

NSK Standard Ball Screws Compact FA Series

Compact-nut ball screws with increased speed and low noise for NSK standard.

They accommodate a variety of uses, from use in semiconductor equipment to various transfer equipment.

Extended
series



NSK Standard Ball Screws Compact FA Series

Compact FA Series has a broad lineup to meet various industrial needs.

Low noise and space-compact design is achieved.

The compact FA series of ball screws includes the following types to quickly and easily meet your requirements:

- PSS Type which offers various sizes for general use.
- USS Type for high accuracy and clean environment use.
- FSS Type for transfer equipment.

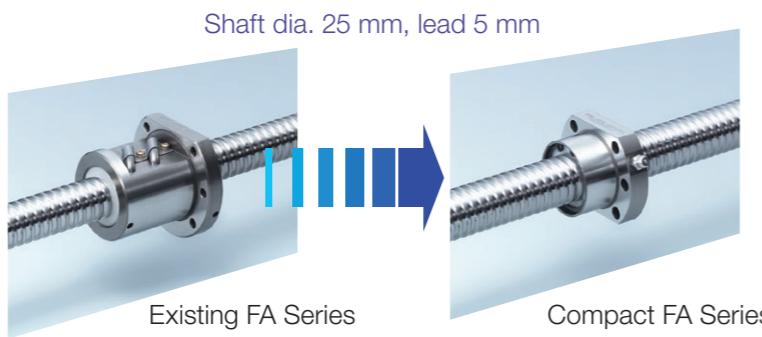
Features

Quick delivery

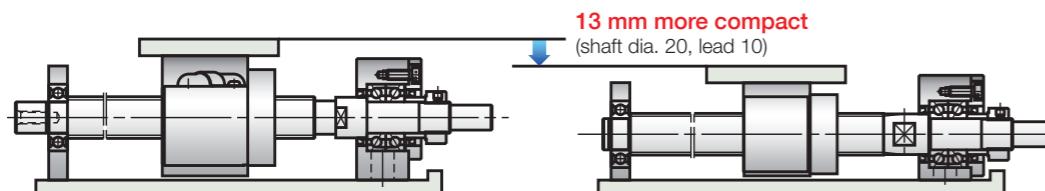
Ball screws and support units in the catalog are in stock.

Compact

The outside diameter of the ball nut is as much as 30% smaller than those of existing NSK products, and the low-profile support units especially compatible with the compact FA series are available. These contribute to more compact design of equipment and devices.

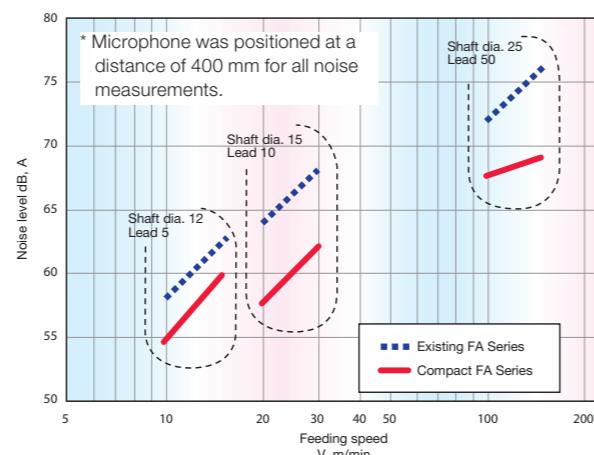


Comparison of existing FA Series and Compact FA Series



High-speed, low-noise

Used with the end-deflector recirculation system. Maximum rotational speed of 5 000 min⁻¹ is achieved, and noise reduced by 6 dB(A) compared with the tube recirculation system. The vibration is reduced as well.



Thin plastic seal

Screw shafts with diameters of 10 to 25 mm are equipped with a thin layer of sealing, which minimizes spattering of grease and helps to achieve a clean environment.

* Screws with shaft diameters of 6 mm or 8 mm are not sealed.

Grease fitting

A grease fitting (M5 × 0.8) is provided as a standard equipment for shaft dia. of 10 to 25 mm. Two lubrication ports are provided to facilitate easy maintenance.

LINE UP

Selection of ball screws

Three types of compact FA Series are available. Choose optimal types for application.

NSK Standard Ball Screws

Compact FA PSS Type for general uses

Accuracy grade: C5 grade of JIS
Axial play: shaft dia. 6 and 8 mm; 0.005 mm or less
shaft dia. 10 mm or over; 0

Page 3,
7 to 30

Compact FA USS Type for high-accuracy and clean environments

Accuracy grade: C3 grade of JIS Axial play: 0

Page 4,
31 to 36

Compact FA FSS type for transfer equipment

Accuracy grade: Ct7 grade of JIS Axial play: 0.010 mm or less

Page 5,
37 to 44

Combinations of screw shaft diameter and lead

Lead Screw shaft dia.	5	8	10	12	15	20	25	30	40	50	60
6		●		●							
8			●		●						
10	●	●		●							
12	●	●	●	●				●		●	
15	●	●	●	●			●	●		●	
20	●		●	●			●	●	●	●	
25	●		●	●			●	●	●	●	●

●PSS type ●USS type ●FSS type

Support Unit

Shape	Square type	Round type	
Applications	<ul style="list-style-type: none">For general usesFor clean usesSpace-saving (low-profile type)	<ul style="list-style-type: none">For general usesFor clean uses	Page 45 to 50

Compact FA Series PSS Type for General Uses

Applications

Semiconductor manufacturing equipment, LCD manufacturing equipment, material handling equipment, measuring equipment, medical equipment etc.

Accuracy grade and axial play

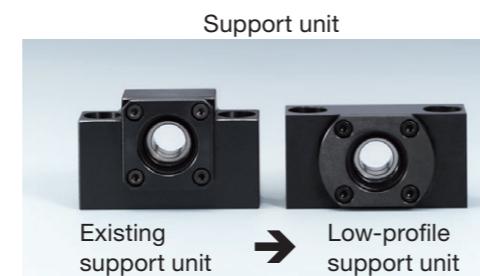
Accuracy grade: C5 grade of JIS Axial play 1) Shaft dia. 6 and 8 mm: 0.005 mm or less
2) Shaft dia. 10 mm or over: 0 (Oversize ball preload)

Wide variation

Abundant combinations of shaft diameter, lead and stroke are available to meet a wide range of customer needs.

Shaft end support

The low-profile support units especially compatible with the compact FA series are available. Since the ends of ball screw shafts are shaped to accommodate the shapes of support units, no detailed design after purchase is necessary.



Combinations of shaft diameter, lead and stroke

Shaft dia.	Lead	Stroke												Page	Recommended support unit		
		50	100	150	200	300	400	500	600	700	800	1 000	1 200	1 600	2 000	Fixed	Simple
6	8		●												7 to 8	WBK04-01M (square) WBK04-11M (round)	-
	12	●														WBK06-01M (square) WBK06-11M (round)	-
8	10	●													9 to 10	WBK08-01B	WBK08S-01B
	15	●														WBK08-01B	WBK08S-01B
10	5	●	●		●	●	●								11 to 12	WBK10-01B	WBK10S-01B
	10		●		●	●	●	●								WBK12-01B	WBK12S-01B
12	5	●	●	●	●	●	●	●							13 to 14	WBK12-01B	WBK12S-01B
	10		●		●	●	●	●								WBK15-01B	WBK15S-01B
15	5	●	●	●	●	●	●	●							15 to 18	WBK15-01B	WBK15S-01B
	10		●		●	●	●	●								WBK20-01	WBK20S-01
20	5		●	●	●	●	●	●							19 to 24	WBK20-01	WBK20S-01
	10		●		●	●	●	●								WBK25-01	WBK25S-01
25	5			●	●	●	●	●							25 to 30	WBK25-01	WBK25S-01
	10			●	●	●	●	●								WBK30-01	WBK30S-01
30	5				●	●	●	●							31 to 32	WBK30-01	WBK30S-01
	10				●	●	●	●								WBK35-01	WBK35S-01
35	5					●	●	●							33 to 34	WBK35-01	WBK35S-01
	10					●	●	●								WBK40-01	WBK40S-01
40	5						●	●							35 to 36	WBK40-01	WBK40S-01
	10						●	●								WBK45-01	WBK45S-01
45	5							●							37 to 38	WBK45-01	WBK45S-01
	10							●								WBK50-01	WBK50S-01
50	5								●						39 to 40	WBK50-01	WBK50S-01
	10								●							WBK55-01	WBK55S-01
55	5									●					41 to 42	WBK55-01	WBK55S-01
	10									●						WBK60-01	WBK60S-01
60	5									●					43 to 44	WBK60-01	WBK60S-01
	10									●						WBK65-01	WBK65S-01
65	5									●					45 to 46	WBK65-01	WBK65S-01
	10									●						WBK70-01	WBK70S-01
70	5									●					47 to 48	WBK70-01	WBK70S-01
	10									●						WBK75-01	WBK75S-01
75	5									●					49 to 50	WBK75-01	WBK75S-01
	10									●						WBK80-01	WBK80S-01
80	5									●					51 to 52	WBK80-01	WBK80S-01
	10									●						WBK85-01	WBK85S-01
85	5									●					53 to 54	WBK85-01	WBK85S-01
	10									●						WBK90-01	WBK90S-01
90	5									●					55 to 56	WBK90-01	WBK90S-01
	10									●						WBK95-01	WBK95S-01
95	5									●					57 to 58	WBK95-01	WBK95S-01
	10									●						WBK100-01	WBK100S-01
100	5									●					59 to 60	WBK100-01	WBK100S-01
	10									●						WBK105-01	WBK105S-01
105	5									●					61 to 62	WBK105-01	WBK105S-01
	10									●						WBK110-01	WBK110S-01
110	5									●					63 to 64	WBK110-01	WBK110S-01
	10									●						WBK115-01	WBK115S-01
115	5									●					65 to 66	WBK115-01	WBK115S-01
	10									●						WBK120-01	WBK120S-01
120	5									●					67 to 68	WBK120-01	WBK120S-01
	10									●						WBK125-01	WBK125S-01
125	5									●					69 to 70	WBK125-01	WBK125S-01
	10									●</td							

Compact FA Series FSS Type for Transfer Equipment

Applications

Transfer equipment for abundant industrial fields such as automobile, semiconductor, food and medical equipment.

Accuracy grade and axial play

Accuracy grade: Ct7 grade of JIS Axial play: 0.010 mm or less

Easy stroke setting

Flexible stroke setting with fixed-simple support by means of mounting support unit (simple support side) directly onto ball screw thread outside diameter.
Since corner cutting is not necessary, it is easy for customers to cut the screws, which contributes to reduction in cost and lead time.
If necessary, NSK will accept orders for cutting.

Precautions

During the cutting process, be careful not to let metal particles or burrs fall inside the nuts.

Customers are also advised to treat the cut surface.

When inserting the support unit (simple support side), apply oil or grease on the outside of the shaft and inside the bearing.

Shaft end support

Fixed side: The low-profile support units especially compatible with the compact FA PSS type are available.

Simple side: Proprietary support units are available.



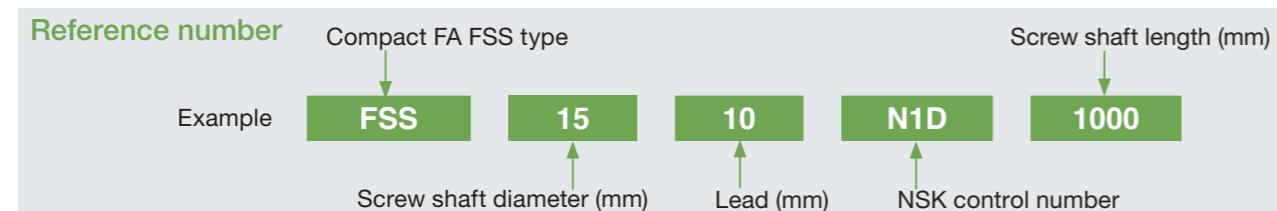
Design precautions

Permissible rotational speed varies when using cut screw shaft. It is necessary to calculate two items below, and whichever smaller is the permissible rotational speed.

- Critical speed which is the resonance vibration of the shaft. (Refer to the technical description of the catalog "Precision Machine Components".)
- Maximum rotational speed 5 000 min⁻¹

Combinations of shaft diameter, lead and shaft length

Shaft dia.	Lead	Overall shaft length						Page	Recommended support unit	
		400	500	600	900	1 000	1 450		Fixed	Simple
12	10	●		●	●			37 to 38	WBK08-01B	WBK12SF-01B
	10		●			●	●		WBK12-01B	WBK15SF-01B
15	10		●			●	●	39 to 40	WBK15-01B	WBK20SF-01B
	20	●				●	●		WBK20-01	WBK25SF-01
20	10		●		●	●	●	41 to 42	WBK20-01	WBK25SF-01
	20	●		●	●	●	●			
25	10		●		●	●	●	43 to 44		
	20	●		●	●	●	●			
	25		●		●	●	●			



Precautions

Design

- (1) If a ball screw of which left shaft end (opposite driven side) is the shape I, and is supported with the "fixed-fixed" supporting method, you should be aware that the operating life of support bearings may drop due to thermal expansion of the screw shaft, depending on usage conditions. In this case, you should consider a structure that can absorb thermal expansion of the screw shaft if necessary. Please consult with NSK for a detailed examination.
- (2) If using an NSK linear guide, the maximum speed of a linear guide of standard specifications under ordinary conditions is limited to 100 m/min. A linear guide with high-speed specifications is available if higher operating speed is required. Contact NSK for further information.
- (3) For general precautions concerning ball screws, please see NSK Catalog No. E3162 "Precision Machine Components."

Usage and handling

Ball screws are precision products and should be treated as follows:

[Lubrication]

- (1) Compact FA Series ball screws are packed and coated with lubrication grease at the factory, and require no further lubrication under ordinary circumstances. If the surface of the grease becomes contaminated with dirt and metal powder under operation, clean it with white kerosene and replenish with new grease of the same kind through the oil hole (grease fitting) on the ball nut. Avoid mixing different types of grease.
- (2) Lubricant should be checked after the first 2 to 3 months of operation. If excessively dirty, we recommend you wipe away the old grease and replenish with a generous quantity of grease. After that, grease should be checked and replenished once a year under ordinary circumstances, but the period may vary depending upon the service environment.



Check lubrication

[Handling]

- (1) Never disassemble the ball screw, otherwise dirt may contaminate the inside of the unit and affect precision or result in equipment failure.
- (2) Compact FA Series ball screws incorporate a new ball re-circulation system. Consequently, only NSK authorized plants should conduct disassembly and reassembly. If the nut accidentally comes off the screw shaft or is dropped, NSK will check precision problems or perform repairs at your expense.
- (3) When the ball screw is erected upright, the screw shaft or nut could fall by force of its own weight and result in injury. If dropped, the ball grooves could be dented or re-circulation parts damaged, resulting in loss of function. This would require the ball screw to be inspected by NSK. If so, be sure to send the ball screw to NSK and we will check it for a fee.



Do not disassemble

[Usage]

- (1) Ball screws should be used in a clean environment. The ball screws should be provided with a dust cover to prevent the entry of debris such as dust and metal powder. If foreign matter is allowed to contaminate the ball screw, this could not only cause the ball screw to lose some of its function, but also result in clogging and damaging the re-circulation system parts, or cause the table to fall or a similar serious accident.
- (2) Compact FA Series ball screws are designed to be used in a service temperature environment of 80°C or lower. Do not allow the service temperature limit to be exceeded. In some cases, using ball screws in temperatures above 80°C might lead to damage of re-circulation system parts or seal parts. Contact NSK if 80°C must be exceeded.



Beware of dropping



Dust control

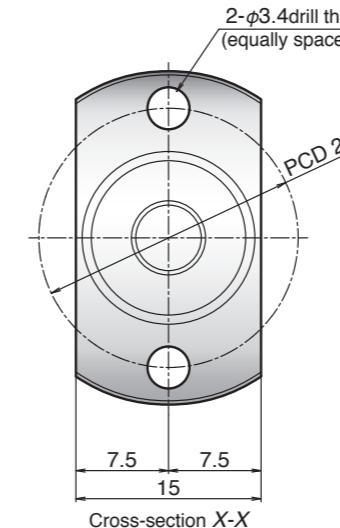
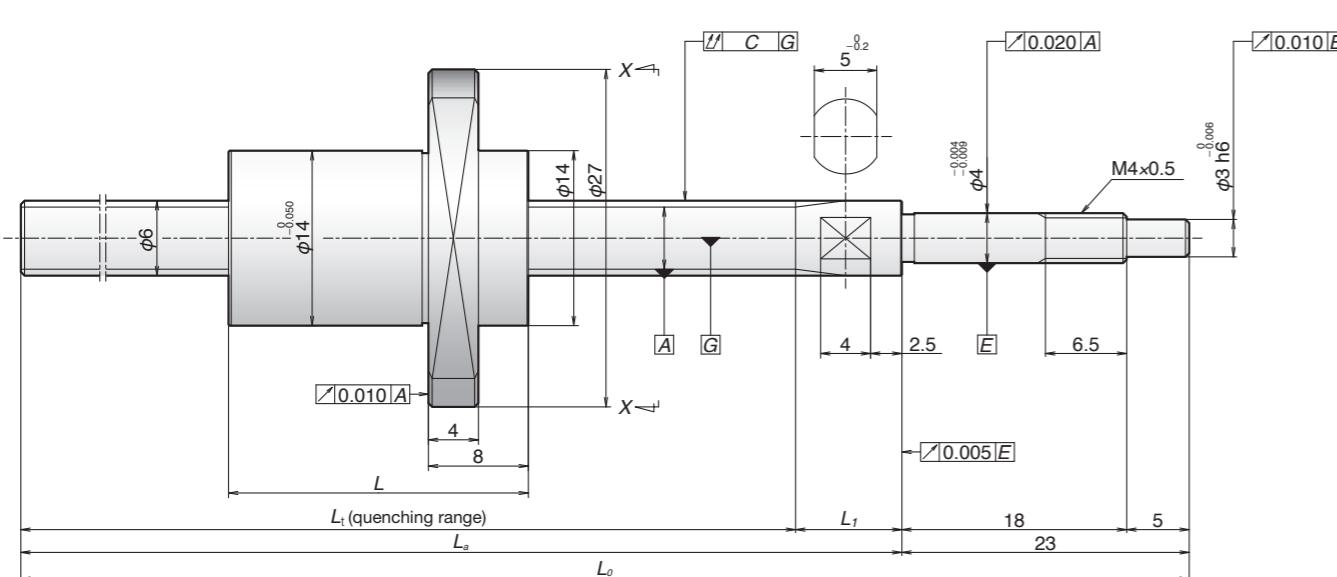


Caution max. temperature

Compact FA Series options

Consult with NSK for information about such as shaft end machining, reverse direction and alternative preload.

