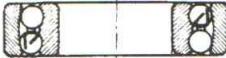
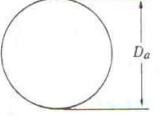


# Bearings

Bearings 	Single Row Deep Groove Radial Ball Bearings 
P. 77-1 ~ 2	P. 77-2 ~ 6
Single Row Angular Contact Ball Bearings 	Double Row Self-Aligning Ball Bearings 
P. 77-6	P. 77-6 ~ 8
Cylindrical Roller Bearings 	Tapered Roller Bearings 
P. 77-8 ~ 9	P. 77-9
Spherical Roller Bearings 	Needle Roller Bearings 
P. 77-9 ~ 10	P. 77-10
Thrust Ball Bearings 	Steel Balls for Ball Bearings 
P. 77-11 ~ 12	P. 77-12
Bearings Units 	
P. 77-12	

## Bearings

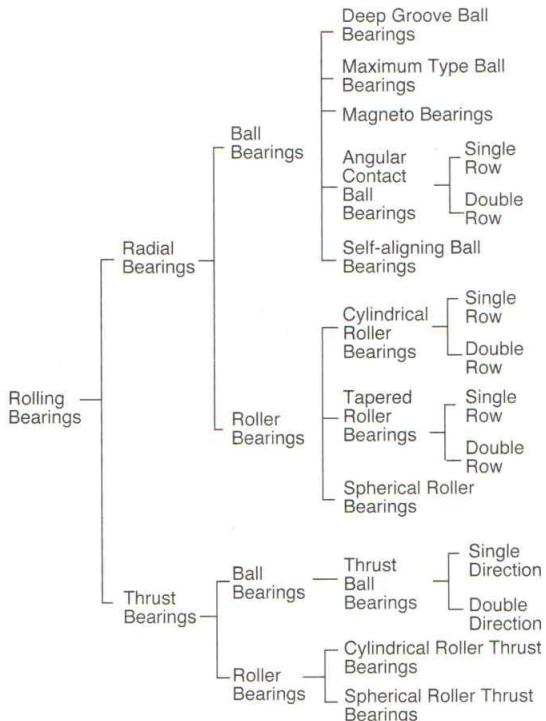
Rodamientos ベアリング 轴承

The necessary information for ordering a certain bearing type is almost always located on the bearing itself in the form of a bearing number. The bearings themselves may only have a basic number on the inner or outer ring but the outer cover or shield of the bearing will usually show the complete bearing number.

If there are several numbers marked on the bearing or the numbers have been worn out and are hard to read, the following numbers and sizes will help you in ordering the proper bearing. The bearing numbers can also be insightful as to what bearings can be used in the place of others in a situation where there are no spares. For example, double shield bearings can be used instead of single shield, or single shield bearings can be used instead of no shield, and snap ring bearings can be substituted for non snap ring bearings. By showing the bearing numbers as well as prefixes and suffixes, the correct bearing size and construction may be obtained without sending the bearing ashore for identification or waiting until a vendor can board the ship.

Bearings should be kept in their original packing for easy identification and stored in a clean, dry place. If dirt gets mixed in with the workings of the bearings, the life of the bearings will be shortened. Therefore, only clean lubricants should be used with the bearings.

### Tables for the Classification of All Bearings



### Main Manufacturer's Suffix Table

Manufacturers	Manufacturers Abbreviation	One-side Metal Shielded	Two-side Metal Shielded	With Snap Ring	With Groove & Snap Ring	One-side Rubber Sealed	Two-side Rubber Sealed
SKF Multitech AB, Sweden	SKF	Z	2Z	N	NR	RS	2RS
RHP Bearing Ltd. U.K.	RHP	Z	ZZ	N	NR	RS	2RS

(to be continued)

FAG Kugelfischer Georg Schafer KGaA, Germany	FAG	Z	2Z	N	NR	RS	2RS
The Timken Corporation U.S.A.	Timken	D	DD	-	G	P	PP
Koyo Seiko Co., Ltd. Japan	KOYO	Z	ZZ	N	NR	RS	2RS
The Toyo Bearing MFG Co., Ltd. Japan	NTN	Z	ZZ	N	NR	LU	LLU
Nippon Seiko KK Japan	NSK	Z	ZZ	N	NR	DU	DDU

### Summary of Ball & Roller Bearing

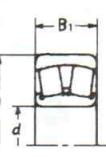
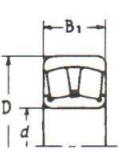
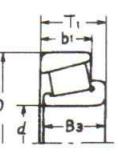
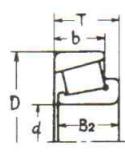
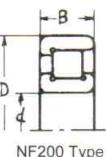
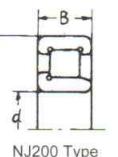
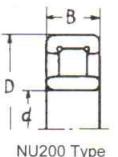
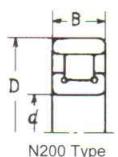
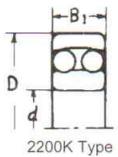
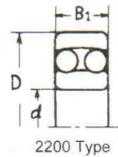
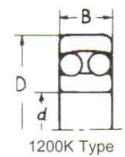
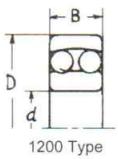
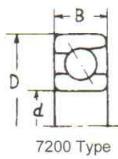
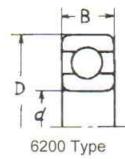
Type	Name	Light Duty	Medium Duty
<b>Radial Bearing</b>			
	Single Row Deep Groove Ball Bearing	6000 6200 6400 6800 6900 16000	6300
	Single Row Angular Contact Ball Bearing	7200	7300
	Double Row Self Aligning Ball Bearing	1200 1200K 2200 2200K	1300 1300K 2300 2300K
<b>Radial Bearing</b>			
	Cylindrical Roller Bearing	N200 NU200 NJ200 NF200	N300 NU300 NJ300 NF300 NH300
<b>Ball &amp; Roller Bearing</b>			
	Tapered Roller Bearing	30200 32200	30300 32300
	Spherical Roller Bearing	22200 22200K	22300 22300K
	Needle Roller Bearing	NA4900	
<b>Thrust Ball Bearing</b>			
	Single Direction Thrust Ball Bearing	51100 51200 53200 53200U	51300 53300 53300U
	Double Direction Thrust Ball Bearing	52200 54200 54200U	52300 54300 54300U

## Ball & Roller Bearing (Light Duty)

### Type & Main Size Table

Rodamientos Rígidos de Bolas 深みぞ玉軸受

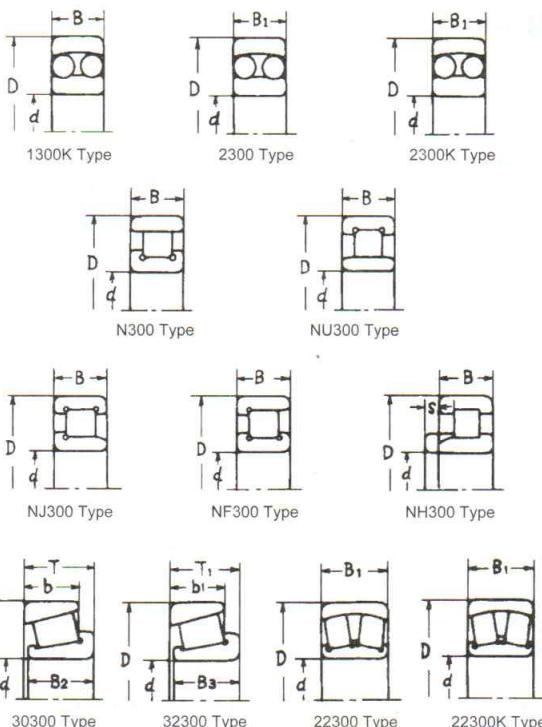
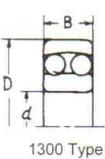
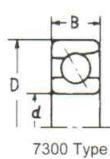
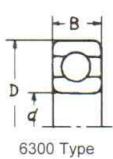
开式单列深槽滚珠轴承



