>> Ball lead screw series

SFT R 025 05 B2 D G C5 P0 1000

- 1000 — Screw axis length(mm)
- P0 — Axis interval preload pressure grade P0、P1、P2、P3、P4
- C5 — Lead accuracy grade C0、C1、C2、C3、C5、C7、C10
- G — Process code G：Grind F：turnover build
- D — Type of flange N：no trimming S：single trimming D：double trimming
- B2 — Ball volume (volumes × rows) volumes：T:1 A:1.5(or 1.7) B:2.5 C:3.5 Eg：(B2=2.5×2)
- 05 — Lead(mm)
- 025 — Screw axis outer diameter(mm)
- R — Thread direction R：right L：left

Nut Type
S：S：single nut D：double nuts
F：F：with flange C：without flange
T：T：T type nut I I：I type nut D：D type nut E：E type nut K：K type nut U：D IN nut
(SFI、DFI、SFT、DFT、SFE、SFK)

>> Ball lead screw series

Chart 1 Stroke deviation and variation (Excerpt from GB/T 17587.3-1998）

Item No.	Testing Memory	Symbol	Effective Stroke	Precision Grade						
				1	2	3	4	5	7	10
1	Stroke variation in 2 radian	$V_{2\pi p}$	–	4	5	6	7	8	-	-
2	Stroke variation（±） in any 300 stroke	V_{300p}	–	6	8	12	16	23	52	210
3	Average stroke deviation in effective stroke Lμ (only apply for P type Lead 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	-	-
	Average stroke deviation in effective stroke Lμ (only apply for T type Lead screw)	e_p	$e_{p=}\frac{2Lu}{300}V\ 300p$	Remarks:（1） Stroke compensation C=0 2V300p see item NO. 2 in this chart						
4	Average stroke deviation in effective stroke Lμ (only apply for P type Lead screw)	$V_{\mu p}$	≤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	-	-
			Remarks: generally do not examine the stroke deviation in effective stroke for T type Lead screw pair.							

Calculation formula for effective stroke Lμ

Lμ-effective stroke， mm L1- Lead screw thread length，mm Le—remained stroke, mm (see chart 2)

nominal leads	4	5	6	8	10	12	16	20
remained stroke (Le)	16	20	24	32	40	45	50	60

>>> Axis interval preload pressure grade

accuracy grade	P0	P1	P2	P3	P4
interval	have	no	no	no	no
preload pressure	no	no	low	medium	high

>> Ball lead screw series

>>> Reference table of accuracy, interval, preload pressure grade and nut

Accuracy	Preload pressure & interval	Nut type	Screw type
C10	P0(With Axial Play)	Single nut	turnover build screw
C7	P1 or P0 ZNT standard: P1	customized	turnover build or grind (ZNTstandard: grind)
C5	Customized or ZNT standard: P2	customized	Grind with Measurement Table
C3	Customized or ZNT standard: P2	customized	Grind with Measurement Table

>>> Reference value of common preload pressure

Unit: kg

specification	Single nut spring force	Double nuts spring force
1605	0.1~0.3	0.3~0.6
2005	0.1~0.3	0.3~.6
2505	0.2~0.5	0.3~.6
3205	0.2~0.5	0.5~0.8
4005	0.2~0.5	0.5~0.8
2510	0.2~0.5	0.5~0.8
3210	0.3~0.6	0.5~0.8
4010	0.3~0.6	0.5~0.8
5010	0.3~0.6	0.8~1.2
6310	0.6~1.0	0.8~1.2
8010	0.6~1.0	0.8~1.2

>> Ball lead screw series

ZNT Ball leadscrew Using Notice

Ball leadscrew is precise spare parts, therefore, please pay great attention to the following points and use it carefully.

LUBRICATION CHECK

1.Please check lubrication sutuation before use. Ball leadscrew may lose its function in short time if lubrication is not enough.

2.Use directly when Ball leadscrew is covered with lubrication grease. If there is dust stick in the grease during use, clean it with white kerosene and coat with the same grease as previous one and then use. Don’t mix two different lubrications together. If special grease is need, please contact with ZNT.

3.Check lubrication 2~3 months after put into use. Wipe out old lubrication and coat with new one when it is dirty. Check grease and lubricants every one year, adjustable wth actual environment situation.

NO DISASSEMBLE

NO SHOCK

1.Please do not disassemble leadscrew, otherwise dust will get inside and cause dispreciseness or break down.

2.Do not reassemble leadscrew by yourself because reassemble will cause disfunction. We provide paid repair and reassemble service.

3.Ball leadscrew axis or nut may fall of because of its self weight. Please be careful from getting hurt. It may be broken or damaged during falling and cause disfunction of the product. We provide paid examination service when broken products are returned to our company.

4.When circle spare parts, outer diameter of axis, or rail is damaged, it will cause poor circulation, and lead to disfunction of the product.

1.Please use ball leadscrew in clean environment. Use dust proof case to avoid dust and dirt getting inside of ball leadscrew, otherwise it will decrease the function of product and cause blockage. Furthermore, damage of the circle spare parts will lead to serious accident such as worktable fall off.

2.Refer to instruction manual information about allowed number of rotation and product specification table. Surpass allowed number of rotation will cause damage of circle spare parts and lead worktable fall off. When use the vertical axis, please use protective structure like safe nut, so as to prerent worktable from falling off. If information about protective structure is needed, please contact with our company.

3.Using ball leadscrew nut in excess of stroke may cause ball fall off, circle spare part damage or pressing mark on rail, which will effect perfumance of product. Keep using will speed up abrasion and circle spare part damage. Do not use in excess of stroke. If it happens, we provide paid examination service.

4.The maximum using temperature of product is under 80℃. Please do not over this temperature, otherwise it will cause circle spare part or sealing cover damage. When use product in 80℃., please contact with ZNT

DUST PROTECTION

MAXIMUM TEMPERATURE

KEEPING

Keep product in original package. Do not tear inner package off, otherwise dust may get inside and product become rusty which lead to decrese of the product function.

Refer to the following keeping position:

①Keeping horizontally with original package.

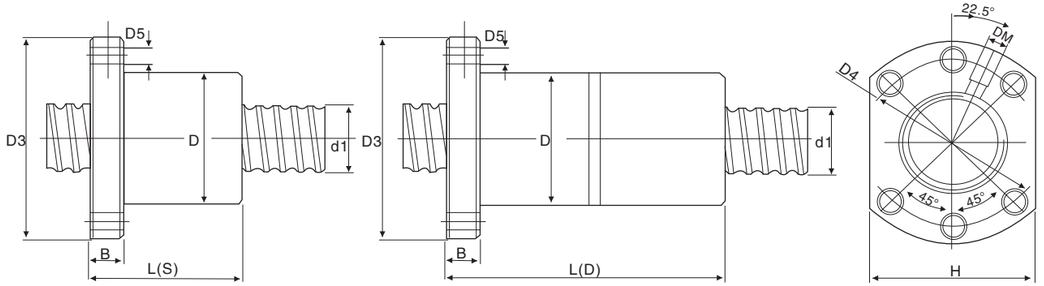
②Keeping products horizontally on crossties in clean environment.

③Hanging products in clean environment.

>> Ball lead screw series

SFU

DFU



Ph:lead Dw: ball diameter N: number of circles Ca: Dynamic loadings(kg) Coa: Static loading (kgf)

Unit: mm

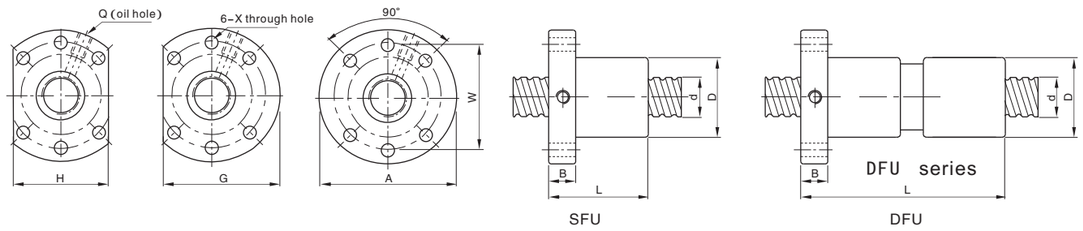
Type	Ball leadscrew size		Steel ball	number of circles	Inside thread ball nut installation size									Rated load	
	Diameter D1	Lead ph	ball diameter DW	n	D	D3	D4	H	B	single L(S)	double L(D)	DM	D5	Dynamic loadings Ca	Static loading Coa
SFU 1204	12	4	2.381	3	22	42	32	34	8	36	70	M6	4.5	400	670
SFU 1605-3	16	5	3.175	3	28	48	38	40	10	44	83	M6	5.5	630	1260
SFU 2005-3	20	5	3.175	3	36	58	47	44	10	44	83	M6	6.6	910	1710
SFU 2505-3	25	5	3.175	3	40	62	51	48	10	44	86	M6	6.6	1060	2210
SFU 3205-4	32	5	3.175	4	50	80	65	62	12	52	97	M6	9	1710	4210
SFU 4005-4	40	5	3.175	4	63	93	78	70	14	54	101	M6	9	1850	5710
SFU 5005-4	50	5	3.175	4	71	110	90	85	14	55	102	M6	9	2225	6150
SFU 1610-3	16	10	3.175	3	28	48	38	40	10	46	92	M6	5.5	729	1250
SFU 2010-3	20	10	3.175	3	36	58	47	44	12	46	118	M6	6.6	970	2110
SFU 2510-4	25	10	3.5	2×2	40	62	51	48	10	54	71 108	M6	6.6	1160	2736
SFU 3210-4	32	10	6.35	4	50	80	65	62	12	90	168	M6	9	3390	7170

Remarks: provide installation data for SFU nut, refer to size information on Page 8.

>> Ball lead screw series

SFU

DFU



I:lead Dw: ball diameter N: number of circles K: rigid(kg/μm)
Ca: Dynamic loading(kg) Coa: Static loading (kgf)

Unit:mm

Type	Baseline data for ball screw and nut															
	d	l	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
SFU1605-4	16	5	3.175	28	48	10	50	38	5.5	44	40	M6	4	780	1790	20
SFU2005-4	20	5	3.175	36	58	10	50	47	6.6	51	44	M6	4	1130	2380	25
SFU2505-4	25	5	3.175	40	62	10	50	51	6.6	55	48	M6	4	1280	3110	35
SFU4010-4	40	10	6.350	63	93	14	93	78	9	81.5	70	M8	4	3910	9520	50
SFU5010-4	50	10	6.350	75	110	16	95	93	11	97.5	85	M8	4	4450	12500	65
SFU6310-4	63	10	6.350	90	125	18	97	108	11	110	95	M8	4	5070	16600	80

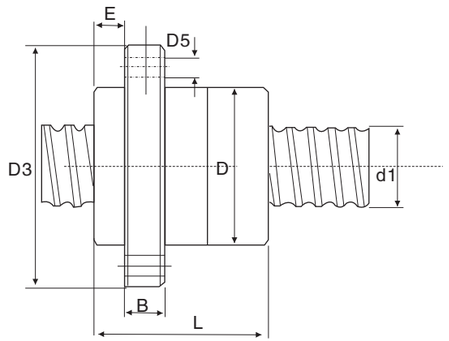
Unit:mm

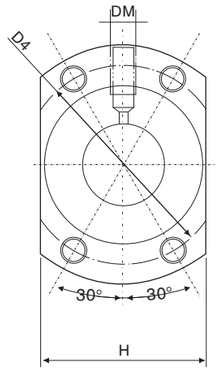
Type	Baseline data for ball screw and nut															
	d	l	Da	D	A	B	L	W	X	G	H	Q	n	Ca	Coa	K
DFU1605-4	16	5	3.175	28	48	10	95	38	5.5	44	40	M6	4	780	1790	36
DFU2005-4	20	5	3.175	36	58	10	95	47	6.6	51	44	M6	4	1130	2380	52
DFU2505-4	25	5	3.175	40	62	10	98	51	6.6	55	48	M6	4	1280	3110	64
DFU4010-4	40	10	6.350	63	93	14	172	78	9	81.5	70	M8	4	3910	9520	99
DFU5010-4	50	10	6.350	75	110	16	175	93	11	97.5	85	M8	4	4450	12500	122
DFU6310-4	63	10	6.350	90	125	18	178	108	11	110	95	M8	4	5070	16600	154

Remarks: provide installation data for SFU and DFU, refer to size information on Page 8.

>> Ball lead screw series

SFE





Ph:lead Dw: ball diameter N: number of circles Ca: Dynamic loading(kg) Coa: Static loading (kgf)

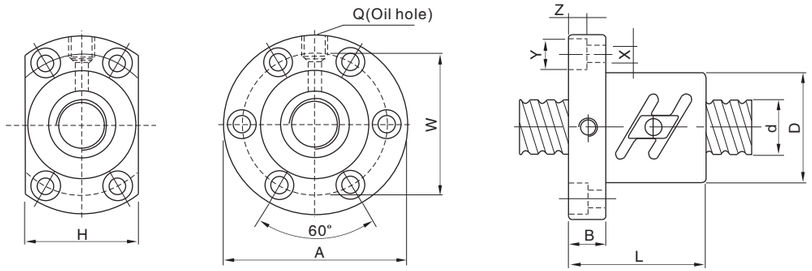
Unit:mm

Type	Ball leadscrew size		Steel ball	number of circles	Inside thread ball nut installation size									Rated load	
	Diamet d1	ball diameter ph	ball di DW	n	D	D_3	D_4	H	B	L	E	DM	D_5	Dynamic loading Ca	Static loading Coa
SFE 1610-2.5	16	10	3.175	2.5	32	53	42	38	10	40	7.4	M6	4.5	680	1310
SFE 1616-3.5	16	16	3	2X1.75	32	53	42	38	10	39	10.5	M6	4.5	650	1280
SFE 2020-3.5	20	20	3.5	4X0.88	39	58	50	41	10	47	11.7	M6	5.5	980	2140
☆SFE 2040-3	20	40	3.175	4X0.75	38	58	48	40	10	41	11.7	M6	5.5	910	1760
SFE 2525-3	25	25	3.969	4X0.75	47	74	60	49	12	57	13	M6	6.6	1470	3350
SFE 3232-3	32	32	4.762	4X0.75	58	92	74	60	12	71	16	M6	9	2140	5260
SFE 1610-3.5	16	10	3.175	3.5	32	53	42	38	10	50	7.4	M6	4.5	950	1830
SFE 1616-6	16	16	3	2X2.75	32	53	42	38	10	55	10.5	M6	4.5	1180	2550

Remarks: marked☆can make left thread.

>> Ball lead screw series

SFT



I:lead Dw: ball diameter N: number of circles K: rigid(kg/μm)
Ca: Dynamic loading(kg) Coa: Static loading (kgf)

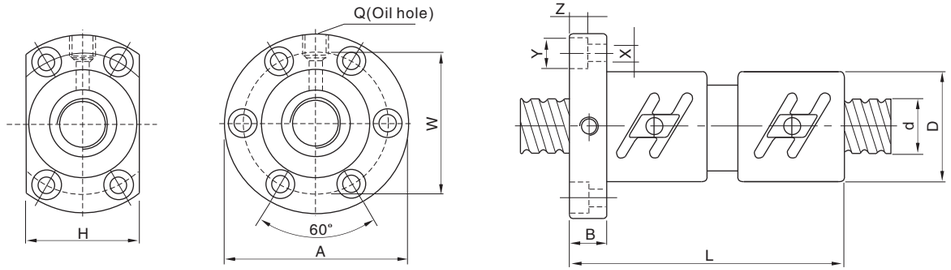
Unit:mm

type	Baseline data for ball screw and nut															
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
SFT2505-5	25	5	3.175	50	73	11	55	61	52	5.5	9.5	5.5	M8	2.5×2	1690	4460	46
SFT2510-2.5	25	10	6.350	68	102	15	70	84	82	9	14	8.5	M8	2.5×1	2440	4730	26
SFT3205-5	32	5	3.175	58	85	12	56	71	64	6.6	11	6.5	M8	2.5×2	1880	5720	55
SFT3206-5	32	6	3.969	62	89	12	65	75	68	6.6	11	6.5	M8	2.5×2	2520	7080	56
SFT3208-5	32	8	4.762	66	100	15	82	82	76	9	14	8.5	M8	2.5×2	3230	8360	58
SFT3210-5	32	10	6.350	74	108	15	96	90	82	9	14	8.5	M8	2.5×2	4820	11500	63
SFT3220-5	32	20	6.350	74	108	16	100	90	82	9	14	8.5	M8	2.5×1	2680	6020	30
SFT4005-2.5	40	5	3.175	67	101	15	59	83	76	9	14	8.5	M8	2.5×2	2026	7200	66
SFT4010-5	40	10	6.350	82	124	18	100	102	94	11	17.5	11	M8	2.5×2	5300	14000	72
SFT4020-2.5	40	20	6.350	82	124	18	100	102	94	11	17.5	11	M8	2.5×1	2970	7370	38
SFT5010-5	50	10	6.350	93	135	18	103	113	98	11	17.5	11	M8	2.5×2	5940	18000	89
SFT5020-2.5	50	20	9.525	105	152	28	121	128	110	14	20	13	M8	2.5×1	7400	18700	45
SFT6310-5	63	10	6.350	108	154	22	105	130	110	14	20	13	M8	2.5×2	6550	22700	107
SFT6320-2.5	63	20	9.525	122	180	28	127	150	130	18	26	18	M8	2.5×1	8110	23200	73
SFT8010-5	80	10	6.350	130	176	22	105	152	132	14	20	13	M8	2.5×2	7200	28900	129
SFT8020-5	80	20	9.525	143	204	28	180	172	148	18	26	18	M8	2.5×2	16700	60100	1758
SFT8020-7.5	80	20	9.525	143	204	28	240	172	148	18	26	18	M8	2.5×3	23500	89100	252

Remarks：provide installation data for SFT ,refer to size information on page 06.

>> Ball lead screw series

DFT

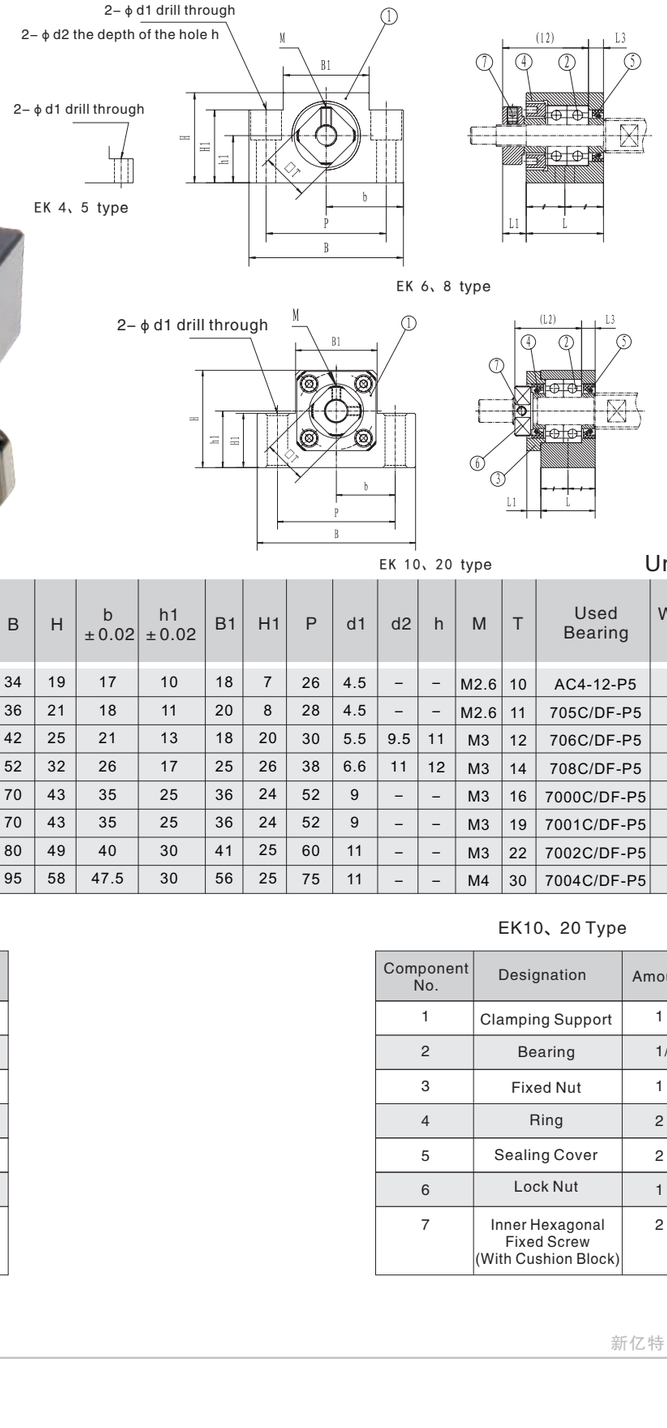


I:lead Dw: ball diameter N: number of circles K: rigid(kg/μm)
Ca: Dynamic loading(kg) Coa: Static loading (kgf)

Unit:mm

type	Baseline data for ball screw and nut																
	d	l	Da	D	A	B	L	W	H	X	Y	Z	Q	n	Ca	Coa	K
DFT2505-5	25	5	3.175	50	73	11	105	61	52	5.5	9.5	5.5	M8	2.5×2	1690	4460	89
DFT2510-2.5	25	10	6.350	68	102	15	130	84	82	9	14	8.5	M8	2.5×1	2440	4730	48
DFT3205-5	32	5	3.175	58	85	12	106	71	64	6.6	11	6.5	M8	2.5×2	1880	5720	108
DFT3206-5	32	6	3.969	62	89	12	123	75	68	6.6	11	6.5	M8	2.5×2	2520	7080	111
DFT3208-5	32	8	4.762	66	100	15	154	82	76	9	14	8.5	M8	2.5×2	3230	8360	113
DFT3210-5	32	10	6.350	74	108	16	187	90	82	9	14	8.5	M8	2.5×2	4820	11500	117
DFT3220-2.5	32	20	6.350	74	108	16	198	90	82	9	14	8.5	M8	2.5×1	2680	6020	60
DFT4005-5	40	5	3.175	67	101	15	109	83	76	9	14	8.5	M8	2.5×2	2026	7200	130
DFT4010-5	40	10	6.350	82	124	18	188	102	94	11	17.5	11	M8	2.5×2	5300	14000	141
DFT4020-2.5	40	20	6.350	82	124	18	200	102	94	11	17.5	11	M8	2.5×1	2970	7370	75
DFT5010-5	50	10	6.350	93	135	18	193	113	98	11	17.5	11	M8	2.5×2	5940	18000	170
DFT5020-2.5	50	20	9.525	105	152	28	225	128	110	14	20	13	M8	2.5×1	7400	18700	90
DFT6310-5	63	10	6.350	108	154	22	197	130	110	14	20	13	M8	2.5×2	6550	22700	200
DFT8010-5	80	10	6.350	130	176	22	195	152	132	14	20	13	M8	2.5×2	7200	28900	240
DFT8020-5	80	20	9.525	143	204	172	340	172	148	18	26	18	M8	2.5×2	16700	60100	330

>> EK Fixed Side Support Unit



Unit: mm

Desing ation	Axis Diameter d	L	L1	L2	L3	B	H	b ±0.02	h1 ±0.02	B1	H1	P	d1	d2	h	M	T	Used Bearing	Weight (kg)
EK 4	4	15	5.5	17.5	3	34	19	17	10	18	7	26	4.5	–	–	M2.6	10	AC4-12-P5	0.06
EK 5	5	16.5	5.5	18.5	3.5	36	21	18	11	20	8	28	4.5	–	–	M2.6	11	705C/DF-P5	0.08
EK 6	6	20	5.5	22	3.5	42	25	21	13	18	20	30	5.5	9.5	11	M3	12	706C/DF-P5	0.14
EK 8	8	23	7	26	4	52	32	26	17	25	26	38	6.6	11	12	M3	14	708C/DF-P5	0.24
EK 10	10	24	6	29.5	6	70	43	35	25	36	24	52	9	–	–	M3	16	7000C/DF-P5	0.46
EK 12	12	24	6	29.5	6	70	43	35	25	36	24	52	9	–	–	M3	19	7001C/DF-P5	0.44
EK 15	15	25	6	36	5	80	49	40	30	41	25	60	11	–	–	M3	22	7002C/DF-P5	0.55
EK 20	20	42	10	50	10	95	58	47.5	30	56	25	75	11	–	–	M4	30	7004C/DF-P5	1.35

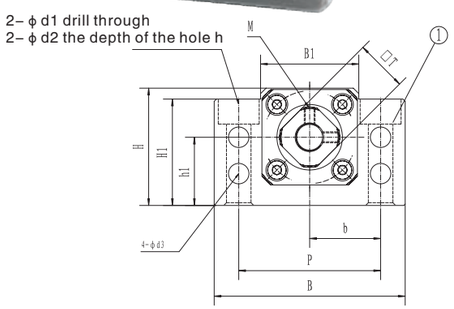
EK4、8 Type

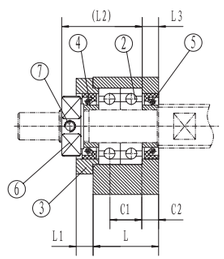
Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1/Set
3	Fixed Nut	1
4	Ring	2
5	Sealing Cover	1
6	Lock Nut	1
7	Inner Hexagonal Fixed Screw (With Cushion Block)	1

EK10、20 Type

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1/Set
3	Fixed Nut	1
4	Ring	2
5	Sealing Cover	2
6	Lock Nut	1
7	Inner Hexagonal Fixed Screw (With Cushion Block)	2

>> BK Fixed Side Support Unit



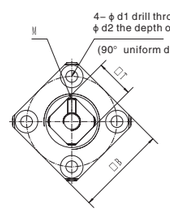


Unit: mm

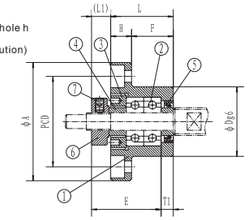
Desing ation	Axis Diameter d	L	L1	L2	L3	B	H	b ±0.02	h1 ±0.02	B1	H1	E	P	C1	C2	d3	d1	d2	h	M	T	Used Bearing	Weight (kg)
BK 10	10	25	5	29	5	60	39	30	22	34	32.5	15	46	13	6	5.5	6.6	10.8	5	M3	7000C/DF-P5	0.39
BK 12	12	25	5	29	5	60	43	30	25	35	32.5	18	46	13	6	5.5	6.6	10.8	1.5	M3	7001C/DF-P5	0.41
BK 15	15	27	6	32	6	70	48	35	28	40	38	18	54	15	6	5.5	6.6	11	6.5	M3	7002C/DF-P5	0.57
BK 17	17	35	9	44	7	86	64	43	39	50	55	28	68	19	8	6.6	9	14	8.5	M4	7003C/DF-P5	1.27
BK 20	20	35	8	43	8	88	60	44	34	52	50	22	70	19	8	6.6	9	14	8.5	M4	7004C/DF-P5	1.19
BK 25	25	42	12	54	9	106	80	53	48	64	70	33	85	22	10	9	11	17.5	11	M5	7005C/DF-P5	2.3
BK 30	30	45	14	61	9	128	89	64	51	76	78	33	102	23	11	11	14	20	13	M6	7006C/DF-P5	3.32
BK 35	35	50	14	67	12	140	96	70	52	88	79	35	115	26	12	11	14	20	13	M8	7007C/DF-P5	4.33
BK 40	40	61	18	76	15	160	110	80	60	100	90	37	130	33	14	14	18	26	17.5	M8	7008C/DF-P5	6.5

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1/Set
3	Fixed Nut	1
4	Ring	2
5	Sealing Cover	1
6	Lock Nut	1
7	Inner Hexagonal Fixed Screw (With Cushion Block)	1

