

ALK[®]

bearings



- pohyb pod kontrolou -





Slewing Bearing Code Standard (JB/T2300-1999)

01 1. 40. 1250. 0. 00. 42

Material: 42-42CrMo

40-40Cr

50-50Mn

Installing Hole Type:

00-Inside and outside rings are all through hole

01-Inside and outside rings are all thread hole

02-Inside ring are thread hole, outside ring are through hole

03-Outside ring are thread hole, inside ring are through hole

Installing Match Type:

0-Standard type without Break

1-Standard type with Break

2-Special type

Diameter of the central rolling race (mm)

Diameter of the rollers (mm)

Driving type:

0-Toothless

1-Involute cylindrical gear with outer teeth engaged, minor modulus

2-Involute cylindrical gear with outer teeth engaged, large modulus

3-Involute cylindrical gear with internal teeth engaged, minor modulus

4-Involute cylindrical gear with internal teeth engaged, large modulus

Construction Type:

01-Single-row four ball point contact Slewing Bearing

02-Couple-row different ball radial Slewing Bearing

11-Single-row cross arranged roller Slewing Bearing

13-Triple-row roller Slewing Bearing

Calculations of Series Selection for Slewing Bearing

1. Loading conditions of the slewing bearing:

During the period of the slewing bearing operation, because of the difference for their working states and constructions of its main machine, the loading of axial force F_a , radial force F_r and resultant torque M may be acted as one factor only, or two and or three factors jointly action respectively.

In general condition, the installing methods for slewing bearings are divided into two types of horizontal installation and suspended installation. See figure 1.

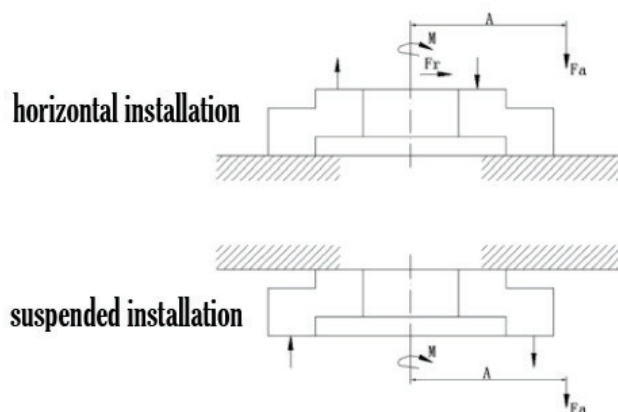


figure 1

2. Technical Date for selecting the series of slewing bearing:

- (1) Loading value that the slewing bearing should be support.
- (2) Time percentage of the every load may be occupied during the operation.
- (3) The rotation speed and rotation number of the slewing bearing at the operation condition.
- (4) Periphery forces that the gear should be supported on.
- (5) The installation dimensions.
- (6) Other technical references concerned.

3. Selection the proper series depending to the loading curves:

Every model of slewing bearing in our sample bulletin has its own loading capacity curve respectively. The curves might be initially helping customers to select the revolving support they needed. The selection diagram as follows:

There are two curves within the curve diagram, which indicating the loading capability of the revolving support. The first is the static loading curve that indicates the maximum loading capability when revolving support is keeping static condition. The second is the dynamic loading curve that indicates the maximum loading capability when revolving support is running. Meanwhile, there are also the loading limit curves for bolts which is joining with the revolving support (Class 8.8, Class 10.9 and Class 12.9). The clamping length of the bolt is 5 times of its nominal diameters. The pre-tightening force of the bolt is determined by the materials' yield limit times 0.7.

①Determine the maximum loading of the slewing bearing during its' static state (Axial load F_a , Radial load F_r , Turnover torque M). These loads should be included the additional load and testing load.

②Determine static safety coefficient f_s according to the type of main machine (application state). See Figure One.



Calculations of Series Selection for Slewing Bearing

③ Preliminary select the series of Slewing bearing(Series of 01, 02, 13, or ...), And then calculate the F_a' and M' according to the selection.

④ Check the models of Slewing bearing that satisfied these requirements within the curve table and indicate the Coordinate points of F_a' and M' .

⑤ Check the coordinate poi

Table One Technical References Concerned for Selection of Slewing Bearing

Name of Company:		Contactor:		
Address:		Telephone:		
Department:		Fax:		
Using Condition (Model of Main Machine)	Driving Spindle: Horizontal ☐ Vertical ☐	Installing Type: Seating Install ☐ Suspension Install ☐		
L o a d				
Load Condition Loading Character	A	B	C	Unit
	Working Load(Max)	Max Test Load Explame:25% Overload Test	Disaster Loading (No Working State)	
Axial Loading Parallel to Driving Spindle				KN
Radial Loading Parallel to Driving Spindle (No Gear engagement)				KN
Torque Caused by Axial Loading				KN • m
Torque Caused by Radial Loading				KN • m
Final Torque				KN • m
Loading Driving Torque (KN • m) Normal: Maximum:		Number of Small Driving Gear: Location: Clearance Degree:		
Type and Dimensional Requirement for Slewing Bearing: Type of Slewing Bearing (If you can writ out.): Slewing Bearing series: 01 ☐ 02 ☐ 11 ☐ 13 ☐ HS ☐ HJ ☐ Q ☐ 22 ☐ SL02 ☐ No limitations ☐ Outer Dimension of Slewing Bearing: Outer Diameter: mm or no limitations ☐ ; Internal diameter: mm or no limitations ☐ ; Total height: mm or no limitations ☐ .				
Description: (For Example: Special Condition, Temperature, Accuracy Requirement, Tolerance, Inspection and Quality Certification Requirement and Material Testing etc.)				
Signature:		Date:		



Calculations of Series Selection for Slewing Bearing

The calculation method of the forces of the axial load F_a' and turnover torque M' for their static loadings of Slewing bearing:

1) Single-row four ball contact type

Selection and calculation for single-row four ball contact type Slewing bearing is made according to their loading angle of 45 degree and 60 degree respectively.

I、 $a = 45^\circ$

$$F_a' = (1.225 \times F_a + 2.676 \times F_r) \times f_s$$

$$M' = 1.225 \times M \times f_s$$

II、 $a = 60^\circ$

$$F_a' = (F_a + 5.046 \times F_r) \times f_s$$

$$M' = M \times f_s$$

2) Single-row cross arranged roller type

$$F_a' = (F_a + 2.05 \times F_r) \times f_s$$

$$M' = M \times f_s$$

3) Couple-row different diameter ball type

When selection and calculation of Slewing bearing, the F_r could be ignored if the $F_r \leq 10\% F_a$. But if $F_r > 10\% F_a$, it should be taken its changing of angular pressure of the rolling race. Please contact with us for these calculations.

$$F_a' = F_a \times f_s$$

$$M' = M \times f_s$$

4) Triple-row roller type

$$F_a' = F_a \times f_s$$

$$M' = M \times f_s$$

In the formulas above, where:

F_a Total axial forces acted on the Slewing bearing by main machine (KN);

F_r Total radial forces acted on the Slewing bearing by main machine (KN);

M Total turnover torques acted on the Slewing bearing by main machine (KN·m);

f_s Safety coefficient of the Slewing bearing under static working condition,
See table 1;

F_a' Central axial forces acted on the Slewing bearing (KN);

F_r' Radial forces acted on the S

Calculations of Series Selection for Slewing Bearing

Table 1 Safety Coefficient Table of Slewing Bearing (fs = static, fd = dynamic)

Main Machine Used			Type Slewing Bearing					
			01		02		11、03	
			Safety Coefficient					
			fs	fd	fs	fd	fs	fd
Tower Crane	Top Revolving Type	Mf≤0.5M	1.25	1.36	1.25	1.00	1.25	1.00
		0.5M<Mf<0.8M		1.55		1.15		1.13
		Mf≥0.8M		1.71		1.26		1.23
	Bottom Revolving Type					1.00		1.07
Wheel Type Crane, Load and Unload Machine, and all kinds of Work-tables			1.10	1.36	1.10	1.10	1.10	1.10
Suspending Crane, Harbor Crane, Varies of Load and Unload machinery			1.25	1.55	1.25	1.15	1.25	1.13
Belt Conveyer used Tower Crane and Caterpillar Crane				1.71	1.10	1.26		1.23
Grab or Drawing Type Excavator, Dredger, Floating Crane			1.45	2.50	1.45	1.71		
Excavator its bucket volume ≤ 1.6 m ³					1.25	1.26	1.45	1.75
Excavator its bucket volume ≥ 1.6 m ³			1.75	3.00				
Crane for Metallurgy, Bucket Excavator, Tunneling Dig Machine			2.00	3.50	1.45	1.75		
Remark: The Torque could be recovered when idle time if the Mf is at its minimums range								

Calculations of Series Selection for Slewing Bearing

4. The calculation of the main machine For example : Crane (See figure II)

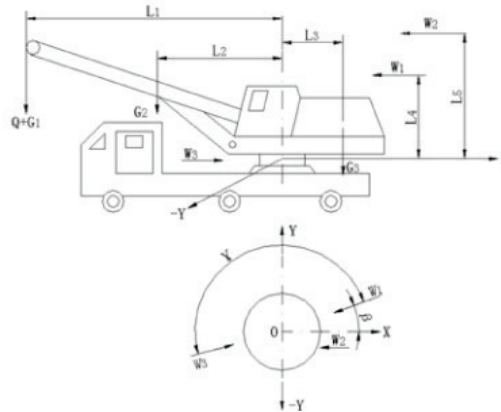


figure II

Total turnover torque $M = K \times (Q + G1) \times L1 + G2 \times L2 - G3 \times L3 + W1 \times L4 \times \cos \beta + W2 \times L5$

Total axial forces $Fa = K \times (Q + G1) + G2 + G3$

Total radial forces $Fr = W1 \times \cos \beta + W2 + W3 \times \cos \gamma$

In above formulas, where:

Q Rated loading (KN)

G1 Weight of the size changeable part. (KN)

G2 Weight of the lifting arm part (KN)

G3 Weight of the weight balancing block. (KN)

W1 Horizontal inertia force (KN)

W2 Wind force (KN)

W3 Engage force of the gear (KN)

L1 Rated working size (m)

L2 Parallel distance from the weighing center of the lifting arm part to the center of the slewing bearing (m)

L3 Parallel distance from the weighing center of the weight balancing block to the center of the

L4 Parallel distance from the acting point of Horizontal inertia force W1 to the slewing bearing (m)

L5 Parallel distance from the acting point of wind force W2 to the slewing bearing (m)

β The angle included between the horizontal inertia force W1 and the turnover torque M interacting with the X spindle.

γ The angle included between the gear engaging force W3 and the turnover torque M interacting with the X spindle.

K Working condition coefficient of the slewing bearing. (See table I)

Installing Requirement for Slewing Bearing

1、Transportation:

The Slewing bearing should be parallel placed, tightened rigidly and should not be touched or struck when it's transporting.

2、Requirement for Frame Installation:

The frame that joins and connects with the Slewing bearing is generally adopted with tube shaped construction. It is optimized to put the wall of the tube shaped body uniform with the center of rolling race as figure III:

In order to guarantee the slewing bearing running flexibility, the installing frame should have enough rigidity and strength (see table II). After welded, it must be treated to eliminate the internal stress. The installing surfaces should be machined and the plane of surfaces should be controlled within its acceptable ranging value. (See table III).

