: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard, LS15 mounting hole for M3 specification; T: LS15 mounting hole for M4 specification)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting; L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

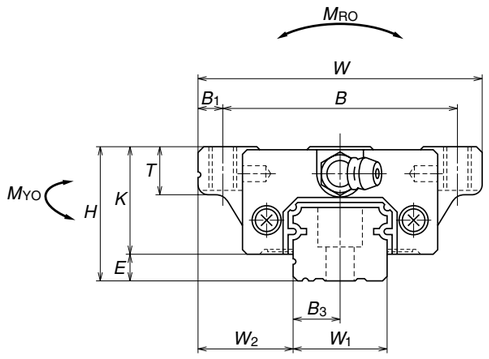
Example: SS 25 1000 AL C 2 *** PC Z

- SS: Series
- 25: Size
- 1000: Rail length (mm)
- AL: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available); KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

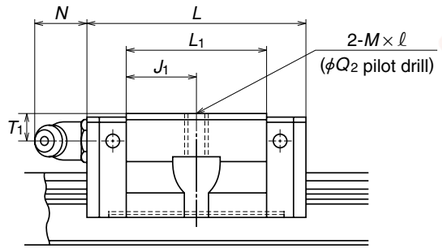
chanhvinh.com

Ball Slide Models: JM, EM

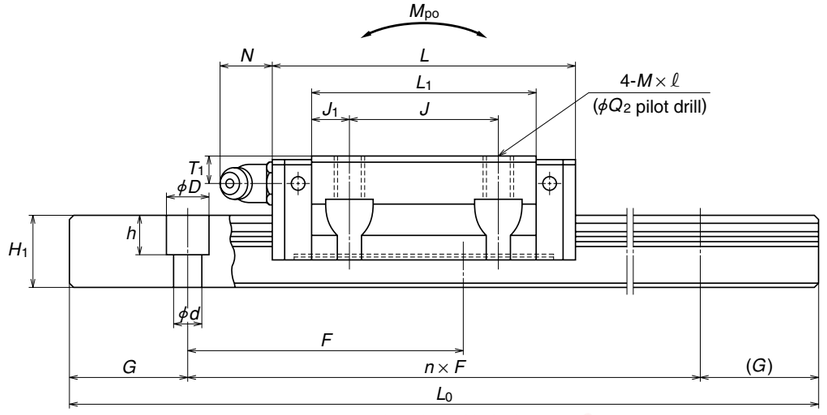
Front view of JM and EM types



Side view of JM type



Side view of EM type



n = (number of holes)-1

Unit: mm

Model No.	Assembly Height H	E	W2	Ball slide Width W	Length L	Mounting hole B	J	Q1 × ℓ M × pitch × ℓ	Q2	B1	L1	J1	K	T	Grease fitting Mounting hole size	T1	N	Rail Width W1	Height H1	Pitch F	Mounting bolt hole d × D × h	B3	G	Max. length (Single rail) Lomax ( ) for stainless	Basic load rating Dynamic C (N)	Static C0 (N)	Static moment MR0 (N·m)	MP0 (N·m)	MY0 (N·m)	Ball diameter Dw	Weight Ball slide (kg)	Rail (kg/m)
SS15JM **SS15EM**	24	4.6	18.5	52	40.4 56.8	41	– 26	M5×0.8×7	4.4	5.5	23.6 40	11.8 7	19.4	8	ϕ3	6	3	15	12.5	60	*3.5×6×4.5 4.5×7.5×5.3	7.5	20	2 000 (1 700)	4 900 7 900	7 800 15 600	39 78	21.1 73.5	17.7 61.5	2.778	0.17 0.26	1.4
SS20JM **SS20EM**	28	6	19.5	59	47.2 65.2	49	– 32	M6×1×9 (M6×1×9.5)	5.3	5	30 48	15 8	22	10	M6×0.75	5.5	11	20	15.5	60	6×9.5×8.5	10	20	3 960 (3 500)	7 250 11 100	11 800 21 800	80 149	40.5 124	34 104	3.175	0.24 0.35	2.3
SS25JM **SS25EM**	33	7	25	73	59.6 81.6	60	– 35	M8×1.25×10 (M8×1.25×11.5)	6.8	6.5	38 60	19 12.5	26	11 (12)	M6×0.75	7	11	23	18	60	7×11×9	11.5	20	3 960 (3 500)	12 700 17 900	20 800 33 500	164 266	96.5 242	81 203	3.968	0.44 0.66	3.1
SS30JM **SS30EM**	42	9	31	90	67.4 96.4	72	– 40	M10×1.5×12 (M10×1.5×14.5)	8.6	9	42 71	21 15.5	33	11 (15)	M6×0.75	8	11	28	23	80	7×11×9	14	20	4 000 (3 500)	18 700 27 300	29 600 50 500	282 480	153 415	128 350	4.762	0.76 1.2	4.8
SS35JM **SS35EM**	48	10.5	33	100	77 108	48	– 50	M10×1.5×13 (M10×1.5×14.5)	8.6	9	49 80	24.5 15	37.5	12 (15)	M6×0.75	8.5	11	34	27.5	80	9×14×12	17	20	4 000 (3 500)	26 000 38 000	40 000 68 500	465 800	234 620	196 520	5.556	1.2 1.7	7

Note 1: Dimensions in parentheses are for items made of stainless steel.
Note 2: External appearance of stainless steel ball slides differs from those of carbon steel ball slides.

Note 3: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.
*Standard mounting hole of SS15 rail is for M3 bolts (Hole size: 3.5×6×4.5).
If you require mounting hole for M4 bolts (Hole size: 4.5×7.5×5.3), please specify when ordering.

Part number for ball slide only

Example: SAS 25 EM S Z – K

- SAS: Random-matching ball slide
- 25: Size
- EM: Shape/height
- S: Stainless steel (SS15 to SS35 only) / No code: Carbon steel (NSK standard)
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1S 25 1000 L C N *** PC Z

- L1S: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard, LS15 mounting hole for M3 specification; T: LS15 mounting hole for M4 specification)
- C: Material/surface treatment
- N: Butting rail specification — N: Non-butting, L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

Example: SS 25 1000 EM C 2 *** PC Z

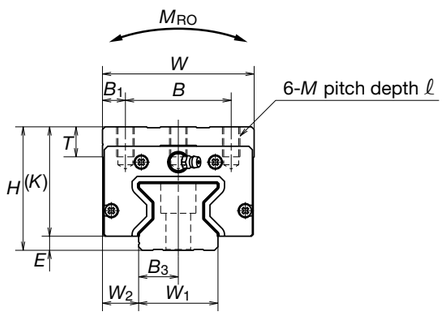
- SS: Series
- 25: Size
- 1000: Rail length (mm)
- EM: Shape/height
- C: Material/surface treatment — C: Carbon steel (NSK standard); K: Stainless steel; D: Carbon steel + surface treatment; H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available); KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

chanhvinh.com

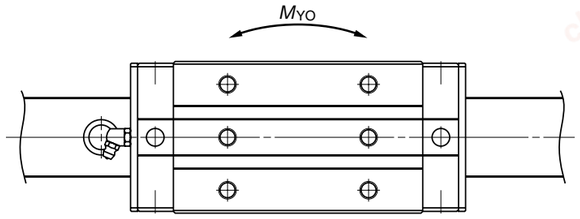
Linear Guides RA Series

Roller Slide Models: AN, BN

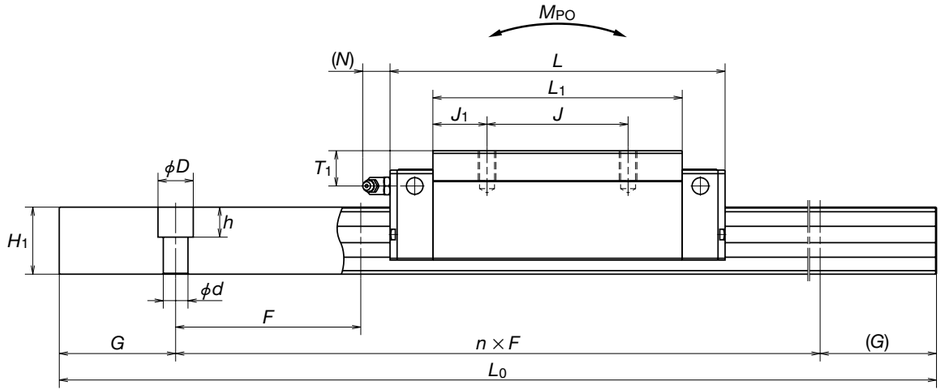
Front view of AN and BN types



Upper view of AN and BN types



Side view of AN and BN types



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Roller slide											Rail								Basic load rating					Weight	
	Height			Width	Length	Mounting hole							Grease fitting			Width	Height	Pitch	Mounting bolt hole			Max. length (Single rail)	Dynamic	Static	Static moment			Roller slide	Rail
	H	E	W_2	W	L	B	J	M × pitch × ℓ	B_1	L_1	J_1	K	T	Mounting hole size	T_1	N	W_1	H_1	F	d × D × h	B_3	G	L_{0max}	C (N)	C_0 (N)	M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	(kg)	(kg/m)
RA25AN **RA25BN**	40	5	12.5	48	97.5 115.5	35	35 50	M6×1×9	6.5	65.5 83.5	15.25 16.75	35	12	M6×0.75	10	11	23	24	30	7×11×9	11.5	20	3 000	29 200 35 400	72 700 92 900	970 1 240	760 1 240	760 1 240	0.60 0.91	3.4
RA30AN **RA30BN**	45	6.5	16	60	110.8 135.4	40	40 60	M8×1.25×11	10	74 98.6	17 19.3	38.5	14	M6×0.75	10	11	28	28	40	9×14×12	14	20	3 500	38 900 47 600	93 500 121 000	1 670 2 170	1 140 1 950	1 140 1 950	1.0 1.3	4.9
RA35AN **RA35BN**	55	6.5	18	70	123.8 152	50	50 72	M8×1.25×12	10	83.2 111.4	16.6 19.7	48.5	15	M6×0.75	15	11	34	31	40	9×14×12	17	20	3 500	53 300 67 400	129 000 175 000	2 810 3 810	1 800 3 250	1 800 3 250	1.6 2.1	6.8
RA45AN **RA45BN**	70	8	20.5	86	154 190	60	60 80	M10×1.5×17	13	105.4 141.4	22.7 30.7	62	17	Rc1/8	14	14	45	38	52.5	14×20×17	22.5	22.5	3 500	92 800 116 000	229 000 305 000	6 180 8 240	4 080 7 150	4 080 7 150	3.0 4.1	10.9
RA55AN **RA55BN**	80	9	23.5	100	184 234	75	75 95	M12×1.75×18	12.5	128 178	26.5 41.5	71	18	Rc1/8	21	14	53	43.5	60	16×23×20	26.5	30	3 500	129 000 168 000	330 000 462 000	10 200 14 300	7 060 13 600	7 060 13 600	4.9 6.7	14.6
RA65AN **RA65BN**	90	13	31.5	126	228.4 302.5	76	70 120	M16×2×20	25	155.4 229.5	42.7 54.75	77	22	Rc1/8	19	14	63	55	75	18×26×22	31.5	35	3 500	210 000 288 000	504 000 756 000	19 200 28 700	12 700 28 600	12 700 28 600	9.3 12.2	22.0

Note: Basic load rating complies with ISO standards (ISO14728-1, ISO14728-2).
If above basic dynamic load rating (100-km rating) is converted into 50-km rating, use the following formula: $C_{50\,km} = 1.23 \times C_{100\,km}$.

Part number for roller slide only

Example: RAA 25 AN P6 Z

- RAA: Random-matching roller slide
- 25: Size
- AN: Shape/height
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

Part number for rail only

Example: R1A 25 1000 L C N *** P6 Z

- R1A: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting specification N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available)
- Z: Preload Z: Medium preload (standard)

Part number for assembly (roller slide + rail)

Example: RA 25 1000 AN C 2 *** P6 Z

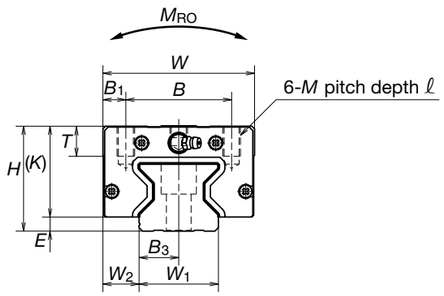
- RA: Series
- 25: Size
- 1000: Rail length (mm)
- AN: Shape/height
- C: Material/surface treatment C: Carbon steel (NSK standard) D: Carbon steel + surface treatment
- 2: Number of roller slides per rail
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

chanhvinh.com

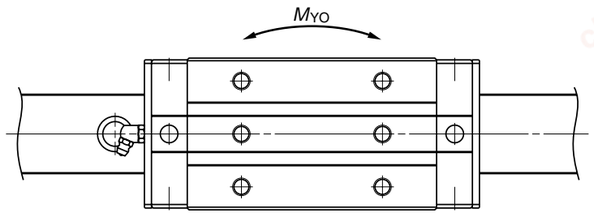
Linear Guides RA Series

Roller Slide Models: AL, BL

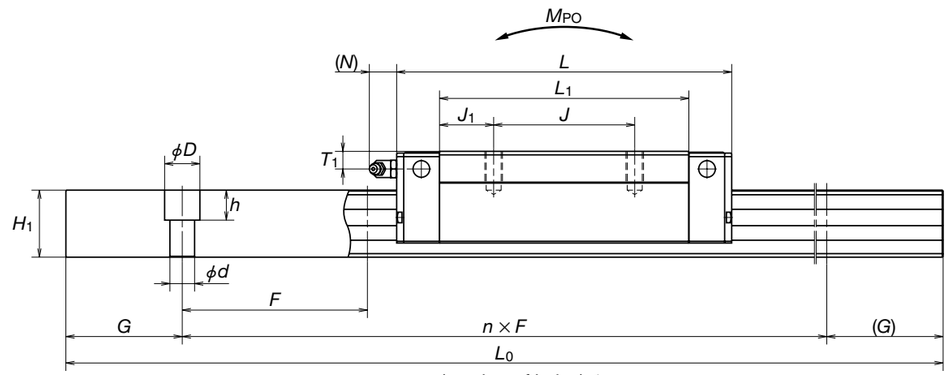
Front view of AL and BL types



Upper view of AL and BL types



Side view of AL and BL types



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Roller slide											Rail								Basic load rating					Weight	
	Height			Width	Length	Mounting hole							Grease fitting			Width	Height	Pitch	Mounting bolt hole			Max. length (Single rail)	Dynamic	Static	Static moment			Roller slide	Rail
	H	E	W_2	W	L	B	J	$M \times$ pitch $\times \ell$	B_1	L_1	J_1	K	T	Mounting hole size	T_1	N	W_1	H_1	F	$d \times D \times h$	B_3	G	L_{0max}	C (N)	C_0 (N)	M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	(kg)	(kg/m)
RA25AL	36	5	12.5	48	97.5	35	35	M6×1×8	6.5	65.5	15.25	31	12	M6×0.75	6	11	23	24	30	7×11×9	11.5	20	3 000	29 200	72 700	970	760	760	0.45	3.4
RA25BL					115.5		50			83.5	16.75													35 400	92 900	1 240	1 240	1 240	0.80	
RA30AL	42	6.5	16	60	110.8	40	40	M8×1.25×11	10	74	17	35.5	14	M6×0.75	7	11	28	28	40	9×14×12	14	20	3 500	38 900	93 500	1 670	1 140	1 140	0.85	4.9
RA30BL					135.4		60			98.6	19.3													47 600	121 000	2 170	1 950	1 950	1.1	
RA35AL	48	6.5	18	70	123.8	50	50	M8×1.25×12	10	83.2	16.6	41.5	15	M6×0.75	8	11	34	31	40	9×14×12	17	20	3 500	53 300	129 000	2 810	1 800	1 800	1.2	6.8
RA35BL					152		72			111.4	19.7													67 400	175 000	3 810	3 250	3 250	1.7	
RA45AL	60	8	20.5	86	154	60	60	M10×1.5×16	13	105.4	22.7	52	17	Rc1/8	10	14	45	38	52.5	14×20×17	22.5	22.5	3 500	92 800	229 000	6 180	4 080	4 080	2.5	10.9
RA45BL					190		80			141.4	30.7													116 000	305 000	8 240	7 150	7 150	3.4	
RA55AL	70	9	23.5	100	184	75	75	M12×1.75×18	12.5	128	26.5	61	18	Rc1/8	11	14	53	43.5	60	16×23×20	26.5	30	3 500	129 000	330 000	10 200	7 060	7 060	4.1	14.6
RA55BL					234		95			178	41.5													168 000	462 000	14 300	13 600	13 600	5.7	

Note: Basic load rating complies with ISO standards (ISO14728-1, ISO14728-2).
If above basic dynamic load rating (100-km rating) is converted into 50-km rating, use the following formula: $C_{50\,km} = 1.23 \times C_{100\,km}$.

Part number for roller slide only

Example: **RAA 25 AL P6 Z**

- RAA: Random-matching roller slide
- 25: Size
- AL: Shape/height
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

Part number for rail only

Example: **R1A 25 1000 L C N *** P6 Z**

- R1A: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting specification N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available)
- Z: Preload Z: Medium preload (standard)

Part number for assembly (roller slide + rail)

Example: **RA 25 1000 AL C 2 *** P6 Z**

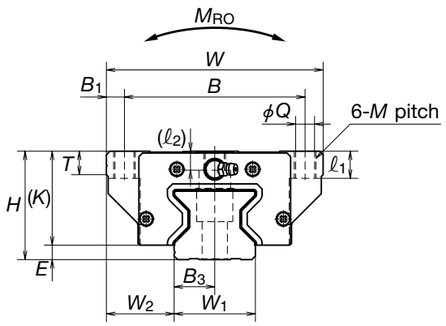
- RA: Series
- 25: Size
- 1000: Rail length (mm)
- AL: Shape/height
- C: Material/surface treatment C: Carbon steel (NSK standard) D: Carbon steel + surface treatment
- 2: Number of roller slides per rail
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

chanhvinh.com

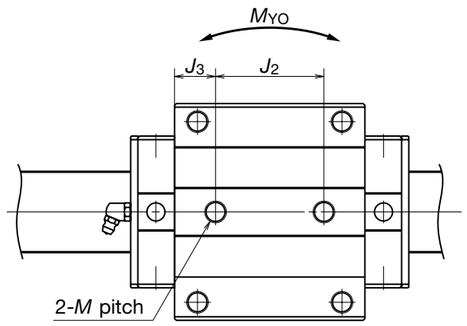
Linear Guides RA Series

Roller Slide Models: EM, GM

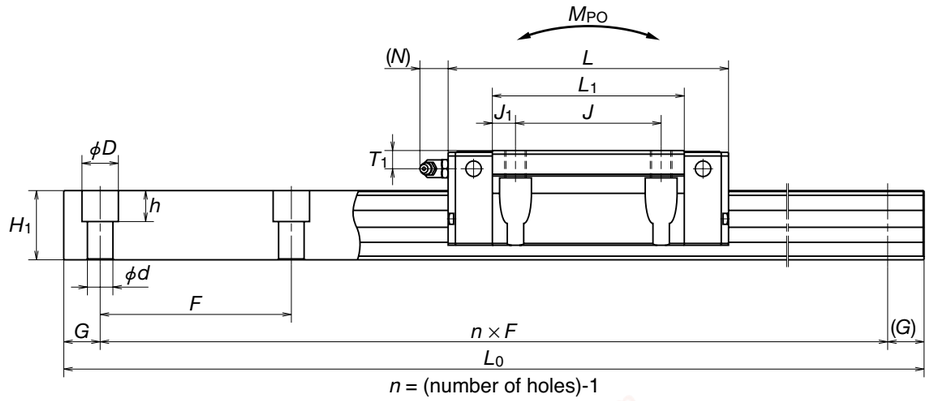
Front view of EM and GM types



Upper view of EM and GM types



Side view of EM and GM types



Unit: mm

Model No.	Assembly			Roller slide															Rail							Basic load rating					Weight	
	Height			Width	Length	Mounting hole										Grease fitting			Width	Height	Pitch	Mounting			Max. length (Single rail)	Dynamic	Static	Static moment			Roller slide	Rail
	H	E	W_2	W	L	B	J	J_2	$M \times$ pitch $\times \ell_1$ (ℓ_2)	$Q \times \ell_1$ (ℓ_2)	B_1	L_1	J_1	J_3	K	T	Mounting hole size	T_1	N	W_1	H_1	F	bolt hole $d \times D \times h$	B_3	G	L_{0max}	C (N)	C_0 (N)	M_{R0} (N·m)	M_{P0} (N·m)	M_{Y0} (N·m)	(kg)	(kg/m)
RA25EM	36	5	23.5	70	97.5	57	45	40	M8×1.25×10	6.8×10	6.5	65.5	10.25	12.75	31	11	M6×0.75	6	11	23	24	30	7×11×9	11.5	20	3 000	29 200	72 700	970	760	760	0.80	3.4
RA25GM					115.5				(11)	(11)		83.5	19.25	21.75													35 400	92 900	1 240	1 240	1 240	1.1	
RA30EM	42	6.5	31	90	110.8	72	52	44	M10×1.5×12	8.6×12	9	74	11	15	35.5	11	M6×0.75	7	11	28	28	40	9×14×12	14	20	3 500	38 900	93 500	1 670	1 140	1 140	1.3	4.9
RA30GM					135.4				(12.5)	(12.5)		98.6	23.3	27.3													47 600	121 000	2 170	1 950	1 950	1.7	
RA35EM	48	6.5	33	100	123.8	82	62	52	M10×1.5×13	8.6×13	9	83.2	10.6	15.6	41.5	12	M6×0.75	8	11	34	31	40	9×14×12	17	20	3 500	53 300	129 000	2 810	1 800	1 800	1.7	6.8
RA35GM					152				(7)	(7)		111.4	24.7	29.7													67 400	175 000	3 810	3 250	3 250	2.3	
RA45EM	60	8	37.5	120	154	100	80	60	M12×1.75×15	10.5×15	10	105.4	12.7	22.7	52	13	Rc1/8	10	14	45	38	52.5	14×20×17	22.5	22.5	3 500	92 800	229 000	6 180	4 080	4 080	3.2	10.9
RA45GM					190				(10.5)	(10.5)		141.4	30.7	40.7													116 000	305 000	8 240	7 150	7 150	4.3	
RA55EM	70	9	43.5	140	184	116	95	70	M14×2×18	12.5×18	12	128	16.5	29	61	15	Rc1/8	11	14	53	43.5	60	16×23×20	26.5	30	3 500	129 000	330 000	10 200	7 060	7 060	5.4	14.6
RA55GM					234				(13)	(13)		178	41.5	54													168 000	462 000	14 300	13 600	13 600	7.5	
RA65EM	90	13	53.5	170	228.4	142	110	82	M16×2×24	14.6×24	14	155.4	22.7	36.7	77	22	Rc1/8	19	14	63	55	75	18×26×22	31.5	35	3 500	210 000	504 000	19 200	12 700	12 700	12.2	22.0
RA65GM					302.5				(18.5)	(18.5)		229.5	59.75	73.75													288 000	756 000	28 700	28 600	28 600	16.5	

Note: Basic load rating complies with ISO standards (ISO14728-1, ISO14728-2).
If above basic dynamic load rating (100-km rating) is converted into 50-km rating, use the following formula: $C_{50\,km} = 1.23 \times C_{100\,km}$.

Part number for roller slide only

Example: **RAA 25 EM P6 Z**

- RAA: Random-matching roller slide
- 25: Size
- EM: Shape/height
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

Part number for rail only

Example: **R1A 25 1000 L C N *** P6 Z**

- R1A: Random-matching rail
- 25: Size
- 1000: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: Butting specification N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available)
- Z: Preload Z: Medium preload (standard)

Part number for assembly (roller slide + rail)

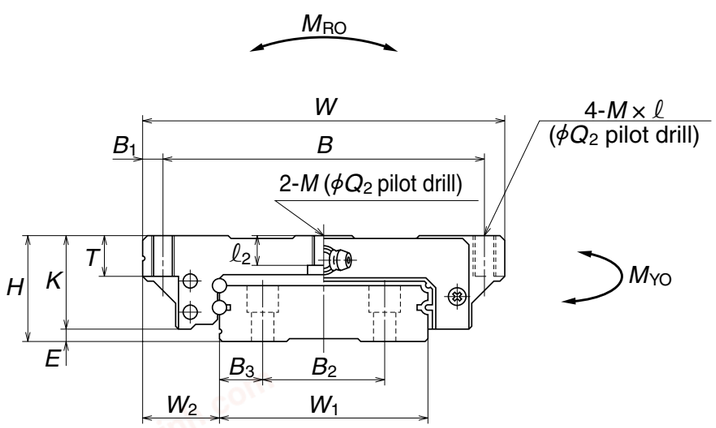
Example: **RA 25 1000 EM C 2 *** P6 Z**

- RA: Series
- 25: Size
- 1000: Rail length (mm)
- EM: Shape/height
- C: Material/surface treatment C: Carbon steel (NSK standard) D: Carbon steel + surface treatment
- 2: Number of roller slides per rail
- ***: NSK control number (*** is required when making inquiries)
- P6: Accuracy: P6 (only P6 grade is available) K6 (with NSK K1)
- Z: Preload Z: Medium preload (standard)

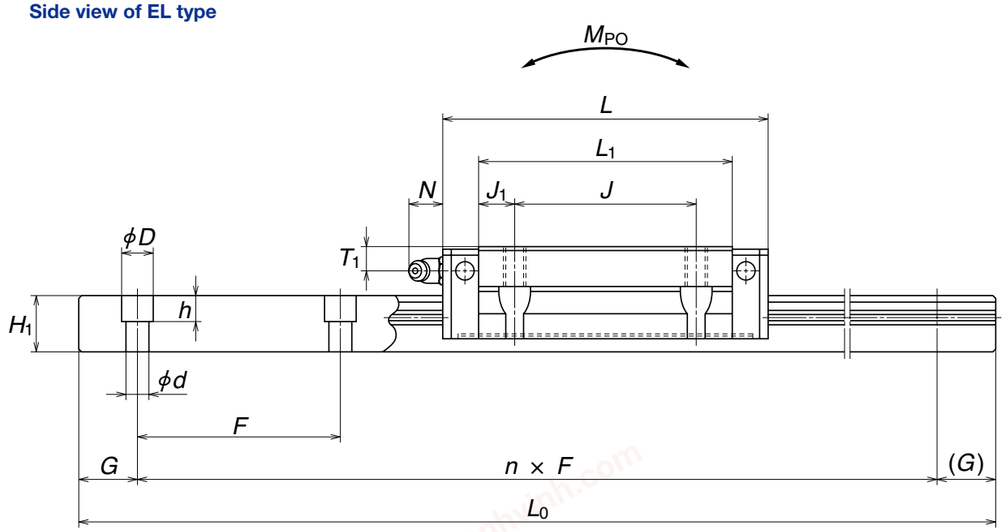
chanhvinh.com

Ball Slide Model: EL

Front view of EL type



Side view of EL type



n = (number of holes)-1

Unit: mm

Model No.	Assembly			Ball slide													Rail								Basic load rating					Ball diameter	Weight	
	Height			Width	Length	Mounting hole										Grease fitting			Width	Height		Pitch	Mounting bolt hole		G	Max. length	Dynamic	Static	Static moment				Ball slide	Rail
	H	E	W_2	W	L	B	J	M × pitch × ℓ	ℓ_2	Q_2	B_1	L_1	J_1	K	T	Hole size	T_1	N	W_1	H_1	B_2	F	d × D × h	B_3	(recommended)	(Single rail) L_{0max}	C (N)	C_0 (N)	M_{RO} (N·m)	M_{PO} (N·m)	M_{YO} (N·m)	D_W	(kg)	(kg/m)
LW17EL	17	2.5	13.5	60	51.4	53	26	M4×0.7×6	3.2	3.3	3.5	35	4.5	14.5	6	φ3	4	3	33	8.7	18	40	4.5×7.5×5.3	7.5	15	1 000	5 600	11 300	135	44	37	2.381	0.2	2.1
LW21EL	21	3	15.5	68	58.8	60	29	M5×0.8×8	3.7	4.4	4	41	6	18	8	M6×0.75	4.5	11	37	10.5	22	50	4.5×7.5×5.3	7.5	15	1 600	6 450	13 900	185	65.5	55	2.381	0.3	2.9
LW27EL	27	4	19	80	74	70	40	M6×1×10	6	5.3	5	56	8	23	10	M6×0.75	6	11	42	15	24	60	4.5×7.5×5.3	9	20	2 000	12 800	26 900	400	171	143	3.175	0.5	4.7
LW35EL	35	4	25.5	120	108	107	60	M8×1.25×14	9	6.8	6.5	84	12	31	14	M6×0.75	8	11	69	19	40	80	7×11×9	14.5	20	2 400	33 000	66 500	1 690	645	545	4.762	1.5	9.6
LW50EL	50	4.5	36	162	140.6	144	80	M10×1.5×18	14	8.6	9	108	14	45.5	18	Rc1/8	14	14	90	24	60	80	9×14×12	15	20	3 000	61 500	117 000	3 900	1 530	1 280	6.350	4.0	15.8

Note: Basic dynamic load rating C is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert C to C_{100} for a 100-km fatigue life, divide C by 1.26.

Part number for ball slide only

Example: LAW 17 EL Z – K

- LAW: Random-matching ball slide
- 17: Size
- EL: Shape/height
- Z: Preload — Z: Slight preload (standard)
- K: Accessories — K: With NSK K1; F: Fluoride low-temperature chrome plating + AS2 grease; F50: Fluoride low-temperature chrome plating + LG2 grease

Part number for rail only

Example: L1W 17 0950 L C N *** PC Z

- L1W: Random-matching rail
- 17: Size
- 0950: Rail length (mm)
- L: Shape (L: Standard)
- C: Material/surface treatment
- N: *Butting rail specification — N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- Z: Preload — Z: Slight preload (standard)

Part number for assembly (ball slide + rail)

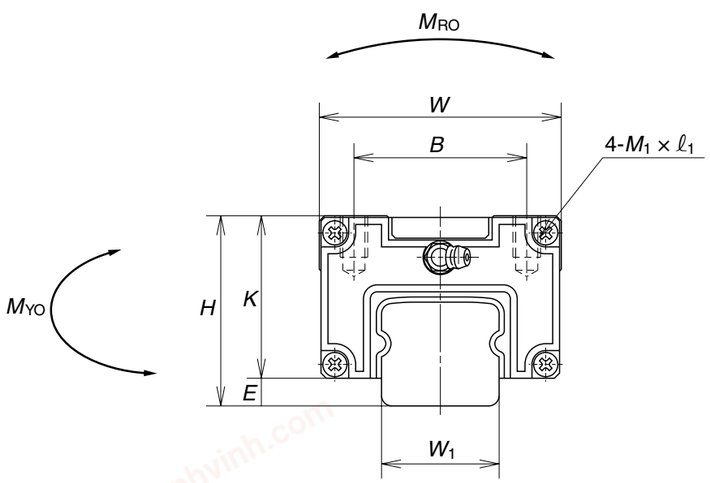
Example: LW 35 1000 EL C 2 *** PC Z

- LW: Series
- 35: Size
- 1000: Rail length (mm)
- EL: Shape/height
- C: Material/surface treatment
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- Z: Preload Z: Slight preload (standard)

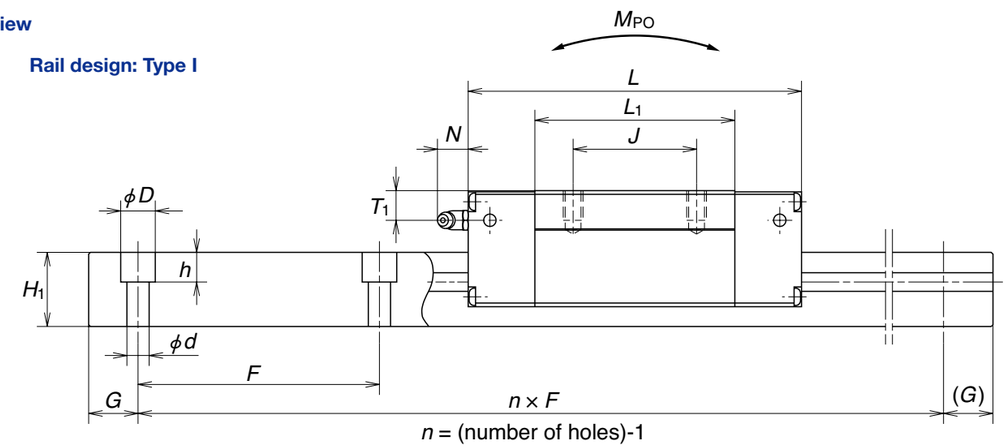
chanhvinh.com

Ball Slide Model: AN

Front view

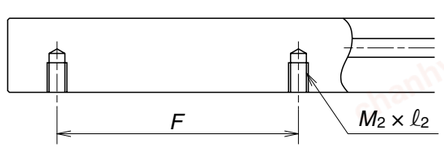


Side view



n = (number of holes)-1

Rail design: Type II (optional)



Unit: mm

Model No.	Assembly Height $H^{\pm 0.1}$	Assembly E	Ball slide Width W	Ball slide Length L	Tapped hole B	Tapped hole J	Tapped hole $M_1 \times$ pitch $\times \ell_1$	L_1	K	Grease fitting Screw size	Grease fitting T_1	Grease fitting N	Rail Width W_1	Rail Height H_1	Rail Pitch F	Mounting hole Type I $d \times D \times h$	Mounting hole Type II $M_2 \times$ pitch $\times \ell_2$	G (recommended)	Max. length (Single rail) L_{0max}	Basic load rating Dynamic C (N)	Basic load rating Static C_0 (N)	Allowable static moment load M_{R0} (N·m)	Allowable static moment load M_{P0} (N·m)	Allowable static moment load M_{Y0} (N·m)	Ball diameter D_W	Mass Ball slide (kg)	Mass Rail (kg/m)
TS15AN	28	3	34	72.2	26	26	M4×0.7×6	39	25	ϕ3	6.5	(5)	15	14	120	4.5×7.5×5.3	M4×0.7×6	20	1 960	9 800	11 800	92	64	64	3.968	0.21	1.5
TS20AN	30	3	44	87	32	36	M5×0.8×8	50	27	M6 × 0.75	6.5	(14)	20	15	120	6×9.5×8.5	M5×0.8×8	20	2 920	15 700	19 100	196	137	137	4.762	0.37	2.1
TS25AN	40	4	48	100	35	35	M6×1×9	58	36	M6 × 0.75	9.5	(14)	23	20	120	7×11×9	M6×1×9	20	4 000	21 800	26 000	320	217	217	5.556	0.47	3.4
TS30AN	45	6.5	60	115	40	40	M8×1.25×10	70	38.5	M6 × 0.75	9.5	(14)	28	25	160	9×14×12	M8×1.25×12	20	4 040*	31 000	37 500	565	395	395	6.350	0.77	5.3
TS35AN	55	8	70	135.8	50	50	M8×1.25×12	81.8	47	M6 × 0.75	12	(14)	34	30	160	9 ×14×12	M8×1.25×12	20	4 040*	46 500	53 000	970	635	635	7.937	1.3	7.7

Note 1: TS series does not have a ball retainer. Be aware that balls fall out when the ball slide is withdrawn from the rail.
Note 2: Consult with NSK when using a TS series in a single rail configuration.

Note 3: Basic dynamic load rating C is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface. To convert C to C_{100} for a 100-km fatigue life, divide C by 1.26.
*Maximum length of fluoride low-temperature chrome plated products is 4 000 (G=80).

Part number for ball slide only

Example: TAS 30 AN – F

- TAS: Random-matching ball slide
- 30: Size
- AN: Shape/height
- F: Accessories
  - F: Fluoride low-temperature chrome plating + AS2 Grease
  - F50: Fluoride low-temperature chrome plating + LG2 Grease

Part number for rail only

Example: T1S 30 2400 L P N *** PL S

- T1S: Random-matching rail
- 30: Size
- 2400: Rail length (mm)
- L: Material/surface treatment
- P: Butting rail code
  - N: Non-butting
  - L: Butting
- N: NSK control number (*** is required when making inquiries)
- PL: Accuracy grade PL: Normal grade for transportation
- S: Preload S: Clearance of 60 μm or less

Part number for assembly (ball slide + rail)

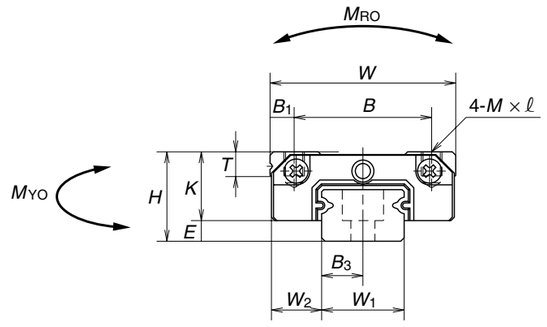
Example: TS 30 2400 AN P 2 *** PL S

- TS: Series
- 30: Size
- 2400: Rail length (mm)
- AN: Shape/height
- P: Surface treatment/rails design code
  - P: No surface treatment/Counterbores on the top face of rail (Type I)
  - V: No surface treatment/Tapped holes on the bottom face of rail (Type II Option)
  - R: Fluoride low-temperature chrome plating/Counterbores on the top face of rail (Type I)
  - W: Fluoride low-temperature chrome plating/Tapped holes on the bottom face of rail (Type II Option)
- 2: Number of ball slides per rail
- ***: NSK control number (*** is required when making inquiries)
- PL: Accuracy grade PL: Normal grade for transportation
- S: Preload S: Clearance of 60 μm or less

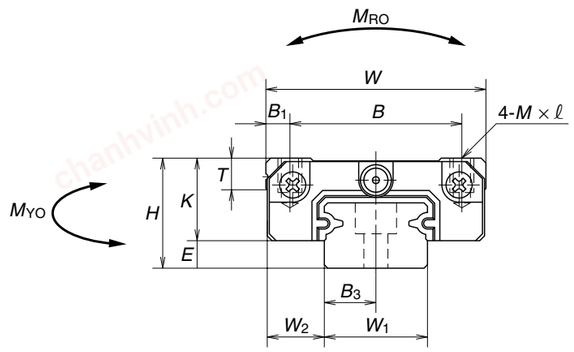
chanhvinh.com

Ball Slide Models: TR, AR, AL, UR, BL

Front view

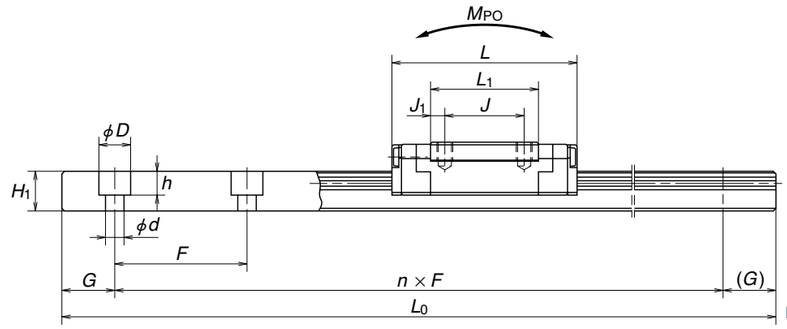


PU09, 12

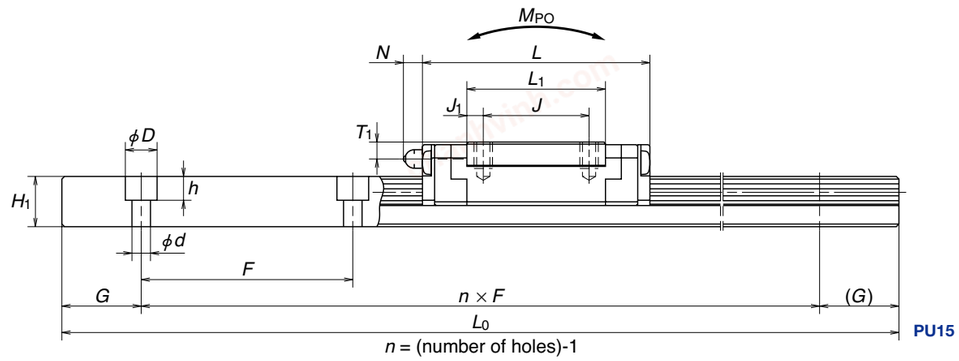


PU15

Side view



PU09, 12



PU15

Unit: mm

Model No.	Assembly Height H	Assembly E	Assembly W2	Ball slide Width W	Ball slide Length L	Mounting hole B	Mounting hole J	Mounting hole M × pitch × ℓ	Ball slide B1	Ball slide L1	Ball slide J1	Ball slide K	Ball slide T	Grease fitting Mounting hole size	Grease fitting T1	Grease fitting N
PU09TR	10	2.2	5.5	20	30	15	10	M3×0.5×3	2.5	19.6	4.8	7.8	2.6	—	—	—
PU09UR					41		16			30.6	7.3					
PU12TR	13	3	7.5	27	35	20	15	M3×0.5×3.5	3.5	20.4	2.7	10	3.4	—	—	—
PU12UR					48.7		20			34.1	7.05					
PU15AL	16	4	8.5	32	43	25	20	M3×0.5×5	3.5	26.2	3.1	12	4.4	ϕ3	3.2	(3.6)
PU15BL					61		25			44.2	9.6					

Model No.	Rail Width W1	Rail Height H1	Rail Pitch F	Rail Mounting bolt hole d × D × h	Rail B3	Rail G	Rail Max. length (Single rail) L0max	Basic load rating Dynamic C (N)	Basic load rating Static C0 (N)	Static moment MR0 (N·m)	Static moment MP0 (N·m)	Static moment MY0 (N·m)	Ball diameter Dw	Weight Ball slide (g)	Weight Rail (g/100 mm)
PU09TR	9	5.5	20	3.5×6×4.5	4.5	7.5	600	1 490	2 150	10	6.1	6.1	1.5875	16	35
PU09UR								2 100	3 500	16.4	15.6	15.6		25	
PU12TR	12	7.5	25	3.5×6×4.5	6	10	800	2 830	3 500	21.7	11.4	11.4	2.3812	32	65
PU12UR								4 000	5 700	35	28.3	28.3		53	
PU15AL	15	9.5	40	3.5×6×4.5	7.5	15	1 000	5 550	6 600	49.5	25.6	25.6	3.175	59	105
PU15BL								8 100	11 300	54.5	69.5	69.5		100	

Note: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to C_{100} for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: PAU 15 AL S - K

- PAU: Random-matching ball slide
- 15: Size
- AL: Shape/height
- S: Stainless steel
- K: Accessories K: With NSK K1

Part number for rail only

Example: P1U 15 0470 R K N *** PC T

- P1U: Random-matching rail
- 15: Size
- 0470: Rail length (mm)
- R: Shape (S: PU09·12, R: PU05·07·15)
- K: Material/surface treatment
- N: Butting rail specification N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- T: Preload T: Fine clearance (standard)

Part number for assembly (ball slide + rail)

Example: PU 15 0470 AL K 2 – ** PC T

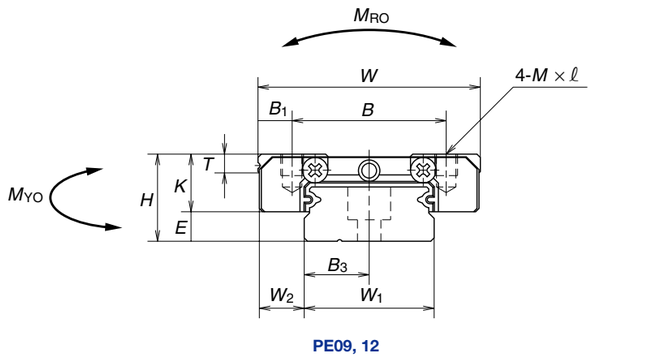
- PU: Series
- 15: Size
- 0470: Rail length (mm)
- AL: Shape/height
- K: Material/surface treatment K: Stainless steel H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- **: NSK control number (** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- T: Preload T: Fine clearance (standard)

chanhvinh.com

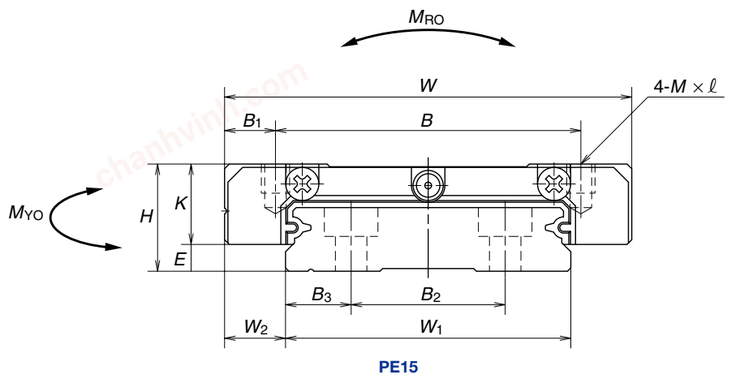
Linear Guides PE Series

Ball Slide Models: AR, TR, UR, BR

Front view

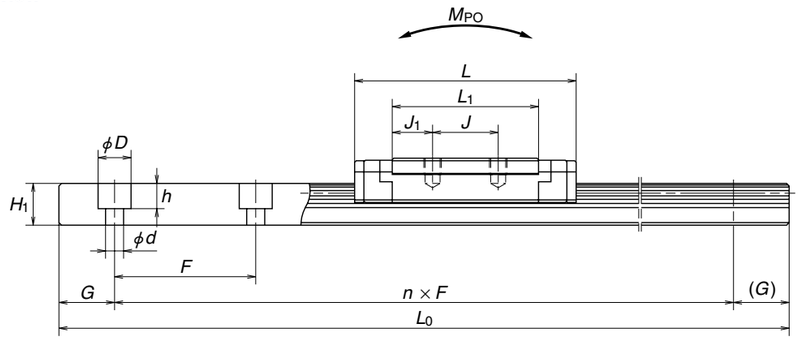


PE09, 12

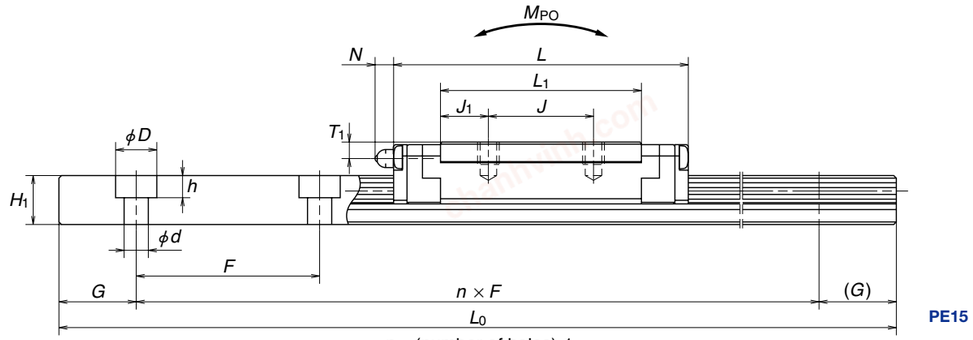


PE15

Side view



PE09, 12



PE15

n = (number of holes)-1

Unit: mm

Model No.	Assembly Height *H*	*E*	*W*2	Ball slide Width *W*	Length *L*	Mounting hole *B*	*J*	*M* × pitch × ℓ	*B*1	*L*1	*J*1	*K*	*T*	Grease fitting Mounting hole size	*T*1	*N*	Rail Width *W*1	Height *H*1	*B*2	Pitch *F*	Mounting bolt hole *d* × *D* × *h*	*B*3	G	Max. length (Single rail) *L*0max	Basic load rating Dynamic *C* (N)	Static *C*0 (N)	Static moment *M*R0 (N·m)	*M*P0 (N·m)	*M*Y0 (N·m)	Ball diameter *D*W	Weight Ball slide (g)	Rail (g/100 mm)
PE09TR	12	4	6	30	39.8	21	12	M3×0.5×3	4.5	26.6	7.3	8	2.8	—	—	—	18	7.5	—	30	3.5×6×4.5	9	10	800	3 000	4 500	36.5	17.3	17.3	2	35	95
PE09UR					51.2	23	24		3.5	38	7														4 000	6 700	54.5	37.5	37.5		50	
PE12AR	14	4	8	40	45	28	15	M3×0.5×4	6	31	8	10	3.2	—	—	—	24	8.5	—	40	4.5×8×4.5	12	15	1 000	4 350	6 350	70.5	29.3	29.3	2.3812	66	140
PE12BR					60		28			46	9														5 800	9 550	106	63.5	63.5		98	
PE15AR	16	4	9	60	56.6	45	20	M4×0.7×4.5	7.5	38.4	9.2	12	4.1	ϕ3	3.2	(3.3)	42	9.5	23	40	4.5×8×4.5	9.5	15	1 200	7 600	10 400	207	59	59	3.175	140	275
PE15BR					76		35			57.8	11.4														10 300	16 000	320	135	135		211	

Note: Basic dynamic load rating *C* is a load that allows for a 50-km rating fatigue life and is a vertical and constant load on the ball slide mounting surface.
To convert *C* to *C*100 for a 100-km fatigue life, divide *C* by 1.26.

Part number for ball slide only

Example: PAE 15 AL S - K

- PAE: Random-matching ball slide
- 15: Size
- AL: Shape/height
- S: Stainless steel
- K: Accessories K: With NSK K1

Part number for rail only

Example: P1E 15 0470 R K N *** PC T

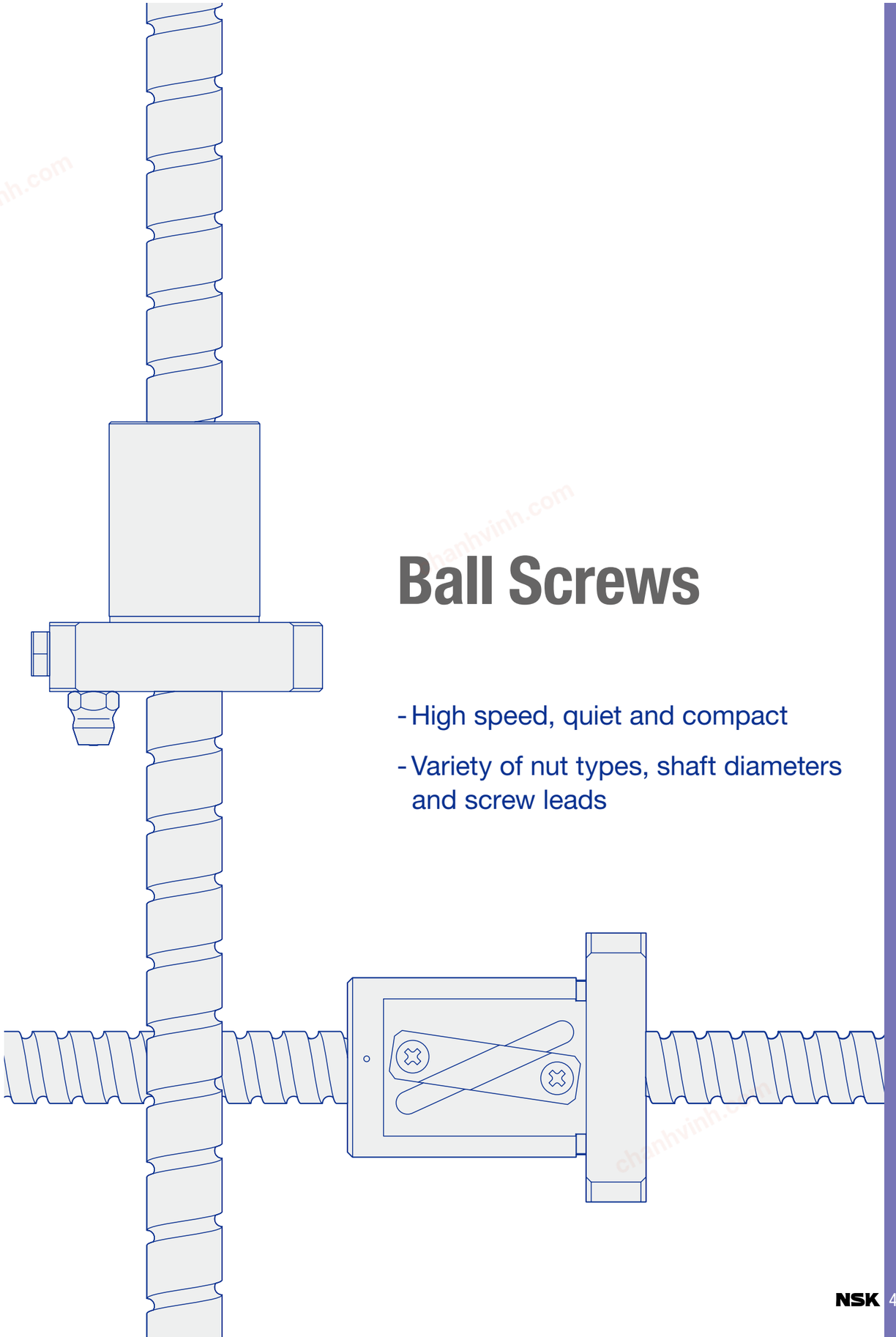
- P1E: Random-matching rail
- 15: Size
- 0470: Rail length (mm)
- R: Shape (S: PE05·07·09·12, R: PE15)
- K: Material/surface treatment
- N: Butting rail specification N: Non-butting L: Butting
- ***: NSK control number (*** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available)
- T: Preload T: Fine clearance (standard)

Part number for assembly (ball slide + rail)

Example: PE 15 0470 AL K 2 – ** PC T

- PE: Series
- 15: Size
- 0470: Rail length (mm)
- AL: Shape/height
- K: Material/surface treatment K: Stainless steel H: Stainless steel + surface treatment
- 2: Number of ball slides per rail
- **: NSK control number (** is required when making inquiries)
- PC: Accuracy: PC (only PC grade is available) KC (with NSK K1)
- T: Preload T: Fine clearance (standard)

chanhvinh.com

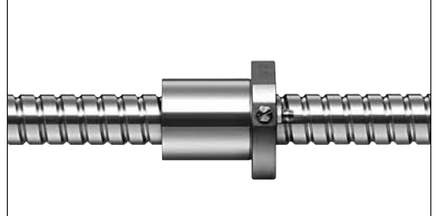
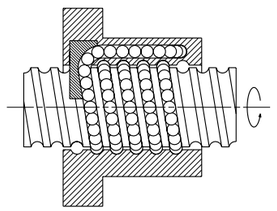
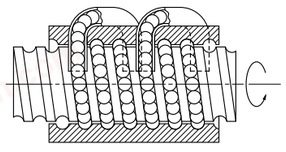
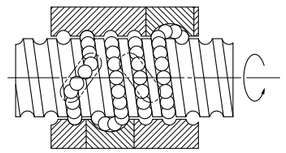
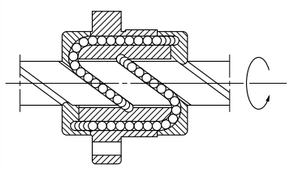
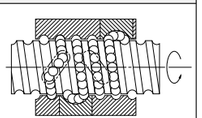


Ball Screws

- High speed, quiet and compact
- Variety of nut types, shaft diameters and screw leads

chanhvinh.com

Types of Ball Screws

Series	Features	Type	Specifications						Dimension table
			Accuracy grade	Nut system	Shaft dia.	Lead	Max. stroke	Preload	
Compact FA Series   End-deflector Type	• Easy-to-implement and ready-to-use ball screw with finished shaft-end • Quiet and compact, newly designed series 6 dB noise reduction, 10 – 30% smaller nut • High-speed operation of up to 5 000 min^{-1} • New type of contact seal is equipped. • Low-profile designed support unit (bearing) is available. PSS Series: Basic series FSS Series: Transportation series USS Series: High accuracy series	PSS	C5	End-deflector	10	5, 10	400	P-preload	Page 53 – 72
					12	5, 10, 20, 30	500		
					15	5, 10, 20, 30	1 000		
					20	5, 10, 20, 30, 40, 60	2 000		
					25	5, 10, 20, 25, 30, 50	2 000		
		FSS	Ct7	End-deflector	12	10	800		Page 73 – 80
					15	10, 20	1 300		
					20	10, 20	1 300		
					25	10, 20, 25	1 250		
		USS	C3	End-deflector	10	5	400		Page 81 – 86
					12	5	500		
					15	5	600		
A and S Series   Tube Type	• Easy-to-implement and ready-to-use ball screw with finished shaft-end • Variety of shaft diameter and lead combinations available • MA Series: Miniature automation series • FA Series: Factory automation series • KA Series: Stainless automation series • SS Series: Blank shaft-end series	MA	C3	Deflector Type	4	1	70	P-preload	Page 87 – 122
					6	1	100		
					8	1, 1.5, 2	150		
					10	2, 2.5	200		
					12	2, 2.5	250		
					16	2, 2.5	300		
		FA	C3	Tube Type	10	4	300	P-preload	Page 101 – 184
			C3, C5		12	5, 10	450		
					14	5, 8	700		
			C5	Tube/End-Cap	15	10, 20	1 000		
					16	5, 16, 32	1 200		
					20	10, 20, 40	1 600		
					25	20, 25, 50	2 000		
				Tube Type	32	25, 32	2 600		
  Deflector Type		KA	C3	Deflector Type	6	1	100	P-preload	Page 145 – 168
					8	1, 2	150		
			C3, C5	Deflector/Tube	10	2, 4	300		
					12	2, 5, 10	450		
			C5	Tube/End-Cap	15	10, 20	1 000		
				Deflector Type	16	2	300		
				Tube Type	20	20	1 000		
  End-cap Type		SS	C5	Tube Type	20	4, 5	944	P-preload	Page 169 – 196
					25	4, 5, 6, 10	1 419		
				Deflector Type	25	5, 10	1 412	Z-preload	
				Tube Type	28	5, 6	1 114	P-preload	
					32	5, 6, 8, 10	1 700	P/Z/D-preload	
				Deflector Type	32	5, 10,	1 680	Z-preload	
				Tube Type	36	10	1 897	Z/D-preload	
					40	5, 8, 10, 12	2 383		
				Deflector Type	40	10	2 257	Z-preload	
				Tube Type	45	10	2 397		
					50	10	2 497		
				Deflector Type	50	10	2 457		
V and R Series (Rolled Ball Screw)  Deflector Type 	RMA Series • Precision rolled miniature ball screw series with finished shaft-end • Low-cost and compact design series • Easy-to-handle by providing compact support bearing unit	RMA	Ct7	Deflector Type	6	1	200	Clearance max. 0.02	Page 197 – 208
					8	1, 1.5, 2	200		
					10	2	250		
					12	2	250		
 RNFTL RNFBL RNCT RNFCL RNSTL	• General accuracy grade (Ct10) rolled ball screw series • Compatible with a variety of nut mounting styles • Low-cost and short delivery • Interchangeable screw shaft and ball nut	Shaft dia.	Lead					Clearance 0.1 – 0.25	Page 209 – 224
			RNFTL	RNFBL	RNCT	RNFCL	RNSTL		
		10	3, 6	6	3	–	–		
		12	8, 12	8	–	12	–		
		14	4, 5	4, 5	4, 5	–	4, 5		
		15	–	–	–	20	–		
		16	10, 16	–	–	16, 32	–		
		18	8	8	8	–	8		
		20	5, 10, 20	5, 10	5	20, 40	5, 10		
		25	5, 10, 25	5, 10	5, 10	25, 50	5, 10		
		28	6	6	6	–	6		
		32	10, 32	10	10	32, 64	10		
		36	10	10	10	–	10		
		40	10, 40	10	10	40, 80	–		
		45	12	–	12	–	12		
		50	10, 16	–	10, 16	50	–		

chanhvinh.com

Part Number for Ball Screws

Part number for Compact FA Series ball screw

Example: **PSS1520N1D-0561**

- PSS: Compact FA Series: PSS, FSS, USS
- 15: Screw shaft diameter (mm)
- 20: Lead (mm)
- N1D: NSK control number
- 0561: Screw shaft length L_3 (mm)

PSS: Compact , low noise and high speed

FSS: Compact FA for transportation

USS: High accuracy compact FA

Part number for A and S Series ball screw

Example: **W1603FA-7PGX-C5Z32**

- W: Product code (ball screw)
- 16: Screw shaft diameter (mm)
- 03: Effective threaded length (in units of 100 mm)
- FA: A Series: MA, FA, KA; S Series: MS, FS, SS
- 7: NSK control number
- PGX: Specification/Appearance
- C5: Accuracy grade
- Z: Axial play
- 32: Lead (mm)

MA: Miniature ball screw

FA: Ball screw for factory automation

KA: Stainless steel ball screw

MS: MA series with blank shaft-end

FS: FA series with blank shaft-end

SS: Ball screw for machine tools with blank shaft-end

Part number for V Series ball screw

Example: **RMA1202C7S-250**

- RMA: V Series: RMA
- 12: Screw shaft diameter (mm)
- 02: Lead (mm)
- C7: Accuracy grade
- S: Axial play
- 250: Screw shaft length (mm)

RMA: Miniature rolled ball screw

Part number for R Series rolled ball screw

Example for nut assembly: **RNFTL2510A5S**

- RNF: Product code (nut assembly)
- TL: Nut model: FTL, FBL, STL, CT, FCL
- 25: Screw shaft diameter (mm)
- 10: Lead (mm)
- A5: Internal design specification code
- S: Seal code S: With seal; No code: Without seal

Effective turns of balls (number of turns of balls x number of circuits)

Example for screw shaft: **RS2510A20**

- RS: Product code (screw shaft)
- 25: Screw shaft diameter (mm)
- 10: Lead (mm)
- A: Internal design specification code
- 20: Screw shaft length (x 100)

FTL: Flanged tube type

FBL: Flanged tube type (circular)

STL: Square tube type

CT: V-thread (no flange) tube type

FCL: Flanged end-cap type

Please indicate the nut assembly and screw shaft part number when ordering.

chanhvinh.com

Standard Ball Screw Series

Shaft Diameter and Lead Matrices

NSK provides a variety of standard ball screw series, shown in the following matrices.

KA Series shaft diameter and lead matrix

Unit: mm

Shaft dia.	Lead					
	1	2	4	5	10	20
6	P 145					
8	P 147	P 149				
10		P 151	P 153			
12		P 155		P 157	P 159	
15					P 161	P 163
16		P 165				
20						P 167

Standard ball screws: Shaft diameter and lead matrix

Unit: mm

Shaft dia.	Lead																	
	1	1.5	2	2.5	4	5	6	8	10	12	16	20	25	30	32	40	50	60
4	P 87 (MA)																	
6	P 89 (MA)																	
8	P 91 (MA)	P 93 (MA)	P 95 (MA)															
10			P 97 (MA)	P 99 (MA)	P 101 (FA)	P 53 (PSS) P 81 (USS)			P 53 (PSS)									
12			P 103 (MA)	P 105 (MA)		P 55 (PSS) P 83 (USS) P 107 (FA)			P 55 (PSS) P 109 (FA) P 73 (FSS)			P 55 (PSS)		P 55 (PSS)				
14						P 111 (FA)		P 113 (FA)										
15						P 57 (PSS) P 85 (USS)			P 57 (PSS) P 75 (FSS) P 115 (FA)			P 59 (PSS) P 75 (FSS) P 117 (FA)		P 59 (PSS)				
16			P 119 (MA)	P 121 (MA)		P123 (FA)					P 125 (FA)				P 127 (FA)			
20					P 169 (SS)	P 61 (PSS) P 169 (SS)			P 61 (PSS) P 77 (FSS) P 129 (FA)			P 63 (PSS) P 77 (FSS) P 131 (FA)		P 63 (PSS)		P 65 (PSS) P 133 (FA)		P 65 (PSS)
25					P 171 (SS)	P 67 (PSS) P 171,173 (SS)	P 171 (SS)		P 67 (PSS) P 79 (FSS) P 173,175 (SS)			P 69 (PSS) P 79 (FSS) P 135 (FA)	P 69 (PSS) P 79 (FSS) P 137 (FA)	P 71 (PSS)			P 71 (PSS) P 139 (FA)	
28						P175,177 (SS)	P175,177 (SS)											
30																		
32						P 179,181,183 (SS)	P179,181 (SS)	P 181 (SS)	P 183,185,187 (SS)				P 141 (FA)		P 143 (FA)			
36									P185,187 (SS)									
40						P 185 (SS)		P 189 (SS)	P 189,191,193 (SS)	P189,191 (SS)								
45									P 195 (SS)									
50									P193,195 (SS)									

chanhvinh.com

Standard Ball Screws Series

V Series shaft diameter and lead matrix

Unit: mm

Shaft dia.	Lead		
	1	1.5	2
6	P 197		
8	P 199	P 201	P 203
10			P 205
12			P 207

R Series shaft diameter and lead matrix

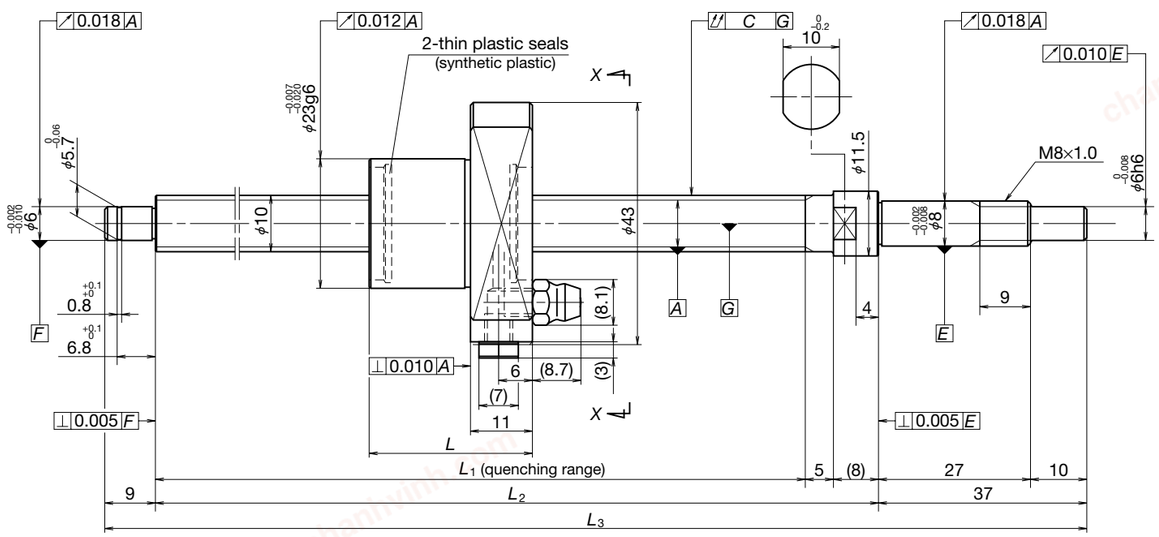
Unit: mm

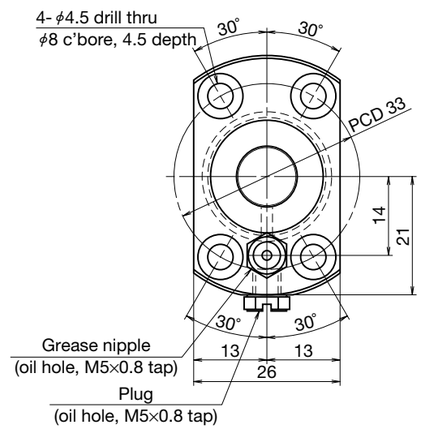
Shaft dia.	Lead															
	3	4	5	6	8	10	12	16	20	25	32	40	50	64	80
10	P 209,217			P 209,215											
12					P 209,215		P 213,221								
14		P 209,215,217,219	P 209,215,217,219												
15									P 221						
16						P 209		P 213,221			P 223				
18					P 209,215,217,219										
20			P 209,215,217,219			P 209,215,219			P 213,221			P 223			
25			P 209,215,217,219			P 209,215,217,219				P 213,221			P 223		
28				P 211,215,217,219											
32						P 211,215,217,219					P 213,221			P 223	
36						P 211,215,217,219									
40						P 211,215,217						P 213,221			P 223
45							P 211,217,219								
50						P 211,217		P 211,217					P 221		

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ10 Lead 5, 10





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.000 / 8.2
Ball circle diameter	10.3
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01B (square)	○	
WBK08S-01B (square)		○
WBK08-11B (round)	○	

Unit: mm

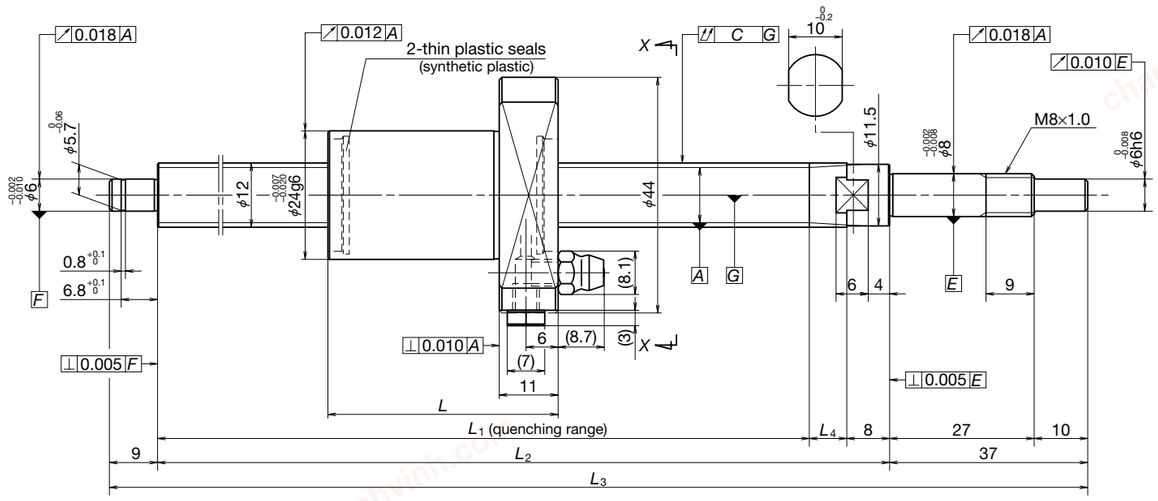
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_a	Screw shaft length L_3	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS1005N1D0171	10	5	2 930	4 790	50	83	29	112	125	171	0	0.020	0.018	0.030	0.7 – 3.3	0.3	5 000	0.8	0.4
PSS1005N1D0221					100	133		162	175	221		0.020	0.018	0.045	0.7 – 3.3	0.3			
PSS1005N1D0321					200	233		262	275	321		0.023	0.018	0.060	0.6 – 4.3	0.3			
PSS1005N1D0421					300	333		362	375	421		0.025	0.020	0.070	0.6 – 4.3	0.4			
PSS1005N1D0521					400	433		462	475	521		0.027	0.020	0.085	0.4 – 4.9	0.5			
PSS1010N1D0221	10	10	1 970	3 010	100	130	32	162	175	221	0	0.020	0.018	0.045	0.7 – 3.3	0.3	5 000	0.7	0.4
PSS1010N1D0321					200	230		262	275	321		0.023	0.018	0.060	0.6 – 4.3	0.4			
PSS1010N1D0421					300	330		362	375	421		0.025	0.020	0.070	0.6 – 4.3	0.4			
PSS1010N1D0521					400	430		462	475	521		0.027	0.020	0.085	0.4 – 4.9	0.5			

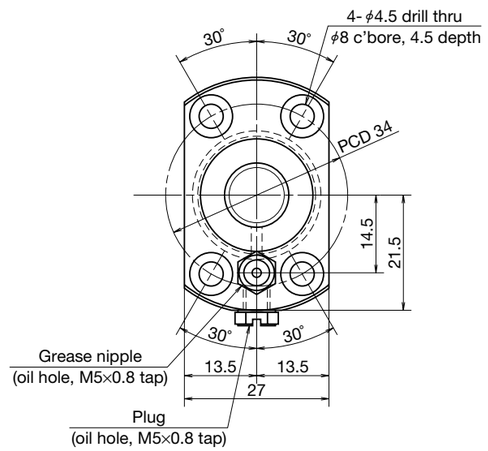
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ12 Lead 5, 10, 20, 30





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.000 / 10.2
Ball circle diameter	12.3
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01B (square)	○	
WBK08S-01B (square)		○
WBK08-11B (round)	○	

Unit: mm

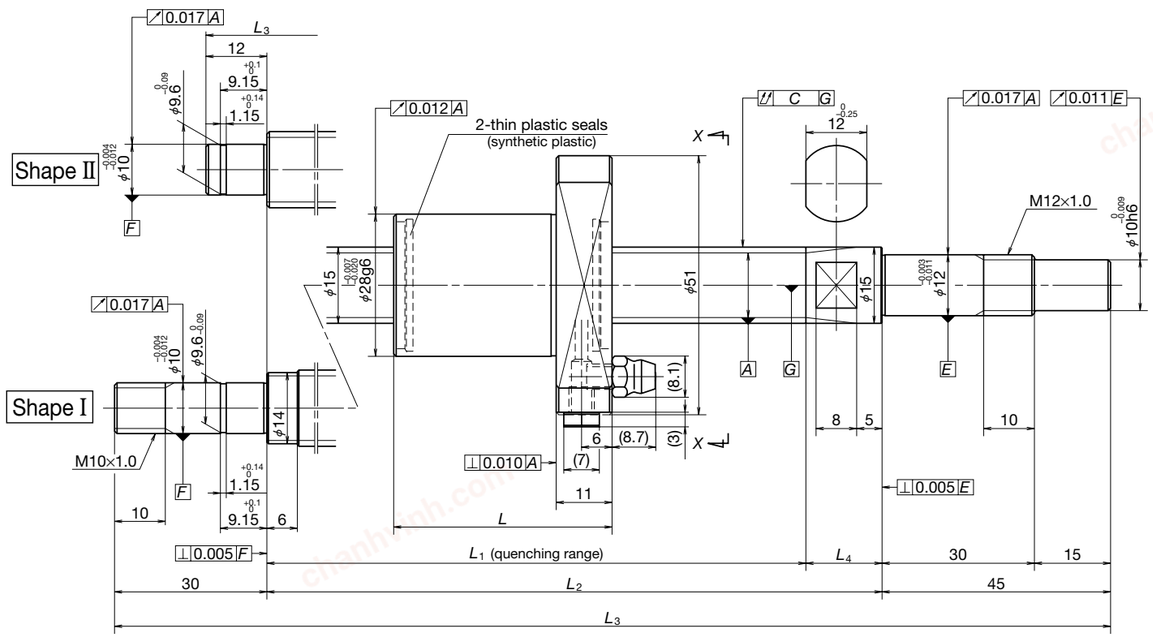
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	L_2	L_3	L_4	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS1205N1D0171	12	5	3 200	5 860	50	80	30	110	125	171	7	0	0.020	0.018	0.030	0.7 – 3.3	0.3	5 000	1.0	0.5
PSS1205N1D0221					100	130		160	175	221			0.020	0.018	0.045	0.7 – 3.3	0.3			
PSS1205N1D0321					200	230		260	275	321			0.023	0.018	0.060	0.6 – 4.3	0.4			
PSS1205N1D0421					300	330		360	375	421			0.025	0.020	0.070	0.6 – 4.3	0.5			
PSS1205N1D0521					400	430		460	475	521			0.027	0.020	0.085	0.6 – 4.3	0.6			
PSS1205N1D0621					500	530		560	575	621			0.030	0.023	0.085	0.4 – 4.9	0.7			
PSS1210N1D0221	12	10	3 200	5 860	100	117	43	160	175	221	7	0	0.020	0.018	0.045	0.7 – 3.3	0.4	5 000	1.0	0.5
PSS1210N1D0321					200	217		260	275	321			0.023	0.018	0.060	0.6 – 4.3	0.5			
PSS1210N1D0421					300	317		360	375	421			0.025	0.020	0.070	0.6 – 4.3	0.5			
PSS1210N1D0521					400	417		460	475	521			0.027	0.020	0.085	0.6 – 4.3	0.6			
PSS1210N1D0621					500	517		560	575	621			0.030	0.023	0.085	0.4 – 4.9	0.7			
PSS1220N1D0271	12	20	2 150	3 610	100	158	50	208	225	271	9	0	0.023	0.018	0.045	1.4 – 4.5	0.4	5 000	1.2	0.6
PSS1220N1D0371					200	258		308	325	371			0.023	0.018	0.060	0.9 – 4.9	0.5			
PSS1220N1D0471					300	358		408	425	471			0.027	0.020	0.070	0.9 – 4.9	0.6			
PSS1220N1D0571					400	458		508	525	571			0.030	0.023	0.085	0.6 – 5.9	0.7			
PSS1220N1D0671					500	558		608	625	671			0.030	0.023	0.110	0.6 – 5.9	0.8	4 200		
PSS1230N1D0271	12	30	2 150	3 610	100	133	70	203	225	271	14	0	0.023	0.018	0.045	1.4 – 4.5	0.5	5 000	1.5	0.8
PSS1230N1D0371					200	233		303	325	371			0.023	0.018	0.060	0.9 – 4.9	0.6			
PSS1230N1D0471					300	333		403	425	471			0.027	0.020	0.070	0.9 – 4.9	0.7			
PSS1230N1D0571					400	433		503	525	571			0.030	0.023	0.085	0.6 – 5.9	0.7			
PSS1230N1D0671					500	533		603	625	671			0.030	0.023	0.110	0.6 – 5.9	0.8	4 300		

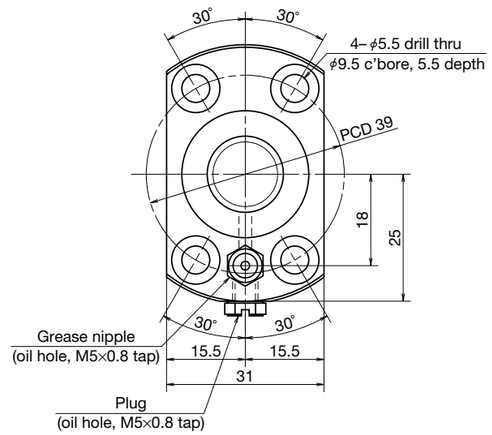
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ15 Lead 5, 10





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.778 / 12.6
Ball circle diameter	15.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK12-01B (square)	○	
WBK12S-01B (square)		○
WBK12-11 (round)	○	
WBK10-01B (square)		○
WBK10-11 (round)		○

Unit: mm

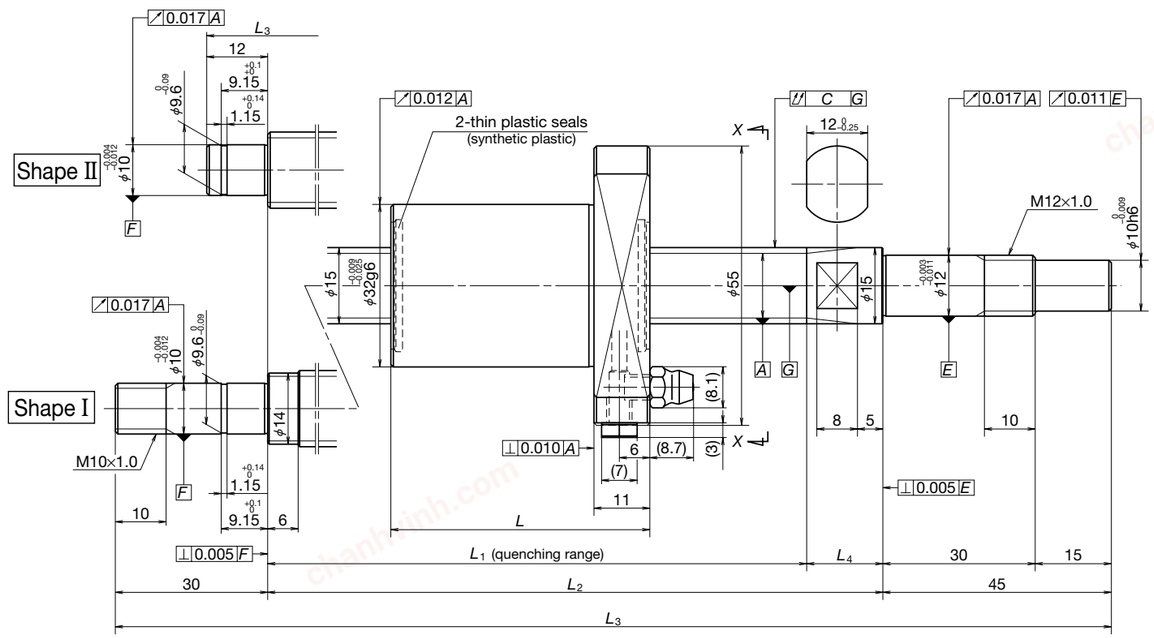
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS1505N1D0211	15	5	5 460	10 200	50	109	30	139	154	211	15	Shape II	0	0.020	0.018	0.035	0.2 – 6.9	0.5	5 000	–	2.0	1.0
PSS1505N1D0261					100	159		189	204	261				0.020	0.018	0.035	0.2 – 6.9	0.5				
PSS1505N1D0361					200	259		289	304	361				0.023	0.018	0.045	0.2 – 6.9	0.6				
PSS1505N1D0461					300	359		389	404	461				0.025	0.020	0.050	0.4 – 9.8	0.8				
PSS1505N1D0561					400	459		489	504	561				0.027	0.020	0.060	0.4 – 9.8	0.9				
PSS1505N1D0661					500	559		589	604	661				0.030	0.023	0.075	0.4 – 9.8	1.0				
PSS1505N1D0761					600	659		689	704	761				0.035	0.025	0.075	0.4 – 11.8	1.1	3 600			
PSS1510N1D0261	15	10	5 460	10 200	100	146	43	189	204	261	15	Shape II	0	0.020	0.018	0.035	0.6 – 7.4	0.6	5 000	–	2.0	1.0
PSS1510N1D0361					200	246		289	304	361				0.023	0.018	0.045	0.6 – 7.4	0.7				
PSS1510N1D0461					300	346		389	404	461				0.025	0.020	0.050	0.4 – 9.8	0.8				
PSS1510N1D0561					400	446		489	504	561				0.027	0.020	0.060	0.4 – 9.8	1.0				
PSS1510N1D0661					500	546		589	604	661				0.030	0.023	0.075	0.4 – 9.8	1.1				
PSS1510N1D0761					600	646		689	704	761				0.035	0.025	0.075	0.4 – 11.8	1.2	3 600			
PSS1510N1D0879					700	746		789	804	879		Shape I		0.035	0.025	0.095	0.4 – 11.8	1.4	2 700	3 400		
PSS1510N1D0979					800	846		889	904	979				0.040	0.027	0.095	0.4 – 11.8	1.5	2 200	3 400		
PSS1510N1D1179					1 000	1 046		1 089	1 104	1 179				0.046	0.030	0.120	0.4 – 11.8	1.7	1 400	2 300		

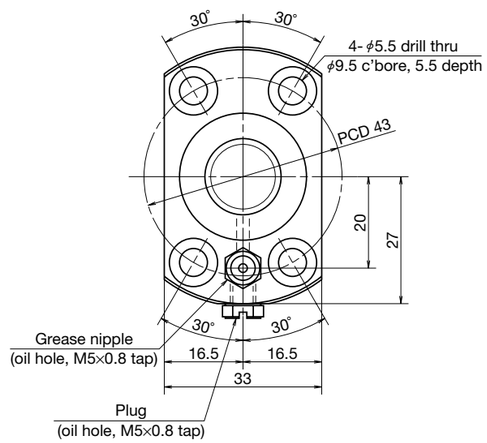
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ15 Lead 20, 30





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 12.2
Ball circle diameter	15.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK12-01B (square)	○	
WBK12S-01B (square)		○
WBK12-11 (round)	○	
WBK10-01B (square)		○
WBK10-11 (round)		○

Unit: mm

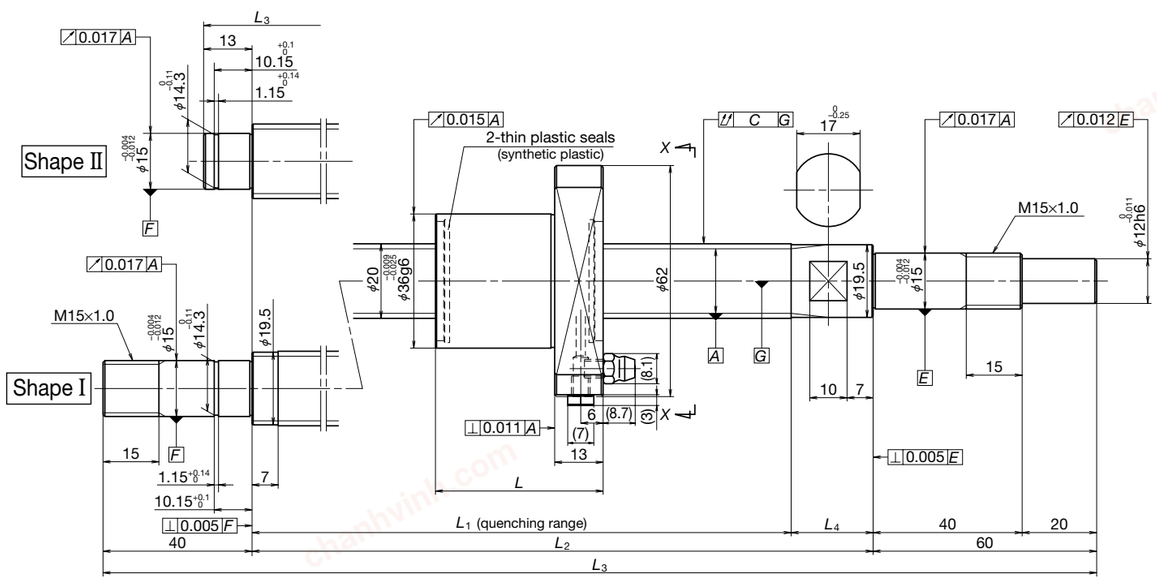
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS1520N1D0261	15	20	5 070	8 730	100	135	51	186	204	261	18	Shape II	0	0.020	0.018	0.035	0.8 – 8.8	0.7	5 000	–	2.8	1.4
PSS1520N1D0361					200	235		286	304	361				0.023	0.018	0.045	0.8 – 8.8	0.8				
PSS1520N1D0461					300	335		386	404	461				0.025	0.020	0.050	0.8 – 10.8	0.9				
PSS1520N1D0561					400	435		486	504	561				0.027	0.020	0.060	0.8 – 10.8	1.1				
PSS1520N1D0661					500	535		586	604	661				0.030	0.023	0.075	0.8 – 10.8	1.2				
PSS1520N1D0761					600	635		686	704	761				0.035	0.025	0.075	0.8 – 13.8	1.3	3 700			
PSS1520N1D0879					700	735		786	804	879		Shape I		0.035	0.025	0.095	0.8 – 13.8	1.5	2 900	4 200		
PSS1520N1D0979					800	835		886	904	979				0.040	0.027	0.095	0.8 – 13.8	1.6	2 200	3 300		
PSS1520N1D1179					1 000	1 035		1 086	1 104	1 179				0.046	0.030	0.120	0.8 – 13.8	1.9	1 500	2 200		
PSS1530N1D0311	15	30	5 070	8 730	100	159	71	230	254	311	24	Shape II	0	0.023	0.018	0.035	1.2 – 9.3	0.8	5 000	–	3.4	1.7
PSS1530N1D0411					200	259		330	354	411				0.025	0.020	0.050	0.8 – 10.8	1.0				
PSS1530N1D0511					300	359		430	454	511				0.027	0.020	0.060	0.8 – 10.8	1.1				
PSS1530N1D0611					400	459		530	554	611				0.030	0.023	0.060	0.8 – 10.8	1.2				
PSS1530N1D0711					500	559		630	654	711				0.030	0.023	0.075	0.8 – 13.8	1.4	4 500			
PSS1530N1D0811					600	659		730	754	811				0.035	0.025	0.095	0.8 – 13.8	1.5	3 300			
PSS1530N1D0929					700	759		830	854	929		Shape I		0.040	0.027	0.095	0.8 – 13.8	1.6	2 600	3 800		
PSS1530N1D1029					800	859		930	954	1 029				0.040	0.027	0.120	0.8 – 13.8	1.8	2 000	3 000		
PSS1530N1D1229					1 000	1 059		1 130	1 154	1 229				0.046	0.030	0.120	0.8 – 13.8	2.0	1 400	2 200		

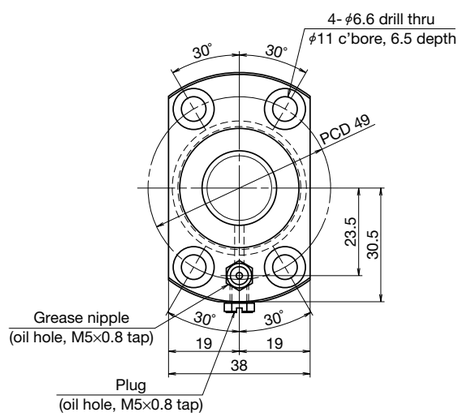
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ20 Lead 5, 10





Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 17.2
Ball circle diameter	20.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK15-01B (square)	○	○
WBK15S-01B (square)		○
WBK15-11 (round)	○	○

Unit: mm

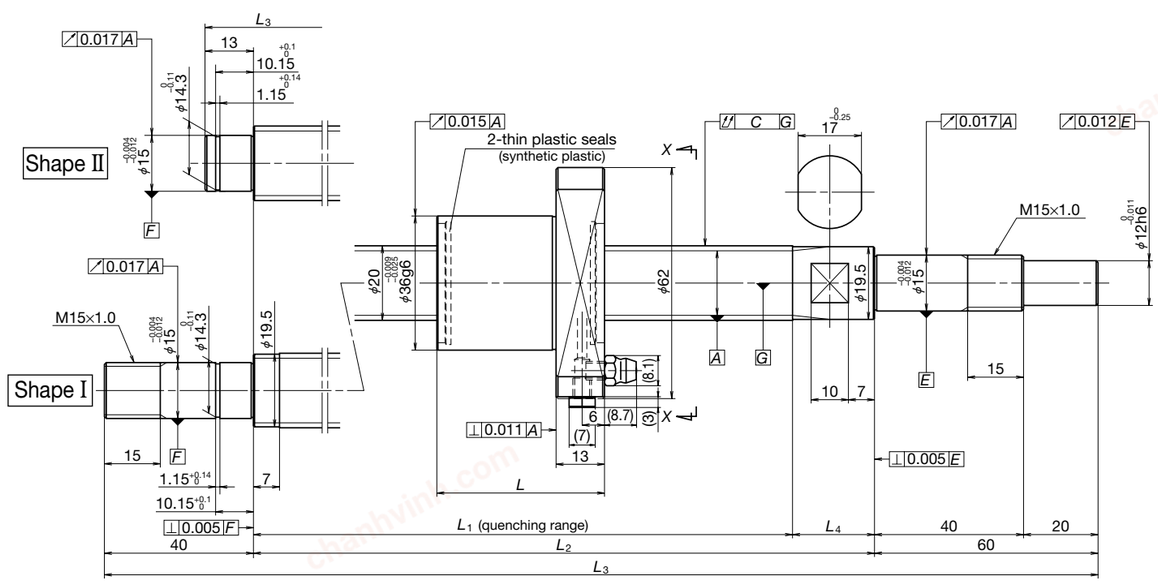
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2005N1D0323	20	5	8 790	18 500	150	197	31	228	250	323	22	Shape II	0	0.023	0.018	0.045	0.6 – 7.4	1.0	5 000	–	3.4	1.7
PSS2005N1D0373					200	247		278	300	373				0.023	0.018	0.045	0.6 – 7.4	1.1				
PSS2005N1D0473					300	347		378	400	473				0.025	0.020	0.050	0.6 – 7.4	1.3				
PSS2005N1D0573					400	447		478	500	573				0.027	0.020	0.060	0.4 – 9.8	1.5				
PSS2005N1D0673					500	547		578	600	673				0.030	0.023	0.075	0.4 – 9.8	1.7				
PSS2005N1D0773					600	647		678	700	773				0.035	0.025	0.075	0.4 – 9.8	1.9				
PSS2005N1D0873					700	747		778	800	873				0.035	0.025	0.095	0.4 – 9.8	2.2	4 000			
PSS2005N1D1000					800	847		878	900	1 000		Shape I		0.040	0.027	0.095	0.4 – 11.8	2.4	3 200	4 700		
PSS2010N1D0387	20	10	8 790	18 500	200	247	45	292	314	387	22	Shape II	0	0.023	0.018	0.045	1.2 – 9.3	1.2	5 000	–	3.2	1.6
PSS2010N1D0487					300	347		392	414	487				0.025	0.020	0.050	1.2 – 9.3	1.4				
PSS2010N1D0587					400	447		492	514	587				0.027	0.020	0.060	0.8 – 10.8	1.7				
PSS2010N1D0687					500	547		592	614	687				0.030	0.023	0.075	0.8 – 10.8	1.9				
PSS2010N1D0787					600	647		692	714	787				0.035	0.025	0.075	0.8 – 10.8	2.1				
PSS2010N1D0887					700	747		792	814	887				0.035	0.025	0.095	0.8 – 10.8	2.4	4 000			
PSS2010N1D1014					800	847		892	914	1 014		Shape I		0.040	0.027	0.120	0.8 – 13.8	2.6	3 100	4 600		
PSS2010N1D1214					1 000	1 047		1 092	1 114	1 214				0.046	0.030	0.120	0.8 – 13.8	3.1	2 100	3 100		
PSS2010N1D1414					1 200	1 247		1 292	1 314	1 414				0.054	0.035	0.160	0.8 – 13.8	3.6	1 500	2 200		

*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ20 Lead 20, 30



Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 17.2
Ball circle diameter	20.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK15-01B (square)	○	○
WBK15S-01B (square)		○
WBK15-11 (round)	○	○

Unit: mm

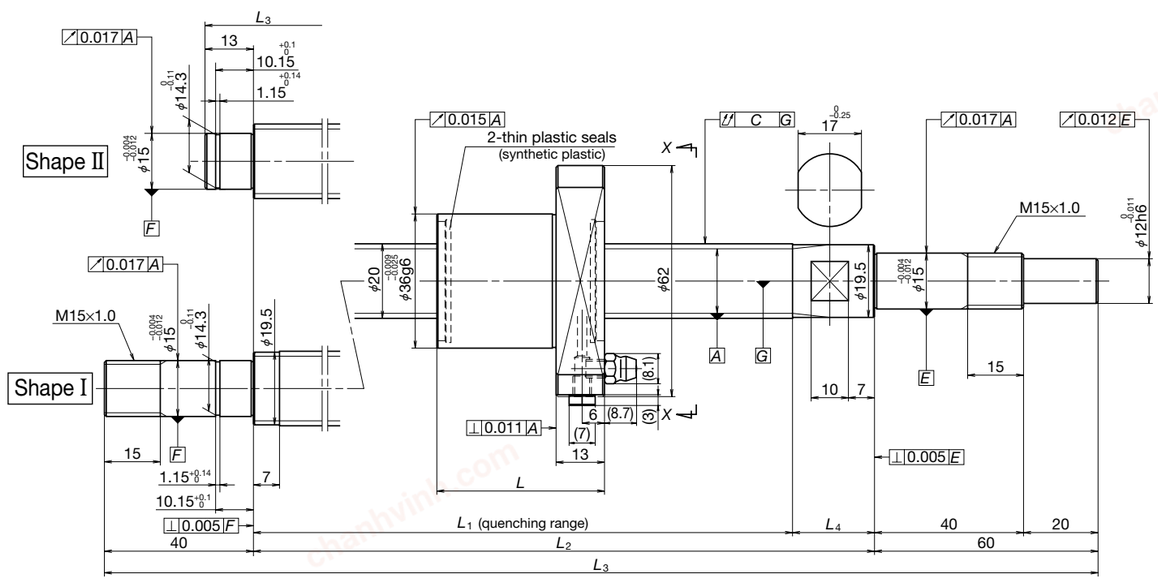
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2020N1D0508	20	20	5 900	11 700	300	359	54	413	435	508	22	Shape II	0	0.027	0.020	0.060	1.4 – 11.8	1.6	5 000	–	3.2	1.6
PSS2020N1D0608					400	459		513	535	608				0.030	0.023	0.060	1.4 – 11.8	1.8				
PSS2020N1D0708					500	559		613	635	708				0.030	0.023	0.075	1.4 – 11.8	2.0				
PSS2020N1D0808					600	659		713	735	808				0.035	0.025	0.095	1.4 – 11.8	2.3				
PSS2020N1D0908					700	759		813	835	908				0.040	0.027	0.095	0.8 – 13.8	2.5	3 700			
PSS2020N1D1035					800	859		913	935	1 035		Shape I		0.040	0.027	0.120	0.8 – 13.8	2.8	3 000	4 500		
PSS2020N1D1235					1 000	1 059		1 113	1 135	1 235				0.046	0.030	0.120	0.8 – 13.8	3.3	2 000	3 000		
PSS2020N1D1435					1 200	1 259		1 313	1 335	1 435				0.054	0.035	0.160	0.8 – 13.8	3.8	1 400	2 100		
PSS2020N1D1835					1 600	1 659		1 713	1 735	1 835				0.065	0.040	0.200	0.8 – 13.8	4.7	800	1 200		
PSS2030N1D0408	20	30	5 900	11 700	200	234	74	308	335	408	27	Shape II	0	0.023	0.018	0.050	1.6 – 9.8	1.4	5 000	–	4.6	2.3
PSS2030N1D0508					300	334		408	435	508				0.027	0.020	0.060	1.4 – 11.8	1.7				
PSS2030N1D0608					400	434		508	535	608				0.030	0.023	0.060	1.4 – 11.8	1.9				
PSS2030N1D0708					500	534		608	635	708				0.030	0.023	0.075	1.4 – 11.8	2.1				
PSS2030N1D0808					600	634		708	735	808				0.035	0.025	0.095	1.4 – 11.8	2.4				
PSS2030N1D0908					700	734		808	835	908				0.040	0.027	0.095	0.8 – 13.8	2.6	3 900			
PSS2030N1D1035					800	834		908	935	1 035		Shape I		0.040	0.027	0.120	0.8 – 13.8	2.9	3 100	4 600		
PSS2030N1D1235					1 000	1 034		1 108	1 135	1 235				0.046	0.030	0.120	0.8 – 13.8	3.4	2 100	3 000		
PSS2030N1D1435					1 200	1 234		1 308	1 335	1 435				0.054	0.035	0.160	0.8 – 13.8	3.9	1 500	2 200		

*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ20 Lead 40, 60



Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 17.2
Ball circle diameter	20.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK15-01B (square)	○	○
WBK15S-01B (square)		○
WBK15-11 (round)	○	○

Unit: mm

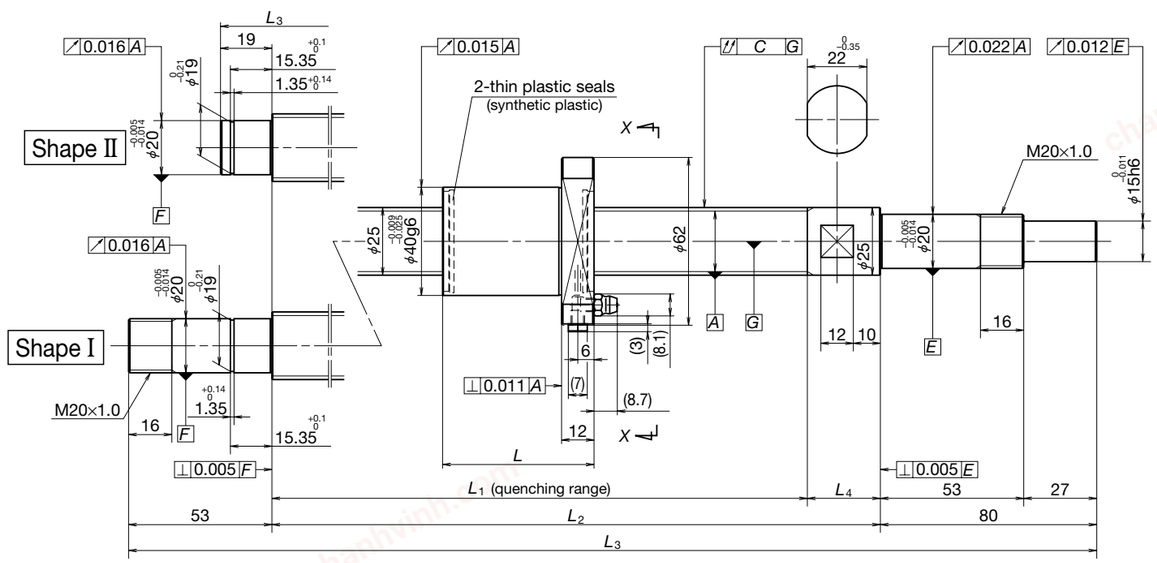
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2040N1D0658	20	40	5 900	11 700	400	461	92	553	585	658	32	Shape II	0	0.030	0.023	0.075	2.2 – 12.8	2.1	5 000	–	5.3	2.7
PSS2040N1D0758					500	561		653	685	758				0.035	0.025	0.075	2.2 – 12.8	2.4				
PSS2040N1D0858					600	661		753	785	858				0.035	0.025	0.095	2.2 – 12.8	2.6				
PSS2040N1D0958					700	761		853	885	958				0.040	0.027	0.095	1.8 – 14.8	2.8	3 500			
PSS2040N1D1085					800	861		953	985	1 085		Shape I		0.040	0.027	0.120	1.8 – 14.8	3.1	2 800	4 200		
PSS2040N1D1285					1 000	1 061		1 153	1 185	1 285				0.046	0.030	0.160	1.8 – 14.8	3.6	1 900	2 800		
PSS2040N1D1485					1 200	1 261		1 353	1 385	1 485				0.054	0.035	0.160	1.8 – 14.8	4.1	1 400	2 000		
PSS2040N1D1885					1 600	1 661		1 753	1 785	1 885				0.065	0.040	0.200	1.8 – 14.8	5.1	800	1 200		
PSS2040N1D2285					2 000	2 061		2 153	2 185	2 285				0.077	0.046	0.240	1.8 – 14.8	6.0	500	800		
PSS2060N1D0708	20	60	5 900	11 700	400	464	129	593	635	708	42	Shape II	0	0.030	0.023	0.075	2.7 – 13.8	2.4	5 000	–	7.0	3.5
PSS2060N1D0808					500	564		693	735	808				0.035	0.025	0.095	2.7 – 13.8	2.6				
PSS2060N1D0908					600	664		793	835	908				0.035	0.025	0.095	2.7 – 13.8	2.9	4 200			
PSS2060N1D1008					700	764		893	935	1 008				0.040	0.027	0.120	1.8 – 14.8	3.1	3 300			
PSS2060N1D1135					800	864		993	1 035	1 135		Shape I		0.040	0.027	0.120	1.8 – 14.8	3.4	2 600	3 900		
PSS2060N1D1335					1 000	1 064		1 193	1 235	1 335				0.046	0.030	0.160	1.8 – 14.8	3.9	1 800	2 700		
PSS2060N1D1535					1 200	1 264		1 393	1 435	1 535				0.054	0.035	0.160	1.8 – 14.8	4.4	1 300	1 900		
PSS2060N1D1935					1 600	1 664		1 793	1 835	1 935				0.065	0.040	0.200	1.8 – 14.8	5.4	800	1 100		
PSS2060N1D2335					2 000	2 064		2 193	2 235	2 335				0.077	0.046	0.240	1.8 – 14.8	6.3	500	700		

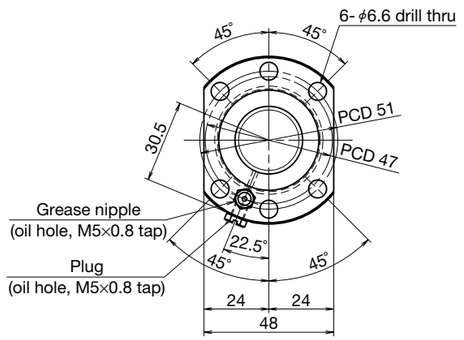
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ25 Lead 5, 10





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 22.2
Ball circle diameter	25.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK20-01B (square)	○	○
WBK20S-01B (square)		○
WBK20-11 (round)	○	○

Unit: mm

Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2505N1D0349	25	5	9 760	23 600	150	191	32	223	250	349	27	Shape Ⅱ	0	0.023	0.018	0.035	1.2 – 9.3	1.5	5 000	–	4.4	2.2
PSS2505N1D0399					200	241		273	300	399				0.023	0.018	0.035	1.2 – 9.3	1.6				
PSS2505N1D0499					300	341		373	400	499				0.025	0.020	0.040	1.2 – 9.3	2.0				
PSS2505N1D0599					400	441		473	500	599				0.027	0.020	0.045	1.2 – 9.3	2.3				
PSS2505N1D0699					500	541		573	600	699				0.030	0.023	0.055	0.8 – 10.8	2.7				
PSS2505N1D0899					700	741		773	800	899				0.035	0.025	0.065	0.8 – 10.8	3.4				
PSS2505N1D0999					800	841		873	900	999				0.040	0.027	0.065	0.8 – 10.8	3.7	4 100			
PSS2505N1D1233					1 000	1 041		1 073	1 100	1 233		Shape Ⅰ		0.046	0.030	0.080	0.8 – 13.8	4.5	2 700	4 000		
PSS2510N1D0549	25	10	12 800	32 300	300	367	56	423	450	549	27	Shape Ⅱ	0	0.027	0.020	0.045	3.1 – 11.8	2.4	5 000	–	4.7	2.4
PSS2510N1D0649					400	467		523	550	649				0.030	0.023	0.055	2.2 – 12.8	2.7				
PSS2510N1D0749					500	567		623	650	749				0.030	0.023	0.055	2.2 – 12.8	3.1				
PSS2510N1D0849					600	667		723	750	849				0.035	0.025	0.065	2.2 – 12.8	3.5				
PSS2510N1D0949					700	767		823	850	949				0.040	0.027	0.065	2.2 – 12.8	3.8				
PSS2510N1D1049					800	867		923	950	1 049		Shape Ⅰ		0.040	0.027	0.080	2.2 – 12.8	4.2	3 600			
PSS2510N1D1283					1 000	1 067		1 123	1 150	1 283				0.046	0.030	0.100	1.8 – 14.8	5.0	2 500	3 700		
PSS2510N1D1883					1 600	1 667		1 723	1 750	1 883				0.065	0.040	0.130	1.8 – 14.8	7.2	1 000	1 600		

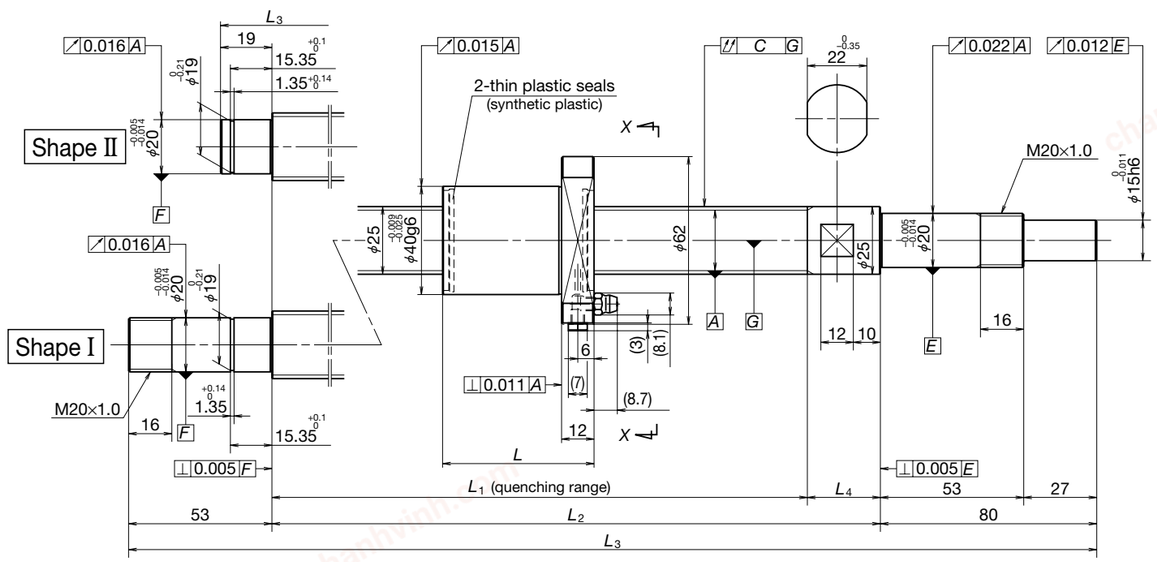
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.

