



Ball Screw

Condition

• Accuracy

• Screw Shaft Design

• Drive Torque

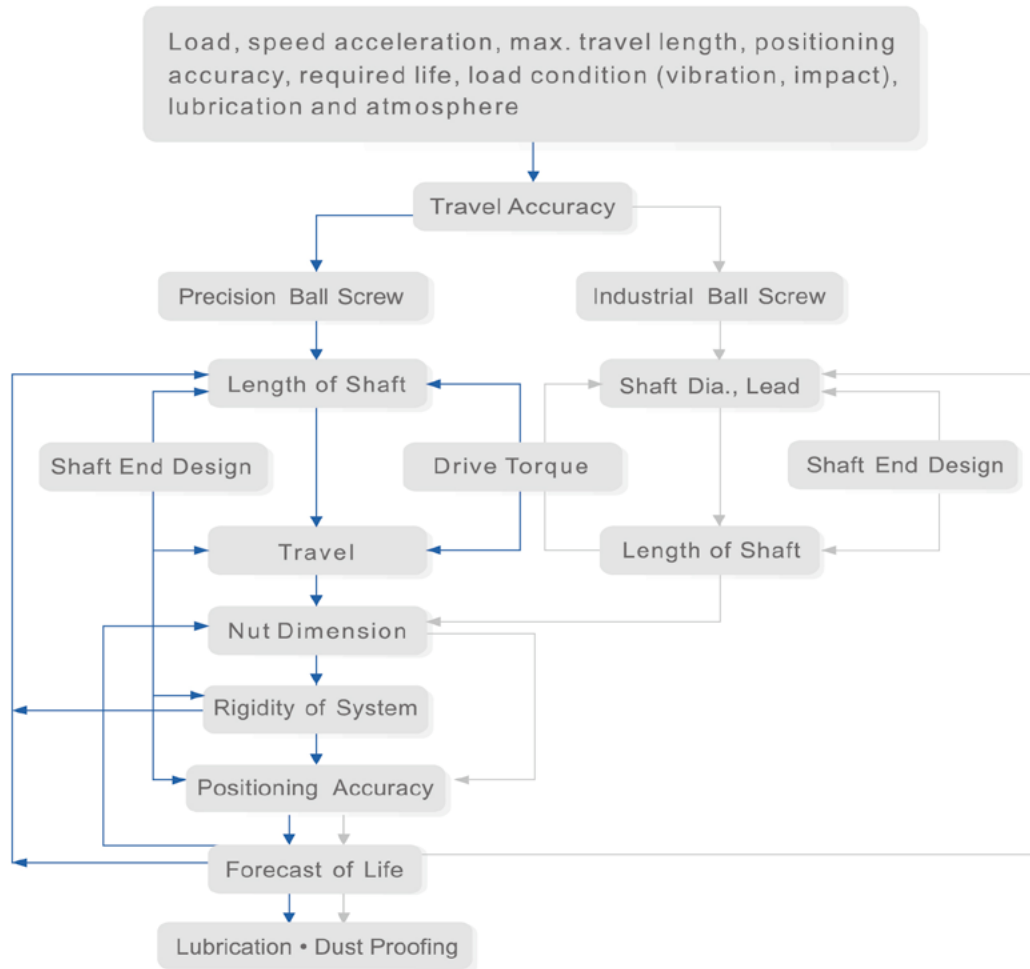
• Nut Design

• Rigidity

• Positioning Accuracy

• Life Design

• Lubrication and Safety Design



GTEN Ball Screw Size List

Dia. \ Lead	1	2	2.5	3	4	5	5.08	6	10	12.7	16	20	25	32	40	50
6	●															
8	●	●	●													
10		●		●	●											
12		●			●	●			●	●						
14		●			●	●										
15												●				
16		●			●	●	●		●		●			○		
20					○	●			●			●			○	
25					●	●			●			●	●			○
32					○	●		●	●			●		●		
40						○		●	●			●			●	
50						○			●			●				●
63									●			●			●	
80									●			●				

● means rolled ball screw ○ means ground ball screw

Specification Number of Ball Screw

2R25-25A2-2-FSED-2000-2500-0.05-RM-P2

Axial clearance and preload code:

P0 With backlash P1 Non-backlash
P2 Light preload P3 Heavy preload

Circulation material : M : Metal P : Plastic

R: Rolled ball screw G: Ground ball screw

Accuracy grade code: (C7,C5,C3)

Overall length of shaft (mm)

Effective thread length (mm)

Flange cut type : N : Non-cutting

S : Single-cutting

D : Double-cutting

Circuits type : U : Internal type DIN69051

I、A : Internal circulation (flat head)

B : Internal circulation (through-hole)

E : High lead type

S、C : Low voice type

Y : Cylindrical type (with key way)

K : Miniature type

H : Duct external circulation

Nut type : S : Single nut

D : Double nut

Flange : F : With flange R: Without flange

X : Special flange

Number of pairs of nut on one screw shaft

Quantity of circulation tubes

Effective ball circuits : T : 1 circuit (0.8 circuit)

A : 1.8 circuits (1.5 circuits)

B : 2.5 circuits (2.8 circuits)

C : 3.5 circuits (3.8 circuits)

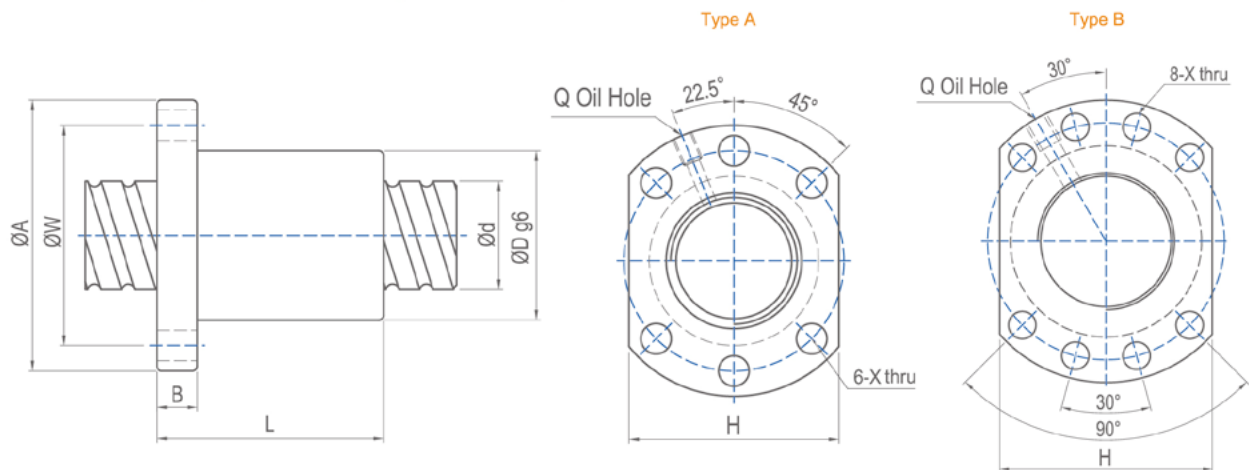
Lead(mm)

Screw nominal O.D.