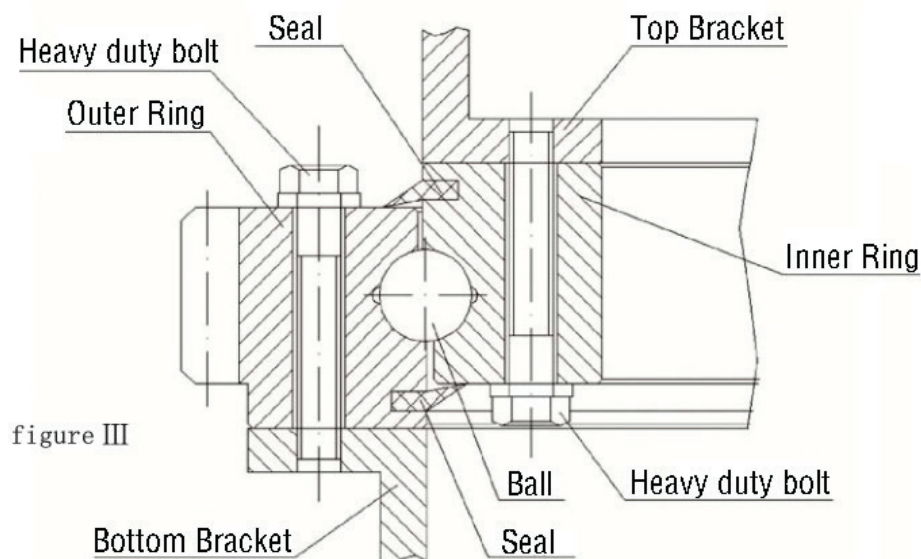


figure III

Table II : Maximum Twisting Changeable Value Under Maximum Permissible Loading

Centering Diameter of Rolling Race D (mm)	~ 1000	>1000 ~ 1500	>1500 ~ 2000	>2000 ~ 2500	>2500 ~ 3000	>3000 ~ 3500	>3500 ~ 4000	>4000 ~ 4500	>4500 ~ 5000	>5000 ~ 5500
Maximum Twist of Frame Plate Amax(mm)	0.6	0.8	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0



Installing Requirement for Slewing Bearing

Table III : Permissible Plane Value Including Angular Deviation

Centering Diameter Of Rolling Race D_L (mm)	Plane Value of the Installation Frame		
	Single-Row four Ball Contact	Double-Row Ball Type	Roller Type
~1000	0.15	0.20	0.10
>1000~1500	0.19	0.25	0.12
>1500~2000	0.22	0.30	0.15
>2000~2500	0.25	0.35	0.17
>2500~4000	0.30	0.40	0.20
>4000~6000	0.40	0.50	0.30

Note: The value listed in table III are the maximum value. There is only one place permissible to reach this value in 180 ° of fan area. Meanwhile, It should be stably increased or decreased in these areas from 0 ° ~ 90 ° to 180 ° so as to avoid the peak value.

3、Installing:

Suspend and place down horizontally the Slewing bearing on the plane of frame installing fundamental basement. Use the plug gauge to check their contact condition. Fill in partially with placer if there is clearance.

The place marked “S” should be located at the non-loading area or nonalways loading area.

The specifications of bolts should be meet the standards of GB/T5782-2000 and GB/T5783-2000. Their strength class should not less than the regulation specified by class 8.8 of GB/T3098.1-2000. The strength class could be selected according to practical working condition and actual loads of the Slewing bearing would be born. It must make sure to have enough pre-tighten forces when installation. Generally, the pre-tighten force would be 0.7 times of the yield limit of bolt. (See table IV)

The fixture length of the bolt $LK \geq 5d$ (where: d is the diameter of the bolt). Please tight the bolts according to the sequences indicated in the figure IV. The specifications of screw nut should be met the need of GB/T6170-2000 and GB/T6175-2000. Their mechanical properties must meet the need of GB3098.2-2000. The spacer must meet the need of GB/T97.1-1985 and GB/T97.2-1985. They are all heat treated for temper hardening. It should not be used of any spring washers

Installing Requirement for Slewing Bearing

Table IV : Pre-Tightening Torque or Forces of Bolts

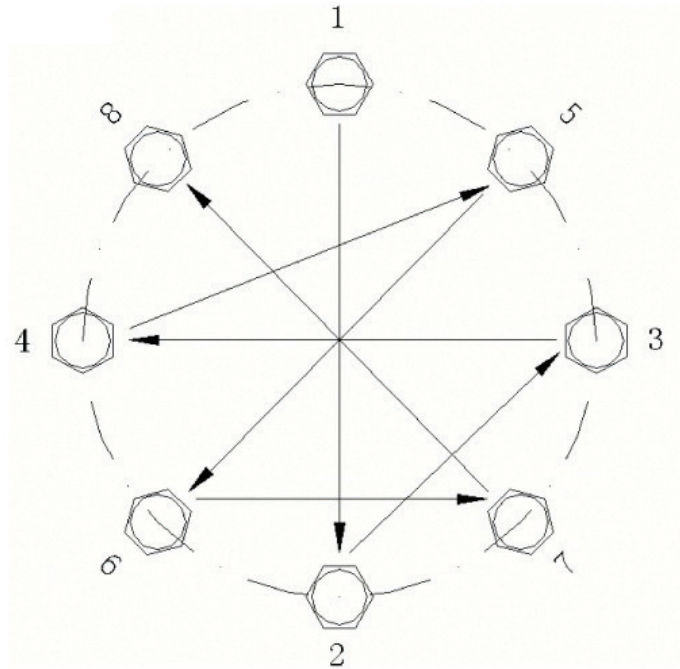
Specifications of the Bolts (GB/T5782-2000 GB/T5783-2000)	The Diameter of Installing Holes (mm)	Bolt's Strength Class (GB/T3098.1-2000)		
		8.8	10.9	12.9
		Yield Strength Limit of Bolt Material $\sigma_{smin}(N/mm^2)$		
		640	900	1080
		Pre-tightening Torque $M_A(N \cdot m)$		
M10	11	44	62	75
M12	13.5	77.5	110	130
M14	15.5	120	170	210
M16	18	190	265	320
M18	20	260	365	435
M20	22	370	520	620
M22	24	500	700	840
M24	26	640	900	1080
M27	30	950	1350	1620
M30	33	1300	1800	2160
		Pre-tightening Force $F_A(10^3 N)$		
M33	36	293	412	495
M36	39	344	484	581
M39	42	414	584	698
M42	45	473	665	798
M45	48	553	777	932
M48	52	623	876	1050
M52	56	749	1054	1265
M56	62	863	1214	1457
M60	66	1008	1418	1621

Note: The total friction coefficient between the bolt head and tightening face

$\mu = 0.14$, It might be smeared a lot of soft oils on the thread location.

Operation and Maintenance of the Swing Bearing

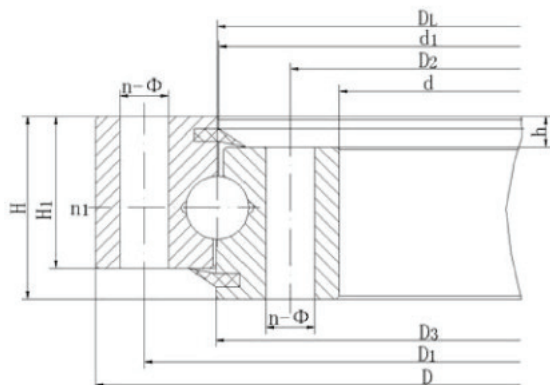
Figure IV



The Maintenance of the Swing Bearing

- ◆ The swing bearing had been filled with No.2 lithium based grease (GB7324-1994) in its rolling race before delivery. Generally, it is necessary to fill in grease once every 100 hours for ball type bearing, and once every 50 hours for roller type support. When filling in lithium based grease, it must make the revolving mechanism run slowly, and fill in the grease with its rotation, so as to make the grease even till the grease out off from the sealing place. The filling period should be shortened if there is the special working condition such as at the Torrid Zone, high humidity, severe dust, large temperature variation and long continuing working time.
- ◆ It should be filled with new grease before and after the machine being long time stop working.
- ◆ The gear faces exposed in air should periodically cleaned and spread with appropriate oil on it.
- ◆ Please check the pre-tighten force of the bolts after first 100 working hours of the slewing bearing. And after then check it once every 500 hours running. It must be always kept enough pre-tighten force.
- ◆ Stop and check the machine during operation if there is abnormal noise, vibration occurred or suddenly power rose. Remove the trouble or dismantle it for repairing if necessary.
- ◆ Shouldn't rinse directly the slewing bearing with water during operation so as to avoid the water entering to the rolling race.
- ◆ Shouldn't let the hard materials access or enter in the engaging area of the gear.
- ◆ Regularly check the seal ring is that ok or not. Replace it if it is damaged and reset it when it is fallen.

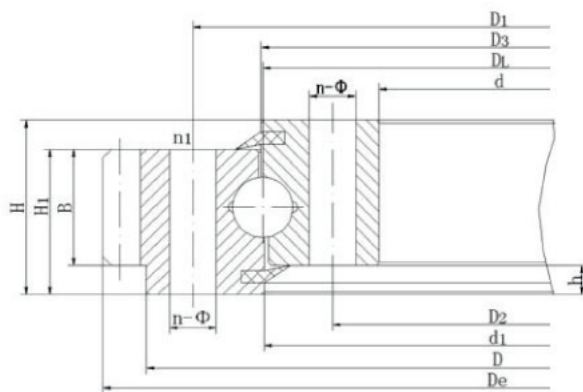
Single-Row Four Point Contact Without Gear Type 010



010

- 1、 This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, and light in weight. The balls roll on the circular race at four points, via which the axial force, radial force and resultant torque may be transmitted simultaneously
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.

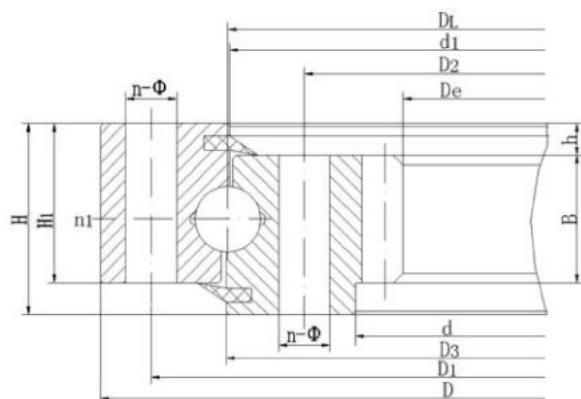
Single-Row Four Point Contact Outer-Gear Type 011/012



011/012

- 1、 This series of slewing bearing are mainly made up of inside and outside rings. It features compact in design, and light in weight. The balls contact with the circular race at four points, via which the axial force, radial force and resultant torque may be transmitted simultaneously.
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7904.2.
- 3、 Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given Value.

Single-Row Four Point Contact Internal-Gear Type 013/014



013/014

- 1、 This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, and light in weight. The balls contact with the circular race at four points, via which the axial force, radial force and resultant torque may be transmitted simultaneously.
- 2、 The n_1 means the number lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.
- 3、 Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.