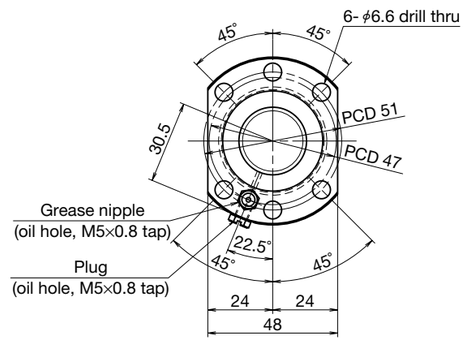
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ25 Lead 20, 25





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 22.2
Ball circle diameter	25.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK20-01B (square)	○	○
WBK20S-01B (square)		○
WBK20-11 (round)	○	○

Unit: mm

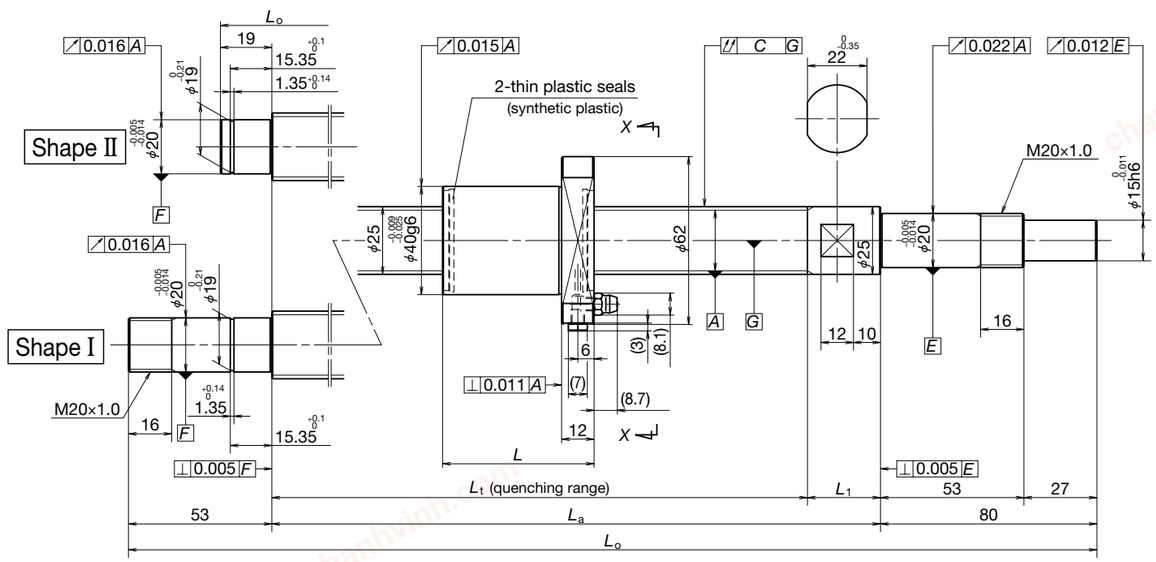
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2520N1D0729	25	20	6 560	14 600	500	550	54	604	630	729	26	Shape Ⅱ	0	0.030	0.023	0.055	2.2 – 12.8	3.1	5 000	–	3.9	2.0
PSS2520N1D0829					600	650		704	730	829				0.035	0.025	0.065	2.2 – 12.8	3.4				
PSS2520N1D0929					700	750		804	830	929				0.040	0.027	0.065	2.2 – 12.8	3.8	4 800			
PSS2520N1D1029					800	850		904	930	1 029				0.040	0.027	0.080	2.2 – 12.8	4.2	3 800			
PSS2520N1D1263					1 000	1 050		1 104	1 130	1 263		Shape Ⅰ		0.046	0.030	0.100	1.8 – 14.8	5.0	2 600	3 800		
PSS2520N1D1463					1 200	1 250		1 304	1 330	1 463				0.054	0.035	0.100	1.8 – 14.8	5.8	1 800	2 700		
PSS2520N1D1863					1 600	1 650		1 704	1 730	1 863				0.065	0.040	0.130	1.8 – 14.8	7.3	1 100	1 600		
PSS2520N1D2263					2 000	2 050		2 104	2 130	2 263				0.077	0.046	0.170	1.8 – 14.8	8.8	700	1 000		
PSS2525N1D0779	25	25	6 560	14 600	500	587	63	650	680	779	30	Shape Ⅱ	0	0.035	0.025	0.055	2.7 – 13.8	3.3	5 000	–	4.3	2.2
PSS2525N1D0879					600	687		750	780	879				0.035	0.025	0.065	2.7 – 13.8	3.7				
PSS2525N1D0979					700	787		850	880	979				0.040	0.027	0.065	2.7 – 13.8	4.1	4 300			
PSS2525N1D1079					800	887		950	980	1 079				0.040	0.027	0.080	2.7 – 13.8	4.4	3 400			
PSS2525N1D1313					1 000	1 087		1 150	1 180	1 313		Shape Ⅰ		0.046	0.030	0.100	1.8 – 14.8	5.3	2 300	3 500		
PSS2525N1D1513					1 200	1 287		1 350	1 380	1 513				0.054	0.035	0.100	1.8 – 14.8	6.0	1 700	2 600		
PSS2525N1D1913					1 600	1 687		1 750	1 780	1 913				0.065	0.040	0.130	1.8 – 14.8	7.5	1 000	1 500		
PSS2525N1D2313					2 000	2 087		2 150	2 180	2 313				0.077	0.046	0.170	1.8 – 14.8	9.1	700	1 000		

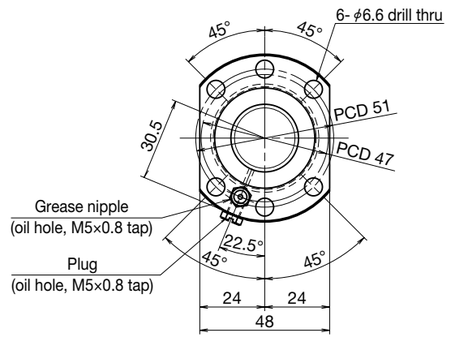
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series PSS Type

Screw Shaft ϕ25 Lead 30, 50





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	3.175 / 22.2
Ball circle diameter	25.5
Accuracy grade / Axial play	C5 / 0
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_t - L$	Nut length L	Screw shaft length L_t	Screw shaft length L_a	Screw shaft length L_o	Screw shaft length L_1	Left shaft end (opposite driven side)	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Limiting speeds (min^{-1}) Fixed - Fixed	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
PSS2530N1D0779	25	30	6 560	14 600	500	576	74	650	680	779	30	Shape Ⅱ	0	0.035	0.025	0.055	2.7 – 13.8	3.4	5 000	—	5.5	2.8
PSS2530N1D0879					600	676		750	780	879				0.035	0.025	0.065	2.7 – 13.8	3.7				
PSS2530N1D0979					700	776		850	880	979				0.040	0.027	0.065	2.7 – 13.8	4.1	4 300			
PSS2530N1D1079					800	876		950	980	1 079				0.040	0.027	0.080	2.7 – 13.8	4.5	3 400			
PSS2530N1D1313					1 000	1 076		1 150	1 180	1 313		Shape Ⅰ		0.046	0.030	0.100	1.8 – 14.8	5.3	2 300	3 600		
PSS2530N1D1513					1 200	1 276		1 350	1 380	1 513				0.054	0.035	0.100	1.8 – 14.8	6.1	1 700	2 600		
PSS2530N1D1913					1 600	1 676		1 750	1 780	1 913				0.065	0.040	0.130	1.8 – 14.8	7.6	1 000	1 500		
PSS2530N1D2313					2 000	2 076		2 150	2 180	2 313				0.077	0.046	0.170	1.8 – 14.8	9.1	700	1 000		
PSS2550N1D0829	25	50	6 560	14 600	500	576	114	690	730	829	40	Shape Ⅱ	0	0.035	0.025	0.065	5.4 – 17.6	3.8	5 000	—	7.7	3.9
PSS2550N1D0929					600	676		790	830	929				0.035	0.025	0.065	5.4 – 17.6	4.1	4 800			
PSS2550N1D1029					700	776		890	930	1 029				0.040	0.027	0.080	5.4 – 17.6	4.5	3 800			
PSS2550N1D1129					800	876		990	1 030	1 129				0.040	0.027	0.080	5.4 – 17.6	4.9	3 100			
PSS2550N1D1363					1 000	1 076		1 190	1 230	1 363		Shape Ⅰ		0.046	0.030	0.100	4.1 – 19.6	5.8	2 200	3 400		
PSS2550N1D1563					1 200	1 276		1 390	1 430	1 563				0.054	0.035	0.100	4.1 – 19.6	6.5	1 600	2 500		
PSS2550N1D1963					1 600	1 676		1 790	1 830	1 963				0.065	0.040	0.130	4.1 – 19.6	8.0	900	1 500		
PSS2550N1D2363					2 000	2 076		2 190	2 230	2 363				0.077	0.046	0.170	4.1 – 19.6	9.6	600	1 000		

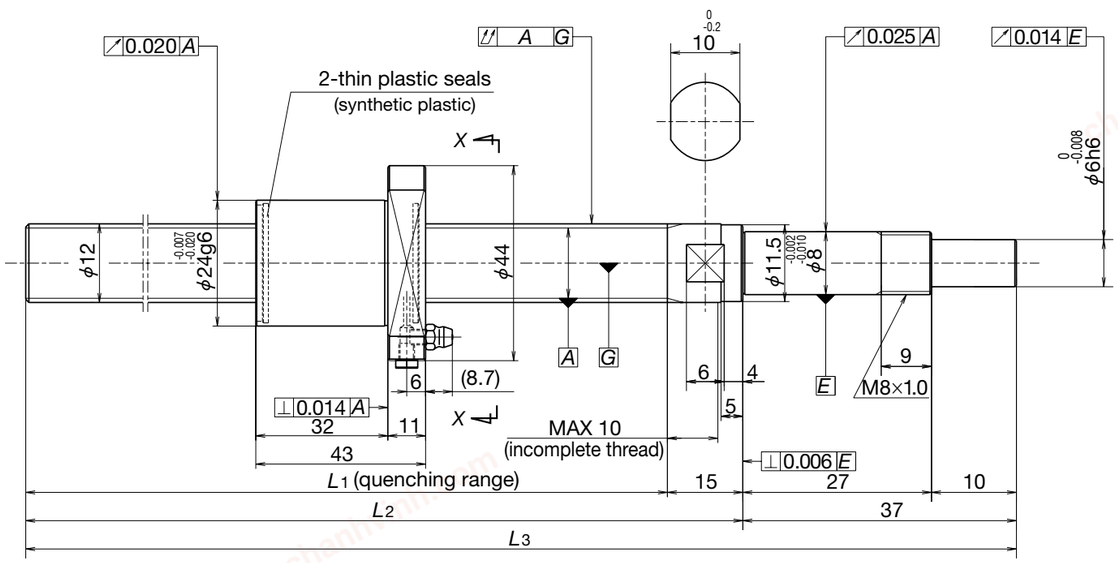
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.

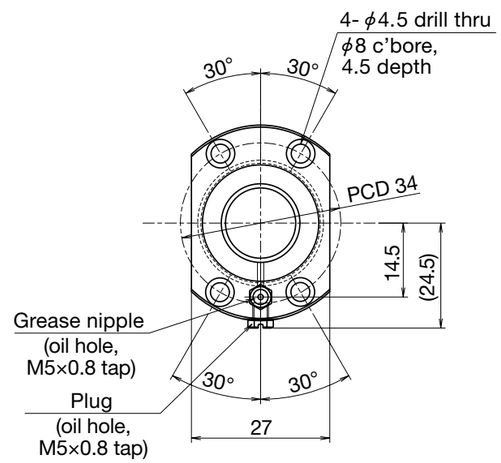
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series for Conveyer FSS Type

Screw Shaft ϕ12 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications	
Ball diameter / Screw shaft root diameter	2.000 / 10.2
Ball circle diameter	12.3
Accuracy grade / Axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK Grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01B (square)	○	
WBK12SF-01B (square)		○
WBK08-11B (round)	○	

Unit: mm

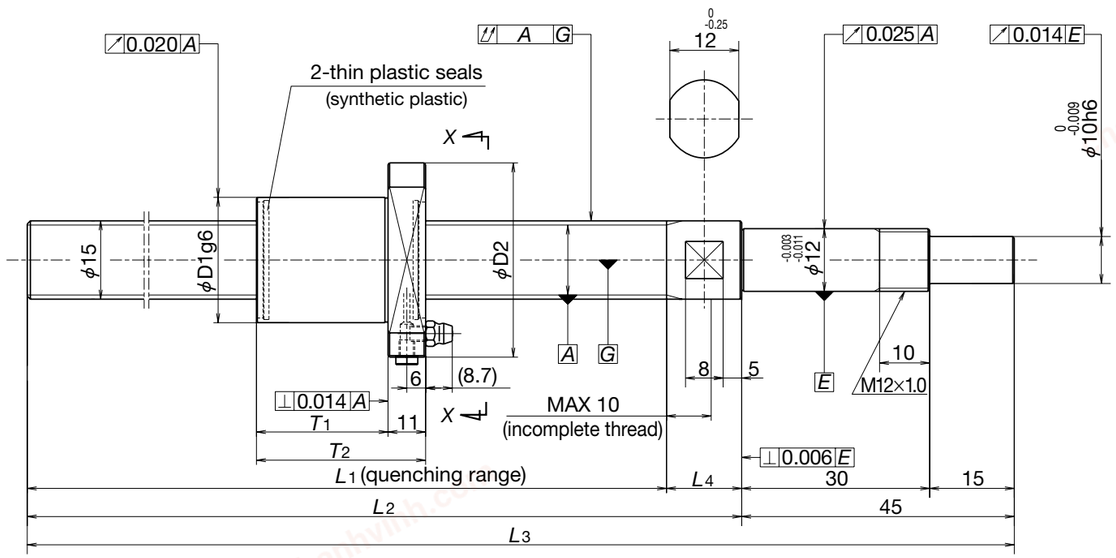
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N)		Screw shaft length			Lead accuracy			Shaft run-out A	Mass (kg)	Limiting speeds (min^{-1})	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
			Dynamic C_a	Static C_{0a}	L_1	L_2	L_3	Target value T	Error e_p	Variation v_{300}			Fixed - Support		
FSS1210N1D0400	12	10	3 200	5 860	348	363	400	0	0.120	0.052	0.080	0.4	5 000	1.0	0.5
FSS1210N1D0600	12	10	3 200	5 860	548	563	600	0	0.195	0.052	0.120	0.6	5 000	1.0	0.5
FSS1210N1D0900	12	10	3 200	5 860	848	863	900	0	0.310	0.052	0.180	0.8	2 000	1.0	0.5

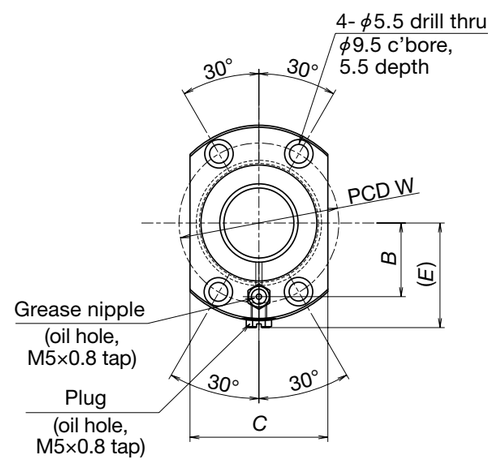
Note 1: Friction torque is about 2.0 N·cm due to thin plastic seal.
Note 2: Service temperature range is 0 to 80°C.
Note 3: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series for Conveyer FSS Type

Screw Shaft ϕ15 Lead 10, 20





View *X-X*

Unit: mm

Ball Screw Specifications	
Ball diameter / Screw shaft root diameter	2.778 / 12.6
Ball circle diameter	15.5
Accuracy grade / Axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK12-01B (square)	○	
WBK15SF-01B (square)		○
WBK12-11 (round)	○	

Unit: mm

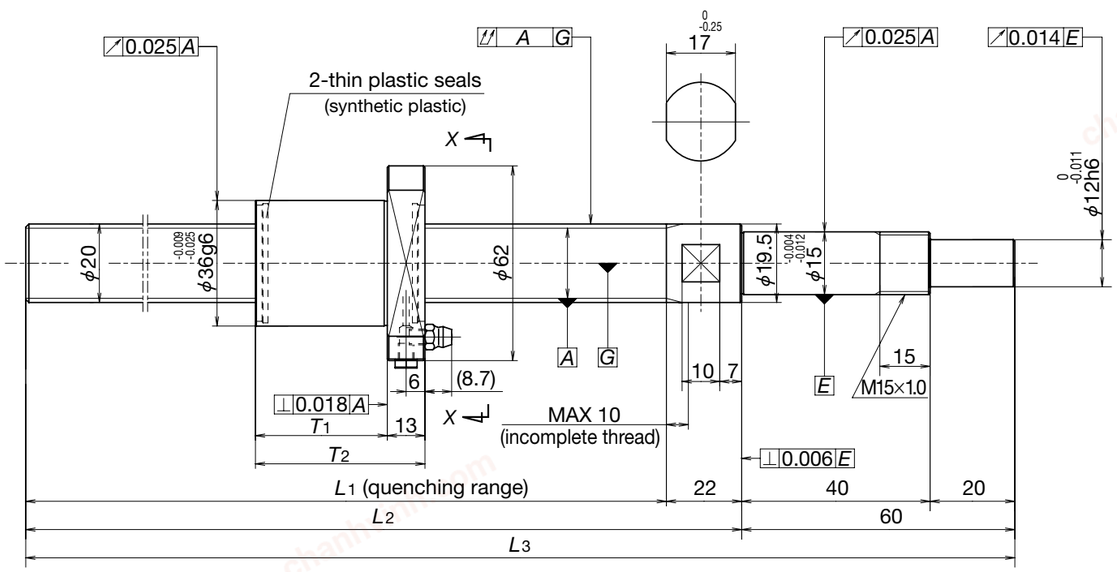
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Screw shaft length L_1	L_2	L_3	L_4	Nut dimensions T_1	T_2	D_1	D_2	W	B	C	E	Lead accuracy Target value T	Error e_p	Variation v_{300}	Shaft run-out A	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
FSS1510N1D0500	15	10	5 460	10 200	440	455	500	15	32	43	28	51	39	18	31	28	0	0.155	0.052	0.070	0.7	5 000	2.0	1.0
FSS1510N1D1000					940	955	1 000	15	32	43	28	51	39	18	31	28		0.310		0.125	1.4	2 000		
FSS1510N1D1450					1 390	1 405	1 450	15	32	43	28	51	39	18	31	28		0.490		0.200	1.9	1 000		
FSS1520N1D0500	15	20	5 070	8 730	437	455	500	18	40	51	32	55	43	20	33	30	0	0.155	0.052	0.070	0.8	5 000	2.8	1.4
FSS1520N1D1000					937	955	1 000	18	40	51	32	55	43	20	33	30		0.310		0.125	1.5	2 000		
FSS1520N1D1450					1 387	1 405	1 450	18	40	51	32	55	43	20	33	30		0.490		0.200	2.0	1 000		

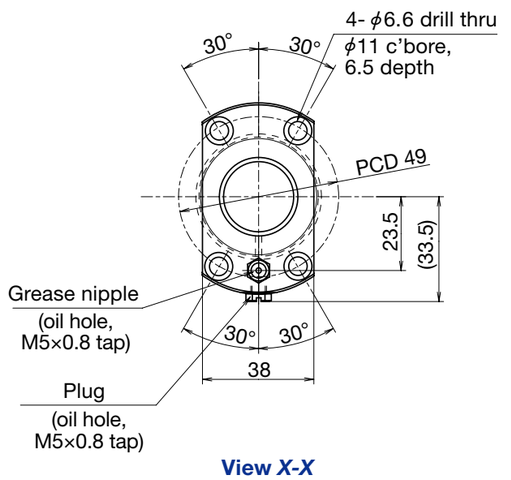
Note 1: Friction torque is about 2.0 N·cm due to thin plastic seal.
Note 2: Service temperature range is 0 to 80°C.
Note 3: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series for Conveyer FSS Type

Screw Shaft ϕ20 Lead 10, 20





View *X-X*

Unit: mm

Ball Screw Specifications	
Ball diameter / Screw shaft root diameter	3.175 / 17.2
Ball circle diameter	20.5
Accuracy grade / Axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK15-01B (square)	○	
WBK20SF-01B (square)		○
WBK15-11 (round)	○	

Unit: mm

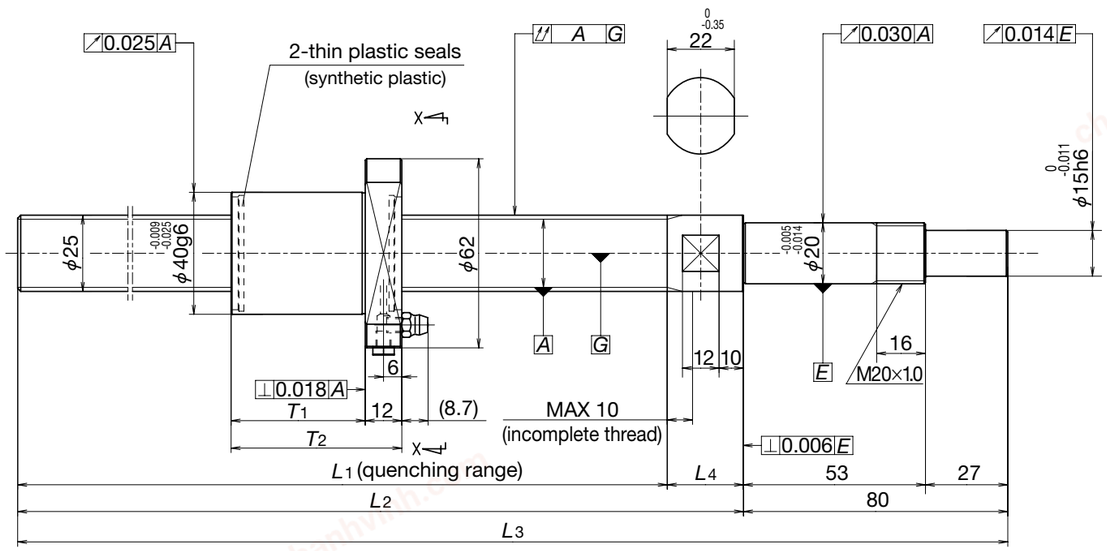
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Screw shaft length L_1	L_2	L_3	Nut dimensions T_1	T_2	Lead accuracy Target value T	Error e_p	Variation v_{300}	Shaft run-out A	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
FSS2010N1D0600	20	10	8 790	18 500	518	540	600	32	45	0	0.195	0.052	0.085	1.4	5 000	3.2	1.6
FSS2010N1D1000					918	940	1 000				0.310		0.125	2.4	3 000		
FSS2010N1D1450					1 368	1 390	1 450				0.490		0.200	3.4	1 500		
FSS2020N1D0600	20	20	5 900	11 700	518	540	600	41	54	0	0.195	0.052	0.085	1.5	5 000	3.2	1.6
FSS2020N1D1000					918	940	1 000				0.310		0.125	2.5	3 000		
FSS2020N1D1450					1 368	1 390	1 450				0.490		0.200	3.5	1 500		

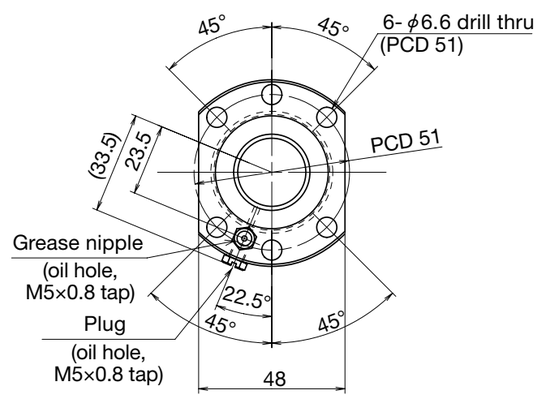
Note 1: Friction torque is about 2.0 N·cm due to thin plastic seal.
Note 2: Service temperature range is 0 to 80°C.
Note 3: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA Series for Conveyer FSS Type

Screw Shaft ϕ25 Lead 10, 20, 25





View *X-X*

Unit: mm

Ball Screw Specifications	
Ball diameter / Screw shaft root diameter	3.175 / 22.2
Ball circle diameter	25.5
Accuracy grade / Axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK Grease LR3

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	
WBK25SF-01 (square)		○
WBK20-11 (round)	○	

Unit: mm

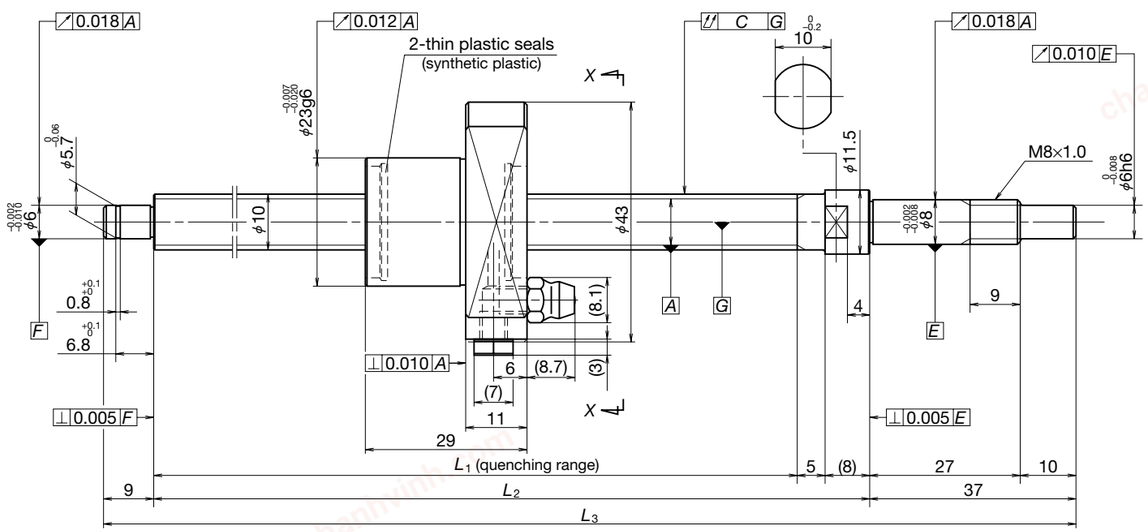
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Screw shaft length L_1	L_2	L_3	L_4	Nut dimensions T_1	T_2	Lead accuracy Target value T	Error e_p	Variation v_{300}	Shaft run-out A	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
FSS2510N1D0600	25	10	12 800	32 300	493	520	600	27	44	56	0	0.155	0.052	0.065	2.2	5 000	4.7	2.4
FSS2510N1D1000					893	920	1 000					0.310		0.090	3.7	4 000		
FSS2510N1D1450					1 343	1 370	1 450					0.490		0.130	5.4	1 800		
FSS2520N1D0600	25	20	6 560	14 600	494	520	600	26	42	54	0	0.155	0.052	0.065	2.3	5 000	3.9	2.0
FSS2520N1D1000					894	920	1 000					0.310		0.090	3.8	4 000		
FSS2520N1D1450					1 344	1 370	1 450					0.490		0.130	5.5	1 800		
FSS2525N1D0600	25	25	6 560	14 600	490	520	600	30	51	63	0	0.155	0.052	0.065	2.3	5 000	4.3	2.2
FSS2525N1D1000					890	920	1 000					0.310		0.090	3.8	4 000		
FSS2525N1D1450					1 340	1 370	1 450					0.490		0.130	5.5	1 800		

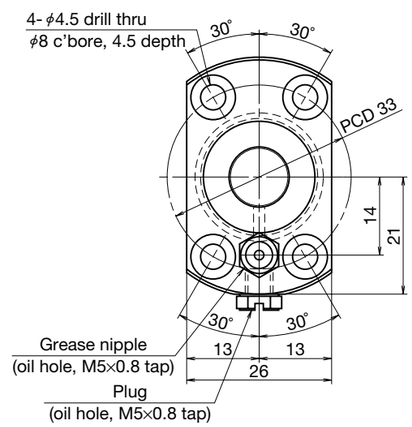
Note 1: Friction torque is about 2.0 N·cm due to thin plastic seal.
Note 2: Service temperature range is 0 to 80°C.
Note 3: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA High Precision Series USS Type

Screw Shaft ϕ10 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.000 / 8.2
Ball circle diameter	10.3
Accuracy grade / Axial play	C3 / 0
Factory-packed grease	NSK Grease LG2 with low particle emissions

Recommended Support Unit	Fixed side	Simple support side
WBK08-01B (square)	○	
WBK08S-01B (square)		○
WBK08-11B (round)	○	

Unit: mm

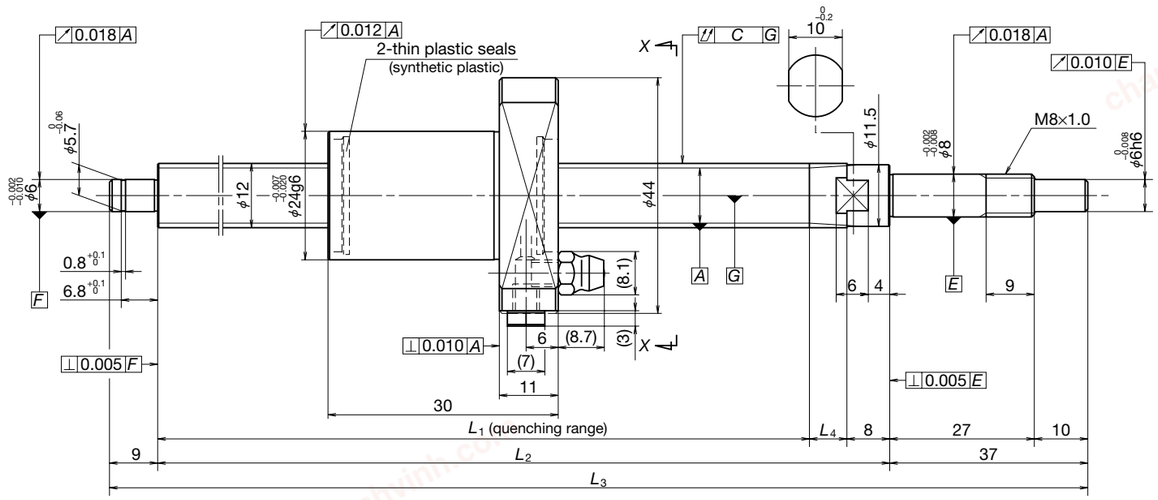
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N)		Stroke		Screw shaft length			Lead accuracy			Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1})	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
			Dynamic C_a	Static C_{0a}	Nominal	Max. $L_1 - L$	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U				Fixed - Support		
USS1005N1D0221	10	5	2 930	4 790	100	133	162	175	221	0	0.010	0.008	0.035	0.2 – 1.3	0.3	5 000	0.8	0.4
USS1005N1D0321	10	5	2 930	4 790	200	233	262	275	321	0	0.012	0.008	0.045	0.2 – 2.0	0.3	5 000	0.8	0.4
USS1005N1D0521	10	5	2 930	4 790	400	433	462	475	521	0	0.015	0.010	0.070	0.2 – 3.0	0.5	5 000	0.8	0.4

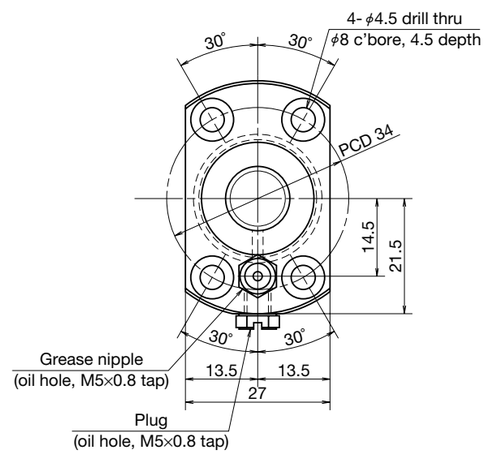
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA High Precision Series USS Type

Screw Shaft ϕ12 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.000 / 10.2
Ball circle diameter	12.3
Accuracy grade / Axial play	C3 / 0
Factory-packed grease	NSK Grease LG2 with low particle emissions

Recommended Support Unit	Fixed side	Simple support side
WBK08-01B (square)	○	
WBK08S-01B (square)		○
WBK08-11B (round)	○	

Unit: mm

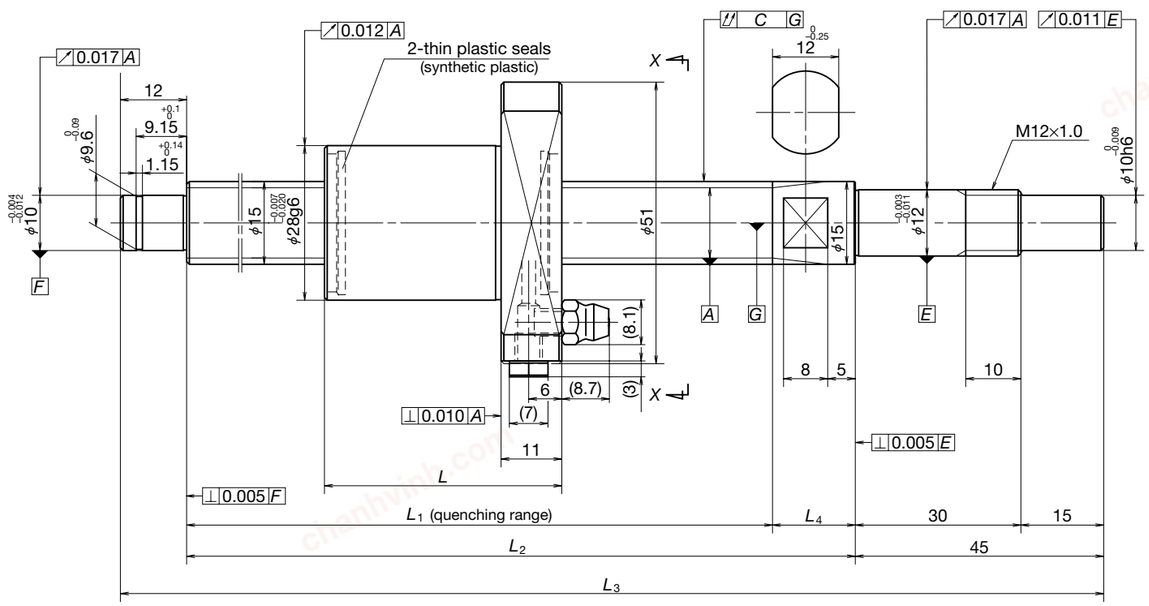
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	L_2	L_3	L_4	Lead accuracy Target value T	Error e_p	Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
USS1205N1D0221	12	5	3 200	5 860	100	130	30	160	175	221	7	0	0.010	0.008	0.035	0.2 – 1.8	0.3	5 000	1.0	0.5
USS1205N1D0321	12	5	3 200	5 860	200	230	30	260	275	321	7	0	0.012	0.008	0.045	0.2 – 2.0	0.4	5 000	1.0	0.5
USS1205N1D0621	12	5	3 200	5 860	500	530	30	560	575	621	7	0	0.016	0.012	0.070	0.2 – 2.0	0.7	5 000	1.0	0.5

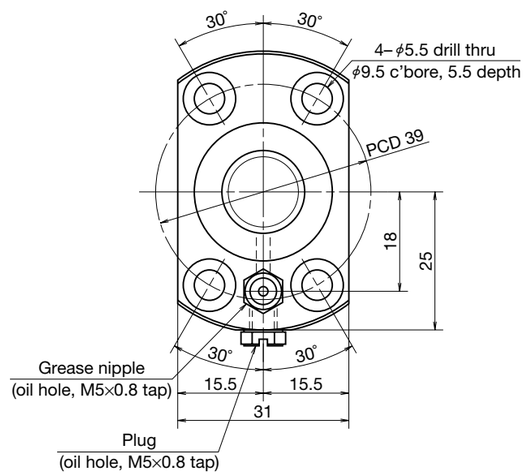
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Compact FA High Precision Series USS Type

Screw Shaft ϕ15 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications	
Preload type	Oversized ball preload (P-preload)
Ball diameter / Screw shaft root diameter	2.778 / 12.6
Ball circle diameter	15.5
Accuracy grade / Axial play	C3 / 0
Factory-packed grease	NSK Grease LG2 with low particle emissions

Recommended Support Unit	Fixed side	Simple support side
WBK12-01B (square)	○	
WBK12S-01B (square)		○
WBK12-11 (round)	○	
WBK10-01B (square)		○
WBK10-11 (round)		○

Unit: mm

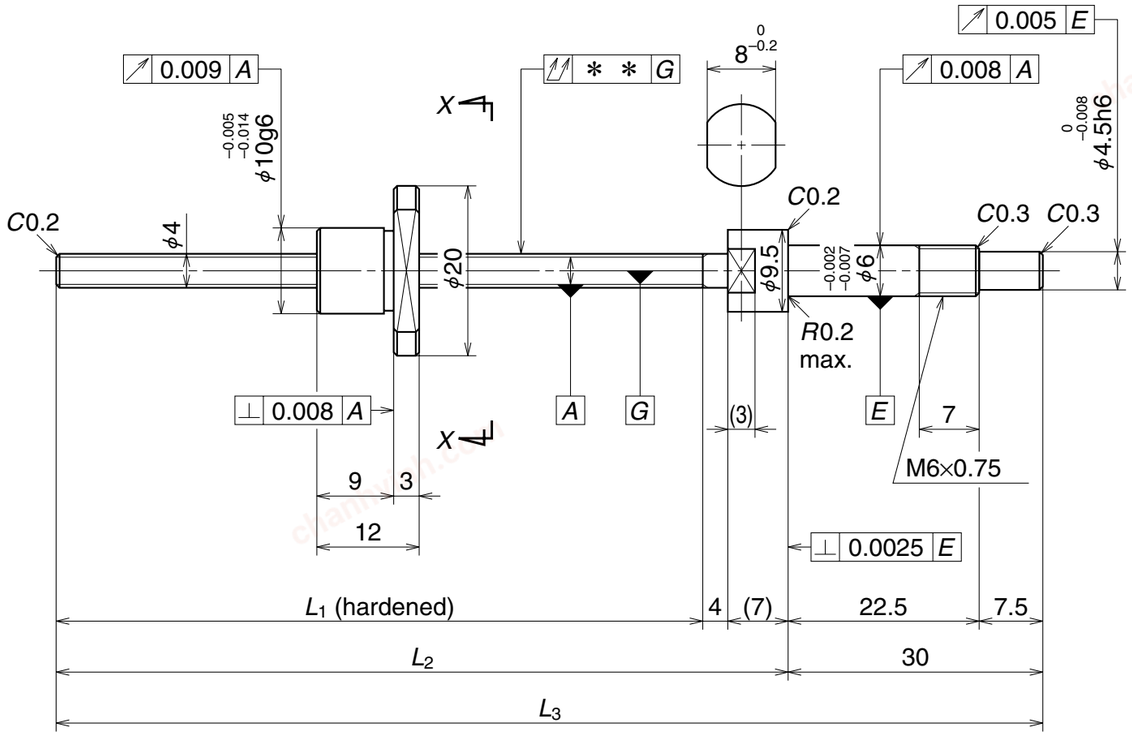
Part number	Screw shaft diameter d	Lead l	Basic load ratings (N) Dynamic C_a	Basic load ratings (N) Static C_{0a}	Stroke Nominal	Stroke Max. $L_1 - L$	Nut length L	Screw shaft length L_1	Screw shaft length L_2	Screw shaft length L_3	Screw shaft length L_4	Lead accuracy Target value T	Lead accuracy Error e_p	Lead accuracy Variation v_U	Shaft run-out C	Dynamic preload torque (N·cm) *1	Mass (kg)	Limiting speeds (min^{-1}) Fixed - Support	Nut internal space (cm^3)	Standard volume of grease replenishing (cm^3)
USS1505N1D0261	15	5	5 460	10 200	100	159	30	189	204	261	15	0	0.010	0.008	0.025	0.2 – 5.0	0.5	5 000	2.0	1.0
USS1505N1D0361	15	5	5 460	10 200	200	259	30	289	304	361	15	0	0.012	0.008	0.035	0.2 – 5.0	0.6	5 000	2.0	1.0
USS1505N1D0561	15	5	5 460	10 200	400	459	30	489	504	561	15	0	0.015	0.010	0.045	0.2 – 6.0	0.9	5 000	2.0	1.0
USS1505N1D0761	15	5	5 460	10 200	600	659	30	689	704	761	15	0	0.018	0.013	0.060	0.2 – 8.0	1.1	3 600	2.0	1.0

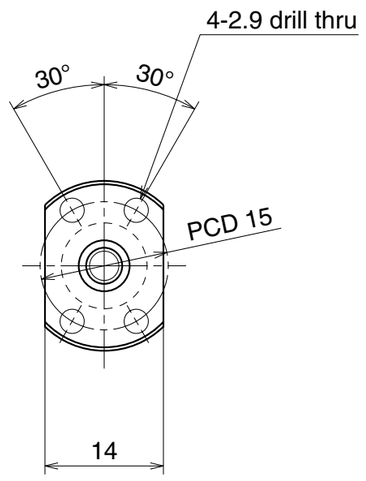
*1 Indicates ball screw preload control value. About 2.0 N·cm of torque is added due to thin plastic seal.
Note 1: Service temperature range is 0 to 80°C.
Note 2: Recommended quantity of grease is about 50% of nut's internal space. See page 314 for details.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ4 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		4 × 1 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		0.800 / 4.2
Effective turns of balls		1 × 2
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	315
	Static C_{0a}	370
Axial play		0
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit
WBK06-01A (square)
WBK06-11 (round)

Unit: mm

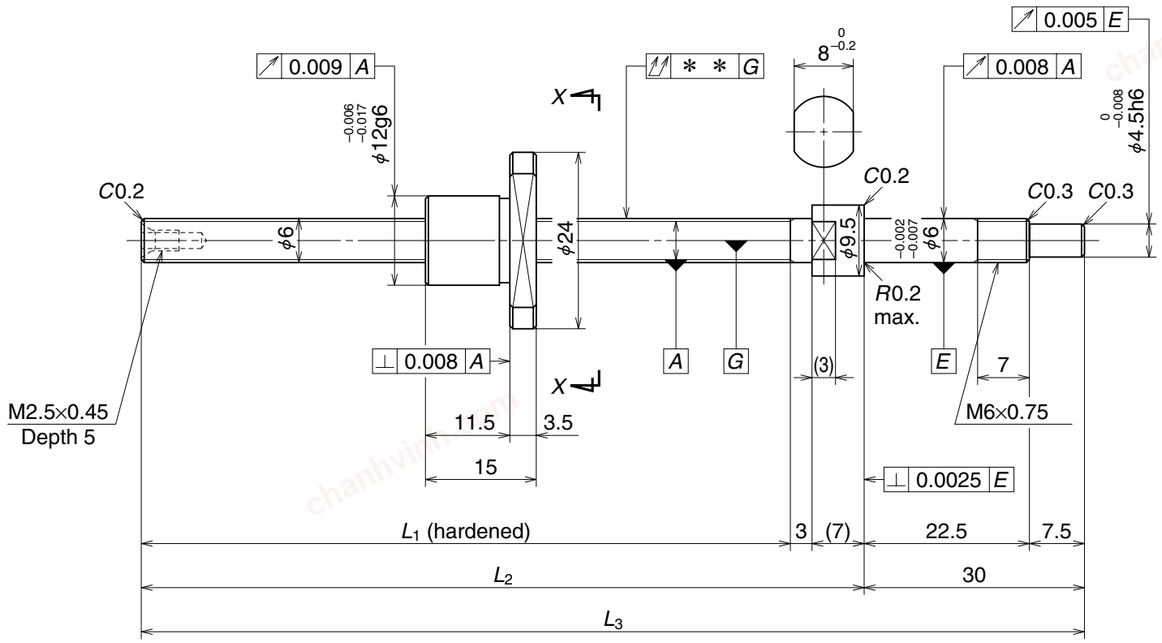
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Free
W0400MA-1PY-C3Z1	20	32	44	55	85	0	0.008	0.008	0.015	0.024	3 000
W0400MA-3PY-C3Z1	40	52	64	75	105	0	0.008	0.008	0.020	0.026	3 000
W0401MA-1PY-C3Z1	70	82	94	105	135	0	0.008	0.008	0.025	0.028	3 000

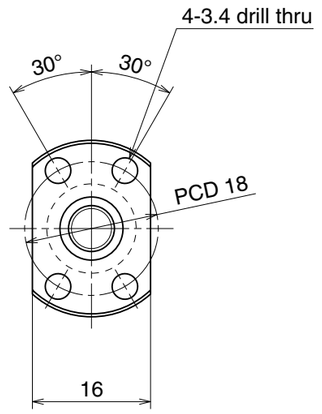
Note 1: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.
Note 2: Nut does not have seal.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ6 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		6 × 1 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		0.800 / 6.2
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	575
	Static C_{0a}	925
Axial play		0
Dynamic friction torque (N·cm)		1.3 or less
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit
WBK06-01A (square)
WBK06-11 (round)

Unit: mm

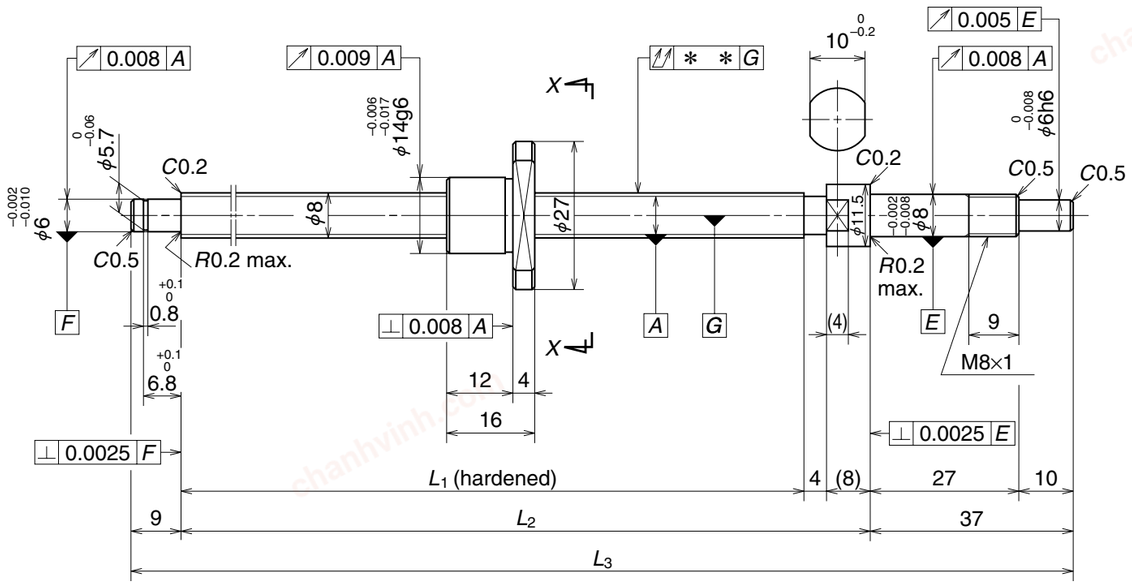
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Free
W0600MA-1PY-C3Z1	40	50	65	75	105	0	0.008	0.008	0.015	0.039	3 000
W0601MA-1PY-C3Z1	70	80	95	105	135	0	0.008	0.008	0.020	0.045	3 000
W0601MA-3PY-C3Z1	100	110	125	135	165	0	0.010	0.008	0.025	0.051	3 000

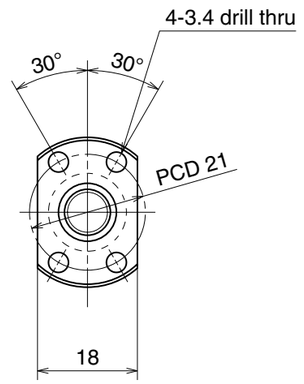
Note 1: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.
Note 2: Nut does not have seal.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ8 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 1 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		0.800 / 8.2
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	670
	Static C_{0a}	1 290
Axial play		0
Dynamic friction torque (N·cm)		1.8 or less
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01A (square)	○	
WBK08S-01 (square)		○
WBK08-11 (round)	○	

Unit: mm

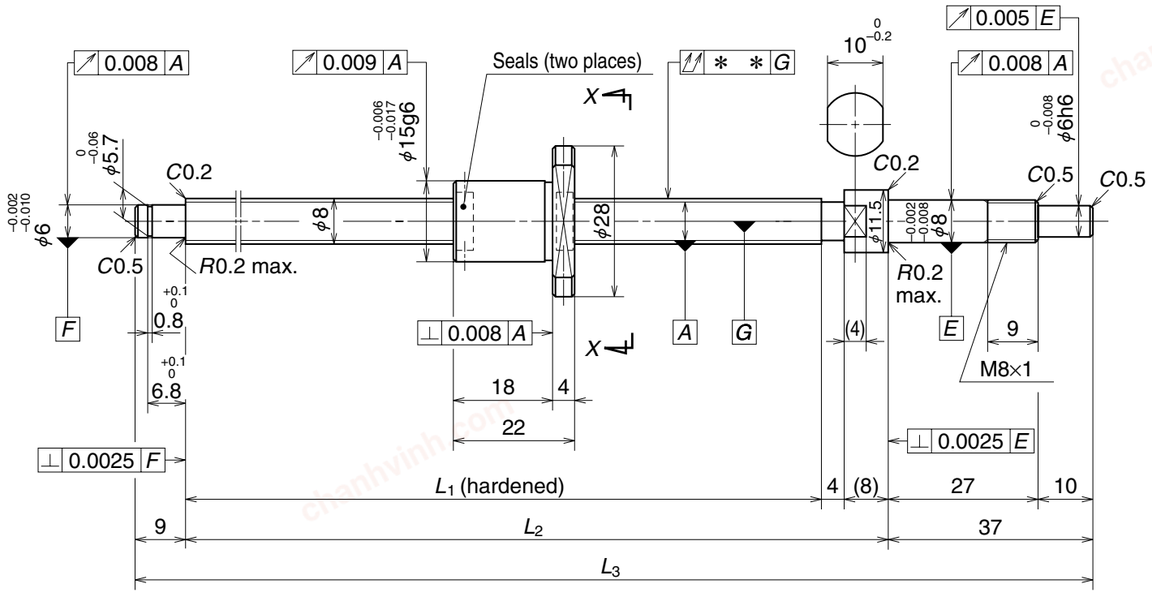
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Supporting condition: Fixed - Simple support
W0800MA-1PY-C3Z1	40	64	80	92	138	0	0.008	0.008	0.025	0.073	3 000
W0801MA-1PY-C3Z1	70	94	110	122	168	0	0.010	0.008	0.030	0.084	3 000
W0801MA-3PY-C3Z1	100	124	140	152	198	0	0.010	0.008	0.030	0.095	3 000
W0802MA-1PY-C3Z1	150	174	190	202	248	0	0.010	0.008	0.035	0.11	3 000

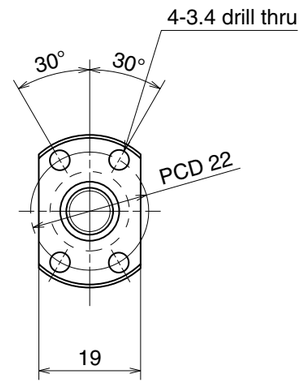
Note 1: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.
Note 2: Nut does not have seal.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ8 Lead 1.5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 1.5 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.000 / 8.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 080
	Static C_{0a}	1 980
Axial play		0
Dynamic friction torque (N·cm)		2.0 or less
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01A (square)	○	
WBK08S-01 (square)		○
WBK08-11 (round)	○	

Unit: mm

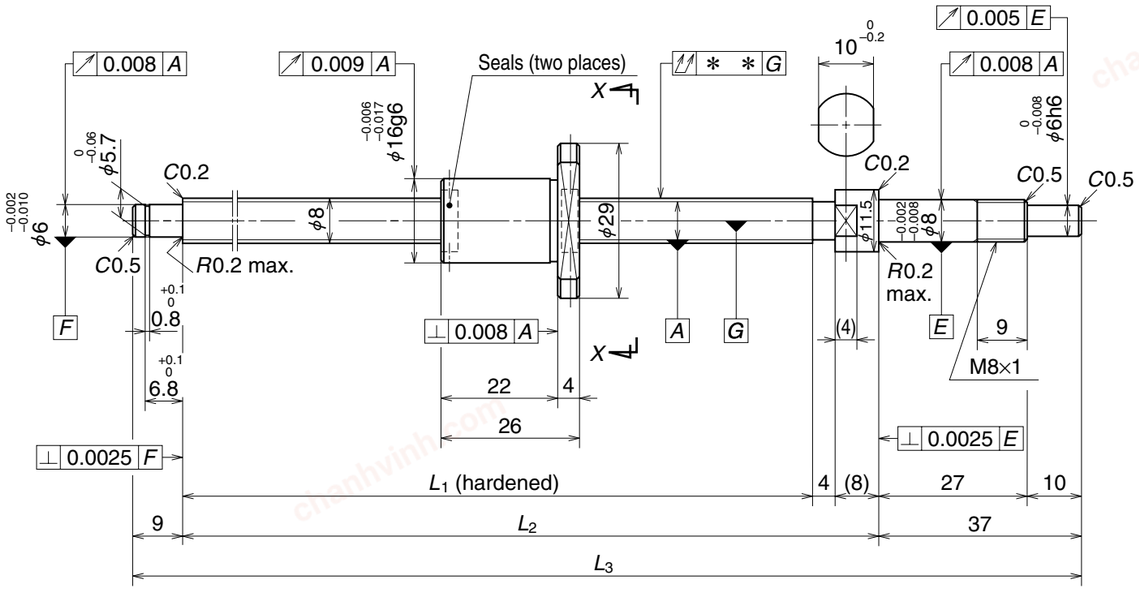
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Supporting condition: Fixed - Simple support
W0800MA-3PY-C3Z1.5	40	58	80	92	138	0	0.008	0.008	0.025	0.082	3 000
W0801MA-5PY-C3Z1.5	70	88	110	122	168	0	0.010	0.008	0.030	0.093	3 000
W0801MA-7PY-C3Z1.5	100	118	140	152	198	0	0.010	0.008	0.030	0.10	3 000
W0802MA-3PY-C3Z1.5	150	168	190	202	248	0	0.010	0.008	0.035	0.12	3 000

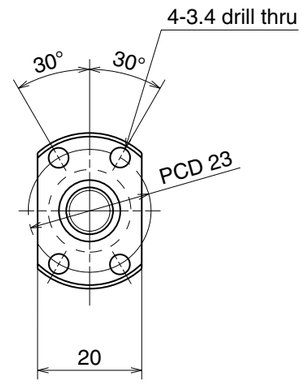
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ8 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 8.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 320
	Static C_{0a}	2 210
Axial play		0
Dynamic friction torque (N·cm)		2.0 or less
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01A (square)	○	
WBK08S-01 (square)		○
WBK08-11 (round)	○	

Unit: mm

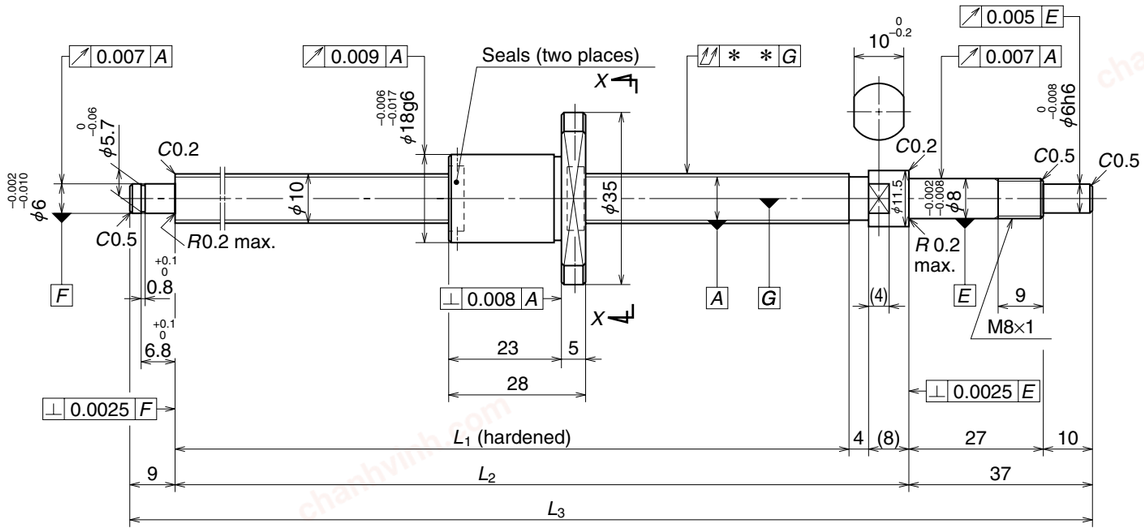
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W0800MA-5PY-C3Z2	40	54	80	92	138	0	0.008	0.008	0.025	0.09	3 000
W0801MA-9PY-C3Z2	70	84	110	122	168	0	0.010	0.008	0.030	0.10	3 000
W0801MA-11PY-C3Z2	100	114	140	152	198	0	0.010	0.008	0.030	0.11	3 000
W0802MA-5PY-C3Z2	150	164	190	202	248	0	0.010	0.008	0.035	0.13	3 000

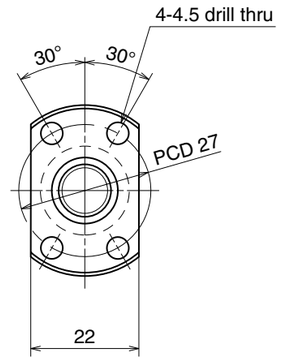
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ10 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 10.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 490
	Static C_{0a}	2 850
Axial play		0
Dynamic friction torque (N·cm)		0.1 – 2.4
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01A (square)	○	
WBK08S-01 (square)		○
WBK08-11 (round)	○	

Unit: mm

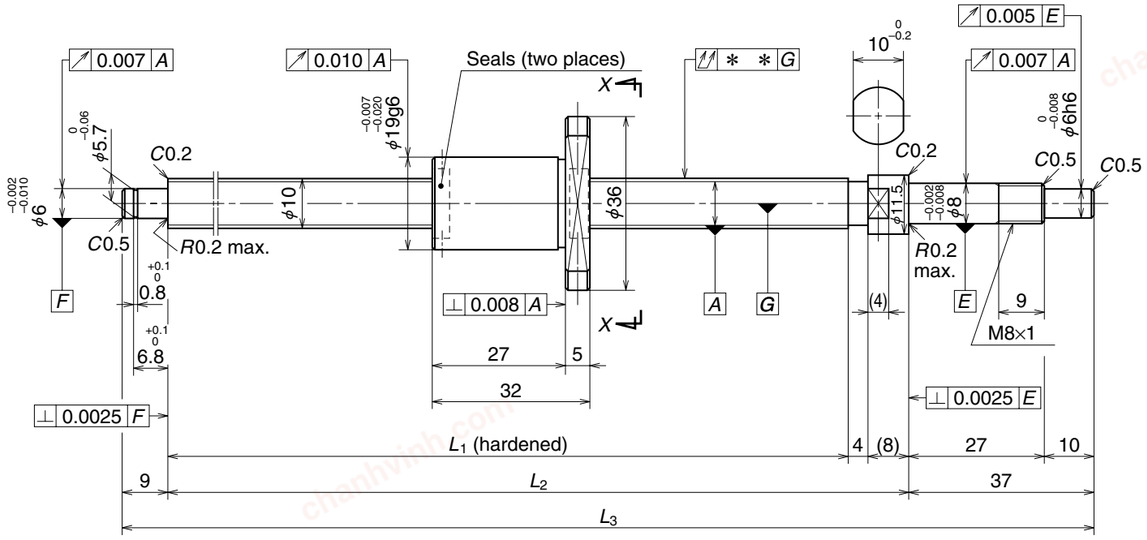
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Supporting condition: Fixed - Simple support
W1001MA-1PY-C3Z2	50	72	100	112	158	0	0.008	0.008	0.020	0.13	3 000
W1001MA-3PY-C3Z2	100	122	150	162	208	0	0.010	0.008	0.030	0.16	3 000
W1002MA-1PY-C3Z2	150	172	200	212	258	0	0.010	0.008	0.030	0.19	3 000
W1002MA-3PY-C3Z2	200	222	250	262	308	0	0.012	0.008	0.030	0.22	3 000

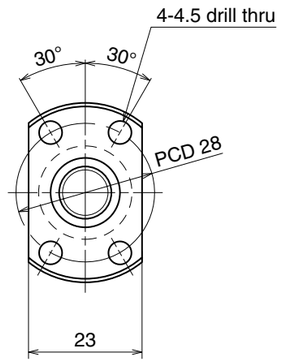
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ10 Lead 2.5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 2.5 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.588 / 10.4
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	2 130
	Static C_{0a}	3 640
Axial play		0
Dynamic friction torque (N·cm)		0.2 – 2.9
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK08-01A (square)	○	
WBK08S-01 (square)		○
WBK08-11 (round)	○	

Unit: mm

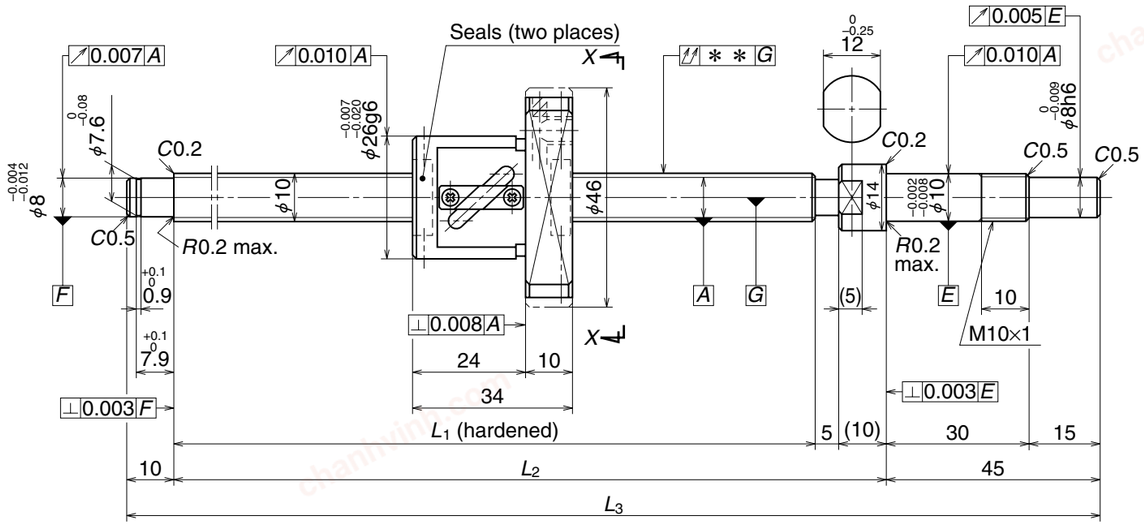
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Supporting condition: Fixed - Simple support
W1001MA-5PY-C3Z2.5	50	68	100	112	158	0	0.008	0.008	0.020	0.14	3 000
W1001MA-7PY-C3Z2.5	100	118	150	162	208	0	0.010	0.008	0.030	0.17	3 000
W1002MA-5PY-C3Z2.5	150	168	200	212	258	0	0.010	0.008	0.030	0.20	3 000
W1002MA-7PY-C3Z2.5	200	218	250	262	308	0	0.012	0.008	0.030	0.23	3 000

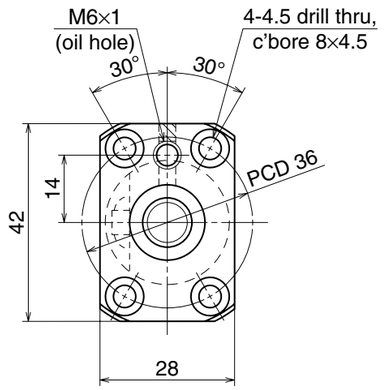
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ10 Lead 4





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 4 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.000 / 10.3
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 730
	Static C_{0a}	2 230
Axial play		0
Dynamic friction torque (N·cm)		0.5 – 3.9
Spacer ball		Yes
Factory-packed grease		NSK grease PS2
Internal spatial volume of nut (cm^3)		0.8

Recommended Support Unit	Fixed side	Simple support side
WBK10-01A (square)	○	
WBK10S-01 (square)		○
WBK10-11 (round)	○	

Unit: mm

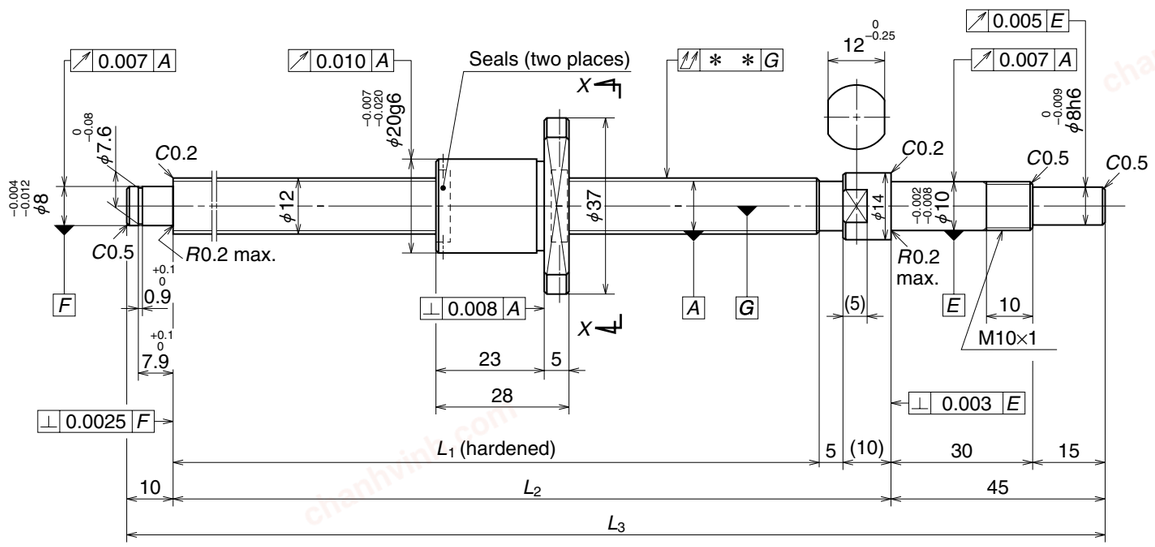
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1001FA-1P-C3Z4	50	76	110	125	180	0	0.010	0.008	0.020	0.26	3 000
W1001FA-3P-C3Z4	100	126	160	175	230	0	0.010	0.008	0.030	0.28	3 000
W1002FA-1P-C3Z4	150	176	210	225	280	0	0.012	0.008	0.030	0.31	3 000
W1002FA-3P-C3Z4	200	226	260	275	330	0	0.012	0.008	0.040	0.34	3 000
W1003FA-1P-C3Z4	250	276	310	325	380	0	0.012	0.008	0.040	0.37	3 000
W1003FA-3P-C3Z4	300	326	360	375	430	0	0.013	0.010	0.050	0.39	3 000

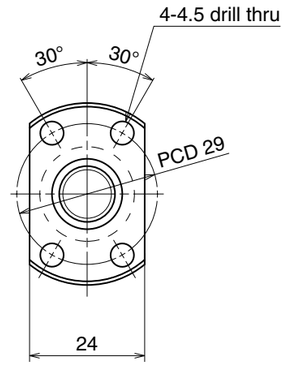
Note: NSK grease PS2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ12 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 12.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 660
	Static C_{0a}	3 620
Axial play		0
Dynamic friction torque (N·cm)		0.4 – 3.4
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK10-01A (square)	○	
WBK10S-01 (square)		○
WBK10-11 (round)	○	

Unit: mm

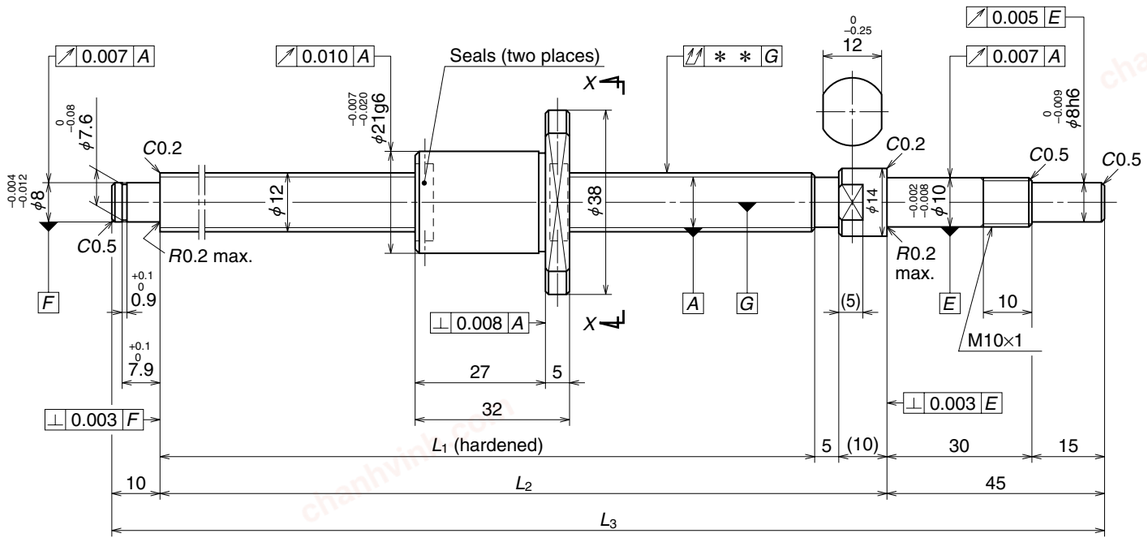
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1201MA-1PY-C3Z2	50	82	110	125	180	0	0.010	0.008	0.020	0.20	3 000
W1201MA-3PY-C3Z2	100	132	160	175	230	0	0.010	0.008	0.030	0.24	3 000
W1202MA-1PY-C3Z2	150	182	210	225	280	0	0.012	0.008	0.030	0.28	3 000
W1202MA-3PY-C3Z2	200	232	260	275	330	0	0.012	0.008	0.040	0.32	3 000
W1203MA-1PY-C3Z2	250	282	310	325	380	0	0.012	0.008	0.040	0.36	3 000

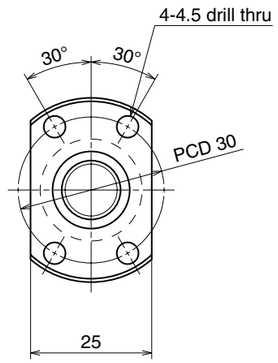
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ12 Lead 2.5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 2.5 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.588 / 12.4
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	2 360
	Static C_{0a}	4 540
Axial play		0
Dynamic friction torque (N·cm)		0.4 – 3.4
Spacer ball		None
Factory-packed grease		NSK grease PS2

Recommended Support Unit	Fixed side	Simple support side
WBK10-01A (square)	○	
WBK10S-01 (square)		○
WBK10-11 (round)	○	

Unit: mm

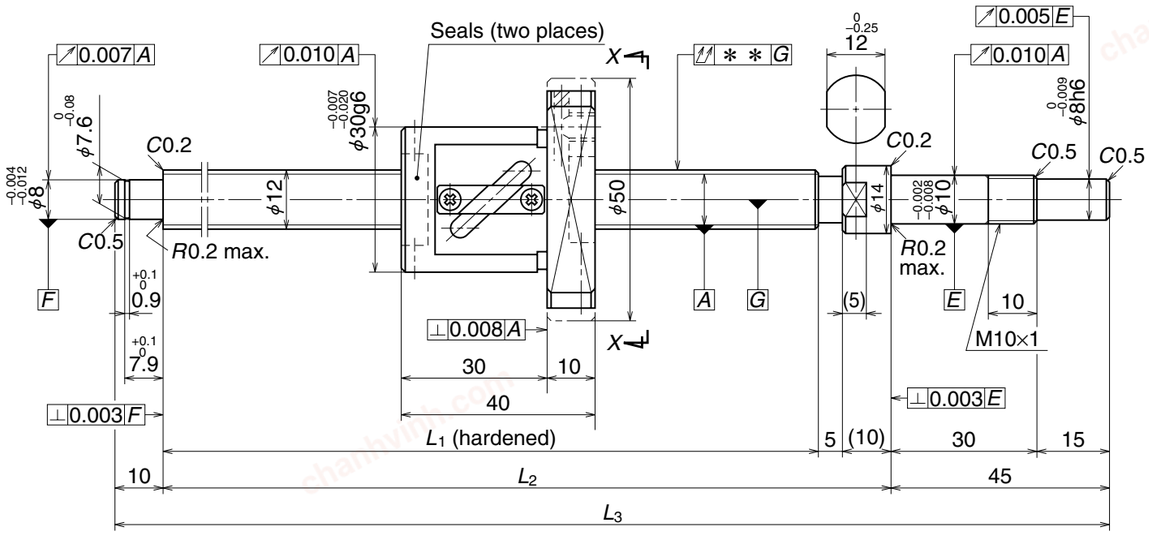
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Supporting condition: Fixed - Simple support
W1201MA-5PY-C3Z2.5	50	78	110	125	180	0	0.010	0.008	0.020	0.21	3 000
W1201MA-7PY-C3Z2.5	100	128	160	175	230	0	0.010	0.008	0.030	0.25	3 000
W1202MA-5PY-C3Z2.5	150	178	210	225	280	0	0.012	0.008	0.030	0.29	3 000
W1202MA-7PY-C3Z2.5	200	228	260	275	330	0	0.012	0.008	0.040	0.33	3 000
W1203MA-3PY-C3Z2.5	250	278	310	325	380	0	0.012	0.008	0.040	0.37	3 000

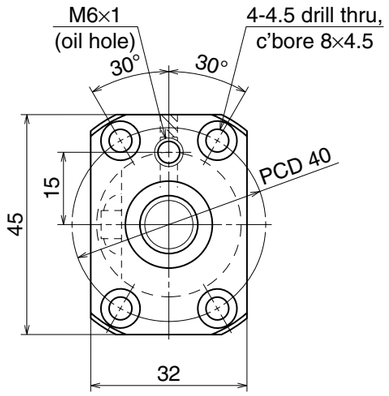
Note: NSK grease PS2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ12 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 5 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.381 / 12.3
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	2 370
	Static C_{0a}	3 160
Axial play		0
Dynamic friction torque (N·cm)		1.0 – 4.4
Spacer ball		Yes
Factory-packed grease		NSK grease PS2
Internal spatial volume of nut (cm^3)		1.2

Recommended Support Unit	Fixed side	Simple support side
WBK10-01A (square)	○	
WBK10S-01 (square)		○
WBK10-11 (round)	○	

Unit: mm

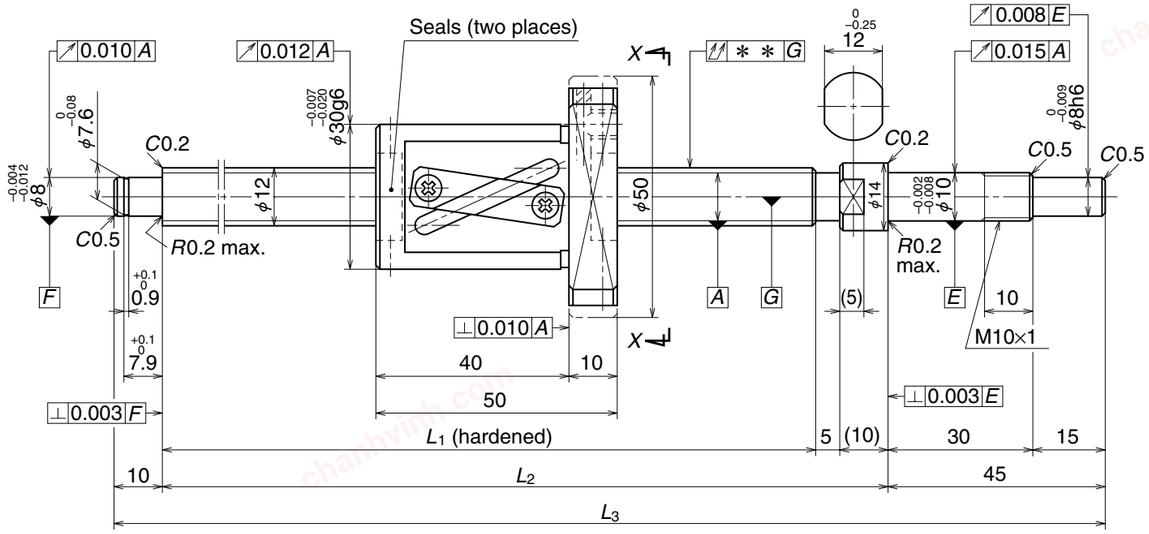
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1201FA-1P-C3Z5	50	70	110	125	180	0	0.010	0.008	0.020	0.35	3 000
W1201FA-3P-C3Z5	100	120	160	175	230	0	0.010	0.008	0.030	0.38	3 000
W1202FA-1P-C3Z5	150	170	210	225	280	0	0.012	0.008	0.030	0.42	3 000
W1202FA-3P-C3Z5	200	220	260	275	330	0	0.012	0.008	0.040	0.46	3 000
W1203FA-1P-C3Z5	250	270	310	325	380	0	0.012	0.008	0.040	0.50	3 000
W1204FA-1P-C3Z5	350	370	410	425	480	0	0.015	0.010	0.050	0.58	3 000
W1205FA-1P-C3Z5	450	470	510	525	580	0	0.016	0.012	0.065	0.66	3 000

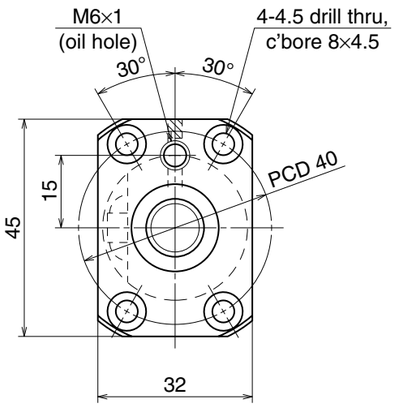
Note: NSK grease PS2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ12 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 10 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.381 / 12.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	2 360
	Static C_{0a}	3 240
Axial play		0
Dynamic friction torque (N·cm)		1.0 – 4.9
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		1.4

Recommended Support Unit	Fixed side	Simple support side
WBK10-01A (square)	○	
WBK10S-01 (square)		○
WBK10-11 (round)	○	

Unit: mm

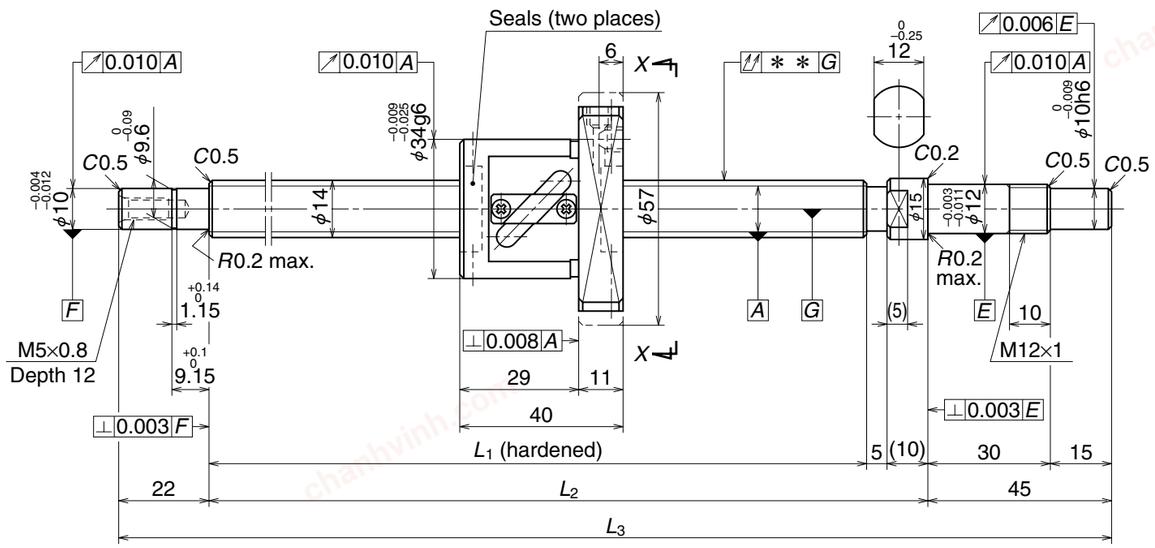
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U	↑↓		Fixed - Simple support
W1201FA-5P-C5Z10	100	110	160	175	230	0	0.020	0.018	0.035	0.43	3 000
W1202FA-5P-C5Z10	150	160	210	225	280	0	0.023	0.018	0.035	0.47	3 000
W1203FA-3P-C5Z10	250	260	310	325	380	0	0.023	0.018	0.050	0.56	3 000
W1204FA-3P-C5Z10	350	360	410	425	480	0	0.027	0.020	0.060	0.64	3 000
W1205FA-3P-C5Z10	450	460	510	525	580	0	0.030	0.023	0.075	0.72	3 000

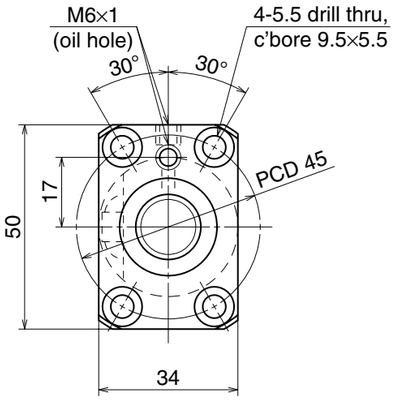
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ14 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		14 × 5 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 14.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	4 280
	Static C_{0a}	5 840
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 6.9
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.2

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

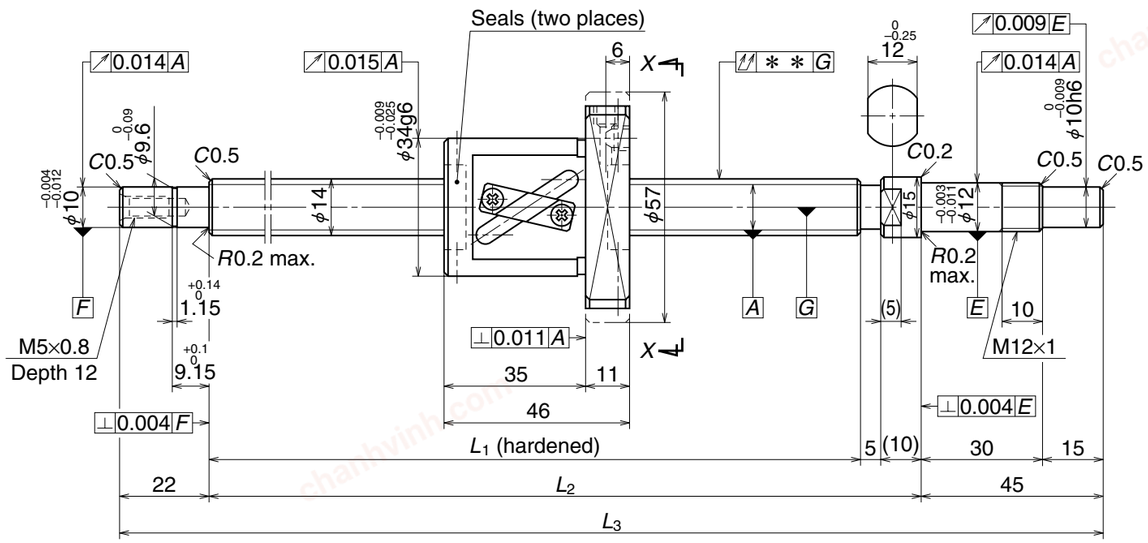
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1401FA-1P-C3Z5	100	149	189	204	271	0	0.010	0.008	0.020	0.52	3 000	3 000
W1402FA-1P-C3Z5	150	199	239	254	321	0	0.012	0.008	0.030	0.57	3 000	3 000
W1403FA-1P-C3Z5	250	299	339	354	421	0	0.013	0.010	0.035	0.67	3 000	3 000
W1404FA-1P-C3Z5	350	399	439	454	521	0	0.015	0.010	0.045	0.77	3 000	3 000
W1405FA-1P-C3Z5	450	499	539	554	621	0	0.016	0.012	0.045	0.87	3 000	3 000
W1406FA-1P-C3Z5	600	649	689	704	771	0	0.018	0.013	0.055	1.0	3 000	3 000

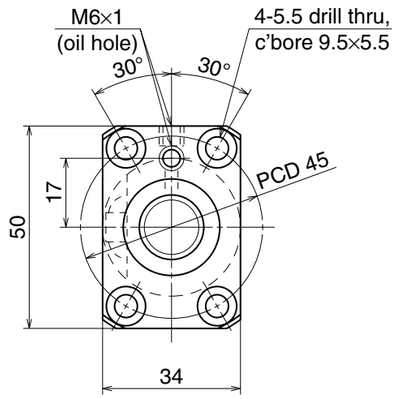
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ14 Lead 8





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		14 × 8 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 14.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	4 280
	Static C_{0a}	5 840
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.1

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

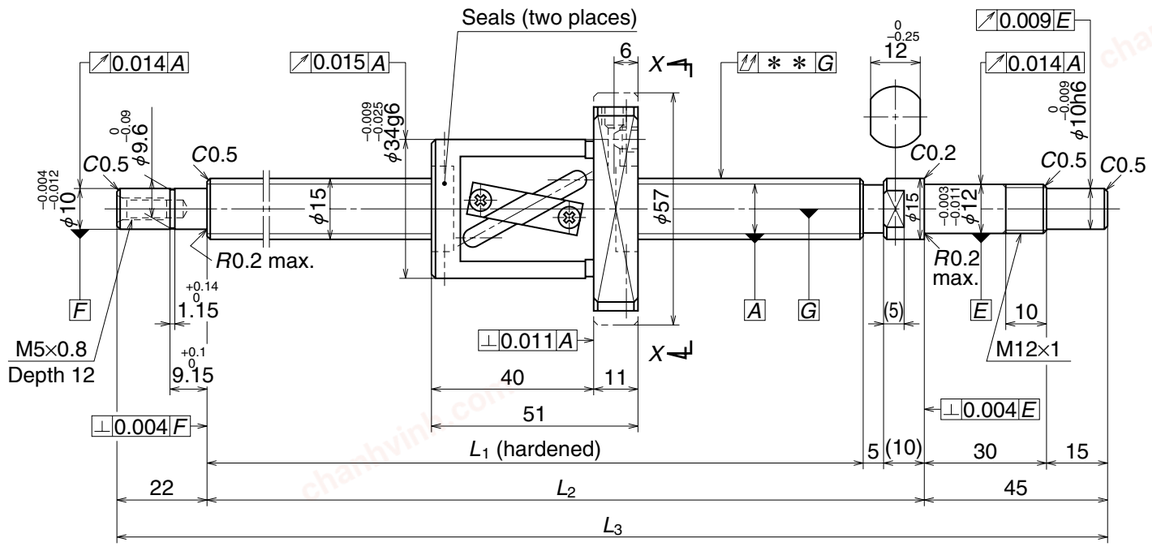
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1401FA-3P-C5Z8	100	143	189	204	271	0	0.020	0.018	0.025	0.56	3 000	3 000
W1402FA-3P-C5Z8	150	193	239	254	321	0	0.023	0.018	0.035	0.61	3 000	3 000
W1402FA-5P-C5Z8	200	243	289	304	371	0	0.023	0.018	0.035	0.67	3 000	3 000
W1403FA-3P-C5Z8	250	293	339	354	421	0	0.025	0.020	0.040	0.72	3 000	3 000
W1403FA-5P-C5Z8	300	343	389	404	471	0	0.025	0.020	0.040	0.78	3 000	3 000
W1404FA-3P-C5Z8	350	393	439	454	521	0	0.027	0.020	0.050	0.83	3 000	3 000
W1404FA-5P-C5Z8	400	443	489	504	571	0	0.027	0.020	0.050	0.88	3 000	3 000
W1405FA-3P-C5Z8	450	493	539	554	621	0	0.030	0.023	0.050	0.94	3 000	3 000
W1405FA-5P-C5Z8	500	543	589	604	671	0	0.030	0.023	0.065	0.99	3 000	3 000
W1406FA-3P-C5Z8	550	593	639	654	721	0	0.035	0.025	0.065	1.0	3 000	3 000
W1406FA-5P-C5Z8	600	643	689	704	771	0	0.035	0.025	0.065	1.1	3 000	3 000
W1407FA-1P-C5Z8	700	743	789	804	871	0	0.035	0.025	0.085	1.2	2 800	3 000

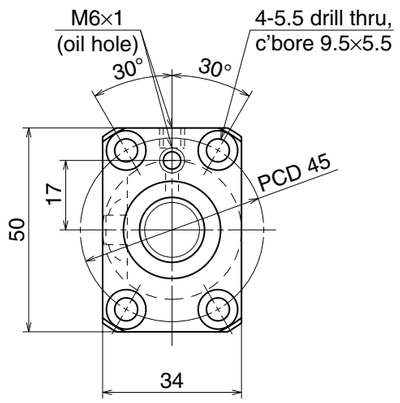
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ15 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		15 × 10 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 15.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	4 450
	Static C_{0a}	6 380
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.3

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1501FA-1P-C5Z10	100	138	189	204	271	0	0.020	0.018	0.025	0.61	3 000	3 000
W1502FA-1P-C5Z10	150	188	239	254	321	0	0.023	0.018	0.035	0.67	3 000	3 000
W1502FA-3P-C5Z10	200	238	289	304	371	0	0.023	0.018	0.035	0.74	3 000	3 000
W1503FA-1P-C5Z10	250	288	339	354	421	0	0.025	0.020	0.040	0.80	3 000	3 000
W1503FA-3P-C5Z10	300	338	389	404	471	0	0.025	0.020	0.040	0.86	3 000	3 000
W1504FA-1P-C5Z10	350	388	439	454	521	0	0.027	0.020	0.050	0.93	3 000	3 000
W1504FA-3P-C5Z10	400	438	489	504	571	0	0.027	0.020	0.050	1.0	3 000	3 000
W1505FA-1P-C5Z10	450	488	539	554	621	0	0.030	0.023	0.050	1.1	3 000	3 000
W1505FA-3P-C5Z10	500	538	589	604	671	0	0.030	0.023	0.065	1.1	3 000	3 000
W1506FA-1P-C5Z10	550	588	639	654	721	0	0.035	0.025	0.065	1.2	3 000	3 000
W1506FA-3P-C5Z10	600	638	689	704	771	0	0.035	0.025	0.065	1.2	3 000	3 000
W1507FA-1P-C5Z10	700	738	789	804	871	0	0.035	0.025	0.085	1.4	3 000	3 000
W1508FA-1P-C5Z10	800	838	889	904	971	0	0.040	0.027	0.085	1.5	2 400	3 000
W1510FA-1P-C5Z10	1 000	1 038	1 089	1 104	1 171	0	0.046	0.030	0.110	1.8	1 590	2 250

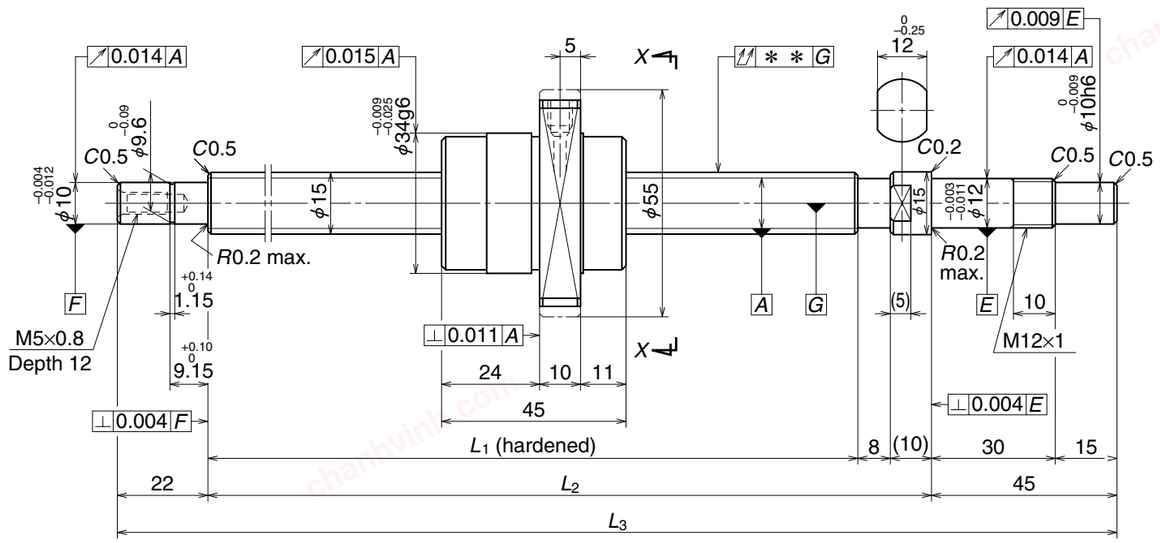
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

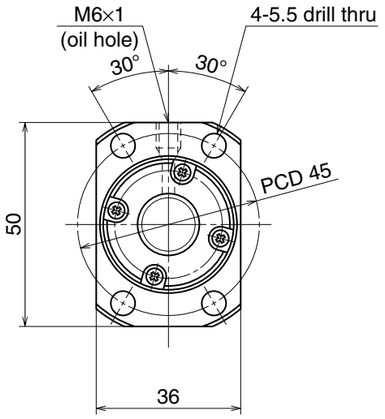
chanhvinh.com

Ball Screws A Series: Finished Shaft End

Nut Model: UPFC

Screw Shaft ϕ15 Lead 20





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		15 × 20 / Right
Preload / Ball recirculation		P-preload / End cap
Ball dia. / Ball circle dia.		3.175 / 15.5
Effective turns of balls		1.7 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	3 870
	Static C_{0a}	5 820
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		1.9

