

SD series Standardized Bi-directional Ball Screws

SD series are economical Ball Screws which moves bi-directionally with a shaft, and perform centering, precise positioning. There are Precision Ball Screws C3, C5 grade.

● Combination of Shaft nominal dia. & Lead

Unit:mm

Lead \ Shaft dia.	1	2
4	A239	
6	A240	
8	A241	A242
10		A243
12		A244

Note 1)The number in a table: showing a page in this catalogue.

● Accuracy Grade & Axial play

Accuracy grades of SD series (Standardized Bi-directional Precision Ball Screws) are 2 kinds, JIS C3 and JIS C5. Axial play are 0(Preload : C3)and 0.005mm or less(C5) corresponding to accuracy grades in stock.

● Material & Surface hardness

Shafts and Nuts of SD series(Standardized Bi-directional Precision Ball Screws) adopts SCM415(carburizing and quenching), surface hardness of Ball Screw part is HRC58-62.

● Lubrication

SD series(Standardized Bi-directional Precision Ball Screws) are applied with anti-rust oil for rust prevention when unfinished end journal. Since anti-rust oil is not lubricant, apply Grease or lubrication oil before using Ball Screws.
If there is no specific instruction, KSS would recommend our original Grease (MSG No.2) as standard lubricant. Please feel free to contact us.

● End-journal profile

End-journal configuration of SD series (Standardized Bi-directional Precision Ball Screws) is not standardized. Please ask for KSS regarding additional machining with a drawing which shows end-journal profile.

● Model number notation

Model number notation of SD series(Standardized Bi-directional Precision Ball Screws) is as follows.

SD **08** **01** **—** **120** **L** **120** **R** **300** **C5**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

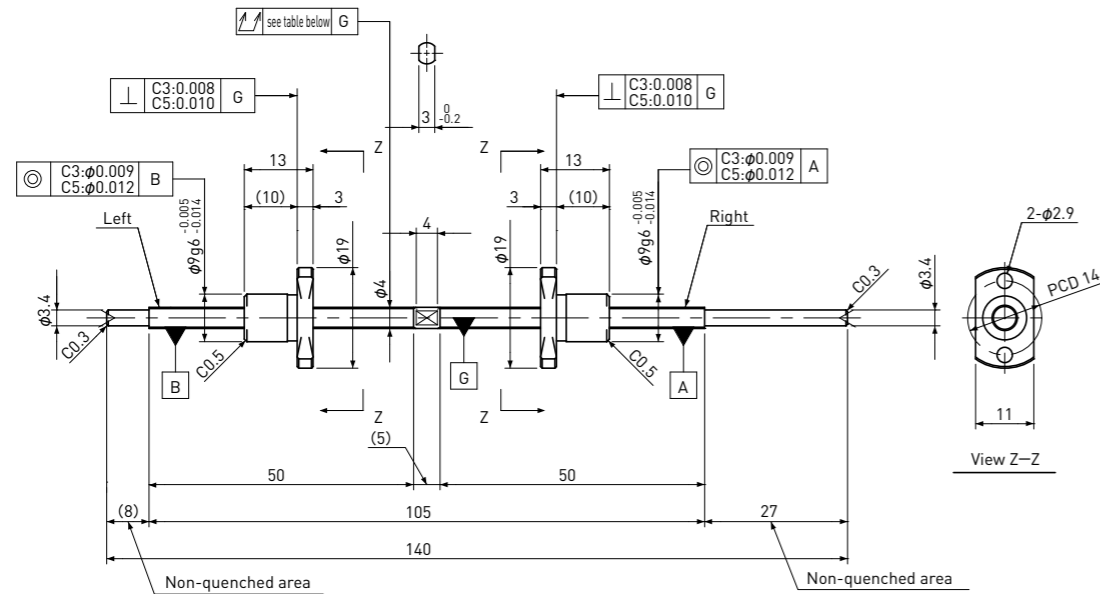
- ①Bi-directional Ball Screws series No.
- ②Screw Shaft nominal diameter(mm)
- ③Lead (mm)
- ④Left-side thread length (mm)
- ⑤Left-hand
- ⑥Right-side thread length (mm)
- ⑦Right-hand
- ⑧Screw Shaft total length (mm)
- ⑨Accuracy grade (C3 or C5)

