统力回转支承
TongLi slewing ring

TongLi slewing ring co.,Ltd.

120,000 Sets of Slewing Ring Annual Capacity

Construction Machinery
Port Equipment
Metallurgical Machinery
Mining Machinery
Marine Machinery
Light Industrial Machinery
Environmental Protection Machinery
Amusement Equipment
Transport Machinery
Renewable Energy

Maanshan Production Plant

Dangtu Production Plant

An Annual Output of 100,000 Sets of High-end Slewing Ring Intelligent Production Plant

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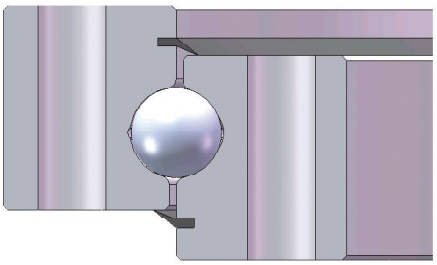
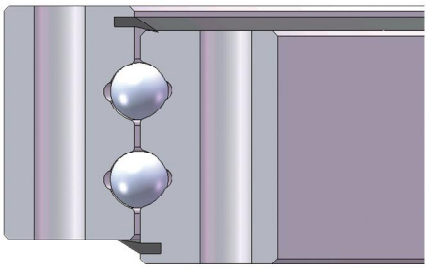
Provide us with your load requirements and key specifications, we will do the else.

Slewing Ring Types

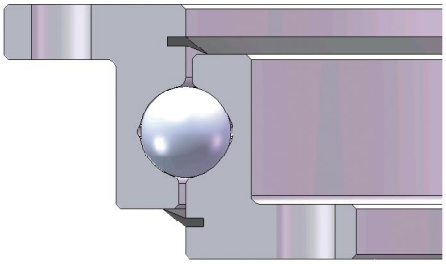
Single–row ball



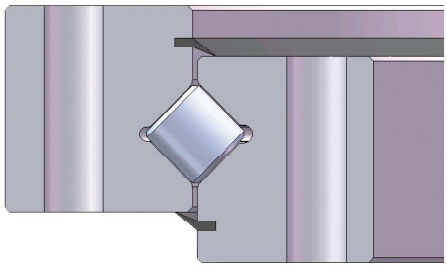
Double–row ball



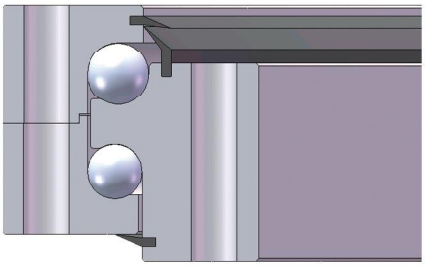
L single–row ball



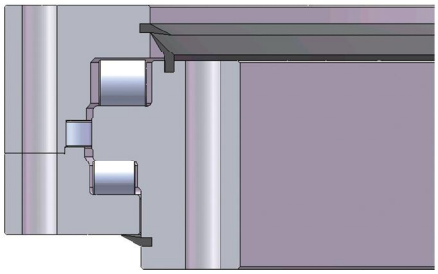
Cross–roller



Double–row different diameters ball



Triple–row roller



1. JB/T 10837, 10838, 10839–2023

× × × × × × × × × ×
(1) (2) (3) (4) (5) (6) (7)

(1)––Slewing ring type
Q: Single–row ball S: Triple–row roller J: Single–row cross–roller

(2)––Code of gear driven type
W: External gear N: Internal gear U: Without gear

(3)––Code of installation hole type
A: Both rings with through holes
B: Both rings with threaded holes
C: Outer ring with threaded holes, inner ring with through holes
D: Outer ring with through holes, inner ring with threaded holes

(4)––(Upper row) Diameter of raceway center, mm
(5)––(Upper row) Diameter of rolling element, mm
(6)––Classification code of gear module
A: Large module Without A: Small module
(7)––Code of special mark

For example:
Single–row ball, large module, external gear, outer ring with threaded holes, inner ring with through holes, diameter of raceway center 1250mm, diameter of ball 40mm, drawing number of the product is described as follows: slewing ring QWC1250.40A.

2. JB/T 2300–2018

× × × × × × × × × ×
(1) (2) (3) (4) (5) (6)

(1)––Slewing ring type
01: Single–row ball 02: Double–row different diameters ball
11: Single–row cross–roller 13: Triple–row roller

(2)––Code of gear driven type
0: Without gear 1: Small module, external gear
2: Large module, external gear 3: Small module, internal gear 4: Large module, internal gear

(3)––(Upper row) Diameter of rolling element, mm
(4)––(Upper row) Diameter of raceway center, mm

(5)––Fitting type designation
0: Without fitting spigot 1: With fitting spigot 2: Customized design

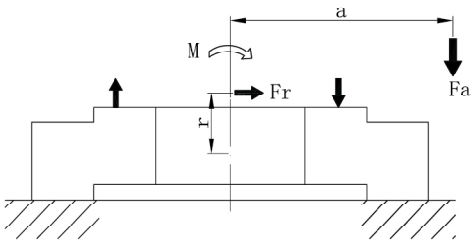
(6)––Code of installation hole type
0: Both rings with through holes
1: Both rings with threaded holes
2: Outer ring with through holes, inner ring with threaded holes
3: Outer ring with threaded holes, inner ring with through holes

For example:
Single–row ball, large module, internal gear, diameter of ball 40mm, diameter of raceway center 1000mm, with fitting spigot, both ring with through holes, drawing number of the product is described as follows: slewing ring 014.40.1000.10.

