

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

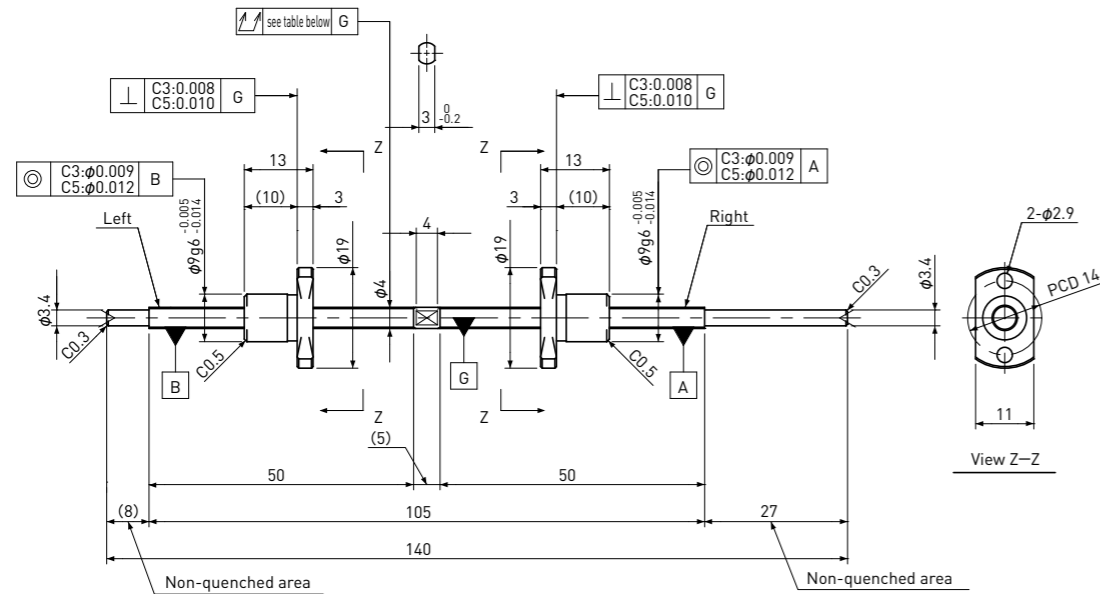
- ①Bi-directional Ball Screws series No.
- ②Screw Shaft nominal diameter(mm)
- ③Lead (mm)
- ④Left-side thread length (mm)
- ⑤Left-hand
- ⑥Right-side thread length (mm)
- ⑦Right-hand
- ⑧Screw Shaft total length (mm)
- ⑨Accuracy grade (C3 or C5)

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 | — | | |

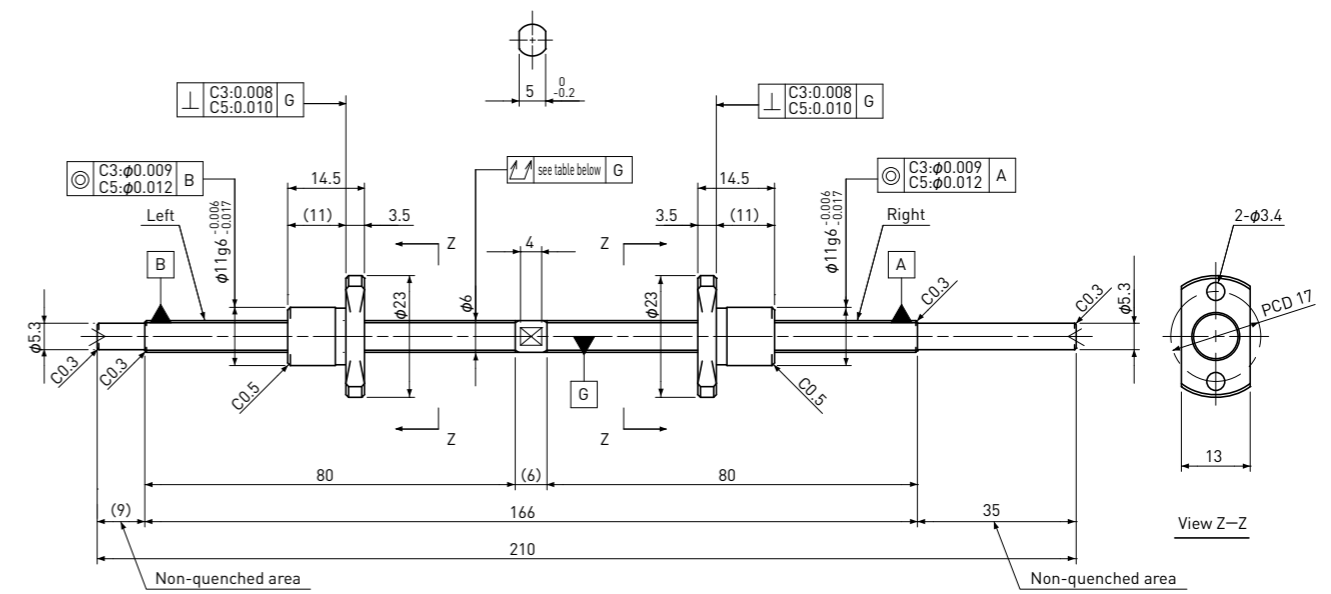
Note 1) Please designate end-journal profile with your sketch.
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

