RAGHAV ENTERPRISES

HIWIN®

Motion Control and System Technology

D D Motor

Roller Guideways

Ball Screw

AC Servo Drive & Motor

Linear Motor

Rotary Table

Articulated Robot

ATLANTA

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Leader in Servo Drive Systems

Rack & Pinion

Motorised Linear Actuator

Servo Worm Gear Box

Strong Line Racks

STÖBER

ZTRS Gear Rack Drive

Planetary Gear Units

PS Two-Speed Gearbox

INTRODUCTION

RAGHAV ENTERPRISES

With the fast development in the field of industrial automation and rapid progress in production techniques, it is necessary to implement flexible and compatible systems in production. **FLURO** advocates a Total Solution approach to all your needs.

FLURO with its 30 years experience in linear motion and automation products, is positioned to source high quality products at economical prices from various parts of the world. We also provides solutions custom tailored to specific needs.

Our dedicated team of Technical & Sales people keep an eye on ever changing demands of Industries. Our technical expertise is always focused on the customer, recommending right components and the right systems suitable for various applications.

These products are widely used by popular manufacturers in fields of

- Machine Tools
- Measuring / Inspection Machines
- SPM's
- Welding Automation
- Robotics
- Diamond Processing
- Electronics
- Earth Moving Machinery
- Printing
- Painting
- Pharmaceutical
- Medical
- Packaging
- General Engineering Industry & similar related Industrial Machineries.

THE REAL DEVELOPMENT OF THE SOCIETY IS ITS CAPACITY TO CREATE THINGS

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RAGHAV ENTERPRISES

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RAGHAV ENTERPRISES

- Linear Shafts
- Linear Bearing & Housing Units
- Shaft Supports & Accessories

Linear Motion Shafts have high surface hardness, exceptional straightness and surface finish which are the basic needs for Linear Ball Bushings.

Above qualities of Shafts incredibly reduce friction and wear, enhancing Shaft and Machine life.

A wide variety of Custom Designed Shafts can be delivered, including Tapped Holes, Inch Sizes, Special Machining and keyways along the length or at the ends of the Shaft.

Shafts are **Hard Chrome Plated** ensuring maximum safety against corrosion. This is a standard feature available from stock.

LM-SHAFT SPECIFICATIONS :

1. Main Material	:	C 45 ★
2. Heat Treatment	:	High Frequency Induction hardening
3. Hardness	:	Hrc 58-62
4. Surface Roughness	:	Polished, Ra<= 0.8μ
5. Shaft Straightness	:	Within 50μ per 300mm
6. Tolerance	:	g6
7. Corrosion Protection	:	Hard Chrome Plating

★ **Other Material on Request.**

ORDERING EXAMPLE

Plain Shafts

S 20	g 6	X	2000 L
(1)	(2)		(3)

1. Model number (Shaft outside diameter 20 mm).
2. Shaft outer diameter Tolerance.
3. Total Shaft Length in mm.

Tapped Shafts

S 20	g 6	X	2000 L	T S
(1)	(2)		(3)	(4)

1. Model number (Shaft outer Diameter 20 mm)
2. Shaft outer Diameter Tolerance.
3. Total Shaft Length in mm.
4. Tapped Shaft

PLAIN SHAFTS

Model No. S	Diameter d	Tolerance 0.001 mm g6	Max Length L mm	Depth of effective hardness layer tolerance ±0.5	Weight kg/m
S 8	8	- 5 -14	6000	1.0	0.4
S 10	10				0.62
S 12	12	- 6 -17			0.89
S 13	13				1.05
S 16	16				1.58
S 20	20	- 7 - 20		1.2	2.47
S 25	25			1.8	3.85
S 30	30			2.0	5.55
S 35	35	- 9 - 25			7.55
S 40	40			2.2	9.87
S 50	50			2.4	15.41
S 60	60	-10 -29		2.8	22.2
S 80	80				39.46
S 100	100	-12 -34		4.0	61.66

TAPPED SHAFTS

Model No.	Diameter d	Tolerance 0.001 mm g6	Depth of effective hardness layer tolerance ±0.5	L Max	X	Y	M
T S 16	16	-6 -17	1.0	6000	75	150	M5
T S 20	20	-7 -20	1.2				M6
T S 25	25		1.8				
T S 30	30		2.0				M8
T S 40	40	-9 -25	2.2				M10
T S 50	50		2.4				
T S 60	60	-10 -29	2.8				M12

Example SM 16 G UU AJ OP

- SM — Standard
- 16 — Inner contact diameter
- G — Retainer material
- UU — Seal
- AJ — Clearance-adjustable type
- OP — Open type

Retainer material

Blank	Steel
G	Resin

Seal

Blank	Without seal
U	Seal on one side
UU	Seals on both sides

SM

SM···AJ

SM···OP

Nominal Part No.				Nominal Shaft Diameter (mm)	Major Dimensions and Tolerance (mm)								Eccentricity (max) µm	Radial Clearance (max) Mm	Basic Load Rating CN	CoN	Nominal Part No
Steel Retainer Resin Retainer	Ball Circuit	Weight g	Adjustable Type	Open Type	dr Tolerance	D Tolerance	L Tolerance	B Tolerance	W	D_1	h	h	θ				
SM 4 SM 4G	4	1.4	—— ——	—— ——	4 0	8 0	12 0		—	—	—	—	—				
SM5 SM5G	4	4	—— ——	—— ——	5 -0.008	10 -0.009	15 -0.12	10.2 —	1.1	9.6	—	—	—	8	-3	167 206	SM 5
SM 6 SM6G	4	8	SM 6-AJ SM 6G-AJ	—— ——	6	12 0	19	13.5	1.1	11.5	1	—	—	12	-5	200 260	SM 6
SM8S SM8SG	4	11	SM 8S-AJ SM8S-AJ	—— ——	8	15 -0.011	17	11.5	1.1	14.3	1	—	—	12	-5	170 220	SM 8S
SM8 SM8G	4	16	SM 8-AJ SM 8G-AJ	—— ——	8	15	24	17.5	1.1	14.3	1	—	—	12	-5	260 400	SM 8
SM10 SM10G	4	30	SM 10-AJ SM10G-AJ	—— ——	10 0	19 0	29	22 0	1.3	18	1			12	-5	370 540	SM 10
SM12 SM12G	4	31.5	SM 12-AJ SM12G-AJ	SM12-OP	12 -0.009	21 -0.013	30 0	23 -0.2	1.3	20	1.5	8	80°	12	-5	410 590	SM 12
SM13 SM13G	4	43	SM 13-AJ SM13G-AJ	SM12G-OP SM13-OP SM13G-OP	13	23	32 -0.2	23	1.3	22	1.5	9	80°	12	-5	500 770	SM 13
SM16 SM16G	5	69	SM 16-AJ SM 16G-AJ	SM16-OP	16	28	37	26.5	1.6	27	1.5	11	80°	12	-7	770 1170	SM 16
SM20 SM20G	5	87	SM 20-AJ SM20G-AJ	SM16G-OP	20 0	32 0	42	30.5	1.6	30.5	1.5	11	60°	15	-9	860 1370	SM 20
SM25 SM25G	6	220	SM 25-AJ SM25G-AJ	SM20-OP SM20G-OP SM25-OP SM25G-OP	25 -0.010	40 -0.016	59	41	1.85	38	2	12	50°	15	-9	980 1560	SM 25
SM30 SM30G	6	250	SM 30-AJ SM 30G-AJ	SM30-OP	30	45	64	44.5	1.85	43	2.5	15	50°	15	-9	1560 2740	SM 30
SM35 SM35G	6	390	SM 35-AJ SM35G-AJ	SM30G-OP SM35-OP SM35G-OP	35 0 38 -0.012	52 0 -0.019	70 0 -0.3	49.5 0 -0.3	2.1	49	2.5	17	50°	20	-13	1660 3130	SM 35
SM40SM40G	6	585	SM 40-AJ SM 40G-AJ	SM40-OP	40	60	80	60.5	2.1	57	3	20	50°	20	-13	2150 4010	SM 40
SM50SM50G	6	1580	SM 50-AJ SM50G-AJ	SM40G-OP	50 0	80 0	100	74	2.6	76.5	3	25	50°	20	-13	3820 7930	SM 50
SM60SM60G	6	2000	SM 60-AJ SM60G-AJ	SM50-OP SM50G-OP SM60-OP SM60G-OP	60 -0.015	90 -0.022	110	85	3.15	86.5	3	30	50°	25	-16	4700 9990	SM 60