Single-Row Four Point Contact Without Gear Type 010

Number	Basic Type	Configuration Size			Mounting Size				Structural Size					Weight Reference (kg)
	Toothless D _L mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	n ₁	D ₃ mm	d ₁ mm	H ₁ mm	h mm	
1	010.20.200	280	120	60	248	152	12	16	2	201	199	50	10	18
2	010.20.224	304	144	60	272	176	12	16	2	225	223	50	10	21
3	010.20.250	330	170	60	298	202	18	16	2	251	249	50	10	23
4	010.20.280	360	200	60	328	232	18	16	2	281	279	50	10	26
5	010.25.315	408	222	70	372	258	20	18	2	316	314	60	10	41
6	010.25.355	448	262	70	412	298	20	18	2	356	354	60	10	53
7	010.25.400	493	307	70	457	343	24	18	2	401	399	60	10	60
8	010.25.450	543	357	70	507	393	24	18	2	451	449	60	10	60
9	010.30.500	602	398	80	566	434	20	18	4	501	498	70	10	85
9'	010.25.500	602	398	80	566	434	20	18	4	501	499	70	10	85
10	010.30.560	662	458	80	626	494	20	18	4	561	558	70	10	95
10'	010.25.560	662	458	80	626	494	20	18	4	561	559	70	10	95
11	010.30.630	732	528	80	696	564	24	18	4	631	628	70	10	110
11'	010.25.630	732	528	80	696	564	24	18	4	631	629	70	10	110
12	010.30.710	812	608	80	776	644	24	18	4	711	708	70	10	120
12'	010.25.710	812	608	80	776	644	24	18	4	711	709	70	10	120
13	010.40.800	922	678	100	878	722	30	22	6	801	798	90	10	220
13'	010.30.800	922	678	100	878	722	30	22	6	801	798	90	10	220
14	010.40.900	1022	778	100	978	822	30	22	6	901	898	90	10	240
14'	010.30.900	1022	778	100	978	822	30	22	6	901	898	90	10	240
15	010.40.1000	1122	878	100	1078	922	36	22	6	1001	998	90	10	270
15'	010.30.1000	1122	878	100	1078	922	36	22	6	1001	998	90	10	270
16	010.40.1120	1242	998	100	1198	1042	36	22	6	1121	1118	90	10	300
16'	010.30.1120	1242	998	100	1198	1042	36	22	6	1121	1118	90	10	300
17	010.45.1250	1390	1110	110	1337	1163	40	26	5	1252	1248	100	10	420
17'	010.35.1250	1390	1110	110	1337	1163	40	26	5	1251	1248	100	10	420
18	010.45.1400	1540	1260	110	1487	1313	40	26	5	1402	1398	100	10	480
18'	010.35.1400	1540	1260	110	1487	1313	40	26	5	1401	1398	100	10	480
19	010.45.1600	1740	1460	110	1687	1513	45	26	5	1602	1598	100	10	550
19'	010.35.1600	1740	1460	110	1687	1513	45	26	5	1601	1598	100	10	550
20	010.45.1800	1940	1660	110	1887	1713	45	26	5	1802	1798	100	10	610
20'	010.35.1800	1940	1660	110	1887	1713	45	26	5	1801	1798	100	10	610
21	010.60.2000	2178	1825	144	2110	1891	48	33	8	2202	1998	132	12	1100
21'	010.40.2000	2178	1825	144	2110	1891	48	33	8	2201	1998	132	12	1100
22	010.60.2240	2418	2065	144	2350	2131	48	33	8	2242	2238	132	12	1250
22'	010.40.2240	2418	2065	144	2350	2131	48	33	8	2241	2238	132	12	1250
23	010.60.2500	2678	2325	144	2610	2391	56	33	8	2502	2498	132	12	1400
23'	010.40.2500	2678	2325	144	2610	2391	56	33	8	2501	2498	132	12	1400
24	010.60.2800	2978	2625	144	2910	2691	56	33	8	2802	2798	132	12	1600
24'	010.40.2800	2978	2625	144	2910	2691	56	33	8	2802	2798	132	12	1600
25	010.75.3150	3376	2922	174	3286	3014	56	45	8	3152	3147	162	12	2800
25'	010.50.3150	3376	2922	174	3286	3014	56	45	8	3152	3147	162	12	2800
26	010.75.3550	3776	3322	174	3686	3414	56	45	8	3552	3547	162	12	3200
26'	010.50.3550	3776	3322	174	3686	3414	56	45	8	3552	3547	162	12	3200
27	010.75.4000	4226	3772	174	4136	3864	60	45	10	4002	3997	162	12	3600
27'	010.50.4000	4226	3772	174	4136	3864	60	45	10	4002	3998	162	12	3600
28	010.75.4500	4726	4272	174	4636	4364	60	45	10	4502	4497	162	12	4000
28'	010.50.4500	4726	4272	174	4636	4364	60	45	10	4502	4497	162	12	4000

Single-Row Four Point Contact Outer-Gear

Type 011/012

Number	Basic Type	Configuration Size			Mounting Size					
	Ext Toothings D_t mm	D mm	d mm	H mm	D_1 mm	D_2 mm	n	Φ mm	n_1	D_3 mm
1	011.20.200	280	120	60	248	152	12	16	2	201
2	011.20.224	304	144	60	272	176	12	16	2	225
3	011.20.250	330	170	60	298	202	18	16	2	251
4	011.20.280	360	200	60	328	232	18	16	2	281
5	011.25.315	408	222	70	372	258	20	18	2	316
6	011.25.355	448	262	70	412	298	20	18	2	356
7	011.25.400	493	307	70	457	343	24	18	2	401
8	011.25.450	543	357	70	507	393	24	18	2	451
9	011.30.500	602	398	80	566	434	20	18	4	501
	012.30.500									
9'	011.25.500	602	398	80	566	434	20	18	4	501
	012.25.500									
10	011.30.560	662	458	80	626	494	20	18	4	561
	012.30.560									
10'	011.25.560	662	458	80	626	494	20	18	4	561
	012.25.560									
11	011.30.630	732	528	80	696	564	24	18	4	631
	012.30.630									
11'	011.25.630	732	528	80	696	564	24	18	4	631
	012.25.630									
12	011.30.710	812	608	80	776	644	24	18	4	711
	012.30.710									
12'	011.25.710	812	608	80	776	644	24	18	4	711
	012.25.710									
13	011.40.800	922	678	100	878	722	30	22	6	801
	012.40.800									
13'	011.30.800	922	678	100	878	722	30	22	6	801
	012.30.800									
14	011.40.900	1022	778	100	978	822	30	22	6	901
	012.40.900									
14'	011.30.900	1022	778	100	978	822	30	22	6	901
	012.30.900									
15	011.40.1000	1122	878	100	1078	922	36	22	6	1001
	012.40.1000									
15'	011.30.1000	1122	878	100	1078	922	36	22	6	1001
	012.30.1000									
16	011.40.1120	1242	998	100	1198	1042	36	22	6	1121
	012.40.1120									
16'	011.30.1120	1242	998	100	1198	1042	36	22	6	1121
	012.30.1120									
17	011.45.1250	1390	1110	110	1337	1163	40	26	5	1252
	012.45.1250									
17'	011.35.1250	1390	1110	110	1337	1163	40	26	5	1251
	012.35.1250									



Single-Row Four Point Contact Outer-Gear

Type 011/012

Structural Size			Gear Data					Tangential Tooth Load		Weight Reference (Kg)
d_1 mm	H_1 mm	h	B mm	x	m mm	De mm	z	Normalizing Z $10^4 N$	Temp Ering T $10^4 N$	
199	50	10	40	0	3	300	98	1.5	2.1	18
223	50	10	40	0	3	321	105	1.5	2.1	21
249	50	10	40	0	4	352	86	2	2.8	23
279	50	10	40	0	4	384	94	2	2.8	26
314	60	10	50	0	5	435	85	3.1	4.5	41
354	60	10	50	0	5	475	93	3.1	4.5	53
399	60	10	50	0	6	528	86	3.7	5.2	60
449	60	10	50	0	6	576	94	3.7	5.2	73
498	70	10	60	+0.5	5	629	123	3.7	5.2	85
					6	628.8	102	4.5	6.2	
499	70	10	60	+0.5	5	629	123	3.7	5.2	85
					6	628.8	102	4.5	6.2	
558	70	10	60	+0.5	5	689	135	3.7	5.2	95
					6	688.8	112	4.5	6.2	
559	70	10	60	+0.5	5	689	135	3.7	5.2	95
					6	688.8	112	4.5	6.2	
628	70	10	60	+0.5	6	772.8	126	4.5	6.2	110
					8	774.4	94	6.0	8.3	
629	70	10	60	+0.5	6	772.8	126	4.5	6.2	110
					8	774.4	94	6.0	8.2	
708	70	10	60	+0.5	6	850.8	139	4.5	6.2	120
					8	854.4	104	6.0	8.3	
709	70	10	60	+0.5	6	850.8	139	4.5	6.2	120
					8	854.4	104	6.0	8.9	
798	90	10	80	+0.5	8	966.4	118	8.0	11.1	220
					10	968	94	10.0	14.0	
798	90	10	80	+0.5	8	966.4	118	8.0	11.1	220
					10	968	94	10.0	14.0	
898	90	10	80	+0.5	8	1062.4	130	8.0	11.1	240
					10	1068	104	10.0	14.0	
898	90	10	80	+0.5	8	1062.4	130	8.0	11.1	240
					10	1068	104	10.0	14.0	
998	90	10	80	+0.5	10	1188	116	10.0	14.0	270
					12	1185.6	96	12.0	16.7	
998	90	10	80	+0.5	10	1188	116	10.0	14.0	270
					12	1185.6	96	12.0	16.7	
1118	90	10	80	+0.5	10	1298	127	10.0	14.0	300
					12	1305.6	106	12.0	16.7	
1118	90	10	80	+0.5	10	1298	127	10.0	14.0	300
					12	1305.6	106	12.0	16.7	
1248	100	10	90	+0.5	12	1449.6	118	13.5	18.8	420
					14	1453.2	101	15.8	21.9	
1248	100	10	90	+0.5	12	1449.6	118	13.5	18.8	420
					14	1453.2	101	15.5	21.9	

Single-Row Four Point Contact Outer-Gear

Type 011/012

Number	Basic Type	Configuration Size			Mounting Size					
	Ext Toothings D _t mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	n ₁	D ₃ mm
18	011.45.1400	1540	1260	110	1487	1313	40	26	5	1402
	012.45.1400									
18'	011.35.1400	1540	1260	110	1487	1313	40	26	5	1401
	012.35.1400									
19	011.45.1600	1740	1460	110	1687	1513	45	26	5	1602
	012.45.1600									
19'	011.35.1600	1740	1460	110	1687	1513	45	26	5	1601
	012.35.1600									
20	011.45.1800	1940	1660	110	1887	1713	45	26	5	1802
	012.45.1800									
20'	011.35.1800	1940	1660	110	1887	1713	45	26	5	1801
	012.35.1800									
21	011.60.2000	2178	1825	144	2110	1891	48	33	8	2202
	012.60.2000									
21'	011.40.2000	2178	1825	144	2110	1891	48	33	8	2201
	012.40.2000									
22	011.60.2240	2418	2065	144	2350	2131	48	33	8	2242
	012.60.2240									
22'	011.40.2240	2418	2065	144	2350	2131	48	33	8	2241
	012.40.2240									
23	011.60.2500	2678	2325	144	2610	2391	56	33	8	2502
	012.60.2500									
23'	011.40.2500	2678	2325	144	2610	2391	56	33	8	2501
	012.40.2500									
24	011.60.2800	2978	2625	144	2910	2691	56	33	8	2802
	012.60.2800									
24'	011.40.2800	2978	2625	144	2910	2691	56	33	8	2802
	012.40.2800									
25	011.75.3150	3376	2922	174	3286	3014	56	45	8	3152
	012.75.3150									
25'	011.50.3150	3376	2922	174	3286	3014	56	45	8	3152
	012.50.3150									
26	011.75.3550	3776	3322	174	3686	3414	56	45	8	3552
	012.75.3550									
26'	011.50.3550	3776	3322	174	3686	3414	56	45	8	3552
	012.50.3550									
27	011.75.4000	4226	3772	174	4136	3864	60	45	10	4002
	012.75.4000									
27'	011.50.4000	4226	3772	174	4136	3864	60	45	10	4002
	012.50.4000									
28	011.75.4500	4726	4272	174	4636	4364	60	45	10	4502
	012.75.4500									
28'	011.50.4500	4726	4272	174	4636	4364	60	45	10	4502
	012.50.4500									