Thread direction : R: right L: left

Number of thread

7.1 Type:FSU (DIN69051)

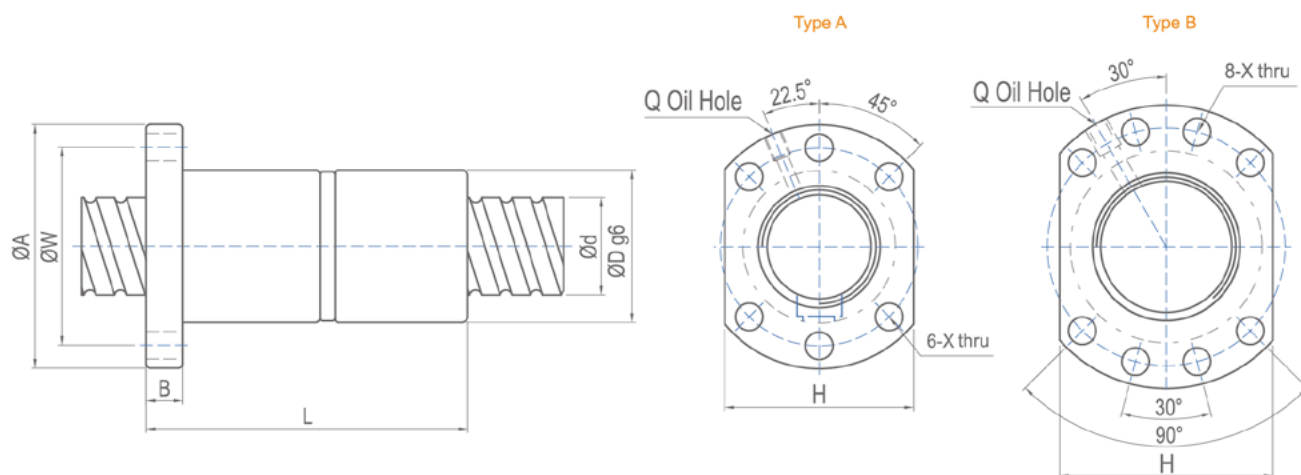


★Note : with sign * can produce left helix

Unit : mm

Model No.	Dimensions														
	d	l	Da	D	A	B	L	W	X	Type	H	Q	n	Ca(kgf)	Coa(kgf)
1604-4	16	4	2.381	28	48	10	45	38	5.5	A	40	M6	T4	944	1254
★ 1605-3	16	5	3.175	28	48	10	42	38	5.5	A	40	M6	T3	1049	1144
★ 1605-4	16	5	3.175	28	48	10	50	38	5.5	A	40	M6	T4	1344	1525
1610-3	16	10	3.175	28	48	12	65	38	5.5	A	40	M6	T3	1084	1232
2005-3	20	5	3.175	36	58	10	47	47	6.6	A	44	M6	T3	1181	1496
★ 2005-4	20	5	3.175	36	58	10	53	47	6.6	A	44	M6	T4	1512	1995
2006-3	20	6	3.969	36	58	10	52	47	6.6	A	44	M6	T3	1569	1788
2010-3	20	10	3.969	36	58	10	68	47	6.6	A	44	M6	T3	1621	1925
2504-4	25	4	2.381	40	62	11	46	51	6.6	A	48	M6	T4	1178	2046
2505-3	25	5	3.175	40	62	10	47	51	6.6	A	48	M6	T3	1330	1936
★ 2505-4	25	5	3.175	40	62	10	53	51	6.6	A	48	M6	T4	1704	2581
2510-3	25	10	4.762	40	62	12	75	51	6.6	A	48	M6	T3	2250	2772
2510-4	25	10	4.762	40	62	12	85	51	6.6	A	48	M6	T4	2881	3695
★ 3205-4	32	5	3.175	50	80	12	53	65	9	A	62	M6	T4	1924	3403
3206-4	32	6	3.969	50	80	12	58	65	9	A	62	M6	T4	2598	4217
3210-3	32	10	6.35	50	80	16	77.5	65	9	A	62	M6	T3	3775	5877
★ 3210-4	32	10	6.35	50	80	16	90	65	9	A	62	M6	T4	4834	7835
★ 4005-4	40	5	3.175	63	93	16	56	78	9	B	70	M8	T4	2142	4342
4006-4	40	6	3.969	63	93	14	60	78	9	B	70	M6	T4	2877	5318
4010-4	40	10	6.35	63	93	18	93	78	9	B	70	M8	T4	5399	10074
5006-4	50	6	3.969	75	110	15	62	93	11	B	85	M8	T4	3203	6784
5010-4	50	10	6.35	75	110	18	93	93	11	B	85	M8	T4	5933	12313
6310-4	63	10	6.35	90	125	18	98	108	11	B	95	M8	T4	6700	16230
6320-3	63	20	9.525	95	135	20	138	115	13.5	B	100	M8	T3	8957	17945
8010-4	80	10	6.35	105	145	20	98	125	13.5	B	110	M8	T4	7547	21268
8020-3	80	20	9.525	125	165	25	143	145	13.5	B	130	M8	T3	10168	23611