SI Unit IN= 0. 102 kgf

Example **SM 16 G W UU**

Standard

Inner contact diameter

Retainer material

Blank	Steel
G	Resin

Double-wide type

Outer cylinder surface treatment

Blank	Without seal
SK	Seals on both sides

SM...W

Nominal Part No				Major Dimensions and Tolerance (mm)										Eccentricity µm	Basic load Rating		Nominal Part No
Steel Retainer	Resin Retainer	Ball Circuit	Weight g	dr	Tolerance	D	Tolerance	L	Tolerance	B	Tolerance	W	D_1		Dynamic C(N)	Static Co(N)	
SM6W	SM6GW	4	16	6		12	0	35		27		1.1	11.5	15	323	530	SM 6W
SM8W	SM8GW	4	31	8		15	-0.013	45		35		1.1	14.3	15	431	784	SM 8W
SM10W	SM10GW	4	62	10	0	19		55		44		1.3	18	15	588	1,100	SM 10W
SM12W	SM12GW	4	80	12	-0.010	21	0	57	0	46	0	1.3	20	15	657	1,200	SM 12W
SM13W	SM13GW	4	90	13		23	-0.016	61	-0.3	46	-0.3	1.3	22	15	813	1,570	SM 13W
SM16W	SM16GW	5	145	16		28		70		53		1.6	27	15	1,230	2,350	SM 16W
SM20W	SM20GW	5	180	20		32	0	80		61		1.6	30.5	20	1,400	2,750	SM 20W
SM25W	SM25GW	6	440	25	0	40	-0.019	112		82		1.85	38	20	1,560	3,140	SM 25W
SM30W	SM30GW	6	580	30	-0.012	45		123		89		1.85	43	20	2,490	5,490	SM 30W
SM35W	SM35GW	6	795	35		52	0	135		99		2.1	49	25	2,650	6,270	SM 35W
SM40W	SM40GW	6	1,170	40	0	60	-0.022	154	0	121	0	2.1	57	25	3,430	8,040	SM 40W
SM50W	SM50GW	6	3,100	50	-0.015	80		192	-0.4	148	-0.4	2.6	76.5	25	6,080	15,900	SM 50W
SM60W	SM60GW	6	3,500	60	0 -0.020	90	0 -0.025	211		170		3.15	86.5	25	7,650	20,000	SM 60W

SI Unit IN= 0. 102 kgf

Example **SMF 16 G UU SK**

Standard

Inner contact diameter

Retainer material

Blank	Steel
G	Resin

Seal

Blank	Without seal
UU	Seal on both sides

Outer cylinder surface treatment

Blank	No surface treatment
SK	Electroless nickel plating

SMF

Nominal Part No				Major Dimensions and Tolerance (mm)												Eccentricity µm	Squareness µm	Basic load Rating		Nominal Part No
Steel Retainer	Resin Retainer	Ball Circuit	Weight g	dr	Tolerance	D	Tolerance	L	Tolerance	Flange Df	t	Dp	X	Y	Z			Dynamic C(N)	Static Co(N)	
SMF6	SMF6G	4	24	6		12	0	19		28	5	20	3.5	6	3.1	12	12	206	265	SMF6
SMF8S	SMF8SG	4	32	8		15	-0.013	17		32	5	24	3.5	6	3.1	12	12	176	216	SMF8S
SMF8	SMF8G	4	37	8	0	15		24		32	5	24	3.5	6	3.1	12	12	274	392	SMF8
SMF10	SMF10G	4	72	10	-0.009	19		29		40	6	29	4.5	7.5	4.1	12	12	372	549	SMF10
SMF12	SMF12G	4	76	12		21	0	30		42	6	32	4.5	7.5	4.1	12	12	510	784	SMF12
SMF13	SMF13G	4	88	13		23	-0.016	32		43	6	33	4.5	7.5	4.1	12	12	510	784	SMF13
SMF16	SMF16G	5	120	16		28		37		48	6	38	4.5	7.5	4.1	12	12	774	1,180	SMF16
SMF20	SMF20G	5	180	20		32		42	±0.3	54	8	43	5.5	9	5.1	15	15	882	1,370	SMF20
SMF25	SMF25G	6	340	25	0	40	0	59		62	8	51	5.5	9	5.1	15	15	980	1,570	SMF25
SMF30	SMF30G	6	470	30	-0.010	45	-0.019	64		74	10	60	6.6	11	6.1	15	15	1,570	2,740	SMF30
SMF35	SMF35G	6	650	35		52		70		82	10	67	6.6	11	6.1	20	20	1,670	3,140	SMF35
SMF40	SMF40G	6	1,060	40	0	60	0	80		96	13	78	9	14	6.1	20	20	2,160	4,020	SMF40
SMF50	SMF50G	6	2,200	50	-0.012	80	-0.022	100		166	13	98	9	14	8.1	20	20	3,820	7,940	SMF50
SMF60	SMF60G	6	3,000	60	0 -0.015	90	0 -0.025	110		134	18	112	11	17	11.1	25	25	4,700	10,000	SMF60

SI Unit IN= 0. 102 kgf

SMK 16 G UU SK

Standard

Inner contact diameter

Retainer material

Blank	Steel
G	Resin

seal

Blank	Without seal
UU	Seals on both side

Outer cylinder surface treatment

Blank	No surface treatment
UU	Electroless nickel plating

SMF

Nominal Part No				Major Dimensions and Tolerance (mm)											Eccentricity µm	Squareness µm	Basic load Rating		Nominal Part No
Steel Retainer	Resin Retainer	Ball Circuit	Weight g	dr	Tolerance	D	Tolerance	L	Tolerance	Flange Df	t	Dp	X	Y	Z			Dynamic C(N)	Static Co(N)	
SMK 6	SMK6G	4	24	6		12	0	19		28	5	20	3.5	6	3.1	12	12	206	265	SMK6
SMK8	SSMK8SG	4	32	8		15	-0.013	17		32	5	24	3.5	6	3.1	12	12	176	216	SMK8S
SMK8	SMK8G	4	37	8	0	15		24		32	5	24	3.5	6	3.1	12	12	274	392	SMK8
SMK10	SMK10G	4	72	10	-0.009	19		29		40	6	29	4.5	7.5	4.1	12	12	372	549	SMK10
SMK12	SMK12G	4	76	12		21	0	30		42	6	32	4.5	7.5	4.1	12	12	510	784	SMK12
SMK13	SMK13G	4	88	13		23	-0.016	32		43	6	33	4.5	7.5	4.1	12	12	510	784	SMK13
SMK16	SMK16G	5	120	16		28		37		48	6	38	4.5	7.5	4.1	12	12	774	1,180	SMK16
SMK20	SMK20G	5	180	20		32		42	±0.3	54	8	43	5.5	9	5.1	15	15	882	1,370	SMK20
SMK25	SMK25G	6	340	25	0	40	0	59		62	8	51	5.5	9	5.1	15	15	980	1,570	SMK25
SMK30	SMK30G	6	470	30	-0.010	45	-0.019	64		74	10	60	6.6	11	6.1	15	15	1,570	2,740	SMK30
SMK35	SMK35G	6	650	35		52		70		82	10	67	6.6	11	6.1	20	20	1,670	3,140	SMK35
SMK40	SMK40G	6	1,060	40	0	60	0	80		96	13	78	9	14	8.1	20	20	2,160	4,020	SMK40
SMK50	SMK50G	6	2,200	50	-0.012	80	-0.022	100		116	13	98	9	14	8.1	20	20	3,820	7,940	SMK50
SMK60	SMK60G	6	3,000	60	0 -0.015	90	0 -0.025	110		134	18	112	11	17	11.1	25	25	4,700	10,000	SMK60