Standard products in stock
SD series

SD0401

Shaft dia. $\phi 4$ Lead 1mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 0.6$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 3.4$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil

Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD0401-50L50R140C3	35	C3	± 0.008	0.008	0.035	0	~ 0.010	300	430
SD0401-50L50R140C5	35	C5	± 0.018	0.018	0.050	~ 0.005	—		

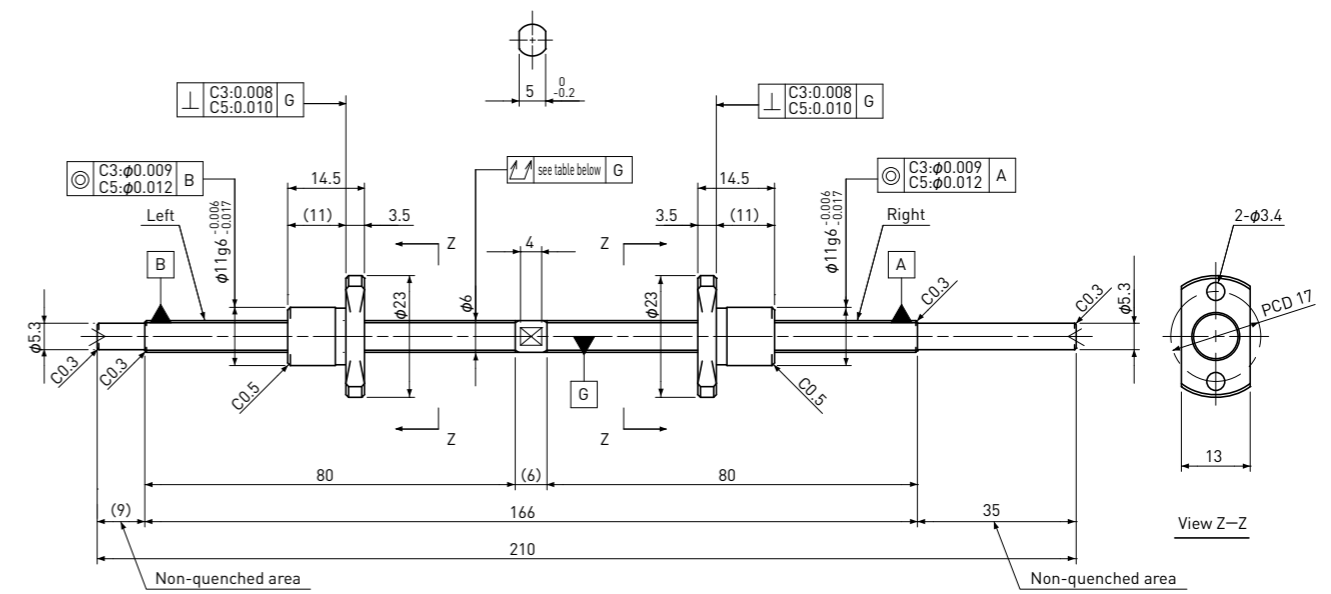
Note 1) Please designate end-journal profile with your sketch.
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD0601

Shaft dia. $\phi 6$ Lead 1mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 0.8$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 5.3$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil

Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD0601-80L80R210C3	65	C3	± 0.008	0.008	0.050	0	~ 0.013	550	1000
SD0601-80L80R210C5	65	C5	± 0.018	0.018	0.065	~ 0.005	—		