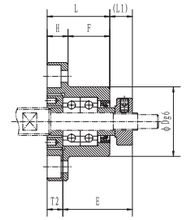
>> FK Fixed Side Support Unit



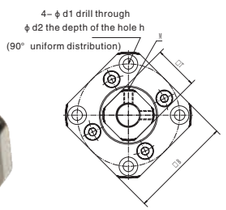
FK 4、8 type



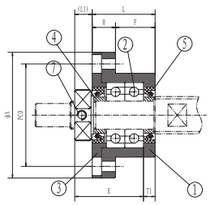
Installation Method A



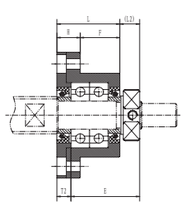
Installation Method B



FK 10、30 type



Installation Method A



Installation Method B

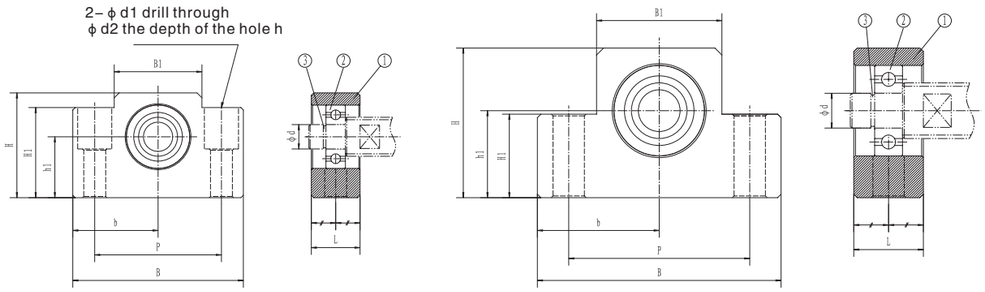
Unit: mm

Desing ation	Axis Diameter d	L	H	F	E	D	A	PCD	B	Installation Method A		Installation Method B		d1	d2	h	M	T	Used Bearing	Weight (kg)
										L1	T1	L2	T2							
FK 4	4	15	6	9	17.5	$18^{-0.006}_{-0.017}$	32	24	25	5.5	3	6.5	4	3.4	6.5	4	M2.6	10	AC4-12-P5	0.05
FK 5	5	16.5	6	10.5	18.5	$20^{-0.007}_{-0.02}$	34	26	26	5.5	3.5	7	5	3.4	6.5	4	M2.6	11	705C/DF-P5	0.06
FK 6	6	20	7	13	22	$22^{-0.007}_{-0.02}$	36	28	28	5.5	3.5	8.5	6.5	3.4	6.5	4	M3	12	706C/DF-P5	0.08
FK 8	8	23	9	14	26	$28^{-0.007}_{-0.02}$	43	35	35	7	4	10	7	3.4	6.5	4	M3	14	708/DF-P5	0.15
FK 10	10	27	10	17	29.5	$34^{-0.009}_{-0.025}$	52	42	42	7.5	5	8.5	6	4.5	8	4	M3	16	7000C/DF-P5	0.21
FK 12	12	27	10	17	29.5	$36^{-0.009}_{-0.025}$	54	44	44	7.5	5	8.5	6	4.5	8	4	M3	19	7001C/DF-P5	0.22
FK 15	15	32	15	17	36	$40^{-0.009}_{-0.025}$	63	50	52	10	6	12	8	5.5	9.5	6	M3	22	7002C/DF-P5	0.39
FK 20	20	52	22	30	50	$57^{-0.01}_{-0.029}$	85	70	68	8	10	12	14	6.6	11	10	M4	30	7004C/DF-P5	1.09
FK 25	25	57	27	30	60	$63^{-0.01}_{-0.029}$	98	80	79	13	10	20	17	9	15	13	M5	35	7005C/DF-P5	1.49
FK 30	30	62	30	32	61	$75^{-0.01}_{-0.029}$	117	95	93	11	12	17	18	11	17.5	15	M6	40	7006C/DF-P5	2.32

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1/Set
3	Fixed Nut	1
4	Ring	2
5	Sealing Cover	1
6	Lock Nut	1
7	Inner Hexagonal Fixed Screw (With Cushion Block)	2

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1/Set
3	Fixed Nut	1
4	Ring	2
5	Sealing Cover	1
6	Lock Nut	1
7	Inner Hexagonal Fixed Screw (With Cushion Block)	2

>> EF Type Support Side Support Unit



EF 6、8 type

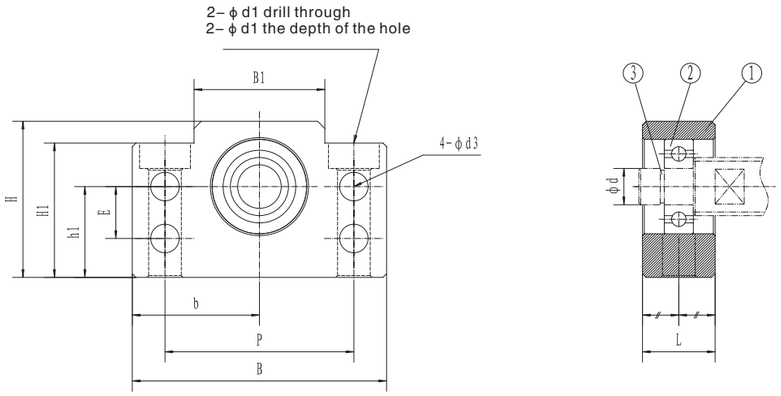
EF 10、20 type

Unit: mm

Desing ation	Axis Diameter d	L	B	H	b ±0.02	h1 ±0.02	B1	H1	P	d1	d2	h	Used Bearing	Circlip of used bearing	Weight (kg)
EF 6	6	12	42	25	21	13	18	20	30	5.5	9.5	11	606ZZ	C6	0.07
EF 8	6	14	52	32	26	17	25	26	38	6.6	11	12	606ZZ	C6	0.13
EF 10	8	20	70	43	35	25	36	24	52	9	-	-	608ZZ	C8	0.33
EF 12	10	20	70	43	35	25	36	24	52	9	-	-	6000ZZ	C10	0.32
EF 15	15	20	80	49	40	30	41	25	60	9	-	-	6002ZZ	C15	0.38
EF 20	20	26	95	58	47.5	30	56	25	75	11	-	-	6204ZZ	C20	0.63

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1
3	used bearing	1

>> BF Fixed Side Support Unit

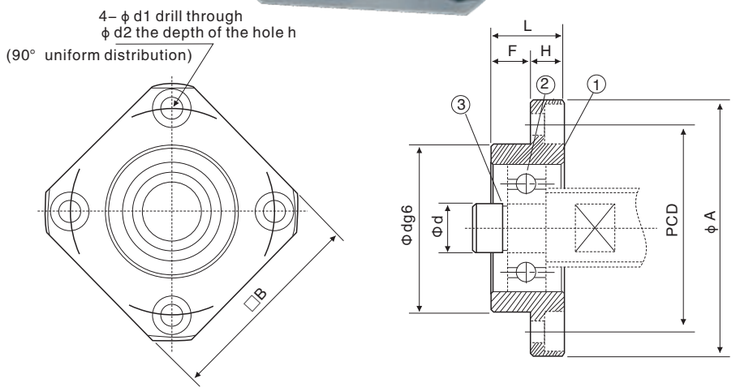


Unit: mm

Desing ation	Axis Diameter d	L	B	H	b ±0.02	h1 ±0.02	B1	H1	E	P	d3	d1	d2	h	Used Bearing	Circlip of used bearing	Weight (kg)
BF 10	8	20	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5	608ZZ	C8	0.29
BF 12	10	20	60	43	30	25	35	32.5	18	46	5.5	6.6	10.8	1.5	6000ZZ	C10	0.3
BF 15	15	20	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5	6002ZZ	C15	0.38
BF 17	17	23	86	64	43	39	50	55	28	68	6.6	9	14	8.5	6203ZZ	C17	0.74
BF 20	20	26	88	60	44	34	52	50	22	70	6.6	9	14	8.5	6004ZZ	C20	0.76
BF 25	25	30	106	80	53	48	64	70	33	85	9	11	17.5	11	6205ZZ	C25	1.42
BF 30	30	32	128	89	64	51	76	78	33	102	11	14	20	13	6206ZZ	C30	1.97
BF 35	35	32	140	96	70	52	88	79	35	114	11	14	20	13	6207ZZ	C35	2.22
BF 40	40	37	160	110	80	60	100	90	37	130	14	18	26	17.5	6208ZZ	C40	3.27

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1
3	used bearing	1

>> FF Type Support Side Support Unit

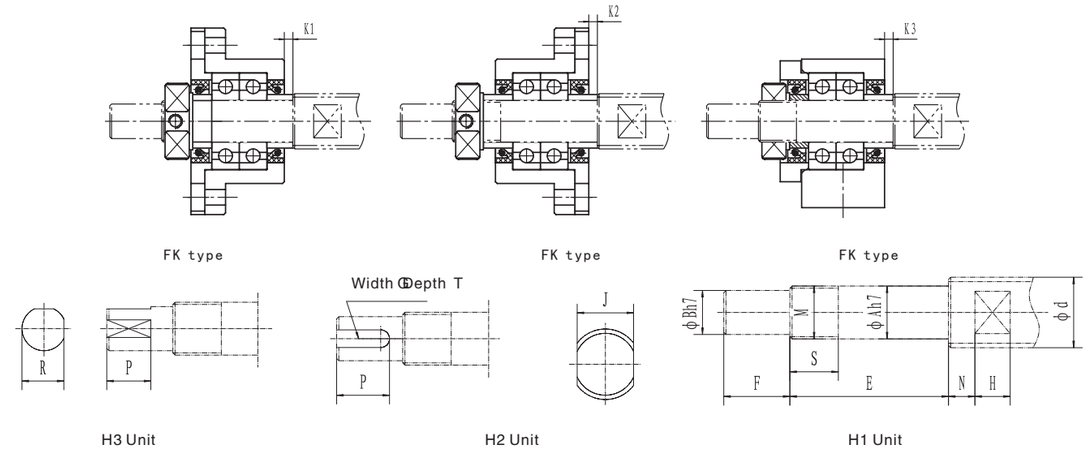


Unit: mm

Desing ation	Axis Diameter d	L	H	F	D	A	PCD	d1	d2	h	Used Bearing	Circlip of used bearing	Weight (kg)
FF 6	6	10	6	4	22 $^{-0.007}_{-0.02}$	36	28	3.4	6.5	4	606ZZ	C6	0.04
FF 10	8	12	7	5	28 $^{-0.007}_{-0.02}$	43	35	3.4	6.5	4	608ZZ	C8	0.07
FF 12	10	15	7	8	34 $^{-0.009}_{-0.025}$	52	42	4.5	8	4	6000ZZ	C10	0.11
FF 15	15	17	9	8	40 $^{-0.009}_{-0.025}$	63	52	5.5	9.5	5.5	6002ZZ	C15	0.2
FF 20	20	20	11	9	57 $^{-0.01}_{-0.029}$	85	68	6.6	11	6.5	6004ZZ	C20	0.27
FF 25	25	24	14	10	63 $^{-0.01}_{-0.029}$	98	79	9	14	8.5	6205ZZ	C25	0.67
FF 30	30	27	18	9	75 $^{-0.01}_{-0.029}$	117	93	11	17.5	11	6206ZZ	C30	1.07

Component No.	Designation	Amount
1	Clamping Support	1
2	Bearing	1
3	used bearing	1

>> Recommended the bearing end shape is H type (H1,H2,H3) (Used to support unit FK,EK type)



Unit: mm

Desing ation		BallScrew Diameter d	Bearing part Diameter A	B	E	F	Metric Screw Thread		Opposite Edges Width			H2type Keyway			H2type Process sides into flat		The location of support unit		
FK Type	EK Type																FK type		EK type
							M	S	J	N	H	G N9	T+0.1	P	R	P	K1	K2	K3
FK 4	EK 4	6	4	3	23	5	M4×0.5	7	4	4	4	-	-	-	2.7	4	1.5	0.5	1.5
FK 5	EK 5	8	5	4	25	6	M5×0.5	7	5	4	4	-	-	-	3.7	5	2	0.5	2
FK 6	EK 6	8	6	4	30	8	M6×0.75	8	5	4	4	-	-	-	3.7	6	3.5	0.5	3.5
FK 8	EK 8	12	8	6	35	9	M8×1	10	8	5	5	-	-	-	5.6	7	3.5	0.5	3.5
FK 10	EK 10	14	10	8	36	15	M10×1	11	10	5	7	2	1.2	11	7.5	11	0.5	-0.5	-0.5
FK 10	EK 10	15	10	8	36	15	M10×1	11	10	5	7	2	1.2	11	7.5	11	0.5	-0.5	-0.5
FK 12	EK 12	16	12	10	36	15	M12×1	11	13	6	8	3	1.8	12	9.5	12	0.5	-0.5	-0.5
FK 12	EK 12	18	12	10	36	15	M12×1	11	13	6	8	3	1.8	12	9.5	12	0.5	-0.5	-0.5
FK 15	EK 15	20	15	12	49	20	M15×1	13	16	6	9	4	2.5	16	11.3	16	4	2	5
FK 15	EK 15	25	15	12	49	20	M15×1	13	18	7	10	4	2.5	16	11.3	16	4	2	5
FK 20	EK 20	28	20	17	64	25	M20×1	17	21	8	11	5	3	21	16	21	1	-3	1
FK 20	EK 20	30	20	17	64	25	M20×1	17	24	8	12	5	3	21	16	21	1	-3	1
FK 20	EK 20	32	20	17	64	25	M20×1	17	27	9	13	5	3	21	16	21	1	-3	1
FK 25	-	36	25	20	76	30	M25×1.5	20	27	10	13	6	3.5	25	19	25	5	-2	-
FK 30	-	40	30	25	72	38	M30×1.5	25	32	10	15	8	4	32	23.5	32	-3	-9	-

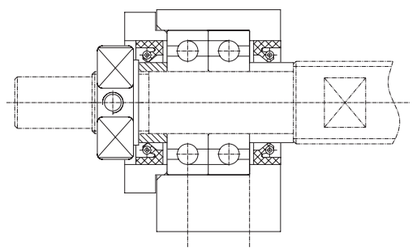
Noted:

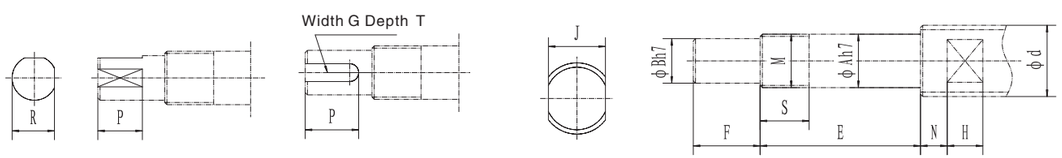
1.We can design the dimension of support unit as FK,FF,EF type or BK,BF combination which all can be used in the same screw.

2.ZNT Company can machine the bearing ends as above dimension.

3.About bearing end face side verticality data please refer to JIS B 1192–1997.

>> Recommended the bearing end shape is J type (J1,J2,J3) (Used to support unit BK type)





J3 Unit J2 Unit J1 Unit

Unit: mm

Desing ation Type	BallScrew Diameter d	Bearing part Diameter A	B	E	F	Metric Screw Thread		Opposite Edges Width			J2 type Keyway			J3 type Process sides into flat	
						M	S	J	N	H	G N9	T +0.1	P	R	P
BK 10	14	10	8	39	15	M12 X 1	16	10	5	7	2	1.2	11	7.5	11
BK 10	15	10	8	39	15	M12 X 1	16	10	5	7	2	1.2	11	7.5	11
BK 12	16	12	10	39	15	M12 X 1	14	13	6	8	3	1.8	12	9.5	12
BK 12	18	12	10	39	15	M12 X 1	14	13	6	8	3	1.8	12	9.5	12
BK 15	20	15	12	40	20	M15 X 1	12	16	6	9	4	2.5	16	11.3	16
BK 17	25	17	15	53	23	M17 X 1	17	18	7	10	5	3	21	14.3	21
BK 20	28	20	17	53	25	M20 X 1	15	21	8	11	5	3	21	16	21
BK 20	30	20	17	53	25	M20 X 1	15	24	8	12	5	3	21	16	21
BK 20	32	20	17	53	25	M20 X 1	15	27	9	13	5	3	21	16	21
BK 25	36	25	20	65	30	M25 X 1.5	18	27	10	13	6	3.5	25	19	25
BK 30	40	30	25	72	38	M30 X 1.5	25	32	10	15	8	4	32	23.5	32
BK 35	45	35	30	83	45	M35 X 1.5	28	36	12	15	8	4	40	28.5	40
BK 40	50	40	35	98	50	M40 X 1.5	35	41	14	19	10	5	45	33	45
BK 40	55	40	35	98	50	M40 X 1.5	35	46	14	20	10	5	45	33	45

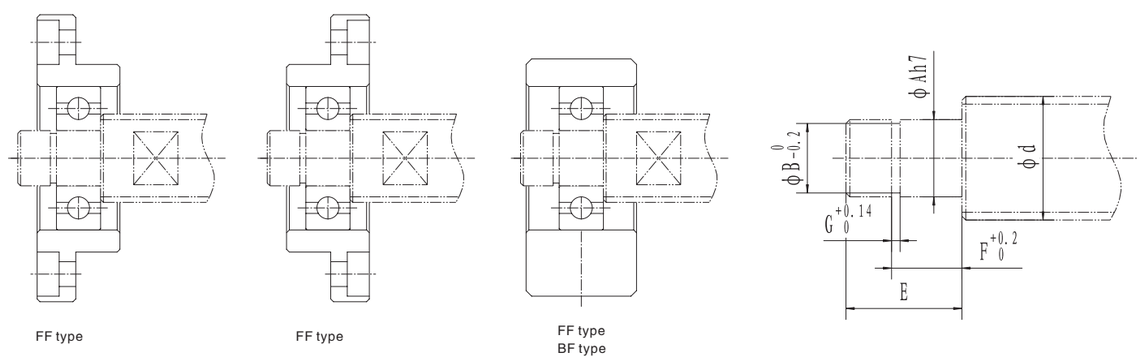
Noted:

1.We can design the dimension of support unit as FK,FF,EF type or BK,BF combination which all can be used in the same screw.

2.ZNT Company can machine the bearing ends as above dimension.

3.About bearing end face side verticality data please refer to JIS B 1192–1997.

>> Recommended the bearing end shape is K type (Used to support unit FF,EF and BF type)



Unit: mm

Desing ation			Ball Screw Diameter d	Bearing part Diameter A	E	Snap Ring Groove		
FF type	EF type	BF type				B	F	G
FF 10	EF 10	BF 10	14	8	10	7.6	7.9	0.9
FF 10	EF 10	BF 10	15	8	10	7.6	7.9	0.9
FF 12	EF 12	BF 12	16	10	11	9.6	9.15	1.15
FF 12	EF 12	BF 12	18	10	11	9.6	9.15	1.15
FF 15	EF 15	BF 15	20	15	13	14.3	10.15	1.15
FF 15	EF 15	BF 15	25	15	13	14.3	10.15	1.15
—	—	BF 17 ※	25	17	16	16.2	13.15	1.15
FF 20	EF 20	BF 20 *	28	20	19（16）	19	15.35（13.35）	1.35
FF 20	EF 20	BF 20 *	30	20	19（16）	19	15.35（13.35）	1.35
FF 20	EF 20	BF 20 *	32	20	19（16）	19	15.35（13.35）	1.35
FF 25	—	BF 25	36	25	20	23.9	16.35	1.35
FF 30	—	BF 30	40	30	21	28.6	17.75	1.75
—	—	BF 35	45	35	22	33	18.75	1.75
—	—	BF 40	50	40	23	38	19.95	1.95
—	—	BF 40	55	40	23	38	19.95	1.95

Noted:

1.We can design the dimension of support unit as FK,FF,EF type or BK,BF combination which all can be used in the same screw.

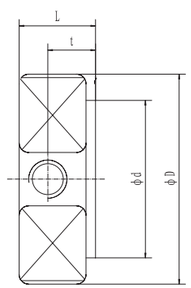
2.ZNT Company can machine the bearing ends as above dimension.

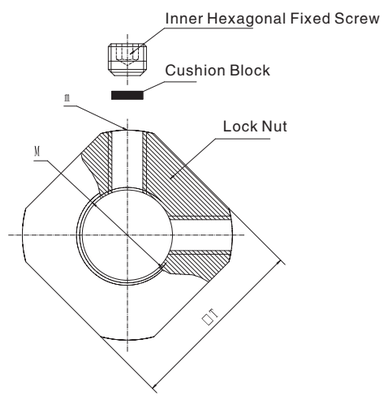
3.About bearing end face side verticality data please refer to JIS B 1192–1997.

4.When the fixed side of ball screw axis diameter is 25mm uses BK17 type(axis end shape J), support side is BF17.

5.*represent the dimension in the bracket is BF20 dimension, which is different with FF20 and EF20 dimension. Please inform support unit modelNo. when you put order.

>> Lock Nut





Unit: mm

Desingation	M	M	D	d	L	t	T	Weight kg
RN 4	M4×0.5	M2.6	11.5	8	5	2.7	10	0.003
RN 5	M5×0.5	M2.6	13.5	9	5	2.7	11	0.004
RN 6	M6×0.75	M3	14.5	10	5	2.7	12	0.005
RN 8	M8×1	M3	17	13	6.5	4	14	0.008
RN 10	M10×1	M3	20	15	8	5.5	16	0.013
RN 12	M12×1	M3	22	17	8	5.5	19	0.014

Unit: mm

Desingation	M	M	D	d	L	t	T	Weight kg
RN 15	M15×1	M3	25	21	8	4.5	22	0.017
RN 17	M17×1	M4	30	25	13	9	24	0.042
RN 20	M20×1	M4	35	26	11	7	30	0.048
RN 25	M25×1.5	M5	43	33	15	10	35	0.096
RN 30	M30×1.5	M6	48	39	20	14	40	0.145
RN 35	M35×1.5	M8	60	46	21	14	50	0.261
RN 40	M40×1.5	M8	63	51	25	18	50	0.304

Noted:

1.We can design the dimension of support unit as FK,FF,EF type or BK,BF combination which all can be used in the same screw.

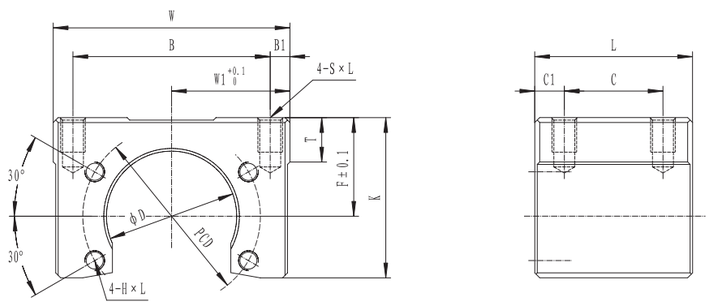
2.ZNT Company can machine the bearing ends as above dimension.

3.About bearing end face verticality data please refer to JIS B 1192–1997.

4.When the fixed side of ball screw axis diameter 25mm uses BK17 type(axis end shape J), support side is BF17.

5.represent the dimension in the bracket is BF20, which is different with FF20 and EF20 dimension. Please inform support unit model No. when you put order.

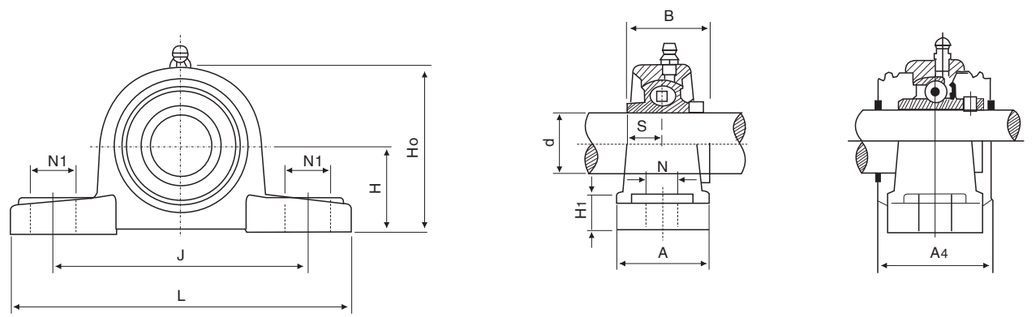
>> Nut Clamping Support



Model No	Width W	W1	B	B1	Length L	C	C1	F	K	T	D	Installation Hole PCD	S×L	H×L	
MC 1004	48	24	40	4	32	16	10	20	32.5	9	26.4	36	M5×0.8×10	M4×0.7×7	BNK1004
MC 1205	60	30	47	6.5	36	24	6	21	37	9	30.4	40	M6×12	M4×0.7×7	BNK1205
MC 1408	60	30	50	5	36	20	10	21.5	37	9	34.4	45	M6×12	M5×0.8×7	BNK1408
MC 2010	86	43	70	8	50	30	10	31	54	16	46.4	59	M10×20	M6×10	BNK2010
MC 2020	86	43	70	8	40	24	8	28	51	16	39.4	59	M10×20	M6×10	BNK2020

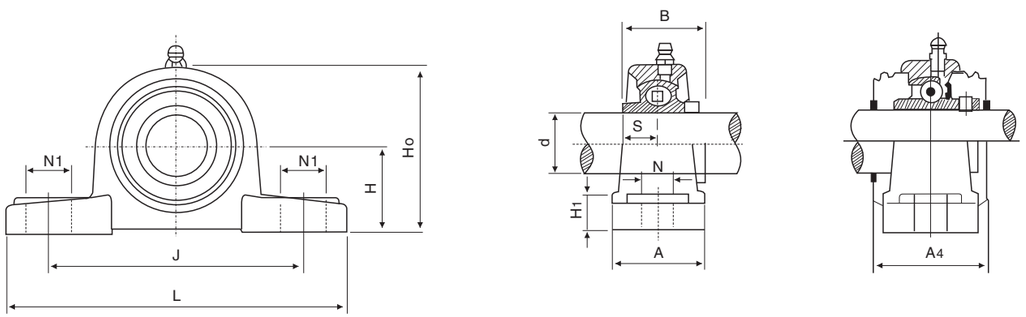
Noted: Besides above dimension, ZNT company can produce the nut clamping support of ball screw as customer's requirement.