7.2 Type:FDU (DIN69051)

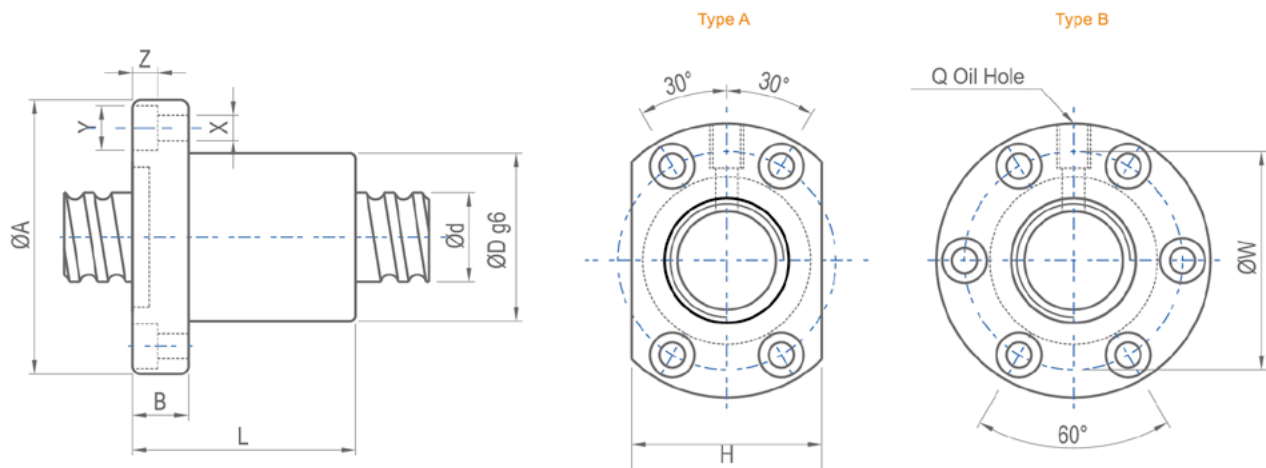


★ Note : with sign * can produce left helix

Unit : mm

Model No.	Dimensions														
	d	l	Da	D	A	B	L	W	X	Type	H	Q	n	Ca(kgf)	Coa(kgf)
★ 1605-3	16	5	3.175	28	48	10	80	38	5.5	A	40	M6	T3	1049	1144
★ 2005-4	20	5	3.175	36	58	12	92	47	6.6	A	44	M6	T4	1512	1995
★ 2505-4	25	5	3.175	40	62	12	92	51	6.6	A	48	M6	T4	1704	2581
2510-4	25	10	4.762	40	62	12	153	51	6.6	A	48	M6	T4	2881	3695
★ 3205-4	32	5	3.175	50	80	12	92	65	9	A	62	M6	T4	1924	3403
3210-4	32	10	6.35	50	80	16	160	65	9	A	62	M6	T4	4834	7835
4005-4	40	5	3.175	63	93	15	96	78	9	B	70	M8	T4	2142	4342
4010-4	40	10	6.35	63	93	18	162	78	9	B	70	M8	T4	5399	10074
5010-4	50	10	6.35	75	110	16	162	93	11	B	85	M8	T4	5933	12313
6310-4	63	10	6.35	90	125	18	182	108	11	B	95	M8	T4	6700	16230
6320-3	63	20	9.525	95	135	20	253	115	13.5	B	100	M8	T3	8957	17945
8010-4	80	10	6.35	105	145	20	182	125	13.5	B	110	M8	T4	7547	21268
8020-3	80	20	9.525	125	165	25	253	145	13.5	B	130	M8	T3	10168	23611

