

LIST OF SYMBOLS

<u>Symbol</u>	<u>Description</u>	<u>Units</u>
$f_{0\theta}$	coefficient of viscous dependent bearing torque	
$f_{1\theta}$	coefficient of load dependent bearing torque	
α	contact angle	rad, °

Table CD10.1. Coefficients for the ISO Thermal Reference Speed Rating.

Bearing Type	Dimension Series	f_{00}	f_{10}
Single-row deep groove ball bearings	18	1.7	0.00010
	28	1.7	0.00010
	38	1.7	0.00010
	19	1.7	0.00015
	39	1.7	0.00015
	00	1.7	0.00015
	10	1.7	0.00015
	02	2	0.00020
	03	2.3	0.00020
	04	2.3	0.00020
Self-aligning ball bearings	02	2.5	0.00008
	22	3	0.00008
	03	3.5	0.00008
	23	4	0.00008
Single-row angular contact ball bearings $22^\circ < \alpha < 45^\circ$	02	2	0.00025
	03	3	0.00035
Double-row or paired single-row angular contact ball bearings	32	5	0.00035
	33	7	0.00035
Tapered roller bearings	02	3	0.00040
	03	3	0.00040
	30	3	0.00040
	29	3	0.00040
	20	3	0.00040
	22	4.5	0.00040
	23	4.5	0.00040
	13	4.5	0.00040
	31	4.5	0.00040
	32	4.5	0.00040
Needle roller bearings	48	5	0.00050
	49	5.5	0.00050
	69	10	0.00050

Bearing Type	Dimension Series	f_{00}	f_{10}
Four-point contact ball bearings	02	2	0.00037
	03	3	0.00037
Single-row cylindrical roller bearings with cage	10	2	0.00020
	02	2	0.00030
	22	3	0.00040
	03	2	0.00035
	23	4	0.00040
	04	2	0.00040
Single-row cylindrical roller bearings full complement	18	5	0.00055
	29	6	0.00055
	30	7	0.00055
	22	8	0.00055
Spherical roller bearings	23	12	0.00055
	39	4.5	0.00017
	30	4.5	0.00017
	40	6.5	0.00027
	31	5.5	0.00027
	41	7	0.00049
	22	4	0.00019
Double-row cylindrical roller bearings full complement	32	6	0.00036
	03	3.5	0.00019
	23	4.5	0.00030
	48	9	0.00055
Thrust cylindrical roller bearings	49	11	0.00055
	50	13	0.00055
	11	3	0.00150
Thrust needle roller bearings	12	4	0.00150
	a	5	0.00150
Thrust spherical roller bearings	92	3.7	0.00030
	93	4.5	0.00040
	94	5	0.00050
Thrust spherical roller bearings modified design (optimized internal construction)	92	2.5	0.00023
	93	3	0.00030
	94	3.3	0.00033

^aDimension series for thrust needle roller bearings according to ISO 3031