Screw shaft diameter 6 mm, Lead 8 and 12 mm



Unit : mm

Ball screw specification	
Ball dia./screw shaft root dia.	1.2 / 4.9
Ball circle dia.	6.2
Accuracy grade/axial play	C5/ 0.005 mm or less
Factory-packed grease	NSK grease PS2

[Recommended support unit]

For drive side (Fixed)	
WBK04-01M (square)	P 45
WBK04-11M (round)	P 47

Unit : mm

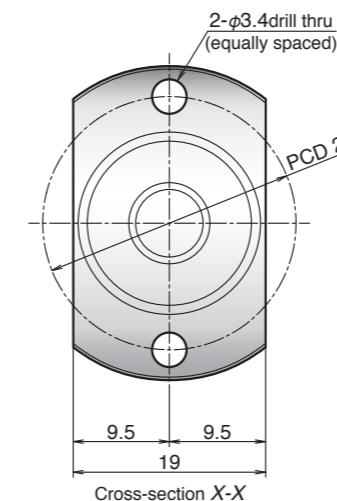
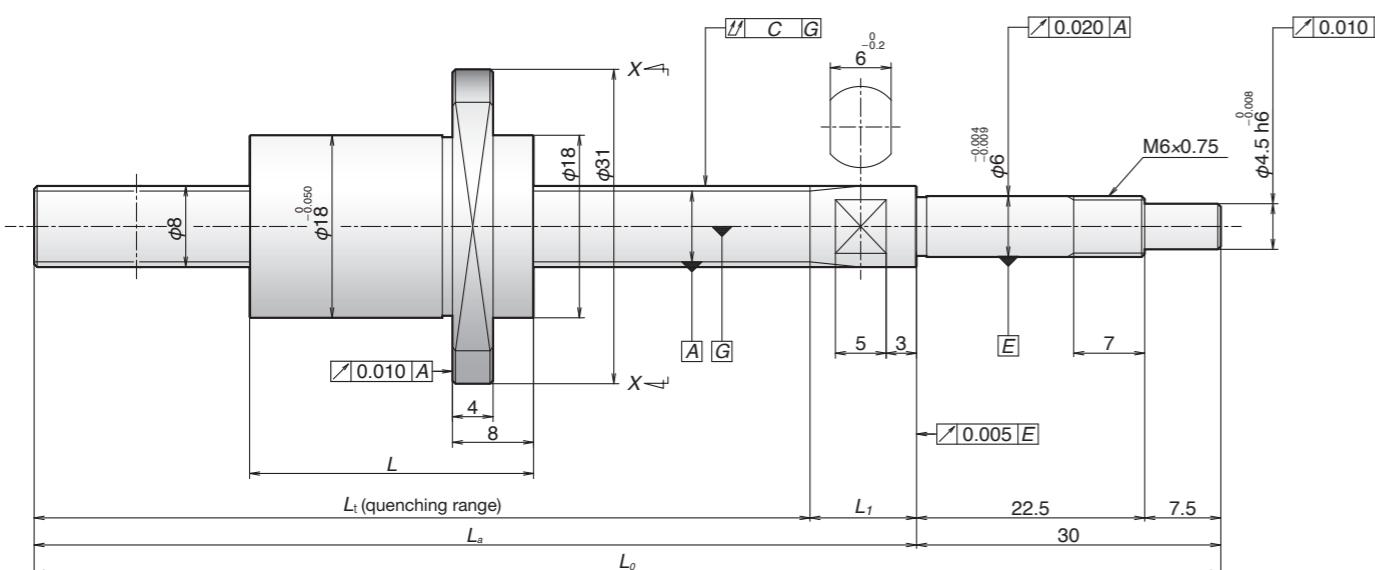
Reference no.	Screw shaft dia. d	Lead ℓ	Basic load ratings (N)		Stroke		Nut length L	Screw shaft dimensions				Lead accuracy			Shaft run-out C	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*1}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)								
			Dynamic C_a	Static C_{0a}	Nominal	max.		L_t	L_a	L_0	L_1	Target value T	Error e_p	Variation V_u														
PSS0608NAD0150	6	8	690	805	100	102.5	16	118.5	127	150	8.5	0	0.020	0.018	0.040	0.5 or less	0.06	5 000	0.2	0.1								
PSS0608NBD0150			1 480	1 940	50	94.5	24												0.3	0.2								
PSS0612NAD0150		12	665	800	50	97.0	20	117.0	150	127	10.0									0.2	0.1							
PSS0612NBD0150			1 430	1 970	50	85.0	32													0.3	0.2							

Notes : 1. Contact NSK if permissible rotational speed is to be exceeded.

2. Service temperature range is 0 to 80°C.

3. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Screw shaft diameter 8 mm, Lead 10 and 15 mm



Unit : mm

Ball screw specification	
Ball dia./screw shaft root dia.	1.588 / 6.6
Ball circle dia.	8.3
Accuracy grade/axial play	C5/ 0.005 mm or less
Factory-packed grease	NSK grease PS2

[Recommended support unit]

For drive side (Fixed)	
WBK06-01M (square)	P 45
WBK06-11M (round)	P 47

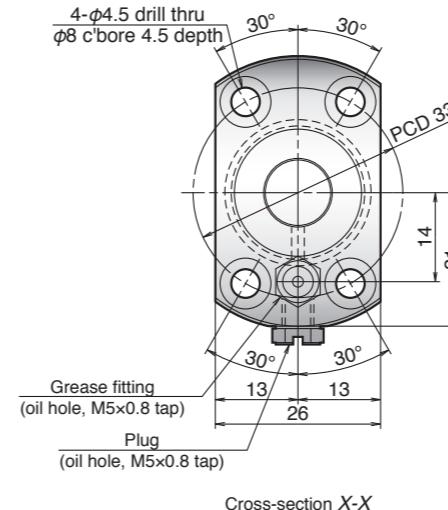
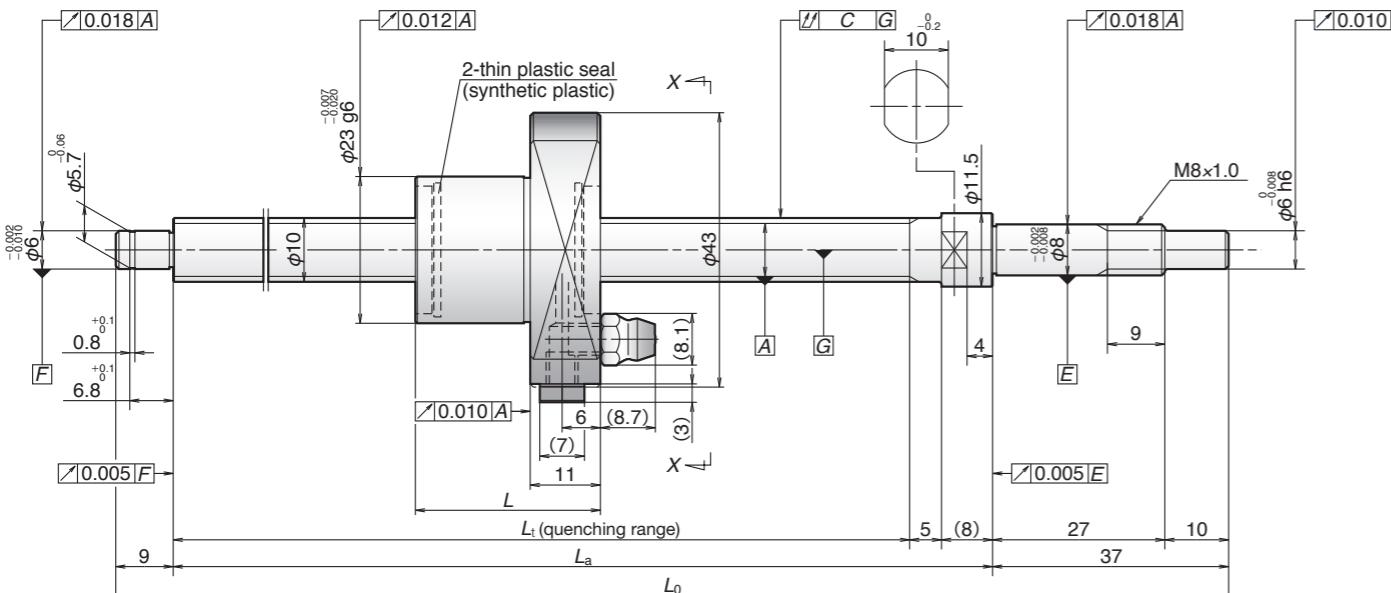
Reference no.	Screw shaft dia. d	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions				Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*1}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)							
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>													
PSS0810NAD0150	8	10	1 150	1 420	50	91.5	18	109.5	120	150	10.5	0	0.020	0.018	0.040	0.5 or less	0.09	5 000	0.4	0.2							
PSS0810NBD0150			2 470	3 430	50	81.5	28												0.5	0.3							
PSS0815NAD0150		15	1 130	1 430	50	85.0	22	107.0	130	120	150								0.10	0.2							
PSS0815NBD0150			2 410	3 520	50	70.0	37												0.6	0.3							

Notes : 1. Contact NSK if permissible rotational speed is to be exceeded.

2. Service temperature range is 0 to 80°C.

3. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Screw shaft diameter 10 mm, Lead 5 and 10 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.000 / 8.2
Ball circle dia.	10.3
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease PS2

[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK08-01B (low-profile, square) P 45	WBK08S-01B (low-profile, square) P 49
WBK08-11 (round) P 47	
WBK08-11B (round, high-load) P 47	

Reference no.	Screw shaft dia. d	Lead ℓ	Basic load ratings (N)		Stroke		Nut length L	Screw shaft dimensions			Lead accuracy			Shaft run-out C	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic C_a	Static C_{0a}	Nominal	max.		L_t	L_a	L_0	Target value T	Error e_p	Variation V_u						
PSS1005N1D0171	10	5	3 420	4 840	50	78	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	128		162	175	221		0.020	0.018	0.045	0.7-3.3	0.3			
PSS1005N1D0321					200	228		262	275	321		0.023	0.018	0.060	0.6-4.3	0.3			
PSS1005N1D0421					300	328		362	375	421		0.025	0.020	0.070	0.6-4.3	0.4			
PSS1005N1D0521					400	428		462	475	521		0.027	0.020	0.085	0.4-4.9	0.5			
PSS1010N1D0221		10	2 290	2 980	100	125	32	162	175	221		0.020	0.018	0.045	0.7-3.3	0.3			
PSS1010N1D0321					200	225		262	275	321		0.023	0.018	0.060	0.6-4.3	0.4			
PSS1010N1D0421					300	325		362	375	421		0.025	0.020	0.070	0.6-4.3	0.4			
PSS1010N1D0521					400	425		462	475	521		0.027	0.020	0.085	0.4-4.9	0.5			

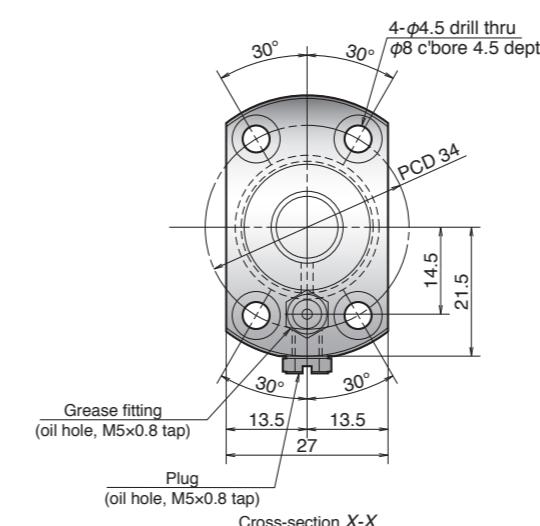
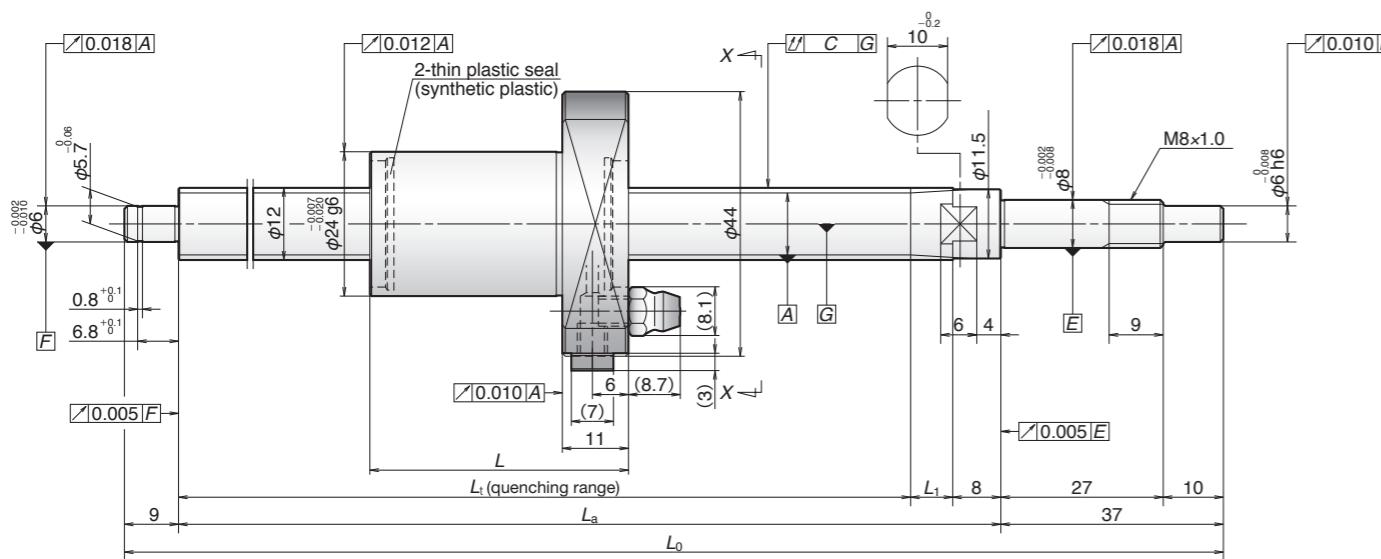
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 12 mm, Lead 5, 10, 20 and 30 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.000 / 10.2
Ball circle dia.	12.3
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease PS2

For drive side (Fixed)	For opposite to drive side (Simple)
WBK08-01B (low-profile, square)	WBK08S-01B (low-profile, square)
P 45	P 49
WBK08-11 (round)	P 47
WBK08-11B (round, high-load)	P 47

Reference no.	Screw shaft dia. d	Lead ℓ	Basic load ratings (N) Dynamic C_a Static C_{0a}	Stroke		Nut length L	Screw shaft dimensions				Lead accuracy			Shaft run-out C	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
				Nominal	max.		L_t	L_a	L_0	L_1	Target value T	Error e_p	Variation V_u						
PSS1205N1D0171	12	5	3 750	5 810	50	75	30	110	125	171	7	0.020	0.018	0.030	0.7-3.3	0.3	5 000	1.0	0.5
PSS1205N1D0221					100	125		160	175	221		0.020	0.018	0.045	0.7-3.3	0.3			
PSS1205N1D0321					200	225		260	275	321		0.023	0.018	0.060	0.6-4.3	0.4			
PSS1205N1D0421					300	325		360	375	421		0.025	0.020	0.070	0.6-4.3	0.5			
PSS1205N1D0521					400	425		460	475	521		0.027	0.020	0.085	0.6-4.3	0.6			
PSS1205N1D0621					500	525		560	575	621		0.030	0.023	0.085	0.4-4.9	0.7			
PSS1210N1D0221		10	3 760	5 780	100	112	43	160	175	221	7	0.020	0.018	0.045	0.7-3.3	0.4	5 000	1.0	0.5
PSS1210N1D0321					200	212		260	275	321		0.023	0.018	0.060	0.6-4.3	0.5			
PSS1210N1D0421					300	312		360	375	421		0.025	0.020	0.070	0.6-4.3	0.5			
PSS1210N1D0521					400	412		460	475	521		0.027	0.020	0.085	0.6-4.3	0.6			
PSS1210N1D0621					500	512		560	575	621		0.030	0.023	0.085	0.4-4.9	0.7			
PSS1220N1D0271	20	2 330	3 600	5 600	100	153	50	208	225	271	9	0.023	0.018	0.045	1.4-4.5	0.4	5 000	1.2	0.6
PSS1220N1D0371					200	253		308	325	371		0.023	0.018	0.060	0.9-4.9	0.5			
PSS1220N1D0471					300	353		408	425	471		0.027	0.020	0.070	0.9-4.9	0.6			
PSS1220N1D0571					400	453		508	525	571		0.030	0.023	0.085	0.6-5.9	0.7			
PSS1220N1D0671					500	553		608	625	671		0.030	0.023	0.110	0.6-5.9	0.8			
PSS1230N1D0271	30	2 190	3 650	5 650	100	128	70	203	225	271	14	0.023	0.018	0.045	1.4-4.5	0.5	5 000	1.5	0.8
PSS1230N1D0371					200	228		303	325	371		0.023	0.018	0.060	0.9-4.9	0.6			
PSS1230N1D0471					300	328		403	425	471		0.027	0.020	0.070	0.9-4.9	0.7			
PSS1230N1D0571					400	428		503	525	571		0.030	0.023	0.085	0.6-5.9	0.7			
PSS1230N1D0671					500	528		603	625	671		0.030	0.023	0.110	0.6-5.9	0.8			

