京澎机械设备(上海)有限公司

Jingpeng Machinery & Equipment(Shanghai) Co.,Ltd

PRECISION BALL SCREW

CONTENT

Numbering rules and meanings

Numbering rules of ball screw

FSDC 3205 - 3 RR G0 + 1500L C3

- Accuracy of ball screw
- Length of ball screw
- Precompression
- Seal up
- Number of cycles
- Nut series and circulation mode

Structure type of ball screw

YOSO precision ball screw is standardized into 6 nut types shown in the figure. In addition, in order to meet the requirements of customers, we can produce non-standard nuts with special shapes (such as square, axis intersection, etc.), special properties (such as high temperature resistance, corrosion resistance, etc.) and super specifications (such as extension and heavy load). If there is any need, please contact us.

FSDC / FDDC Type Page88
(high speed and high precision)

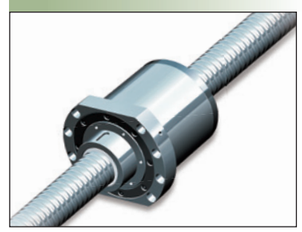
FSIC Type Page110

FDIS Type Page124

FSVC / FDVC Type Page104
(high speed and high precision)

FDIC Type Page118

Nut rotation Page136



Lead accuracy of ball screw

Accuracy class:

According to the scope of use and requirements, the ball screw is divided into two types: positioning ball screw (P) and driving ball screw (T).
The accuracy level is mainly divided into seven levels, i.e. level 1.2.3.4.5.7.10.
Level 1 accuracy is the highest and gradually decreases
Stroke deviation and variation (see figure-1 and table-2)

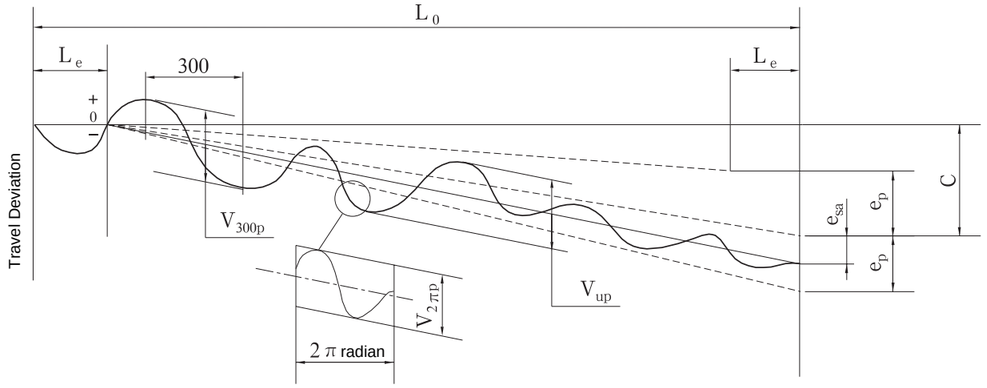


Figure-1

Table-2 stroke deviation and variation (from GB / t17587.3)

Unit :μm

Project No.	Inspection contents	Symbol	Effective travel (mm)	Accuracy class 1	2	3	4	5	7	10
1	Stroke variation in any 300 stroke	V_{300p}	—	6	8	12	16	23	52	210
2	2π tion	$V_{2\pi p}$	本项仅适用于P类	4	5	6	7	8	—	—
3	Average travel deviation within effective travel L_u (this item is only applicable to class P ball screw)	e_p	≤315	6	8	12	16	23	—	—
			>315 ~ 400	7	9	13	18	25	—	—
			>400 ~ 500	8	10	15	20	27	—	—
			>500 ~ 630	9	11	16	22	32	—	—
			>630 ~ 800	10	13	18	25	36	—	—
			>800 ~ 1000	11	15	21	29	40	—	—
			>1000 ~ 1250	13	18	24	34	47	—	—
			>1250 ~ 1600	15	21	29	40	55	—	—
			>1600 ~ 2000	18	25	35	48	65	—	—
			>2000 ~ 2500	22	30	41	57	78	—	—
			>2500 ~ 3150	26	36	50	69	96	—	—
			>3150 ~ 4000	32	45	62	86	115	—	—
			>4000 ~ 5000	-	-	76	110	140	—	
			>5000 ~ 6300	-	-	-	-	170	—	—
			Note: if the thread length of ball screw exceeds 6300mm, please consult with our company							
	Average travel deviation within effective travel L_u (this item is only applicable to P-type ball screw)	e_p	$e_p = \frac{2L_u}{300} V_{300p}$	Note: 1) stroke compensation value C=0			2) V_{300p} see item No. 1 in this table			

Project No.	Inspection contents	Symbol	Effective travel (mm)	Accuracy class 1	2	3	4	5	7	10
4	Stroke variation within the effective stroke L_u (this item is only applicable to class P ball screw)	V_{up}	≤315	6	8	12	16	23	—	—
			>315 ~ 400	6	9	12	18	25	—	—
			>400 ~ 500	7	9	13	19	26	—	—
			>500 ~ 630	7	10	14	20	29	—	—
			>630 ~ 800	8	11	16	22	31	—	—
			>800 ~ 1000	9	12	17	24	34	—	—
			>1000 ~ 1250	10	14	19	27	39	—	—
			>1250 ~ 1600	11	16	22	31	44	—	—
			>1600 ~ 2000	13	18	25	36	51	—	—
			>2000 ~ 2500	15	21	29	41	59	—	—
			>2500 ~ 3150	17	24	34	49	69	—	—
			>3150 ~ 4000	21	29	41	58	82	—	—
			>4000 ~ 5000	-	-	49	70	99	—	
			>5000 ~ 6300	-	-	-	-	119	—	—
			Note$_1$: the effective stroke Lu of the T-type ball screw rod (internal stroke variation) is generally not checked Note$_2$: if the thread length of ball screw exceeds 6300mm, please consult with our company							

The effective travel L_u is calculated as follows:

$$L_u = L_1 - 2L_e$$

Where: L_u — effective stroke, mm L_1 — total length of screw thread, mm L_e — excess distance, mm (see table-3)

Table-3

Unit:mm

Nominal lead P_{h0}	$2.5 \leqslant P_{h0} \leqslant 12$	$12 < P_{h0} < 40$	40
Remaining distance L_e	$4P_{h0}$	$3P_{h0}$	$2.5P_{h0}$

Shape and position tolerance of mounting datum plane of ball screw

(See figure-2 and table-4)

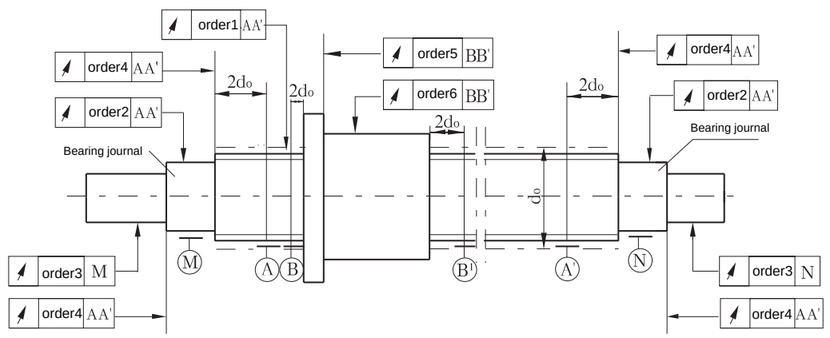


Figure-2

Applicable accuracy grade of various machines

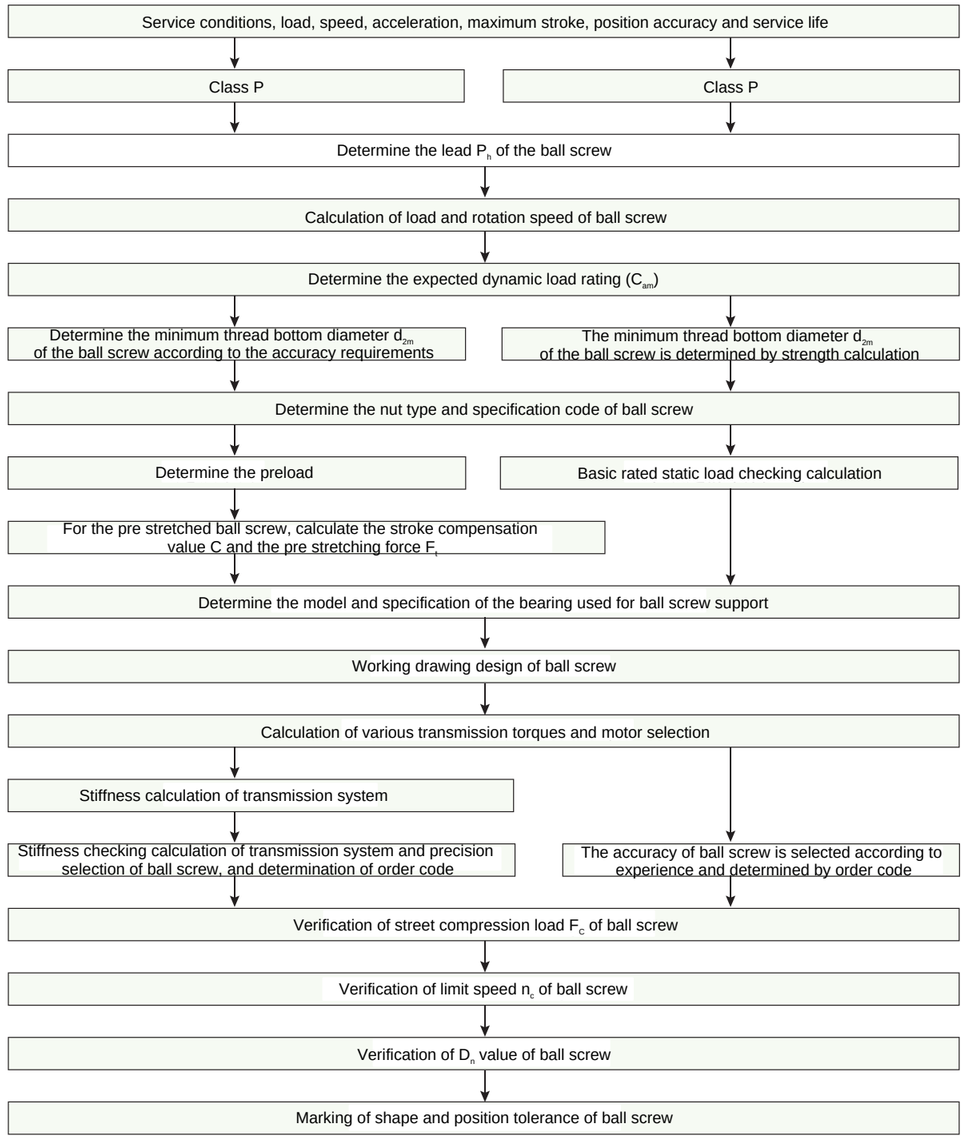
The following table is an example of selecting accuracy levels according to different uses according to the actual experience of Jingpeng Machinery & Equipment (Shanghai) Co., Ltd. ○ the mark indicates the range of accuracy level used more. Through this table, the accuracy grade of the ball screw can be preliminarily selected. In addition, the accuracy grade of the ball screw with the positioning accuracy that meets the actual requirements can be confirmed by the list of "stroke deviation and variation" (table-2 on page P03).

