Ordering Instructions (How to Interpret Ball Screw Model No.)

	Model series	Screw shaft diameter	Lead	Number of circuits	Combination		Flange type	Ball recirculation system	Wiper material	Thread direction		Overall length of screw shaft	Shaft end type	Thread length		Accuracy grade	Axial clearance
Model No.	FR	15	10	P	S	-	H	P	N	R	-	1500	X	1000	-	C5	F
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)		(10)	(11)	(12)		(13)	(14)

(1) Ball screw series

Series	In-stock series	Custom series	Remarks
F Series	FE/C7 class, FG/C5 class	FR, FM, FZ/C3-C7 classes	* ☐R, ☐M, and ☐Z in the custom series indicate the following. ☐R: Provided with the same dimensions as what are listed in the catalog ☐M: Provided with a flange type different from the one in the catalog ☐Z: Other than the above GT is applied for rolled screw having different dimensions from the dimensions in the catalog
D Series	DP/C3 class	DR, DM, DZ/C0-C7 classes	
G Series	GE/C7 class, GG/C5 class, GP/C3 class	GR, GM, GZ/C0-C10 classes	
	GY/C10 class (rolled screw), GW/C7 class (rolled screw)	GT/C7 or C10 class (rolled screw)	
H Series	HG/C5 class	-	
R Series	RW/C7 class	-	

(2) Outside diameter of the screw shaft (unit: mm) is indicated in a two-digit number or alphabet.
· To show an outside diameter of screw shaft which is a 1-digit number, 0 needs to be added in front of the diameter to make it a two-digit code.
(Example) Outside diameter of the screw shaft is 5 mm → 05
· Outside diameter of screw shaft which is a 3-digit number needs to be shown as follows: 100 mm → A0 125mm → C5

(3) Lead size of a ball screw is indicated in a two-digit number or alphabet.
· To show a lead size which is a 1-digit number, 0 needs to be added in front of the size to make it a two-digit code.
(Example) Lead size is 1 mm → 01
· Lead size of a number with decimal point needs to be shown as follows: 1.5 mm → 1F 2.5 mm → 2F

(4) Number of circuits of a ball screw nut

Symbol	Number of circuits	Applicable recirculation system
A	1.5 turns, 1 circuit	Tube method
B	1.5 turns, 2 circuits	
C	1.5 turns, 3 circuits	
D	2.5 turns, 1 circuit	
E	2.5 turns, 2 circuits	
F	2.5 turns, 3 circuits	
G	3.5 turns, 1 circuit	
R	3.5 turns, 2 circuits	

Symbol	Number of circuits	Applicable recirculation system
H	1 turn, 2 circuits	Deflector method
J	1 turn, 3 circuits	
K	1 turn, 4 circuits	
L	1 turn, 5 circuits	
M	1 turn, 6 circuits	
P	See specifications	End deflector method
Q	See specifications	End cap method
Z	Others	Not listed above (including a ball screw without a nut)

(5) The symbol Indicates a nut type

Symbol	Nut type
S	Single nut
T	Integral nut
D	Double nut (pin type)
E	Double nut (spacer type)
F	Flange double nut (spacer type)
Z	Others (including a ball screw without a nut)

(6) The symbol indicates a flange type

Symbol	Flange type
A, B, C, D, E, F	Refer to page A7.
N	Without a flange (e.g. square nut)
Z	Others, for shapes and dimensions not listed in the catalog (including a ball screw without a nut)

(7) Body type (ball recirculation system)

Symbol	Nut and recirculation type
A	Round type (tube method)
T	Protruded tube type (tube method)
U	Inlaid tube type (tube method)
K	Square type (tube method)
D	Deflector method
G	Guide plate method
E	End cap method
P	End deflector method

(8) Wiper material

Symbol	Wiper material
P	Plastic wiper
L	Lip seal
F	Felt wiper
B	Brush wiper
N	No wiper
S	LUBSEAL
Z	Others (including a ball screw without a nut)

(9) Thread direction

Symbol	Description
R	Right hand thread
L	Left hand thread
Z	Others (including a ball screw without a nut)

(10) Overall length of screw shaft (shown in a 4-digit number)
· The shaft length needs to be indicated in metric system (unit: mm), rounding down to one decimal place.