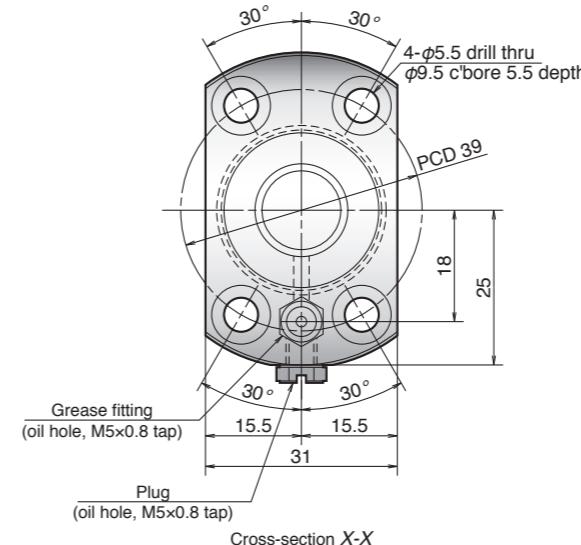
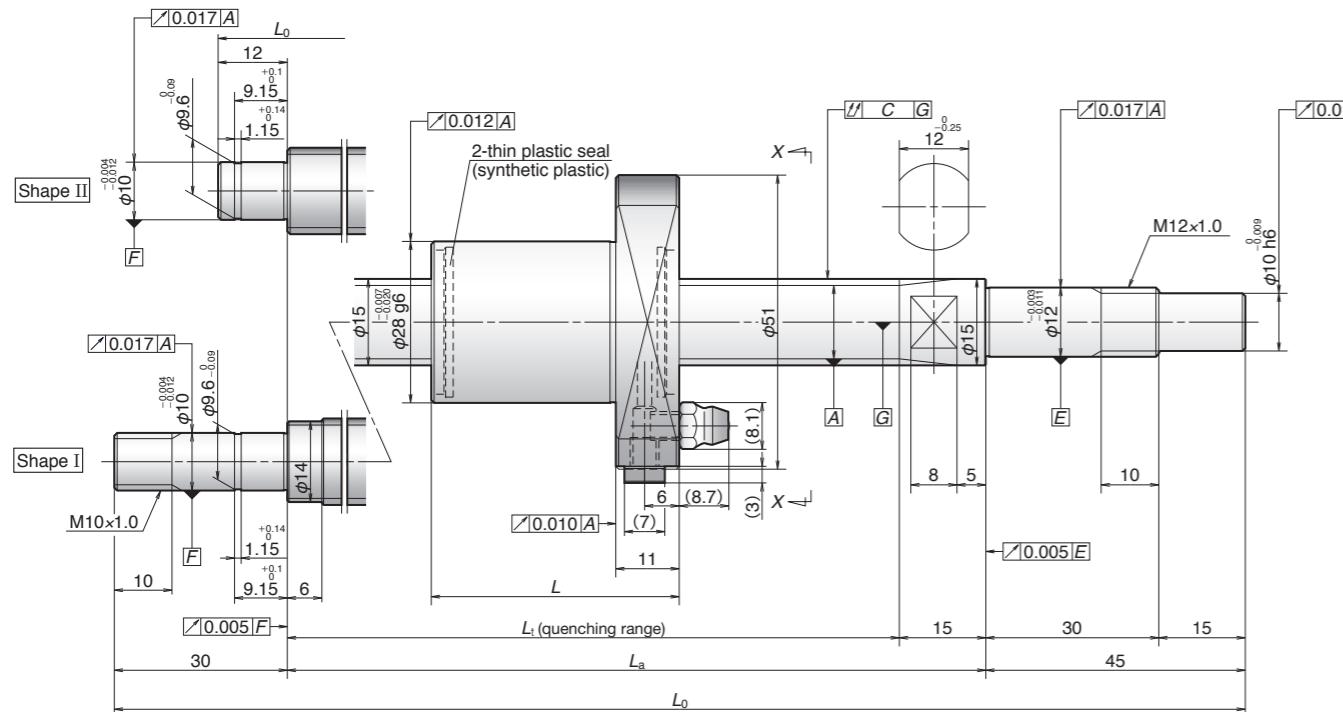
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Compact FA Series

PSS Type for General Uses

Screw shaft diameter 15 mm, Lead 5 and 10 mm



Unit : mm

Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.778 / 12.6
Ball circle dia.	15.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

[Recommended support unit]

For drive side (Fixed)	For opposite to drive side	
	(Fixed)	(Simple)
WBK12-01B (low-profile, square) P 45	WBK10-01B (low-profile, square) P 45	WBK12S-01B (low-profile, square) P 49
WBK12-11 (round) P 47	WBK10-11 (round) P 47	

Unit : mm

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions			Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>							
PSS1505N1D0211	5	6 410	10 100	50	103	30	139	154	211	II	0.020	0.018	0.035	0.2– 6.9	0.5	5 000	–	2.0	1.0		
PSS1505N1D0261				100	153		189	204	261			0.020	0.018	0.035	0.2– 6.9	0.5					
PSS1505N1D0361				200	253		289	304	361			0.023	0.018	0.045	0.2– 6.9	0.6					
PSS1505N1D0461				300	353		389	404	461			0.025	0.020	0.050	0.4– 9.8	0.8					
PSS1505N1D0561				400	453		489	504	561			0.027	0.020	0.060	0.4– 9.8	0.9					
PSS1505N1D0661				500	553		589	604	661			0.030	0.023	0.075	0.4– 9.8	1.0					
PSS1505N1D0761				600	653		689	704	761			0.035	0.025	0.075	0.4–11.8	1.1	4 130				
PSS1510N1D0261	15	6 530	10 200	100	140	43	189	204	261	II	0.020	0.018	0.035	0.6– 7.4	0.6	5 000	–	2.0	1.0		
PSS1510N1D0361				200	240		289	304	361			0.023	0.018	0.045	0.6– 7.4	0.7					
PSS1510N1D0461				300	340		389	404	461			0.025	0.020	0.050	0.4– 9.8	0.8					
PSS1510N1D0561				400	440		489	504	561			0.027	0.020	0.060	0.4– 9.8	1.0					
PSS1510N1D0661				500	540		589	604	661			0.030	0.023	0.075	0.4– 9.8	1.1					
PSS1510N1D0761				600	640		689	704	761			0.035	0.025	0.075	0.4–11.8	1.2	4 210				
PSS1510N1D0879				700	740		789	804	879			0.035	0.025	0.095	0.4–11.8	1.4	3 190	4 410			
PSS1510N1D0979				800	840		889	904	979			0.040	0.027	0.095	0.4–11.8	1.5	2 500	3 470			
PSS1510N1D1179				1 000	1 040		1 089	1 104	1 179			0.046	0.030	0.120	0.4–11.8	1.7	1 650	2 320			

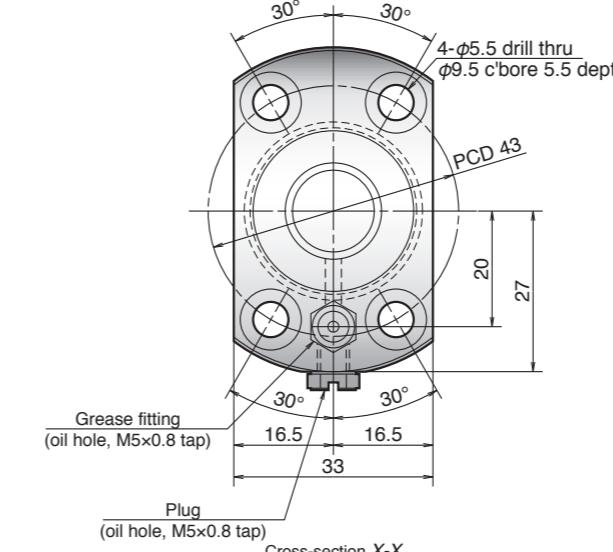
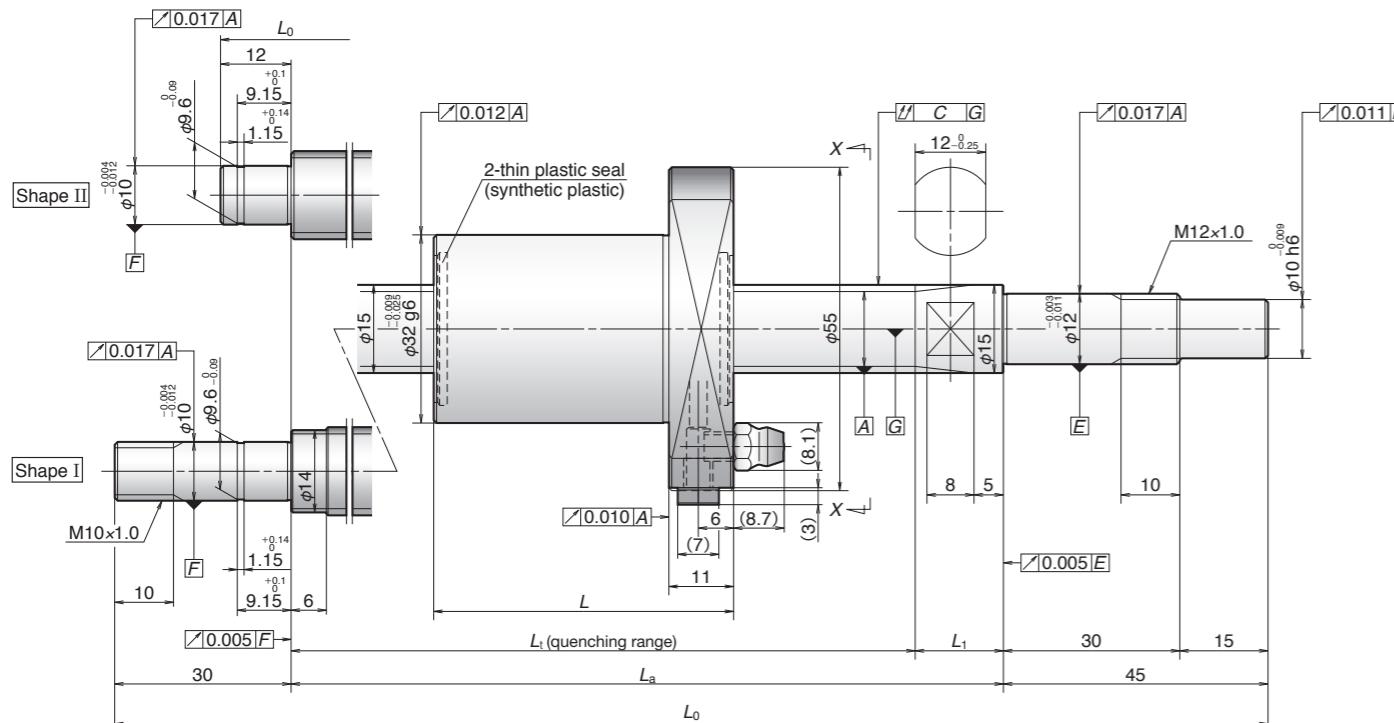
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 15 mm, Lead 20 and 30 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 12.2
Ball circle dia.	15.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

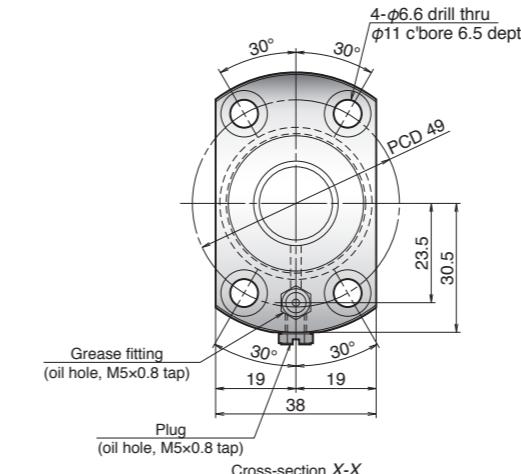
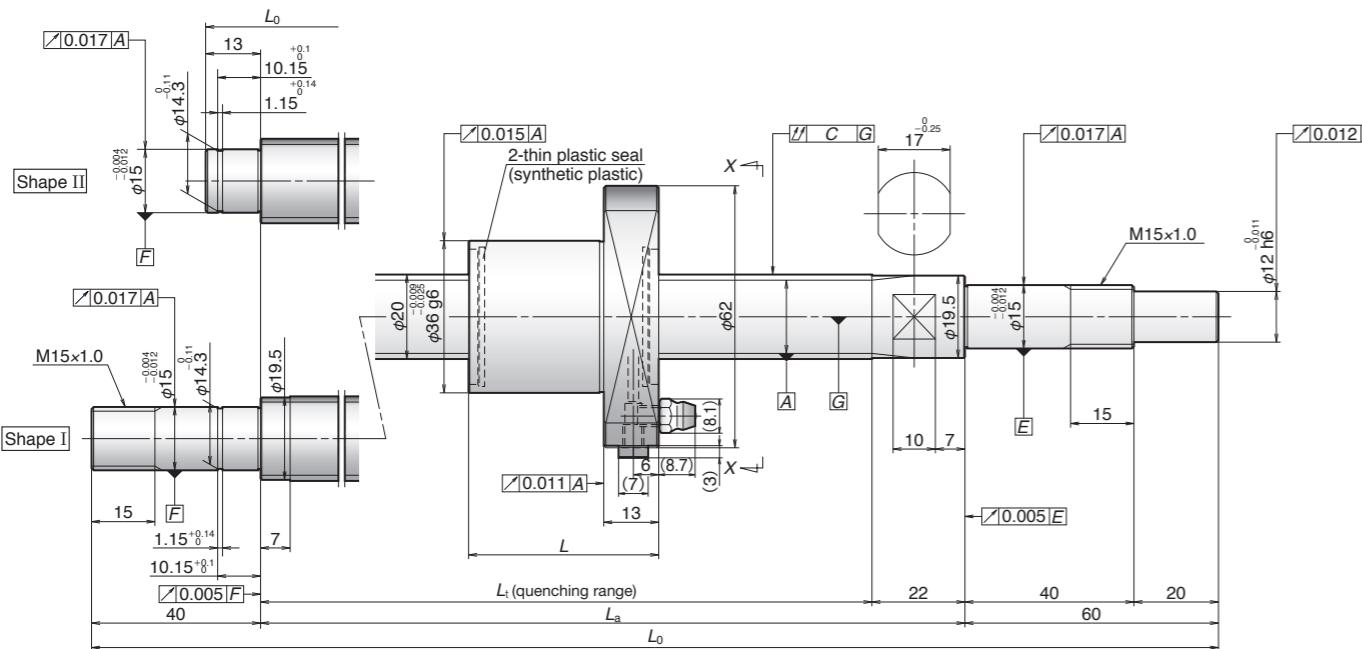
[Recommended support unit]		
For drive side (Fixed)	For opposite to drive side (Fixed)	For opposite to drive side (Simple)
WBK12-01B (low-profile, square) P 45	WBK10-01B (low-profile, square) P 45	WBK12S-01B (low-profile, square) P 49
WBK12-11 (round) P 47	WBK10-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>ℓ</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions				Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)* ¹	Mass (kg)	Permissible rotational speed (min ⁻¹)* ²		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>				Fixed-simple	Fixed-Fixed		
PSS1520N1D0261	15	20	5 660	8 700	100	129	51	186	204	261	18	II	0.020	0.018	0.035	0.8– 8.8	0.7	5 000	–	2.8	1.4	
PSS1520N1D0361					200	229		286	304	361												
PSS1520N1D0461					300	329		386	404	461												
PSS1520N1D0561					400	429		486	504	561												
PSS1520N1D0661					500	529		586	604	661												
PSS1520N1D0761					600	629		686	704	761												
PSS1520N1D0879					700	729		786	804	879												
PSS1520N1D0979					800	829		886	904	979												
PSS1520N1D1179					1 000	1 029		1 086	1 104	1 179												
PSS1530N1D0311	15	30	5 500	8 580	100	153	71	230	254	311	24	II	0.023	0.018	0.035	1.2– 9.3	0.8	5 000	–	3.4	1.7	
PSS1530N1D0411					200	253		330	354	411												
PSS1530N1D0511					300	353		430	454	511												
PSS1530N1D0611					400	453		530	554	611												
PSS1530N1D0711					500	553		630	654	711												
PSS1530N1D0811					600	653		730	754	811												
PSS1530N1D0929					700	753		830	854	929												
PSS1530N1D1029					800	853		930	954	1 029												
PSS1530N1D1229					1 000	1 053		1 130	1 154	1 229												

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 20 mm, Lead 5 and 10 mm



Unit : mm

Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 17.2
Ball circle dia.	20.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

[Recommended support unit]