Single-Row Four Point Contact Outer-Gear

Type 011/012

Structural Size			Gear Data					Tangential Tooth Load		Weight Reference (Kg)
d_1 mm	H_1 mm	h	B mm	x	m mm	De mm	z	Normalizing Z $10^4 N$	Temp Ering T $10^4 N$	
1398	100	10	90	+0.5	12	1605.6	131	13.5	18.8	480
					14	1607.2	112	15.8	21.9	
1398	100	10	90	+0.5	12	1605.6	131	13.5	18.8	480
					14	1607.2	112	15.8	21.9	
1598	100	10	90	+0.5	14	1817.2	127	15.8	21.9	550
					16	1820.8	111	18.1	25.0	
1598	100	10	90	+0.5	14	1817.2	127	15.8	21.9	550
					16	1820.8	111	18.1	25.0	
1798	100	10	90	+0.5	14	2013.2	141	15.8	21.9	610
					16	2012.8	123	18.1	25.0	
1798	100	10	90	+0.5	14	2013.2	141	15.8	21.9	610
					16	2012.8	123	18.1	25.0	
1998	132	12	120	+0.5	16	2268.8	139	24.1	33.3	1100
					18	2264.4	123	27.1	37.5	
1998	132	12	120	+0.5	16	2268.8	139	24.1	33.3	1100
					18	2264.4	123	27.1	37.5	
2238	132	12	120	+0.5	16	2492.8	153	24.1	33.3	1250
					18	2498.4	136	27.1	37.5	
2238	132	12	120	+0.5	16	2492.8	153	24.1	33.3	1250
					18	2498.4	136	27.1	37.5	
2498	132	12	120	+0.5	18	2768.4	151	27.1	37.5	1400
					20	2776	136	30.1	41.8	
2498	132	12	120	+0.5	18	2768.4	151	27.1	37.5	1400
					20	2776	136	30.1	41.8	
2798	132	12	120	+0.5	18	3074.4	168	27.1	37.5	1600
					20	3076	151	30.1	41.8	
2798	132	12	120	+0.5	18	3074.4	168	27.1	37.5	1600
					20	3076	151	30.1	41.8	
3147	162	12	150	+0.5	20	3476	171	37.7	52.2	2800
					22	3471.6	155	41.5	57.4	
3147	162	12	150	+0.5	20	3476	171	37.7	52.2	2800
					22	3471.6	155	41.5	57.4	
3547	162	12	150	+0.5	20	3876	191	37.7	52.2	3200
					22	3889.6	174	41.5	57.4	
3547	162	12	150	+0.5	20	3876	191	37.7	52.2	3200
					22	3889.6	174	41.5	57.4	
3997	162	12	150	+0.5	22	4329.6	194	41.5	57.4	3600
					25	4345	171	47.1	65.2	
3998	162	12	150	+0.5	22	4329.6	194	41.5	57.4	3600
					25	4345	171	47.1	65.2	
4497	162	12	150	+0.5	22	4835.6	217	41.5	57.4	4000
					25	4845	191	47.1	65.2	
4497	162	12	150	+0.5	22	4835.6	217	41.5	57.4	4000
					25	4845	191	47.1	65.2	

Single-Row Four Point Contact Internal-Gear

Type 013/014

Number	Basic Type	Configuration Size			Mounting Size				n ₁
	int Toothing D _L mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	
1	013. 25. 315	408	222	70	372	258	20	18	2
2	013. 25. 355	448	262	70	412	298	20	18	2
3	013. 25. 400	493	307	70	457	343	24	18	2
4	013. 25. 450	543	357	70	507	393	24	18	2
5	013. 30. 500	602	398	80	566	434	20	18	4
	014. 30. 500								
5'	013. 25. 500	602	398	80	566	434	20	18	4
	014. 25. 500								
6	013. 30. 560	662	458	80	626	494	20	18	4
	014. 30. 560								
6'	013. 25. 560	662	458	80	626	494	20	18	4
	014. 25. 560								
7	013. 30. 630	732	528	80	696	564	24	18	4
	014. 30. 630								
7'	013. 25. 630	732	528	80	696	564	24	18	4
	014. 25. 630								
8	013. 30. 710	812	608	80	776	644	24	18	4
	014. 30. 710								
8'	013. 25. 710	812	608	80	776	644	24	18	4
	014. 25. 710								
9	013. 40. 800	922	678	100	878	722	30	22	6
	014. 40. 800								
9'	013. 30. 800	922	678	100	878	722	30	22	6
	014. 30. 800								
10	013. 40. 900	1022	778	100	978	822	30	22	6
	014. 40. 900								
10'	013. 30. 900	1022	778	100	978	822	30	22	6
	014. 30. 900								
11	013. 40. 1000	1122	878	100	1078	922	36	22	6
	013. 40. 1000								
11'	013. 30. 1000	1122	878	100	1078	922	36	22	6
	014. 30. 1000								
12	013. 40. 1120	1242	998	100	1198	1042	36	22	6
	014. 40. 1120								
12'	013. 30. 1120	1242	998	100	1198	1042	36	22	6
	014. 30. 1120								
13	013. 45. 1250	1390	1110	110	1337	1163	40	26	5
	014. 45. 1250								
13'	013. 35. 1250	1390	1110	110	1337	1163	40	26	5
	014. 35. 1250								
14	013. 45. 1400	1540	1260	110	1487	1313	40	26	5
	014. 45. 1400								



Single-Row Four Point Contact Internal-Gear

Type 013/014

Structural Size				Gear Data					Tangential Tooth Load		Weight (KG) Reference
D ₃ mm	d ₁ mm	H ₁ mm	h mm	b mm	X	m mm	Z	De mm	Normalizing Z 10 ⁴ N	Temp Ering T 10 ⁴ N	
316	314	60	10	50	0	5	40	190	3.1	4.4	41
356	354	60	10	50	0	5	49	235	3.1	4.4	53
401	399	60	10	50	0	6	48	276	3.7	5.3	60
451	449	60	10	50	0	6	56	324	3.7	5.3	68
501	498	70	10	60	+0.5	5	74	367	3.7	5.2	85
						6	62	368.4	4.5	6.2	
501	499	70	10	60	+0.5	5	74	367	3.7	5.2	85
						6	62	368.4	4.5	6.2	
561	558	70	10	60	+0.5	5	86	427	3.7	5.2	95
						6	72	428.4	4.5	6.2	
561	559	70	10	60	+0.5	5	86	427	3.7	5.2	95
						6	72	428.4	4.5	6.2	
631	628	70	10	60	+0.5	6	83	494.4	4.5	6.2	110
						8	62	491.2	6.0	8.3	
631	629	70	10	60	+0.5	6	83	494.4	4.5	6.2	110
						8	62	491.2	6.0	8.3	
711	708	70	10	60	+0.5	6	96	572.4	4.5	6.2	120
						8	72	571.2	6.0	8.3	
711	709	70	10	60	+0.5	6	96	572.4	4.5	6.2	120
						8	72	571.2	6.0	8.9	
801	798	90	10	80	+0.5	8	80	635.2	8.0	11.1	220
						10	64	634	10.0	14.0	
801	798	90	10	80	+0.5	8	80	635.2	8.0	11.1	220
						10	64	634	10.0	14.0	
901	898	90	10	80	+0.5	8	93	739.2	8.0	11.1	240
						10	74	734	10.0	14.0	
901	898	90	10	80	+0.5	8	93	739.2	8.0	11.1	240
						10	74	734	10.0	14.0	
1001	998	90	10	80	+0.5	10	83	824	10.0	14.0	270
						12	69	820.8	12.0	16.7	
1001	998	90	10	80	+0.5	10	83	824	10.0	14.0	270
						12	69	820.8	12.0	16.7	
1121	1118	90	10	80	+0.5	10	95	944	10.0	14.0	300
						12	79	940.8	12.0	16.7	
1121	1118	90	10	80	+0.5	10	95	944	10.0	14.0	300
						12	79	940.8	12.0	16.7	
1252	1248	100	10	90	+0.5	12	88	1048.8	13.5	18.8	420
						14	75	1041.6	15.8	21.9	
1251	1248	100	10	90	+0.5	12	88	1048.8	13.5	18.8	420
						14	75	1041.6	15.8	21.9	
1402	1398	100	10	90	+0.5	12	100	1192.8	13.5	18.8	480
						14	86	1195.6	15.8	21.9	



Single-Row Four Point Contact Internal-Gear

Type 013/014

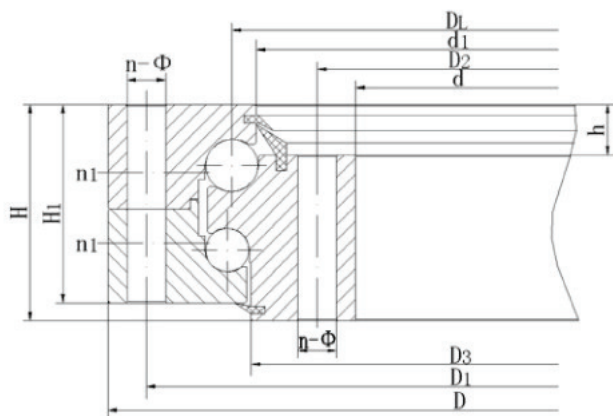
Number	Basic Type	Configuration Size			Mounting Size				n ₁
	int Toothing D _L mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	
14'	013. 35. 1400	1540	1260	110	1487	1313	40	26	5
	014. 35. 1400								
15	013. 45. 1600	1740	1460	110	1687	1513	45	26	5
	014. 45. 1600								
15'	013. 35. 1600	1740	1460	110	1687	1513	45	26	5
	014. 35. 1600								
16	013. 45. 1800	1940	1660	110	1887	1713	45	26	5
	014. 45. 1800								
16'	013. 35. 1800	1940	1660	110	1887	1713	45	26	5
	014. 35. 1800								
17	013. 60. 2000	2178	1825	144	2110	1891	48	33	8
	014. 60. 2000								
17'	013. 40. 2000	2178	1825	144	2110	1891	48	33	8
	014. 40. 2000								
18	013. 60. 2240	2418	2065	144	2350	2131	48	33	8
	014. 60. 2240								
18'	013. 40. 2240	2418	2065	144	2350	2131	48	33	8
	014. 40. 2240								
19	013. 60. 2500	2678	2325	144	2610	2391	56	33	8
	014. 60. 2500								
19'	013. 40. 2500	2678	2325	144	2610	2391	56	33	8
	014. 40. 2500								
20	013. 60. 2800	2978	2625	144	2910	2691	56	33	8
	014. 60. 2800								
20'	013. 40. 2800	2978	2625	144	2910	2691	56	33	8
	014. 40. 2800								
21	013. 75. 3150	3376	2922	174	3286	3014	56	45	8
	014. 75. 3150								
21'	013. 50. 3150	3376	2922	174	3286	3014	56	45	8
	014. 50. 3150								
22	013. 75. 3550	3776	3322	174	3686	3414	56	45	8
	013. 75. 3550								
22'	013. 50. 3550	3776	3322	174	3686	3414	56	45	8
	014. 50. 3550								
23	013. 75. 4000	4226	3772	174	4136	3864	60	45	10
	014. 75. 4000								
23'	013. 50. 4000	4226	3772	174	4363	4864	60	45	10
	014. 50. 4000								
24	013. 75. 4500	4726	4272	174	4636	4364	60	45	10
	014. 75. 4500								
24'	013. 50. 4500	4726	4272	174	4636	4364	60	45	10
	014. 50. 4500								