>> Pillow block Beaing UCP



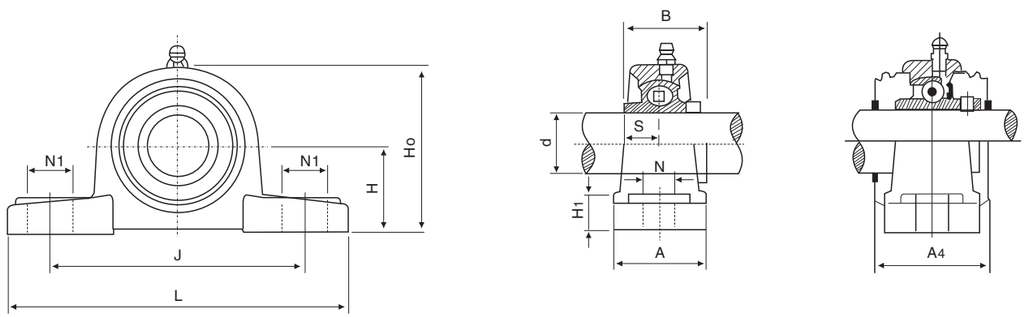
Unit No.	Shaft No. d		Dimensions(mm)											Bolt Size	Bearing No.	Housir No.
	(in.)	(mm)	H	L	J	A	N	N1	H1	NO	S	B	A4			
UCP 202S	-	15	30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 202S	P 203S
UCP 202-10S	5/8		30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 202-10S	P 203S
UCP 203S		17	30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 203S	P 203S
UCP 203-11S	11/16		30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 203-11S	P 203S
UCP 201		10	33.2	127	96	37	13	19	14	60.7	12.7	31		M 10	UCP 201	P 203
UCP 201-8	1/2		33.2	127	96	37	13	19	14	60.7	12.7	31		M 10	UCP 201-8	P 203
UCP 220		100	115	380	305	95	30	36	40	225	42	108		M 24	UCP 220	P 220
UCP 220-64	4		115	380	305	95	30	36	40	225	42	108		M 24	UCP 220-64	P 220

>> Pillow block Beaing UCP



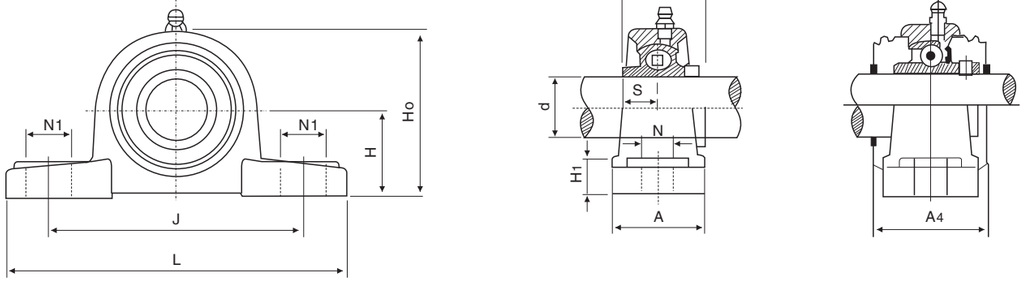
Unit No.	Shaft No. d		Dimensions(mm)											Bolt Size	Bearing No.	Housir No.
	(in.)	(mm)	H	L	J	A	N	N1	H1	NO	S	B	A4			
UCP 202	-	15	30.2	127	96	37	13	19	147	60.7	12.7	31	-	M 10	UC202	P 203
UCP 202-10	5/8		30.2	127	96	37	13	19	14	60.7	12.7	31	-	M 10	UC20-10	P 203
UCP 203		17	30.2	127	96	37	13	19	14	60.7	12.7	31	-	M 10	10	P 203
UCP 203-11	11/16		30.2	127	96	37	13	19	14	60.7	12.7	31	-	M 10	203	P 203
UCP 204-12	3/4		33.3	127	96	37	13	16	14	63.8	12.7	31	45	M 10	UCP03-11	P 204
UCP 204		20	33.3	127	96	37	13	16	14	63.8	12.7	31	45	M 10	UC204-12	P 204
UCP 205-14	7/8		36.5	140	105	8	13	19	15	69.5	14.3	34	48	M 10	UC204	205
UCP 205-15	15/16		36.5	140	105	38	13	19	15	69.5	14.3	34	48	M 10	UC205-14	P 205
UCP 205		25	36.5	140	105	38	13	19	15	69.5	14.3	34	48	M 10	UC205-15	P 205
UCP 205-16	1		36.5	140	105	38	13	19	15	69.5	14.3	34	48	M 10	UC205	P 205
UCP 206-18	1-1/8		42.9	160	121	44	14	19	16	82	15.9	38.1	52	M 12	UC205-16	P 206
UCP 206		30	42.9	160	121	44	14	19	16	82	15.9	38.1	52	M 12	UC206-18	P 206
UCP 206-19	1-3/16		42.9	160	121	44	14	19	16	82	15.9	38.1	52	M 12	UC206	P 206
UCP 206-20	1-1/4		42.9	160	121	44	14	19	16	82	15.9	38.1	52	M 12	UC206-19	P 206
UCP 207-20	1-1/4		47.6	167	126	48	15	19	17	92	17.5	42.9	59	M 12	UC206-20	P 206
UCP 207-21	1-5/16		47.6	167	126	48	15	19	17	92	17.5	42.9	59	M 12	UC207-20	P 207
UCP 207-22	1-3/8		47.6	167	126	48	15	19	17	92	17.5	42.9	59	M 12	UC207-21	P 207
UCP 207		35	47.6	167	126	48	15	19	17	92	17.5	42.9	59	M 12	UC207-22	P 207
UCP 207-23	1-7/16		47.6	167	126	48	15	19	17	92	17.5	42.9	59	M 12	UC207	P 207
															UC207-23	

>> Pillow block Beaing UCP



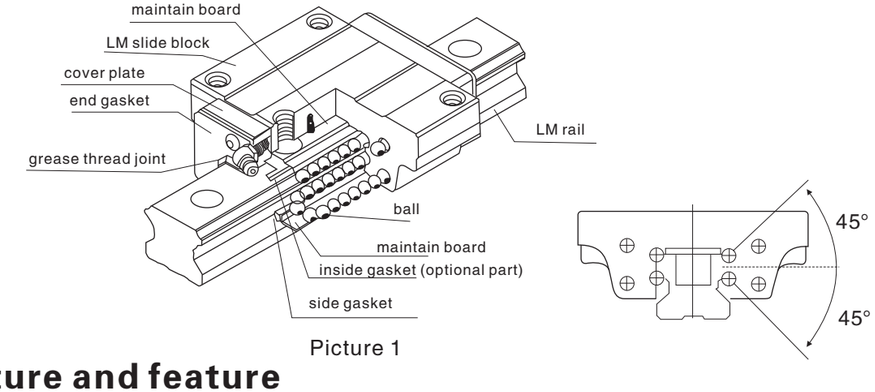
Unit No.	Shaft No. d		Dimensions(mm)											Bolt Size	Bearing No.	Housir No.
	(in.)	(mm)	H	L	J	A	N	N1	H1	NO	S	B	A4			
UCP 208-24	1-1/2		49.2	180	136	52	15	21	18	98	19	49.2	68	M 12	UCP 208-24	P 208
UCP 208-25	1-9/16		49.2	180	136	52	15	21	18	98	19	49.2	68	M 12	UCP 208-25	P 208
UCP 208		40	49.2	180	136	52	15	21	18	98	19	49.2	68	M 12	UCP 208	P 208
UCP 209-26	1-5/8		54	189	146	54	15	21	20	105.5	19	49.2	70	M 12	UCP 209-26	P 209
UCP 209-27	1-11/16		54	189	146	54	15	21	20	105.5	19	49.2	70	M 12	UCP 209-27	P 209
UCP 209-28	1-3/4		54	189	146	54	15	21	20	105.5	19	49.2	70	M 12	UCP 209-28	P 209
UCP 209		45	54	189	146	54	15	21	20	105.5	19	49.2	70	M 12	UCP 209	P 209
UCP 210-30	1-7/8		57.2	204	159	57	19	21	21	112.2	19	51.6	75	M 16	UCP 210-30	P 210
UCP 210-31	1-15/16		57.2	204	159	57	19	22	21	112.2	19	51.6	75	M 16	UCP 210-31	P 210
UCP 210		50	57.2	204	159	57	19	22	21	112.2	19	51.6	75	M 16	UCP 210	P 210
UCP 211-32	2		63.5	217	172	60	19	22	22	124.5	22.5	55.6	78	M 16	UCP 211-32	P 211
UCP 211-34	2-1/8		63.5	217	172	60	19	22	22	124.5	22.2	55.6	78	M 16	UCP 211-34	P 211
UCP 211		55	63.5	217	172	60	19	22	22	124.5	22.2	55.6	78	M 16	UCP 211	P 211
UCP 211-35	2-3/16		63.5	217	172	60	19	22	22	124.5	22.2	55.6	78	M 16	UCP 211-35	P 211
UCP 212-36	2-1/4		69.9	238	186	66	19	25	24	137	25.4	65.1	91	M 16	UCP 212-36	P 212
UCP 212		60	69.9	238	186	66	19	25	24	137	25.4	65.1	91	M 16	UCP 212	P 212
UCP 212-38	2-3/8		69.9	238	186	66	19	25	24	137	25.4	5.1	91	M 16	UCP 212-38	P 212
UCP 212-39	2-7/16		69.9	238	186	66	19	25	24	137	25.4	65.1	91	M 16	UCP 212-39	P 212

>> Pillow block Beaing UCP



Unit No.	Shaft No. d		Dimensions(mm)											Bolt Size	Bearing No.	Housir No.
	(in.)	(mm)	H	L	J	A	N	N1	H1	NO	S	B	A4			
UCP 213-40	2-1/2		76.2	262	203	70	23	29	26	149	25.4	65.1	98	M 20	UCP 213-40	P 213
UCP 213		65	76.2	262	203	70	23	29	26	149	25.4	65.1	98	M 20	UCP 213	P 213
UCP 214-44	2-3/4		79.4	266	210	72	23	29	27	155	30.2	74.6		M 20	UCP 214-44	P 214
UCP 214		70	79.4	266	210	72	23	29	27	155	30.2	74.6		M 20	UCP 214	P 214
UCP 215	75		82.6	274	217	74	25	29	28	161.6	33.3	77.8		M 20	UCP 215	P 215
UCP 215-48	3		82.6	274	217	74	25	29	28	161.6	33.3	77.8		M 20	UCP 215-48	P 215
UCP 216		80	88.9	292	232	78	25	30	30	174	33.3	82.6		M 20	UCP 216	P 216
UCP 217-52	3-1/4		95.2	310	247	83	25	30	32	186	34.1	85.7		M 20	UCP 217-52	P 217
UCP 217		85	95.2	310	247	83	25	30	32	186	34.1	85.7		M 20	UCP 217	P 217
UCP 218-56	3-1/2		101.6	326	262	88	27	30	33	198	39.7	96		M 22	UCP 218-56	P 218
UCP 218		90	101.6	326	262	88	27	30	33	198	39.7	96		M 22	UCP 218	P 218
UCP 201S		12	30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 201S	P 203S
UCP 201-8S	1/2		30.2	125	96	32	12	16	13	57	11.5	27.4		M 10	UCP 201-8S	P 203S

>> Rectangle ball linear rail series



Picture 1

Structure and feature

On LM rail slide block rolls by 4 rows of precisely grinded balls on rolling groove Balls are doing cirulate movement by cover plate installed on LM slide block.

Because balls are held by maintain board, they will not fall off when LM slideblock is drew out from LM rail.(Except HSR 8.10.12 type). Equal preload pressure keeps lower friction factor and strengthens rigidity from 4 directions. Meanwhile,low section height and high righ rigidity design of LM slide block keepstable and percise linear movement.

4 Direction Equivalents

In order to have equal rated from 4 directions (radial direction,anti-radialdirection and transverse)of LM slide block,balls are arranged as 45° contactangle. LM is suitable for all positions and widely used.

High rigidity

This series have well-balanced 4 rows balls which can be imposed enough preload pressure and therefore,easily increase rigidity.bolts and LM slide block are strengthened and have many practical values in high-loaded cutting machine tools.

Self-adjustment

Due to self-adjustment of front compound of circular arc ,this series absorb preload pressure and adjust installation errors,therefore,this series have precise ,smooth and stable linear movement.

Excellent endurance

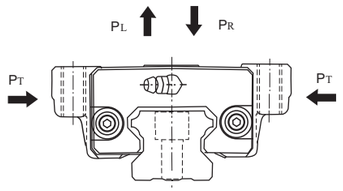
Even under the preload pressure or partial load ,balls will not have differential slide movement and maintain smooth rolling movement . therefore ,this series have excellent abrasion resistance and long term preciseness.

Stainless steel type

LM slide block ,LM rail and balls can be produced in stainless steel material according to customers' requirement.

>> Rectangle ball linear rail series

Rated load and allowed torque in all directions

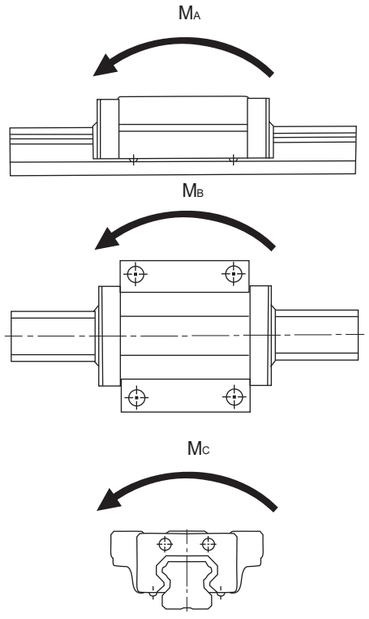


Picture2

HSR can bear any load from radial direction, anti–radial direction and transverse. The basic rated load from four directions (radial direction, anti–radial direction and transverse) are the same, whose data is recorded on size table.

Equivalent Load
Equivalent Load calculation formula as follow when HSR LM slide block bears load from all directions:

PE=PR(PL)+PT
PE：Equivalent Load (N)
radial direction
anti–radial direction
transverse
PR：radial direction load (N)
PL：anti–radial direction load (N)
PT：transverse load (N)



Picture3

In HSR type, one LM slide block can bear torque from all directions. When using one LM slide block, MB, MC.

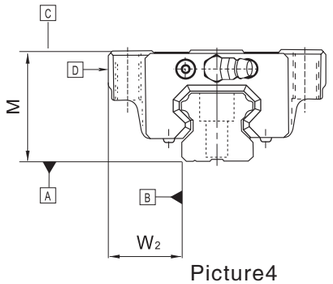
>> Rectangle ball linear rail series

Table 1　HSR type allowed static torque

Unit: KN.m

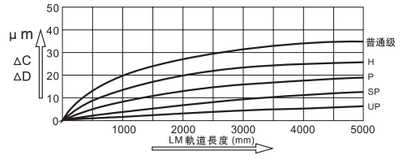
Direction / Nominal Type	MA		MB		Mc
	one	Twoabut	one	Twoabut	one
HSR 8	0.0039	0.026	0.0039	0.026	0.0088
HSR 10	0.0098	0.062	0.0098	0.026	0.0196
HSR 12	0.0333	0.20	0.0333	0.20	0.052
HSR 15	0.07	0.37	0.07	0.37	0.10
HSR 20	0.16	0.82	0.16	0.82	0.23
HSR 20L	0.27	1.4	0.27	1.4	0.31
HSR 25	0.27	1.4	0.27	1.4	0.4
HSR 25L	0.46	2.4	0.46	2.4	0.51
HSR 30	0.43	2.3	0.43	2.3	0.65
HSR 30L	0.73	3.7	0.73	3.7	0.86
HSR 35	0.64	3.4	0.64	3.4	1.0
HSR 35L	1.1	5.6	1.1	5.6	1.4
HSR 45	1.3	6.9	1.3	6.9	2.1
HSR 45L	2.1	10.9	2.1	10.9	2.8
HSR 55	2.2	11.7	2.2	11.7	3.6
HSR 55L	3.7	18.8	3.7	18.8	4.8
HSR 65	4.2	21.0	4.2	21.8	6.6
HSR 65L	7.2	35.8	7.2	35.8	8.9
HSR 85	10.2	56.5	10.2	56.5	12.6
HSR 85L	12.4	63.5	12.4	63.5	16.7
HSR 100	16.9	86.1	16.9	86.1	25.3
HSR 120	22.5	113.5	22.5	113.5	34.8
HSR 150	29.2	146.9	29.2	146.9	52.4

Accuracy specification



Picture4

HSR accuracy is leveled as common, superior, precise and super precise as picture 2.



Picture5 LM rail length and horizantal movement

>> Rectangle ball linear rail series

Table 2 HSR accuracy specification

Unit:mm

Nominal type	Accuracy specification / Item	Commen / No mark	Superior / H	Precise / P	Super precise / SP	Extreme precise / UP
HSR 8 HSR 10 HSR 12	Size allowed error for height M	±0.08	±0.04	±0.02	±0.01	–
	Mutual difference for height M	0.015	0.007	0.005	0.003	–
	Size allowed error for width W2	±0.05	±0.025	±0.015	±0.010	–
	Mutual difference width W2	0.02	0.01	0.007	0.005	–
	C fact to A surface horizantal level	▲c (according to picture 5)				
	D fact to B surface horizantal level	▲d (according to picture 5)				
HSR 15 HSR 20	Size allowed error for height M	±0.1	±0.03	0 −0.03	0 −0.015	0 −0.008
	Mutual difference for height M	0.02	0.01	0.006	0.004	0.003
	Size allowed error for width W2	±0.1	±0.03	0 −0.03	0 −0.015	0 −0.008
	Mutual difference width W2	0.02	0.01	0.006	0.004	0.003
	C fact to A surface horizantal level	▲c (according to picture 5)				
	D fact to B surface horizantal level	▲d (according to picture 5)				
HSR 25 HSR 30 HSR 35	Size allowed error for height M	±0.1	±0.04	0 −0.04	0 −0.02	0 −0.01
	Mutual difference for height M	0.02	0.015	0.007	0.005	0.003
	Size allowed error for width W2	±0.1	±0.04	0 −0.04	0 −0.02	0 −0.01
	Mutual difference width W2	0.003	0.015	0.007	0.005	0.003
	C fact to A surface horizantal level	▲c (according to picture 5)				
	D fact to B surface horizantal level	▲d (according to picture 5)				
HSR 45 HSR 55	Size allowed error for height M	±0.1	±0.05	0 −0.05	0 −0.03	0 −0.02
	Mutual difference for height M	0.03	0.015	0.007	0.005	0.003
	Size allowed error for width W2	±0.1	±0.05	0 −0.04	0 −0.02	0 −0.01
	Mutual difference width W2	0.03	0.02	0.007	0.005	0.003
	C fact to A surface horizantal level	▲c (according to picture 5)				
	D fact to B surface horizantal level	▲d (according to picture 5)				
HSR 65 HSR 85 HSR 100 HSR 120 HSR150	Size allowed error for height M	±0.1	±0.04	0 −0.07	0 −0.05	0 −0.03
	Mutual difference for height M	0.015	0.007	0.01	0.007	0.005
	Size allowed error for width W2	±0.05	±0.025	0 −0.07	0 −0.05	0 −0.03
	Mutual difference width W2	0.02	0.01	0.015	0.010	0.007
	C fact to A surface horizantal level	▲c (according to picture 5)				
	D fact to B surface horizantal level	▲d (according to picture 5)				

>> Rectangle ball linear rail series

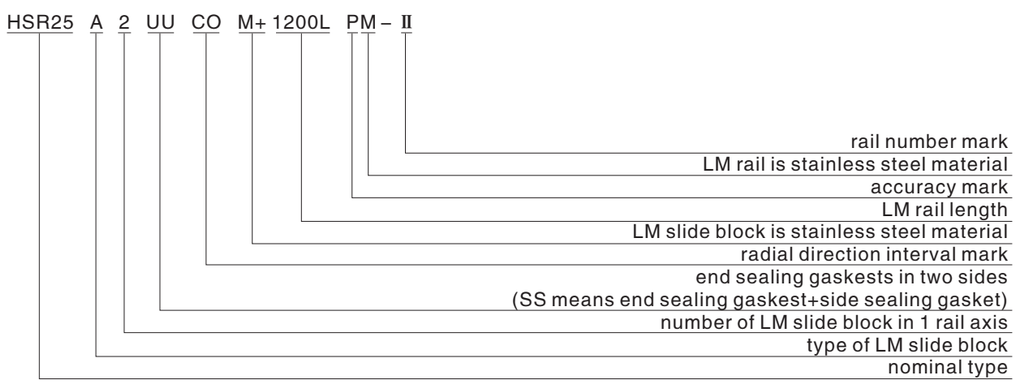
Radial direction interval

Picture 3 HSR type radial direction interval

Unit:um

Marks/ Nominal type	common / No marks	Low preload pressure / C1	Midium preload pressure / CO
HSR 8	± 1	– 4 ~ + 1	——
HSR 10	± 2	– 5 ~ + 1	——
HSR 12	± 3	– 6 ~ + 2	——
HSR 15	– 4 ~ + 2	– 12 ~ + 4	——
HSR 20	– 5 ~ + 2	– 14 ~ + 5	–23 ~ 14
HSR 25	– 6 ~ + 3	–16 ~ + 6	–26 ~ 16
HSR 30	– 7 ~ + 4	–19 ~ + 7	–31 ~ 19
HSR 35	– 8 ~ + 4	–22 ~ + 8	–35 ~ 22
HSR 45	–10 ~ + 5	–25 ~ + 10	–40 ~ 25
HSR 55	–12 ~ + 5	–29 ~ + 12	–46 ~ 29
HSR 65	–14 ~ + 7	–32 ~ +14	–50 ~ 32
HSR 85	–16 ~ + 8	–36 ~ +16	–56 ~ 36
HSR 100	–19 ~ + 9	–42 ~ +19	–65 ~ 42
HSR 120	–21 ~ +10	–47 ~ +21	–73 ~ 47
HSR 150	–23 ~ +11	–51 ~ +23	–79 ~ 51

Composition of nominal type



Remarks: nominal type 1 set in 1 rail. (least 2 set for 2 rail in horizantially use)

>> Rectangle wheel linear rail series

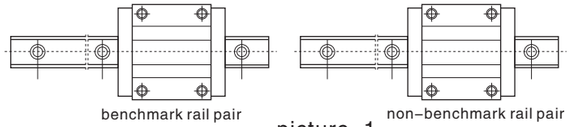
Installation and adjustment of linear rail pair

Installation and using

◆Handle with care, to avoid disaccuracy of rail pair from bumping. Disassembling slide block from rail or pushing back surpassed stroke is not allowed. If there is trouble with installing and need to disassemble slide block, please order guide rail from us. (Guide rail is an installation assist tool whose size is smaller than rail. Butt joint each end of rail and guide rail, push slide from rail to guide rail. When rail is ready, push slide back to rail from guide rail and pay attention to benchmark direction.)

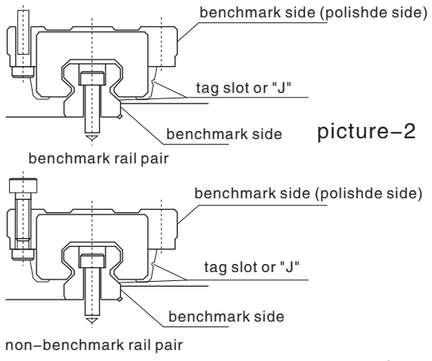
◆Installation notice

First, distinguish benchmark rail pair from non-benchmark rail pair. (J mark on benchmark rail pair, polished benchmark side on slide block) (see picture-1)



picture–1

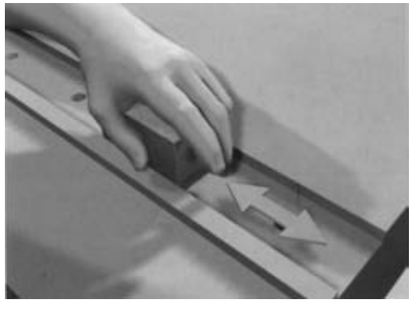
Second,recognize benchmark side when install rail pair.(see picture–2)



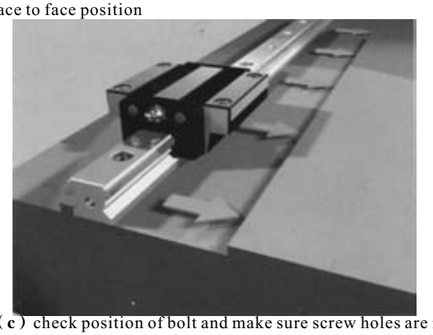
picture–2

Here are some basic steps to install the linear Guide (picture-3)

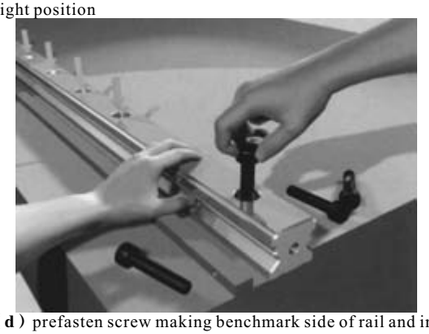
(a) check install side



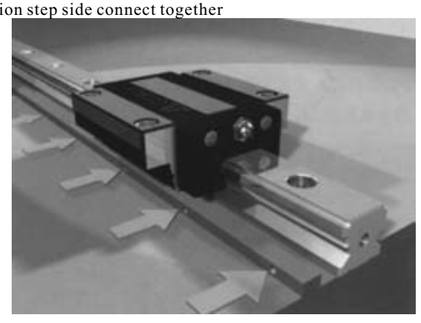
(b) put benchmark side of rail and that of installation step in face to face position



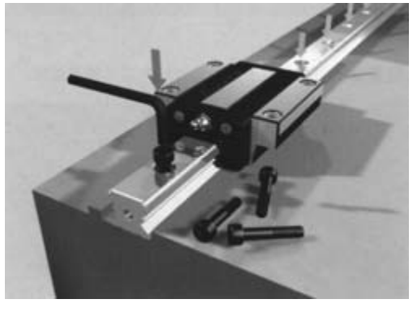
(c) check position of bolt and make sure screw holes are in right position



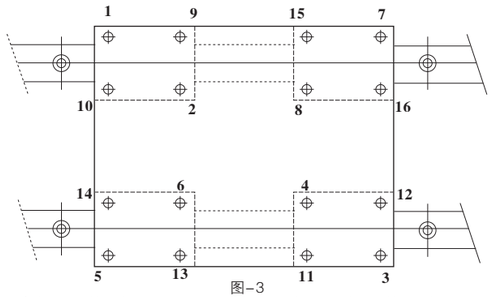
(d) prefasten screw making benchmark side of rail and installation step side connect together



(e) refasten screw



(f) fasten screws on slide block in turn



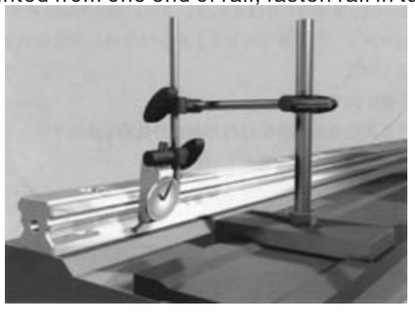
图–3

◆Installation ways of benchmark rail pair (2 ways as follows):

1, Use U chuck to clamp benchmark sides of rail and installation step, and then fasten with fixing bolt (use tapping thread hole), fasten rail in turn from one side (see picture–4)

picture–4

2. if there is no installation step, fasten one end of rail and then put hands aside to the benchmark side of rail (see picture–5). Use block gauge as benchmark and read linear level which is pointed from one end of rail, fasten rail in turn.



picture–5

◆Protection of linear rail pair

Linear rail pair can be used in different areas. In order to meet different sealing and protection demand of customers, we produce several sealing types for you to choose.

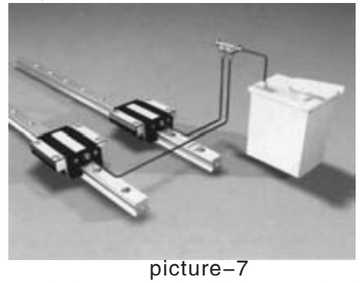
Sealing code	Sealing type	situations
MM	End sealing+	No dust environment such as pr ecise testing equipment
MN	End sealing+ side sealing	Common sealing situation
MX	End sealing+ side sealing+ metal scraper	Iron scrap or impurity situation
MY	End tight sealing+ side sealing+ metal scraper	Dust, wood scrap or dirt
MZ	side sealing+ metal scraper	Mist, iron scrap or impurity situation

(remarks: MN is the most common type of sealing, no need to mark when make an order.) If working environment is really bad with limited space, use dust proof instrument besides rail sealing. (see picture–6)

picture–6

◆Lubrication of linear rail pair

The main reason of using lubrication on linear rail pair is to reduce friction and abrasion, prevent internal structure of product from damage by overheat and influence motive function of rail pair. Linear rail pair is filled with low noise lubricate grease before leave factory to make sure balls in good lubricated condition. In order to avoid lack of lubricants, refill the lubricants when total motive stroke of slide block reach to 50 km. Use N32 lubricants or compulsory filling with oil pipe when motive speed of linear rail pair is in high speed (V>=35M/MIN), see picture–7. when the speed is low (V<=35M/MIN), use lithium lubricants.



picture–7

(in low speed, do not wach off lubricant inside slide block with gasoline before install linear rail pair, so as to prevent original lubricants disfunctional.)