SI Unit IN= 0. 102 kgf

Example SMF 16 G W UU SK

Standard

Inner contact diameter

Retainer material

Blank	Steel
G	Resin

Double-wide type

Seal

Blank	Without seal
UU	Seal on both sides

Outer cylinder surface treatment

Blank	No surface treatmentl
SK	Electroless nickel plating

SMF···W

Nominal Part No				Major Dimensions and Tolerance (mm)												Eccentricity µm	Squareness µm	Basic load Rating		Nominal Part No
Steel Retainer	Resin Retainer	Ball Circuit	Weight g	dr	Tolerance	D	Tolerance	L	Tolerance	Flange Df	t	Dp	X	Y	Z			Dynamic C(N)	Static Co(N)	
SMF6W	SMF6LW	4	31	6		12	0	35		28	5	20	3.5	6.5	3.1	15	15	323	530	SMF6W
SMF8W	SMF8GW	4	51	8		15	-0.010	45		32	5	24	3.5	6.5	3.1	15	15	431	784	SMF8W
SMF10W	SMF10GW	4	98	10	0	19		55		40	6	29	4.5	8	4.1	15	15	588	1,100	SMF10W
SMF12W	SMF12GW	4	110	12	-0.010	21	0	57		42	6	32	4.5	8	4.1	15	15	813	1,570	SMF12W
SMF13W	SMF13GW	4	130	13		12	-0.016	61		43	6	33	4.5	8	4.1	15	15	813	1,570	SMF13W
SMF16W	SMF16GW	5	190	16		28		70	-0.3	48	6	38	4.5	8	4.1	15	15	1,230	2,350	SMF16W
SMF20W	SMF20GW	5	260	20		32		80		54	8	43	5.5	9.5	5.1	20	20	1,400	2,740	SMF20W
SMF25W	SMF25GW	6	540	25	0	40	0	112		62	8	51	5.5	9.5	5.1	20	20	1,560	3,140	SMF25W
SMF30W	SMF30GW	6	680	30	-0.012	45	-0.019	123		74	10	60	6.6	11	6.1	20	20	2,490	5,490	SMF30W
SMF35W	SMF35GW	6	1,020	35	0	52	0	135		82	10	67	6.6	11	6.1	25	25	2,650	6,270	SMF35W
SMF40W	SMF40GW	6	1,570	40	-0.015	60	-0.022	154		96	13	78	9	14	8.1	25	25	3,430	8,040	SMF40W
SMF50W	SMF50GW	6	3,600	50	0	80	0	192		116	13	89	9	14	8.1	25	25	6,080	15,900	SMF50W
SMF60W	SMF60GW	6	4,500	60	-0.020	90	-0.025	211		134	18	112	11	17.5	11.1	30	30	7,550	20,000	SMF60W

SI Unit IN= 0. 102 kgf

LINEAR BALL BEARINGS

Example **SMK 16 G W UU SK**

- SMK — Standard
- 16 — Inner contact diameter
- G — Retainer material

Blank	Steel
G	Resin

- W — Double-wide type
- UU — Seal

Blank	Without seal
UU	Seals on both sides

- SK — Outer cylinder surface treatment

Blank	No surface treatmentl
SK	Electroless nickel plating

SMK···W

Nominal Part No				Major Dimensions and Tolerance (mm)											Eccentricity µm	Squareness µm	Basic load Rating		Nominal Part No
Steel Retainer	Resin Retainer	Ball Circuit	Weight g	dr	Tolerance	D	Tolerance	L	Tolerance	Flange Df	t	Dp	X	Y	Z			Dynamic C(N)	Static Co(N)	
SMK 6W	SMK 6GW	4	25	6		12	0	35		28	5	20	3.5	6.5	3.1	15	15	323	530	SMK 6W
SMK 8W	SMK 8GW	4	43	8		15	-0.010	45		32	5	24	3.5	6.5	3.1	15	15	431	784	SMK 8W
SMK10W	SMK10GW	4	78	10	0	19		55		40	6	29	4.5	8	4.1	15	15	588	1,100	SMK10W
SMK12W	SMK12GW	4	90	12	-0.010	21	0	57		42	6	32	4.5	8	4.1	15	15	813	1,570	SMK12W
SMK13W	SMK13GW	4	108	13		12	0.016	61		43	6	33	4.5	8	4.1	15	15	813	1,570	SMK13W
SMK16W	SMK16GW	5	165	16		28		70	-0.3	48	6	38	4.5	8	4.1	15	15	1,230	2,350	SMK16W
SMK20W	SMK20GW	5	225	20		32		80		54	8	43	5.5	9.5	5.1	20	20	1,400	2,740	SMK20W
SMK25W	SMK25GW	6	500	25	0	40	0	112		62	8	51	5.5	9.5	5.1	20	20	1,560	3,140	SMK25W
SMK30W	SMK30GW	6	590	30	-0.012	45	-0.019	123		74	10	60	6.6	11	6.1	20	20	2,490	5,490	SMK30W
SMK35W	SMK35GW	6	930	35	0	52	0	135		82	10	67	6.6	11	6.1	25	25	2,650	6,270	SMK35W
SMK40W	SMK40GW	6	1,380	40	-0.015	60	-0.022	154		96	13	78	9	14	8.1	25	25	3,430	8,040	SMK40W
SMK50W	SMK50GW	6	3,400	50	0	80	0	192		116	13	89	9	14	8.1	25	25	6,080	15,900	SMK50W
SMK60W	SMK60GW	6	4,060	60	-0.020	90	-0.025	211		134	18	112	11	17.5	11.1	30	30	7,550	20,000	SMK60W

SI Unit IN= 0. 102 kgf

LM SLIDE UNITS

Model No.	Shaft Diameter d	Dimensions of assembly			Dimensions of Block						
		H	h	W	L_1	B	C	t_1	ℓ	S_1	T
AHC - 16	16	45	27.1	45	45	32	30	9	12	M5	33
AHC - 20	20	50	27.1	48	50	35	35	11		M6	39
AHC - 25	25	60	33.0	60	65	40	40	14			47
AHC - 30	30	70	36.6	70	70	50	50	16.8	18	M8	56
AHC - 40	40	90	47	90	90	65	65	22	20	M10	72
AHC - 50	50	120	67	119.3	110	94	80	25	27	M10	91

Dimensions of track rail							Basics dynamic load rating	Basics static load rating	Model No.
W_2	P_1	t_2	N	M X P	S_2	L(max)	C (N)	Co (N)	
44.8	30	5.0	50	6 x 150	Ø6.5	1,000	770	1170	AHC - 16
							860	1370	AHC - 20
54	35	5.5					980	1560	AHC - 25
60	40	6.5					1560	2740	AHC - 30
75	55	9			Ø9		2150	4010	AHC - 40
110	75	12			Ø13		3820	7930	AHC - 50

HOUSINGS - OPEN TYPE

SME-UU Series are light weight but heavy duty extruded aluminum housings, fitted with sealed standard Ball Bushings for high running accuracy and extremely low friction. When mounting these open type of aluminum housings, the four securing holes should be provided with bolts to achieve the maximum load capacity and the best rigidity for every mounting position.

Standard Coating : Anodized.

HOUSINGS CLOSETYPE

SMA-UU Series are made of high quality extruded aluminum alloy. These units consist of sealed Ball Bushings for higher running accuracy and extremely low friction.

