

1.8. Accuracy Standards

The Cross-Roller Ring is manufactured with the accuracy and the dimensional tolerance according to tables 4 to 10.

Table 4 Rotational Accuracy of the Inner Ring of Model RB

Unit: μm

Nominal dimension of the bearing inner diameter (d) (mm)		Radial run-out tolerance of the inner ring					Axial run-out tolerance of the inner ring				
Above	Or less	Grade 0	Grade PE 6	Grade PE 5	Grade PE 4	Grade PE 2	Grade 0	Grade PE 6	Grade PE 5	Grade PE 4	Grade PE 2
			Grade P6	Grade P5	Grade P4	Grade P2		Grade P6	Grade P5	Grade P4	Grade P2
18	30	13	8	4	3	2.5	13	8	4	3	2.5
30	50	15	10	5	4	2.5	15	10	5	4	2.5
50	80	20	10	5	4	2.5	20	10	5	4	2.5
80	120	25	13	6	5	2.5	25	13	6	5	2.5
120	150	30	18	8	6	2.5	30	18	8	6	2.5
150	180	30	18	8	6	5	30	18	8	6	5
180	250	40	20	10	8	5	40	20	10	8	5
250	315	50	25	13	10	—	50	25	13	10	—
315	400	60	30	15	12	—	60	30	15	12	—
400	500	65	35	18	14	—	65	35	18	14	—
500	630	70	40	20	16	—	70	40	20	16	—
630	800	80	—	—	—	—	80	—	—	—	—
800	1000	90	—	—	—	—	90	—	—	—	—
1000	1250	100	—	—	—	—	100	—	—	—	—

Table 5 Rotational Accuracy of the Outer Ring of Model RE

Unit: μm

Nominal dimension of the bearing outer diameter (D) (mm)		Radial run-out tolerance of the outer ring					Axial run-out tolerance of the outer ring				
Above	Or less	Grade 0	Grade PE 6	Grade PE 5	Grade PE 4	Grade PE 2	Grade 0	Grade PE 6	Grade PE 5	Grade PE 4	Grade PE 2
			Grade P6	Grade P5	Grade P4	Grade P2		Grade P6	Grade P5	Grade P4	Grade P2
30	50	20	10	7	5	2.5	20	10	7	5	2.5
50	80	25	13	8	5	4	25	13	8	5	4
80	120	35	18	10	6	5	35	18	10	6	5
120	150	40	20	11	7	5	40	20	11	7	5
150	180	45	23	13	8	5	45	23	13	8	5
180	250	50	25	15	10	7	50	25	15	10	7
250	315	60	30	18	11	7	60	30	18	11	7
315	400	70	35	20	13	8	70	35	20	13	8
400	500	80	40	23	15	—	80	40	23	15	—
500	630	100	50	25	16	—	100	50	25	16	—
630	800	120	60	30	20	—	120	60	30	20	—
800	1000	120	75	—	—	—	120	75	—	—	—
1000	1250	120	—	—	—	—	120	—	—	—	—
1250	1600	120	—	—	—	—	120	—	—	—	—

Table 6 Rotational Accuracy of the Inner Ring of Model RA and RA-C
Unit: μm

Nominal dimension of the bearing inner diameter (d) (mm)		Tolerance in radial run-out and axial run-out
Above	Or less	
40	65	13
65	80	15
80	100	15
100	120	20
120	140	25
140	180	25
180	200	30


Note: If higher accuracy than the above values is required for the inner ring in rotational accuracy for models RA and RA-C, contact .

Table 7 Rotational Accuracy of the Outer Ring of Model RA-C
Unit: μm

Nominal dimension of the bearing outer diameter (D) (mm)		Tolerance in radial run-out and axial run-out
Above	Or less	
65	80	13
80	100	15
100	120	15
120	140	20
140	180	25
180	200	25
200	250	30

Note: The rotational accuracy of the outer ring for model RA-C indicates the value before separation.