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

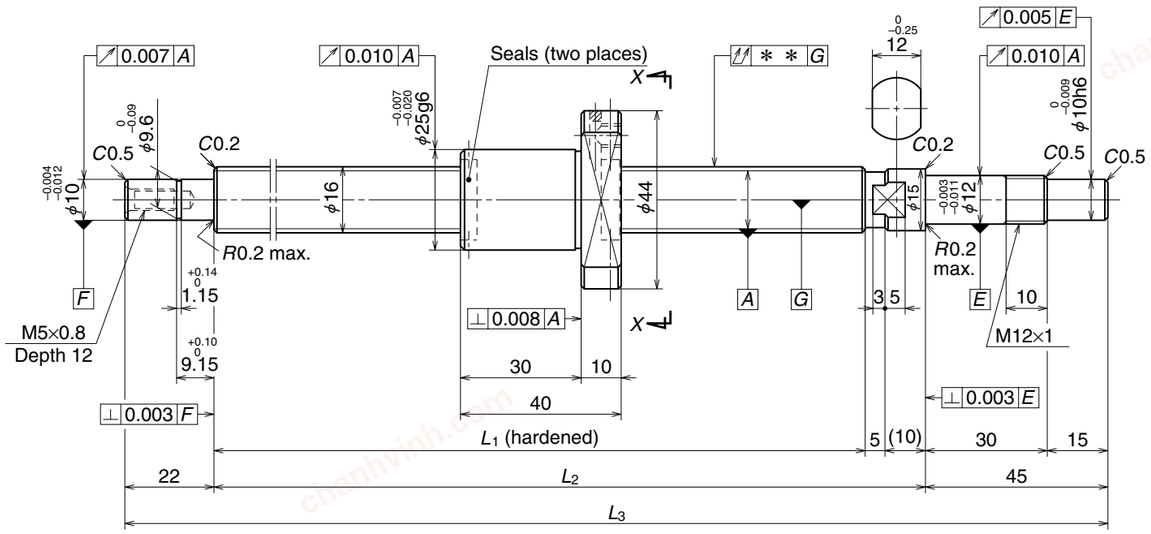
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1501FA-3PG-C5Z20	100	141	186	204	271	0	0.020	0.018	0.025	0.61	3 000	3 000
W1502FA-5PG-C5Z20	150	191	236	254	321	0	0.023	0.018	0.035	0.68	3 000	3 000
W1502FA-7PG-C5Z20	200	241	286	304	371	0	0.023	0.018	0.035	0.75	3 000	3 000
W1503FA-5PG-C5Z20	250	291	336	354	421	0	0.025	0.020	0.040	0.81	3 000	3 000
W1503FA-7PG-C5Z20	300	341	386	404	471	0	0.025	0.020	0.040	0.88	3 000	3 000
W1504FA-5PG-C5Z20	350	391	436	454	521	0	0.027	0.020	0.050	0.95	3 000	3 000
W1504FA-7PG-C5Z20	400	441	486	504	571	0	0.027	0.020	0.050	1.0	3 000	3 000
W1505FA-5PG-C5Z20	450	491	536	554	621	0	0.030	0.023	0.050	1.1	3 000	3 000
W1505FA-7PG-C5Z20	500	541	586	604	671	0	0.030	0.023	0.065	1.1	3 000	3 000
W1506FA-5PG-C5Z20	550	591	636	654	721	0	0.035	0.025	0.065	1.2	3 000	3 000
W1506FA-7PG-C5Z20	600	641	686	704	771	0	0.035	0.025	0.065	1.3	3 000	3 000
W1507FA-3PG-C5Z20	700	741	786	804	871	0	0.035	0.025	0.085	1.4	3 000	3 000
W1508FA-3PG-C5Z20	800	841	886	904	971	0	0.040	0.027	0.085	1.5	2 400	3 000
W1510FA-3PG-C5Z20	1 000	1 041	1 086	1 104	1 171	0	0.046	0.030	0.110	1.8	1 590	2 240

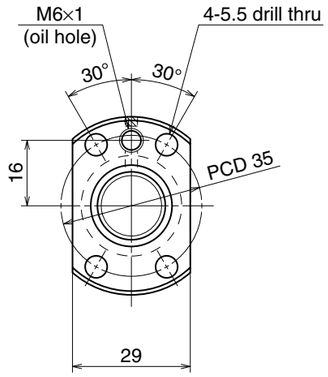
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ16 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.588 / 16.4
Effective turns of balls		1 × 4
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	3 510
	Static C_{0a}	8 450
Axial play		0
Dynamic friction torque (N·cm)		0.5 – 4.9
Spacer ball		None
Factory-packed grease		NSK grease PS2
Internal spatial volume of nut (cm^3)		1.6

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

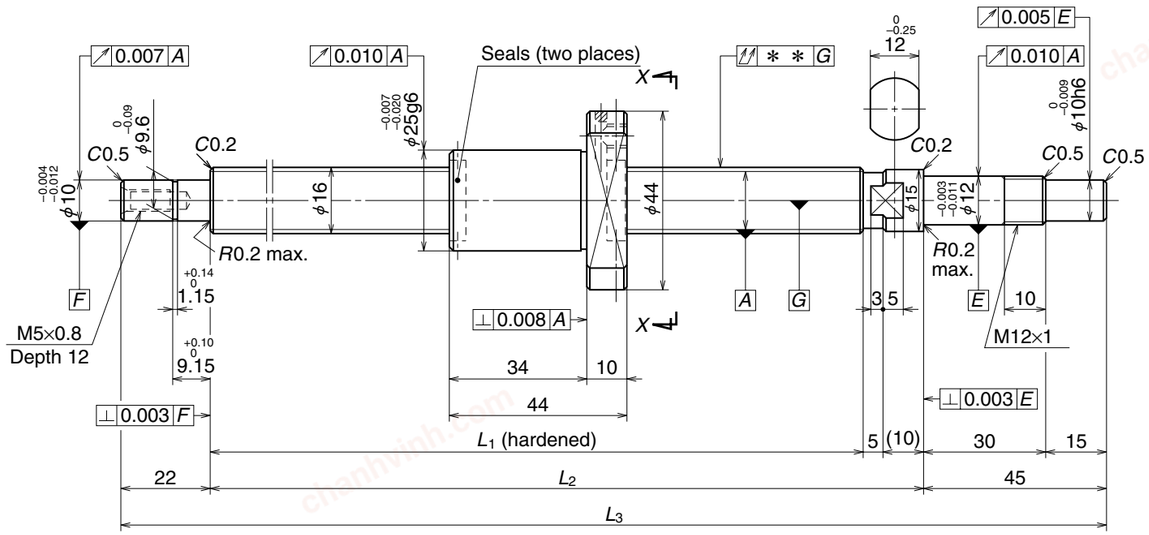
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1601MA-1PY-C3Z2	50	99	139	154	221	0	0.010	0.008	0.020	0.41	3 000	3 000
W1601MA-3PY-C3Z2	100	149	189	204	271	0	0.010	0.008	0.020	0.48	3 000	3 000
W1602MA-1PY-C3Z2	150	199	239	254	321	0	0.012	0.008	0.030	0.55	3 000	3 000
W1602MA-3PY-C3Z2	200	249	289	304	371	0	0.012	0.008	0.030	0.62	3 000	3 000
W1603MA-1PY-C3Z2	300	349	389	404	471	0	0.013	0.010	0.035	0.77	3 000	3 000

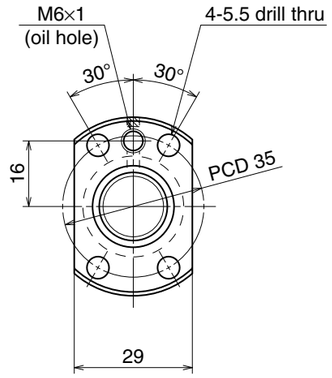
Note: NSK grease PS2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ16 Lead 2.5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 2.5 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.588 / 16.4
Effective turns of balls		1 × 4
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	3 510
	Static C_{0a}	8 450
Axial play		0
Dynamic friction torque (N·cm)		0.5 – 4.9
Spacer ball		None
Factory-packed grease		NSK grease PS2
Internal spatial volume of nut (cm^3)		1.6

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

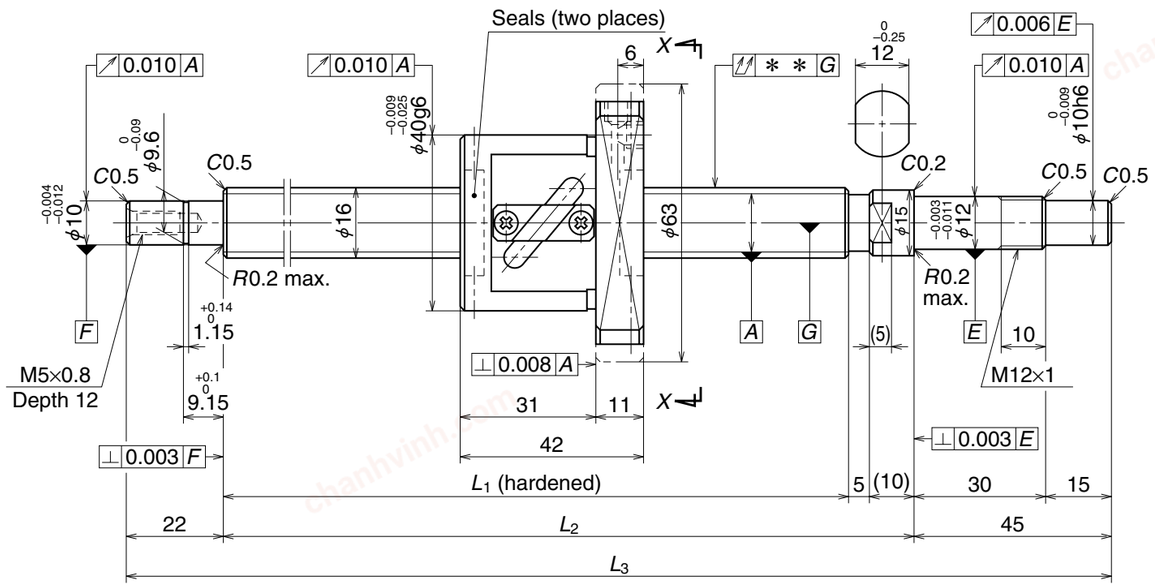
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1601MA-5PY-C3Z2.5	50	95	139	154	221	0	0.010	0.008	0.020	0.42	3 000	3 000
W1601MA-7PY-C3Z2.5	100	145	189	204	271	0	0.010	0.008	0.020	0.49	3 000	3 000
W1602MA-5PY-C3Z2.5	150	195	239	254	321	0	0.012	0.008	0.030	0.57	3 000	3 000
W1602MA-7PY-C3Z2.5	200	245	289	304	371	0	0.012	0.008	0.030	0.64	3 000	3 000
W1603MA-3PY-C3Z2.5	300	345	389	404	471	0	0.013	0.010	0.035	0.79	3 000	3 000

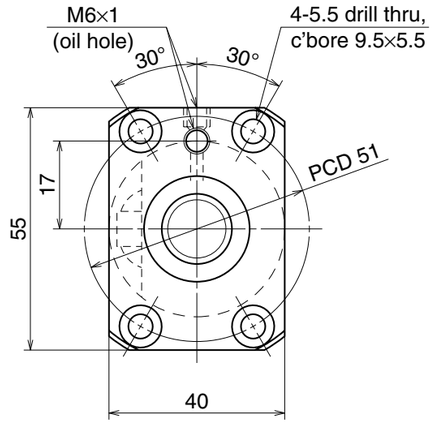
Note: NSK grease PS2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ16 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 5 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 16.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	4 620
	Static C_{0a}	6 750
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.6

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

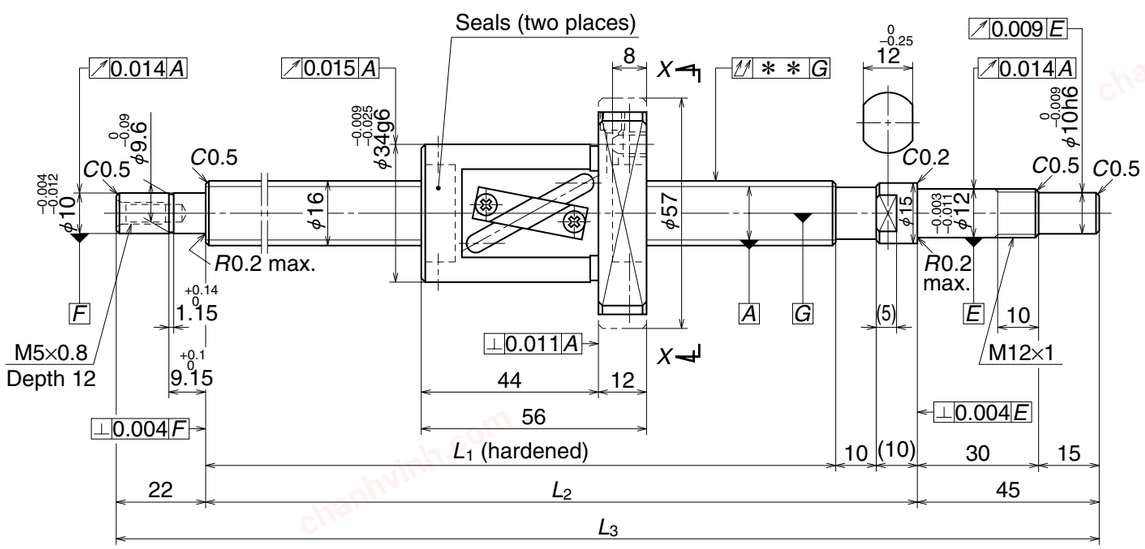
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1601FA-1P-C3Z5	100	147	189	204	271	0	0.010	0.008	0.020	0.70	3 000	3 000
W1602FA-1P-C3Z5	200	247	289	304	371	0	0.012	0.008	0.030	0.83	3 000	3 000
W1603FA-1P-C3Z5	300	347	389	404	471	0	0.013	0.010	0.035	0.97	3 000	3 000
W1604FA-1P-C3Z5	400	447	489	504	571	0	0.015	0.010	0.045	1.1	3 000	3 000
W1606FA-1P-C3Z5	600	647	689	704	771	0	0.018	0.013	0.055	1.4	3 000	3 000
W1608FA-1P-C3Z5	800	847	889	904	971	0	0.021	0.015	0.075	1.6	2 570	3 000

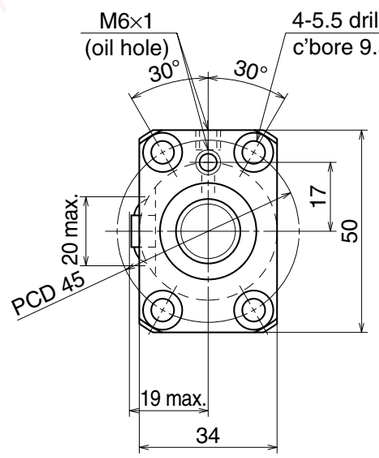
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

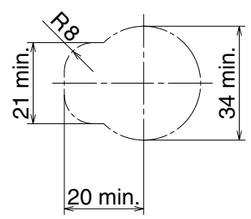
Nut Model: LPFT

Screw Shaft ϕ16 Lead 16





View *X-X*



Housing hole and clearance

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 16 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 16.75
Effective turns of balls		1.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	3 600
	Static C_{0a}	5 410
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.1

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

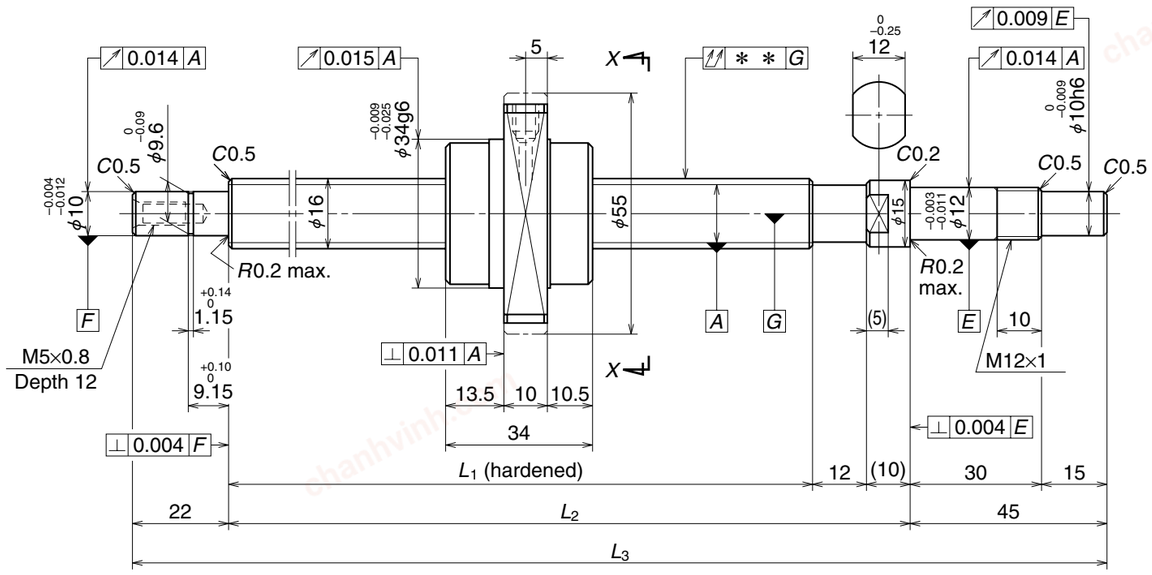
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1601FA-3P-C5Z16	100	128	184	204	271	0	0.020	0.018	0.025	0.69	3 000	3 000
W1602FA-3P-C5Z16	150	178	234	254	321	0	0.023	0.018	0.035	0.77	3 000	3 000
W1602FA-5P-C5Z16	200	228	284	304	371	0	0.023	0.018	0.035	0.84	3 000	3 000
W1603FA-3P-C5Z16	250	278	334	354	421	0	0.025	0.020	0.040	0.92	3 000	3 000
W1603FA-5P-C5Z16	300	328	384	404	471	0	0.025	0.020	0.040	0.99	3 000	3 000
W1604FA-3P-C5Z16	350	378	434	454	521	0	0.027	0.020	0.050	1.1	3 000	3 000
W1604FA-5P-C5Z16	400	428	484	504	571	0	0.027	0.020	0.050	1.1	3 000	3 000
W1605FA-1P-C5Z16	450	478	534	554	621	0	0.030	0.023	0.050	1.2	3 000	3 000
W1605FA-3P-C5Z16	500	528	584	604	671	0	0.030	0.023	0.065	1.3	3 000	3 000
W1606FA-3P-C5Z16	550	578	634	654	721	0	0.035	0.025	0.065	1.4	3 000	3 000
W1606FA-5P-C5Z16	600	628	684	704	771	0	0.035	0.025	0.065	1.4	3 000	3 000
W1607FA-1P-C5Z16	700	728	784	804	871	0	0.035	0.025	0.085	1.6	3 000	3 000
W1608FA-3P-C5Z16	800	828	884	904	971	0	0.040	0.027	0.085	1.7	2 690	3 000
W1610FA-1P-C5Z16	1 000	1 028	1 084	1 104	1 171	0	0.046	0.030	0.110	2.0	1 770	2 480

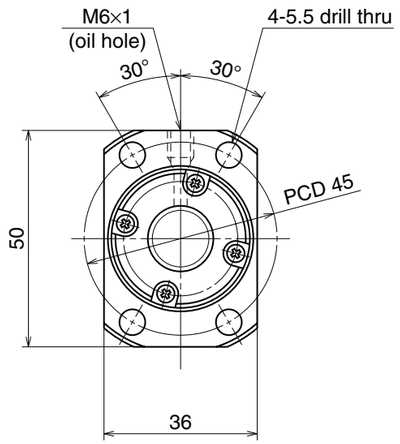
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: UPFC

Screw Shaft ϕ16 Lead 32





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 32 / Right
Preload / Ball recirculation		P-preload / End cap
Ball dia. / Ball circle dia.		3.175 / 16.75
Effective turns of balls		0.7 × 2
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	4 000
	Static C_{0a}	6 690
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 9.8
Spacer ball		None
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.0

Recommended Support Unit	Fixed side	Simple support side
WBK12-01A (square)	○	
WBK12S-01 (square)		○
WBK12-11 (round)	○	

Unit: mm

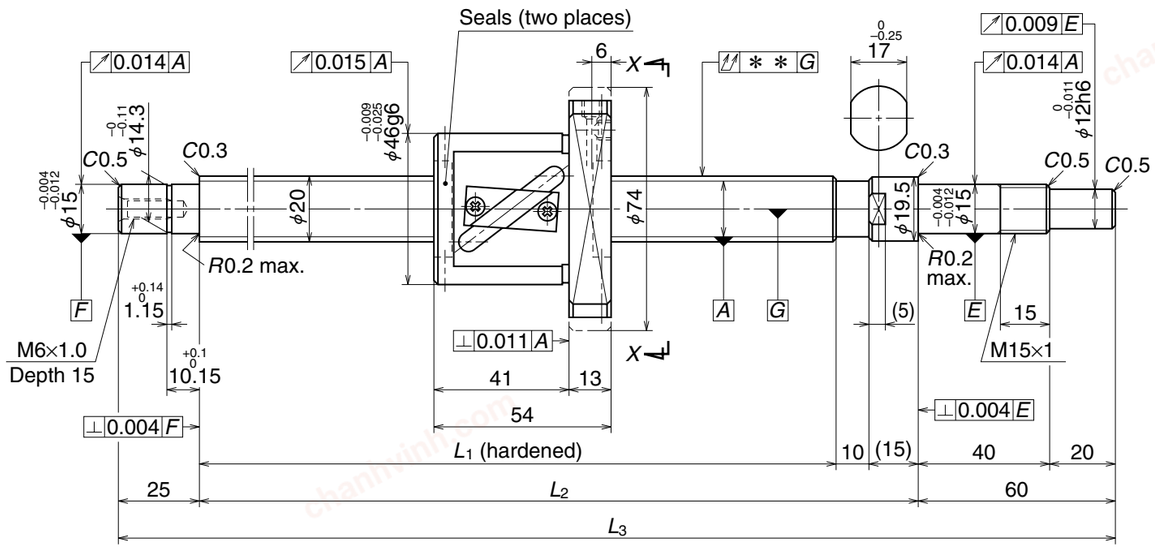
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W1603FA-7PGX-C5Z32	300	348	382	404	471	0	0.025	0.020	0.040	0.90	3 000	3 000
W1605FA-5PGX-C5Z32	500	548	582	604	671	0	0.030	0.023	0.065	1.2	3 000	3 000
W1608FA-5PGX-C5Z32	800	848	882	904	971	0	0.040	0.027	0.085	1.7	2 630	3 000
W1612FA-1PGX-C5Z32	1 200	1 248	1 282	1 304	1 371	0	0.054	0.035	0.150	2.3	1 240	1 740

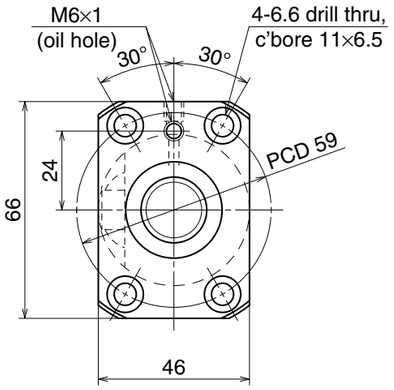
Note 1: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Nut does not have seal.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ20 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		20 × 10 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.969 / 21
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	6 880
	Static C_{0a}	10 800
Axial play		0
Dynamic friction torque (N·cm)		2.0 – 11.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		4.7

Recommended Support Unit	Fixed side	Simple support side
WBK15-01A (square)	○	
WBK15S-01 (square)		○
WBK15-11 (round)	○	

Unit: mm

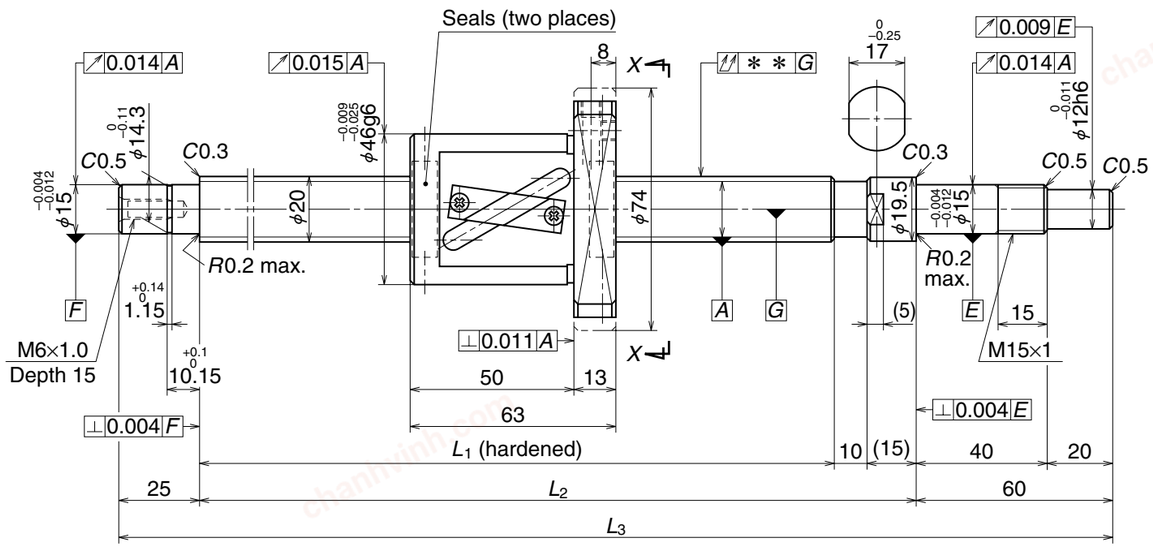
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2002FA-1P-C5Z10	200	235	289	314	399	0	0.023	0.018	0.035	1.4	3 000	3 000
W2003FA-1P-C5Z10	300	335	389	414	499	0	0.025	0.020	0.040	1.6	3 000	3 000
W2004FA-1P-C5Z10	400	435	489	514	599	0	0.027	0.020	0.050	1.9	3 000	3 000
W2005FA-1P-C5Z10	500	535	589	614	699	0	0.030	0.023	0.065	2.1	3 000	3 000
W2006FA-1P-C5Z10	600	635	689	714	799	0	0.035	0.025	0.065	2.3	3 000	3 000
W2007FA-1P-C5Z10	700	735	789	814	899	0	0.035	0.025	0.085	2.5	3 000	3 000
W2008FA-1P-C5Z10	800	835	889	914	999	0	0.040	0.027	0.085	2.8	3 000	3 000
W2009FA-1P-C5Z10	900	935	989	1 014	1 099	0	0.040	0.027	0.110	3.0	2 680	3 000
W2010FA-1P-C5Z10	1 000	1 035	1 089	1 114	1 199	0	0.046	0.030	0.110	3.2	2 210	3 000
W2011FA-1P-C5Z10	1 100	1 135	1 189	1 214	1 299	0	0.046	0.030	0.150	3.4	1 840	2 570
W2012FA-1P-C5Z10	1 200	1 235	1 289	1 314	1 399	0	0.054	0.035	0.150	3.7	1 570	2 190

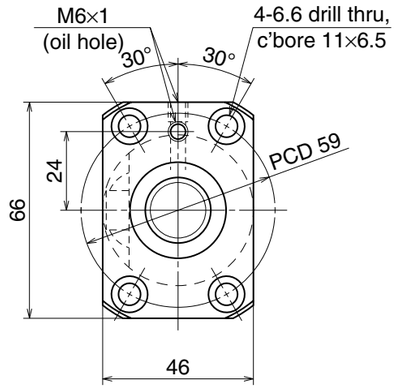
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ20 Lead 20





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		20 × 20 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.969 / 21
Effective turns of balls		1.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	5 370
	Static C_{0a}	8 450
Axial play		0
Dynamic friction torque (N·cm)		2.0 – 11.8
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		4.2

Recommended Support Unit	Fixed side	Simple support side
WBK15-01A (square)	○	
WBK15S-01 (square)		○
WBK15-11 (round)	○	

Unit: mm

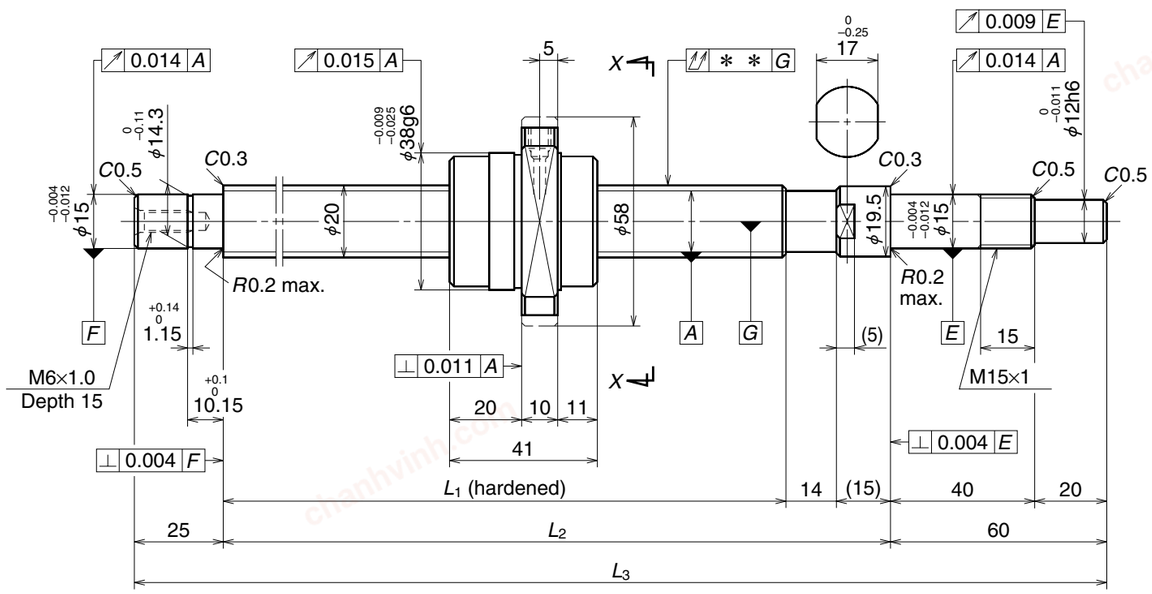
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2003FA-3P-C5Z20	200	247	310	335	420	0	0.023	0.018	0.040	1.6	3 000	3 000
W2004FA-3P-C5Z20	300	347	410	435	520	0	0.027	0.020	0.050	1.8	3 000	3 000
W2005FA-3P-C5Z20	400	447	510	535	620	0	0.030	0.023	0.050	2.0	3 000	3 000
W2006FA-3P-C5Z20	500	547	610	635	720	0	0.030	0.023	0.065	2.3	3 000	3 000
W2007FA-3P-C5Z20	600	647	710	735	820	0	0.035	0.025	0.085	2.5	3 000	3 000
W2008FA-3P-C5Z20	700	747	810	835	920	0	0.040	0.027	0.085	2.7	3 000	3 000
W2009FA-3P-C5Z20	800	847	910	935	1 020	0	0.040	0.027	0.110	3.0	3 000	3 000
W2010FA-3P-C5Z20	900	947	1 010	1 035	1 120	0	0.046	0.030	0.110	3.2	2 590	3 000
W2011FA-3P-C5Z20	1 000	1 047	1 110	1 135	1 220	0	0.046	0.030	0.110	3.4	2 140	2 970
W2012FA-3P-C5Z20	1 100	1 147	1 210	1 235	1 320	0	0.046	0.030	0.150	3.7	1 790	2 500
W2015FA-1P-C5Z20	1 400	1 447	1 510	1 535	1 620	0	0.054	0.035	0.180	4.4	1 140	1 610

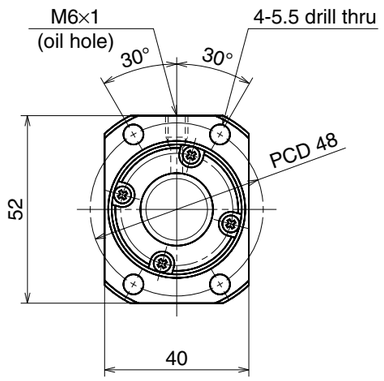
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: UPFC

Screw Shaft ϕ20 Lead 40





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		20 × 40 / Right
Preload / Ball recirculation		P-preload / End cap
Ball dia. / Ball circle dia.		3.175 / 20.75
Effective turns of balls		0.7 × 2
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	4 490
	Static C_{0a}	8 640
Axial play		0
Dynamic friction torque (N·cm)		2.0 – 11.8
Spacer ball		None
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		2.8

Recommended Support Unit	Fixed side	Simple support side
WBK15-01A (square)	○	
WBK15S-01 (square)		○
WBK15-11 (round)	○	

Unit: mm

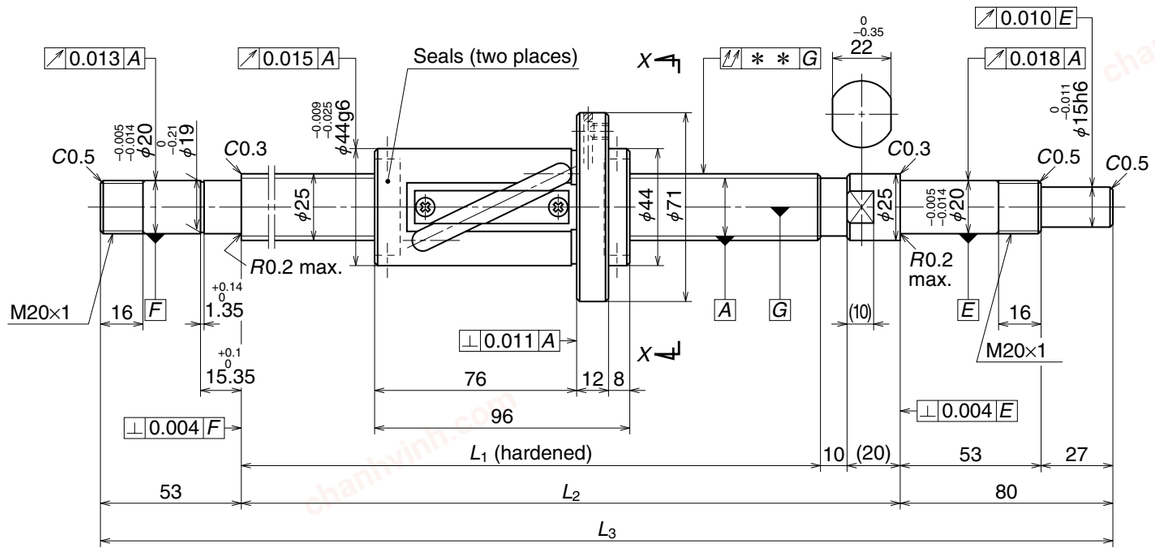
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2005FA-5PGX-C5Z40	400	465	506	535	620	0	0.030	0.023	0.050	1.7	3 000	3 000
W2007FA-5PGX-C5Z40	600	665	706	735	820	0	0.035	0.025	0.085	2.2	3 000	3 000
W2009FA-5PGX-C5Z40	800	865	906	935	1 020	0	0.040	0.027	0.110	2.7	3 000	3 000
W2011FA-5PGX-C5Z40	1 000	1 065	1 106	1 135	1 220	0	0.046	0.030	0.110	3.1	2 170	3 000
W2013FA-1PGX-C5Z40	1 200	1 265	1 306	1 335	1 420	0	0.054	0.035	0.150	3.6	1 550	2 160
W2017FA-1PGX-C5Z40	1 600	1 665	1 706	1 735	1 820	0	0.065	0.040	0.230	4.6	910	1 270

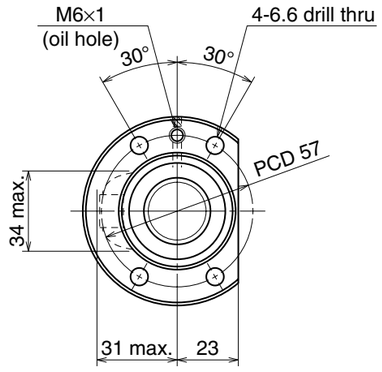
Note 1: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Nut does not have seal.

chanhvinh.com

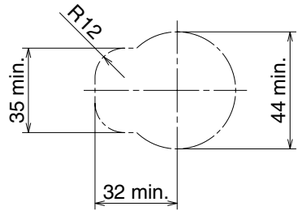
Nut Model: LPFT

Screw Shaft ϕ25 Lead 20





View *X-X*



Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		25 × 20 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		4.762 / 26.25
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	9 900
	Static C_{0a}	16 400
Axial play		0
Dynamic friction torque (N·cm)		3.9 – 24.5
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		12

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Housing hole and clearance

Unit: mm

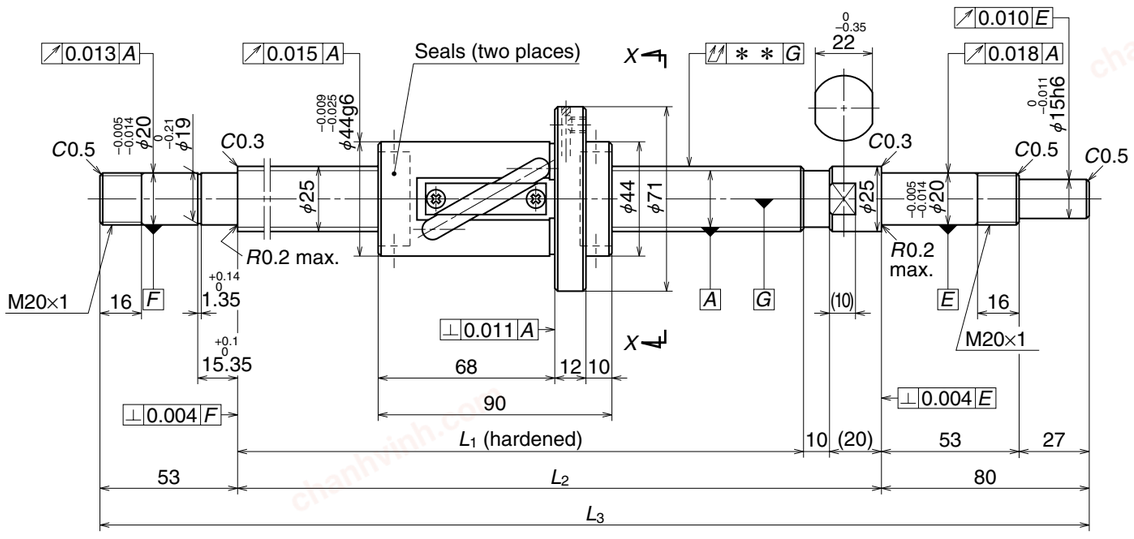
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2507FA-1P-C5Z20	600	654	750	780	913	0	0.035	0.025	0.055	4.0	2 800	2 800
W2509FA-1P-C5Z20	800	854	950	980	1 113	0	0.040	0.027	0.070	4.7	2 800	2 800
W2511FA-1P-C5Z20	1 000	1 054	1 150	1 180	1 313	0	0.046	0.030	0.090	5.4	2 560	2 800
W2513FA-1P-C5Z20	1 200	1 254	1 350	1 380	1 513	0	0.054	0.035	0.090	6.2	1 840	2 550
W2515FA-1P-C5Z20	1 400	1 454	1 550	1 580	1 713	0	0.054	0.035	0.120	6.9	1 390	1 940
W2517FA-1P-C5Z20	1 600	1 654	1 750	1 780	1 913	0	0.065	0.040	0.120	7.6	1 080	1 520
W2521FA-1P-C5Z20	2 000	2 054	2 150	2 180	2 313	0	0.077	0.046	0.160	9.1	710	1 000

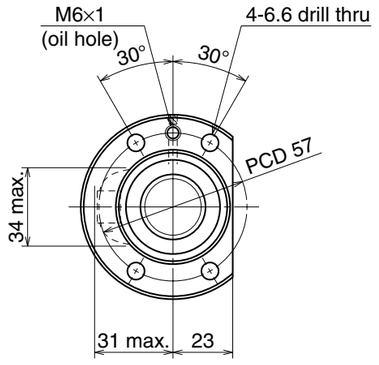
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

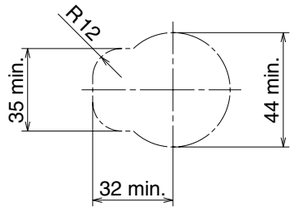
Nut Model: LPFT

Screw Shaft ϕ25 Lead 25





View *X-X*



Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		25 × 25 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		4.762 / 26.25
Effective turns of balls		1.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	7 730
	Static C_{0a}	12 700
Axial play		0
Dynamic friction torque (N·cm)		3.9 – 24.5
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		7.5

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Housing hole and clearance

Unit: mm

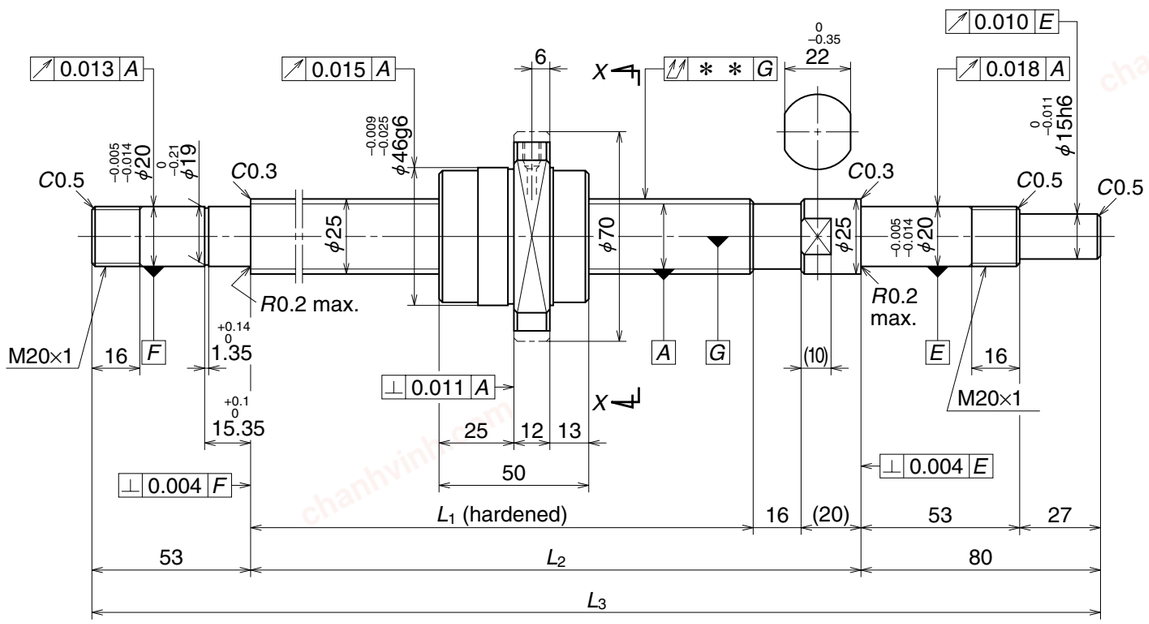
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2507FA-3P-C5Z25	600	660	750	780	913	0	0.035	0.025	0.055	4.0	2 800	2 800
W2509FA-3P-C5Z25	800	860	950	980	1 113	0	0.040	0.027	0.070	4.7	2 800	2 800
W2511FA-3P-C5Z25	1 000	1 060	1 150	1 180	1 313	0	0.046	0.030	0.090	5.4	2 540	2 800
W2513FA-3P-C5Z25	1 200	1 260	1 350	1 380	1 513	0	0.054	0.035	0.090	6.2	1 830	2 540
W2515FA-3P-C5Z25	1 400	1 460	1 550	1 580	1 713	0	0.054	0.035	0.120	7.0	1 380	1 930
W2517FA-3P-C5Z25	1 600	1 660	1 750	1 780	1 913	0	0.065	0.040	0.120	7.7	1 080	1 510
W2521FA-3P-C5Z25	2 000	2 060	2 150	2 180	2 313	0	0.077	0.046	0.160	9.1	710	1 000

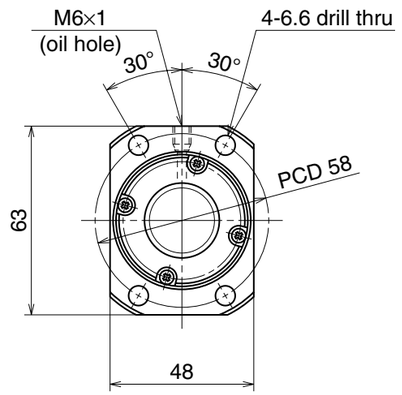
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: UPFC

Screw Shaft ϕ25 Lead 50





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		25 × 50 / Right
Preload / Ball recirculation		P-preload / End cap
Ball dia. / Ball circle dia.		3.969 / 26
Effective turns of balls		0.7 × 2
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	6 690
	Static C_{0a}	13 500
Axial play		0
Dynamic friction torque (N·cm)		2.9 – 21.5
Spacer ball		None
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		4.2

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

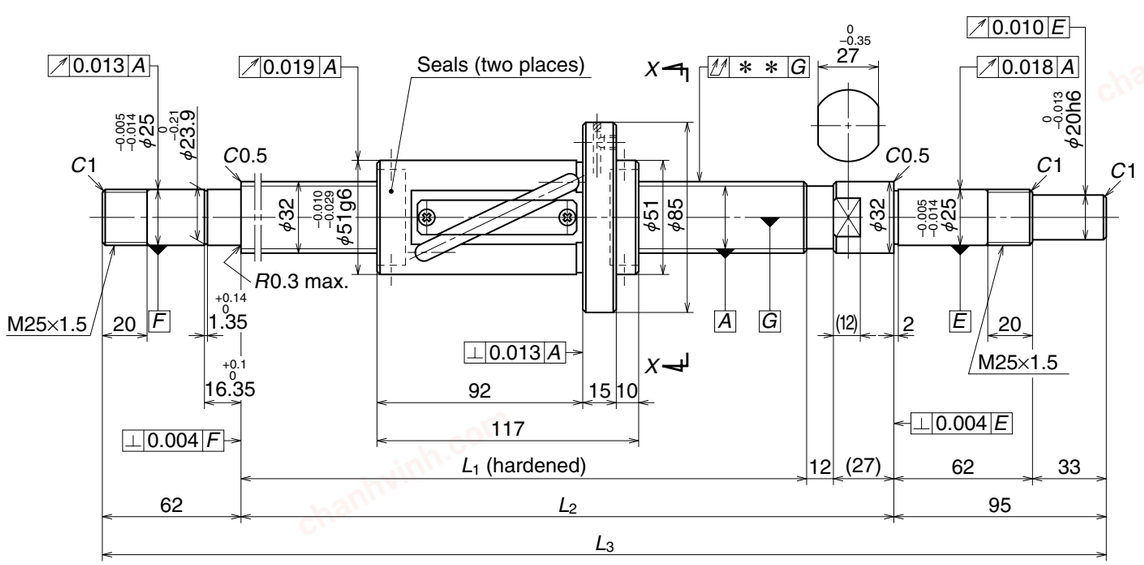
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W2508FA-1PGX-C5Z50	700	794	844	880	1013	0	0.040	0.027	0.070	4.1	2 800	2 800
W2511FA-5PGX-C5Z50	1 000	1 094	1 144	1 180	1 313	0	0.046	0.030	0.090	5.3	2 550	2 800
W2516FA-1PGX-C5Z50	1 500	1 594	1 644	1 680	1 813	0	0.065	0.040	0.120	7.2	1 230	1 710
W2521FA-5PGX-C5Z50	2 000	2 094	2 144	2 180	2 313	0	0.077	0.046	0.160	9.1	720	1 010

Note 1: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Nut does not have seal.

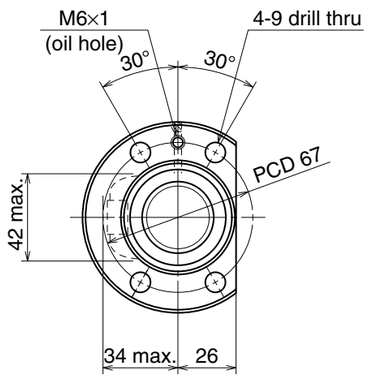
chanhvinh.com

Nut Model: LPFT

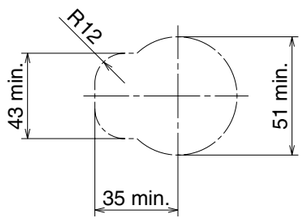
Screw Shaft ϕ32 Lead 25



Unit: mm



View *X-X*



Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		32 × 25 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		4.762 / 33.25
Effective turns of balls		2.5 × 1
Accuracy grade		C5 / Z
Basic load rating (N)	Dynamic C_a	11 300
	Static C_{0a}	20 900
Axial play		0
Dynamic friction torque (N·cm)		6.8 – 31.5
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		17.5

Recommended Support Unit	Fixed side	Simple support side
WBK25-01W (square)	○	○
WBK25S-01W (square)		○
WBK25-11 (round)	○	○

Housing hole and clearance

Unit: mm

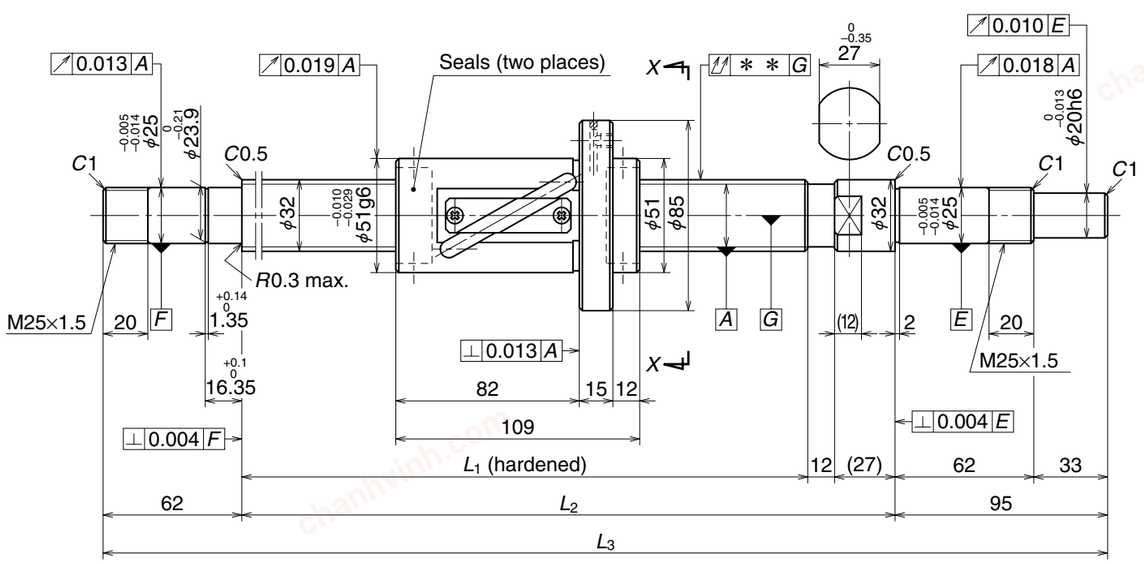
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W3211FA-1P-C5Z25	1 000	1 063	1 180	1 219	1 376	0	0.046	0.030	0.090	9.3	2 180	2 180
W3216FA-1P-C5Z25	1 500	1 563	1 680	1 719	1 876	0	0.065	0.040	0.120	12.3	1 580	2 180
W3221FA-1P-C5Z25	2 000	2 063	2 180	2 219	2 376	0	0.077	0.046	0.160	15.4	930	1 300
W3227FA-1P-C5Z25	2 600	2 663	2 780	2 819	2 976	0	0.093	0.054	0.200	19.1	560	800

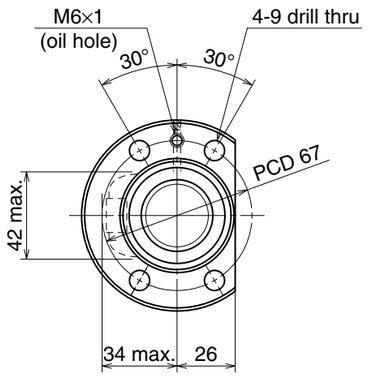
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

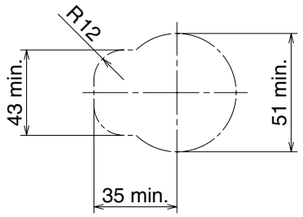
Nut Model: LPFT

Screw Shaft ϕ32 Lead 32





View *X-X*



Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		32 × 32 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		4.762 / 33.25
Effective turns of balls		1.5 × 1
Accuracy grade		C5 / Z
Basic load rating (N)	Dynamic C_a	8 800
	Static C_{0a}	16 600
Axial play		0
Dynamic friction torque (N·cm)		6.9 – 31.5
Spacer ball		Yes
Factory-packed grease		NSK grease LR3
Internal spatial volume of nut (cm^3)		14

Recommended Support Unit	Fixed side	Simple support side
WBK25-01W (square)	○	○
WBK25S-01W (square)		○
WBK25-11 (round)	○	○

Housing hole and clearance

Unit: mm

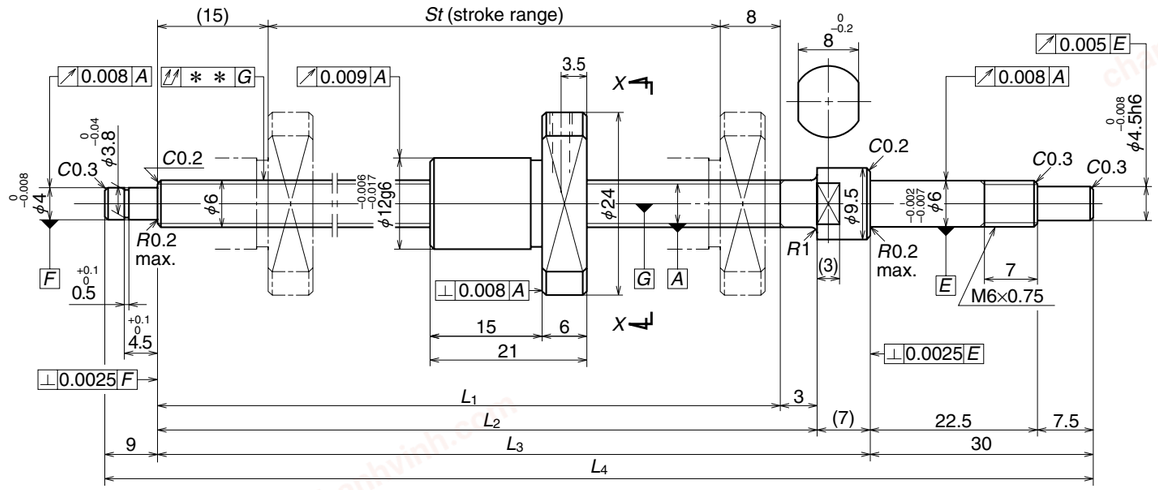
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})	
											Supporting condition	
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support	Fixed - Fixed
W3211FA-3P-C5Z32	1 000	1 071	1 180	1 219	1 376	0	0.046	0.030	0.090	9.3	2 180	2 180
W3216FA-3P-C5Z32	1 500	1 571	1 680	1 719	1 876	0	0.065	0.040	0.120	12.3	1 570	2 180
W3221FA-3P-C5Z32	2 000	2 071	2 180	2 219	2 376	0	0.077	0.046	0.160	15.4	920	1 290
W3227FA-3P-C5Z32	2 600	2 671	2 780	2 819	2 976	0	0.093	0.054	0.200	19.1	560	790

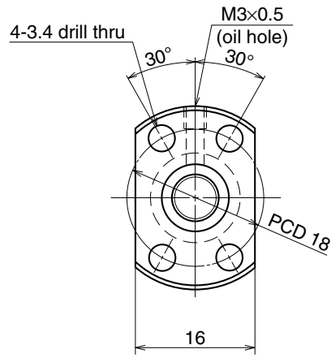
Note: NSK grease LR3 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ6 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		6 × 1 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		0.800 / 6.2
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	470
	Static C_{0a}	680
Axial play		0
Dynamic friction torque (N·cm)		1.3 or less
Spacer ball		None
Factory-packed grease		Refer to Note 1 below

Unit: mm

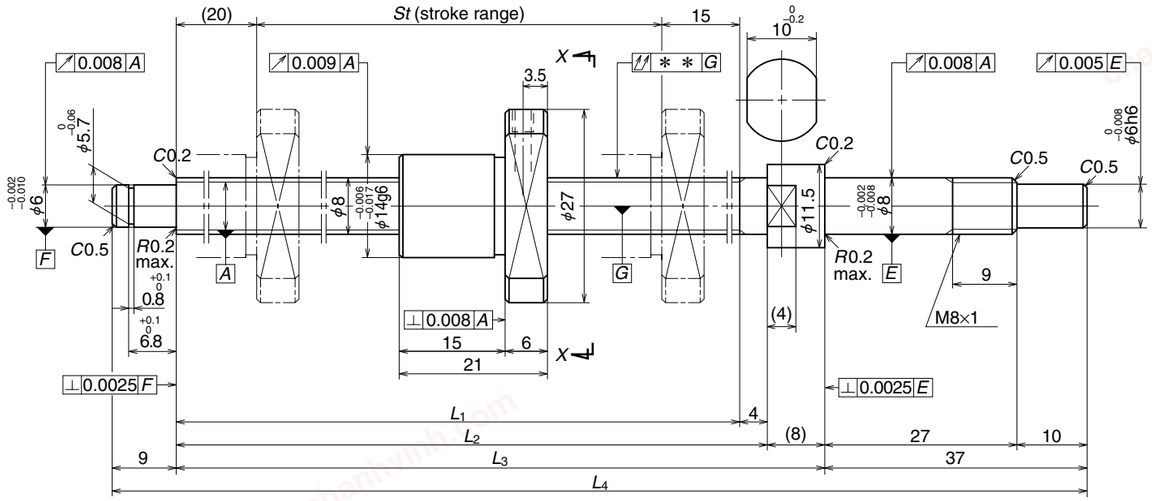
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W0601KA-3PY-C3Z1	100	102	125	128	135	174	0	0.010	0.008	0.025	0.06	3 000

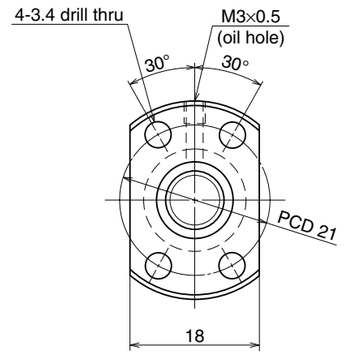
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.
Note 3: Nut does not have seal.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ8 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 1 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		0.800 / 8.2
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	545
	Static C_{0a}	955
Axial play		0
Dynamic friction torque (N·cm)		1.8 or less
Spacer ball		None
Factory-packed grease		Refer to Note 1 below

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK08-01C (square)	○	
WBK08S-01C (square)		○
WBK08-11C (round)	○	

Unit: mm

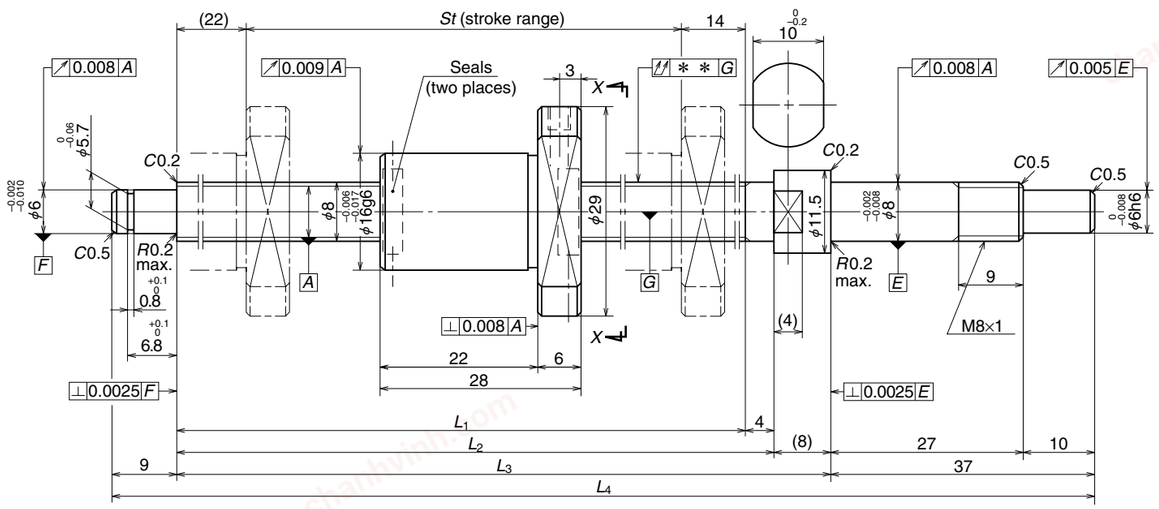
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W0802KA-1PY-C3Z1	150	155	190	194	202	248	0	0.010	0.008	0.035	0.12	3 000

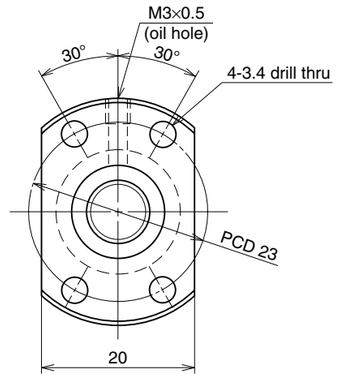
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.
Note 3: Nut does not have seal.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ8 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 8.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 080
	Static C_{0a}	1 630
Axial play		0
Dynamic friction torque (N·cm)		2.0 or less
Spacer ball		None
Factory-packed grease		Refer to Note 1 below

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK08-01C (square)	○	
WBK08S-01C (square)		○
WBK08-11C (round)	○	

Unit: mm

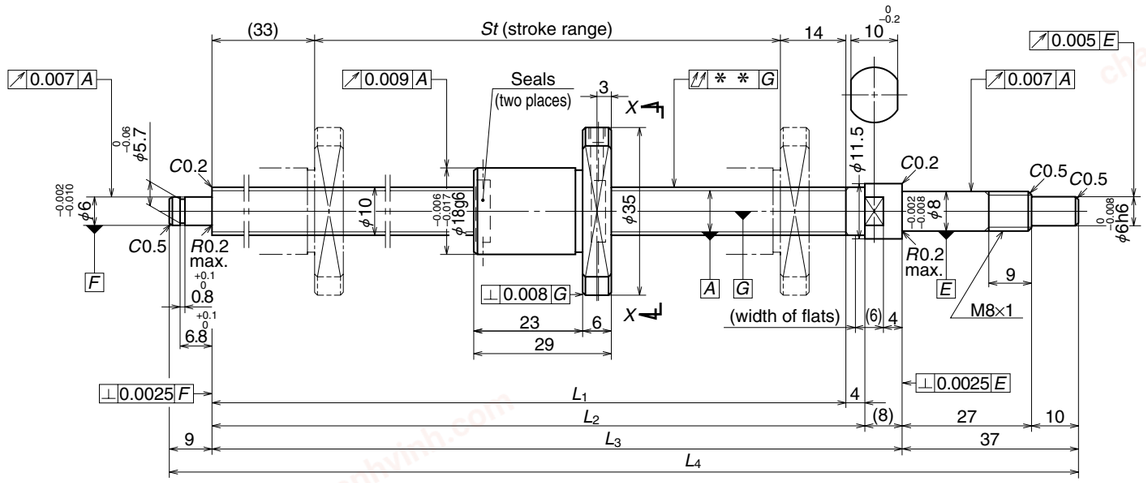
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W0802KA-5PY-C3Z2	150	154	190	194	202	248	0	0.010	0.008	0.035	0.13	3 000

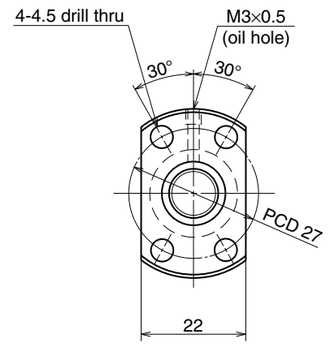
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ10 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 10.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 210
	Static C_{0a}	2 110
Axial play		0
Dynamic friction torque (N·cm)		0.10 – 2.5
Spacer ball		None
Factory-packed grease		Refer to Note 1 below

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK10-01C (square)	○	
WBK10S-01C (square)		○
WBK10-11C (round)	○	

Unit: mm

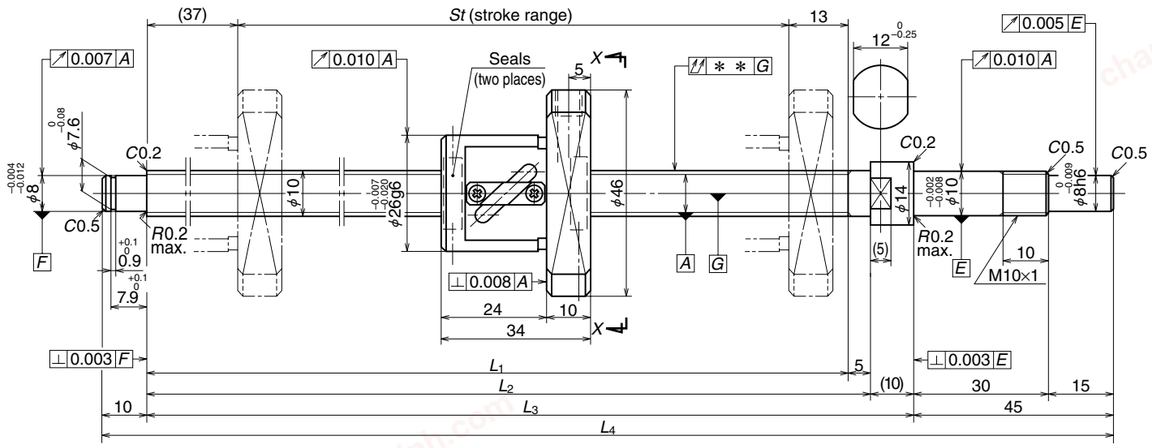
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1002KA-3PY-C3Z2	200	203	250	254	262	308	0	0.012	0.008	0.030	0.22	3 000

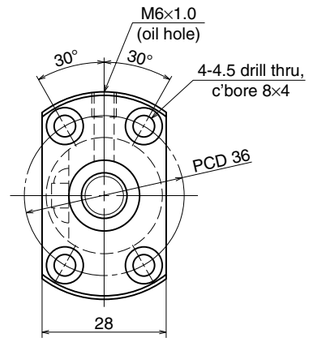
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ10 Lead 4





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 4 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.000 / 10.3
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	2 250
	Static C_{0a}	3 290
Axial play		0
Dynamic friction torque (N·cm)		0.5 – 3.9
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		0.8

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK10-01C (square)	○	
WBK10S-01C (square)		○
WBK10-11C (round)	○	

Unit: mm

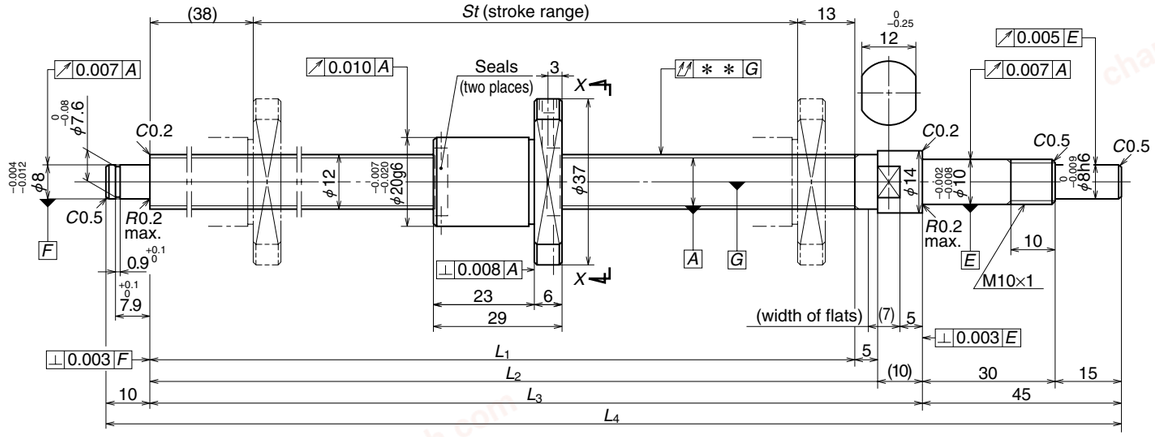
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1001KA-3P-C3Z4	100	110	160	165	175	230	0	0.010	0.008	0.030	0.29	3 000
W1003KA-3P-C3Z4	300	310	360	365	375	430	0	0.013	0.008	0.050	0.39	3 000

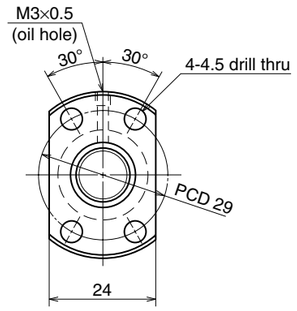
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ12 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.200 / 12.3
Effective turns of balls		1 × 3
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	1 360
	Static C_{0a}	2 680
Axial play		0
Dynamic friction torque (N·cm)		0.4 – 3.4
Spacer ball		None
Factory-packed grease		Refer to Note 1 below

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK10-01C (square)	○	
WBK10S-01C (square)		○
WBK10-11C (round)	○	

Unit: mm

Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1201KA-3PY-C3Z2	100	109	160	165	175	230	0	0.010	0.008	0.030	0.24	3 000
W1203KA-1PY-C3Z2	250	259	310	315	325	380	0	0.012	0.008	0.040	0.36	3 000

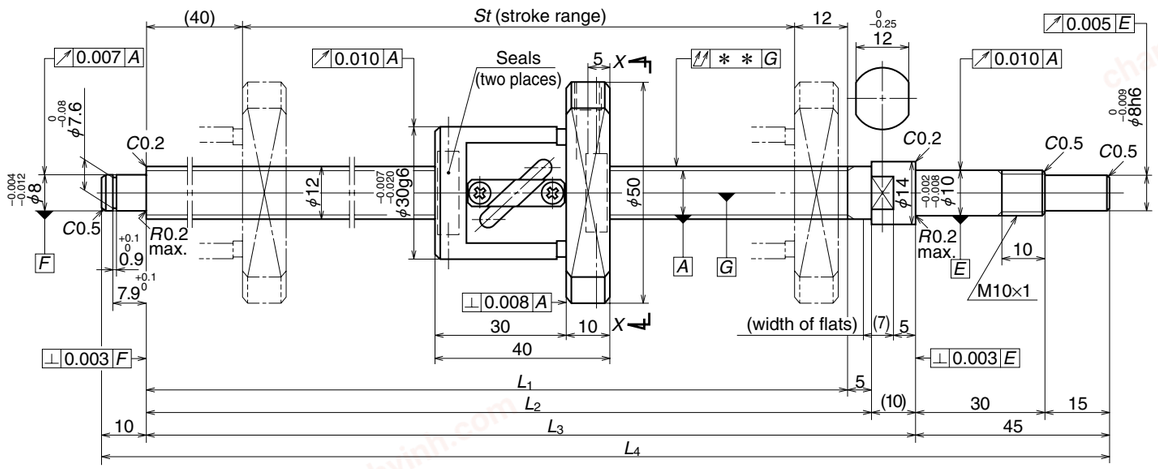
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Apply to screw shaft surface when replenishing.

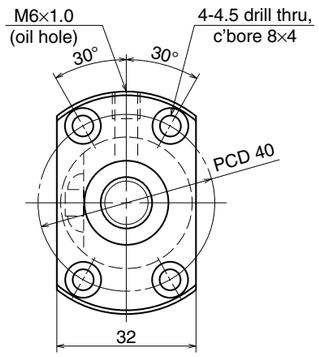
chanhvinh.com

Ball Screws KA Series: Stainless Steel Product (Finished Shaft End)

Nut Model: PFT

Screw Shaft ϕ12 Lead 5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 5 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.381 / 12.3
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	3 070
	Static C_{0a}	4 670
Axial play		0
Dynamic friction torque (N·cm)		1.0 – 4.4
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		1.2

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK10-01C (square)	○	
WBK10S-01C (square)		○
WBK10-11C (round)	○	

Unit: mm

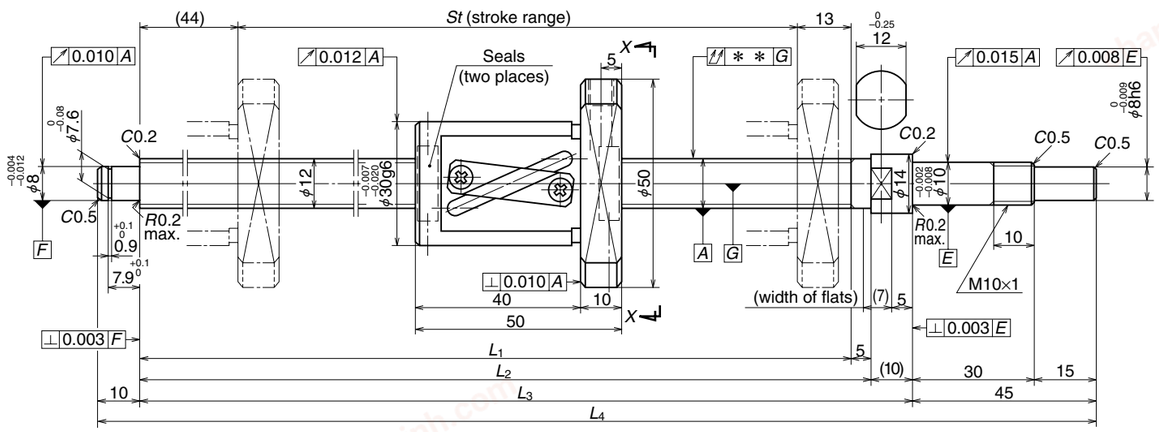
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1202KA-3P-C3Z5	200	208	260	265	275	330	0	0.012	0.008	0.040	0.47	3 000
W1205KA-1P-C3Z5	450	458	510	515	525	580	0	0.016	0.012	0.065	0.66	3 000

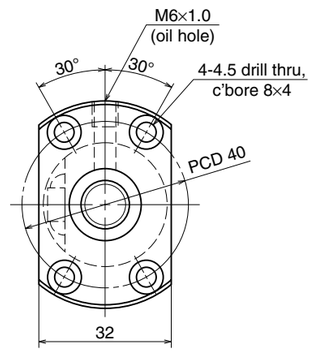
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ12 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 10 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		2.381 / 12.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	3 070
	Static C_{0a}	4 790
Axial play		0
Dynamic friction torque (N·cm)		1.0 – 4.9
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		1.4

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK10-01C (square)	○	
WBK10S-01C (square)		○
WBK10-11C (round)	○	

Unit: mm

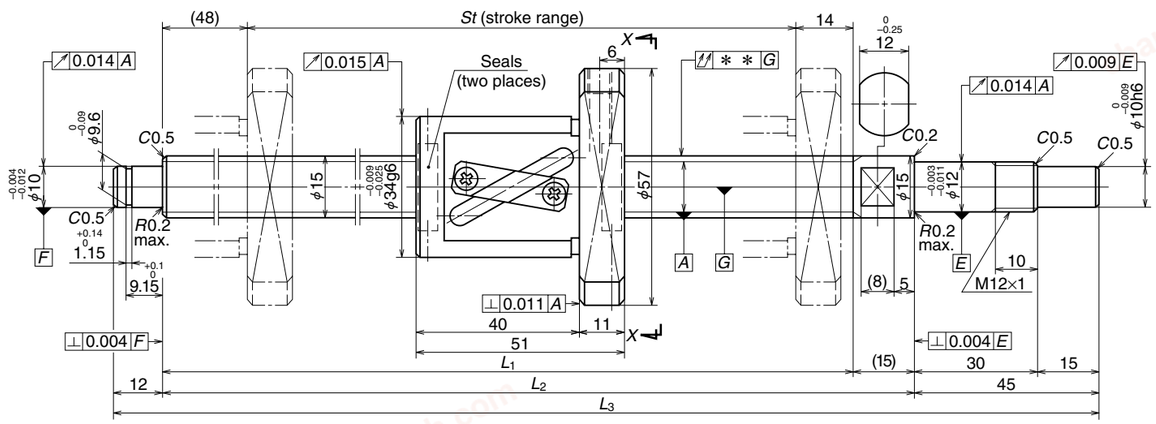
Part number	Stroke		Screw shaft length				Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
												Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	L_4	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1203KA-3P-C5Z10	250	253	310	315	325	380	0	0.023	0.018	0.050	0.56	3 000
W1205KA-3P-C5Z10	450	453	510	515	525	580	0	0.030	0.023	0.075	0.72	3 000

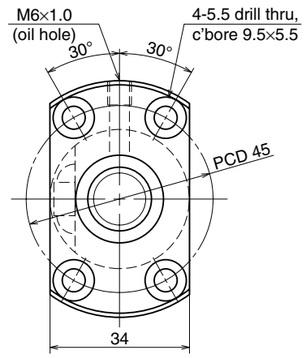
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ15 Lead 10





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		15 × 10 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.175 / 15.5
Effective turns of balls		2.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	5 780
	Static C_{0a}	9 430
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.9
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		2.3

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK12-01C (square)	○	
WBK12S-01C (square)		○
WBK12-11C (round)	○	

Unit: mm

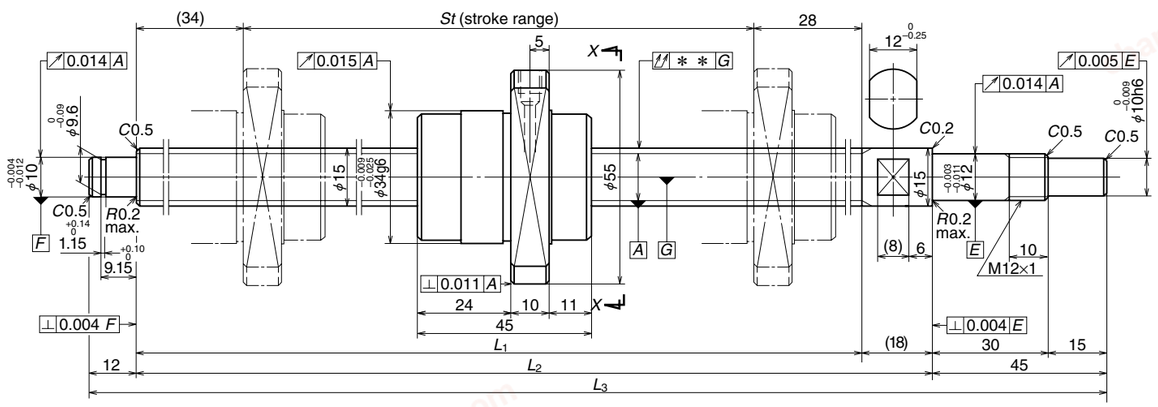
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1504KA-3P-C5Z10	400	427	489	504	561	0	0.027	0.020	0.050	0.99	3 000
W1506KA-3P-C5Z10	600	627	689	704	761	0	0.035	0.025	0.065	1.2	3 000
W1510KA-1P-C5Z10	1 000	1 027	1 089	1 104	1 161	0	0.046	0.030	0.110	1.7	1 610

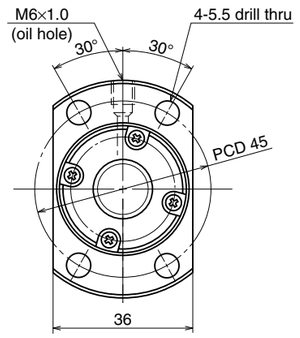
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: UPFC

Screw Shaft ϕ15 Lead 20





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		15 × 20 / Right
Preload / Ball recirculation		P-preload / End cap
Ball dia. / Ball circle dia.		3.175 / 15.5
Effective turns of balls		1.7 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	4 150
	Static C_{0a}	6 450
Axial play		0
Dynamic friction torque (N·cm)		1.5 – 7.9
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		1.9

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK12-01C (square)	○	
WBK12S-01C (square)		○
WBK12-11C (round)	○	

Unit: mm

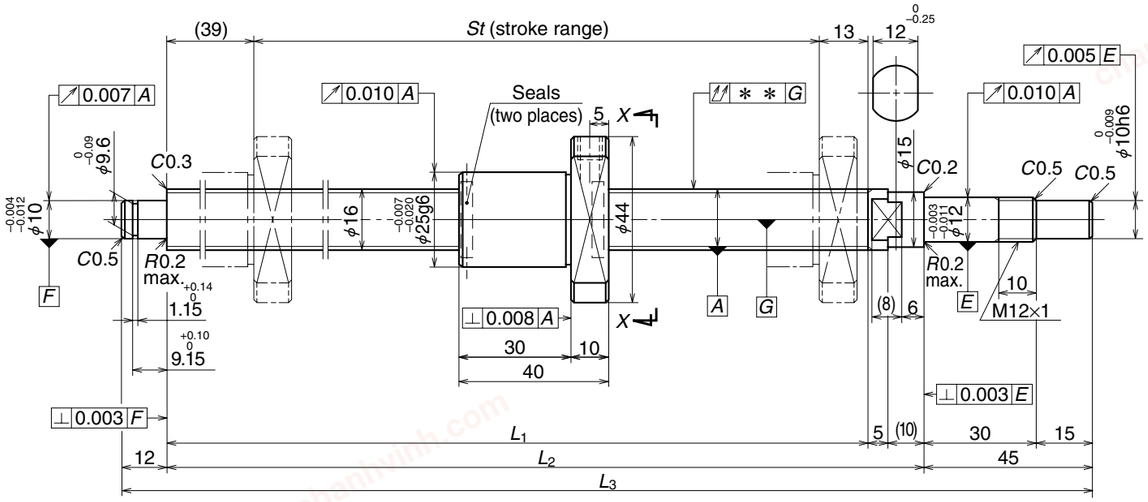
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1504KA-7PG-C5Z20	400	424	486	504	561	0	0.027	0.020	0.050	1.0	3 000
W1506KA-7PG-C5Z20	600	624	686	704	761	0	0.035	0.025	0.065	1.3	3 000
W1510KA-3PG-C5Z20	1 000	1 024	1 086	1 104	1 161	0	0.046	0.030	0.110	1.8	1 610

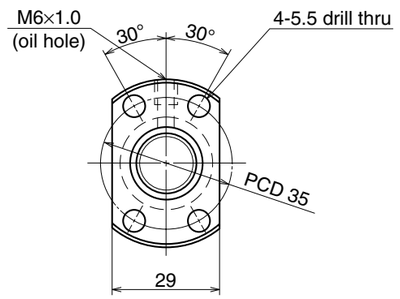
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: MPFD

Screw Shaft ϕ16 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		16 × 2 / Right
Preload / Ball recirculation		P-preload / Deflector
Ball dia. / Ball circle dia.		1.588 / 16.4
Effective turns of balls		1 × 4
Accuracy grade / Preload		C3 / Z
Basic load rating (N)	Dynamic C_a	2 870
	Static C_{0a}	6 250
Axial play		0
Dynamic friction torque (N·cm)		0.5 – 4.9
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		1.6

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK12-01C (square)	○	
WBK12S-01C (square)		○
WBK12-11C (round)	○	

Unit: mm

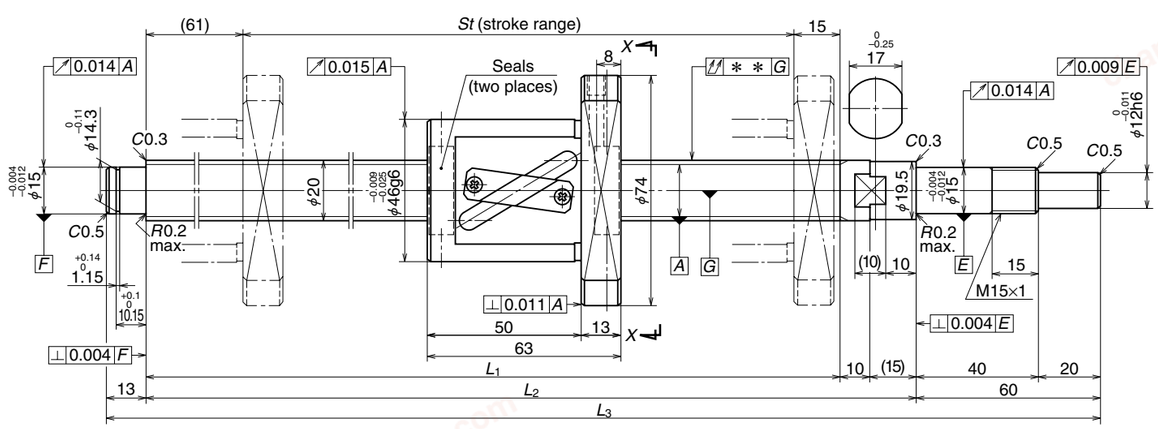
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W1601KA-3PY-C3Z2	100	137	189	204	261	0	0.010	0.008	0.020	0.46	3 000
W1603KA-1PY-C3Z2	300	337	389	404	461	0	0.013	0.010	0.035	0.75	3 000

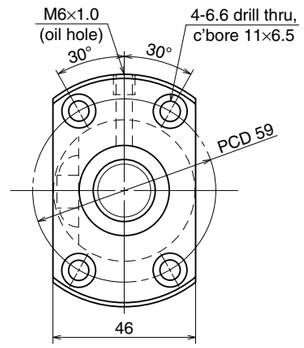
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

chanhvinh.com

Nut Model: LPFT

Screw Shaft ϕ20 Lead 20





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		20 × 20 / Right
Preload / Ball recirculation		P-preload / Return tube
Ball dia. / Ball circle dia.		3.969 / 21
Effective turns of balls		1.5 × 1
Accuracy grade / Preload		C5 / Z
Basic load rating (N)	Dynamic C_a	5 760
	Static C_{0a}	9 370
Axial play		0
Dynamic friction torque (N·cm)		2.0 – 11.8
Spacer ball		None
Factory-packed grease		Refer to Note 1 below
Internal spatial volume of nut (cm^3)		4.2

Recommended Support Unit For Clean Environment Use	Fixed side	Simple support side
WBK15-01C (square)	○	
WBK15S-01C (square)		○
WBK15-11C (round)	○	

Unit: mm

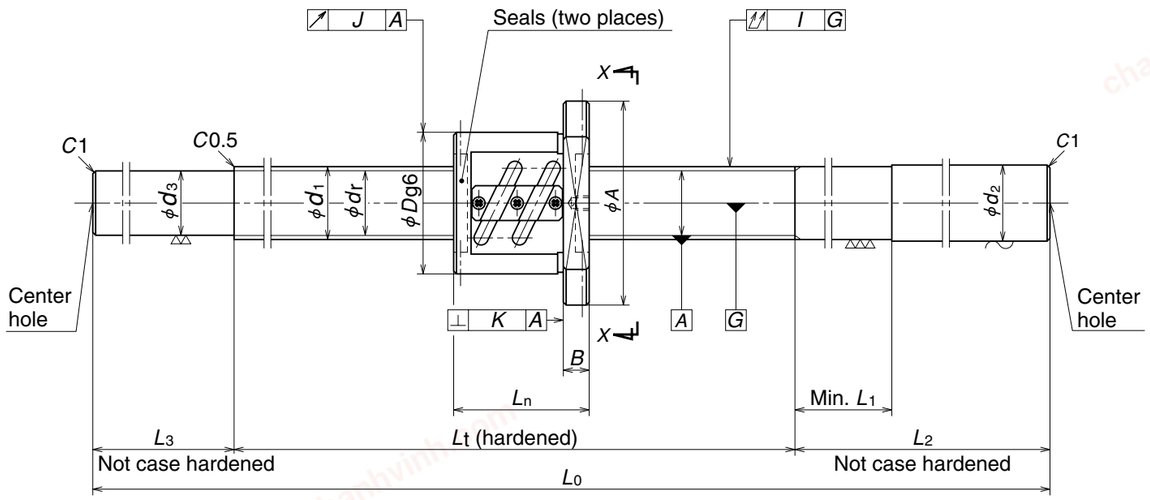
Part number	Stroke		Screw shaft length			Lead accuracy			Shaft run-out **	Mass (kg)	Permissible rotational speed N (min^{-1})
											Supporting condition
	Nominal	Maximum	L_1	L_2	L_3	Target value T	Error e_p	Variation v_U			Fixed - Simple support
W2005KA-3P-C5Z20	400	434	510	535	608	0	0.030	0.023	0.050	2.0	3 000
W2007KA-3P-C5Z20	600	634	710	735	808	0	0.035	0.025	0.085	2.5	3 000
W2011KA-3P-C5Z20	1 000	1 034	1 110	1 135	1 208	0	0.046	0.030	0.110	3.4	2 160

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Note 2: NSK Clean Grease LG2 is recommended. Amount for replenishing should be about 50% of nut internal space capacity.