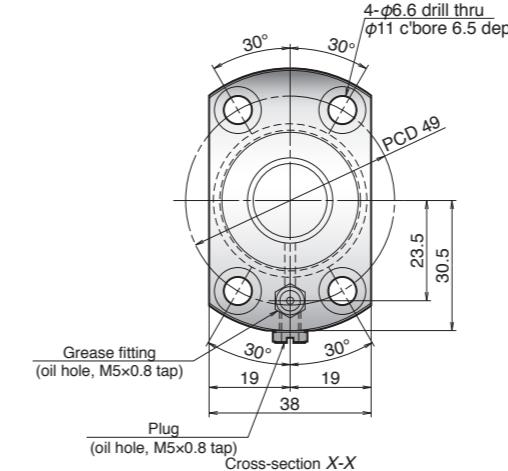
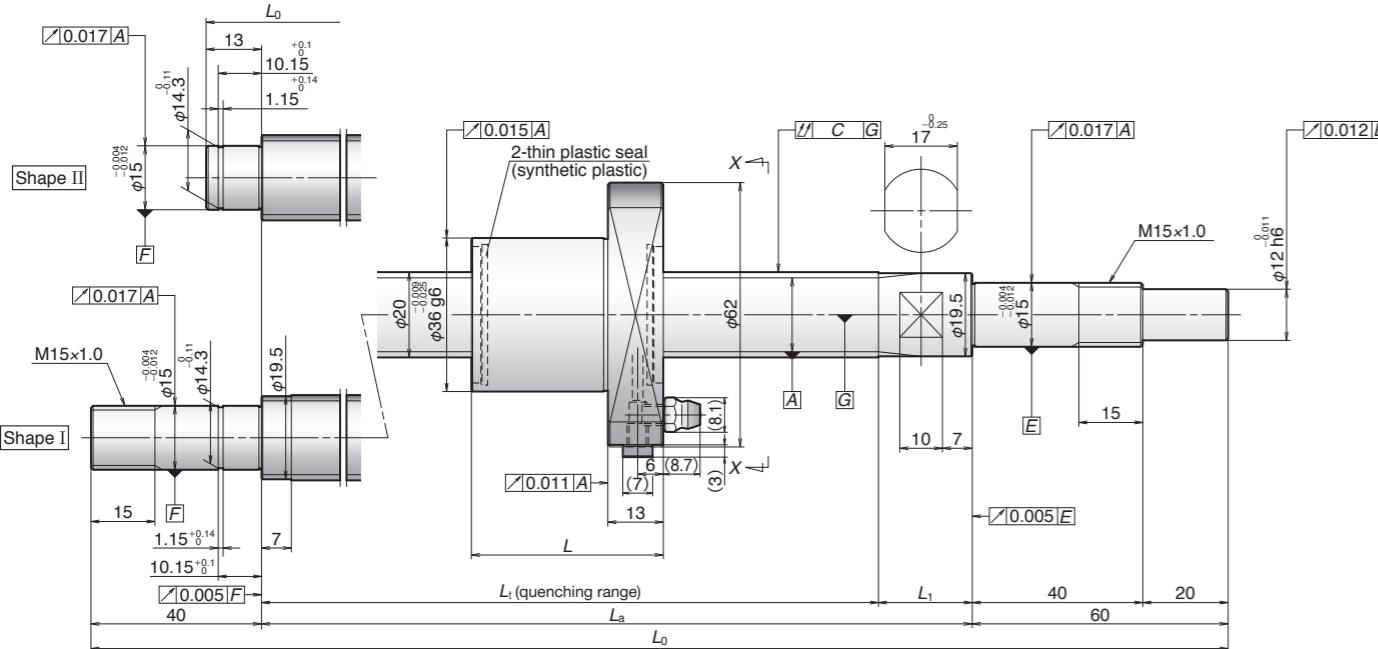
For drive side (Fixed)	For opposite to drive side	
	(Fixed)	(Simple)
WBK15-01B (low-profile, square) P 45	WBK15-01B (low-profile, square) P 45	WBK15S-01B (low-profile, square) P 49
WBK15-11 (round) P 47	WBK15-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>ℓ</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions			Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)* ¹	Mass (kg)	Permissible rotational speed (min ⁻¹)* ²		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L_o</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>							
PSS2005N1D0323	5	10 400	18 500	150	191	31	228	250	323	II	0.023	0.018	0.045	0.6–7.4	1.0	5 000	–	3.4	1.7		
PSS2005N1D0373				200	241		278	300	373			0.023	0.018	0.045	0.6–7.4	1.1					
PSS2005N1D0473				300	341		378	400	473			0.025	0.020	0.050	0.6–7.4	1.3					
PSS2005N1D0573				400	441		478	500	573			0.027	0.020	0.060	0.4–9.8	1.5					
PSS2005N1D0673				500	541		578	600	673			0.030	0.023	0.075	0.4–9.8	1.7					
PSS2005N1D0773				600	641		678	700	773			0.035	0.025	0.075	0.4–9.8	1.9					
PSS2005N1D0873				700	741		778	800	873			0.035	0.025	0.095	0.4–9.8	2.2	4 410				
PSS2005N1D1000				800	839		878	900	1 000	I		0.040	0.027	0.095	0.4–11.8	2.4	3 450	4 710			
PSS2010N1D0387	20	10 200	18 600	200	241	45	292	314	387	II	0.023	0.018	0.045	1.2–9.3	1.2	5 000	–	3.2	1.6		
PSS2010N1D0487				300	341		392	414	487			0.025	0.020	0.050	1.2–9.3	1.4					
PSS2010N1D0587				400	441		492	514	587			0.027	0.020	0.060	0.8–10.8	1.7					
PSS2010N1D0687				500	541		592	614	687			0.030	0.023	0.075	0.8–10.8	1.9					
PSS2010N1D0787				600	641		692	714	787			0.035	0.025	0.075	0.8–10.8	2.1					
PSS2010N1D0887				700	741		792	814	887			0.035	0.025	0.095	0.8–10.8	2.4	4 330				
PSS2010N1D1014				800	839		892	914	1 014			0.040	0.027	0.120	0.8–13.8	2.6	3 400	4 640			
PSS2010N1D1214				1 000	1 039		1 092	1 114	1 214	I		0.046	0.030	0.120	0.8–13.8	3.1	2 250	3 110			
PSS2010N1D1414				1 200	1 239		1 292	1 314	1 414	0.054		0.035	0.160	0.8–13.8	3.6	1 600	2 220				

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 20 mm, Lead 20 and 30 mm



Unit : mm

Ball screw specification

Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 17.2
Ball circle dia.	20.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

[Recommended support unit]

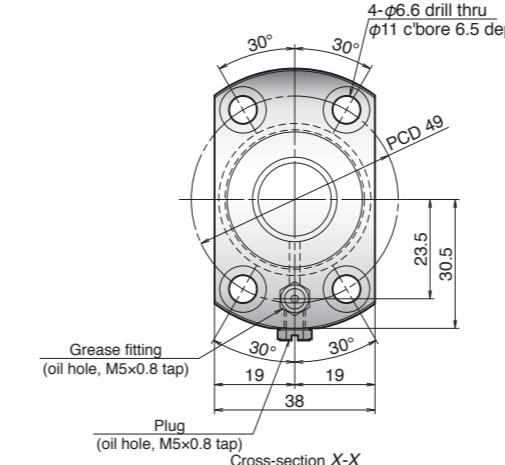
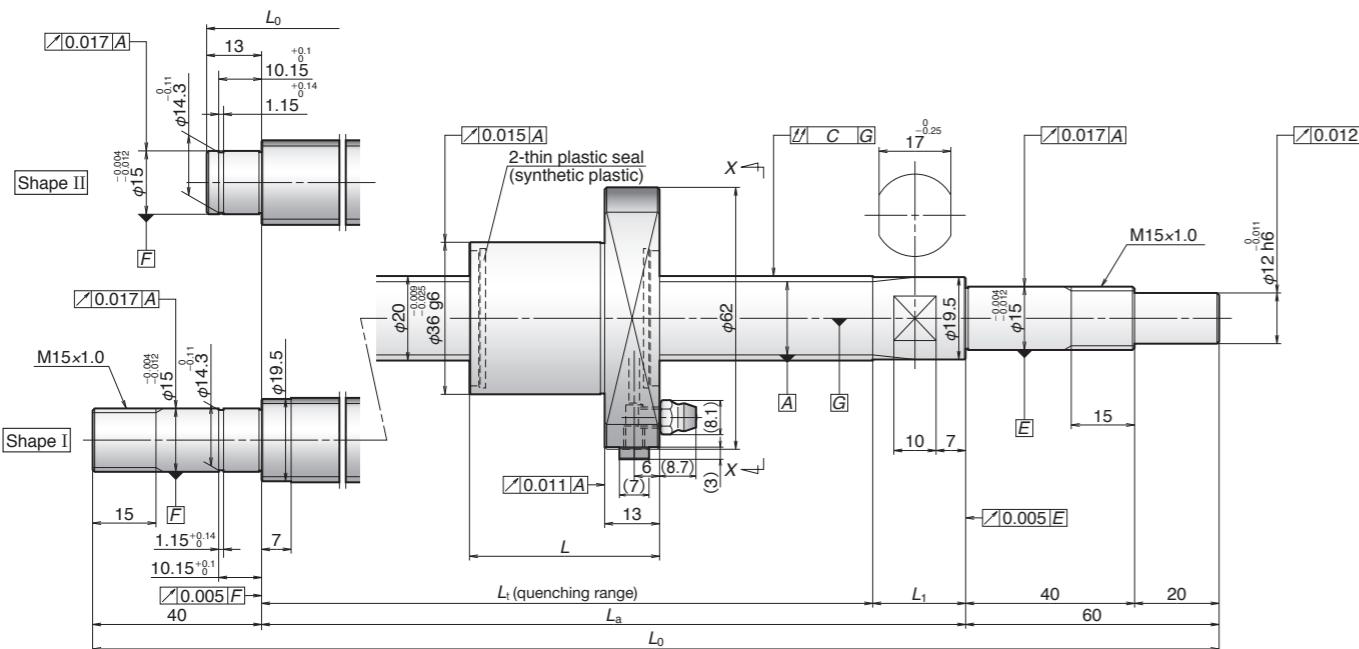
For drive side (Fixed)	For opposite to drive side (Fixed) (Simple)	
	(Fixed)	(Simple)
WBK15-01B (low-profile, square) P 45	WBK15-01B (low-profile, square) P 45	WBK15S-01B (low-profile, square) P 49
WBK15-11 (round) P 47	WBK15-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>ℓ</i>	Basic load ratings (N)	Stroke		Nut length <i>L</i>	Left shaft end (opposite driven side)	Screw shaft dimensions			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)* ¹	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)				
				Dynamic <i>C_a</i>	Static <i>C_{0a}</i>			<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>			Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>					
PSS2020N1D0508	20	6 790	11 800	300	353	54	II	413	435	508	22	0	0.027	0.020	0.060	1.4–11.8	1.6	5 000	3.2	1.6	
PSS2020N1D0608				400	453			513	535	608			0.030	0.023	0.060	1.4–11.8	1.8				
PSS2020N1D0708				500	553			613	635	708			0.030	0.023	0.075	1.4–11.8	2.0				
PSS2020N1D0808				600	653			713	735	808			0.035	0.025	0.095	1.4–11.8	2.3				
PSS2020N1D0908				700	753			813	835	908			0.040	0.027	0.095	0.8–13.8	2.5	4 150			
PSS2020N1D1035				800	851		I	913	935	1 035			0.040	0.027	0.120	0.8–13.8	2.8	3 270	4 470	3.2	1.6
PSS2020N1D1235				1 000	1 051			1 113	1 135	1 235			0.046	0.030	0.120	0.8–13.8	3.3	2 180	3 010		
PSS2020N1D1435				1 200	1 251			1 313	1 335	1 435			0.054	0.035	0.160	0.8–13.8	3.8	1 550	2 170		
PSS2020N1D1835				1 600	1 651			1 713	1 735	1 835			0.065	0.040	0.200	0.8–13.8	4.7	900	1 270		
PSS2030N1D0408	20	6 550	11 800	200	228	74	II	308	335	408	27	0	0.023	0.018	0.050	1.6–9.8	1.4	5 000	4.6	2.3	
PSS2030N1D0508				300	328			408	435	508			0.027	0.020	0.060	1.4–11.8	1.7				
PSS2030N1D0608				400	428			508	535	608			0.030	0.023	0.060	1.4–11.8	1.9				
PSS2030N1D0708				500	528			608	635	708			0.030	0.023	0.075	1.4–11.8	2.1				
PSS2030N1D0808				600	628			708	735	808			0.035	0.025	0.095	1.4–11.8	2.4	4 310			
PSS2030N1D0908				700	728			808	835	908			0.040	0.027	0.095	0.8–13.8	2.6	4 310	4 570		
PSS2030N1D1035				800	826			908	935	1 035			0.040	0.027	0.120	0.8–13.8	2.9	3 380	4 070		
PSS2030N1D1235				1 000	1 026			1 108	1 135	1 235			0.046	0.030	0.120	0.8–13.8	3.4	2 240	3 070		
PSS2030N1D1435				1 200	1 226			1 308	1 335	1 435			0.054	0.035	0.160	0.8–13.8	3.9	1 590	2 200		

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 20 mm, Lead 40 and 60 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 17.2
Ball circle dia.	20.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

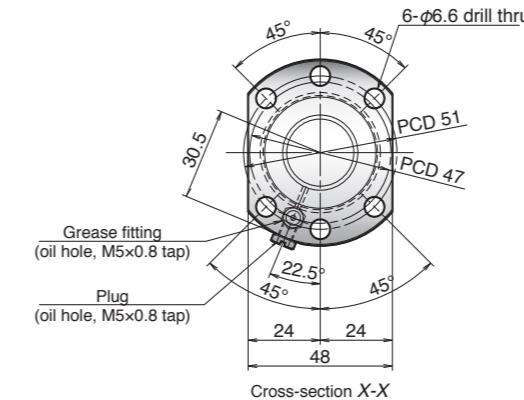
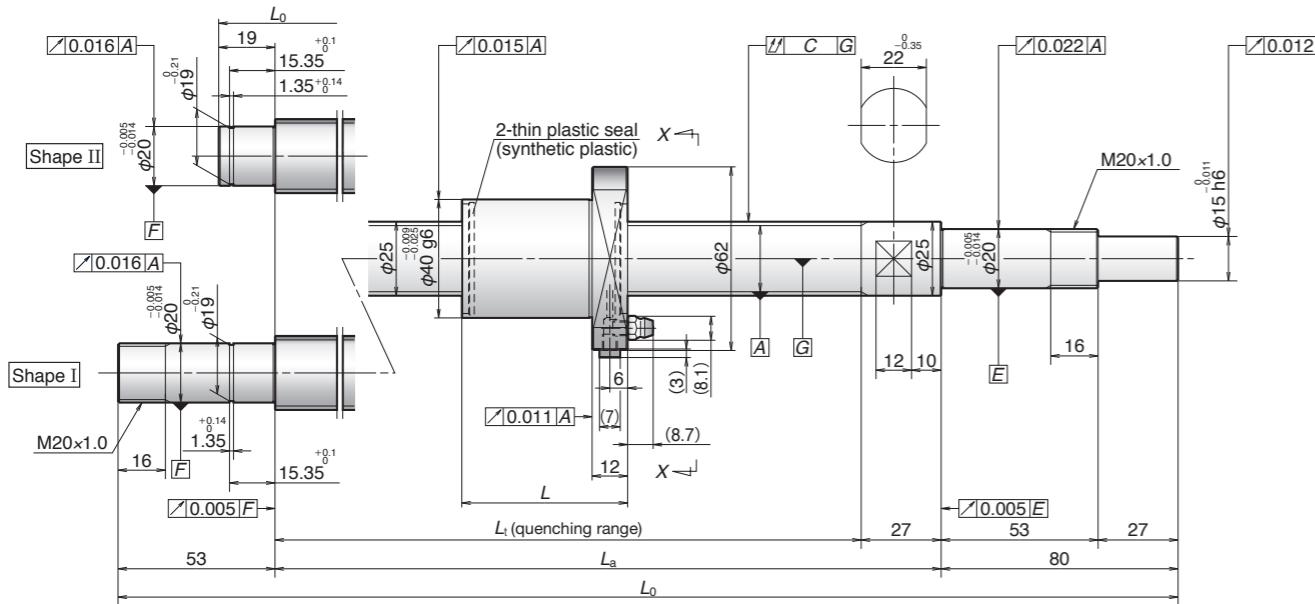
For drive side (Fixed)	For opposite to drive side	
	(Fixed)	(Simple)
WBK15-01B (low-profile, square) P 45	WBK15-01B (low-profile, square) P 45	WBK15S-01B (low-profile, square) P 49
WBK15-11 (round) P 47	WBK15-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>ℓ</i>	Basic load ratings (N)	Stroke		Nut length <i>L</i>	Screw shaft dimensions				Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
				Dynamic <i>C_a</i>	Static <i>C_{0a}</i>		Nominal	max.	<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>			Fixed-simple	Fixed-Fixed		
PSS2040N1D0658	40	6 380	11 600	400	455	92	553	585	658	32	II	0.030	0.023	0.075	2.2–12.8	2.1	5 000	—	5.3	2.7	
PSS2040N1D0758				500	555		653	685	758			0.035	0.025	0.075	2.2–12.8	2.4					
PSS2040N1D0858				600	655		753	785	858			0.035	0.025	0.095	2.2–12.8	2.6					
PSS2040N1D0958				700	755		853	885	958			0.040	0.027	0.095	1.8–14.8	2.8					
PSS2040N1D1085				800	853		953	985	1 085			0.040	0.027	0.120	1.8–14.8	3.1	3 120	4 190			
PSS2040N1D1285				1 000	1 053		1 153	1 185	1 285			0.046	0.030	0.160	1.8–14.8	3.6	2 100	2 850			
PSS2040N1D1485				1 200	1 253		1 353	1 385	1 485			0.054	0.035	0.160	1.8–14.8	4.1	1 500	2 070			
PSS2040N1D1885				1 600	1 653		1 753	1 785	1 885			0.065	0.040	0.200	1.8–14.8	5.1	880	1 230			
PSS2040N1D2285				2 000	2 053		2 153	2 185	2 285			0.077	0.046	0.240	1.8–14.8	6.0	580	810			
PSS2060N1D0708	20	6 380	11 600	400	458	129	593	635	708	42	II	0.030	0.023	0.075	2.7–13.8	2.4	5 000	—	7.0	3.5	
PSS2060N1D0808				500	558		693	735	808			0.035	0.025	0.095	2.7–13.8	2.6					
PSS2060N1D0908				600	658		793	835	908			0.035	0.025	0.095	2.7–13.8	2.9	4 830				
PSS2060N1D1008				700	758		893	935	1 008			0.040	0.027	0.120	1.8–14.8	3.1	3 740				
PSS2060N1D1135				800	856		993	1 035	1 135			0.040	0.027	0.120	1.8–14.8	3.4	2 980	3 920			
PSS2060N1D1335				1 000	1 056		1 193	1 235	1 335			0.046	0.030	0.160	1.8–14.8	3.9	2 020	2 700			
PSS2060N1D1535				1 200	1 256		1 393	1 435	1 535			0.054	0.035	0.160	1.8–14.8	4.4	1 460	1 970			
PSS2060N1D1935				1 600	1 656		1 793	1 835	1 935			0.065	0.040	0.200	1.8–14.8	5.4	860	1 180			
PSS2060N1D2335				2 000	2 056		2 193	2 235	2 335			0.077	0.046	0.240	1.8–14.8	6.3	570	790			

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 25 mm, Lead 5 and 10 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 22.2
Ball circle dia.	25.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

For drive side (Fixed)	For opposite to drive side	
	(Fixed)	(Simple)
WBK20-01 (square)	WBK20-01 (square) P 45	WBK20S-01 (square) P 49
WBK20-11 (round)	WBK20-11 (round) P 47	P 47