Purpose		NC machine tool																				
		Lathe		Milling and boring machine		machining center		drilling machine		Jig boring machine		Grinding machine		EDM machine		Wire cutting machine		Punch	Laser processing machinery		Woodworking machinery
Axis		X	Z	XY	Z	XY	Z	XY	Z	XY	Z	XY	Z	XY	Z	XY	Z	XY	XY	Z	
Accuracy class	P1	○		○		○				○	○	○	○	○		○	○				
	P2	○		○	○	○	○					○	○	○	○	○	○				
	P3	○	○	○	○	○	○	○				○	○	○	○	○	○	○	○	○	
	P4	○	○	○	○	○	○	○							○	○	○	○	○	○	
	P5	○	○	○	○			○	○								○	○	○	○	
	T7																				○
	T10																				○

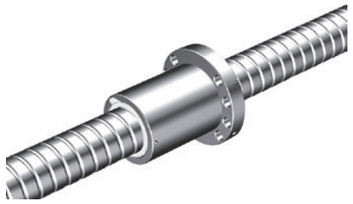
Purpose		Semiconductor / Printed Board Manufacturing Equipment							Industrial robot					Metallurgical equipment machinery	Electric injection molding machine	Three dimensional measuring instrument	Rubber and plastic machinery	Image processing equipment
		General machinery Special machinery	Exposure Equipment	Chemical Treatment Equipment	Lead welding machine	Detector	Electronic parts plug-in machine	Punching machine for printed board	Orthogonality		Vertical multi joint type		Cylindrical coordinate type					
									assemble	other	assemble	other						
Accuracy class	P1		○		○	○		○								○		○
	P2				○	○	○	○	○							○		
	P3	○		○			○	○	○		○		○					
	P4	○		○			○	○	○		○		○					
	P5	○		○			○	○	○	○	○	○	○		○		○	
	T7	○		○					○	○	○	○	○	○	○		○	
	T10	○		○						○				○	○		○	

Parameter calculation and selection of ball screw

Calculation steps and processes



FSDC compact high speed precision ball screw



Note:

1). K_c is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2). When the axial load F is not equal to $0.3C_a$,

$$K_c' = K_c \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

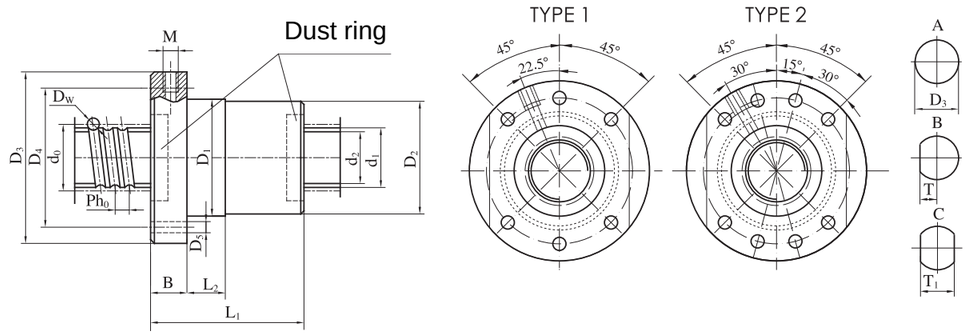
Where:

K_c is the stiffness value in the table;

3) This type of ball screw is suitable for high-speed applications;

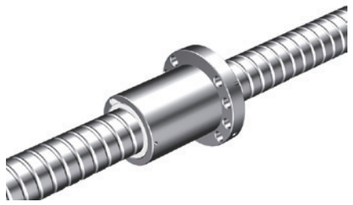
4) Normal working environment temperature range ± 80°C;

5) Special requirements shall be put forward when ordering.



Specification code	Nominal diameter d0	Nomina lead Ph0	Outer diameter of screw d1	Bottom diameter of screw d2	Steel ball diameter Dw	Number of cycles N	Basic rated load		Rigidity Kc N/μm	Nut installation connection dimension												Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1 (g6)	$D_{2(^{+1}_{+2})}$	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FSDC3210-4-J	32	10	32	26.9	6.35	4	44.7	112	663	57	57	15	87	16	72	9		34.5	69	M8X1	70	FSDC3210-4-J
FSDC3210-5-J	32	10	32	26.9	6.35	5	54.8	141.9	824	57	57	15	87	16	72	9		34.5	69	M8X1	80	FSDC3210-5-J
FSDC3212-4-J	32	12	32	26.9	6.35	4	44.6	111.8	670	57	57	15	87	16	72	9	1	34.5	69	M8X1	79	FSDC3212-4-J
FSDC3212-5-J	32	12	32	26.9	6.35	5	54.6	141.7	832	57	57	15	87	16	72	9		34.5	69	M8X1	91	FSDC3212-5-J
FSDC3216-4-J	32	16	32	26.9	6.35	4	44.3	111.3	675	57	57	15	87	16	72	9		34.5	69	M8X1	94	FSDC3216-4-J
FSDC4010-4-J	40	10	40	34.9	6.35	4	50.3	142.4	781	65	65	20	95	18	80	9		36	72	M8X1	72	FSDC4010-4-J
FSDC4010-5-J	40	10	40	34.9	6.35	5	61.6	180.3	970	65	65	20	95	18	80	9		36	72	M8X1	82	FSDC4010-5-J
FSDC4012-4-J	40	12	40	34.9	6.35	4	50.2	142.2	793	65	65	20	95	18	80	9		36	72	M8X1	80	FSDC4012-4-J
FSDC4012-5-J	40	12	40	34.9	6.35	5	61.5	180.1	985	65	65	20	95	18	80	9		36	72	M8X1	92	FSDC4012-5-J
FSDC4016-4-J	40	16	40	34.9	6.35	4	50	141.7	806	65	65	20	95	18	80	9		36	72	M8X1	96	FSDC4016-4-J
FSDC4016-5-J	40	16	40	34.9	6.35	5	61.2	179.5	1001	65	65	20	95	18	80	9		36	72	M8X1	112	FSDC4016-5-J
FSDC5010-4-J	50	10	50	44.9	6.35	4	55.9	180.2	905	75	75	20	118	18	100	11	2	46	92	M8X1	72	FSDC5010-4-J
FSDC5010-5-J	50	10	50	44.9	6.35	5	68.5	228.3	1125	75	75	20	118	18	100	11		46	92	M8X1	82	FSDC5010-5-J
FSDC5012-4-J	50	12	50	44.9	6.35	4	55.8	180.1	925	75	75	20	118	18	100	11		46	92	M8X1	79	FSDC5012-4-J
FSDC5012-5-J	50	12	50	44.9	6.35	5	68.4	228.1	1150	75	75	20	118	18	100	11		46	92	M8X1	91	FSDC5012-5-J
FSDC5016-4-J	50	16	50	44.9	6.35	4	55.7	180	950	75	75	20	118	18	100	11		46	92	M8X1	97	FSDC5016-4-J
FSDC5016-5-J	50	16	50	44.9	6.35	5	68.2	227.6	1180	75	75	20	118	18	100	11		46	92	M8X1	113	FSDC5016-5-J

FSDC compact high speed precision ball screw



Note:

1) K_c is the theoretical calculation value when the preload F_p is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

$$K_c' = K_c \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:

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3) This type of ball screw is suitable for high-speed applications;

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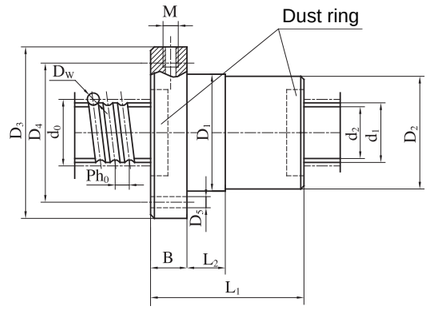
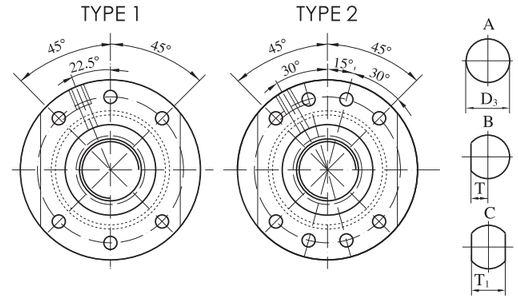
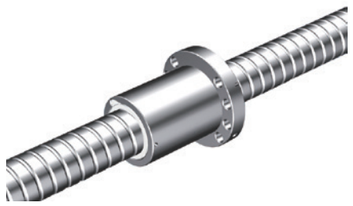




Specification code	Nominal diameter d_0	Nominal lead P_{h0}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity	Nut installation connection dimension												Specification code
							Dynamic load C_a kN	Static load C_{oa} kN	K_C N/μm	D_1(g6)	D2($^{0.1}_{0.2}$)	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FSDC2510-4	25	10	24	3.969	21.1	4	20.8	52.5	505	45	45	15	65	11	54	6.6		25.5	51	M6	65	FSDC2510-4
FSDC3206-5	32	6	31	3.969	28.1	5	29.4	89.2	742	53	53	10	87	12	72	9		31	62	M6	58	FSDC3206-5
FSDC3210-4	32	10	31	6.35	26.4	4	44.7	112	663	62	62	15	92	14	77	9		37	74	M6	73	FSDC3210-4
FSDC3210-5	32	10	31	6.35	26.4	5	54.8	141.9	824	62	62	15	92	14	77	9	1	37	74	M6	83	FSDC3210-5
FSDC3212-4	32	12	31	6.35	26.4	4	44.6	111.8	670	62	62	15	92	14	77	9		37	74	M6	81	FSDC3212-4
FSDC3212-5	32	12	31	6.35	26.4	5	54.6	141.7	832	62	62	15	92	14	77	9		37	74	M6	93	FSDC3212-5
FSDC4010-5	40	10	39	6.35	34.4	5	61.6	180.3	970	70	70	20	100	14	85	9		37.5	75	M8×1	83	FSDC4010-5
FSDC4012-5	40	12	39	6.35	34.4	5	61.5	180.1	985	70	70	20	100	14	85	9		37.5	75	M8×1	92	FSDC4012-5
FSDC4016-5	40	16	39	6.35	34.4	5	61.2	179.5	1001	70	70	30	100	14	85	9		37.5	75	M8×1	113	FSDC4016-5
FSDC4020-5	40	20	39	6.35	34.4	5	61	178.6	1015	70	70	30	100	14	85	9		37.5	75	M8×1	132	FSDC4020-5
FSDC4025-4	40	25	39	6.35	34.4	4	49.4	140	814	70	70	30	100	14	85	9		37.5	75	M8×1	133	FSDC4025-4
FSDC5010-5	50	10	49	6.35	44.4	5	68.5	228.3	1125	82	82	20	118	16	100	11	2	46	92	M8×1	91	FSDC5010-5
FSDC5012-5	50	12	49	6.35	44.4	5	68.4	228.1	1150	82	82	20	118	16	100	11		46	92	M8×1	100	FSDC5012-5
FSDC5016-5	50	16	49	6.35	44.4	5	68.2	227.6	1180	82	82	30	118	16	100	11		46	92	M8×1	117	FSDC5016-5
FSDC5020-5	50	20	49	6.35	44.4	5	68.1	226.9	1211	82	82	30	118	16	100	11		46	92	M8×1	139	FSDC5020-5
FSDC5025-4	50	25	49	6.35	44.4	4	55.3	178.3	980	82	82	30	118	16	100	11		46	92	M8×1	139	FSDC5025-4
FSDC5030-4	50	30	49	6.35	44.4	4	54.9	177.4	978	82	82	30	118	16	100	11		46	92	M8×1	159	FSDC5030-4
FSDC5040-3	50	40	49	6.35	44.4	3	41.4	128.4	728	82	82	30	118	16	100	11		46	92	M8×1	155	FSDC5040-3

FSDC compact high speed precision ball screw



Note:

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$$K_C' = K_C\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:

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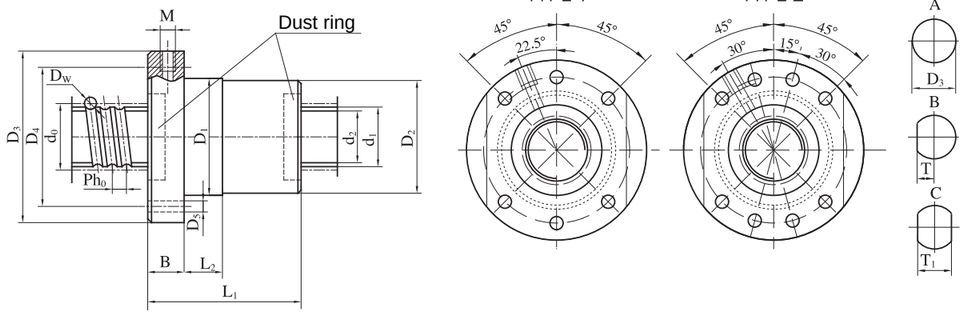


Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity	Nut installation connection dimension												Specification code
							Dynamic load C_a kN	Static load C_{oa} kN	K_C N/μm	D_1(g6)	D2($^{-0.1}_{-0.2}$)	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FSDC6310-5	63	10	61	6.35	56.4	5	75.5	285.8	1331	95	95	20	135	22	115	13.5		50	100	M8×1	91	FSDC6310-5
FSDC6312-5	63	12	61	6.35	56.4	5	75.4	285.6	1362	95	95	20	135	22	115	13.5		50	100	M8×1	99	FSDC6312-5
FSDC6312-5	63	12	61	7.938	55.3	5	102.7	356.6	1405	98	98	20	138	25	118	13.5		51.5	103	M8×1	105	FSDC6312-5
FSDC6316-5	63	16	61	6.35	56.4	5	75.3	285.2	1403	95	95	30	135	22	115	13.5		50	100	M8×1	119	FSDC6316-5
FSDC6316-5	63	16	61	10	53.9	5	140	446	1506	107	107	30	147	28	127	13.5		56	112	M8×1	134	FSDC6316-5
FSDC6320-5	63	20	61	6.35	56.4	5	75.1	284.7	1426	95	95	40	135	22	115	13.5	2	50	100	M8×1	138	FSDC6320-5
FSDC6320-5	63	20	61	10	53.9	5	139.7	445.8	1530	107	107	40	147	28	127	13.5		56	112	M8×1	153	FSDC6320-5
FSDC6325-4	63	25	61	6.35	56.4	4	61.1	224.1	1160	95	95	40	135	22	115	13.5		50	100	M8×1	138	FSDC6325-4
FSDC6325-4	63	25	61	10	53.9	4	113.7	350.7	1244	107	107	40	147	28	127	13.5		56	112	M8×1	153	FSDC6325-4
FSDC6330-4	63	30	61	6.35	56.4	4	60.8	223.3	1164	95	95	40	135	22	115	13.5		50	100	M8×1	158	FSDC6330-4
FSDC6330-4	63	30	61	10	53.9	4	113.2	349.5	1248	107	107	40	147	28	127	13.5		56	112	M8×1	172	FSDC6330-4
FSDC6340-4	63	40	61	6.35	56.4	4	60.1	221.4	1160	95	95	40	135	22	115	13.5		50	100	M8×1	198	FSDC6340-4
FSDC6340-4	63	40	61	10	53.9	4	111.8	346.9	1242	107	107	40	147	28	127	13.5		56	112	M8×1	210	FSDC6340-4

FDDC Compact high speed precision ball screw

Note:

1) K_C is the theoretical calculation value when the preload FP is 0.1C_a; and the axial load F is 0.3C_a;

2) When the axial load F is not equal to 0.3 C_a ;

$$K_c' = K_c \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

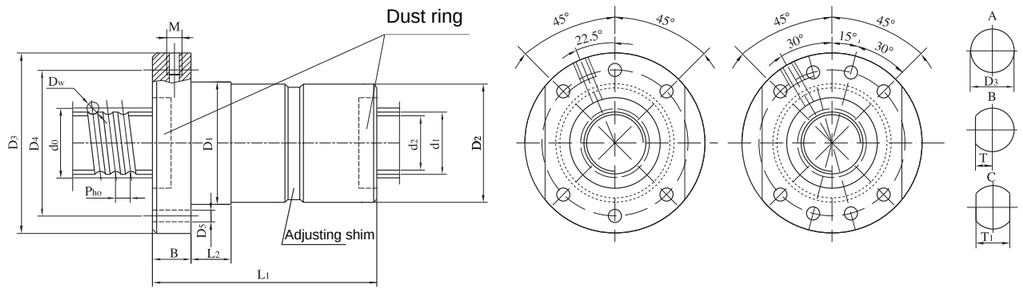
Where:

K_C is the stiffness value in the table;

3) This type of ball screw is suitable for high-speed applications;

4) Normal working environment temperature range ± 80 ℃;

5) Special requirements shall be put forward when ordering.



Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Bottom diameter of screw d_2	Steel ball diameter D_w	Number of cycles n	Basic rated load		Rigidity	Nut installation connection dimension													Specification code
							Dynamic load C_a kN	Static load C_{oa} kN	K_c N/μm	D_1 (g6)	$D_2(^{-0.1}_{-0.2})$	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FDDC3210-4-J	32	10	32	26.9	6.35	4	44.7	112	1060	57	57	15	87	16	72	9		34.5	69	M8X1	133	FDDC3210-4-J
FDDC3210-5-J	32	10	32	26.9	6.35	5	54.8	141.9	1329	57	57	15	87	16	72	9		34.5	69	M8X1	153	FDDC3210-5-J
FDDC3212-4-J	32	12	32	26.9	6.35	4	44.6	111.8	1062	57	57	15	87	16	72	9	1	34.5	69	M8X1	151	FDDC3212-4-J
FDDC3212-5-J	32	12	32	26.9	6.35	5	54.6	141.7	1331	57	57	15	87	16	72	9		34.5	69	M8X1	175	FDDC3212-5-J
FDDC3216-4-J	32	16	32	26.9	6.35	4	44.3	111.3	1059	57	57	15	87	16	72	9		34.5	69	M8X1	186	FDDC3216-4-J
FDDC4010-4-J	40	10	40	34.9	6.35	4	50.3	142.4	1268	65	65	20	95	18	80	9		36	72	M8X1	139	FDDC4010-4-J
FDDC4010-5-J	40	10	40	34.9	6.35	5	61.6	180.3	1589	65	65	20	95	18	80	9		36	72	M8X1	159	FDDC4010-5-J
FDDC4012-4-J	40	12	40	34.9	6.35	4	50.2	142.2	1274	65	65	20	95	18	80	9		36	72	M8X1	152	FDDC4012-4-J
FDDC4012-5-J	40	12	40	34.9	6.35	5	61.5	180.1	1597	65	65	20	95	18	80	9		36	72	M8X1	176	FDDC4012-5-J
FDDC4016-4-J	40	16	40	34.9	6.35	4	50	141.7	1278	65	65	20	95	18	80	9	2	36	72	M8X1	185	FDDC4016-4-J
FDDC4016-5-J	40	16	40	34.9	6.35	5	61.2	179.5	1601	65	65	20	95	18	80	9		36	72	M8X1	217	FDDC4016-5-J
FDDC5010-4-J	50	10	50	44.9	6.35	4	55.9	180.2	1502	75	75	20	118	18	100	11		46	92	M8X1	140	FDDC5010-4-J
FDDC5010-5-J	50	10	50	44.9	6.35	5	68.5	228.3	1883	75	75	20	118	18	100	11		46	92	M8X1	160	FDDC5010-5-J
FDDC5012-4-J	50	12	50	44.9	6.35	4	55.8	180.1	1515	75	75	20	118	18	100	11		46	92	M8X1	155	FDDC5012-4-J
FDDC5012-5-J	50	12	50	44.9	6.35	5	68.4	228.1	1900	75	75	20	118	18	100	11		46	92	M8X1	179	FDDC5012-5-J
FDDC5016-4-J	50	16	50	44.9	6.35	4	55.7	180	1529	75	75	20	118	18	100	11		46	92	M8X1	185	FDDC5016-4-J
FDDC5016-5-J	50	16	50	44.9	6.35	5	68.2	227.6	1915	75	75	20	118	18	100	11		46	92	M8X1	217	FDDC5016-5-J

FDDC high speed precision ball screw

Note:

1) K_C is the theoretical calculation value when the preload FP is $0.1C_a$; and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a ;

$$K_c' = K_c\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

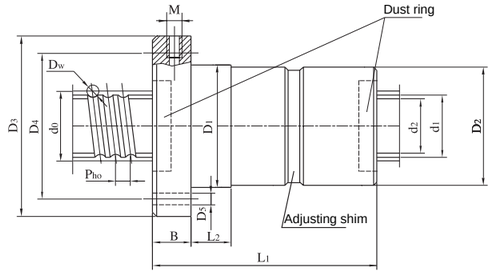
Where:

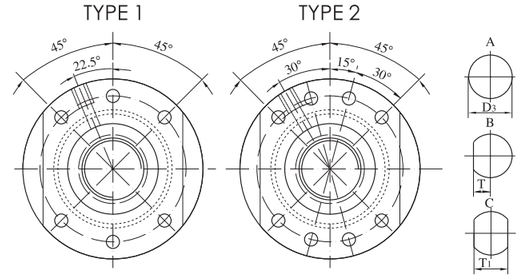
K_C is the stiffness value in the table;

3) This type of ball screw is suitable for high-speed applications;

4) Normal working environment temperature range ± 80 ℃;

5) Special requirements shall be put forward when ordering.





Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension												Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1 (g6)	$D_2(^{-0.1}_{-0.2})$	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FDDC2510-4	25	10	24	3.969	21.1	4	20.8	52.5	792	45	45	15	65	11	54	6.6		25.5	51	M6	122	FDDC2510-4
FDDC3206-5	32	6	31	3.969	28.1	5	29.4	89.2	1226	53	53	10	87	12	72	9		31	62	M6	107	FDDC3206-5
FDDC3210-4	32	10	31	6.35	26.4	4	44.7	112	1064	62	62	15	92	14	77	9	1	37	74	M6	135	FDDC3210-4
FDDC3210-5	32	10	31	6.35	26.4	5	54.8	141.9	1334	62	62	15	92	14	77	9		37	74	M6	155	FDDC3210-5
FDDC3212-4	32	12	31	6.35	26.4	4	44.6	111.8	1066	62	62	15	92	14	77	9		37	74	M6	149	FDDC3212-4
FDDC3212-5	32	12	31	6.35	26.4	5	54.6	141.7	1335	62	62	15	92	14	77	9		37	74	M6	173	FDDC3212-5
FDDC4010-5	40	10	39	6.35	34.4	5	61.6	180.3	1598	70	70	20	100	14	85	9		37.5	75	M8×1	155	FDDC4010-5
FDDC4012-5	40	12	39	6.35	34.4	5	61.5	180.1	1604	70	70	20	100	14	85	9		37.5	75	M8×1	173	FDDC4012-5
FDDC4016-5	40	16	39	6.35	34.4	5	61.2	179.5	1607	70	70	30	100	14	85	9		37.5	75	M8×1	213	FDDC4016-5
FDDC4020-5	40	20	39	6.35	34.4	5	61	178.6	1603	70	70	30	100	14	85	9		37.5	75	M8×1	257	FDDC4020-5
FDDC4025-4	40	25	39	6.35	34.4	4	49.4	140	1268	70	70	30	100	14	85	9		37.5	75	M8×1	251	FDDC4025-4
FDDC5010-5	50	10	49	6.35	44.4	5	68.5	228.3	1903	82	82	20	118	16	100	11	2	46	92	M8×1	163	FDDC5010-5
FDDC5012-5	50	12	49	6.35	44.4	5	68.4	228.1	1916	82	82	20	118	16	100	11		46	92	M8×1	181	FDDC5012-5
FDDC5016-5	50	16	49	6.35	44.4	5	68.2	227.6	1928	82	82	30	118	16	100	11		46	92	M8×1	217	FDDC5016-5
FDDC5020-5	50	20	49	6.35	44.4	5	68.1	226.9	1931	82	82	30	118	16	100	11		46	92	M8×1	264	FDDC5020-5
FDDC5025-4	50	25	49	6.35	44.4	4	55.3	178.3	1536	82	82	30	118	16	100	11		46	92	M8×1	258	FDDC5025-4
FDDC5030-4	50	30	49	6.35	44.4	4	54.9	177.4	1525	82	82	30	118	16	100	11		46	92	M8×1	302	FDDC5030-4
FDDC5040-3	50	40	49	6.35	44.4	3	41.4	128.4	1110	82	82	30	118	16	100	11		46	92	M8×1	306	FDDC5040-3

FDDC high speed precision ball screw

Note:

1) K_c is the theoretical calculation value when the preload FP is 0.1C_a ; and the axial load F is 0.3C_a;

2) When the axial load F is not equal to 0.3 C_a ;

$$K_c' = K_c \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

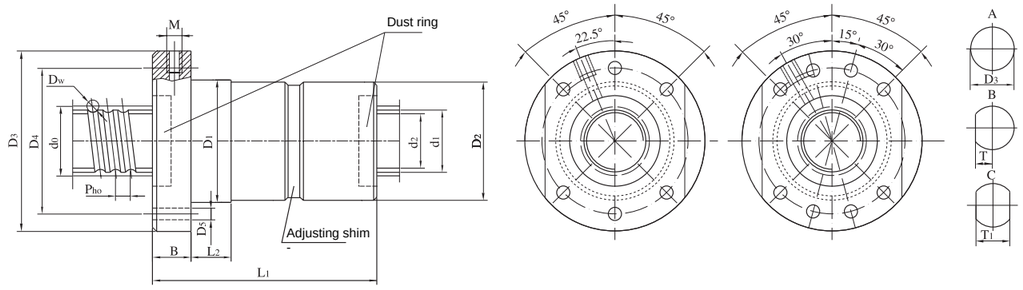
Where:

K_c is the stiffness value in the table;

3) This type of ball screw is suitable for high-speed applications;

4) Normal working environment temperature range ± 80 ℃;

5) Special requirements shall be put forward when ordering.



Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load C_a kN	Static load C_{oa} kN		D_1(g6)	$D_2{}^{(-0.1)}_{-0.2}$	L_2	D_3	B	D_4	D_5	TYPE	T	T_1	M	L_1	
FDDC6310-5	63	10	61	6.35	56.4	5	75.5	285.8	2238	95	95	20	135	22	115	13.5		50	100	M8×1	168	FDDC6310-5
FDDC6312-5	63	12	61	6.35	56.4	5	75.4	285.6	2260	95	95	20	135	22	115	13.5		50	100	M8×1	180	FDDC6312-5
FDDC6312-5	63	12	61	7.938	55.3	5	102.7	356.6	2335	98	98	20	138	25	118	13.5		51.5	103	M8×1	198	FDDC6312-5
FDDC6316-5	63	16	61	6.35	56.4	5	75.3	285.2	2285	95	95	30	135	22	115	13.5		50	100	M8×1	227	FDDC6316-5
FDDC6316-5	63	16	61	10	53.9	5	140	446	2446	107	107	30	147	28	127	13.5		56	112	M8×1	242	FDDC6316-5
FDDC6320-5	63	20	61	6.35	56.4	5	75.1	284.7	2296	95	95	40	135	22	115	13.5	2	50	100	M8×1	263	FDDC6320-5
FDDC6320-5	63	20	61	10	53.9	5	139.7	445.8	2456	107	107	40	147	28	127	13.5		56	112	M8×1	288	FDDC6320-5
FDDC6325-4	63	25	61	6.35	56.4	4	61.1	224.1	1834	95	95	40	135	22	115	13.5		50	100	M8×1	257	FDDC6325-4
FDDC6325-4	63	25	61	10	53.9	4	113.7	350.7	1962	107	107	40	147	28	127	13.5		56	112	M8×1	283.5	FDDC6325-4
FDDC6330-4	63	30	61	6.35	56.4	4	60.8	223.3	1829	95	95	40	135	22	115	13.5		50	100	M8×1	301	FDDC6330-4
FDDC6330-4	63	30	61	10	53.9	4	113.2	349.5	1957	107	107	40	147	28	127	13.5		56	112	M8×1	331	FDDC6330-4
FDDC6340-3	63	40	61	6.35	56.4	3	46	162.3	1343	95	95	40	135	22	115	13.5		50	100	M8×1	309	FDDC6340-3
FDDC6340-3	63	40	61	10	53.9	3	85.6	254.4	1431	107	107	40	147	28	127	13.5		56	112	M8×1	320	FDDC6340-3

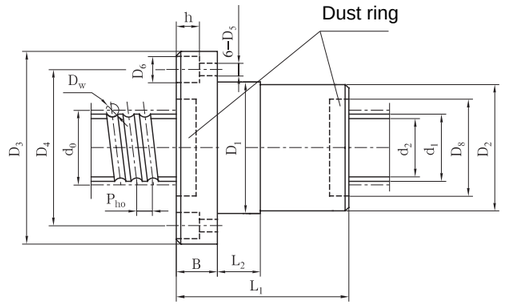
FSIC internal circulation floating ball screw

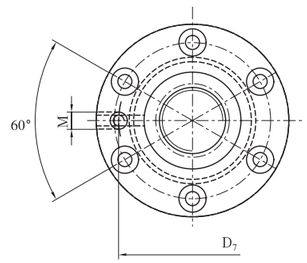
Unit:mm

Note:
1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;
2) When the axial load F is not equal to 0.3 C_a,

$$K_C' = K_C\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:
K_C is the stiffness value in the table;
3) Normal working environment temperature range ± 80 °C;
4) Special requirements shall be put forward when ordering.





Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	D_2($^{-0.1}_{-0.2}$)	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FSIC1204-3	12	4	11.3	2.381	9.5	3	4.2	7.3	138.0	22	22	10	44	8	32	4.8	8.5	4.5	32	M2.5	16	35	FSIC1204-3
FSIC1604-3	16	4	15.3	2.381	13.5	3	5.2	11.0	188.0	28	28	10	52	10	38	5.8	10	6	32	M6	20	37	FSIC1604-3
FSIC1605-3	16	5	15.5	3.5	12.9	3	8.1	14.6	184.0	28	28	10	52	10	38	5.8	10	6	32	M6	22	42	FSIC1605-3
FSIC2004L-3	20	4	19.3	2.381	17.5	3	5.8	14.0	225.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	38	FSIC2004L-3
FSIC2004R-3	20	4	19.1	3	16.9	3	7.6	16.5	220.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	38	FSIC2004R-3
FSIC2005-3	20	5	19.5	3.5	16.9	3	9.5	19.8	229.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	43	FSIC2005-3
FSIC2504-3	25	4	24.1	3	21.9	3	8.8	22.3	270.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	38	FSIC2504-3
FSIC2505-3	25	5	24.5	3.5	21.9	3	10.6	25.1	273.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	43	FSIC2505-3
FSIC2506-3	25	6	23.9	3.969	20.9	3	12.3	27.2	273.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	49	FSIC2506-3
FSIC3204-3	32	4	31.1	3	28.9	3	9.9	29.1	324.0	50	50	10	76	11	63	5.8	10	6	56	M6	38	38	FSIC3204-3
FSIC3204-5	32	4	31.1	3	28.9	5	15.4	48.5	530.0	50	50	10	76	11	63	5.8	10	6	56	M6	38	47	FSIC3204-5
FSIC3205-3	32	5	31.5	3.5	28.9	3	12.3	34.3	341.0	50	50	10	82	13	67	7	12	7	62	M6	38	45	FSIC3205-3
FSIC3205-5	32	5	31.5	3.5	28.9	5	19.1	57.2	557.0	50	50	10	82	13	67	7	12	7	62	M6	38	56	FSIC3205-5
FSIC3206-3	32	6	30.9	3.969	27.9	3	14.3	37.3	343.0	50	50	10	82	13	67	7	12	7	62	M6	38	51	FSIC3206-3
FSIC3206-5	32	6	30.9	3.969	27.9	5	22.2	62.2	560.0	50	50	10	82	13	67	7	12	7	62	M6	38	66	FSIC3206-5
FSIC3208-3	32	8	30.6	5	26.9	3	19.2	45.8	354.0	50	50	10	82	13	67	7	12	7	62	M6	38	67	FSIC3208-3
FSIC3208-5	32	8	30.6	5	26.9	5	29.9	76.3	577.0	50	50	10	82	13	67	7	12	7	62	M6	38	82	FSIC3208-5
FSIC3210-3	32	10	31	5.953	26.5	3	23.9	53.4	363.0	53	53	15	90	15	71	9	15	9	70	M6	44	76	FSIC3210-3
FSIC3210-5	32	10	31	5.953	26.5	5	37.1	89.0	593.0	53	53	15	90	15	71	9	15	9	70	M6	44	99	FSIC3210-5
FSIC4005-3	40	5	39.5	3.5	36.9	3	13.4	42.3	391.0	60	60	10	94	15	75	9	15	9	74	M6	48	47	FSIC4005-3
FSIC4005-5	40	5	39.5	3.5	36.9	5	20.8	70.5	639.0	60	60	10	94	15	75	9	15	9	74	M6	48	58	FSIC4005-5

FSIC internal circulation floating ball screw

Unit:mm

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

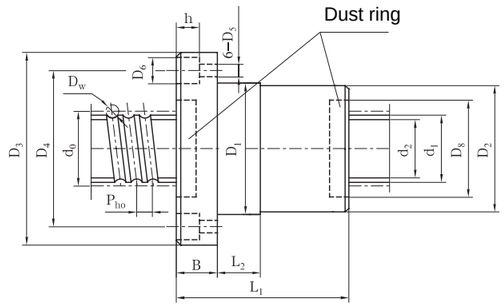
$$K_C' = K_C \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

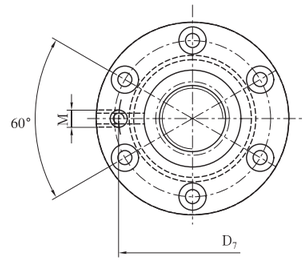
Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 ℃;

4) Special requirements shall be put forward when ordering.





Specification code	Nominal diameter d_0	Nominal lead P_{h0}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load C_{oa} kN		D_1(g6)	$D_2(^{-0.1}_{-0.2})$	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FSIC4006-3	40	6	38.9	3.969	35.9	3	15.9	47.6	404.0	60	60	10	94	15	75	9	15	9	74	M6	48	53	FSIC4006-3
FSIC4006-5	40	6	38.9	3.969	35.9	5	24.6	79.3	660.0	60	60	10	94	15	75	9	15	9	74	M6	48	68	FSIC4006-5
FSIC4008-3	40	8	38.6	5	34.9	3	21.7	59.3	429.0	63	63	15	108	18	85	11	18	11	85	M6	50	67	FSIC4008-3
FSIC4008-5	40	8	38.6	5	34.9	5	33.7	98.8	700.0	63	63	15	108	18	85	11	18	11	85	M6	50	87	FSIC4008-5
FSIC4010-3	40	10	39.5	7.144	34.3	3	45.1	114.4	555.0	63	63	20	108	18	85	11	18	11	80	M8×1	52	78	FSIC4010-3
FSIC4010-5	40	10	39.5	7.144	34.3	5	70.0	190.7	905.0	63	63	20	108	18	85	11	18	11	80	M8×1	52	101	FSIC4010-5
FSIC4012-4	40	12	38	7.144	32.7	4	57.7	152.3	743.0	63	63	20	108	18	85	11	18	11	85	M8×1	50	105	FSIC4012-4
FSIC4012-5	40	12	38	7.144	32.7	5	69.9	190.4	920.0	63	63	20	108	18	85	11	18	11	85	M8×1	50	116	FSIC4012-5
FSIC5005-3	50	5	49	3.5	46.4	3	14.8	54.2	453.0	71	71	10	110	15	90	9	15	9	84	M8×1	60	47	FSIC5005-3
FSIC5005-5	50	5	49	3.5	46.4	5	23.0	90.3	742.0	71	71	10	110	15	90	9	15	9	84	M8×1	60	58	FSIC5005-5
FSIC5006-3	50	6	49	3.969	46	3	17.6	61.2	472.0	71	71	15	110	15	90	9	15	9	84	M8×1	60	53	FSIC5006-3
FSIC5006-5	50	6	49	3.969	46	5	27.4	102.0	772.0	71	71	15	110	15	90	9	15	9	84	M8×1	60	68	FSIC5006-5
FSIC5008-3	50	8	49	5	45.3	3	24.1	75.5	504.0	75	75	15	118	18	95	11	18	11	90	M8×1	60	68	FSIC5008-3
FSIC5008-5	50	8	49	5	45.3	5	37.3	125.8	823.0	75	75	15	118	18	95	11	18	11	90	M8×1	60	84	FSIC5008-5
FSIC5010-3	50	1	49	7.144	43.8	3	50.5	145.1	650.0	75	75	15	118	18	95	11	18	11	90	M8×1	62	77	FSIC5010-3
FSIC5010-5	50	10	49	7.144	43.8	5	78.3	241.8	1062.0	75	75	15	118	18	95	11	18	11	90	M8×1	62	102	FSIC5010-5
FSIC5012-4	50	12	49	7.144	43.8	4	64.5	193.3	875.0	75	75	20	118	18	95	11	18	11	90	M8×1	60	104	FSIC5012-4
FSIC5012-5	50	12	49	7.144	43.8	5	78.2	241.6	1084.0	75	75	20	118	18	95	11	18	11	90	M8×1	60	123	FSIC5012-5

FSIC internal circulation floating ball screw

Unit:mm

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to $0.3\ C_a$,

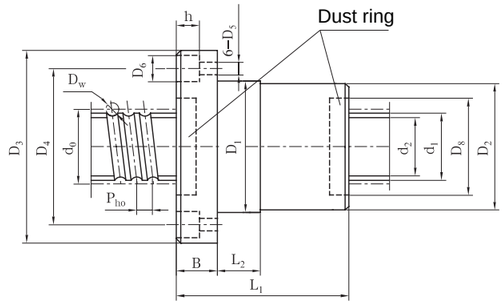
$$K'_C = K_C\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

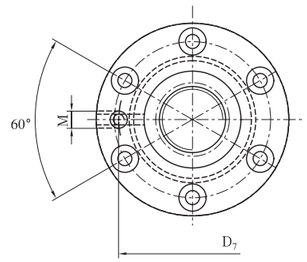
Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 ℃;

4) Special requirements shall be put forward when ordering.





Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	$D_2{}^{(-0.1)}_{(-0.2)}$	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FSIC6308-4	63	8	61	5	57.3	4	34.3	129.4	787.0	90	90	20	132	18	110	11	18	11	104	M8×1	75	76	FSIC6308-4
FSIC6308-5	63	8	61	5	57.3	5	41.6	161.7	975.0	90	90	20	132	18	110	11	18	11	104	M8×1	75	87	FSIC6308-5
FSIC6310-4	63	10	61	7.144	55.7	4	71.7	244.5	999.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	95	FSIC6310-4
FSIC6310-5	63	10	61	7.144	55.7	5	86.8	305.6	1237.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	107	FSIC6310-5
FSIC6312-4	63	12	61	7.144	55.8	4	71.6	244.4	1025.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	105	FSIC6312-4
FSIC6312-5	63	12	61	7.144	55.8	5	86.8	305.4	1270.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	123	FSIC6312-5
FSIC6316-4	63	16	61	10	53.8	4	112.5	338.5	1106.0	95	95	30	148	28	118	13.5	22	13	118	M8×1	75	140	FSIC6316-4
FSIC6316-5	63	16	61	10	53.8	5	136.4	423.1	1370.0	95	95	30	148	28	118	13.5	22	13	118	M8×1	75	163	FSIC6316-5
FSIC6320-4	63	20	61	10	53.8	4	112.3	337.9	1126.0	95	95	40	148	28	118	13.5	22	13	118	M8×1	75	165	FSIC6320-4
FSIC6320-5	63	20	61	10	53.8	5	136.0	422.3	1395.0	95	95	40	148	28	118	13.5	22	13	118	M8×1	75	189	FSIC6320-5
FSIC8010-4	80	10	78	7.144	72.7	4	81.4	325.8	1151.0	105	105	20	156	22	130	13.5	22	13	130	M8×1	90	95	FSIC8010-4
FSIC8010-5	80	10	78	7.144	72.7	5	98.6	407.3	1427.0	105	105	20	156	22	130	13.5	22	13	130	M8×1	90	107	FSIC8010-5
FSIC8012-4	80	12	78	7.144	72.7	4	81.4	325.7	1232.0	110	110	25	158	22	132	13.5	22	13	132	M8×1	90	105	FSIC8012-4
FSIC8012-5	80	12	78	7.144	72.7	5	98.6	407.2	1527.0	110	110	25	158	22	132	13.5	22	13	132	M8×1	90	123	FSIC8012-5
FSIC8016-4	80	16	78	10	70.8	4	122.9	419.6	1284.0	118	118	30	168	28	140	13.5	22	13	140	M8×1	95	145	FSIC8016-4
FSIC8016-5	80	16	78	10	70.8	5	148.8	524.5	1591.0	118	118	30	168	28	140	13.5	22	13	140	M8×1	95	165	FSIC8016-5
FSIC8020-4	80	20	78	10	70.8	4	122.7	419.1	1314.0	118	118	40	168	28	140	13.5	22	13	140	M10×1	95	166	FSIC8020-4
FSIC8020-5	80	20	78	10	70.8	5	148.6	523.9	1627.0	118	118	40	168	28	140	13.5	22	13	140	M10×1	95	194	FSIC8020-5
FSIC10016-4	100	16	97	10	89.8	4	137.4	539.2	1506.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	145	FSIC10016-4
FSIC10016-5	100	16	97	10	89.8	5	166.5	674.0	1866.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	165	FSIC10016-5
FSIC10020-4	100	20	97	10	89.8	4	137.3	538.8	1552.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	170	FSIC10020-4
FSIC10020-5	100	20	97	10	89.8	5	166.3	673.6	1924.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	194	FSIC10020-5
FSIC12016-5	120	16	117	10	109.8	5	181.0	824.0	2083.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	165	FSIC12016-5
FSIC12016-7	120	16	117	10	109.8	7	241.7	1153.6	2880.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	205	FSIC12016-7
FSIC12020-5	120	20	117	10	109.8	5	180.8	823.6	2166.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	194	FSIC12020-5
FSIC12020-7	120	20	117	10	109.8	7	241.5	1153.0	2993.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	242	FSIC12020-7

FDIS internal circulation floating thread preloaded ball screw

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

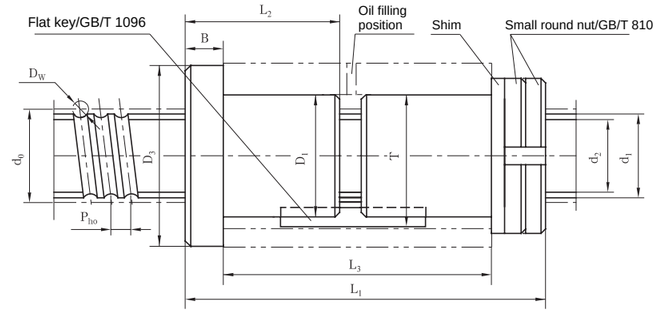
$$K_C' = K_C\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 °C;

4) Special requirements shall be put forward when ordering.



Unit:mm

Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension							Small round nut GB/T 810	Flat key GB/T 1096	Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(h6)	D_3	L_1	L_2	L_3	B	T			
FDIS2004L-3	20	4	19.3	2.381	17.5	3	5.8	14.0	372.0	30	45	70	28	44	6	32	M30×1.5	4×4×30	FDIS2004L-3
FDIS2004R-3	20	4	19.1	3	16.9	3	7.6	16.5	363.0	30	45	70	28	44	6	32	M30×1.5	4×4×30	FDIS2004R-3
FDIS2005-3	20	5	19.5	3.5	16.9	3	9.5	19.8	385.0	34	48	81	34	55	6	36.5	M33×1.5	5×5×40	FDIS2005-3
FDIS2505-3	25	5	24.5	3.5	21.9	3	10.6	25.1	462.0	42	58	84	34.5	55	8	44.5	M42×1.5	5×5×40	FDIS2505-3
FDIS2506-3	25	6	23.9	3.969	20.9	3	12.3	27.2	458.0	45	62	95	41	66	8	48	M45×1.5	6×6×45	FDIS2506-3
FDIS3205-3	32	5	31.5	3.5	28.9	3	12.3	34.3	585.0	50	68	88	37	55	8	52.5	M48×1.5	5×5×40	FFIS3205-3
FDIS3206-3	32	6	30.9	3.969	27.9	3	14.3	37.3	581.0	50	68	99	41	66	8	53	M48×1.5	6×6×45	FDIS3206-3
FDIS4006-3	40	6	38.9	3.969	35.9	3	15.9	47.6	695.0	60	80	101	42	66	10	63	M60×2	6×6×45	FDIS4006-3
FDIS4008-3	40	8	38.6	5	34.9	3	21.7	59.3	720.0	60	80	119	52	84	10	63	M60×2	8×7×55	FDIS4008-3
FDIS4010-3	40	10	39.5	7.144	34.3	3	45.1	114.4	946.0	65	85	140	62	102	13	68	M64×2	6×6×60	FDIS4010-3
FDIS4012-3	40	12	38	7.144	32.7	3	57.7	152.3	1029.0	65	85	161	75	121	15	68	M64×2	6×6×60	FDIS4012-3
FDIS5006-4	50	6	49	3.969	46	4	22.6	81.6	1098.0	72	95	117	50	78	10	75.5	M72×2	8×7×55	FDIS5006-4
FDIS5008-4	50	8	49	5	45.3	4	30.8	100.6	1138.0	75	95	144	64	102	12	79	M72×2	12×8×80	FDIS5008-4
FDIS5010-4	50	10	49	7.144	43.8	4	64.6	193.5	1480.0	75	95	167	76	124	13	79	M72×2	12×8×100	FDIS5010-4
FDIS5012-4	50	12	49	7.144	43.8	4	64.5	193.3	1492.0	75	95	191	89	146	15	79	M72×2	12×8×110	FDIS5012-4
FDIS6308-4	63	8	61	5	57.3	4	34.3	129.4	1354.0	85	110	144	64	102	12	89	M85×2	12×8×80	FDIS6308-4
FDIS6310-4	63	10	61	7.144	55.7	4	71.7	244.5	1756.0	90	115	168	77	124	14	95	M90×2	16×10×100	FDIS6310-4
FDIS6312-4	63	12	61	7.144	55.8	4	71.6	244.4	1775.0	90	115	195	90	150	15	95	M90×2	16×10×110	FDIS6312-4
FDIS8010-4	80	10	78	7.144	72.7	4	81.4	325.8	2156.0	110	135	180	79	127	15	116	M110×2	20×12×110	FDIS8010-4
FDIS8012-4	80	12	78	7.144	72.7	4	81.4	325.7	2189.0	110	135	204	91	150	16	116	M110×2	20×12×110	FDIS8012-4

FSVC/FDVC heavy duty ball screw

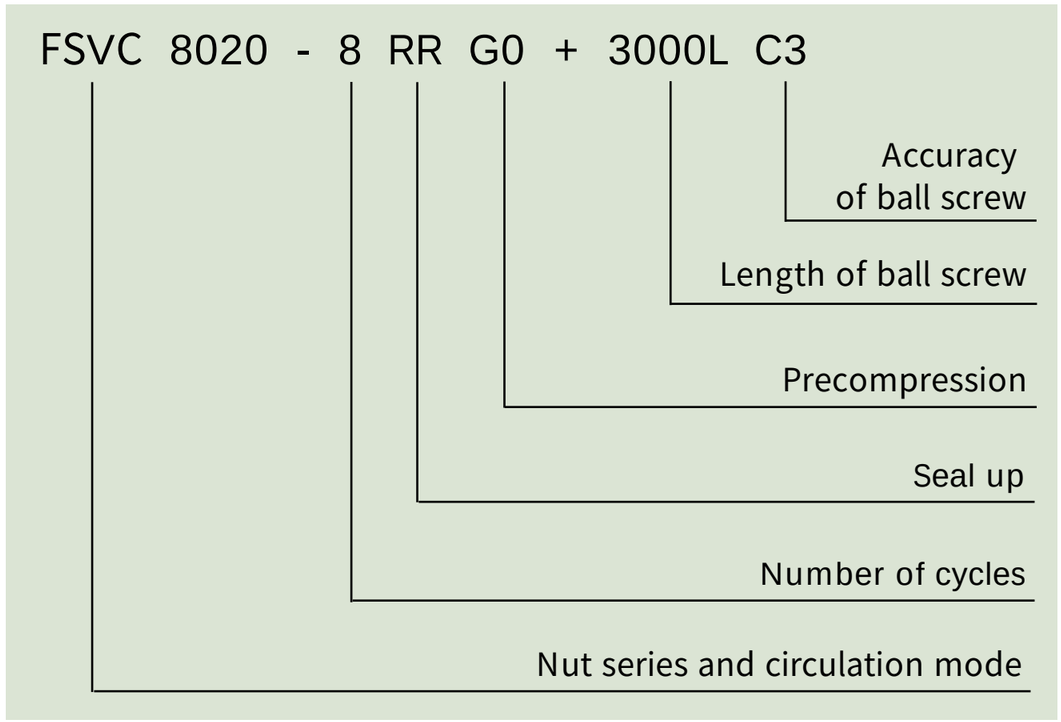
Product application range

Large and heavy-duty CNC lathes, CNC boring machines, CNC milling machines, large steel smelting equipment, jacks, spinning machines and other mechanical equipment

Introduction to product design, manufacturing and testing technology

Length and heavy load have always been important problems to be overcome in manufacturing large heavy-duty ball screws. This series of products have overcome the technologies of design, heat treatment, alignment, raceway forming and dynamic detection. In terms of structural design, the product adopts a design structure with multi-path large-diameter ball circulation circuit. The maximum rated dynamic load of the product is 126 tons and the maximum rated static load is 595 tons. Jingpeng machinery has put into use a series of equipment, such as a 10m large lathe, a 10m hard body rotary milling machine, a 10m large grinder, a 10m medium frequency quenching machine, a 10m large straightening machine, a 10m laser screw stroke error measuring instrument, and has taken the lead in establishing the first single 10m ball screw production line in China。

Numbering rules and meanings



Specifications, models and dynamic and static load parameters

Nominal diamete (mm)	Lead (mm)	Spherical diameter (mm)	Rated dynamic load C_a (KN) of different turns n			Rated static load C_{oa} (KN) of different turns n		
D_0	P_h	D_w	n=4	n=5	n=8	n=4	n=5	n=8
80	20	12.700			305.1			1074.7
	25	12.700		203.7	305.1		670.5	1072.8
	32	12.700		202.8	303.9		668.4	1069.5
100	20	12.700		233.7	350.1		887.3	1419.7
	25	15.875		304.3	457		1050.5	1679.3
	32	15.875		304.3	455.9		1047.4	1675.9
	40	15.875	250.2			835.5		
125	20	12.700		258	386.6		1103.2	1765.1
	25	18.256		406.2	608.5		1523.5	2437.6
	32	20.638		463.0	693.6		1665.2	2664.4
	40	20.638	381.2			1329.7		
160	20	12.700		291.9	437.3		1493.2	2389.1
	25	18.256		464.5	695.9		2015.5	3224.7
	32	20.638		543.9	814.8		2306.2	3690
	40	25.4	592			2213.4		
200	25	18.256		532.9	798.3		2736.4	4378.3
	32	20.638		605.3	906.8		2949.6	4719.4
	40	25.4	670.8		1257.5	2882.8		5949.6

FSVC heavy duty ball screw

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

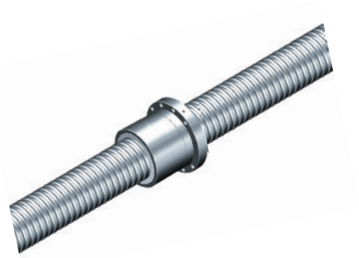
$$K_C' = K_C \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

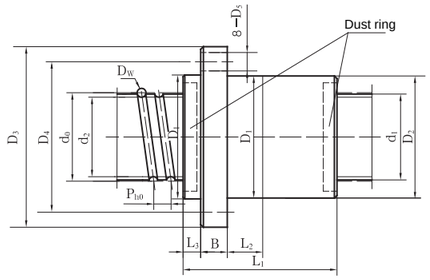
Where:

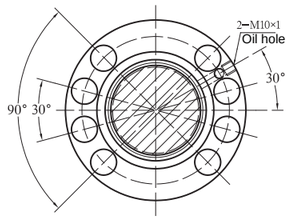
K_C is the stiffness value in the table;

3) This type of ball screw is suitable for use under high temperature conditions;

4) Special requirements shall be put forward when ordering.