No.	d	D	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	Unit: mm	
							T	T <sub>1</sub>
00	10	30	9	14				
01	12	32	10	14				
02	15	35	11	14				
03	17	40	12	16	12		13.25	
04	20	47	14	18	14		15.25	
05	25	52	15	18	15		16.25	
06	30	62	16	20	16	20	17.25	21.25
07	35	72	17	23	17	23	18.25	24.25
08	40	80	18	23	18	23	19.75	24.75
09	45	85	19	23	19	23	20.75	24.75
10	50	90	20	23	20	23	21.75	24.75
11	55	100	21	25	21	25	22.75	26.75
12	60	110	22	28	22	28	23.75	29.75
13	65	120	23	31	23	31	24.75	32.75
14	70	125	24	31	24	31	26.75	33.25
15	75	130	25	31	25	31	27.25	33.25
16	80	145	26	33	26	33	28.25	33.25
17	85	150	28	36	28	36	30.5	38.5
18	90	160	30	40	30	40	32.5	42.5
19	95	170	32	43	32	43	34.5	45.5
20	100	180	34	46	34	46	37	49

## Ball & Roller Bearing (Medium Duty)

### Type & Main Size Table



No.	d	D	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	T	T <sub>1</sub>
00	10	35	11	17				
01	12	37	12	17				
02	15	42	13	17	13		14.25	
03	17	47	14	19	14		15.25	
04	20	52	15	21	15		16.25	
05	25	62	17	24	17	24	18.25	25.25
06	30	72	19	27	19	27	20.75	28.75
07	35	80	21	31	21	31	22.75	32.75
08	40	90	23	33	23	33	25.25	35.25
09	45	100	25	36	25	36	27.25	38.25
10	50	110	27	40	27	40	29.25	42.25
11	55	120	29	43	29	43	31.5	45.5
12	60	130	31	46	31	46	33.5	48.5
13	65	140	33	48	33	48	36	51
14	75	150	35	51	35	51	38	54
15	75	160	37	55	37	55	40	58
16	80	170	39	58	39	58	42.5	61.5
17	85	180	41	60	41	60	44.5	63.5
18	90	190	43	64	43	64	46.5	67.5
19	95	200	45	67	45	67	49.5	71.5
20	100	215	47	73	47	73	51.5	77.5

## Single Row Deep Groove Radial Ball Bearings

Rodamientos Rígidos de Bolas

深みぞ玉軸受 开式单列深槽滚珠轴承

These are the most widely used ball bearing types which incorporate deep, uninterrupted raceways making the bearing suitable for radial loads or a combination of radial and thrust loads in either direction. The simple symmetrical design of these bearings makes them easy to refine to super-precision tolerance for operations at high speed.

## Suffixes for Bearings

NO SUFFIX ....	Open type
Z .....	One-side metal shielded
ZZ .....	Two-side metal shielded
N .....	With snap ring groove
NR .....	With groove & snap ring
ZNR .....	One-side metal shielded with snap ring
LU or RS .....	One-side rubber sealed
LLU or 2RS....	Two-side rubber sealed
C3 .....	Radial clearance larger than normal
M .....	Machined brass cage, ball riding
N .....	Circular groove for snap ring
RSR.....	One seal
T .....	Moulded snap type cage of glass-fibre reinforced polyamide
ZR.....	One shield
ZRN .....	One shield•circular groove for snap ring
2RSR.....	Two seals
2ZR.....	Two shields
2ZRN .....	Two shields•circular groove for snap ring

## Series 6000 Open Type



Unit Per P.C.

## Series 6000 Open Type

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 01 01	6000	10	26	8	77 01 17	6016	80	125	22
02	01	12	28	8		18	17	85	130
03	02	15	32	9		19	18	90	140
04	03	17	35	10		20	19	95	145
05	04	20	42	12		21	20	100	150
77 01 06	6005	25	47	12	77 01 22	6021	105	160	26
07	06	30	55	13		23	22	110	170
08	07	35	62	14		24	24	120	180
09	08	40	68	15		25	26	130	200
10	09	45	75	16		26	28	140	210
77 01 11	6010	50	80	16	77 01 27	6030	150	225	35
12	11	55	90	18		28	32	160	240
13	12	60	95	18		29	34	170	260
14	13	65	100	18		30	36	180	280
15	14	70	110	20		31	38	190	290
77 01 16	6015	75	115	20	77 01 32	6040	200	310	51

## Series 6000Z One Side Shielded



Unit Per P.C.

## Series 6000Z One-Side Metal Shielded

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 01 41	6000Z	10	26	8	77 01 49	6008Z	40	68	15
42	01Z	12	28	8		50	09Z	45	75
43	02Z	15	32	9		51	10Z	50	80
44	03Z	17	35	10		52	11Z	55	90
45	04Z	20	42	12		53	12Z	60	95
77 01 46	6005Z	25	47	12	77 01 54	6013Z	65	100	18
47	06Z	30	55	13		55	14Z	70	110
48	07Z	35	62	14		56	15Z	75	115

## Series 6000ZZ Two-Side Shielded



Unit Per P.C.

## Series 6000ZZ Two-Side Metal Shielded

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 01 61	6000ZZ	10	26	8	77 01 69	6008ZZ	40	68	15
62	01ZZ	12	28	8		70	09ZZ	45	75
63	02ZZ	15	32	9		71	10ZZ	50	80
64	03ZZ	17	35	10		72	11ZZ	55	90
65	04ZZ	20	42	12		73	12ZZ	60	95
77 01 66	6005ZZ	25	47	12	77 01 74	6013ZZ	65	100	18
67	06ZZ	30	55	13		75	14ZZ	70	110
68	07ZZ	35	62	14		76	15ZZ	75	115

## Series 6200 Open Type



Unit Per P.C.

## Series 6200 Open Type

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 02 01	6200	10	30	9	77 02 16	6215	75	130	25
02	01	12	32	10		17	16	80	140
03	02	15	35	11		18	17	85	150
04	03	17	40	12		19	18	90	160
05	04	20	47	14		20	19	95	170
77 02 06	6205	25	52	15	77 02 21	6220	100	180	34
07	06	30	62	16		22	21	105	190
08	07	35	72	17		23	22	110	200
09	08	40	80	18		24	24	120	215
10	09	45	85	19		25	26	130	230
77 02 11	6210	50	90	20	77 02 26	6228	140	250	42
12	11	55	100	21		13	12	60	110
13	12	60	110	22		14	13	65	120
14	13	65	120	23		15	14	70	125
15	14	70	125	24					

## Series 6200Z One-Side Shielded



Unit Per P.C.

## Series 6200Z One-Side Metal Shielded

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 02 31	6200Z	10	30	9	77 02 39	6208Z	40	80	18
32	01Z	12	32	10		40	45	85	19
33	02Z	15	35	11		41	50	90	20
34	03Z	17	40	12		42	55	100	21
35	04Z	20	47	14		43	60	110	22
77 02 36	6205Z	25	52	15	77 02 44	6213Z	65	120	23
37	06Z	30	62	16		45	70	125	24
38	07Z	35	72	17		46	15Z	75	130

## Series 6200ZZ Two-Side Shielded



Unit Per P.C.