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 | — | | |

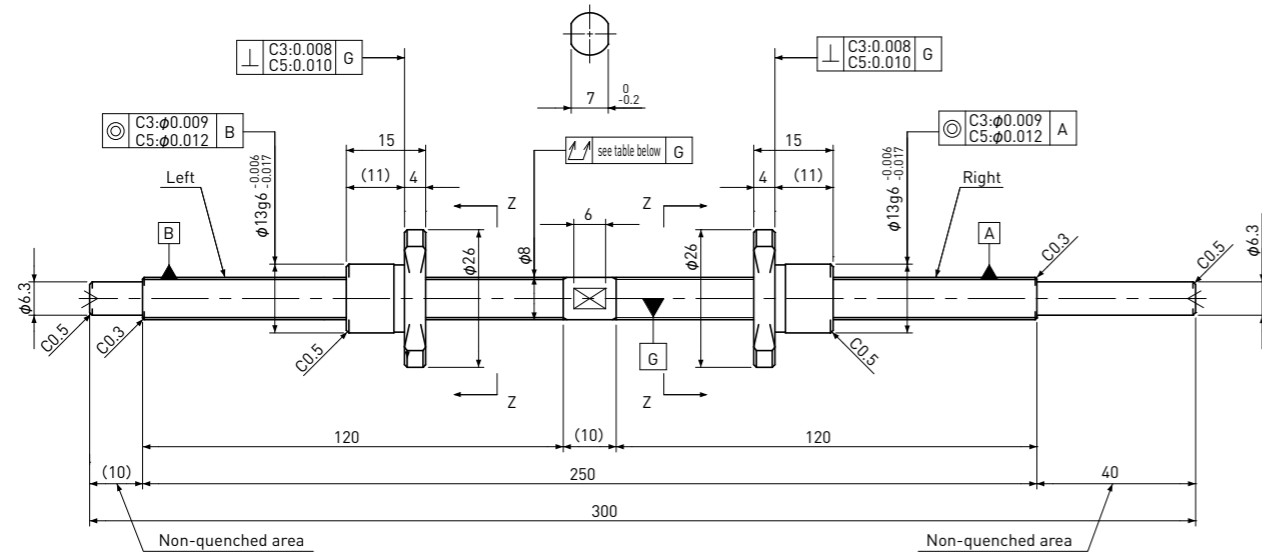
Note 1) Please designate end-journal profile with your sketch.
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD0801

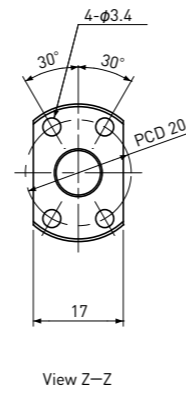
Shaft dia. $\phi 8$ Lead 1mm

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.