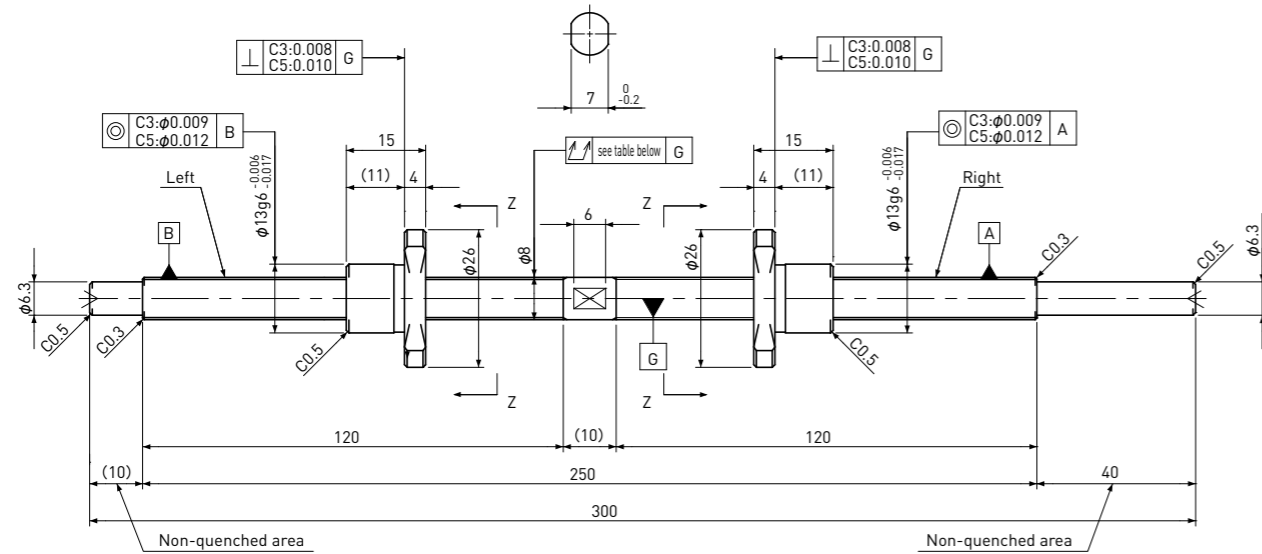
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Standard products in stock
SD series

SD0801

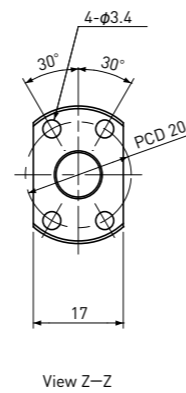
Shaft dia. $\phi 8$ Lead 1mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 0.8$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 7.3$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil



View Z-Z

Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD0801-120L120R300C3	105	C3	± 0.010	0.008	0.050	0	~ 0.018	650	1300
SD0801-120L120R300C5	105	C5	± 0.020	0.018	0.065	~ 0.005	—		

Note 1) Please designate end-journal profile with your sketch.

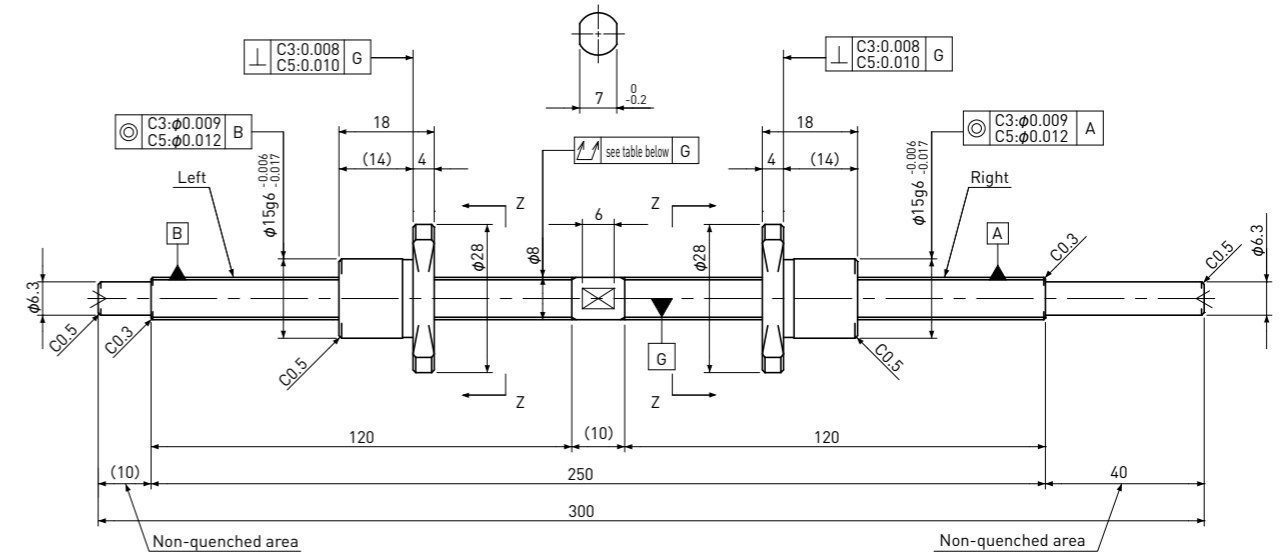
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD0802