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions			Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)* ¹	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>							
PSS2505N1D0349	25	5	11 500	23 500	150	185	32	223	250	349	II	0	0.023	0.018	0.035	1.2–9.3	1.5	5 000	–	4.4	2.2
PSS2505N1D0399					200	235		273	300	399			0.023	0.018	0.035	1.2–9.3	1.6				
PSS2505N1D0499					300	335		373	400	499			0.025	0.020	0.040	1.2–9.3	2.0				
PSS2505N1D0599					400	435		473	500	599			0.027	0.020	0.045	1.2–9.3	2.3				
PSS2505N1D0699					500	535		573	600	699			0.030	0.023	0.055	0.8–10.8	2.7				
PSS2505N1D0899					700	735		773	800	899			0.035	0.025	0.065	0.8–10.8	3.4				
PSS2505N1D0999					800	835		873	900	999			0.040	0.027	0.065	0.8–10.8	3.7	4 490			
PSS2505N1D1233					1 000	1 027		1 073	1 100	1 233	I		0.046	0.030	0.080	0.8–13.8	4.5	2 960	4 060		
PSS2510N1D0549	10	15 000	32 400	32 400	300	361	56	423	450	549	II	0	0.027	0.020	0.045	3.1–11.8	2.4	5 000	–	4.7	2.4
PSS2510N1D0649					400	461		523	550	649			0.030	0.023	0.055	2.2–12.8	2.7				
PSS2510N1D0749					500	561		623	650	749			0.030	0.023	0.055	2.2–12.8	3.1				
PSS2510N1D0849					600	661		723	750	849			0.035	0.025	0.065	2.2–12.8	3.5				
PSS2510N1D0949					700	761		823	850	949			0.040	0.027	0.065	2.2–12.8	3.8				
PSS2510N1D1049					800	861		923	950	1 049			0.040	0.027	0.080	2.2–12.8	4.2	4 120			
PSS2510N1D1283					1 000	1 053		1 123	1 150	1 283			0.046	0.030	0.100	1.8–14.8	5.0	2 760	3 790		
PSS2510N1D1883					1 600	1 653		1 723	1 750	1 883	I		0.065	0.040	0.130	1.8–14.8	7.2	1 150	1 620		

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

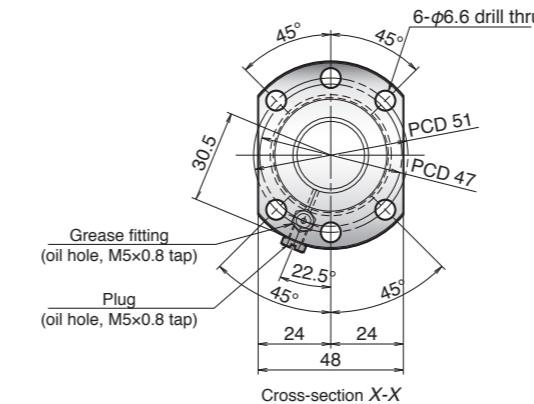
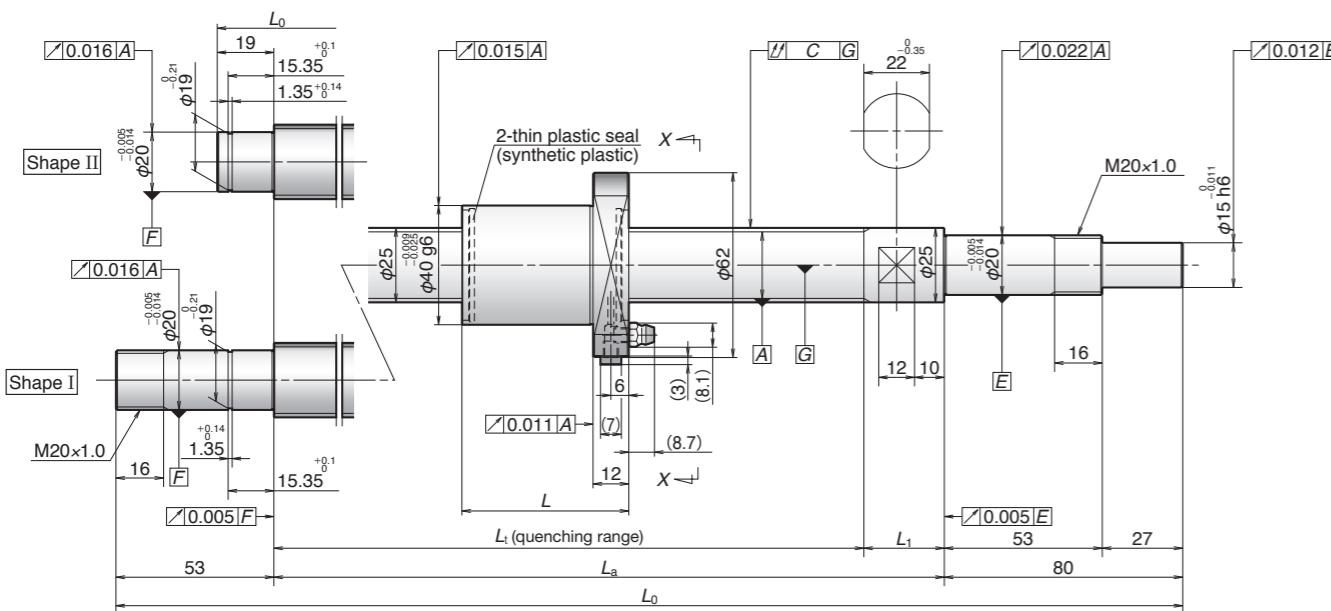
3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Compact FA Series

PSS Type for General Uses

Screw shaft diameter 25 mm, Lead 20 and 25 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 22.2
Ball circle dia.	25.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

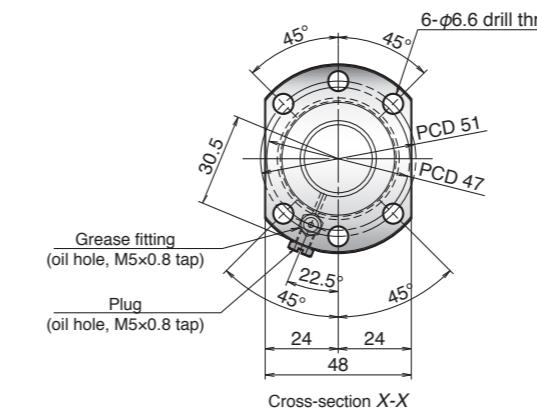
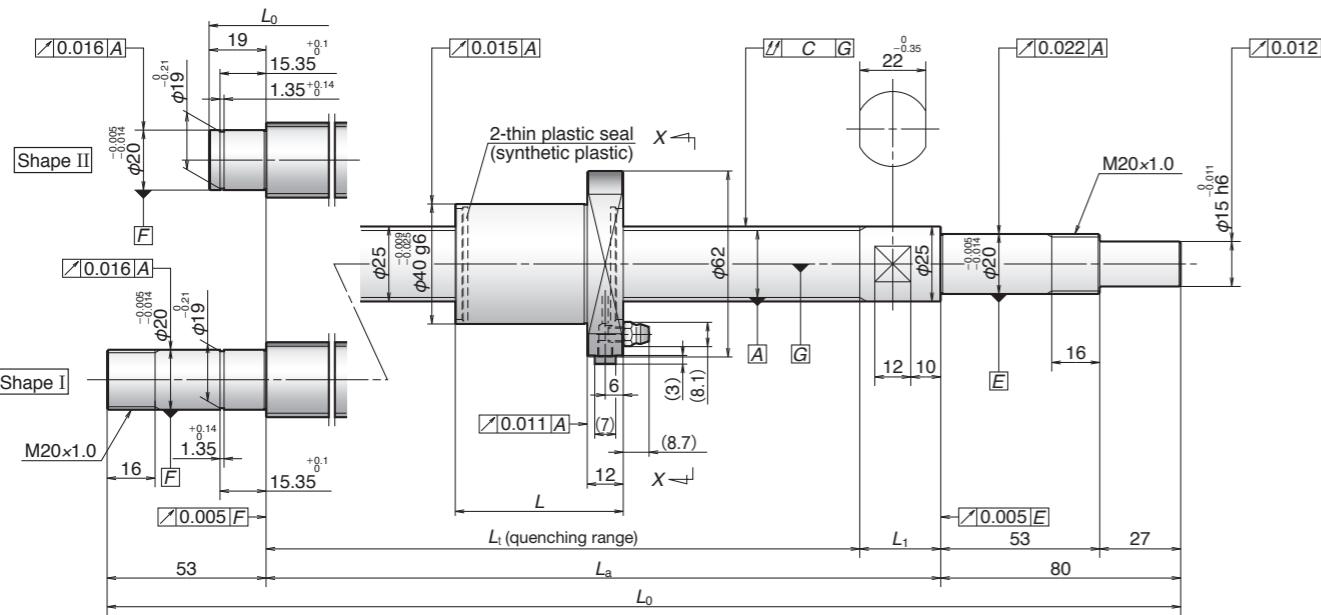
[Recommended support unit]				
For drive side (Fixed)	For opposite to drive side			
	(Fixed)		(Simple)	
WBK20-01 (square)	P 45	WBK20-01 (square)	P 45	WBK20S-01 (square)
WBK20-11 (round)	P 47	WBK20-11 (round)	P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>ℓ</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions				Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)		
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>									
PSS2520N1D0729	20	7 650	14 800	500	544	500	544	54	604	630	729	26	II	0.030	0.023	0.055	2.2-12.8	3.1	5 000	—	3.9	2.0		
PSS2520N1D0829				600	644	600	644		704	730	829			0.035	0.025	0.065	2.2-12.8	3.4						
PSS2520N1D0929				700	744	700	744		804	830	929			0.040	0.027	0.065	2.2-12.8	3.8						
PSS2520N1D1029				800	844	800	844		904	930	1 029			0.040	0.027	0.080	2.2-12.8	4.2	4 280	4 280	3 920			
PSS2520N1D1263				1 000	1 036	1 000	1 036		1 104	1 130	1 263			0.046	0.030	0.100	1.8-14.8	5.0	2 850					
PSS2520N1D1463				1 200	1 236	1 200	1 236		1 304	1 330	1 463			0.054	0.035	0.100	1.8-14.8	5.8	2 030	2 820				
PSS2520N1D1863				1 600	1 636	1 600	1 636		1 704	1 730	1 863			0.065	0.040	0.130	1.8-14.8	7.3	1 180	1 650				
PSS2520N1D2263				2 000	2 036	2 000	2 036		2 104	2 130	2 263			0.077	0.046	0.170	1.8-14.8	8.8	770	1 080				
PSS2525N1D0779	25	7 490	14 600	500	581	500	581	63	650	680	779	30	II	0.035	0.025	0.055	2.7-13.8	3.3	5 000	—	4.3	2.2		
PSS2525N1D0879				600	681	600	681		750	780	879			0.035	0.025	0.065	2.7-13.8	3.7						
PSS2525N1D0979				700	781	700	781		850	880	979			0.040	0.027	0.065	2.7-13.8	4.1	4 910					
PSS2525N1D1079				800	881	800	881		950	980	1 079			0.040	0.027	0.080	2.7-13.8	4.4	3 910					
PSS2525N1D1313				1 000	1 073	1 000	1 073		1 150	1 180	1 313			0.046	0.030	0.100	1.8-14.8	5.3	2 640	3 620				
PSS2525N1D1513				1 200	1 273	1 200	1 273		1 350	1 380	1 513			0.054	0.035	0.100	1.8-14.8	6.0	1 900	2 630				
PSS2525N1D1913				1 600	1 673	1 600	1 673		1 750	1 780	1 913			0.065	0.040	0.130	1.8-14.8	7.5	1 120	1 570				
PSS2525N1D2313				2 000	2 073	2 000	2 073		2 150	2 180	2 313			0.077	0.046	0.170	1.8-14.8	9.1	740	1 040				

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for

Screw shaft diameter 25 mm, Lead 30 and 50 mm



Ball screw specification	
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	3.175 / 22.2
Ball circle dia.	25.5
Accuracy grade/axial play	C5 / 0
Factory-packed grease	NSK grease LR3

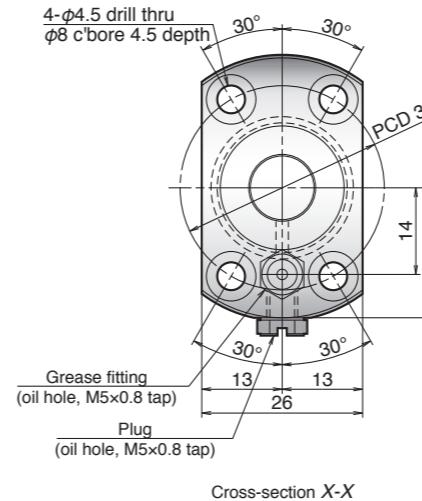
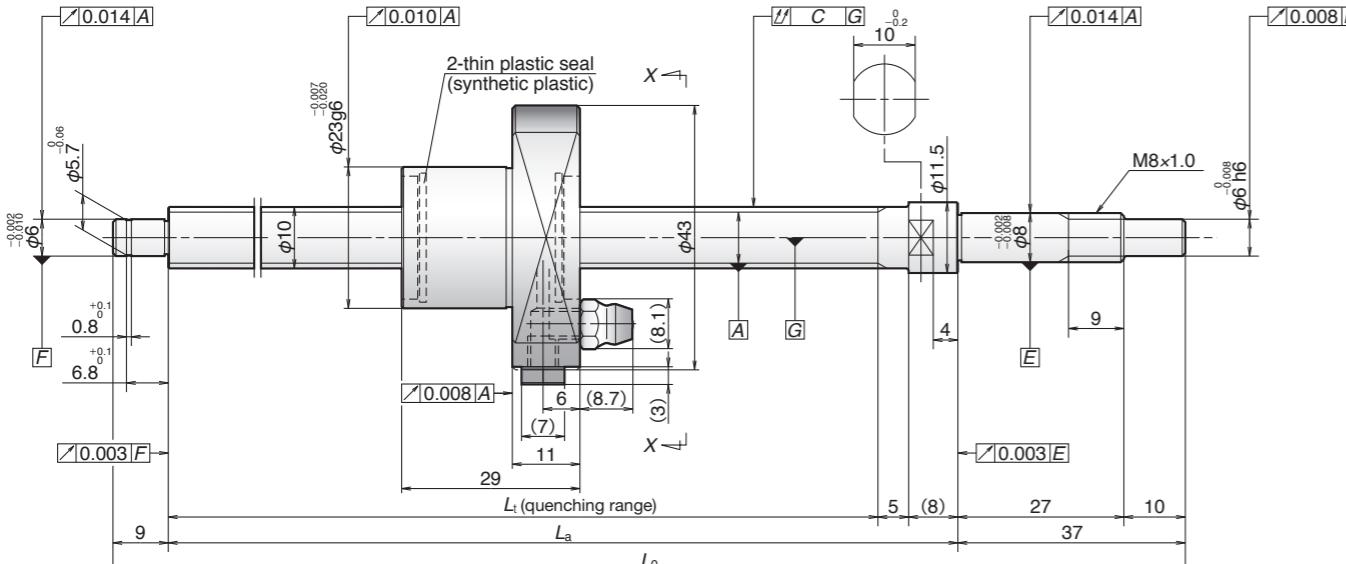
For drive side (Fixed)	For opposite to drive side	
	(Fixed)	(Simple)
WBK20-01 (square)	WBK20-01 (square) P 45	WBK20S-01 (square) P 49
WBK20-11 (round)	WBK20-11 (round) P 47	P 47

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N) Dynamic <i>C_a</i> Static <i>C_{0a}</i>	Stroke		Nut length <i>L</i>	Screw shaft dimensions				Left shaft end (opposite driven side)	Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}		Internal spatial volume of nut(cm ³)	Standard volume of grease replenishing (cm ³)
				Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>		Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>				Fixed-simple	Fixed-Fixed		
PSS2530N1D0779	25	30	7 490	14 600	500	570	74	650	680	779	II	0	0.035	0.025	0.055	2.7-13.8	3.4	5 000	-	5.5	2.8
PSS2530N1D0879					600	670		750	780	879			0.035	0.025	0.065	2.7-13.8	3.7				
PSS2530N1D0979					700	770		850	880	979			0.040	0.027	0.065	2.7-13.8	4.1	4 980			
PSS2530N1D1079					800	870		950	980	1 079			0.040	0.027	0.080	2.7-13.8	4.5	3 960			
PSS2530N1D1313					1 000	1 062		1 150	1 180	1 313			0.046	0.030	0.100	1.8-14.8	5.3	2 670	3 650		
PSS2530N1D1513					1 200	1 262		1 350	1 380	1 513			0.054	0.035	0.100	1.8-14.8	6.1	1 920	2 650		
PSS2530N1D1913					1 600	1 662		1 750	1 780	1 913			0.065	0.040	0.130	1.8-14.8	7.6	1 130	1 580		
PSS2530N1D2313					2 000	2 062		2 150	2 180	2 313			0.077	0.046	0.170	1.8-14.8	9.1	740	1 040		
PSS2550N1D0829	50	50	6 910	14 700	500	570	114	690	730	829	II	0	0.035	0.025	0.065	5.4-17.6	3.8	5 000	-	7.7	3.9
PSS2550N1D0929					600	670		790	830	929			0.035	0.025	0.065	5.4-17.6	4.1				
PSS2550N1D1029					700	770		890	930	1 029			0.040	0.027	0.080	5.4-17.6	4.5	4 750			
PSS2550N1D1129					800	870		990	1 030	1 129			0.040	0.027	0.080	5.4-17.6	4.9	3 790			
PSS2550N1D1363					1 000	1 062		1 190	1 230	1 363			0.046	0.030	0.100	4.1-19.6	5.8	2 570	3 470		
PSS2550N1D1563					1 200	1 262		1 390	1 430	1 563			0.054	0.035	0.100	4.1-19.6	6.5	1 860	2 540		
PSS2550N1D1963					1 600	1 662		1 790	1 830	1 963			0.065	0.040	0.130	4.1-19.6	8.0	1 100	1 520		
PSS2550N1D2363					2 000	2 062		2 190	2 230	2 363			0.077	0.046	0.170	4.1-19.6	9.6	730	1 020		

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.
4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 10 mm, Lead 5 mm



Ball screw specification	
Shaft dia.	φ10
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.000 / 8.2
Ball circle dia.	10.3
Accuracy grade/axial play	C3 / 0
Factory-packed grease	NSK clean grease LG2

[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK08-01C (square, clean) P 45	WBK08S-01C (square, clean) P 49
WBK08-11C (round, clean) P 47	WBK08S-01B (low-profile, square) P 49
WBK08-01B (low-profile, square) P 45	
WBK08-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Screw shaft dimensions			Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.	<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>						
USS1005N1D0221	10	5	3 420	4 840	100	133	162	175	221	0	0.010	0.008	0.035	0.2-1.8	0.3	5 000	0.8	0.4
USS1005N1D0321					200	233	262	275	321		0.012	0.008	0.045	0.2-2.0	0.3			
USS1005N1D0521					400	433	462	475	521		0.015	0.010	0.070	0.2-3.0	0.5			