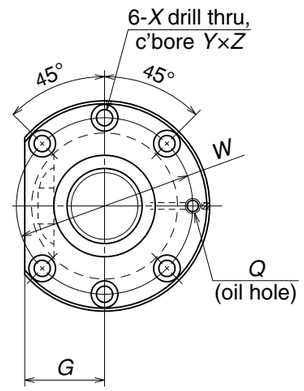
chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ20 Lead 4, 5



Nut type code: PFT



View X-X

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		20 × 4 / Right	20 × 5 / Right
Preload / Ball recirculation		P-preload / Return tube	
Ball dia. / Ball circle dia.		2.381 / 20.3	3.175 / 20.5
Root dia.		17.8	17.2
Effective turns of balls		2.5 × 2	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	5 420	9 410
	Static C_{0a}	10 700	17 100
Axial play		0	
Preload (N)		290	490
Dynamic friction torque (N·cm)		3.9	7.8
Internal spatial volume of nut (cm^3)		2.7	4.3

Recommended Support Unit	Fixed side	Simple support side
WBK15-01A (square)	○	
WBK15S-01 (square)		○
WBK15-11 (round)	○	

Unit: mm

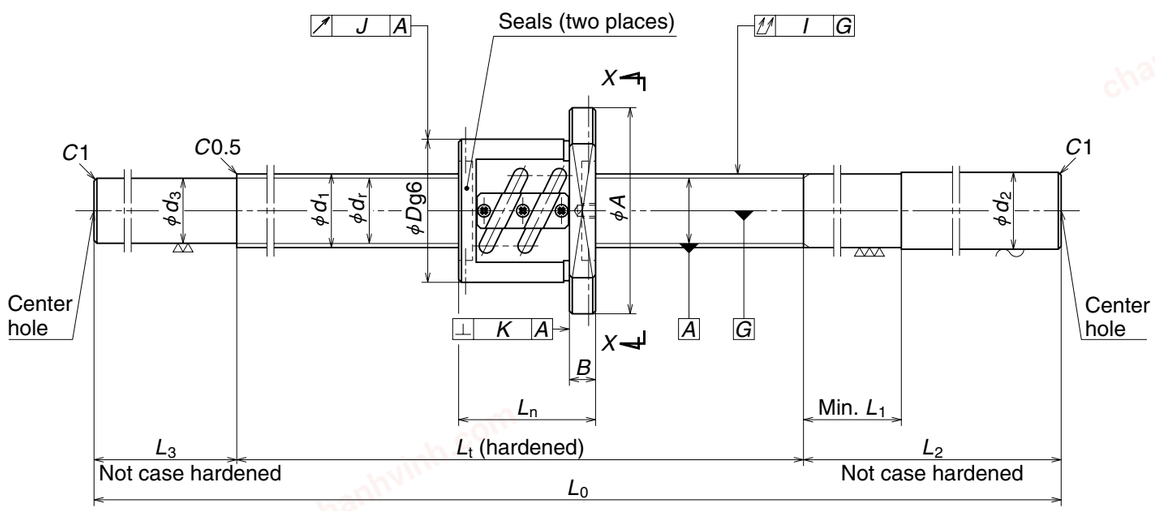
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W2003SS-1P-C5Z4	251	20	4	40	63	24	11	49	51	5.5	9.5	5.5	M6×1	300	20.2	40	150	17.8	—	450	-0.007	0.023	0.018	0.055	0.015	0.011	1.5	3 000
W2005SS-1P-C5Z4	451													500			150		50	700	-0.012	0.027	0.020	0.085			2.0	
W2008SS-1P-C5Z4	751													800			200		100	1 100	-0.019	0.035	0.025	0.140			2.9	
W2003SS-2P-C5Z5	244	20	5	44	67	26	11	56	55	5.5	9.5	5.5	M6×1	300	20.2	40	150	17.2	—	450	-0.007	0.023	0.018	0.055	0.015	0.011	1.6	3 000
W2005SS-2P-C5Z5	444													500			150		50	700	-0.012	0.027	0.020	0.085			2.2	
W2007SS-1P-C5Z5	644													700			200		100	1 000	-0.017	0.035	0.025	0.110			2.8	
W2010SS-1P-C5Z5	944													1 000			200		100	1 300	-0.024	0.040	0.027	0.180			3.5	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

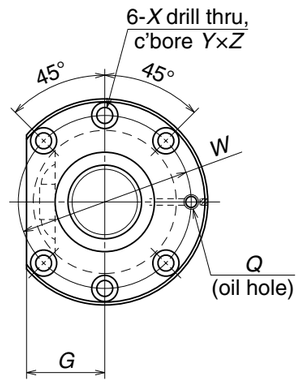
chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ25 Lead 4, 5, 6



Nut type code: PFT



View X-X

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		25 × 4 / Right	25 × 5 / Right	25 × 6 / Right
Preload / Ball recirculation		P-preload / Return tube		
Ball dia. / Ball circle dia.		2.381 / 25.3	3.175 / 25.5	3.969 / 25.5
Root dia.		22.8	22.2	21.4
Effective turns of balls		2.5 × 2		
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	6 020	10 400	14 100
	Static C_{0a}	13 600	21 900	26 800
Axial play		0		
Preload (N)		290	540	690
Dynamic friction torque (N·cm)		4.9	8.8	13.8
Internal spatial volume of nut (cm^3)		3.2	5.2	7.0

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

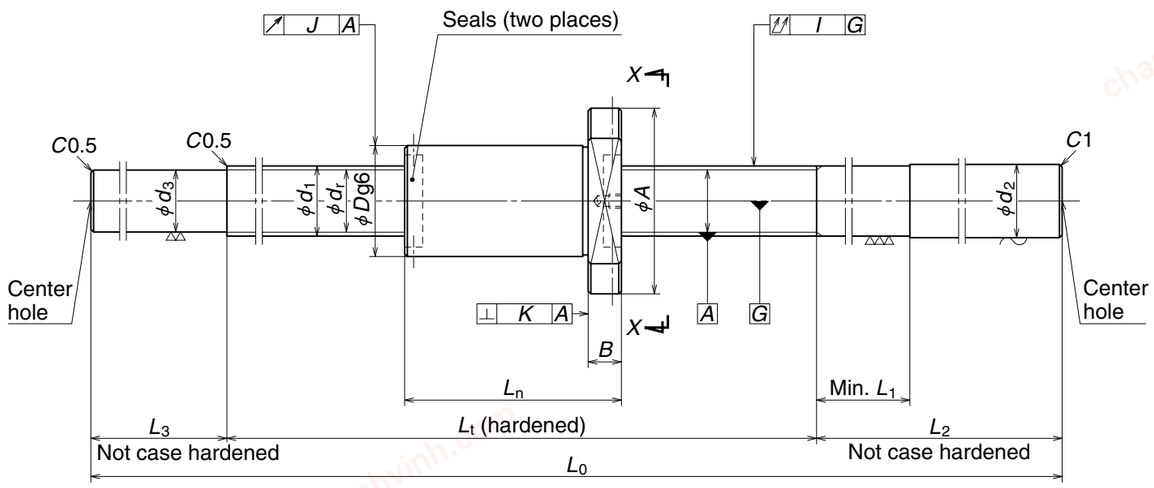
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W2503SS-1P-C5Z4	252	25	4	46	69	26	11	48	57	5.5	9.5	5.5	M6×1	300	25.2	40	150	22.8	—	450	-0.007	0.023	0.018	0.040	0.015	0.011	2.2	2 800
W2506SS-1P-C5Z4	552													600			200		100	900	-0.014	0.030	0.023	0.075			3.8	
W2510SS-1P-C5Z4	952													1 000			200		100	1 300	-0.024	0.040	0.027	0.120			5.2	
W2503SS-2P-C5Z5	245	25	5	50	73	28	11	55	61	5.5	9.5	5.5	M6×1	300	25.2	40	200	22.2	—	500	-0.007	0.023	0.018	0.040	0.015	0.011	2.5	2 800
W2505SS-1P-C5Z5	445													500			200		50	750	-0.012	0.027	0.020	0.060			3.4	
W2508SS-1P-C5Z5	745													800			250		100	1 150	-0.019	0.035	0.025	0.090			4.8	
W2512SS-1P-C5Z5	1 145													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			6.3	
W2504SS-1P-C5Z6	338	25	6	53	76	29	11	62	64	5.5	9.5	5.5	M6×1	400	25.2	40	200	21.4	—	600	-0.010	0.025	0.020	0.050	0.019	0.013	3.0	2 800
W2508SS-2P-C5Z6	738													800			250		100	1 150	-0.019	0.035	0.025	0.090			4.8	
W2512SS-2P-C5Z6	1 138													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			6.3	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

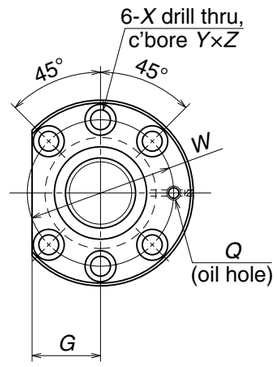
chanhvinh.com

Nut Model: ZFD

Screw Shaft ϕ25 Lead 5, 10



Nut type code: ZFD



View *X-X*

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		25 × 5 / Right	25 × 10 / Right
Preload / Ball recirculation		P-preload / Deflector	
Ball dia. / Ball circle dia.		3.175 / 25.75	4.762 / 26.25
Root dia.		22.4	21.3
Effective turns of balls		1 × 3	1 × 2
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	9 790	11 400
	Static C_{0a}	22 900	21 400
Axial play		0	
Preload (N)		740	880
Dynamic friction torque (N·cm)		13.8	21.5
Internal spatial volume of nut (cm^3)		5.4	9.0

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

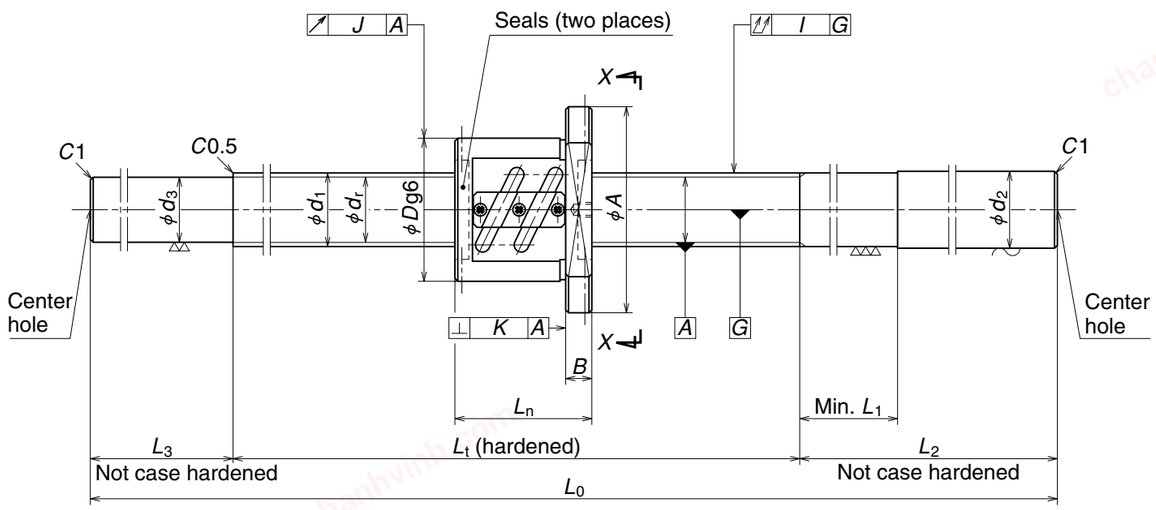
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W2502SS-1ZY-C5Z5	184	25	5	40	63	24	11	66	51	5.5	9.5	5.5	M6×1	250	25.2	40	200	22.4	—	450	-0.005	0.023	0.018	0.040	0.015	0.011	2.1	2 800
W2504SS-3ZY-C5Z5	334													400			200		50	650	-0.009	0.025	0.020	0.060			2.8	
W2506SS-2ZY-C5Z5	534													600			250		100	950	-0.013	0.030	0.023	0.075			3.9	
W2509SS-1ZY-C5Z5	834													900			250		100	1 250	-0.021	0.040	0.027	0.090			4.9	
W2512SS-3ZY-C5Z5	1 134													1 200			300		100	1 600	-0.028	0.046	0.030	0.120			6.2	
W2504SS-4ZY-C5Z10	312	25	10	42	69	26	15	88	55	6.6	11	6.5	M6×1	400	25.2	60	200	21.3	50	650	-0.008	0.025	0.020	0.060	0.015	0.011	3.0	2 800
W2506SS-3ZY-C5Z10	512													600			250		100	950	-0.012	0.030	0.023	0.075			4.1	
W2508SS-3ZY-C5Z10	712													800			250		100	1 150	-0.017	0.035	0.025	0.090			4.8	
W2511SS-1ZY-C5Z10	1 012													1 100			300		100	1 500	-0.024	0.046	0.030	0.120			6.0	
W2515SS-2ZY-C5Z10	1 412													1 200			300		100	1 900	-0.034	0.054	0.035	0.150			7.4	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

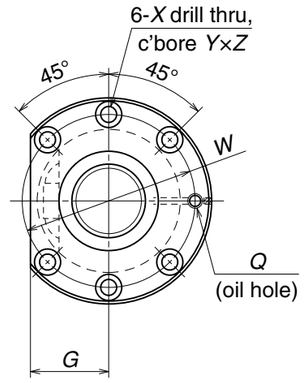
chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ25 Lead 10
Screw Shaft ϕ28 Lead 5, 6



Nut type code: PFT



View X-X

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		25 × 10 / Right	28 × 5 / Right	28 × 6 / Right
Preload / Ball recirculation		P-preload / Return tube		
Ball dia. / Ball circle dia.		4.762 / 25.5	3.175 / 28.5	
Root dia.		20.5	25.2	
Effective turns of balls		1.5 × 2	2.5 × 2	
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	11 600	11 000	
	Static C_{0a}	19 000	24 400	
Axial play		0		
Preload (N)		590	540	
Dynamic friction torque (N·cm)		13.8	9.8	10.8
Internal spatial volume of nut (cm^3)		9.7	6.1	

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

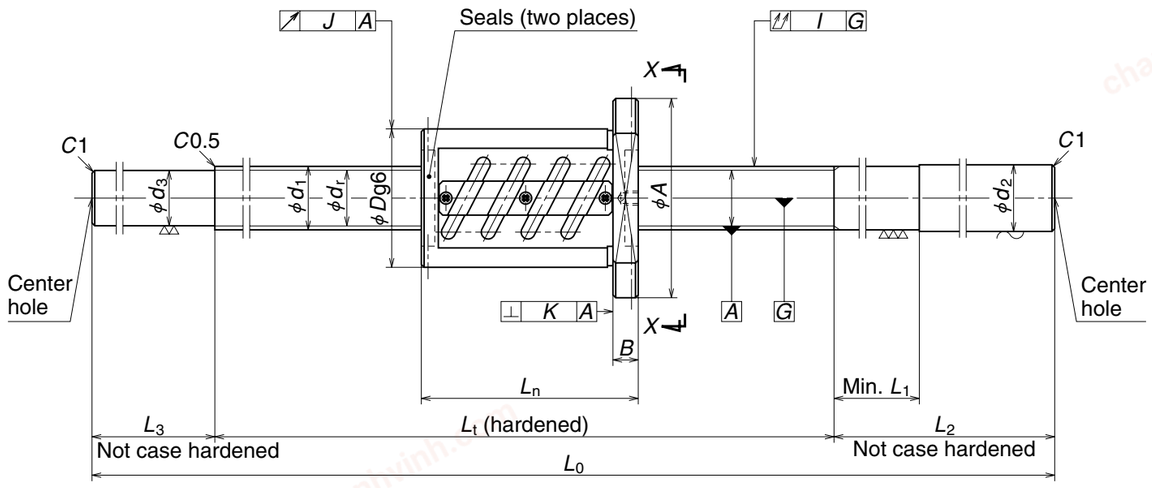
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W2504SS-2P-C5Z10	319	25	10	58	85	32	15	81	71	6.6	11	6.5	M6×1	400	25.2	60	200	20.5	50	650	-0.010	0.025	0.020	0.060	0.019	0.013	3.8	2 800
W2507SS-1P-C5Z10	619													700			250		100	1 050	-0.017	0.035	0.025	0.090			5.1	
W2510SS-2P-C5Z10	919													1 000			250		100	1 350	-0.024	0.040	0.027	0.120			6.1	
W2515SS-1P-C5Z10	1 419													1 500			300		100	1 900	-0.036	0.054	0.035	0.150			8.0	
W2804SS-1P-C5Z5	344	28	5	55	85	31	12	56	69	6.6	11	6.5	M6×1	400	28.2	40	200	25.2	—	600	-0.010	0.025	0.020	0.050	0.019	0.013	3.7	2 500
W2806SS-1P-C5Z5	544													600			250		100	950	-0.014	0.030	0.023	0.075			5.2	
W2808SS-1P-C5Z5	744													800			250		100	1 150	-0.019	0.035	0.025	0.090			6.1	
W2812SS-1P-C5Z5	1 144													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			8.1	
W2804SS-3P-C5Z6	337	28	6	55	85	31	12	63	69	6.6	11	6.5	M6×1	400	28.2	40	200	25.2	—	600	-0.010	0.025	0.020	0.050	0.019	0.013	3.8	2 500
W2806SS-3P-C5Z6	537													600			250		100	950	-0.014	0.030	0.023	0.075			5.3	
W2808SS-3P-C5Z6	737													800			250		100	1 150	-0.019	0.035	0.025	0.090			6.2	
W2812SS-3P-C5Z6	1 137													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			8.2	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

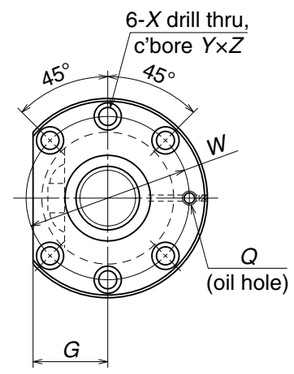
chanhvinh.com

Nut Model: ZFT

Screw Shaft ϕ28 Lead 5, 6



Nut type code: ZFT



View *X-X*

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		28 × 5 / Right	28 × 6 / Right
Preload / Ball recirculation		Z-preload / Return tube	
Ball dia. / Ball circle dia.		3.175 / 28.5	
Root dia.		25.5	25.2
Effective turns of balls		2.5 × 2	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	17 400	
	Static C_{0a}	48 800	
Axial play		0	
Preload (N)		1 225	
Dynamic friction torque (N·cm)		21.5	22.5
Internal spatial volume of nut (cm^3)		9.2	9.5

Recommended Support Unit	Fixed side	Simple support side
WBK20-01 (square)	○	○
WBK20S-01 (square)		○
WBK20-11 (round)	○	○

Unit: mm

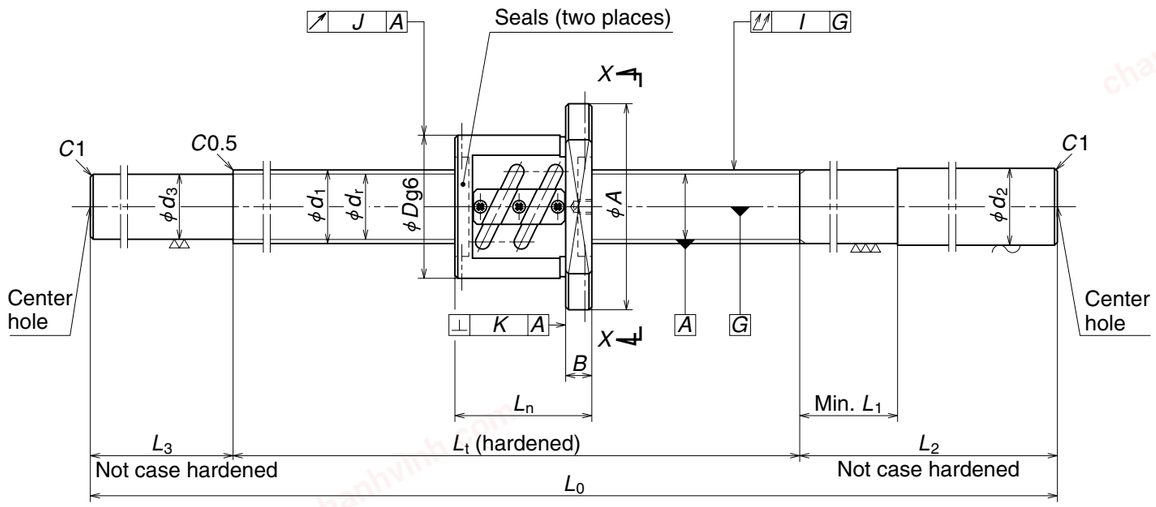
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W2804SS-2Z-C5Z5	314	28	5	55	85	31	12	86	69	6.6	11	6.5	M6×1	400	28.2	40	200	25.2	—	600	-0.010	0.025	0.020	0.050	0.019	0.013	4.7	2 500
W2806SS-2Z-C5Z5	514													600			250		100	950	-0.014	0.030	0.023	0.075			5.5	
W2808SS-2Z-C5Z5	714													800			250		100	1 150	-0.019	0.035	0.025	0.090			6.4	
W2812SS-2Z-C5Z5	1 114													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			8.4	
W2804SS-4Z-C5Z6	301	28	6	55	85	31	12	99	69	6.6	11	6.5	M6×1	400	28.2	40	200	25.2	—	600	-0.010	0.025	0.020	0.050	0.019	0.013	4.2	2 500
W2806SS-4Z-C5Z6	501													600			250		100	950	-0.014	0.030	0.023	0.075			5.7	
W2808SS-4Z-C5Z6	701													800			250		100	1 150	-0.019	0.035	0.025	0.090			6.6	
W2812SS-4Z-C5Z6	1 101													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			8.6	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

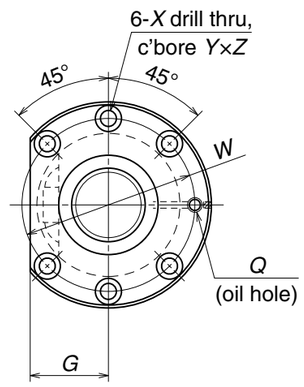
chanhvinh.com

Nut Model: PFT

Screw Shaft ϕ32 Lead 5, 6



Nut type code: PFT



View *X-X*

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		32 × 5 / Right	32 × 6 / Right
Preload / Ball recirculation		P-preload / Return tube	
Ball dia. / Ball circle dia.		3.175 / 32.5	3.969 / 32.5
Root dia.		29.2	28.4
Effective turns of balls		2.5 × 2	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	11 600	15 500
	Static C_{0a}	28 000	34 700
Axial play		0	
Preload (N)		590	780
Dynamic friction torque (N·cm)		10.8	15.6
Internal spatial volume of nut (cm^3)		6.9	9.4

Recommended Support Unit	Fixed side	Simple support side
WBK25-01W (square)	○	○
WBK25S-01W (square)		○
WBK25-11 (round)	○	○

Unit: mm

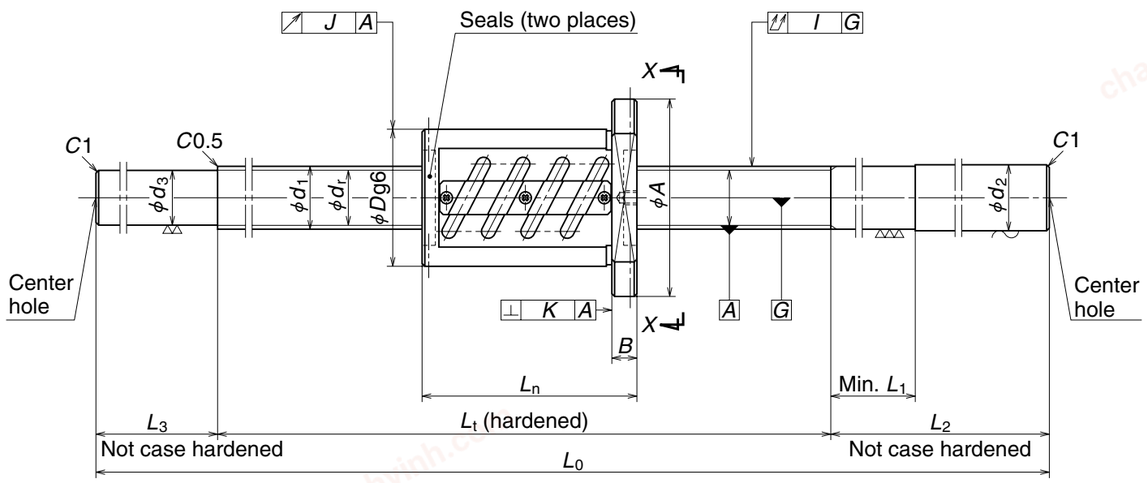
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W3204SS-1P-C5Z5	344	32	5	58	85	32	12	56	71	6.6	11	6.5	M6×1	400	32.3	40	200	29.2	50	650	-0.010	0.025	0.020	0.060	0.019	0.013	4.8	2 180
W3206SS-1P-C5Z5	544													600			250		100	950	-0.014	0.030	0.023	0.075			6.5	
W3208SS-1P-C5Z5	744													800			250		100	1 150	-0.019	0.035	0.025	0.090			7.7	
W3212SS-1P-C5Z5	1 144													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			10.3	
W3215SS-1P-C5Z5	1 444													1 500			300		100	1 900	-0.036	0.054	0.035	0.150			12.1	
W3206SS-3P-C5Z6	537	32	6	62	89	34	12	63	75	6.6	11	6.5	M6×1	600	32.3	40	250	28.4		950	-0.014	0.030	0.023	0.075	0.019	0.013	6.7	2 180
W3210SS-1P-C5Z6	937													1 000			300		100	1 400	-0.024	0.040	0.027	0.120			9.2	
W3215SS-3P-C5Z6	1 437													1 500			300			1 900	-0.036	0.054	0.035	0.150			12.1	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

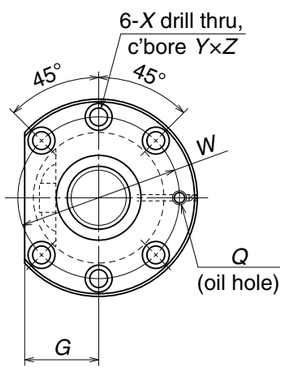
chanhvinh.com

Nut Model: ZFT

Screw Shaft ϕ32 Lead 5, 6, 8



Nut type code: ZFT



View *X-X*

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		32 × 5 / Right	32 × 6 / Right	32 × 8 / Right
Preload / Ball recirculation		Z-preload / Return tube		
Ball dia. / Ball circle dia.		3.175 / 32.5	3.969 / 32.5	4.762 / 32.5
Root dia.		29.2	28.4	27.5
Effective turns of balls		2.5 × 2		2.5 × 1
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	18 500	24 700	17 500
	Static C_{0a}	56 100	69 400	41 000
Axial play		0		
Preload (N)		1 270	1 720	1 320
Dynamic friction torque (N·cm)		22.5	34.5	30.5
Internal spatial volume of nut (cm^3)		10	15	7.9

Recommended Support Unit	Fixed side	Simple support side
WBK25-01W (square)	○	○
WBK25S-01W (square)		○
WBK25-11 (round)	○	○

Unit: mm

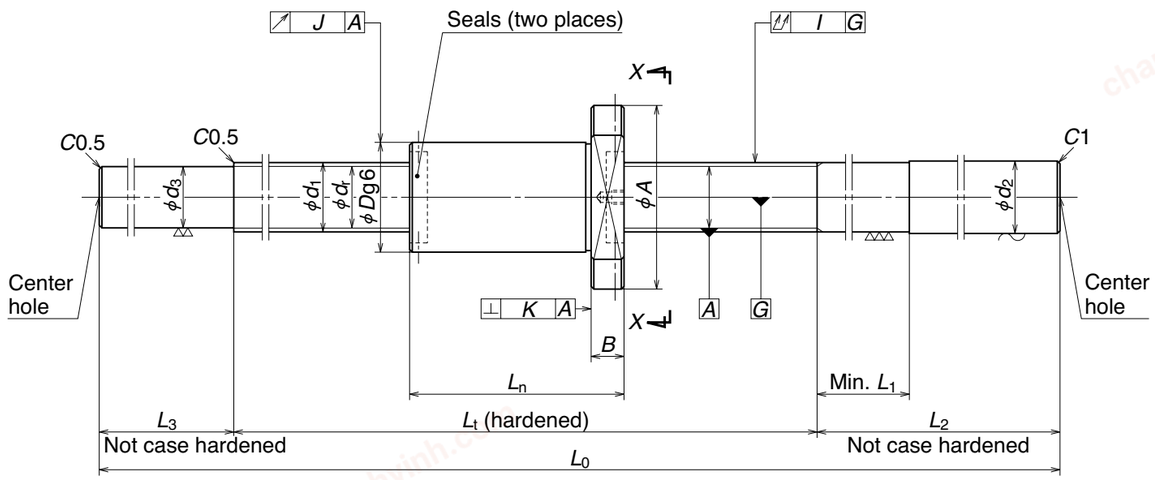
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W3204SS-2Z-C5Z5	314	32	5	58	85	32	12	86	71	6.6	11	6.5	M6×1	400	32.3	40	200	29.2	50	650	-0.010	0.025	0.020	0.060	0.019	0.013	5.1	2 180
W3206SS-2Z-C5Z5	514													600			250		100	950	-0.014	0.030	0.023	0.075			6.9	
W3208SS-2Z-C5Z5	714													800			250		100	1 150	-0.019	0.035	0.025	0.090			8.0	
W3212SS-2Z-C5Z5	1 114													1 200			300		100	1 600	-0.029	0.046	0.030	0.120			10.1	
W3215SS-2Z-C5Z5	1 414													1 500			300		100	1 900	-0.036	0.054	0.035	0.150			12.4	
W3206SS-4Z-C5Z6	501	32	6	62	89	34	12	99	75	6.6	11	6.5	M6×1	600	32.3	40	250	28.4	100	950	-0.014	0.030	0.023	0.075	0.019	0.013	7.1	2 180
W3210SS-2Z-C5Z6	901													1 000			300			1 400	-0.024	0.040	0.027	0.120			9.7	
W3215SS-4Z-C5Z6	1 401													1 500			300			1 900	-0.036	0.054	0.035	0.150			12.6	
W3206SS-5Z-C5Z8	518	32	8	66	100	38	15	82	82	9	14	8.5	M6×1	600	32.3	50	250	27.5	100	950	-0.014	0.030	0.023	0.075	0.019	0.013	7.3	2 180
W3210SS-3Z-C5Z8	918													1 000			300			1 400	-0.024	0.040	0.027	0.120			9.8	
W3215SS-5Z-C5Z8	1 418													1 500			300			1 900	-0.036	0.054	0.035	0.150			12.6	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

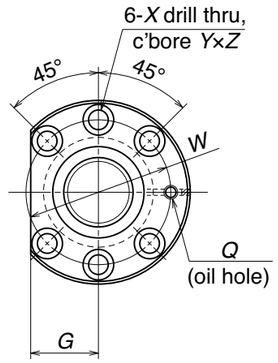
chanhvinh.com

Nut Model: ZFD

Screw Shaft ϕ32 Lead 5, 10



Nut type code: ZFD



View *X-X*

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		32 × 5 / Right	32 × 10 / Right
Preload / Ball recirculation		Z-preload / Deflector	
Ball dia. / Ball circle dia.		3.175 / 32.75	6.35 / 33.75
Root dia.		29.4	27.1
Effective turns of balls		4	3
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	14 200	25 900
	Static C_{0a}	40 700	52 800
Axial play		0	
Preload (N)		1 080	1 860
Dynamic friction torque (N·cm)		19.6	49
Internal spatial volume of nut (cm^3)		22	23

Recommended Support Unit
WBK25DF-31 (round)

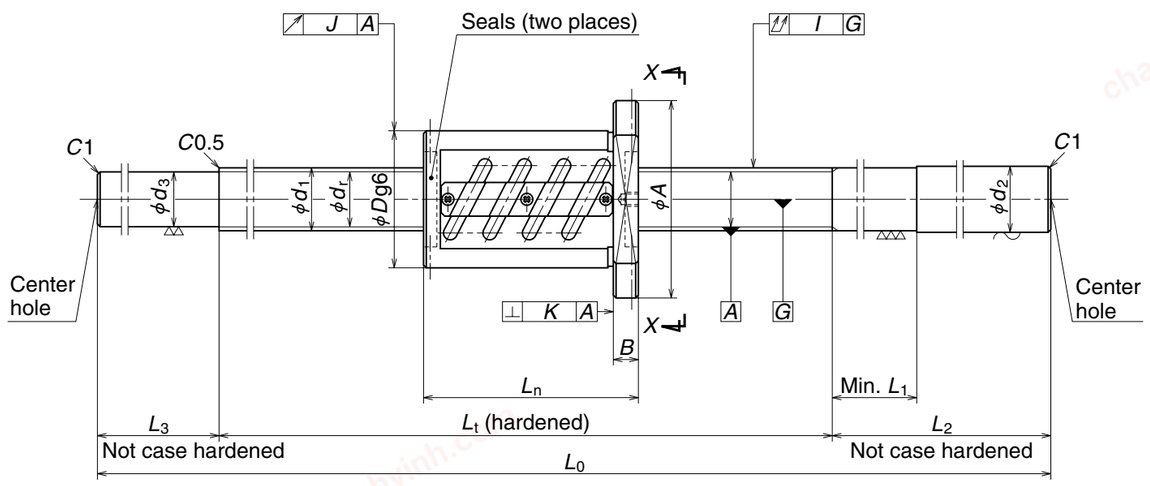
Unit: mm

Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W3204SS-3ZY-C5Z5	323	32	5	48	75	29	12	77	61	6.6	11	6.5	M6×1	400	32.3	40	200	29.4	50	650	-0.009	0.025	0.020	0.060	0.015	0.011	4.6	2 180
W3206SS-6ZY-C5Z5	523													600			250		100	950	-0.013	0.030	0.023	0.075			6.4	
W3209SS-1ZY-C5Z5	823													900			250		100	1 250	-0.021	0.040	0.027	0.090			8.1	
W3212SS-3ZY-C5Z5	1 123													1 200			300		100	1 600	-0.028	0.046	0.030	0.120			10.2	
W3216SS-1ZY-C5Z5	1 523													1 600			300		100	2 000	-0.037	0.054	0.035	0.150			12.6	
W3205SS-3ZY-C5Z10	380	32	10	54	88	34	15	120	70	9	14	8.5	M6×1	500	32.3	60	250	27.1	100	850	-0.010	0.027	0.020	0.075	0.019	0.013	6.2	2 180
W3207SS-3ZY-C5Z10	580													700			250		100	1 050	-0.015	0.035	0.025	0.090			7.3	
W3210SS-6ZY-C5Z10	880													1 000			300		100	1 400	-0.022	0.040	0.027	0.120			9.3	
W3214SS-3ZY-C5Z10	1 280													1 400			350		120	1 870	-0.032	0.054	0.035	0.150			11.9	
W3218SS-3ZY-C5Z10	1 680													1 800			350		120	2 270	-0.041	0.065	0.040	0.200			14.1	

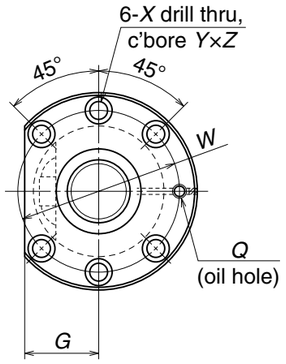
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Nut Model: ZFT



Nut type code: ZFT



View *X-X*

Screw Shaft ϕ32, 36 Lead 10
Screw Shaft ϕ40 Lead 5

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		32 × 10 / Right	36 × 10 / Right	40 × 5 / Right
Preload / Ball recirculation		Z-preload / Return tube		
Ball dia. / Ball circle dia.		6.350 / 33	6.350 / 37	3.175 / 40.5
Root dia.		26.4	30.4	37.2
Effective turns of balls		2.5 × 1		2.5 × 2
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	25 500	27 200	20 200
	Static C_{0a}	54 000	61 300	70 600
Axial play		0		
Preload (N)		1 960	2 060	1 420
Dynamic friction torque (N·cm)		50	56	28.5
Internal spatial volume of nut (cm^3)		22	27	14

Recommended Support Unit		Fixed side	Simple support side
Screw shaft dia. 32	WBK25DF-31 (round)	○	○
Screw shaft dia. 36	WBK30DF-31 (round)	○	
	WBK25DF-31 (round)		○
Screw shaft dia. 40	WBK30DF-31 (round)	○	○

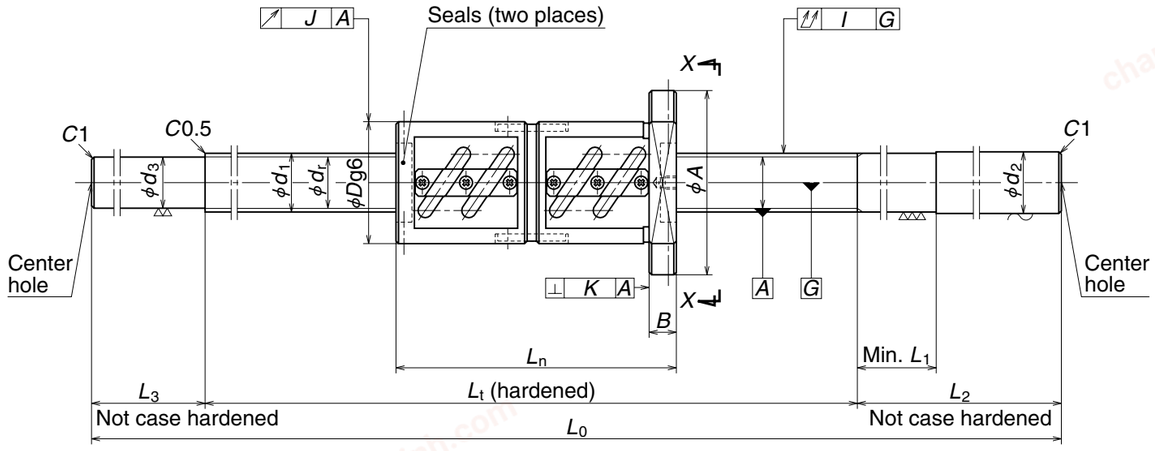
Unit: mm

Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	I	J	K		
W3205SS-1Z-C5Z10	400	32	10	74	108	41	15	100	90	9	11	8.5	M6×1	500	32.3	60	250	26.2	100	850	-0.012	0.027	0.020	0.075	0.019	0.013	7.5	2 180
W3207SS-1Z-C5Z10	600													700			250		100	1 050	-0.017	0.035	0.025	0.090			8.5	
W3210SS-4Z-C5Z10	900													1 000			300		100	1 400	-0.024	0.040	0.027	0.120			10.5	
W3214SS-1Z-C5Z10	1 300													1 400			350		120	1 870	-0.034	0.054	0.035	0.150			13.1	
W3218SS-1Z-C5Z10	1 700													1 800			350		120	2 270	-0.043	0.065	0.040	0.200			15.2	
W3607SS-1Z-C5Z10	597	36	10	75	120	45	18	103	98	11	17.5	11	M6×1	700	36.3	60	300	30.4	100	1 100	-0.017	0.035	0.025	0.065	0.019	0.013	10.9	1 940
W3612SS-1Z-C5Z10	1 097													1 200			350		120	1 670	-0.029	0.046	0.030	0.100			14.9	
W3620SS-1Z-C5Z10	1 897													2 000			350		120	2 470	-0.048	0.065	0.040	0.130			20.4	
W4006SS-1Z-C5Z5	511	40	5	67	101	39	15	89	83	9	14	8.5	Rc1/8	600	40.3	50	300	37.2	100	1 000	-0.014	0.030	0.023	0.050	0.019	0.013	11.1	1 750
W4010SS-1Z-C5Z5	911													1 000			300			1 400	-0.024	0.040	0.027	0.080			14.8	
W4016SS-1Z-C5Z5	1 511													1 600			350			2 050	-0.038	0.054	0.035	0.130			20.8	

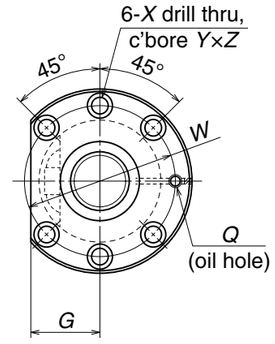
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Nut Model: DFT



Nut type code: DFT



View *X-X*

Screw Shaft ϕ32, 36 Lead 10

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		32 × 10 / Right	36 × 10 / Right
Preload / Ball recirculation		D-preload / Return tube	
Ball dia. / Ball circle dia.		6.350 / 33	6.350 / 37
Root dia.		26.4	30.4
Effective turns of balls		2.5 × 2	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	46 300	49 300
	Static C_{0a}	108 000	123 000
Axial play		0	
Preload (N)		3 240	3 430
Internal spatial volume of nut (cm^3)		57	67

Recommended Support Unit		Fixed side	Simple support side
Screw shaft dia. 32	WBK25DF-31 (round)	○	○
Screw shaft dia. 36	WBK30DF-31 (round)	○	
	WBK25DF-31 (round)		○

Unit: mm

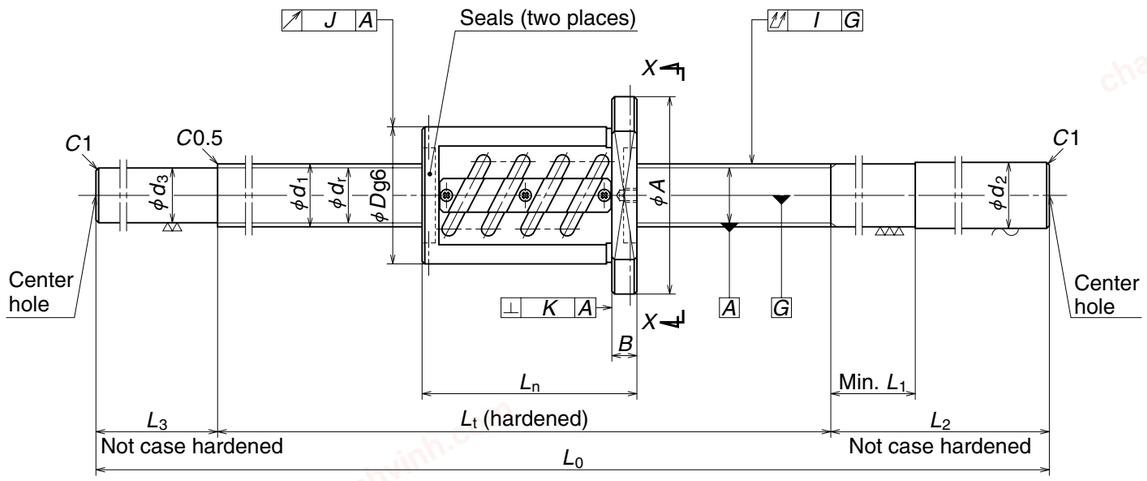
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass	Permissible rotational speed
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	v_U	I	J	K		N (min^{-1})
W3205SS-2D-C5Z10	310	32	10	74	108	41	15	190	90	9	14	8.5	M6×1	500	32.3	60	250	26.2	100	850	-0.012	0.027	0.020	0.075	0.019	0.013	9.5	2 180
W3207SS-2D-C5Z10	510													700			250		100	1 050	-0.017	0.035	0.025	0.090			10.6	
W3210SS-5D-C5Z10	810													1 000			300		100	1 400	-0.024	0.040	0.027	0.120			12.5	
W3214SS-2D-C5Z10	1 210													1 400			350		120	1 870	-0.034	0.054	0.035	0.150			15.1	
W3218SS-2D-C5Z10	1 610													1 800			350		120	2 270	-0.043	0.065	0.040	0.200			17.2	
W3607SS-2D-C5Z10	507	36	10	75	120	45	18	193	98	11	17.5	11	M6×1	700	36.3	60	300	30.4	100	1 100	-0.017	0.035	0.025	0.065	0.019	0.013	12.8	1 940
W3612SS-2D-C5Z10	1 007													1 200			350		120	1 670	-0.029	0.046	0.030	0.100			16.8	
W3620SS-2D-C5Z10	1 807													2 000			350		120	2 470	-0.048	0.065	0.040	0.130			22.3	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

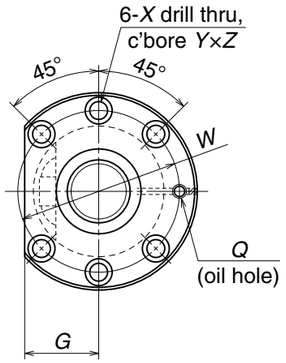
chanhvinh.com

Nut Model: ZFT

Screw Shaft ϕ40 Lead 8, 10, 12



Nut type code: ZFT



View *X-X*

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		40 × 8 / Right	40 × 10 / Right	40 × 12 / Right
Preload / Ball recirculation		Z-preload / Return tube		
Ball dia. / Ball circle dia.		4.762 / 40.5	6.350 / 41	7.144 / 41.5
Root dia.		35.5	34.4	34.1
Effective turns of balls		2.5 × 2	2.5 × 1	
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	34 900	28 600	33 600
	Static C_{0a}	103 000	68 600	77 500
Axial play		0		
Preload (N)		2 460	2 160	2 550
Dynamic friction torque (N·cm)		64		83
Internal spatial volume of nut (cm^3)		27	30	35

Recommended Support Unit
WBK30DF-31 (round)

Unit: mm

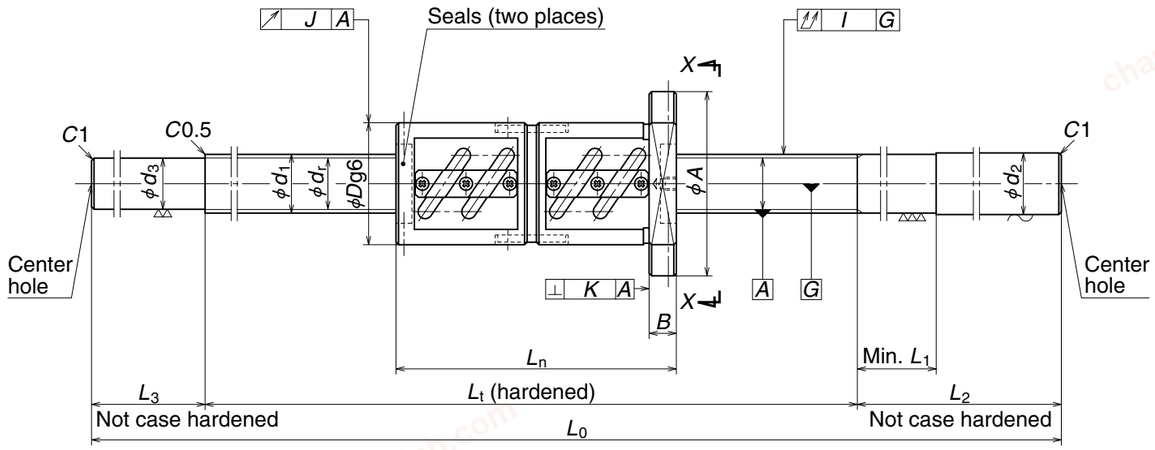
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W4007SS-1Z-C5Z8	570	40	8	74	108	41	15	130	90	9	14	8.5	Rc1/8	700	40.3	50	300	35.5	100	1 100	-0.017	0.035	0.025	0.065	0.019	0.013	13.0	1 750
W4012SS-1Z-C5Z8	1 070													1 200			350		100	1 650	-0.029	0.046	0.030	0.100			18.0	
W4018SS-1Z-C5Z8	1 670													1 800			350		120	2 270	-0.043	0.065	0.040	0.130			23.5	
W4007SS-2Z-C5Z10	597	40	10	82	124	47	18	103	102	11	17.5	11	Rc1/8	700	40.3	60	300	34.4	100	1 100	-0.017	0.035	0.025	0.065	0.025	0.015	13.3	1 750
W4010SS-2Z-C5Z10	897													1 000			300		100	1 400	-0.024	0.040	0.027	0.080			15.9	
W4014SS-1Z-C5Z10	1 297													1 400			350		120	1 870	-0.034	0.054	0.035	0.100			20.0	
W4018SS-2Z-C5Z10	1 697													1 800			350		120	2 270	-0.043	0.065	0.040	0.130			23.4	
W4024SS-1Z-C5Z10	2 297													2 400			400		150	2 950	-0.058	0.077	0.046	0.170			29.4	
W4010SS-4Z-C5Z12	883	40	12	86	128	48	18	117	106	11	17.5	11	Rc1/8	1 000	40.3	70	300	34.1	100	1 400	-0.024	0.040	0.027	0.080	0.025	0.015	16.7	1 750
W4016SS-2Z-C5Z12	1 483													1 600			350		150	2 100	-0.038	0.054	0.035	0.130			22.9	
W4025SS-1Z-C5Z12	2 383													2 500			400		150	3 050	-0.060	0.077	0.046	0.170			31.1	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

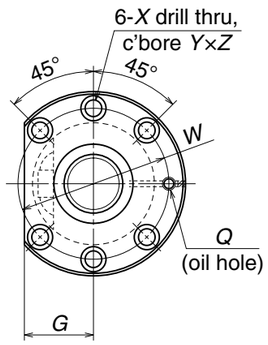
chanhvinh.com

Nut Model: DFT

Screw Shaft ϕ40 Lead 10, 12



Nut type code: DFT



View *X-X*

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		40 × 10 / Right	40 × 12 / Right
Preload / Ball recirculation		D-preload / Return tube	
Ball dia. / Ball circle dia.		6.350 / 41	7.144 / 41.5
Root dia.		34.4	34.1
Effective turns of balls		2.5 × 2	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	52 000	61 000
	Static C_{0a}	137 000	155 000
Axial play		0	
Preload (N)		3 630	4 310
Dynamic friction torque (N·cm)		108	138
Internal spatial volume of nut (cm^3)		740	93

Recommended Support Unit
WBK30DF-31 (round)

Unit: mm

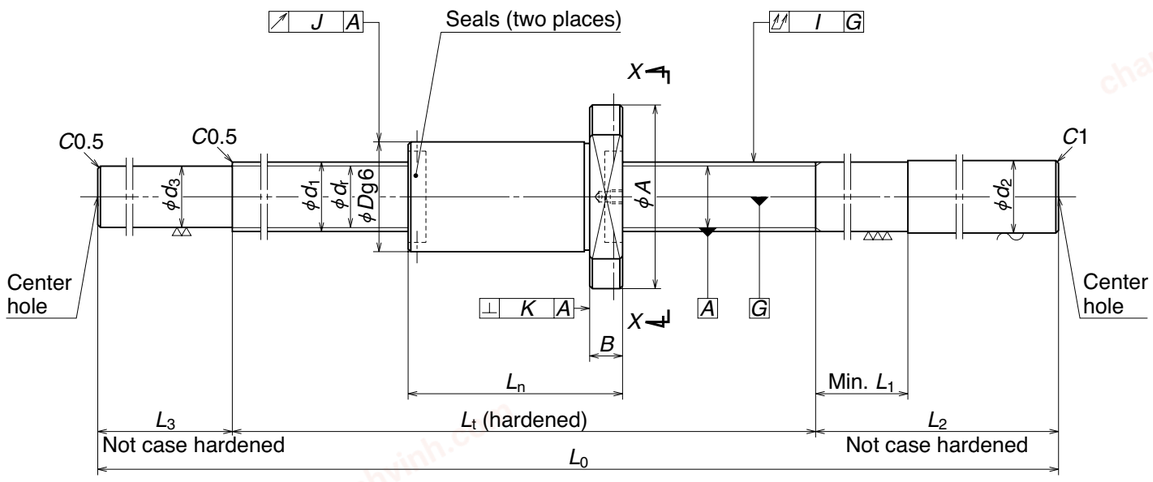
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W4007SS-3D-C5Z10	507	40	10	82	124	47	18	193	102	11	17.5	11	Rc1/8	700	40.3	60	300	34.4	100	1 100	-0.017	0.035	0.025	0.065	0.025	0.015	15.5	1 750
W4010SS-3D-C5Z10	807													1 000			300		100	1 400	-0.024	0.040	0.027	0.080			18.1	
W4014SS-2D-C5Z10	1 207													1 400			350		120	1 870	-0.034	0.054	0.035	0.100			22.2	
W4018SS-3D-C5Z10	1 607													1 800			350		120	2 270	-0.043	0.065	0.040	0.130			25.6	
W4024SS-2D-C5Z10	2 207													2 400			400		150	2 950	-0.058	0.077	0.046	0.170			31.6	
W4010SS-5D-C5Z12	775	40	12	86	128	48	18	225	106	11	17.5	11	Rc1/8	1 000	40.3	70	300	34.1	100	1 400	-0.024	0.040	0.027	0.080	0.025	0.015	19.7	1 750
W4016SS-3D-C5Z12	1 375													1 600			350		150	2 100	-0.038	0.054	0.035	0.130			25.8	
W4025SS-2D-C5Z12	2 275													2 500			400		150	3 050	-0.060	0.077	0.046	0.170			34.0	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

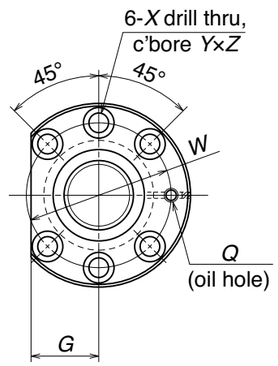
chanhvinh.com

Nut Model: ZFD

Screw Shaft ϕ40, 50 Lead 10



Nut type code: ZFD



View X-X

Unit: mm

Ball Screw Specifications			
Shaft dia. × Lead / Direction of turn		40 × 10 / Right	50 × 10 / Right
Preload / Ball recirculation		Z-preload / Deflector	
Ball dia. / Ball circle dia.		6.350 / 41.75	6.350 / 51.75
Root dia.		35.1	45.1
Effective turns of balls		4	
Accuracy grade / Preload		C5 / Z	
Basic load rating (N)	Dynamic C_a	38 400	43 600
	Static C_{0a}	93 300	122 000
Axial play		0	
Preload (N)		2 840	3 240
Dynamic friction torque (N·cm)		83	108
Internal spatial volume of nut (cm^3)		32	39

Recommended Support Unit	
Screw shaft dia. 40	WBK30DFD-31 (round)
Screw shaft dia. 50	WBK40DFD-31 (round)

Unit: mm

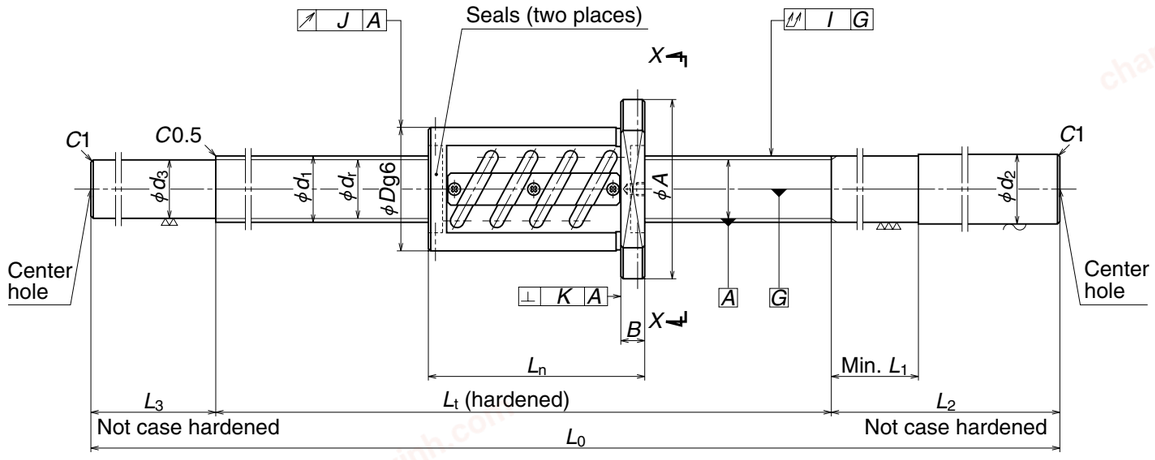
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed N (min^{-1})
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		
	L_t-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_t	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	v_U	I	J	K		
W4007SS-4ZY-C5Z10	557	40	10	62	104	40	18	143	82	11	17.5	11	Rc1/8	700	40.3	60	300	35.1	100	1 100	-0.015	0.035	0.025	0.065	0.019	0.013	12.1	1 750
W4010SS-6ZY-C5Z10	857													1 000			300		100	1 400	-0.022	0.040	0.027	0.080			14.7	
W4014SS-3ZY-C5Z10	1 257													1 400			350		120	1 870	-0.032	0.054	0.035	0.100			18.9	
W4018SS-4ZY-C5Z10	1 657													1 800			350		120	2 270	-0.041	0.065	0.040	0.170			22.5	
W4024SS-3ZY-C5Z10	2 257													2 400			400		150	2 950	-0.056	0.077	0.046	0.170			28.5	
W5007SS-1ZY-C5Z10	557	50	10	72	114	44	18	143	92	11	17.5	11	Rc1/8	700	50.3	60	300	45.1	100	1 100	-0.015	0.035	0.025	0.065	0.019	0.013	18.3	1 400
W5010SS-3ZY-C5Z10	857													1 000			300		100	1 400	-0.022	0.040	0.027	0.080			22.5	
W5015SS-3ZY-C5Z10	1 357													1 500			400		150	2 050	-0.034	0.054	0.035	0.130			31.8	
W5020SS-3ZY-C5Z10	1 857													2 000			400		150	2 550	-0.046	0.065	0.040	0.170			38.9	
W5026SS-3ZY-C5Z10	2 457													2 600			500		200	3 300	-0.060	0.093	0.054	0.220			49.5	

Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

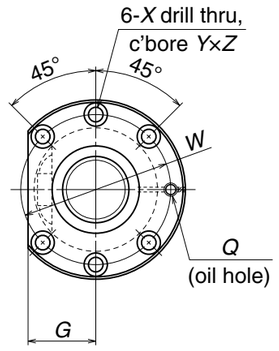
chanhvinh.com

Nut Model: ZFT

Screw Shaft ϕ45, 50 Lead 10



Nut type code: ZFT



View X-X

Unit: mm

Ball Screw Specifications				
Shaft dia. × Lead / Direction of turn		45 × 10 / Right	50 × 10 / Right	
Preload / Ball recirculation		Z-preload / Return tube		
Ball dia. / Ball circle dia.		6.350 / 40	6.350 / 51	
Root dia.		39.4	44.4	
Effective turns of balls		2.5 × 1		2.5 × 2
Accuracy grade / Preload		C5 / Z		
Basic load rating (N)	Dynamic C_a	29 900	31 800	57 700
	Static C_{0a}	77 300	87 400	175 000
Axial play		0		
Preload (N)		2 260	2 450	4 020
Dynamic friction torque (N·cm)		69	78	138
Internal spatial volume of nut (cm^3)		34	37	59

Recommended Support Unit	
Screw shaft dia. 45	WBK35DFD-31 (round)
Screw shaft dia. 50	WBK40DFD-31 (round)

Unit: mm

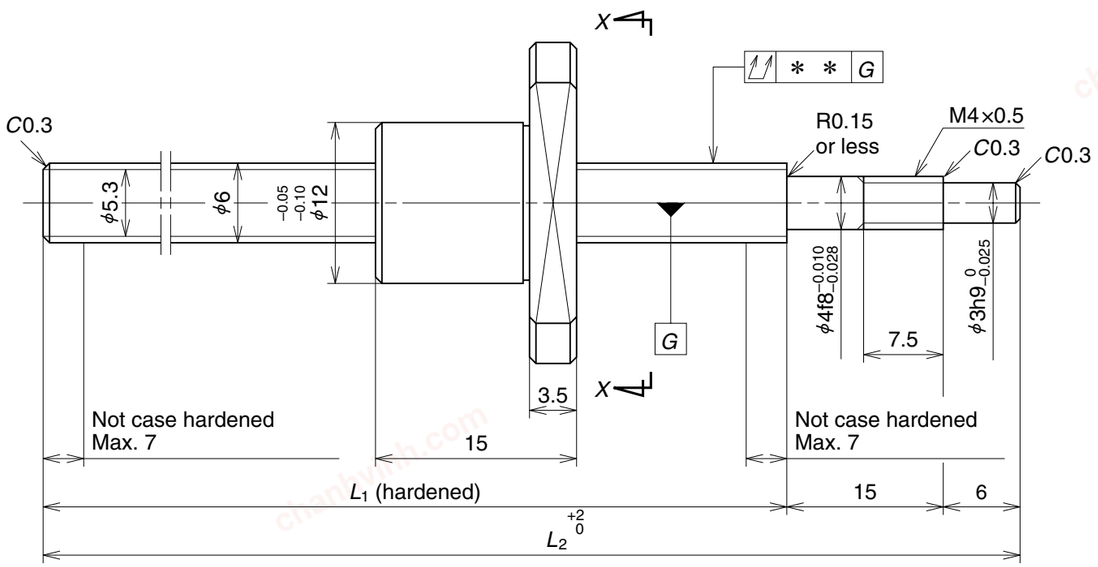
Part number	Stroke max.	Screw shaft dia.	Lead	Nut dimensions										Screw shaft dimensions							Lead accuracy			Run-out			Mass (kg)	Permissible rotational speed
				Outside dia.	Flange			Overall length	Bolt hole				Oil hole	Threaded length	Shaft end, right			Shaft end, left		Overall length	Target value	Error	Variation	Shaft straightness	Nut O.D. eccentricity	Flange perpendicularity		N (min^{-1})
	L_1-L_n	d_1	l	D	A	G	B	L_n	W	X	Y	Z	Q	L_1	d_2	L_1	L_2	d_3	L_3	L_0	T	e_p	υ_U	l	J	K		
W4510SS-1Z-C5Z10	897	45	10	88	132	50	18	103	110	11	17.5	11	Rc1/8	1 000	45.3	60	400	39.4	150	2 150	-0.038	0.054	0.035	0.130	0.025	0.015	28.1	1 550
W4516SS-1Z-C5Z10	1 497													1 600														
W4525SS-1Z-C5Z10	2 397													2 500			450		150	3 100	-0.060	0.077	0.046	0.170			38.8	
W5010SS-1Z-C5Z10	897	50	10	93	135	51	18	103	113	11	17.5	11	Rc1/8	1 000	50.3	60	300	44.4	100	1 400	-0.024	0.040	0.027	0.080	0.025	0.015	23.8	1 400
W5015SS-1Z-C5Z10	1 397													1 500			400		150	2 050	-0.036	0.054	0.035	0.130			32.9	
W5020SS-1Z-C5Z10	1 897													2 000			400		150	2 550	-0.048	0.065	0.040	0.170			39.8	
W5026SS-1Z-C5Z10	2 497													2 600			450		150	3 200	-0.062	0.093	0.054	0.220			48.9	
W5010SS-2Z-C5Z10	867	50	10	93	135	51	18	163	113	11	17.5	11	Rc1/8	1 000	50.3	60	300	44.4	100	1 400	-0.024	0.040	0.027	0.080	0.025	0.015	25.5	1 400
W5015SS-2Z-C5Z10	1 337													1 500			400		150	2 050	-0.036	0.054	0.035	0.130			34.6	
W5020SS-2Z-C5Z10	1 837													2 000			400		150	2 550	-0.048	0.065	0.040	0.170			41.5	
W5026SS-2Z-C5Z10	2 437													2 600			450		150	3 200	-0.062	0.093	0.054	0.220			50.7	

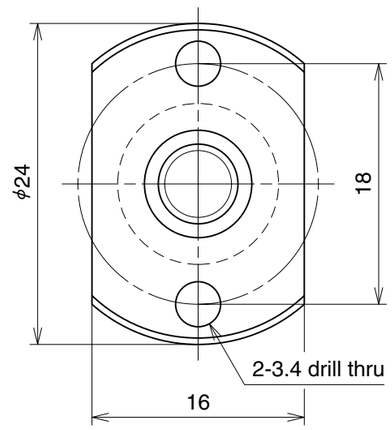
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Amount for replenishing should be about 50% of nut internal space capacity.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ6 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		6 × 1 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		0.800 / 6.2
Root dia.		5.2
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	520
	Static C_{0a}	925
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK04R-11 (round, fixed side)

Unit: mm

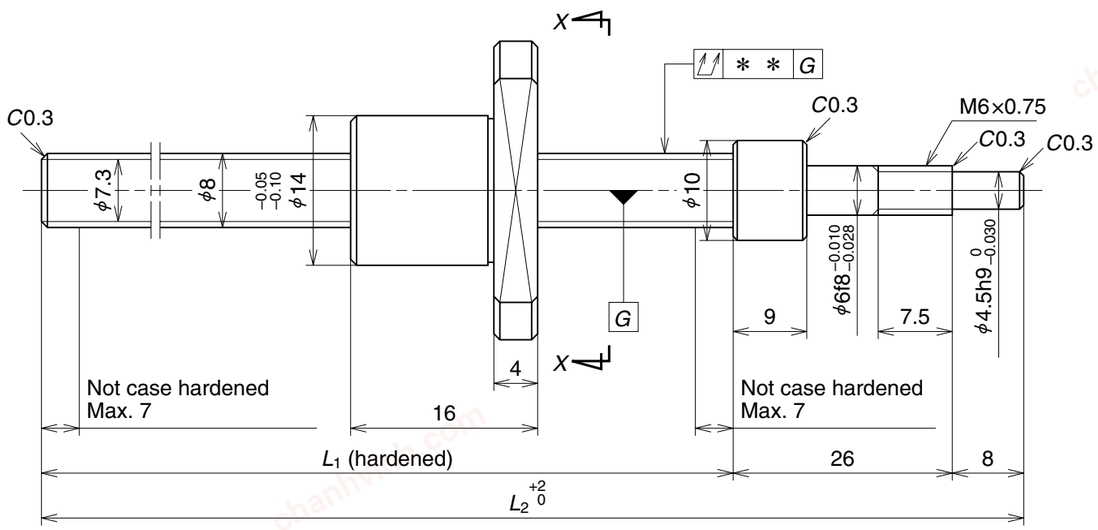
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA0601C7S-160	100	124	139	160	0	0.052	0.052	0.060	0.045	3 000
RMA0601C7S-260	200	224	239	260	0	0.085	0.052	0.090	0.065	3 000

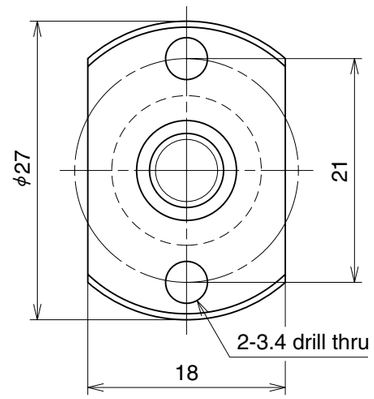
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ8 Lead 1





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 1 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		0.800 / 8.2
Root dia.		7.2
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	600
	Static C_{0a}	1 290
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK06R-11 (round, fixed side)

Unit: mm

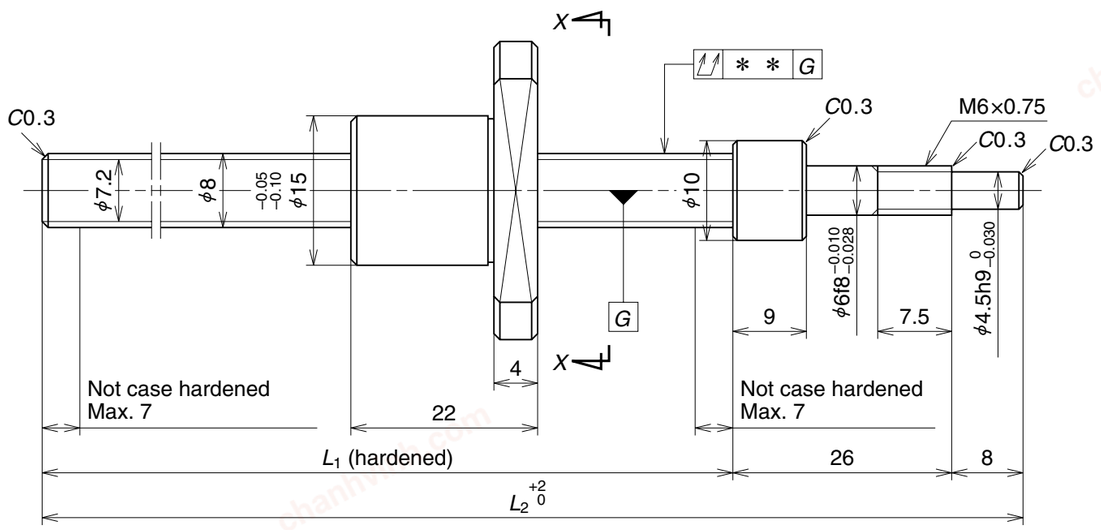
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA0801C7S-180	100	130	146	180	0	0.052	0.052	0.060	0.085	3 000
RMA0801C7S-280	200	230	246	280	0	0.085	0.052	0.090	0.12	3 000

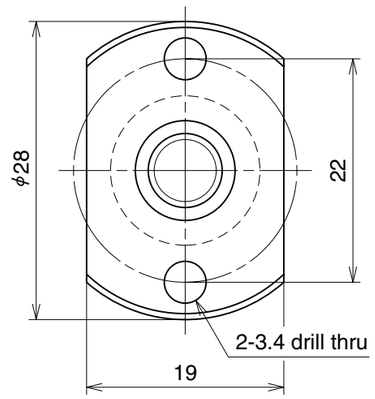
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ8 Lead 1.5





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 1.5 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		1.000 / 8.3
Root dia.		7.0
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	810
	Static C_{0a}	1 590
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK06R-11 (round, fixed side)

Unit: mm

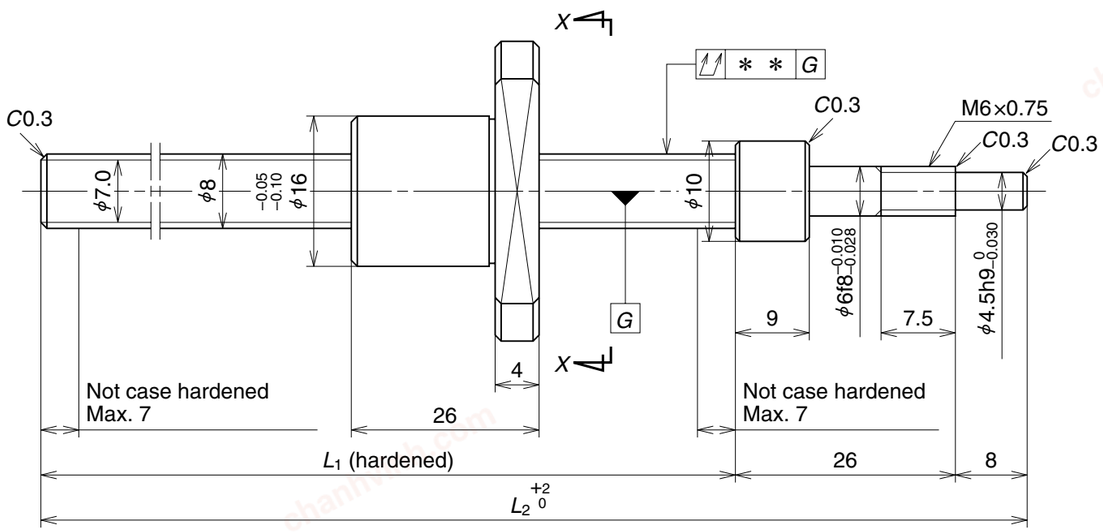
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA0801.5C7S-180	100	124	146	180	0	0.052	0.052	0.060	0.093	3 000
RMA0801.5C7S-280	200	224	246	280	0	0.085	0.052	0.090	0.13	3 000

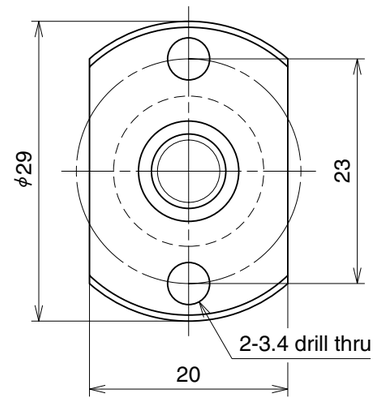
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ8 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		8 × 2 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		1.200 / 8.3
Root dia.		6.9
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	1 070
	Static C_{0a}	1 950
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK06R-11 (round, fixed side)

Unit: mm

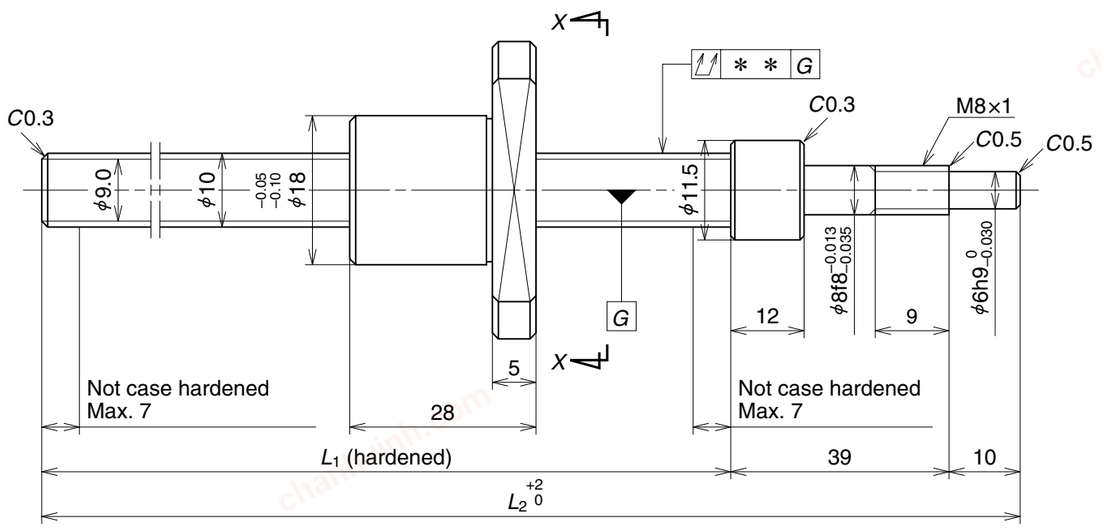
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA0802C7S-180	100	120	146	180	0	0.052	0.052	0.060	0.10	3 000
RMA0802C7S-280	200	220	246	280	0	0.085	0.052	0.090	0.14	3 000

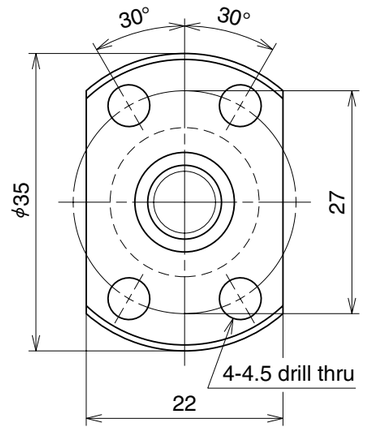
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ10 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		10 × 2 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		1.200 / 10.3
Root dia.		8.9
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	1 210
	Static C_{0a}	2 510
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK08-01A (square, fixed side)
WBK08-11 (round, fixed side)

Unit: mm

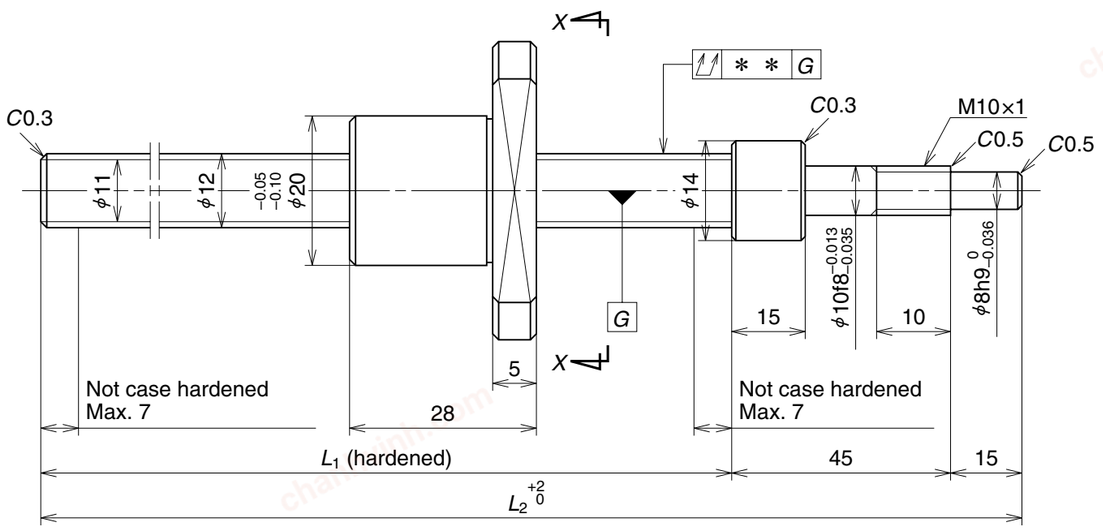
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA1002C7S-250	150	173	201	250	0	0.085	0.052	0.070	0.19	3 000
RMA1002C7S-350	250	273	301	350	0	0.085	0.052	0.100	0.25	3 000

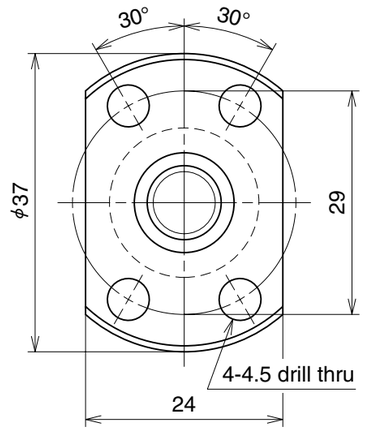
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Precision Rolled Miniature: RMA

Screw Shaft ϕ12 Lead 2





View *X-X*

Unit: mm

Ball Screw Specifications		
Shaft dia. × Lead / Direction of turn		12 × 2 / Right
Ball recirculation		Deflector
Ball dia. / Ball circle dia.		1.200 / 12.3
Root dia.		10.9
Effective turns of balls		1 × 3
Accuracy grade / Axial play		Ct7 / S
Basic load rating (N)	Dynamic C_a	1 350
	Static C_{0a}	3 190
Axial play		0.020 or less
Dynamic friction torque (N·cm)		1.0 or less
Spacer ball		None

Recommended Support Unit
WBK10-01A (square, fixed side)
WBK10-11 (round, fixed side)

Unit: mm

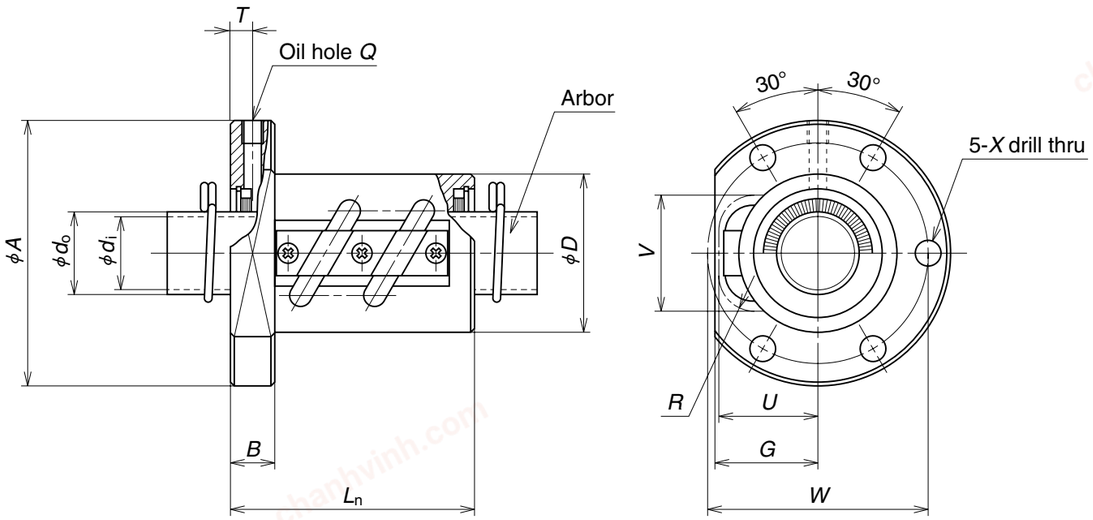
Part number	Stroke		Screw shaft length		Lead accuracy			Shaft run-out**	Mass (kg)	Permissible rotational speed N (min^{-1})
	Nominal	Maximum (L_1–Nut length)	L_1	L_2	Target value T	Error e_p	Variation v_{300}			
RMA1202C7S-250	150	162	190	250	0	0.060	0.052	0.070	0.26	3 000
RMA1202C7S-350	250	262	290	350	0	0.085	0.052	0.100	0.34	3 000

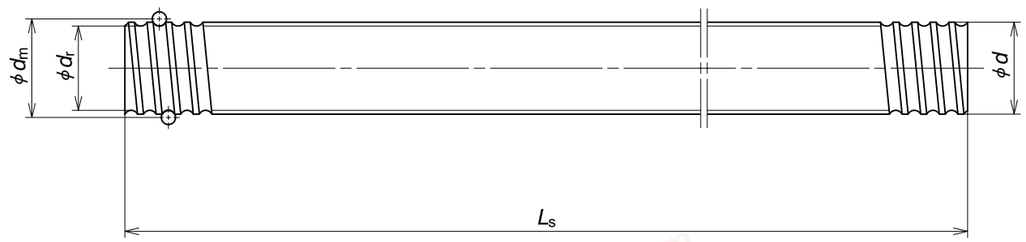
Note 1: Only rust preventive agent is applied at time of delivery. Please apply lubricant (oil or grease) before use.
Apply to screw shaft surface when replenishing.
Note 2: Permissible maximum rotational speed is determined by critical speed or permissible rotational speed shown in table.

chanhvinh.com

Nut Model: RNFTL

Tube type: Flanged nut





Unit: mm

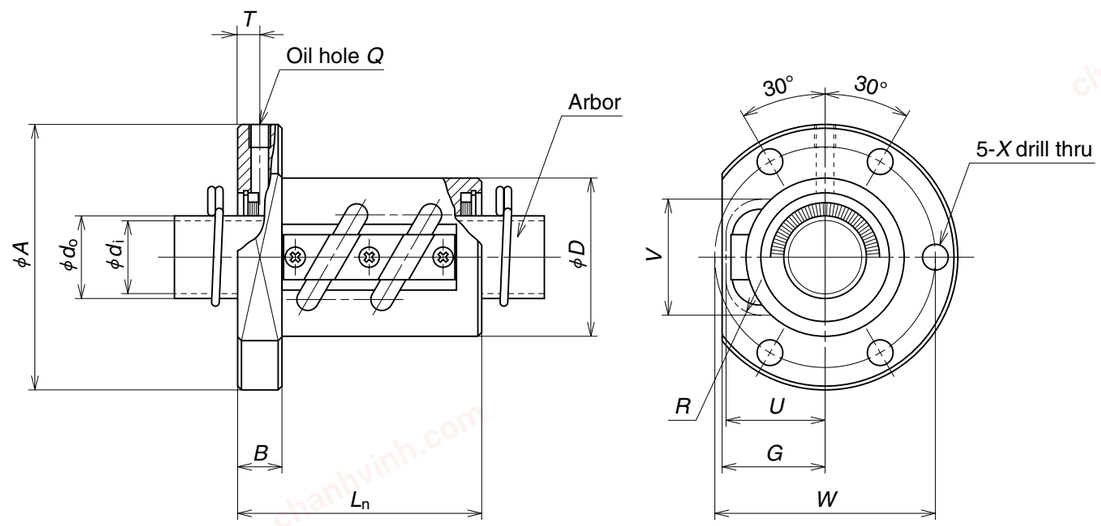
Part number	Shaft dia.	Lead	Ball dia.	Ball circle dia.	Root dia.	Effective turns of balls	Basic load rating (N)		Axial play max.	Ball nut dimensions				Ball nut dimensions								Nut mass (kg)	Arbor		Screw shaft				Shaft mass/m (kg)	Internal spatial volume of nut (cm^3)	Standard volume of grease replenishing (cm^3)
										Outside dia.	Flange			Length	Bolt hole		Oil hole		Projecting tube				Outside dia.	Bore	Standard length			Screw shaft number			
	d	l	D_w	d_m	d_r	Turns × Circuits	Dynamic C_a	Static C_{oa}		D	A	G	B	L_n	W	X	Q	T	U	V	R		d_0	d_i	L_s						
RNFTL 1003A3.5	10	3	2.381	10.65	8.1	3.5×1	3 780	6 730	0.10	20	40	15	6	34	30	4.5	M3×0.5	3.0	15	15	7	0.092	8.1	6.1	400	800		**RS1003A****	0.50		
RNFTL 1006A2.5S	10	6	2.381	10.65	8.1	2.5×1	2 830	4 810	0.10	20	40	15	6	36	30	4.5	M3×0.5	3.5	15	15	5	0.095	8.1	6.1	400	800		**RS1006A****	0.56	1.1	0.6
RNFTL 1208A2.5S	12	8	2.778	12.65	9.6	2.5×1	3 730	6 560	0.10	25	45	19	8	46	35	4.5	M3×0.5	5.5	19	18	7	0.18	9.6	7.6	400	800		**RS1208A****	0.74	1.8	0.9
RNFTL 1404A3.5S	14	4	2.778	14.5	11.5	3.5×1	5 370	10 800	0.10	25	50	19	10	43	40	4.5	M6×1	5.0	19	20	7	0.20	11.5	9.5	500	1 000		**RS1404A****	1.02	2.0	1.0
RNFTL 1405A2.5	14	5	3.175	14.5	11.0	2.5×1	5 260	9 720	0.10	30	50	22	10	45	40	4.5	M6×1	5.0	22	21	8	0.26	11.0	9.0	500	1 000		**RS1405A****	1.00	2.4	1.2
RNFTL 1610A2.5 / **RNFTL 1610A2.5S**	16	10	3.175	16.75	13.3	2.5×1	5 660	11 500	0.10	30	53	23	10	54	41	5.5	M6×1	5.5	23	22.5	8	0.28	13.3	11.3	500	1 000	1 500	**RS1610A****	1.37	2.7	1.4
RNFTL 1808A3.5 / **RNFTL 1808A3.5S**	18	8	4.762	18.5	13.6	3.5×1	13 200	25 800	0.15	34	63	27	12	58	49	6.6	M6×1	6.0	27	27	8	0.43	13.6	11.6	500	1 000	1 500	**RS1808A****	1.60	5.2	2.6
RNFTL 2005A2.5 / **RNFTL 2005A2.5S**	20	5	3.175	20.5	17.0	2.5×1	6 360	14 200	0.10	40	60	28	10	46	50	4.5	M6×1	5.0	28	27	10	0.42	17.0	14.6	500	1 000	2 000	**RS2005A****	2.17	3.5	1.8
RNFTL 2010A2.5 / **RNFTL 2010A2.5S**	20	10	4.762	21.25	16.2	2.5×1	10 900	21 800	0.15	40	67	30	12	59	53	6.6	M6×1	6.0	30	29	12	0.55	16.2	13.8	500	1 000	2 000	**RS2010A****	2.18	7.1	3.6
RNFTL 2505A5 / **RNFTL 2505A5S**	25	5	3.175	25.5	22.0	2.5×2	12 800	36 300	0.10	42	71	28	12	66	57	6.6	M6×1	6.0	28	31	10	0.62	22.0	19.6	1 000	2 000	2 500	**RS2505A****	3.47	6.5	3.3
RNFTL 2510A2.5	25	10	6.35	26	19.0	2.5×1	17 500	35 200	0.20	44	80	34	15	62	62	9	M6×1	7.5	34	37	17	0.75	19.0	16.6	1 000	2 000	2 500	**RS2510A****	3.13	13	6.5
RNFTL 2510A2.5S																															
RNFTL 2510A5						2.5×2	31 800	70 300			80	34	15	92	62	9	M6×1	7.5	34	37	17									18	9.0
RNFTL 2510A5S																															

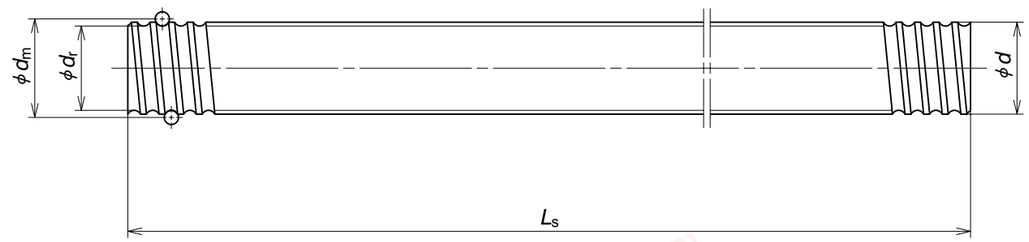
Note 1: Protruding portion of tube does not interfere with ball nut housing if its dimensions corresponding to U and V are large enough.
Note 2: Actual screw shaft length may become slightly longer than nominal length L_s due to manufacturing tolerance.
Note 3: Seals are provided in the nut; therefore, external dimensions of those with seals are the same as those without.
In ball nut side view drawing, above the center line there is a seal, and beneath it there is no seal.
Seal for those with shaft diameter of 14 mm or less is made of synthetic resin. Seal for those of 16 mm or more is a brush-seal.
Note 4: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 5: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 6: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Nut Model: RNFTL

Tube type: Flanged nut





Unit: mm

Part number	Shaft dia. d	Lead l	Ball dia. D_w	Ball circle dia. d_m	Root dia. d_r	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic C_a	Basic load rating (N): Static C_{oa}	Axial play max.	Ball nut dimensions: Outside dia. D	Ball nut dimensions: Flange A	Flange G	Flange B	Ball nut dimensions: Length L_n	Bolt hole W	Bolt hole X	Oil hole Q	Oil hole T	Projecting tube U	Projecting tube V	Projecting tube R	Nut mass (kg)	Arbor: Outside dia. d_0	Arbor: Bore d_1	Screw shaft: Standard length L_s			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm³)	Standard volume of grease replenishing (cm³)
RNFTL 2806A2.5	28	6	3.175	28.5	25.0	2.5×1	7 430	20 300	0.10	50	79	33	15	55	65	6.6	M6×1	7.5	33	34	10	0.85	25.0	22.6	1 000	2 000	2 500	**RS2806A****	4.47	5.9	3.0
RNFTL 2806A2.5S																															
RNFTL 2806A5						2.5×2	13 500	40 600		50	79	33	15	79	65	6.6	M6×1	7.5	33	34	10	1.07								8.4	4.2
RNFTL 2806A5S																															
RNFTL 3210A5	32	10	6.35	33.75	27.0	2.5×2	35 700	92 200	0.20	55	97	39	18	97	75	11	M6×1	9.0	39	42	17	1.55	27.0	24.6	1 000	2 000	3 000	**RS3210A****	5.53	29	15
RNFTL 3210A5S																															
RNFTL 3610A2.5	36	10	6.35	37	30.0	2.5×1	21 000	51 000	0.20	60	102	42	18	68	80	11	M6×1	9.0	42	46	17	1.47	30.0	27.6	1 000	2 000	3 000	**RS3610A****	6.91	21	11
RNFTL 3610A2.5S																															
RNFTL 3610A5						2.5×2	38 100	102 000		60	102	42	18	98	80	11	M6×1	9.0	42	46	17	1.80								33	17
RNFTL 3610A5S																															
RNFTL 4010A7	40	10	6.35	41.75	35.0	3.5×2	53 500	164 000	0.20	65	114	44	20	120	90	14	M6×1	10.0	44	50	20	2.49	35.0	31.8	2 000	3 000	4 000	**RS4010****	8.87	42	21
RNFTL 4010A7S																															
RNFTL 4512A5	45	12	7.144	46.5	39.0	2.5×2	49 600	147 000	0.23	70	130	47	22	116	100	18	M6×1	11.0	47	55	20	3.07	39.0	35.8	2 000	3 000	4 000	**RS4512****	11.16	49	25
RNFTL 4512A5S																															
RNFTL 5010A7	50	10	6.35	51.75	45.0	3.5×2	59 500	205 000	0.20	80	140	52	22	122	110	18	M6×1	11.0	52	59	20	4.06	45.0	41.8	2 000	3 000	4 000	**RS5010****	14.15	53	27
RNFTL 5010A7S																															
RNFTL 5016A5	50	16	9.525	52	42.0	2.5×2	99 900	293 000	0.23	85	163	57	28	146	125	22	M6×1	14.0	57	63	25	6.42	42.0	38.8	2 000	3 000	4 000	**RS5016****	13.48	94	47
RNFTL 5016A5S																															

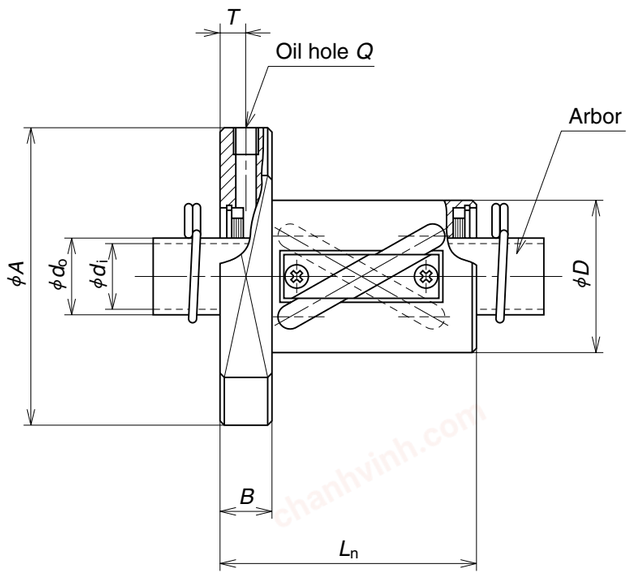
Note 1: Protruding portion of tube does not interfere with ball nut housing if its dimensions corresponding to U and V are large enough.
Note 2: Actual screw shaft length may become slightly longer than nominal length L_s due to manufacturing tolerance.
Note 3: Seals are provided in the nut; therefore, external dimensions of those with seals are the same as those without.
In nut side view drawing, above the center line there is a seal, and beneath it there is no seal.
Seal is a brush-seal.

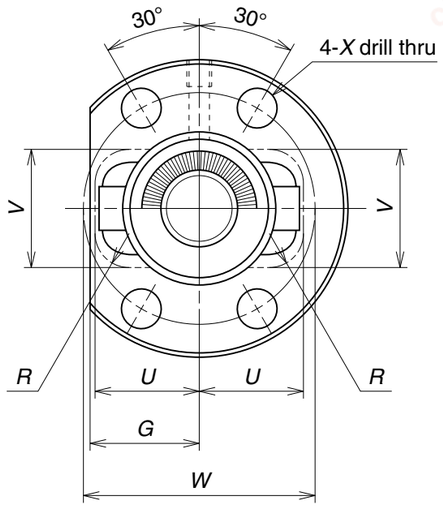
Note 4: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 5: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 6: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

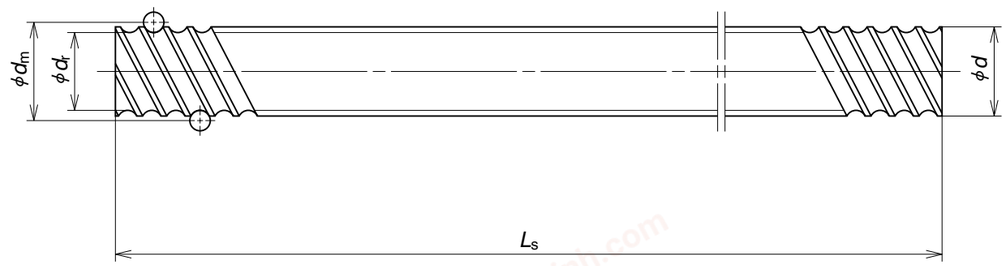
chanhvinh.com

Nut Model: RNFTL

Tube type: Flanged nut







Unit: mm

Part number	Shaft dia. d	Lead l	Ball dia. D_w	Ball circle dia. d_m	Root dia. d_r	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic C_a	Basic load rating (N): Static C_{oa}	Axial play max.	Ball nut dimensions: Outside dia. D	Flange: A	Flange: G	Flange: B	Ball nut dimensions: Length L_n	Bolt hole: W	Bolt hole: X	Oil hole: Q	Projecting tube: T	Projecting tube: U	Projecting tube: V	Projecting tube: R	Nut mass (kg)	Arbor: Outside dia. d_0	Arbor: Bore d_i	Screw shaft: Standard length L_s			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm³)	Standard volume of grease replenishing (cm³)
RNFTL 1212A3	12	12	2.381	12.65	10.1	1.5×2	3 360	6 270	0.10	24	44	17	8	44	34	4.5	M3×0.5	4.0	17	16	5	0.16	10.1	8.1	400	800		**RS1212A****	0.74	1.7	0.9
RNFTL 1616A3	16	16	2.778	16.65	13.6	1.5×2	4 880	9 650	0.10	30	55	22	10	50	43	6.6	M6×1	5.0	22	22	7	0.29	13.6	11.6	500	1 000	1 500	**RS1616A****	1.37	2.8	1.4
RNFTL 1616A3S																															
RNFTL 2020A3	20	20	3.175	20.75	17.3	1.5×2	7 010	15 400	0.10	35	68	25	12	59	52	9	M6×1	6.0	25	27	8	0.49	17.3	14.9	500	1 000	2 000	**RS2020A****	2.19	4.9	2.5
RNFTL 2020A3S																															
RNFTL 2525A3	25	25	3.969	26	22.0	1.5×2	10 500	24 100	0.12	45	80	31	12	69	63	9	M6×1	6.0	31	32	10	0.80	22.0	19.6	1 000	2 000	2 500	**RS2525A****	3.43	9.1	4.6
RNFTL 2525A3S																															
RNFTL 3232A3	32	32	4.762	33.25	28.0	1.5×2	15 300	37 100	0.15	55	100	37	15	84	80	11	M6×1	7.5	37	40	12	1.46	28.0	25.6	1 000	2 000	3 000	**RS3232A****	5.71	19	9.5
RNFTL 3232A3S																															
RNFTL 4040A3	40	40	6.35	41.75	35.0	1.5×2	24 400	61 600	0.20	70	120	46	18	103	95	14	M6×1	9.0	46	49	15	2.69	35.0	31.8	2 000	3 000	4 000	**RS4040A****	8.82	39	20
RNFTL 4040A3S																															

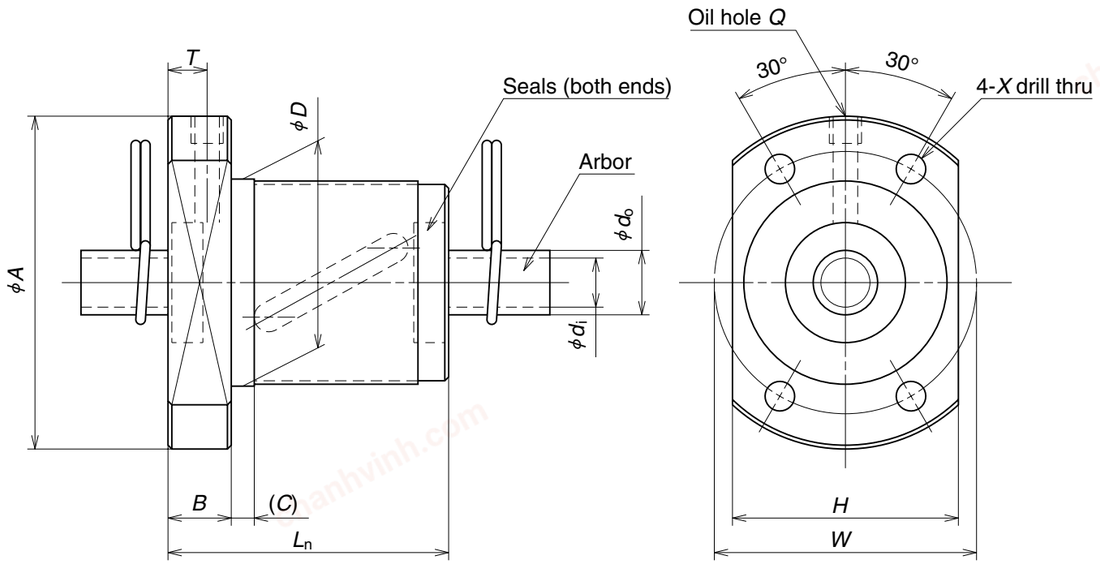
Note 1: Protruding portion of tube does not interfere with ball nut housing if its dimensions corresponding to U and V are large enough.
Note 2: Actual screw shaft length may become slightly longer than nominal length L_s due to manufacturing tolerance.
Note 3: Seals are provided in the nut; therefore, external dimensions of those with seals are the same as those without.
In ball nut side view drawing, above the center line there is a seal, and beneath it there is no seal.
Seal for those with shaft diameter of 14 mm or less is made of synthetic resin. Seal for those of 16 mm or more is a brush-seal.

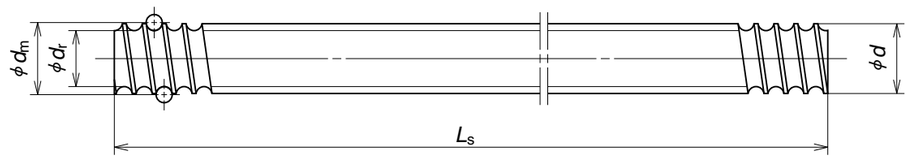
Note 4: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 5: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 6: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Nut Model: RNFBL

Return tube type, embedded; tube, flanged





Unit: mm

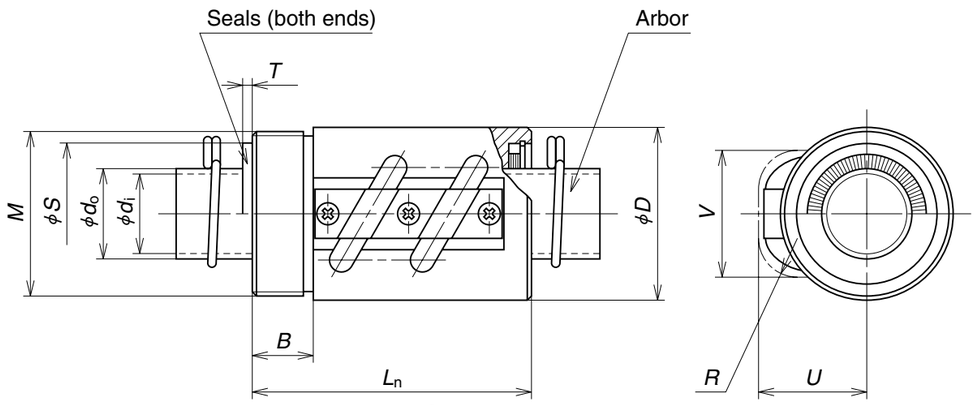
Part number	Shaft dia. d	Lead l	Ball dia. Dw	Ball circle dia. dm	Root dia. dr	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic Ca	Basic load rating (N): Static Coa	Axial play max.	Ball nut dimensions: Outside dia. D	Flange: A	Flange: H	Flange: B	Ball nut dimensions: Length: Overall length Ln	Length: (C)	Bolt hole: W	Bolt hole: X	Oil hole: Q	Oil hole: T	Nut mass (kg)	Arbor: Outside dia. d0	Arbor: Bore di	Screw shaft: Standard length Ls			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm³)	Standard volume of grease replenishing (cm³)
RNFBL 1006A2.5S	10	6	2.381	10.65	8.1	2.5×1	2 830	4 810	0.10	26	42	29	8	36	3	34	4.5	M3×0.5	5.0	0.16	8.1	6.1	400	800		**RS1006A****	0.56	1.1	0.6
RNFBL 1208A2.5S	12	8	2.778	12.65	9.6	2.5×1	3 730	6 560	0.10	29	45	32	8	44	3	37	4.5	M3×0.5	5.5	0.21	9.6	7.6	400	800		**RS1208A****	0.81	1.6	0.8
RNFBL 1404A3.5S	14	4	2.778	14.5	11.5	3.5×1	5 370	10 800	0.10	31	50	37	10	40	4	40	4.5	M6×1	5.0	0.25	11.5	9.5	500	1 000		**RS1404A****	1.02	2.4	1.2
RNFBL 1405A2.5S	14	5	3.175	14.5	11.0	2.5×1	5 260	9 720	0.10	32	50	38	10	40	4	40	4.5	M6×1	5.0	0.26	11.0	9.0	500	1 000		**RS1405A****	1.00	1.9	1.0
RNFBL 1808A3.5S	18	8	4.762	18.5	13.6	3.5×1	13 200	25 800	0.15	50	80	60	12	61	4	65	6.6	M6×1	6.0	1.00	13.6	11.6	500	1 000	1 500	**RS1808A****	1.60	5.8	2.9
RNFBL 2005A2.5S	20	5	3.175	20.5	17.0	2.5×1	6 360	14 200	0.10	40	60	46	10	40	4	50	4.5	M6×1	5.0	0.37	17.0	14.6	500	1 000	2 000	**RS2005A****	2.17	2.8	1.4
RNFBL 2010A2.5S	20	10	4.762	21.25	16.2	2.5×1	10 900	21 800	0.15	52	82	64	12	61	5	67	6.6	M6×1	6.0	1.05	16.2	13.8	500	1 000	2 000	**RS2010A****	2.18	7.6	3.8
RNFBL 2505A2.5S	25	5	3.175	25.5	22.0	2.5×1	7 070	18 200	0.10	43	67	50	10	40	4	55	5.5	M6×1	5.0	0.40	22.0	19.6	1 000	2 000	2 500	**RS2505A****	3.47	3.5	1.8
RNFBL 2505A5S						2.5×2	12 800	36 300						55						0.50								4.7	2.4
RNFBL 2510A2.5S	25	10	6.35	26	19.0	2.5×1	17 500	35 200	0.20	60	96	72	15	66	5	78	9.0	M6×1	7.5	1.52	19.0	16.6	1 000	2 000	2 500	**RS2510A****	3.13	14	7.0
RNFBL 2510A5S						2.5×2	31 800	70 300						96						1.99								19	9.5
RNFBL 2806A2.5S	28	6	3.175	28.5	25.0	2.5×1	7 430	20 300	0.10	50	80	60	12	47	5	65	6.6	M6×1	6.0	0.70	25.0	22.6	1 000	2 000	2 500	**RS2806A****	4.47	4.5	2.3
RNFBL 2806A5S						2.5×2	13 500	40 600						65						0.87								7.6	3.8
RNFBL 3210A2.5S	32	10	6.35	33.75	27.0	2.5×1	19 700	46 100	0.20	67	103	78	15	67	5	85	9.0	M6×1	7.5	1.72	27.0	24.6	1 000	2 000	3 000	**RS3210A****	5.53	20	10
RNFBL 3210A5S						2.5×2	35 700	92 200						97						2.25								28	14
RNFBL 3610A2.5S	36	10	6.35	37	30.0	2.5×1	21 000	51 000	0.20	70	110	82	17	69	5	90	11.0	M6×1	8.5	1.97	30.0	27.6	1 000	2 000	3 000	**RS3610A****	6.91	21	11
RNFBL 3610A5S						2.5×2	31 800	102 000						99						2.53								29	15
RNFBL 4010A5S	40	10	6.35	41.75	35.0	2.5×2	40 100	116 000	0.20	76	116	88	17	99	5	96	11.0	M6×1	8.5	2.86	35.0	31.8	2 000	3 000	4 000	**RS4010A****	8.87	36	18

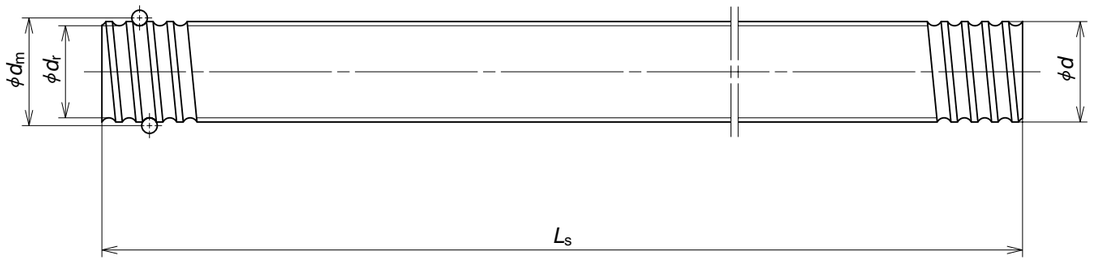
Note 1: Actual screw shaft length may be slightly longer than nominal length L_s due to manufacturing tolerance.
Note 2: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 3: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 4: Seal for those with shaft diameter of 14 mm or less is made of synthetic resin. Seal for those of 16 mm or more is a brush-seal.
Note 5: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Nut Model: RNCT

Return tube type, nut with V-thread





Unit: mm

Part number	Shaft dia. d	Lead l	Ball dia. Dw	Ball circle dia. dm	Root dia. dr	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic Ca	Basic load rating (N): Static Coa	Axial play max.	Ball nut dimensions: Outside dia. D	Ball nut dimensions: Flange M	Ball nut dimensions: Flange B	Ball nut dimensions: Length Ln	Ball nut dimensions: Projecting tube U	Ball nut dimensions: Projecting tube V	Ball nut dimensions: Projecting tube R	Nut mass (kg)	Seal dimensions: Diameter S	Seal dimensions: Thickness T	Arbor: Outside dia. do	Arbor: Bore di	Screw shaft: Standard length Ls			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm³)	Standard volume of grease replenishing (cm³)
RNCT 1003A3.5	10	3	2.381	10.65	8.1	3.5×1	3 780	6 730	0.10	20	M18×1	10	38	15	15	7	0.049			8.1	6.1	400	800		**RS1003A****	0.50		
RNCT 1404A3.5S	14	4	2.778	14.5	11.5	3.5×1	5 370	10 800	0.10	25	M24×1	10	43	19	20	7	0.083			11.5	9.5	500	1 000		**RS1404A****	1.02	2.7	1.4
RNCT 1405A2.5S	14	5	3.175	14.5	11.0	2.5×1	5 260	9 720	0.10	30	M26×1.5	10	45	22	21	8	0.15			11.0	9.0	500	1 000		**RS1405A****	1.00	3.1	1.6
RNCT 1808A3.5 **RNCT 1808A3.5S**	18	8	4.762	18.5	13.6	3.5×1	13 200	25 800	0.15	34	M32×1.5	12	58	27	27	8	0.21	28.5	2.5	13.6	11.6	500	1 000	1 500	**RS1808A****	1.66	6.6	3.3
RNCT 2005A2.5 **RNCT 2005A2.5S**	20	5	3.175	20.5	17.0	2.5×1	6 360	14 200	1.10	40	M36×1.5	12	48	28	27	10	0.28	29.5	2.5	17.0	14.6	500	1 000	2 000	**RS2005A****	2.17	4.8	2.4
RNCT 2505A5 **RNCT 2505A5S**	25	5	3.175	25.5	22.0	2.5×2	12 800	36 300	0.10	42	M40×1.5	15	69	28	31	10	0.38	34.5	2.5	22.0	19.6	1 000	2 000	2 500	**RS2505A****	3.47	8.4	4.2
RNCT 2510A5 **RNCT 2510A5S**	25	10	6.35	26	19.0	2.5×2	31 800	70 300	0.20	44	M42×1.5	15	92	34	37	17	0.49	38.5	2.5	19.0	16.6	1 000	2 000	2 500	**RS2510A****	3.13	21	1
RNCT 2806A5 **RNCT 2806A5S**	28	6	3.175	28.5	25.0	2.5×2	13 500	40 600	0.10	50	M45×1.5	15	79	33	34	10	0.68	37.5	2.5	25.0	22.6	1 000	2 000	2 500	**RS2806A****	4.47	9.7	4.9
RNCT 3210A5 **RNCT 3210A5S**	32	10	6.35	33.75	27.0	2.5×2	35 700	92 200	0.20	55	M50×1.5	18	97	39	42	17	0.79	45.5	2.5	27.0	24.6	1 000	2 000	3 000	**RS3210A****	5.53	32	16
RNCT 3610A5 **RNCT 3610A5S**	36	10	6.35	37	30.0	2.5×2	38 100	102 000	0.20	60	M55×2	18	98	42	46	17	0.97	50.5	3.0	30.0	27.6	1 000	2 000	3 000	**RS3610A****	6.91	32	16
RNCT 4010A7 **RNCT 4010A7S**	40	10	6.35	41.75	35.0	3.5×2	53 500	164 000	0.20	65	M60×2	25	125	44	50	20	1.37	54.5	3.0	35.0	31.8	2 000	3 000	4 000	**RS4010A****	8.87	51	26
RNCT 4512A5 **RNCT 4512A5S**	45	12	7.144	46.5	39.0	2.5×2	46 900	147 000	0.23	70	M65×2	30	124	47	55	20	1.42	60.5	3.0	39.0	35.8	2 000	3 000	4 000	**RS4512A****	11.16	60	30
RNCT 5010A7 **RNCT 5010A7S**	50	10	6.35	51.75	45.0	3.5×2	59 500	205 000	0.20	80	M75×2	40	140	52	59	20	2.41	64.5	3.0	45.0	41.8	2 000	3 000	4 000	**RS5010A****	14.15	76	38
RNCT 5016A5 **RNCT 5016A5S**	50	16	9.525	52	42.0	2.5×2	99 900	293 000	0.23	85	M80×2	40	158	57	63	25	3.14	68.5	3.0	42.0	38.8	2 000	3 000	4 000	**RS5016A****	13.48	114	57

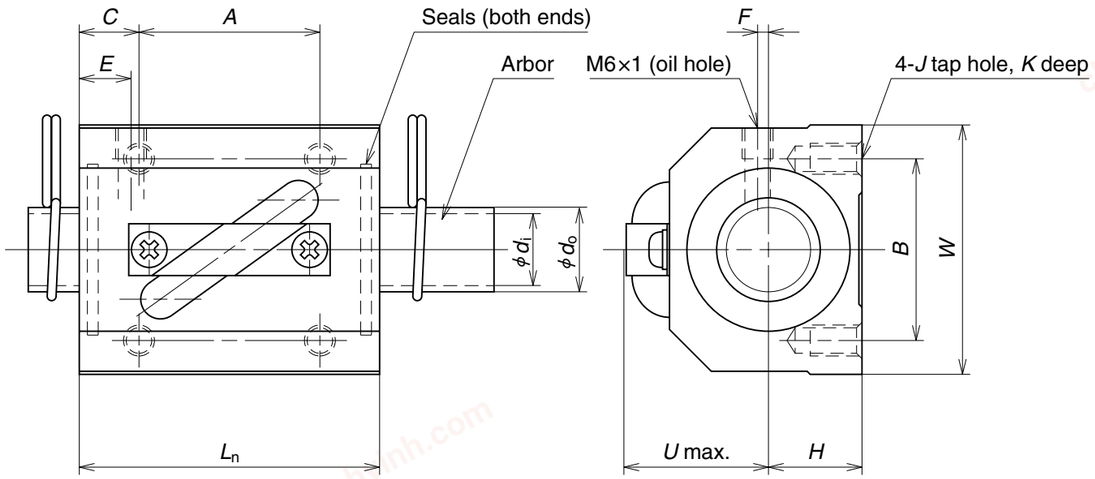
Note 1: Protruding portion of tube does not interfere with ball nut housing if its dimensions corresponding to U and V are large enough.
Note 2: Actual screw shaft length may become slightly longer than nominal length L_s due to manufacturing tolerance.
Note 3: Seal cannot be installed in V-thread side but may be installed in opposite side.
Seal is provided in nut; therefore, external dimensions of those with seal are the same as those without.
In ball nut side view drawing, above the center line there is a seal, and beneath it there is no seal.
Seal for those with shaft diameter of 14 mm or less is made of synthetic resin. Seal for those of 16 mm or more is a brush-seal.
There is no seal on V-thread side for RNCT1404A3.5S and RNCT1405A2.5S.