7.3 Type:FSI

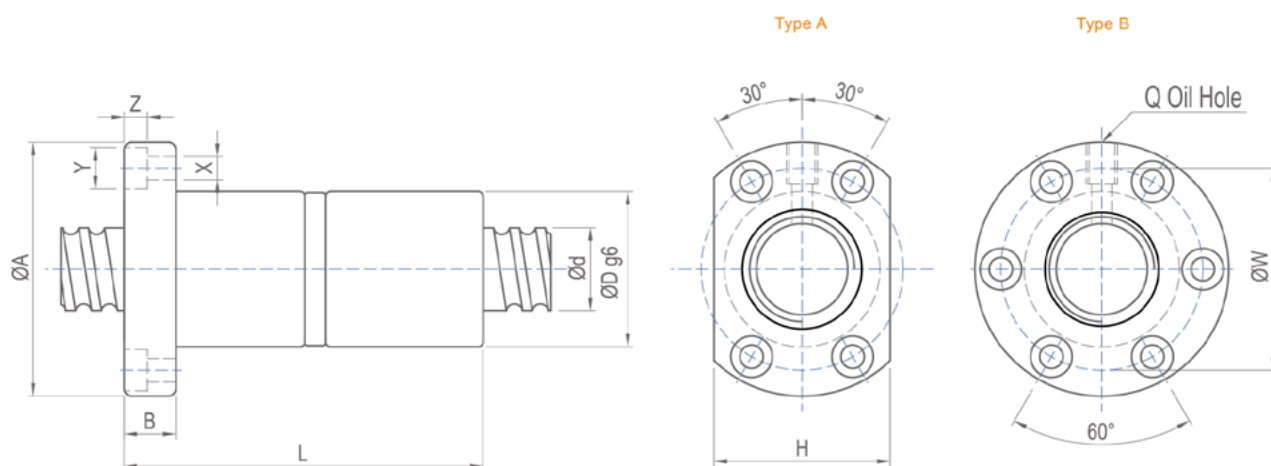


★ Note : with sign * can produce left helix

Unit : mm

Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	X	Y	Z	Type	H	Q	n	Ca(kgf)	Coa(kgf)
1404-4	14	4	2.381	26	46	10	47	36	4.5	8	4.5	A	34	M6	T4	875	1056
1405-3	14	5	3.175	26	46	10	45	36	4.5	8	4.5	A	34	M6	T3	1013	1056
1604-4	16	4	2.381	30	49	10	45	39	4.5	8	4.5	A	34	M6	T4	944	1254
★ 1605-3	16	5	3.175	30	49	10	42	39	4.5	8	4.5	A	34	M6	T3	1049	1144
★ 1605-4	16	5	3.175	30	49	10	50	39	4.5	8	4.5	A	34	M6	T4	1344	1525
1610-3	16	10	3.175	34	58	10	65	45	5.5	9.5	5.5	A	36	M6	T3	1084	1232
1610-4	16	10	3.175	34	58	10	54.6	45	5.5	9.5	5.5	A	36	M6	T4	1512	1995
★ 2005-4	20	5	3.175	34	57	12	53	45	5.5	9.5	5.5	A	40	M6	T4	1512	1995
2504-4	25	4	2.381	40	63	11	46	51	5.5	9.5	5.5	A	46	M6	T4	1178	2046
★ 2505-4	25	5	3.175	40	63	12	53	51	5.5	9.5	5.5	A	46	M8	T4	1704	2581
2510-4	25	10	4.762	46	72	12	85	58	6.5	11	6.5	A	52	M6	T4	2881	3695
★ 3205-4	32	5	3.175	46	72	12	53	58	6.5	11	6.5	A	52	M8	T4	1924	3403
3206-4	32	6	3.969	62	89	12	63	75	6.5	11	6.5	B	-	M8	T4	2598	4217
3210-4	32	10	6.35	54	88	16	90	70	9	14	8.5	A	62	M8	T4	4834	7835
★ 4005-4	40	5	3.175	56	90	16	56	72	9	14	8.5	A	64	M8	T4	2142	4342
4010-4	40	10	6.35	62	104	18	93	82	11	17.5	11	A	70	M8	T4	5399	10074
5010-4	50	10	6.35	72	114	18	93	92	11	17.5	11	A	82	M8	T4	5933	12313
6310-4	63	10	6.35	85	131	22	100	107	14	20	13	B	-	M8	T4	6700	16230
6320-3	63	20	9.525	95	153	23	130	123	18	26	17.5	B	-	M8	T3	8957	17945
8010-4	80	10	6.35	105	150	22	92	127	14	20	13	B	-	M8	T4	7547	21268
8020-3	80	20	9.525	115	173	23	130	143	18	26	17.5	B	-	M8	T3	10168	23611

7.4 Type:FDI

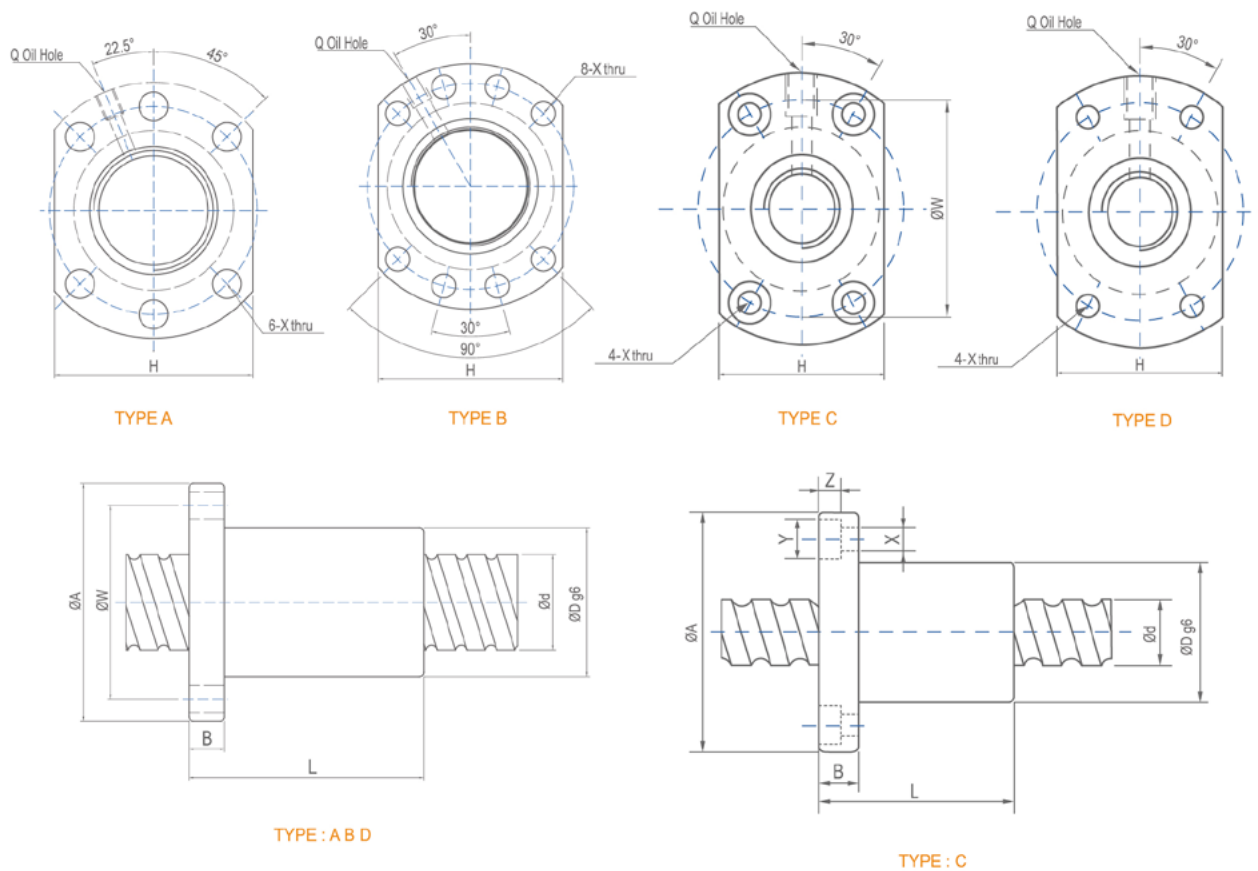


★ Note : with sign * can produce left helix

Unit : mm

Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	X	Y	Z	Type	H	Q	n	Ca(kgf)	Coa(kgf)
★ 1605-3	16	5	3.175	30	49	10	80	39	4.5	8	4.5	A	34	M6	T3	1049	1144
★ 2005-4	20	5	3.175	34	57	12	92	45	5.5	9.5	5.5	A	40	M6	T4	1512	1995
★ 2505-4	25	5	3.175	40	63	12	92	51	5.5	9.5	5.5	A	46	M8	T4	1704	2581
2510-4	25	10	4.762	46	72	12	156	58	6.5	11	6.5	A	52	M6	T4	2881	3695
★ 3205-4	32	5	3.175	46	72	12	92	58	6.5	11	6.5	A	52	M8	T4	1924	3403
3210-4	32	10	6.35	54	88	16	160	70	9	14	8.5	A	62	M8	T4	4834	7835
★ 4005-4	40	5	3.175	56	90	16	96	72	9	14	8.5	A	64	M8	T4	2142	4342
4010-4	40	10	6.35	62	104	18	162	82	11	17.5	11	A	70	M8	T4	5399	10074
5010-4	50	10	6.35	72	114	18	162	92	11	17.5	11	A	82	M8	T4	5933	12313
6310-4	63	10	6.35	85	131	22	182	107	14	20	13	B	-	M8	T4	6700	16230
6320-3	63	20	9.525	95	153	23	253	123	18	26	17.5	B	-	M8	T3	8957	17945
8010-4	80	10	6.35	105	150	22	182	127	14	20	13	B	-	M8	T4	7547	21268
8020-3	80	20	9.525	115	173	23	253	143	18	26	17.5	B	-	M8	T3	10168	23611