Single-Row Four Ball Point Contact Internal-Gear Type 013/014

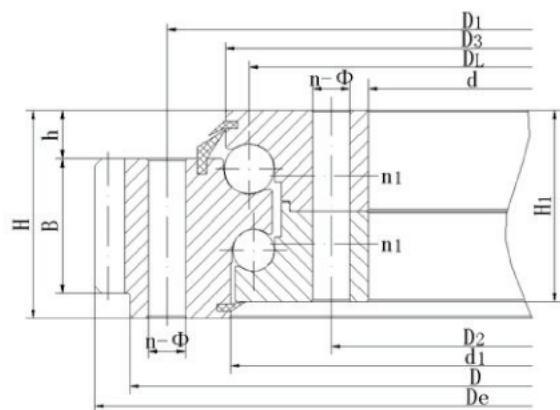
Structural Size				Gear Data					Tangential Tooth Load		Weight (KG) Reference
D ₃ mm	d ₁ mm	H ₁ mm	h mm	b mm	X	m mm	Z	De mm	Normalizing Z 10 ⁴ N	Temp Ering T 10 ⁴ N	
1401	1398	100	10	90	+0.5	12	100	1192.8	13.5	18.8	480
						14	86	1195.6	15.8	21.9	
1602	1598	100	10	90	+0.5	14	100	1391.6	15.8	21.9	550
						16	87	1382.4	18.1	25.0	
1601	1598	100	10	90	+0.5	14	100	1391.6	15.8	21.9	550
						16	87	1382.4	18.1	25.0	
1802	1798	100	10	90	+0.5	14	113	1573.6	15.8	21.9	610
						16	99	1574.4	18.1	25.0	
1801	1798	100	10	90	+0.5	14	113	1573.6	15.8	21.9	610
						16	99	1574.4	18.1	25.0	
2202	1998	132	12	120	+0.5	16	109	1734.4	24.1	21.9	1100
						18	97	1735.2	27.1	25.0	
2201	1998	132	12	120	+0.5	16	109	1734.4	24.1	33.3	1100
						18	97	1735.2	27.1	37.5	
2242	2238	132	12	120	+0.5	16	125	1990.4	24.1	33.3	1250
						18	111	1987.2	27.1	37.5	
2241	2238	132	12	120	+0.5	16	125	1990.4	24.1	33.3	1250
						18	111	1987.2	27.1	37.5	
2502	2498	132	12	120	+0.5	18	125	2239.2	27.1	37.5	1400
						20	112	2228	30.1	41.8	
2501	2498	132	12	120	+0.5	18	125	2239.2	27.1	37.5	1400
						20	112	2228	30.1	41.8	
2802	2798	132	12	120	+0.5	18	141	2527.2	27.1	37.5	1600
						20	127	2528	30.1	41.8	
2802	2798	132	12	120	+0.5	18	141	2527.2	27.1	37.5	1600
						20	127	2528	30.1	41.8	
3152	3147	162	12	150	+0.5	20	142	2828	37.7	52.2	2800
						22	129	2824.8	41.5	57.4	
3152	3147	162	12	150	+0.5	20	142	2828	37.7	52.2	2800
						22	129	2824.8	41.5	57.4	
3552	3547	162	12	150	+0.5	20	162	3228	37.7	52.2	3200
						22	147	3220.8	41.5	57.4	
3552	3547	162	12	150	+0.5	20	162	3228	37.7	52.2	3200
						22	147	3220.8	41.5	57.4	
4002	3997	162	12	150	+0.5	22	167	3660.8	41.5	57.4	3600
						25	147	3660	47.1	65.2	
4002	3998	162	12	150	+0.5	22	167	3660.8	41.5	57.4	3600
						25	147	3660	47.1	65.2	
4502	4497	162	12	150	+0.5	22	190	4166.8	41.5	57.4	4000
						25	167	4160	47.1	65.2	
4502	4497	162	12	150	+0.5	22	190	4166.8	41.5	57.4	4000
						25	167	4160	47.1	65.2	

Double-Row Different Ball Diameter Type 020/021/022/023/024



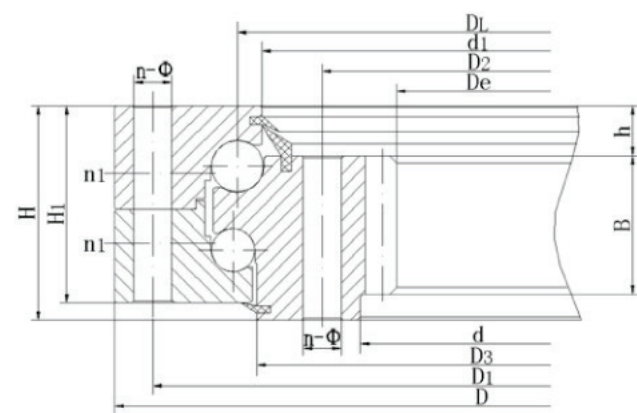
020

- 1、 This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, and light in weight. The balls roll on the circular race at four points, via which the axial force, radial force and resultant torque may be transmitted simultaneously
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940. 1.



021/022

- 1、 This series of slewing bearing is mainly made up of in-up rings, in-down rings and outside rings. The diameters of up-row and down-row balls are different; it is suitable for high precision mounting and capable to bear axial force, resultant torque and considerable large radial force. Its loading capabilities are better than single-row slewing rings.
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940. 1.
- 3、 Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.
- 4、 The recovery data of the gear given in the table are all of 0.5.



023/024

- 1、 This series of slewing bearing is mainly made up of in-up rings, in-down rings and outside rings. The diameters of up-row and down-row balls are different; it is suitable for high precision mounting and capable to bear axial force, resultant torque and considerable large radial force. Its loading capabilities are better than single-row slewing rings.
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940. 1.
- 3、 Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.
- 4、 The recovery data of the gear given in the table are all of 0.5.



Double-Row Different Ball Diameter Outer-Gear Type 021/022

Number	Basic Type	Configuration Size			Mounting Size					
	int Toothings D_1 mm	D	d	H	D_1	D_2	Φ	n	n_1	d_1
		mm								
1	023.25.500	616	384	106	580	420	18	20	4	477
	024.25.500									
2	023.25.560	676	444	106	640	480	18	20	4	537
	024.25.560									
3	023.25.630	746	514	106	710	550	18	24	4	607
	024.25.630									
4	023.25.710	826	594	106	790	630	18	24	4	687
	024.25.710									
5	023.30.800	942	658	124	898	702	22	30	6	771
	024.30.800									
6	023.30.900	1042	758	124	998	802	22	30	6	871
	024.30.900									
7	023.30.1000	1142	858	124	1098	902	22	36	6	971
	024.30.1000									
8	023.30.1120	1262	978	124	1218	1022	22	36	6	1091
	024.30.1120									
9	023.40.1250	1426	1074	160	1374	1126	26	40	5	1214
	024.40.1250									
10	023.40.1400	1576	1224	160	1524	1272	26	40	5	1364
	024.40.1400									
11	021.40.1600	1776	1424	160	1724	1476	26	45	5	1635
	022.40.1600									
12	021.40.1800	1976	1624	160	1924	1676	26	45	5	1835
	022.40.1800									
13	021.50.2000	2215	1758	190	2149	1851	33	48	8	2035
	022.50.2000									
14	021.50.2240	2455	2025	190	2389	2091	33	48	8	2275
	022.50.2240									
15	021.50.2500	2715	2285	190	2649	2351	33	56	8	2532
	022.50.2500									
16	021.50.2800	3015	2585	190	2949	2651	33	56	8	2832
	022.50.2800									
17	021.60.3150	3428	2872	226	3338	2962	45	56	8	3196
	022.60.3150									
18	021.60.3550	3828	3272	226	3738	3362	45	56	8	3596
	022.60.3550									
19	021.60.4000	4278	3722	226	4188	3812	45	60	10	4046
	022.60.4000									
20	021.60.4500	4778	4222	226	4688	4312	45	60	10	4546
	022.60.4500									



Double-Row Different Ball Diameter Outer-Gear Type 021/022

Structural Size			Gear Data				Tangential Tooth Load		Weight Reference (Kg)
D ₃	H ₁	h	B	m	De	Z	Norma Lizing Z KN	Temp Ering T KN	
mm									
482	96	26	60	5	357	72	37	52	126
				6	350.4	59	45	62	128
543	96	26	60	5	417	84	37	52	143
				6	410.4	69	45	62	144
613	96	26	60	6	482.4	81	45	62	160
				8	475.2	60	60	83	162
692	96	26	60	6	560.4	94	45	62	183
				8	555.2	70	60	83	184
777	114	29	80	8	619.2	78	80	111	300
				10	614	62	100	140	301
877	114	29	80	8	715.2	90	80	111	337
				10	714	72	100	141	335
977	114	29	80	10	814	82	100	141	371
				12	796.8	67	120	167	383
1097	114	29	80	10	944	95	100	140	429
				12	916.8	77	120	167	432
1215	150	39	90	12	1012.8	85	135	188	746
				14	1013.6	73	158	219	741
1365	150	39	90	12	1156.8	97	135	188	850
				14	1153.6	83	158	219	850
1636	150	39	90	14	1845.2	129	158	219	995
				16	1852.8	113	181	250	1003
1836	150	39	90	14	2055.2	144	158	219	1147
				16	2060.8	126	181	250	1151
2038	178	47	120	16	2300.8	141	241	333	1794
				18	2300.4	125	271	375	1780
2278	178	47	120	16	2540.8	156	241	333	2017
				18	2552.4	139	271	375	2048
2538	178	47	120	18	2804.4	153	271	375	2246
				20	2816	138	301	418	2280
2838	178	47	120	18	3110.4	170	271	375	2553
				20	3116	153	301	418	2563
3198	214	56	150	20	3536	174	377	522	4428
				22	3537.6	158	415	574	4414
3598	214	56	150	20	3936	194	377	522	5012
				22	3933.6	176	415	574	4967
4048	214	56	150	22	4395.6	197	415	574	5706
				25	4395	173	471	652	5656
4548	214	56	150	22	4897.6	219	415	574	6293
				25	4895	193	471	652	6385