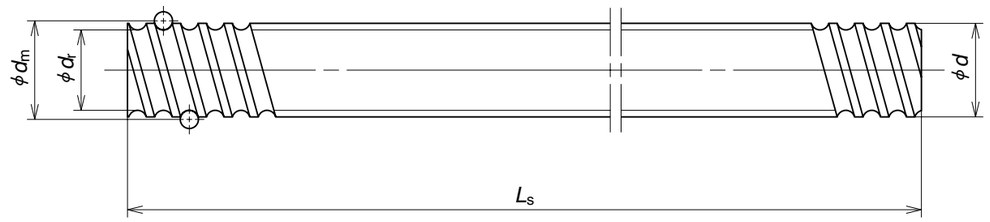
Note 4: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 5: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 6: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Nut Model: RNSTL

Return tube type, square nut





Unit: mm

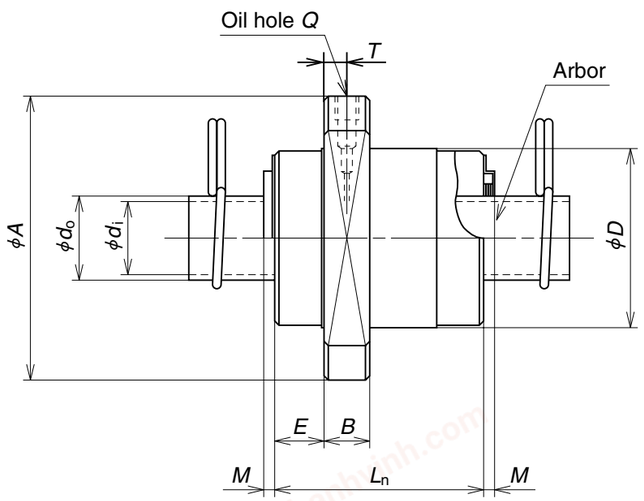
Part number	Shaft dia. d	Lead l	Ball dia. Dw	Ball circle dia. dm	Root dia. dr	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic Ca	Basic load rating (N): Static Coa	Axial play max.	Ball nut dimensions: Length Ln	Width W	Center height H	Ball nut dimensions: Bolt hole A	B	C	J	K	Oil hole E	F	U	Nut mass (kg)	Arbor: Outside dia. d0	Arbor: Bore di	Screw shaft: Standard length Ls			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm³)	Standard volume of grease replenishing (cm³)
RNSTL 1404A3.5S	14	4	2.778	14.5	11.5	3.5×1	5 370	10 800	0.10	38	34	13	22	26	8	M4	7	7	3	20	0.20	11.5	9.5	500	1 000		**RS1404A****	1.02	1.6	0.8
RNSTL 1405A2.5S	14	5	3.175	14.5	11.0	2.5×1	5 260	9 720	0.10	38	34	13	22	26	8	M4	7	7	3	21	0.20	11.0	9.0	500	1 000		**RS1405A****	1.00	1.8	0.9
RNSTL 1808A3.5S	18	8	4.762	18.5	13.6	3.5×1	13 200	25 800	0.15	56	48	17	35	35	10.5	M6	10	8	3	26	0.31	13.6	11.6	500	1 000	1 500	**RS1808A****	1.60	3.4	1.7
RNSTL 2005A2.5S	20	5	3.175	20.5	17.0	2.5×1	6 360	14 200	0.10	38	48	17	22	35	8	M6	9	6	2	27	0.24	17.0	14.6	500	1 000	2 000	**RS2005A****	2.17	2.5	1.3
RNSTL 2010A2.5S	20	10	4.762	21.25	16.2	2.5×1	10 900	21 800	0.15	58	48	18	35	35	11.5	M6	10	10	2	28	0.35	16.2	13.8	500	1 000	2 000	**RS2010A****	2.18	6.3	3.2
RNSTL 2505A2.5S	25	5	3.175	25.5	22.0	2.5×1	7 070	18 200	0.10	35	60	20	22	40	6.5	M8	10	6	0	27	0.31	22.0	19.6	1 000	2 000	2 500	**RS2505A****	3.47	2.6	1.3
RNSTL 2510A5S	25	10	6.35	26	19.0	2.5×2	31 800	70 300	0.20	94	60	23	60	40	17	M8	12	10	0	32	1.32	19.0	16.6	1 000	2 000	2 500	**RS2510A****	3.13	18	9.0
RNSTL 2806A2.5S	28	6	3.175	28.5	25.0	2.5×1	7 430	20 300	0.10	42	60	22	18	40	12	M8	12	8	0	32	0.65	25.0	22.6	1 000	2 000	2 500	**RS2806A****	4.47	3.5	1.8
RNSTL 2806A5S						2.5×2	13 500	40 600		67	60	22	40	40	13.5						1.04								7.0	3.5
RNSTL 3210A2.5S	32	10	6.35	33.75	27.0	2.5×1	19 700	46 100	0.20	64	70	26	45	50	9.5	M8	12	10	0	38	1.12	27.0	24.6	1 000	2 000	3 000	**RS3210A****	5.53	18	9.0
RNSTL 3210A5S						2.5×2	35 700	92 200		94	70	26	60	50	17						1.75								27	14
RNSTL 3610A2.5S	36	10	6.35	37	30.0	2.5×1	21 000	51 000	0.20	64	86	29	45	60	9.5	M10	16	11	0	41	1.76	30.0	27.6	1 000	2 000	3 000	**RS3610A****	6.91	18	9.0
RNSTL 3610A5S						2.5×2	38 100	102 000		96	86	29	60	60	18						2.64								27	14
RNSTL 4512A5S	45	12	7.144	46.5	39.0	2.5×2	49 600	147 000	0.23	115	100	36	75	75	20	M12	20	13	0	46	1.22	39.0	35.8	2 000	3 000	4 000	**RS4512A****	11.16	47	24

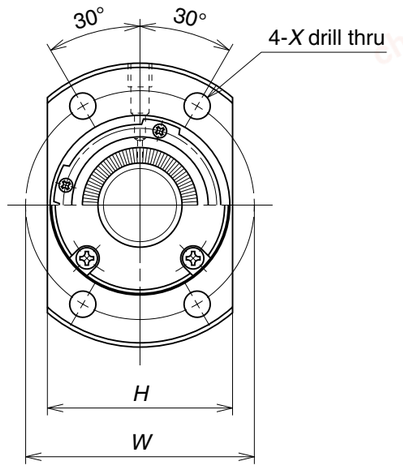
Note 1: Actual screw shaft length may be slightly longer than nominal length L_s due to manufacturing tolerance.
Note 2: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 3: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 4: Seal for those with shaft diameter of 14 mm or less is made of synthetic resin. Seal for those of 18 mm or more is a brush-seal.
Note 5: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

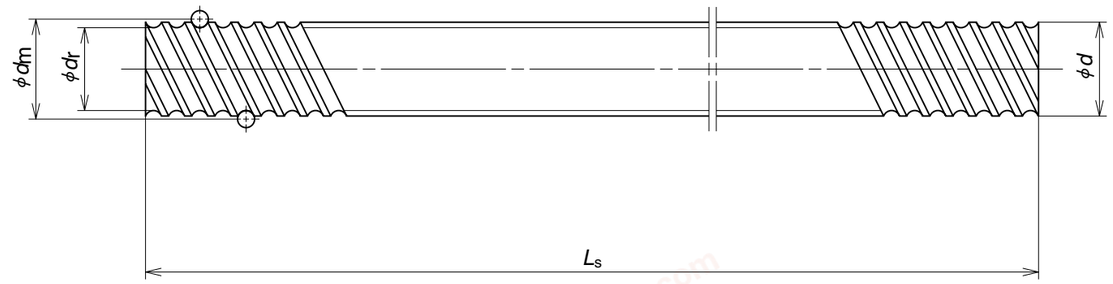
chanhvinh.com

Nut Model: RNFCL

End-cap type, flanged nut







Unit: mm

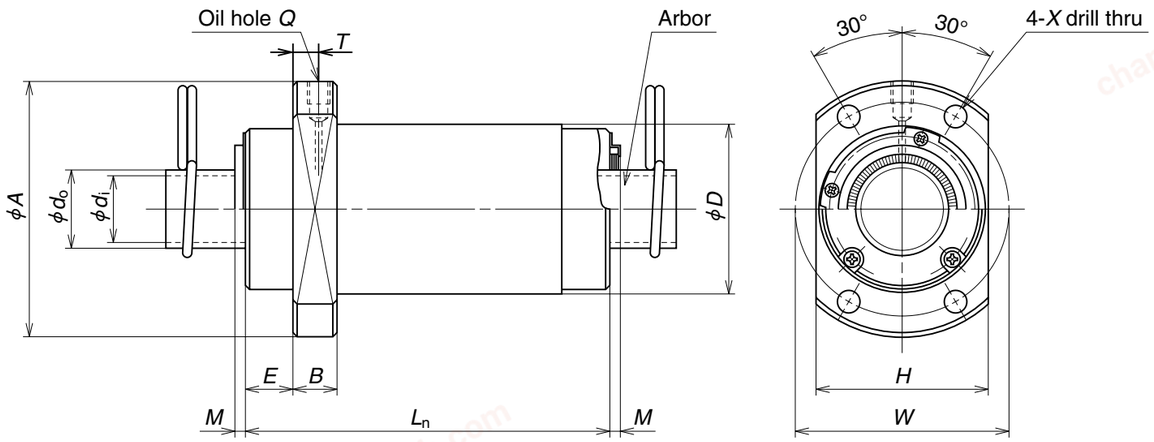
Part number	Shaft dia. d	Lead l	Ball dia. D_w	Ball circle dia. d_m	Root dia. d_r	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic C_a	Basic load rating (N): Static C_{oa}	Axial play max.	Ball nut dimensions: Outside dia. D	Ball nut dimensions: Flange A	Flange H	Flange B	Ball nut dimensions: Length E	Length L_n	Length M	Bolt hole W	Bolt hole X	Oil hole Q	Oil hole T	Nut mass (kg)	Arbor: Outside dia. d_0	Arbor: Bore d_i	Screw shaft: Standard length L_s			Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm^3)	Standard volume of grease replenishing (cm^3)
RNFCL 1212A3	12	12	2.381	12.65	10.1	1.7×2	3 740	6 640	0.10	26	44	28	6	9	30	–	35	4.5	M3×0.5	3.0	0.12	10.1	8.1	400	800		**RS1212A****	0.74		
RNFCL 1212A6						1.7×4	6 780	13 300																						
RNFCL 1520A3	15	20	3.175	15.5	12.2	1.7×2	6 730	12 300	0.10	33	51	35	10	11	45	–	42	4.5	M6×1	5.0	0.28	12.2	10.2	500	1 000	1 500	**RS1520A****	1.15	3.3	1.7
RNFCL 1520A3S																3														
RNFCL 1616A3	16	16	2.778	16.65	13.5	1.7×2	5 430	10 400	0.10	32	53	34	10	10	38	–	42	4.5	M6×1	5.0	0.23	13.5	11.5	500	1 000	1 500	**RS1616A****	1.37	2.6	1.3
RNFCL 1616A3S																3														
RNFCL 1616A6						1.7×4	9 860	20 800								–													2.6	1.3
RNFCL 1616A6S																3														
RNFCL 2020A3	20	20	3.175	20.75	17.3	1.7×2	7 810	16 500	0.10	39	62	41	10	11.5	46	–	50	5.5	M6×1	5.0	0.37	17.3	14.9	500	1 000	2 000	**RS2020A****	2.19	4.4	2.2
RNFCL 2020A3S																3														
RNFCL 2020A6						1.7×4	14 200	33 000								–													4.9	2.5
RNFCL 2020A6S																3														
RNFCL 2525A3	25	25	3.969	26	22.0	1.7×2	11 700	25 800	0.12	47	74	49	12	13	55	–	60	6.6	M6×1	6.0	0.62	22.0	19.6	1 000	2 000	2 500	**RS2525A****	3.43	8.2	4.1
RNFCL 2525A3S																3														
RNFCL 2525A6						1.7×4	21 200	51 500								–													8.9	4.5
RNFCL 2525A6S																3														
RNFCL 3232A3	32	32	4.762	33.25	28.0	1.7×2	17 100	40 500	0.15	58	92	60	12	16	70	–	74	9	M6×1	5.5	1.10	28.0	25.6	1 000	2 000	3 000	**RS3232A****	5.71	16	8.0
RNFCL 3232A3S																3														
RNFCL 3232A6						1.7×4	31 000	81 000								–													17	8.5
RNFCL 3232A6S																3														
RNFCL 4040A3	40	40	6.35	41.75	35.0	1.7×2	27 200	67 900	0.20	73	114	75	15	19.5	85	–	93	11	M6×1	6.5	2.09	35.0	31.8	2 000	3 000	4 000	**RS4040A****	8.82	32	16
RNFCL 4040A3S																3.5														
RNFCL 4040A6						1.7×4	49 300	136 000								–													33	17
RNFCL 4040A6S																3.5														
RNFCL 5050A3	50	50	7.938	52.25	44.0	1.7×2	40 600	106 000	0.25	90	135	92	20	21.5	107	–	112	14	M6×1	7.0	3.90	44.0	40.8	2 000	3 000	4 000	**RS5050A****	13.81	64	32
RNFCL 5050A3S																3.5														
RNFCL 5050A6						1.7×4	73 700	212 000								–													68	34
RNFCL 5050A6S																3.5														

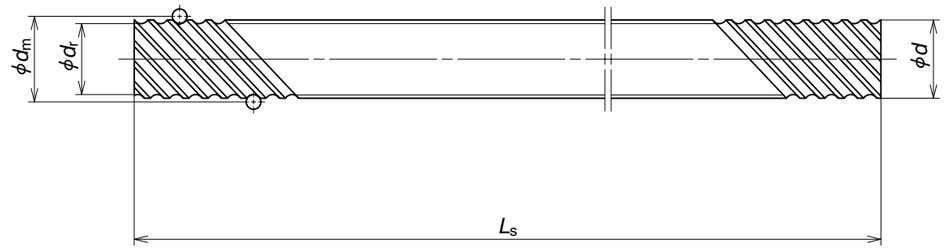
Note 1: Actual screw shaft length may be slightly longer than nominal length L_s due to manufacturing tolerance.
Note 2: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 3: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 4: Length of nut becomes longer (2 x M) for those with seal; seal is a brush-seal.
Note 5: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Nut Model: RNFCL

End-cap type, flanged nut





Unit: mm

Part number	Shaft dia. d	Lead l	Ball dia. D_w	Ball circle dia. d_m	Root dia. d_r	Effective turns of balls: Turns × Circuits	Basic load rating (N): Dynamic C_a	Basic load rating (N): Static C_{oa}	Axial play max.	Ball nut dimensions: Outside dia. D	Ball nut dimensions: Flange A	Ball nut dimensions: Flange H	Ball nut dimensions: Flange B	Ball nut dimensions: Length E	Ball nut dimensions: Length L_n	Ball nut dimensions: Length M	Ball nut dimensions: Bolt hole W	Ball nut dimensions: Bolt hole X	Ball nut dimensions: Oil hole Q	Ball nut dimensions: Oil hole T	Nut mass (kg)	Arbor: Outside dia. d_0	Arbor: Bore d_i	Screw shaft: Standard length L_s	Screw shaft number	Shaft mass/m (kg)	Internal spatial volume of nut (cm^3)	Standard volume of grease replenishing (cm^3)
RNFCL 1632A2	16	32	2.778	16.65	13.5	0.7×4	4 600	8 460	0.10	32	50	34	10	10	66	—	41	4.5	M6×1	5.5	0.33	13.5	11.5	500 1 000 1 500	**RS1632A****	1.34	3.9	2.0
RNFCL 1632A2S																3												
RNFCL 1632A3						1.7×2	5 430	10 400							66	—					0.33						4.1	2.1
RNFCL 1632A3S																3												
RNFCL 1632A6						1.7×4	9 860	20 800							41	—					0.31						2.4	1.2
RNFCL 1632A6S																3												
RNFCL 2040A2	20	40	3.175	20.75	17.3	0.7×4	6 610	13 600	0.10	38	58	40	10	11	81	—	48	5.5	M6×1	5.5	0.53	17.3	14.9	500 1 000 1 500 2 000	**RS2040A****	2.15	6.3	3.2
RNFCL 2040A2S																3												
RNFCL 2040A3						1.7×2	7 810	16 500							81	—					0.53						7.0	3.5
RNFCL 2040A3S																3												
RNFCL 2040A6						1.7×4	14 200	33 000							50	—					0.53						8.4	4.2
RNFCL 2040A6S																3												
RNFCL 2550A2	25	50	3.969	26	22.0	0.7×4	9 870	21 200	0.12	46	70	48	12	13	100	—	58	6.6	M6×1	7.0	0.91	22.0	19.6	1 000 2 000 2 500	**RS2550A****	3.37	14	7.0
RNFCL 2550A2S																3												
RNFCL 2550A3						1.7×2	11 700	25 800							100	—					0.91						15	7.5
RNFCL 2550A3S																3												
RNFCL 2550A6						1.7×4	21 200	51 500							126	—					1.76						24	12
RNFCL 2550A6S																3												
RNFCL 3264A3	32	64	4.762	33.25	28.0	1.7×2	17 100	40 500	0.15	58	92	60	12	15.5	126	—	74	9	M6×1	7.5		28.0	25.6	1 000 2 000 3 000 4 000	**RS3264A****	5.63		
RNFCL 3264A3S																3												
RNFCL 3264A6						1.7×4	31 000	81 000								—											26	13
RNFCL 3264A6S																3												
RNFCL 4080A3	40	80	6.35	41.75	35.0	1.7×2	27 200	67 900	0.20	73	114	75	15	19	158	—	93	11	M6×1	10	3.44	35.0	31.8	2 000 3 000 4 000 5 000	**RS4080A****	8.69	52	26
RNFCL 4080A3S																3.5												
RNFCL 4080A6						1.7×4	49 300	136 000								—											55	28
RNFCL 4080A6S																3.5												

Note 1: Actual screw shaft length may be slightly longer than nominal length L_s due to manufacturing tolerance.
Note 2: Nut assembly with arbor and screw shaft are separate at time of delivery.
Note 3: Value obtained by dividing standard screw length by 100 mm will be entered at end of the part number where marked with **.
Note 4: Length of nut becomes longer (2 x M) for those with seal; seal is a brush-seal.
Note 5: Internal spatial volume of nut and volume of grease to be replenished are values for linear guides with seals. Recommended amount for replenishing is approximately 50% of nut's internal space capacity. For linear guides without seals, apply grease to screw shaft surface or move ball nut by hand while filling them with grease so that grease permeates all areas.

chanhvinh.com

Life and Basic Load Rating

Life

Despite its ideal design, the Linear Guide and Ball Screw, even when used in appropriate conditions, deteriorate and eventually become unusable after a certain operation period. This period can be referred to as either “fatigue life,” reduced by flaking, or “accuracy life,” reduced by deterioration of precision due to wear.

Fatigue Life

Fatigue life of the Linear Guide and Ball Screw can be estimated by basic dynamic load rating (Linear Guide: C; Ball Screw: C_a), as is done for rolling bearings.

1. Basic dynamic load rating C, C_a

Basic dynamic load rating is the basic directional load that allows 90% of the group of the same products to be operated 50 km (Linear Guide) or 10^6 rev (Ball Screw) under the same conditions without causing flaking by rolling contact fatigue. Basic dynamic load ratings are shown in the dimension tables.
Regarding the basic directional load, in the case of the Linear Guide, it is a constant load applied in the downward direction to the center of the ball slide. In the case of the Ball Screw, it is a constant axial load.

2. How to calculate fatigue life

1) Life calculation

Fatigue life is defined as a total travel distance (LG) or rotation number (BS) in general. Fatigue life is obtained by the following formulas.

- Linear Guide

For balls as rolling element

$$L = 50 \times \left(\frac{C}{f_w \cdot F_m} \right)^3 \text{ (km)}$$

For rollers as rolling element

$$L = 50 \times \left(\frac{C}{f_w \cdot F_m} \right)^{\frac{10}{3}} \text{ (km)}$$

- Ball Screw

$$L = 10^6 \times \left(\frac{C_a}{f_w \cdot F_m} \right)^3 \text{ (rev)}$$

In this formula:
L: Rating fatigue life
C, C_a: Basic dynamic load rating (N)
F_m: Basic directional load (N)
f_w: Load factor (coefficient by operating condition)

2) Conversion of fatigue life into time-life

- Linear Guide $\quad L_t = \dfrac{L}{0.06 \times V_m}$ (hr)

- Ball Screw $\quad L_t = \dfrac{L}{60 \cdot n}$ (hr)

In this formula:
L_t: Time-life
V_m: Average speed (m / min)
n: Average rotational speed (min^{-1})

Load factor: fw

Smooth operation without impact	1.0–1.2
Normal operation	1.2–1.5
Operation associated with impact or vibration	1.5–3.0

Setting a very long fatigue life requires a larger product and is not economical. Below are the general target values of operating life for machines. (reference)

Rough indication of time-life in general

Machine tools	20 000 hours
Industrial machines	10 000 hours
Automatic control system	15 000 hours
Measuring equipment	15 000 hours

3. Mean load

If the basic directional load often varies, calculate life by obtaining the mean load, which gives the equivalent fatigue life under varying load conditions.

1) When load and travel distance (LG) or rotational speed (BS) shift stepwise (Fig. 1)

Mean load Fm can be obtained by the formulas below.

- Linear Guide

For balls as rolling element

$$F_m = \left(\frac{F_1^3 \cdot l_1 + F_2^3 \cdot l_2 + \cdots\cdots F_n^3 \cdot l_n}{l} \right)^{\frac{1}{3}}$$

For rollers as rolling element

$$F_m = \left(\frac{F_1^{\frac{10}{3}} \cdot l_1 + F_2^{\frac{10}{3}} \cdot l_2 + \cdots\cdots F_n^{\frac{10}{3}} \cdot l_n}{l} \right)^{\frac{3}{10}}$$

- Ball Screw

$$F_m = \left(\frac{F_1^3 \cdot n_1 t_1 + F_2^3 \cdot n_2 t_2 + \cdots\cdots F_n^3 \cdot n_n t_n}{n_1 \cdot t_1 + n_2 t_2 + \cdots\cdots n_n \cdot t_n} \right)^{\frac{1}{3}}$$

$$N_m = \frac{n_1 \cdot t_1 + n_2 \cdot t_2 + \cdots\cdots n_n \cdot t_n}{t_1 + t_2 + \cdots\cdots + t_n}$$

In this formula:
F_m: Average load
l_n: Travel distance by load F_n
n_n: Rotational speed by load F_n
t_n: Operating time by load F_n

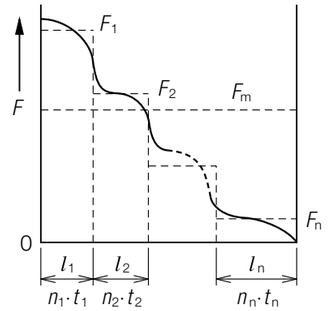


Fig. 1 Stepwise load change

2) When load changes almost linearly (Fig. 2)

Approximate mean effective load F_m can be obtained by the following formula.

$$F_m \fallingdotseq \frac{1}{3}(F_{min} + F_{max})$$

F_{min}: Minimum value of load (N)
F_{max}: Maximum value of load (N)

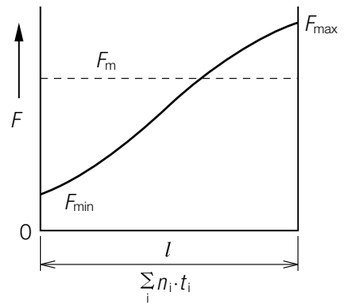


Fig. 2 Linear load change

3) When load changes in sinusoidol pattern (Fig. 3,4)

At time of (a): $F_m = 0.65\ F_{max}$
At time of (b): $F_m = 0.75\ F_{max}$

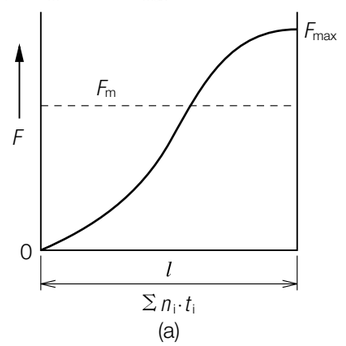


Fig. 3 Load that changes in sinusoidal pattern

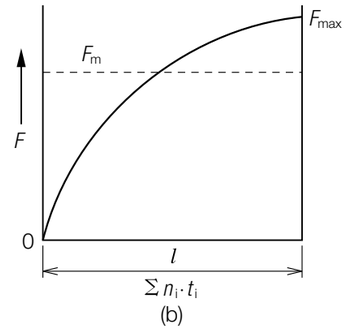


Fig. 4 Load that changes in sinusoidal pattern

4. Dynamic equivalent load

- Load applied to the Linear Guide (ball slide load) comes from various directions such as up/down and right/left and/or as moment load. Sometimes more than one type of load is applied simultaneously. Sometimes the volume and direction of the load may change.
Various loads cannot be used as they are to calculate the life of the Linear Guide. Therefore, it is necessary to use a hypothetical load on the ball slide with a constant volume, which would generate a value equivalent to an actual fatigue life. This is called “dynamic equivalent load.” For actual calculation, refer to A-3-2.2 (3) How to calculate dynamic equivalent load of “Precision Machine Components” Catalog E3162.

5. Basic static load rating C_0, C_{0a}

- When an excessive load or a momentary large impact is applied to the Linear Guide and the Ball Screw, local permanent deformation takes place on the balls and on the rolling contact surface. After exceeding a certain level, the deformation hampers smooth rolling operation.
- Basic static load rating is a static load when: [Permanent deformation of the balls] + [Permanent deformation of the rolling contact surfaces] becomes approximately 0.0001 times that of the ball diameter.
- In the case of the Linear Guide, C_0 is a load that is applied in a downward direction toward the center of the ball slide.
- In the case of the Ball Screw, C_{0a} is an axial load.
- Values of the basic static load rating C_0 or C_{0a} are shown in the “Dimension Table” and “Basic Load Rating” table (Monocarrier).
- In compliance with the ISO 14728-2 standard for the basic static load rating, the C_0 of the Linear Guide has been revised, which is approximately 1.0 to 1.5 times higher than conventional values.

chanhvinh.com

6. Basic static moment load rating

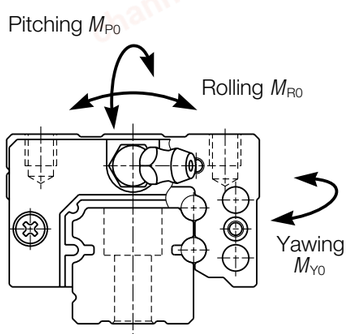
- Generally, the Linear Guide uses a set of two rails and four ball slides for the guide way of one axis. Under some operating conditions, static moment load should be taken into account.
  "M_0," which is the limit of static moment load in such use, is shown in the "Dimension Table for Linear Guide" as well as the same definition of basic static load rating.There are three M_0 defined by three different moment directions. M_{R0} is the limit of static moment load of rolling direction, M_{P0} is the load of pitching direction, and M_{Y0} is the load of yawing direction.

7. Basic load rating by load direction

- The basic load rating of the Linear Guide is considered to be a downward load on the ball slide and is indicated in the dimension tables as the dynamic load rating C and the static load rating C_0, respectively. However, the load may be applied to a ball slide in upward or lateral directions in actual use. In such cases, the basic load rating is compensated as shown in Table 1. The basic dynamic load rating of the RA and TS Series is the same in C and C_0 for all load directions, up, down, and lateral, while the LH Series has different basic load ratings depending on the load direction, as shown in the table.

Table 1 Basic load rating by load direction

Load rating / Load direction / Series	Basic dynamic load rating			Basic static load rating		
	Downward	Upward	Lateral	Downward	Upward	Lateral
LH, LS, SH, SS, LW	C	C	$0.84C$	C_0	$0.78C_0$	$0.65C_0$
RA, TS, PU, PE	C	C	C	C_0	C_0	C_0



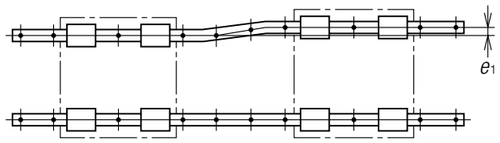
Moment load directions

8. Effect of mounting error

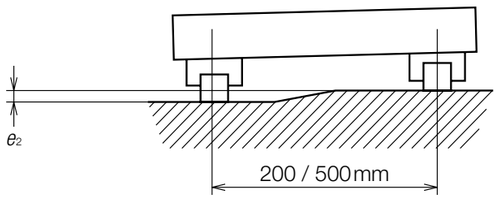
- Excessive mounting error significantly reduces the life of the Linear Guide and Ball Screw. Therefore, NSK recommends the following permissible values of mounting error.

1) Linear Guide

Of the three major factors affected by mounting error, NSK focuses on life. By the NSK standard, permissible values of mounting error are values that allow 5 000 km or longer life under the following conditions.



Mounting error (parallelism)



Mounting error (height)

Permissible values of parallelism for LH and SH Series Unit: μm

Value	Preload	Model number								
		H15	H20	H25	H30	H35	H45	H55	H65	H85
Permissible values of parallelism in two rails e_1	ZZ	18	20	25	30	35	45	55	70	90
Permissible values of parallelism (height) in two rails e_2	ZZ	330μm / 500mm								

Permissible values of parallelism for LS and SS Series Unit: μm

Value	Preload	Model number				
		S15	S20	S25	S30	S35
Permissible values of parallelism in two rails e_1	ZZ	15	17	20	25	30
Permissible values of parallelism (height) in two rails e_2	ZZ	330 μm / 500 mm				

Permissible values of parallelism for RA Series Unit: μm

Value	Model number							
	RA15	RA20	RA25	RA30	RA35	RA45	RA55	RA65
Permissible values of parallelism in two rails e_1	5	7	9	11	13	17	19	30
Permissible values of parallelism (height) in two rails e_2	150 μm / 500 mm							

Permissible values of parallelism for PU and PE Series Unit: μm

Value	Preload	PU					PE				
		05	07	09	12	15	05	07	09	12	15
Permissible values of parallelism in two rails e_1	ZT	10	12	15	20	25	10	12	15	18	22
Permissible values of parallelism (height) in two rails e_2	ZT	150 μm / 200 mm					50 μm / 200 mm				

Permissible values of parallelism for LW Series Unit: μm

Value	Preload	Model number				
		LW17	LW21	LW27	LW35	LW50
Permissible values of parallelism in two rails e_1	ZZ	9	9	13	23	34
Permissible values of parallelism (height) in two rails e_2	ZZ	45 μm / 500 mm				

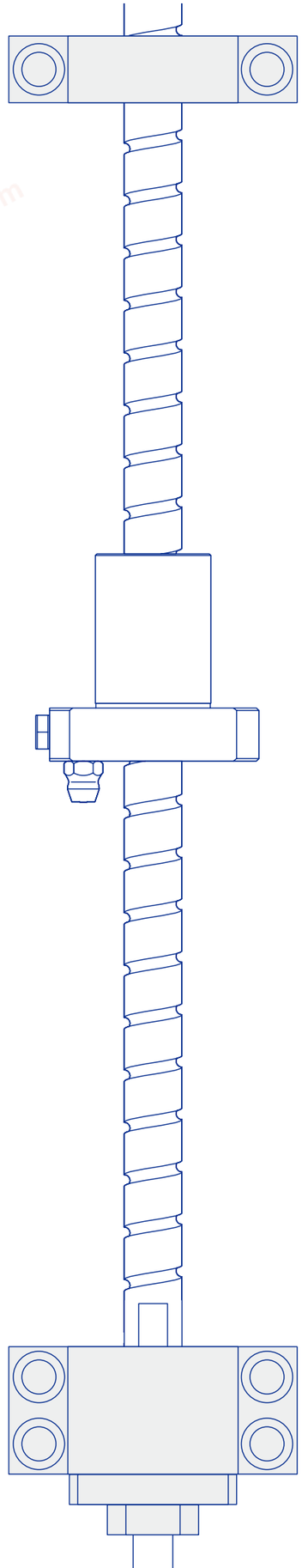
2) Ball Screw

If moment load or radial load is applied to the Ball Screw, it adversely affects Ball Screw function and shortens its life. Watch for eccentric load that induces moment or radial load.

In general, the following values are recommended as control values of permissible mounting error.

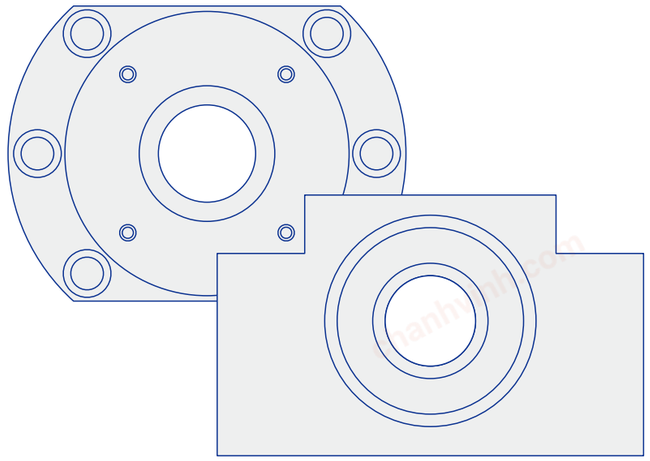
Misalignment in inclination ····· 1 / 2 000 or under
Eccentricity ····· 20 μm or under

chanhvinh.com



Support Units

- Shapes available to fit all standard ball screws
- Standard stock item, allowing for short delivery time



chanhvinh.com

Support Units

Types of Support Units

Support unit categories

Application		Shape	Support side	Bearing in use	Bearing bore Bearing seat diameter	Page
Small equipment, light load	Square	WBK**-01* 	Fixed support side	Angular contact ball bearing	ϕ6 – ϕ25	233 –
		WBK**S-01* 	Simple support side	Deep groove ball bearing	ϕ6 – ϕ25	237 –
		WBK**SF-01* 		Deep groove ball bearing	ϕ12, ϕ15 (exclusive for VFA type)	237 –
Small equipment, light load	Round	WBK**R-11 (support kit) 	Fixed support side	Deep groove ball bearing (arranged to have angular contact)	ϕ4, ϕ6 (exclusive for RMA and RMS types)	239
		WBK**-11* 		Angular contact ball bearing	ϕ6 – ϕ25	241
Machine tools, heavy load	Round	WBK**DF*-31 	Fixed support side	Thrust angular contact ball bearing	ϕ17 – ϕ40	243 –

Part number for Support Unit

For light load

Example: **WBK 08 S - 01 A**

- Support Unit: WBK
- Size
- Mounting
  - No code: Fixed support side
  - S: Simple support side
  - SF: Simple support side (for FSS)
  - R: Fixed support side (for miniature ball screws)
- No code or A: For general use
  - B: For compact FA
  - C: For clean environment use
- 01: Square type
  - 11: Round type

* In case of simple support unit, be careful that 12 or less size codes do not represent internal bores of bearing. Please refer to the dimensional table for internal bore of bearing.

For heavy load

Example: **WBK 25 DF - 31**

- Support Unit: WBK
- Size (internal bore of bearing)
- Bearing combination
  - DF: Face to face duplex combination
  - DFD: Face to face triplex combination
  - DFF: Face to face quadruplex combination

Classification

Ball screw support units are classified into categories by shape (see above table). Select the type that best suits your particular needs.

Features

1) Bearings and seal

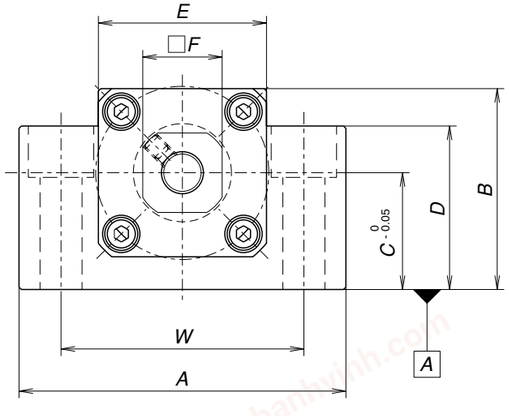
On the fixed support side, the angular contact ball bearing is used. It has great rigidity and low friction torque, which match the rigidity of the ball screw.
The thrust angular contact ball bearing with high precision and great rigidity is another choice for the fixed support side.
An oil seal is installed on the fixed support side used with an angular contact ball bearing. Fine clearance may occur with this seal.
A deep-groove ball bearing with a shield on both sides is used on the simple support side.

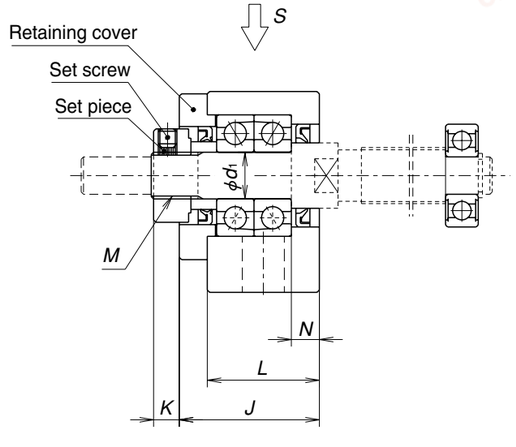
2) Locknut is provided

A locknut with fine grade finish is provided to fix the bearing with high precision.

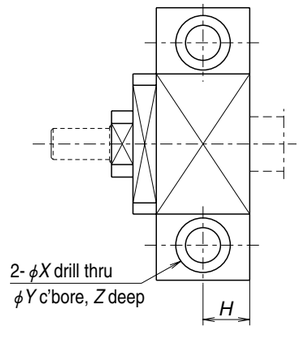
chanhvinh.com

Support Units for Light Load and Small Equipment

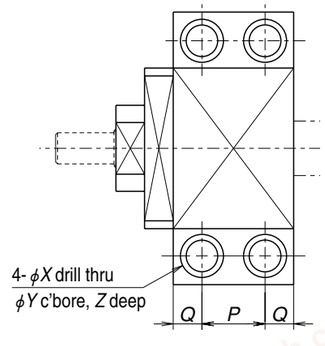




Accessories



View *S* (WBK06–15)



View *S* (WBK17–25)

Part number	Tightening torque (reference) [N·cm]	
	Locknut	Set screw
WBK06-**	190	69 (M3)
WBK08-**	230	69 (M3)
WBK10-**	280	147 (M4)
WBK12-**	630	147 (M4)
WBK15-**	790	147 (M4)
WBK17-**	910	147 (M4)
WBK20-**	1 670	147 (M4)
WBK25-**	2 060	490 (M6)

Fixed support side support unit (square type)

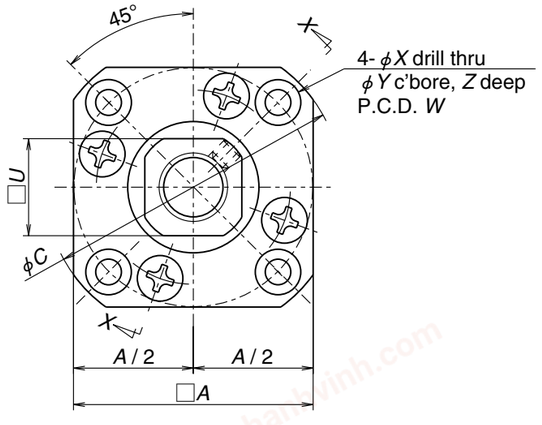
Units: mm

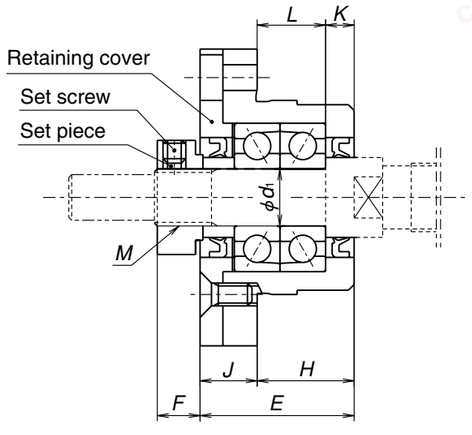
Part number	Use	d_1	A	B	C	D	E	F	L	J	K	N	Counterbore dimensions							Mass (kg)	Locknut screw M	Attached bearing for support side
													H	P	Q	W	X	Y	Z			
WBK06-01A*	General	6	42	25	13	20	18	12	20	20	5.5	3.5	10	—	—	30	5.5	9.5	11	0.15	M6×0.75	—
WBK08-01A*	General	8	52	32	17	26	25	14	23	23	7	4	11.5	—	—	38	6.6	11	12	0.25	M8×1	606ZZ
WBK08-01B	Low-profile type		62	31	15.5	31	—		21.5	25.5	4.5	3.5	11			46	9	14	18	0.3		606ZZ
WBK08-01C*	Clean environment		52	32	17	26	25		23	23	7	4	11.5			38	6.6	11	12	0.25		606VV
WBK10-01A	General	10	70	43	25	35	36	17	24	30	5.5	6	12	—	—	52	9	14	11	0.5	M10×1	608ZZ
WBK10-01B	Low-profile type			38	20	38	—												19	0.45		608ZZ
WBK10-01C	Clean environment			43	25	35	36												11	0.5		608VV
WBK12-01A	General	12	70	43	25	35	36	19	24	30	5.5	6	12	—	—	52	9	14	11	0.5	M12×1	6000ZZ
WBK12-01B	Low-profile type			38	20	38	—												19	0.4		6000ZZ
WBK12-01C	Clean environment			43	25	35	36												11	0.5		6000VV
WBK15-01A	General	15	80	50	30	40	41	22	25	31	12	5	12.5	—	—	60	11	17	15	0.7	M15×1	6002ZZ
WBK15-01B	Low-profile type			42	22	42	—												23	0.6		6002ZZ
WBK15-01C	Clean environment			50	30	40	41												15	0.7		6002VV
WBK17-01A	General	17	86	64	39	55	50	24	35	44	7	7	—	19	8	68	9	14	11	1.3	M17×1	6203ZZ
WBK20-01	General	20	95	58	30	45	56	30	42	52	10	10	—	22	10	75	11	17	15	1.4	M20×1	6204ZZ
WBK25-01W	General	25	105	68	35	25	66	36	48	61	13	14	—	30	9	85	11	—	—	1.9	M25×1.5	6205ZZ

*For retaining cover side of WBK06-01A, WBK08-01A, and WBK08-01C there are no seals.
Note 1: Use datum face A for mounting to machine base.
Note 2: Tighten set screw after locknut has been adjusted and tightened.
Note 3: Brass pad (set piece), provided with unit, is inserted into locknut set screw hole. Set screw is then inserted and tightened over pad.
Note 4: Deep groove ball bearing and snap ring are attached.

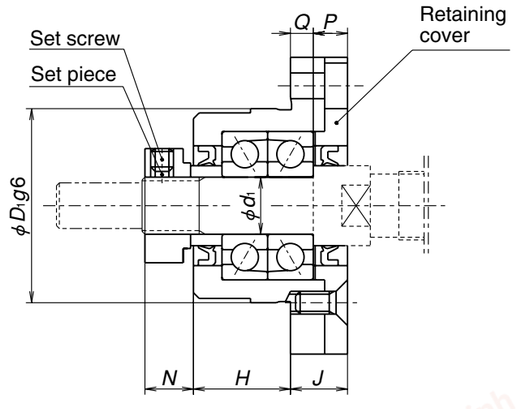
chanhvinh.com

Support Units for Light Load and Small Equipment





View *X-X* (example 1)



View *X-X* (example 2)

Accessories

Part number	Tightening torque (reference) [N·cm]	
	Locknut	Set screw
WBK06-**	190	69 (M3)
WBK08-**	230	69 (M3)
WBK10-**	280	147 (M4)
WBK12-**	630	147 (M4)
WBK15-**	790	147 (M4)
WBK17-**	910	147 (M4)
WBK20-**	1 670	147 (M4)
WBK25-**	2 060	490 (M6)

Fixed support side support unit (round type)

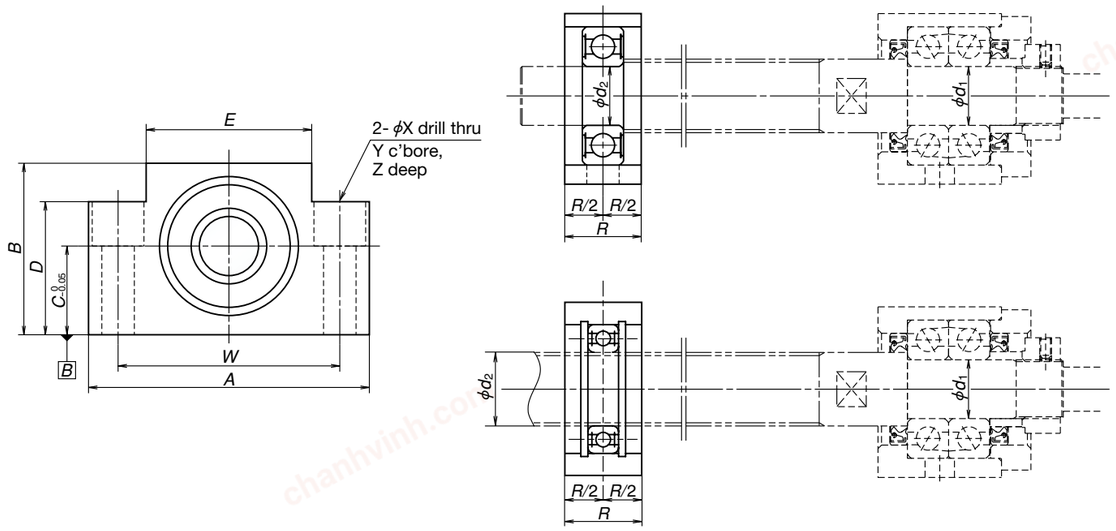
Units: mm

Part number	Use	d_1	A	C	D_1	E	H	L	K	F	N	U	P	Q	Counterbore dimensions J	W	X	Y	Z	Mass (kg)	Locknut screw M	Attached bearing for support side
WBK06-11*	General	6	28	35	22	20	13	9.5	3.5	5.5	6.5	12	4.5	2.5	7	28	2.9	5.5	3.5	0.1	M6×0.75	—
WBK08-11*	General	8	35	43	28	23	14	10	4	7	8	14	5	4	9	35	3.4	6.5	4	0.15	M8×1	606ZZ
WBK08-11B	Low-profile type		42	52	34	25.5	15.5	12	3.5	4.5	7		6		10	42	4.5	8		0.2		608ZZ
WBK08-11C*	Clean environment		35	43	28	23	14	10	4	7	8		5		9	35	3.4	6.5		0.15		606VV
WBK10-11	General	10	42	52	34	27	17	12	5	7.5	8.5	17	6	4	10	42	4.5	8	4	0.2	M10×1	608ZZ
WBK10-11C	Clean environment																					608VV
WBK12-11	General	12	44	54	36	27	17	12	5	7.5	8.5	19	6	4	10	44	4.5	8	4	0.25	M12×1	6000ZZ
WBK12-11C	Clean environment																					6000VV
WBK15-11	General	15	52	63	40	32	17	11	6	12	14	22	8	7	15	50	5.5	9.5	6	0.4	M15×1	6002ZZ
WBK15-11C	Clean environment																					6002VV
WBK20-11	General	20	68	85	57	52	30	20	10	10	14	30	14	8	22	70	6.6	11	10	1.1	M20×1	6204ZZ
WBK25-11	General	25	79	98	63	57	30	20	10	13	20	36	17	10	27	80	9	15	13	1.5	M25×1.5	6205ZZ

*For retaining cover side of WBK06-01A, WBK08-01A, and WBK08-01C there are no seals.
Note 1: Tighten set screw after locknut has been adjusted and tightened.
Note 2: Brass pad (set piece), provided with unit, is inserted into locknut set screw hole. Set screw is then inserted and tightened over pad.
Note 3: Deep groove ball bearing and snap ring are attached.

chanhvinh.com

Support Units for Light Load and Small Equipment



Simple support side support unit (square type)

Unit: mm

Part number	Use	d_2	A	B	C	D	E	R	Counterbore dimensions				Mass (kg)
									W	X	Y	Z	
WBK08S-01	General	6	52	32	17	26	25	15	38	6.6	11	12	0.15
WBK08S-01B	Low-profile type		62	31	15.5	31	-	16	46	9	14	18	0.2
WBK08S-01C	Clean environment		52	32	17	26	25	15	38	6.6	11	12	0.15
WBK10S-01	General	8	70	43	25	35	36	20	52	9	14	11	0.4
WBK10S-01C	Clean environment												
WBK12S-01	General	10	70	43	25	35	36	20	52	9	14	11	0.35
WBK12S-01B	Low-profile type			38	20	38	-					19	0.4
WBK12S-01C	Clean environment			43	25	35	36					11	0.35
WBK12SF-01	✻1	12	70	43	25	35	36	20	52	9	14	11	0.32
WBK12SF-01B	✻2	12	62	31	15.5	31	-	18	46	9	14	18	0.17
WBK15S-01	General	15	80	50	30	40	41	20	60	9	14	11	0.45
WBK15S-01B	Low-profile type			42	22	42	-					23	0.4
WBK15S-01C	Clean environment			50	30	40	41					11	0.45
WBK15SF-01	✻1	15	70	43	25	35	36	20	52	9	14	11	0.3
WBK15SF-01B	✻2	15	70	38	20	38	-	18	52	9	14	19	0.24
WBK17S-01	General	17	86	64	39	55	50	23	68	9	14	11	0.8
WBK20S-01	General	20	95	58	30	45	56	26	75	11	17	15	0.8
WBK20SF-01B	✻2	20	80	42	22	42	-	22	60	11	17	23	0.33
WBK25S-01W	General	25	105	68	35	25	66	30	85	11	-	-	0.9
WBK25SF-01	✻2	25	95	58	30	45	56	22	75	11	17	15	0.54

Note: Use datum face B to mount to machine base.
✻1 Simple support side support unit for Ball Screws for Conveyers (VFA type). Unit supports outer screw shafts.
✻2 Simple support side support unit for Compact FA Series for Conveyers. Unit supports outer screw shafts.

Support unit specifications

Fixed support side support unit						Simple support side support unit		
Part number	Use	Axial direction			Maximum starting torque (N·cm)	Part number	Bearing part No.	Radial direction Basic dynamic load rating C (N)
		Basic dynamic load rating Ca (N)	Load limit (N)	Stiffness (N/μm)				
WBK06-01A	General	2 670	1 040	28	0.49	–	–	–
WBK06-11	General	2 670	1 040	28	0.49	–	–	–
WBK08-01A	General	4 400	1 450	49	0.88	**WBK08S-01**	606ZZ	2 260
WBK08-01B	Low-profile type	6 600	2 730	94	1.9	**WBK08S-01B**	606ZZ	2 260
WBK08-01C	Clean environment	3 100	1 100	36	0.52	**WBK08S-01C**	606V	2 260
WBK08-11	General	4 400	1 450	49	0.88	**WBK08S-01**	606ZZ	2 260
WBK08-11B	Low-profile type	6 600	2 730	94	1.9	–	606ZZ	2 260
WBK08-11C	Clean environment	3 100	1 100	36	0.52	**WBK08S-01C**	606VV	2 260
WBK10-01A	General	6 600	2 730	94	1.9	**WBK10S-01**	608ZZ	3 300
WBK10-01B	Low-profile type	6 600	2 730	94	1.9	–	608ZZ	3 300
WBK10-01C	Clean environment	4 250	1 364	50	1.1	**WBK10S-01C**	608VV	3 300
WBK10-11	General	6 600	2 730	94	1.9	**WBK10S-01**	608ZZ	3 300
WBK10-11C	Clean environment	4 250	1 364	50	1.1	**WBK10S-01C**	608VV	3 300
WBK12-01A	General	7 100	3 040	104	2.1	**WBK12S-01**	6000ZZ	4 550
WBK12-01B	Low-profile type	7 100	3 040	104	2.1	**WBK12S-01B**	6000ZZ	4 550
WBK12-01C	Clean environment	4 700	2 443	57	1.2	**WBK12S-01C**	6000VV	4 550
WBK12-11	General	7 100	3 040	104	2.1	**WBK12S-01**	6000ZZ	4 550
WBK12-11C	Clean environment	4 700	2 443	57	1.2	**WBK12S-01C**	6000VV	4 550
WBK15-01A	General	7 600	3 380	113	2.4	**WBK15S-01**	6002ZZ	5 600
WBK15-01B	Low-profile type	7 600	3 380	113	2.4	**WBK15S-01B**	6002ZZ	5 600
WBK15-01C	Clean environment	5 100	2 757	63	1.3	**WBK15S-01C**	6002VV	5 600
WBK15-11	General	7 600	3 380	113	2.4	**WBK15S-01**	6002ZZ	5 600
WBK15-11C	Clean environment	5 100	2 757	63	1.3	**WBK15S-01C**	6002VV	5 600
WBK17-01A	General	13 400	5 800	120	3.5	**WBK17S-01**	6203ZZ	9 550
WBK20-01	General	17 900	8 240	155	6.2	**WBK20S-01**	6204ZZ	12 800
WBK20-11	General	17 900	8 240	155	6.2	**WBK20S-01**	6204ZZ	12 800
WBK25-01	General	20 200	10 000	192	7.2	**WBK25S-01W**	6205ZZ	14 000
WBK25-11	General	20 200	10 000	192	7.2	**WBK25S-01W**	6205ZZ	14 000
WBK04R-11	General	615	490	6.5	0.59	–	–	–
WBK06R-11	General	1 280	930	9	0.59	–	–	–
WBK08-01B	✻	6 600	2 730	94	1.9	**WBK12SF-01B**	6801ZZCM	1 920
WBK12-01B	✻	7 100	3 040	104	2.1	**WBK15SF-01B**	6902ZZICM	4 350
WBK15-01B	✻	7 600	3 380	113	2.4	**WBK20SF-01B**	6804ZZCM	4 000
WBK20-01	✻	17 900	8 240	155	6.2	**WBK25SF-01**	6005ZZCM	10 100

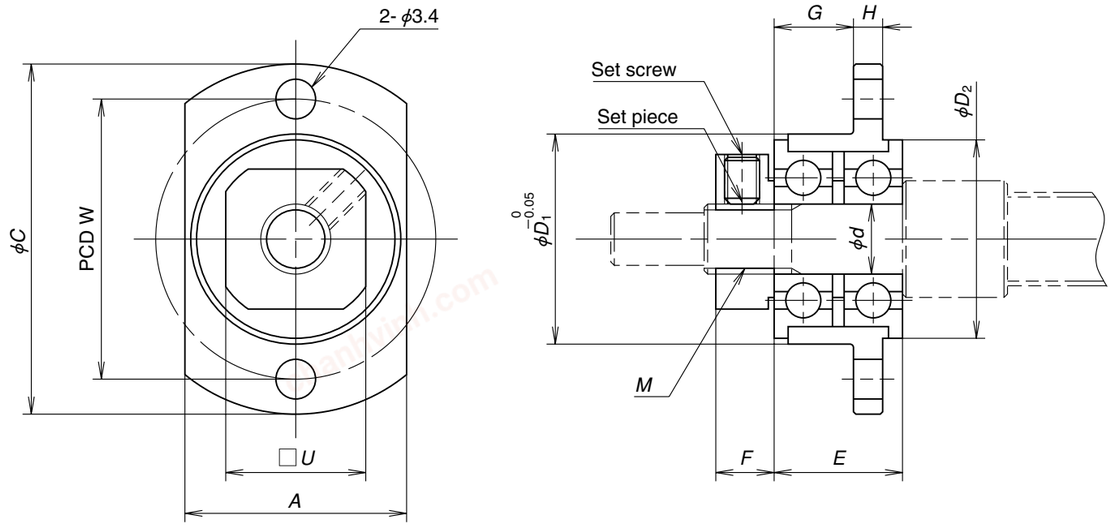
✻ Simple support side support unit for Compact FA Series for Conveyers (FSS type). Unit supports outer screw shafts.

chanhvinh.com

Support Units for Light Load and Small Equipment

Support Kits for Ball Screws for Transfer Equipment

Support kits are for RMA type Ball Screw. In case of RMA1002 or larger rolled ball screws, please use other support units.



Unit: mm

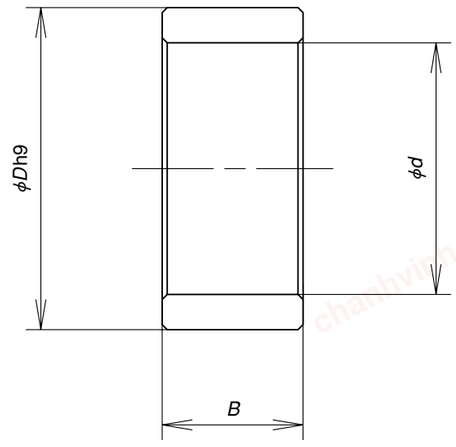
Part number	*A*	*C*	*d*	D_1	D_2	*E*	*F*	*G*	*H*	*W*	*U*	*M*
WBK04R-11	14	25	4	13	12.5	9	5	5	2.5	19	10	M4×0.5
WBK06R-11	19	30	6	18	17	11	5	6.8	2.5	24	12	M6×0.75

Part number	Applicable ball screw	Locknut tightening torque (reference) [N·cm]	Set screw tightening torque (reference) [N·cm]
WBK04R-11	RMA0601	100	38 (M2.5)
WBK06R-11	RMA0801 RMA0801.5 RMA0802	190	69 (M3)

Note 1: Oscillate bearings slowly so they fall into place in which run-out of mounting face is minimal, and then tighten locknut.
Note 2: Support kit is on provisional shaft (bolt) during shipping.
Note 3: When securing support unit on shaft, insert set piece (brass pad) that is provided with support unit into locknut screw hole, and then tighten set screw.

Spacer

The shaft requires a spacer on the journal where the ball thread is cut through the bearing shoulder.
This is commonly required for the R Series' transportation ball screw shaft when mounting the support unit on the fixed support side.



Unit: mm

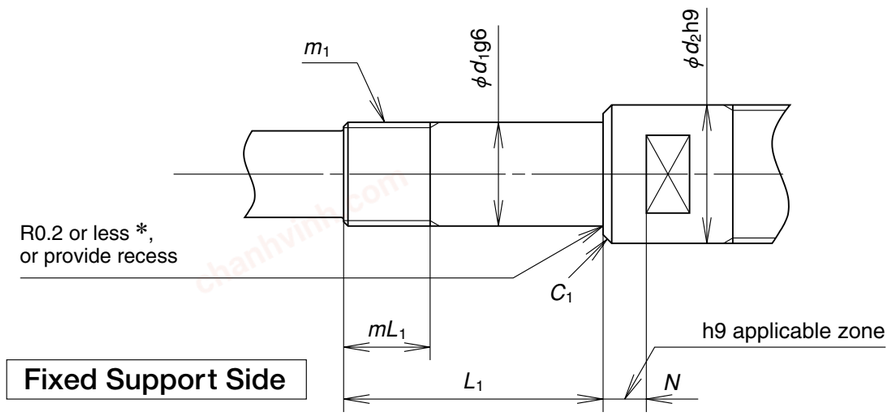
Part number	Internal diameter *d*	Outside diameter *D*	Width *B*	Applicable support unit
WBK06K	6	9.5	5.0	WBK06-✻✻
WBK08K	8	11.5	5.5	WBK08-✻✻
WBK10K	10	14.5	5.5	WBK10-✻✻
WBK12K	12	15.0	5.6	WBK12-✻✻
WBK15K	15	19.5	10.0	WBK15-✻✻
WBK17K	17	24.4	7.0	WBK17-✻✻
WBK20K	20	25.5	11.0	WBK20-✻✻
WBK25K	25	32.0	14.0	WBK25-✻✻

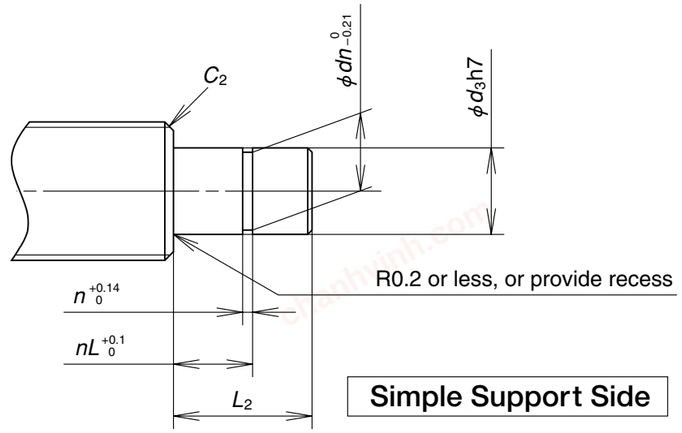
chanhvinh.com

Support Units for Light Load and Small Equipment

Screw Shaft-End Configuration

Dimensions of the shaft-end configurations for light load and small equipment support units are shown in the table below. When using a spacer with a ball screw for transportation, add the width of the spacer (B from table of spacer dimensions on page 240) to L_1 below.





Radius marked with ∗ above is 0.15 or less for WBK04R-11 and WBK06R-11.

Units: mm

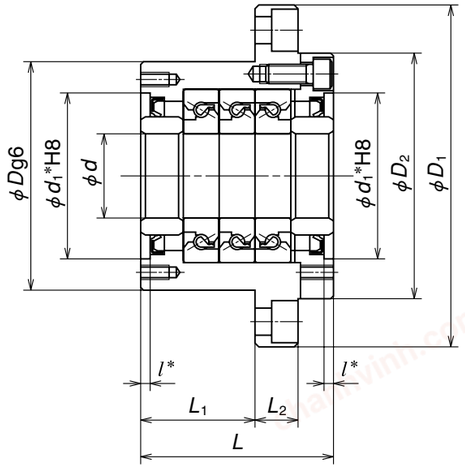
Part number	Fixed support side						
	Bearing journal		Locknut thread		Sealing part		Chamfer
	d_1	L_1	m_1	mL_1	d_2	N	C_1
WBK06-∗∗	6	22.5	M6×0.75	7	9.5	3.5	0.2
WBK08-∗∗	8	27	M8×1	9	11.5	4	0.2
WBK10-∗∗	10	30	M10×1	10	14	6	0.2
WBK12-∗∗	12	30	M12×1	10	15	6	0.2
WBK15-∗∗	15	40	M15×1	15	19.5	5	0.3
WBK17-∗∗	17	46	M17×1	17	24	7	0.3
WBK20-∗∗	20	53	M20×1	16	25	10	0.3
WBK25-∗∗	25	62	M25×1.5	20	32	14	0.5
WBK04R-11	4	15	M4×0.5	7.5	—	—	0.3
WBK06R-11	6	17	M6×0.75	7.5	—	—	0.3

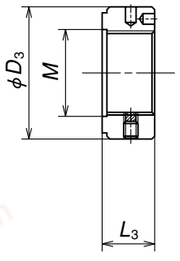
Units: mm

Part number	Simple support side					
	Bearing journal		Snap ring groove			Chamfer
	d_3	L_2	n	dn	nL	C_2
————	—	—	—	—	—	—
WBK08S-∗∗	6	9	0.8	5.7	6.8	0.2
WBK10S-∗∗	8	10	0.9	7.6	7.9	0.2
WBK12S-∗∗	10	22	1.15	9.6	9.15	0.5
WBK15S-∗∗	15	25	1.15	14.3	10.15	0.5
WBK17S-∗∗	17	16	1.15	16.2	13.15	0.5
WBK20S-∗∗	20	19	1.35	19	15.35	0.5
WBK25S-∗∗	25	20	1.35	23.9	16.35	0.5

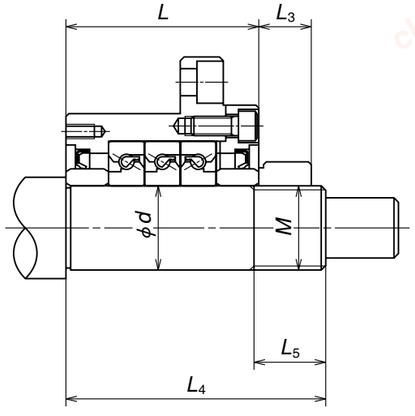
chanhvinh.com

Support Unit (For Heavy Load / Machine Tools)



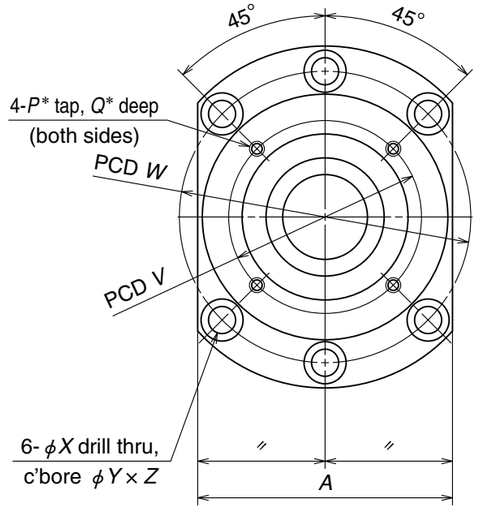


Locknut

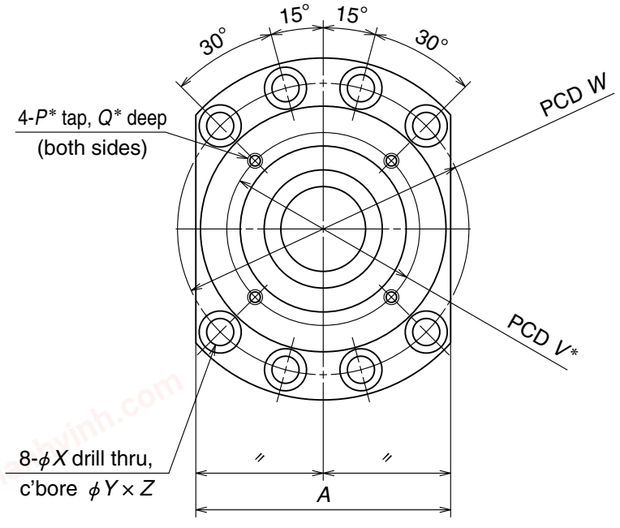


Dimensions of bearing seat

Accessories



Bearing bore $d \leq 30$



Bearing bore $d \geq 35$

Unit: mm

Support unit number	Support unit																	Basic dynamic load rating	Permissible axial load	Preload	Axial rigidity	Maximum starting torque	Locknut			Mass	Bearing seat for unit		
	d	D	D_1	D_2	L	L_1	L_2	A	W	X	Y	Z	d_1*	l*	V*	P*	Q*	C_a (N)	(N)	(N)	(N/μm)	(N·cm)	M	D_3	L_3	(kg)	d	L_4	L_5
WBK 17DF-31	17	70	106	72	60	32	15	80	88	9	14	8.5	45	3	58	M5	10	21 900	26 600	2 150	750	19	M17×1	37	18	1.9	17	81	23
WBK 20DF-31	20	70	106	72	60	32	15	80	88	9	14	8.5	45	3	58	M5	10	21 900	26 600	2 150	750	19	M20×1	40	18	1.9	20	81	23
WBK 25DF-31	25	85	130	90	66	33	18	100	110	11	17.5	11	57	4	70	M6	12	28 500	40 500	3 150	1 000	29	M25×1.5	45	20	3.1	25	89	26
WBK 25DFD-31					81	48												46 500	81 500	4 300	1 470	39				3.4		104	
WBK 30DF-31	30	85	130	90	66	33	18	100	110	11	17.5	11	57	4	70	M6	12	29 200	43 000	3 350	1 030	30	M30×1.5	50	20	3.0	30	89	26
WBK 30DFD-31					81	48												47 500	86 000	4 500	1 520	40				3.3		104	
WBK 35DF-31	35	95	142	102	66	33	18	106	121	11	17.5	11	69	4	80	M6	12	31 000	50 000	3 800	1 180	34	M35×1.5	55	22	3.4	35	92	30
WBK 35DFD-31					81	48												50 500	100 000	5 200	1 710	45				4.3		107	
WBK 35DFF-31					96	48												50 500	100 000	7 650	2 350	59				5.0		122	
WBK 40DF-31	40	95	142	102	66	33	18	106	121	11	17.5	11	69	4	80	M6	12	31 500	52 000	3 900	1 230	36	M40×1.5	60	22	3.6	40	92	30
WBK 40DFD-31					81	48												51 500	104 000	5 300	1 810	47				4.2		107	
WBK 40DFF-31					96	48												51 500	104 000	7 850	2 400	61				4.7		122	

Note 1: Rigidity
Values in the Table are theoretical values obtained from the elastic deformation between groove and balls.
Note 2: Starting torque
Starting torque indicates torque due to the preload of the bearing. It does not include seal torque.
Note 3: The tolerance of the shaft bearing seat
We recommend h5 class of the fits tolerance.
*Pilot diameter and tapped screws marked with asterisk are used for seal unit installation for NSK standard hollow shaft ball screws. They also can be used for dust cover and damper installation.

Note 4: Grease is packed into bearing. It is not necessary to apply grease before use.

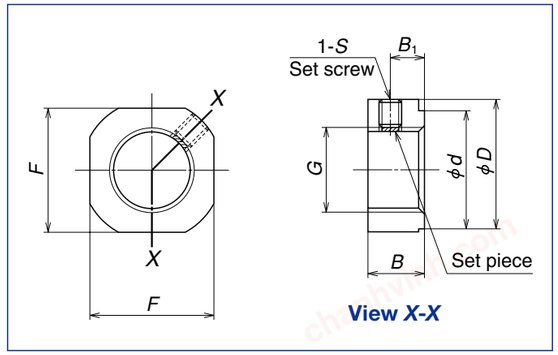
chanhvinh.com

Locknut, Grease unit, and Travel Stopper

In addition to support units, NSK has other components for ball screws, as shown below.

Locknuts

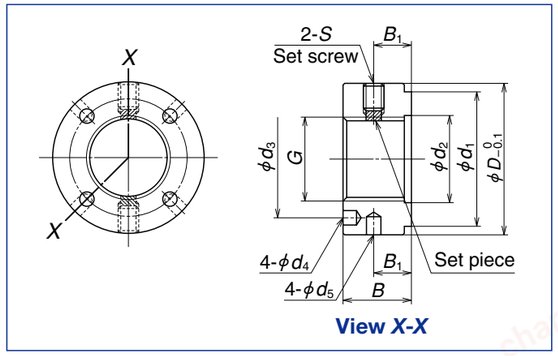
Ball screw support bearings must be installed with minimum inclination. NSK locknuts exclusive for ball screws help to reduce this inclination.



A Type shapes and dimensions



A Type locknuts



S Type shapes and dimensions



S Type locknuts

A Type locknuts

Unit: mm

Locknut part number	*G*	*D*	*F*	*B*	*d*	B_1	*S*	Tightening torque (N·cm) (reference)	Set screw tightening torque (reference) [N·cm]
WBK06L-01	M6×0.75	14.5	12	5	10	2.75	M3, with brass set piece	190	69 (M3)
WBK08L-01	M8×1	17	14	6.5	13	4	M3, with brass set piece	230	69 (M3)
WBK10L-01	M10×1	20	17	8	16	5	M4, with brass set piece	280	147 (M4)
WBK12L-01	M12×1	22	19	8	17	5	M4, with brass set piece	630	147 (M4)
WBK15L-01	M15×1	25	22	10	21	6	M4, with brass set piece	790	147 (M4)
WBK17L-01	M17×1	29	24	13	24	8	M4, with brass set piece	910	147 (M4)
WBK20L-01	M20×1	35	30	13	26	8	M4, with brass set piece	1 670	147 (M4)
WBK25L-01	M25×1.5	42	36	16	34	10	M6, with brass set piece	2 060	490 (M6)

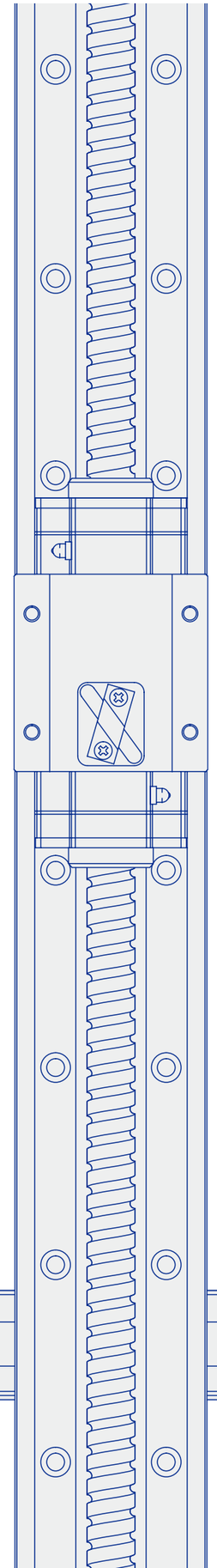
Note: Insert set piece (brass pad) and tighten securing set screw.

S Type locknuts

Unit: mm

Locknut part number	*G*	$D^{0}_{-0.1}$	*B*	d_1	d_2	d_3	d_4	d_5	B_1	*S*	Tightening torque (N·cm) (reference)	Set screw tightening torque (reference) [N·cm]
WBK17L-31	M17×1	37	18	30	18	27	4.3	4	10	M6	4 100	490 (M6)
WBK20L-31	M20×1	40	18	30	21	30	4.3	4	10	M6	4 500	490 (M6)
WBK25L-31	M25×1.5	45	20	40	26	35	4.3	4	11	M6	8 500	490 (M6)
WBK30L-31	M30×1.5	50	20	40	31	40	4.3	5	11	M6	10 100	490 (M6)
WBK35L-31	M35×1.5	55	22	50	36	45	4.3	5	12	M6	13 800	490 (M6)
WBK40L-31	M40×1.5	60	22	50	41	50	4.3	5	12	M6	15 500	490 (M6)

chanhvinh.com



Monocarriers

- Light weight and compact with all-in-one design
- Long-term, maintenance-free operation and superb antirust capability

chanhvinh.com

Monocarriers

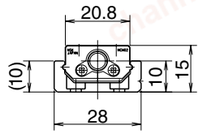
Types of Monocarriers

	Light weight	Beam rigidity	Moment rigidity	Accuracy	Long stroke	Size variation
MCM Series	◎	○	○	◎	○	◎
MCH Series	○	◎	○	◎	◎	○

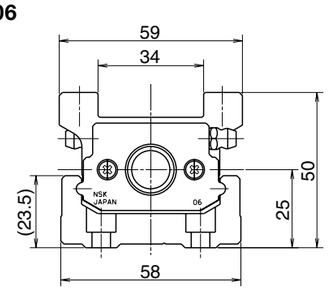
◎: Very good
○: Good

MCM Series Cross-sections

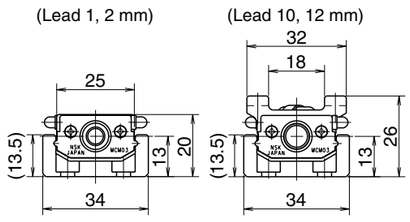
MCM02



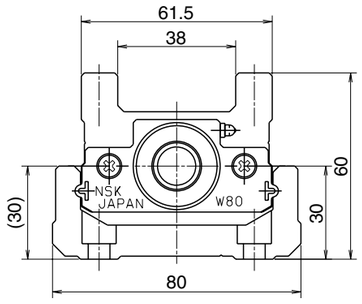
MCM06



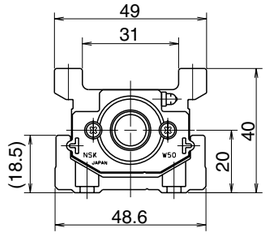
MCM03



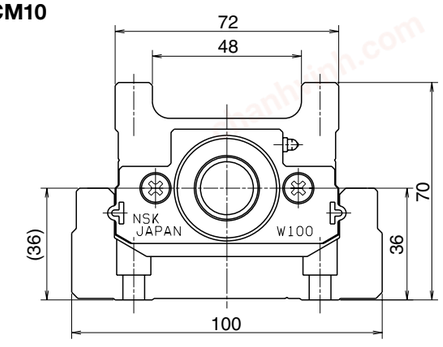
MCM08



MCM05

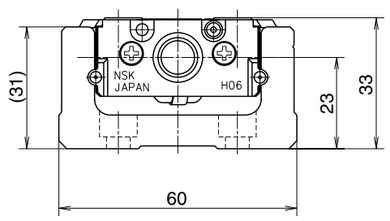


MCM10

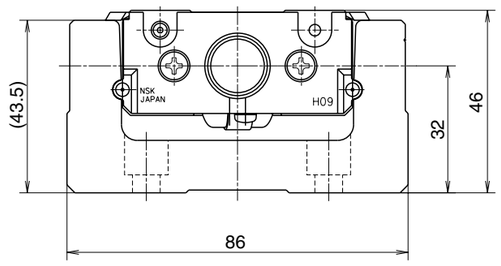


MCH Series Cross-sections

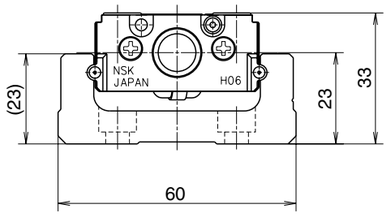
MCH06



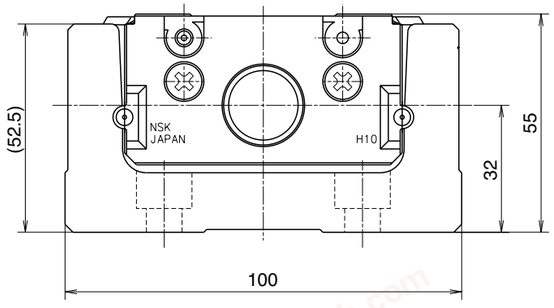
MCH09



MCL06



MCH10



chanhvinh.com

Part Number for MCM Series

Body

Example: **MC M 08 040 H 10 K 0 0**

- MC: Monocarrier
- M: M type: MCM Series
- 08: Nominal size (rail width, unit: 10 mm)
- 040: Stroke (unit: 10 mm)
- H: Accuracy grade (H: High grade, P: Precision grade)
- 10: Ball screw lead (mm)
- K: Slider specification K: Single slider, D: Double slider
- 0: Grease specification: 0 (standard AS2), Clean grease specification: B (LG2)
- 0: NSK control number

With Accessories

Example: **MC E 08 040 H 10 K 0 0 K 0 0 0**

- E: With MCM accessories
- K: NSK control code
- 0: Sensor unit
- 0: Cover unit
- 0: Motor bracket

Note: Accessories are available separately.

Sensor unit (see page 263)

Part number code	Specification	Part number
0	N/A	—
1	Proximity switch (b-contact 3 pieces)	MC – SR** – 10
2	Proximity switch (a-contact 3 pieces)	MC – SR** – 11
3	Proximity switch (a-contact 1 piece, b-contact 2 pieces)	MC – SR** – 12
4	Photo sensor 3 pieces	MC – SR** – 13

**: Part number
Note: Sensor rail is not included in sensor unit. If you require the rail, please specify upon ordering. (See pages 263 to 264.)

Cover unit (see pages 267 – 268)

Part number code	Specification	Part number
0	N/A	—
1	With top cover	MC – CV***** – 01 (02) *
2	Full cover	MC – CV***** – 00

*****: Part number and stroke number
*: Monocarrier -02 is only used for MCM03.
Note: When a sensor unit is used, full cover unit cannot be used.

Part number of motor bracket (see pages 269 – 283)

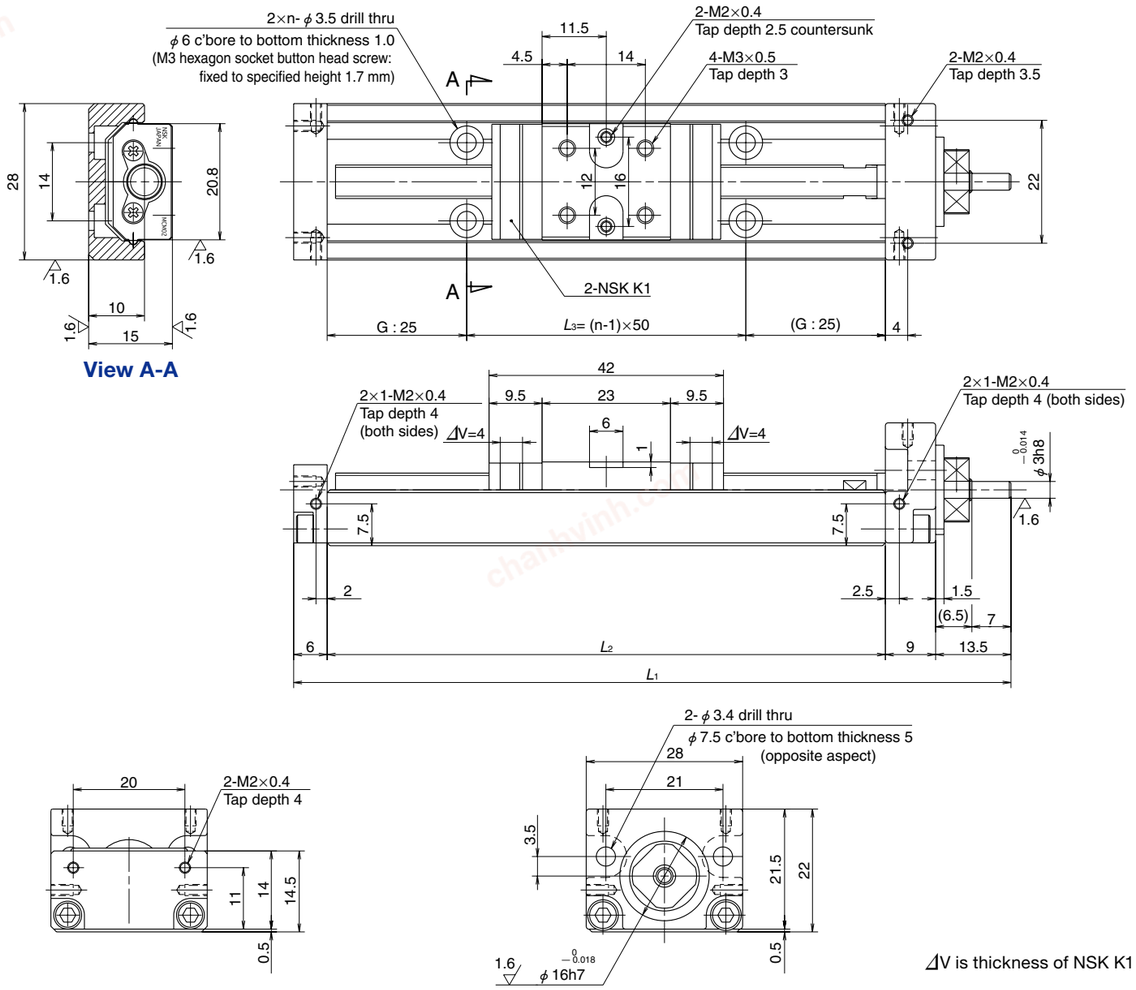
Part number code	Part number				
	MCM03	MCM05	MCM06	MCM08	MCM10
0	N/A	N/A	N/A	N/A	N/A
1	**MC-BK03-146-00**	**MC-BK05-145-00**	**MC-BK06-145-00**	**MC-BK08-145-00**	**MC-BK10-170-00**
2	**MC-BK03-148-01**	**MC-BK05-146-00**	**MC-BK06-146-00**	**MC-BK08-146-00**	**MC-BK10-170-01**
3	**MC-BK03-231-00**	**MC-BK05-148-00**	**MC-BK06-148-00**	**MC-BK08-160-00**	**MC-BK10-190-00**
4	—	**MC-BK05-160-00**	**MC-BK06-160-00**	**MC-BK08-170-00**	**MC-BK10-270-00**
5	—	**MC-BK05-250-00**	**MC-BK06-170-00**	**MC-BK08-170-01**	—
6	—	—	**MC-BK06-170-01**	**MC-BK08-190-00**	—
7	—	—	**MC-BK06-250-00**	**MC-BK08-250-00**	—
8	—	—	—	**MC-BK08-270-00**	—

N/A: Not applicable

MCM Series Dimension Table

MCM02

Accuracy grade: High grade (H)



ΔV is thickness of NSK K1

Dimensions of MCM02 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia $\times 10^{-7}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
MCM02005H01K	50	58	1	128.5	100	50	2	0.93	0.26	50
MCM02005P01K										
MCM02005H02K			2							100
MCM02005P02K										
MCM02010H01K	100	108	1	178.5	150	100	3	1.36	0.32	50
MCM02010P01K										
MCM02010H02K			2							100
MCM02010P02K										
MCM02015H01K	150	158	1	228.5	200	150	4	1.81	0.39	50
MCM02015P01K										
MCM02015H02K			2							100
MCM02015P02K										

Monocarrier dynamic torque specifications (N·cm)		High grade	Precision
Ball screw lead (mm)	1	0.1 – 1.3	0.2 – 1.6
	2		

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (4 [margin] × 2)

▶ For basic load ratings, see page 303.

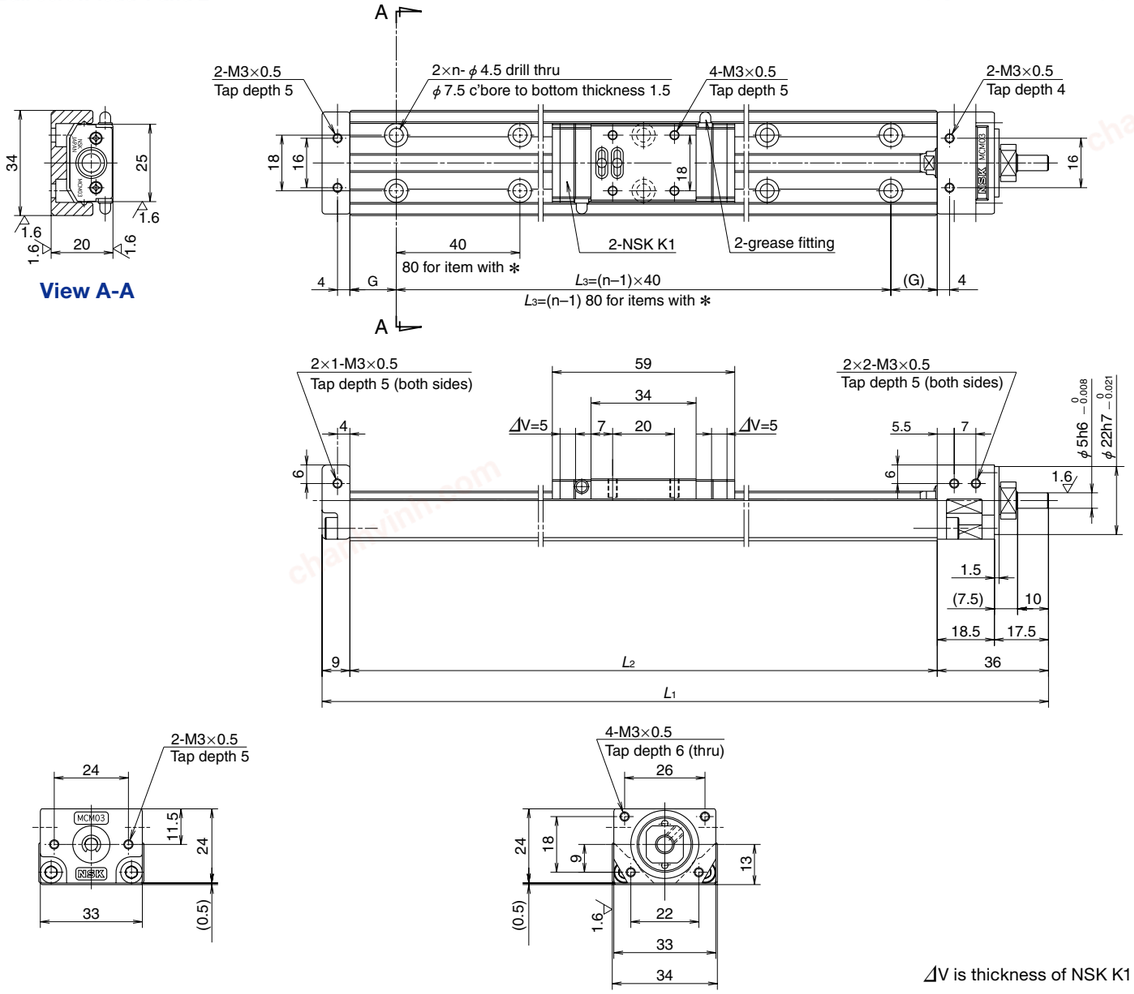
chanhvinh.com

MCM Series Dimension Tables

MCM03

Ball screw lead 1 and 2

Accuracy grade: Precision (P)



Dimensions of MCM03 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	G	L_3	Mounting hole No. n	Inertia $\times 10^{-5}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
✻MCM03005P01K00	50	56 (66)	1	160	115	17.5	80	2	0.015	0.6	50
✻MCM03005P02K00			2						0.016		100
MCM03010P01K00	100	131 (141)	1	235	190	15	160	5	0.021	0.7	50
MCM03010P02K00			2						0.022		100
MCM03015P01K00	150	181 (191)	1	285	240	20	200	6	0.025	0.8	50
MCM03015P02K00			2						0.026		100

Note: Bolt hole pitch L_3 on items marked with ✻ is 80 mm.

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	1	0.2 – 1.7
	2	

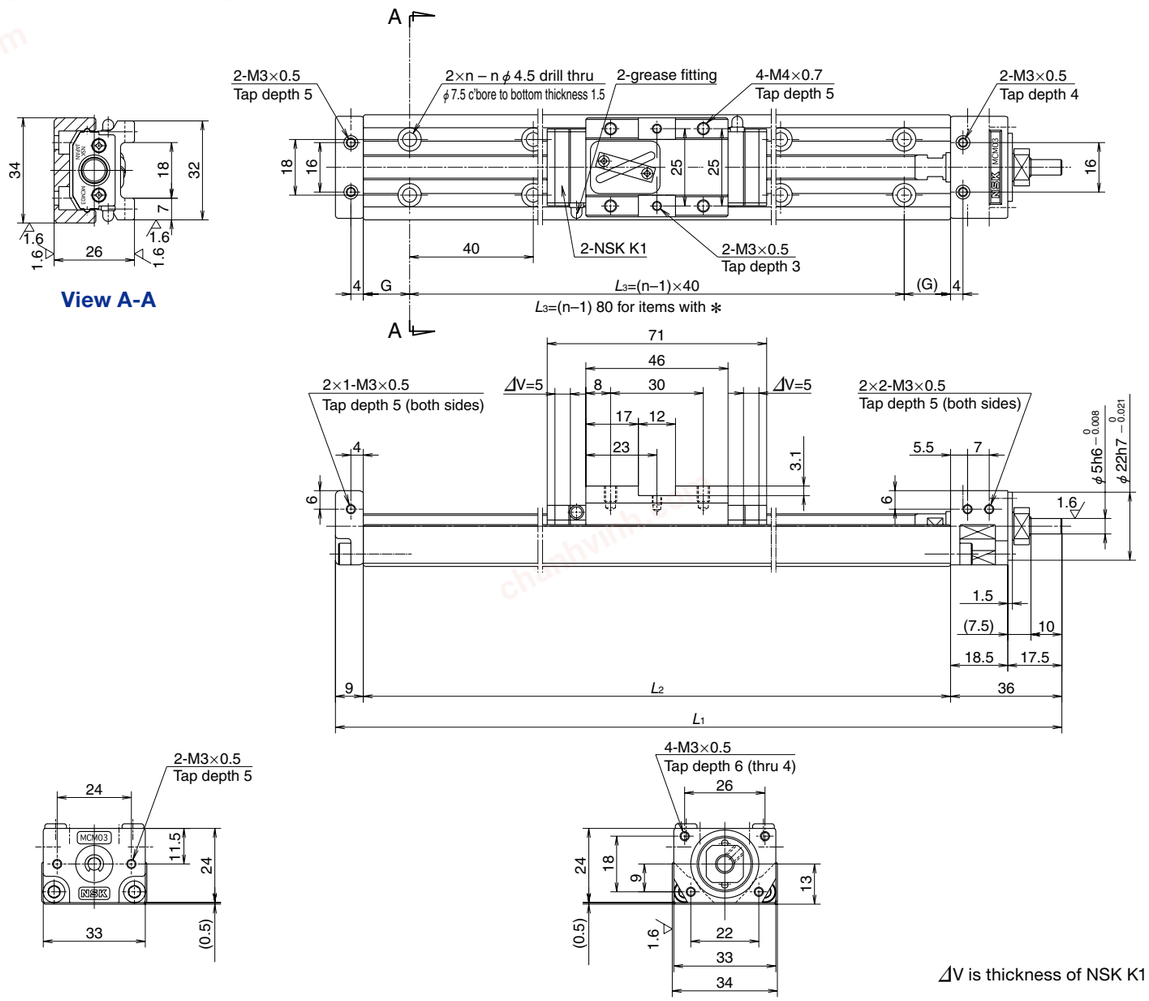
1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. A spacer is required when using a cover unit, sensor unit or both together in ball screw lead of 1 and 2 mm. (See page 267)
5. Stroke limit = stroke + (3 [margin] × 2)

▶ For basic load ratings, see page 303.

MCM03

Ball screw lead 10 and 20

Accuracy grade: High grade (H)



Dimensions of MCM03 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	G	L_3	Mounting hole No. n	Inertia $\times 10^{-5}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
✻MCM03010H10K00	50	69 (79)	10	185	140	30	80	2	0.080	0.6	
✻MCM03010H12K00			12						0.097		
MCM03010H10K00	100	119 (129)	10	235	190	15	160	5	0.092	0.7	500
MCM03010H12K00			12						0.109		600
MCM03015H10K00	150	169 (179)	10	285	240	20	200	6	0.105	0.8	500
MCM03015H12K00			12						0.122		600
MCM03020H10K00	200	219 (229)	10	335	290	25	240	7	0.118	0.9	500
MCM03020H12K00			12						0.135		600
MCM03025H10K00	250	269 (279)	10	385	340	30	280	8	0.131	1.0	500
MCM03025H12K00			12						0.147		600

Note: Bolt hole pitch L_3 on items marked with ✻ is 80 mm.

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	0.3 – 3.0
	12	

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (9.5 [margin] × 2)

▶ For basic load ratings, see page 303.

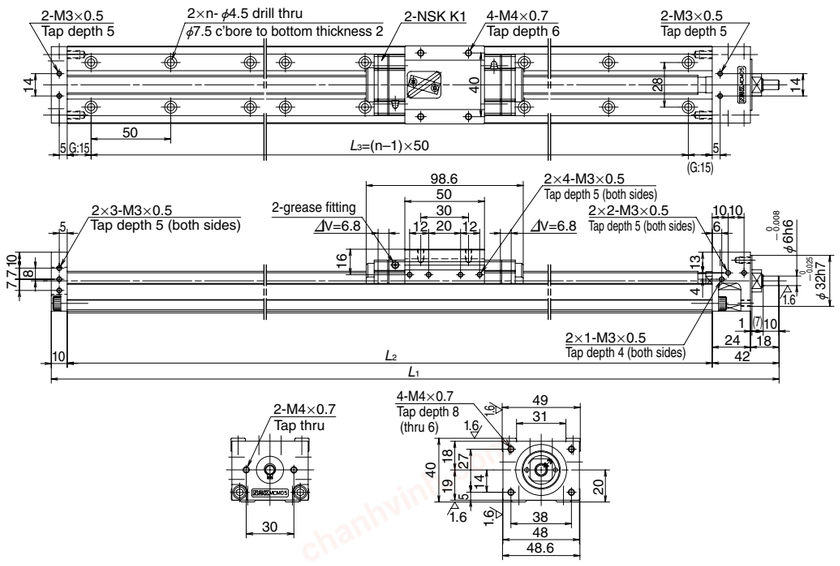
chanhvinh.com

MCM Series Dimension Tables

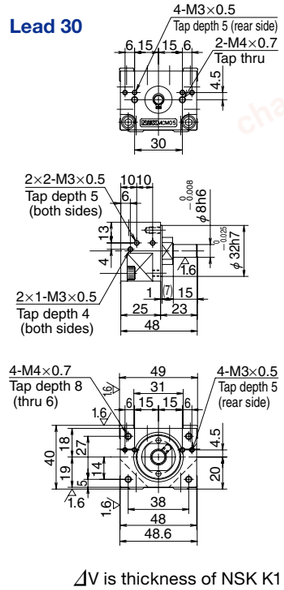
MCM05

Accuracy grade: High grade (H)

Lead 5, 10, 20



Lead 30



ΔV is thickness of NSK K1

Dimensions of MCM05 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
MCM05005H05K00	50	80 (95)	5	232	180	150	4	0.025	1.4	250
MCM05005H10K00			10					0.035		500
MCM05005H20K00			20					0.073		1 000
MCM05010H05K00	100	130 (145)	5	282	230	200	5	0.031	1.6	250
MCM05010H10K00			10					0.040		500
MCM05010H20K00			20					0.078		1 000
MCM05015H05K00	150	180 (195)	5	332	280	250	6	0.036	1.8	250
MCM05015H10K00			10					0.046		500
MCM05015H20K00			20					0.084		1 000
MCM05020H05K00	200	230 (245)	5	382	330	300	7	0.042	2.0	250
MCM05020H10K00			10					0.051		500
MCM05020H20K00			20					0.089		1 000
MCM05025H05K00	250	280 (295)	5	432	380	350	8	0.047	2.2	250
MCM05025H10K00			10					0.057		500
MCM05025H20K00			20					0.095		1 000
MCM05030H05K00	300	330 (345)	5	482	430	400	9	0.053	2.3	250
MCM05030H10K00			10					0.063		500
MCM05030H20K00			20					0.101		1 000
MCM05030H30K00			30	487				0.164	2.4	2 500
MCM05040H05K00	400	430 (445)	5	582	530	500	11	0.064	2.7	250
MCM05040H10K00			10					0.074		500
MCM05040H20K00			20					0.112		1 000
MCM05040H30K00			30	587				0.175	2.8	2 500
MCM05050H05K00	500	530 (545)	5	682	630	600	13	0.076	3.1	250
MCM05050H10K00			10					0.085		500
MCM05050H20K00			20					0.123		1 000
MCM05050H30K00			30	687				0.186	3.2	2 200
MCM05060H05K00	600	630 (645)	5	782	730	700	15	0.087	3.5	250
MCM05060H10K00			10					0.096		500
MCM05060H20K00			20					0.134		1 000
MCM05060H30K00			30	787				0.198	3.6	1 600

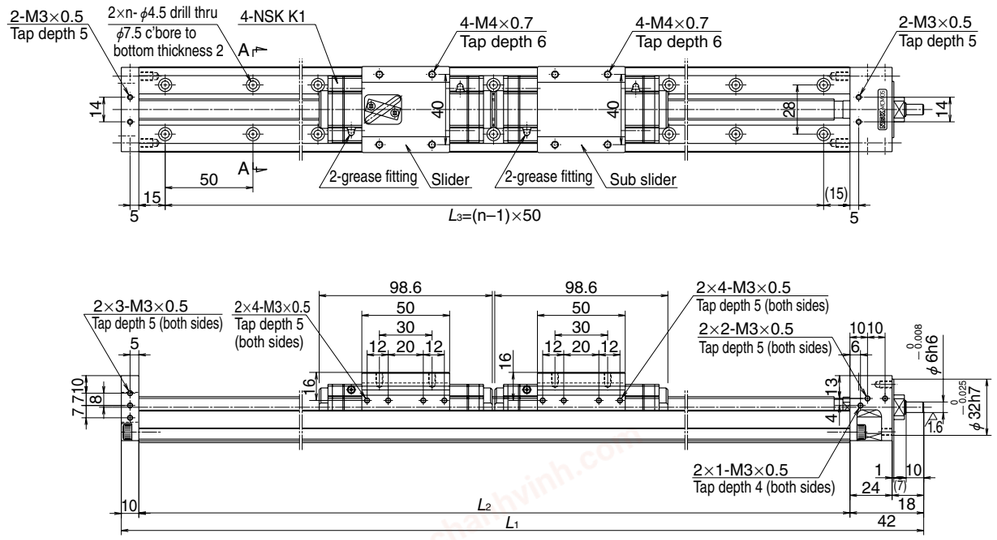
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.0 – 4.8
	10	1.1 – 5.8
	20	1.6 – 7.9
	30	1.8 – 11.1

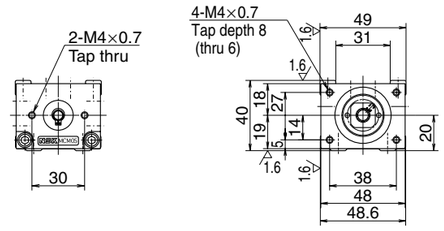
1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (15 [margin] × 2)

▶ For basic load ratings, see page 303.