7.5 Type:FSC

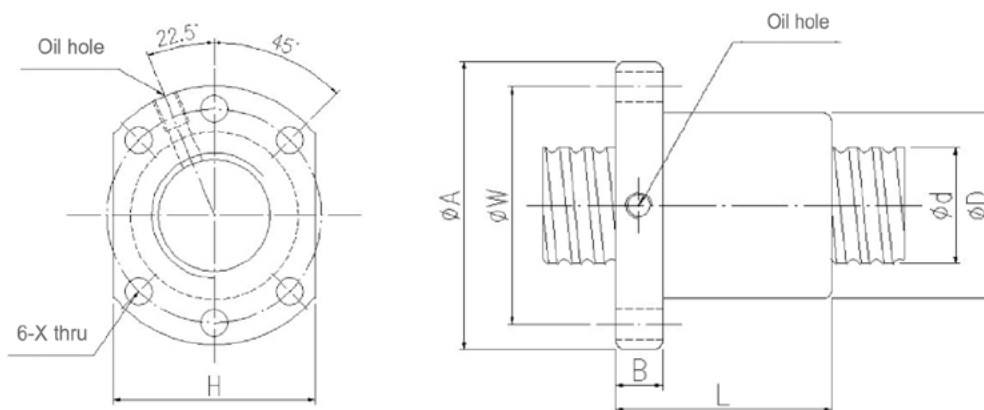


▲ steel ball 3.5mm, please order 3.5mm shaft to meet

Unit : mm

Model No.	Dimensions																
	d	l	Da	D	A	B	L	W	X	Y	Z	Type	H	Q	n	Ca(kgf)	Coa(kgf)
1210-2	12	10	2	30	50	10	40	40	4.5	8	4.5	C	32	M6	T2	390	466
1520-2	15	20	3.175	34	55	12	57	45	6	-	-	D	34	M6	T2	833	997
1610-3	16	10	3.175	28	48	12	43	38	5.5	-	-	A	40	M6	T3	1180	1496
1616-3	16	16	3.175	28	48	12	61	38	5.5	-	-	A	40	M6	T3	1180	1496
2010-3	20	10	3.969	46	74	13	54	59	6.6	11	5.5	C	46	M6	T3	1765	2338
2020-4	20	20	3.175	36	58	10	55	47	6.6	-	-	A	44	M6	T4	1659	2464
▲ 2510-4	25	10	3.5	40	62	12	64	51	6.6	-	-	A	48	M6	T4	2067	3280
2525-4	25	25	3.969	47	74	12	67	60	6.6	-	-	A	56	M6	T4	2481	3851
3220-3	32	20	3.969	50	80	13	78	65	9	-	-	A	62	M6	T3	2141	3576
3232-4	32	32	4.762	56	86	16	82	71	9	-	-	A	65	M6	T4	3585	6071
4020-3	40	20	5.556	63	93	15	83	78	9	-	-	B	70	M8	T3	3782	6468
4040-4	40	40	6.35	65	95	18	100	80	9	-	-	B	72	M8	T4	5778	11753
5020-5	50	20	6.35	75	110	18	121	93	11	-	-	B	85	M8	T5	7737	18189

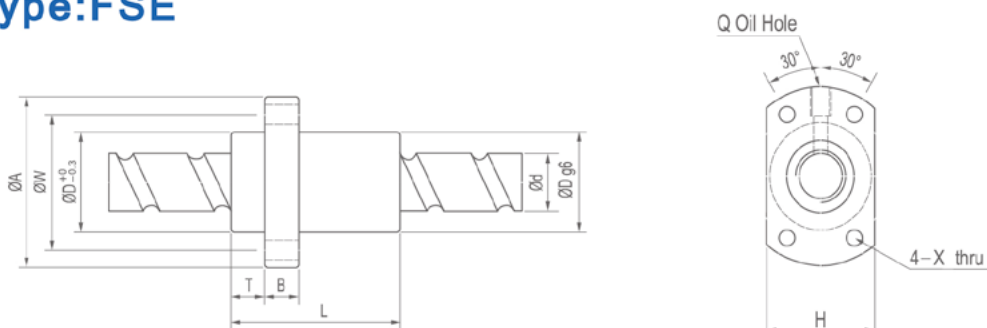
7.6 Type:FSS



Unit : mm

Model No.	Dimensions													
	d	l	Da	D	A	B	L	W	X	H	Q	n	Ca(kgf)	Coa(kgf)
1505-3.8	15	5	2.778	28	48	10	36	38	5.5	40	M6	C1	1167	1536
1510-2.8	15	10	2.778	28	48	10	46	38	5.5	40	M6	B1	898	1132
1516-1.8	15	16	2.778	28	48	10	45	38	5.5	40	M6	A1	629	768
1520-1.8	15	20	2.778	28	48	10	54	38	5.5	40	M6	A1	629	768