>> Rectangle wheel linear rail series

ZNT Linear rail installation and keeping notice

Linear rail is very precise product, so please pay attention to following notice:

※ Anti rust process has been done before ZNT linear rail leave–factory, therefore, clean the anti rust oil before use and fill lubricants. Free repair sevice will not provide if product become rusty because– of lack of lubricant.

※ Regular anti rust process is needed when products are unused in–one month after purchase. Adjust the frequency of anti rust process–according to different area moisture.

※ ZNT linear rail has self lubricate slide block (depend on different–type) and save cost of lubricant largely and reduce time of maintainance. Please regular check motion situation. Refill lubricant when there is–no oil coat on rail surface. If surface is polluted with dust and metal–dirt, clean them with kerosine and then refill lubricant.

INSTALLATION

In order to keep accuracy of product in pair usage, pay attention to–the following installation ways when use H, P, SP, UP products.

H grade 011 1. accuracy grade 2.code number in pair usage

(1)(2)(3) same code numbers are in the same group. Notify ZNT authorized company when make an order.

3. number of linear rail in pair usage. 1–benchmark side rail 2–passive side rail

※ In order to keep accuracy and long operating life, abide the following installing ways as follows:

First line connect slide rail A1–A2、A3–A4、A5–A6……

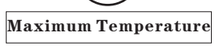
Second line connect slide rail B1–B2、B3–B4、B5–B6……

Third line connect slide rail C1–C2、C3–C4、C5–C6……

Install in turn.

※ Do not disassemble slide block by yourself and put rail in proper position–otherwise it will cause deformation of rail. Pay great attentiong to slide block–when intall linear rail in vertical position. Please contact with ZNT authorized–company when slide block fall down.

※ Use product in clean environment and coat with protective casing to–avoid dust and metal dirt get inside which influence accuracy and operating–life of product.



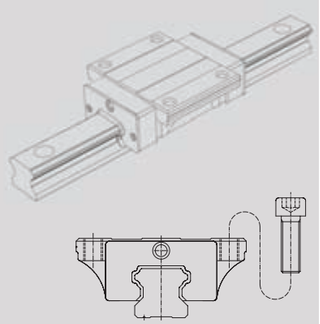
※ When use product in bad environment such as corrosive situation, ZNT provide phosphating or chrome process.

※ Do not use over 80 ℃ maximum temperature （except heat resistant type）, in order to prevent sealing parts of product from damage and shorten the operating life.

>> ZNT Type of Linear Guide Slider

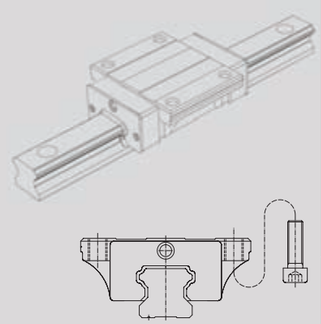
Heavy–Duty Type

HSR...CA Type



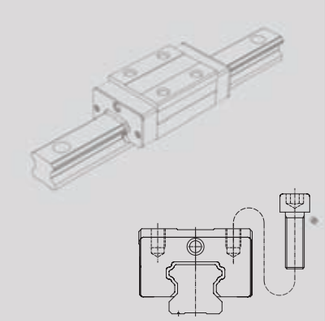
There are threaded holes in slider, bolt can be installed from above.

HSR...CB Type



There are through–holes in the slider, bolt can only be installed from bottom to top, in case worktable can not open the mounting hole.

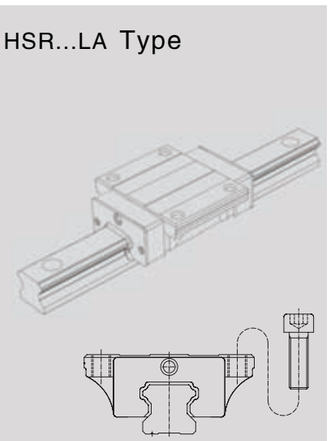
HSR...CR Type



Reduces the width of the slider mounting surface, and there are threaded holes in the mounting surface. Total height has increased over the previous two structures

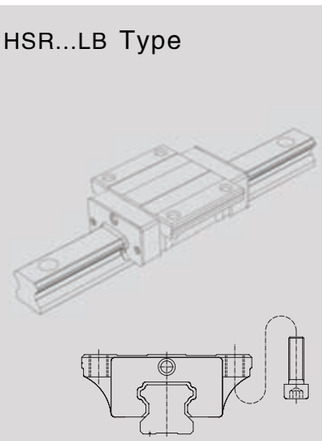
Overweight Load Type

HSR...LA Type



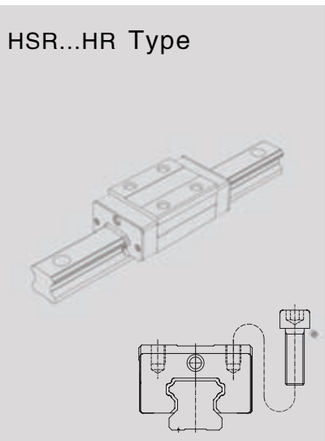
The section size is same as HSR...CA, the difference is slider's length of HSR...LA is longer and increase the number of steel balls. It is belongs to overweight load type.

HSR...LB Type



The section size is same as HSR...CB, the difference is slider's length of HSR...LB is longer and increase the number of steel balls. It is belongs to overweight load type.

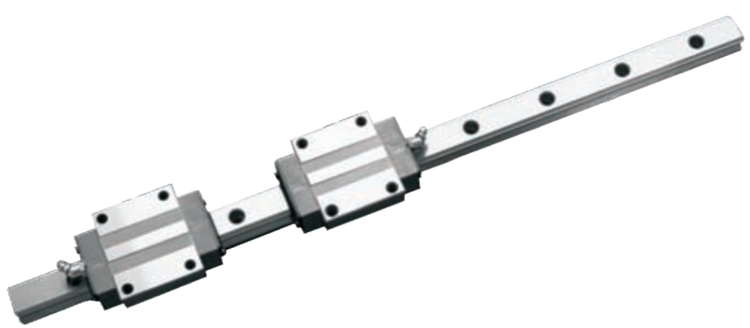
HSR...HR Type

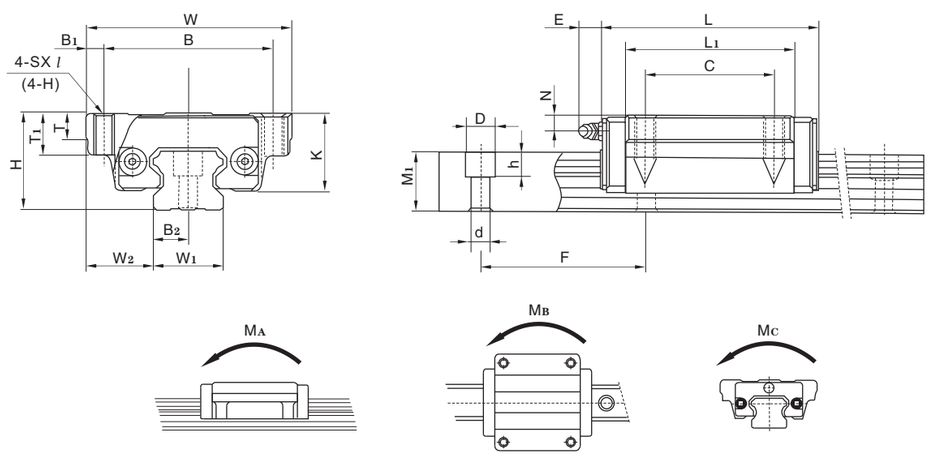


The section size is same as HSR...CR, the difference is slider's length of HSR...HR is longer and increase the number of steel balls. It is belongs to overweight load type.

>> Rectangle wheel linear rail series

HSR...CA HSR...CB





Type	LM Slide Block Dimension(MM)													
	Width (W)	B	B_1	Length (L)	C	Height (H)	S×t	T	T_1	K	L_1	N	E	Lubricant Connector
HSR 15CA	47	38	4.5	58.5	30	24	M5×11	7	11	19.4	38.2	4.5	5.5	Press-in Type
HSR 20CA	63	53	5	76	40	30	M6×10	10	10	25	50	5	12	B-M6F
HSR 25CA	70	57	6.5	88	45	36	M8×16	10	16	29.5	58.5	6	12	B-M6F
HSR 30CA	90	72	9	103	52	42	M10×18	10	18	35	69.8	7	12	B-M6F
HSR 35CA	100	82	9	117	62	48	M10×21	13	21	40	79.8	8	12	B-M6F
HSR 45CA	120	100	10	139	80	60	M12×15	14	25	50	98	10	16	B-$PT_{1/8}$
HSR 55CA	140	116	12	163	95	70	M14×17	15	29	57	118	11	16	B-$PT_{1/8}$
HSR 65CA	170	142	14	186	110	90	M16×23	23	37	76	147	19	16	B-$PT_{1/8}$
HSR 85CA	215	185	15	247	140	110	M20×30	30	55	94	179	23	16	B-$PT_{1/8}$

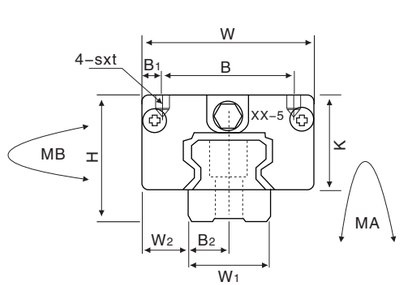
Type	LM Slide Block Dimension(MM)													
	Width (W)	B	B_1	Length (L)	C	Height (H)	H	T	T_1	K	L_1	N	E	Lubricant Connector
HSR 15CB	47	38	4.5	58.5	30	24	ϕ4.5	7	11	19.4	38.2	4.5	5.5	Press-in Type
HSR 20CB	63	53	5	76	40	30	ϕ6	10	10	25	50	5	12	B-M6F
HSR 25CB	70	57	6.5	88	45	36	ϕ7	10	16	29.5	58.5	6	12	B-M6F
HSR 30CB	90	72	9	103	52	42	ϕ9	10	18	35	69.8	7	12	B-M6F
HSR 35CB	100	82	9	117	62	48	ϕ9	13	21	40	79.8	8	12	B-M6F
HSR 45CB	120	100	10	139	80	60	ϕ11	14	25	50	98	10	16	B-$PT_{1/8}$
HSR 55CB	140	116	12	163	95	70	ϕ14	15	29	57	118	11	16	B-$PT_{1/8}$
HSR 65CB	170	142	14	186	110	90	ϕ16	23	37	76	147	19	16	B-$PT_{1/8}$
HSR 85CB	215	185	15	247	140	110	ϕ18	30	55	94	179	23	16	B-$PT_{1/8}$

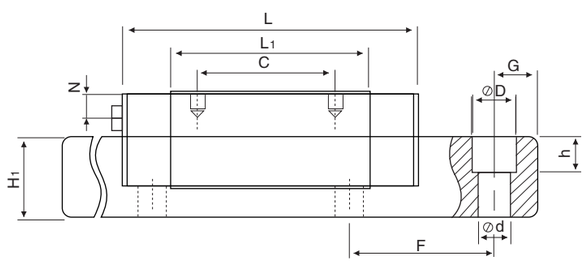
LM Slide Block Dimension(MM)						Basic Rated Load		Tolerance Static Torque (Remarks 2)			Weight	
Width (W1)	W_2	B_2	H_1	d×D×h	Spacing (F)	C kgf	Co kgf	M_A kgf-m	M_B kgf-m	M_C kgf-m	LM Slide Block kg	LM Rail kg/m
15	16	7.5	15	4.5×7.5×5.3	60	850	1380	7.3	7.3	10.1	0.2	1.5
20	21.5	10	18	6×9.5×8.5	60	1410	2430	15.9	15.9	23.7	0.35	2.3
23	23.5	11.5	22	7×11×9	60	2030	3510	27.5	27.5	40.0	0.59	3.3
28	31	14	26	9×14×12	80	2860	4770	43.8	43.8	65.8	1.1	4.8
34	33	17	29	9×14×12	80	3800	6230	65.4	65.4	104.7	1.6	6.6
45	37.5	22.5	38	14×20×17	105	6120	9750	127.6	127.6	213.2	2.8	11.0
53	43.5	26.5	44	16×23×20	120	9030	14000	220.6	220.6	370.3	4.5	15.1
63	53.5	31.5	53	18×26×22	150	14400	21900	430.7	430.7	676.7	8.5	22.5
85	65	42.5	65	24×35×28	180	21400	31600	1036.5	1036.5	1282.2	17.0	35.2

LM Slide Block Dimension(MM)						Basic Rated Load		Tolerance Static Torque (Remarks 2)			Weight	
Width (W1)	W_2	B_2	H_1	d×D×h	Spacing (F)	C kgf	Co kgf	M_A kgf-m	M_B kgf-m	M_C kgf-m	LM Slide Block kg	LM Rail kg/m
15	16	7.5	15	4.5×7.5×5.3	60	850	1380	7.3	7.3	10.1	0.2	1.5
20	21.5	10	18	6×9.5×8.5	60	1410	2430	15.9	15.9	23.7	0.35	2.3
23	23.5	11.5	22	7×11×9	60	2030	3510	27.5	27.5	40.0	0.59	3.3
28	31	14	26	9×14×12	80	2860	4770	43.8	43.8	65.8	1.1	4.8
34	33	17	29	9×14×12	80	3800	6230	65.4	65.4	104.7	1.6	6.6
45	37.5	22.5	38	14×20×17	105	6120	9750	127.6	127.6	213.2	2.8	11.0
53	43.5	26.5	44	16×23×20	120	9030	14000	220.6	220.6	370.3	4.5	15.1
63	53.5	31.5	53	18×26×22	150	14400	21900	430.7	430.7	676.7	8.5	22.5
85	65	42.5	65	24×35×28	180	21400	31600	1036.5	1036.5	1282.2	17.0	35.2

>> Rectangle wheel linear rail series

HSR...CR HSR...HR





Type	LM Slide Block Dimension(MM)											
	Width (W)	B	B1	Length (L)	C	Height (H)	S×t	T	K	L1	N	Lubricant Connector
HSR 15CR	34	26	4	58.2	26	28	M4×5	6	23.4	38.2	4.5	Press-in Type
HSR 20CR	44	32	6	76	36	30	M5×6	8	25	50	5	B-M6F
HSR 25CR	48	35	6.5	88	35	40	M6×8	8	33.5	58.5	6	B-M6F
HSR 30CR	60	40	10	103	40	45	M8×10	8	38	69.8	7	B-M6F
HSR 35CR	70	50	10	117	50	55	M8×12	10	47	79.8	8	B-M6F
HSR 45CR	86	60	13	139	60	70	M10×17	15	60	98	10	B-PT1/8
HSR 55CR	100	75	12.5	163	75	80	M12×18	18	67	118	11	B-PT1/8
HSR 65CR	126	76	25	186	70	90	M16×20	23	76	147	19	B-PT1/8
HSR 85CR	156	100	28	247	80	110	M18×25	30	94	179	23	B-PT1/8

Type	LM Slide Block Dimension(MM)											
	Width (W)	B	B1	Length (L)	C	Height (H)	S×t	T	K	L1	N	Lubricant Connector
HSR 20HR	44	32	6	92	50	30	M5×6	8	25	66	5	B-M6F
HSR 25HR	48	35	6.5	107	50	36	M6×8	8	29.5	77.8	6	B-M6F
HSR 30HR	60	40	10	125	60	42	M8×10	8	35	92	7	B-M6F
HSR 35HR	70	50	10	143	72	48	M8×12	10	40	105.2	8	B-M6F
HSR 45HR	86	60	13	171	80	60	M10×17	15	50	130	10	B-PT1/8
HSR 55HR	100	75	12.5	201	95	70	M12×18	18	57	156	11	B-PT1/8
HSR 65HR	126	76	25	246	120	90	M16×20	23	76	207	19	B-PT1/8
HSR 85HR	156	100	28	303	140	110	M18×25	30	94	236	23	B-PT1/8

LM Slide Block Dimension(MM)						Basic Rated Load		Tolerance Static Torque (Remarks 2)			Weight	
Width (W1)	W2	B2	M1	d×D×h	Spacing (F)	C kgf	Co kgf	MA kgf-m	MB kgf-m	MC kgf-m	LM Slide Block kg	LM Rail kg/m
15	9.5	7.5	15	4.5×7.5×5.3	60	850	1380	7.3	7.3	10.1	0.2	1.5
20	12	10	18	6×9.5×8.5	60	1410	2430	15.9	15.9	23.7	0.35	2.3
23	12.5	11.5	22	7×11×9	60	2030	3510	27.5	27.5	40.0	0.59	3.3
28	16	14	26	9×14×12	80	2860	4770	43.8	43.8	65.8	1.1	4.8
34	18	17	29	9×14×12	80	3800	6230	65.4	65.4	104.7	1.6	6.6
45	20.5	22.5	38	14×20×17	105	6120	9750	127.6	127.6	213.2	2.8	11.0
53	23.5	26.5	44	16×23×20	120	9030	14000	220.6	220.6	370.3	4.5	15.1
63	31.5	31.5	53	18×26×22	150	144000	21900	430.7	430.7	676.7	8.5	22.5
85	35.5	42.5	65	24×35×28	180	21400	31600	1036.5	1036.5	1282.2	17.0	35.2

LM Slide Block Dimension(MM)						Basic Rated Load		Tolerance Static Torque (Remarks 2)			Weight	
Width (W1)	W2	B2	M1	D×D×h	Spacing (F)	C kgf	Co kgf	MA kgf-m	MB kgf-m	MC kgf-m	LM Slide Block kg	LM Rail kg/m
20	12	10	18	6×9.5×8.5	60	2170	3240	27.5	27.5	31.6	0.47	2.3
23	12.5	11.5	22	7×11×9	60	2770	4680	46.8	46.8	51.8	0.75	3.3
28	16	14	26	9×14×12	80	3800	6370	74.4	74.4	87.7	1.3	4.8
34	18	17	29	9×14×12	80	5120	8310	111.1	111.1	139.9	2.0	6.6
45	20.5	22.5	38	14×20×17	105	8200	13000	217.1	217.1	284.1	3.3	11.0
53	23.5	26.5	44	16×23×20	120	12100	18700	375.0	375.0	494.6	5.7	15.1
63	31.5	31.5	53	18×26×22	150	19600	29200	732.2	732.2	903.7	10.7	22.5
85	35.5	42.5	65	24×35×28	180	28800	42000	1265.6	1265.6	1706.8	23.0	35.2

Note2, MA、MB、MC Respectively as shown in the above chart, it means the LM slider to allow a torque value

>> Rectangle wheel linear rail series

Function comparision table:

	Content	L.M.GUIDE Genera L.M.GUIDE	Rectangle wheel linear rail
1	Adjustable pressure: "zero" interval standard	Not allowed	Allowed
2	Lower sensitive style of dust	Not allowed	Allowed
3	Repairing and cost for wear and tear parts which were exchangeable	Not allowed	Allowed
4	Grind surface to install rail	Needed	Not needed
5	Pecaliarity for design	You should to add chassis and trestle when god use X, Y or Z shaft	It self can use as trestle and chassis
6	Quality quarante for accuracy and repetition	Not suitable	±20mm/6M Paralle degnces: ±20mm/6M 3–5mm Repetition:3–5mm “0” Interval: "zero" interval
7	Guide rail or slide board can use as movable rail	Only can slide board move	Both guide rail and slide board can move
8	The length of slide board and wheel can added according to the needs of customers	Not allowed	The length of slide board and quantiy of wheel can add according to the needs of customers
9	Higher speed noise volume	Higher	Lower
10	Higher speed target	For heavy style and fixed position	For hight style and higher speed fixed position
11	Price for products	Higher	Lower
12	Sum total will reduce waster, time and artificial design cost	Not allowed	Allowed
13	Display degree of slow slide for gear	Clear	A little

>> Rectangle wheel linear rail series

Model Option：

Rail OSG C R 20N - 3800 - 1800 - O - S - 40 - 60 - 40 - 2

- Number Of Rail
  - 1: One Rail Used Individually
  - 2: Two Rails Used Together
- Blank: $\frac{E}{2}$
- 40：Distance From Hole in the End of Rail to the Right
- Blank: Standard Hole Distance
- 60：Distance Between Each Contiguous Holes
- Blank: $\frac{E}{2} = \frac{L-n\times P}{2}$
- L: Rail Length N: holes(Total Number)
  E: Distance Between First Hole to Last Hole
  P: Distance Between Each Contiguous Holes
- Blank: Lockhole on The Bottom of Rail
- S: Lockhole on The Side of Rail(Vertical Installation)
- Right Side Connector Length
- Left Side Connector Length
- Rail Length(MM)
- Rail Dimension(According to Table)
- Rail
- Blank: Standard Hard Shaft
  C: Hard Chrome Plating Shaft
  A: Stainless Steel Shaft
- OSG: External Wheel Rail SG: Center Wheel Rail

Slide SGB 20N UU - D - 3 - 3 - 4

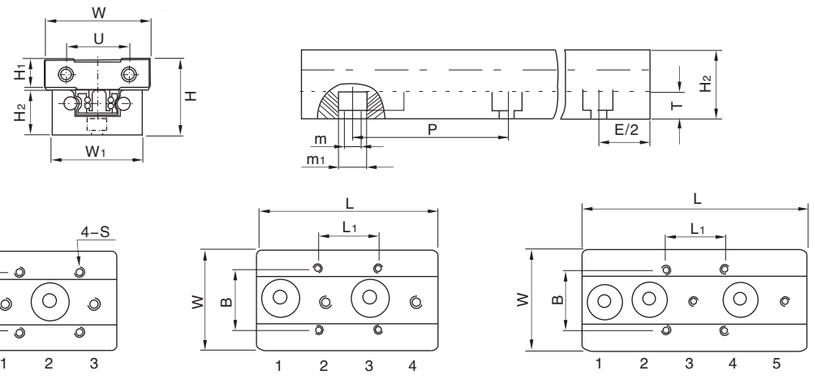
- Slide Number
- Blank: Standard Slide
- 3：Eccentric Wheel
- Position Number
- Wheel Number
- Blank: Drawing is not provided
- D: Drawing is provided
- Blank: No Sealing on Slide
- U: Single Sealing
- UU: Double Sealing
- Slide (According to Table)
- Center Wheel

OSGB 20 UU - 6 - 200 - 10 - 40 - 2

- Slide Number
- Blank: Standard Slide
- 40: Distance Between Right to Last Wheel
- Blank: Standard Slide
- 10： Distance Between Left to First Wheel
- Blank: Standard Slide
- 200： Wheel Length
- Blank: Standard 4 Wheels
- 6: Wheel Number
- Blank: No Sealing on Slide
- U: Single Sealing
- UU: Double Sealing
- Slide (According to Table)
- External Wheel

>> Rectangle wheel linear rail series (Patent NO：ZL02280208.8)

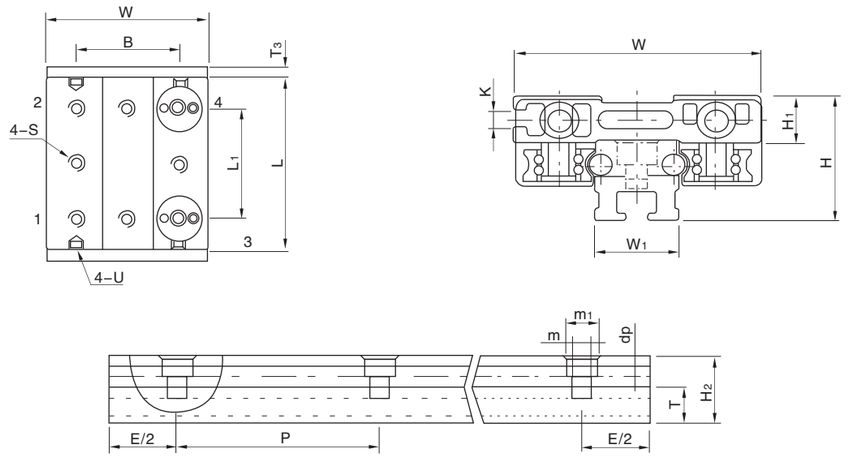
SG



SG		Complete Set		Rail SGR										Slide SGB														
SGR	SGB	H	W	W1	H2	dp	P	Shaft (diameter)	weight (k/m)	T	m1	m	W	H1	L	B	L1	S	Wheel Number	Eccentric Wheel Position	Basic Driving Force Safety Load (N) Yo	Basic Driving Force Safety Load (N) Zo	Dynamic Torque (N.M) Mxo	Dynamic Torque (N.M) Myo	Dynamic Torque (N.M) Mzo	Weight (gf/m)
15N	–3	32	44	38	18.5	6	120	6	1.651	8	8	4.5	44	12	60	26	26	M5	3	2	490	460	10.2	9.2	9.8	110
	–4														80				4	1,3	700	660	14.5	13.2	14	145
	–5														100				5	1,1,4	980	920	20.3	37	39	185
15	–3	32	46	46	18.5	6	120	6	1.764	8	8	4.5	46	12	52	32	36	M5	3	2	490	460	13.8	7.4	7.8	105
	–4														72				4	1,3	700	660	19.8	21.1	22.4	140
	–5														84				5	1,1,4	980	920	27.7	44.3	47	170
20N	–3	36	47	47	22.5	6	120	6	2.247	9	9.5	5.5	47	12	80	38	30	M6	3	2	700	980	29.4	25.4	18.2	195
	–4														106				4	1,3	1000	1400	42	72.8	52	265
	–5														132				5	1,1,4	1400	1960	84.2	129	92.4	350
20	–3	36	60	60	22.5	6	120	8	2.744	9	9.5	5.5	60	12	72	50	40	M6	3	2	700	980	42.1	21.5	15.4	210
	–4														100				4	1,3	1000	1400	60.2	61.6	44	280
	–5														116				5	1,1,4	1400	1960	84.2	129	92.4	350
25	–3	44	70	69	26	7	120	10	3.873	10	11	6.5	70	16.3	100	57	45	M8	3	2	1260	1470	67.62	48.51	41.58	460
	–4														133				4	1,3	1800	2100	96.6	138.6	118.8	615
	–5														166				5	1,1,4	2520	2940	135.0	291.06	249.48	775
35	–3	55	100	90	35	8.5	160	12	6.442	12	14	8.5	100	18	140	82	62	M10	3	2	2800	2800	159.6	126	128	1100
	–4														185				4	1,3	4000	4000	228	360	360	1450
	–5														230				5	1,1,4	5600	5600	319.2	758	756	1835

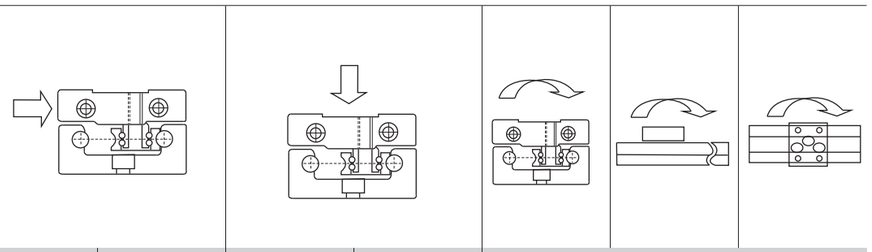
>> Rectangle wheel linear rail series (Patent No：ZL02280208.8)

OSG



OSG	Complete Set		OSGR: Rail OSGR									OSGB: Slide OSGB												
	H	W	W1	H2	dp	P	Shaft (Diameter)	Weight (K/M)	T	m1	m	W	H1	L	B	L1	S	U	K	Basic Driving Force Safety Load (N) Yo	Basic Driving Force Safety Load (N) Zo	Dynamic Torque (N.M) Mxo	Dynamic Torque (N.M) Myo	Dynamic Torque (N.M) Mzo	Weight (gf/m)
OSG–20	30	60	26	18	5.5	60	6	1230	12	9.5	5.5	60	12	60	38	38	M5	M5	4.2	700	660	23.03	33.41	35.47	120
OSG–25	35	80	30	21	6.5	60	8	2015	14	11	6.5	80	12	80	51	51	M6	M6	4.2	1000	1400	62.76	95.2	68	240
OSG–30	40	100	36	25	6.5	60	10	2987	15	11	6.5	100	16.5	100	61	61	M8	M6	5.2	1800	2100	105.98	172.54	147.89	520
OSG–40	50	130	47	31.5	8.5	60	12	5216	20	14	9	130	18	130	84	84	M10	M6	6.2	4000	4000	280.64	448	448	113

>> Load transmission strength of– rectangle wheel linear rail



Type			Basic Static Safety Load(N)	Basic Driving Force Safety Load(N)	Basic Static Safety Load(N)	Basic Driving Force Safety Load(N)	Tolerance Dynamic Torque(Nm)		
Load Direction			Y	Yo	Z	Zo	Mxo	Myo	Mzo
SGB	15N	3	490	490	280	460	10.2	9.2	9.8
		4	700	700	400	660	14.5	13.2	14
		5	980	980	560	920	20.3	37	39
	15	3	490	490	280	460	13.8	7.4	7.8
		4	700	700	400	660	19.8	21.1	22.4
		5	980	980	560	920	27.7	44.3	47
	20N	3	700	700	590	980	29.4	25.4	18.2
		4	1000	1000	850	1400	42	72.8	52
		5	1400	1400	1190	1960	58.8	152.8	109.2
	20	3	700	700	590	980	42.1	21.5	15.4
		4	1000	1000	850	1400	60.2	61.6	44
		5	1400	1400	1190	1960	84.2	129	92.4
	25	3	1260	1260	840	1470	67.62	48.51	41.58
		4	1800	1800	1200	2100	96.6	138.6	118.8
		5	2520	2520	1680	2940	135.24	291.06	249.48
	35	3	2800	2800	1680	2800	159.6	126	126
		4	4000	4000	2400	4000	228	360	360
		5	5600	5600	3360	5600	319.2	758	756
OSGB	20	4	700	700	400	660	23.03	33.41	35.47
	25	4	1000	1000	850	1400	62.76	95.2	68
	30	4	1800	1800	1200	2100	105.98	172.54	147.89
	40	4	4000	4000	2400	4000	280.64	448	448

>> Rectangle wheel usage

Structure & Usage

Shaft support linear guide consists of a linear block(s)which performs endless linear motion along the shaft.