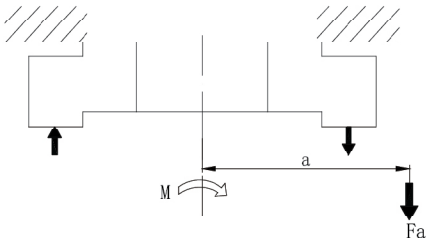
1.Load Capacity of Slewing Ring

Slewing ring shall commonly transmit axial load (Fa), radial load (Fr) and tilting moment (M) during working, combination of these three loads may vary due to different working ways of machines or structures. There is sometimes combination of two loads while sometimes only one exists.

Generally, there are two ways to install slewing rings: compressive installation and suspended installation. The loads of the slewing ring for each way are as follows:



Compressive Installation



Suspended Installation

If the slewing ring is with compressive installation, the customer could select and calculate as follows; if the slewing ring is with suspended installation or other installation types, please contact R&D Department for assistance.

2.Slewing Ring Selection

2.1 Selection of structure

There are four structures of slewing ring: single-row ball slewing ring, double-row ball slewing ring, cross-roller slewing ring, and triple-row roller slewing ring.

· Do ≤ 1800, single-row ball slewing ring is the preference;

· Do > 1800 or heavy loads where radial dimensions are restricted, double-row ball slewing ring is recommended.

2.2 Calculation of slewing ring

2.2.1 Calculation of single-row ball slewing ring

① Calculation of rated static capacity

$$C_0 = 0.15 \times D_O \times d_0$$

C_0 —— Rated static capacity, kN

D_0 —— Diameter of raceway center, mm

d_0 —— Diameter of ball, mm

② Equivalent axial load calculation according to external compound loads

$$C_p = Fa + 4370M/D_0 + 3.44Fr$$

C_P —— Equivalent axial load, kN

M —— Tilting moment, kN·m

Fa —— Axial load, kN

Fr —— Radial load, kN

③ Safety factor

$$f_S = C_0 / C_p$$

f_S refer to the following Table 1

2.2.2 Calculation of double-row ball slewing ring

① Calculation of rated static capacity

$$C_0 = 0.28 \times D_O \times d_0$$

C_0 ——Rated static capacity, kN
D_0 ——Diameter of raceway center, mm
d_0 ——Diameter of ball, mm

② Equivalent axial load calculation according to external compound loads

$$C_p = Fa + 4370M/D_0 + 3.44Fr$$

C_p ——Equivalent axial load, kN
M ——Tilting Moment, kN·m
Fa ——Axial load, kN
Fr ——Radial load, kN

③ Safety factor

$$f_s = C_0 / C_p$$

f_s refer to the following Table 1

Table 1: Safety factor (fs) of slewing ring

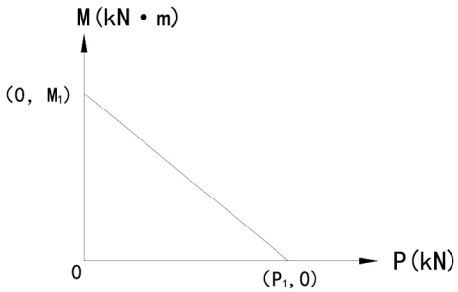
Working condition	Characteristic	Example	f_s
Light load	Infrequent full load, stable slewing, small impact	Stacker reclaimers, Truck cranes, Non-port wheeled cranes	1.00~1.15
Medium load	Infrequent full load, fast slewing, regular impact	Tower cranes, Marine cranes, Crawler cranes	1.15~1.30
Heavy load	Frequent full load, heavy impact	Grab cranes, Harbor cranes, Single bucket excavators, Container cranes	1.30~1.45
Extra heavy load	Continuous full load, heavy impact or bad working conditions	Bucket wheel excavators, Tunnel excavators, Metallurgical cranes, Offshore cranes	1.45~1.70

2.3 Selection of product through static load curve

Static load curve indicates the maximum loading of slewing ring in static. Each type of the slewing ring in the catalogue has a corresponding static load curve, which can help customer to make an elementary selection of slewing ring.