Standard Coating : Anodized

HOUSING UNITS

HOUSING-OPEN TYPE (SME - UU SERIES)

Model No.	Shaft Dia d	Main Dimensions.						Mounting Dimensions.						Linear ball bearing			
		h ±0.02	E ±0.02	W	L	F	T	h1	θ	B ±0.2	C ±0.2	S	ℓ	LM Bearing No.	Basic dynamic load rating C(kg)	Basic Static load rating Co(kg)	*Unit Weight g
SME16	16	20.1	22.5	45	45	33	9	10	80°	32	30	M 5	12	LM 16UU OP	79	120	150
SME 20	20	23	24	48	50	39	11		60°	35	35	M 6		LM 20UU OP	90	140	200
SME 25	25	27	30	60	65	47	14	11.5	50°	40	40			LM 25UU OP	100	160	450
SME 30	30	33	35	70	70	56	16.8	14		50	50	M 8	18	LM 30UU OP	160	280	630
SME 40	40	42	45	90	90	72	22	19		65	65	M 10	20	LM 40UU OP	220	410	1,330
SME 50	50	52	60	120	110	92	24	28		94	80	M 10	25	LM 50UU OP	382	793	2,900

* Includes weight of LM Bearing.

RAGHAV ENTERPRISES

HOUSING-CLOSE TYPE (SMA-UU SERIES)

Model No.	Nominal shaft diameter	Main Dimensions							Mounting Dimensions						LM Bearing Model No.	dynamic C (kg)	static Co (kg)	* Unit Weight g
		h	E	W	L	F	G	T	B	C	K	S_1	S_2	ℓ				
SMA16	16	19	25	50	44	38.5	32.5	9	36	34	7	M5	4.3	12	LM16UU	79	120	200
SMA 20	20	21	27	54	50	41	35	11	40	40		M6	5.2		LM20UU	90	140	255
SMA 25	25	26	38	76	67	51.5	42	12	54	50	11	M8	7	18	LM25UU	100	160	600
SMA 30	30	30	39	78	72	59.5	49	15	58	58	10				LM30UU	160	280	735
SMA 35	35	34	45	90	80	68	54	18	70	60					LM35UU	170	320	1100
SMA 40	40	40	51	102	90	78	62	20	80		11	M10	8.7	25	LM40UU	220	410	1590

* Includes weight of LM Bearing.

HOUSING-CLOSE TYPE (HFL-- UU SERIES)

Model No.	Nominal shaft diameter	Main Dimensions							Mounting Dimensions						LM Bearing Model No.	dynamic C (kg)	static Co (kg)	* Unit Weight g
		h	E	W	L	F	G	T	B	C	K	S_1	S_2	ℓ				
HFL16	16	19	25	50	85	38.5	32.5	9	36	60	7	M5	4.3	12	LM16UU	125	240	400
HFL20	20	21	27	54	96	41	35	11	40	70		M6	5.2		LM20UU	144	280	570
HFL25	25	26	38	76	130	51.5	42	12	54	100	11	M8	7	18	LM25UU	164	320	1200
HFL30	30	30	39	78	140	59.5	49	15	58	110	10				LM30UU	250	560	1480
HFL35	35	34	45	90	155	68	54	18	70	120					LM35UU	270	640	2200
HFL40	40	40	51	102	175	78	62	20	80	140	11	M10	8.7	25	LM40UU	350	820	3200

* Includes weight of LM Bearing.

HOUSING-OPEN TYPE (HCL - - UU SERIES)

Model No.	Shaft Dia d	Main Dimensions.						Mounting Dimensions.						Linear ball bearing			
		h ±0.02	E ±0.02	W	L	F	T	h1	θ	B ±0.2	C ±0.2	S	ℓ	LM Bearing No.	Basic dynamic load rating C(kg)	Basic Static load rating Co(kg)	*Unit Weight g
HCL 16	16	20.1	22.5	45	85	33	9	10	80°	32	60	M 5	12	LM 16UU OP	158	240	300
HCL 20	20	23	24	48	96	39	11		60°	35	70	M 6		LM 20UU OP	180	280	400
HCL 25	25	27	30	60	130	47	14	11.5	50°	40	100			LM 25UU OP	200	320	900
HCL 30	30	33	35	70	140	56	16.8	14		50	110	M 8	18	LM 30UU OP	320	560	1260
HCL 40	40	42	45	90	175	72	22	19		65	140	M 10	20	LM 40UU OP	440	820	2480

* Includes weight of LM Bearing.

BALL SCREW NUT HOUSING

Model No.	B/S Size	D	B	H	h	E	L	C1	C2	P	X	W	Y
DSG 16 H	1605 1610	28	52	40	20	12	40	8	24	40	M5	38	M5
DSG 16 16	1616	32	54	38	19	8	40	8	24	44	M5	42	M5
DSG 20 H	2005 2010	36	62	44	22	12	40	8	24	48	M6	48	M6
DSG 2020	2020	39	64	46	23	11	40	8	24	52	M6	50	M6
DSG 25 H	2505 2510	40	66	48	24	13	40	8	24	50	M6	51	M6
DSG 2525	2525	47	68	59	28	9	40	8	24	50	M6	60	M6
DSG 32H	3205 3210	50	89	62	31	17	40	8	24	66	M8	65	M8
DSG 40 H	4005 4010	63	100	70	35	19	40	8	24	80	M8	78	M8
DSG 50 H	5010	75	116	85	42.5	22	46	10	26	92	M8	93	M8

FLANGE TYPE SHAFT END SUPPORT

SHF- A

Model No.	Shaft Dimensions	Dimensions (mm)							Locking Bolt	Clamping Bolt	Weight (kg/m)
		W	L	T	F	G	B	S			
SHF 3A	3	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 4A	4	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 5A	5	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 6A	6	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 8A	8	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 10A	10	43	10	5	24	20	32	5.5	M4	M5	0.013
SHF 12A	12	47	13	7	28	25	36	5.5	M4	M5	0.020
SHF 13A	13	47	13	7	28	25	36	5.5	M4	M5	0.020
SHF 16A	16	50	16	8	31	28	40	5.5	M4	M5	0.027
SHF 20A	20	60	20	8	37	34	48	7	M5	M6	0.040
SHF 25A	25	70	25	10	42	40	56	7	M5	M6	0.060
SHF 30A	30	80	30	12	50	46	64	9	M6	M8	0.110
SHF 35A	35	92	35	14	58	50	72	12	M8	M10	0.380
SHF 40A	40	102	40	16	67	56	80	12	M10	M10	0.510
SHF 50A	50	122	50	19	83	70	96	14	M12	M12	0.890
SHF 60A	60	140	60	23	95	82	112	14	M12	M12	1.500

END SUPPORT UNITS

SHAFT END SUPPORT (SK - SERIES)

MODEL NO	Shaft diameter d	h ±0.02	E ±0.05	W	L	F	G	P	B	ØS	Locking bolt S	Mounting bolt N	Unit Weight g
SK 16	16	27	24	48	16	44	8	25	38	5.5	M4	M5	40
SK 20	20	31	30	60	20	51	10	30	45	6.6	M5	M6	70
SK 25	25	35	35	70	24	60	12	38	56		M6		130
SK 30	30	42	42	84	28	70		44	64	9		M8	180
SK 35	35	50	49	98	32	82	15	50	74	11	M8	M10	270
SK 40	40	60	57	114	36	96		60	90				420
SK 50*	50	70	63	126	40	120	18	74	100	14	M12	M12	750

