

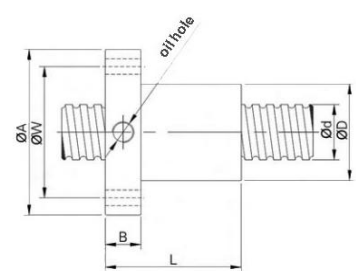
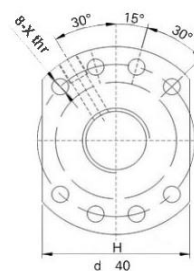
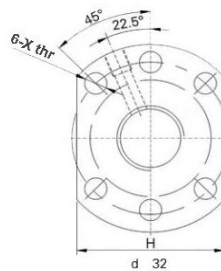
MotionTek Drives Systems

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Ball Screw — Technical Specifications & Catalogue

- Rolled C7-grade ball screw with pre-loaded anti-backlash ball nut. Shaft diameters 12mm to 80mm, leads 4mm to 40mm, single and double-nut configurations available.
- SCM450/S55C shaft induction hardened HRC 58-62, SCM415 carbonized nut HRC 58-62, SUJ2 steel balls HRC 60+. Long fatigue life under heavy dynamic and static loads.
- Complete system: Front/End Support Units BSFU & BSEU, BSP ball-nut bracket & Standard or Custom Machined Shaft.

BALL SCREW & BALL NUT



D_a =Ball Diameter | N =No. of Turns | K =Rigidity (N/um) | C_a =Dynamic Load Rating | C_{oa} =Static Load Rating

BALL SCREW DIMENSIONAL SPECIFICATIONS (ALL DIMENSIONS IN mm)

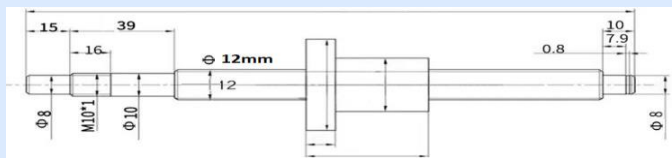
Part#	d	l	D_a	D	A	B	L	W	X	H	G1	n	C_a	C_{oa}	K
BS1204	12	4	2.5	24	40	10	40	32	4.5	30	M6	4	593	1129	12.5
BS1604	16	4	2.381	28	48	10	40	38	5.5	40	M6	4	629	1270	35
BS1605	16	5	3.175	28	48	10	50	38	5.5	40	M6	4	780	1790	20
BS1610	16	10	3.175	28	48	10	57	38	5.5	40	M6	3	721	1249	15
BS2004	20	4	2.381	36	58	10	42	47	6.6	44	M6	4	699	1617	41
BS2005	20	5	3.175	36	58	10	51	47	6.6	44	M6	4	1130	2380	25
BS2504	25	4	2.381	40	62	10	42	51	6.6	48	M6	4	777	2052	48
BS2505	25	5	3.175	40	62	10	51	51	6.6	48	M6	4	1280	3110	35
BS2506	25	6	3.969	40	62	10	54	51	6.6	48	M6	4	1528	3284	40
BS2508	25	8	4.762	40	62	10	63	51	6.6	48	M6	4	1941	3863	38
BS2510	25	10	4.762	40	62	12	85	51	6.6	48	M6	4	1944	3877	33
BS3204	32	4	2.381	50	80	12	44	65	9	62	M6	4	871	2661	56
BS3205	32	5	3.175	50	80	12	52	65	9	62	M6	4	1450	4150	40
BS3206	32	6	3.969	50	80	12	57	65	9	62	M6	4	1720	4298	47
BS3208	32	8	4.762	50	80	12	65	65	9	62	M6	4	2189	5079	44
BS3210	32	10	6.350	50	80	12	90	65	9	62	M6	4	3390	7170	79
BS4005	40	5	3.175	63	93	14	55	78	9	70	M6	4	1610	5330	49
BS4006	40	6	3.969	63	93	14	60	78	9	70	M6	4	1911	5458	55
BS4008	40	8	4.762	63	93	14	67	78	9	70	M6	4	2435	6469	52
BS4010	40	10	6.350	63	93	14	93	78	9	70	M8	4	3910	9520	50
BS5010	50	10	6.350	75	110	16	93	93	11	85	M8	4	4450	12500	65