Double-Row Different Ball Diameter Internal-Gear Type 023/024

Number	Basic Type	Configuration Size			Mounting Size					
	int Toothings D _i mm	D	d	H	D ₁	D ₂	Φ	n	n ₁	d ₁
		mm								
1	023.25.500	616	384	106	580	420	18	20	4	477
	024.25.500									
2	023.25.560	676	444	106	640	480	18	20	4	537
	024.25.560									
3	023.25.630	746	514	106	710	550	18	24	4	607
	024.25.630									
4	023.25.710	826	594	106	790	630	18	24	4	687
	024.25.710									
5	023.30.800	942	658	124	898	702	22	30	6	771
	024.30.800									
6	023.30.900	1042	758	124	998	802	22	30	6	871
	024.30.900									
7	023.30.1000	1142	858	124	1098	902	22	36	6	971
	024.30.1000									
8	023.30.1120	1262	978	124	1218	1022	22	36	6	1091
	024.30.1120									
9	023.40.1250	1426	1074	160	1374	1126	26	40	5	1214
	024.40.1250									
10	023.40.1400	1576	1224	160	1524	1272	26	40	5	1364
	024.40.1400									
11	023.40.1600	1776	1424	160	1724	1476	26	45	5	1564
	024.40.1600									
12	023.40.1800	1976	1624	160	1924	1676	26	45	5	1764
	024.40.1800									
13	023.50.2000	2215	1785	190	2149	1851	33	48	8	1962
	024.50.2000									
14	023.50.2240	2455	2052	190	2389	2091	33	48	8	2202
	024.50.2240									
15	023.50.2500	2715	2285	190	2649	2351	33	56	8	2462
	024.50.2500									
16	023.50.2800	3015	2585	190	2949	2651	33	56	8	2762
	024.50.2800									
17	023.60.3150	3428	2872	226	3338	2962	45	56	8	3102
	024.60.3150									
18	023.60.3550	3828	3272	226	3738	3362	45	56	8	3502
	024.60.3550									
19	023.60.4000	4278	3722	226	4188	3812	45	60	10	3952
	024.60.4000									
20	023.60.4500	4778	4222	226	4688	4312	45	60	10	4452
	024.60.4500									

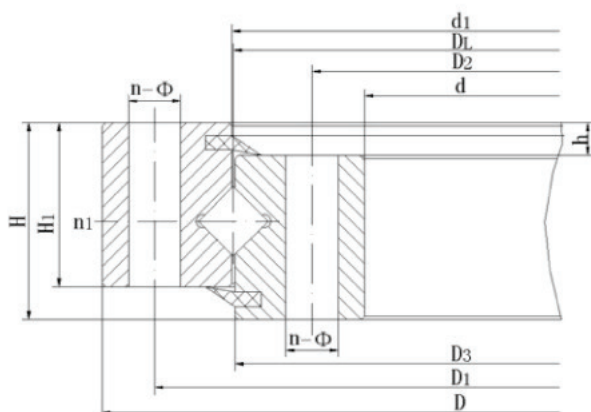


Double-Row Different Ball Diameter Internal-Gear Type 023/024

Structural Size			Gear Data				Tangential Tooth Load		Weight Reference (Kg)
D ₃	H ₁	h	B	m	De	Z	Norma Lizing Z KN	Temp Ering T KN	
mm									
482	96	26	60	5	357	72	37	52	126
				6	350.4	59	45	62	128
543	96	26	60	5	417	84	37	52	143
				6	410.4	69	45	62	144
613	96	26	60	6	482.4	81	45	62	160
				8	475.2	60	60	83	162
692	96	26	60	6	560.4	94	45	62	183
				8	555.2	70	60	83	184
777	114	29	80	8	619.2	78	80	111	300
				10	614	62	100	140	301
877	114	29	80	8	715.2	90	80	111	337
				10	714	72	100	141	335
977	114	29	80	10	814	82	100	141	371
				12	796.8	67	120	167	383
1097	114	29	80	10	944	95	100	140	429
				12	916.8	77	120	167	432
1215	150	39	90	12	1012.8	85	135	188	746
				14	1013.6	73	158	219	741
1365	150	39	90	12	1156.8	97	135	188	850
				14	1153.6	83	158	219	850
1565	150	39	90	14	1349.6	97	158	219	979
				16	1350.4	85	181	250	972
1765	150	39	90	14	1545.6	111	158	219	1117
				16	1542.4	97	181	250	1116
1965	178	47	120	16	1702.4	107	241	333	1733
				18	1699.2	95	271	375	1732
2206	178	47	120	16	1942.4	122	241	333	1956
				18	1933.2	108	271	375	1973
2465	178	47	120	18	2203.2	123	271	375	2164
				20	2188	110	301	418	2204
2765	178	47	120	18	2491.2	139	271	375	2486
				20	2488	125	301	418	2485
3104	214	56	150	20	2768	139	377	522	4137
				22	2758.8	126	415	574	4167
3504	214	56	150	20	3168	159	377	522	4700
				22	3176.8	145	415	574	4627
3954	214	56	150	22	3618.8	165	415	574	5298
				25	3610	145	471	652	5309
4454	214	56	150	22	4122.8	188	415	574	5952
				25	4110	165	471	652	6011



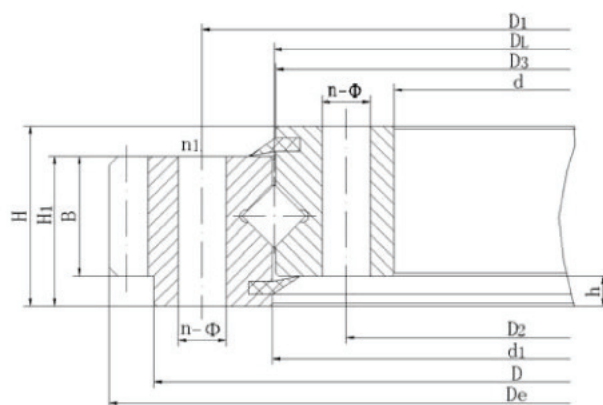
Single-Row Cross Arranged Roller Toothless Type 110



- 1、 This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, light in weight, small in assembling clearance, and high in installing precision. As the rollers are crossed arranged by 1:1, it is suitable for high precision mounting and capable to bear axial force, radial force and resultant torque simultaneously.
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.
- 3、 In the general work condition, we suggest that customer use the similar 010 series to instead of this series.

Number	Basic Type	Configuration Size			Mounting Size				Structural Size					Weight Reference
	Toothless D_L mm	D mm	d mm	H mm	D_1 mm	D_2 mm	n	Φ mm	n_1	D_3 mm	d_1 mm	H_1 mm	h mm	
1	110.25.500	602	398	75	566	434	20	18	4	498	502	65	10	77
2	110.25.560	662	458	75	626	494	20	18	4	558	562	65	10	87
3	110.25.630	732	528	75	696	564	24	18	4	628	632	65	10	95
4	110.25.710	812	608	75	776	644	24	18	4	708	712	65	10	111
5	110.28.800	922	678	82	878	722	30	22	6	798	802	72	10	167
6	110.28.900	1022	778	82	978	822	30	22	6	898	902	72	10	186
7	110.28.1000	1122	878	82	1078	922	36	22	6	998	1002	72	10	204
8	110.28.1120	1242	988	82	1198	1042	36	22	6	1118	1122	72	10	233
9	110.32.1250	1390	1110	91	1337	1163	40	26	5	1248	1252	81	10	337
10	110.32.1400	1540	1260	91	1487	1313	40	26	5	1398	1402	81	10	369
11	110.32.1600	1740	1460	91	1678	1513	45	26	5	1598	1602	81	10	425
12	110.32.1800	1940	1660	91	1887	1713	45	26	5	1798	1802	81	10	525
13	110.40.2000	2178	1825	112	2110	1891	48	33	8	1997	2003	100	12	815
14	110.40.2240	2418	2065	112	2350	2131	48	33	8	2237	2243	100	12	944
15	110.40.2500	2678	2325	112	2610	2391	56	33	8	2497	2503	100	12	1026
16	110.40.2800	2978	2625	112	2910	2691	56	33	8	2797	2803	100	12	1375
17	110.50.3150	3376	2922	134	3286	3014	56	45	8	3147	3153	122	12	2097
18	110.50.3550	3776	3322	134	3686	3414	56	45	8	3547	3553	122	12	2470
19	110.50.4000	4226	3772	134	4136	3864	60	45	10	3997	4003	122	12	2800
20	110.50.4500	4726	4272	134	4636	4364	60	45	10	4497	4503	122	12	3100

Single-Row Cross Arranged Roller Outer-gear Type 111/112



111/112

- 1、 This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, light in weight, small in assembling clearance, and high in installing precision. As the rollers are crossed arranged by 1:1, it is suitable for high precision mounting and capable to bear axial force, radial force and resultant torque simultaneously.
- 2、 The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.2.
- 3、 Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.
- 4、 In the general work condition, we suggest that customer use the similar 011, 012 series to instead of this series.



Single-Row Cross Arranged Roller Outer-gear Type 111/112

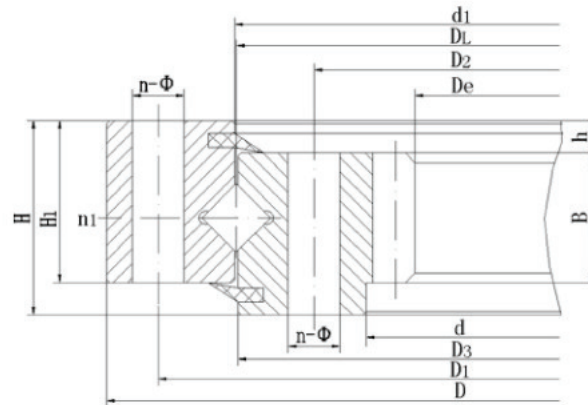
Number	Basic Type	Configuration Size			Mounting Size					
	Ext Toothings D _L mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	n ₁	D ₃ mm
1	111.25.500	602	398	75	566	434	20	18	4	498
	112.25.500									
2	111.25.560	662	458	75	626	494	20	18	4	558
	112.25.560									
3	111.25.630	732	528	75	696	564	24	18	4	628
	112.25.630									
4	111.25.710	812	608	75	776	644	24	18	4	708
	112.25.710									
5	111.28.800	922	678	82	878	722	30	22	6	798
	112.28.800									
6	111.28.900	1022	778	82	978	822	30	22	6	898
	112.28.900									
7	111.28.1000	1122	878	82	1078	922	36	22	6	998
	112.28.1000									
8	111.28.1120	1242	988	82	1198	1042	36	22	6	1118
	112.28.1120									
9	111.32.1250	1390	1110	91	1337	1163	40	26	5	1248
	112.32.1250									
10	111.32.1400	1540	1260	91	1487	1313	40	26	5	1398
	112.32.1400									
11	111.32.1600	1740	1460	91	1678	1513	45	26	5	1598
	112.32.1600									
12	111.32.1800	1940	1660	91	1887	1713	45	26	5	1798
	112.32.1800									
13	111.40.2000	2178	1825	112	2110	1891	48	33	8	1997
	112.40.2000									
14	111.40.2240	2418	2065	112	2350	2131	48	33	8	2237
	112.40.2240									
15	111.40.2500	2678	2325	112	2610	2391	56	33	8	2497
	112.40.2500									
16	111.40.2800	2978	2625	112	2910	2691	56	33	8	2797
	112.40.2800									
17	111.50.3150	3376	2922	134	3286	3014	56	45	8	3147
	112.50.3150									
18	111.50.3550	3776	3322	134	3686	3414	56	45	8	3547
	112.50.3550									
19	111.50.4000	4226	3772	134	4136	3864	60	45	10	3997
	112.50.4000									
20	111.50.4500	4726	4272	134	4636	4364	60	45	10	4497
	112.50.4500									