## Series 6200ZZ Two-Side Metal Shielded

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 02 51	6200ZZ	10	30	9	77 02 59	6208ZZ	40	80	18
52	01ZZ	12	32	10		60	45	85	19
53	02ZZ	15	35	11		61	50	90	20
54	03ZZ	17	40	12		62	55	100	21
55	04ZZ	20	47	14		63	60	110	22
77 02 56	6205ZZ	25	52	15	77 02 64	6213ZZ	65	120	23
57	06ZZ	30	62	16		65	70	125	24
58	07ZZ	35	72	17		66	15Z	75	130

**Series 6200RS** One-side Sealed

Unit Per Pcs.

**Series 6300ZZ** Two-Side Shielded

Unit Per Pcs.

**Series 6200RS One-Side Rubber Sealed**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 02 71	6200RS	10	30	9	77 02 79	6208RS	40	80	18
72	01RS	12	32	10	80	09RS	45	85	19
73	02RS	15	35	11	81	10RS	50	90	20
74	03RS	17	40	12	82	11RS	55	100	21
75	04RS	20	47	14	83	12RS	60	110	22
77 02 76	6205RS	25	52	15	77 02 84	6213RS	65	120	23
77	06RS	30	62	16	85	14RS	70	125	24
78	07RS	35	72	17	86	15RS	75	130	25



Unit Per Pcs.

**Series 6300RS** One-Side Sealed

Unit Per Pcs.

**Series 6200-2RS Two-Side Rubber Sealed**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 03 01	6200-2RS	10	30	9	77 03 09	6208-2RS	40	80	18
02	01-2RS	12	32	10	10	09-2RS	45	85	19
03	02-2RS	15	35	11	11	10-2RS	50	90	20
04	03-2RS	17	40	12	12	11-2RS	55	100	21
05	04-2RS	20	47	14	13	12-2RS	60	110	22
77 03 06	6205-2RS	25	52	15	77 03 14	6213-2RS	65	120	23
07	06-2RS	30	62	16	15	14-2RS	70	125	24
08	07-2RS	35	72	17	16	15-2RS	75	130	25

**Series 6300** Open Type

Unit Per Pcs.

**Series 6300 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 03 21	6300	10	35	11	77 03 35	6314	70	150	35
22	01	12	37	12	36	15	75	160	37
23	02	15	42	13	37	16	80	170	39
24	03	17	47	14	38	17	85	180	41
25	04	20	52	15	39	18	90	190	43
77 03 26	6305	25	62	17	77 03 40	6019	95	200	45
27	06	30	72	19	41	20	100	215	47
28	07	35	80	21	42	21	105	225	49
29	08	40	90	23	43	22	110	240	50
30	09	45	100	25	44	24	120	260	55
77 03 31	6310	50	110	27	77 03 45	6326	130	280	58
32	11	55	120	29	46	28	140	300	62
33	12	60	130	31	47	30	150	320	65
34	13	65	140	33					

**Series 6300Z** One-Side Shielded

Unit Per Pcs.

**Series 6300Z One-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 03 51	6300Z	10	35	11	77 03 59	6308Z	40	90	23
52	01Z	12	37	12	60	09Z	45	100	25
53	02Z	15	42	13	61	10Z	50	110	27
54	03Z	17	47	14	62	11Z	55	120	29
55	04Z	20	52	15	63	12Z	60	130	31
77 03 56	6305Z	25	62	17	77 03 64	6313Z	65	140	33
57	06Z	30	72	19	65	14Z	70	150	35
58	07Z	35	80	21	66	15Z	75	160	37

**Series 6400** Open Type

Unit Per Pcs.

**Series 6400 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 04 41	6403	17	62	17	77 04 49	6411	55	140	33
42	04	20	72	19	50	12	60	150	35
43	05	25	80	21	51	13	65	160	37
44	06	30	90	23	52	14	70	180	42
45	07	35	100	25	53	15	75	190	45
77 04 46	6208	40	110	27	77 04 54	6416	80	200	48
47	09	45	120	29	55	17	85	210	52
48	10	50	130	31	56	18	90	225	54

**Series 600-620-630** Open Type

Unit Per Pcs.

Unit Per Pcs.

**Series 600-620-630 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 04 61	634	4	16	5	77 04 64	627	7	22	7
62	635	5	19	6	65	608	8	22	7
63	626	6	19	6	66	629	9	26	8

**Bearings  
Single Row Deep Groove**

Rodamientos, Ranura Profunda de una Hilera

单列深沟ベアリング 单列深沟球轴承

**Series 6000 C3**

Open Type and radial clearance is larger than normal series 6000.

Unit Per Pcs.

**Series 6000 C3 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 05 01	6000 C3	10	26	8	77 05 17	6016 C3	80	125	22
02	6001 C3	12	28	8	18	6017 C3	85	130	22
03	6002 C3	15	32	9	19	6018 C3	90	140	24
04	6003 C3	17	35	10	20	6019 C3	90	145	24
05	6004 C3	20	42	12	21	6020 C3	100	150	24
77 05 06	6005 C3	25	47	12	77 05 22	6021 C3	105	160	26
07	6006 C3	30	55	13	23	6022 C3	110	170	28
08	6007 C3	35	62	14	24	6024 C3	120	180	28
09	6008 C3	40	68	15	25	6026 C3	130	200	33
10	6009 C3	45	75	16	26	6028 C3	140	210	33
77 05 11	6010 C3	50	80	16	77 05 27	6030 C3	150	225	35
12	6011 C3	55	90	18	28	6032 C3	160	240	38
13	6012 C3	60	95	18	29	6034 C3	170	260	42
14	6013 C3	65	100	18	30	6036 C3	180	280	46
15	6014 C3	70	110	20	31	6038 C3	190	290	46
77 05 16	6015 C3	75	115	20	77 05 32	6040 C3	200	310	51

**Series 6000Z C3**

One-Side Shielded and radial clearance is larger than normal series 6000Z.

Unit Per Pcs.

**Series 6000Z C3 One-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 05 41	6000Z C3	10	26	8	77 05 49	6008Z C3	40	68	15
42	6001Z C3	12	28	8	50	6009Z C3	45	75	16
43	6002Z C3	15	32	9	51	6010Z C3	50	80	16
44	6003Z C3	17	35	10	52	6011Z C3	55	90	18
45	6004Z C3	20	42	12	53	6012Z C3	60	95	18
77 05 46	6005Z C3	25	47	12	77 05 54	6013Z C3	65	100	18
47	6006Z C3	30	55	13	55	6014Z C3	70	110	20
48	6007Z C3	35	62	14	56	6015Z C3	75	115	20

**Series 6000ZZ C3**

Two-Side Shielded and radial clearance is larger than normal series 6000ZZ.

Unit Per Pcs.

**Series 6000ZZ C3 Two-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 05 61	6000ZZ C3	10	26	8	77 05 69	6008Z C3	40	68	15
62	6001Z C3	12	28	8	70	6009Z C3	45	75	16
63	6002Z C3	15	32	9	71	6010Z C3	50	80	16
64	6003Z C3	17	35	10	72	6011Z C3	55	90	18
65	6004Z C3	20	42	12	73	6012Z C3	60	95	18
77 05 66	6005ZZ C3	25	47	12	77 05 74	6013Z C3	65	100	18
67	6006Z C3	30	55	13	75	6014Z C3	70	110	20
68	6007ZZ C3	35	62	14	76	6015Z C3	75	115	20

**Series 6200 C3**

Open Type and radial clearance is larger than normal series 6200.

Unit Per Pcs.