Table 8 Dimensional Tolerance of the Bearing Inner Diameter for Models RB and RE

Unit: μm

Nominal dimension of the bearing inner diameter (d) (mm)		Tolerance of dm ^(note 2)							
		Grades 0, P6, P5, P4, and P2		Grade PE6		Grade PE5		Grade PE4 and PE2	
Above	Or less	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
18	30	0	- 10	0	- 8	0	- 6	0	- 5
30	50	0	- 12	0	-10	0	- 8	0	- 6
50	80	0	- 15	0	-12	0	- 9	0	- 7
80	120	0	- 20	0	-15	0	-10	0	- 8
120	150	0	- 25	0	-18	0	-13	0	-10
150	180	0	- 25	0	-18	0	-13	0	-10
180	250	0	- 30	0	-22	0	-15	0	-12
250	315	0	- 35	0	-25	0	-18	—	—
315	400	0	- 40	0	-30	0	-23	—	—
400	500	0	- 45	0	-35	—	—	—	—
500	630	0	- 50	0	-40	—	—	—	—
630	800	0	- 75	—	—	—	—	—	—
800	1000	0	-100	—	—	—	—	—	—
1000	1250	0	-125	—	—	—	—	—	—

Note 1: Standard inner diameter accuracy of models RA and RA-C is 0. For higher accuracy than 0, contact .


Note 2: "dm" represents the arithmetic average of the maximum and minimum diameters obtained in measuring the bearing inner diameter at two points.

Note 3: For accuracy grades in bearing inner diameter with no values indicated in the table, the highest value among low accuracy grades applies.

Table 9 Dimensional Tolerance of the Bearing Outer Diameter for Models RB and RE

Unit: μm

Nominal dimension of bearing outer diameter (D) (mm)		Tolerance of Dm ^(note 2)							
		Grades 0, P6, P5, P4 and P2		Grade PE6		Grade PE5		Grades PE4 and PE2	
Above	Or less	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
30	50	0	- 11	0	- 9	0	- 7	0	- 6
50	80	0	- 13	0	-11	0	- 9	0	- 7
80	120	0	- 15	0	-13	0	-10	0	- 8
120	150	0	- 18	0	-15	0	-11	0	- 9
150	180	0	- 25	0	-18	0	-13	0	-10
180	250	0	- 30	0	-20	0	-15	0	-11
250	315	0	- 35	0	-25	0	-18	0	-13
315	400	0	- 40	0	-28	0	-20	0	-15
400	500	0	- 45	0	-33	0	-23	—	—
500	630	0	- 50	0	-38	0	-28	—	—
630	800	0	- 75	0	-45	0	-35	—	—
800	1000	0	-100	—	—	—	—	—	—
1000	1250	0	-125	—	—	—	—	—	—
1250	1600	0	-160	—	—	—	—	—	—

Note 1: Standard outer diameter accuracy of models RA and RA-C is 0. For higher accuracy than 0, contact .

Note 2: "Dm" represents the arithmetic average of the maximum and minimum diameters obtained in measuring the bearing outer diameter at two points.

Note 3: For accuracy grades in bearing outer diameter with no values indicated in the table, the highest value among low accuracy grades applies.

Table 10 Tolerance in the Width of the Inner and Outer Rings (Common to All Grades)

Unit: μm

Nominal dimension of bearing inner diameter (D) (mm)		Tolerance of B		Tolerance of B1	
		Applied to the inner ring of RB and the outer ring of RE		Applied to the outer ring of RB and the inner ring of RE	
Above	Or less	Upper	Lower	Upper	Lower
18	30	0	- 75	0	-100
30	50	0	- 75	0	-100
50	80	0	- 75	0	-100
80	120	0	- 75	0	-100
120	150	0	-100	0	-120
150	180	0	-100	0	-120
180	250	0	-100	0	-120
250	315	0	-120	0	-150
315	400	0	-150	0	-200
400	500	0	-150	0	-200
500	630	0	-150	0	-200
630	800	0	-150	0	-200
800	1000	0	-300	0	-400
1000	1250	0	-300	0	-400

Note: All B and B1 types of models RA and RA-C are manufactured with tolerance between -0.120 and 0.