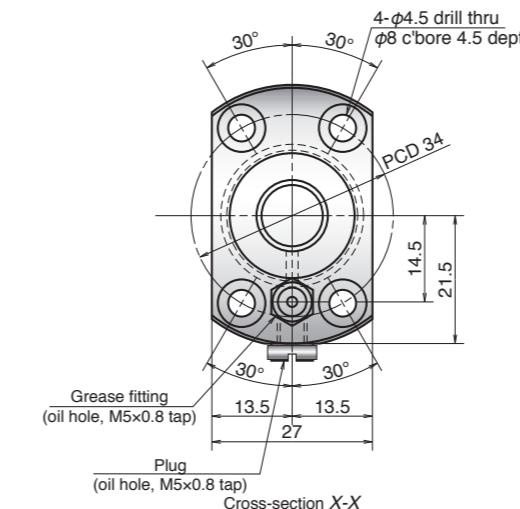
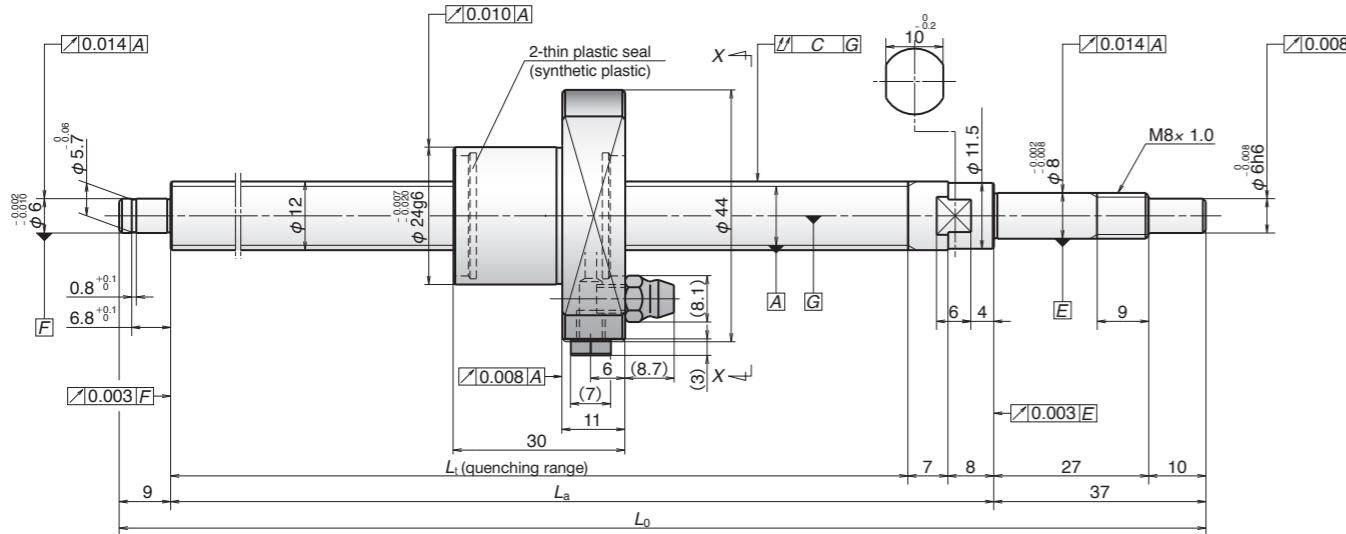
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 12 mm, Lead 5 mm



Ball screw specification	
Shaft dia.	φ12
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.000 / 10.2
Ball circle dia.	12.3
Accuracy grade/axial play	C3 / 0
Factory-packed grease	NSK clean grease LG2

[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK08-01C (square, clean) P 45	WBK08S-01C (square, clean) P 49
WBK08-11C (round, clean) P 47	WBK08S-01B (low-profile, square) P 49
WBK08-01B (low-profile, square) P 45	
WBK08-11 (round) P 47	

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Screw shaft dimensions			Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.	<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>						
USS1205N1D0221	12	5	3 750	5 810	100	130	160	175	221	0	0.010	0.008	0.035	0.2-1.8	0.3	5 000	1.0	0.5
USS1205N1D0321					200	230	260	275	321		0.012	0.008	0.045	0.2-2.0	0.3			
USS1205N1D0621					500	530	560	575	621		0.016	0.012	0.070	0.2-3.0	0.7			

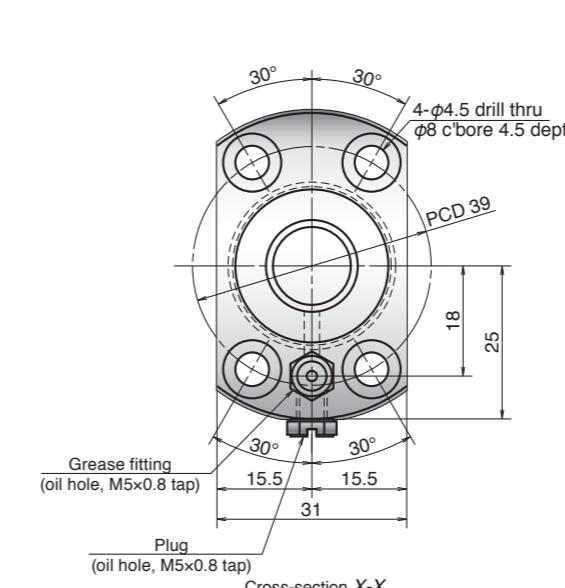
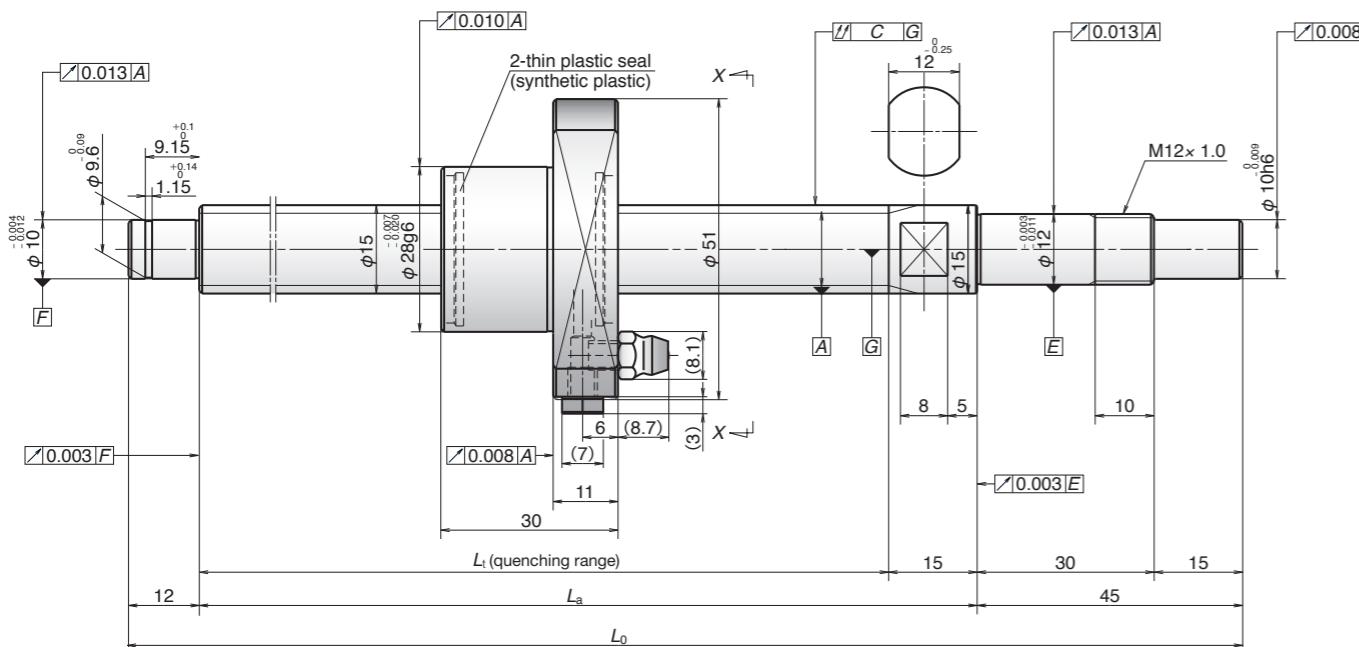
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 15 mm, Lead 5 mm



Unit : mm

Ball screw specification	
Shaft dia.	φ15
Preload type	Oversize ball (P-preload)
Ball dia./screw shaft root dia.	2.778 / 12.6
Ball circle dia.	15.5
Accuracy grade/axial play	C3 / 0
Factory-packed grease	NSK clean grease LG2

[Recommended support unit]

For drive side (Fixed)	For opposite to drive side (Simple)
WBK12-01C (square, clean) P 45	WBK12S-01C (square, clean) P 49
WBK12-11C (round, clean) P 47	WBK12S-01B (low-profile, square) P 49
WBK12-01B (low-profile, square) P 45	
WBK12-11 (round) P 47	

Unit : mm

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Screw shaft dimensions		Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm) ^{*1}	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)	
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.	<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V_u</i>						
USS1505N1D0261	15	5	6 410	10 100	100	159	189	204	261	0	0.010	0.008	0.025	0.2~5.0	0.5	5 000	2.0	1.0
USS1505N1D0361					200	259	289	304	361		0.012	0.008	0.035	0.2~5.0	0.6			
USS1505N1D0561					400	459	489	504	561		0.015	0.010	0.045	0.2~6.0	0.9			
USS1505N1D0761					600	653	689	704	761		0.018	0.013	0.060	0.2~8.0	1.1			

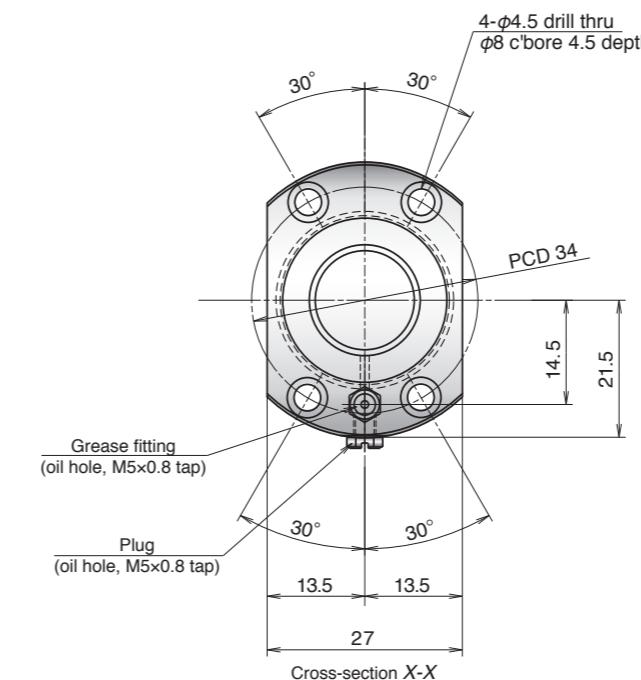
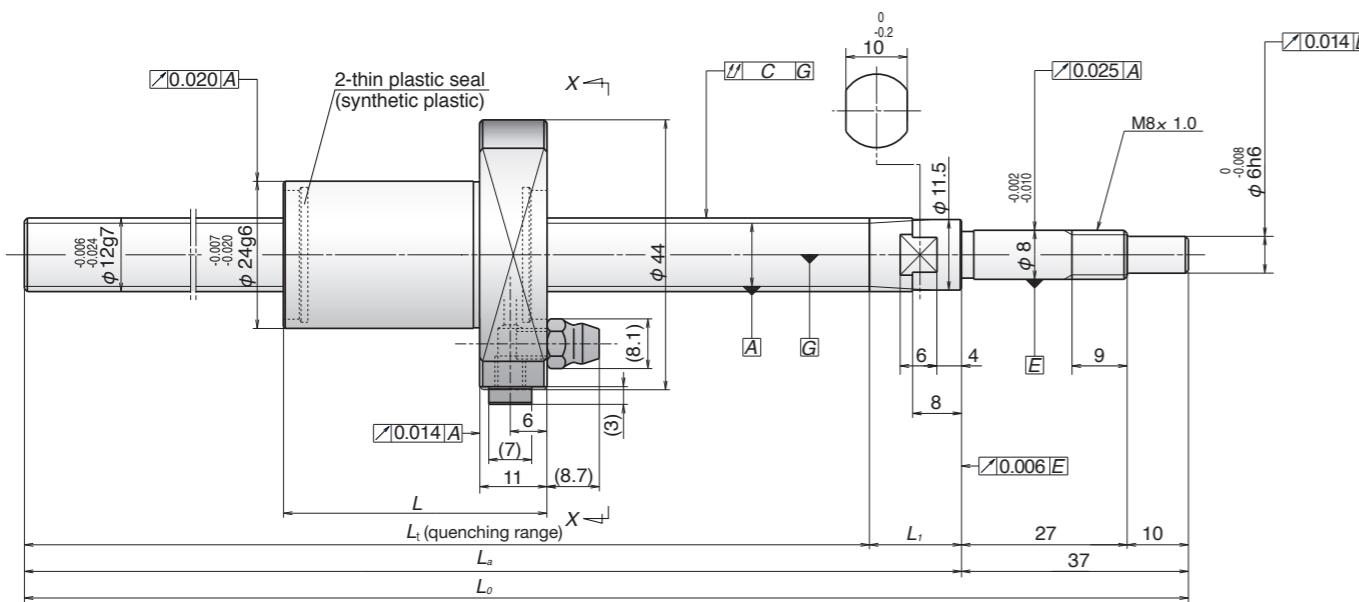
Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. Contact NSK if permissible rotational speed is to be exceeded.

3. Service temperature range is 0 to 80°C.

4. Use of NSK support unit is recommended. Refer to pages 45 to 50 for details.

Screw shaft diameter 12 mm, Lead 10 mm



Ball screw specification	
Ball dia./screw shaft root dia.	2.000 / 10.2
Ball circle dia.	12.3
Accuracy grade/axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK grease LR3

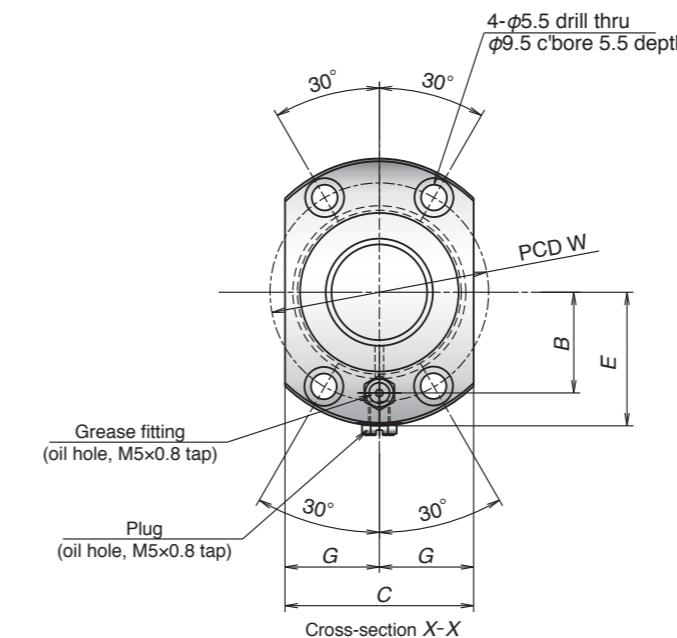
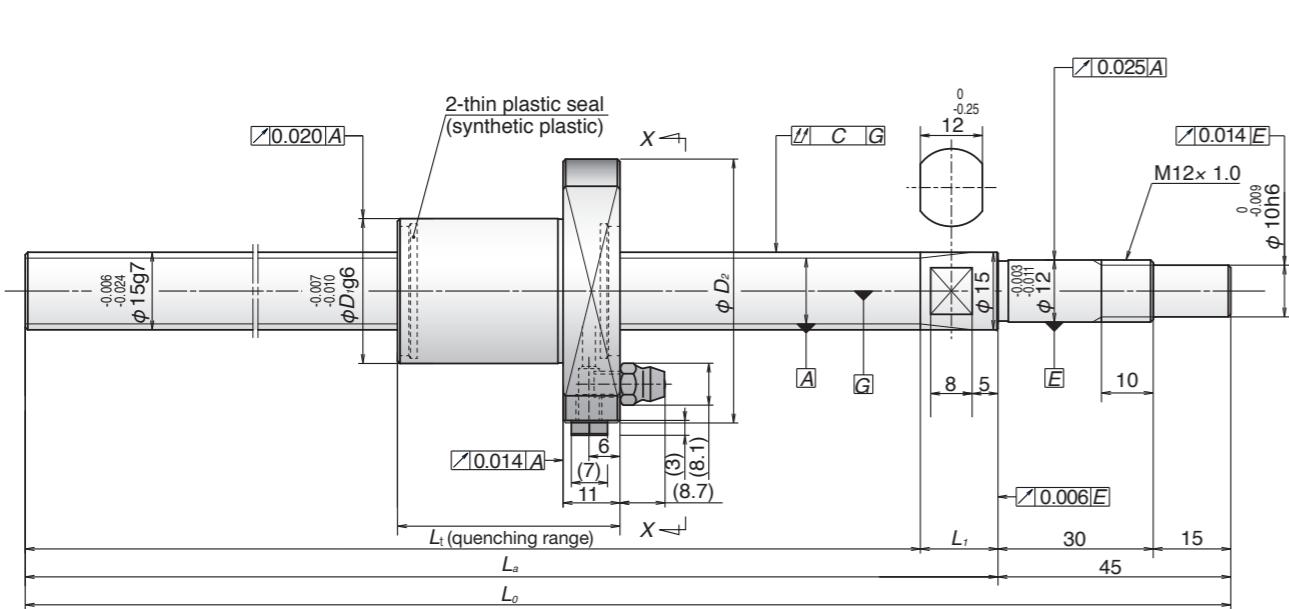
[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK08-01B (low-profile, square) P 45	WBK12SF-01B (low-profile, square) P 50

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut length <i>L</i>	Screw shaft dimensions				Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L_o</i>	<i>L₁</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V₃₀₀</i>						
FSS1210N1D0400	12	10	3 760	5 780	250	287	43	348	363	400	15	0	0.120	0.052	0.080	-	0.5	5 000	1.0	0.5
FSS1210N1D0600					450	487		548	563	600			0.195		0.120			0.7	5 000	
FSS1210N1D0900					750	787		848	863	900			0.310		0.180			1.0	2 300	

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.
2. The stroke and permissible rotational speed shown in the table are the values when the support unit recommended by NSK is used and Fixed-Supported (ball screw mounting method) is selected.
3. Contact NSK if permissible rotational speed is to be exceeded.