- Other sizes upon request.
- * Check for availability

RECTANGLE WHEEL LINEAR RAIL SERIES

SG

SG				SGR															SGB							
SGR	SGB	H	W	W_1	H_2	dp	P		guide weight	T	m_1	m	W	H_1	L	B	L_1	S			Yo	Zo	Mxo	Myo	Mzo	kg–per
10	–3	29	28	32	17	6	60	6	1.106	8	8	4.5	28	11	60	26	26	M4	3	2	320	300	6.4	6.8	7.1	0.110
15N	–3	32	38	38	18.5	6	120	6	1.11	8	8	4.5	44	12	60	26	26	M5	3	2	490	460	10.2	9.2	9.8	0.110
	–4														80				4	1,3	700	660	14.5	13.2	14	0.145
	–5														100				5	1,1,4	980	920	20.3	37	99	0.185
15	–3	32	46	46	18.5	6	120	6	2.01	8	8	4.5	46	12	60	32	36	M5	3	2	490	460	13.8	7.4	7.8	0.105
	–4														80				4	1,3	700	660	19.8	21.1	22.4	0.140
	–5														100				5	1,1,4	980	920	27.7	44.3	47	0.170
20N	–3	36	47	47	22.5	6	120	8	2.32	9	9.5	5.5	47	12	81	38	30	M6	3	2	700	980	29.4	25.4	18.2	0.195
	–4														108				4	1,3	1000	1400	42	72.8	52	0.265
	–5														135				5	1,1,4	1400	1960	84.2	129	92.4	0.350
20	–3	36	60	60	22.5	6	120	8	3.31	9	9.5	5.5	60	12	81	50	40	M6	3	2	700	980	42.1	21.5	15.4	0.210
	–4														108				4	1,3	1000	1400	60.2	61.6	44	0.280
	–5														135				5	1,1,4	1400	1960	84.2	129	92.4	0.350
25	–3	44	69	69	26	7	120	10	4.28	10	11	6.5	70	16.3	100	57	45	M8	3	2	1260	1470	67.62	48.51	41.58	0.460
	–4														133				4	1,3	1800	2100	96.6	138.6	118.8	0.615
	–5														166				5	1,1,4	2520	2940	135.0	291.06	249.48	0.775
35	–3	55	100	90	35	8.5	160	12	6.9	12	14	8.5	100	18	140	82	62	M10	3	2	2800	2800	159.6	126	128	1.1
	–4														185				4	1,3	4000	4000	228	360	360	1.45
	–5														230				5	1,1,4	5600	5600	319.2	758	756	1.835

BLACK SGR LOCK SERIES

SGR

SG				SGR											SGB											
SGR	SGB	H	W	W_1	H2	dp	P		(k/m)	T	d	d_1	L_1	Lmax	B	C	H_1	S			Yo	Zo		(N.m)		(gf/m)
10	–4	23	28	28	14	3.3	60	5	1.05	7	3.4	6	80	4000	18.5	40	8.5	M4	4	2.4	450	420	7.5	8.1	8.6	1621
15N	–4	32	44	38	18.5	5.5	120	6	1.65	7	4.5	8	100	4000	26	26	12	M5	4	2.4	700	660	14.5	13.2	14.0	2146
15	–4	32	46	46	18.5	5.5	120	6	1.76	8	4.5	8	86	4000	32	36	12	M5	4	2.4	700	660	19.8	21.1	22.4	2426
20N	–4	36	47	47	22.5	5.5	120	8	2.25	8	5.5	9.5	130	4000	38	30	12	M6	4	2.4	1.0	1.4	42	72.8	52	2859
20	–4	36	60	60	22.5	5.5	120	8	2.75	8	5.5	9.5	130	4000	50	40	12	M6	4	2.4	1.0	1.4	60.2	61.6	44	3688
25	–4	44	70	70	26	6.5	120	10	3.88	9	6.5	11	160	4000	57	46	15	M6	4	2.4	18.0	21.0	96.6	139	119	5009

AXIAL CORE LINEAR SERIES

LGD

To

Tx

Ty

AXIAL CORE LINEAR SERIES

Type of guide	Width 1	H3	Height 1	Pitch	End	Macroporous1	Macroporous2	Hole depth	Single length	Buttle length	Weight Kg–m
LGD6	26	29	18	60	30	Φ 9	Φ 5	7	0- 6000	Infinite	1.25
LGD8	28	30	20	50	25	Φ 8.5	Φ 5.5	5.5	0- 6000	Infinite	2.3
LGD12	36	39	25.5	50	25	Φ 12.5	Φ 6.5	12.5	0- 6000	Infinite	3.1
LGD16	49	50	32	80	40	Φ 21	Φ 10.5	17	0- 6000	Infinite	5.8

Type of slider	Width	Height 2	Length 2	Mounting holes Size S_1*S_2	Mounting holes
LGB6–61L–4UU	60	26	61	38*40	M5*8
LGB8–70L–4UU	60	26	70	40*50	M5*8
LGB8–100L–4UU	60	26	100	40*80	M6*10
LGB12–60L–2UU	82	36	60	54*39	M6*10
LGB12–100L–4UU	82	36	100	54*76	M6*10
LGB12–140L–6UU	82	36	140	54*115	M6*10
LGB12–160L–8UU	82	36	160	54*136	M6*10
LGB16–150L–4UU	120	46	150	90*120	M8*10
LGB16–180L–4UU	120	46	180	90*150	M8*10

The basic dynamic load	Basic static load	To/Kgf–m	Tx/Kgf–m	Ty/Kgf–m	Weight Kg–per
80	120	2.3	1.6	1.8	0.16
80	130	3.6	3	3.2	0.2
90	140	4.1	3.5	3.7	0.25
100	150	2.1	1.6	1.9	0.32
200	380	7.5	6	6.5	0.57
270	435	8.1	10.8	12.7	0.73
290	460	8.7	11.2	13.6	0.85
400	750	15.2	12.5	13.3	1.4
430	790	16.5	14.2	14.8	1.6

SUPPORT UNIT BK (fixed-side rectangular type)

Park No.	Part name	Qty
1	Housing	1
2	Bearing	1 set
3	Holding lid	1
4	Collar	2
5	Seal	2
6	Lock nut	1 set
7	Hexagon socket-head Setscrew(with set piece)	2

Unit : mm

Model No.	Shaft diameter d1	L	L1	L2	L3	B	H	b ±0.02	h ±0.02	B1	H1	P	C1	C2	X	Y	Z	M	T
BK10	10	25	5	29	5	60	39	30	22	34	32.5	46	13	6	6.6	10.8	5	M3	16
BK12	12	25	5	29	5	60	43	30	25	35	32.5	46	13	6	6.6	10.8	1.5	M3	19
BK15	15	27	6	32	6	70	48	35	28	40	38	54	15	6	6.6	11	6.5	M3	22
BK17	17	35	9	44	7	86	64	43	39	50	55	68	19	8	9	14	8.5	M4	24
BK20	20	35	8	43	8	88	60	44	34	52	50	70	19	8	9	14	8.5	M4	32
BK25	25	42	12	54	9	106	80	53	48	64	70	85	22	10	11	17.5	11	M5	35
BK30	30	45	14	61	9	128	89	64	51	76	78	102	23	11	14	20	13	M6	40
BK35	35	50	14	67	12	140	96	70	52	88	79	114	26	12	14	20	13	M8	50
BK40	40	61	18	76	15	160	110	80	60	100	90	130	33	14	18	26	17.5	M8	50

Surface Special treatment is available

SUPPORT UNIT BF (Supported-side rectangular type)

Park No.	Part name	Qty
1	Housing	1
2	Bearing	1 set
3	Snap ring	1

Unit : mm

Model No.	Shaft diameter d1	L	B	H	b ±0.02	h ±0.02	B1	H1	P	X	Y	Z	Bearing	Snap ring
BF10	8	20	60	39	30	22	34	32.5	46	6.6	10.8	5	608ZZ	S8
BF12	10	20	60	43	30	25	35	32.5	46	6.6	10.8	1.5	6000ZZ	S10
BF15	15	20	70	48	35	28	40	38	54	6.6	11	6.5	6002ZZ	S15
BF17	17	23	86	64	43	39	50	55	68	9	14	8.5	6203ZZ	S17
BF20	20	26	88	60	44	34	52	50	70	9	14	8.5	6004ZZ	S20
BF25	25	30	106	80	53	48	64	70	85	11	17.5	11	6205ZZ	S25
BF30	30	32	128	89	64	51	76	78	102	14	20	13	6206ZZ	S30
BF35	35	32	140	96	70	52	88	79	114	14	20	13	6207ZZ	S35
BF40	40	37	160	110	80	60	100	90	130	18	26	17.5	6208ZZ	S40