7.7 Type:FSE

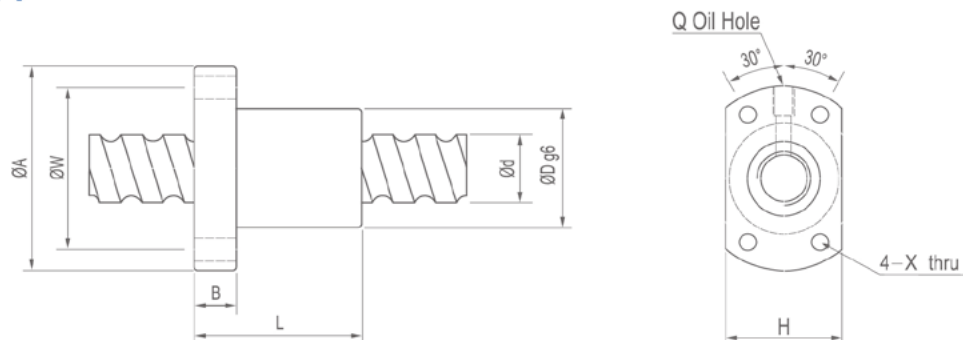


★Note : with sign * can produce left helix

Unit : mm

Model No.	Dimensions														
	d	l	Da	D	A	B	T	L	W	X	H	Q	n	Ca(kgf)	Coa(kgf)
1616-3.6	16	16	3.175	32	53	10	10.5	48	42	4.5	38	M6	A2	1512	1995
★2020-3.6	20	20	3.175	39	62	10	10.8	55	50	5.5	46	M6	A2	1659	2464
2520-3.6	25	20	3.5	47	74	12	11	65	60	6.6	49	M6	A2	2106	3422
2525-3.6	25	25	3.969	47	74	12	11.2	67	60	6.6	56	M6	A2	2481	3851
★3232-3.6	32	32	4.762	58	92	15	14	82	74	9	68	M6	A2	3585	6071
★4040-3.6	40	40	6.35	73	114	17	17	100	93	11	84	M6	A2	5778	11753
5050-3.6	50	50	7.938	90	135	20	21.5	125	112	14	92	M6	A2	8819	19241
1632-1.6	16	32	2.778	32	53	10	10.1	42.5	42	4.5	34	M6	T2	734	988
2040-1.6	20	40	3.175	39	62	10	13	48	50	5.5	41	M6	T2	970	1408
2550-1.6	25	50	3.969	47	74	12	15	58	60	6.6	49	M6	T2	1450	2200

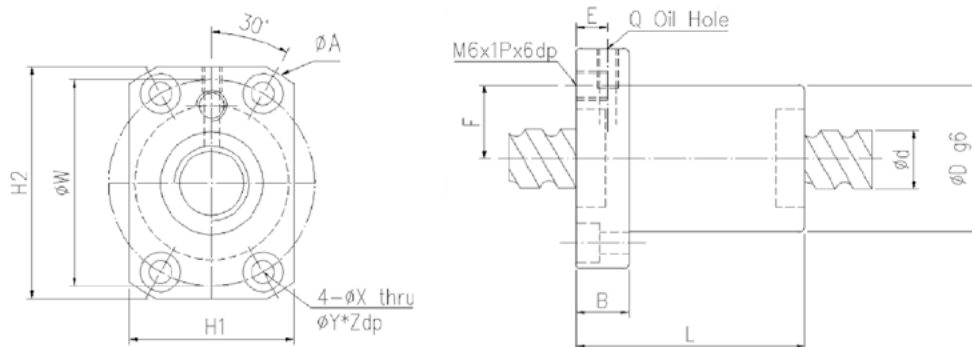
7.8 Type:FSB



Unit : mm

Model No.	Dimensions													
	d	l	Da	D	A	B	L	W	X	H	Q	n	Ca(kgf)	Coa(kgf)
1404-3	14	4	2.381	31	50	10	40	40	4.5	37	M6	T3	684	792
1405-3	14	5	3.175	32	50	10	45	40	4.5	38	M6	T3	1013	1056
1605-3	16	5	3.175	34	54	10	42	44	4.5	40	M6	T3	1049	1144
2005-3	20	5	3.175	40	60	10	47	50	4.5	46	M6	T3	1181	1496
2505-3	25	5	3.175	43	67	10	47	55	5.5	50	M6	T3	1330	1936
2510-3	25	10	4.762	60	96	15	75	78	9	72	M6	T3	2250	2772
2510-4	25	10	4.762	60	96	15	97	78	9	72	M6	T4	2881	3695
3210-3	32	10	6.35	67	103	15	78	85	9	78	M6	T3	3775	5877
3210-4	32	10	6.35	67	103	15	97	85	9	78	M6	T4	4834	7835
4010-4	40	10	6.35	76	116	17	100	96	11	88	M6	T4	5399	10074

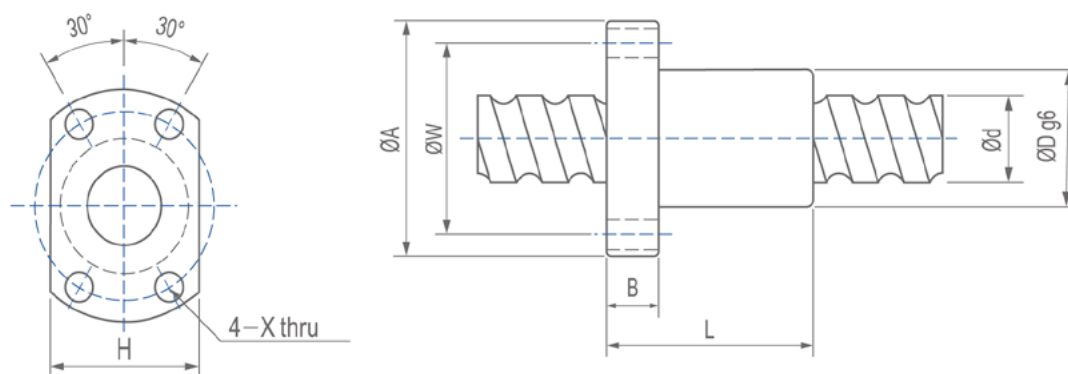
7.9 Type:FPA



Unit : mm

Model No.	Dimensions																		
	d	l	Da	D	A	B	E	F	L	W	X	Y	Z	H1	H2	Q	n	Ca(kgf)	Coa(kgf)
1205-4	12	5	2	30	50	10	6	15	43	40	4.5	8	4.4	32	45	M4	T4	658	792
1210-3	11.4	10	2	30	50	10	7	15	50	40	4.5	8	4.4	32	45	M4	T3	522	698
1520-2	15	20	3.175	34	57	12	6	17	57	45	6	9.5	5.4	34	50	M6	T2	833	997
1605-3	16	5	3.175	34	57	10	6	17	42	45	5.5	9.5	5.4	34	50	M6	T3	1049	1144
1610-3	16	10	3.175	34	57	11	6	17	44	45	5.5	9.5	5.4	34	50	M6	T3	1181	1496
2005-3	20	5	3.175	44	67	11	6	22	48	55	5.5	9.5	5.4	44	60	M6	T3	1181	1496
2010-3	20	10	3.969	46	74	13	6.5	24	70	59	6.6	11	6.5	46	66	M6	T3	1621	1925
2020-4	20	20	3.175	46	74	13	6.5	24	55	59	6.6	11	6.5	46	66	M6	T4	1659	2464