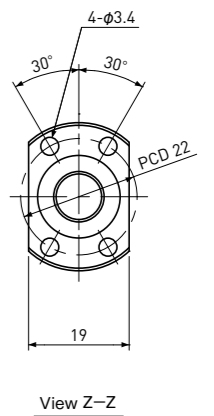
Shaft dia. $\phi 8$ Lead 2mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 1.2$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 7.0$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil



View Z-Z

Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD0802-120L120R300C3	100	C3	± 0.010	0.008	0.050	0	~ 0.020	1300	2300
SD0802-120L120R300C5	100	C5	± 0.020	0.018	0.065	~ 0.005	—		

Note 1) Please designate end-journal profile with your sketch.

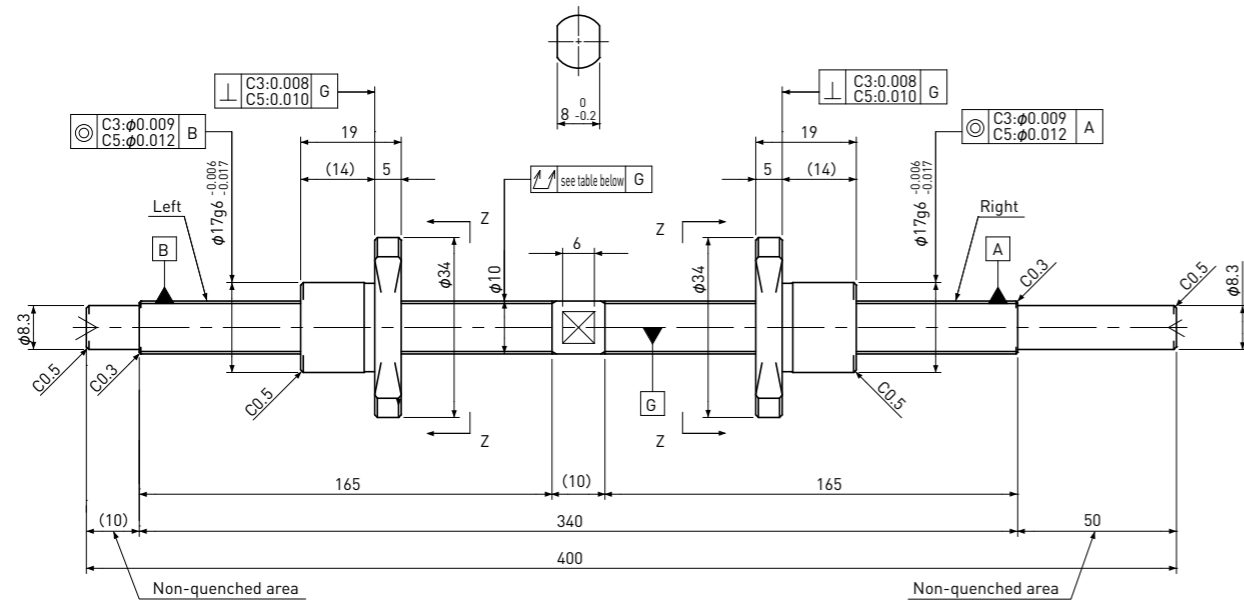
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD1002

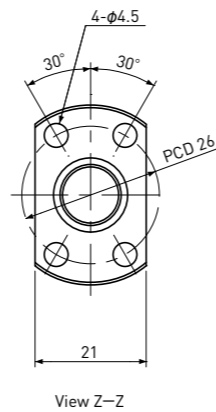
Shaft dia. $\phi 10$ Lead 2mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 1.2$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 9.0$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil



Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD1002-165L165R400C3	145	C3	± 0.010	0.008	0.050	0	~0.025	1450	3000
SD1002-165L165R400C5	145	C5	± 0.020	0.018	0.065	~0.005	—		