The linear block provides threadedmounting holes that can be easilymounted on macnmes and equipment with bolts.Shaft support linear guidesare suitable for applications that require smooth motion and accurate positioning in the direction of roration.

The advantages of shaft support linear guides are as follows:

1.Corrosion Resistant

Made of aluminum,the linear blocks and shaft supporter undergo anodized surface finish and chrome hardenning to provide a pleasing appearnce. as well as superor corrosion resistance.

2.Easy Assembly

Design and assembly is made easy with the standrdization of the shaft typelinear guides.

3.Easily Interchangeable

Linear blocks and track rails can bepurchased separately.In case of damage, customers can reparace peplace parts easily asthey are freely intechangeable.

4.Smooth and silent operation

OSG series have well–balanced rollingcontact between the carrying rllers and the shaft.

SBR series provide srnooth and silentcontact movement between the linearball bearings and the shaft.

TBR series provide smooth and silent contact movent between linearlinear bush and shatt which required no lubrication and is high temperatureresistant.

5.High efficiency

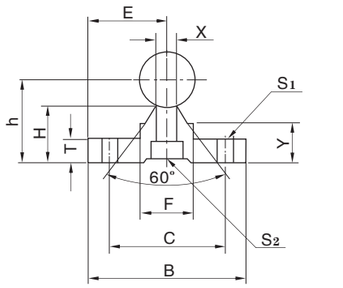
Easy assembly,lightweight,corrosion–resistant and easily interchangeable,these advantages ailow for a wide rangeof applicalions for machine equipments.

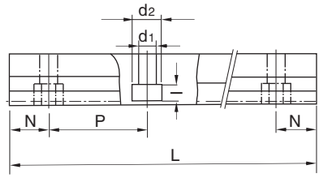
6.Low Cost

The standardized structures,simpleassembly and mass production of the shaft type linear guides results in lowercost.This comparatively lower cost gives it a competitive edge.

>> Linear motion ball slide units series

SBR





Support Designation	Shaft Dimensions	Dimensions (mm)											Weight (kg/m)
		E	h	B	H	T	F	X	Y	C	S_1	S_2 $d_1 \times d_2 \times i$	
SBR 16	f16	20	25	40	17.8	5	18.5	8	11.7	30	f5.5	5.5×9.5×5.4	1.00
SBR 20	f20	22.5	27	45	17.7	5	19	8	10	30	f5.5	5.5×9.5×5.4	1.07
SBR 25	f25	27.5	33	55	21	6	21.5	8	12	35	f6.6	6.6×11×6.5	1.50
SBR 30	f30	30	37	60	22.8	7	26.5	10.3	13	40	f6.6	6.6×11×6.5	1.90
SBR 35	f35	32.5	43	65	26.5	8	28	13	15.5	45	f9	9×14×8.6	2.45
SBR 40	f40	37.5	48	75	29.5	9	38	15.5	17	55	f9	9×14×8.6	3.25
SBR 50	f50	47.5	62	95	38.8	11	45	20	21	70	f11	11×17.5×10.8	5.26

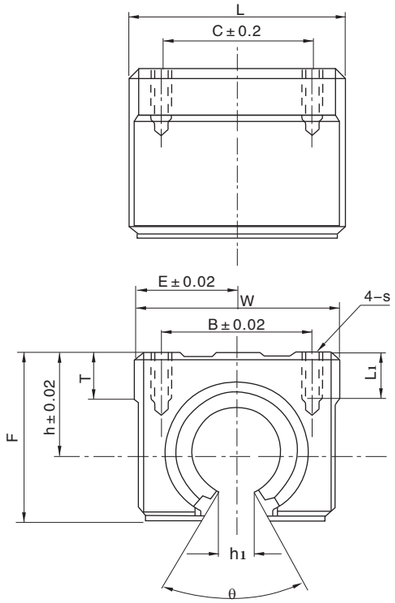
Support Rail Stand Lengths and Dimensions

Designation	SBR 16	SBR 20	SBR 25	SBR 30	SBR 35	SBR 40	SBR 50
Standard Length L	190	340	250	450	460	460	470
	340	640	450	850	660	660	670
	640	940	850	1250	860	860	870
	940	1240	1250	1450	1060	1060	1070
						1260	1270
N	20	20	25	25	30	30	35
P	150	150	200	200	200	200	200
Max.Length	6000	6000	6000	6000	6000	6000	6000

Remarks: length can be connected over 6m according to customer's requirement.

>> Linear motion ball slide units series

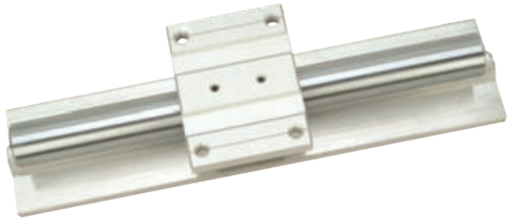
SBR...UU SBR...LUU

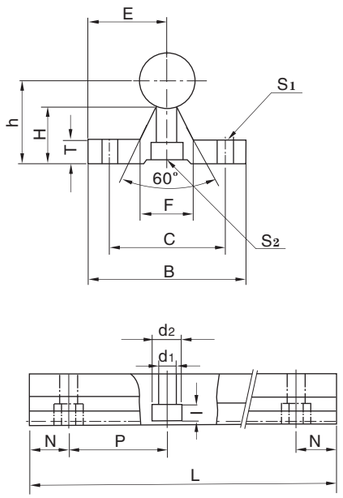


Unit Designation	Dimensions (mm)												Slide bush			Weight (kg/m)
	h	E	W	L	F	h1	q	B	C	S	L_1	T	Designation	Basic load rating dynamic CN	Basic load rating static CoN	
SBR 10UU	15	18	36	32	24	6	80°	25	20	M5	10	7	LM10UU-OP	372	549	65
SBR 13UU	17	20	40	39	27.6	8.5	80°	28	28	M5	10	8	LM13UU-OP	510	784	100
SBR 16UU	20	22.5	45	45	33	10	80°	32	30	M5	12	9	LM16UU-OP	774	1180	150
SBR 20UU	23	24	48	50	39	10	60°	35	35	M6	12	11	LM20UU-OP	882	1370	200
SBR 25UU	27	30	60	65	47	11.5	50°	40	40	M6	12	14	LM25UU-OP	980	1570	450
SBR 30UU	33	35	70	70	56	14	50°	50	50	M8	18	15	LM30UU-OP	1570	2740	630
SBR 35UU	37	40	80	80	63	16	50°	55	55	M8	18	18	LM35UU-OP	1670	3140	925
SBR 40UU	42	45	90	90	72	19	50°	65	65	M10	20	20	LM40UU-OP	2160	4020	1330
SBR 50UU	53	60	120	110	92	23	50°	94	80	M10	20	25	LM50UU-OP	3820	7940	3000
SBR 16LUU	20	22.5	45	85	33	10	80°	32	60	M5	12	9	LM16LUU-OP	1548	2360	300
SBR 20LUU	23	24	48	96	39	10	60°	35	70	M6	12	11	LM20LUU-OP	1764	2740	400
SBR 25LUU	27	30	60	130	47	11.5	50°	40	100	M6	12	14	LM25LUU-OP	1960	3140	900
SBR 30LUU	33	35	70	140	56	14	50°	50	110	M8	18	15	LM30LUU-OP	3140	5480	1260
SBR 40LUU	42	45	90	175	72	19	50°	65	140	M10	20	20	LM40LUU-OP	4320	8040	2660

>> Linear motion ball slide units series

TBR





Support Designation	Shaft Dimensions	Dimensions (mm)									Weight (kg/m)
		E	h	B	H	T	F	C	S_1	S_2	
TBR 16	f16	25	22.14	50	14.96	6	18.71	37	f5.5	5.5×9.5×5.4	1.10
TBR 20	f20	27.5	29.01	55	19.37	8	18.96	40	f5.5	5.5×9.5×5.4	1.80
TBR 25	f25	32.5	31.97	65	20.14	10	20	45	f6.6	6.6×11×6.5	2.05
TBR 30	f30	37.5	36.52	75	22.45	12	22.96	55	f6.6	6.6×11×6.5	2.80

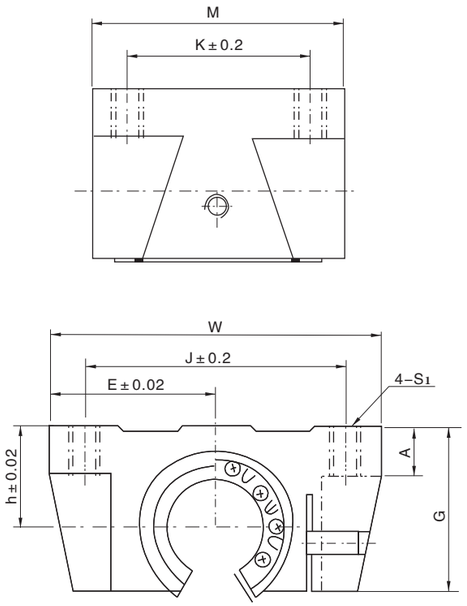
Support Rail Stand Lengths and Dimensions

Designation	TBR 16	TBR 20	TBR 25	TBR 30
Standard Length L	190	340	250	450
	240	640	450	850
	640	940	850	1250
	940	1240	1250	1450
N	20	20	25	25
P	150	150	200	200
Max.Length	6000	6000	6000	6000

Remarks: length can be connected over 6m according to customer's requirement.

>> Linear motion ball slide units series

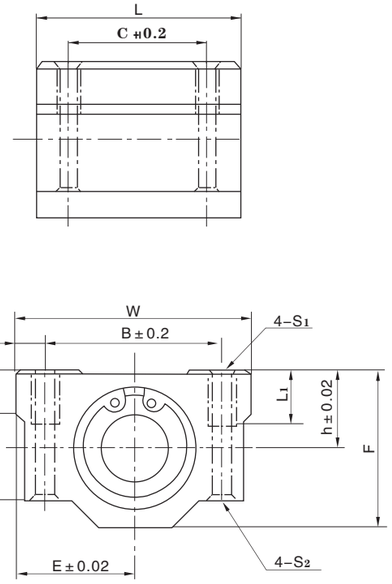
TBR...UU TBR...LUU



Support Designation	Shaft Dimensions	Basic load rating		Dimensions (mm)									Slide bush		
		dynamic CN	static CoN	W	G	A	M	S_1	J	K	E	h	Designation	Basic load rating dynamic CN	Basic load rating static CoN
TBR 16UU	f16	392	490	62	26	8	42	M5	50	30	31	18	LM16UU-OP	392	490
TBR 20UU	f20	784	1176	68	31	10	51	M6	54	37	34	21	LM20UU-OP	784	1176
TBR 25UU	f25	1568	2352	82	41	12	65	M8	65	50	41	28	LM25UU-OP	1568	2352
TBR 30UU	f30	1764	2940	91	48	12	75	M8	75	60	45.5	33.5	LM30UU-OP	1764	2940
TBR 16LUU	f16	780	980	62	26	8	85	M5	50	60	31	18	LM16LUU-OP	392	490
TBR 20LUU	f20	1568	2352	68	31	10	96	M6	54	70	34	21	LM20LUU-OP	784	1176
TBR 25LUU	f25	3136	4704	82	41	12	130	M8	65	100	41	28	LM25LUU-OP	1568	2352
TBR 30LUU	f30	3528	5880	91	48	12	140	M8	75	110	45.5	33.5	LM30LUU-OP	1764	2940

>> Linear motion ball slide units series

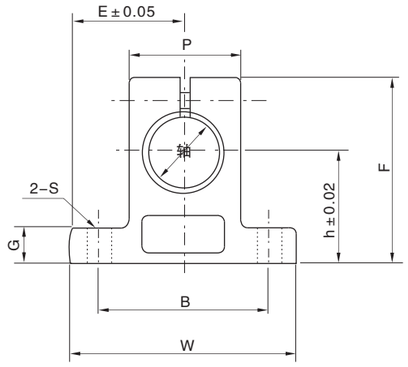
SCS...UU　SCS...LUU

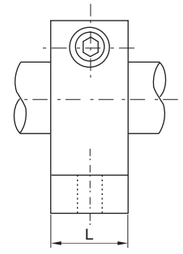


Unit Designation	Dimensions (mm)													Slide bush			Weight (kg/m)
	T	h	E	W	L	F	G	B	C	K	S1	S2	L1	Designation	Basic load rating dynamic CN	Basic load rating static CoN	
SCS 6UU	6	9	15	30	25	18	15	20	15	5	M4	3.4	8	LM 6UU	206	265	34
SCS 8UU	6	11	17	34	30	22	18	24	18	5	M4	3.4	8	LM 8UU	274	392	52
SCS10UU	8	13	20	40	35	26	21	28	21	6	M5	4.3	12	LM 10UU	372	549	92
SCS 12UU	8	15	21	42	36	28	24	30.5	26	5.75	M5	4.3	12	LM 12UU	510	784	102
SCS 13UU	8	15	22	44	39	30	24.5	33	26	5.5	M5	4.3	12	LM 13UU	510	784	120
SCS 16UU	9	19	25	50	44	38.5	32.5	36	34	7	M5	4.3	12	LM 16UU	774	1180	200
SCS 20UU	11	21	27	54	50	41	35	40	40	7	M6	5.2	12	LM 20UU	882	1370	255
SCS 25UU	12	26	38	76	67	51.5	42	54	50	11	M8	7	18	LM 25UU	980	1570	600
SCS 30UU	15	30	39	78	72	59.5	49	58	58	10	M8	7	18	LM 30UU	1570	2740	735
SCS 35UU	18	34	45	90	80	68	54	70	60	10	M8	7	18	LM 35UU	1670	3140	1100
SCS 40UU	20	40	51	102	90	78	62	80	60	11	M10	8.7	25	LM 40UU	2160	4020	1590
SCS 50UU	25	52	61	122	110	102	80	100	80	11	M10	8.7	25	LM 50UU	3820	7940	3340
SCS 60UU	30	58	66	132	122	114	94	108	90	12	M12	10.7	25	LM 60UU	4700	10000	4270
SCS 16LUU	9	19	25	50	85	38.5	32.5	36	60	7	M5	4.3	12	LM 16LUU	774	1180	200
SCS 20LUU	11	21	27	54	96	41	35	40	70	7	M6	5.2	12	LM 20LUU	882	1370	255
SCS 25LUU	12	26	38	76	130	51.5	42	54	100	11	M8	7	18	LM 25LUU	980	1570	600
SCS 30LUU	15	30	39	78	140	59.5	49	58	110	10	M8	7	18	LM 30LUU	1570	2740	735
SCS 35LUU	18	34	45	90	155	68	54	70	120	10	M8	7	18	LM 35LUU	1670	3140	1100
SCS 40LUU	20	40	51	102	175	78	62	80	140	11	M10	8.7	25	LM 40LUU	2160	4020	1590

>> Linear motion ball slide units series

SH...A





Support Designation	Shaft Demensions	Dimensions (mm)									Locking Bolt	Clamping Bolt	Weight (kg/m)
		h	E	W	L	F	G	P	B	S			
SH 8A	8	20	21	42	14	32.8	6	18	32	5.5	M4	M5	24
SH 10A	10	20	21	42	14	32.8	6	18	32	5.5	M4	M5	24
SH 12A	12	23	21	42	14	37.5	6	20	32	5.5	M4	M5	30
SH 13A	13	23	21	42	14	37.5	6	20	32	5.5	M4	M5	30
SH 16A	16	27	24	48	16	44	8	25	38	5.5	M4	M5	40
SH 20A	20	31	30	60	20	51	10	30	45	6.6	M5	M6	70
SH 25A	25	35	35	70	24	60	12	38	56	6.6	M6	M6	130
SH 30A	30	42	42	84	28	70	12	44	64	9	M6	M8	180
SH 35A	35	50	49	98	32	82	15	50	74	11	M8	M10	270
SH 40A	40	60	57	114	36	96	15	60	90	11	M8	M10	420
SH 50A	50	70	63	126	40	120	18	74	100	14	M12	M12	750
SH 60A	60	80	74	148	45	136	18	90	120	14	M12	M12	1100

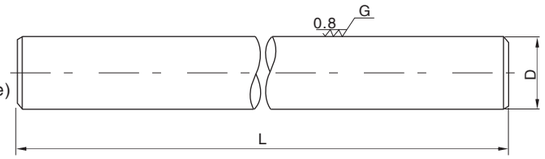
>> Cylinder linear rail series

WC WCS WCAS

WC Standard Type WCS Chrome Plate Type WCAS Stainless Steel Shaft

Main Usage:
Linear Shaft is widely used in automatic transmission device, such as industrial robert, automatic recorder,computer,printer, special cylinder pole, automatic wood machine. It also extends operating life of precise equipment because of its hardness.

Material:GCr15 SUS440C
Hardness:HRC62±2(SUS440C: HRC58)
Accuracy:g6 h6
Roughness:no less than0.8μm(Rmax)
Hard Belt:0.8~3mm
Outer diameter:3~120(GCr15) 3~40(SUS440C)
Rated Length:100mm~6000mm (6000mm is available)
Straightness:100mmLess than5μm
Circularity:Less than3.0μm(Rmax)

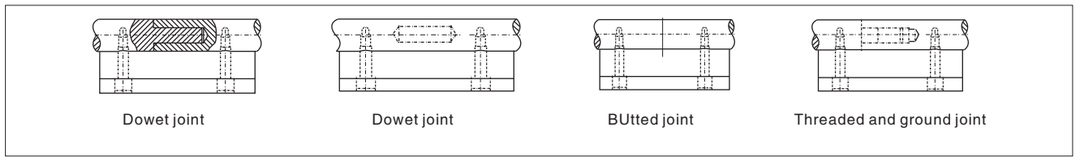


Diameter (mm)	Type WC (WCAS)	Type WCS	Accuracy (mm) g6	Standard Length(mm) 100 200 300 400 500 600 700 800 900 1000 1200 1500 1800 2000 2500 3000 3500 4000 5000 6000	Valid Hard Belt	Weight (kgf/m)
3	WC3	WCS3	−2~−8		no more than 1.0	0.06
4	WC4	WCS4	−4~−12			0.10
5	WC5	WCS5				0.15
6	WC6	WCS6				0.23
8	WC8	WCS8	−5~−14		no less than 1.0	0.40
10	WC10	WCS10				0.62
12	WC12	WCS12	−6~−17			0.89
13	WC13	WCS13				1.04
16	WC16	WCS16				1.58
20	WC20	WCS20	−7~−20		no less than 1.5	2.47
25	WC25	WCS25				3.85
30	WC30	WCS30				5.55
35	WC35	WCS35	−9~−25		no less than 2.0	7.55
40	WC40	WCS40				9.87
50	WC50	WCS50			no less than 2.5	15.4
60	WC60	WCS60	−10~−29		no less than 3.0	22.2
80	WC80	WCS80				39.5
100	WC100	WCS100	−12~−34			61.7
120	WC120	WCS120				88.8
150	WC150	WCS150	−14~−39			139.0

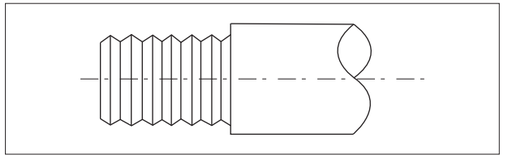
Remarks: 1. Mark ■ means that we can produce different length as Customers requirement
2. We provide products in different materials such as 45# Carbon Steel, 20CrMo,40CrMo etc.
3.Provide hollow linear lead axis (Optical axis) in φ20～φ60 according to customer's requirement.

>>> Spectal Machining for Shaft

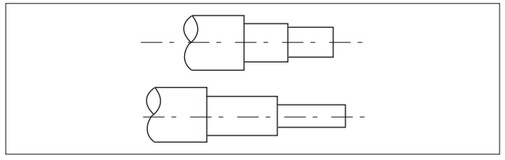
1.When you have special requirements on length, we can meet your machining requirements with different length; when you request above 6000mm,we can joint for you.(Shown in Fig a)



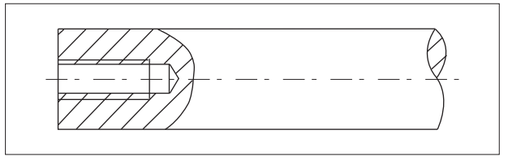
2.When you have special requirements on machining, such as threading, coaxial holes drilled and tapped, radial holes drilled and tapped, reduced shaft diameter etc. We can provide machining for you, and these special machines are finished after heat treatment and hard chromic so that ensure the precision of product. Send us your detailed sketch or blue print for prompt quotation and action,you will be satisfied with our service.



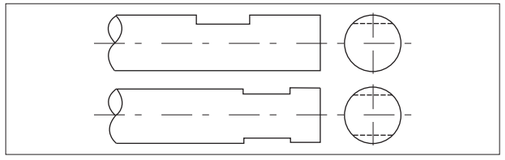
THREADING



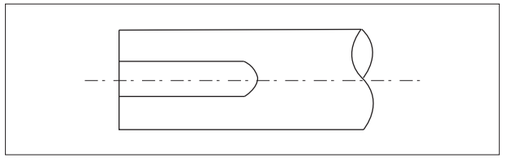
REDUCED SHAFT DIAMETER



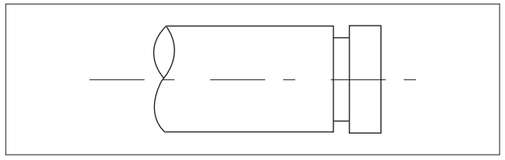
COAXIAL HOLES DRILLED AND TAPPED



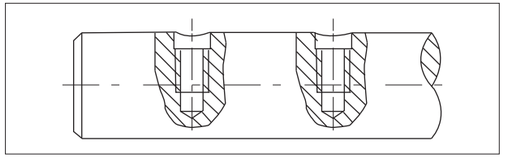
FLATS – SINGLE OR MULTIPLE



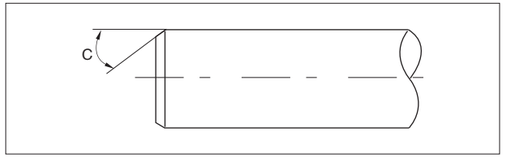
KEY WAY



SNAP RING GROOVES



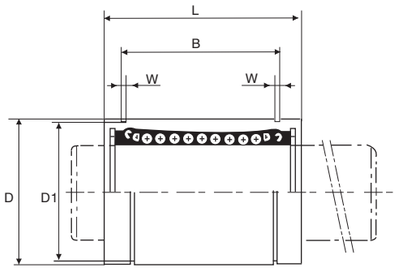
RADIAL HOLES DRILLED AND TAPPED



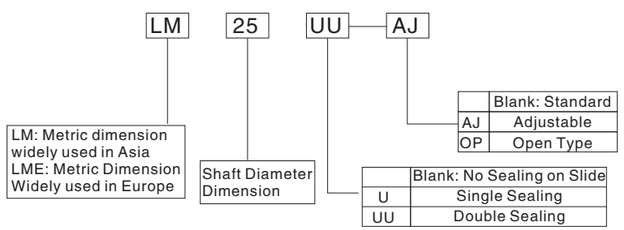
CHAMFERING

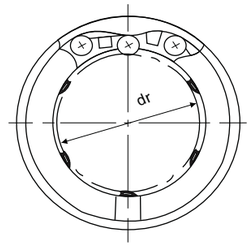
>> Linear bearing series

LM...UU

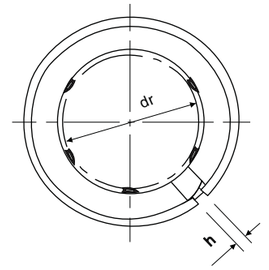


Integrity Type	Specification Type		Interval Adjustable Type	Open Type	Dimension(MM)				
					Inside Diameter dr			Outer Diameter D	
						Tolerance			Tolerance
	Steel Ball Rows	Weight grf				precise	High		precise · High
LM 3UU	4	1.4	–	–	3	0 −0.005	0 −0.008	7	0 −0.009
LM 4UU	4	1.9	–	–	4			8	
LM 5UU	4	4	LM 5UUAJ	–	5			10	
LM 6UU	4	8	LM 6UUAJ	–	6	0 −0.006	0 −0.009	12	0 −0.011
LM 8SU	4	11	LM 8SUAJ	–	8			15	
LM 8UU	4	16	LM 8UUAJ	–	8			15	
LM 10UU	4	30	LM 10UUAJ	–	10			19	0 −0.013
LM 12UU	4	31.5	LM 12UUAJ	LM 12UUOP	12			21	
LM 13UU	4	43	LM 13UUAJ	LM 13UUOP	13			23	
LM 16UU	4	69	LM 16UUAJ	LM 16UUOP	16			28	
LM 20UU	5	87	LM 20UUAJ	LM 20UUOP	20	0 −0.007	0 −0.010	32	0 −0.016
LM 25UU	6	220	LM 25UUAJ	LM 25UUOP	25			40	
LM 30UU	6	250	LM 30UUAJ	LM 30UUOP	30			45	
LM 35UU	6	390	LM 35UUAJ	LM 35UUOP	35	0 −0.008	0 −0.012	52	0 −0.019
LM 40UU	6	585	LM 40UUAJ	LM 40UUOP	40			60	
LM 50UU	6	1580	LM 50UUAJ	LM 50UUOP	50			80	
LM 60UU	6	2000	LM 60UUAJ	LM 60UUOP	60	0 −0.009	0 −0.015	90	0 −0.022
LM 80UU	6	4520	LM 80UUAJ	LM 80UUOP	80			120	
LM 100UU	6	8600	LM 100UUAJ	LM 100UUOP	100	0 −0.010	0 −0.020	150	0 −0.025
LM 120UU	8	15000	LM 120UUAJ	LM 120UUOP	120			180	
LM 150UU	8	20250	LM 150UUAJ	LM 150UUOP	150	0 −0.013	0 −0.025	210	0 −0.029