Single-Row Cross Arranged Roller Outer-gear Type 111/112

Structural Size			Gear Data					Tangential Tooth Load		Weight Reference
d_1 mm	H_1 mm	h mm	B mm	X	m mm	De mm	Z	Norma Lizing Z $10^4 N$	Temp Ering T $10^4 N$	
502	65	10	60	+0.5	5	629	123	3.7	5.2	84
					6	628.8	102	4.5	6.2	84
562	65	10	60	+0.5	5	689	135	3.7	5.2	92
					6	688.8	112	4.5	6.2	92
632	65	10	60	+0.5	6	772.8	126	4.5	6.2	111
					8	774.4	94	6.0	8.3	111
712	65	10	60	+0.5	6	850.8	139	4.5	6.2	125
					8	854.4	104	6.0	8.3	125
802	72	10	65	+0.5	8	966.4	118	6.5	9.1	179
					10	968	94	8.1	11.4	179
902	72	10	65	+0.5	8	1062.4	130	6.5	9.1	200
					10	1068	104	8.1	11.4	200
1002	72	10	65	+0.5	10	1188	116	8.1	11.4	242
					12	1185.6	96	9.7	13.6	242
1122	72	10	65	+0.5	10	1298	127	8.1	11.4	261
					12	1305.6	106	9.7	13.6	261
1252	81	10	75	+0.5	12	1449.6	118	11.3	15.7	362
					14	1453.2	101	13.2	18.2	362
1402	81	10	75	+0.5	12	1605.6	131	11.3	15.7	417
					14	1607.2	112	13.2	18.2	411
1602	81	10	75	+0.5	14	1817.2	127	13.2	18.2	488
					16	1820.8	111	15.1	22.4	484
1802	81	10	75	+0.5	14	2013.2	141	13.2	18.2	530
					16	2012.8	123	15.1	22.4	530
2003	100	12	90	+0.5	16	2268.8	139	18.1	25.0	935
					18	2264.4	123	20.3	28.1	935
2243	100	12	90	+0.5	16	2492.8	153	18.1	25.0	1008
					18	2498.4	136	20.3	28.1	1008
2503	100	12	90	+0.5	18	2768.4	151	20.3	28.1	1147
					20	2776	136	22.6	31.3	1147
2803	100	12	90	+0.5	18	3074.4	168	20.3	28.1	1320
					20	3076	151	22.6	31.3	1320
3153	122	12	110	+0.5	20	3476	171	27.6	38.3	2222
					22	3471.6	155	30.4	42.1	2222
3553	122	12	110	+0.5	20	3876	191	27.6	38.3	2470
					22	3889.6	174	30.4	42.1	2470
4003	122	12	110	+0.5	22	4329.6	194	30.4	42.1	2800
					25	4345	171	34.5	47.8	2800
4503	122	12	110	+0.5	22	4835.6	217	30.4	42.1	3100
					25	4845	191	34.5	47.8	3100

Single-Row Cross Arranged Roller Internal-gear Type 113/114



113/114

1. This series of slewing bearing is mainly made up of inside and outside rings. It features compact in design, light in weight, small in assembling clearance, and high in installing precision. As the rollers are crossed arranged by 1:1, it is suitable for high precision mounting and capable to bear axial force, radial force and resultant torque simultaneously.
2. The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.
3. Gear force of periphery given in the table is its maximum value, nominal force of periphery is taken 1/2 of the given value.
4. The series given in following table are our company's conventional types. We can also manufacture special type of products as customer's requirement.
5. In the general work condition, we suggest that customer use the similar 013,014 series to instead of this series.

Single-Row Cross Arranged Roller Internal-gear Type 113/114

Number	Basic Type	Configuration Size			Mounting Size					
	int Toothings D_t mm	D mm	d mm	H mm	D_1 mm	D_2 mm	n	Φ mm	n_1	D_3 mm
1	113. 25. 500	602	398	75	566	434	20	18	4	498
	114. 25. 500									
2	113. 25. 560	662	458	75	626	494	20	18	4	558
	114. 25. 560									
3	113. 25. 630	732	528	75	696	564	24	18	4	628
	114. 25. 630									
4	113. 25. 710	812	608	75	776	644	24	18	4	708
	114. 25. 710									
5	113. 28. 800	922	678	82	878	722	30	22	6	798
	114. 28. 800									
6	113. 28. 900	1022	778	82	978	822	30	22	6	898
	114. 28. 900									
7	113. 28. 1000	1122	878	82	1078	922	36	22	6	998
	114. 28. 1000									
8	113. 28. 1120	1242	988	82	1198	1042	36	22	6	1118
	114. 28. 1120									
9	113. 32. 1250	1390	1110	91	1337	1163	40	26	5	1248
	114. 32. 1250									
10	113. 32. 1400	1540	1260	91	1487	1313	40	26	5	1398
	114. 32. 1400									
11	113. 32. 1600	1740	1460	91	1678	1513	45	26	5	1598
	114. 32. 1600									
12	113. 32. 1800	1940	1660	91	1887	1713	45	26	5	1798
	114. 32. 1800									
13	113. 40. 2000	2178	1825	112	2110	1891	48	33	8	1997
	114. 40. 2000									
14	113. 40. 2240	2418	2065	112	2350	2131	48	33	8	2237
	114. 40. 2240									
15	113. 40. 2500	2678	2325	112	2610	2391	56	33	8	2497
	114. 40. 2500									
16	113. 40. 2800	2978	2625	112	2910	2691	56	33	8	2797
	114. 40. 2800									
17	113. 50. 3150	3376	2922	134	3286	3014	56	45	8	3147
	114. 50. 3150									
18	113. 50. 3550	3776	3322	134	3686	3414	56	45	8	3547
	114. 50. 3550									
19	113. 50. 4000	4226	3772	134	4136	3864	60	45	10	3997
	114. 50. 4000									
20	113. 50. 4500	4726	4272	134	4636	4364	60	45	10	4497
	114. 50. 4500									



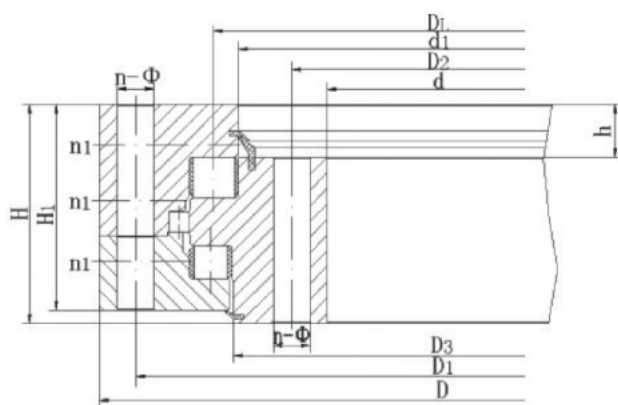
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- pohyb pod kontrolou -

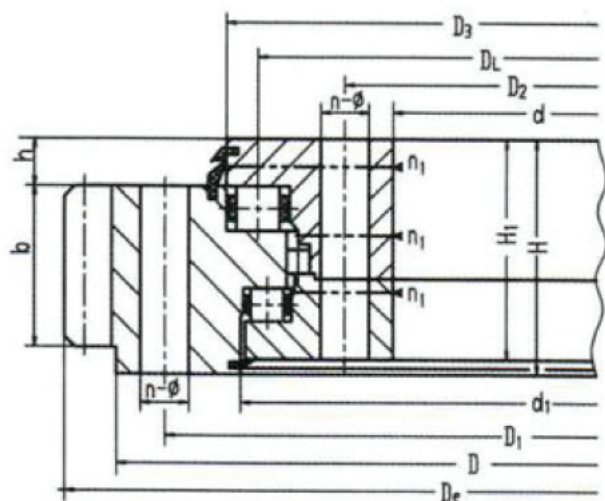
Single-Row Cross Arranged Roller Internal-gear Type 113/114

Structural Size			Gear Data					Tangential Tooth Load		Weight Reference (Kg)
d_1 mm	H_1 mm	h mm	B mm	α	m mm	D_e mm	Z	Normalizing Z $10^4 N$	Temp Ering T $10^4 N$	
502	65	10	60	+0.5	5	367	74	3.7	5.2	85
					6	368.4	62	4.5	6.2	85
562	65	10	60	+0.5	5	427	86	3.7	5.2	96
					6	428.4	72	4.5	6.2	96
632	65	10	60	+0.5	6	494.4	83	4.5	6.2	110
					8	491.2	62	6.0	8.3	110
712	65	10	60	+0.5	6	572.4	96	4.5	6.2	126
					8	571.2	72	6.0	8.3	122
802	72	10	65	+0.5	8	635.2	80	6.5	9.1	186
					10	634	64	8.1	11.4	186
902	72	10	65	+0.5	8	739.2	93	6.5	9.1	208
					10	734	74	8.1	11.4	208
1002	72	10	65	+0.5	10	824	83	8.1	11.4	22
					12	820.8	69	9.7	13.6	220
1122	72	10	65	+0.5	10	944	95	8.1	11.4	273
					12	940.8	79	9.7	13.6	273
1252	81	10	75	+0.5	12	1048.8	88	11.3	15.7	386
					14	1041.6	75	13.2	18.2	390
1402	81	10	75	+0.5	12	1192.8	100	11.3	15.7	441
					14	1195.6	86	13.2	18.2	441
1602	81	10	75	+0.5	14	1391.6	100	13.2	18.2	502
					16	1382.4	87	15.1	22.4	517
1802	81	10	75	+0.5	14	1573.6	113	13.2	18.2	605
					16	1574.4	99	15.1	22.4	605
2003	100	12	90	+0.5	16	1734.4	109	18.1	25.0	977
					18	1735.2	97	20.3	28.1	977
2243	100	12	90	+0.5	16	1990.4	125	18.1	25.0	1072
					18	1987.2	111	20.3	28.1	1072
2503	100	12	90	+0.5	18	2239.2	125	20.3	28.1	1211
					20	2228	112	22.6	31.3	1211
2803	100	12	90	+0.5	18	2527.2	141	20.3	28.1	1396
					20	2528	127	22.6	31.3	1396
3153	122	12	110	+0.5	20	2828	142	27.6	38.3	2344
					22	2824.8	129	30.4	42.1	2344
3553	122	12	110	+0.5	20	3228	162	27.6	38.3	2470
					22	3220.8	147	30.4	42.1	2470
4003	122	12	110	+0.5	22	3660.8	167	30.4	42.1	2800
					25	3660	147	34.5	47.8	2800
4503	122	12	110	+0.5	22	4166.8	190	30.4	42.1	3100
					25	4160	167	34.5	47.8	3100

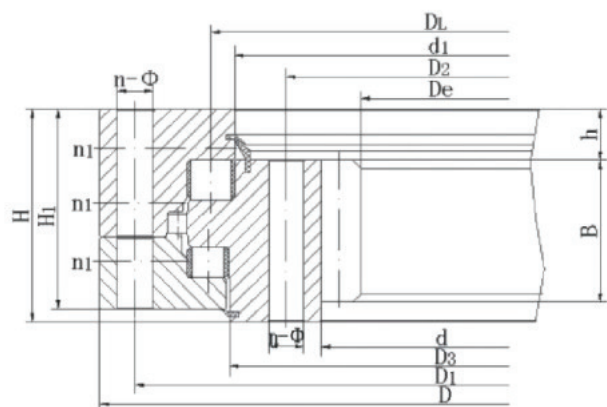
Triple-Row Roller Type 130/131/132/133/134



130



131/132



133/134

1. This series of slewing bearing is mainly made up of out-up rings, outdownrings and inside rings. It feature reasonable in design, high in working precision, and great in loading capabilities, it is suitable for high precision mounting and capable to bear axial force, resultant torque and considerable large radial force.
2. The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.

1. This series of slewing bearing is mainly made up of in-up rings, in-down rings and outside rings. It feature reasonable in design, high in working precision, and great in loading capabilities, it is suitable for high precision mounting and capable to bear axial force, resultant torque and considerable large radial force.
2. The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.
3. Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.
4. The recovery data of the gear given in the table are all of 0.5.