MCM05 (Double Slider)

Accuracy grade: High grade (H)





ΔV is thickness of NSK K1

Dimensions of MCM05 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
MCM05006H10D00	60	83 (110)	10	332	280	250	6	0.058	2.3	500
MCM05011H10D00	110	133 (160)	10	382	330	300	7	0.064	2.5	500
MCM05016H10D00	160	183 (210)	10	432	380	350	8	0.070	2.7	500
MCM05021H10D00	210	233 (260)	10	482	430	400	9	0.075	2.8	500
MCM05021H20D00			20					0.151		1 000
MCM05031H10D00	310	333 (360)	10	582	530	500	11	0.086	3.2	500
MCM05031H20D00			20					0.162		1 000
MCM05041H10D00	410	433 (460)	10	682	630	600	13	0.098	3.6	500
MCM05041H20D00			20					0.174		1 000
MCM05051H10D00	510	533 (560)	10	782	730	700	15	0.109	4.2	500
MCM05051H20D00			20					0.185		1 000

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	1.5 – 7.6
	12	2.3 – 11.8

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (11.4 [margin] × 2)

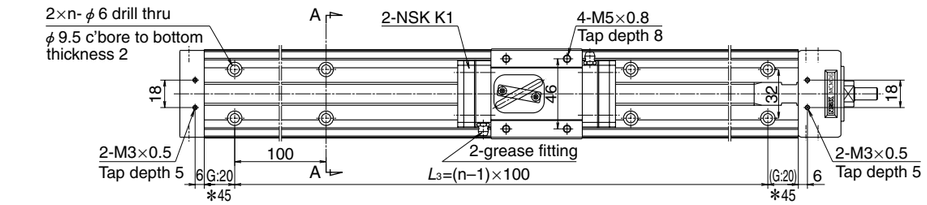
▶ For basic load ratings, see page 303.

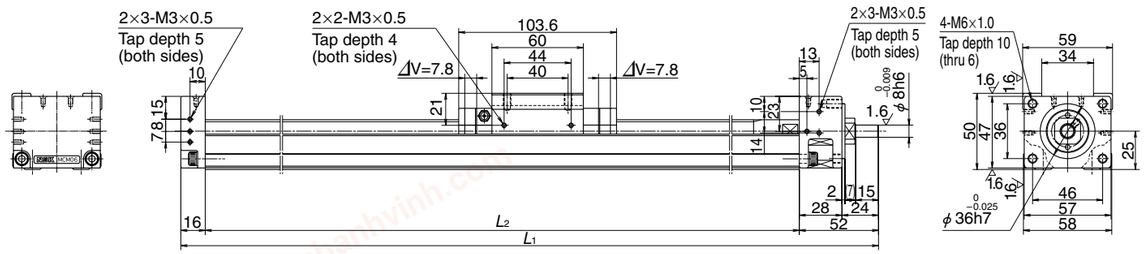
chanhvinh.com

MCM Series Dimension Tables

MCM06

Accuracy grade: High grade (H)





ΔV is thickness of NSK K1

Dimensions of MCM06 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
∗MCM06005H05K00	50	85 (102)	5	258	190	100	2	0.083	2.7	250
∗MCM06005H10K00			10					0.077		500
∗MCM06005H20K00			20					0.122		1 000
MCM06010H05K00	100	135 (152)	5	308	240	200	3	0.103	3.0	250
MCM06010H10K00			10					0.092		500
MCM06010H20K00			20					0.137		1 000
∗MCM06015H05K00	150	185 (202)	5	358	290	200	3	0.122	3.5	250
∗MCM06015H10K00			10					0.106		500
∗MCM06015H20K00			20					0.152		1 000
MCM06020H05K00	200	235 (252)	5	408	340	300	4	0.142	3.8	250
MCM06020H10K00			10					0.121		500
MCM06020H20K00			20					0.167		1 000
∗MCM06025H05K00	250	285 (302)	5	458	390	300	4	0.161	4.2	250
∗MCM06025H10K00			10					0.136		500
∗MCM06025H20K00			20					0.181		1 000
MCM06030H05K00	300	335 (352)	5	508	440	400	5	0.180	4.5	250
MCM06030H10K00			10					0.150		500
MCM06030H20K00			20					0.196		1 000
MCM06040H05K00	400	435 (452)	5	608	540	500	6	0.219	5.2	250
MCM06040H10K00			10					0.180		500
MCM06040H20K00			20					0.225		1 000
MCM06050H05K00	500	535 (552)	5	708	640	600	7	0.258	6.0	250
MCM06050H10K00			10					0.209		500
MCM06050H20K00			20					0.255		1 000
MCM06060H05K00	600	635 (652)	5	808	740	700	8	0.297	6.7	250
MCM06060H10K00			10					0.239		500
MCM06060H20K00			20					0.284		1 000
MCM06070H05K00	700	735 (752)	5	908	840	800	9	0.335	7.4	250
MCM06070H10K00			10					0.268		490
MCM06070H20K00			20					0.314		980
MCM06080H05K00	800	835 (852)	5	1 008	940	900	10	0.374	8.1	250
MCM06080H10K00			10					0.298		390
MCM06080H20K00			20					0.343		770

Dimension G is 45 for items marked with ∗.

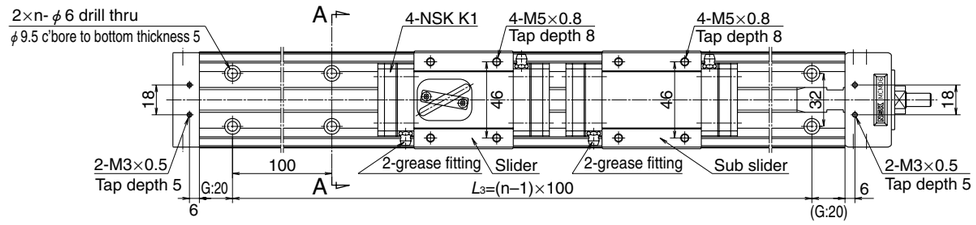
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.9 – 7.4
	10	2.2 – 8.6
	20	2.8 – 11.0

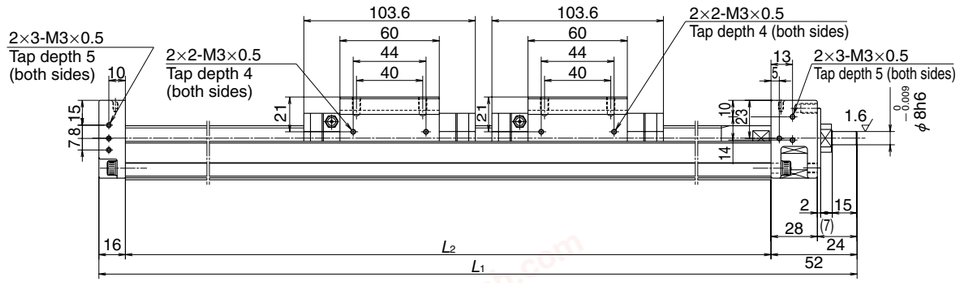
1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (17.5 [margin] × 2)

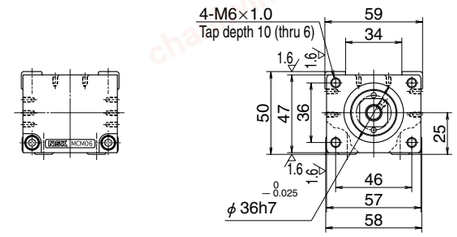
▶ For basic load ratings, see page 303.

MCM06 (Double Slider)

Accuracy grade: High grade (H)







ΔV is thickness of NSK K1

Dimensions of MCM06 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
MCM06011H05D00	110	133 (164)	5	408	340	300	4	0.145	4.4	250
MCM06011H10D00			10					0.136		500
MCM06021H05D00	210	233 (264)	5	508	440	400	5	0.184	5.1	250
MCM06021H10D00			10					0.166		500
MCM06021H20D00			20					0.257		1 000
MCM06031H05D00	310	333 (364)	5	608	540	500	6	0.223	5.8	250
MCM06031H10D00			10					0.195		500
MCM06031H20D00			20					0.286		1 000
MCM06041H05D00	410	433 (464)	5	708	640	600	7	0.262	6.6	250
MCM06041H10D00			10					0.224		500
MCM06041H20D00			20					0.316		1 000
MCM06051H10D00	510	533 (564)	10	808	740	700	8	0.254	7.3	500
MCM06051H20D00			20					0.345		1 000
MCM06061H10D00	610	633 (664)	10	908	840	800	9	0.283	8.0	500
MCM06061H20D00			20					0.375		1 000
MCM06071H10D00	710	733 (764)	10	1 008	940	900	10	0.313	8.7	490
MCM06071H20D00			20					0.404		980

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	2.3 – 8.5
	10	2.7 – 10.9
	20	4.0 – 15.9

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (11.4 [margin] × 2)

▶ For basic load ratings, see page 303.

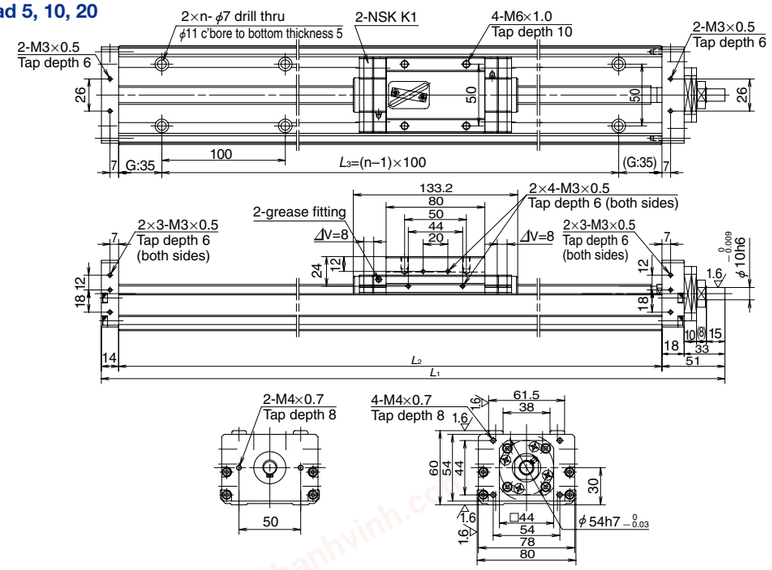
chanhvinh.com

MCM Series Dimension Tables

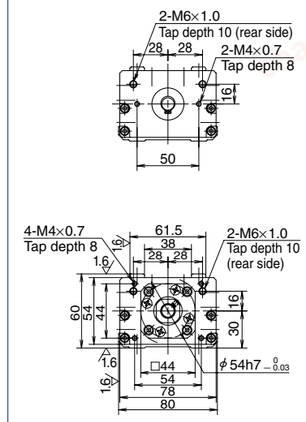
MCM08

Accuracy grade: High grade (H)

Lead 5, 10, 20



Lead 30



ΔV is thickness of NSK K1

Dimensions of MCM08 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
✻MCM08005H05K00	50	85 (101)	5	285	220	100	2	0.101	4.1	250
✻MCM08005H10K00			10					0.100		500
MCM08010H05K00	100	135 (151)	5	335	270	200	3	0.120	4.6	250
MCM08010H10K00			10					0.114		500
MCM08010H20K00			20					0.190		1 000
✻MCM08015H05K00	150	185 (201)	5	385	320	200	3	0.139	5.1	250
✻MCM08015H10K00			10					0.129		500
✻MCM08015H20K00			20					0.205		1 000
MCM08020H05K00	200	235 (251)	5	435	370	300	4	0.159	5.5	250
MCM08020H10K00			10					0.144		500
MCM08020H20K00			20					0.220		1 000
✻MCM08025H05K00	250	285 (301)	5	485	420	300	4	0.178	6.0	250
✻MCM08025H10K00			10					0.159		500
✻MCM08025H20K00			20					0.235		1 000
MCM08030H05K00	300	335 (351)	5	535	470	400	5	0.198	6.5	250
MCM08030H10K00			10					0.173		500
MCM08030H20K00			20					0.249		1 000
MCM08040H05K00	400	435 (451)	5	635	570	500	6	0.236	7.4	250
MCM08040H10K00			10					0.203		500
MCM08040H20K00			20					0.279		1 000
MCM08040H30K00			30					0.405		2 500
MCM08050H05K00	500	535 (551)	5	735	670	600	7	0.275	8.4	250
MCM08050H10K00			10					0.232		500
MCM08050H20K00			20					0.308		1 000
MCM08050H30K00			30					0.435		2 500
MCM08060H05K00	600	635 (651)	5	835	770	700	8	0.314	9.3	250
MCM08060H10K00			10					0.262		500
MCM08060H20K00			20					0.338		1 000
MCM08060H30K00			30					0.464		1 860
MCM08070H05K00	700	735 (751)	5	935	870	800	9	0.353	10.5	250
MCM08070H10K00			10					0.291		500
MCM08070H20K00			20					0.367		1 000
MCM08070H30K00			30					0.494		1 425
MCM08080H05K00	800	835 (851)	5	1 035	970	900	10	0.391	11.2	195
MCM08080H10K00			10					0.320		390
MCM08080H20K00			20					0.396		780

Dimension G is 60 for items marked with ✻.

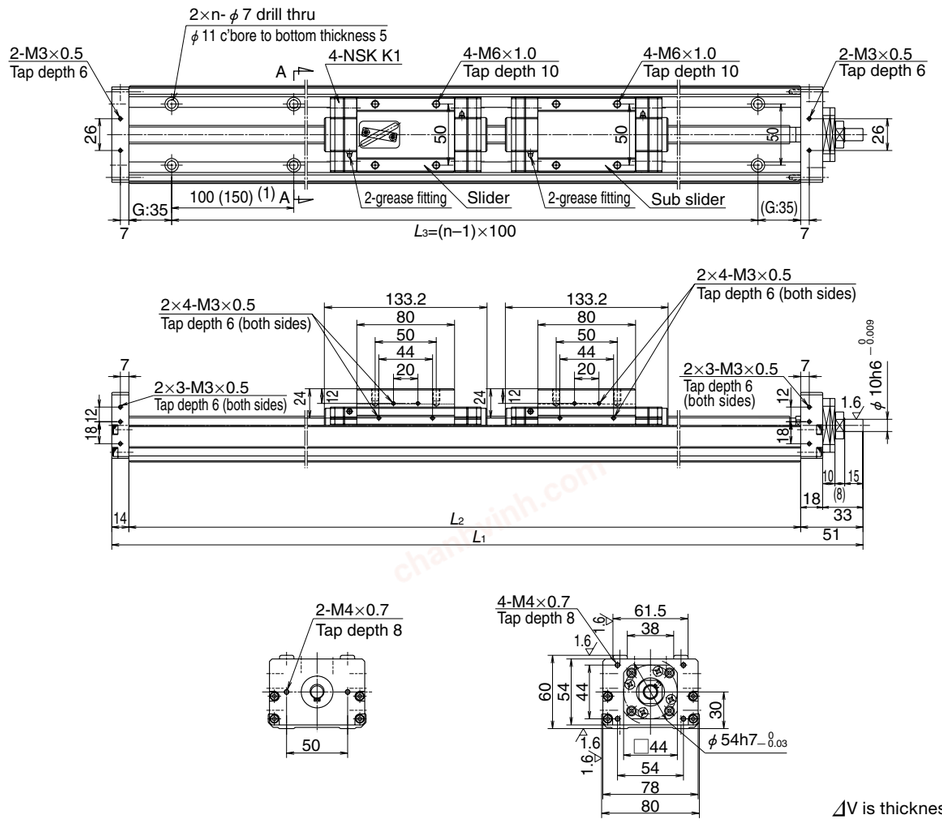
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.0 – 5.9
	10	2.0 – 7.8
	20	2.5 – 10.8
	30	2.8 – 12.0

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (17.5 [margin] × 2)

▶ For basic load ratings, see page 303.

MCM08 (Double Slider)

Accuracy grade: High grade (H)



ΔV is thickness of NSK K1

Dimensions of MCM08 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia $\times 10^{-4}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
✻MCM08008H10D00	80	104 (136)	10	435	370	300	3	0.169	6.5	500
MCM08018H10D00	180	204 (236)	10	535	470	400	5	0.199	7.5	500
MCM08018H20D00			20					0.351		1 000
MCM08028H10D00	280	304 (336)	10	635	570	500	6	0.228	8.4	500
MCM08028H20D00			20					0.380		1 000
MCM08038H10D00	380	404 (436)	10	135	670	600	7	0.257	9.4	500
MCM08038H20D00			20					0.409		1 000
MCM08048H10D00	480	504 (536)	10	835	770	700	8	0.287	10.3	500
MCM08048H20D00			20					0.439		1 000
MCM08058H10D00	580	604 (636)	10	935	870	800	9	0.316	11.5	500
MCM08058H20D00			20					0.468		1 000
MCM08068H10D00	680	704 (736)	10	1 035	970	900	10	0.346	12.2	500
MCM08068H20D00			20					0.498		1 000

Dimension (1) is 150 mm for item marked with ✻.

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	2.5 – 10.8
	20	4.0 – 17.2

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (11.8 [margin] × 2)

▶ For basic load ratings, see page 303.

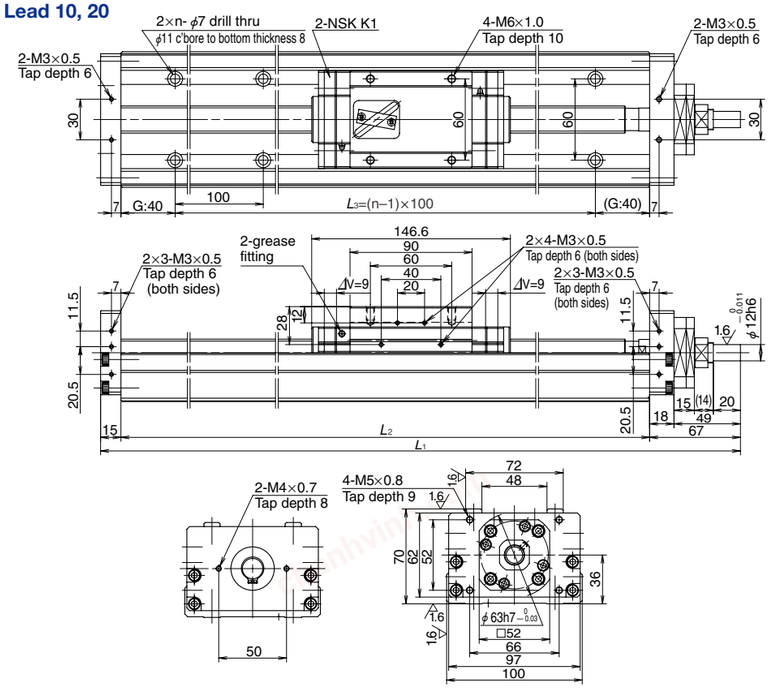
chanhvinh.com

MCM Series Dimension Tables

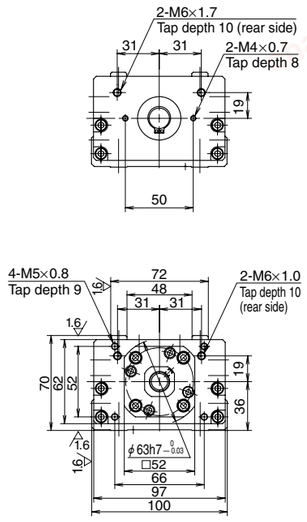
MCM10

Accuracy grade: High grade (H)

Lead 10, 20



Lead 30



ΔV is thickness of NSK K1

Dimensions of MCM10 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia ×10⁻⁴ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
MCM10010H10K00	100	130 (151)	10	362	280	200	3	0.332	7.8	500
MCM10010H20K00			20					0.446		1 000
◆ **MCM10015H10K00**	150	180 (201)	10	412	330	300	4	0.378	8.7	500
◆ **MCM10015H20K00**			20					0.492		1 000
MCM10020H10K00	200	230 (251)	10	462	380	300	4	0.425	9.5	500
MCM10020H20K00			20					0.539		1 000
◆ **MCM10025H10K00**	250	280 (301)	10	512	430	400	5	0.472	10.4	500
◆ **MCM10025H20K00**			20					0.586		1 000
MCM10030H10K00	300	330 (351)	10	562	480	400	5	0.519	11.2	500
MCM10030H20K00			20					0.633		1 000
MCM10040H10K00	400	430 (451)	10	662	580	500	6	0.612	13.0	500
MCM10040H20K00			20					0.726		1 000
MCM10050H10K00	500	530 (551)	10	762	680	600	7	0.706	14.6	500
MCM10050H20K00			20					0.820		1 000
MCM10050H30K00			30					1.010		2 500
MCM10060H10K00	600	630 (651)	10	862	780	700	8	0.800	16.3	500
MCM10060H20K00			20					0.914		1 000
MCM10060H30K00			30					1.104		2 500
MCM10070H10K00	700	730 (751)	10	962	880	800	9	0.893	18.0	500
MCM10070H20K00			20					1.007		1 000
MCM10070H30K00			30					1.197		1 920
MCM10080H10K00	800	830 (851)	10	1 062	980	900	10	0.893	19.7	500
MCM10080H20K00			20					1.007		1 000
MCM10080H30K00			30					1.197		1 510
MCM10090H10K00	900	930 (951)	10	1 162	1 080	1 000	11	1.081	21.4	440
MCM10090H20K00			20					1.195		880
✻**MCM10100H10K00**	1 000	1 030 (1 051)	10	1 262	1 180	1 000	11	1.174	23.1	360
✻**MCM10100H20K00**			20					1.288		720

Dimension G is 90 for items marked with ✻.
Dimension G is 15 for items marked with ◆.

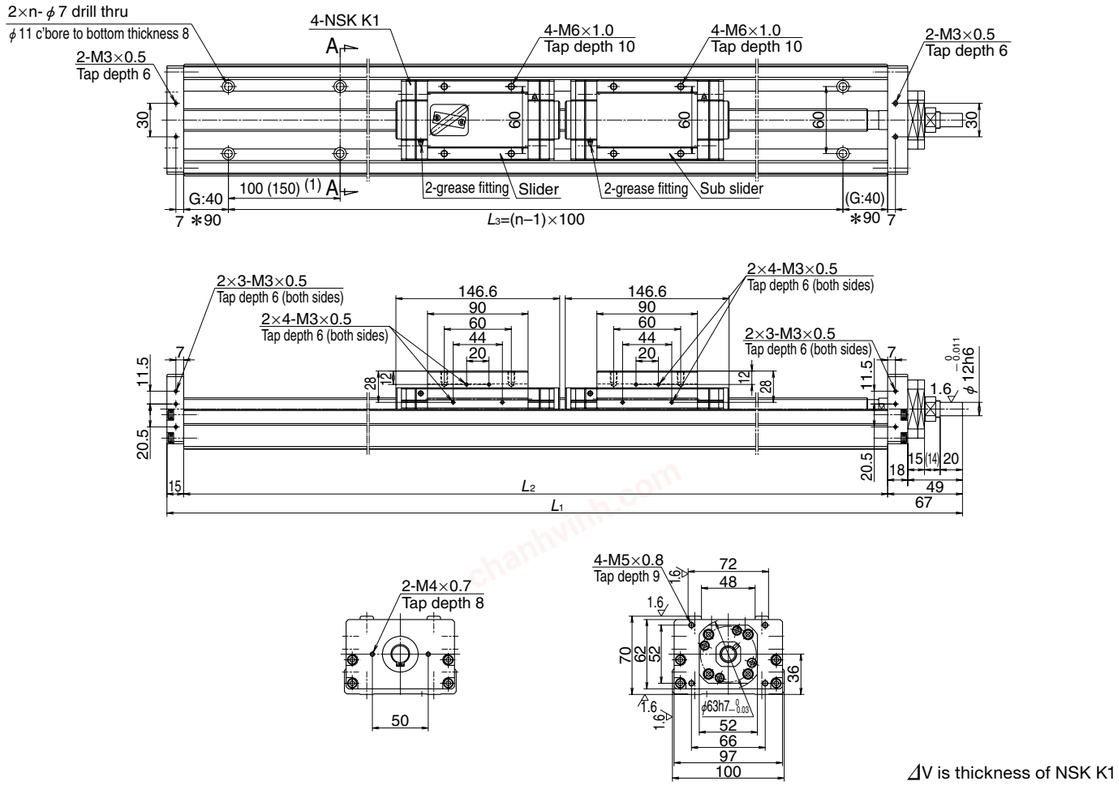
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	2.7 – 10.8
	20	3.1 – 12.7
	30	5.1 – 18.0

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (15 [margin] × 2)

▶ For basic load ratings, see page 303.

MCM10 (Double Slider)

Accuracy grade: High grade (H)



ΔV is thickness of NSK K1

Dimensions of MCM10 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	Body length (mm) L_2	Body length (mm) L_3	Mounting hole No. n	Inertia ×10⁻⁴ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
●**MCM10007H10D00**	70	86(122)	10	462	380	300	3	0.463	11.0	500
MCM10017H10D00	170	186 (222)	10	562	480	400	5	0.557	12.7	500
MCM10017H20D00			20					0.785		1 000
MCM10027H10D00	270	286 (322)	10	662	580	500	6	0.650	13.4	500
MCM10027H20D00			20					0.878		1 000
MCM10037H10D00	370	386 (422)	10	762	680	600	7	0.744	15.1	500
MCM10037H20D00			20					0.972		1 000
MCM10047H10D00	470	486 (522)	10	862	780	700	8	0.838	17.8	500
MCM10047H20D00			20					1.066		1 000
MCM10057H10D00	570	586 (622)	10	962	880	800	9	0.931	19.5	500
MCM10057H20D00			20					1.159		1 000
MCM10067H10D00	670	686 (722)	10	1 062	980	900	10	1.025	21.2	500
MCM10067H20D00			20					1.253		1 000
✻**MCM10087H10D00**	870	886 (922)	10	1 262	1 180	1 000	11	1.212	23.6	440
✻**MCM10087H20D00**			20					1.440		880

Dimension G is 90 for items marked with ✻.
Dimension (1) is 150 mm for item marked with ●.

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	4.2 – 15.6
	20	5.0 – 19.6

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.
4. Stroke limit = stroke + (8.4 [margin] × 2)

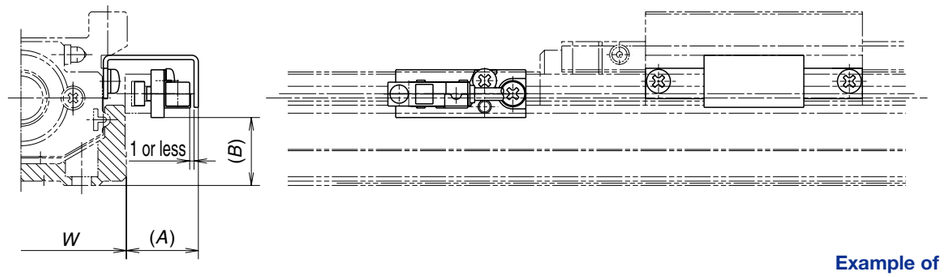
▶ For basic load ratings, see page 303.

chanhvinh.com

Sensor Unit for MCM Series

Accessories

Proximity Switch

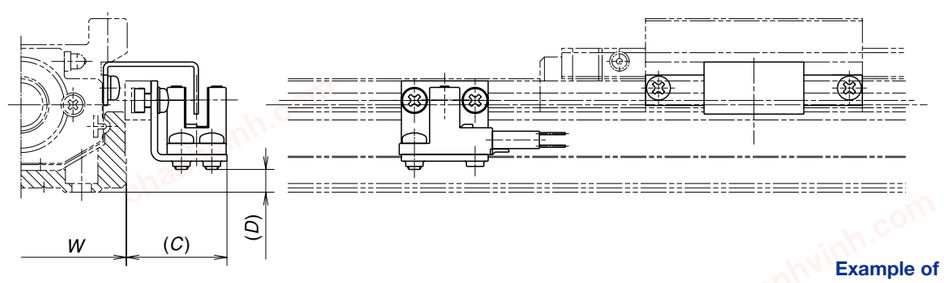


Example of assembly

Type		Part number			Dimension *A* (mm)	Dimension *B* (mm)	Body width *W* (mm)
MCM02		MC-SR02-00	MC-SR02-01	MC-SR02-02	17	2	28
MCM03		MC-SR03-10	MC-SR03-11	MC-SR03-12	17	3	34
MCM05		MC-SR05-10	MC-SR05-11	MC-SR05-12	17	15	48.6
MCM06		MC-SR06-10	MC-SR06-11	MC-SR06-12	17	19	58
MCM08		MC-SR08-10	MC-SR08-11	MC-SR08-12	16	27	80
MCM10		MC-SR10-10	MC-SR10-11	MC-SR10-12	16	35	100
Quantity	Proximity switch (a-contact)	—	3	1	E2S-W13 (OMRON Corp.)		
	Proximity switch (b-contact)	3	—	2	E2S-W14 (OMRON Corp.)		

Note 1: See page 305 for proximity switch specifications.
Note 2: Sensor unit consists of sensors, sensor dog and sensor mounting parts.
Note 3: A spacer plate is required when using a cover unit or sensor unit for MCM03 with a lead of 1 or 2 mm. (see page 267)

Photo Sensor



Example of assembly

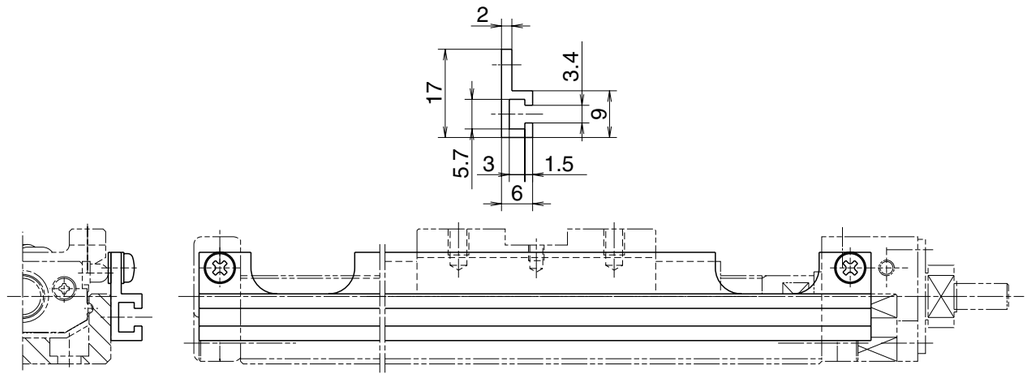
Type	Part number	Dimension *C* (mm)	Dimension *D* (mm)	Body width *W* (mm)	Notes
MCM03	MC-SR03-13	24	0.5	34	EE-SX674 (OMRON Corp.) 3 sets (EE-1001 connector attachment)
MCM05	MC-SR05-13	24	5	48.6	
MCM06	MC-SR06-13	24	9	58	
MCM08	MC-SR08-13	23	17	80	
MCM10	MC-SR10-13	22	24	100	

Note 1: See page 306 for photo sensor specifications.
Note 2: Sensor unit consists of sensors, sensor dog and sensor mounting parts.
Note 3: A spacer plate is required when using a cover unit or sensor unit for MCM03 with lead of 1 or 2 mm. (see page 267)

Sensor Rail

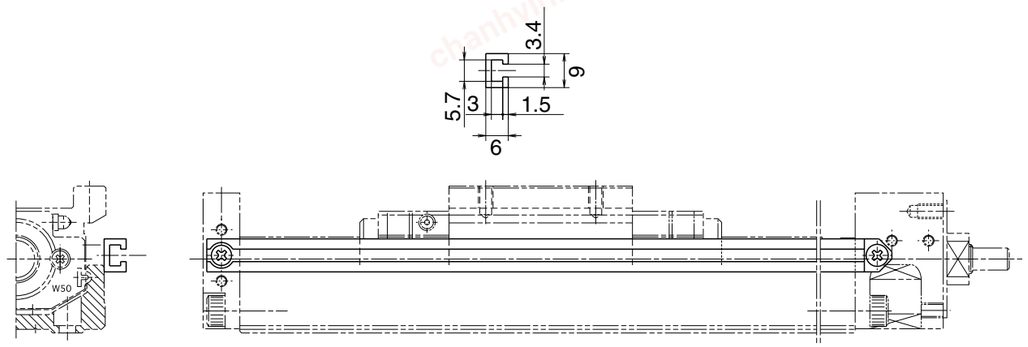
Accessories

Sensor Rail for MCM03: MC-SRL3-＊＊＊＊



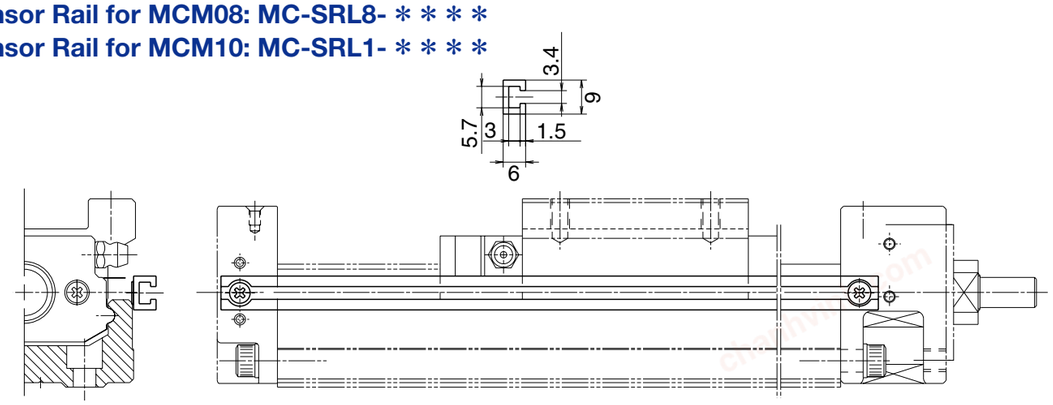
Example of assembly

Sensor Rail for MCM05: MC-SRL5-＊＊＊＊



Example of assembly

Sensor Rail for MCM02: MC-SRL2-＊＊＊＊
Sensor Rail for MCM06: MC-SRL6-＊＊＊＊
Sensor Rail for MCM08: MC-SRL8-＊＊＊＊
Sensor Rail for MCM10: MC-SRL1-＊＊＊＊



Example of assembly

＊＊＊＊ is same as rail dimension L_2.

Please assemble the attached seat between the sensor rail and the support unit for MCM03, MCM05, MCM06, and MCM08.

chanhvinh.com

Sensor Unit for MCM Series

MCM Series and Sensor Rail Combination Table

Nominal size	Body length L_2 (mm)	Part number	Sensor rail part number
MCM02	100	MCM02005H01K MCM02005P01K MCM02005H02K MCM02005P02K	MC-SRL2-0100
	150	MCM02010H01K MCM02010P01K MCM02010H02K MCM02010P02K	MC-SRL2-0150
	200	MCM02015H01K MCM02015P01K MCM02015H02K MCM02015P02K	MC-SRL2-0200
MCM03	115	MCM03005P01K00 MCM03005P02K00	MC-SRL3-0115
	140	MCM03005H10K00 MCM03005H12K00	MC-SRL3-0140
	190	MCM03010P01K00 MCM03010P02K00 MCM03010H10K00 MCM03010H12K00	MC-SRL3-0190
	240	MCM03015P01K00 MCM03015P02K00 MCM03015H10K00 MCM03015H12K00	MC-SRL3-0240
	290	MCM03020H10K00 MCM03020H12K00	MC-SRL3-0290
	340	MCM03025H10K00 MCM03025H12K00	MC-SRL3-0340
MCM05	180	MCM05005H05K00 MCM05005H10K00	MC-SRL5-0180
	230	MCM05010H05K00 MCM05010H10K00 MCM05010H20K00	MC-SRL5-0230
	280	MCM05015H05K00 MCM05015H10K00 MCM05015H20K00 MCM05006H10D00	MC-SRL5-0280
	330	MCM05020H05K00 MCM05020H10K00 MCM05020H20K00 MCM05011H10D00	MC-SRL5-0330
	380	MCM05025H05K00 MCM05025H10K00 MCM05025H20K00 MCM05016H10D00	MC-SRL5-0380
	430	MCM05030H05K00 MCM05030H10K00 MCM05030H20K00 MCM05030H30K00 MCM05021H10D00 MCM05021H20D00	MC-SRL5-0430
	530	MCM05040H05K00 MCM05040H10K00 MCM05040H20K00 MCM05040H30K00 MCM05031H10D00 MCM05031H20D00	MC-SRL5-0530
	630	MCM05050H05K00 MCM05050H10K00 MCM05050H20K00 MCM05050H30K00 MCM05041H10D00 MCM05041H20D00	MC-SRL5-0630
MCM05	730	MCM05060H05K00 MCM05060H10K00 MCM05060H20K00 MCM05060H30K00 MCM05051H10D00 MCM05051H20D00	MC-SRL5-0730
MCM06	190	MCM06005H05K00 MCM06005H10K00 MCM06005H20K00	MC-SRL6-0190
	240	MCM06010H05K00 MCM06010H10K00 MCM06010H20K00	MC-SRL6-0240
	290	MCM06015H05K00 MCM06015H10K00 MCM06015H20K00	MC-SRL6-0290
	340	MCM06020H05K00 MCM06020H10K00 MCM06020H20K00 MCM06011H05D00 MCM06011H10D00	MC-SRL6-0340
	390	MCM06025H05K00 MCM06025H10K00 MCM06025H20K00	MC-SRL6-0390
	440	MCM06030H05K00 MCM06030H10K00 MCM06030H20K00 MCM06021H05D00 MCM06021H10D00 MCM06021H20D00	MC-SRL6-0440
	540	MCM06040H05K00 MCM06040H10K00 MCM06040H20K00 MCM06031H05D00 MCM06031H10D00 MCM06031H20D00	MC-SRL6-0540
	640	MCM06050H05K00 MCM06050H10K00 MCM06050H20K00 MCM06041H05D00 MCM06041H10D00 MCM06041H20D00	MC-SRL6-0640
	740	MCM06060H05K00 MCM06060H10K00 MCM06060H20K00 MCM06051H10D00 MCM06051H20D00	MC-SRL6-0740
	840	MCM06070H05K00 MCM06070H10K00 MCM06070H20K00 MCM06061H10D00 MCM06061H20D00	MC-SRL6-0840
	940	MCM06080H05K00 MCM06080H10K00 MCM06080H20K00 MCM06071H10D00 MCM06071H20D00	MC-SRL6-0940

Nominal size	Body length L_2 (mm)	Part number	Sensor rail part number
MCM08	220	MCM08005H05K00 MCM08005H10K00	MC-SRL8-0220
	270	MCM08010H05K00 MCM08010H10K00 MCM08010H20K00	MC-SRL8-0270
	320	MCM08015H05K00 MCM08015H10K00 MCM08015H20K00	MC-SRL8-0320
	370	MCM08020H05K00 MCM08020H10K00 MCM08020H20K00 MCM08008H10D00	MC-SRL8-0370
	420	MCM08025H05K00 MCM08025H10K00 MCM08025H20K00	MC-SRL8-0420
	470	MCM08030H05K00 MCM08030H10K00 MCM08030H20K00 MCM08018H10D00 MCM08018H20D00	MC-SRL8-0470
	570	MCM08040H05K00 MCM08040H10K00 MCM08040H20K00 MCM08040H30K00 MCM08028H10D00 MCM08028H20D00	MC-SRL8-0570
	670	MCM08050H05K00 MCM08050H10K00 MCM08050H20K00 MCM08050H30K00 MCM08038H10D00 MCM08038H20D00	MC-SRL8-0670
	770	MCM08060H05K00 MCM08060H10K00 MCM08060H20K00 MCM08060H30K00 MCM08048H10D00 MCM08048H20D00	MC-SRL8-0770
	870	MCM08070H05K00 MCM08070H10K00 MCM08070H20K00 MCM08070H30K00 MCM08058H10D00 MCM08058H20D00	MC-SRL8-0870
	970	MCM08080H05K00 MCM08080H10K00 MCM08080H20K00 MCM08080H30K00 MCM08068H10D00 MCM08068H20D00	MC-SRL8-0970
MCM10	280	MCM10010H10K00 MCM10010H20K00	MC-SRL1-0280
	330	MCM10015H10K00 MCM10015H20K00	MC-SRL1-0330
	380	MCM10020H10K00 MCM10020H20K00 MCM10007H10K00	MC-SRL1-0380
	430	MCM10025H10K00 MCM10025H20K00	MC-SRL1-0430
	480	MCM10030H10K00 MCM10030H20K00 MCM10017H10K00 MCM10017H20K00	MC-SRL1-0480

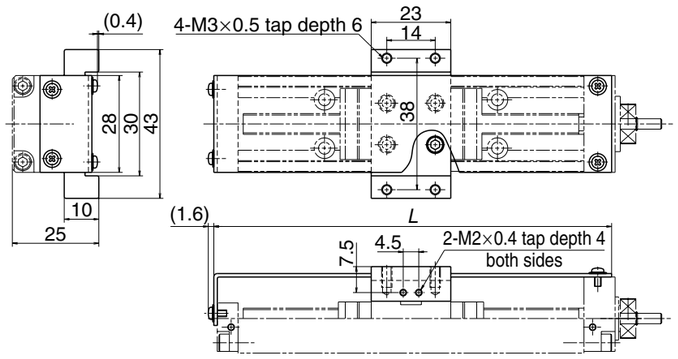
Nominal size	Body length L_2 (mm)	Part number	Sensor rail part number
MCM10	580	MCM10040H10K00 MCM10040H20K00 MCM10027H10K00 MCM10027H20K00	MC-SRL1-0580
	680	MCM10050H10K00 MCM10050H20K00 MCM10050H30K00 MCM10037H10K00 MCM10037H20K00	MC-SRL1-0680
	780	MCM10060H10K00 MCM10060H20K00 MCM10060H30K00 MCM10047H10K00 MCM10047H20K00	MC-SRL1-0780
	880	MCM10070H10K00 MCM10070H20K00 MCM10070H30K00 MCM10057H10K00 MCM10057H20K00	MC-SRL1-0880
	980	MCM10080H10K00 MCM10080H20K00 MCM10080H30K00 MCM10067H10K00 MCM10067H20K00	MC-SRL1-0980
	1 080	MCM10090H10K00 MCM10090H20K00	MC-SRL1-1080
	1 180	MCM10100H10K00 MCM10100H20K00 MCM10087H10K00 MCM10087H20K00	MC-SRL1-1180

chanhvinh.com

Cover Unit for MCM Series

Accessories

Cover Unit for MCM02



Unit: mm

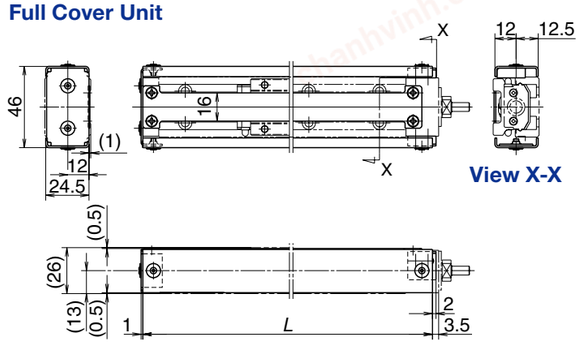
Stroke	Part number	Length (*L*)
50	MC-CV02005-00	115
100	MC-CV02010-00	165
150	MC-CV03015-00	215

Note: Height of screw head is not included.

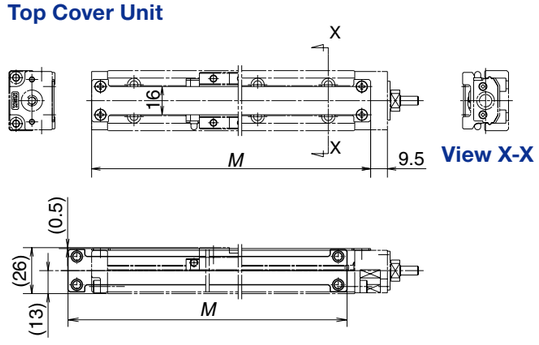
Cover Unit for MCM03

Note: Spacer (MC-SP03-00) is required for a main unit with ball screw lead of 1 or 2 mm.

Full Cover Unit



Top Cover Unit

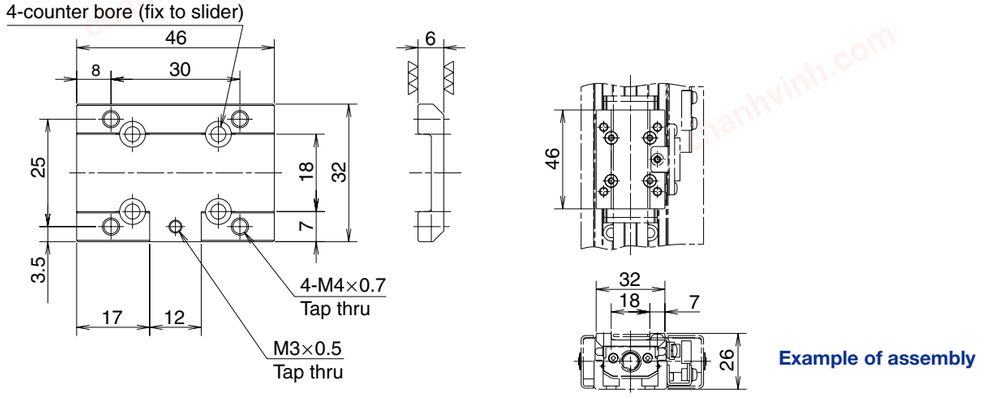


Unit: mm

Stroke	Part number		Cover length	
	Top cover unit	Full cover unit	Length (*L*)	Length (*M*)
50 (lead 1, 2)	MC-CV03005-02	*MC-CV03005-01	139	133
50 (lead 10, 12)	MC-CV03005-02A	*MC-CV03005-01A	164	158
100	MC-CV03010-02	*MC-CV03010-01	214	208
150	MC-CV03015-02	*MC-CV03015-01	264	258
200	MC-CV03020-02	*MC-CV03020-01	314	308
250	MC-CV03025-02	*MC-CV03025-01	364	358

Note 1: Full-cover unit cannot be used when sensor unit is being used.
Note 2: Height of screw head is not included.

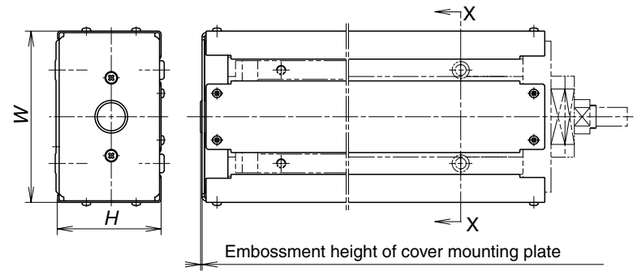
Spacer for MCM03 (accessory) MC-SP03-00 (for ball screw lead of 1 or 2 mm)



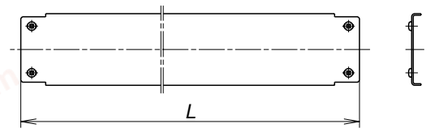
Example of assembly

Accessories

Cover Unit for MCM05, 06, 08, and 10



Top Cover Unit



Unit: mm

Part number	Stroke		Cover unit part number		Cover length			
	Single slider	Double slider	Top cover unit	Full cover unit*1	Length (*L*)	Height (*H*)	Width (*W*)	End part (*D*)
MCM05	50	—	MC-CV05005-01	MC-CV05005-00	200	38.5	65	2.6
	100	—	MC-CV05010-01	MC-CV05010-00	250			
	150	60	MC-CV05015-01	MC-CV05015-00	300			
	200	110	MC-CV05020-01	MC-CV05020-00	350			
	250	160	MC-CV05025-01	MC-CV05025-00	400			
	300	210	MC-CV05030-01	MC-CV05030-00	450			
	400	310	MC-CV05040-01	MC-CV05040-00	550			
	500	410	MC-CV05050-01	MC-CV05050-00	650			
	600	510	MC-CV05060-01	MC-CV05060-00	750			
MCM06	50	—	MC-CV06005-01	MC-CV06005-00	225	48.5	75	—**
	100	—	MC-CV06010-01	MC-CV06010-00	275			
	150	—	MC-CV06015-01	MC-CV06015-00	325			
	200	110	MC-CV06020-01	MC-CV06020-00	375			
	250	—	MC-CV06025-01	MC-CV06025-00	425			
	300	210	MC-CV06030-01	MC-CV06030-00	475			
	400	310	MC-CV06040-01	MC-CV06040-00	575			
	500	410	MC-CV06050-01	MC-CV06050-00	675			
	600	510	MC-CV06060-01	MC-CV06060-00	775			
	700	610	MC-CV06070-01	MC-CV06070-00	875			
	800	710	MC-CV06080-01	MC-CV06080-00	975			
MCM08	50	—	MC-CV08005-01	MC-CV08005-00	248	56.5	90	2.6
	100	—	MC-CV08010-01	MC-CV08010-00	298			
	150	—	MC-CV08015-01	MC-CV08015-00	348			
	200	80	MC-CV08020-01	MC-CV08020-00	398			
	250	—	MC-CV08025-01	MC-CV08025-00	448			
	300	180	MC-CV08030-01	MC-CV08030-00	498			
	400	280	MC-CV08040-01	MC-CV08040-00	598			
	500	380	MC-CV08050-01	MC-CV08050-00	698			
	600	480	MC-CV08060-01	MC-CV08060-00	798			
	700	580	MC-CV08070-01	MC-CV08070-00	898			
	800	680	MC-CV08080-01	MC-CV08080-00	998			
MCM10	100	—	MC-CV10010-01	MC-CV10010-00	308	66.5	110	3.6
	150	—	MC-CV10015-01	MC-CV10015-00	358			
	200	70	MC-CV10020-01	MC-CV10020-00	408			
	250	—	MC-CV10025-01	MC-CV10025-00	458			
	300	170	MC-CV10030-01	MC-CV10030-00	508			
	400	270	MC-CV10040-01	MC-CV10040-00	608			
	500	370	MC-CV10050-01	MC-CV10050-00	708			
	600	470	MC-CV10060-01	MC-CV10060-00	808			
	700	570	MC-CV10070-01	MC-CV10070-00	908			
	800	670	MC-CV10080-01	MC-CV10080-00	1 008			
	900	—	MC-CV10090-01	MC-CV10090-00	1 108			
	1 000	870	MC-CV10100-01	MC-CV10100-00	1 208			

The dimensions of cover shown above do not include the head height of fixing machine screws. Add the head of machine screws of approximately 2.5 mm to the outer measurement of a cover unit. Set a margin for mechanical interference with surrounding components.
*1 When using sensor unit, full-cover unit cannot be used.
** A cover mounting plate is not used for MCM06.

chanhvinh.com

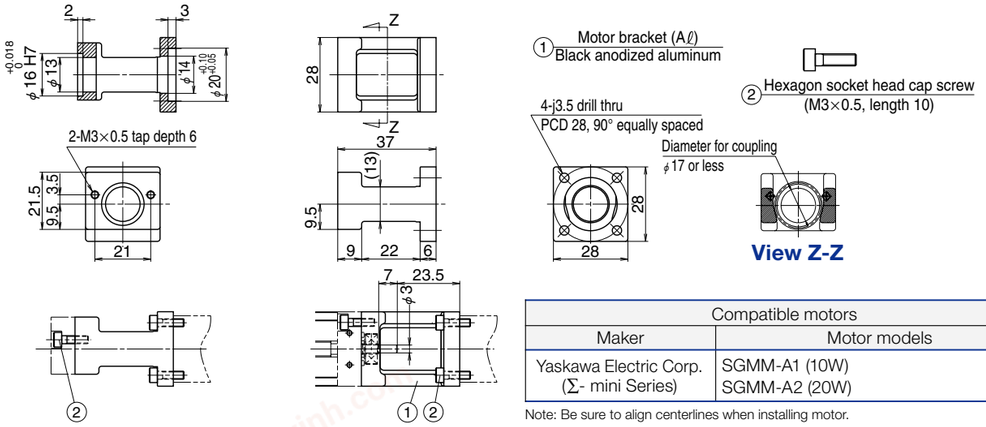
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM02

Part number

MC-BK02-128-00

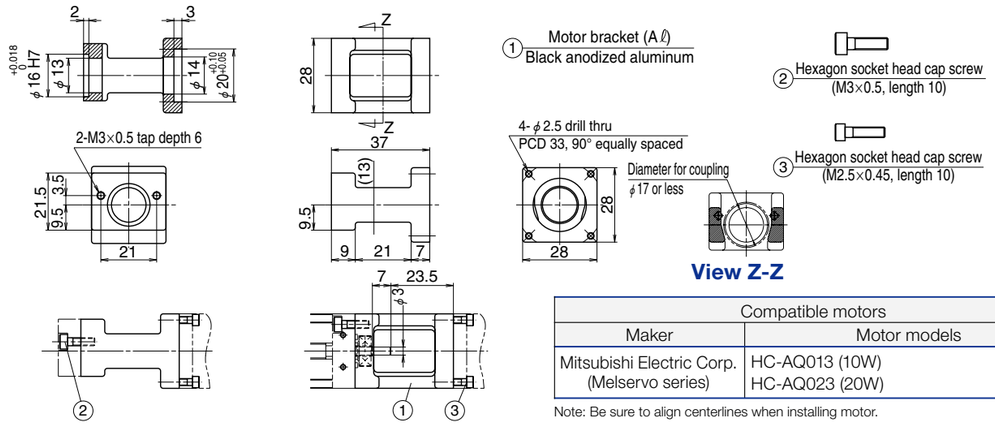


Compatible motors	
Maker	Motor models
Yaskawa Electric Corp. (Σ- mini Series)	SGMM-A1 (10W) SGMM-A2 (20W)

Note: Be sure to align centerlines when installing motor.

Part number

MC-BK02-133-00

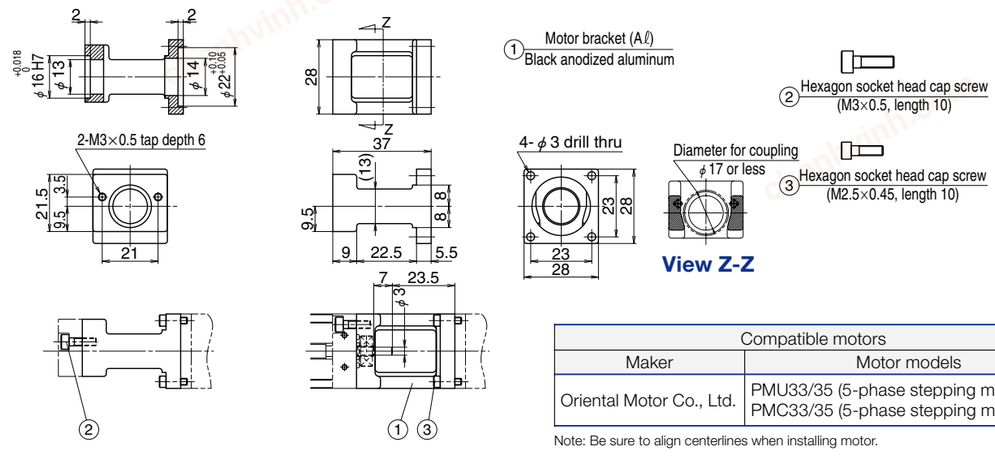


Compatible motors	
Maker	Motor models
Mitsubishi Electric Corp. (Melservo series)	HC-AQ013 (10W) HC-AQ023 (20W)

Note: Be sure to align centerlines when installing motor.

Part number

MC-BK02-223-00



Compatible motors	
Maker	Motor models
Oriental Motor Co., Ltd.	PMU33/35 (5-phase stepping motor) PMC33/35 (5-phase stepping motor)

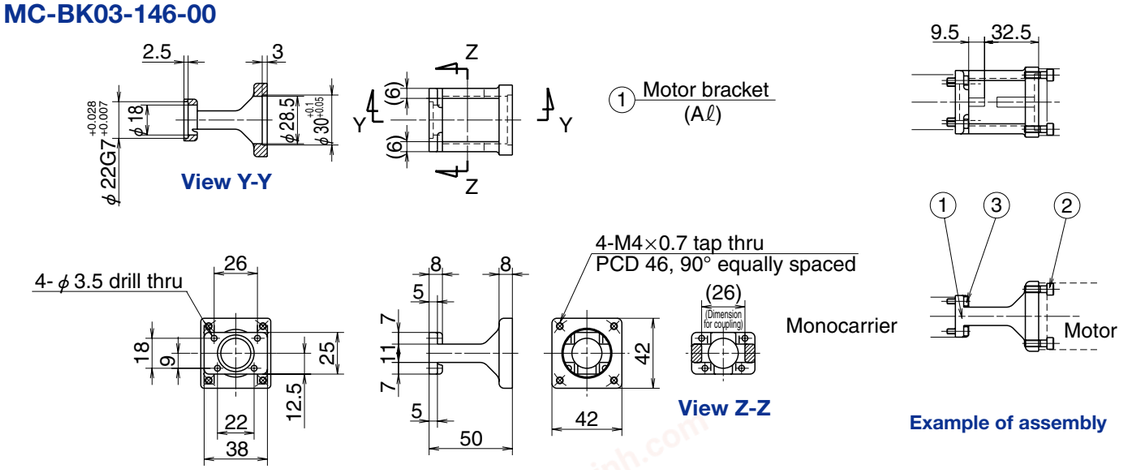
Note: Be sure to align centerlines when installing motor.

Accessories

Motor Bracket for MCM03

Part number

MC-BK03-146-00



② Hexagon socket head cap screw (M4, length 12)

③ Hexagon socket head cap screw (M3, length 10)

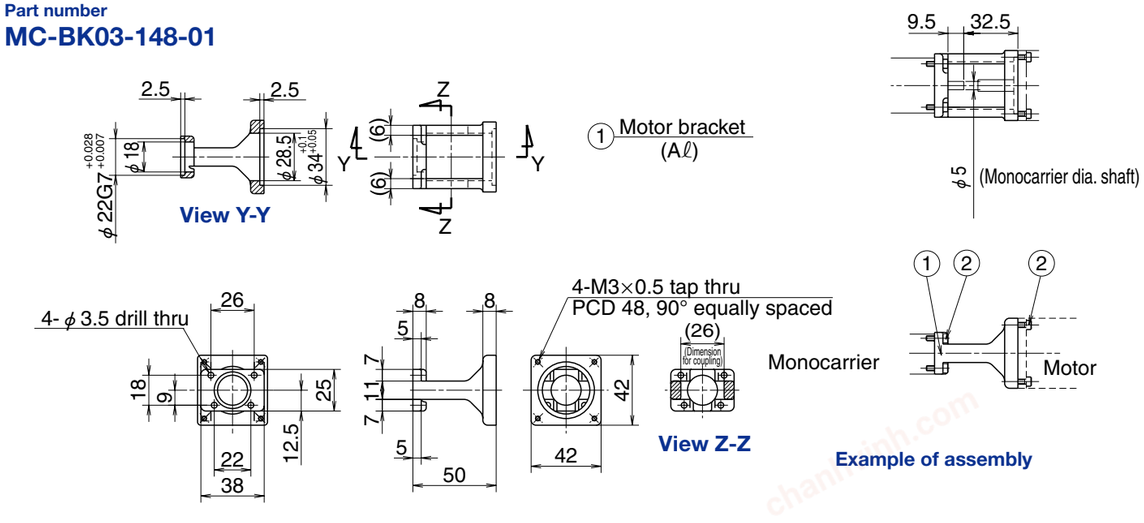
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-A3 (30W), SGMAH-A5 (50W), SGMAS-A5A (50W), SGMAH-01 (100W), SGMAS-01A (100W)
Mitsubishi Electric Corp.	HF-KP053 (50W), HF-MP053 (50W), HC-KFS053 (50W), HC-MFS053 (50W), HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
OMRON Corp.	R88M-W03 (30W), R88M-W05 (50W), R88M-W10 (100W)
Sanyo Denki Co., Ltd.	P30B04003 (30W), P30B04005 (50W), P30B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: As the bracket is made by sand casting, the external dimensions are for reference only.

Motor Bracket for MCM03

Part number

MC-BK03-148-01



② Hexagon socket head cap screw (M3, length 10)

Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	P50B04006 (60W), P50B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: As the bracket is made by sand casting, the external dimensions are for reference only.

chanhvinh.com

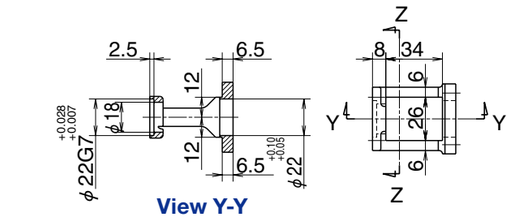
Motor Bracket for MCM Series

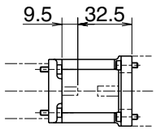
Accessories

Motor Bracket for MCM03

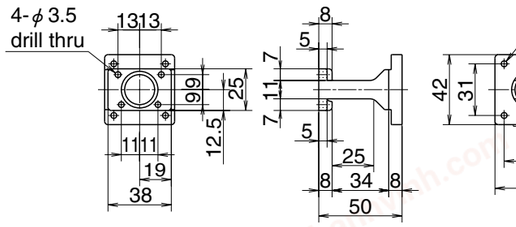
Part number

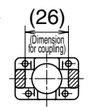
MC-BK03-231-00



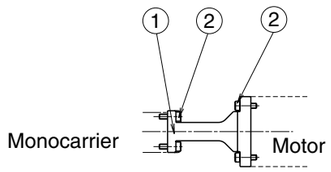


① Motor bracket (Aℓ)





View Z-Z



Example of assembly

② Hexagon socket head cap screw (M3, length 10)

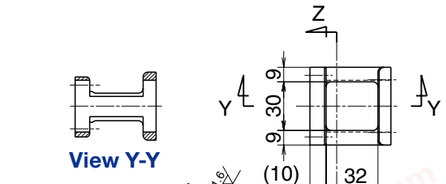
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM423xxx, 103F55xx
Oriental Motor Co., Ltd.	AS46, ASC46, UPK54x, PK54x, CSK54x, CFK54x, UMK24x, CSK24x, PK24x

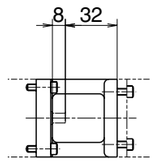
Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM05

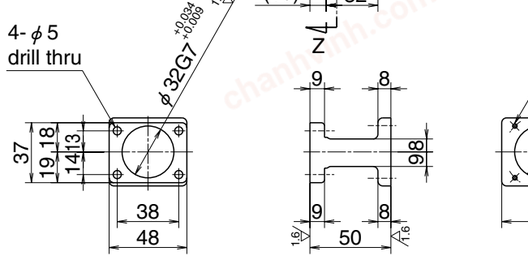
Part number

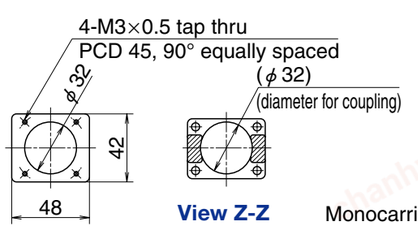
MC-BK05-145-00



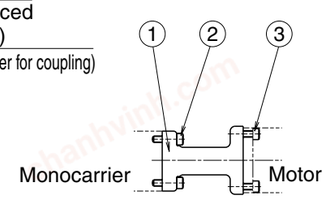


① Motor bracket (Aℓ)





View Z-Z



② Hexagon socket head cap screw (M4, length 15)

③ Hexagon socket head cap screw (M3, length 12)

Compatible motors	
Maker	Motor models
Matsushita Electric Co., Ltd.	MSMD5A (50W), MSMD01 (100W)

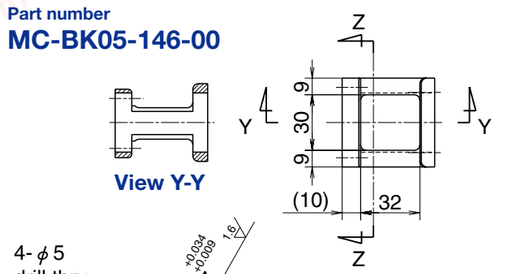
Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Accessories

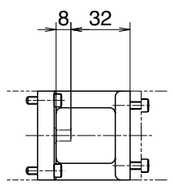
Motor Bracket for MCM05

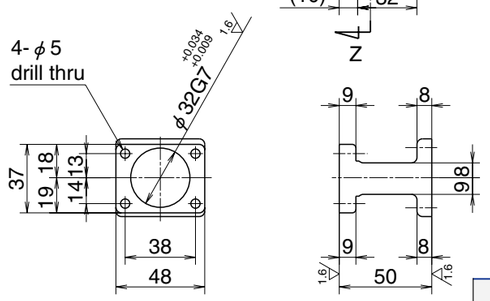
Part number

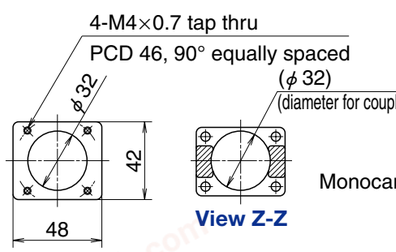
MC-BK05-146-00



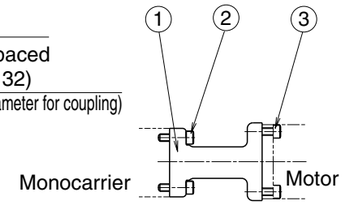
① Motor bracket (Aℓ)







View Z-Z



② Hexagon socket head cap screw (M4, length 15)

③ Hexagon socket head cap screw (M4, length 12)

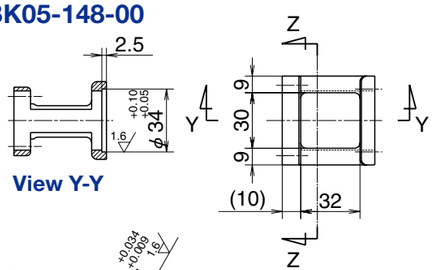
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-A3 (30W), SGMAH-A5 (50W), SGMAS-A5A (50W), SGMAH-01 (100W), SGMAS-01A (100W)
Mitsubishi Electric Corp.	HF-KP053 (50W), HF-MP053 (50W), HC-KFS053 (50W), HC-MFS053 (50W), HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
OMRON Corp.	R88M-W03 (30W), R88M-W05 (50W), R88M-W10 (100W)
Sanyo Denki Co., Ltd.	P30B04003 (30W), P30B04005 (50W), P30B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

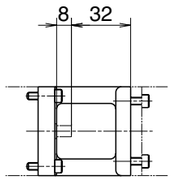
Motor Bracket for MCM05

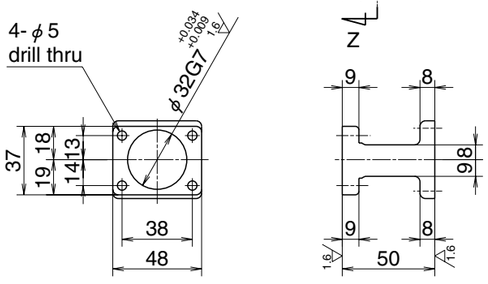
Part number

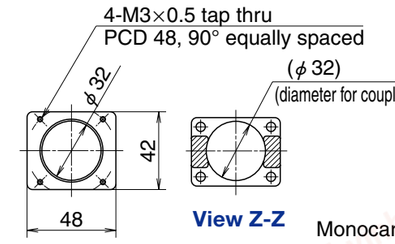
MC-BK05-148-00



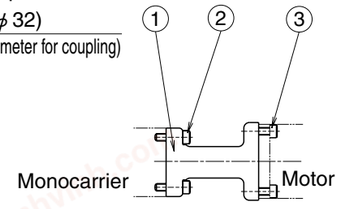
① Motor bracket (Aℓ)







View Z-Z



② Hexagon socket head cap screw (M4, length 15)

③ Hexagon socket head cap screw (M3, length 12)

Compatible motors	
Maker	Motor models
Matsushita Electric Co., Ltd.	MAMA01 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

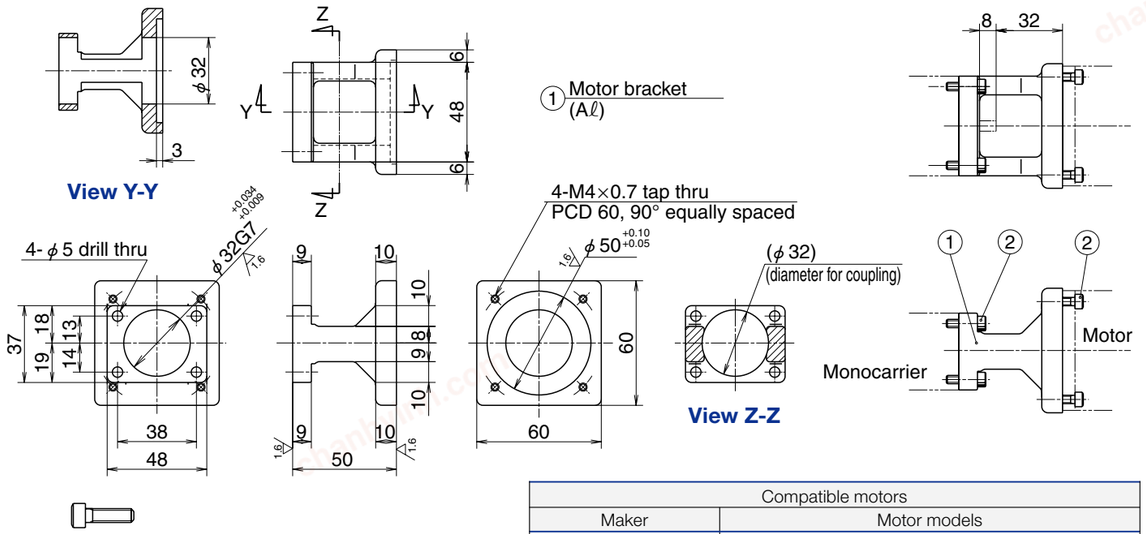
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM05

Part number

MC-BK05-160-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 15)

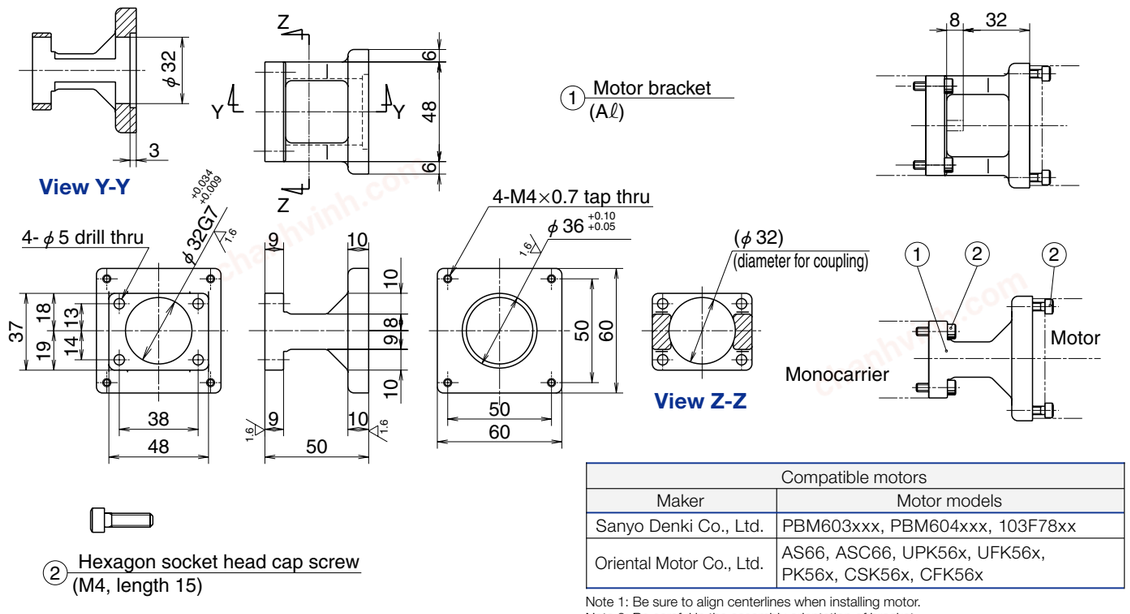
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	P50B05005 (50W), P50B05010 (100W), P50B05020 (200W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM05

Part number

MC-BK05-250-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 15)

Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM603xxx, PBM604xxx, 103F78xx
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56x, UFK56x, PK56x, CSK56x, CFK56x

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

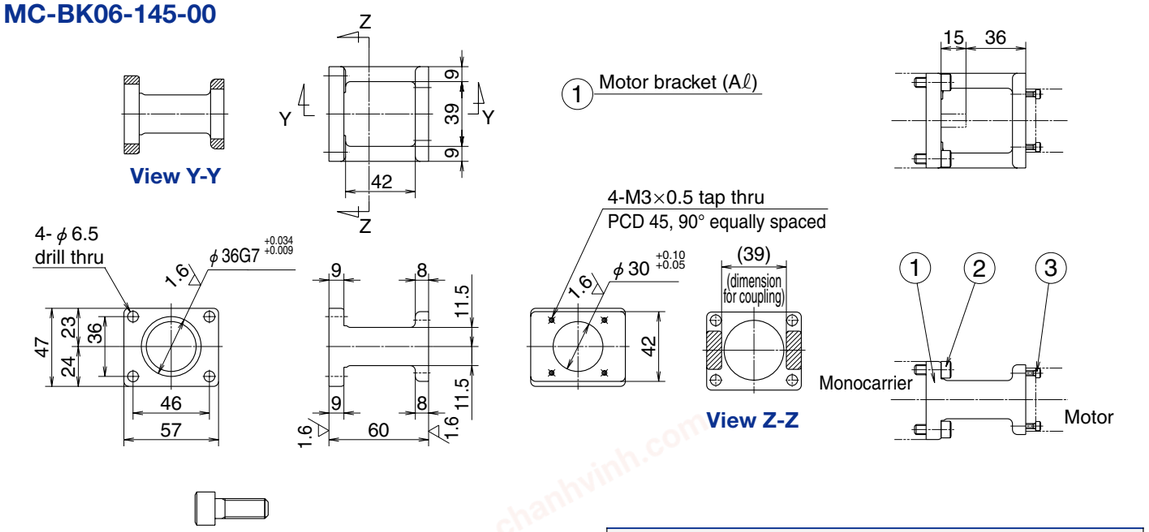
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM06

Part number

MC-BK06-145-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M6, length 16)

③ Hexagon socket head cap screw (M3, length 12)

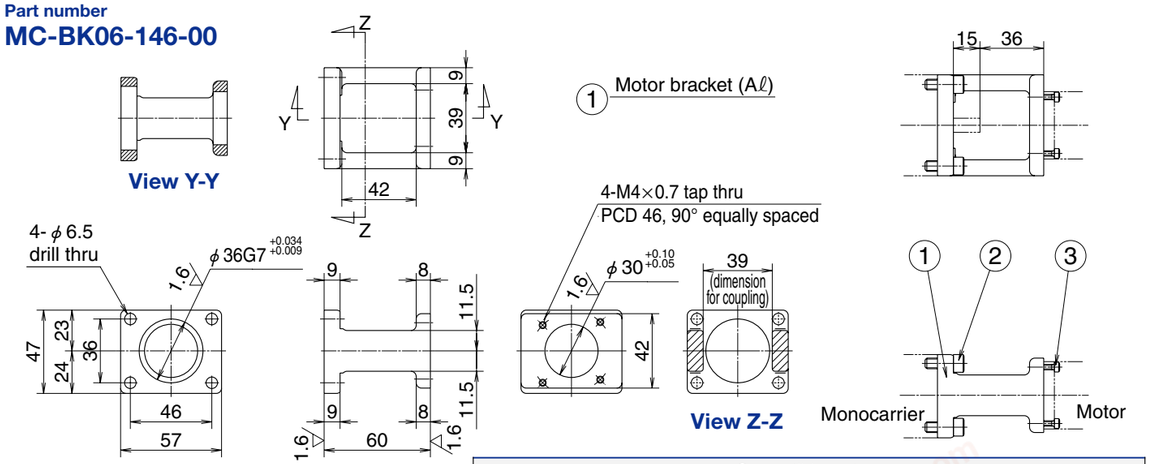
Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD5A (50W), MSMD01 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM06

Part number

MC-BK06-146-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M6, length 16)

③ Hexagon socket head cap screw (M4, length 12)

Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-A5 (50W), SGMAH-01 (100W) SGMAS-A5A (50W), SGMAS-01A (100W), SGMAS-C2A (150W)
Mitsubishi Electric Corp.	HF-KP053 (50W), HF-MP053 (50W), HC-KFS053 (50W), HC-MFS053 (50W), HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
OMRON Corp.	R88M-W03 (30W), R88M-W05 (50W), R88M-W10 (100W)
Sanyo Denki Co., Ltd.	P30B04003 (30W), P30B04005 (50W), P30B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

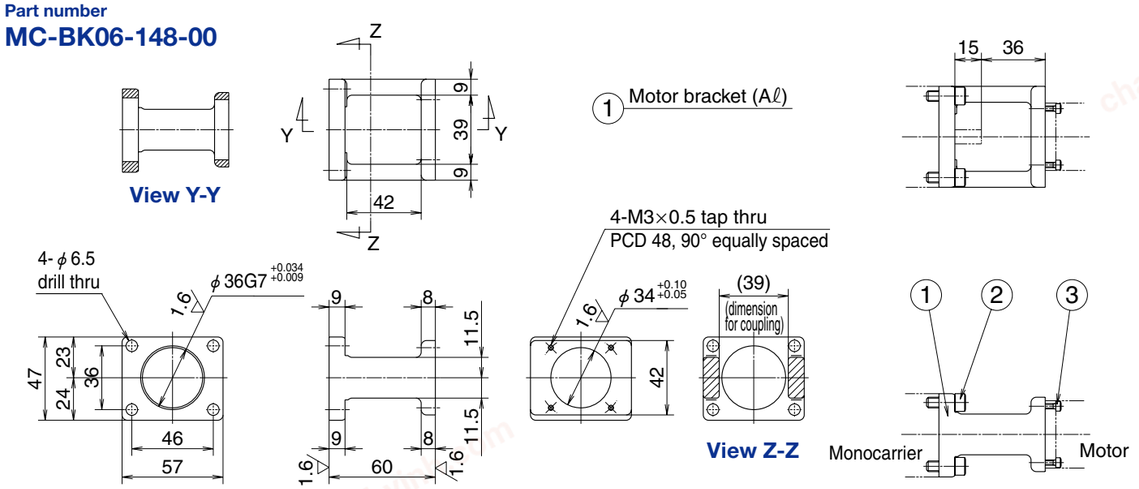
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM06

Part number

MC-BK06-148-00



2 Hexagon socket head cap screw (M6, length 16)

3 Hexagon socket head cap screw (M3, length 12)

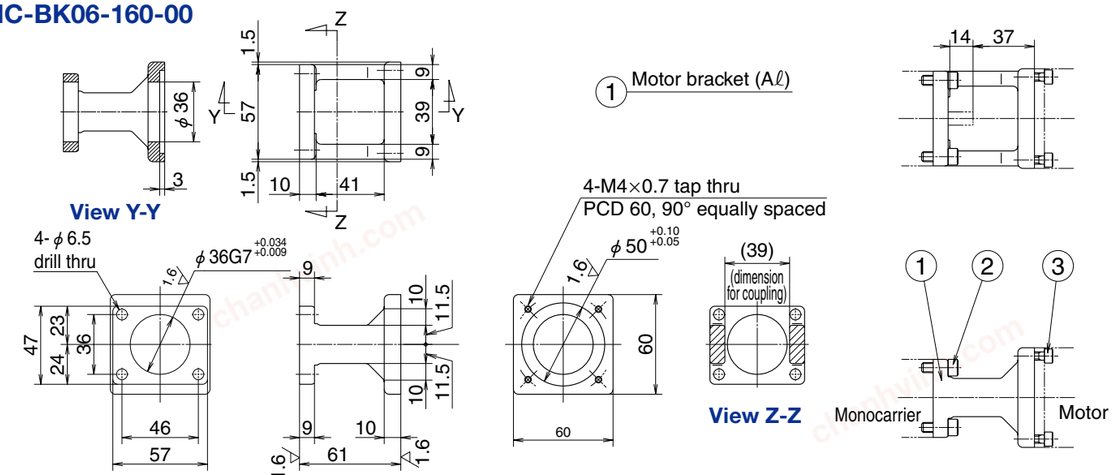
Compatible motors	
Maker	Motor models
Matsushita Electric Co., Ltd.	MAMA01 (100W)
Sanyo Denki Co., Ltd.	P50B04006 (60W), P50B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM06

Part number

MC-BK06-160-00



2 Hexagon socket head cap screw (M6, length 16)

3 Hexagon socket head cap screw (M4, length 14)

Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	P50B05005 (50W), P50B05010 (100W), P50B05020 (200W)

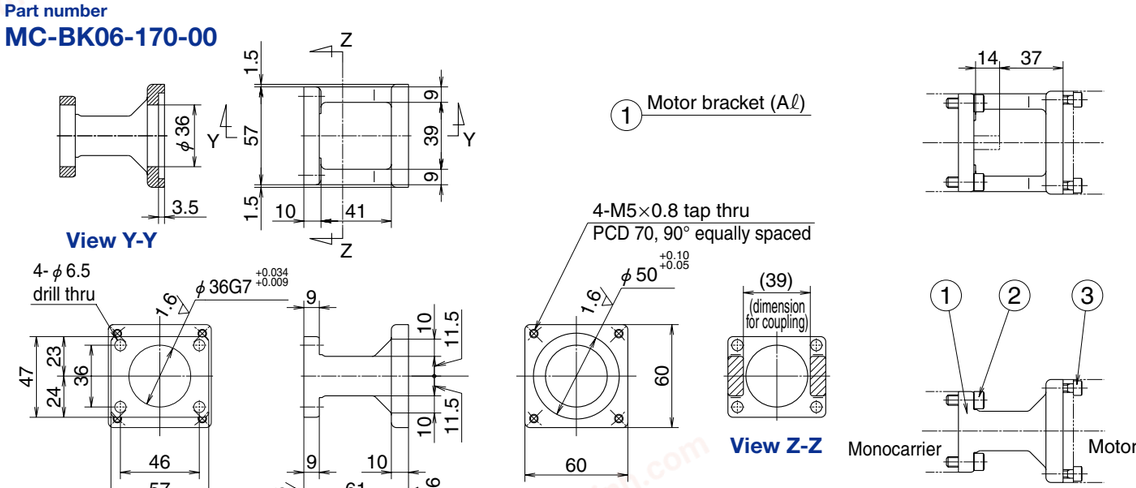
Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Accessories

Motor Bracket for MCM06

Part number

MC-BK06-170-00



2 Hexagon socket head cap screw (M6, length 16)

3 Hexagon socket head cap screw (M5, length 14)

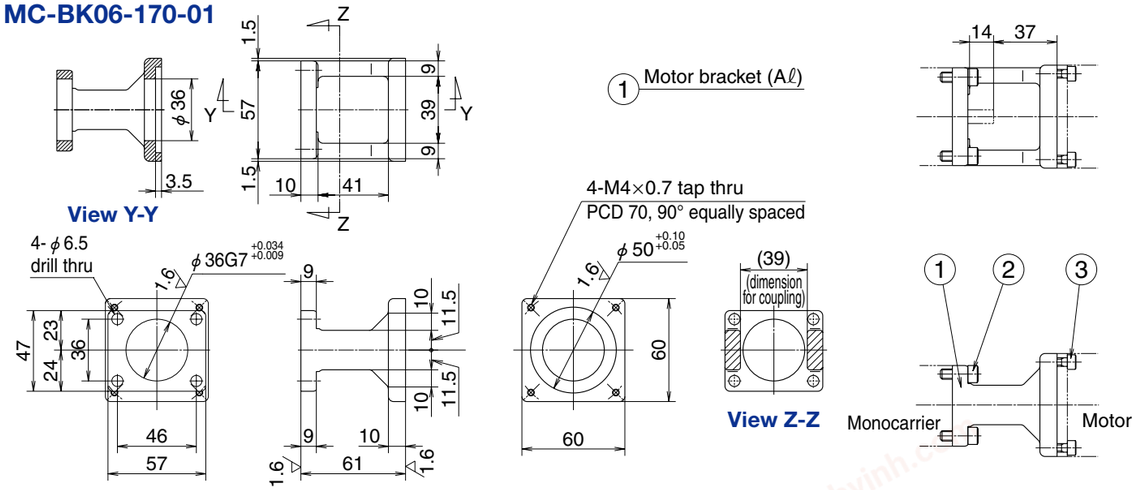
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-02 (200W), SGMAS-02A (200W), SGMAH-04 (400W), SGMAS-04A (400W)
Mitsubishi Electric Corp.	HF-KP23 (200W), HF-MP23 (200W), HF-KP43 (400W), HF-MP43 (400W)
OMRON Corp.	R88M-W20 (200W), R88M-W40 (400W)
Sanyo Denki Co., Ltd.	P30B06020 (200W), P30B06040 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM06

Part number

MC-BK06-170-01



2 Hexagon socket head cap screw (M6, length 16)

3 Hexagon socket head cap screw (M4, length 14)

Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD02 (200W), MAMA02 (200W), MSMD04 (400W), MAMA04 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

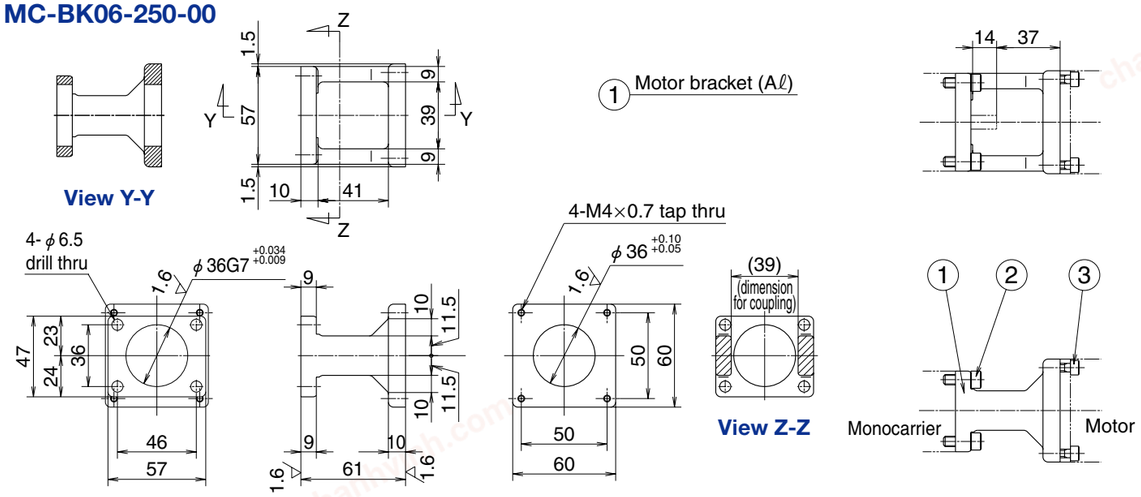
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM06

Part number

MC-BK06-250-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M6, length 16)

③ Hexagon socket head cap screw (M4, length 14)

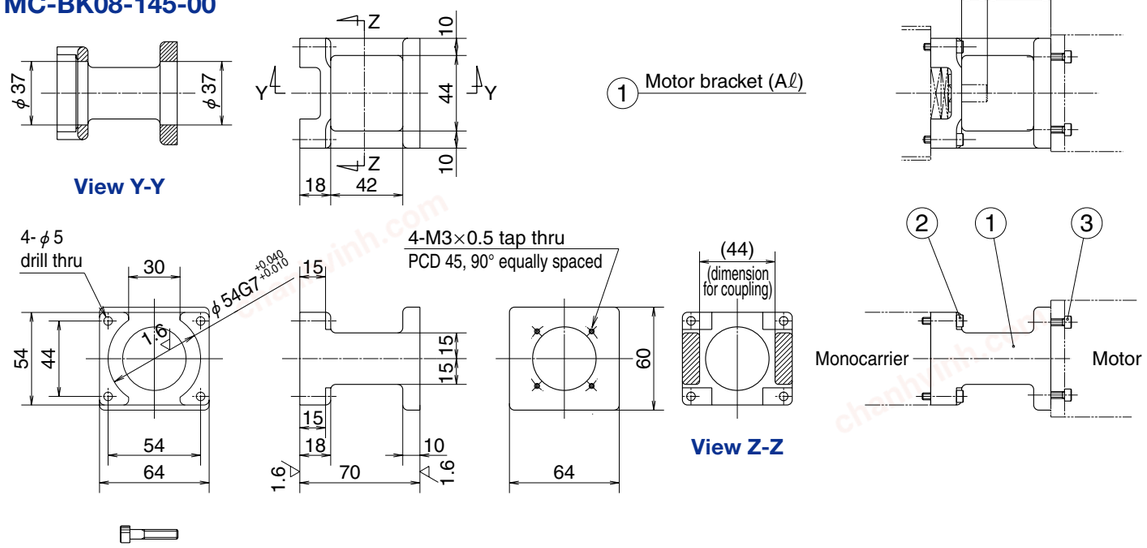
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM603xxx, PBM604xxx, 103F78xx
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56x, PK56x, CSK56x, CFK56x, UFK56x

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM08

Part number

MC-BK08-145-00



② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M3, length 12)

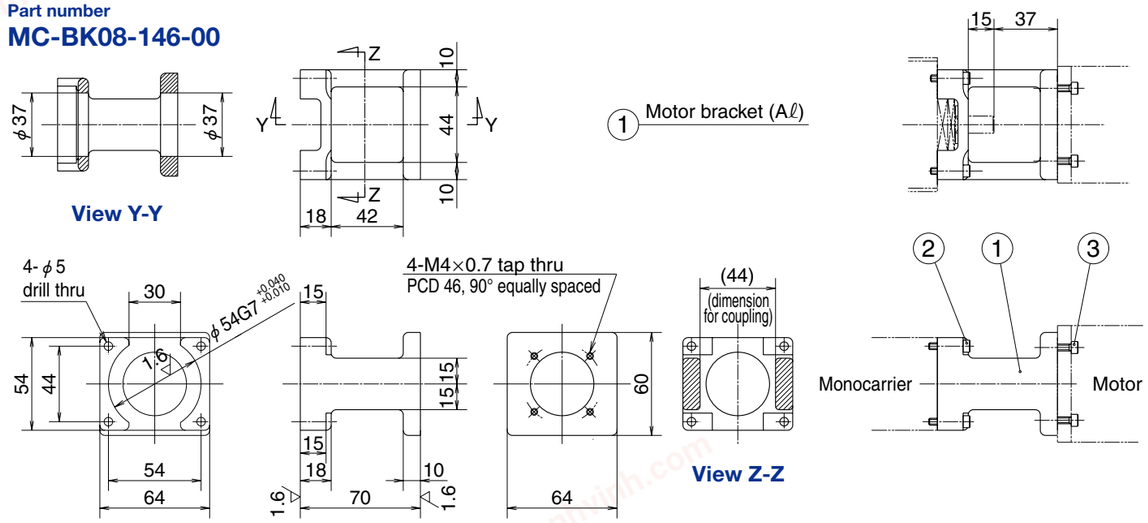
Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD01 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM08

Part number

MC-BK08-146-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M4, length 14)

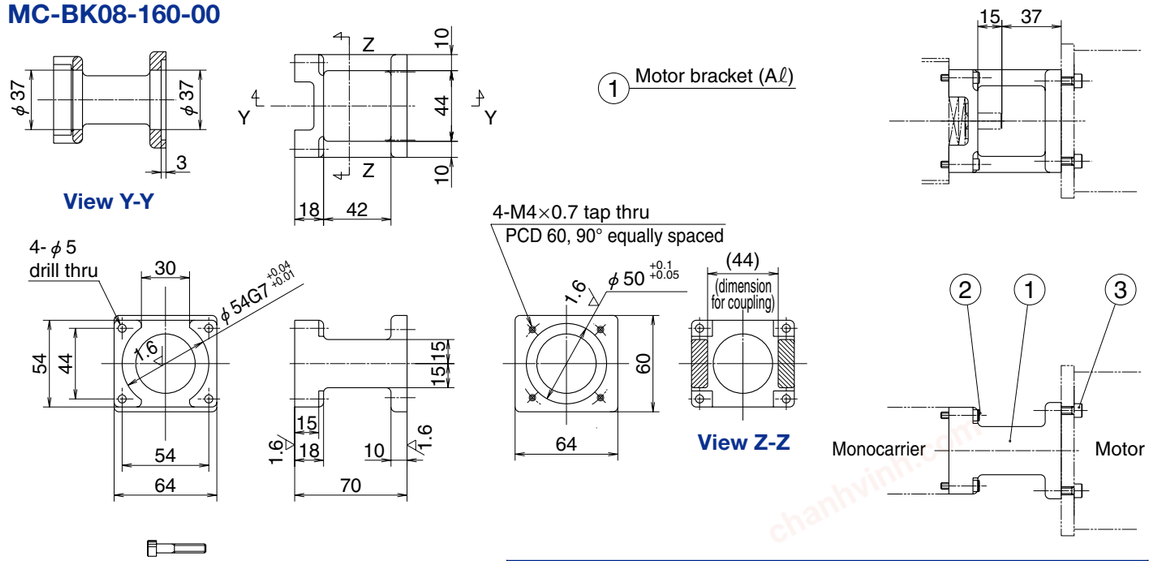
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-01 (100W), SGMAS-01A (100W), SGMAS-C2A (150W)
Mitsubishi Electric Corp.	HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
Sanyo Denki Co., Ltd.	P30B04003 (30W), P30B04005 (50W), P30B04010 (100W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM08

Part number

MC-BK08-160-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M4, length 14)

Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	P50B05005 (50W), P50B05010 (100W), P50B05020 (200W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

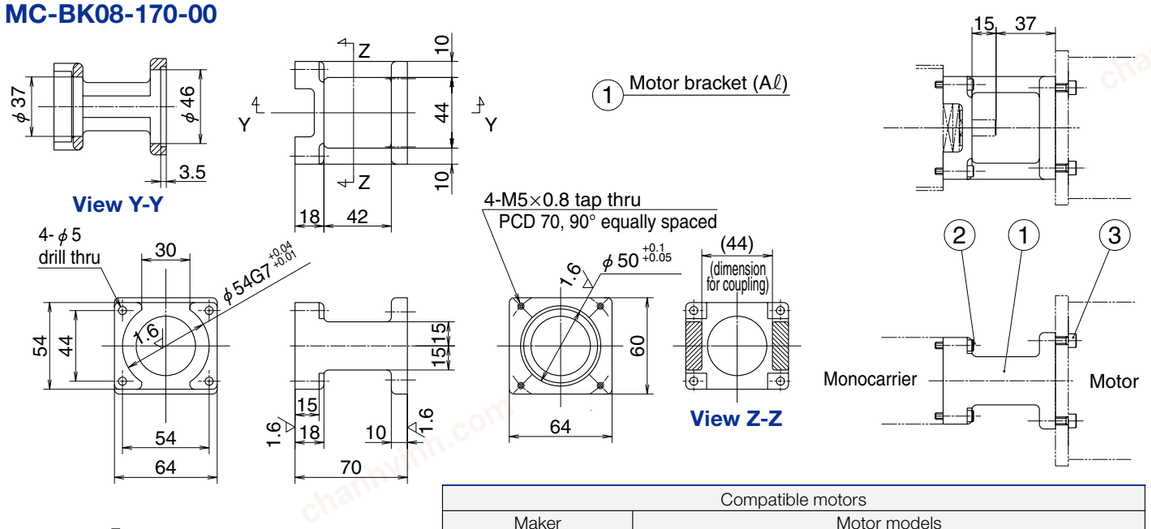
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM08

Part number

MC-BK08-170-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M5, length 14)

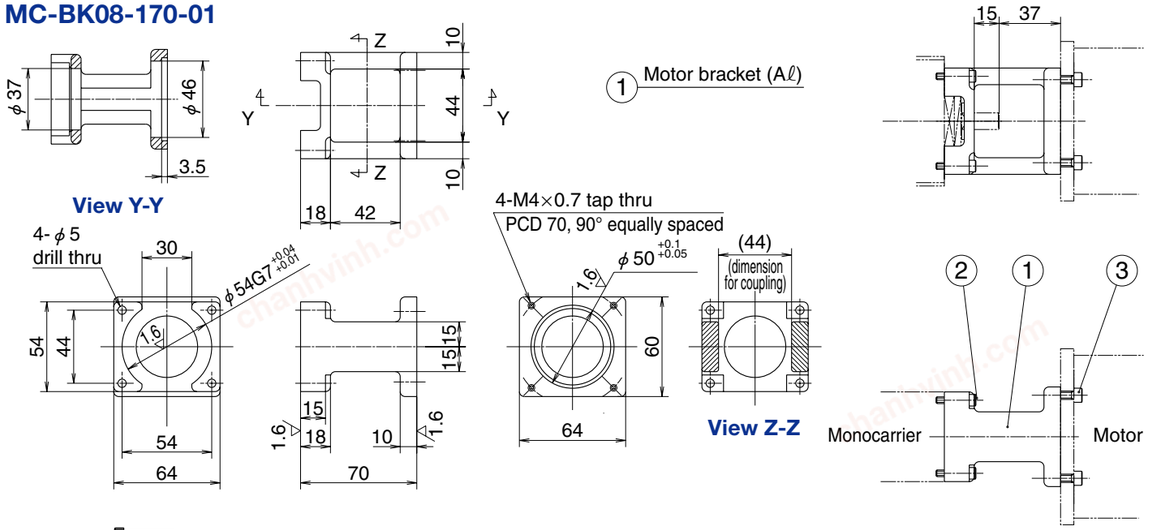
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-02 (200W), SGMAS-02A (200W), SGMAH-04 (400W), SGMAS-04A (400W)
Mitsubishi Electric Corp.	HF-KP23 (200W), HF-MP23 (200W), HF-KP43 (400W), HF-MP43 (400W)
OMRON Corp.	R88M-W20 (200W), R88M-W40 (400W)
Sanyo Denki Co., Ltd.	P30B06020 (200W), P30B06040 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM08

Part number

MC-BK08-170-01



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M4, length 14)

Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD02 (200W), MAMA02 (200W), MSMD04 (400W), MAMA04 (400W)

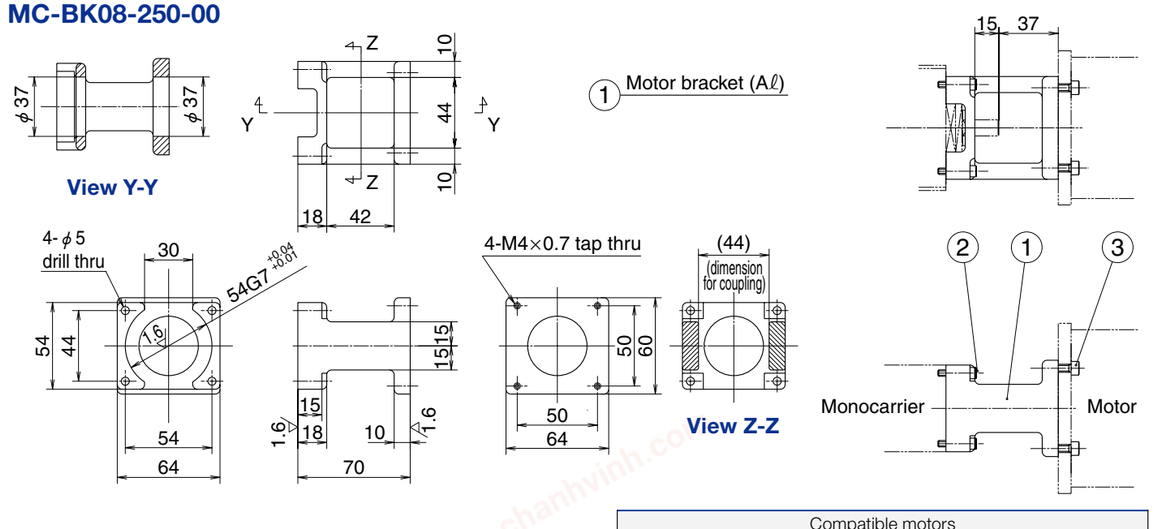
Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Accessories

Motor Bracket for MCM08

Part number

MC-BK08-250-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 20)

③ Hexagon socket head cap screw (M4, length 14)

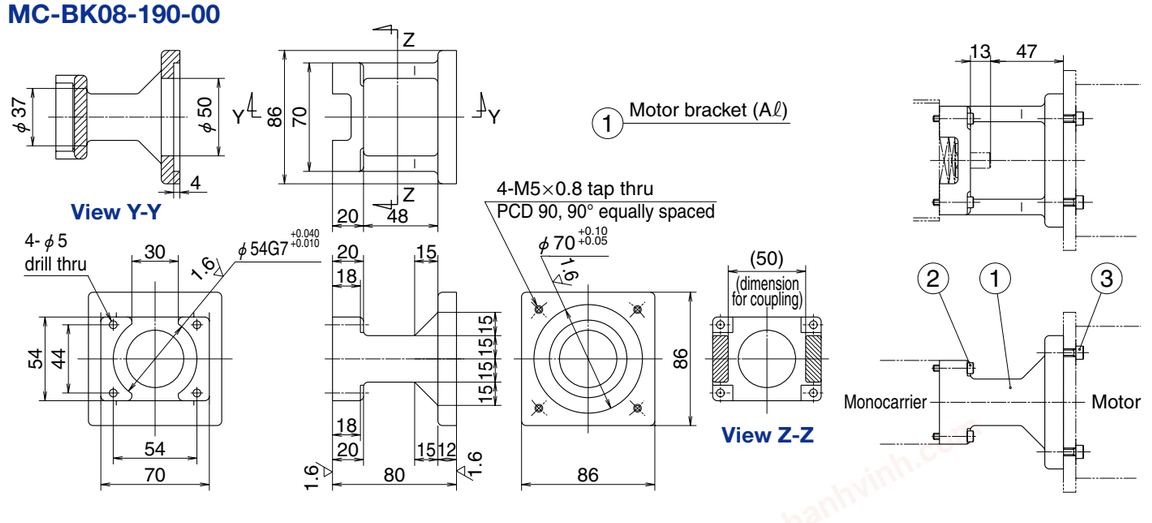
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM603xxx, PBM604xxx, 103F78xx
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56xx, PK56xx, CSK56x, CFK56x, UFK56x

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM08

Part number

MC-BK08-190-00



① Motor bracket (Aℓ)

② Hexagon socket head cap screw (M4, length 22)

③ Hexagon socket head cap screw (M5, length 16)

Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	P50B07020 (200W), P50B07030 (300W), P50B07040 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

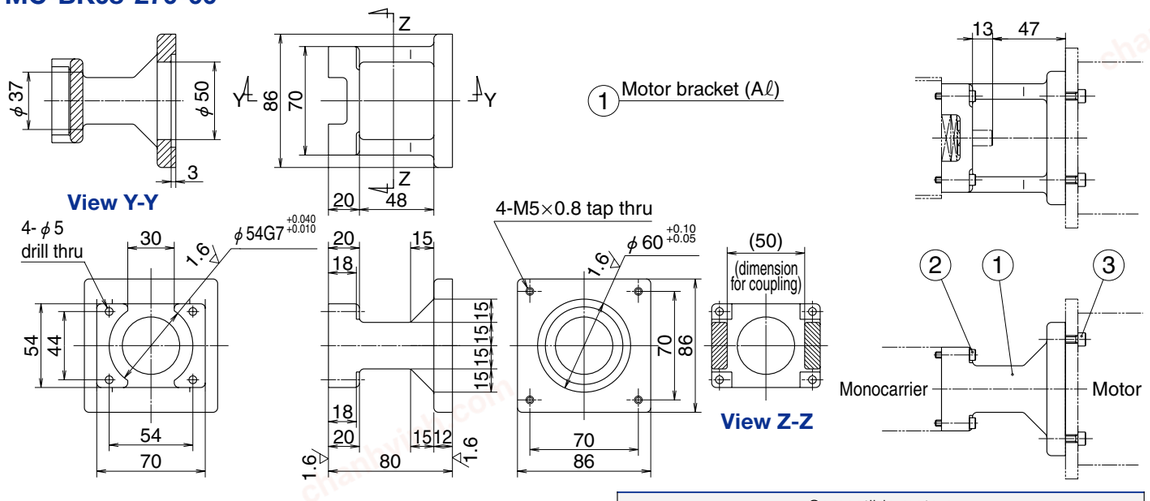
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM08

Part number

MC-BK08-270-00



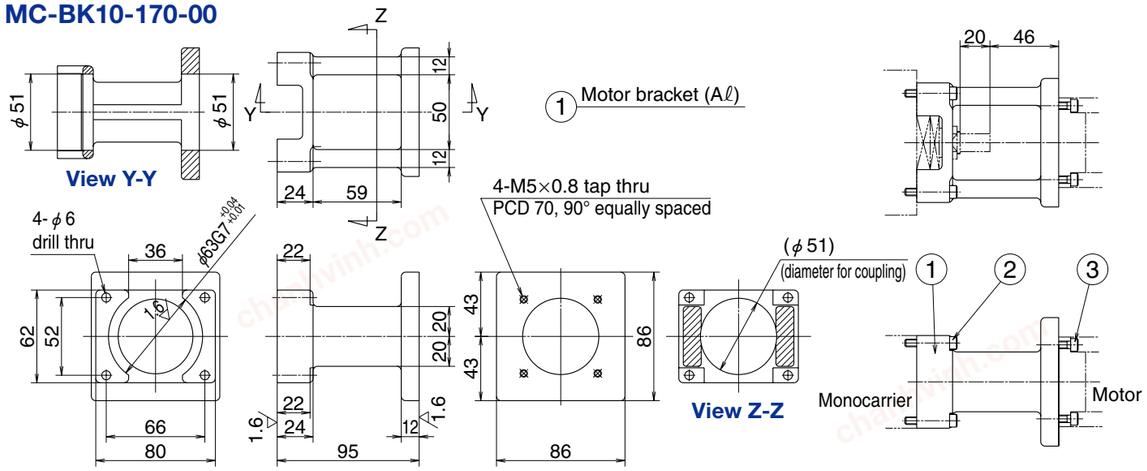
Compatible motors	
Maker	Motor models
Oriental Motor Co., Ltd.	AS98, UPK59x, PK59x, CSK59x, CFK59x, UFK59x
Sanyo Denki Co., Ltd.	103F85xx

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM10

Part number

MC-BK10-170-00



Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-02 (200W), SGMAS-02A (200W), SGMAH-04 (400W), SGMAS-04A (400W)
Mitsubishi Electric Corp.	HF-KP23 (200W), HF-MP23 (200W), HF-KP43 (400W), HF-MP43 (400W)
OMRON Corp.	R88M-W20 (200W), R88M-W40 (400W)
Sanyo Denki Co., Ltd.	P30B06020 (200W), P30B06040 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

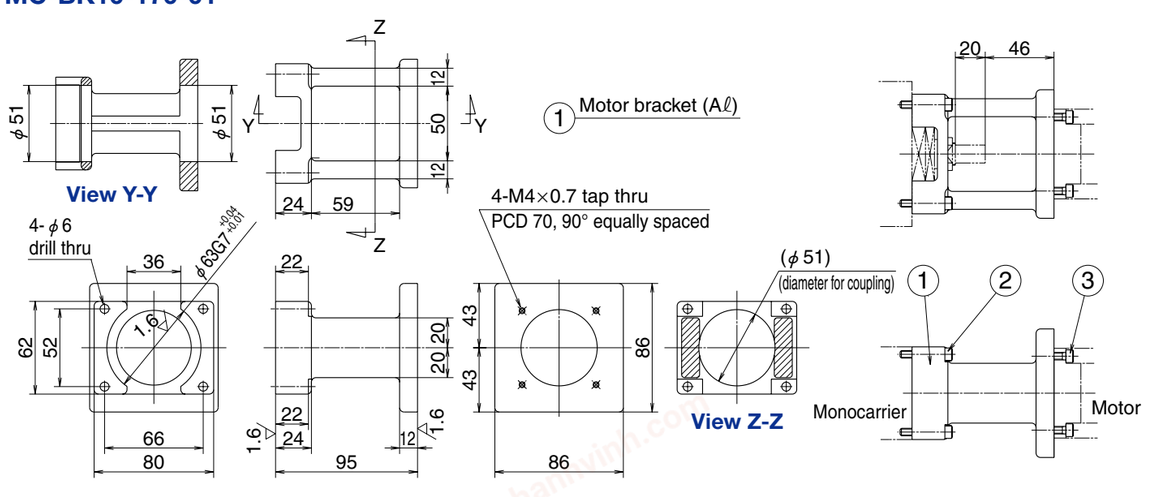
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM10

Part number

MC-BK10-170-01



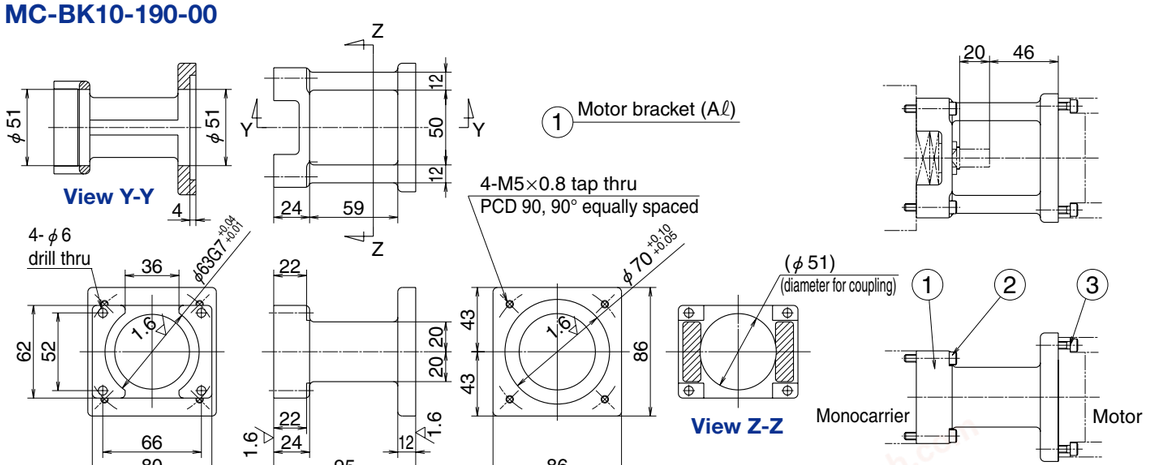
Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD02 (200W), MAMA02 (200W), MSMD04 (400W), MAMA04 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

Motor Bracket for MCM10

Part number

MC-BK10-190-00



Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD08 (750W), MAMA08 (750W)
Sanyo Denki Co., Ltd.	P50B07020 (200W), P50B07030 (300W), P50B07040 (400W)

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

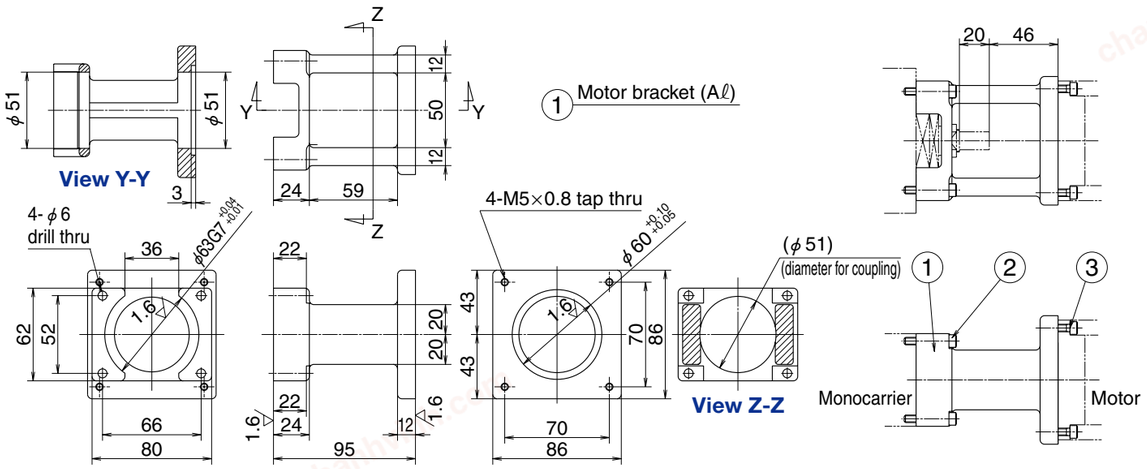
Motor Bracket for MCM Series

Accessories

Motor Bracket for MCM10

Part number

MC-BK10-270-00



Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	103F85xx
Oriental Motor Co., Ltd.	AS98, UPK59x, PK59x, CSK59x, CFK59x, UFK59x

Note 1: Be sure to align centerlines when installing motor.
Note 2: Be careful in the assembly orientation of bracket.
Note 3: Because bracket is made by sand casting, external dimensions are for reference only.

chanhvinh.com

Monocarriers MCH Series

Part Number for MCH Series

Body

Example: **MC H 06 040 H 10 K (B0)** *1

- MC: Monocarrier
- H: H Type: MCH Series; L Type: MCH Series low-profile rail (only for 06 size)
- 06: Nominal size (rail width, unit: 10 mm)
- 040: Stroke (unit: 10 mm)
- H: Accuracy grade (H: High grade)
- 10: Ball screw lead (mm)
- K: Slider specification K: Single slider, D: Double slider
- (B0): Special specification; B: Grease specification: B (LG2)

*1 These two code fields are added when non-standard grease is used. Coding of MCH Monocarrier with standard grease has 12 characters, as shown above.