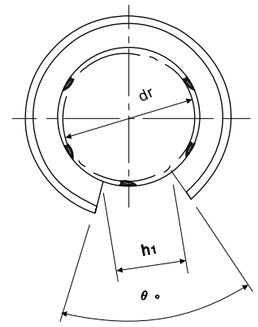




LM Type



LM...AJ Type



LM...OP Type

Dimension(MM)												Radial Interval Tolerance μm	Basic Rated Load		Specification Type
Length				W	D1	h	h1	θ	Eccentric (Max) μm						
	L Tolerance		B Tolerance						precise	High		C N	Co N	
10	0 −0.12	–	-	–	–	–	–	–	4	8	−2	88.2	108	LM 3UU
12		–	-	–	–	–	–	–	4	8	−3	88.2	127	LM 4UU
15		10.2		1.1	9.6	–	–	–	4	8	−3	167	206	LM 5UU
19		13.5		1.1	11.5	1	–	–	8	12	−5	206	265	LM 6UU
17		11.5		1.1	14.3	1	–	–	8	12	−5	176	225	LM 8SUU
24		17.5		1.1	14.3	1	–	–	8	12	−5	265	402	LM 8UU
29	0 −0.2	22	0 −0.2	1.3	18	1	–	–	8	12	−5	373	549	LM 10UU
30		23		1.3	20	1.5	8	80°	8	12	−5	412	598	LM 12UU
32		23		1.3	22	1.5	9	80°	8	12	−7	510	775	LM 13UU
37		26.5		1.6	27	1.5	11	80°	8	12	−7	775	1180	LM 16UU
42		30.5		1.6	30.5	1.5	11	60°	10	15	−9	863	1370	LM 20UU
59	0 −0.3	41	0 −0.3	1.85	38	2	12	50°	10	15	−9	980	1570	LM 25UU
64		44.5		1.85	43	2.5	15	50°	10	15	−9	1570	2750	LM 30UU
70		49.5		2.1	49	2.5	17	50°	12	20	−13	1670	3140	LM 35UU
80		60.5		2.1	57	3	20	50°	12	20	−13	2160	4020	LM 40UU
100		74		2.6	76.5	3	25	50°	12	20	−13	3820	7940	LM 50UU
110		85		3.15	86.5	3	30	50°	17	25	−16	4710	10000	LM 60UU
140		105.5		4.15	116	3	40	50°	17	25	−16	7350	16000	LM 80UU
175	0 −0.4	125.5	0 −0.4	4.15	145	3	50	50°	20	30	−20	14100	38400	LM 100UU
200		158.5		4.15	175	4	85	80°	20	30	−25	16400	40000	LM 120UU
240		170.6		5.15	204	4	105	80°	25	40	−30	21100	54300	LM 150UU

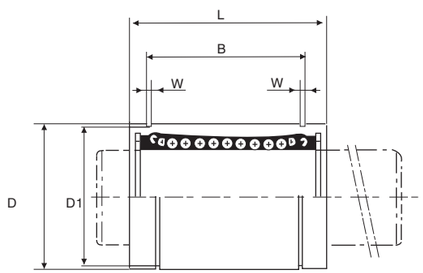
>> Linear bearing series

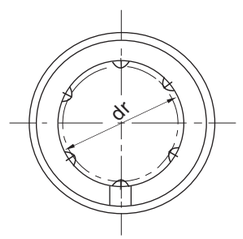
LME...UU

LME

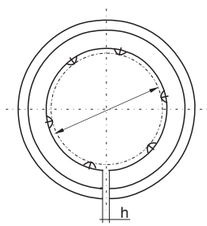
LME□AJ

LME□OP

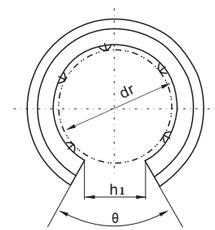




LME Type

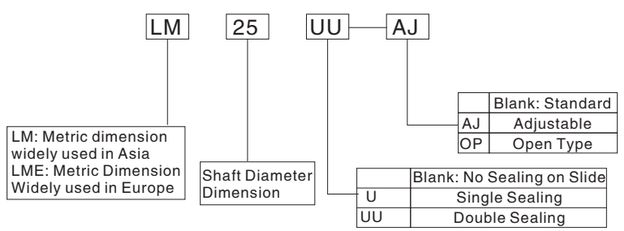


LME□AJ Type



LME□OP Type

LME: Series						Basic Load		Inside Diameter	
LME: Series		Wide Open Type		Adjustable Type (Narrow Open)		Dynamic C(N)	Static Co(N)	dr (mm)	Tolerance (μm)
Type	Ball Rows	Type	Ball Rows	Type	Ball Rows				
LME 5UU	4	–	–	LME 5UUAJ	4	200	260	5	+8 0
LME 8UU	4	–	–	LME 8UUAJ	4	260	400	8	
LME12UU	4	–	–	LME 12UUAJ	4	500	770	12	
LME16UU	5	LME 16UUOP	4	LME 16UUAJ	5	570	890	16	+9 −1
LME 20UU	5	LME 20UUOP	4	LME 20UUAJ	5	860	1370	20	
LME 25UU	6	LME 25UUOP	5	LME 25UUAJ	6	980	1560	25	+11 −1
LME 30UU	6	LME 30UUOP	5	LME 30UUAJ	6	1560	2740	30	
LME 40UU	6	LME 40UUOP	5	LME 40UUAJ	6	2150	4010	40	+13 −2
LME 50UU	6	LME 50UUOP	5	LME 50UUAJ	6	3820	7930	50	
LME 60UU	6	LME 60UUOP	5	LME 60UUAJ	6	4700	9990	60	
LME80UU	6	LME80UUOP	5	LME80UUAJ	6	10192	17640	80	+16 −4



Dimension (mm)											Weight (g)	Radial Interval tolerance (μm)	Type
Outer Diameter (D) mm	Tolerance (μm)	Length(L) mm	Tolerance (mm)	B mm	Tolerance (mm)	W	D1	h	h1	θ (°)			
12	0 −8	22	0 −0.2	14.5	0 −0.2	1.1	11.5	1	–	–	12	−5	LME5UU
16		25		16.5		1.1	15.2	1	–	–	20	−5	LME8UU
22	0 −9	32		22.9		1.3	21	1.5	–	–	41	−7	LME12UU
26		36		24.9		1.3	24.9	1.5	10	78°	57	−7	LME16UU
32	0 −11	45		31.5		1.6	30.3	2	10	60°	91	−9	LME20UU
40		58	0 −0.3	44.1	0 −0.3	1.85	37.5	2	12.5	60°	215	−9	LME5UU
47		68		52.1		1.85	44.5	2	12.5	50°	325	−9	LME30UU
62	0 −13	80		60.6		2.15	59	3	16.8	50°	705	−13	LME40UU
75		100		77.6		2.65	72	3	21	50°	1130	−13	LME50UU
90	0 −15	125	0 −0.4	101.7	0 −0.4	3.15	86.5	3	27.2	50°	2220	−16	LME60UU
120		165		133.7		4.15	116	3	36.3	50°	5000	−20	LME80UU

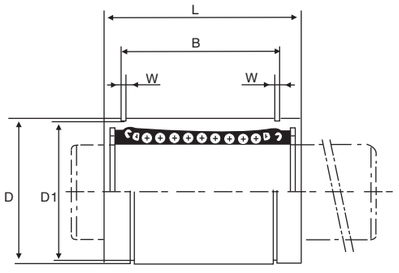
>> Linear bearing series

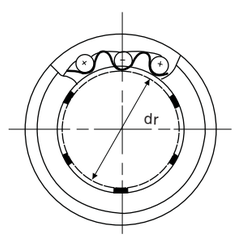
LMB...UU

LMB Type

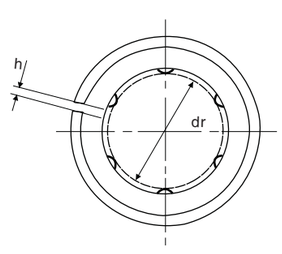
LMB...AJ Type

LMB...OP Type

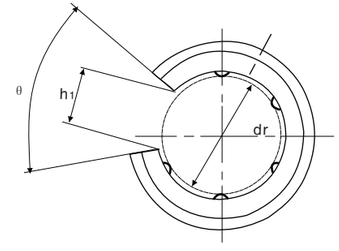




LMB Type



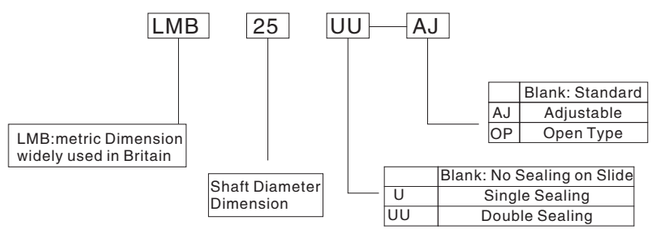
LMB...AJ Type



LMB...OP Type

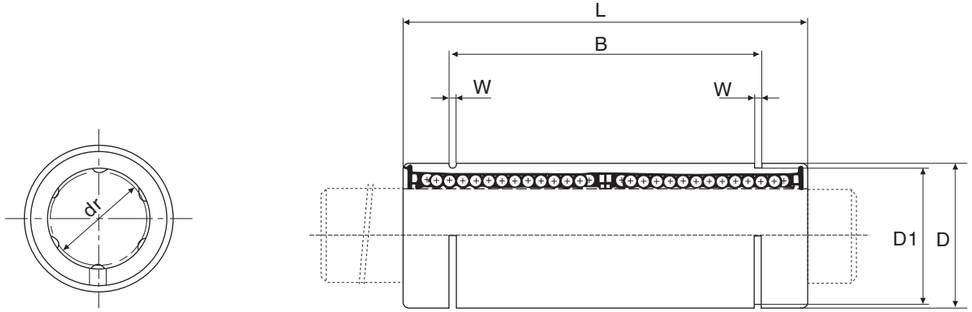
Standard Type	Steel Ball Rows	Specification Type			Main				
		Weight grf	Interval Adjustable Type	Open Type	Inside Diameter (dr)	Tolerance precise	Tolerance High	Outer Diameter (D)	Tolerance
LMB 3UU	4		–	–	4.763(3/16)	0 −0.006	0 −0.009	9.525(3/8)	0 −0.011
LMB 4UU	4	10	–	–	6.350(1/4)			12.700(1/2)	
LMB 6UU	4	15	–	–	9.525(3/8)			15.875(5/8)	0 −0.013
LMB 8UU	4	42	LMB 8UUAJ	LMB 8UUOP	12.700(1/2)			22.225(7/8)	
LMB 10UU	4		LMB 10UUAJ	LMB 10UUOP	15.875(5/8)	0 −0.007	0 −0.010	28.575(1−1/8)	0 −0.016
LMB 12UU	5	104	LMB 12UUAJ	LMB 12UUOP	19.050(3/4)			31.750(1−1/4)	
LMB 16UU	6	220	LMB 16UUAJ	LMB 16UUOP	25.400(1)			39.688(1−9/16)	
LMB 20UU	6	465	LMB 20UUAJ	LMB 20UUOP	31.750(1−1/4)	0 −0.008	0 −0.012	50.800(2)	0 −0.019
LMB 24UU	6	720	LMB 24UUAJ	LMB 24UUOP	38.100(1−1/2)			60.325(2−3/8)	
LMB 32UU	6	1310	LMB 32UUAJ	LMB 32UUOP	50.800(2)			76.200(3)	
LMB 40UU	6	2500	LMB 40UUAJ	LMB 40UUOP	63.500(2−1/2)	0 −0.009	0 −0.015	95.250(3−3/4)	0 −0.022
LMB 48UU	6	4380	LMB 48UUAJ	LMB 48UUOP	76.200(3)			114.600(4−1/2)	
LMB 64UU	6	10200	LMB64UUAJ	LMB 64UUOP	101.600(4)	0 −0.010	0 −0.020	152.400(6)	0 −0.025

Dimension (mm)															Radial Interval Tolerance μm	Basic Rated Load		Specification Type
L	Length Tolerance	B	Tolerance	W	D1	h	h1	θ	Eccentric (Max) μm precise	Eccentric (Max) μm High						C N	Co N	
14.288(9/16)	0 −0.2	10.94	0 −0.2	0.71	8.910	–	–	–	6	10	−3	137	167	LMB 3UU				
19.050(3/4)		12.98		0.992	11.906	–	–	–	8	12	−5	206	265	LMB 4UU				
22.225(7/8)		16.15		0.992	14.935	–	–	–	8	12	−5	225	314	LMB 6UU				
31.750(1−1/4)		24.46		1.168	20.853	1.5	9	80°	8	12	−7	510	775	LMB 8UU				
38.100(1−1/2)		28.04		1.420	26.899	1.5	11	80°	8	12	−9	686	980	LMB 10UU				
41.275(1−5/8)		29.61		1.422	29.870	1.5	11	60°	10	15	−9	863	1373	LMB 12UU				
57.150(2−1/4)	0 −0.3	44.157	0 −0.3	1.727	37.306	1.5	12	50°	10	15	−9	980	1569	LMB 16UU				
66.675(2−5/8)		50.92		1.727	47.904	2.5	15	50°	12	20	−13	1569	2745	LMB 20UU				
76.200(3)		61.26		2.184	56.870	3	18	50°	12	20	−13	2157	4020	LMB 24UU				
101.600(4)		81.07		2.616	72.085	3	25	50°	17	25	−16	3824	7940	LMB 32UU				
127.000(5)		100.99		3.048	90.220	3	30	50°	17	25	−16	4705	10000	LMB 40UU				
152.400(6)	0 −0.4	120.04	0 −0.4	3.048	109.474	3	40	50°	17	25	−16	7353	15980	LMB 48UU				
203.200(8)		158.958		3.530	145.923	3	50	50°	20	30	−20	14118	34800	LMB 64UU				



>> Linear bearing series

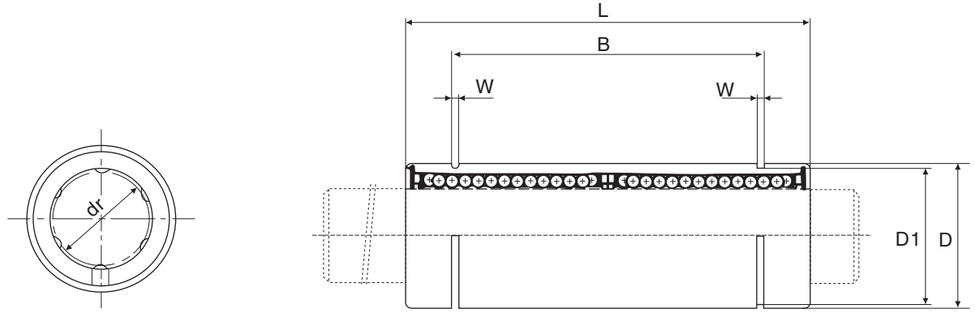
LM...LUU



Specification Type			Dimension (mm)											Eccentric (Max)	Radial Interval Tolerance	Basic Rated Load	
Standard	Steel Ball Rows	Weight gr	Inside Diameter dr	Tolerance	Outer Diameter D	Tolerance	Length L	Tolerance	B	Tolerance	W	D1				C N	Co N
														μm	μm		
LM 3LUU	4	3	3	0 −0.010	7	0 −0.013	19	0 −0.3	–	–	–	–		10	−2	139	216
LM 4LUU	4	4	4		8		23		–		–	–		10	−3	139	254
LM 5LUU	4	8	5		10		29		20	0 −0.3	1.1	9.6		10	−3	263	412
LM 6LUU	4	16	6		12		35		27		1.1	11.5		15	−5	324	529
LM 8LUU	4	31	8		15		45		35		1.1	14.3		15	−5	431	784
LM 10LUU	4	62	10	0 −0.012	19	0 −0.016	55	0 −0.3	44	0 −0.3	1.3	18		15	−5	588	1100
LM 12LUU	4	80	12		21		57		46		1.3	20		15	−5	657	1200
LM 13LUU	4	90	13		23		61		46		1.3	22		15	−7	814	1570
LM 16LUU	5	145	16		28		70		53		1.6	27		15	−7	1230	2350
LM 20LUU	5	180	20	0 −0.015	32	0 −0.019	80	0 −0.4	61	0 −0.4	1.6	30.5		20	−9	1400	2750
LM 25LUU	6	440	25		40		112		82		1.85	38		20	−9	1560	3140
LM 30LUU	6	580	30		45		123		89		1.85	43		20	−9	2490	5490
LM 35LUU	6	795	35	0 −0.020	52	0 −0.022	135	0 −0.4	99	0 −0.4	2.1	49		25	−13	2650	6270
LM 40LUU	6	1170	40		60		154		121		2.1	57		25	−13	3430	8040
LM 50LUU	6	3100	50		80		192		148		2.6	76.5		25	−13	6080	15900
LM 60LUU	6	3500	60	0 −0.025	90	0 −0.030	211	0 −0.4	170	0 −0.4	3.15	86.5		25	−16	7650	20000

>> Linear bearing series

LME...LUU



LME□L series		Inside Diameter		Dimension (mm)								Weight (g)	Basic Load	
Type	Ball Rows	dr (mm)	Tolerance (μm)	Outer Diameter (D) dr (mm)	Tolerance (μm)	Length (L) dr (mm)	Tolerance (μm)	B dr (mm)	Tolerance (μm)	W	D1		Dynamic C(N)	Static Co(N)
LME 8LUU	4	8	+9 −1	16	0 −9	45	0 −0.3	33	0 −0.3	1.1	15.2	31	430	780
LME 12LUU	4	12		22	0 −11	57		45.8		1.3	21	80	650	1200
LME 16LUU	5	16	+11 −1	26		70		49.8		1.3	24.9	145	1230	2350
LME 20LUU	5	20		32		80		61		1.6	30.3	180	1400	2750
LME 25LUU	6	25	+13 −2	40	0 −13	112	0 −0.4	82	0 −0.4	1.85	38	440	1560	3140
LME 30LUU	6	30		47		123		104.2		1.85	44.5	580	2490	5490
LME 40LUU	6	40	+16 −4	62	0 −15	154		121.2		2.15	59	1170	3430	8040
LME 50LUU	6	50		75		192		155.2		2.65	72	3100	6080	15900
LME 60LUU	6	60		90	0 −25	211		170		3.15	86.5	3500	7650	20000

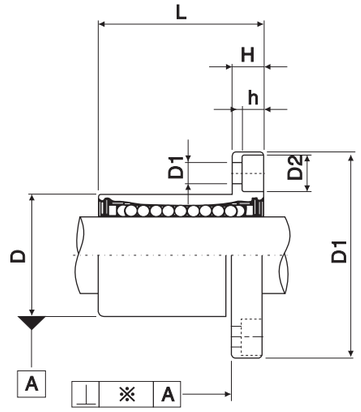
>> Flange linear bearing series

LMF...UU

LMF

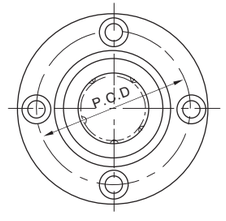
LMK

LMH

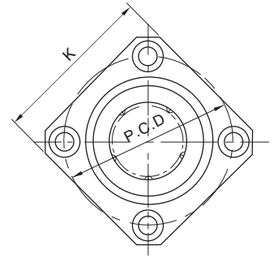


Type			Ball Rows	Weight ★ (g)	Allowed Diameter Tolerance (μm)	Basic Load		Inside Diameter	
Circular Flange	Square Flange	Oval Flange				Dynamic C(N)	Static Co(N)	dr (mm)	Tolerance (μm)
LMF 6UU	LMK 6UU	LMH 6UU	4	26.5	−5	200	260	6	0 −9
LMF 8SUU	LMK 8SUU	–	4	34	−5	170	220	8	
LMF 8UU	LMK 8UU	LMH 8UU	4	40	−5	260	400	8	
LMF 10UU	LMK 10UU	LMH10UU	4	78	−5	370	540	10	
LMF 12UU	LMK 12UU	LMH12UU	4	76	−5	410	590	12	
LMF13UU	LMK 13UU	LMH13UU	4	94	−7	500	770	13	
LMF16UU	LMK 16UU	LMH16UU	5	134	−7	770	1170	16	
LMF 20UU	LMK 20UU	LMH 20UU	5	180	−9	860	1370	20	0 −10
LMF 25UU	LMK 25UU	LMH 25UU	6	340	−9	980	1560	25	
LMF 30UU	LMK 30UU	LMH 30UU	6	460	−9	1560	2740	30	
LMF 35UU	LMK 35UU	–	6	795	−13	1660	3130	35	0 −12
LMF 40UU	LMK 40UU	–	6	1054	−13	2150	4010	40	
LMF 50UU	LMK 50UU	–	6	2200	−13	3820	7930	50	
LMF 60UU	LMK 60UU	–	6	2960	−16	4700	9990	60	0 −15
LMF 80UU	LMK 80UU	–	6	5800	−20	7350	16000	80	
LMF 100UU	LMK 100UU	–	6	10600	−30	14100	34800	100	0 −20

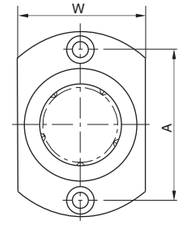
Remarks: Also have LMF···LUU LMK···.LUU LMH···.LUU (lengthened)

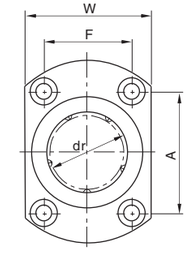


LMF



LMK





LMH

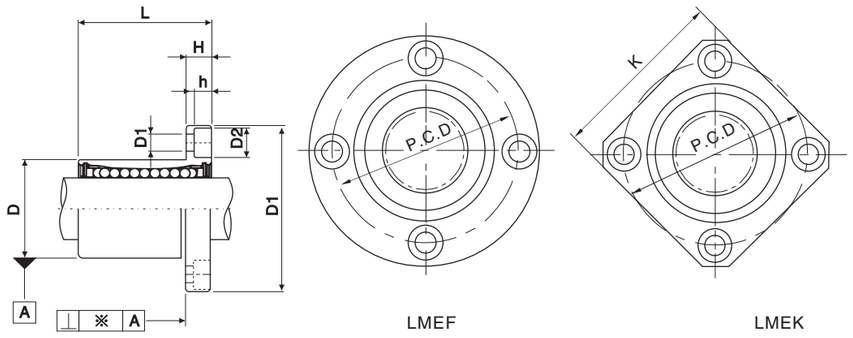
Dimension (mm)															Type
Outer Diameter(D)		Length(L)		D_1		H	PCD	K	W	A	F	Squareness ※ (μm)	d_1 x d_2 x h		
(mm)	Tolerance (μm)	(mm)	Tolerance (mm)	(mm)	Tolerance (mm)										
12	0 −11	19	0 −0.2	28	0 −0.2	5	20	22	18	20	–	12	3.4 X 6.5 X 3.3	LMF/K/H 6UU	
15		17		32		5	24	25	–	–	–	12	3.4 X 6.5 X3.3	LMF/K 8SUU	
15		24		32		5	24	25	21	24	–	12	3.4 X 6.5 X 3.3	LMF/K/H 8UU	
19	0 −13	29		40		6	29	30	25	29	–	12	4.5 X 8 X 4.4	LMF/K/H 10UU	
21		30		42		6	32	32	27	32	–	12	4.5 X8 X4.4	LMF/K/H12UU	
23		32		43		6	33	34	29	33	–	12	4.5 X 8 X4.4	LMF/K/H13UU	
28		37		48		6	38	37	34	31	22	12	4.5 X8 X4.4	LMF/K/H 16UU	
32	0 −16	42		54		8	43	42	38	36	24	15	5.5 X9.5 X5.4	LMF/K/H 20UU	
40		59	0 −0.3	62		8	51	50	46	40	32	15	5.5 X9.5 X5.4	LMF/K/H25UU	
45		64		74		10	60	58	51	49	35	15	6.6 X11 X6.5	LMF/K/H 30UU	
52	0 −19	70		82		10	67	64	–	–	–	20	6.6 X11 X6.5	LMF/K/H35UU	
60		80		96	0 −0.3	13	78	75	–	–	–	20	9 X 14 X8.6	LMF/K/H 40UU	
80		100		116		13	98	92	–	–	–	20	9 X14 X8.6	LMF/K/H 50UU	
90	0 −22	110		134		18	112	106	–	–	–	25	11 X17.5 X10.8	LMF/K/H 60UU	
120	0 −25	140	0 −300	164		18	142	136	–	–	–	30	11X17X11.1	LMF/K/H 80UU	
150	0 −29	175		200	0 −0.5	20	175	170	–	–	–	40	14X20X13.1	LMF/K/H 100UU	

>> Flange linear bearing series

LMEF...UU

LMEF

LMEK



LMEF

LMEK

Type		Ball Rows	Weight★ (gf)	Allowed Diameter Tolerance (μm)	Basic Load		Inside Diameter	
Circular Flange	Square Flange				Dynamic C(N)	Static Co(N)	dr (mm)	Tolerance (μm)
LMEF8UU	LMEK8UU	4	44	−5	260	400	8	+8 0
LMEF12UU	LMEK12UU	4	86	−5	500	770	12	
LMEF16UU	LMEK16UU	5	120	−7	570	890	16	+9 −1
LMEF20UU	LMEK20UU	5	184	−9	860	1370	20	
LMEF25UU	LMEK25UU	6	335	−9	980	1560	25	+11 −1
LMEF30UU	LMEK30UU	6	545	−9	1560	2740	30	
LMEF40UU	LMEK40UU	6	1185	−13	2150	4010	40	+13 −2
LMEF50UU	LMEK50UU	6	1730	−13	3820	7930	50	
LMEF60UU	LMEK60UU	6	3180	−16	4700	9990	60	

1N=0.102kgf

Dimension (mm)											Type
Outer Diameter(D)		Length(L)		D_1		H	PCD	K	Squareness ※ (μm)	d_1 x d_2 x h	
(mm)	Tolerance (μm)	(mm)	Tolerance (mm)	(mm)	Tolerance (mm)						
16	0 −8	25	0 −0.2	32	0 −0.2	5	24	25	12	3.4 X 6.5 X3.3	LMEF/K 8LUU
22	0 −9	32		42		6	32	32	12	4.5 X8 X 4.4	LMEF/K 12LUU
26		36		46		6	36	35	12	4.5X8 X4.4	LMEF/K 16LUU
32	0 −11	45		54		8	43	42	15	5.5 X9.5 X5.4	LMEF/K 20LUU
40		58	0 −0.3	62		8	51	50	15	5.5 X9.5 X5.4	LMEF/K 25LUU
47		68		76		10	62	60	15	6.6 X11 X6.5	LMEF/K 30LUU
62	0 −13	80		98	0 −0.3	13	80	75	20	9 X14 X8.6	LMEF/K 40LUU
75		100		112		13	94	88	20	9 X14 X8.6	LMEF/K 50LUU
90	0 −15	125	0 −0.4	134		18	112	106	25	11 X17.5 X10.8	LMEF/K 60LUU

Remarks: Also have LMEF···LUU LMEK····.LUU (lengthened)

>> Super linear bearing series

ZNT is improved on the basis of standard linear bearings,with three times of load capacity and 27 times of operating life of standard linear bearings. It can save installing time,reduce rub between shaft and steel ball so as to lengthen operating life and improve the function of machine..