**Series 6200 C3 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 06 01	6200 C3	10	30	9	77 06 16	6215 C3	75	130	25
02	6201 C3	12	32	10	17	6216 C3	80	140	26
03	6202 C3	15	35	11	18	6217 C3	85	150	28
04	6203 C3	17	40	12	19	6218 C3	90	160	30
05	6204 C3	20	47	14	20	6219 C3	95	170	32
77 06 06	6205 C3	25	52	15	77 06 21	6220 C3	100	180	34
07	6206 C3	30	62	16	22	6221 C3	105	190	36
08	6207 C3	35	72	17	23	6222 C3	110	200	38
09	6208 C3	40	80	18	24	6224 C3	120	215	40
10	6209 C3	45	85	19	25	6226 C3	130	230	40
77 06 11	6210 C3	50	90	20	77 06 26	6228 C3	140	250	42
12	6211 C3	55	100	21	27	6230 C3	150	270	45
13	6212 C3	60	110	22					
14	6213 C3	65	120	23					
15	6214 C3	70	125	24					

**Series 6200Z C3**

One-Side Shielded and radial clearance is larger than normal series 6200Z.

Unit Per Pcs.

**Series 6200Z C3 One-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 06 31	6200Z C3	10	30	9	77 06 39	6208Z C3	40	80	18
32	6201Z C3	12	32	10	40	6209Z C3	45	85	19
33	6202Z C3	15	35	11	41	6210Z C3	50	90	20
34	6203Z C3	17	40	12	42	6211Z C3	55	100	21
35	6204Z C3	20	47	14	43	6212Z C3	60	110	22
77 06 36	6205Z C3	25	52	15	77 06 44	6213Z C3	65	120	23
37	6206Z C3	30	62	16	45	6214Z C3	70	125	24
38	6207Z C3	35	72	17	46	6215Z C3	75	130	25

**Series 6200ZZ C3**

Two-Side Shielded and radial clearance is larger than normal series 6000ZZ.

Unit Per Pcs.

**Series 6300 C3 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 07 01	6300 C3	10	35	11	77 07 16	6315 C3	75	160	37
02	6301 C3	12	37	12	17	6316 C3	80	170	39
03	6302 C3	15	42	13	18	6317 C3	85	180	41
04	6303 C3	17	47	14	19	6318 C3	90	190	43
05	6304 C3	20	52	15	20	6319 C3	95	200	45

(to be continued)

Unit Per Pcs.

**Series 6300 C3 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 07 06	6305 C3	25	62	17	77 07 21	6320 C3	100	215	47
07	6306 C3	30	72	19	22	6321 C3	105	225	49
08	6307 C3	35	80	21	23	6322 C3	110	240	50
09	6308 C3	40	90	23	24	6324 C3	120	260	55
10	6309 C3	45	100	25	25	6326 C3	130	280	58
77 07 11	6310 C3	50	110	27	77 07 26	6328 C3	140	300	62
12	6311 C3	55	120	29	27	6330 C3	150	320	65
13	6312 C3	60	130	31					
14	6313 C3	65	140	33					
15	6314 C3	70	150	35					

**Series 6300Z C3**

One-Side Shielded and radial clearance is larger than normal series 6300Z.

Unit Per Pcs.

**Series 6300Z C3 One-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 07 31	6300Z C3	10	35	11	77 07 39	6308Z C3	40	90	23
32	6301Z C3	12	37	12	40	6309Z C3	45	100	25
33	6302Z C3	15	42	13	41	6310Z C3	50	110	27
34	6303Z C3	17	47	14	42	6311Z C3	55	120	29
35	6304Z C3	20	52	15	43	6312Z C3	60	130	31
77 07 36	6305Z C3	25	62	17	77 07 44	6313Z C3	65	140	33
37	6306Z C3	30	72	19	45	6314Z C3	70	150	35
38	6307Z C3	35	80	21	46	6315Z C3	75	160	37

**Series 6300ZZ C3**

Two-Side Shielded and radial clearance is larger than normal series 6300ZZ.

Unit Per Pcs.

**Series 6300ZZ C3 Two-Side Metal Shielded**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 07 51	6300ZZ C3	10	35	11	77 07 59	6308ZZ C3	40	90	23
52	6301ZZ C3	12	37	12	60	6309ZZ C3	45	100	25
53	6302ZZ C3	15	42	13	61	6310ZZ C3	50	110	27
54	6303ZZ C3	17	47	14	62	6311ZZ C3	55	120	29
55	6304ZZ C3	20	52	15	63	6312ZZ C3	60	130	31
77 07 56	6305ZZ C3	25	62	17	77 07 64	6313ZZ C3	65	140	33
57	6306ZZ C3	30	72	19	65	6314ZZ C3	70	150	35
58	6307ZZ C3	35	80	21	66	6315ZZ C3	75	160	37

**Series 6400 C3**

Open Type and radial clearance is larger than normal series 6400.

Unit Per Pcs.

**Series 6400 C3 Open Type**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 07 71	6403 C3	17	62	17	77 07 79	6411 C3	55	140	33
72	6404 C3	20	72	19	80	6412 C3	60	150	35
73	6405 C3	25	80	21	81	6413 C3	65	160	37
74	6406 C3	30	90	23	82	6414 C3	70	180	42
75	6407 C3	35	100	25	83	6415 C3	75	190	45
77 07 76	6408 C3	40	110	27	77 07 84	6416 C3	80	200	48
77	6409 C3	45	120	29	85	6417 C3	85	210	52
78	6410 C3	50	130	31	86	6418 C3	90	225	54

**Single Row Angular Contact Ball Bearings**

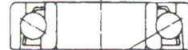
Rodamientos de Bolas con Contacto Angular

单列アンギュラ型玉軸受 单列向心推力滚珠轴承

The raceways of these bearings have a high shoulder on one side and a very low shoulder on the other side and the inner and outer raceways are assembled opposite to each other so that the bearings are primarily designated to carry thrust load in one direction. This construction permits use of the optimum number and size of balls for maximum load capacity. Since these bearings will carry thrust load in one direction only, they are usually mounted in a pair opposed to each other and the axial clearance is adjusted by shims, threaded members, or preloading springs. The standard contact angle is 30° and bearings made to 40° contact angle have the suffix "B".

**Series 7200**

30° Angular Contact



Unit Per Pcs.

**Series 7200-30° Angular Contact**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 08 01	7200	10	30	9	77 08 12	7211	55	100	21
02	7201	12	32	10	13	7212	60	110	22
03	7202	15	35	11	14	7213	65	120	23
04	7203	17	40	12	15	7214	70	125	24
05	7204	20	47	14	16	7215	75	130	25
77 08 06	7205	25	52	15	77 08 17	7216	80	140	26
07	7206	30	62	16	18	7217	85	150	28
08	7207	35	72	17	19	7218	90	160	30
09	7208	40	80	18	20	7219	95	170	32
10	7209	45	85	19	21	7220	100	180	34
77 08 11	7210	50	90	20	77 08 22	7221	105	190	36

**Series 7300**

30° Angular Contact



Unit Per Pcs.

**Series 7300-30° Angular Contact**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 08 31	7300	10	35	11	77 08 42	7311	55	120	29
32	01	12	37	12	43	7312	60	130	31
33	02	15	42	13	44	7313	65	140	33
34	03	17	47	14	45	7314	70	150	35
35	04	20	52	15	46	7315	75	160	37
77 08 36	7305	25	62	17	77 08 47	7316	80	170	39
37	06	30	72	19	48	7317	85	180	41
38	07	35	80	21	49	7318	90	190	43
39	08	40	90	23	50	7319	95	200	45
40	09	45	100	25	51	7320	100	215	47
77 08 41	7310	50	110	27	77 08 52	7321	105	225	49

**Double Row Self-Aligning Ball Bearings**

Auto-Alineamiento, Doble Fila/Rodamientos de bolas a Rótula

複列自動調心型玉軸受 双排自动定心滚珠轴承

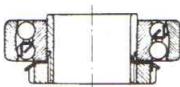
This design of bearing utilizes two rows of balls with the inner ring having two deep groove raceways while the outer ring has a single continuous spherical raceway. This permits the inner and outer rings to be misaligned relative to each other through a comparatively large angle without imposing moment loads upon the balls. This bearing is frequently used when the inner ring is to be mounted upon an adapter sleeve or when conditions in the machine make it difficult to assure accurate alignment of the inner and outer rings. The boundary dimensions of 1200 and 1300 series are identical with those of 6200 and 6300 single row deep groove bearings. Due to the small contact angle, the thrust capacity of these bearings is limited.