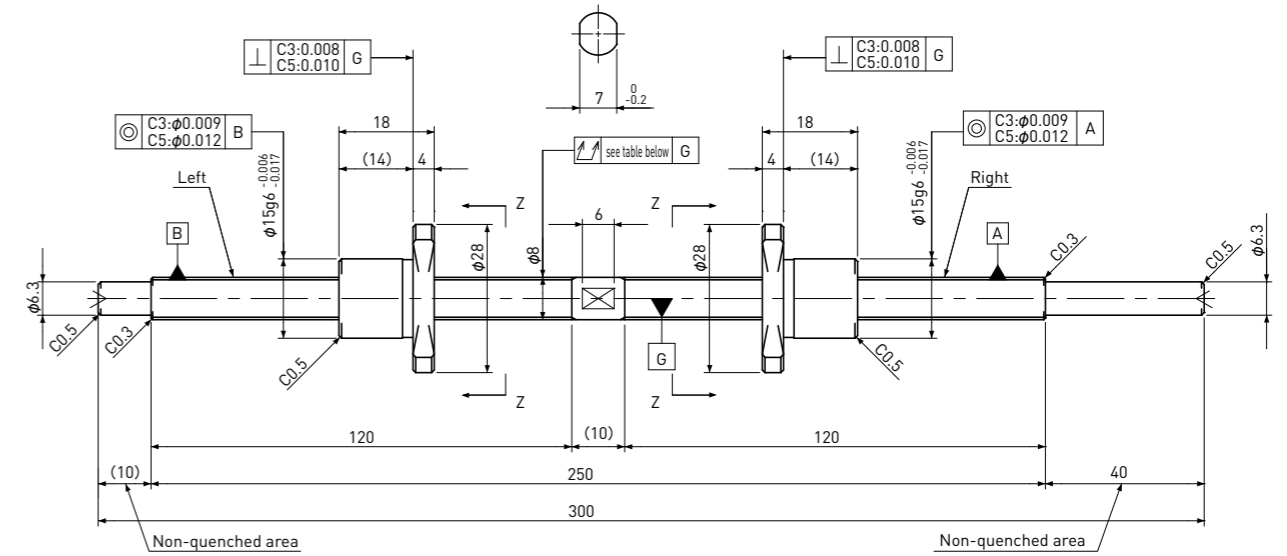
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD0802

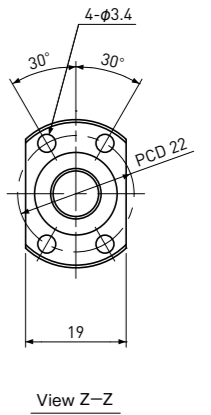
Shaft dia. $\phi 8$ Lead 2mm

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.

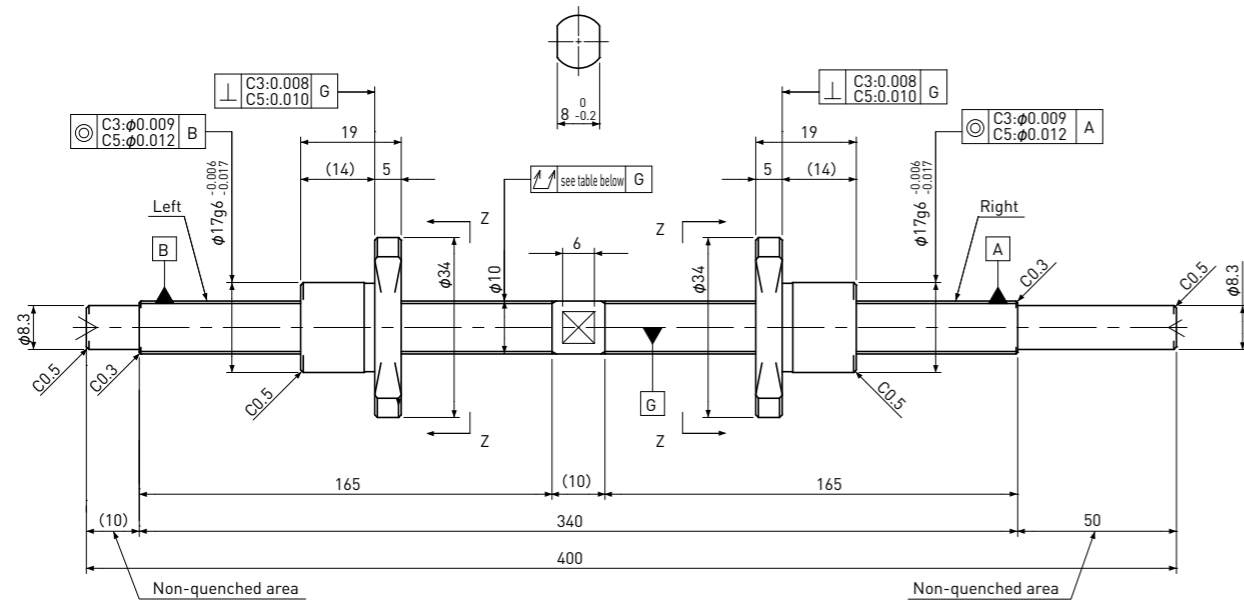
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD1002