With Accessories

Example: **MC S 06 040 H 10 K 0 0 K 0 0 0**

- S: With MCH accessories
- R: With MCL accessories
- K: NSK control code
- 0: Sensor unit
- 0: Cover unit
- 0: Motor bracket

Note: Accessories are available separately.

Sensor unit (see page 293)

Part number code	Specification	Part number
0	N/A	—
1	Proximity switch (b-contact 3 peices)	MC—SRH**—10
2	Proximity switch (a-contact 3 peices)	MC—SRH**—11
3	Proximity switch (a-contact 1 peice, b-contact 2 pieces)	MC—SRH**—12
4	Photo sensor 3 pieces	MC—SRH**—13

**: Part number
Note: Sensor rail is not included in sensor unit. If you require the rail, please specify upon ordering. (see pages 293 to 294)

Cover unit (see pages 295 – 297)

Part number code	Specification	Part number
0	N/A	—
1	For single slider	MC—HV*****—00
	For double slider	MC—HV*****D00

*****: Part number and stroke number

Motor bracket (see pages 299 – 301)

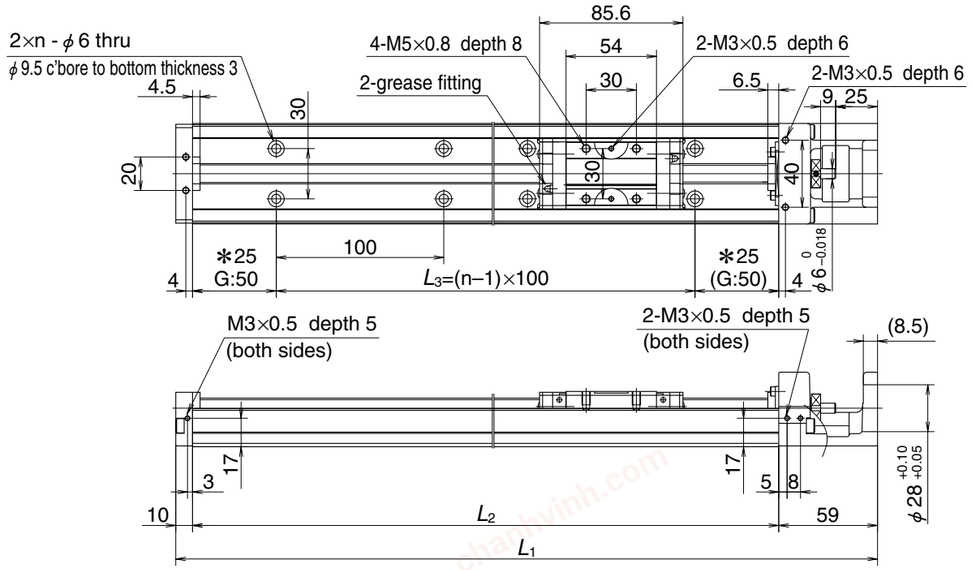
Part number code	Type		
	MCH06 (MCL06)	MCH09	MCH10
0	N/A	N/A	N/A
1	**MC-BKH06-145-00**	**MC-BKH09-145-00**	**MC-BKH10-170-00**
2	**MC-BKH06-146-00**	**MC-BKH09-146-00**	**MC-BKH10-170-01**
3	**MC-BKH06-231-00**	**MC-BKH09-170-00**	**MC-BKH10-190-00**
4	**MC-BKH06-250-00**	**MC-BKH09-170-01**	**MC-BKH10-190-01**
5	—	**MC-BKH09-231-00**	**MC-BKH10-250-00**
6	—	**MC-BKH09-250-00**	**MC-BKH10-270-00**

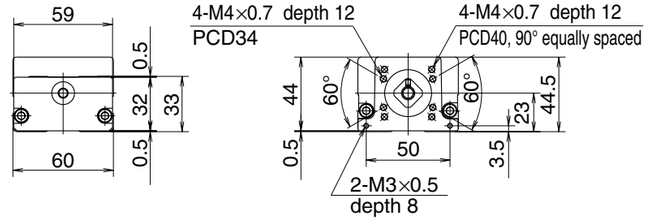
N/A: Not applicable

MCH Series Dimension Table

MCL06

Accuracy grade: High grade (H)





- Rail of MCL 06 is made lighter than that of MCH 06 by lowering rail height. Weight ratio between MCH 06 and MCL 06 is 5 to 4.
- Double slider specification is also available for MCL 06.
- Combinations of stroke and ball screw lead of MCL 06 are same as those of MCH 06.

Dimensions of MCL06 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	n	Inertia $\times 10^{-6}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
∗MCL06005H05K	50	53 (65)	5	219	150	100	2	2.38	1.0	250
∗MCL06005H10K			10					3.45		500
MCL06010H05K	100	103 (115)	5	269	200	100	2	3.17	1.3	250
MCL06010H10K			10					4.12		500
MCL06020H05K	200	203 (215)	5	369	300	200	3	4.51	1.9	250
MCL06020H10K			10					5.46		500
MCL06030H10K	300	303 (315)	10	469	400	300	4	6.80	2.6	500
MCL06030H20K			20					10.6		1 000
MCL06040H10K	400	403 (415)	10	569	500	400	5	8.13	3.2	500
MCL06040H20K			20					11.9		1 000
MCL06050H10K	500	503 (515)	10	669	600	500	6	9.47	3.9	500
MCL06050H20K			20					13.3		1 000

Dimension of G is 25 instead of 50 for items marked with ∗.

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.0 – 4.8
	10	1.1 – 5.8
	20	1.6 – 7.9

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

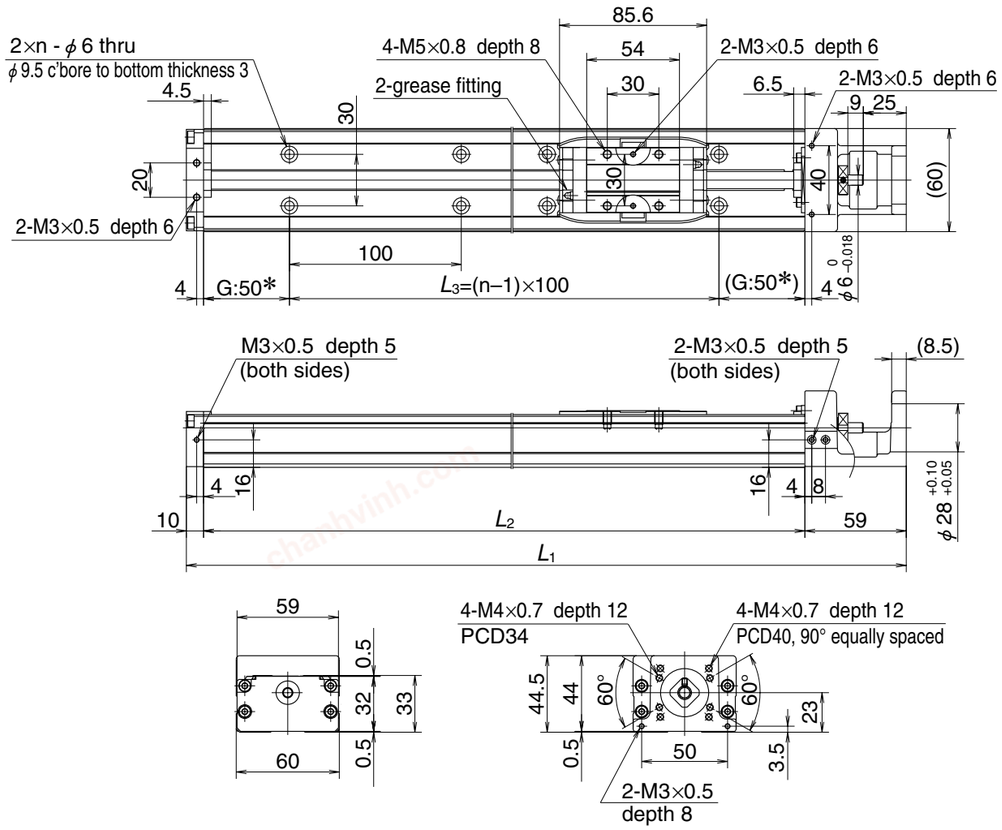
▶ For basic load ratings, see page 304.

chanhvinh.com

MCH Series Dimension Tables

MCH06

Accuracy grade: High grade (H)



Dimensions of MCH06 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	n	Inertia $\times 10^{-6}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
✻MCH06005H05K	50	53 (65)	5	219	150	100	2	2.38	1.8	250
✻MCH06005H10K			10					3.45		500
✻MCH06005H20K			20					7.25		1 000
MCH06010H05K	100	103 (115)	5	269	200	100	2	3.17	2.2	250
MCH06010H10K			10					4.12		500
MCH06010H20K			20					7.92		1 000
MCH06020H05K	200	203 (215)	5	369	300	200	3	4.51	3.0	250
MCH06020H10K			10					5.46		500
MCH06020H20K			20					9.26		1 000
MCH06030H05K	300	303 (315)	5	469	400	300	4	5.85	3.7	250
MCH06030H10K			10					6.80		500
MCH06030H20K			20					10.6		1 000
MCH06040H05K	400	403 (415)	5	569	500	400	5	7.18	4.5	250
MCH06040H10K			10					8.13		500
MCH06040H20K			20					11.9		1 000
MCH06050H05K	500	503 (515)	5	669	600	500	6	8.52	5.2	250
MCH06050H10K			10					9.47		500
MCH06050H20K			20					13.3		1 000

Dimension of G is 25 instead of 50 for items marked with ✻.

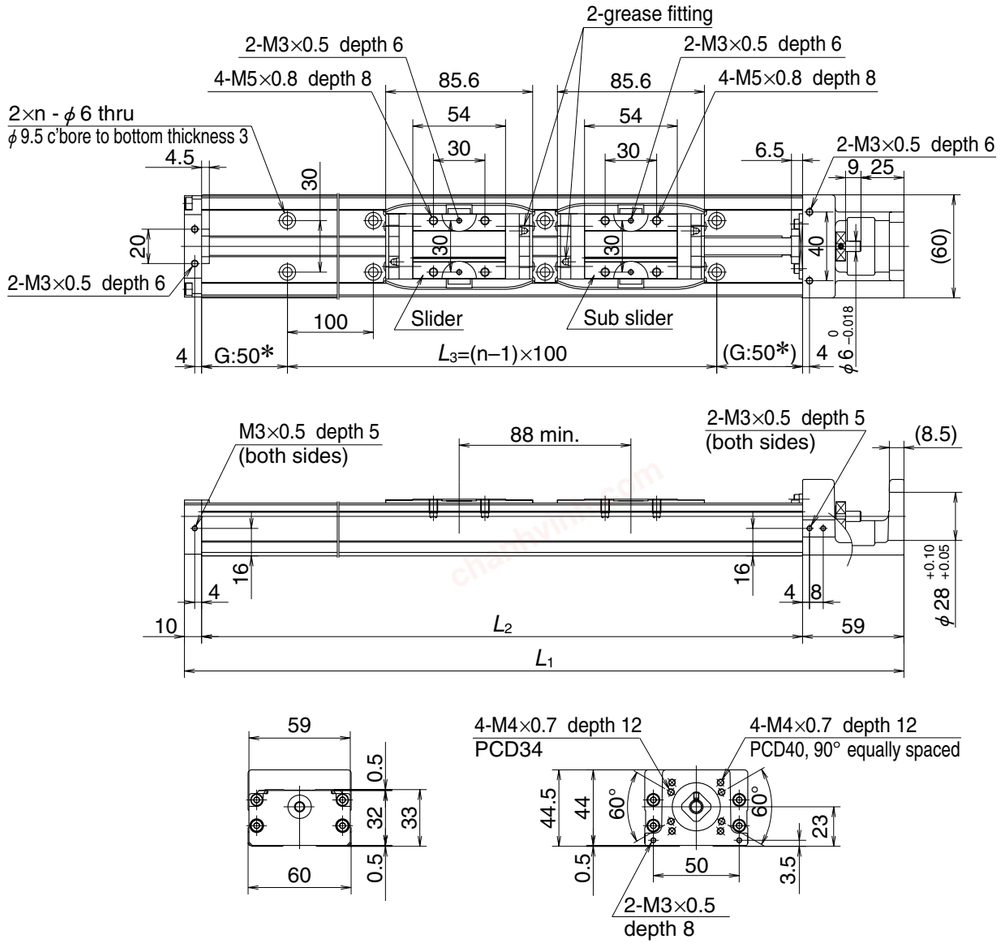
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.0 – 4.8
	10	1.1 – 5.8
	20	1.6 – 7.9

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

▶ For basic load ratings, see page 304.

MCH06 (Double Slider)

Accuracy grade: High grade (H)



Dimensions of MCH06 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	n	Inertia $\times 10^{-6}$ (kg·m^2)	Mass (kg)	Maximum rotational speed (mm/s)
MCH06010H05D	100	115 (139)	5	369	300	200	3	4.82	3.5	250
MCH06010H10D			10					6.72		500
MCH06020H05D	200	215 (239)	5	469	400	300	4	8.06	4.2	250
MCH06020H10D			10					15.7		500
MCH06030H05D	300	315 (339)	5	569	500	400	5	9.40	5.0	250
MCH06030H10D			10					17.0		500
MCH06040H10D	400	415 (439)	10	669	600	500	6	10.7	5.7	500
MCH06040H20D			20					18.3		1 000

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.2 – 5.2
	10	1.5 – 9.6
	20	2.3 – 11.8

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

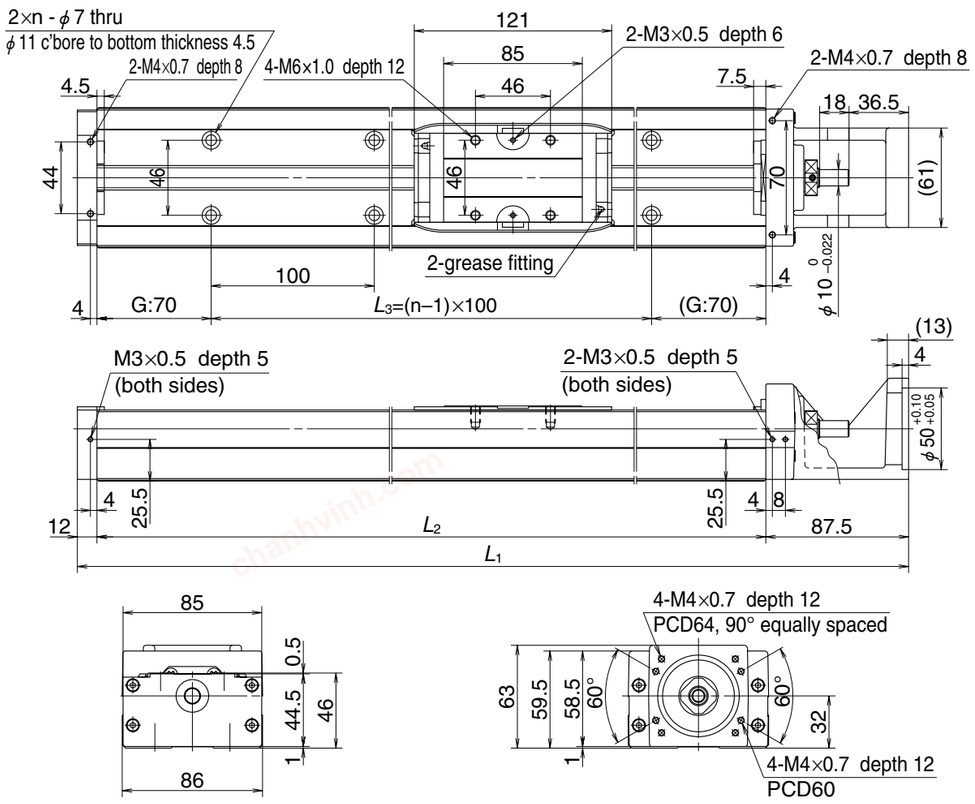
▶ For basic load ratings, see page 304.

chanhvinh.com

MCH Series Dimension Tables

MCH09

Accuracy grade: High grade (H)



Dimensions of MCH09 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	n	Inertia ×10⁻⁶ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
MCH09010H05K	100	107 (121)	5	339.5	240	100	2	9.2	5.0	250
MCH09010H10K			10					10.7		500
MCH09010H20K			20					16.8		1 000
MCH09020H05K	200	207 (221)	5	439.5	340	200	3	12.4	6.5	250
MCH09020H10K			10					13.9		500
MCH09020H20K			20					20.0		1 000
MCH09030H05K	300	307 (321)	5	539.5	440	300	4	15.6	8.1	250
MCH09030H10K			10					17.1		500
MCH09030H20K			20					23.2		1 000
MCH09040H05K	400	407 (421)	5	639.5	540	400	5	18.8	9.7	250
MCH09040H10K			10					20.3		500
MCH09040H20K			20					26.4		1 000
MCH09050H05K	500	507 (521)	5	739.5	640	500	6	22.0	11	250
MCH09050H10K			10					23.5		500
MCH09050H20K			20					29.6		1 000
MCH09060H05K	600	607 (621)	5	839.5	740	600	7	25.2	13	250
MCH09060H10K			10					26.7		500
MCH09060H20K			20					32.8		1 000
MCH09070H05K	700	707 (721)	5	939.5	840	700	8	28.4	14.5	250
MCH09070H10K			10					30.0		500
MCH09070H20K			20					36.0		1 000
MCH09080H05K	800	807 (821)	5	1 039.5	940	800	9	31.6	16	210
MCH09080H10K			10					33.2		410
MCH09080H20K			20					39.2		830

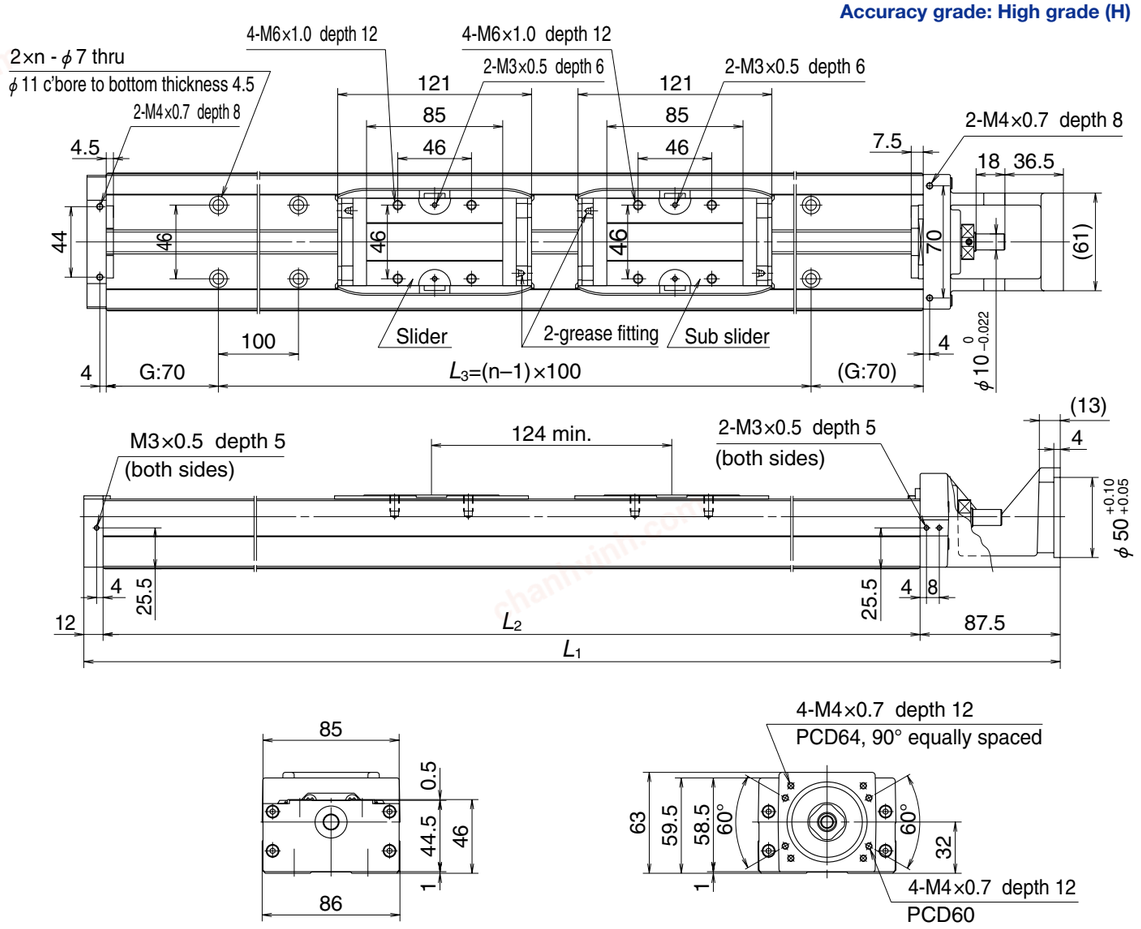
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.0 – 5.9
	10	2.0 – 7.8
	20	2.0 – 10.8

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

▶ For basic load ratings, see page 304.

MCH09 (Double Slider)

Accuracy grade: High grade (H)



Dimensions of MCH09 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	L_3	n	Inertia ×10⁻⁶ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
MCH09015H05D	150	183 (211)	5	539.5	440	300	4	16.1	8.9	250
MCH09015H10D			10					19.2		500
MCH09025H05D	250	283 (311)	5	639.5	540	400	5	19.3	11	250
MCH09025H10D			10					22.4		500
MCH09035H05D	350	383 (411)	5	739.5	640	500	6	22.5	12	250
MCH09035H10D			10					25.6		500
MCH09045H10D	450	483 (511)	10	839.5	740	600	7	28.8	14	500
MCH09045H20D			20					40.9		1 000
MCH09065H10D	650	683 (711)	10	1 039.5	940	800	9	35.2	17	500
MCH09065H20D			20					47.3		1 000

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	5	1.5 – 7.0
	10	2.5 – 10.8
	20	4.0 – 17.2

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

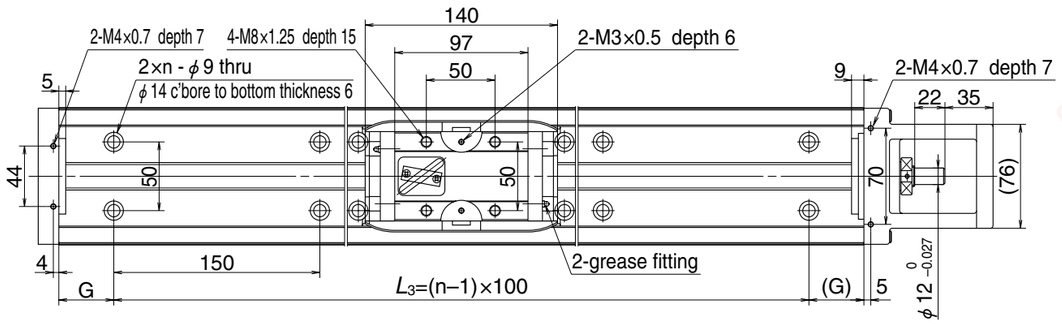
▶ For basic load ratings, see page 304.

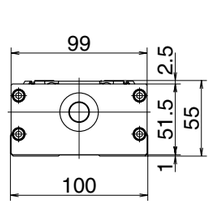
chanhvinh.com

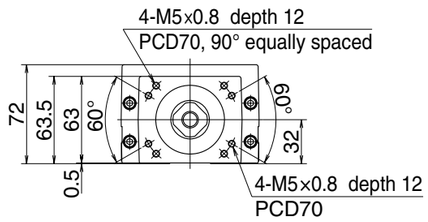
MCH Series Dimension Tables

MCH10

Accuracy grade: High grade (H)







Dimensions of MCH10 (single slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	G	L_3	n	Inertia ×10⁻⁶ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
MCH10010H10K	100	126 (142)	10	389	280	65	150	2	33.2	7.3	500
MCH10010H20K			20						41.1		1 000
MCH10020H10K	200	226 (242)	10	489	380	40	300	3	43.4	9.5	500
MCH10020H20K			20						51.3		1 000
MCH10030H10K	300	326 (342)	10	589	480	15	450	4	53.7	12	500
MCH10030H20K			20						61.6		1 000
MCH10040H10K	400	426 (442)	10	689	580	65	450	4	62.4	14	500
MCH10040H20K			20						71.8		1 000
MCH10050H10K	500	526 (542)	10	789	680	40	600	5	74.7	16	500
MCH10050H20K			20						82.3		1 000
MCH10060H10K	600	626 (642)	10	889	780	15	750	6	84.9	19	500
MCH10060H20K			20						92.5		1 000
MCH10070H10K	700	726 (742)	10	989	880	65	750	6	95.1	21	500
MCH10070H20K			20						103		1 000
MCH10080H10K	800	826 (842)	10	1 089	980	40	900	7	105	23	500
MCH10080H20K			20						113		1 000
MCH10090H10K	900	926 (942)	10	1 189	1 080	15	1 050	8	116	25	440
MCH10090H20K			20						123		870
MCH10100H10K	1 000	1 026 (1 042)	10	1 289	1 180	65	1 050	8	126	27	360
MCH10100H20K			20						133		720
MCH10110H10K	1 100	1 126 (1 142)	10	1 389	1 280	40	1 200	9	136	29	300
MCH10110H20K			20						143		600
MCH10120H10K	1 200	1 226 (1 242)	10	1 489	1 380	15	1 350	10	146	32	250
MCH10120H20K			20						154		510

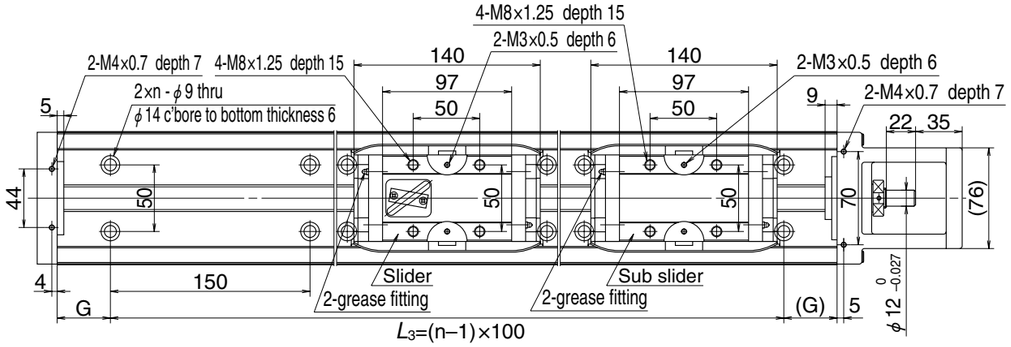
Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	2.7 – 10.8
	20	3.1 – 12.7

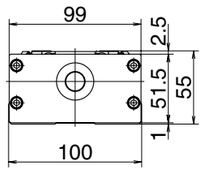
1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

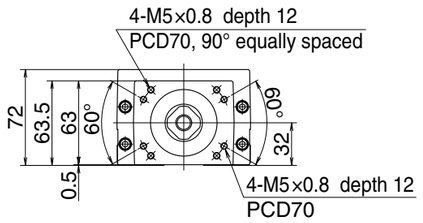
▶ For basic load ratings, see page 304.

MCH10 (Double Slider)

Accuracy grade: High grade (H)







Dimensions of MCH10 (double slider)

Part number	Nominal stroke (mm)	Stroke limit (mm) (K1 is not equipped)	Ball screw lead (mm)	Body length (mm) L_1	L_2	G	L_3	n	Inertia ×10⁻⁶ (kg·m²)	Mass (kg)	Maximum rotational speed (mm/s)
MCH10025H10D	250	282 (314)	10	689	580	65	450	4	67.1	15	500
MCH10025H20D			20						82.4		1 000
MCH10035H10D	350	382 (414)	10	789	680	40	600	5	77.3	17	500
MCH10035H20D			20						92.5		1 000
MCH10045H10D	450	482 (514)	10	889	780	15	750	6	87.5	20	500
MCH10045H20D			20						103		1 000
MCH10055H10D	550	582 (614)	10	989	880	65	750	6	97.7	22	500
MCH10055H20D			20						113		1 000
MCH10065H10D	650	682 (714)	10	1 089	980	40	900	7	108	24	500
MCH10065H20D			20						123		1 000
MCH10075H20D	750	782 (814)	20	1 189	1 080	15	1 050	8	133	26	1 000
MCH10085H20D	850	882 (914)	20	1 289	1 180	65	1 050	8	143	28	950
MCH10095H20D	950	982 (1 014)	20	1 389	1 280	40	1 200	9	154	30	780
MCH10105H20D	1 050	1 082 (1 114)	20	1 489	1 380	15	1 350	10	164	33	650

Monocarrier dynamic torque specifications (N·cm)		
Ball screw lead (mm)	10	4.2 – 15.6
	20	5.0 – 19.6

1. Frictional resistance of NSK K1 is included in dynamic torque in table.
2. Grease is packed into ball screw, linear guide parts and support unit.
3. Consult NSK for life estimates under large moment loads.

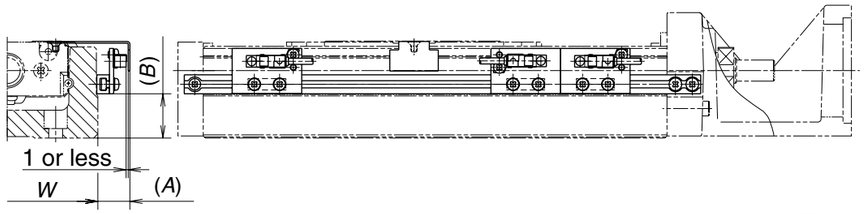
▶ For basic load ratings, see page 304.

chanhvinh.com

Sensor Unit for MCH Series

Accessories

Proximity Switch

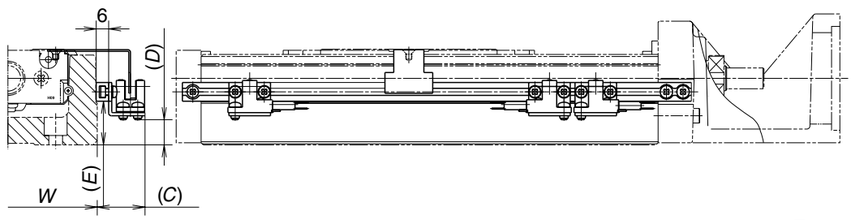


Example of assembly

Type		Part number			Dimension *A* (mm)	Dimension *B* (mm)	Body width *W* (mm)
MCH06		MC-SRH06-10	MC-SRH06-11	MC-SRH06-12	17	10	60
MCH09		MC-SRH09-10	MC-SRH09-11	MC-SRH09-12	16	21	86
MCH10		MC-SRH10-10	MC-SRH10-11	MC-SRH10-12	16	16	100
Quantity	Proximity switch (a-contact)	—	3	1	E2S-W13 (OMRON Corp.)		
	Proximity switch (b-contact)	3	—	2	E2S-W14 (OMRON Corp.)		

Note 1: See page 305 for proximity switch specifications.
Note 2: Sensor unit consists of sensors, sensor dog and sensor mounting parts.

Photo Sensor



Example of assembly

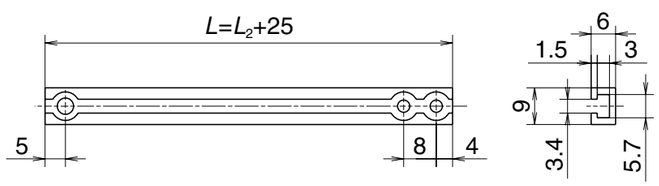
Type	Part number	Dimension *C* (mm)	Dimension *D* (mm)	Body width *E* (mm)	Body width *W* (mm)	Notes
MCH06	MC-SRH06-13	24	2	11	60	EE-SX674 (OMRON Corp.) 3 sets (EE-1001 connector attachment)
MCH09	MC-SRH09-13	23	12	21	86	
MCH10	MC-SRH10-13	23	29	16	100	

Note 1: See page 306 for photo sensor specifications.
Note 2: Sensor unit consists of sensors, sensor dog and sensor mounting parts.

Sensor Rail

Part number: MC-SRL- ＊＊＊＊

＊＊＊＊ is same as rail dimension L_2.



Accessories

Body of MCH Series and Sensor Rail Combination Table

Nominal size	Body length L_2 (mm)	Part number	Sensor rail part number
MCH06	150	MCH06005H05K MCH06005H10K	MC-SRL-0150
	200	MCH06010H05K MCH06010H10K	MC-SRL-0200
	300	MCH06020H05K MCH06020H10K MCH06010H05D MCH06010H10D	MC-SRL-0300
	400	MCH06030H10K MCH06030H20K MCH06020H05D MCH06020H10D	MC-SRL-0400
	500	MCH06040H10K MCH06040H20K MCH06030H05D MCH06030H10D	MC-SRL-0500
	600	MCH06050H10K MCH06050H20K MCH06040H10D MCH06040H20D	MC-SRL-0600
MCL06	150	MCL06005H05K MCL06005H10K	MC-SRL-0150
	200	MCL06010H05K MCL06010H10K	MC-SRL-0200
	300	MCL06020H05K MCL06020H10K	MC-SRL-0300
	400	MCL06030H10K MCL06030H20K	MC-SRL-0400
	500	MCL06040H10K MCL06040H20K	MC-SRL-0500
	600	MCL06050H10K MCL06050H20K	MC-SRL-0600
MCH09	340	MCH09020H05K MCH09020H10K	MC-SRL-0340
	440	MCH09030H05K MCH09030H10K MCH09015H05D MCH09015H10D	MC-SRL-0440
	540	MCH09040H05K MCH09040H10K MCH09025H05D MCH09025H10D	MC-SRL-0540
	640	MCH09050H10K MCH09050H20K MCH09035H05D MCH09035H10D	MC-SRL-0640
	740	MCH09060H10K MCH09060H20K MCH09045H10D MCH09045H20D	MC-SRL-0740
	940	MCH09080H10K MCH09080H20K MCH09065H10D MCH09065H20D	MC-SRL-0940

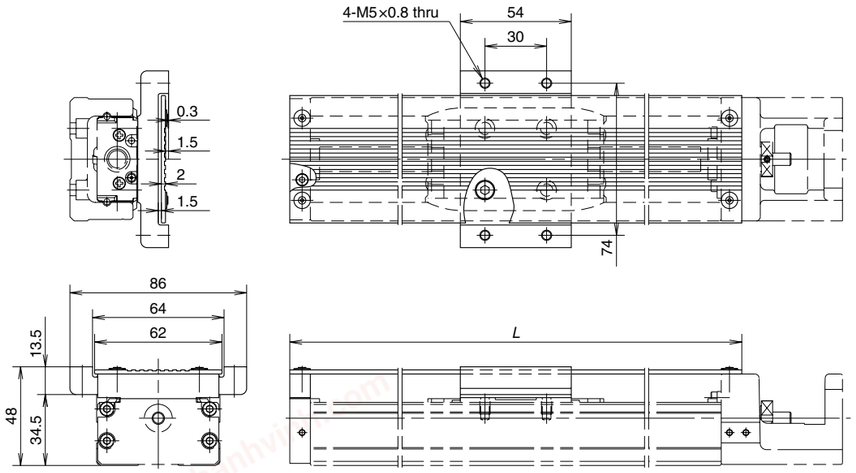
Nominal size	Body length L_2 (mm)	Part number	Sensor rail part number
MCH10	580	MCH10040H10K MCH10025H10D	MC-SRL-0580
	680	MCH10050H10K MCH10050H20K MCH10035H10D MCH10035H20D	MC-SRL-0680
	780	MCH10060H10K MCH10060H20K MCH10045H10D MCH10045H20D	MC-SRL-0780
	880	MCH10070H10K MCH10070H20K MCH10055H10D MCH10055H20D	MC-SRL-0880
	980	MCH10080H10K MCH10080H20K MCH10065H10D MCH10065H20D	MC-SRL-0980
	1 080	MCH10090H20K MCH10075H20D	MC-SRL-1080
	1 180	MCH10100H20K MCH10085H20D	MC-SRL-1180
	1 280	MCH10110H20K MCH10095H20D	MC-SRL-1280
	1 380	MCH10120H20K MCH10105H20D	MC-SRL-1380

chanhvinh.com

Cover Unit for MCH Series

Accessories

Cover Unit for MCH06
Cover Unit for MCL06

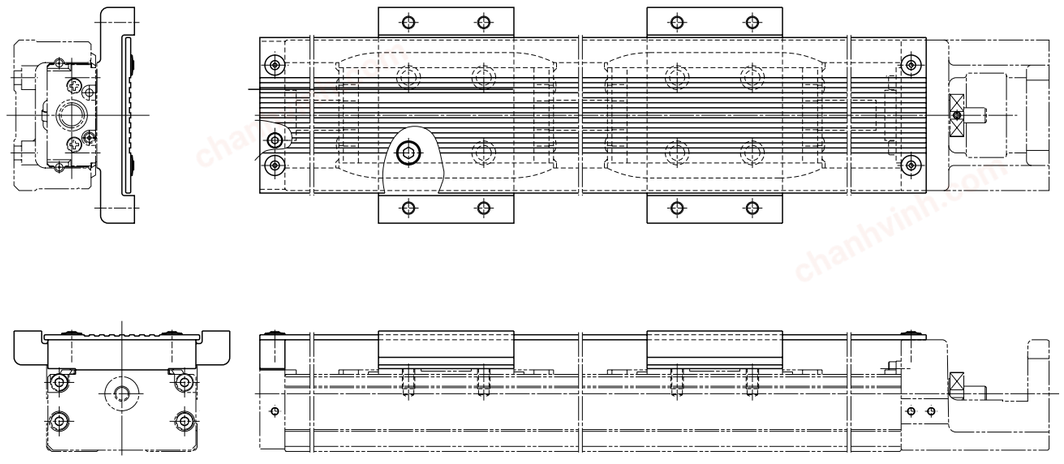


Unit: mm

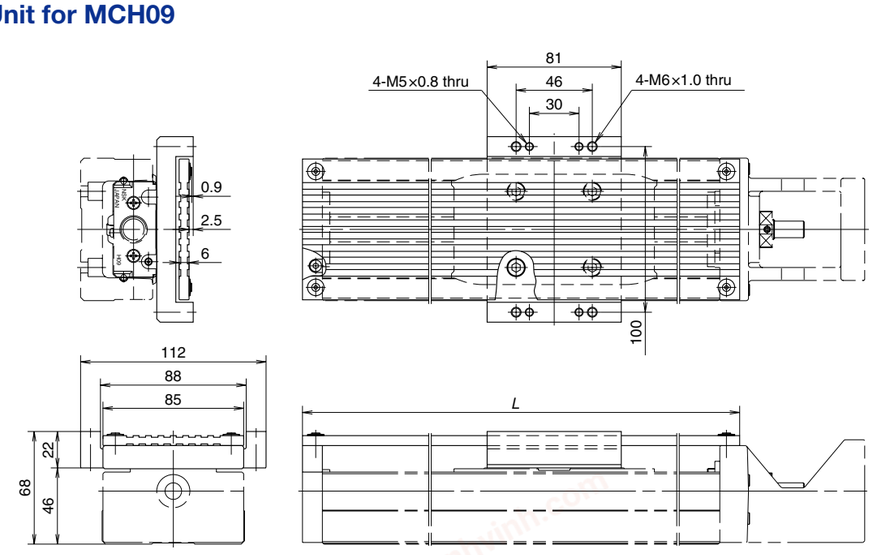
Single slider		Double slider		Top cover length
Stroke	Part number	Stroke	Part number	*L*
50	MC-HV06005-00	–	–	170
100	MC-HV06010-00	–	–	220
200	MC-HV06020-00	100	MC-HV06010D00	320
300	MC-HV06030-00	200	MC-HV06020D00	420
400	MC-HV06040-00	300	MC-HV06030D00	520
500	MC-HV06050-00	400	MC-HV06040D00	620

Cover Unit for Double Sliders (reference drawing)

Two spacers are attached for double slider.



Cover Unit for MCH09

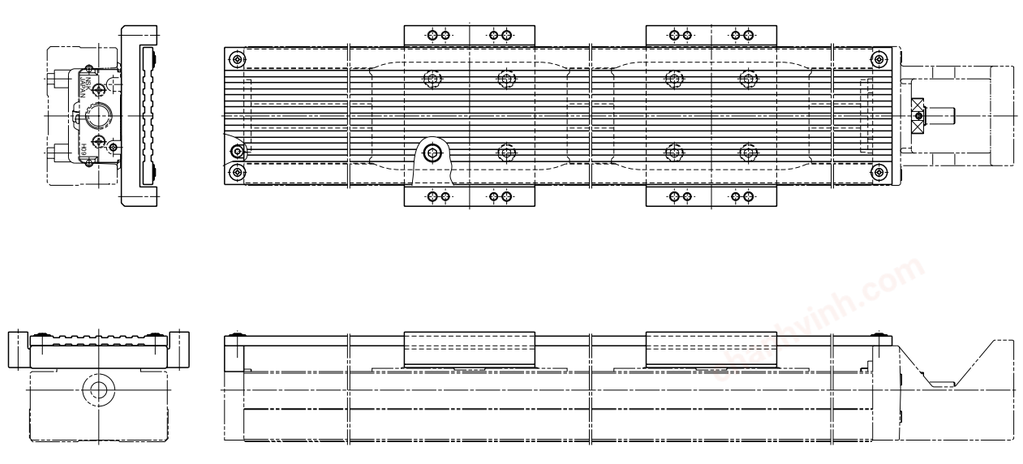


Unit: mm

Single slider		Double slider		Top cover length
Stroke	Part number	Stroke	Part number	*L*
100	MC-HV09010-00	–	–	264
200	MC-HV09020-00	–	–	364
300	MC-HV09030-00	150	MC-HV09015D00	464
400	MC-HV09040-00	250	MC-HV09025D00	564
500	MC-HV09050-00	350	MC-HV09035D00	664
600	MC-HV09060-00	450	MC-HV09045D00	764
700	MC-HV09070-00	–	–	864
800	MC-HV09080-00	650	MC-HV09065D00	964

Cover Unit for Double Sliders (reference drawing)

Two spacers are attached for double slider.

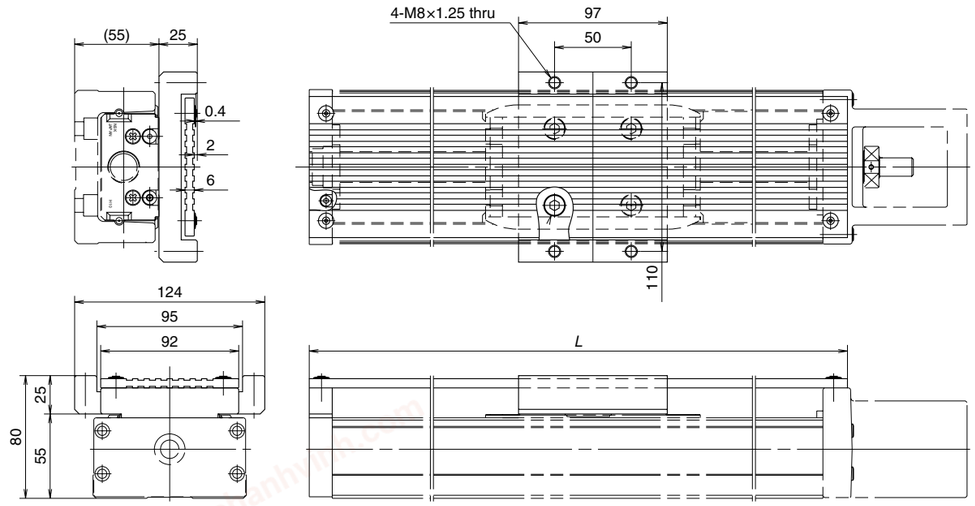


chanhvinh.com

Cover Unit for MCH Series

Accessories

Cover Unit for MCH10

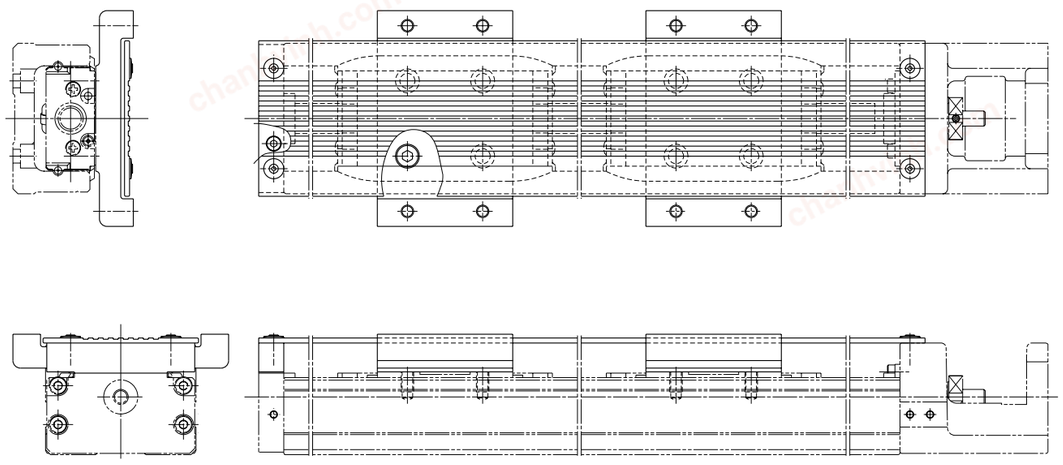


Unit: mm

Single slider		Double slider		Top cover length
Stroke	Part number	Stroke	Part number	*L*
100	MC-HV10010-00	–	–	310
200	MC-HV10020-00	–	–	410
300	MC-HV10030-00	–	–	510
400	MC-HV10040-00	250	MC-HV10025D00	610
500	MC-HV10050-00	350	MC-HV10035D00	710
600	MC-HV10060-00	450	MC-HV10045D00	810
700	MC-HV10070-00	550	MC-HV10055D00	910
800	MC-HV10080-00	650	MC-HV10065D00	1 010
900	MC-HV10090-00	750	MC-HV10075D00	1 110
1 000	MC-HV10100-00	850	MC-HV10085D00	1 210
1 100	MC-HV10110-00	950	MC-HV10095D00	1 310
1 200	MC-HV10120-00	1 050	MC-HV10105D00	1 410

Cover Unit for Double Sliders (reference drawing)

Two spacers are attached for double slider.



chanhvinh.com

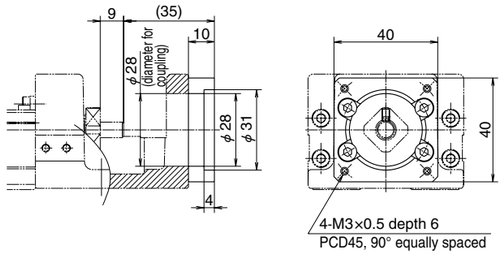
Intermediate Plate for MCH Series Motors

Accessories

- Ask NSK about motors not listed in compatible motor list.
- In case of indirect motor mount, please consult with NSK.
- Be sure to align center lines when installing motor.

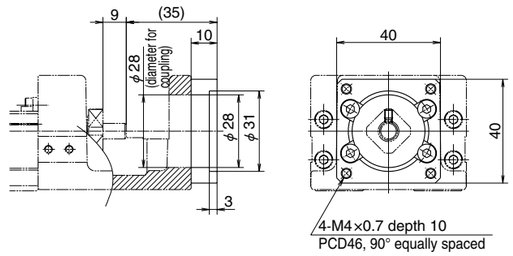
Motor Bracket for MCH06 and MCL06

Part number
MC-BKH06-145-00



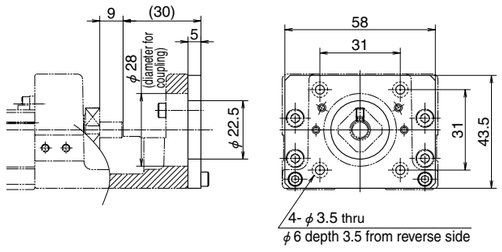
Compatible motors	
Maker	Motor models
Matsushita Electric Industrial Co., Ltd.	MSMD5A (50W), MSMD01 (100W)

Part number
MC-BKH06-146-00



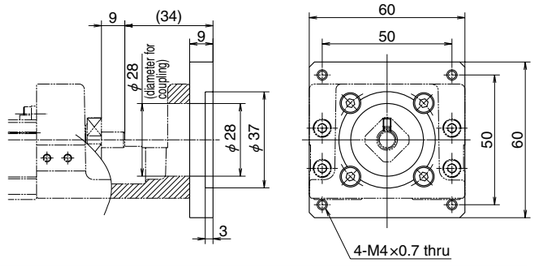
Compatible motors	
Maker	Motor models
Yaskawa Electric Corp.	SGMAH-A3 (30W), SGMAH-A5 (50W), SGMAS-A5A (50W), SGMAH-01 (100W), SGMAS-01A (100W)
Mitsubishi Electric Corp.	HF-KP053 (50W), HF-MP053 (50W), HC-KFS053 (50W), HC-MFS053 (50W), HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
OMRON Corp.	R88M-W03 (30W), R88M-W05 (50W), R88M-W10 (100W)
Sanyo Denki Co., Ltd.	P30B04xxx P Series

Part number
MC-BKH06-231-00



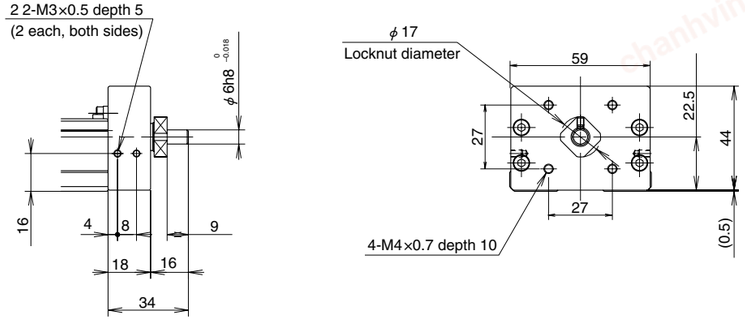
Compatible motors	
Maker	Motor models
Oriental Motor Co., Ltd.	AS46, ASC46, UPK54x, PK54x, CSK54x, CFK54x, UMK24x, CSK24x, PK24x
Sanyo Denki Co., Ltd.	PBM423xxx, 103F55xx

Part number
MC-BKH06-250-00



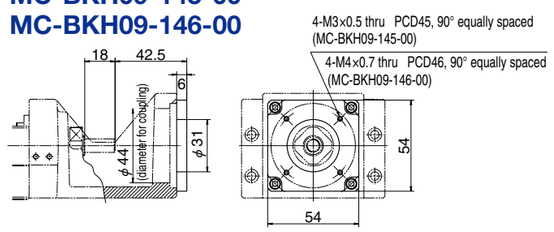
Compatible motors	
Maker	Motor models
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56x, UFK56x, PK56x, CSK56x, CFK56x
OMRON Corp.	MUMS02 (200W), MUMS04 (400W)
Sanyo Denki Co., Ltd.	PBM603xx, PBM604xx, 103F78xx

Diameter of Ball Screw Shaft-end to Install Pulley for Indirect Motor Mount of MCH06



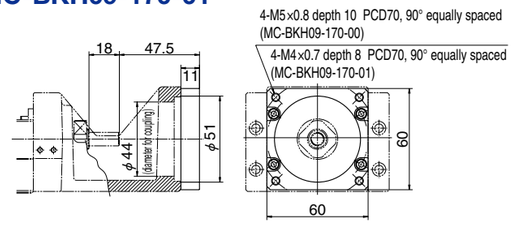
Motor Bracket for MCH09

Part number
MC-BKH09-145-00
MC-BKH09-146-00



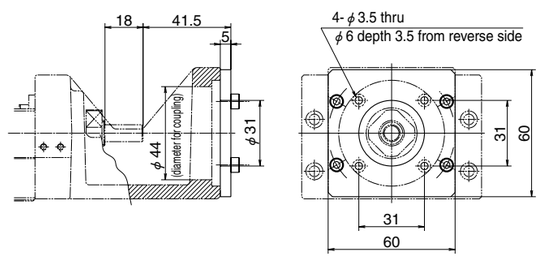
Part number	Compatible motors	
	Maker	Motor models
MC-BKH09-145-00	Matsushita Electric Industrial Co., Ltd.	MSMD5A (50W), MSMD01 (100W)
MC-BKH09-146-00	Yaskawa Electric Corp.	SGMAH-A5 (50W), SGMAS-A5A (50W), SGMAH-01 (100W), SGMAS-01A (100W)
	Mitsubishi Electric Corp.	HF-KP053 (50W), HF-MP05 (50W), HC-KFS053 (50W), HC-MFS053 (50W), HF-KP13 (100W), HF-MP13 (100W), HC-KFS13 (100W), HC-MFS13 (100W)
	OMRON Corp.	R88M-W05 (50W), R88M-W10 (100W)
	Sanyo Denki Co., Ltd.	P30B04xxx P Series

Part number
MC-BKH09-170-00
MC-BKH09-170-01



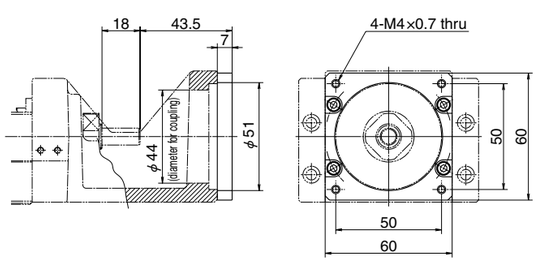
Part number	Compatible motors	
	Maker	Motor models
MC-BKH09-170-00	Yaskawa Electric Corp.	SGMAH-02 (200W), SGMAS-02A (200W), SGMAH-04 (400W), SGMAS-04A (400W)
	Mitsubishi Electric Corp.	HF-KP23 (200W), HF-MP23 (200W), HF-KP43 (400W), HF-MP43 (400W)
	OMRON Corp.	R88M-W20 (200W), R88M-W40 (400W)
	Sanyo Denki Co., Ltd.	P30B06xxx P Series
MC-BKH09-170-01	Matsushita Electric Industrial Co., Ltd.	MSMD02 (200W), MSMA02 (200W), MSMA04 (400W), MSMD04 (400W)

Part number
MC-BKH09-231-00



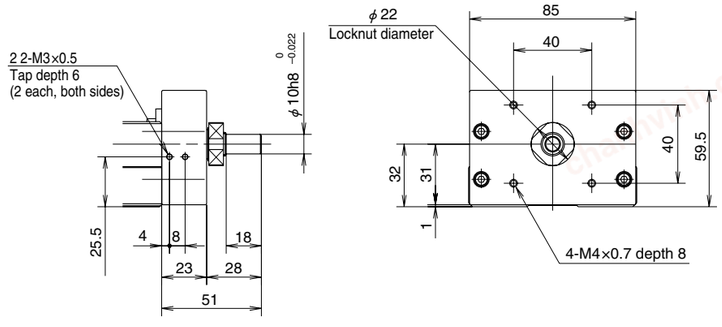
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM423xxx, 103F55xx
Oriental Motor Co., Ltd.	AS46, ASC46, UPK54x, PK54x, CSK54x, CFK54x, UMK24x, CSK24x, PK24x

Part number
MC-BKH09-250-00



Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM603xx, PBM604xx, 103F78xx
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56x, UFK56x, PK56x, CSK56x, CFK56x

Diameter of Ball Screw Shaft-end to Install Pulley for Indirect Motor Mount of MCH09



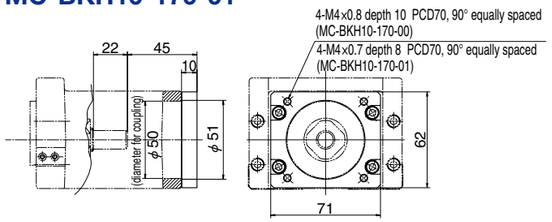
chanhvinh.com

Intermediate Plate for MCH Series Motors

Accessories

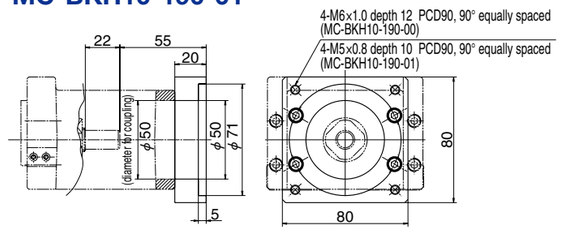
Motor Bracket for MCH10

Part number
MC-BKH10-170-00
MC-BKH10-170-01



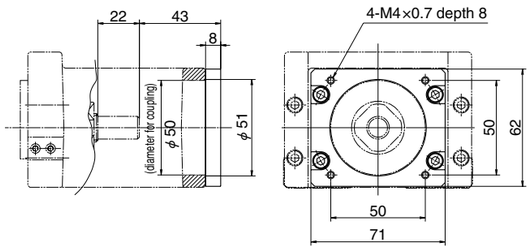
Part number	Compatible motors	
	Maker	Motor models
MC-BKH10-170-00	Yaskawa Electric Corp.	SGMAH-02 (200W), SGMAS-02A (200W), SGMAH-04 (400W), SGMAS-04A (400W)
	Mitsubishi Electric Corp.	HF-KP23 (200W), HF-MP23 (200W), HF-KP43 (400W), HF-MP43 (400W)
	OMRON Corp.	R88M-W20 (200W), R88M-W40 (400W)
	Sanyo Denki Co., Ltd.	P30B06xxx P Series
MC-BKH10-170-01	Matsushita Electric Industrial Co., Ltd.	MSMD02 (200W), MSMA02 (200W), MSMD04 (400W), MSMA04 (400W)

Part number
MC-BKH10-190-00
MC-BKH10-190-01



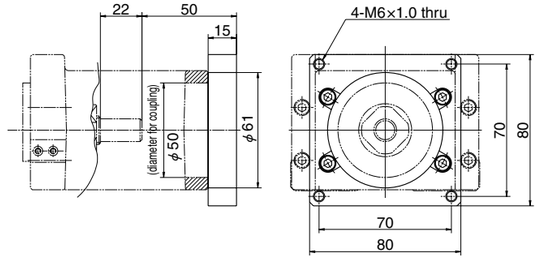
Part number	Compatible motors	
	Maker	Motor models
MC-BKH10-190-00	Mitsubishi Electric Corp.	HC-KFS73 (750W), HC-MFS73 (750W), HF-KP73 (750W), HF-MP73 (750W)
MC-BKH10-190-01	Sanyo Denki Co., Ltd.	P50B07xxx P Series

Part number
MC-BKH10-250-00



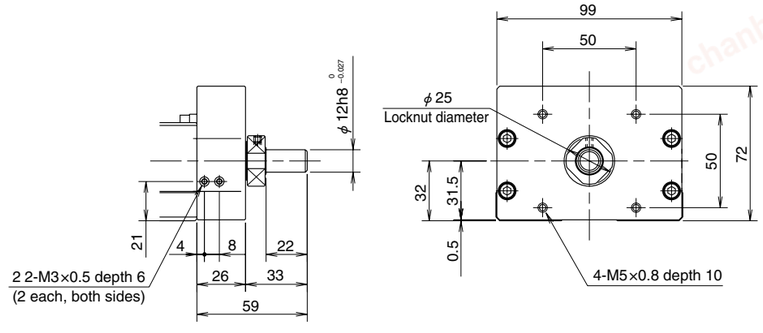
Compatible motors	
Maker	Motor models
Sanyo Denki Co., Ltd.	PBM603xx, PBM604xx, 103F78xx
Oriental Motor Co., Ltd.	AS66, ASC66, UPK56x, PK56x, CSK56x, CFK56x, UMK56x, UFK56X

Part number
MC-BKH10-270-00



Compatible motors	
Maker	Motor models
Oriental Motor Co., Ltd.	AS98, ASC98, UPK59x, PK59x, CSK59x, CFK59x, UMK59x, UFK59x

Diameter of Ball Screw Shaft-End to Install Pulley for Indirect Motor Mount of MCH10



chanhvinh.com

Basic Load Rating — MCM Series

Basic Load Rating

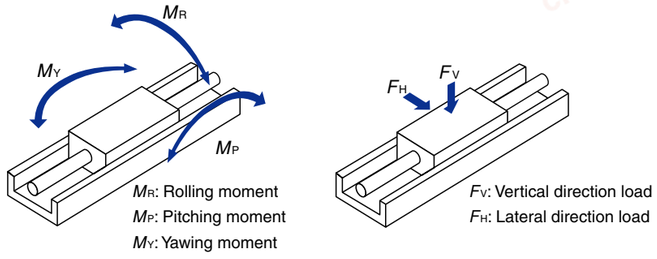
Nominal size	Lead ℓ (mm)	Shaft dia. d (mm)	Basic dynamic load rating (N)				Basic static load rating (N)		Support unit limit load (N)
			Ball screw C_a	Linear guide C	Support unit C_a	Rated running distance L_a (km)	Ball screw C_{0a}	Linear guide C_0	
MCM02	1	ϕ6	340 (high grade) 405 (precision)	4 910	615	1	555 (high grade) 615 (precision)	2 120	490
	2		340 (high grade) 405 (precision)	3 900		2	555 (high grade) 615 (precision)		
MCM03	1	ϕ6	735	10 900	2 670	1	1 230	4 900	1 040
	2		735	8 650		2			
	10	ϕ8	1 230	6 250		10	1 690	6 620	
	12		1 230	5 880		12			
MCM05	5	ϕ12	3 760	15 600	4 400	5	6 310	10 900	1 450
	10		2 260	12 400		10	3 780		
	20		2 260	9 850		20	3 780		
	30		3 260	8 600	6 550	30	5 400		2 730
MCM06	5	ϕ16	7 310	25 200	6 550	5	13 500	17 000	2 730
	10	ϕ15	7 060	20 000		10	12 700		
	20		4 560	15 900		20	7 750		
MCM08	5	ϕ16	7 310	30 800	7 100	5	13 500	22 800	3 040
	10	ϕ15	7 060	24 400		10	12 700		
	20		4 560	19 400		20	7 750		
	30		5 070	16 930		30	8 730		
MCM10	10	ϕ20	10 900	33 500	7 600	10	21 700	29 400	3 380
	20		7 060	26 600		20	12 700		
	30		11 700	23 200		30	22 700		

Note 1: Basic dynamic and static load ratings indicate values for one slider.
Note 2: Basic dynamic load rating of linear guide is load of perpendicular direction to the axis that allows 90% of a group of same Monocarriers to operate “Rated running distance” in table, which is equivalent to 1 million revolutions of ball screw and support unit under the same conditions without causing flaking by rolling contact fatigue.
Note 3: Basic dynamic load rating of ball screw is load in the axial direction that allows 90% of ball screws of a group of same Monocarriers to rotate 1 million revolutions under the same conditions without causing flaking by rolling contact fatigue.
Note 4: Basic dynamic load rating of support unit is constant load in the axial direction that allows 90% of support units of same group of Monocarriers to rotate 1 million revolutions under the same conditions without causing flaking by rolling contact fatigue.
Note 5: Basic static load rating is load that results in combined permanent deformations at contact points of balls and ball grooves of respective parts at a diameter of 0.01%.

Basic Static Moment Load of Linear Guide

Nominal size	Lead (mm)	Slider	Basic static moment (N · m)		
			Rolling M_{R0}	Pitching M_{P0}	Yawing M_{Y0}
MCM02	1, 2	Single	24	8	8
MCM03	1, 2	Single	68	28	28
	10, 12		92	51	51
MCM05	5, 10, 20, 30	Single	229	89	89
	5, 10, 20	Double	455	765	765
MCM06	5, 10, 20	Single	415	174	174
		Double	825	1 220	1 220
MCM08	5, 10, 20, 30	Single	770	300	300
	5, 10, 20	Double	1 540	2 050	2 050
MCM10	10, 20, 30	Single	1 170	425	425
	10, 20	Double	2 340	2 940	2 940

Note 1: Basic static moment of double slider is value when two sliders equipped with NSK K1 are butted against each other.
Note 2: Basic static moment is value when rolling contact pressure of balls exceeds 4 000 N/mm².
Note 3: If extremely heavy load is required, please consult NSK for estimation of fatigue life.



Basic Load Rating — MCH Series

Basic Load Rating

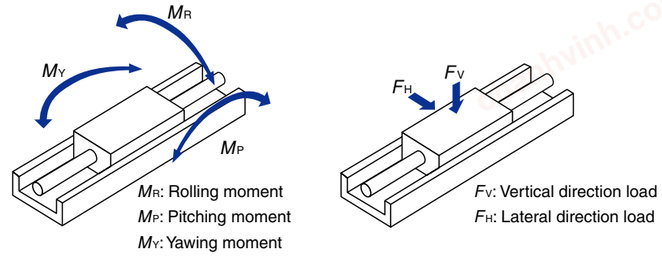
Nominal size	Lead ℓ (mm)	Shaft dia. d (mm)	Basic dynamic load rating (N)				Basic static load rating (N)		Support unit limit load (N)
			Ball screw C_a	Linear guide C	Support unit C_a	Rated running distance L_a (km)	Ball screw C_{0a}	Linear guide C_0	
MCH06 (MCL06)	5	ϕ12	3 000 (high grade) 3 760 (precision)	22 800	4 400	5	5 410 (high grade) 6 310 (precision)	16 300	1 450
	10		1 930 (high grade) 2 260 (precision)	18 100		10	3 160 (high grade) 3 780 (precision)		
	20		1 930 (high grade) 2 260 (precision)	14 400		20	3 160 (high grade) 3 780 (precision)		
MCH09	5	ϕ15	6 820 (high grade) 7 100 (precision)	40 600	7 100	5	13 200 (high grade) 13 000 (precision)	30 500	3 040
	10		5 110 (high grade) 7 060 (precision)	32 200		10	9 290 (high grade) 12 700 (precision)		
	20		3 290 (high grade) 4 560 (precision)	25 500		20	5 620 (high grade) 7 750 (precision)		
MCH10	10	ϕ20	8 230 (high grade) 10 900 (precision)	44 600	7 600	10	17 100 (high grade) 21 700 (precision)	42 000	3 380
	20		5 300 (high grade) 7 060 (precision)	35 400		20	10 300 (high grade) 12 700 (precision)		

Note 1: Basic dynamic and static load ratings indicate values for one slider.
Note 2: Basic dynamic load rating of linear guide is load of perpendicular direction to the axis that allows 90% of a group of same Monocarriers to operate “Rated running distance” in table, which is equivalent to 1 million revolutions of ball screw and support unit under the same conditions without causing flaking by rolling contact fatigue.
Note 3: Basic dynamic load rating of ball screw is load in the axial direction that allows 90% of ball screws of a group of same Monocarriers to rotate 1 million revolutions under the same conditions without causing flaking by rolling contact fatigue.
Note 4: Basic dynamic load rating of support unit is constant load in the axial direction that allows 90% of support units of same group of Monocarriers to rotate 1 million revolutions under the same conditions without causing flaking by rolling contact fatigue.
Note 5: Basic static load rating is load that results in combined permanent deformations at contact points of balls and ball grooves of respective parts at a diameter of 0.01%.

Basic Static Moment Load of Linear Guide

Nominal size	Slider	Basic static moment (N·m)		
		Rolling M_{R0}	Pitching M_{P0}	Pitching M_{Y0}
MCH06 (MCL06)	Single	335	133	133
	Double	770	730	730
MCH09	Single	890	385	385
	Double	1 780	2 070	2 070
MCH10	Single	1 460	610	610
	Double	2 920	3 430	3 430

Note 1: Basic static moment of double slider is value when two sliders equipped with NSK K1 are butted against each other.
Note 2: Basic static moment is value when rolling contact pressure of balls exceeds 4 000 N/mm².
Note 3: If extremely heavy load is required, please consult NSK for estimation of fatigue life.



chanhvinh.com

Sensor Specifications

Proximity Switch

Item	E2S-W13 type	E2S-W14 type
Setting surface	Front face	
Sensing distance	1.6 mm ±15%	
Setting distance	0 to 1.2 mm	
Differential travel	10% max. of sensing distance	
Detectable object type	Ferrous metal	
Standard sensing object	Iron, 12 × 12 × 1 mm	
Response frequency	1 kHz min.	
Power supply voltage (operating voltage range)	12 to 24 VDC; ripple (p--p), 10% max. (10 to 30 VDC)	
Current consumption	13 mA max. at 24 VDC with no load	
Control output (switching capacity)	NPN open collector output, 50 mA max. (30 VDC max.)	
Control output (residual voltage)	1.0 V max. with a load current of 50 mA and a cable length of 1 m	
Indicator	Operation indicator (orange)	
Operating status (with sensing object approaching)	NO (a-contact)	NC (b-contact)
Wire lead length	1 000 mm	

Use of OMRON E2S-W13, E2S-W14
Note 1: Do not make a wrong connection.
Note 2: Please contact NSK for PNP output type.

Movement mode	Output type	Type	Time chart	Output circuit
NO	NPN	E2S-W13 type	Target object: Yes / No Output transistor (load): ON / OFF Output transistor (orange): ON / OFF	Brown, +V, Load, Black*, Output, Main circuit, Blue, 0V *(Maximum load current: 50 mA)
NC		E2S-W14 type	Target object: Yes / No Output transistor (load): ON / OFF Output transistor (orange): ON / OFF	

E2S-W13 (a-contact)
E2S-W14 (b-contact)
The external appearances are the same.

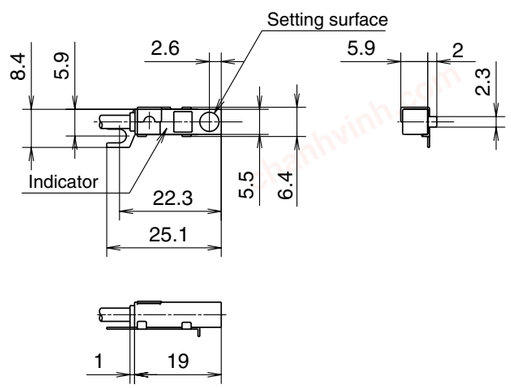


Photo Sensor

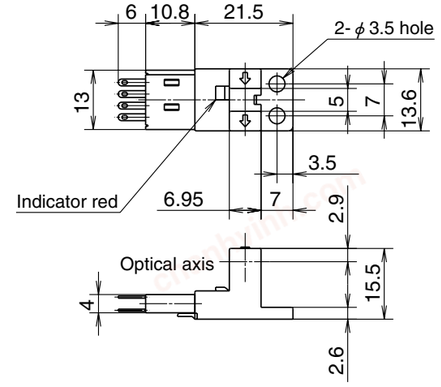
Item	EE-SX674 type
Slot width	5 mm
Standard reference object	Opaque, 2 × 0.8 mm
Differential distance	0.025 mm
Light source	GaAs infrared LED with peak wavelength of 940 nm
Indicator (without detecting object)	ON GaP red LED (peak emission wavelength, 690 nm)
Supply voltage	5 to 24 VDC ±10%; ripple (p--p), 10% max.
Current consumption	35 mA max.
Control output	NPN open collector output models, 5 to 24 VDC, 100 mA load current
Response frequency	1 kHz max. (3 kHz typ.)
Ambient illumination	Fluorescent light, 1 000 ℓ × max.
Ambient temperature	-25ºC to 55ºC (-13ºF to 131ºF) (for operating); -30ºC to 80ºC (-22ºF to 176ºF) (for storing)
Ambient humidity	5 to 85% (RH) (for operating); 5 to 95% (RH) (for storing)
Connecting method	EE-1001/1006 Connectors, soldering terminals

Use of OMRON EE-SX674
Note 1: Do not make a wrong connection.
Note 2: Please contact NSK for PNP output type.

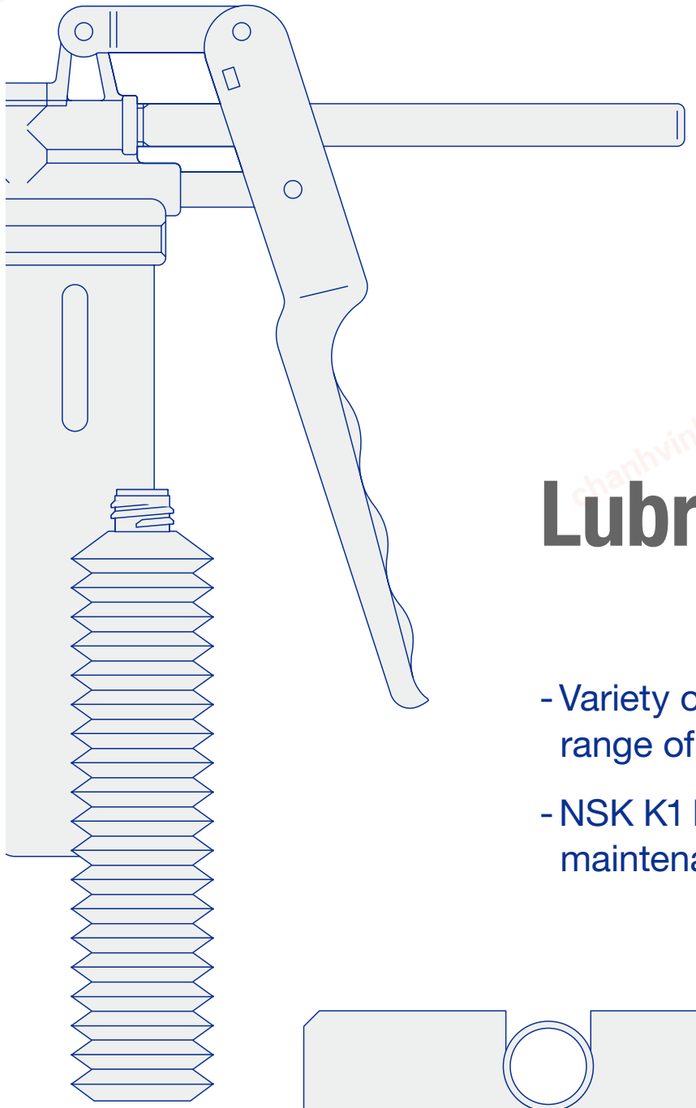
Type	Movement mode	Time chart	Connection terminal	Output circuit
EE-SX674 type	Light-ON	Incident / Interrupted Indicator (red): ON / OFF Output transistor: ON / OFF Load 1 (relay): Operates / Releases Load 2: H / L	When terminals L and ⊕ are short circuited	Indicator red LED, Main circuit, L, OUT, IC, Load, (Control output) Less than 100 mA, ⊕, ⊖, DC 5 to 24 V
	Dark-ON	Incident / Interrupted Indicator (red): ON / OFF Output transistor: ON / OFF Load 1 (relay): Operates / Releases Load 2: H / L	When terminals L and ⊕ are open circuited	

EE-SX674 (Sensor)
EE-1001 (Connector)

A connector is mounted to the sensor in the right figure.

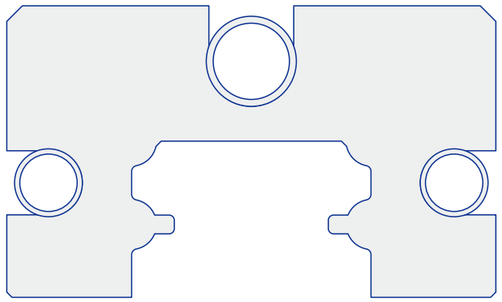


chanhvinh.com



Lubrication

- Variety of greases for wide range of applications
- NSK K1 lubrication unit for long-term, maintenance-free operation



chanhvinh.com

NSK Grease Unit



Grease in bellows tube



Supply grease to linear guides and ball screws by manual type hand grease pump.
Install grease in bellows tube pump.
Several types of grease (80 g) are available.

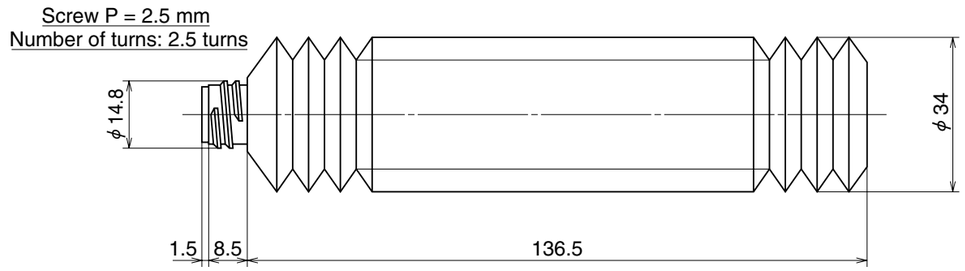


1. Composition of NSK Grease Unit

Components and grease types are shown below.

NSK Grease Unit	Name	(tube type)	Part number
NSK Grease (80 g in bellows tube)	NSK Grease AS2	(Brown)	NSK GRS AS2
	NSK Grease PS2	(Orange)	NSK GRS PS2
	NSK Grease LR3	(Green)	NSK GRS LR3
	NSK Grease LG2	(Blue)	NSK GRS LG2
	NSK Grease LGU	(Yellow)	NSK GRS LGU
	NSK Grease NF2	(Gray)	NSK GRS NF2
NSK Hand Grease Pump Unit			
NSK Hand Grease Pump			NSK HGP
(Straight nozzle NSK HGP NZ1 – One nozzle is provided with hand pump.)			
Grease nozzle (used with hand grease pump)			
NSK straight nozzle			NSK HGP NZ1
NSK chuck nozzle			NSK HGP NZ2
NSK drive fitting nozzle			NSK HGP NZ3
NSK point nozzle			NSK HGP NZ4
NSK flexible nozzle			NSK HGP NZ5
NSK flexible extension pipe			NSK HGP NZ6
NSK straight extension pipe			NSK HGP NZ7
NSK MCH exclusive fitting nozzle			NSK HGP NZ8

2. NSK Greases (80 g in bellows tube)



Bellows tube

3. NSK Manual Grease Pump Unit

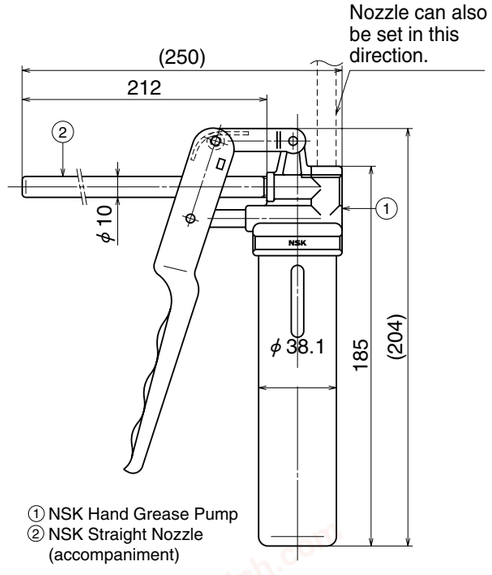
1) NSK Hand Grease Pump Unit
Part number: NSK HGP

(1) Features

- Light-weight ····· Can be operated by one hand, yet there is no worry of making a mistake.
- Inserting by high pressure ··· Insert at 15 Mpa.
- No leaking ····· Does not leak when held upside down.
- Easy to change grease ····· Simply attach grease in bellows tube.
- Remaining grease ····· Can be confirmed through slit on tube.
- Several nozzles ····· Five types of nozzles to choose from.

(2) Specifications

- Spout volume ····· 0.33cc / shot
- Grease tube outer diameter ··· ϕ 38.1
- Accessories ····· Several nozzles for unique application can be attached.



NSK Hand grease pump with NSK straight nozzle

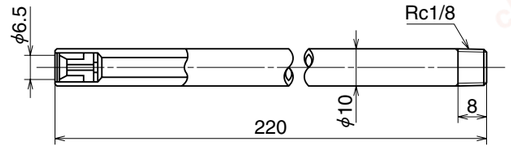
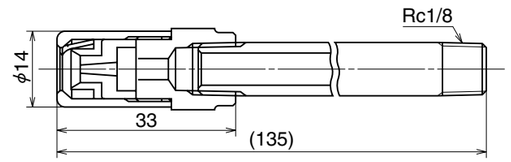
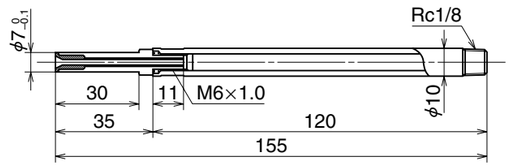
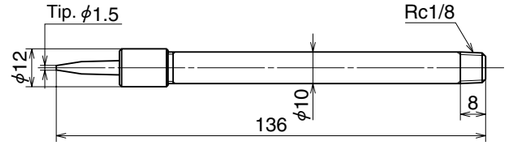
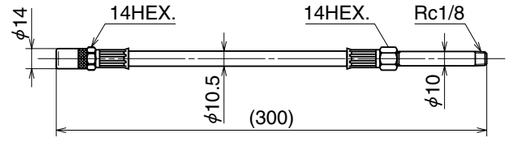
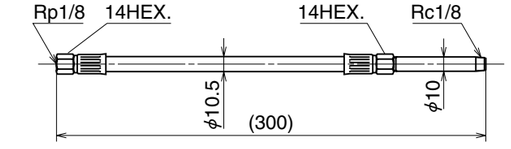
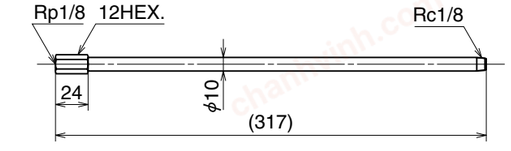
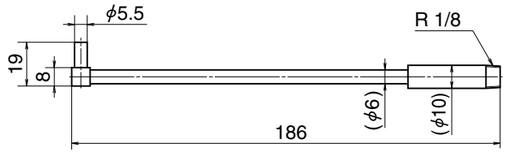
▶ For lubrication, see page 313.

chanhvinh.com

NSK Grease Unit

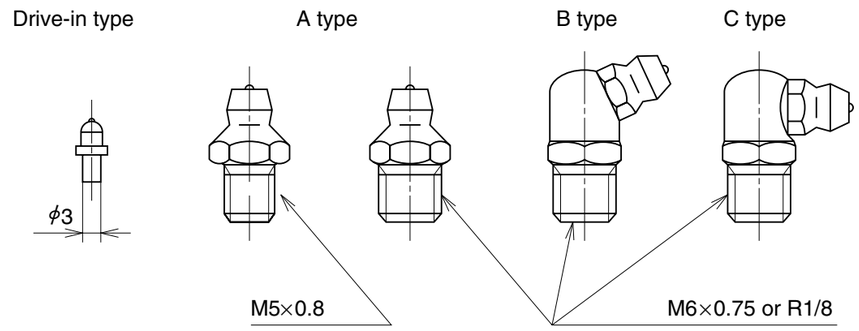
2) Nozzles

Nozzles that can be attached to NSK Hand Grease Pump

Name	Part number	Applicable grease fitting	Dimensions
NSK straight nozzle	NSK HGP NZ1	A, B, C	
NSK chuck nozzle	NSK HGP NZ2	A, B, C	
NSK fitting nozzle	NSK HGP NZ3	Drive-in type	
NSK point nozzle	NSK HGP NZ4	For non-grease fitting	
NSK flexible nozzle	NSK HGP NZ5	A, B, C	
NSK flexible extension pipe	NSK HGP NZ6	N / A	
NSK straight extension pipe	NSK HGP NZ7	N / A	
NSK MCH exclusive fitting nozzle	NSK HGP NZ8	Drive-in type	

∗ N/A: Not applicable

Grease fittings



Grease fittings used for Linear Guides

Linear guide	Size	Tap hole for grease fitting	Standard grease fitting	Straight nozzle **NZ1**	Chuck nozzles (two) **NZ2**	Drive-in nipple nozzle **NZ3**	Point nozzle **NZ4**	Flexible nozzle **NZ5**
LH / SH Series	15	ϕ3	Drive-in type			○		
	20, 25, 30, 35	M6×0.75	B type	○	○*1			○
	45, 55	Rc1/8	B type	○	○			○
LS / SS Series	15	ϕ3	Drive-in type			○		
	20, 25, 30, 35	M6×0.75	B type	○	○*1			○
RA Series	15, 20	ϕ3	Drive-in type			○		
	25, 30, 35	M6×0.75	B type	○	○*1			○
	45, 55, 65	Rc1/8	B type	○	○			○
LW Series	17	ϕ3	Drive-in type			○		
	21, 27, 35	M6×0.75	B type	○	○*1			○
	50	Rc1/8	B type	○	○			○
TS Series	15	ϕ3	Drive-in type			○		
	20, 25, 30, 35	M6×0.75	B type	○	○*1			○
PU Series	05, 07, 09, 12	—	—				○*2	
	15	ϕ3	Drive-in type			○		
PE Series	05, 07, 09, 12	—	—				○*2	
	15	ϕ3	Drive-in type			○		

*1 If using a chuck nozzle, avoid interference with plate and rail.
*2 PU and PE Series: Apply grease directly to ball groove, etc. using point nozzle.

Grease fittings used for Ball Screws

Ball screw	Model number	Tap hole for grease fitting	Standard grease fitting	Straight nozzle **NZ1**	Chuck nozzles (two) **NZ2**	Drive-in nipple nozzle **NZ3**	Point nozzle **NZ4**	Flexible nozzle **NZ5**
Compact FA	PSS FSS USS	M5×0.8	A type	○	○			○

Grease fittings used for Monocarrier

Monocarrier	Size	Tap hole for grease fitting	Standard grease fitting	Straight nozzle **NZ1**	Chuck nozzles (two) **NZ2**	Drive-in nipple nozzle **NZ3**	Flexible nozzle **NZ5**	MCH exclusive fitting nozzle **NZ8**
MCM series	02	—	—					
	03, 05, 08, 10	ϕ3	Drive-in type			○		○
	06	M6×0.75	A type	○	○		○	
MCH series	06, 09, 10	ϕ3	Drive-in type					○

chanhvinh.com

NSK Grease Unit

Lubricating method – grease – for Ball Screw, Linear Guide and Monocarrier.
Use a grease lubrication most suitable to condition requirements and purpose to optimize functions of Ball Screw, Linear Guide and Monocarrier.
In general, lubricants with low base oil kinematic viscosity are used for high-speed operation, in which thermal expansion has a large impact, and in low temperatures.
Lubrication with high base oil kinematic viscosity is used for oscillating operations, low speeds and high temperatures.
The following are lubrication methods using grease.

Grease Lubrication

Grease lubrication is widely used because it does not require a special oil supply system or piping.
Grease lubricants made by NSK are:

- Various types of grease in bellows tubes that can be instantly attached to a grease pump;
- NSK Grease Unit that consists of a hand grease pump and various nozzles. These are compact and easy to use.

NSK Grease Lubricants

The following table shows the marketed general grease widely used for Linear Guide, Ball Screw and Monocarrier for specific uses, conditions and purposes.

Grease lubricant for linear guide and ball screw

Type	Thickener	Base oil	Base oil kinematic viscosity mm²/s (40°C)	Range of use temperature (°C)	Purpose
AS2	Lithium type	Mineral oil	130	–10 – 110	For general use at high load.
PS2	Lithium type	Synthetic oil + mineral oil	15	–50 – 110	For low-temperature and high frequency operations.
LR3	Lithium type	Synthetic oil	30	–30 – 130	For high speed, medium load.
LG2	Lithium type	Synthetic oil + synthetic hydrocarbon oil	30	–20 – 70	For clean environments.
LGU	Diurea	Synthetic hydrocarbon oil	100	–30 – 120	For clean environments.
NF2	Urea composite type	Synthetic oil + mineral oil	27	–40 – 100	For fretting resistance.

How to Replenish Grease

Use grease fitting if exclusive grease supply component is not used. Supply required amount through grease fitting by a grease gun (pump).
Wipe off old grease and accumulated dust before supplying new grease. If grease fitting is not used, apply grease directly to the rail or to the ball groove of the screw shaft. Remove the seal if possible, and move a ball slide or ball nut a few strokes so the grease permeates into the ball slide and inside the nut. A hand grease pump, an exclusive and easy lubrication device for Linear Guide, Ball Screw and Monocarrier, is available at NSK.

Volume of Grease to be Replenished

Once grease is replenished, another supply is not required for a long time. But under some operational conditions, it is necessary to periodically replenish grease. The following are replenishing methods.

- When there is an exclusive grease supply system and the volume from the spout can be controlled, the criterion is:

All at once, replenish the amount that fills about 50% of the internal space of the ball slide or the internal space of the ball nut. This method eliminates waste of grease and is efficient.
The following tables show internal spaces of ball slide, ball nut and monocarrier slider for reference.

- When replenishing using a grease gun:

Use a grease gun and fill the inside of the ball slide, ball nut and monocarrier slider with grease. Supply grease until it comes out from the ball slide, ball nut or monocarrier slider area. Move ball slide, ball nut or monocarrier slider by hand while filling them with grease so the grease permeates all areas. Do not operate the machine immediately after replenishing. Always try the system a few times to spread the grease throughout the system and to remove excess grease. Trial operations are necessary because the resistance to sliding force and screw torque greatly increases immediately after replenishment (full-pack state) and may cause problems. The agitating resistance of grease is accountable for this phenomenon. Wipe off excess grease that accumulates at end of rail and screw shaft after trial runs so the grease does not move to other areas.

chanhvinh.com

NSK Grease Unit

Linear Guide

Inside space of ball slide of linear guide

LH, LS Series

Unit: cm³

Series / Model No.	LH		LS	
	High load type	Ultra-high load type	Medium load type	High load type
15	3	4	2	3
20	6	8	3	4
25	9	13	5	8
30	13	20	8	12
35	22	30	12	19
45	47	59	—	—
55	80	100	—	—
65	139	186	—	—
85	—	336	—	—

SH, SS Series

Unit: cm³

Series / Model No.	SH		SS	
	High load type	Ultra-high load type	Medium load type	High load type
15	2	3	1.5	2
20	5	7	3	4
25	9	12	5	7
30	11	17	7	11
35	20	27	11	17
45	42	53	—	—
55	73	93	—	—

RA Series

Unit: cm³

Series / Model No.	RA	
	High load type	Ultra-high load type
25	3	3.5
30	5	6
35	6	8
45	10	13
55	15	20
65	33	42

LW Series

Unit: cm³

Series / Model No.	LW
17	3
21	3
27	7
35	24
50	52

TS Series

Unit: cm³

Series / Model No.	TS
15	2
20	3
25	6
30	9
35	15

PU, PE Series

Unit: cm³

Series / Model No.	PU		PE	
	Standard type	High load type	Standard type	High load type
09	0.2	0.3	0.4	0.5
12	0.3	0.4	0.5	0.7
15	0.8	1.1	1.2	1.6

Ball Screw

Inside space of ball nut

The inside space of the ball nut is shown in the dimension table for each series, and instructions on the method of grease replenishment are given below.