**Series 1200-Cylindrical Bore**

Series 1200-Cylindrical Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 10 01	1200	10	30	9	77 10 13	1212	60	110	22	
02	1201	12	32	10		14	1213	65	120	23
03	1202	15	35	11		15	1214	70	125	24
04	1203	17	40	12		16	1215	75	130	25
05	1204	20	47	14		17	1216	80	140	26
77 10 06	1205	25	52	15	77 10 18	1217	85	150	28	
07	1206	30	62	16		19	1218	90	160	30
08	1207	35	72	17		20	1219	95	170	32
09	1208	40	80	18		21	1220	100	180	34
10	1209	45	85	19		22	1221	105	190	36
77 10 11	1210	50	90	20	77 10 23	1222	110	200	38	
12	1211	55	100	21						

**Series 1200K-1/12 Tapered Bore**

These types of bearings have to be used with adapter sleeves.



Unit Per Pcs.

Series 1200K-1/12 Tapered Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 10 31	1204K	20	47	14	77 10 40	1213K	65	120	23	
32	1205K	25	52	15		41	1215K	75	130	25
33	1206K	30	62	16		42	1216K	80	140	26
34	1207K	35	72	17		43	1217K	85	150	28
35	1208K	40	80	18		44	1218K	90	160	30
77 10 36	1209K	45	85	19	77 10 45	1219K	95	170	32	
37	1210K	50	90	20		46	1220K	100	180	34
38	1211K	55	100	21		47	1222K	110	200	38
39	1212K	60	110	22						

\* K means 1/12 tapered bore bearing.

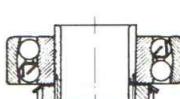
**Series 1300-Cylindrical Bore**

Unit Per Pcs.

Series 1300-Cylindrical Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 10 51	1300	10	35	11	77 10 63	1312	60	130	31	
52	1301	12	37	12		64	1313	65	140	33
53	1302	15	42	13		65	1314	70	150	35
54	1303	17	47	14		66	1315	75	160	37
55	1304	20	52	15		67	1316	80	170	39
77 10 56	1305	25	62	17	77 10 68	1317	85	180	41	
57	1306	30	72	19		69	1318	90	190	43
58	1307	35	80	21		70	1319	95	200	45
59	1308	40	90	23		71	1320	100	215	47
60	1309	45	100	25		72	1321	105	225	49
77 10 61	1310	50	110	27	77 10 73	1322	110	240	50	
62	1311	55	120	29						

**Series 1300K-1/12 Tapered Bore**

These types of bearings have to be used with adapter sleeves.

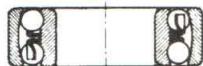


Unit Per Pcs.

Series 1300K-1/12 Tapered Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 10 81	1304K	20	52	15	77 10 90	1313K	65	140	33	
82	1305K	25	62	17		91	1315K	75	160	37
83	1306K	30	72	19		92	1316K	80	170	39
84	1307K	35	80	21		93	1317K	85	180	41
85	1308K	40	90	23		94	1318K	90	190	43

(to be continued)

77 10 86	1309K	45	100	25	77 10 95	1319K	95	200	45	
87	1310K	50	110	27		96	1320K	100	215	47
88	1311K	55	120	29		97	1322K	110	240	50
89	1312K	60	130	31						

**Series 2200-Cylindrical Bore**

Unit Per Pcs.

Series 2200-Cylindrical Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 11 01	2200	10	30	14	77 11 13	2212	60	100	28	
02	2201	12	32	14		14	2213	65	120	31
03	2202	15	35	14		15	2214	70	125	31
04	2203	17	40	16		16	2215	75	130	31
05	2204	20	47	18		17	2216	80	140	33
77 11 06	2205	25	52	18	77 11 18	2217	85	150	36	
07	2206	30	62	20		19	2218	90	160	40
08	2207	35	72	23		20	2219	95	170	43
09	2208	40	80	23		21	2220	100	180	46
10	2209	45	85	23		22	2221	105	190	50
77 11 11	2210	50	90	23	77 11 23	2222	110	200	53	
12	2211	55	100	25						

**Series 2200K-1/12 Tapered Bore**

This type bearing must have an adapter sleeve when in use.



Unit Per Pcs.

Series 2200K-1/12 Tapered Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 11 31	2204K	20	47	18	77 11 40	2213K	65	120	31	
32	2205K	25	52	18		41	2215K	75	130	31
33	2206K	30	62	20		42	2216K	80	140	33
34	2207K	35	72	23		43	2217K	85	150	36
35	2208K	40	80	23		44	2218K	90	160	40
77 11 36	2209K	45	85	23	77 11 45	2219K	95	170	43	
37	2210K	50	90	23		46	2220K	100	180	46
38	2211K	55	100	25		47	2222K	110	200	53
39	2212K	60	110	28						

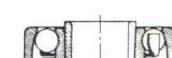
**Series 2300-Cylindrical Bore**

Unit Per Pcs.

Series 2300-Cylindrical Bore										
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm			
		I.D.	O.D.	Thick			I.D.	O.D.	Thick	
77 11 51	2300	10	35	17	77 11 63	2312	60	130	46	
52	2301	12	37	17		64	2313	65	140	48
53	2302	15	42	17		65	2314	70	150	51
54	2303	17	47	19		66	2315	75	160	55
55	2304	20	52	21		67	2316	80	170	58
77 11 56	2305	25	62	24	77 11 68	2317	85	180	60	
57	2306	30	72	27		69	2318	90	190	64
58	2307	35	80	31		70	2319	95	200	67
59	2308	40	90	33		71	2320	100	215	73
60	2309	45	100	36		72	2321	105	225	77
77 11 61	2310	50	110	40	77 11 73	2322	110	240	80	
62	2311	55	120	43						

**Series 2300K-1/12 Tapered Bore**

This type bearing must have adapter sleeves when in use.



Unit Per Pc.

**Series 2300K-1/12 Tapered Bore**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 11 81	2304K	20	52	21	77 11 90	2313K	65	140	48
82	2305K	25	62	24	91	2315K	75	160	55
83	2306K	30	72	27	92	2316K	80	170	58
84	2307K	35	80	31	93	2317K	85	180	60
85	2308K	40	90	33	94	2318K	90	190	64
77 11 86	2309K	45	100	36	77 11 95	2319K	95	200	67
87	2310K	50	110	40	96	2320K	100	215	73
88	2311K	55	120	43	97	2322K	110	240	80
89	2312K	60	130	46					

**Cylindrical Roller Bearings**

Rodamientos de Rodillos Cilíndricos

円筒コロ軸受 圆柱滚珠轴承



The rollers of these bearings are essentially cylindrical in shape providing modified line contact with the cylindrical inner and outer rings raceways. The rollers are accurately guided by ground ribs on either the inner ring or the outer ring, thus making these bearings suitable for heavy radial loads and high speed operation. For best results, these bearings should be accurately aligned. The cylindrical shape of the rollers allows the inner ring to have considerable axial movement relative to the outer ring except for the bearings with the prefix "NH". This feature is valuable in accommodating thermal expansion in applications where both the inner and outer ring must be press-fitted. Since the inner and outer rings can be separated from each other, the assembly of equipment is frequently facilitated.

**Series N-200**

Unit Per Pc.