(11) Shaft end type

Symbol	Description	Product line
A	Both ends unfinished	In-stock product line
B	One side finished	In-stock product line
X	Both ends finished	In-stock product line, custom product line
D	Both ends unfinished	For ordering screw shaft alone in GY series
Y	Both ends finished	

(12) Thread length (shown in a 4-digit number)
· The length needs to be indicated in metric system (unit: mm), rounding down to one decimal place.

(13) Accuracy grade
· The grade needs to be indicated by one of C0, C1, C2, C3, C4, C5, and C7. For C10 grade, indicate it with “CA”

(14) Axial clearance

Symbol	Axial clearance
S	0 mm (preloaded)
F	0.005 mm or smaller
H	0.010 mm or smaller
M	0.030 mm or smaller
L	0.200 mm or smaller
Y	Clearance for rolled ball screw (Refer to specifications for GY/GW series.)
Z	Others

Ordering instructions for in-stock ground ball screws

Unfinished shaft ends

■ GE, GG, FE, or FG series ball screws

• Without additional machining

<Example>

GE/FE □□□□-□□□□-Overall length A

GG/FG □□□□-□□□□-Overall length A

Model No

• With additional machining

Enter X as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GE/FE □□□□-□□□□-Overall length X Thread length -C7M

GG/FG □□□□-□□□□-Overall length X Thread length -C5F

■ HG series ball screws

• Without additional machining

<Example>

HG □□□□-□□□□-Overall length A

Model No

• With additional machining

Enter X as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

HG □□□□-□□□□-Overall length X Thread length -C5 F/H

One finished end

■ GP/DP series ball screw

• Without additional machining

<Example>

GP □□□□-□□□□-Overall length B-C3 S/F

DP □□□□-□□□□-Overall length B-C3 S/F

Model No

• With additional machining

Enter X as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GP □□□□-□□□□-Overall length X Thread length C3 S/F

DP □□□□-□□□□-Overall length X Thread length C3 S/F

Ordering instructions for rolled ball screws

Unfinished shaft ends

■ GY series ball screws

[Set of shaft and nut]

• Without additional machining

<Example>

GY □□□□-□□□□-[Overall length]A

Model No

• With additional machining

Enter X as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GY □□□□-□□□□-[Overall length]X[Thread length]-CAY

[Nut alone]

No need to fill in after the section for overall length of screw shaft

<Example>

GY □□□□-□□□□

[Shaft alone]

• Without additional machining

Enter D as a symbol for the shaft end dimension.

<Example>

GY □□ZZ-ZZZZ-[Overall length]D

• With additional machining

Enter Y as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GY □□ZZ-ZZZZ-[Overall length]Y[Thread length]-CAY

Note) Screw shafts with the same outside diameter and lead size are compatible regardless of their nut types.

Unfinished shaft ends

■ GW series ball screws

[Set of shaft and nut]

• Without additional machining

<Example>

GW □□□□-□□□□-[Overall length]A

Model No

• With additional machining

Enter X as a symbol for the shaft end dimension, followed by overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GW □□□□-□□□□-[Overall length]X[Thread length]-C7Y

Ordering instructions for custom ball screws

■ For ball screws with a nut having dimensions exactly the same as those listed in the catalog

In this case, use the same Model No., and enter overall length of screw shaft, thread length, accuracy grade, and axial clearance following the Model No.

<Example>

GR/DR/FR □□□□-□□□□-Overall length X Thread length-Accuracy grade Axial clearance

Model No

■ For ball screws with a flange for nut attachment having dimensions different from those listed in the catalog

In this case, start the Model No. with GM/DM/FM followed by a symbol indicating flange material in either N or Z. After the Model No., enter overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GM/DM/FM □□□□-N/Z□□□-Overall length X Thread length-Accuracy grade Axial clearance

Model No

■ For other ball screws not listed above, which require modification of nut body type, with sizes not listed in the catalog, left screws, etc.

In this case, start the Model No. with GZ/DZ/FZ and make necessary changes. Following the Model No., enter overall length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GZ/DZ/FZ □□□□-Z□□□-Overall length X Thread length-Accuracy grade Axial clearance

Model No

Ordering instructions for custom rolled ball screws

■ For ball screws with a nut having dimensions different from those listed in the catalog

In this case, start the Model No. with GT and make necessary modifications. Following the Model No., enter overall Length of screw shaft, thread length, accuracy grade, and axial clearance.

<Example>

GT □□□□-Z□□□-Overall length X Thread length-Accuracy grade Axial clearance

Model No