4. Service temperature range is 0 to 80°C
5. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Screw shaft diameter 15 mm, Lead 10 and 20 mm



Ball screw specification		
Lead	10	20
Ball dia./screw shaft root dia.	2.778 / 12.6	3.175 / 12.2
Ball circle dia.	15.5	
Accuracy grade/axial play	Ct7 / 0.010 or less	
Factory-packed grease	NSK grease LR3	

[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK12-01B (low-profile, square)	WBK15SF-01B (low-profile, square)
P 45	P 50

Reference no.	Screw shaft dia. d	Lead ℓ	Basic load ratings (N)		Stroke		Screw shaft dimensions			Lead accuracy			Nut dimensions								Shaft run-out C	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)										
			Dynamic C_a	Static C_{oa}	Nominal	max.	L_t	L_a	L_o	L_t	Target value T	Error e_p	Variation V_{300}	L	D_1	D_2	W	B	C	E	G															
FSS1510N1D0500	15	10	6 530	10 200	350	379	440	455	500	15	0.155	0.310	0.490	43	28	51	39	18	31	25	15.5	0.070	0.125	0.200	0.9	5 000	2.0	1.0								
FSS1510N1D1000					850	879	940	955	1 000																											
FSS1510N1D1450					1 300	1 329	1 390	1 405	1 450																											
FSS1520N1D0500		20	5 660	8 700	350	368	437	455	500	18	0.155	0.310	0.490									0.070	0.125	0.200	1.0	5 000	2.8	1.4								
FSS1520N1D1000					850	868	937	955	1 000																											
FSS1520N1D1450					1 300	1 318	1 387	1 405	1 450																											

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

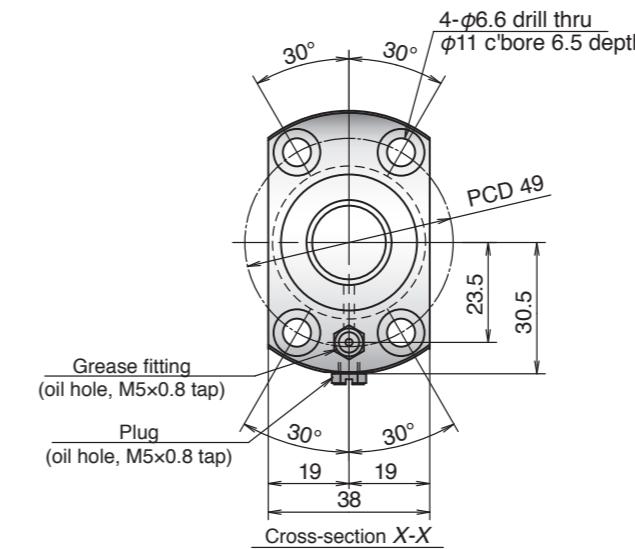
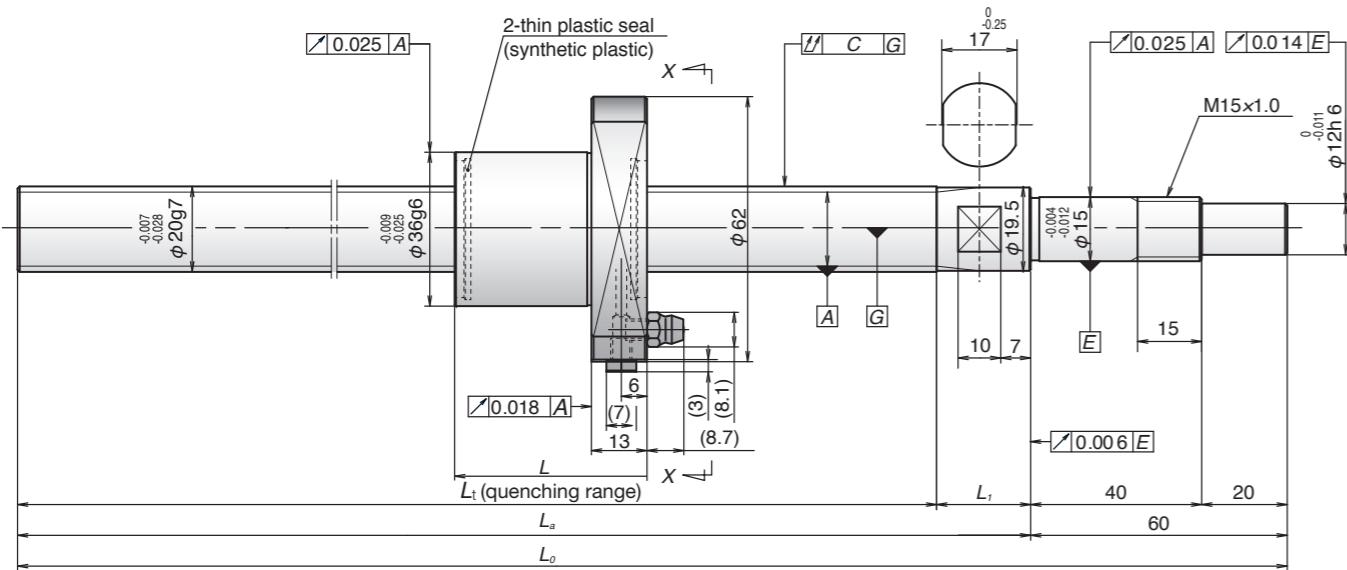
2. The stroke and permissible rotational speed shown in the table are the values when the support unit recommended by NSK is used and Fixed-Supported (ball screw mounting method) is selected.

3. Contact NSK if permissible rotational speed is to be exceeded.

4. Service temperature range is 0 to 80°C

5. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Screw shaft diameter 20 mm, Lead 10 and 20 mm



Ball screw specification		Unit : mm
Ball dia./screw shaft root dia.	3.175 / 17.2	
Ball circle dia.	20.5	
Accuracy grade/axial play	Ct7 / 0.010 or less	
Factory-packed grease	NSK grease LR3	

[Recommended support unit]	
For drive side (Fixed)	For opposite to drive side (Simple)
WBK15-01B (low-profile, square)	WBK20SF-01B (low-profile, square)

P 45 P 50

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut dimensions <i>L</i>	Screw shaft dimensions				Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*2}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V₃₀₀</i>						
FSS2010N1D0600	20	10	10 200	18 600	400	451	45	518	540	600	22	0	0.195	0.052	-	0.085	1.7	5 000	3.2	1.6
FSS2010N1D1000					800	851		918	940	1 000			0.310			0.125		2.6	3 310	
FSS2010N1D1450					1 250	1 301		1 368	1 390	1 450			0.490			0.200		3.6	1 450	
FSS2020N1D0600		20	6 790	11 800	400	442	54	518	540	600			0.195			0.085		1.8	5 000	
FSS2020N1D1000					800	842		918	940	1 000			0.310			0.125		2.7	3 350	
FSS2020N1D1450					1 250	1 292		1 368	1 390	1 450			0.490			0.200		3.8	1 460	

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

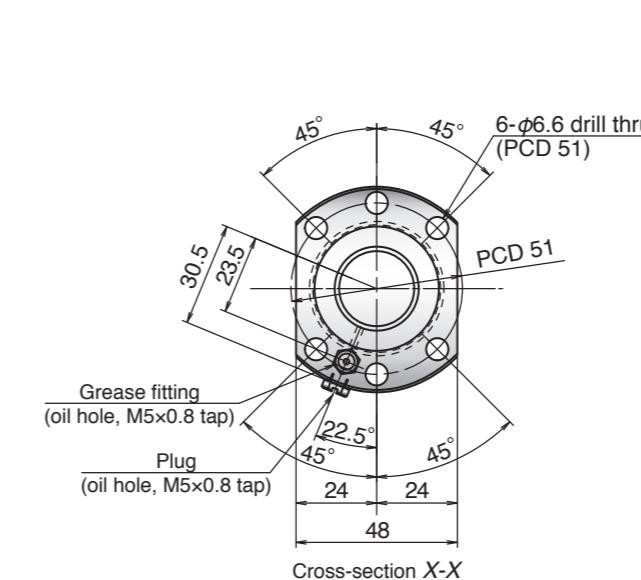
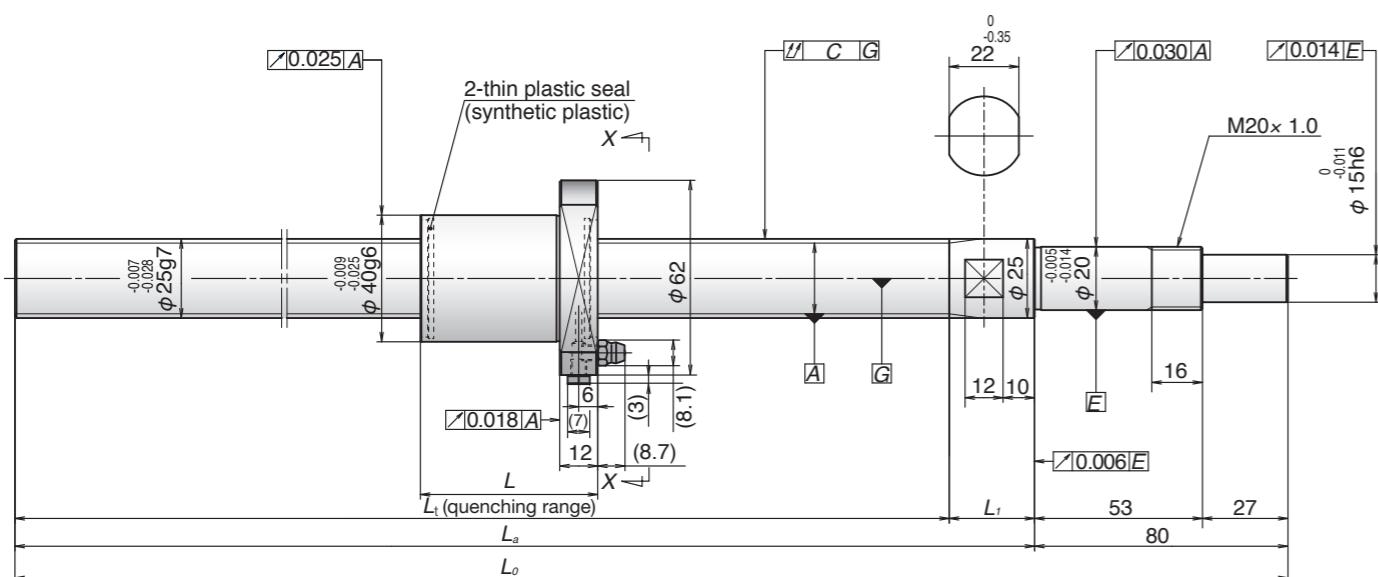
2. The stroke and permissible rotational speed shown in the table are the values when the support unit recommended by NSK is used and Fixed-Supported (ball screw mounting method) is selected.

3. Contact NSK if permissible rotational speed is to be exceeded.

4. Service temperature range is 0 to 80°C

5. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Screw shaft diameter 25 mm, Lead 10, 20 and 25 mm



Unit : mm

Ball screw specification	
Ball dia./screw shaft root dia.	3.175 / 22.2
Ball circle dia.	25.5
Accuracy grade/axial play	Ct7 / 0.010 or less
Factory-packed grease	NSK grease LR3

[Recommended support unit]

For drive side (Fixed)	For opposite to drive side (Simple)
WBK20-01 (square) P 45	WBK25SF-01 (square) P 50

Unit : mm

Reference no.	Screw shaft dia. <i>d</i>	Lead <i>l</i>	Basic load ratings (N)		Stroke		Nut dimensions <i>L</i>	Screw shaft dimensions				Lead accuracy			Shaft run-out <i>C</i>	Dynamic preload torque (N·cm)	Mass (kg)	Permissible rotational speed (min ⁻¹) ^{*1}	Internal spatial volume of nut (cm ³)	Standard volume of grease replenishing (cm ³)	
			Dynamic <i>C_a</i>	Static <i>C_{0a}</i>	Nominal	max.		<i>L_t</i>	<i>L_a</i>	<i>L₀</i>	<i>L₁</i>	Target value <i>T</i>	Error <i>e_p</i>	Variation <i>V₃₀₀</i>							
FSS2510N1D0600	25	10	15 000	32 400	400	415	56	493	520	600	27	0	0.155	0.052	0.065	-	2.6	5 000	4.7	2.4	
FSS2510N1D1000					800	815		893	920	1 000			0.310		0.090		4.0	4 590			
FSS2510N1D1450					1 250	1 265		1 343	1 370	1 450			0.490		0.130		5.8	1 970			
FSS2520N1D0600		20	7 650	14 800	400	418	54	494	520	600	26		0.155		0.065		2.6	5 000	3.9	2.0	
FSS2520N1D1000					800	818		894	920	1 000			0.310		0.090		4.0	4 570			
FSS2520N1D1450					1 250	1 268		1 344	1 370	1 450			0.490		0.130		5.8	1 960			
FSS2525N1D0600	25	7 490	14 600		400	405	63	490	520	600	30		0.155		0.065		2.6	5 000	4.3	2.2	
FSS2525N1D1000					800	805		890	920	1 000			0.310		0.090		4.1	4 660			
FSS2525N1D1450					1 250	1 255		1 340	1 370	1 450			0.490		0.130		5.8	1 990			

Notes : 1. Indicates ball screw preload control value. Approximately 2.0 N·cm of torque is added due to thin plastic seals.

2. The stroke and permissible rotational speed shown in the table are the values when the support unit recommended by NSK is used and Fixed-Supported (ball screw mounting method) is selected.

3. Contact NSK if permissible rotational speed is to be exceeded.

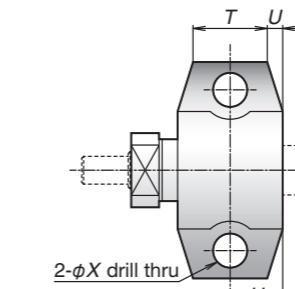
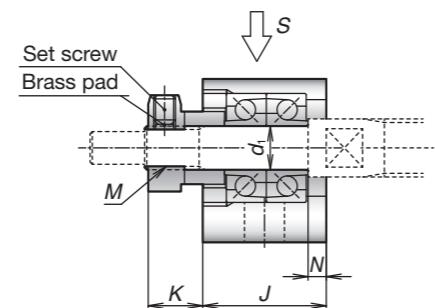
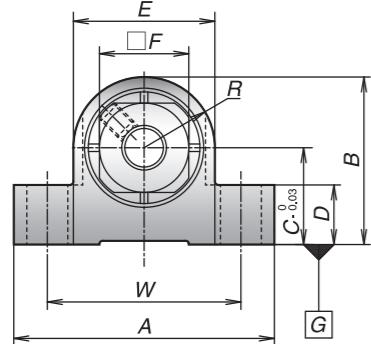
4. Service temperature range is 0 to 80°C

5. Use of NSK support unit is recommended. Refer to pages 45 to 48 for details.

Square Type Support Unit

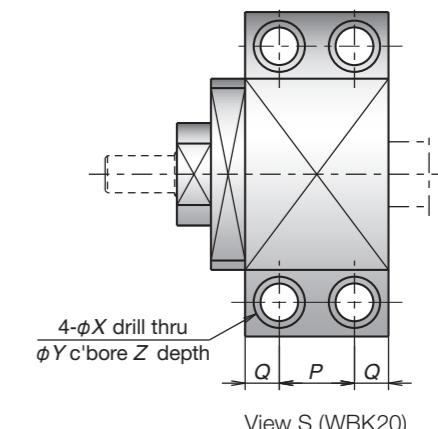
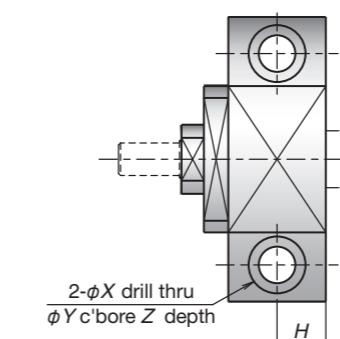
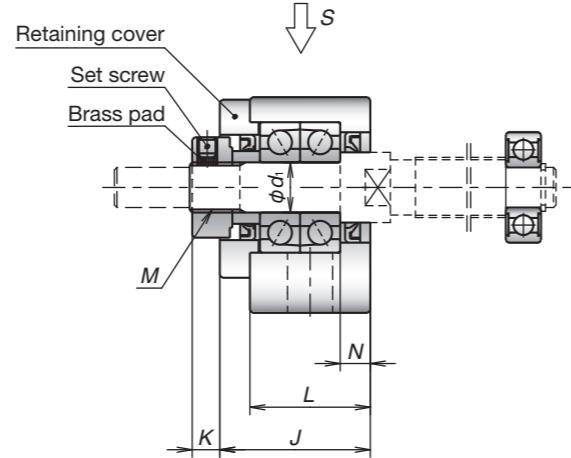
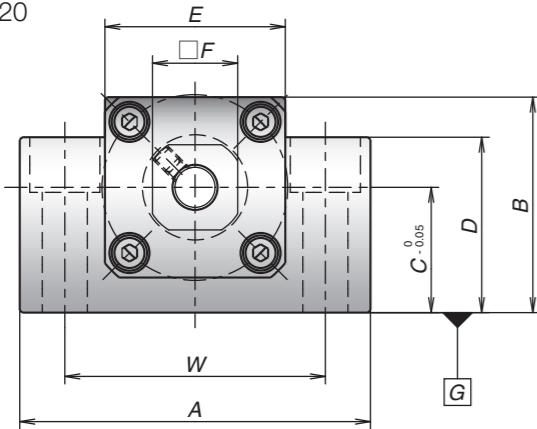
Fixed support side support unit (square type)

WBK04 and 06



Reference no.	Tightening torque (reference) [N·cm]	
	Locknut	Set screw
WBK04-**	100	69 (M3)
WBK06-**	190	69 (M3)
WBK08-**	230	69 (M3)
WBK10-**	280	147 (M4)
WBK12-**	630	147 (M4)
WBK15-**	790	147 (M4)
WBK20-**	1 670	147 (M4)

WBK08 to 20



Unit : mm

Reference no.	Use	d_1	A	B	C	D	E	F	L	J	K	R	T	U	N	Counterbore dimensions							Mass (kg)	Specification				Locknut screw M	Attached bearing for support side
																H	P	Q	W	X	Y	Z		Basic dynamic load rating C_a (N)	Load limit C_a (N)	Rigidity (N/μm)	Maximum starting torque (N·cm)		
WBK04-01M	General	4	27	17	10	6	14	10	-	14	5.5	7	9	2.5	2	7	-	-	21	3.5	-	-	0.03	1 470	464	39	0.2	M4×0.5	-
WBK06-01M	General	6	35	22.5	13	8	19	12	-	17	7.5	9.5	12	2.5	2.5	8.5	-	-	26	5.5	-	-	0.05	2 760	854	60	0.35	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	4 400	1 450	49	0.88	M8×1	606ZZ
WBK08-01B	Low type		62	31	15.5	31	-		21.5	25.5	4.5	-	-	-	3.5	11			46	9	14	18	0.3	6 600	2 730	94	1.9		
WBK08-01C	Clean		52	32	17	26	25		23	23	7	-	-	-	4	11.5			38	6.6	11	12	0.25	3 100	1 100	36	0.52		606VV
WBK10-01A	General	10	70	43	25	35	36	17	24	30	5.5	-	-	-	6	12	-	-	52	9	14	11	0.5	6 600	2 730	94	1.9	M10×1	608ZZ
WBK10-01B	Low type			38	20	38	-																						
WBK10-01C	Clean			43	25	35	36																						
WBK12-01A	General	12	70	43	25	35	36	19	24	30	5.5	-	-	-	6	12	-	-	52	9	14	11	0.5	7 100	3 040	104	2.1	M12×1	6000ZZ
WBK12-01B	Low type			38	20	38	-																						
WBK12-01C	Clean			43	25	35	36																						
WBK15-01A	General	15	80	50	30	40	41	22	25	31	12	-	-	-	5	12.5	-	-	60	11	17	15	0.7	7 600	3 380	113	2.4	M15×1	6002ZZ
WBK15-01B	Low type			42	22	42	-																						
WBK15-01C	Clean			50	30	40	41																						
WBK20-01	General	20	95	58	30	45	56	30	42	52	10	-	-	-	10	-	22	10	75	11	17	15	1.4	17 900	8 240	155	6.2	M20×1	6204ZZ

Notes : 1. Use datum surface G for mounting to machine base.