Seven features of ZNT Super Linear Bearing Series

1.Self−proofreading

ZNT is designed with self−proofreading which can adjust the equipment and operating angle and compensate the deviate distance between shaft and hole of bearing by itself. These features make the machine to reduce rub, operate in a good condition and improve load capacity.

2. More load capacity

The ball of ZNT is made of hardened steel with big and two times amount of standard linear bearings and the load capacity
is 3 times of standard linear bearing.

3. Longer operating life

Through to improve load capacity, reduce rub and with its operating condition, the life of ZNT is 27 times of general
linear bearings.

4. Lower system costs of customer

Because of big improvement of load capacity, customers can choose smaller bearings to realize its ideal operating result which can improve the operating speed by reducing inertia and rub.

5. Higher operating speed

The coat and maintain shelf of ZNT are both made of polymer which can improve the operating speed by reducing inertia
and rub.

6. More smooth operating condition

The coat and maintain shelf of ZNT are both made of polymer, it can reduce work noise and rub, compensate the deviate
distance of machinery so as to get a more smootho operating condition.

7. Exchange ability

The work dimensions of ZNT are the same with standard linear bearings so it can exchang with each other and convenient
for consumer to choose and change.

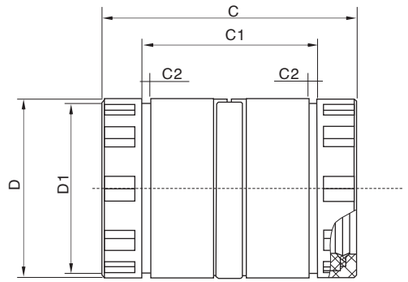
>> Super linear bearing series (Patent NO：200420022058.8)

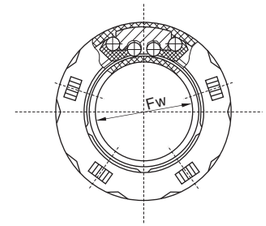
CLME...UU

Designation			Major dimensions and tolera			nce
CLME...UU	Ball circuit	LM...OP	Fw (mm)	Tolerance (μm) Precision P	D (mm)	Tolerance (μm)
CLME4UU	3×2	–	4	+8 0	8	0 -8
CLME5UU	3×2	–	5		12	
CLME8UU	3×2	–	8		16	
CLME10UU	3×2	CLME10-OP	10		19	0 -9
CLME12UU	5×2	CLME12-OP	12		22	
CLME16UU	5×2	CLME16-OP	16	+9 -1	26	
CLME20UU	5×2	CLME20-OP	20		32	0 -11
CLME25UU	5×2	CLME25-OP	25	+11 -1	40	
CLME30UU	5×2	CLME30-OP	30		47	
CLME40UU	5×2	CLME40-OP	40	+13 -2	62	0 -13
CLME50UU	5×2	CLME50-OP	50		75	
CLME60UU	5×2	CLME60-OP	60		90	0 -15
CLME 25UU	3×2	–	25	+11 -1	40	0 -11

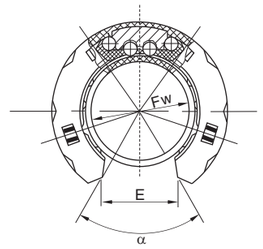
C LM 25 UU OP

- Super Linear Bearing
- LM: Metric dimension widely used in Asia; LME: Metric Dimension Widely used in Europe
- Shaft Diameter Dimension
- UU: Blank: No Sealing on Slide; U: Single Sealing; UU: Double Sealing
- OP: Standard; OP: Open





LM



LM...OP

Major dimensions and tolerance								Ratings load	
C (mm)	Tolerance (μm)	C1 (mm)	Tolerance (μm)	C2 (mm)	D1 (mm)	E (mm)	α	Dynamic CN	Statoc Co N
12	0 -120	–	–	–	–	–	–	264	381
22	0 -200	14.5	0 -200	1.1	11.5	–	–	618	795
25		16.5		1.1	15.2	–	–	795	1206
29		22		1.3	18	6.8	80°	1116	1647
32		22.9		1.3	21	7.5	78°	1530	2352
36		24.9		1.3	24.9	10	78°	1734	2676
45		31.5		1.6	30.3	10	60°	2586	4110
58	0 -300	44.1	0 -300	1.85	37.5	12.5	60°	2940	4710
68		52.1		1.85	44.5	12.5	50°	4710	8220
80		60.6		2.15	59	16.8	50°	6480	12060
100		77.6		2.65	72	21	50°	11460	23820
125	0 -400	101.7	0 -400	3.15	86.5	27.2	54°	14100	29400
35	0 -200	–	–	–	–	–	–	2940	4910

Super linear bearings are based on linear bearings and applied with dynamics theory changing force carrying directions. It uses more rational structure so as to make steel ball rolling on roller path which is little longer than steel ball curvature radius rather than rolling on large camber roller path with single point contact. It increases contact area. Because it reduces load of single point and doubles number of steel ball, it has 8 times of load than common linear bearings and 3 times of operating life, which therefore, is called supper linear bearings.

Outer dimension of super linear bearings is an integrated dimension chain with steel ball, roller path rail and spring. Under the changeable load on radial direction, shaft will float and adjust by itself and get the best interval, which is the structure feature of super linear bearings that cannot be found in common linear bearings.

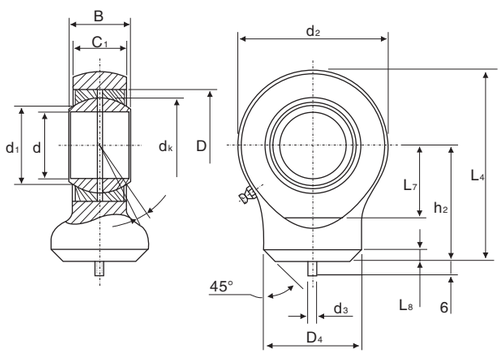
Following pictures show correct way of assembling. Assemble shaft replaces transitional shaft rather than draw out transitional shaft from hole of bearings first.


WRONG


CORRECT

>> Rod ends for hydraulic components

GK..DO

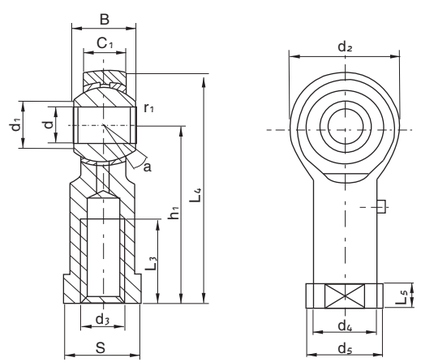


Bearings number	Dimensions (mm)														Load ratings		Weight (kg)
	d	d_1	B	C_1	d_k	d_2	L_4	h_2	$L_{7\,min}$	L_8	d_3	d_4	D	α ≈	dyn.c	stat.c_0	
GK 10DO*	10	13.2	9	7	16	29	38.5	24	15	1.5	3	15	19	12	8.15	15.6	0.041
GK 12DO*	12	15	10	8	18	34	44	27	18	1.5	3	17.5	22	11	10.8	21.6	0.066
GK 15DO	15	18.4	12	10	22	40	51	31	20	2.0	4	21	26	8	17.0	32.0	0.12
GK 17DO	17	20.7	14	11	25	46	58	35	23	2.0	4	24	30	10	21.2	40.0	0.19
GK 20DO	20	24.2	16	13	29	53	64.5	38	27.5	2.0	4	27.5	35	9	30.0	54.0	0.23
GK 25DO	25	29.3	20	17	35.5	64	77	45	33	3.0	4	33.5	42	7	48.0	72.0	0.43
GK 30DO	30	34.2	22	19	40.7	73	87.5	51	37.5	3.0	4	40	47	6	62.0	95.0	0.64
GK 35DO	35	39.8	25	21	47	82	102	61	43	3.0	4	47	55	6	80.0	125	0.96
GK 40DO	40	45.0	28	23	53	92	115	69	48	4.0	4	52	62	7	100	156	1.30
GK 45DO	45	50.8	32	27	60	102	128	77	52	4.0	6	58	68	7	127	208	1.80
GK 50DO	50	55.9	35	30	66	112	144	88	59	4.0	6	62	75	6	156	250	2.50
GK 60DO	60	66.8	44	38	80	135	167.5	100	72.5	4.0	6	70	90	6	245	390	3.90
GK 70DO	70	77.9	49	42	92	160	195	115	86	5.0	6	80	105	6	315	510	6.60
GK 80DO	80	89.4	55	47	125	180	231	141	98	5.0	6	95	120	6	400	620	8.70

1.Rod end housing with weldable base and dowel pin.
2.t is made up of a radial spherical plain bearing GE..ES or GE..ES 2RS and rod end housing.
3.With locking slot and nut .
4.Rod end housing with a lubricating hole or grease nipple.
5.Sealed design also available,e.g.GK 50DO 2RS.
6.Relubrication not possible for the sizes marked “*”.

>> Inlaid line rod ends with female thread series

PHS

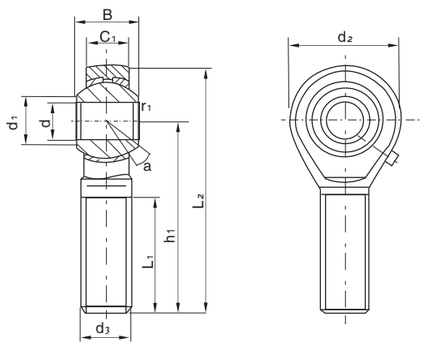


Bearings number	Dimensions (mm)											Load ratings		a°	Weight (kg)
	C_1	d	B	d_2 max	d_3	d_4	h_1	L_3 min	L_4 max	L_5 max	d_5 max	S	Dynamic	Static		
PHS 5	6	5	8	16	M5×0.8	9	27	14	35	4	11	9	3.3	4.1	13	0.016
PHS 6	6.75	6	9	18	M6×1	10	30	14	39	5	13	11	4.3	5.3	13	0.026
PHS 8	9	8	12	22	M8×1.25	12.5	36	17	47	5	16	14	6.8	8.5	14	0.044
PHS 10	10.5	10	14	26	M10×1.5	15	43	21	56	6.5	19	17	10	11	14	0.072
PHS 12	12	12	16	30	M12×1.75	17.5	50	24	65	6.5	22	19	13	14	13	0.108
PHS 14	13.5	14	19	34	M14×2	20	57	27	74	8	25	22	17	20	16	0.161
PHS 16	15	16	21	38	M16×2	21	64	33	83	8	27	22	21	25	15	0.225
PHS 18	16.5	18	23	42	M18×1.5	25	71	36	92	10	31	27	26	30	15	0.295
PHS 20	18	20	25	46	M20×1.5	27.5	77	40	100	10	34	30	31	35	15	0.382
PHS 22	20	22	28	50	M22×1.5	30	84	43	109	12	37	32	38	43	15	0.488
PHS 25	22	25	31	60	M24×2	33.5	94	48	124	12	42	36	47	65	15	0.749
PHS 28	25	28	35	66	M27×2	37	103	53	136	12	46	41	59	77	15	0.949
PHS 30	25	30	37	70	M30×2	40	110	56	145	15	50	41	63	86	17	1.13

1. For Left–hand thread mark "L" is added to bearings number and thread, e.g. PHS8 M8L–6H
2. The surface of spherical plain with a bronze line
3. To plate zine on the surface of rod body, the housing with a lubrication hole or a grease nipple

>> Inlaid line rod ends with male thread series

POS

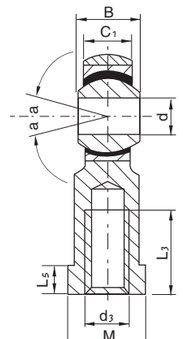


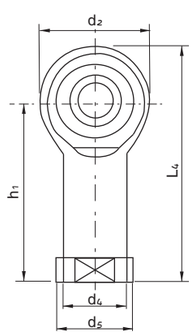
Bearings number	Dimensions (mm)										Load ratings		a°	Weight (kg)
	d	B	r1	C1	d1	d2	d3	h1	L1	L2	Dynamic	Static		
POS 5	5	8	0.3	6	7.7	16	M5×0.8	33	20	41	3.3	3.9	13	0.016
POS 6	6	9	0.3	6.75	9	18	M6×1	36	22	45	4.3	5.3	13	0.026
POS 8	8	12	0.3	9	10.4	22	M8×1.25	42	25	53	6.8	8.5	14	0.044
POS 10	10	14	0.6	10.5	12.9	26	M10×1.5	48	29	61	10	11	14	0.072
POS 12	12	16	0.6	12	15.4	30	M12×1.75	54	33	69	13	14	13	0.108
POS 14	14	19	0.6	13.5	16.9	34	M14×2	60	36	77	17	20	16	0.161
POS 16	16	21	0.6	15	19.4	38	M16×2	66	40	85	21	25	15	0.225
POS 18	18	23	0.6	16.5	21.9	42	M18×1.5	72	44	93	26	30	15	0.295
POS 20	20	25	0.6	18	24.4	46	M20×1.5	78	47	101	31	35	15	0.382
POS 22	22	28	0.6	20	25.8	50	M22×1.5	84	51	109	38	43	15	0.488
POS 25	25	31	0.6	22	29.6	60	M24×2	94	57	124	47	65	15	0.749
POS 28	28	35	0.6	25	32.3	66	M27×2	103	62	136	59	77	15	0.949
POS 30	30	37	0.6	25	34.8	70	M30×2	110	66	145	63	86	17	1.13

1. For Left–hand thread mark "L" is added to bearings number and thread, e.g. POS8 M8L–6g
2. The surface of spherical plain with a bronze line
3. To plate zine on the surface of rod body, the housing with a lubrication hole or a grease nipple

>> Self–lubricating rod end bearings female thread steel on ptee–metallic fabric maintenance free series

PHSA



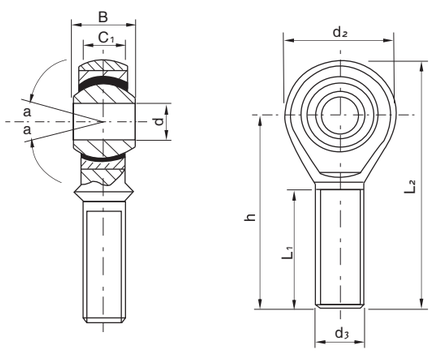


Bearings number	Dimensions (mm)												a°	Max stat load capacity	Weight (kg)	Old designation
	d1	M	d2	d5	S	b1	b2	L5	l1	l2	d4	L4				
PHSA 6	6	M6×1	20	13	11	9	6.75	5	30	14	10	40	13	7.20	0.027	SI6T/K
PHSA 8	8	M8×1.25	24	16	14	12	9	5	36	17	12.5	48	13	11.60	0.046	SI8T/K
PHSA 10	10	M10×1.5	28	19	17	14	10.5	6	43	21	15	57	13	14.50	0.076	SI10T/K
PHSA 12	12	M12×1.75	32	22	19	16	12	6	50	24	17.5	66	13	17.00	0.115	SI12T/K
PHSA 14	14	M14×2	36	25	22	19	13.5	8	57	27	20	74.25	13	24.00	0.170	SI14T/K
PHSA 16	16	M16×2	40	27	22	21	15	8	64	33	21	84	13	28.50	0.230	SI16T/K
PHSA 18	18	M18×1.5	46	31	27	23	16.5	10	71	36	25	94	13	35.00	0.320	SI18T/K
PHSA 20	20	M20×1.5	50	34	30	25	18	10	77	40	27.5	102	13	40.00	0.42	SI20T/K
PHSA 22	22	M22×1.5	54	37	32	28	20	12	84	43	30	111	13	52.00	0.54	SI22T/K
PHSA 25	25	M24×2	60	42	36	31	22	12	94	48	33.5	124	13	60.00	0.75	SI25T/K
PHSA28	28	M27×2	66	46	41	35	26	14	103	53	37	136	13	71.00	0.96	SI28T/K
PHSA 30	30	M30×2	70	50	41	37	25	15	110	56	40	145	13	81.00	1.30	SI30T/K

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. PHSAL8K M8×1.25L–6H
2. A= TO line SF1 material on the surface of spherical plain

>> Self–lubricating rod end bearings male thread steel on ptee–metallic fabric maintenance free series

POSA

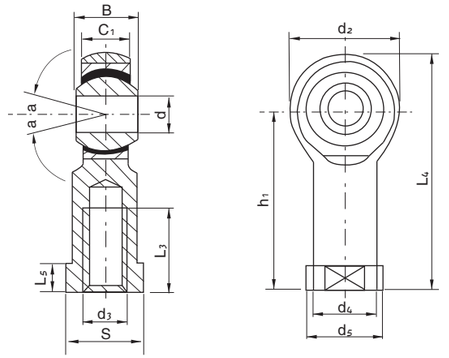


Bearings number	Dimensions (mm)								a°	Max stat load capacity	Weight (kg)	Old designation
	M	d1	d2	b1	b2	L1	L2	L4				
POSA 6	M6×1	6	20	9	6.75	36	22	46	13	4.40	0.021	SA6T/K
POSA 8	M8×1.25	8	24	12	9	42	25	54	13	8.00	0.034	SA8T/K
POSA 10	M10×1.5	10	28	14	10.5	48	29	62	13	12.90	0.058	SA10T/K
POSA 12	M12×1.75	12	32	16	12	54	33	70	13	17.00	0.092	SA12T/K
POSA 14	M14×2	14	36	19	13.5	60	36	77	13	24.00	0.153	SA14T/K
POSA 16	M16×2	16	40	21	15	66	40	86	13	28.50	0.205	SA16T/K
POSA 18	M18×1.5	18	46	23	16.5	72	44	95	13	25.00	0.280	SA18T/K
POSA 20	M20×1.5	20	50	25	18	78	47	103	13	40.00	0.370	SA20T/K
POSA 22	M22×1.5	22	54	28	20	84	51	111	13	52.00	0.475	SA22T/K
POSA 25	M24×2	25	60	31	22	94	57	124	13	60.00	0.650	SA25T/K
POSA28	M27×2	28	66	35	26	103	62	136	13	71.00	0.88	SA28T/K
POSA 30	M30×2	30	70	37	25	110	66	145	13	81.00	1.070	SA30T/K

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. POSAL8K M8×1.25L–6h
2. A= TO line SF1 material on the surface of spherical plain

>> Female combination (E series) rod ends series

SI...ES

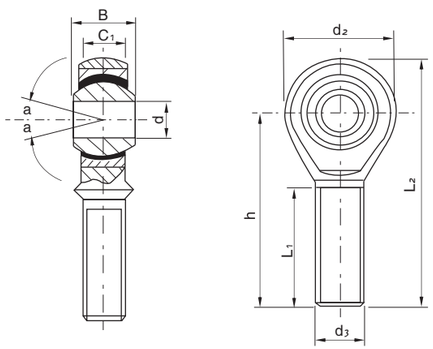


Bearings number	Dimensions (mm)												Load ratings		a°	Weight (kg)
	d	B	C1	d2 max	d4	L3	d5	S	h1	L5	L4	d3	Dynamic	Static		
SI5E	5	6	4.5	20	9	11	13	9	30	5	42	M5×0.8	3.4	8.1	13	0.016
SI6E	6	6	4.5	21	10	11	13	11	30	5	40.5	M6×1	3.4	8.1	13	0.017
SI8E	8	8	6.5	24	12.5	15	16	14	36	5	48	M8×1.25	5.5	12.9	15	0.035
SI10E	10	9	7.5	29	15.5	15	19	17	43	5.5	57.5	M10×1.5	8.1	17.6	12	0.061
SI12E	12	10	8.5	34	17.5	18	22	19	50	7	67	M12×1.75	10.8	24.5	10	0.096
SI15ES	15	12	10.5	40	21	21	26	22	61	8	81	M14×2	17	36	8	0.162
SI17ES	17	14	11.5	46	24	24	30	27	67	10	90	M16×2	21	45	10	0.233
SI20ES	20	16	13.5	53	27.5	30	35	32	77	10	10.3.5	M20×1.5	30	60	9	0.324
SI25ES	25	20	18	64	33.5	36	42	36	94	12	126	M24×2	48	83	7	0.625
SI30ES	30	22	20	73	40	45	50	41	110	15	146.5	M30×2	62	110	6	0.976
SI35ES	35	25	22	82	47	60	58	50	125	15	166	M36×3	80	146	6	1.52
SI40ES	40	28	24	92	52	65	65	55	142	18	188	M39×3	100	180	7	2.06
SI45ES	45	32	28	102	58	65	70	60	145	20	196	M42×3	127	240	7	2.72
SI50ES	50	35	31	112	62	68	75	65	160	20	216	M45×3	156	290	6	3.57
SI60ES	60	44	39	135	70	70	88	75	175	20	242.5	M52×3	245	450	6	5.63
SI70ES	70	49	43	160	80	80	98	85	200	20	280	M56×4	315	610	6	8.33
SI80ES	80	55	48	180	95	85	110	100	230	25	320	M64×4	400	750	6	13.04

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. SIL30ES M30×2L–6H
2.Other size repers to National standard

>> Male combination (E series) rod ends series

SA...ES

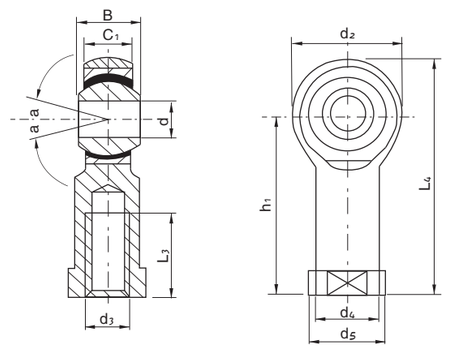


Bearings number	Dimensions (mm)									Load ratings		a°	Weight (kg)
	d	D	B	C_1 max	d_2 max	L_1 min	h	L_2 max	d_3	Dynamic	Static		
SA5E	5	14	6	4.5	21	16	36	46.5	M5×0.8	3.4	8.1	13	0.011
SA6E	6	14	6	4.5	21	16	36	46.5	M6×1	3.4	8.1	13	0.013
SA8E	8	16	8	6.5	24	21	42	54	M8×1.25	5.5	12.9	15	0.026
SA10E	10	19	9	7.5	29	26	48	62.5	M10×1.5	8.1	17.6	12	0.044
SA12E	12	22	10	8.5	34	28	54	71	M12×1.75	10.8	24.5	10	0.066
SA15ES	15	26	12	10.5	40	34	63	83	M14×2	17	36	8	0.121
SA17ES	17	30	14	11.5	46	36	69	92	M16×2	21	45	10	0.172
SA20ES	20	35	16	13.5	53	43	78	104.5	M20×1.5	30	60	9	0.283
SA25ES	25	42	20	18	64	53	94	126	M24×2	48	83	7	0.504
SA30ES	30	47	22	20	73	65	110	146.5	M30×2	62	110	6	0.835
SA35ES	35	55	25	22	82	82	140	181	M36×3	80	146	6	1.41
SA40ES	40	62	28	24	92	86	150	196	M39×3	100	180	7	1.86
SA45ES	45	68	32	28	102	92	163	214	M42×3	127	240	7	2.57
SA50ES	50	75	35	31	112	104	185	241	M45×3	156	290	6	3.58
SA60ES	60	90	44	39	135	115	210	277.5	M52×3	245	450	6	5.73
SA70ES	70	105	49	43	160	125	235	315	M56×4	315	610	6	7.94
SA80ES	80	120	55	48	180	140	270	360	M64×4	400	750	6	12.06

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. SaL35ES M36×3L–6g
2.Other size repers to National standard

>> Self–lubricating rod end bearings female thread steel on plastic maintenance free series

SIB...F/K

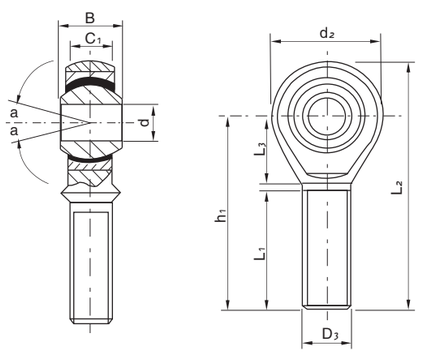


Bearings number	Dimensions (mm)												a°	Max stat load capacity	Weight (kg)
	M	d_1	d_2	d_3	b_1	b_2	l_1	L_5	l_2	l_4	W	S			
SIB6F/K	M6×1	6	20	10	6	4	30	5	12	40	9	11	8	10.00	0.017
SIB8F/K	M8×1.25	8	23	13	8	5	36	5	16	47.5	11	14	8	16.00	0.035
SIB10F/K	M10×1.5	10	28	16	9	6	43	6.5	20	57	14	17	8	23.60	0.051
SIB12F/K	M12×1.75	12	32	19	10	7	50	6.5	22	66	17	19	8	31.00	0.080
SIB15F/K	M14×2	15	38	22	12	9	57	8	25	76	19	22	8	49.00	0.120
SIB17F/K	M16×2	17	44	25	14	10	64	8	28	86	22	27	8	61.00	0.205
SIB20F/K	M20×1.5	20	51	28	16	12	74	10	33	99.5	24	30	8	86.50	0.287
SIB25F/K	M24×2	25	62	35	20	16	94	12	42	125	30	30	8	140.00	0.550
SIB30F/K	M30×2	30	70	42	22	18	110	15	51	145	36	41	8	183.00	0.860
SIB35F/K	M36×3	35	82	48	25	20	130	15	61	171	41	50	8	236.00	1.42

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. SIB L8F/K M8×1.25L–6g
2. T= TO line SF1 material on the surface of spherical plain

>> Self–lubricating rod end bearings male thread steel on plastic maintenance free series

SAB...F/K

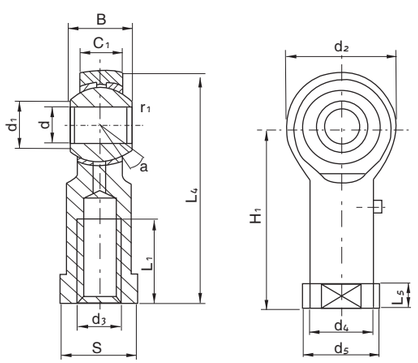


Bearings number	Dimensions (mm)									a°	Max stat load capacity	Weight (kg)
	M	d1	d2	b1	b2	l1	l2	l3	l4			
SAB6F/K	M6×1	6	20	6	4	36	22	11	46	8	10.00	0.014
SAB8F/K	M8×1.25	8	23	8	5	42	25	12	53.5	8	16.00	0.027
SAB10F/K	M10×1.5	10	28	9	6	48	29	13	62	8	23.60	0.046
SAB12F/K	M12×1.75	12	32	10	7	54	33	15	70	8	31.00	0.073
SAB15F/K	M14×2	15	38	12	9	60	36	18	79	8	49.00	0.118
SAB17F/K	M16×2	17	44	14	10	66	40	20	88	8	61.00	0.180
SAB20F/K	M20×1.5	20	51	16	12	78	47	23	103.5	8	86.50	0.29
SAB25F/K	M24×2	25	62	20	16	94	57	30	125	8	140.00	0.56
SAB30F/K	M30×2	30	70	22	18	110	66	32	145	8	183.00	0.89
SAB35F/K	M36×3	35	82	25	20	130	82	38	171	8	236.00	1.34