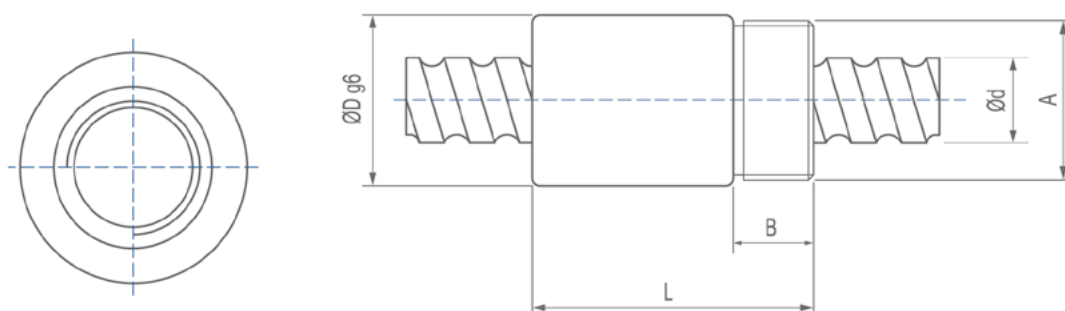
7.10 Type:FSK



Unit : mm

Model No.	Dimensions												
	d	l	Da	D	A	B	L	W	X	H	n	Ca(kgf)	Coa(kgf)
0601-3	6	1	0.8	12	24	3.5	18	18	3.4	16	T3	111	123
0801-3	8	1	0.8	14	27	4	20	21	3.4	18	T3	126	162
0802-3	8	2	1.2	16	29	4	26	23	3.4	20	T3	215	239
0825-3	8	2.5	1.2	16	29	4	26	23	3.4	20	T3	215	239
1002-3	10	2	1.2	18	35	5	28	27	4.5	22	T3	240	302
1004-3	10	4	2	26	46	10	35	36	4.5	28	T3	472	489
1202-3	12	2	1.2	20	37	5	28	29	4.5	24	T3	265	377
1204-3	12	4	2.381	28	48	6	35	39	5.5	30	T3	645	693
1205-3	12	5	2	28	48	6	35	39	5.5	30	T3	514	594
1402-3	14	2	1.2	21	40	6	28	31	5.5	26	T3	283	440
1602-3	16	2	1.2	25	43	10	32	35	5.5	29	T3	300	503

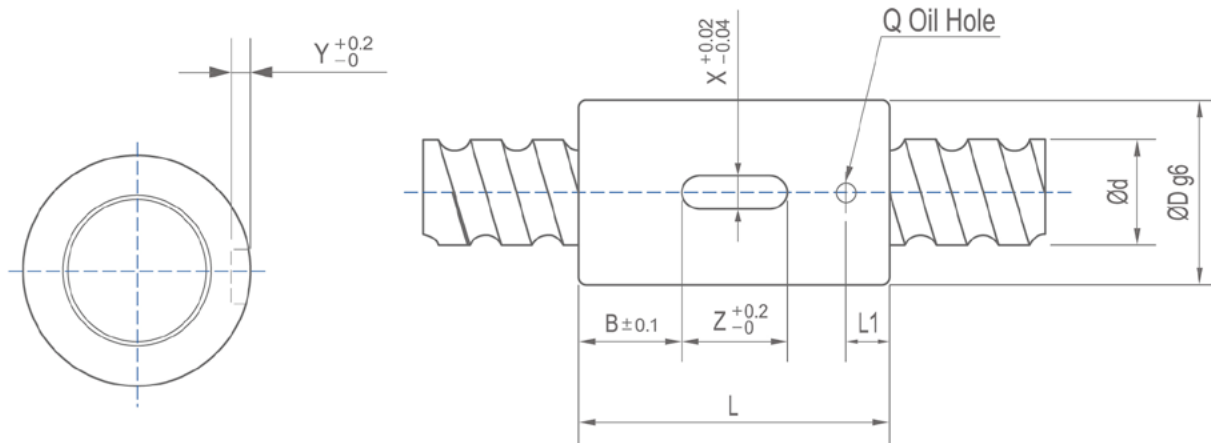
7.11 Type:RSK (without wipers)



Unit : mm

Model No.	Dimensions									
	d	l	Da	D	A	B	L	n	Ca(kgf)	Coa(kgf)
0825-3	8	2.5	1.2	17.5	M15X1P	8	26	T3	215	239
1003-3	10	3	1.8	21	M18X1P	9	29	T3	403	424
1204-3	12	4	2.381	25.5	M20X1P	10	34	T3	645	693
1205-3	12	5	2	25.5	M20X1P	10	39	T3	514	594
1605-3	16	5	3.175	32.5	M26X1.5P	12	42	T3	1049	1144

7.12 Type:RSY



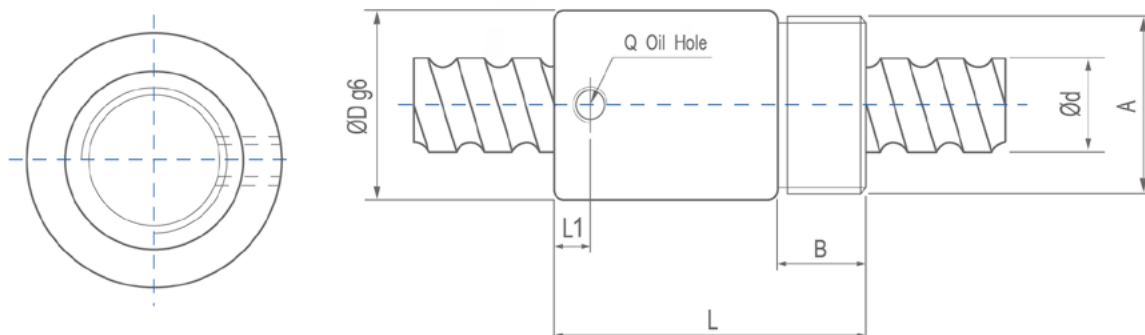
★ Note : with sign * can produce left helix