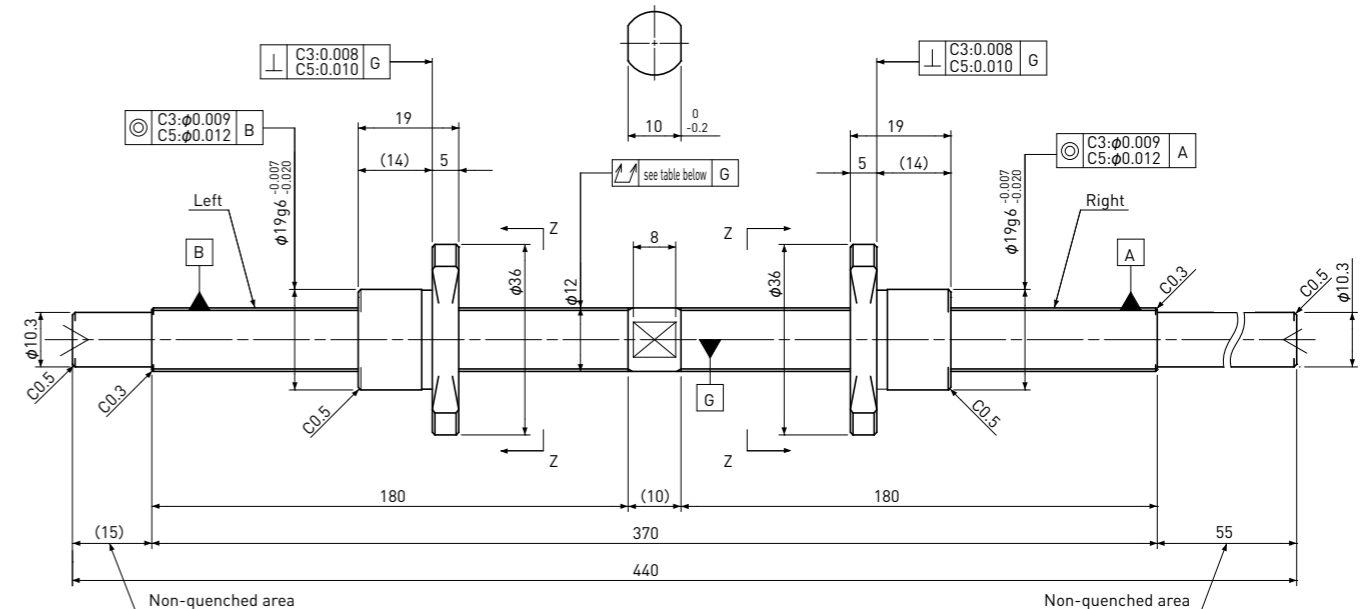
Note 1) Please designate end-journal profile with your sketch.
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Standard products in stock
SD series

SD1202

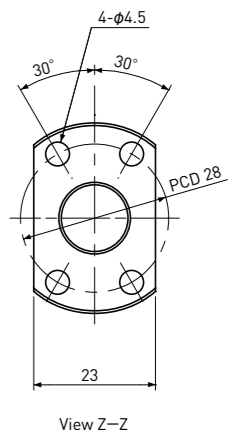
Shaft dia. $\phi 12$ Lead 2mm

C3&C5



Unit:mm

Ball Screw Specifications	
Ball size	$\phi 1.2$
Number of thread	1
Thread direction	Left&Right
Shaft root dia.	$\phi 11.0$
Number of circuit	1×3
Shaft,Nut material	SCM415H
Surface hardness	HRC58~62 (Thread area)
Anti-rust treatment	Anti-rust oil



Unit:mm

Ball Screw Model	Travel	Grade	Lead accuracy		Total Run-out	Axial play	Preload Torque Nm	Basic Load Rating N	
			Travel deviation e_p	Variation V_u				Dynamic C_a	Static C_oa
SD1202-180L180R440C3	160	C3	± 0.010	0.008	0.065	0	~0.035	1600	3700
SD1202-180L180R440C5	160	C5	± 0.020	0.018	0.080	~0.005	—		

Note 1) Please designate end-journal profile with your sketch.
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.