1. For Left–hand thread mark "L" is added to bearings number and thread,e.g. SAB L8F/K M8×1.25L–6g
2. T= TO line SF1 material on the surface of spherical plain

>> Inlaid liner rod ends with female thread (inch dimension) series

PHSB

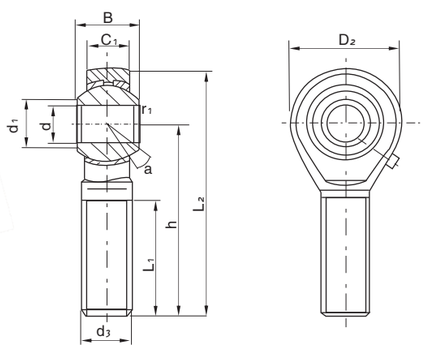


Bearings number	d	Threads (Ks)	d2	C1	B	d1	L4	L5	H1	L2	S	d5	d4	r1	a°	Spherical diameter (mm)	Ratings static load
PHSB3	3/16	3/16×32	0.6692 17	0.2362 6	0.3150 8	0.3031 7.7	1.378 35	0.1575 4	1.0433 26.5	0.5512 14	0.3543 9	0.4331 11	0.3543 9	0.0197 0.5	13	0.4375 11.1125	350
PHSB4	1/4	1/4×28	0.7283 18.5	0.2657 6.75	0.3543 9	0.3543 9	1.5433 39.2	0.1969 5	1.1811 30	0.5512 14	0.4331 11	0.5118 13	0.3937 10	0.0197 0.5	13	0.5000 12.70	500
PHSB5	5/16	5/16×24	0.9055 23	0.3543 9	0.4724 12	0.4094 10.4	1.9291 49	0.2362 6	1.4763 37.5	0.6693 17	0.5512 14	0.6299 16	0.4921 12.5	0.0197 0.5	13	0.6250 15.875	700
PHSB6	3/8	3/8×24	1.0629 27	0.4133 10.5	0.5512 14	0.5078 12.9	2.3031 58.5	0.3149 8	1.7716 45	0.8268 21	0.6693 17	0.7480 19	0.5906 15	0.0197 0.5	13	0.7500 19.05	1100
PHSB8	1/2	1/2×20	1.2204 31	0.4724 12	0.6299 16	0.6220 15.8	2.6377 67	0.2953 7.5	2.0275 51.5	0.9449 24	0.7480 19	0.8661 22	0.1898 17.5	0.0197 0.5	13	0.8858 22.525	1700
PHSB10	5/8	5/8×18	1.4960 38	0.5906 15	0.8268 21	0.7598 19.3	3.3267 84.5	0.3740 9.5	2.5787 65.5	1.2992 33	0.9448 24	1.0630 27	0.8661 22	0.0197 0.5	15	1.1220 28.5	2550
PHSB12	3/4	3/4×16	1.8110 46	0.7086 18	0.9843 25	0.9409 23.8	3.9763 101	0.4330 11	3.0708 78	1.5748 40	1.1811 30	1.3385 34	1.0826 27.5	0.0197 0.5	15	1.3582 34.5	3500
PHSB14	7/8	7/8×14	2.0472 52	0.7847 20	1.1024 28	1.0157 25.8	4.3307 110	0.4724 12	3.3070 84	1.6929 43	1.2598 32	1.4566 37	1.1811 30	0.0197 0.5	15	1.5000 38.10	4200
PHSB16	1"	1"×12	2.3622 60	0.8661 22	1.2204 31	1.1732 29.6	4.8818 124	0.4724 12	3.7007 94	1.9685 50	1.4173 36	1.6535 42	1.3188 33.5	0.0197 0.5	15	1.6929 43	5500

1. For Left-hand thread mark "L" is added to bearings number and thread,e.g. PHSB6L M3/8×24gL
2. The surface of spherical plain with a bronze line
3. To plate zine on the surface of rod body, the housing with a lubrication hole or a grease nipple

>> Inlaid liner rod ends with male thread (inch dimension) series

POSB

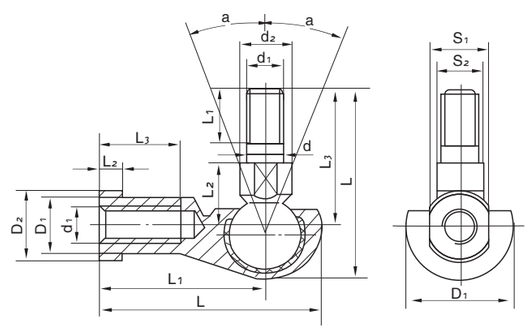


Bearings number	Dimensions (mm)										a°	Spherical diameter (mm)	Ratings static load
	d	Threads (Ks)	D2	C1	B	d1	L2	H	L1	r1			
POSB3	3/16	3/16×32	0.6692 17	0.2362 6	0.3150 8	0.3031 7.7	1.6732 45.5	1.3385 34	0.7874 20	0.0197 0.5	13	0.4375 11.1125	350
POSB4	1/4	1/4×28	0.7283 18.5	0.2677 6.8	0.3543 9	0.3543 9	1.8110 46	1.4469 36.73	0.8661 22	0.0197 0.5	13	0.5000 12.70	500
POSB5	5/16	5/16×24	0.9055 23	0.3543 9	0.4724 12	0.4094 10.4	2.1259 54	1.6732 42.5	0.9843 25	0.0197 0.5	13	0.6250 15.875	700
POSB6	3/8	3/8×24	1.0629 27	0.4133 10.5	0.5512 14	0.5078 12.9	2.4409 62	1.9094 48.5	1.1417 29	0.0197 0.5	13	0.7500 19.05	1100
POSB8	1/2	1/2×20	1.2598 32	0.4724 12	0.6299 16	0.6220 15.8	2.8740 73	2.2340 57	1.2992 33	0.0197 0.5	13	0.8858 22.525	1700
POSB10	5/8	5/8×18	1.4960 38	0.5906 15	0.8268 21	0.7598 19.3	3.4055 86.5	2.6674 67.5	1.5748 40	0.0197 0.5	15	1.1220 28.5	2550
POSB12	3/4	3/4×16	1.8110 46	0.7086 18	0.9843 25	0.9409 23.9	4.0551 103	3.1496 80	1.8503 47	0.0197 0.5	15	1.3582 34.5	3500
POSB14	7/8	7/8×14	2.0472 52	0.7847 20	1.1024 28	1.0157 25.8	4.4094 112	3.3858 86	2.0078 51	0.0197 0.5	15	1.5000 38.10	4200
POSB16	1"	1"×12	2.3622 60	0.8661 22	1.2204 31	1.1732 29.8	4.9606 126	3.7795 96	2.2440 57	0.0197 0.5	15	1.6929 43	5500

1. For Left-hand thread mark "L" is added to bearings number and thread, e.g. POSB6L M3/8×24gL
2. The surface of spherical plain with a bronze line
3. To plate zine on the surface of rod body, the housing with a lubrication hole or a grease nipple

>> Winding shape ball joint rod ends series

SQ...C

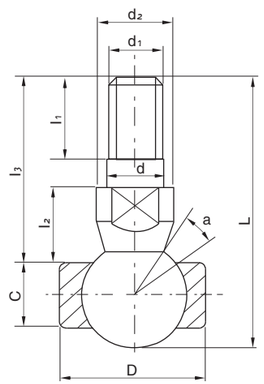


Bearings number	Dimensions (mm)															Load ratings		a°
	d1	L	d2	D1	D3	d	L1	L2	L3	S2	L1	L2	L3	S1	D2	Dynamic	Static	
SQ5C	M5×0.8	36	9	9	18	5	27	4	14	7	8	10	21	9	12.5	2.7	9.2	25
SQ6C	M6×1	40.5	10	10	20	6	30	5	14	8	11	11	26	11	13	3.6	12	25
SQ8C	M8×1.25	49	12	12.5	25	8	36	5	17	10	12	14	31	14	16	5.7	19	25
SQ10C	M10×1.25	58	14	15	29	10	43	6.5	21	11	15	17	37	17	19	8.2	27	25
SQ12C	M12×1.25	66	17	17.5	31	12	50	6.5	25	15	17	19	42	19	22	11	37	25
SQ14C	M14×1.5	75	19	20	35	14	57	8	26	17	22	21.5	56	22	25	14	48	25
SQ16C	M16×1.5	84	22	21	39	16	64	8	32	19	23	23.5	60	22	27	16	53	20
SQ18C	M18×1.5	93	25	25	44	18	71	10	34	21	25	26.5	68	27	31	18	61	20
SQ20C	M20×1.5	99	27	27.5	44	20	77	10	35	24	25	27	68	30	34	18	61	20
SQ22C	M22×1.5	109	27	30	50	22	84	12	41	24	26	28	70	32	37	22	75	10

1. For Left-hand thread mark "L" is added to bearings number and thread,e.g. SIL30ES M30×2L-6H
2.Other size repers to National standard

>> Ball join rod ends with one shank series

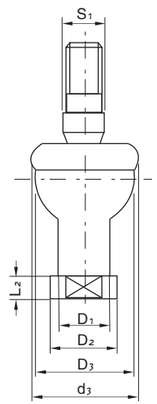
SQD

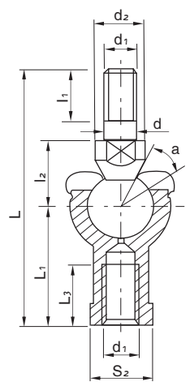


Bearings number	Dimensions (mm)										Static load ratings (KN)	a°	Weight (kg)
	d	d_1	d_2	l_1 min	l_2	l_3 max	L max	C	D	r_s min			
SQD5	5	M5×0.8	9	8	8	19	27.5	6	16	0.3	2.0	25	0.014
SQD6	6	M6×1	10	11	8.8	23.8	33.5	6.75	18	0.3	3.2	25	0.021
SQD8	8	M8×1.25	12	12	11.6	28.6	41	9	22	0.3	5.7	25	0.042
SQD10	10	M10×1.25	14	15	14.2	34.2	49	10.5	26	0.3	9.2	25	0.067
SQD12	12	M12×1.25	17	17	15.1	38.1	55.1	12	30	0.5	14	25	0.108
SQD14	14	M14×1.5	19	22	16.8	51.3	70.7	13.5	34	0.5	19	20	0.167
SQD16	16	M16×1.5	22	23	18	54.5	76.3	15	38	0.5	26	20	0.238

>> Straight ball joint rod ends series

SQZ



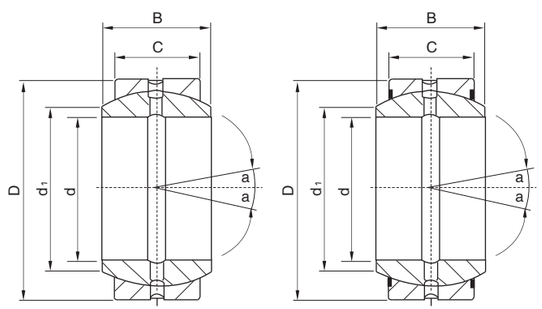


Bearings number	Dimensions (mm)														Static load ratings (KN)	a°	Weight (kg)
	d	d_1	d_2	d_3	l_1	l_2	S_1	L	L_1	L_2	L_3	D_1	D_2	D_3	S_2			
SQZ5-RS	5	M5×0.8	9	20	8	11	7	46	24	4	12	9	12.5	17	9	2.8	15	0.025
SQZ6-RS	6	M6×1	10	20	11	12.2	8	55.2	28	5	15	10	13	20	11	3.7	15	0.041
SQZ8-RS	8	M8×1.25	12	24	12	16	10	65	32	5	16	12.5	16	24	14	5.8	15	0.075
SQZ10-RS	10	M10×1.25	14	30	15	19.5	11	74.5	35	6.5	18	15	19	28	17	8.4	15	0.12
SQZ12-RS	12	M12×1.25	17	32	17	21	15	84	40	6.5	20	17.5	22	32	19	11	15	0.18
SQZ14-RS	14	M14×1.5	19	38	22	23.5	17	103	45	8	25	20	25	36	22	15	11	0.27
SQZ16-RS	16	M16×1.5	22	44	23	25.5	19	112	50	8	27	21	27	40	22	15	11	0.36
SQZ18-RS	18	M18×1.5	23	45	25	31	20	130.5	58	10	32	25	31	45	27	19	11	0.54
SQZ20-RS	20	M20×1.5	27	50	25	29	24	133	63	10	38	27.5	34	45	30	19	7.5	0.57
SQZ22-RS	22	M22×1.5	27	52	26	33	24	145	70	12	43	30	37	50	32	23	7.5	0.76

1. Straight ball joint rod ends may be left-hand thread, for left-hand thread, mark "L" is added to bearings number and thread, e.g. SQZL5-RS M5L-6H, the bearings number without seal is SQZ...

>> Spherical plain radial bearing with fitling crack

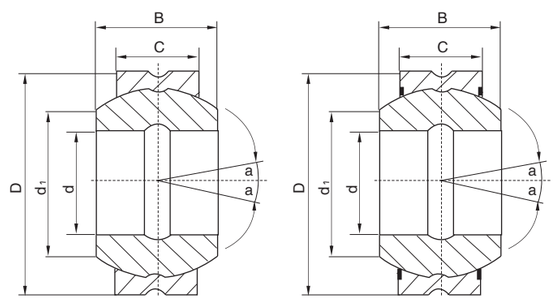
GE...ES



Bearings number		Dimensions (mm)					Load ratings		a°	Weight (kg)
		d	D	B	C	d1 min	Dynamic	Static		
GE4E		4	12	5	3	6	2	10	16	0.0033
GE5E		5	14	6	4	7	3.4	17	13	0.0038
GE6E		6	14	6	4	8	3.4	17	13	0.0042
GE8E		8	16	8	5	10	5.5	27	15	0.0075
GE10ES		10	19	9	6	13	8.1	40	12	0.011
GE12ES		12	22	10	7	15	10	54	10	0.015
GE15ES	GE15ES-2RS	15	26	12	9	18	17	85	8	0.027
GE17ES	GE17ES-2RS	17	30	14	10	20	21	106	10	0.041
GE20ES	GE20ES-2RS	20	35	16	12	24	30	146	9	0.066
GE25ES	GE25ES-2RS	25	42	20	16	29	48	240	7	0.119
GE30ES	GE30ES-2RS	30	47	22	18	34	62	310	6	0.153
GE35ES	GE35ES-2RS	35	55	25	20	39	80	400	6	0.233
GE40ES	GE40ES-2RS	40	62	28	22	45	100	500	7	0.306
GE45ES	GE45ES-2RS	45	68	32	25	50	127	640	7	0.427
GE50ES	GE50ES-2RS	50	75	35	28	55	156	780	6	0.546
GE60ES	GE60ES-2RS	60	90	44	36	66	245	1220	6	1.04
GE70ES	GE70ES-2RS	70	105	49	40	77	315	1560	6	1.55
GE80ES	GE80ES-2RS	80	120	55	45	88	400	2000	6	2.31
GE90ES	GE90ES-2RS	90	130	60	50	98	490	2450	5	2.75
GE100ES	GE100ES-2RS	100	150	70	55	109	610	3050	7	4.45
GE110ES	GE110ES-2RS	110	160	70	55	120	655	3250	6	4.82
GE120ES	GE120ES-2RS	120	180	85	70	130	950	4750	6	8.05
GE140ES	GE140ES-2RS	140	210	90	70	150	1080	5400	7	11.02
GE160ES	GE160ES-2RS	160	230	105	80	170	1370	6800	8	14.01
GE180ES	GE180ES-2RS	180	260	105	80	192	1530	7650	6	18.65
GE200ES	GE200ES-2RS	200	290	130	100	212	2120	10600	7	28.00
GE220ES	GE220ES-2RS	220	320	135	100	238	2320	11600	8	35.51
GE240ES	GE240ES-2RS	240	340	140	100	265	2550	12700	8	39.91
GE260ES	GE260ES-2RS	260	370	150	110	285	3050	15300	7	51.54

>> Spherical plain radial bearing

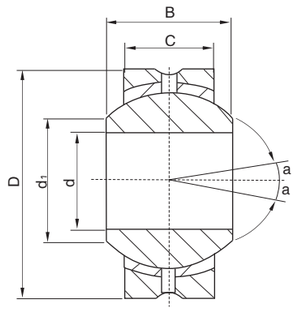
GEG...ES

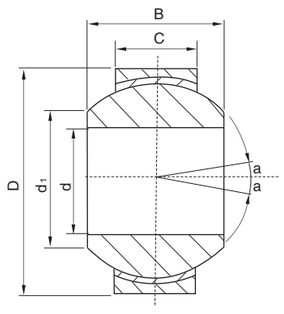


Bearings number		Dimensions (mm)					Load ratings		a°	Weight (kg)
		d	D	B	C	d1 min	动 Dynamic	静 Static		
GEG4E		4	14	7	4	7	3.4	17	20	0.0045
GEG5E		5	14	9	5	8	5.5	27	21	0.0066
GEG6E		6	16	9	5	9	5.5	27	21	0.0081
GEG8E		8	19	11	6	11	8.1	40	21	0.0014
GEG10ES		10	22	12	7	13	10	54	18	0.021
GEG12ES		12	26	15	9	16	17	85	18	0.033
GEG15ES	GEG15ES-2RS	15	30	16	10	19	21	106	16	01.049
GEG17ES	GEG17ES-2RS	17	35	20	12	21	30	146	19	0.083
GEG20ES	GEG20ES-2RS	20	42	25	16	24	48	240	17	0.153
GEG25ES	GEG25ES-2RS	25	47	28	18	29	62	310	17	0.203
GEG30ES	GEG30ES-2RS	30	55	32	20	34	80	400	17	0.304
GEG35ES	GEG35ES-2RS	35	62	35	22	39	100	500	16	0.408
GEG40ES	GEG40ES-2RS	40	68	40	25	44	127	640	17	0.542
GEG45ES	GEG45ES-2RS	45	75	43	28	50	156	780	15	0.713
GEG50ES	GEG50ES-2RS	50	90	56	36	57	245	1220	17	1.44
GEG60ES	GEG60ES-2RS	60	105	63	40	67	315	1560	17	1.60
GEG70ES	GEG70ES-2RS	70	120	70	45	77	400	2000	16	3.01
GEG80ES	GEG80ES-2RS	80	130	75	50	87	490	2450	14	6.05
GEG90ES	GEG90ES-2RS	90	150	85	55	98	610	3050	15	5.22
GEG100ES	GEG100ES-2RS	100	160	85	55	110	655	3250	14	6.05
GEG110ES	GEG110ES-2RS	110	180	100	70	122	950	4750	12	9.68
GEG120ES	GEG120ES-2RS	120	210	115	70	132	1080	5400	16	14.72
GEG140ES	GEG140ES-2RS	140	230	130	80	151	1370	6800	16	19.01
GEG160ES	GEG160ES-2RS	160	260	135	80	176	1530	7650	16	20.02
GEG180ES	GEG180ES-2RS	180	290	155	100	196	2120	10600	14	32.21
GEG200ES	GEG200ES-2RS	200	320	165	100	220	2320	11600	15	45.28
GEG220ES	GEG220ES-2RS	220	340	175	100	2432	2550	12700	16	51.12
GEG240ES	GEG240ES-2RS	240	370	190	100	263	3050	15300	15	65.12
GEG260ES	GEG260ES-2RS	260	400	205	120	285	3550	18000	15	82.44

>> Lnlaid line spherical plain radial bearing series

GEBK...S GECK...S

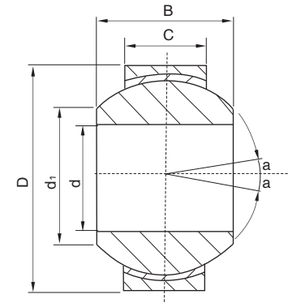


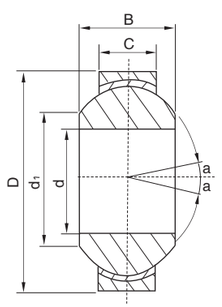


Bearings number		Dimensions (mm)					Load ratings		a°	Weight (kg)
		d	D	B	C	d_1 min	Dynamic	Static		
GECK5S	GEBK5S	5	16	8	6	7.7	2.5	7.8	13	0.0085
GECK6S	GEBK6S	6	18	9	6.75	9	3.1	9.8	13	0.013
GECK8S	GEBK8S	8	22	12	9	10.4	5.7	16	14	0.024
GECK10S	GEBK10S	10	26	14	10.5	12.9	7.8	23	14	0.039
GECK12S	GEBK12S	12	30	16	12	15.4	10.2	31	13	0.058
GECK14S	GEBK14S	14	34	19	13.5	16.9	13.4	40	16	0.084
GECK16S	GEBK16S	16	38	21	15	19.4	16.4	50	15	0.111
GECK18S	GEBK18S	18	42	23	16.5	21.9	20.3	61	15	0.160
GECK20S	GEBK20S	20	46	25	18	24.4	24	73	15	0.21
GECK22S	GEBK22S	22	50	28	20	25.8	29	88	15	0.26
GECK25S	GEBK25S	25	56	31	22	29.6	36	110	15	0.39
GECK30S	GEBK30S	30	66	37	25	34.8	48	148	17	0.61

>> Maintenace–free spherical plain radial bearing

GE...C GEG...C

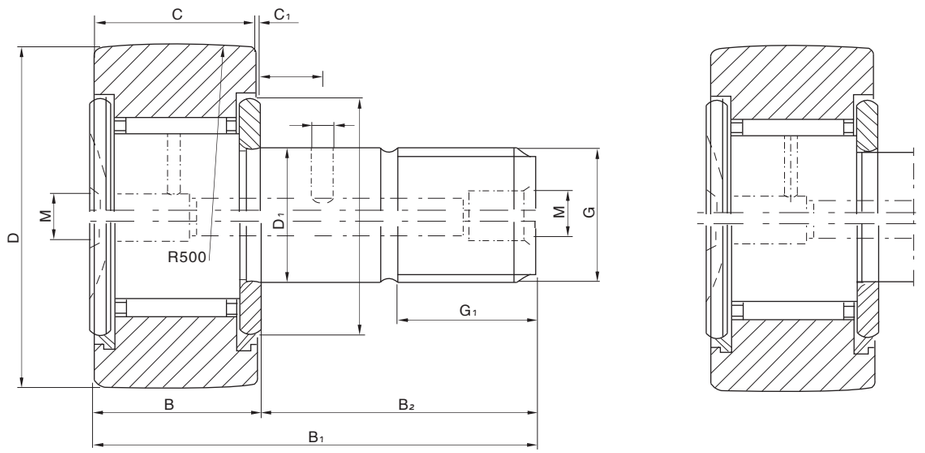




Bearings number	Dimensions (mm)					Load ratings		a°	Weight (kg)
	d	D	B	C	d_1 min	Dynamic	Static		
Spherical plain radial bearing with two seals and two-piece.									
GE4C	4	12	5	3	6	2.1	5.4	16	0.0033
GE5C	5	14	6	4	7	3.6	9.1	13	0.0038
GE6C	6	14	6	4	8	3.6	9.1	13	0.0042
GE8C	8	16	8	5	10	5.8	14	15	0.0075
GE10C	10	19	9	6	13	8.6	21	12	0.011
GE12C	12	22	10	7	15	11	28	10	0.015
GE15C	15	26	12	9	18	18	45	8	0.027
GE17C	17	30	14	10	20	22	56	10	0.041
GE20C	20	35	16	12	24	31	78	9	0.066
GE25C	25	42	20	16	29	51	127	7	0.119
GE30C	30	47	22	18	34	65	166	6	0.163
Spherical plain radial bearing inlaid line									
GEG4C	4	14	7	4	7	3.6	9.1	20	0.0045
GEG5C	5	16	9	5	8	5.8	14	21	0.0066
GEG6C	6	16	9	5	9	5.8	14	21	0.0081
GEG8C	8	19	11	6	11	8.6	21	21	0.014
GEG10C	10	22	12	7	13	11	28	18	0.021
GEG12C	12	26	15	9	16	18	45	18	0.033
GEG15C	15	30	16	10	19	22	56	16	0.049
GEG17C	17	35	20	12	21	31	78	19	0.083
GEG20C	20	42	25	16	24	51	127	17	0.153
GEG25C	25	47	28	18	29	65	166	17	0.203
GEG30C	30	55	32	20	34	83	212	17	0.304

>> Wheel and pin bearing series

KR KRV



Desingation		Dimensions (mm)										
		D*	C	D_1	D_1	G_1	B max	B_1 max	B_2	B_3	C_1	rs min
KR13	KRV13	13	9	5	M5×0.8	7	10	23	13		0.5	0.3
KR16	KRV16	16	11	6	M6×1	8	12.2	28.2	16		0.6	0.3
KR19	KRV19	19	11	8	M8×1.25	10	12.2	32.2	20		0.6	0.3
KR22	KRV22	22	12	10	M10×1.25	12	13.2	36.2	23		0.6	0.3
KR26	KRV26	26	12	10	M10×1.25	12	13.2	36.2	23		0.6	0.3
KR30	KRV30	30	14	12	M12×1.5	13	15.2	40.2	25	6	0.6	0.6
KR32	KRV32	32	14	12	M12×1.5	13	15.2	40.2	25	6	0.6	0.6
KR35	KRV35	35	18	16	M16×1.5	17	19.6	52.1	32.5	8	0.8	0.6
KR40	KRV40	40	20	18	M18×1.5	19	21.6	58.2	36.5	8	0.8	1
KR47	KRV47	47	24	20	M20×1.5	21	25.6	66.1	40.5	9	0.8	1
KR52	KRV52	52	24	20	M20×1.5	21	25.6	66.1	40.5	9	0.8	1
KR62	KRV62	62	29	24	M24×1.5	25	30.6	80.1	49.5	11	0.8	1
KR72	KRV72	72	29	24	M24×1.5	25	30.6	80.1	49.5	11	0.8	1
KR80	KRV80	80	35	30	M30×1.5	32	37	100	63	15	1	1
KR85	KRV85	85	35	30	M30×1.5	32	37	100	63	15	1	1
KR90	KRV90	90	35	30	M30×1.5	32	37	100	63	15	1	1

Note: when bearing of series KR, KRV with eccentric, then designation of bearing KRE, KRVE.

Eccentric (e)	Basic load rating		Limits of spped (rpm)	Mass (g)	ZNT old designation		Designation
	Dynamic C	Static Co					
0.25	280	180	29000	16	NAKD13	NAKD13V	CF5
0.25	270	170	25000	18	NAKD16	NAKD16V	CF6
0.25	300	210	20000	28	NAKD19	NAKD19V	CF8
0.3	410	320	17000	44	NAKD22	NAKD22V	CF10
0.3	410	320	17000	58	NAKD26	NAKD26V	CF10-1
0.3	590	450	14000	87	NAKD30	NAKD30V	CF12
0.3	590	450	14000	90	NAKD32	NAKD32V	CF12-1
0.35	850	760	10000	169	NAKD35	NAKD35V	CF16
0.35	1180	1220	8500	247	NAKD40	NAKD40V	CF18
0.35	1630	1690	7000	386	NAKD47	NAKD47V	CF20
0.35	1630	1690	7000	461	NAKD52	NAKD52V	CF20-1
0.4	2160	2210	6500	790	NAKD62	NAKD62V	CF24
0.4	2160	2210	6500	1040	NAKD72	NAKD72V	CF24-1
0.5	2830	3700	5000	1550	NAKD80	NAKD80V	CF30
0.5	2830	3700	5000	1740	NAKD85	NAKD85V	CF30-1
0.5	2830	3700	5000	1950	NAKD90	NAKD90V	CF30-2

Note: * outersurface can be cylinder of spherical. ** Limits of chamfer depend on the design.