Monocarrier

Inside space of slider

MCM model number	Lead (mm)	Inside space of slider (cm³)
MCM03	1	1
	2	1
	10	2
	12	2
MCM05	5	4
	10	4
	20	2
	30	2
MCM06	5	8
	10	7
	20	6
MCM08	5	12
	10	10
	20	9
	30	4
MCM10	10	19
	20	17
	30	9

MCH model number	Lead (mm)	Inside space of slider (cm³)
MCH06	5	3
	10	3
	20	3
MCH09	5	6
	10	6
	20	6
MCH10	10	11
	20	10

Intervals of Checks and Replenishment

Although the grease is of high quality, it gradually deteriorates and its lubrication function diminishes. Also, the grease in the ball slide and ball nut is gradually removed by stroke movement. In some environments, the grease becomes dirty, and foreign objects may enter. Grease should be replenished depending on frequency of use. The following is a guide of grease replenishment intervals for Linear Guide and Ball screw.

Intervals of checks and replenishments for grease lubrication

Intervals of checks	Items to check	Intervals of replenishment
3–6 months	Dirt, foreign matter such as cutting chips	Usually once per year. Every 3 000 km for material handling system that travels more than 3 000 km per year. Replenish if checking results warrant it necessary.

Note 1: As a general rule, do not mix greases of different brands. Grease structure may be destroyed if greases of different thickeners are mixed. Even when greases have the same thickener, different additives in them may have an adverse effect on each other.
Note 2: Grease viscosity varies by temperature. Viscosity is particular high in winter due to low temperatures. Pay attention to increases in Linear Guide and Monocarrier sliding resistance and Ball Screw and Monocarrier torque in such conditions.

chanhvinh.com

NSK K1 Lubrication Unit



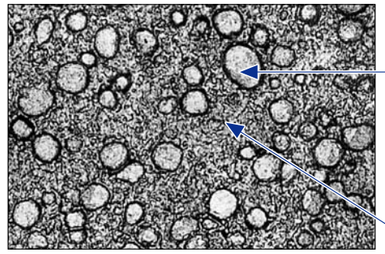
NSK K1 lowers machine operating costs and reduces impact on the environment.

What is “long-term, maintenance-free operation”?

Ball screws and linear guides equipped with NSK K1 do not require maintenance for five years or up to 10 000 km operational distance.

What is the NSK K1 Lubrication Unit?

NSK K1 is a lubrication device that combines oil and resin in a single unit. The porous resin in the unit contains a large amount of lubrication oil. Positioned close to the rail, NSK K1 constantly supplies fresh oil, which seeps from the resin, lubricating the rail surface.



Enlarged surface of NSK K1 Lubrication Unit

Polyolefin

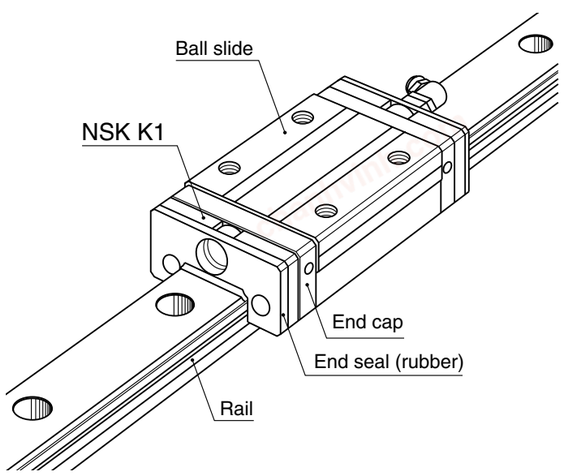
Unlike vinyl chloride products, polyolefin does not produce dioxin. Polyolefin is also being increasingly used at supermarkets for food wrapping.

Lubrication oil

This mineral oil-based oil has a viscosity of 100 cSt.

Remarkable sealing capacity with new material: NSK K1 Lubrication Unit

- NSK K1 lubrication unit (referred to as NSK K1 hereafter) equipped with linear guide is an outstanding new lubrication material.
- Newly developed porous synthetic resin contains a large volume of lubricant oil that seeps out and enhances lubricating function.
- Simply install NSK K1 inside a standard end seal (rubber).



1. Features

Compact and efficient lubrication unit.

1) Long-term maintenance is not required

Used with grease, the lubrication function lasts for a long time. Ideal for systems/environments in which replenishing is difficult.

▼

For automotive component processing lines, etc.

2) Does not pollute the environment

A very small volume of grease combined with NSK K1 can provide sufficient lubrication. NSK K1 is suitable for clean environment applications.

▼

Food processing, medical equipment, liquid crystal displays, semiconductor manufacturing equipment, etc.

3) Good for applications where lubricant is washed away

Used with grease, machine life is prolonged even when the machine is washed entirely using water or in environments where the machine is exposed to rain or wind.

▼

Food processing equipment, housing, construction machines, etc.

4) Maintains efficiency in dusty environments

In environments where oil- and grease-absorbing dust is produced, long-term efficiency in lubrication and prevention from foreign inclusions is maintained by using NSK K1 in combination with grease.

▼

Woodworking machines, etc.

Note: Stainless steel linear guides and ball screws should be considered for use in corrosive environments or other environments where rusting is a potential problem.

2. Precautions for handling

To maintain high functionality of the NSK K1 Seal, observe the following precautions.

1) Temperature range in use

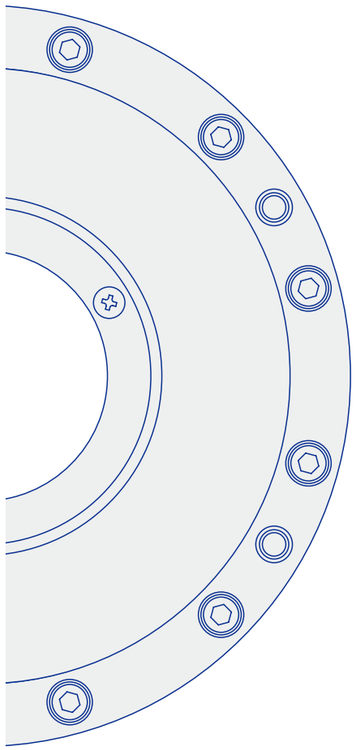
Maximum temperature in use: 50°C
Momentary maximum temperature in use: 80°C

2) Chemicals that should not come into contact with seal

Do not leave NSK K1 in organic solvent, white kerosene such as hexane, thinner that removes oil, or rust preventive oil that contains white kerosene.

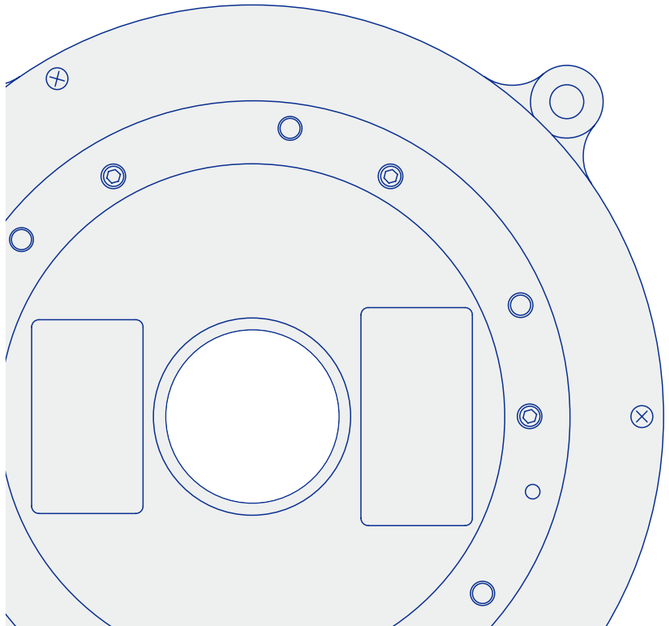
Note: Water-type cutting oil, oil-type cutting oil, grease such as mineral-type AS2 and ester-type PS2 do not damage NSK K1.

chanhvinh.com



Megatorque Motors

- High torque, high resolution and compact direct drive motors
- Intelligent drive with positioning controller function enabling stand-alone operation



chanhvinh.com

Megatorque Motors

Direct-drive motors with advanced features only available from NSK

With advanced features, including high torque, high resolution, maximum rotational speed of 10 [s^{-1}] (PS Series), high rigidity, and compactness, the Megatorque Motor complies with CE mark, UL standards, and the EU RoHS Directive. These innovative direct-drive motors are extremely accurate, light-weight, and boost the productivity of various devices.

Resolution of position sensor 2.62 million [counts/rev]
PS Series Maximum rotational speed 10 [s^{-1}] (varies by motor model)

High resolution

The Megatorque Motor's absolute position sensor is capable of a high resolution of 2 621 440 [counts/rev] and repeatability of ±2 [arc seconds].
It requires no homing operations and facilitates the development of highly accurate devices.

≫ Resolution of position sensor 2 621 440 [counts/rev]

Shortened positioning time

A new servo algorithm shortens settling time to less than one-fifth of conventional NSK motors.
Shortened positioning time boosts the productivity of various devices.

≫ Settling time less than 1/5

High torque

The optimal magnetic field design gives it more than twice as much force density as conventional NSK motors.
A maximum of 50% increase in motor torque increases productivity during high acceleration/deceleration drives.

≫ Force density more than twice as much

Compact motor

NSK's advanced design technology has produced two unique motor series: the low profile PN Series (height of PN2: 35 [mm]) and the light and compact PS Series (external diameter of PS1: ϕ100 [mm]).

≫ Height 35 [mm] (PN2) **≫ Outer diameter ϕ100 [mm] (PS1)**

High accuracy and interchangeability

Interchangeable Motors and Driver Units can be freely combined.
Increased positioning accuracy of 90 [arc seconds] and interchangeability improve ease of use.

≫ Absolute positioning accuracy 90 [arc seconds]

Intelligent

The EDC Driver Unit's positioning controller function is provided as a standard feature.
In addition, an electronic gear function is built in for setting the pulse train position command.
The EDC Megaterm software is used to collect, edit, and monitor data.

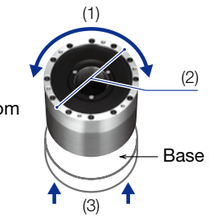
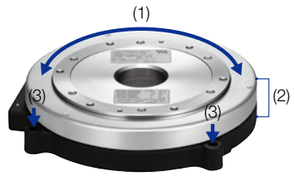
≫ Positioning controller function as a standard specification

Full consideration for people and the environment

Compliance with international safety standards (UL Standards, CE mark) assures worldwide applicability.
The Megatorque Motor is environment friendly and complies with the EU RoHS Directive.

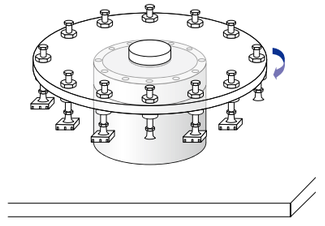
≫ Compliance with UL Standards, CE mark, EU RoHS Directive

Comparison of major features

PS Series	PN Series
Outer rotor	Inner rotor
Small diameter	Low profile
Fixed from the bottom	Fixed from the top
High rotational speed	High rigidity
Small installation space	Low motor height
Compact, clean, high accuracy, hollow structure, maintenance free	
For high-speed positioning of medium/light loads	For positioning of large loads
(1) Outer rotor (2) Small diameter (3) Fixed from the bottom 	(1) Inner rotor (2) Low plofile (3) Fixed from the top 

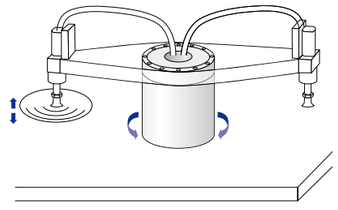
PS and PN Series in a variety of applications and installations

Application 1: **PS Series**
Inspection conveyor for electronic parts



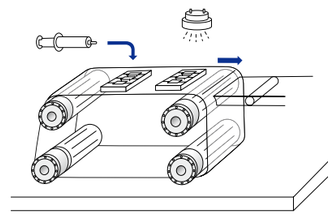
- High speed and high accuracy
- Compact • Clean
- Hollow structure (convenient for wiring/tubing)

Application 2: **PS Series**
Conveyor for DVD/CD



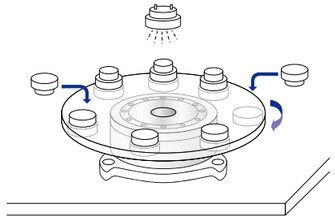
- High speed and high accuracy
- Clean • Maintenance free
- Hollow structure (convenient for wiring/tubing)

Application 3: **PS Series**
Inspection conveyor for medical devices



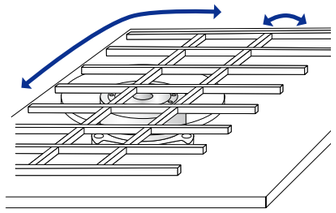
- Compact • Clean • Maintenance free

Application 4: **PN Series**
Automatic part assembly



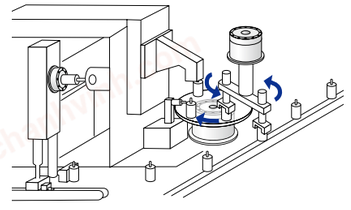
- High speed and high accuracy • Compact
- Advanced functions (unequal partitioned positioning and short-cut positioning)

Application 5: **PN Series**
Turn table and alignment for flat panels



- Compact • Maintenance free
- Advanced functions (fine positioning)
- High torque

Application 6: **PN Series** + **PS Series**
Manufacturing line for electric parts



- High-speed • Compact • Maintenance free

chanhvinh.com

Megatorque Motors

Types of Megatorque Motors

PS Series (Outer Rotor Type)

Series	PS Series			
Model	PS1 Model Motor	PS3 Model Motor		
Maximum output torque [N·m]	100 [N·m] – 50 [N·m] – 30 [N·m] – 10 [N·m] – 6 [N·m]			
Motor height [mm]	18 (135)	60 (136)	90 (170)	
	6 (85)	12 (110)	18 (135)	15 (85)	30 (102)
Motor outer diameter [mm]	ϕ100	ϕ150		
Motor hollow diameter [mm]	ϕ35	ϕ56		
Maximum rotational speed [s^{-1}]	10	10	8	5
Resolution of position sensor [counts/rev]	2 621 440			
Absolute positioning accuracy [arc sec]	90 (interchangeable, ambient temperature: 25 ± 5 [°C])			
Driver unit model (Dimensions: W × D × H [mm])	EDC Driver Unit	EDC Driver Unit		
	70 × 140 × 190	90 × 140 × 190		
Reference page	Page 325 – 328			
Features	Shortened positioning time Compact motor Interchangeable, highly accurate absolute position sensor Compact driver unit			

PN Series (Inner Rotor Type)

Series	PN Series		
Model	PN2 Model Motor	PN3 Model Motor	PN4 Model Motor
Maximum output torque [N·m]	200 [N·m] – 100 [N·m] – 50 [N·m] – 30 [N·m] – 10 [N·m]		
Motor height [mm]	18 (135)	45 (85)	135 (95)	180 (112)
	12 (35)		
Motor outer diameter [mm]	ϕ170	ϕ210	ϕ280
Motor hollow diameter [mm]	ϕ36	ϕ56	ϕ50
Maximum rotational speed [s^{-1}]	2	3	3
Resolution of position sensor [counts/rev]	2 621 440		
Absolute positioning accuracy [arc sec]	90 (interchangeable, ambient temperature: 25 ± 5 [°C])		
Driver unit model (Dimensions: W × D × H [mm])	EDC Driver Unit	EDC Driver Unit	
	70 × 140 × 190	90 × 140 × 190	
Reference page	Page 329 – 330		
Features	Shortened positioning time Low profile and high rigidity motor Interchangeable, highly accurate absolute position sensor Compact driver unit		

chanhvinh.com

Motor Specifications PS Series Motor

Part number for PS1 Model Motor

Example: **M-PS 1 006 KN 002**

- M-PS: Megatorque Motor PS Series
- 1: Motor size code
- 006: Maximum output torque [N·m]
- KN: Standard
- 002: Design serial number
  002: Standard
  003: High-precision products (made to order)*1

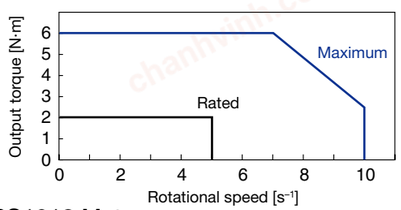
PS1 Model Motor specifications

Functional item \ Part number	M-PS1006KN002	M-PS1012KN002	M-PS1018KN002
Motor outer diameter [mm]		ϕ100	
Maximum output torque [N·m]	6	12	18
Rated output torque [N·m]	2	4	6
Motor height [mm]	85	110	135
Motor hollow diameter [mm]		ϕ35	
Maximum rotational speed [s^{-1}]		10	
Rated rotational speed [s^{-1}]		5	
Resolution of position sensor [counts/rev]		2 621 440	
Absolute positioning accuracy [arc sec]*1		90 (interchangeable type, ambient temperature: 25 ± 5 [°C])	
Repeatability [arc sec]		±2	
Allowable axial load [N]		1 000 (under no radial load)	
Allowable radial load [N]		820 (under no axial load)	
Allowable moment load [N·m]		28	
Rotor's moment of inertia [kg·m^2]	0.0024	0.0031	0.0038
Recommended load's moment of inertia [kg·m^2]	0.015–0.24	0.03–0.31	0.03–0.38
Mass [kg]	2.4	3.5	4.5
Environmental conditions	Ambient temperature 0–40 [°C]; humidity: 20–80%; use indoors, free from dust, condensation and corrosive gas. IP30 equivalent.		

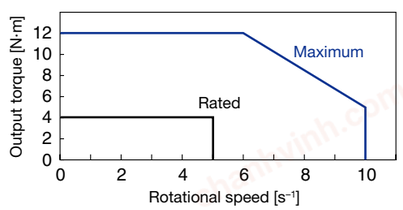
Note: Please consult with NSK in case of a simultaneous application of axial load, radial load and moment load to a motor.
For an oscillating operation less than 45 [°], turn the motor 90 [°] or more at least once a day.
*1 Absolute positioning accuracy of high-precision products (made to order) is 30 [arc sec] (interchangeable type, ambient temperature of 25 ± 5 [°C]).
Cable length is up to 8 [m].

Rotational speed and output torque characteristics

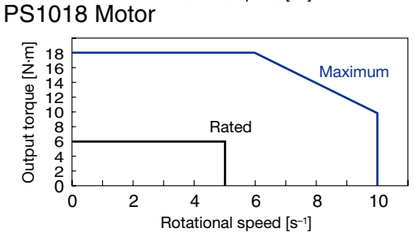
PS1006 Motor



PS1012 Motor

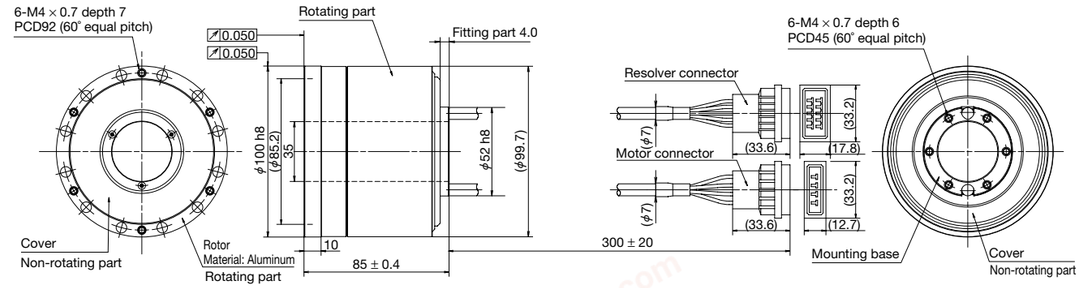


PS1018 Motor

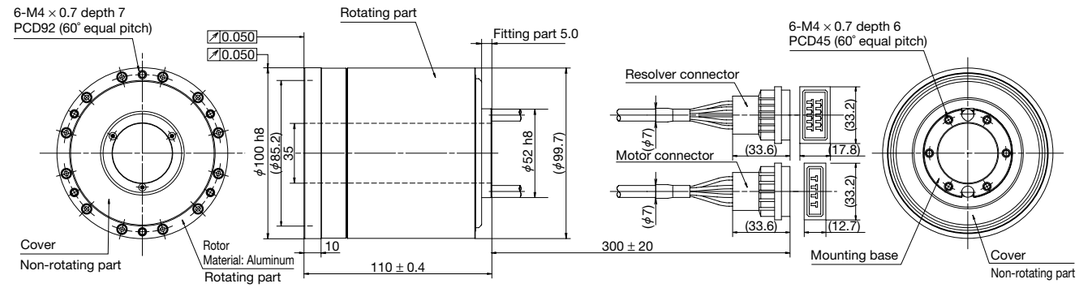


Dimensions of PS1 Model

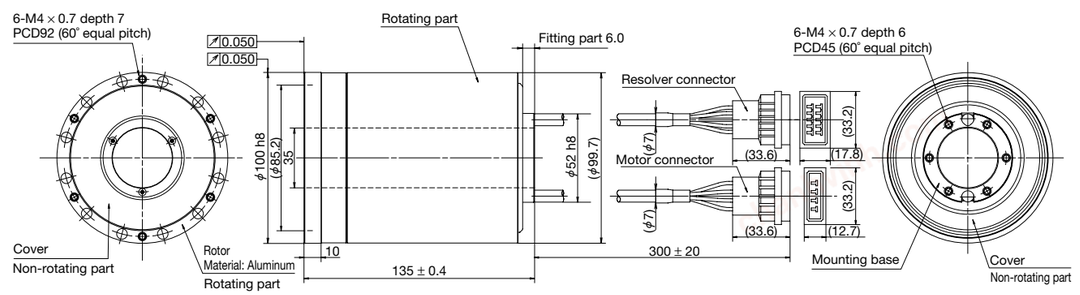
M-PS1006KN002



M-PS1012KN002



M-PS1018KN002



chanhvinh.com

Motor Specifications PS Series Motor

Part number for PS3 Model Motor

Example: **M-PS 3 015 KN 002**

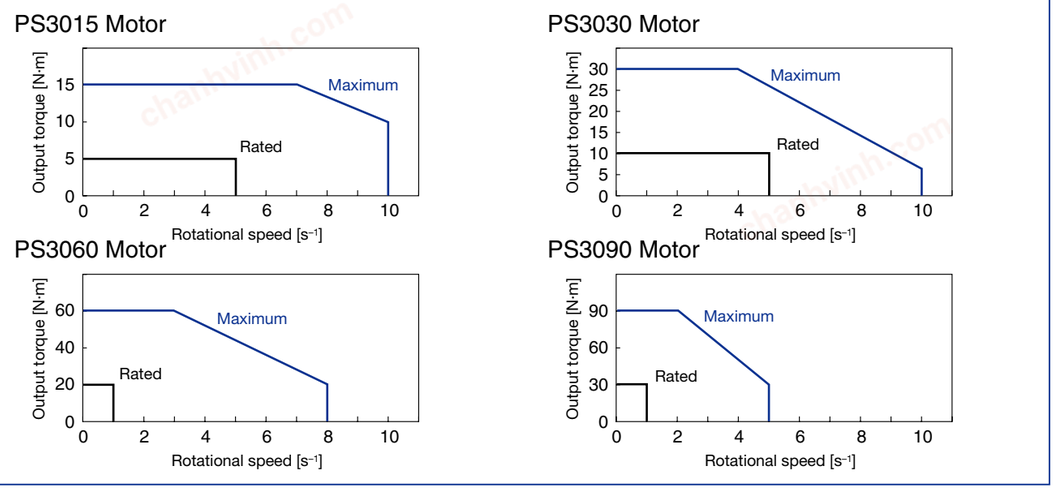
- M-PS: Megatorque Motor PS Series
- 3: Motor size code
- 015: Maximum output torque [N·m]
- KN: Standard
- 002: Design serial number
  - 002: Standard
  - 003: High-precision products (made to order)*1

PS3 Model Motor specifications

Functional item \ Part number	M-PS3015KN002	M-PS3030KN002	M-PS3060KN002	M-PS3090KN002
Motor outer diameter [mm]	ϕ150			
Maximum output torque [N·m]	15	30	60	90
Rated output torque [N·m]	5	10	20	30
Motor height [mm]	85	102	136	170
Motor hollow diameter [mm]	ϕ56			
Maximum rotational speed [s^{-1}]	10		8	5
Rated rotational speed [s^{-1}]	5		1	1
Resolution of position sensor [counts/rev]	2 621 440			
Absolute positioning accuracy [arc sec]*1	90 (interchangeable type, ambient temperature: 25 ± 5 [°C])			
Repeatability [arc sec]	±2			
Allowable axial load [N]	2 000 (under no radial load)			
Allowable radial load [N]	1 700 (under no axial load)			
Allowable moment load [N·m]	42			
Rotor's moment of inertia [kg·m^2]	0.011	0.014	0.019	0.024
Recommended load's moment of inertia [kg·m^2]	0–1.1	0–1.4	0.12–1.9	0.12–2.4
Mass [kg]	5.5	6.9	11.0	13.8
Environmental conditions	Ambient temperature 0–40 [°C]; humidity: 20–80%; use indoors, free from dust, condensation and corrosive gas. IP30 equivalent.			

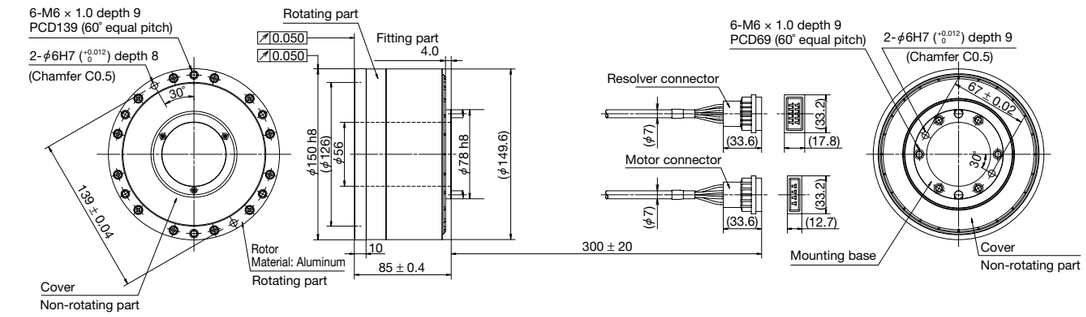
Note: Please consult with NSK in case of a simultaneous application of axial load, radial load and moment load to a motor.
For an oscillating operation less than 45 [°], turn the motor 90 [°] or more at least once a day.
Do not apply excessive load and/or impact to the motor when inserting the dowel pin.
*1 Absolute positioning accuracy of high-precision products (made to order) is 30 [arc sec] (interchangeable type, ambient temperature of 25 ± 5 [°C]).
Cable length is up to 8 [m].

Rotational speed and output torque characteristics

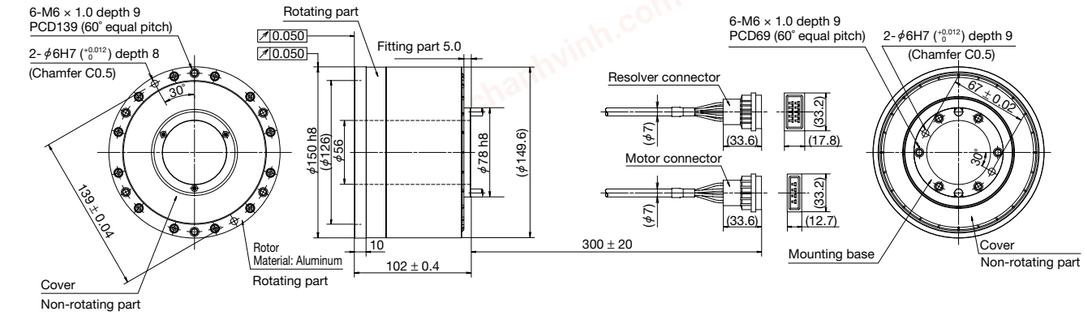


Dimensions of PS3 Model

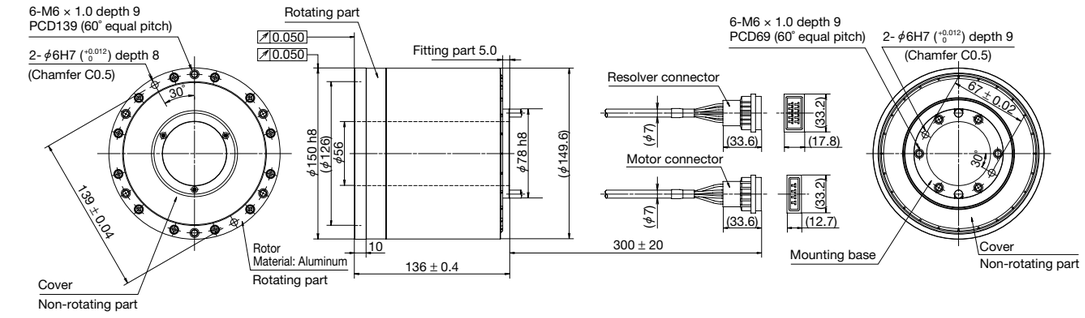
M-PS3015KN002



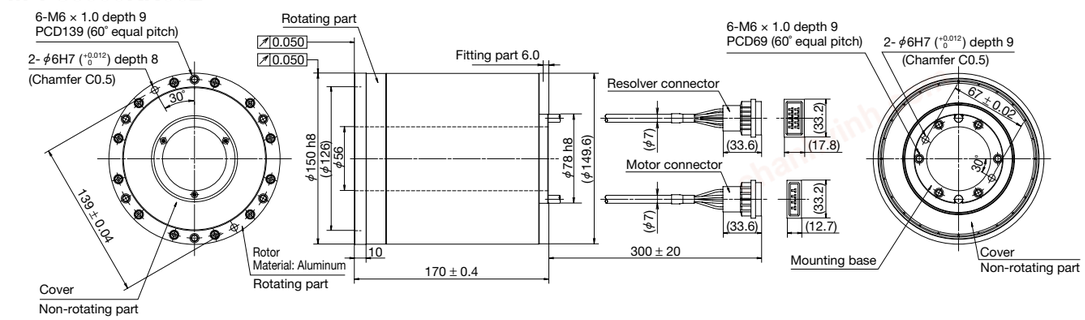
M-PS3030KN002



M-PS3060KN002



M-PS3090KN002



chanhvinh.com

Motor Specifications PN Series Motor

Part number for PN Model Motor

Example: **M-PN 3 045 KN 001**

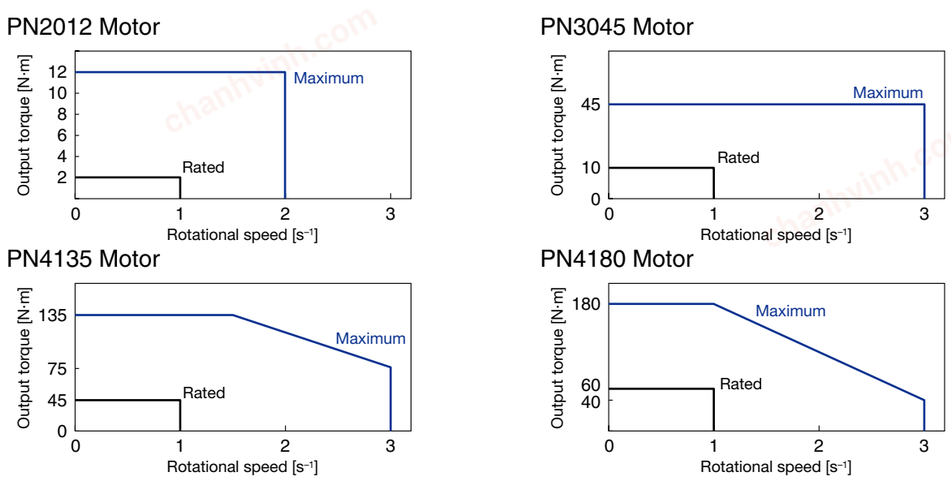
- M-PN: Megatorque Motor PN Series
- 3: Motor size code
- 045: Maximum output torque [N·m]
- KN: Standard
- 001: Design serial number
  201: Standard (PN2)
  003: Standard (PN3/PN4)

PN Model Motor specifications

Functional item \ Part number	M-PN2012KN201 (Note 2)	M-PN3045KN001	M-PN4135KN001	M-PN4180KN001
Motor outer diameter [mm]	ϕ170	ϕ210	ϕ280	
Maximum output torque [N·m]	12	45	135	180
Rated output torque [N·m]	2	15	45	60
Motor height [mm]	35	85	95	112
Motor hollow diameter [mm]	36	56	50	
Maximum rotational speed [s^{-1}]	2	3		
Rated rotational speed [s^{-1}]	1			
Resolution of position sensor [counts/rev]	2 621 440			
Absolute positioning accuracy [arc sec]	90 (interchangeable type, ambient temperature: 25 ± 5 [°C])			
Repeatability [arc sec]	±2			
Allowable axial load [N]*1	1 000	4 500	9 500	
Allowable radial load [N]*2	300	4 500	9 500	
Allowable moment load [N·m]	20	80	160	200
Rotor's moment of inertia [kg·m^2]	0.0024	0.011	0.057	0.065
Recommended load's moment of inertia [kg·m^2]	0.02–0.24	0.11–0.77	0.57–3.99	0.65–4.55
Mass [kg]	3.7	13	26	31
Environmental conditions	Ambient temperature 0–40 [°C]; humidity: 20–80%; use indoors, free from dust, condensation and corrosive gas. IP30 equivalent.			

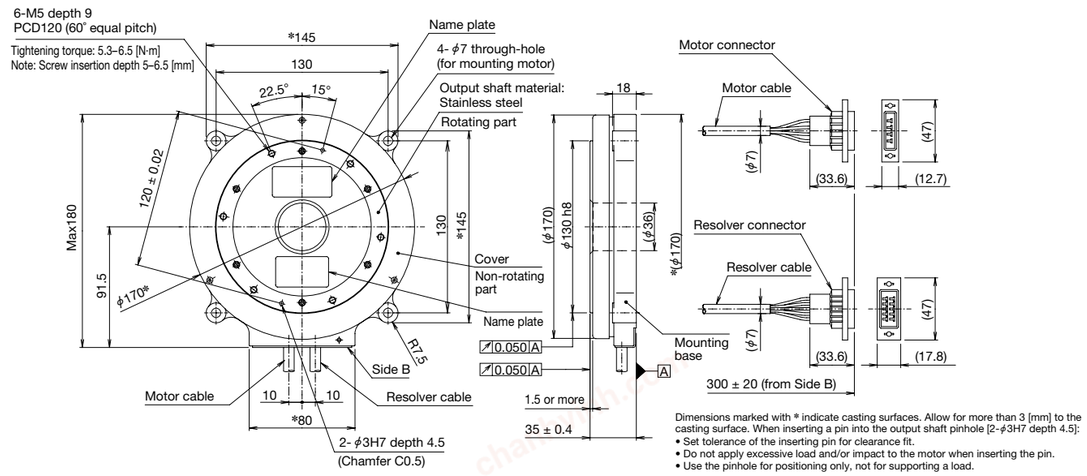
Note 1: Please consult with NSK in case of a simultaneous application of axial load, radial load and moment load to a motor.
*1 Under no radial load
*2 Under no axial load
For an oscillating operation less than 45 [°], turn the motor 90 [°] or more at least once a day.
Do not apply excessive load and/or impact to the motor when inserting the dowel pin.
Note 2: Cable length for PN2012 is up to 8 [m].

Rotational speed and output torque characteristics



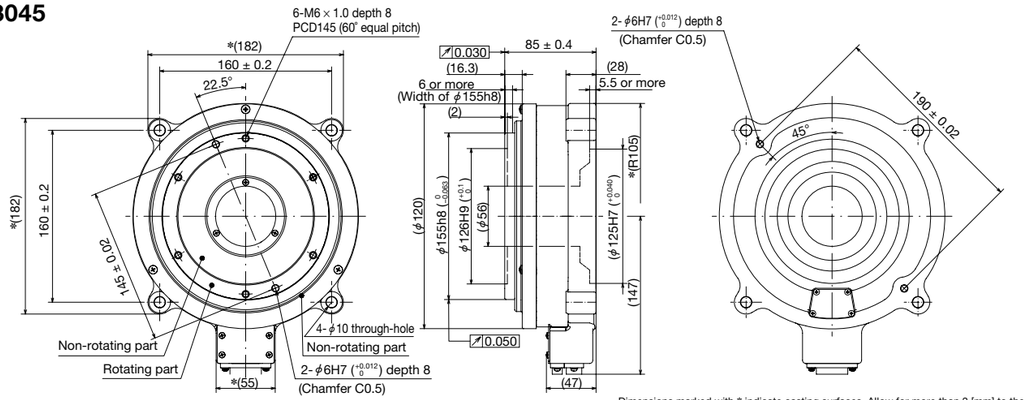
Dimensions of PN Model

PN2012



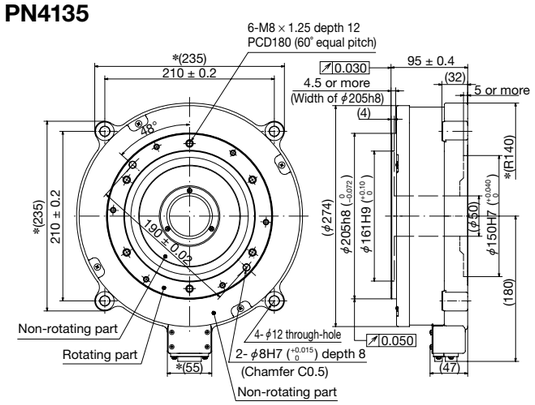
Dimensions marked with * indicate casting surfaces. Allow for more than 3 [mm] to the casting surface. When inserting a pin into the output shaft pinhole [2-ϕ3H7 depth 4.5]:
- Set tolerance of the inserting pin for clearance fit.
- Do not apply excessive load and/or impact to the motor when inserting the pin.
- Use the pinhole for positioning only, not for supporting a load.

PN3045

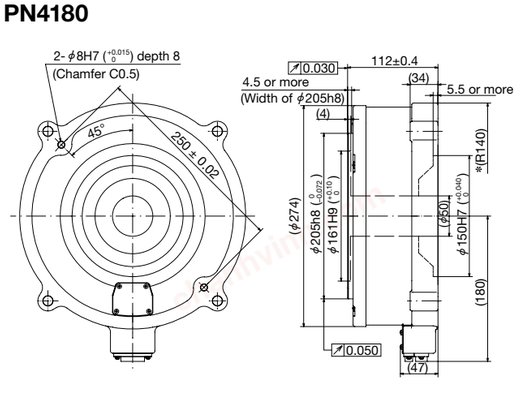


Dimensions marked with * indicate casting surfaces. Allow for more than 3 [mm] to the casting surface. When inserting a pin into the output shaft pinhole [2-ϕ6H7 depth 8]:
- Set tolerance of the inserting pin for clearance fit.
- Do not apply excessive load and/or impact to the motor when inserting the pin.
- Use the pinhole for positioning only, not for supporting a load.

PN4135



PN4180



Dimensions marked with * indicate casting surfaces. Allow for more than 3 [mm] to the casting surface. When inserting a pin into the output shaft pinhole [2-ϕ8H7 depth 8]:
- Set tolerance of the inserting pin for clearance fit.
- Do not apply excessive load and/or impact to the motor when inserting the pin.
- Use the pinhole for positioning only, not for supporting a load.

chanhvinh.com

EDC Driver Unit

Features of EDC Driver Unit

- **Adopts new servo algorithm (achieves settling time of 1 [ms])**

  The EDC Driver Unit adopts an original disturbance observer control and preview-based feed-forward control, which significantly reduces the positioning time, especially the settling time (approaching time).

- **Positioning controller function**

  Positioning operation can be controlled without complicated communication or higher order controller.

- **Compact Driver Unit**

  Combined with special electric components and advanced integration technology, the Driver Unit body is 65% smaller than conventional NSK units.

- **Variety of control I/Os**

  All control inputs required for positioning are available, including an encoder output, servo control and program control; no additional sensor is required to monitor the status.

Components and Functions of EDC Driver Unit

Rear mounting hole

Mounting bracket available as accessory for front mounting.



Independent inputs of main power and control power

Separate power lines assure system safety.

Motor cable connector

Clamping type connector shortens work time and prevents mis-wiring.

7-segment LED indicators

Driver Unit status can be comfirmed at a glance.

Analog monitor output terminal

Speed, positioning error, torque, motor current, etc. can be monitored by analog voltage. Effectively used for set up tuning or for monitoring operating status.

RS-232C communication connector

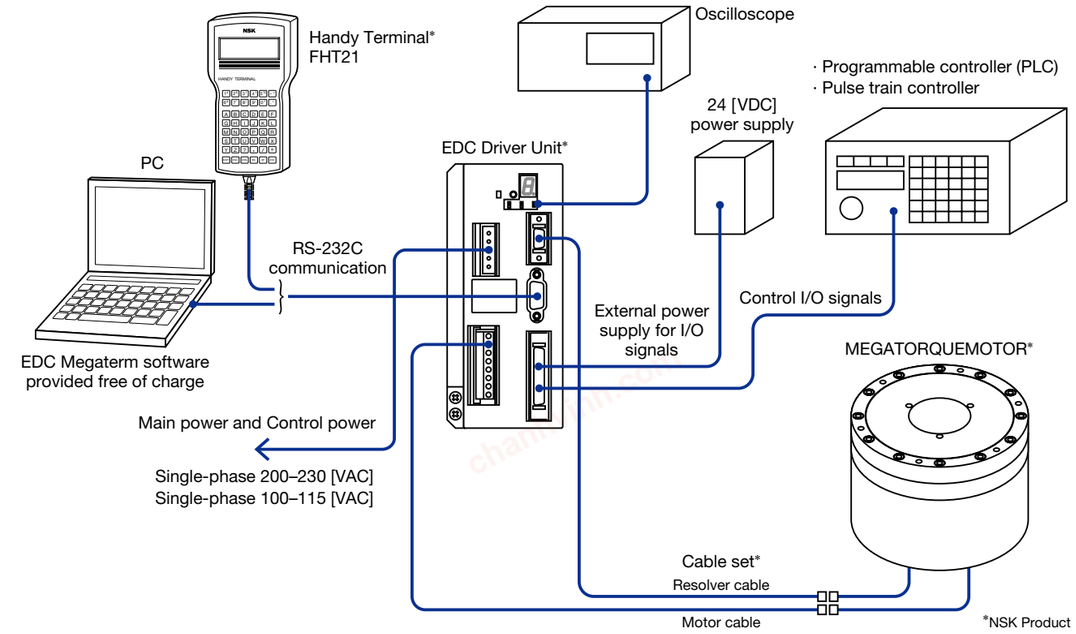
Connect the handy terminal to set parameters. Use the EDC Megaterm software to communicate with a PC.

Control signal I/O connector

A variety of signals are available, including servo on, in-position, emergency stop, area signal, override, various alarm outputs, ϕA/ϕB/ϕZ, etc.

System Configuration and EDC Driver Unit Control Technology

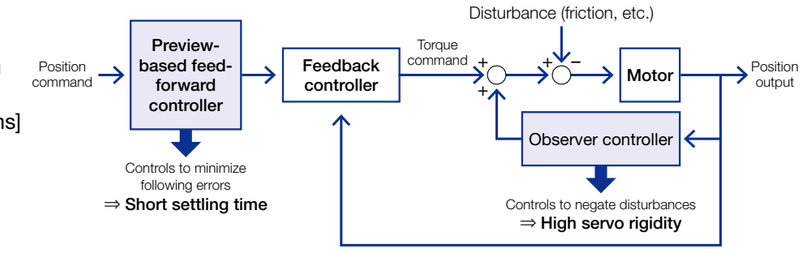
System Configuration



Control Technology and High-speed Positioning Example

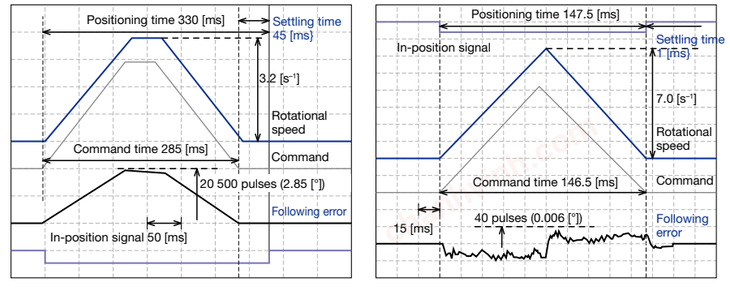
- **Control block diagram**

  Adopts new servo algorithm
  ↓
  Settling time: Less than 1 [ms]



- **Comparison of 180 [°] positioning**

Positioning time =
Command time + Settling time



Settling time	⇒	S45 [ms]	⇒	1 [ms]
Following error	⇒	20 500 pulses	⇒	40 pulses
Positioning time	⇒	330 [ms]	⇒	147.5 [ms]

chanhvinh.com

EDC Driver Unit

Part Number for EDC Driver Unit

Part number for EDC Driver Unit for PS Series Motor

Example: **M-EDC PS1006 A B 5 02 -01**

- EDC Driver Unit
- Motor model
- Main power voltage A: 200 – 230 [VAC] (single-phase)
  C: 100 – 115 [VAC] (single-phase)
- Specification of position sensor
  B: Incorporates absolute position sensor
- Function 5: Standard
  C: CC-Link (made to order)
- Design serial number
  02: Standard
  03: High-precision products (made to order)
- No code: No accessories included
  -01: Connectors, mounting brackets, and user's manual (Japanese version)
  -02: Connectors, mounting brackets, and user's manual (English version)

Part number for EDC Driver Unit for PN2 Motor

Example: **M-EDC PN2012 A B 5 02 -01**

- EDC Driver Unit
- Motor model
- Main power voltage A: 200 – 230 [VAC] (single-phase)
  C: 100 – 115 [VAC] (single-phase)
- Specification of position sensor
  B: Incorporates absolute position sensor
- Function 5: Standard
  C: CC-Link (made to order)
- Design serial number
  02: Standard
  03: High-precision products (made to order)
- No code: No accessories included
  -01: Connectors, mounting brackets, and user's manual (Japanese version)
  -02: Connectors, mounting brackets, and user's manual (English version)

Part number for EDC Driver Unit for PN3 and PN4 Motors

Example: **M-EDC PN3045 A B 5 02 -01**

- EDC Driver Unit
- Motor model
- Main power voltage A: 200 – 230 [VAC] (single-phase)
  C: 100 – 115 [VAC] (single-phase) (PN3 type only)
- Specification of position sensor
  B: Incorporates absolute position sensor
- Function 5: Standard
  C: CC-Link (made to order)
- Design serial number
  02: Standard
  03: High-precision products (made to order)
- No code: No accessories included
  -01: Connectors, mounting brackets, and user's manual (Japanese version)
  -02: Connectors, mounting brackets, and user's manual (English version)

Accessories vary depending on the function.

Standard accessories

(1) CN2 connector (user side)
Connector: 54306-5019 (Molex), or equivalent
Connector shell: 54331-0501 (Molex), or equivalent

(2) CN5 connector (user side)
Connector: 231-305/026-000 (WAGO), or equivalent
Wiring lever: 231-131(WAGO), or equivalent

(3) Mounting bracket

(4) User's Manual (English version)

Accessories for EDC Driver Unit (CC-Link Function)

(1) CN2 connector (user side)
Connector: DHF-PDA10-3-A01 (DDK)

(2) CN5 connector (user side)
Connector: 231-305/026-000 (WAGO)
Wiring lever: 231-131 (WAGO)

(3) CN6 connector (user side)
Connector: MSTB, 5/5-STF-5, 08AU
(Phoenix contact)

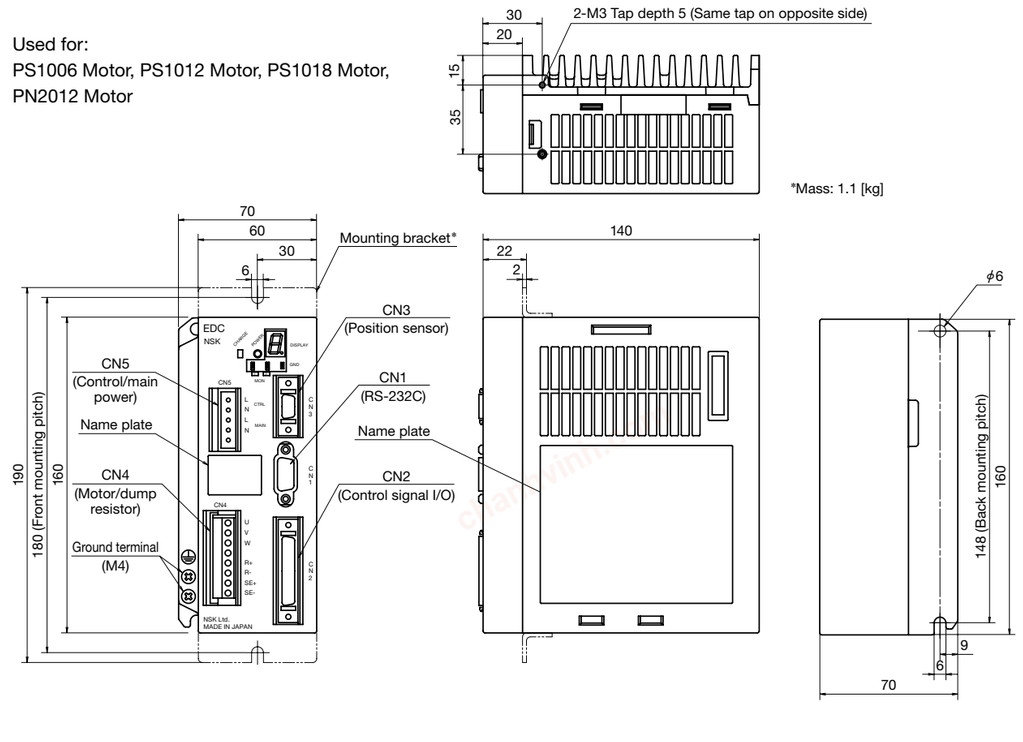
(4) Mounting bracket

(5) User's manual
(English version)

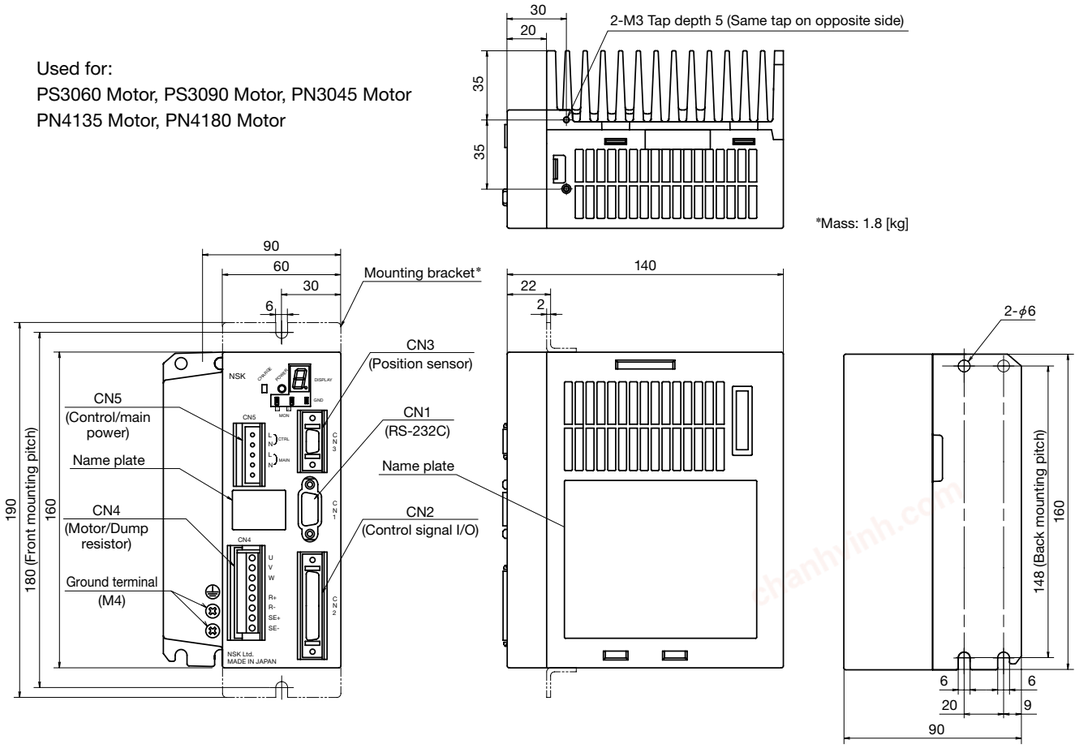
(6) User's manual for CC-Link
(English version)

Dimensions of EDC Driver Unit (Function)

Used for:
PS1006 Motor, PS1012 Motor, PS1018 Motor,
PN2012 Motor



Used for:
PS3060 Motor, PS3090 Motor, PN3045 Motor
PN4135 Motor, PN4180 Motor



chanhvinh.com

EDC Driver Unit

General Specifications of EDC Driver Unit

Item			Motor model	PS1006	PS1012	PS1018	PS3015	PS3030	PS3060	PS3090	PN2012	PN3045	PN4135	PN4180
Input power	Rated capacity [VA]			300	400	500	500	800	400	600	100	500	900	1100
	Maximum capacity [VA]			1 000	1 500	2 000	2 300	2 900	5 000	5 500	2 100	4400	5 000	5 100
	Control power source			Single phase 100–115 [VAC], single phase 200–230 [VAC] Voltage fluctuation range less than ±10%							Single phase 200–230 [VAC] Voltage fluctuation range ±10%			
	Main power source													
Resolution of position sensor [counts/rev]				2 621 440										
Positioning operation mode				Program operation (up to 256 Program channels: Position commands and parameter settings are programmable), Pulse train command, RS-232C serial communication command, Jogging, Home Return										
Input signal	Pulse train command			Photocoupler input. maximum frequency: 1MHz Input format: CW/CCW, Pulse and direction or ϕA/ϕB Resolution changer for universal multiplication is available (1 000–5 242 880 [counts/rev])										
	Control input			Photocoupler input ([± common], 17 input ports) (Input voltage: 24 [VDC]) Emergency stop, Alarm clear, Over travel limit (+ direction), Over travel limit (– direction), Servo on, Program operation start, Stop, Internal program channel switching 0–7 bit, Jog, Jog direction, (Hold, Velocity, Integration OFF, Home Return start, and Home position limit)										
Output signal	Position feedback signal			Signal format: ϕA/ϕB/ϕZ line driver. Universal resolution setting to ϕA/ϕB is available. Resolution of ϕA/ϕB: Shipping set: 20 480 [counts/rev] (Quadrupled: 81 920) Maximum: 1 310 720 [counts/rev] (Quadrupled: 5 242 880) *As the maximum frequency is 781K [Hz], the resolution setting limits the maximum velocity.										
	Control output			Photocoupler output ([± common], 8 outputs) (Max. switching capacity: 24 [VDC] / 50 [mA]) Driver Unit ready, Warning, Over travel limit detection (± direction), Servo state, Busy, In-position, Target proximity A (Target proximity B), Zone A/B/C, Travel limit ±, Normal, Position error under/over, Velocity under/over, Torque command under/over, Thermal loading under/over, Home return complete, Home position defined										
Alarms				RAM error, ROM error, System error, Interface error, ADC error, Emergency stop, CPU error, Position sensor error, Absolute position error, Motor cable disconnect, Excessive velocity, Resolver excitation amplifier alarm, Commutation error, Overheat, Main AC Line over voltage, Excess current, Control AC line under voltage, Power module alarm, Excess position error, Program error, Automatic tuning error, Position command/ feedback error, Software thermal error, Main AC Line under voltage, Travel limit over, Field bus warning, Home position undefined, Field bus error										
Monitors				Analog monitor x 2, (univesal range and offset setting), RS-232C monitor										
Communication				RS-232C serial communication (asynchronous, 9 600 [bps])										
Others				Automatic tuning Function set to Input/Output ports available Temporal parameter setting by program is available Individual acceleration/deceleration setting Acceleration profiling										
Option				Field path (CC-Link)										
Environmental conditions	Operating/Storing temperatures			0 to 50 [°C] for operating / –20 to +70 [°C] for storing										
	Operating/Storing humidity			90% or less [no condensation]										
	Vibration resistance			4.9 [m/s^2]										
Internal functions	Regenerative energy absorption			Dump resistor										
	Dynamic brake			Functions at power off, servo off and in the occurrence of an alarm										
Compatible safety regulation	UL			UL508C										
	CE	LVD		EN50178										
		EMC		EMI: EN55011, EMS: EN61000-6-2										
Connector	RS-232C	CN1		D-sub 9 pins										
	Control signal I/O	CN2		Standard specification: Half pitch connector 50 pins CC-Link specification: Half pitch connector 10 pins										
	Position sensor	CN3		Half-pitch connector 14 pins										
	Motor	CN4		Plastic connector (UL and CE compatible)										
	Dump resistor													
	Main/control power source	CN5		Plastic connector (UL and CE compatible)										
	CC-Link (option)	CN6		Connector MSTB2, 5/5-STF-5, 08 AU (Phoenix contact)										

Cable Set

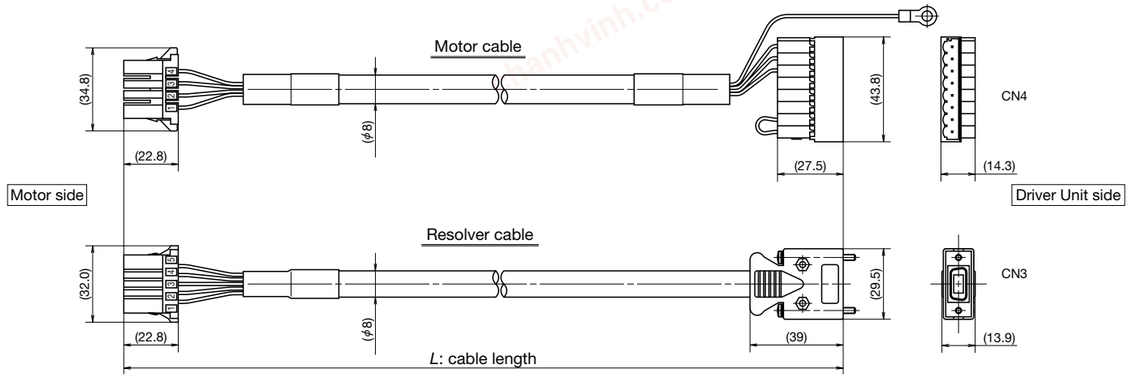
Part number for cable set

Example: **M-C 004 SCP 03**

- M-C: Cable set for Megatorque Motor
- 004: Cable length, Example: 004: 4m
- SCP: Cable set for EDC Driver Unit
- 03: Fixed use type
- 13: Flexible type

Refer to “Motor and EDC Driver Unit Combinations” for correct length.
Cable length can be up to 8 [m] for combinations with PN2012 and high-precision products in PS series.

Dimension of Cable Set



Cable bend radius (for both motor cable and resolver cable)

	Bend radius at fixed side	Bend radius at moving side
Fixed use type	R43 or more	—
Flexible type	R40 or more	R80 or more

chanhvinh.com

Accessories

Handy Terminal

Part number for Handy Terminal

Example: **M-FHT 21**

- M-FHT: Handy Terminal
- 21: Design number

Handy Terminal FHT21 is an easy-to-handle RS-232C communication terminal for inputting parameters and programs to the EDC Driver Unit.

- LCD screen: 20 letters × 4 lines, no external power source required, cable length: 3 [m]

Conventional models M-FHT01 and M-FHT11 are also supported by the EDC Driver Unit.



Accessories

Item	Part number	Contents
Connector	M-E014DCFS1-001	CN2 connector (user side) for standard function
	M-E014DCFS1-006	CN2 connector (user side) for CC-Link function
	M-E014DCFS1-002	CN5 connector (user side)
	M-E014DCFS1-003	CN6 connector (user side)
	M-E011DCCN1-001	Cable with CN2 connector for CC-Link function
Mounting bracket	M-E050DCKA1-001	Driver Unit mounting brackets
Manual	M-E099DC0C2-155	User's manual (Japanese version)
	M-E099DC0C2-158	User's manual (English version)
	M-E099DC0C2-156	CC-Link option instruction manual (Japanese version)
	M-E099DC0C2-157	CC-Link option instruction manual (English version)
Dump resistor	M-E014DCFR1-100	Dump resistor
	M-E014DCFR1-101	Dump resistor (large capacity)
Accessory set	M-E014DCFS1-004	Set of M-E014DCFS1-001, M-E014DCFS1-002, and M-E050DCKA1-001

Motor and EDC Driver Unit Combinations

PS Series and EDC Driver Unit combinations

Motor outer diameter	Motor part number	EDC driver unit part number (✻✻ indicates accessories specification)	Power voltage	Cable part number	Main specifications
ϕ100	M-PS1006KN002	M-EDC-PS1006AB502-✻✻	AC200–AC230	M-C0✻✻SCP03 (Fixed use type) M-C0✻✻SCP13 (Flexible type) ✻✻ indicates cable length 01: 1 [m] 02: 2 [m] 03: 3 [m] 04: 4 [m] 05: 5 [m] 06: 6 [m] 08: 8 [m] 10: 10 [m] 15: 15 [m] 20: 20 [m] 30: 30 [m]	256 program channels Pulse train input (photocoupler)
		M-EDC-PS1006CB502-✻✻	AC100–AC115		
	M-PS1012KN002	M-EDC-PS1012AB502-✻✻	AC200–AC230		
		M-EDC-PS1012CB502-✻✻	AC100–AC115		
	M-PS1018KN002	M-EDC-PS1018AB502-✻✻	AC200–AC230		
		M-EDC-PS1018CB502-✻✻	AC100–AC115		
ϕ150	M-PS3015KN002	M-EDC-PS3015AB502-✻✻	AC200–AC230		
		M-EDC-PS3015CB502-✻✻	AC100–AC115		
	M-PS3030KN002	M-EDC-PS3030AB502-✻✻	AC200–AC230		
		M-EDC-PS3030CB502-✻✻	AC100–AC115		
	M-PS3060KN002	M-EDC-PS3060AB502-✻✻	AC200–AC230		
		M-EDC-PS3060CB502-✻✻	AC100–AC115		
	M-PS3090KN002	M-EDC-PS3090AB502-✻✻	AC200–AC230		
		M-EDC-PS3090CB502-✻✻	AC100–AC115		

PN Series and EDC Driver Unit combinations

Motor outer diameter	Motor part number	EDC driver unit part number (✻✻ indicates accessories specification)	Power voltage	Cable part number	Main specifications
ϕ170	M-PN2012KN201	M-EDC-PN2012AB502-✻✻	AC200–AC230	Refer to the above table. (Note that maximum cable length for PN2012 is 8 [m].)	256 program channels Pulse train input (photocoupler)
		M-EDC-PN2012CB502-✻✻	AC100–AC115		
ϕ210	M-PN3045KN001	M-EDC-PN3045ABC502-✻✻	AC200–AC230		
		M-EDC-PN3045CB502-✻✻	AC100–AC115		
ϕ280	M-PN4135KN001	M-EDC-PN4135AB502-✻✻	AC200–AC230		
	M-PN4180KN001	M-EDC-PN4180AB502-✻✻	AC200–AC230		

"EDC Megaterm" Application Software

Once installed on your computer, this software enables the editing, preparation and control of EDC Driver Unit programs and parameters. It also facilitates the allocation and monitoring of control input/output. And its oscilloscope function allows for easy confirmation of motor operation.
EDC Megaterm can be downloaded for free from the NSK website.

Personal computer
EDC Megaterm
Windows 2000•XP•VISTA
RS-232C
EDC Driver Unit

RS-232C communication cable is available (accessory).
Type: M-C003RS03 (cable length: 3 [m])

Functions

1. Oscilloscope function
2. Allocation and monitoring of control input/output
3. Parameter editing
4. Channel editing
5. Others:
   - Upload/download parameter and channel data
   - Terminal



chanhvinh.com

Form for Requesting Megatorque Motor Selection

NSK will assist in selecting the optimal Megatorque Motor.
Please fill in the necessary items on the below form and send it by fax to the local NSK office.
Items marked with ◎ represent the minimum information required for selection. Please provide as much detail as possible.

To be completed by customer

To , in charge of Precision Machinery & Parts, NSK

Date (DD/MM/YYYY): / /

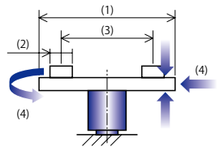
◎Company Name:

◎Section:

◎Contact:

◎Name:

TEL FAX

◎**Application and equipment used** (specify with as much detail as possible)	
◎**Motor installation position** (check in ☐)	☐ Upright position (Output shaft in a vertical direction) ☐ Horizontal position (Output shaft in a horizontal direction) ☐ Upside-down position (Output shaft in a downward direction) ☐ Others
◎**Load conditions** (1) Geometry, dimensions, thickness, material (or mass) of table (2) Dimensions, mass, quantity of loads/ jigs (3) PCD (distance between the jigs/ works) (example of description) 	Schematic drawing (an attached illustration showing outside dimensions is acceptable) • Please provide information on outside dimensions, dimensions from the center, material, etc. Attachment: ☐ Yes ☐ No
(4) External force (pressure/impact load, sliding friction, etc.)	N ☐ None ☐ Always ☐ At settling ☐ During rotating ☐ Some impact ☐ Rotational direction ☐ Sliding friction *Specify position, direction, etc. in the schematic drawing.
Motor size requested	
Positioning command system	☐ Internal program system ☐ Pulse train input operation ☐ RS-232C operation ☐ CC-Link
◎**Positioning angle / Number of points**	Settle at °, Number of points:
◎**Repeatability (±)**	± seconds (± mm at mm from the motor center)
◎**Cycle pattern** (desired positioning time) *Specify settling time.	Rotational speed [s⁻¹] Index time seconds Settling time seconds Time [s] Operating time hours/days
◎**Input power voltage**	☐ AC100–115V ☐ AC200–230V ☐ Others (V)
Environmental conditions	Operating environment ☐ General environment (equivalent to IP30) ☐ Oil, water and chemical ☐ Oil, water and chemical ☐ Chips and dust ☐ Clean Operating temperature ☐ 0°C to 40°C ☐ Below 0°C ☐ Above 40°C ☐ Other (°C) Contact NSK for details.
◎**Cable specification and length**	☐ Fixed cable ☐ Movable cable Length: m (standard: 2, 4, 8 m) Select “Movable” when cable is repeatedly bent anywhere along the wiring route.
Other request items	

Example of completed form

To Mr. XXX XXX, in charge of Precision Machinery & Parts, NSK

Date (DD/MM/YYYY): 12 / 01 / 2010

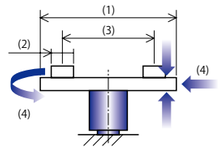
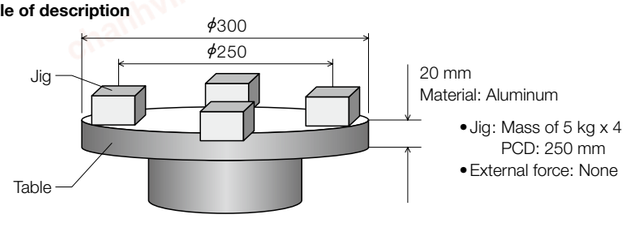
◎Company Name: YYY Corporation

◎Section: Engineering Dept., Engineering Section #1

◎Contact:

◎Name: YYY YYY

TEL 03-1234-5678-8 FAX 03-1234-5678

◎**Application and equipment used** (specify with as much detail as possible)	Semiconductor inspection machine
◎**Motor installation position** (check in ☐)	☑ Upright position (Output shaft in a vertical direction) ☐ Horizontal position (Output shaft in a horizontal direction) ☐ Upside-down position (Output shaft in a downward direction) ☐ Others
◎**Load conditions** (1) Geometry, dimensions, thickness, material (or mass) of table (2) Dimensions, mass, quantity of loads/ jigs (3) PCD (distance between the jigs/ works) (example of description) 	Schematic drawing (an attached illustration showing outside dimensions is acceptable) • Please provide information on outside dimensions, dimensions from the center, material, etc. **Example of description**  Attachment: ☐ Yes ☐ No
(4) External force (pressure/impact load, sliding friction, etc.)	10 N ☑ None ☐ Always ☐ At settling ☐ During rotating ☐ Some impact ☐ Rotational direction ☐ Sliding friction Force is applied downward to a single point at 125 mm in radius from the center. *Specify position, direction, etc. in the schematic drawing.
Motor size requested	M-PS3060
Positioning command system	☑ Internal program system ☐ Pulse train input operation ☐ RS-232C operation ☐ CC-Link
◎**Positioning angle / Number of points**	Settle at 90 °, Number of points: 4
◎**Repeatability (±)**	± 20.6 seconds (± 0.01 mm at 100 mm from the motor center)
◎**Cycle pattern** (desired positioning time) *Specify settling time.	Rotational speed [s⁻¹] Index time 0.7 seconds Settling time 1.0 seconds Time [s] Operating time 8 hours/days
◎**Input power voltage**	☐ AC100–115V ☑ AC200–230V ☐ Others (V)
Environmental conditions	Operating environment ☑ General environment (equivalent to IP30) ☐ Oil, water and chemical ☐ Oil, water and chemical ☐ Chips and dust ☐ Clean Operating temperature ☑ 0°C to 40°C ☐ Below 0°C ☐ Above 40°C ☐ Other (°C) Contact NSK for details.
◎**Cable specification and length**	☐ Fixed cable ☑ Movable cable Length: 4 m (standard: 2, 4, 8 m) Select “Movable” when cable is repeatedly bent anywhere along the wiring route.
Other request items	Please reply by January 12, 2010. (example)

chanhvinh.com

Worldwide Sales Offices and Manufacturing Plants

P: Phone F: Fax C: Country Code Printed in Japan

NSK LTD.-HEADQUARTERS, TOKYO, JAPAN

www.nsk.com

Nissei Bldg., 1-6-3 Ohsaki, Shinagawa-ku, Tokyo 141-8560, Japan

INDUSTRIAL MACHINERY BUSINESS DIVISION-HEADQUARTERS
P: 03-3779-7227 F: 03-3779-7644 C: 81

GLOBAL AFTERMARKET DEPARTMENT
P: 03-3779-7253 F: 03-3779-7644 C: 81

PRECISION MACHINERY DEPARTMENT
P: 03-3779-7163 F: 03-3779-7644 C: 81

MECHATRONICS BUSINESS DEPARTMENT
P: 0466-21-3027 F: 0466-21-3206 C: 81

AUTOMOTIVE BUSINESS DIVISION-HEADQUARTERS
P: 03-3779-7189 F: 03-3779-7917 C: 81

●Africa

South Africa:

NSK SOUTH AFRICA (PTY) LTD.

JOHANNESBURG 25 Galaxy Avenue, Linbro Business Park, Sandton, Gauteng, P.O. Box 1157, Kelvin, 2054, South Africa
P: 011-458-3600 F: 011-458-3608 C: 27

●Asia and Oceania

Australia:

NSK AUSTRALIA PTY. LTD. www.au.nsk.com

MELBOURNE 11 Dalmore Drive, Scoresby, Victoria 3179, Australia
P: 03-9764-8302 F: 03-9764-8304 C: 61

SYDNEY 24-28 River Road West, Parramatta, New South Wales 2150, Australia
P: 02-8843-8100 F: 02-9893-8406 C: 61

BRISBANE 1/69 Selhurst Street, Coopers Plains, Queensland 4108, Australia
P: 07-3347-2600 F: 07-3345-5376 C: 61

PERTH Unit 1, 71 Tacoma Circuit, Canning Vale, Western Australia 6155, Australia
P: 08-9256-5000 F: 08-9256-1044 C: 61

China:

NSK HONG KONG LTD.

HONG KONG Suite 814, World Commerce Centre, Harbour City, T.S.T, KLN, Hong Kong, China
P: 02739-9933 F: 02739-9323 C: 852

SHENZHEN Room 8B08-09, Jueshi Tower, Jiabing Road, Luohu, Shenzhen, Guangdong, China (518001)
P: 0755-25904886 F: 0755-25904883 C: 86

KUNSHAN NSK CO., LTD.

OFFICE/PLANT 258 South Huang Pu Jiang Rd., Kunshan Economic & Technical Development Zone, Jiang Su, China (215335)
P: 0512-5771-5654 F: 0512-5771-5689 C: 86

CHANGSHU NSK NEEDLE BEARING CO., LTD.

OFFICE/PLANT No. 66 Dongnan Road, Changshu Southeast Economic Development Zone, Changshu City, Jiangsu, China (215500)
P: 0512-5230-1111 F: 0512-5230-6011 C: 86

NSK STEERING SYSTEMS DONGGUAN CO., LTD.

OFFICE/PLANT High-tech Park, Shilong Road, Guanlong Section, Dongguan, Guangdong, China (523119)
P: 0769-2262-0960 F: 0769-2316-2867 C: 86

ZHANGJIAGANG NSK PRECISION MACHINERY CO., LTD.

OFFICE/PLANT No. 34 Zhenxing Road, Zhangjiagang Economic Development Zone, Zhangjiagang City, Jiangsu, China (215600)
P: 0512-5867-6496 F: 0512-5818-0970 C: 86

SUZHOU NSK BEARINGS CO., LTD.

OFFICE/PLANT No. 22 Taishan Road, Suzhou New District, Jiangsu, China (215129)
P: 0512-6665-5666 F: 0512-6665-9138 C: 86

NSK (CHINA) RESEARCH & DEVELOPMENT CO., LTD.

JIANGSU No.8 NSK Rd., Huaqiao Economic Development Zone, Kunshan, Jiangsu, China (215332)
P: 0512-5796-3000 F: 0512-5796-3300 C: 86

NSK (SHANGHAI) TRADING CO., LTD.

JIANGSU No.8 NSK Rd., Huaqiao Economic Development Zone, Kunshan, Jiangsu, China (215332)
P: 0512-5796-3000 F: 0512-5796-3300 C: 86

NSK (CHINA) INVESTMENT CO., LTD. www.nsk.com.cn

HEAD OFFICE No.8 NSK Rd., Huaqiao Economic Development Zone, Kunshan, Jiangsu, China (215332)
P: 0512-5796-3000 F: 0512-5796-3300 C: 86

BEIJING Room 2116, Beijing Fortune Bldg., 5 Dong San Huan Bei Lu, Chao Yang District, Beijing, China (100004)
P: 010-6590-8161 F: 010-6590-8166 C: 86

GUANGZHOU Room 3101/3102/3106A, Guangdong Telecom Plaza, 18 Zhongshan Er Road, Guangzhou, Guangdong, China (510080)
P: 020-3786-4833 F: 020-3786-4501 C: 86

CHENGDU Room1117, Lippo Tower, No.62 North Kehua Road, Chengdu, Sichuan, China (610041)
P: 028-8528-3680 F: 028-8528-3690 C: 86

SHENYANG Room 3805~3806, Tower A, Royal Wanxin International Mansion, No.390 Qingnian Street, Heping District, Shenyang, Liaoning, China (110003)
P: 024-2334-2868 F: 024-2334-2058 C: 86

DALIAN Room 1805 Xiwang Tower, No.136 Zhongshan Road, Zhongshan District, Dalian, Liaoning, China (116001)
P: 0411-8800-8168 F: 0411-8800-8160 C: 86

NSK CHINA SALES CO., LTD.

HEAD OFFICE No.8 NSK Rd., Huaqiao Economic Development Zone, Kunshan, Jiangsu, China (215332)
P: 0512-5796-3000 F: 0512-5796-3300 C: 86

CHANGCHUN Room 1001, Building A, Zhongyin Building, 727 Xi'an Road, Changchun, Jilin, China (130061)
P: 0431-8898-8682 F: 0431-8898-8670 C: 86

TIAN JIN Room 06, 09F The Exchange Tower 2, No. 189 NanJing Road, Heping District, Tianjin, China (300050)
P: 022-8319-5030 F: 022-8319-5033 C: 86

NANJING A1 22F, Golden Eagle International Plaza, No.89 Hanzhong Road, Nanjing, Jiangsu, China (210029)
P:025-8472-6671 F:025-8472-6687 C:86

CHONGQING Room 2306, Unit B, No.137, Keyuan 2nd Road, Jiulongpo District, Chonqing, China (400039)
P:023-6806-5310 F:023-6806-5292 C:86

NSK-WARNER (SHANGHAI) CO., LTD.

OFFICE/PLANT No. 2518 Huancheng Road (West) Fengxian District, Shanghai,China (201401)
P: 021-3365-5757 F: 021-3365-5262 C: 86

AKS PRECISION BALL (HANGZHOU) CO., LTD.

PLANT No. 189 Hongda Road, Xiaoshan Area of Economic & Technological Development Zone, Hangzhou, Zhejiang, China (311231)
P: 0571-2280-1288 F: 0571-2280-1268 C: 86

NSK-YAGI PRECISION FORGING (ZHANGJIAGANG) CO., LTD.

PLANT No. 34 Zhenxing Road, Zhangjiagang Economic Development Zone, Zhangjiagang City, Jiangsu, China (215600)
P:0512-5867-6496 F:0512-5818-0970 C:86

NSK-WANDA ELECTRIC POWER ASSISTED STEERING SYSTEMS CO.,LTD.

OFFICE/PLANT 1833 Yatai Road, Wenyan Town, Xiaoshan, Hangzhou, Zhejiang, China (311258)
P:0571-8231-4818 F:0571-8248-6656 C:86

SHENYANG NSK PRECISION CO., LTD.

OFFICE/PLANT No. 7, 15 Street, Shenyang Economic & Technological Development Area, Shenyang, Liaoning, China (110141)
P: 024-2532-6080 F: 024-2532-6081 C: 86

India:

RANE NSK STEERING SYSTEMS LTD.

CHENNAI 14, Rajagopalan Salai, Vallancherry, Guduvancherry, Tamil Nadu-603 202, India
P:044-474-06017 F:044-274-66001 C:91

BAWAL Plot No.28A, Sector 6, HSIIDC Growth Centre Bawal, District Rewari, Haryana -123 501, India
P:01284-264281 F:01284-264280 C:91

NSK INDIA SALES CO.PVT.LTD.

CHENNAI New No.7, Old No.5, Boat Club Road, Chennai-600 028, India
P:044-2433-1161 F:044-2433-1160 C:91

GURGAON 107, Park Centra, Sector-30, Opposite 32nd Milestone, NH-8, Gurgaon, Haryana-122 001, India
P:0124-4104-530 F:0124-4104-532 C:91

KOLKATA 502, Trinity Towers, 83, Topsia Road, Kolkata-700 046, India
P:033-4001-2062 F:033-4001-2064 C:91

MUMBAI 321, A Wing, Ahura Centre, 82, Mahakali Caves Road, Andheri East, Mumbai -400 093, India
P:022-2838-7787 F:022-2838-5191 C:91

NSK-ABC BEARINGS LTD.

OFFICE/PLANT Plot No.A2, SIPCOT Growth Centre, Oragadam, Mathur Village, Sriperumbudur Taluk, Kancheepuram District, Tamil Nadu-602 105, India
P:044-2714-3000 F:044-2714-3099 C:91

Indonesia:

PT. NSK BEARINGS MANUFACTURING INDONESIA

JAKARTA PLANT Blok M4, Kawasan Berikat MM2100 Industrial Town Cikarang Barat, Bekasi 17520, Indonesia
P: 021-898-0155 F: 021-898-0156 C: 62

PT. NSK INDONESIA www.id.nsk.com

JAKARTA Summitmas II, 6th Floor, Jl. Jend Sudirman Kav. 61-62, Jakarta 12190, Indonesia
P: 021-252-3458 F: 021-252-3223 C: 62

PT. NSK-WARNER INDONESIA

BEKASI MM2100 Industrial Town, Cikarang Barat, Bekasi 17520, Indonesia
P: 021-8998-3216 F: 021-8998-3218 C: 62

Korea:

NSK KOREA CO., LTD. www.kr.nsk.com

SEOUL Posco Center (West Wing) 9F, 892, Daechi-4Dong, Kangnam-Ku, Seoul, 135-777, Korea
P: 02-3287-0300 F: 02-3287-0345 C: 82

CHANGWON 60, Seongsan-Dong, Changwon, Kyungsangnam-Do, 641-315, Korea
PLANT P: 055-287-6001 F: 055-285-9982 C: 82

Malaysia:

NSK BEARINGS (MALAYSIA) SDN. BHD. www.my.nsk.com

HEAD OFFICE No. 2, Jalan Pemaju, U1/15, Seksyen U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor, Malaysia
P: 03-7803-8859 F: 03-7806-5982 C: 60

PRAI No.36, Jalan kikik, Taman Inderawasih, 13600 Prai, Penang, Malaysia
P: 04-3902275 F: 04-3991830 C: 60

JOHOR BAHRU 88 Jalan Ros Merah 2/17, Taman Johor Jaya, 81100 Johor Bahru, Johor, Malaysia
P: 07-3546290 F: 07-3546291 C: 60

KOTA KINABALU No. 8 Lot 3B, Block C, Lorong Waja 2, Taman Waja, Jalan Pintas, Kepayan Ridge, 88300 Kota Kinabalu, Sabah, Malaysia
P: 088-413798 F: 088-413798 C: 60

IPOH Gr. Floor, 89 Jalan Bendahara, 31650 Ipoh, Perak, Malaysia
P: 05-2555000 F: 05-2553373 C: 60

NSK MICRO PRECISION (M) SDN. BHD. www.my.nsk.com

MALAYSIA PLANT No.43 Jalan Taming Dua,Taman Taming Jaya 43300 Balakong, Selangor Darul Ehsan, Malaysia
P: 03-8961-3960 F: 03-8961-3968 C: 60

New Zealand:

NSK NEW ZEALAND LTD. www.nsk-rhp.co.nz

AUCKLAND 3 Te Apunga Place, Mt. Wellington, Auckland, New Zealand
P: 09-276-4992 F: 09-276-4082 C: 64

Philippines:

NSK REPRESENTATIVE OFFICE

MANILA 8th Floor The Salcedo Towers 169 H.V. dela Costa St., Salcedo Village Makati City, Philippines 1227
P: 02-893-9543 F: 02-893-9173 C: 63

Singapore:

NSK INTERNATIONAL (SINGAPORE) PTE LTD.

SINGAPORE 238A, Thomson Road, #24-01/05, Novena Square Tower A, Singapore 307684
P: 6496-8000 F: 6250-5845 C: 65

NSK SINGAPORE (PRIVATE) LTD. www.nsk-singapore.com.sg

SINGAPORE 238A, Thomson Road, #24-01/05, Novena Square Tower A, Singapore 307684
P: 6496-8000 F: 6250-5845 C: 65

Taiwan:

TAIWAN NSK PRECISION CO., LTD.

TAIPEI 11F., No.87, Song Jiang Rd., Jhongshan District, Taipei City 104, Taiwan R.O.C.
P: 02-2509-3305 F: 02-2509-1393 C: 886

TAICHUNG 107-7, Sec. 3, Wen Xing Rd., Taichung City 407, Taiwan R.O.C.
P: 04-2311-7978 F: 04-2311-2627 C: 886

TAINAN No.8 Daye 1st Rd., Southern Taiwan Science Park, Tainan County 741, Taiwan R.O.C.
P: 06-505-5861 F: 06-505-5061 C: 886

TAIWAN NSK TECHNOLOGY CO., LTD.

TAIPEI 11F., No. 87, Songjiang Rd., Jhongshan District, Taipei City 104, Taiwan R.O.C.
P: 02-2509-3305 F: 02-2509-1393 C: 886

Thailand:

NSK BEARINGS (THAILAND) CO.,LTD.

BANGKOK 26 Soi On-Nuch 55/1 Pravet District, Bangkok 10250, Thailand
P: 02320-2555 F: 02320-2826 C: 66

NSK BEARINGS MANUFACTURING (THAILAND) CO., LTD.

OFFICE/PLANT 700/430 Moo 7, Amata Nakorn Industrial Estate, T.Donhualor, A.Muangchonburi, Chonburi 20000, Thailand
P: 038-454-010 F: 038-454-017 C: 66

SIAM NSK STEERING SYSTEMS CO., LTD.

OFFICE/PLANT 90 Moo 9, Wellgrow Industrial Estate, Km.36 Bangna-Trad Rd., Bangwao, Bangpakong, Chachoengsao 24180, Thailand
P: 038-522-343 F: 038-522-351 C: 66

NSK ASIA PACIFIC TECHNOLOGY CENTRE (THAILAND) CO., LTD.

CHONBURI 700/430 Moo 7, Amata Nakorn Industrial Estate, T.Donhualor, A.Muangchonburi, Chonburi 20000, Thailand
P: 038-454-631 F: 038-454-634 C: 66

Vietnam:

NSK VIETNAM CO., LTD.

HEAD OFFICE Techno Center, Room 204-205, Thang Long Industrial Park, Dong Anh District, Hanoi, Vietnam
P: 04-3955-0159 F: 04-3955-0158 C: 84

NSK REPRESENTATIVE OFFICE

HO CHI MINH CITY Suite 307, Metropolitan Building, 235 Dong Khoi Street, District 1,HCMC, Vietnam
P: 08-3822-7907 F: 08-3822-7910 C: 84

●Europe

NSK EUROPE LTD. (EUROPEAN HEADQUARTERS) www.eu.nsk.com

MAIDENHEAD Belmont Place, Belmont Road, Maidenhead, Berkshire SL6 6TB, U.K.
P: 01628-509-800 F: 01628-509-808 C: 44

France:

NSK FRANCE S.A.S.

PARIS Quartier de l'Europe, 2 Rue Georges Guynemer, 78283 Guyancourt, France
P: 01-30-57-39-39 F: 01-30-57-00-01 C: 33

Germany:

NSK DEUTSCHLAND GMBH

HEAD OFFICE Harkortstrasse 15, D-40880 Ratingen, Germany
P: 02102-4810 F: 02102-4812-290 C: 49

STUTTGART Liebknechtstrasse 33, D-70565 Stuttgart-Vaihingen, Germany
P: 0711-79082-0 F: 0711-79082-289 C: 49

WOLFSBURG Heinrich-Nordhoff-Strasse 101, D-38440 Wolfsburg, Germany
P: 05361-27647-10 F: 05361-27647-70 C: 49

NSK PRECISION EUROPE GMBH

DÜSELDORF Harkortstrasse 15, D-40880 Ratingen, Germany
P: 02102-4810 F: 02102-4812-290 C: 49

NEUWEG FERTIGUNG GMBH

OFFICE/PLANT Ehinger Strasse 5, D-89597 Munderkingen, Germany
P: 07393-540 F: 07393-5414 C: 49

Italy:

NSK ITALIA S.P.A.

MILANO Via Garibaldi 215, Garbagnate Milanese (Milano) 20024, Italy
P: 0299-5191 F: 0299-025778 C: 39

INDUSTRIA CUSCINETTI S.P.A.

TORINO PLANT Via Giotto 4, I-10080, S. Benigno C. se (Torino), Italy
P: 011-982-4811 F: 011-988-0284 C: 39

Netherlands:

NSK EUROPEAN DISTRIBUTION CENTRE B.V.

De Kroonstraat 38, 5048 AP Tilburg, Netherlands
P: 013-4647647 F: 013-4647648 C: 31

Poland:

NSK EUROPE LTD. REPRESENTATIVE OFFICE

WARSAW Ul. Migdalowa 4/73, 02-796, Warsaw, Poland
P: 022-645-1525 F: 022-645-1529 C: 48

NSK BEARINGS POLSKA S.A.

OFFICE/PLANT Ul. Jagiellonska 109, 25-734 Kielce, Poland
P: 041-366-5001 F: 041-367-0500 C: 48

NSK EUROPEAN TECHNOLOGY CENTER, POLAND OFFICE

Ul. Jagiellonska 109, 25-734 Kielce, Poland
P: 041-367-0940 F: 041-367-0930 C: 48

NSK STEERING SYSTEMS EUROPE (POLSKA) SP.ZO.O.

CORPORATE Ul. Mariana Jachimowicza 17, 58-306 Walbrzych, Poland
OFFICE/PLANT P: 074-664-4101 F: 074-664-4104 C: 48

NSK NEEDLE BEARING POLAND SP.ZO.O.

OFFICE/PLANT UL. Jagiellonska 109, 25-734 Kielce, Poland
P: 041-345-2469 F: 041-345-0361 C: 48

NSK POLSKA SP.ZO.O.

KIELCE Ul. Karczowkowska 41, 25-711 Kielce, Poland
P: 041-347-5110 F: 041-347-5101 C: 48

Spain:

NSK SPAIN S.A.

BARCELONA C/Tarragona 161, 2a Planta, 08014, Barcelona, Spain
P: 093-433-5775 F: 093-433-5776 C: 34

Turkey:

NSK RULMANLARI ORTA DOGU TIC. LTD. STI.

ISTANBUL 19 Mayis Mah. Ataturk Cad. Ulya Engin Is Merkezi No. 68 Kat. 6, Kozyatagi 34734, Istanbul, Turkey
P: 0216-355-0398 F: 0216-355-0399 C: 90

United Kingdom:

NSK BEARINGS EUROPE LTD.

PETERLEE 3 Brindley Road, South West Industrial Estate, Peterlee, Co. Durham SR8 2JD, U.K.
PLANT P: 0191-586-6111 F: 0191-586-3482 C: 44
NEWARK Northern Road, Newark, Nottinghamshire NG24 2JF, U.K.
PLANT P: 01636-605-123 F: 01636-605-000 C: 44

NSK EUROPEAN TECHNOLOGY CENTRE

NEWARK Northern Road, Newark, Nottinghamshire NG24 2JF, U.K.
P: 01636-605-123 F: 01636-643-241 C: 44

NSK UK LTD.

NEWARK Northern Road, Newark, Nottinghamshire NG24 2JF, U.K.
P: 01636-605-123 F: 01636-605-000 C: 44

NSK PRECISION UK LTD.

PLANT Northern Road, Newark, Nottinghamshire NG24 2JF, U.K.
P: 01636-605-123 F: 01636-605-000 C: 44

NSK STEERING SYSTEMS EUROPE LTD.

HEAD OFFICE Belmont Place, Belmont Road, Maidenhead, Berkshire SL6 6TB, U.K.
P: 01628-509-800 F: 01628-509-808 C: 44

PETERLEE 6/7 Doxford Drive, South West Industrial Estate, Peterlee, Co. Durham SR8 2PP, U.K.
PLANT P: 0191-518-6400 F: 0191-518-6421 C: 44

●North and South America

NSK AMERICAS, INC. (AMERICAN HEADQUARTERS)

ANN ARBOR 4200 Goss Road, Ann Arbor, Michigan 48105, U.S.A.
P: 734-913-7500 F: 734-913-7511 C: 1

Argentina:

NSK ARGENTINA SRL

BUENOS AIRES Garcia del Rio 2477 Piso 7 Oficina "A" (1429) Buenos Aires-Argentina
P: 11-4704-5100 F: 11-4704-0033 C: 54

Brazil:

NSK BRASIL LTDA. www.br.nsk.com

HEAD OFFICE Rua 13 de Maio, 1633-14th Andar-Bela Vista-CEP 01327-905 São Paulo, SP, Brazil
P: 011-3269-4786 F: 011-3269-4720 C: 55

SUZANO PLANT Av. Vereador Joao Batista Fitipaldi, 66, CEP 08685-000, Vila Maluf, Suzano, SP, Brazil
P: 011-4744-2527 F: 011-4744-2529 C: 55

BELO HORIZONTE Rua Ceara 1431-4th andar-sala 405-Funcionarios Belo Horizonte-MG, Brazil 30150-311
P: 031-3274-2591 F: 031-3273-4408 C: 55

JOINVILLE Rua Blumenau, 178-sala 910-Centro Joinville-SC, Brazil 89204-250
P: 047-3422-5445 F: 047-3422-2817 C: 55

PORTO ALEGRE Av. Cristovão Colombo, 1694-sala 202-Floresta Porto Alegre-RS, Brazil 90560 001
P: 051-3222-1324 F: 051-3222-2599 C: 55

RECIFE Av. Conselheiro Aguiar, 2738-6th andar-conj. 604-Boa Viagem Recife-PE, Brazil 51020-020
P: 081-3326-3781 F: 081-3326-5047 C: 55

Peru:

NSK PERU S.A.C.

SANTIAGO Av. Caminos del Inca 670, Ofic : # 402, Santiago del Surco, Lima, Perú
P: 01-652-3372 F: 01-638-0555 C: 51

Canada:

NSK CANADA INC. www.ca.nsk.com

HEAD OFFICE 5585 McAdam Road, Mississauga, Ontario, Canada L4Z 1N4
P: 905-890-0740 F: 800-800-2788 C: 1

TORONTO 5585 McAdam Road, Mississauga, Ontario, Canada L4Z 1N4
P: 877-994-6675 F: 800-800-2788 C: 1

MONTREAL 2150-32E Avenue Lachine, Quebec, Canada H8T 3H7
P: 514-633-1220 F: 800-800-2788 C: 1

VANCOUVER 3353 Wayburne Drive, Burnaby, British Columbia, Canada V5G 4L4
P: 877-994-6675 F: 800-800-2788 C: 1

Mexico:

NSK RODAMIENTOS MEXICANA, S.A. DE C.V. www.mx.nsk.com

MEXICO CITY Av. Presidente Juarez No.2007 Lote 5, Col. San Jeronimo Tepetlacalco, Tlalnepantla, Estado de Mexico, Mexico, C.P.54090
P: 55-3682-2900 F: 55-3682-2937 C: 52

MONTERREY Av. Ricardo Margain 575. Torre C. IOS Campestre, San Pedro Garcia, Nuevo Leon, Mexico, C.P.66267
P: 81-8000-7300 F: 81-8000-7095 C: 52

United States of America:

NSK CORPORATION www.us.nsk.com

HEAD OFFICE 4200 Goss Road, Ann Arbor, Michigan 48105, U.S.A.
P: 734-913-7500 F: 734-913-7511 C: 1

NSK AMERICAN TECHNOLOGY CENTER 4200 Goss Road, Ann Arbor, Michigan 48105, U.S.A.
P: 734-913-7500 F: 734-913-7511 C: 1

CLARINDA PLANT 1100 N. First Street, Clarinda, Iowa 51632, U.S.A.
P: 712-542-5121 F: 712-542-4905 C: 1

FRANKLIN PLANT 3400 Bearing Drive, Franklin, Indiana 46131, U.S.A.
P: 317-738-5000 F: 317-738-5064 C: 1

LIBERTY PLANT 1112 East Kitchel Road, Liberty, Indiana 47353, U.S.A.
P: 765-458-5000 F: 765-458-7832 C: 1

NSK PRECISION AMERICA, INC. www.npa.nsk.com

OFFICE/PLANT 3450 Bearing Drive, Franklin, Indiana 46131, U.S.A.
P: 317-738-5000 F: 317-738-5050 C: 1

SAN JOSE 780 Montague Expressway, Suite 508, San Jose, California 95131, U.S.A.
P: 408-944-9400 F: 408-944-9405 C: 1

NSK STEERING SYSTEMS AMERICA, INC. www.nssa.nsk.com

OFFICE/PLANT 110 Shields Drive, Bennington, Vermont 05201, U.S.A.
P: 802-442-5448 F: 802-442-2253 C: 1

DYERSBURG PLANT 2962 Fort Hudson Road, Dyersburg, TN 38204, U.S.A.
P: 731-288-3000 F: 731-288-3001 C: 1

ANN ARBOR 4200 Goss Road, Ann Arbor, Michigan 48105, U.S.A.
P: 734-913-7500 F: 734-913-7102 C: 1

NSK-WARNER U.S.A., INC.

TROY 3001 West Big Beaver Road, Suite 701, Troy, Michigan 48084, U.S.A.
P: 248-822-8888 F: 248-822-1111 C: 1

NSK LATIN AMERICA, INC. www.la.nsk.com

MIAMI 2500 NW 107th Avenue, Suite 300, Miami, Florida 33172, U.S.A.
P: 305-477-0605 F: 305-477-0377 C: 1

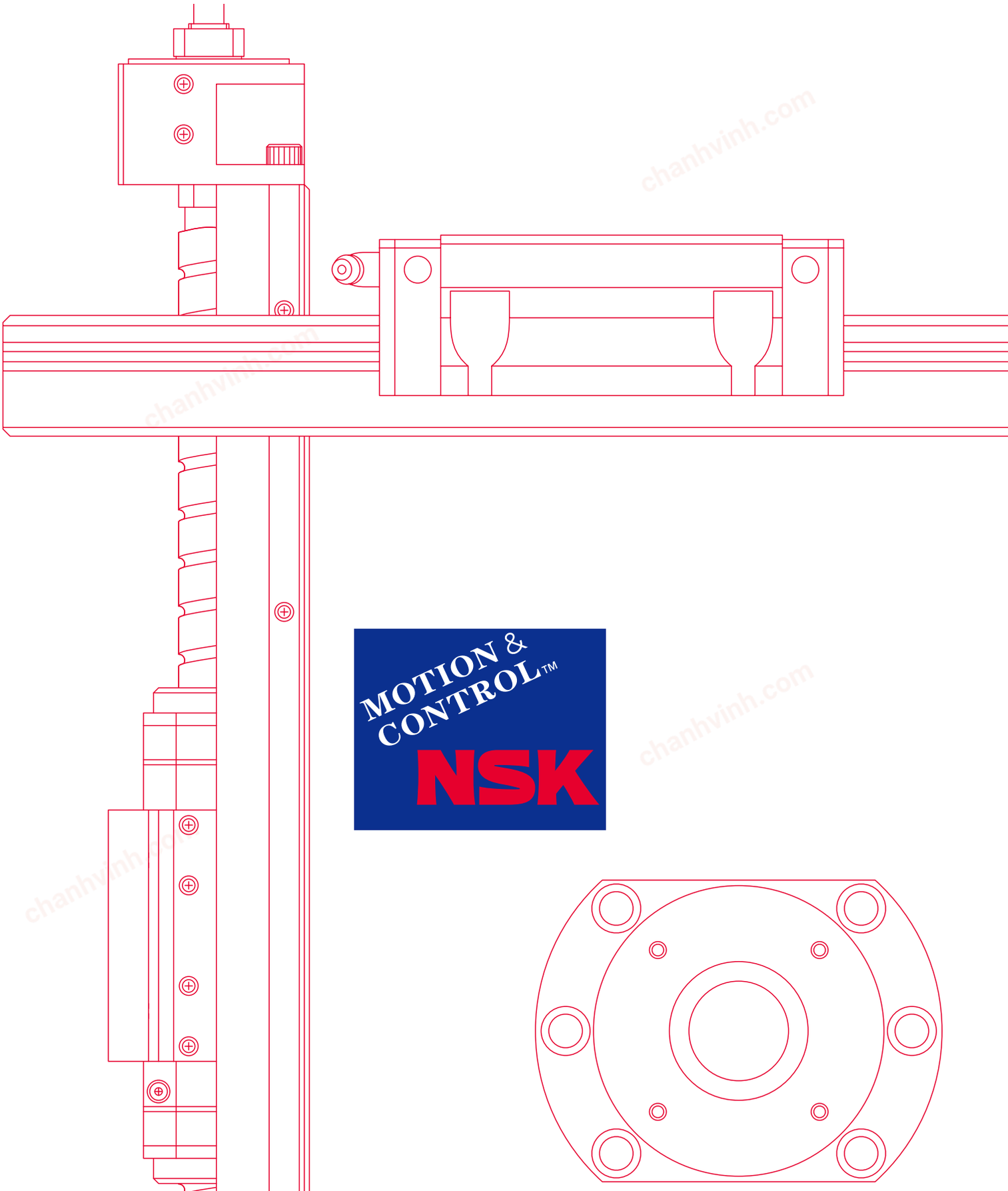
<As of July 2010>

For the latest information, please refer to the NSK website.

NSK Ltd. has a basic policy not to export any products or technology designated as controlled items by export-related laws. When exporting the products in this brochure, the laws of the exporting country must be observed. Specifications are subject to change without notice and without any obligation on the part of the manufacturer. Every care has been taken to ensure the accuracy of the data contained in this brochure, but no liability can be accepted for any loss or damage suffered through errors or omissions. We will gratefully acknowledge any additions or corrections.

NSK Ltd. has a basic policy not to export any products or technology designated as controlled items by export-related laws. When exporting the products in this brochure, the laws of the exporting country must be observed. Specifications are subject to change without notice and without any obligation on the part of the manufacturer. Every care has been taken to ensure the accuracy of the data contained in this brochure, but no liability can be accepted for any loss or damage suffered through errors or omissions. We will gratefully acknowledge any additions or corrections.

chanhvinh.com



MOTION & CONTROL™

NSK

Eco-awareness and reliability in motion™

NSK used environmentally friendly paper and printing methods for this publication.

CAT. No. E3170 2010 E-9 Printed in Japan ©NSK Ltd. 2010