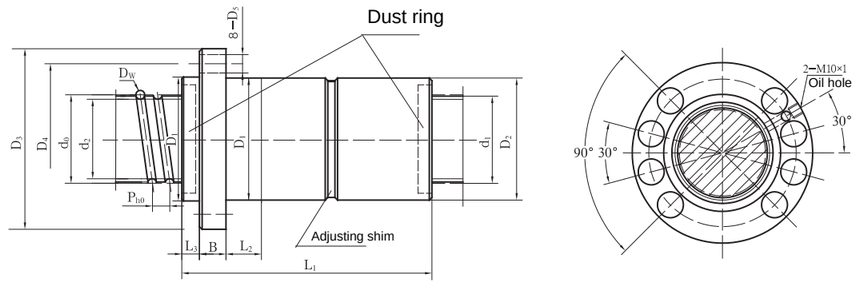
Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_C N/μm	Nut installation connection dimension									Specification code
							Dynamic load C_a kN	Static load C_{oa} kN		D_1(g6)	$D_2(^{-0.1}_{-0.2})$	L_2	L_3	D_3	B	D_5	D_4	L_1	
FSVC8020-8	80	20	78	12.7	68.9	8	305.1	1074.7	2498.5	125	125	25	15	170	32	13.5	150	218	FSVC8020-8
FSVC8025-5	80	25	78	12.7	68.9	5	203.7	670.5	1619.0	125	125	25	15	170	32	13.5	150	189	FSVC8025-5
FSVC8025-8	80	25	78	12.7	68.9	8	305.1	1072.8	2538.1	125	125	25	15	170	32	13.5	150	264	FSVC8025-8
FSVC8032-5	80	32	78	12.7	68.9	5	202.8	668.4	1636.1	125	125	25	15	170	32	13.5	150	231	FSVC8032-5
FSVC8032-8	80	32	78	12.7	68.9	8	303.9	1069.5	2564.5	125	125	25	15	170	32	13.5	150	327	FSVC8032-8
FSVC10020-5	100	20	97	12.7	87.9	5	233.7	887.3	1896.9	150	150	25	20	207	32	17.5	180	160	FSVC10020-5
FSVC10020-8	100	20	97	12.7	87.9	8	350.1	1419.7	2976.5	150	150	25	20	207	32	17.5	180	220	FSVC10020-8
FSVC10025-5	100	25	97	15.875	85.7	5	304.3	1050.5	1904.3	150	150	25	20	207	32	17.5	180	196	FSVC10025-5
FSVC10025-8	100	25	97	15.875	85.7	8	457.0	1679.3	3058.3	150	150	25	20	207	32	17.5	180	271	FSVC10025-8
FSVC10032-5	100	32	97	15.875	85.7	5	304.3	1047.4	1985.4	150	150	25	20	207	32	17.5	180	240	FSVC10032-5
FSVC10032-8	100	32	97	15.875	85.7	8	455.9	1675.9	3113.0	150	150	25	20	207	32	17.5	180	336	FSVC10032-8
FSVC10040-4	100	40	97	15.875	85.7	4	250.2	835.5	1620.5	150	150	40	20	207	36	17.5	180	238	FSVC10040-4
FSVC12520-5	125	20	123.5	12.7	114.4	5	258.0	1103.2	2236.0	170	170	25	25	244	36	22	210	158	FSVC12520-5
FSVC12520-8	125	20	123.5	12.7	114.4	8	386.6	1765.1	3514.0	170	170	25	25	244	36	22	210	218	FSVC12520-8
FSVC12525-5	125	25	123.5	18.256	110.6	5	406.2	1523.5	2304.0	190	190	25	25	258	36	22	224	204	FSVC12525-5
FSVC12525-8	125	25	123.5	18.256	110.6	8	608.5	2437.6	3615.0	190	190	25	25	258	36	22	224	279	FSVC12525-8
FSVC12532-5	125	32	123.5	20.638	109.2	5	463.0	1665.2	2254.0	190	190	25	25	258	36	22	224	252	FSVC12532-5
FSVC12532-8	125	32	123.5	20.638	109.2	8	693.6	2664.4	3536.0	190	190	25	25	258	36	22	224	348	FSVC12532-8
FSVC12540-4	125	40	123.5	20.638	109.2	4	381.2	1329.7	1848.0	190	190	40	25	258	40	22	224	252	FSVC12540-4
FSVC16020-5	160	20	156.5	12.7	147.4	5	291.9	1493.2	2732.0	220	220	25	25	294	40	22	260	163	FSVC16020-5
FSVC16020-8	160	20	156.5	12.7	147.4	8	437.3	2389.1	4294.0	220	220	25	25	294	40	22	260	223	FSVC16020-8
FSVC16025-5	160	25	156.5	18.256	143.6	5	464.5	2015.5	2809.0	240	240	40	25	314	40	22	280	201	FSVC16025-5
FSVC16025-8	160	25	156.5	18.256	143.6	8	695.9	3224.7	4410.0	240	240	40	25	314	40	22	280	276	FSVC16025-8
FSVC16032-5	160	32	156.5	20.638	142.2	5	543.9	2306.2	2867.0	240	240	40	25	314	40	22	280	241	FSVC16032-5
FSVC16032-8	160	32	156.5	20.638	142.2	8	814.8	3690.0	4499.0	240	240	40	25	314	40	22	280	337	FSVC16032-8
FSVC16040-4	160	40	156.5	25.4	138.6	4	592.0	2213.4	2356.0	240	240	40	25	314	40	22	280	251	FSVC16040-4
FSVC20025-5	200	25	196.5	18.256	183.6	5	532.9	2736.4	3345.0	280	280	40	25	349	50	22	315	195	FSVC20025-5
FSVC20025-8	200	25	196.5	18.256	183.6	8	798.3	4378.3	5257.0	280	280	40	25	349	50	22	315	270	FSVC20025-8
FSVC20032-5	200	32	196.5	20.638	182.2	5	605.3	2949.6	3415.0	280	280	40	25	349	50	22	315	242	FSVC20032-5
FSVC20032-8	200	32	196.5	20.638	182.2	8	906.8	4719.4	5363.0	280	280	40	25	349	50	22	315	338	FSVC20032-8
FSVC20040-4	200	40	196.5	25.4	178.6	4	670.8	2882.8	2929.0	300	300	40	25	369	50	22	335	252	FSVC20040-4
FSVC20040-8	200	40	196.5	25.4	178.6	8	1257.5	5949.6	5748.0	300	300	40	25	369	50	22	335	412	FSVC20040-8

FDVC large heavy-duty gasket preloaded ball screw

Note:
1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;
2) When the axial load F is not equal to 0.3 C_a,

$$K'_c = K_c \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:
K_C is the stiffness value in the table;
3) This type of ball screw is suitable for use under high temperature conditions;
4) Special requirements shall be put forward when ordering.



Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension									Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	$D2(^{-0.1}_{-0.2})$	L_2	L_3	D_3	B	D_5	D_4	L_1	
FDVC8020-8	80	20	78	12.7	68.9	8	305.1	1074.7	4196.1	125	125	25	15	170	32	13.5	150	412	FDVC8020-8
FDVC8025-5	80	25	78	12.7	68.9	5	203.7	670.5	2692.3	125	125	25	15	170	32	13.5	150	348	FDVC8025-5
FDVC8025-8	80	25	78	12.7	68.9	8	305.1	1072.8	4216.8	125	125	25	15	170	32	13.5	150	498	FDVC8025-8
FDVC8032-5	80	32	78	12.7	68.9	5	202.8	668.4	2693.9	125	125	25	15	170	32	13.5	150	425	FDVC8032-5
FDVC8032-8	80	32	78	12.7	68.9	8	303.9	1069.5	4219.3	125	125	25	15	170	32	13.5	150	617	FDVC8032-8
FDVC10020-5	100	20	97	12.7	87.9	5	233.7	887.3	3230.1	150	150	25	20	207	32	17.5	180	300	FDVC10020-5
FDVC10020-8	100	20	97	12.7	87.9	8	350.1	1419.7	5061.2	150	150	25	20	207	32	17.5	180	420	FDVC10020-8
FDVC10025-5	100	25	97	15.875	85.7	5	304.3	1050.5	3260.5	150	150	25	20	207	32	17.5	180	371	FDVC10025-5
FDVC10025-8	100	25	97	15.875	85.7	8	457.0	1679.3	5156.6	150	150	25	20	207	32	17.5	180	521	FDVC10025-8
FDVC10032-5	100	32	97	15.875	85.7	5	304.3	1047.4	3308.7	150	150	25	20	207	32	17.5	180	446	FDVC10032-5
FDVC10032-8	100	32	97	15.875	85.7	8	455.9	1675.9	5182.9	150	150	25	20	207	32	17.5	180	638	FDVC10032-8
FDVC10040-4	100	40	97	15.875	85.7	4	250.2	835.5	2676.1	150	150	40	20	207	36	17.5	180	436	FDVC10040-4
FDVC12520-5	125	20	123.5	12.7	114.4	5	258.0	1103.2	3961.0	170	170	25	25	244	36	22	210	298	FDVC12520-5
FDVC12520-8	125	20	123.5	12.7	114.4	8	386.6	1765.1	6212.0	170	170	25	25	244	36	22	210	418	FDVC12520-8
FDVC12525-5	125	25	123.5	18.256	110.6	5	406.2	1523.5	3929.0	190	190	25	25	258	36	22	224	374	FDVC12525-5
FDVC12525-8	125	25	123.5	18.256	110.6	8	608.5	2437.6	6156.0	190	190	25	25	258	36	22	224	524	FDVC12525-8
FDVC12532-5	125	32	123.5	20.638	109.2	5	463.0	1665.2	3788.0	190	190	25	25	258	36	22	224	476	FDVC12532-5
FDVC12532-8	125	32	123.5	20.638	109.2	8	693.6	2664.4	5935.0	190	190	25	25	258	36	22	224	668	FDVC12532-8
FDVC12540-4	125	40	123.5	20.638	109.2	4	381.2	1329.7	3074.0	190	190	40	25	258	40	22	224	470	FDVC12540-4
FDVC16020-5	160	20	156.5	12.7	147.4	5	291.9	1493.2	4879.0	220	220	25	25	294	40	22	260	303	FDVC16020-5
FDVC16020-8	160	20	156.5	12.7	147.4	8	437.3	2389.1	7651.0	220	220	25	25	294	40	22	260	423	FDVC16020-8
FDVC16025-5	160	25	156.5	18.256	143.6	5	464.5	2015.5	4844.0	240	240	40	25	314	40	22	280	380	FDVC16025-5
FDVC16025-8	160	25	156.5	18.256	143.6	8	695.9	3224.7	7592.0	240	240	40	25	314	40	22	280	530	FDVC16025-8
FDVC16032-5	160	32	156.5	20.638	142.2	5	543.9	2306.2	4871.0	240	240	40	25	314	40	22	280	433	FDVC16032-5
FDVC16032-8	160	32	156.5	20.638	142.2	8	814.8	3690.0	7633.0	240	240	40	25	314	40	22	280	625	FDVC16032-8
FDVC16040-4	160	40	156.5	25.4	138.6	4	592.0	2213.4	3970.0	240	240	40	25	314	40	22	280	451	FDVC16040-4
FDVC20025-5	200	25	196.5	18.256	183.6	5	532.9	2736.4	5954.0	280	280	40	25	349	50	22	315	358	FDVC20025-5
FDVC20025-8	200	25	196.5	18.256	183.6	8	798.3	4378.3	9336.0	280	280	40	25	349	50	22	315	508	FDVC20025-8
FDVC20032-5	200	32	196.5	20.638	182.2	5	605.3	2949.6	5953.0	280	280	40	25	349	50	22	315	434	FDVC20032-5
FDVC20032-8	200	32	196.5	20.638	182.2	8	906.8	4719.4	9331.0	280	280	40	25	349	50	22	315	626	FDVC20032-8
FDVC20040-4	200	40	196.5	25.4	178.6	4	670.8	2882.8	4986.0	300	300	40	25	369	50	22	335	452	FDVC20040-4

FDIC internal circulation floating gasket preloading ball screw

Unit:mm

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

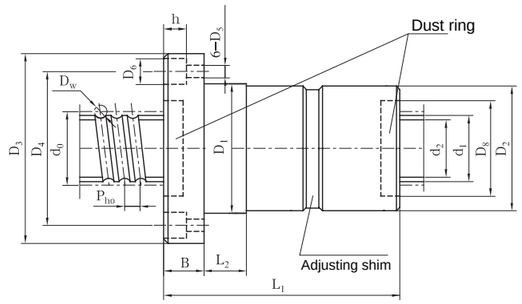
$$K'_C = K_C \left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

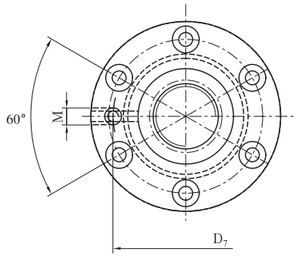
Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 ℃;

4) Special requirements shall be put forward when ordering.





Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	$D_2(^{-0.1}_{-0.2})$	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FDIC1204-3	12	4	11.3	2.381	9.5	3	4.2	7.3	226.0	22	22	10	44	8	32	4.8	8.5	4.5	32	M2.5	16	66	FDIC1204-3
FDIC1604-3	16	4	15.3	2.381	13.5	3	5.2	11.0	311.0	28	28	10	52	10	38	5.8	10	6	32	M6	20	69	FDIC1604-3
FDIC1605-3	16	5	15.5	3.5	12.9	3	8.1	14.6	303.0	28	28	10	52	10	38	5.8	10	6	32	M6	22	83	FDIC1605-3
FDIC2004L-3	20	4	19.3	2.381	17.5	3	5.8	14.0	377.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	73	FDIC2004L-3
FDIC2004R-3	20	4	19.1	3	16.9	3	7.6	16.5	367.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	72	FDIC2004R-3
FDIC2005-3	20	5	19.5	3.5	16.9	3	9.5	19.8	384.0	36	36	10	62	11	48	5.8	10	6	40	M6	25	83	FDIC2005-3
FDIC2504-3	25	4	24.1	3	21.9	3	8.8	22.3	461.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	74	FDIC2504-3
FDIC2505-3	25	5	24.5	3.5	21.9	3	10.6	25.1	460.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	84	FDIC2505-3
FDIC2506-3	25	6	23.9	3.969	20.9	3	12.3	27.2	455.0	40	40	10	66	11	53	5.8	10	6	46	M6	30	97	FDIC2506-3
FDIC3204-3	32	4	31.1	3	28.9	3	9.9	29.1	562.0	50	50	10	76	11	63	5.8	10	6	56	M6	38	73	FDIC3204-3
FDIC3204-5	32	4	31.1	3	28.9	5	15.4	48.5	917.0	50	50	10	76	11	63	5.8	10	6	56	M6	38	92	FDIC3204-5
FDIC3205-3	32	5	31.5	3.5	28.9	3	12.3	34.3	585.0	50	50	10	82	13	67	7	12	7	62	M6	38	85	FDIC3205-3
FDIC3205-5	32	5	31.5	3.5	28.9	5	19.1	57.2	953.0	50	50	10	82	13	67	7	12	7	62	M6	38	108	FDIC3205-5
FDIC3206-3	32	6	30.9	3.969	27.9	3	14.3	37.3	581.0	50	50	10	82	13	67	7	12	7	62	M6	38	99	FDIC3206-3
FDIC3206-5	32	6	30.9	3.969	27.9	5	22.2	62.2	947.0	50	50	10	82	13	67	7	12	7	62	M6	38	127	FDIC3206-5
FDIC3208-3	32	8	30.6	5	26.9	3	19.2	45.8	592.0	50	50	10	82	13	67	7	12	7	62	M6	42	123	FDIC3208-3
FDIC3208-5	32	8	30.6	5	26.9	5	29.9	76.3	965.0	50	50	10	82	13	67	7	12	7	62	M6	42	152	FDIC3208-5
FDIC3210-3	32	10	31	5.953	26.5	3	23.9	53.4	601.0	53	53	15	90	15	71	9	15	9	70	M6	44	146	FDIC3210-3
FDIC3210-5	32	10	31	5.953	26.5	5	37.1	89.0	978.0	53	53	15	90	15	71	9	15	9	70	M6	44	191	FDIC3210-5
FDIC4005-3	40	5	39.5	3.5	36.9	3	13.4	42.3	681.0	60	60	10	94	15	75	9	15	9	75	M6	48	88	FDIC4005-3
FDIC4005-5	40	5	39.5	3.5	36.9	5	20.8	70.5	1110.0	60	60	10	94	15	75	9	15	9	75	M6	48	111	FDIC4005-5

FDIC internal circulation floating gasket preloading ball screw

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

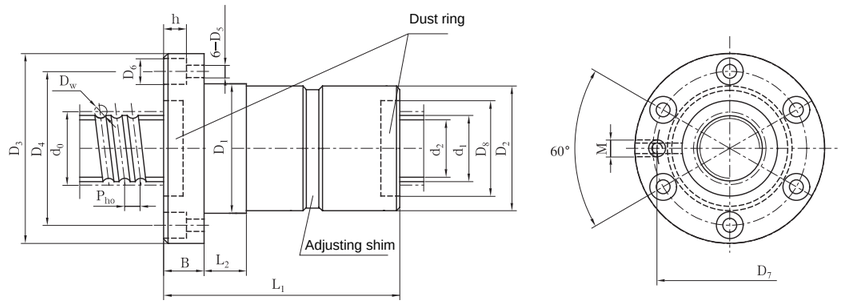
$$K'_c = K_c\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 ℃;

4) Special requirements shall be put forward when ordering.



Unit:mm

Specification code	Nominal diameter d_0	Nominal lead P_{ho}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	D_2($^{-0.1}_{-0.2}$)	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FDIC4006-3	40	6	38.9	3.969	35.9	3	15.9	47.6	695.0	60	60	10	94	15	75	9	15	9	74	M6	48	101	FDIC4006-3
FDIC4006-5	40	6	38.9	3.969	35.9	5	24.6	79.3	1132.0	60	60	10	94	15	75	9	15	9	74	M6	48	128	FDIC4006-5
FDIC4008-3	40	8	38.6	5	34.9	3	21.7	59.3	723.0	63	63	15	108	18	85	11	18	11	85	M6	50	128	FDIC4008-3
FDIC4008-5	40	8	38.6	5	34.9	5	33.7	98.8	1179.0	63	63	15	108	18	85	11	18	11	85	M6	50	163	FDIC4008-5
FDIC4010-3	40	10	39.5	7.144	34.3	3	45.1	114.4	943.0	63	63	20	108	18	85	11	18	11	80	M8×1	52	146	FDIC4010-3
FDIC4010-5	40	10	39.5	7.144	34.3	5	70.0	190.7	1537.0	63	63	20	108	18	85	11	18	11	80	M8×1	52	193	FDIC4010-5
FDIC4012-3	40	12	38	7.144	32.7	3	57.7	152.3	1248.0	63	63	20	108	18	85	11	18	11	80	M8×1	50	164	FDIC4012-3
FDIC4012-5	40	12	38	7.144	32.7	5	69.9	190.4	1545.0	63	63	20	108	18	85	11	18	11	80	M8×1	50	227	FDIC4012-5
FDIC5005-3	50	5	49	3.5	46.4	3	14.8	54.2	810.0	71	71	10	110	15	90	9	15	9	84	M8×1	60	87	FDIC5005-3
FDIC5005-5	50	5	49	3.5	46.4	5	23.0	90.3	1322.0	71	71	10	110	15	90	9	15	9	84	M8×1	60	111	FDIC5005-5
FDIC5006-3	50	6	49	3.969	46	3	17.6	61.2	831.0	71	71	15	110	15	90	9	15	9	84	M8×1	60	101	FDIC5006-3
FDIC5006-5	50	6	49	3.969	46	5	27.4	102.0	1357.0	71	71	15	110	15	90	9	15	9	84	M8×1	60	130	FDIC5006-5
FDIC5008-3	50	8	49	5	45.3	3	24.1	75.5	864.0	75	75	15	118	18	95	11	18	11	90	M8×1	60	127	FDIC5008-3
FDIC5008-5	50	8	49	5	45.3	5	37.3	125.8	1408.0	75	75	15	118	18	95	11	18	11	90	M8×1	60	163	FDIC5008-5
FDIC5010-3	50	10	49	7.144	43.8	3	50.5	145.1	1125.0	75	75	15	118	18	95	11	18	11	90	M8×1	62	147	FDIC5010-3
FDIC5010-5	50	10	49	7.144	43.8	5	78.3	241.8	1587.0	75	75	15	118	18	95	11	18	11	90	M8×1	62	194	FDIC5010-5
FDIC5012-4	50	12	49	7.144	43.8	4	64.5	193.3	1492.0	75	75	20	118	18	95	11	18	11	90	M8×1	60	195	FDIC5012-4
FDIC5012-5	50	12	49	7.144	43.8	5	78.2	241.6	1847.0	75	75	20	118	18	95	11	18	11	90	M8×1	60	223	FDIC5012-5

FDIC internal circulation floating gasket preloading ball screw

Note:

1) K_C is the theoretical calculation value when the preload F_P is $0.1C_a$ and the axial load F is $0.3C_a$;

2) When the axial load F is not equal to 0.3 C_a,

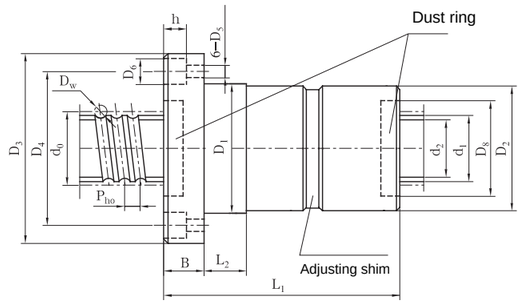
$$K'_c = K_c\left(\frac{F}{0.3C_a}\right)^{\frac{1}{3}}$$

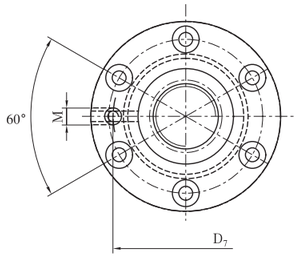
Where:

K_C is the stiffness value in the table;

3) Normal working environment temperature range ± 80 °C;

4) Special requirements shall be put forward when ordering.