**Series N-200-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 15 01	N-203	17	40	12	77 15 13	N-215	75	130	25
02	N-204	20	47	14	14	N-216	80	140	26
03	N-205	25	52	15	15	N-217	85	150	28
04	N-206	30	62	16	16	N-218	90	160	30
05	N-207	35	72	17	17	N-219	95	170	32
77 15 06	N-208	40	80	18	77 15 18	N-220	100	180	34
07	N-209	45	85	19	19	N-221	105	190	36
08	N-210	50	90	20	20	N-222	110	200	38
09	N-211	55	100	21	21	N-224	120	215	40
10	N-212	60	110	22	22	N-226	130	230	40
77 15 11	N-213	65	120	23	77 15 23	N-228	140	250	42
12	N-214	70	125	24	24	N-230	150	270	45

**Series N-300**

Unit Per Pc.

**Series N-300-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 15 31	N-304	20	52	15	77 15 41	N-314	70	150	35
32	N-305	25	62	17	42	N-315	75	160	37
33	N-306	30	72	19	43	N-316	80	170	39
34	N-307	35	80	21	44	N-317	85	180	41
35	N-308	40	90	23	45	N-318	90	190	43
77 15 36	N-309	45	100	25	77 15 46	N-319	95	200	45
37	N-310	50	110	27	47	N-320	100	215	47
38	N-311	55	120	29	48	N-321	105	225	49
39	N-312	60	130	31	49	N-322	110	240	50
40	N-313	65	140	33	50	N-324	120	260	55

**Series NU-200**

Unit Per Pc.

**Series NU-200-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 15 61	NU-203	17	40	12	77 15 73	NU-215	75	130	25
62	NU-204	20	47	14	74	NU-216	80	140	26
63	NU-205	25	52	15	75	NU-217	85	150	28
64	NU-206	30	62	16	76	NU-218	90	160	30
65	NU-207	35	72	17	77	NU-219	95	170	32
77 15 66	NU-208	40	80	18	77 15 78	NU-220	100	180	34
67	NU-209	45	85	19	79	NU-221	105	190	36
68	NU-210	50	90	20	80	NU-222	110	200	38
69	NU-211	55	100	21	81	NU-224	120	215	40
70	NU-212	60	110	22	82	NU-226	130	230	40
77 15 71	NU-213	65	120	23	77 15 83	NU-228	140	250	42
72	NU-214	70	125	24	84	NU-230	150	270	45

**Series NU-300**

Unit Per Pc.

**Series NU-300-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 16 01	NU-304	20	52	15	77 16 13	NU-316	80	170	39
02	NU-305	25	62	17	14	NU-317	85	180	41
03	NU-306	30	72	19	15	NU-318	90	190	43
04	NU-307	35	80	21	16	NU-319	95	200	45
05	NU-308	40	90	23	17	NU-320	100	215	47
77 16 06	NU-309	45	80	18	77 16 18	NU-321	105	225	49
07	NU-310	50	110	27	19	NU-322	110	240	50
08	NU-311	55	120	29	20	NU-324	120	260	55
09	NU-312	60	130	31	21	NU-326	130	280	58
10	NU-313	65	140	33	22	NU-328	140	300	62
77 16 11	NU-314	70	150	35	77 16 23	NU-330	150	320	65
12	NU-315	75	160	37					

**Series NF-200**

Unit Per Pc.

**Series NF-200-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 16 31	NF-203	17	40	12	77 16 43	NF-215	75	130	25
32	NF-204	20	47	14	44	NF-216	80	140	26
33	NF-205	25	52	15	45	NF-217	85	150	28
34	NF-206	30	62	16	46	NF-218	90	160	30
35	NF-207	35	72	17	47	NF-219	95	170	32
77 16 36	NF-208	40	80	18	77 16 48	NF-220	100	180	34
37	NF-209	45	85	19	49	NF-221	105	190	36
38	NF-210	50	90	20	50	NF-222	110	200	38
39	NF-211	55	100	21	51	NF-224	120	215	40
40	NF-212	60	110	22	52	NF-226	130	230	40
77 16 41	NF-213	65	120	23	77 16 53	NF-228	140	250	42
42	NF-214	70	125	24	54	NF-230	150	270	45

**Series NF-300**

Unit Per Pc.

**Series NF-300-Roller Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 16 61	NF-304	20	52	15	77 16 71	NF-314	70	150	35
62	NF-305	25	62	17	72	NF-315	75	160	37
63	NF-306	30	72	19	73	NF-316	80	170	39
64	NF-307	35	80	21	74	NF-317	85	180	41
65	NF-308	40	90	23	75	NF-318	90	190	43
77 15 36	N-309	45	100	25					
37	N-310	50	110	27					
38	N-311	55	120	29					
39	N-312	60	130	31					
40	N-313	65	140	33					

(to be continued)

Unit Per Pcs.

Series NF-300-Roller Bearing									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 16 66	NF-309	45	100	25	77 16 76	NF-319	95	200	45
67	NF-310	50	110	27	77	NF-320	100	215	47
68	NF-311	55	120	29	78	NF-321	105	225	49
69	NF-312	60	130	31	79	NF-322	110	240	50
70	NF-313	65	140	33	80	NF-324	120	260	55

**Series NH-300**

Unit Per Pcs.

Series NH-300-Roller Bearing									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 17 01	NH-306	30	72	19	77 17 12	NH-317	85	180	41
02	NH-307	35	80	21	13	NH-318	90	190	43
03	NH-308	40	90	23	14	NH-319	95	200	45
04	NH-309	45	100	25	15	NH-320	100	215	47
05	NH-310	50	110	27	16	NH-321	105	225	49
77 17 06	NH-311	55	120	29	77 17 17	NH-322	110	240	50
07	NH-312	60	130	31	18	NH-324	120	260	55
08	NH-313	65	140	33	19	NH-326	130	280	58
09	NH-314	70	150	35	20	NH-328	140	300	62
10	NH-315	75	160	37	21	NH-330	150	320	65
77 17 11	NH-316	80	170	39					

**Tapered Roller Bearings**

Rodamientos de Ridukkis Cónicos

円スイコロ軸受 锥体滚柱轴承

This design utilizes conical rollers and raceways arranged so that all elements of the roller & raceway cones meet at a common apex on the axis of rotation. The roller is guided by contact between the large end of the roller and a rib on the inner rings. This construction provides high capacity for radial loads & single direction thrust loads. The bearings are usually mounted in pairs with axial adjustment to provide proper running clearance within the bearings. Being separable, the inner and outer rings may be mounted individually. For heavy thrust loads the type 30300D with large contact angle is preferable.

**Series 30200**

Unit Per Pcs.

Series 30200 Tapered Roller									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 20 01	30202	15	35	11	77 20 12	30213	65	120	23
02	203	17	40	12	13	214	70	125	24
03	204	20	47	14	14	215	75	130	25
04	205	25	52	15	15	216	80	140	26
05	206	30	62	16	16	217	85	150	28
77 20 06	30207	35	72	17	77 20 17	30218	90	160	30
07	208	40	80	18	18	219	95	170	32
08	209	45	85	19	19	220	100	180	34
09	210	50	90	20	20	221	105	190	36
10	211	55	100	21	21	222	110	200	38
77 20 11	30212	60	110	22	77 20 22	30224	120	215	40

**Series 30300**

Unit Per Pcs.

Series 30300 Tapered Roller									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 20 31	30302	15	42	13	77 20 42	30313	65	140	33
32	303	17	47	14	43	314	70	150	35
33	304	20	52	15	44	315	75	160	37
34	305	25	62	17	45	316	80	170	39
35	306	30	72	19	46	317	85	180	41
77 20 36	30307	35	80	21	77 20 47	30318	90	190	43
37	308	40	90	23	48	319	95	200	45
38	309	45	100	25	49	320	100	215	47
39	310	50	110	27	50	321	105	225	49
40	311	55	120	29	51	322	110	240	50
77 20 41	30312	60	130	31	77 20 52	30324	120	260	55

**Series 32200**

Unit Per Pcs.