1. This series of slewing bearing is mainly made up of in-up rings, in-down rings and outside rings. It feature reasonable in design, high in working precision, and great in loading capabilities, it is suitable for high precision mounting and capable to bear axial force, resultant torque and considerable large radial force.
2. The n_1 means the number of lubricating holes, evenly distributed, lubricating nipple M10×1 JB/T7940.1.
3. Gear force of periphery given in the table is its maximum value; nominal force of periphery is taken 1/2 of the given value.
4. The recovery data of the gear given in the table are all of 0.5.

Triple-Row Roller Toothless Type 130

Number	Basic Type	Configuration Size			Mounting Size				Structural Size					Weight Reference (kg)
	Toothless D_L mm	D mm	d mm	H mm	D_1 mm	D_2 mm	n	Φ mm	n_i	D_3 mm	d_1 mm	H_i mm	h mm	
1	130.25.500	634	366	148	598	402	18	24	4	474	463	138	32	200
2	130.25.560	694	426	148	658	462	18	24	4	534	523	138	32	220
3	130.25.630	764	496	148	728	532	18	28	4	604	593	138	32	250
4	130.25.710	844	576	148	808	612	18	28	4	684	673	138	32	290
5	130.32.800	964	636	182	920	680	22	36	4	770	759	172	40	470
6	130.32.900	1064	736	182	1020	780	22	36	4	870	859	172	40	530
7	130.32.1000	1164	836	182	1120	880	22	40	5	970	959	172	40	600
8	130.32.1120	1284	956	182	1240	1000	22	40	5	1090	1079	172	40	680
9	130.40.1250	1445	1055	220	1393	1107	26	45	5	1213	1200	210	50	1050
10	130.40.1400	1595	1205	220	1543	1257	26	45	5	1363	1350	210	50	1190
11	130.40.1600	1795	1405	220	1743	1457	26	48	6	1563	1550	210	50	1350
12	130.40.1800	1995	1605	220	1943	1657	26	48	6	1763	1750	210	50	1540
13	130.45.2000	2221	1779	231	2155	1845	33	60	6	1967	1945	219	54	1990
14	130.45.2240	2461	2019	231	2395	2085	33	60	6	2207	2185	219	54	2230
15	130.45.2500	2721	2279	231	2655	2345	33	72	8	2467	2445	219	54	2620
16	130.45.2800	3021	2579	231	2955	2645	33	72	8	2767	2745	219	54	2980
17	130.50.3150	3432	2868	270	3342	2958	45	72	8	3104	3090	258	65	4580
18	130.50.3550	3832	3268	270	3742	3358	45	72	8	3504	3490	258	65	5200
19	130.50.4000	4282	3718	270	4192	3808	45	80	8	3954	3940	258	65	5800
20	130.50.4500	4782	4218	270	4692	4308	45	80	8	4454	4440	258	65	6600



Triple-Row Roller Outer-Gear Type 131/132

Number	Basic Type	Configuration Size			Mounting Size					
	Ext Tooth D _e mm	D mm	d mm	H mm	D ₁ mm	D ₂ mm	n	Φ mm	n ₁	D ₃ mm
1	131. 25. 500	634	366	148	598	402	18	24	4	537
	132. 25. 500									
2	131. 25. 560	694	426	148	658	462	18	24	4	597
	132. 25. 560									
3	131. 25. 630	764	496	148	728	532	18	28	4	667
	132. 25. 630									
4	131. 25. 710	844	576	148	808	612	18	28	4	747
	132. 25. 710									
5	131. 32. 800	964	636	182	920	680	22	36	4	841
	132. 32. 800									
6	131. 32. 900	1064	736	182	1020	780	22	36	4	941
	132. 32. 900									
7	131. 32. 1000	1164	836	182	1120	880	22	40	5	1041
	132. 32. 1000									
8	131. 32. 1120	1284	956	182	1240	1000	22	40	5	1161
	132. 32. 1120									
9	131. 40. 1250	1445	1055	220	1393	1107	26	45	5	1300
	132. 40. 1250									
10	131. 40. 1400	1595	1205	220	1543	1257	26	45	5	1450
	132. 40. 1400									
11	131. 40. 1600	1795	1405	220	1743	1457	26	48	6	1650
	132. 40. 1600									
12	131. 40. 1800	1995	1605	220	1943	1657	26	48	6	1850
	132. 40. 1800									
13	131. 45. 2000	2221	1779	231	2155	1845	33	60	6	2055
	132. 45. 2000									
14	131. 45. 2240	2461	2019	231	2395	2085	33	60	6	2295
	132. 45. 2240									
15	131. 45. 2500	2721	2279	231	2655	2345	33	72	8	2555
	132. 45. 2500									
16	131. 45. 2800	3021	2579	231	2955	2645	33	72	8	2855
	132. 45. 2800									
17	131. 50. 3150	3432	2868	270	3342	2958	45	72	8	3213
	132. 50. 3150									
18	131. 50. 3550	3832	3268	270	3742	3358	45	72	8	3613
	132. 50. 3550									
19	131. 50. 4000	4282	3718	270	4192	3808	45	80	8	4063
	132. 50. 4000									
20	131. 50. 4500	4782	4218	270	4692	4308	45	80	8	4563
	132. 50. 4500									



Triple-Row Roller Outer-Gear Type 131/132

Structural Size			Gear Data				Tangential Tooth Load		Weight Reference (kg)
d_i mm	H_i mm	h mm	B mm	m mm	D_e mm	Z	Norma Lizing Z KN	Temp Ering T KN	
526	138	32	80	5	664	130	50	67	200
				6	664.8	108	60	80	200
586	138	32	80	5	724	142	50	67	224
				6	724.8	118	60	80	224
656	138	32	80	6	808.8	132	60	80	262
				8	806.4	98	80	110	257
736	138	32	80	6	886.8	145	60	80	295
				8	886.4	108	80	110	291
830	172	40	120	8	1006.4	123	121	167	490
				10	1008	98	151	209	487
930	172	40	120	8	1102.4	135	121	167	549
				10	1108	108	151	209	562
1030	172	40	120	10	1218	119	151	209	631
				12	1221.6	99	181	251	631
1150	172	40	120	10	1338	131	151	209	710
				12	1341.6	109	181	251	710
1287	210	50	150	12	1509.6	123	229	314	1137
				14	1509.2	105	263	366	1126
1437	210	50	150	12	1665.6	136	229	314	1299
				14	1663.2	116	263	366	1281
1637	210	50	150	14	1873.2	131	263	366	1501
				16	1868.8	114	302	417	1471
1837	210	50	150	14	2069.2	145	263	366	1682
				16	2076.8	127	302	417	1697
2033	219	54	160	16	2300.8	141	322	445	2147
				18	2300.4	125	362	501	2129
2273	219	54	160	16	2556.8	157	322	445	2501
				18	2552.4	139	362	501	2461
2533	219	54	160	18	2822.4	154	362	501	2786
				20	2816	138	402	556	2731
2833	219	54	160	18	3110.4	170	362	501	3067
				20	3116	153	402	556	3079
3196	258	65	180	20	3536	174	452	626	5025
				22	3537.6	158	498	689	5009
3596	258	65	180	20	3936	194	452	626	5713
				22	3933.6	176	498	689	5670
4046	258	65	180	22	4395.6	197	498	689	6520
				25	4395	173	565	783	6470
4546	258	65	180	22	4901.6	220	498	689	7450
				25	4895	193	565	783	7320



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Triple-Row Roller Outer-Gear Type 131/132

Structural Size			Gear Data				Tangential Tooth Load		Weight Reference (kg)
d_i mm	H_i mm	h mm	B mm	m mm	D_e mm	Z	Normalizing Z KN	Temp Ering T KN	
526	138	32	80	5	664	130	50	67	200
				6	664.8	108	60	80	200
586	138	32	80	5	724	142	50	67	224
				6	724.8	118	60	80	224
656	138	32	80	6	808.8	132	60	80	262
				8	806.4	98	80	110	257
736	138	32	80	6	886.8	145	60	80	295
				8	886.4	108	80	110	291
830	172	40	120	8	1006.4	123	121	167	490
				10	1008	98	151	209	487
930	172	40	120	8	1102.4	135	121	167	549
				10	1108	108	151	209	562
1030	172	40	120	10	1218	119	151	209	631
				12	1221.6	99	181	251	631
1150	172	40	120	10	1338	131	151	209	710
				12	1341.6	109	181	251	710
1287	210	50	150	12	1509.6	123	229	314	1137
				14	1509.2	105	263	366	1126
1437	210	50	150	12	1665.6	136	229	314	1299
				14	1663.2	116	263	366	1281
1637	210	50	150	14	1873.2	131	263	366	1501
				16	1868.8	114	302	417	1471
1837	210	50	150	14	2069.2	145	263	366	1682
				16	2076.8	127	302	417	1697
2033	219	54	160	16	2300.8	141	322	445	2147
				18	2300.4	125	362	501	2129
2273	219	54	160	16	2556.8	157	322	445	2501
				18	2552.4	139	362	501	2461
2533	219	54	160	18	2822.4	154	362	501	2786
				20	2816	138	402	556	2731
2833	219	54	160	18	3110.4	170	362	501	3067
				20	3116	153	402	556	3079
3196	258	65	180	20	3536	174	452	626	5025
				22	3537.6	158	498	689	5009
3596	258	65	180	20	3936	194	452	626	5713
				22	3933.6	176	498	689	5670
4046	258	65	180	22	4395.6	197	498	689	6520
				25	4395	173	565	783	6470
4546	258	65	180	22	4901.6	220	498	689	7450
				25	4895	193	565	783	7320



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Triple-Row Roller Internal-Gear Type 133/134

Structural Size			Gear Data				Tangential Tooth Load		Weight Reference (KG)
d_i	H_i	h	B	m	De	Z	Normalizing Z KN	Temp Ering T KN	
mm									
463	138	32	80	5	337	68	50	67	198
				6	338.4	57	60	80	198
523	138	32	80	5	397	80	50	67	222
				6	398.4	67	60	80	220
593	138	32	80	6	458.4	77	60	80	253
				8	459.2	58	80	110	251
673	138	32	80	6	536.4	90	60	80	288
				8	539.2	68	80	110	284
759	157	40	120	8	595.2	75	121	167	483
				10	594	60	151	209	481
859	172	40	120	8	691.2	87	121	167	551
				10	694	70	151	209	545
959	172	40	120	10	784	79	151	209	618
				12	784.8	66	181	251	613
1079	172	40	120	10	904	91	151	209	698
				12	904.8	76	181	251	691
1200	210	50	150	12	988.8	83	229	314	1123
				14	985.6	71	263	366	1122
1350	210	50	150	12	1144.8	96	229	314	1254
				14	1139.6	82	263	366	1258
1500	210	50	150	14	1335.6	96	263	366	1454
				16	1334.4	84	302	417	1448
1750	210	50	150	14	1531.6	110	263	366	1658
				16	1526.4	96	302	417	1663
1945	219	54	160	16	1702.4	107	322	445	2114
				18	1699.2	95	362	501	2112
2185	219	54	160	16	1926.4	121	32	445	2447
				18	1933.2	108	362	501	2407
2445	219	54	160	18	2185.2	122	362	501	2862
				20	2188	110	402	556	2834
2745	219	54	160	18	2491.2	139	360	501	3211
				20	2488	125	402	556	3209
3090	258	65	180	20	2768	139	452	626	4954
				22	2758.8	126	498	689	4988
3490	258	65	180	20	3168	159	452	626	5638
				22	3154.8	144	498	689	5706
3940	258	65	180	22	3616.8	165	498	689	6257
				25	3610	145	565	783	6268
4440	258	65	180	22	4122.8	188	498	689	7040
				25	4110	165	565	783	7108

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ZLK

bearings

- pohyb pod kontrolou -