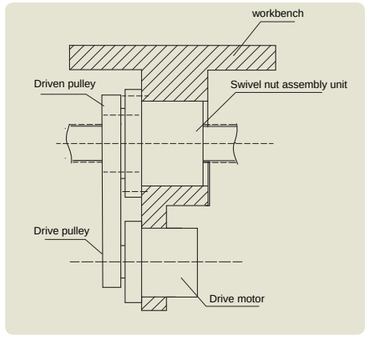


Unit:mm

Specification code	Nominal diameter d_0	Nominal lead P_{h0}	Outer diameter of screw d_1	Steel ball diameter D_w	Bottom diameter of screw d_2	Number of cycles n	Basic rated load		Rigidity K_c N/μm	Nut installation connection dimension													Specification code
							Dynamic load Ca kN	Static load Coa kN		D_1(g6)	D_2($^{-0.1}_{-0.2}$)	L_2	D_3	B	D_4	D_5	D_6	h	D_7	M	D_8	L_1	
FDIC6308-4	63	8	61	5	57.3	4	34.3	129.4	1370.0	90	90	20	132	18	110	11	18	11	104	M8×1	75	147	FDIC6308-4
FDIC6308-5	63	8	61	5	57.3	5	41.6	161.7	1697.0	90	90	20	132	18	110	11	18	11	104	M8×1	75	163	FDIC6308-5
FDIC6310-4	63	10	61	7.144	55.7	4	71.7	244.5	1756.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	175	FDIC6310-4
FDIC6310-5	63	10	61	7.144	55.7	5	86.8	305.6	2174.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	198	FDIC6310-5
FDIC6312-4	63	12	61	7.144	55.8	4	71.6	244.4	1775.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	203	FDIC6312-4
FDIC6312-5	63	12	61	7.144	55.8	5	86.8	305.4	2198.0	90	90	20	138	22	112	13.5	22	13	112	M8×1	75	230	FDIC6312-5
FDIC6316-4	63	16	61	10	53.8	4	112.5	338.5	1877.0	95	95	30	148	28	118	13.5	22	13	118	M8×1	85	266	FDIC6316-4
FDIC6316-5	63	16	61	10	53.8	5	136.4	423.1	2324.0	95	95	30	148	28	118	13.5	22	13	118	M8×1	85	306	FDIC6316-5
FDIC6320-4	63	20	61	10	53.8	4	112.3	337.9	1888.0	95	95	40	148	28	118	13.5	22	13	118	M8×1	75	304	FDIC6320-4
FDIC6320-5	63	20	61	10	53.8	5	136.0	422.3	2337.0	95	95	40	148	28	118	13.5	22	13	118	M8×1	75	354	FDIC6320-5
FDIC8010-4	80	10	78	7.144	72.7	4	81.4	325.8	2123.0	105	105	20	156	22	130	13.5	22	13	130	M8×1	90	181	FDIC8010-4
FDIC8010-5	80	10	78	7.144	72.7	5	98.6	407.3	2629.0	105	105	20	156	22	130	13.5	22	13	130	M8×1	90	204	FDIC8010-5
FDIC8012-4	80	12	78	7.144	72.7	4	81.4	325.7	2189.0	110	110	25	158	22	132	13.5	22	13	132	M8×1	90	211	FDIC8012-4
FDIC8012-5	80	12	78	7.144	72.7	5	98.6	407.2	2710.0	110	110	25	158	22	132	13.5	22	13	132	M8×1	90	237	FDIC8012-5
FDIC8016-4	80	16	78	10	70.8	4	122.9	419.6	2201.0	118	118	30	168	28	140	13.5	22	13	140	M8×1	95	274	FDIC8016-4
FDIC8016-5	80	16	78	10	70.8	5	148.8	524.5	2723.0	118	118	30	168	28	140	13.5	22	13	140	M8×1	95	298	FDIC8016-5
FDIC8020-4	80	20	78	10	70.8	4	122.7	419.1	2220.0	118	118	40	168	28	140	13.5	22	13	140	M10×1	95	306	FDIC8020-4
FDIC8020-5	80	20	78	10	70.8	5	148.6	523.9	2747.0	118	118	40	168	28	140	13.5	22	13	140	M10×1	95	358	FDIC8020-5
FDIC10016-4	100	16	97	10	89.8	4	137.4	539.2	2639.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	263	FDIC10016-4
FDIC10016-5	100	16	97	10	89.8	5	166.5	674.0	3268.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	300	FDIC10016-5
FDIC10020-4	100	20	97	10	89.8	4	137.3	538.8	2672.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	315	FDIC10020-4
FDIC10020-5	100	20	97	10	89.8	5	166.3	673.6	3309.0	140	140	40	204	28	170	17.5	28	17	170	M10×1	115	372	FDIC10020-5
FDIC12016-5	120	16	117	10	109.8	5	181.0	824.0	3747.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	300	FDIC12016-5
FDIC12016-7	120	16	117	10	109.8	7	241.7	1153.6	5170.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	380	FDIC12016-7
FDIC12020-5	120	20	117	10	109.8	5	180.8	823.6	3810.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	370	FDIC12020-5
FDIC12020-7	120	20	117	10	109.8	7	241.5	1153.0	5256.0	160	160	40	225	28	190	17.5	28	17	190	M10×1	135	466	FDIC12020-7

Swivel nut assembly unit

The rotating nut assembly unit is a transmission system that converts the rotating motion of the ball nut into the linear motion of the nut itself (or the ball screw). It is an extension of the ball screw. Its main components are composed of the ball screw pair, the rolling bearing pair, the nut seat, the pre tightening adjustment (locking) device, the dust-proof device and the lubricating oil circuit. The installation structure is as follows:



1. Characteristics of rotating nut combination unit

- Inertia is low. Taking nut rotation as the active drive greatly reduces the moment of inertia of the mechanical motion system, improves the limit speed of the system, facilitates high-speed transmission, and makes the selected motor power smaller than taking screw rotation as the active drive.
- High rigidity. The size of the bearing arranged on the outer circle of the nut is larger than that of the way in which the screw rod rotates as the active drive; At the same time, since the screw rod does not rotate, there is no need to install a bearing on its journal, which can exert a greater axial pretension force on the screw rod, so that the rigidity of the whole set of ball screw rod can be greatly improved.
- Multi nut drive. Multiple rotating nut combination units can be installed on one ball screw. Multiple worktables are driven simultaneously or separately, and their movements do not interfere with each other.
- Simple design and installation. The rotary nut combination unit integrates multiple functional components, simplifies the design and facilitates installation and commissioning.
- other. Since the screw rod does not rotate, there is no circumferential friction at the middle auxiliary support, and there is no local heating problem; When the positioning accuracy is very high and the hollow cooling structure of the screw rod is adopted considering the influence of temperature rise, it is easier to cool the pipe joint because the screw rod does not rotate

Hot tip

- It is suggested that when the length diameter ratio of the screw rod is ≥ 80 and the depth is even ≥ 60, several radial auxiliary supports should be set in the middle of the screw rod.
- In addition to the necessary installation interface dimensions of the rotating nut assembly unit, the sample also provides "recommended type dimensions of screw shaft journal" and "recommended type dimensions of synchronous belt pulley (gear)" for the convenience of design for the reference of the main engine designer.
- The standard series products of our company are given in the sample. If the standard series products can not meet the needs, please contact our company for special orders.

2. Accuracy of rotating nut assembly unit

Refer to the standard GB /T17587.3 for ball screw

3. Pre tightening of rotating nut assembly unit

This sample introduces two structural types: light load and heavy load. The light-duty rotary nut assembly unit is generally not pre tightened and is used as a transmission device. The heavy-duty rotary nut combination unit adopts gasket pre tightening, which is generally pre tightened according to 5% of the rated dynamic load of the model before delivery.

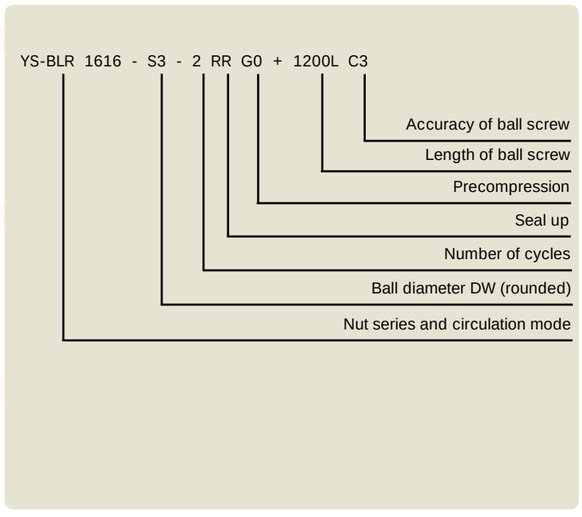
4. Lubrication of rotating nut assembly unit

The nut seat is equipped with a standard metric lubrication interface. According to the working conditions, centralized lubrication at the gas station or manual oil injection lubrication can be adopted. Two oil paths, one for rolling bearing lubrication and the other for ball nut lubrication.

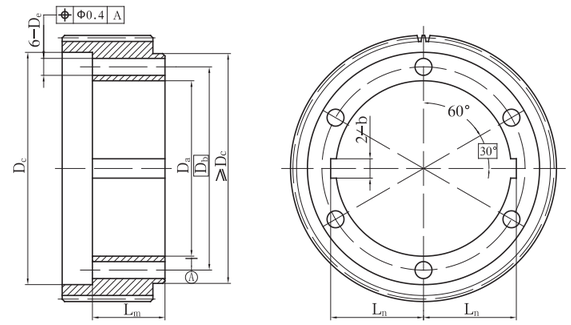
5. Dust prevention of rotating nut assembly unit

The combination unit has been equipped with conventional dust-proof devices for the ball screws and ball bearings. It is recommended to install other dust-proof (cover, sleeve) devices on the workbench, which is more conducive to reducing wear and prolonging service life.

6. Numbering rules and meanings

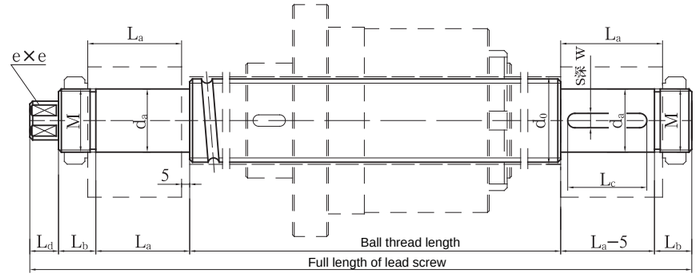


7. Recommended type and size of synchronous pulley (gear)



序号	D_a(H8)	D_b	L_m	D_c	D_e	b(H9)	$L_n(^{+0.2}_{0})$
1	75	90	15	105	9	12	41.8
2	95	110	15	125	9	12	51.8
3	100	118	15	133	9	12	53.8
4	120	138	35	156	11	12	63.8
5	145	165	45	185	14	12	76.3

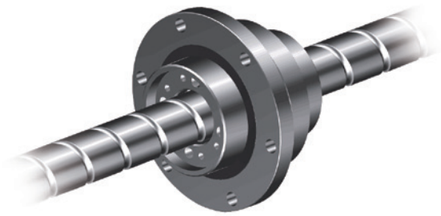
8. Recommended type and size of screw shaft journal

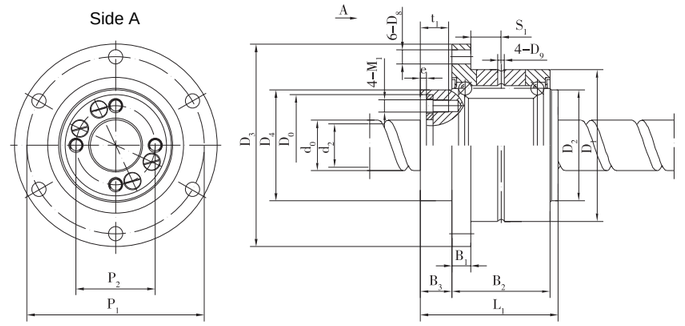


Note: the installation direction of nut seat flange shown in the figure is the default direction

Nominal diameter d0	d_a(h7)	L_a	M	L_b	r(N9)	w	L_c	e	L_d
50	40	100	M40×1.	40	12	4.	80	2	30
63	50	125	5M50×1.	40	12	54.	80	7	30
80	65	160	5	50	12	54.	80	3	30
100	80	200	M65×2	50	20	5	125	2	30
			M80×2			7		3	
								6	
								5	
								0	

YS-BLR light load rotary nut combination unit





Specification code	Nominal diameter	Nominal lead	Outer diameter of screw d1	Number of loaded ball turns	Ball diameter Dw	Bottom diameter of screw D2	Nut installation dimension					Nut installation dimension												Basic rated load of screw		Basic load rating of support bearing		Specification code
							D0(H7)	D1(g6)	L1	D2	D3	D4 (h7)	P1	P2	B1	B2	B3	M1	D8	e	t1	s1	D9	dynamic load Ca(KN)	Static load Coa(KN)	dynamic load Ca(KN)	Static load Coa(KN)	
YS-BLR1616R-S3-2	16	16	16	2	3	13.7	32	48	43	35	64	36	56	25	6	21	10	4	4.5	2	12	5	2.5	4.6	9.1	6.7	12.3	YS-BLR1616R-S3-2
YS-BLR2020R-S4-2	20	20	20	2	3.5	16.9	40	56	51	42.5	72	43.5	64	31	6	21	11	5	4.5	2.5	15	5	2.5	7.1	15.3	7.24	15.1	YS-BLR2020R-S4-2
YS-BLR2525R-S4-2	25	25	25	2	3.969	20.5	47	66	66	50	86	52	75	38	7	25	13	6	5.5	3	18	6	3	9.4	21.8	10.3	22.6	YS-BLR2525R-S4-2
YS-BLR3232R-S5-2	32	32	32	2	5	26.7	58	78	80	60	103	63	89	48	8	25	14	6	6.6	3	18	5	3	14.1	34.7	10.8	26.6	YS-BLR3232R-S5-2
YS-BLR4040R-S6-2	40	40	39	2	5.953	34	73	100	95	78	130	79.5	113	61	10	33	16.5	8	9	3	20	7	4	19.2	49.1	19.9	49.3	YS-BLR4040R-S6-2