Series 32200 Tapered Roller									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 20 61	32206	30	62	20	77 20 70	32215	75	130	31
62	207	35	72	23	71	216	80	140	33
63	208	40	80	23	72	217	85	150	36
64	209	45	85	23	73	218	90	160	40
65	210	50	90	23	74	219	95	170	43
77 20 66	32211	55	100	25	77 20 75	32220	100	180	46
67	212	60	110	28	76	221	105	190	50
68	213	65	120	31	77	222	110	200	53
69	214	70	125	31	78	224	120	215	58

**Series 32300**

Unit Per Pcs.

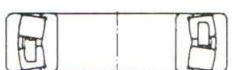
Series 32300 Tapered Roller									
CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 20 81	32305	25	62	24	77 20 91	32315	75	160	55
82	306	30	72	27	92	316	80	170	58
83	307	35	80	31	93	317	85	180	60
84	308	40	90	33	94	318	90	190	64
85	309	45	100	36	95	319	95	200	67
77 20 86	32310	50	110	40	77 20 96	32320	100	215	73
87	311	55	120	43	97	321	105	225	77
88	312	60	130	46	98	322	110	240	80
89	313	65	140	48	99	324	120	260	86
90	314	70	150	51					

**Spherical Roller Bearings**

Rodamientos de Rodillos a Rótula

球面コロ軸受 鼓形滚柱轴承

In this design, two rows of rollers operate in separate raceways ground into the inner ring with a guide rib to guide the rollers. The outer ring has a single spherical raceway, thus allowing the inner ring and rollers to freely compensate for angular errors due to inaccurate machine components or due to elastic deflection of the shaft or housing under loads. As a result of the line contact, a large number of rollers, and the substantial contact angle, these bearings have large radial and thrust load capacity. They are suitable for heavy shock and impact loads.

**Series 22200-Cylindrical Bore**

Unit Per Pc.

Unit Per Pc.

**Series 22200-Cylindrical Bore**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 25 01	22208	40	80	23	77 25 16	22226	130	230	64
02	209	45	85	23	17	228	140	250	68
03	210	50	90	23	18	230	150	270	73
04	211	55	100	25	19	232	160	290	80
05	212	60	110	28	20	234	170	310	86
77 25 06	22213	65	120	31	77 25 21	22236	180	320	86
07	214	70	125	31	22	238	190	340	92
08	215	75	130	31	23	240	200	360	98
09	216	80	140	33	24	244	220	400	108
10	217	85	150	36	25	248	240	440	120
77 25 11	22218	90	160	40	77 25 26	22252	260	480	130
12	219	95	170	43	27	256	280	500	130
13	220	100	180	46	28	260	300	540	140
14	222	110	200	53	29	264	320	580	150
15	224	120	215	58					



Unit Per Pc.

**Series 22200K-1/12 Tapered Bore**

This type of bearing must have an adapter sleeve when in use.

**Series 22300K-1/12 Tapered Bore Bearing**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 26 41	22308K	40	90	23	77 26 55	22324K	120	260	86
42	309K	45	100	26	56	326K	130	280	93
43	310K	50	110	40	57	328K	140	300	102
44	311K	55	120	43	58	330K	150	320	108
45	312K	60	130	46	59	332K	160	340	114
77 26 46	22313K	65	140	48	77 26 60	22334K	170	360	120
47	314K	70	150	51	61	336K	180	380	126
48	315K	75	160	55	62	338K	190	400	132
49	316K	80	170	58	63	340K	200	420	138
50	317K	85	180	60	64	344K	220	460	145
77 26 51	22318K	90	190	64	77 26 65	22348K	240	500	155
52	319K	95	200	67	66	352K	260	540	165
53	320K	100	215	73	67	356K	280	580	175
54	322K	110	240	80					



Unit Per Pc.

**Series 22200K 1/12 Tapered Bore**

CODE	Bearing No.	Dimensions mm			CODE	Bearing No.	Dimensions mm		
		I.D.	O.D.	Thick			I.D.	O.D.	Thick
77 25 41	22208K	40	80	23	77 25 56	22226K	130	230	64
42	209K	45	85	23	57	228K	140	250	68
43	210K	50	90	23	58	230K	150	270	73
44	211K	55	100	25	59	232K	160	290	80
45	212K	60	110	28	60	234K	170	310	86
77 25 46	22213K	65	120	31	77 25 61	22236K	180	320	86
47	214K	70	125	31	62	238K	190	340	92
48	215K	75	130	31	63	240K	200	360	98
49	216K	80	140	33	64	244K	220	400	108
50	217K	85	150	36	65	248K	240	440	120
77 25 51	22218K	90	160	40	77 25 66	22252K	260	480	130
52	219K	95	170	43	67	256K	280	500	130
53	220K	100	180	46	68	260K	300	540	140
54	222K	110	200	53	69	264K	320	580	150
55	224K	120	215	58					



Unit Per Pc.

**Series 22300-Cylindrical Bore****Needle Roller Bearings**

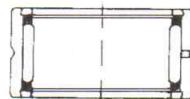
Rodamientos de Agujas

ニードルベアリング 无内圈滚针轴承

The needle like small diameter rollers of these bearings are cylindrical in shape and can be fitted to spindles where you do not want a large outside mount as in roller bearings. When ordering, specify the INSIDE and OUTSIDE DIAMETER, the THICKNESS and whether the bearing should be WITH or WITHOUT inner rings.

**Series NTN-RNA 4900**

Without Inner Ring



Unit Per Pc.

**Series RNA-4900 Without Inner Ring**

CODE	Bearing No.	Dimensions mm			Maximum R.P.M.
		I.D.	O.D.	Thick	
77 30 01	RNA - 4900	10	22	13	28,000
02	- 4901	12	24	13	25,000
03	- 4902	15	28	13	20,000
04	- 4903	17	30	13	18,000
05	- 4904	20	37	17	16,000
77 30 06	RNA - 49/22	22	39	17	14,000
07	- 4905	25	42	17	13,000
08	- 49/28	28	45	17	12,000
09	- 4906	30	47	17	11,000
10	- 49/32	32	52	20	10,000
77 30 11	RNA - 4907	35	55	20	9,000
12	- 4908	40	62	22	8,000
13	- 4909	45	68	22	8,000
14	- 4910	50	72	22	7,000
15	- 4911	55	80	25	6,000
77 30 16	RNA - 4912	60	85	25	6,000
17	- 4913	65	90	26	5,000
18	- 4914	70	100	30	5,000
19	- 4915	75	105	30	5,000
20	- 4916	80	110	30	4,000
77 30 21	RNA - 4917	85	120	35	4,000
22	- 4918	90	125	35	4,000
23	- 4919	95	130	35	3,000
24	- 4920	100	140	40	3,000

**Series 22300K-Tapered Bore**

## Thrust Ball Bearings

Rodamientos Aiales de Bolas

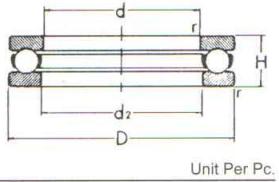
スラスト玉軸受 平座单向止推滚珠轴承



Thrust ball bearings are composed of washer-like bearing rings with raceway grooves for the balls. The ring attached to the shaft is called the inner ring or shaft washer while that attached to the housing is called the outer ring or housing washer. In double direction thrust ball bearings, there are three rings with the central one being fixed to the shaft. Single direction and double direction thrust ball bearings can support thrust loads in one or both directions respectively. There are also thrust ball bearings with an aligning seat washer beneath the outer ring in order to compensate for shaft misalignment or mounting errors. Pressed-steel cages are usually used in the smaller bearings and machined cages are generally used in the larger ones.