Part#	d	l	Da	D	A	B	L	W	X	H	G1	n	Ca	Coa	K
BS5020	50	20	7.144	75	110	16	138	93	11	85	M8	4	4644	14327	59.5
BS6310	63	10	6.350	90	125	18	98	108	11	95	M8	4	5070	16000	80
BS6320	63	20	9.525	95	135	20	149	115	13.5	100	M8	4	7573	23860	84.1
BS8010	80	10	6.350	105	145	20	98	125	13.5	110	M8	4	5620	21300	90
BS8020	80	20	9.525	125	165	25	154	145	13.5	130	M8	4	8485	30895	84.1

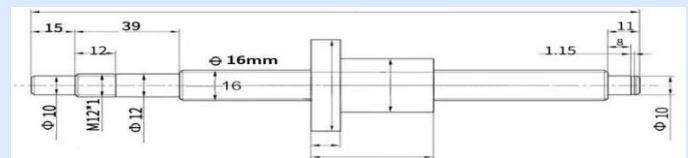
BALL SCREW BALL NUT MATERIAL SPECIFICATIONS

Item	Material	Heat Treatment	Hardness
Ball Screw	SCM450 S55C CF53	Induction Heating Hardening	HRC 58-62
Ball Nut	SCM415 20CR	Carbonizing Hardening	HRC 58-62
Steel Ball	SUJ2	—	HRC 60+

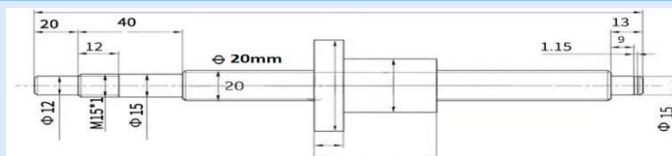
BALL SCREW FRONT/END SHAFT SPECIFICATIONS



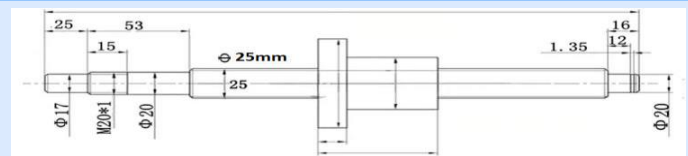
Ball screw 12mm Front/End Shaft dimensions



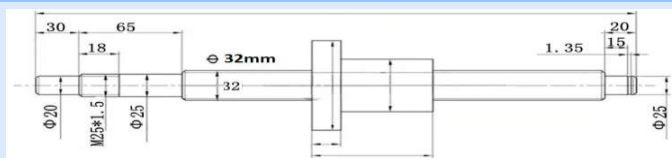
Ball screw 16mm Front/End Shaft dimensions



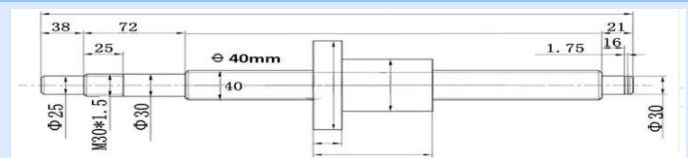
Ball screw 20mm Front/End Shaft dimensions



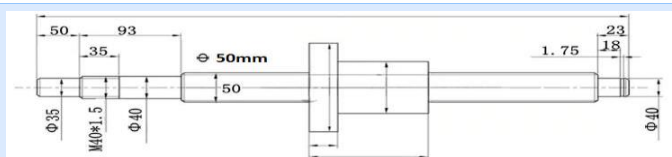
Ball screw 25mm Front/End Shaft dimensions



Ball screw 32mm Front/End Shaft dimensions



Ball screw 40mm Front/End Shaft dimensions



Ball screw 50mm Front/End Shaft dimensions

BALL NUT HANDLING | IMPORTANT WARNING



DO NOT remove the ball nut without the proper retainer & procedure.

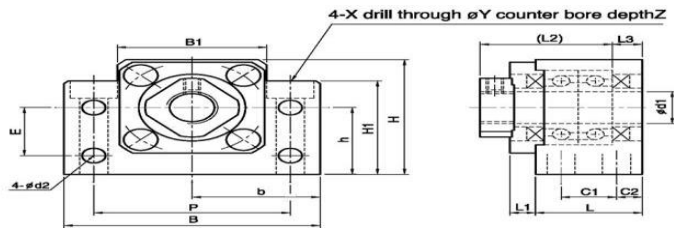
For ball nut upload/offload download the procedure file:

www.motiontek.ca/PDF/BallNutUpload.pdf

BALL SCREW END/FRONT SUPPORT UNITS & BALL NUT BRACKET



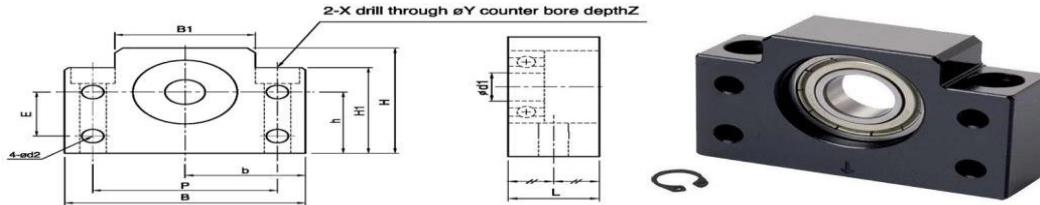
BSFU | BALL SCREW FRONT SUPPORT UNIT (FIXED END NUT)



BSFU — Ball screw front support unit bearing and housing (BK series)

Part#	d1	L	L1	L2	L3	C1	C2	B	H	b+0.02	h±0.02	B1	H1	E	P	d2	X	Y	Z
BSFU10	10	25	5	29	5	13	6	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5
BSFU12	12	25	5	29	5	13	6	60	43	30	25	34	32.5	18	46	5.5	6.6	10.8	5
BSFU15	15	27	6	32	6	15	6	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5
BSFU17	17	35	9	44	7	19	8	86	64	43	39	50	55	28	68	6.6	9	14	8.5
BSFU20	20	35	8	43	8	19	8	88	60	44	34	52	50	22	70	6.6	9	14	8.5
BSFU25	25	42	12	54	9	22	10	108	80	53	48	64	70	33	85	9	11	17.5	11
BSFU30	30	45	14	61	9	23	11	128	89	64	51	76	78	33	102	11	14	20	13
BSFU35	35	50	14	67	12	26	12	140	96	70	52	88	79	35	114	11	14	20	13
BSFU40	40	61	18	76	15	33	14	160	110	80	60	100	90	37	130	14	18	26	17.5

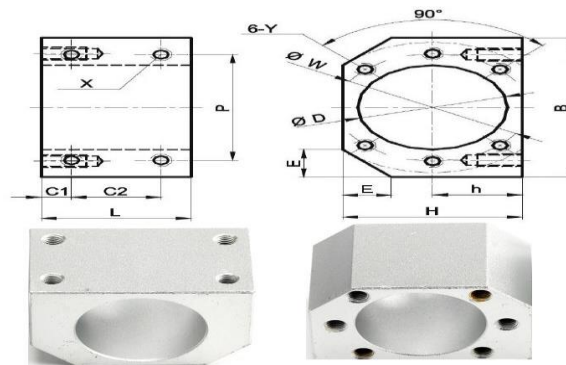
BSEU | BALL SCREW END SUPPORT UNIT (FLOATING END)



BSEU — Ball screw end support unit bearing and housing (BF series)

Part#	d1	L	B	H	b±0.02	h+0.02	B1	H1	E	P	d2	X	Y	Z
BSEU10	8	20	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5
BSEU12	10	20	60	43	30	25	34	32.5	18	46	5.5	6.6	10.8	5
BSEU15	15	20	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5
BSEU17	17	23	86	64	43	39	50	55	28	68	6.6	9	14	8.5
BSEU20	20	26	88	60	44	34	52	50	22	70	6.6	9	14	8.5
BSEU25	25	30	106	80	53	48	64	70	33	85	9	11	17.5	11
BSEU30	30	32	128	89	64	51	76	78	33	102	11	14	20	13
BSEU35	35	32	140	96	70	52	88	79	35	114	11	14	20	13
BSEU40	40	37	160	110	80	60	100	90	37	130	14	18	26	17.5

BSP | BALL NUT BRACKET



BSP | Ball screw ball nut bracket housing

Part#	D	B	H	h	E	L	C1	C2	P	X	W	Y
BSP1605	28	52	40	20	12	40	8	24	40	M5	38	M5
BSP1616	32	54	38	19	8	40	8	24	3	M5	42	M4
BSP2005	36	62	3	22	12	40	8	24	48	M6	47	M6
BSP2020	39	64	46	23	11	40	8	24	52	M6	50	MS
BSP2505	40	66	48	24	13	40	8	24	50	M6	51	M6
BSP2525	47	68	56	28	9	40	8	24	50	M6	60	M6
BSP3210	50	86	62	31	17	40	8	24	66	M8	65	M8
BSP4020	63	100	70	35	19	40	8	24	80	M8	78	M8
BSP5020	75	116	85	42.5	22	46	10	26	92	M8	93	M8