Surface Special treatment is available

SUPPORT UNIT FK

(flxed-side rectangular type)

Park No.	Part name	Qty
1	Housing	1
2	Bearing	1 set
3	Holding lid	1
4	Collar	2
5	Seal	2
6	Lock nut	1 set
7	Hexagon socket-head Setscrew(with set piece)	2

FK10 ~ FK30

Mounting method A

Mounting method B

Unit : mm

Model No.	Shaft diameter d1	L	H	F	E	Dg6		A	PCD	B	Mounting method A		Mounting method B		X	Y	Z	M	T
											L1	T1	L2	T2					
FK10	10	27	10	17	29.5	34	-0.009 -0.025	52	42	42	7.5	5	8.5	6	4.5	8	4	M4	16
FK12	12	27	10	17	29.5	36	-0.009 -0.025	54	44	44	7.5	5	8.5	6	4.5	8	4	M4	19
FK15	15	32	15	17	36	40	-0.009 -0.025	63	50	52	10	6	12	8	5.5	9.5	6	M4	22
FK17	17	45	22	23	47	50	-0.009 -0.025	77	62	61	11	9	14	12	6.6	11	10	M4	24
FK20	20	52	22	30	50	57	-0.010 -0.029	85	70	68	8	10	12	14	6.6	11	10	M4	30
FK25	25	57	27	30	60	63	-0.010 -0.029	98	80	79	13	10	20	17	9	15	13	M5	35
FK30	30	62	30	32	61	75	-0.010 -0.029	117	95	93	11	12	17	18	11	17.5	15	M6	40

Surface special treatment is available.

SUPPORT UNIT FF

(Supported-side round type)

Park No.	Part name	Qty
1	Housing	1
2	Bearing	1 set
3	Snap ring	1

Unit : mm

Model No.	Shaft diameter d1	L	H	F	Dg6		A	PCD	B	X	Y	Z	Bearing	Snap ring
FF06	6	10	6	4	22	-0.007 -0.02	36	28	28	3.4	6.5	4	606ZZ	S 6
FF10	8	12	7	5	28	-0.007 -0.02	43	35	35	3.4	6.5	4	608ZZ	S 8
FF12	10	15	7	8	34	-0.009 -0.025	52	42	42	4.5	8	4	6000ZZ	S 10
FF15	15	17	9	8	40	-0.009 -0.025	63	50	52	5.5	9.5	5.5	6002ZZ	S 15
FF17	17	20	11	9	50	-0.009 -0.025	77	62	61	6.6	11	6.5	6203ZZ	S 17
FF20	20	20	11	9	57	-0.010 -0.029	85	70	68	6.6	11	6.5	6204ZZ	S 20
FF25	25	24	14	10	63	-0.010 -0.029	98	80	79	9	14	8.5	6205ZZ	S 25
FF30	30	27	18	9	75	-0.010 -0.029	117	95	93	11	17.5	11	6206ZZ	S 30

Surface special treatment is available.

RECOMMENDED SHAFT END MACHINING BK

Type BK

Unit : mm

Support Unit Model No.	Ballscrew Shaft OD	Shaft Support Portion OD				Metric Screw Thread		
Type BK	d	D	B	E	F	M	S	C
BK10	12/14/15	10 -0.005 -0.012	8	36	15	M10X1	16	5.5
BK12	14/15/16	12 -0.005 -0.012	10	36	15	M12X1	14	5.5
BK15	18/20	15 -0.005 -0.012	12	40	20	M15X1	12	6
BK17	20/25	17 -0.005 -0.014	15	53	23	M17X1	17	7
BK20	25/28	20 -0.005 -0.014	17	53	25	M20X1	15	8
BK25	32/36	25 -0.005 -0.014	20	65	30	M25X1.5	18	9
BK30	36/40	30 -0.005 -0.015	25	72	38	M30X1.5	25	9
BK35	45	35 -0.005 -0.015	30	81	45	M35X1.5	28	12
BK40	50	40 -0.005 -0.015	35	93	50	M40X1.5	35	15

RECOMMENDED SHAFT END MACHINING BF

Type FF

Type BF.

Unit : mm

Support Unit Model No.		Ballscrew Shaft OD	Shaft Support Portion OD					
Type BF	**Type FF**	d	D		E	B	F	G
-	**FF06**	8	6	-0.005 -0.012	9	5.7	6.8	0.8
-	-	10	6	-0.005 -0.012	9	5.7	6.8	0.8
BF10	**FF10**	12/14/15	8	-0.005 -0.012	10	7.6	7.9	0.9
BF12	**FF12**	14/15/16	10	-0.005 -0.012	11	9.6	9.15	1.15
BF15	**FF15**	18/20	15	-0.005 -0.014	13	14.3	10.15	1.15
BF17	**FF17**	20/25	17	-0.005 -0.014	16	16.2	13.15	1.15
(BF20)Note	**FF20**	25/28/30	20	-0.005 -0.014	19(16)	19	15.35(13.35)	1.35
BF25	**FF25**	30/32/36	25	-0.005 -0.014	20	23.9	16.35	1.35
BF30	**FF30**	36/40	30	-0.005 -0.015	21	28.6	17.75	1.75
BF35	-	40/45	35	-0.005 -0.015	22	33	18.75	1.75
BF40	-	50	40	-0.005 -0.015	23	38	19.75	1.95

YSK SERIES LOCK NUTS

For Ball Screws & Spindles

Thread	D	h	d	n x m-l	b	c	Part NO.
YSK M 20X1.0	40	18	35	4 X M4-12	4 X ø4	30	YSK 20
YSK M 20X1.5	40	18	35	4 X M4-12	4 X ø4	30	YSK 20
YSK M 25X1.5	45	20	40	4 X M4-12	4 X ø5	35	YSK 25
YSK M 30X1.5	48		45	4 X M4-14		39	YSK 30
YSK M 35X1.5	53	22	50	4 X M4-16		44	YSK 35
YSK M 40X1.5	58		55	4 X M4-16		49	YSK 40
YSK M 45X1.5	68		63	6 X M4-16	6 X ø6	57	YSK 45
YSK M 50X1.5	70	25	66	6 X M4-18		60	YSK 50
YSK M 55X2.0	75		71	6 X M4-18		65	YSK 55
YSK M 60X2.0	84	26	79	6 X M5-20		72	YSK 60
YSK M 65X2.0	88	28	84	6 X M5-20		77	YSK 65
YSK M 70X2.0	95		89	6 X M5-20	6 X ø7	82	YSK 70
YSK M 75X2.0	100		94	6 X M5-20		87	YSK 75
YSK M 80X2.0	110	32	103	6 X M6-22	6 X ø8	95	YSK 80
YSK M 85X2.0	115		108	6 X M6-22		100	YSK 85
YSK M 90X2.0	120		113	6 X M6-22		105	YSK 90
YSK M 95X2.0	125		118	6 X M6-22		110	YSK 95
YSK M 100X2.0	130		123	6 X M6-22		115	YSK 100
YSK M 110X2.0	140		133	6 X M6-22		125	YSK 110
YSK M 120X2.0	155	36	146	6 X M4-25		136	YSK 120