▲ steel ball 3.5mm, please order 3.5mm shaft to meet

Unit : mm

Model No.	Dimensions													
	d	l	Da	D	L	B	X	Y	Z	Q	L1	n	Ca(kgf)	Coa(kgf)
1202-3	12	2	1.2	24	30	9	3	1.5	12	Ø3	4	T3	265	377
1204-3	12	4	2.381	24	35	11.5	3	1.5	12	Ø3	5	T3	645	693
1205-3	12	5	2	24	40	14	3	1.5	12	Ø3	5	T3	514	594
1210-2	12	10	2	24	40	14	3	1.5	12	Ø3	5	T2	390	466
1602-3	16	2	1.2	28	40	10	5	2	20	Ø3	5	T3	300	503
1604-4	16	4	2.381	28	45	12.5	5	2	20	Ø3	7	T4	944	1254
1605-3	16	5	3.175	28	45	12.5	5	2	20	Ø3	7	T3	1049	1144
★ 1605-4	16	5	3.175	28	50	15	5	2	20	Ø3	7	T4	1344	1525
1610-3	16	10	3.175	28	45	12.5	5	2	20	Ø3	7	T3	1181	1496
1616-2	16	16	3.175	28	45	12.5	5	2	20	Ø3	7	T2	833	997
2005-3	20	5	3.175	36	47	13.5	5	2	20	Ø3	7	T3	1181	1496
★ 2005-4	20	5	3.175	36	53	16.5	5	2	20	Ø3	7	T4	1512	1995
2006-3	20	6	3.969	36	53	16.5	5	2	20	Ø3	7	T3	1568	1787
2010-3	20	10	3.969	36	54	17	5	2	20	Ø3	7	T3	1765	2338
2020-4	20	20	3.175	36	55	17.5	5	2	20	Ø3	7	T4	1659	2464
★ 2505-4	25	5	3.175	40	53	16.5	5	2	20	Ø3	7	T4	1704	2581
▲ 2510-3	25	10	3.5	40	54	17	5	2	20	Ø3	7	T3	1614	2460
★ 3205-4	32	5	3.175	50	53	11.5	6	2.5	30	Ø3	7	T4	1924	3403
3210-3	32	10	6.35	50	70	20	6	2.5	30	Ø3	7	T3	3775	5877
3220-3	32	20	3.969	50	78	24	6	2.5	30	Ø3	7	T3	2141	3576
★ 4005-4	40	5	3.175	63	56	13	6	2.5	30	Ø3	7	T4	2142	4342
4010-3	40	10	6.35	63	80	25	6	2.5	30	Ø3	7	T3	4216	7556
4020-3	40	20	5.556	63	83	26.5	6	2.5	30	Ø3	7	T3	3782	6468
5010-3	50	10	6.35	75	82	23	6	2.5	36	Ø3	7	T3	4633	9235
6310-4	63	10	6.35	85	90	29	6	3.5	32	Ø5	14	T4	6700	16230

7.13 Type:RSU

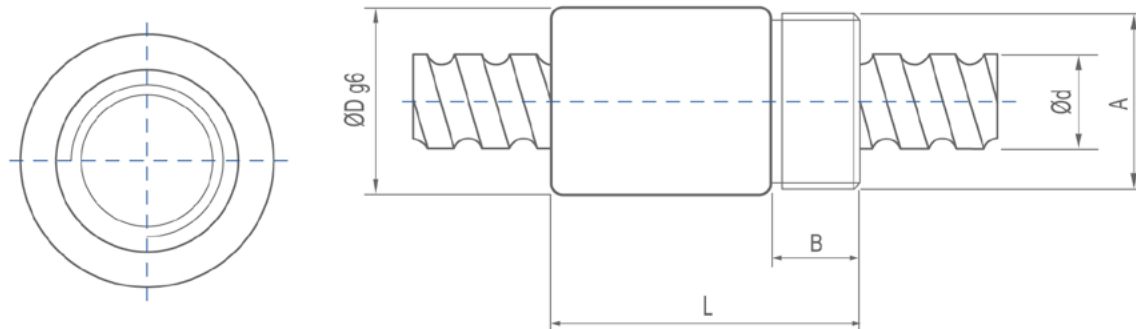


▲ without wipers

Unit : mm

Model No.	Dimensions											
	d	l	Da	D	A	B	L	Q	L1	n	Ca(kgf)	Coa(kgf)
▲ 1604-3	16	4	2.381	29	M22X1.5P	8	32	-	-	T3	737	940
1605-4	16	5	3.175	32	M30X1.5P	16	56	M6	6.5	T4	1344	1525
2005-4	20	5	3.175	38	M35X1.5P	16.5	59.5	M6	7	T4	1512	1995
2505-4	25	5	3.175	42	M40X1.5P	17	60	M6	7	T4	1704	2581
2510-4	25	10	4.762	42	M40X1.5P	17	90	M6	10	T4	2881	3695
3205-4	32	5	3.175	52	M48X1.5P	19	60	M6	7	T4	1924	3403
3210-4	32	10	6.35	52	M48X1.5P	19	93	M6	12	T4	4834	7835
4005-4	40	5	3.175	58	M56X1.5P	19	59	M8	6	T4	2142	4342
4010-4	40	10	6.35	65	M60X2P	27	102	M8	12	T4	5399	10074
5010-4	50	10	6.35	78	M72X2P	29	104	M8	12	T4	5933	12313

7.14 Type:RSH



Unit : mm

Model No.	Dimensions									
	d	l	Da	D	A	B	L	n	Ca(kgf)	Coa(kgf)
12H2-1.5	12	12.7	2.381	29.5	M25x1.5P	12	50	A1	397	445
16H5-3.5	16	5.08	3.175	25.4	15/16"x16un	12.7	43.43	C1	1348	1745