

7.2. Accuracy Standards

Tables 1 to 4 show measurement items of the Ball Spline.

Table 1 Run-out of the Spline Nut Circumference in Relation to the Support of the Spline Shaft Unit: μm

Accuracy Nominal shaft diameter Overall spline shaft length (mm)		Run-out (max)																										
		4 to 8 (note)			10			13 to 20			25 to 32			40, 50			60 to 80			85 to 120			150					
Above	Or less	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision	Normal	High	Precision
—	200	72	46	26	59	36	20	56	34	18	53	32	18	53	32	16	51	30	16	51	30	16	—	—	—	—	—	—
200	315	133	(89)	—	83	54	32	71	45	25	58	39	21	58	36	19	55	34	17	53	32	17	—	—	—	—	—	—
315	400	—	—	—	103	68	—	83	53	31	70	44	25	63	39	21	58	36	19	55	34	17	—	—	—	—	—	—
400	500	—	—	—	123	—	—	95	62	38	78	50	29	68	43	24	61	38	21	57	35	19	46	36	19	—	—	—
500	630	—	—	—	—	—	—	112	—	—	88	57	34	74	47	27	65	41	23	60	37	20	49	39	21	—	—	—
630	800	—	—	—	—	—	—	—	—	—	103	68	42	84	54	32	71	45	26	64	40	22	53	43	24	—	—	—
800	1000	—	—	—	—	—	—	—	—	—	124	83	—	97	63	38	79	51	30	69	43	24	58	48	27	—	—	—
1000	1250	—	—	—	—	—	—	—	—	—	—	—	—	114	76	47	90	59	35	76	48	28	63	55	32	—	—	—
1250	1600	—	—	—	—	—	—	—	—	—	—	—	—	139	93	—	106	70	43	86	55	33	80	65	40	—	—	—
1600	2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	128	86	54	99	65	40	100	80	50	—	—	—
2000	2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	156	—	—	117	78	49	125	100	68	—	—	—
2500	3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	143	96	61	150	129	84	—	—	—

Note: Dimensions in parentheses do not apply to nominal shaft diameter of 4.

Note: Applicable to models LBS, LBST, LBF, LBR, LT and LF.

Table 2 Perpendicularity of the Spline Shaft End Face in Relation to the Support of the Spline Shaft Unit: μm

Accuracy Nominal shaft diameter	Perpendicularity (max)		
	Normal grade (no symbol)	High grade (H)	Precision grade (P)
4 5 6 8 10	22	9	6
13 15 16 20	27	11	8
25 30 32	33	13	9
40 50	39	16	11
60 70 80	46	19	13
85 100 120	54	22	15
150	63	25	18

Table 3 Concentricity of the Part-mounting in Relation to the Support of the Spline Shaft Unit: μm

Accuracy Nominal shaft diameter	Concentricity (max)		
	Normal grade (no symbol)	High grade (H)	Precision grade (P)
4 5 6 8	33	14	8
10	41	17	10
13 15 16 20	46	19	12
25 30 32	53	22	13
40 50	62	25	15
60 70 80	73	29	17
85 100 120	86	34	20
150	100	40	23

Table 4 Straightness of the Flange-mounting Surface of the Spline Nut in Relation to the Support of the Spline Shaft Unit: μm

Accuracy Nominal shaft diameter	Straightness (max)		
	Normal grade (no symbol)	High grade (H)	Precision grade (P)
6 8	27	11	8
10 13	33	13	9
15 16 20 25 30	39	16	11
40 50	46	19	13
60 70 80 85	54	22	15
100	63	25	18

Note: This table does not apply to models LBG, LBGT, LTR and LTR-A.