Remarks : (1) The data are for reference only. (2) 1 Nm = 10.2 kgf.cm=0.73lb.ft

YSR SERIES LOCK NUTS

Thread	D	h	g	t	d	n X m	Max. Nm
YSR M 8X0.75	16	8	3	2	11	2 X M4	3.5
YSR M 10X0.75	18				13		
YSR M 12X1	20				16		
YSR M 15X1	25				21		
YSR M 17X1	28		4		23	2 X M5	8.0
YSR M 20X1	32	10	4	2	27	3 X M5	8.0
YSR M 20X1.5					27		
YSR M 25X1.5	38	12	5		33	3 X M6	8.0
YSR M 30X1.5	45				40		
YSR M 35X1.5	52				47		
YSR M 40X1.5	58	14	6	2.5	52		
YSR M 45X1.5	65				59		
YSR M 50X1.5	70				64		
YSR M 55X2	75	16	7	3	68	3 X M8	
YSR M 60X2	80				73		
YSR M 65X2	85				78		
YSR M 70X2	92	18	8	3.5	84	3 X M8	18.0
YSR M 75X2	98				90		
YSR M 80X2	105				96		
YSR M 85X2	110				102		
YSR M 90X2	120	20	10	4	108		
YSR M 95X2	125				113		
YSR M 100X2	130				118		
YSR M 105X2	140	22	12	5	125		
YSR M 110X2	145				132		
YSR M 115X2	150				137		
YSR M 120X2	155	24			142		
YSR M 125X2	160				147		
YSR M 130X2	165				152		
YSR M 135X3	175	26	14	6	160	3 X M10	35
YSR M 140X3	180				165		
YSR M 145X3	190				175		
YSR M 150X3	195				180		
YSR M 155X3	200	28	16	7	180		
YSR M 160X3	210				190		
YSR M 165X3	210				190		
YSR M 170X3	220				200		
YSR M 180X3	230	30	18	8	205	3 X M12	60.0
YSR M 190X3	240				215		
YSR M 200X3	250	32			225		

Remarks:(1) The data are for reference only. (2) 1 Nm= 10.2kgf.cm=0.73lb.ft

CROSS ROLLER GUIDES

Model No.	Roller diameter (ball diameter) Da	Main dimensions												Mass (Ref)		t
		A	H	W	g	M	d1	d2	h	R	Length L [Number of rollers per roller cage (Z)]	F	E	Way(1) kg/m	Roller Cage(2) g	
R 3	3	18	8	8.3	3.5	M4	3.3	6	3.1	(1) 42, (2) 62, (3) 82, (4) 102, (5) 122 (6) 142, (7) 162, (8) 182, (9) 202, (10) 222, (11)242	(1) 50(8), (2) 75(12), (3) 100(16), (4) 125(20), (5) 150(24) (6) 175(28), (7) 200(32), (8) 225(36), (9) 250(40), (10) 275(44), (11)300(48)	25	12.5	0.5	2.96	2
R 4	4	22	11	10	4.5	M5	4.3	7.5	4.1	(1) 73, (2) 101, (3) 136, (4) 164, (5) 199, (6) 227, (7) 262, (8) 297, (9) 325, (10) 360, (11)388	(1) 80(10), (2) 120(14), (3) 160(19), (4) 200(23), (5) 240(28), (6) 280(32), (7) 320(37), (8) 360(42), (9) 400(46), (10) 440(51), (11)480(55)	40	20	0.82	6.91	
R 6	6	31	15	14	6	M6	5.3	9.5	5.2	(1) 84, (2) 129, (3) 165, (4) 210, (5) 246, (6) 282, (7) 327, (8) 363, (9) 408, (10) 444, (11)489.	(1) 100(9), (2) 150(14), (3) 200(18), (4) 250(23), (5) 300(27), (6) 350(31), (7) 400(36), (8) 450(40), (9) 500(45), (10) 550(49), (11)600(54).	50	25	1.57	20.3	3
R 9	9	44	22	20.2	9	M8	6.8	10.5	6.2	(1) 173, (2)257, (3) 327, (4) 411, (5) 495, (6) 565, (7) 649, (8) 733, (9) 817, (10)887, (11) 971.	(1) 200(9), (2)300(14), (3) 400(18), (4) 500(23), (5) 600(27), (6) 700(31), (7) 800(36), (8) 900(40), (9) 1000(45), (10)1100(49), (11) 1200(54).	100	50	3.3	64.8	
R 12	12	58	28	26.9	12	M10	8.5	13.5	8.2	(1) 168, (2) 258, (3) 330, (4) 420, (5) 492, (6) 564, (7) 654, (8) 726, (9) 816, (10) 888, (11) 978	(1) 200(9), (2) 300(14), (3) 400(18), (4) 500(23), (5) 600(27), (6) 700(31), (7) 800(36), (8) 900(40), (9) 1000(45), (10) 1100(49), (11) 1200(54)			5.57	9.46	

Note:- The values in brackets for the dimension A show the dimensions for combination with the Ball cage type B.
(1) This value shows mass per one meter for individual way.
(2) This value shows mass of one roller cage in which ten rollers are incorporated.

CROSS ROLLER GUIDES

Model No.	Main dimensions					Basic load rating (for one roller)		Permissible preload amount
	Da	c	B	P	e	C kg	Coz kg	Mm
R 3	3	0.3	7	5	3.5	37	28	-4
R 4	4		10.5	7	5	78	65	-5
R 6	6	0.6	13.5	9	6	195	180	-7
R 9	9	1	19	14	9.5	440	445	-10
R 12	12		25	18	12	740	780	-13

Model No.	Main dimensions					Basic load rating (for one ball)	
	Da	C	B	P	e	C kg	Co kg
B 3	3	0.8	7	6	4.5	2.8	8.9
B 4	4	0.4	10.5	7		4.6	15.8
B 6	6	0.6	13.5	10	6	10	36
B 9	9.525	1	19	14	8.5	22	80
B 12	11.906		25	20	12.5	33	145

LFI SERIES - LFI 10 S

LFI 10 S Accessories

LFI 10 S Assembly

Max. Length in single element = 2000 mm.

LFI 10 S

LFR 5201 KDD BEARING

BEARING RATING (KG)	
Dynamic	Static
C	C_o
1200	710

LFR 5301 KDD BEARING

BEARING RATING (KG)	
Dynamic	Static
C	C_o
1200	710

ECCENTRIC PIN

LFI SERIES - LFI 20 S

Max. Length in single element = 2000 mm.

LFI 20 S ASSEMBLY

Eccentric Pin

Concentric Pin

LFI/LFR 20 BEARING

BEARING RATING (KG)	
Dynamic	Static
C	C_o
2200	1200

APPLICATION EXAMPLES

LFI SERIES EXAMPLES

LFI 20 S
Track roller assembly

LFI 20 S
Ball screw assembly

LFI 20 D
Track roller assembly

LFI 20 D
Rack & Pinion with
Gear Box Drive

FEATURES TRAPEZOIDAL SCREWS AND NUTS

Trapezoidal screws are precision rolled. Continuous search for improvement and many years of experience in the development of the cold plastic deformation process which characterizes rolling allow us to offer our customers trapezoidal screws with excellent features.

MATERIALS

Steel used in trapezoidal screws		After Rolling
C15E - 1.1141 EN 10084 - C15E	Carbon Steel	160/180 HB
1C45 - 1.0503 EN 10083 - 1C45	Carbon Steel	App. 250 HB
A2 - 1.4301 - X5CrNi18-10 EN 10088	Stainless steel	App. 260 HB
A4 - AISI 316 1.4401 X5CrNiMo17-12-2 EN 10088	Stainless steel	App. 280 Hb

C45 and A2 stainless steel were chosen because in addition to their natural qualities as good construction materials, after rolling they give very good surface hardness and finish on the thread sides. A4 stainless steel also has excellent corrosion resistance. C15 is an excellent quality - price compromise. After rolling, the C15 has surface hardness of approximately 160/180 HB,C45 approximately 250 HB, A2 Stainless approximately 260 HB and A4 stainless approximately 280 HB while roughness is less than 1 m Ra for all.
These two features are decisive factors for qualitative appraisal of trapezoidal screws because they give very small friction coefficients, much lower than those obtainable with machined screws where other conditions such as speed, load and lubrication are equal. Our trapezoidal screws with bronze nuts give traversing systems with efficiency, and quietness compared with coupling with machined screws because of the low friction coefficient the amount of heat generated during movement is limited with resulting smaller nut heating . Nut life is also increased. We make nuts with 10 kinds of material to better meet the various requirements.