### Series 51100

With Flat Seat



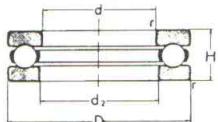
Unit Per Pcs.

#### Series 51100 Single Thrust Ball with Flat Seat

CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick
77 35 01	51100	10	11	24	9
02	101	12	13	26	9
03	102	15	16	28	9
04	103	17	18	30	9
05	104	20	21	35	10
77 35 06	51105	25	26	42	11
07	106	30	32	47	11
08	107	35	37	52	12
09	108	40	42	60	13
10	109	45	47	65	14
77 35 11	51110	50	52	70	14
12	111	55	57	78	16
13	112	60	62	85	17
14	113	65	67	90	18
15	114	70	72	95	18
77 35 16	51115	75	77	100	19
17	116	80	82	105	19
18	117	85	87	110	19
19	118	90	92	120	20
20	120	100	102	135	25

### Series 51200

With Flat Seat



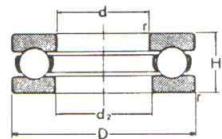
Unit Per Pcs.

#### Series 51200 Single Thrust Ball with Flat Seat

CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick
77 35 31	51200	10	12	26	11
32	201	12	14	28	11
33	202	15	17	30	12
34	203	17	19	35	12
35	204	20	22	40	14

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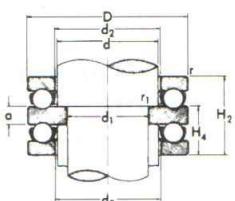
77 35 36	51205	25	27	47	15
37	206	30	32	52	16
38	207	35	37	62	18
39	208	40	42	68	19
40	209	45	47	73	20
77 35 41	51210	50	52	78	22
42	211	55	57	90	25
43	212	60	62	95	26
44	213	65	67	100	27
45	214	70	72	105	27
77 35 46	51215	75	72	110	27
47	216	80	82	115	28
48	217	85	88	125	31
49	218	90	93	135	35
50	220	100	103	150	38



Unit Per Pcs.

### Series 51300 Single Thrust Ball with Flat Seat

CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick
77 35 61	51305	25	27	52	18
62	306	30	32	60	21
63	307	35	37	68	24
64	308	40	42	78	26
65	309	45	47	85	28
77 35 66	51310	50	52	95	31
67	311	55	57	105	35
68	312	60	62	110	35
69	313	65	67	115	36
70	314	70	72	125	40
77 35 71	51315	75	77	135	44
72	316	80	82	140	44
73	317	85	88	150	49
74	318	90	93	155	50
75	320	100	103	170	55
77 35 76	51322	110	113	190	63
77	324	120	123	210	70



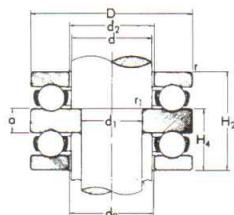
Unit Per Pcs.

### Series 52200 Double Thrust Ball with Flat Seat

CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick (H2)
77 37 31	52202	15	17	32	22
32	04	20	22	40	26
33	05	25	27	47	28
34	06	30	32	52	29
35	07	35	37	62	34
77 37 36	52208	40	42	68	36
37	09	45	47	73	37
38	10	50	52	78	39
39	11	55	57	90	45
40	12	60	62	95	46

(to be continued)

Series 52200 Double Thrust Ball with Flat Seat					Unit Per Pc.
CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick (H2)
77 37 41	52213	65	67	100	47
42	14	70	72	105	47
43	15	75	77	110	47
44	16	80	82	115	48
45	17	85	88	125	55
77 37 46	52218	90	93	135	62
47	20	100	103	150	67
48	22	110	113	160	67



Unit Per Pc.

**Series 52300**

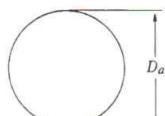
With Flat Seat

Series 52300 Double Thrust Ball with Flat Seat					Unit Per Pc.
CODE	Bearing No.	Dimensions mm			
		I.D.(d)	I.D.(d2)	O.D.(D)	Thick (H2)
77 37 61	52305	25	27	52	34
62	06	30	32	60	38
63	07	35	37	68	44
64	08	40	42	78	49
65	09	45	47	85	52
77 37 66	52310	50	52	95	58
67	11	55	57	105	64
68	12	60	62	110	64
69	13	65	67	115	65
70	14	70	72	125	72
77 37 71	52315	75	77	135	79
72	16	80	82	140	79
73	17	85	88	150	87
74	18	90	93	155	88
75	20	100	103	170	97
77 37 76	52322	110	113	190	110
77	24	120	123	210	123

**Steel Balls for Ball Bearing**

Bolas de Acero para Rodamientos de Bolas

鋼球 滚珠轴承的钢珠



Made of high carbon chromium bearing steel.

Unit Per Pc.					
CODE	Nominal Size Inch	Basic Diam. mm Da	CODE	Nominal Size Inch	Basic Diam. mm Da
77 40 01	0.5 mm	0.5000	77 40 27	5/8	15.8750
02	0.6 "	0.6000	28	21/32	16.0688
03	0.8 "	0.8000	29	11/16	17.4625
04	1.0 "	1.0000	30	23/32	18.2562
05	1.2 "	1.2000	31	3/4	19.0500
77 40 06	1.5 mm	1.5000	77 40 32	25/32	19.8438
07	1/16	1.5875	33	13/16	20.6375
08	2.0 mm	2.0000	34	27/32	21.4312
09	3/32	2.3812	35	7/8	22.2250
10	3.0 mm	3.0000	36	29/32	23.0188

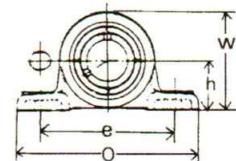
(to be continued)

77 40 11	1/8	3.1750	77 40 37	15/16	23.8125
12	5/32	3.9688	38	31/32	24.6062
13	3/16	4.7625	39	1	25.400
14	7/32	5.5562	40	1-1/16	26.9875
15	1/4	6.3500	41	1-1/8	28.5750
77 40 16	9/32	7.1438	77 40 42	1-3/16	30.1625
17	5/16	7.9375	43	1-1/4	31.7500
18	11/32	8.7312	44	1-5/16	33.3375
19	3/8	9.5250	45	1-3/8	34.9250
20	13/32	10.3188	46	1-7/16	36.5125
77 40 21	7/16	11.1125	77 40 47	1-1/2	38.1000
22	15/32	11.9062	48	1-5/8	41.2750
23	1/2	12.7000	49	1-3/4	44.4500
24	17/32	13.4938	50	1-7/8	47.6250
25	9/16	14.2875	51	2	50.8000
77 40 26	19/32	15.0812			

**Bearing Units**

Unidades de Rodamientos ベアリングユニット 轴承组

These are a combination of a block and a self aligning ball bearings used generally where normal loads are required. When ordering, specify the shaft diameter, distance between bolt holes, and the base-to-center height in order to attain a correct fit.

**Series UCP-200**

Unit Per Pc.

CODE	Bearing Unit No.	Shaft Diam. mm	Dimensions mm		
			O	W	e
77 41 01	UCP-201	12	127	62	95
02	-202	15	127	62	95
03	-203	17	127	62	95
04	-204	20	127	65	95
05	-205	25	140	70	105
77 41 06	UCP-206	30	165	83	121
07	-207	35	167	94	127
08	-208	40	184	100	137
09	-209	45	190	108	146
10	-210	50	206	114	159
77 41 11	UCP-211	55	219	126	171
12	-212	60	241	138	184
13	-213	65	265	150	203
14	-214	70	266	156	210
15	-215	75	275	163	217
77 41 16	UCP-216	80	292	175	232
17	-217	85	310	187	247
18	-218	90	327	200	262