2. Tighten set screw after locknut has been adjusted and tightened.

3. Insert brass pad provided with unit into locknut set screw hole, then insert and tighten the set screw.

4. Deep groove ball bearing and snap ring are also provided for simple support side. (except WBK04-01M, WBK06-01M)

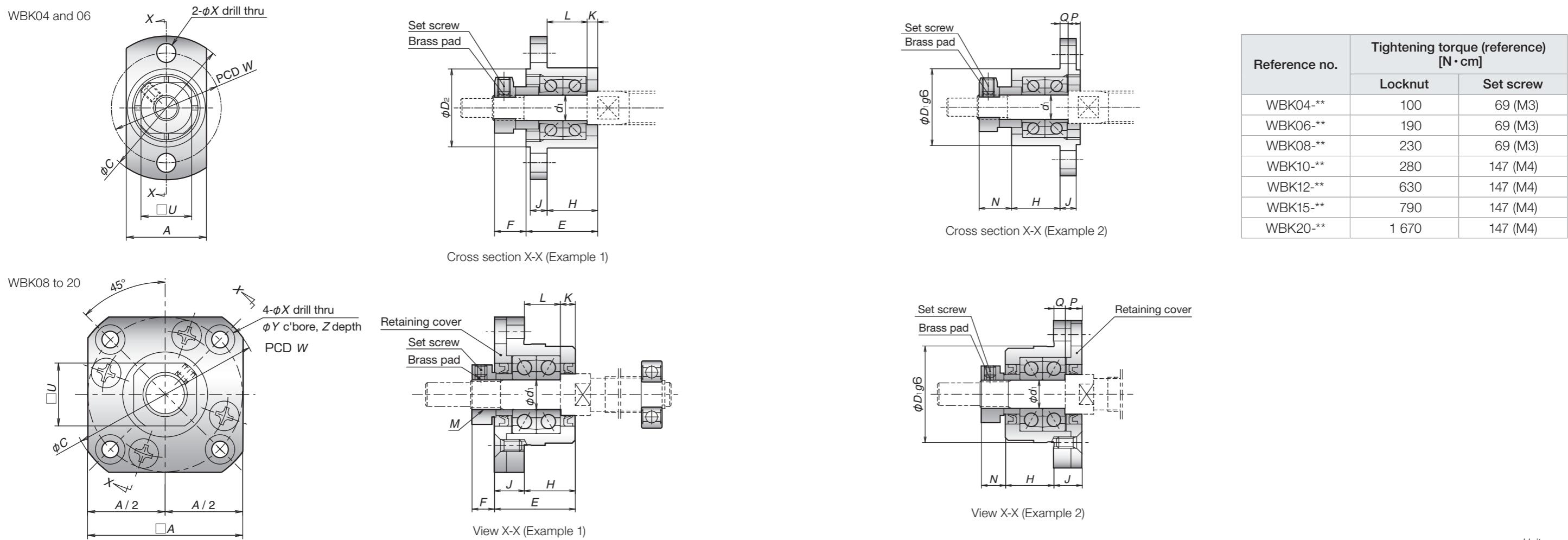
5. For retaining cover side of WBK08-01A and WBK08-01C, there are no seals.

6. For WBK04-01M and WBK06-01M, non-contact metal seals are installed in both sides of bearings.

7. Contact NSK if the rotational speed is 50 min-1 and below.

Round Type Support Unit

Fixed support side support unit (round type)



Support
Unit

Reference no.	Tightening torque (reference) [N·cm]	
	Locknut	Set screw
WBK04-**	100	69 (M3)
WBK06-**	190	69 (M3)
WBK08-**	230	69 (M3)
WBK10-**	280	147 (M4)
WBK12-**	630	147 (M4)
WBK15-**	790	147 (M4)
WBK20-**	1 670	147 (M4)

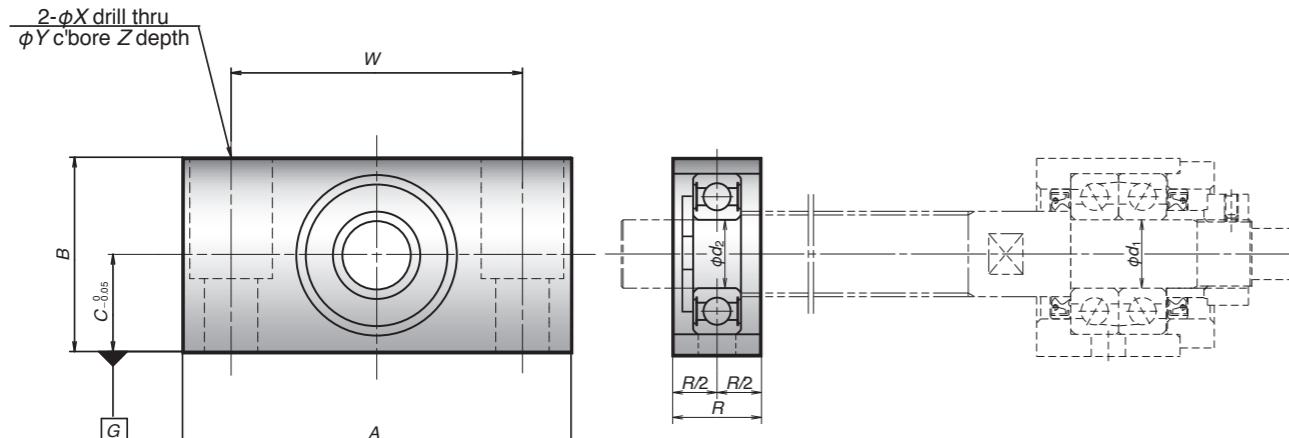
Reference no.	Use	d_1	A	C	D_1	D_2	E	H	L	K	F	N	U	P	Q	Counterbore dimensions					Mass (kg)	Specification				Locknut screw M	Attached bearing for support side
																J	W	X	Y	Z		Basic dynamic load rating $C_a(N)$	Load limit $C_a(N)$	Rigidity (N/ μ m)	Maximum starting torque (N·cm)		
WBK04-11M	General	4	14	26	14	14	13.5	8.5	7	1.5	5.5	6.6	10	2.6	2.4	3	20	3.5	-	-	0.02	1 470	464	39	0.2	M4x0.5	-
WBK06-11M	General	6	19	34	19	18.5	17	12	9.5	2.5	7.5	8	12	3	2	4	26	4.5	-	-	0.04	2 760	854	60	0.35	M6x0.75	-
WBK08-11B	High-load	8	42	52	34	-	25.5	15.5	12	3.5	4.5	7	14	5	6	10	42	4.5	8	4	0.2	6 600	2 730	94	1.9	606ZZ	606ZZ
WBK08-11	General		35	43	28	-	23	14	10	4	7	8				9	35	3.4	6.5		0.15	4 400	1 450	49	0.88	M8x1	606ZZ
WBK08-11C	Clean		10	42	52	34	-	27	17	12	5	7.5	8.5	17	6	4	10	42	4.5	8	4	0.2	3 100	1 100	36	0.52	
WBK10-11	General	12	44	54	36	-	27	17	12	5	7.5	8.5	19	6	4	10	44	4.5	8	4	0.25	6 600	2 730	94	1.9	M10x1	608ZZ
WBK10-11C	Clean	15	52	63	40	-	32	17	11	6	12	14	22	8	7	15	50	5.5	9.5	6	0.4	4 250	1 364	50	1.1	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	7 100	3 040	104	2.1	M12x1	6000ZZ
WBK12-11C	Clean	15	52	63	40	-	32	17	11	6	12	14	22	8	7	15	50	5.5	9.5	6	0.4	4 700	2 443	57	1.2	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	7 600	3 380	113	2.4	M15x1	6002ZZ
WBK15-11C	Clean	15	52	63	40	-	32	17	11	6	12	14	22	8	7	15	50	5.5	9.5	6	0.4	5 100	2 757	63	1.3	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	17 900	8 240	155	6.2	M20x1	6204ZZ

Notes : 1. Tighten set screw after locknut has been adjusted and tightened.
 2. Insert brass pad provided with unit into locknut set screw hole, then insert and tighten the set screw.
 3. Deep groove ball bearing and snap ring are also provided for simple support side. (except WBK04-11M and WBK06-11M)

4. For retaining cover side of WBK08-11 and WBK08-11C, there are no seals.
 5. For WBK04-11M and WBK06-11M, non-contact metal seals are installed in both sides of bearings.
 6. Contact NSK if the rotational speed is 50 min-1 and below.

Square Type Support Unit for Simple Support Side

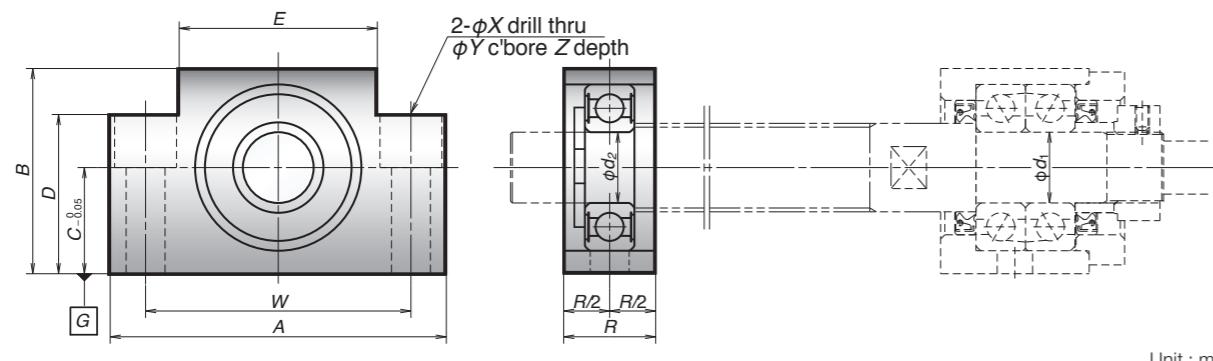
Simple support side support unit for PSS and USS types



Unit : mm

Reference no.	Use	d_2	A	B	C	R	Counterbore dimensions				Mass (kg)	Bearing reference no.	Axial direction basic dynamic load rating (N)
							W	X	Y	Z			
WBK08S-01B	Low	6	62	31	15.5	16	46	9	14	18	0.2	606ZZ	2 260
WBK12S-01B	Low	10	70	38	20	20	52	9	14	19	0.4	6000ZZ	4 550
WBK15S-01B	Low	15	80	42	22	20	60	9	14	23	0.4	6002ZZ	5 600

Note : 1. Use datum surface G for mounting to machine base.

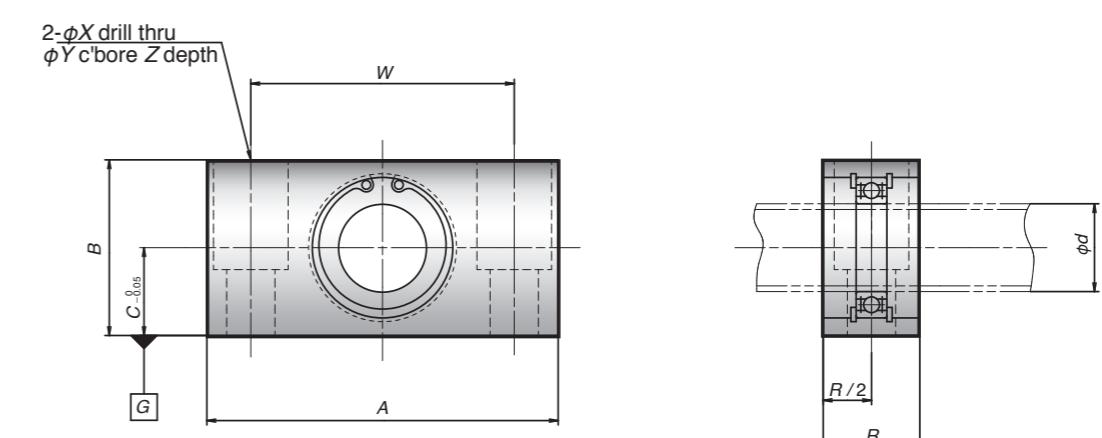


Unit : mm

Reference no.	Use	d_2	A	B	C	D	E	R	Counterbore dimensions				Mass (kg)	Bearing reference no.	Axial direction basic dynamic load rating (N)
									W	X	Y	Z			
WBK08S-01	General	6	52	32	17	26	25	15	38	6.6	11	12	0.15	606ZZ	2 260
WBK08S-01C	Clean													606VV	2 260
WBK10S-01	General	8	70	43	25	35	36	20	52	9	14	11	0.4	608ZZ	3 300
WBK10S-01C	Clean													608VV	3 300
WBK12S-01	General	10	70	43	25	35	36	20	52	9	14	11	0.35	6000ZZ	4 550
WBK12S-01C	Clean													6000VV	4 550
WBK15S-01	General	15	80	50	30	40	41	20	60	9	14	11	0.45	6002ZZ	5 600
WBK15S-01C	Clean													6002VV	5 600
WBK20S-01	General	20	95	58	30	45	56	26	75	11	17	15	0.8	6204ZZ	12 800

Note : 1. Use datum surface G for mounting to machine base.

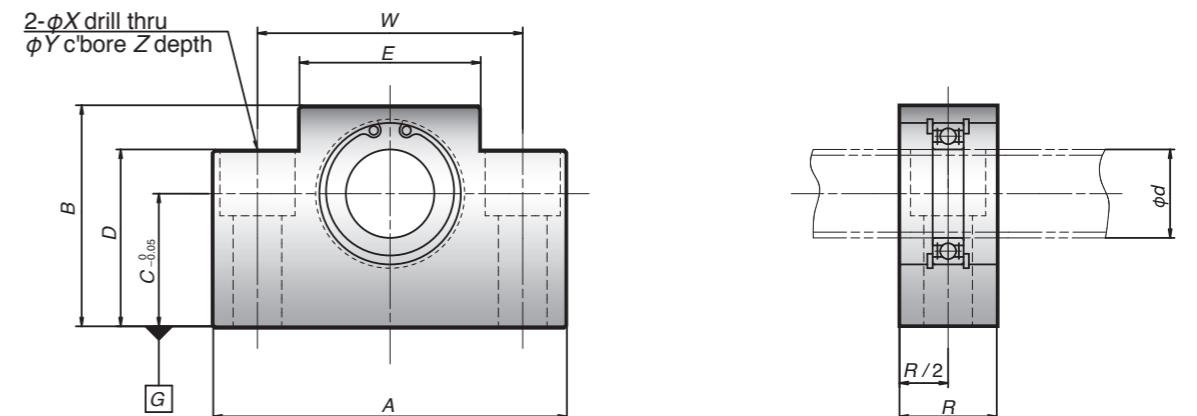
Simple support side support unit for FSS type



Unit : mm

Reference no.	d	A	B	C	R	Counterbore dimensions				Mass (kg)	Bearing reference no.	Axial direction basic dynamic load rating (N)
						W	X	Y	Z			
WBK12SF-01B	12	62	31	15.5	18	46	9	14	18	0.2	6801ZZ	1 920
WBK15SF-01B	15	70	38	20	18	52	9	14	19	0.3	6902ZZ	4 350
WBK20SF-01B	20	80	42	22	22	60	11	17	23	0.4	6804ZZ	4 000

Note : 1. Use datum surface G for mounting to machine base.



Unit : mm

Reference no.	d	A	B	C	D	E	R	Counterbore dimensions				Mass (kg)	Bearing reference no.	Axial direction basic dynamic load rating (N)
								W	X	Y	Z			
WBK25SF-01	25	95	58	30	45	56	22	75	11	17	15	0.55	6005ZZ	10 100

Note : 1. Use datum surface G for mounting to machine base.

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