RAGHAV ENTERPRISES

TRAPEZOIDAL SCREW TYPE KQX LEAD ACCURACY 200 - STEEL C15 1. 1141

Stock no. for screw RIGHT	Stock no. for screw LEFT	Diameter x Lead	Thread starts	Lead accuracy µm / 300 mm	Straightness mm / mm	Weight kg / mt
KQX 10 A R	KQX 10 A L	Tr 10x3	1	200	0.7 / 1000	0.42
KQX 12 A R	KQX 12 A L	Tr 12x3				0.65
KQX 12 B R	- -	Tr 12x6 (P3)	2			
KQX 14 A R	KQX 14 A L	Tr 14x4	1			0.86
KQX 16 A R	KQX 16 A L	Tr 16x4			0.7 / 1500	1.17
KQX 16 B R	- -	Tr 16x8 (P4)	2			
KQX 18 A R	KQX 18 A L	Tr 18x4	1			1.53
KQX 20 A R	KQX 20 A L	Tr 20x4			0.6 / 2000	1.94
KQX 20 B R	- -	Tr 20x8 (P4)	2			
KQX 20 D R	- -	Tr 20x20 (P5)	4			1.84
KQX 22 A R	KQX 22 A L	Tr 22x5	1			2.29
KQX 24 A R	KQX 24 A L	Tr 24x5			0.4 / 2000	2.79
KQX 25 A R	KQX 25 A L	Tr 25x5				3.05
KQX 25 B R	- -	Tr 25x10 (P5)	2			
KQX 25 E R	- -	Tr 25x25 (P5)	5			
KQX 26 A R	KQX 26 A L	Tr 26x5	1			3.33
KQX 28 A R	KQX 28 A L	Tr 28x5				3.92
KQX 28 B R	- -	Tr 28x10 (P5)	2			
KQX 30 A R	KQX 30 A L	Tr 30x6	1		0.4 / 3000	4.38
KQX 30 B R	- -	Tr 30x12 (P6)	2			
KQX 30 F R	- -	Tr 30x30 (P5)	6			4.57
KQX 32 A R	KQX 32 A L	Tr 32x6	1			5.06
KQX 35 A R	KQX 35 A L	Tr 35x6			0.3 / 3000	6.16
KQX 36 A R	KQX 36 A L	Tr 36x6				6.56
KQX 40 A R	KQX 40 A L	Tr 40x7				8.03
KQX 40 B R	- -	Tr 40x14 (P7)	2			
KQX 40 E R	- -	Tr 40x40 (P8)	5			7.90
KQX 44 A R	KQX 44 A L	Tr 44x7	1			9.90
KQX 45 A R	KQX 45 A L	Tr 45x8				10.23
KQX 50 A R	KQX 50 A L	Tr 50x8				12.90
KQX 55 A R	- -	Tr 55x9				15.51
KQX 60 A R	KQX 60 A L	Tr 60x9				18.74
KQX 70 A R	- -	Tr 70x10				25.80
KQX 80 A R	- -	Tr 80x10				34.39

RAGHAV ENTERPRISES

TRAPEZOIDAL NUT TYPE FTN-FLANGED BRONZE

From Tr 24x5 to Tr 60x9
6 holes

From Tr 10x3 to Tr 22x5
4 holes

Nut stock no. RIGHT	Nut stock no. LEFT	Diameter x Lead	Thread starts	d1	d2	d3	d4	d5	P	L	S	no. screw holes	Fastening screw holes	Wt. kg/cad.	At mm² (1)
FTN 10 A R	FTN 10 A L	Tr 10x3	1	18	26	37	4.5	7.5	4.2	22	8	4	M4	0.088	294
FTN 12 A R	FTN 12 A L	Tr 12x3												0.082	362
FTN 14 A R	FTN 14 A L	Tr 14x4		20	30	42	5.5	9	5.2	25	10		M5	0.123	470
FTN 16 A R	FTN 16 A L	Tr 16x4		22	32	45				30				0.149	660
FTN 18 A R	FTN 18 A L	Tr 18x4		25	35	48				35				0.188	880
FTN 20 A R	FTN 20 A L	Tr 20x4		30	40	52				40				0.267	1130
FTN 22 A R	FTN 22 A L	Tr 22x5												0.247	1225
FTN 25 A R	FTN 25 A L	Tr 25x5		35	48	62	6.5	11	6.5	45	12	6	M6	0.393	1590
FTN 28 A R	FTN 28 A L	Tr 28x5		40	53	68				50				0.532	2000
FTN 30 R R	FTN 30 R L	Tr 30x3												0.482	2238
FTN 30 Q R	FTN 30 Q L	Tr 30x4												0.487	2200
FTN 30 P R	FTN 30 P L	Tr 30x5												0.492	2160
FTN 30 A R	FTN 30 A L	Tr 30x6												0.497	2120
FTN 35 R R	FTN 35 R L	Tr 35x3		50	63	78	8.5	14	8.5	60	15		M8	0.862	3160
FTN 35 Q R	FTN 35 Q L	Tr 35x4												0.869	3110
FTN 35 P R	FTN 35 P L	Tr 35x5												0.876	3060
FTN 35 A R	FTN 35 A L	Tr 35x6												0.883	3015
FTN 35 M R	–	Tr 35x8												0.898	2920
FTN 40 R R	FTN 40 R L	Tr 40x3		55	68	84				65				1.030	3930
FTN 40 Q R	FTN 40 Q L	Tr 40x4												1.039	3880
FTN 40 P R	FTN 40 P L	Tr 40x5												1.048	3828
FTN 40 O R	FTN 40 O L	Tr 40x6												1.057	3778
FTN 40 A R	FTN 40 A L	Tr 40x7												1.066	3727
FTN 40 M R	–	Tr 40x8												1.075	3675
FTN 45 A R	FTN 45 A L	Tr 45x8			72	90								0.999	4186
FTN 50 R R	FTN 50 R L	Tr 50x3		65	80	100	10.5	17	10.5	80	20		M10	1.679	6095
FTN 50 Q R	FTN 50 Q L	Tr 50x4												1.693	6030
FTN 50 P R	FTN 50 P L	Tr 50x5												1.707	5970
FTN 50 O R	FTN 50 O L	Tr 50x6												1.721	5905
FTN 50 A R	FTN 50 A L	Tr 50x8												1.749	5780
FTN 55 A R	–	Tr 55x9												1.475	6345
FTN 60 O R	FTN 60 O L	Tr 60x6		75	95	120	12.5	19	12.5	100	25		M12	2.865	8950
FTN 60 N R	FTN 60 N L	Tr 60x7												2.886	8875
FTN 60 A R	FTN 60 A L	Tr 60x9												2.927	8718

(1) Total bearing surface between screw and nut teeth on plan perpendicular to axis.

Note: These Nuts can be supplied which are manufactured indigenously.

APPLICATION

Linear Track (7th Axis)
System for Robots

CNC Gas & Plasma Cutting Machine (Plate & Tube)

ASM POSITION SENSOR APPLICATION

LFI SERIES - LFI 10 S

LFI 10 S Accessories

LFI 10 S Assembly

Max. Length in single element = 2000 mm.

LFI 10 S

LFR 5201 KDD BEARING

BEARING RATING (KG)	
Dynamic	Static
C	C_o
1200	710

LFR 5301 KDD BEARING

BEARING RATING (KG)	
Dynamic	Static
C	C_o
1200	710

ECCENTRIC PIN

RAGHAV ENTERPRISES

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Due to continuous product development technical specifications
are subject to revision without prior notice.