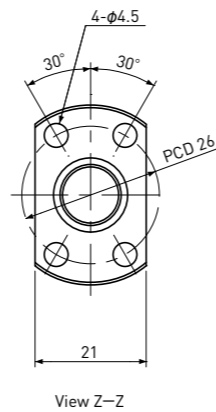
Shaft dia. $\phi 10$ Lead 2mm

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 | — | | |

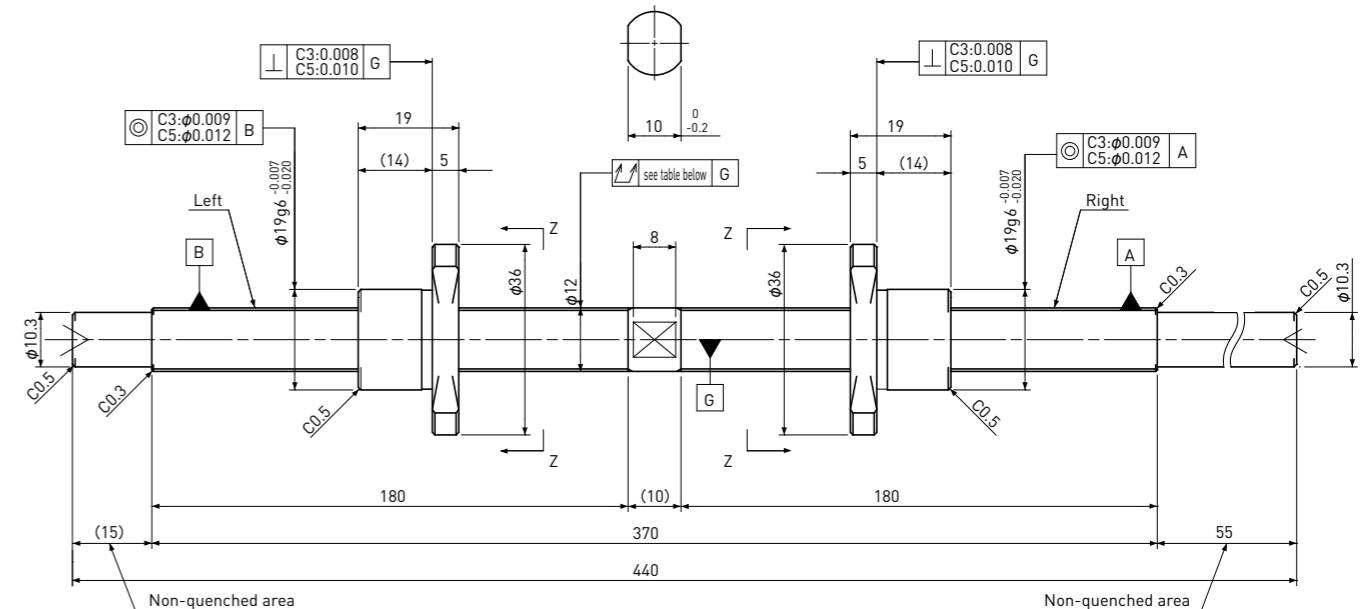
Note 1) Please designate end-journal profile with your sketch.
Note 2) Absolute position of both Nuts related to the Screw Shaft is not under the control.

Standard products in stock
SD series

SD1202

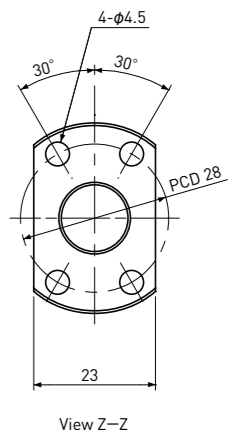
Shaft dia. $\phi 12$ Lead 2mm

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.