2.3.1 Draw the static load curve

Customers draw the static load curve of the preferred slewing ring based on its reference. See as follows:



$P_1 = C_o$

$M_1 = C_o * D_o/4370$ (Triple-row roller type: $M_1 = C_o * D_o/4500$)

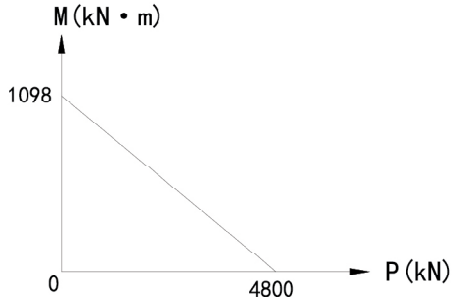
2.3.2 The intersection points of total axial load (Fa) and total tilting moment (M) multiply the safety factor respectively shall locate below the static load curve.

2.3.3 Example: Draw the static load curve of QUA1000.32

$P_1 = C_o = 0.15*1000*32 = 4800kN$

$M_1 = C_o * D_o/4370 = 4800*1000/4370 = 1098\ kN·m$

Static load curve see as follows:



2.4 Calculation of slewing ring service life

If a slewing ring service life calculation is required, the loads distribution of the machine needs providing.

2.5 Technical parameters of slewing ring selection

After the elementary selection of slewing ring, customer can verify it together with R&D Department or provide related information of the slewing ring for further calculation. When the selection is requested, please fill ***Data Collection Sheet for Selection*** to achieve an economical and suitable design.

Maanshan Tongli Slewing Ring Co.,Ltd.

Data Collection Sheet for Selection

Data Download

Working condition:	
Type of machine:	
Axis of rotation:	○ Vertical ○ Horizontal ○ Inclined/Variable
Gear type :	○ Internal gear ○ External gear ○ Without gear ○ No restrictions
Revolution per minute(rpm):	Mean: _____ Maximum: _____
Application description:	○ Positioning only ○ Intermittent rotation ○ Continuous rotation

Value of Load			
Type of load	Maximum working load	Maximum testing load	Destroy load
Axial load(kN)			
Radial load(kN)			
Titling moment(kN·m)			

Loading driving torque(kN·m):

Mean _____ Maximum _____ Number of pinion _____

Special requirement (special working environment, temperature, fit size, dimension restrictions, etc.):

Load cases	Axial load (kN)	Radial load (kN)	Tilting moment (kN·m)	Revolution per minute (rpm)	Working time (%)
1)					
2)					
3)					
4)					
5)					
……					

Continuous working condition

Service life: Under the mean speed of____rpm, work at least____hours.

Intermittent working condition

Required service life: Under angle of ±___degree, work at least ___hours.

Please fill this table thoroughly so as to provide you economical and suitable slewing ring slection as soon as we can.

Name of company: Signature: Date:

1. The requirement of installing frame

1.1 The installing surface of the slewing ring shall be flat and free of grease. Weld bumps, burrs, paint or other uneven contaminants shall be removed. The installing surfaces of inner ring and outer ring shall be in full contact with the connection structure. The flatness of the installing surface (including horizontal angular deviation) shall be checked before installing (as shown in Figure 1 and Table 2).

Figure 1: Installation diagram

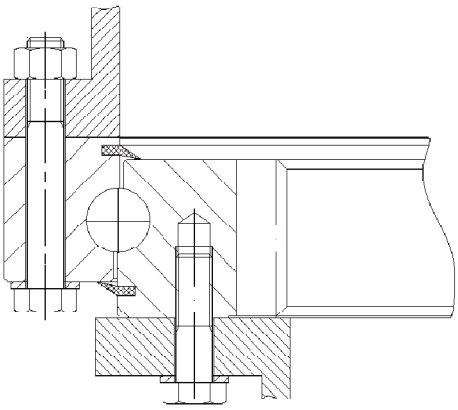


Table 2: Permitted flatness deviation (including angular deviation)

Dia. of raceway center (D) (mm)	Flatness deviation on the installing frame		
	Single-row ball slewing ring	Double-row ball slewing ring	Roller slewing ring
Up to 1000	0.15	0.20	0.10
From 1000 to 1500	0.19	0.25	0.12
From 1500 to 2000	0.22	0.30	0.15
From 2000 to 2500	0.25	0.35	0.17
From 2500 to 4000	0.30	0.40	0.20

Note: Values in Table 2 are the maximum ones, and only one peak is allowed to reach this value in the 180° sector area, while shall rise or fall smoothly in the 0° 90° 180° area, no sudden rises or falls allowed to avoid peaks.

1.2 The installing frame shall have enough rigidity, for which the maximum deflection under extreme loads shall accord to Table 3.

Table 3: Maximum allowable deflection

Dia. of raceway center (D) (mm)	Up to1000	From 1000 to 1500	From 1500 to 2000	From 2000 to 2500	From 2500 to 3000	From 3000 to 3500	From 3500 to 4000
Max. deflection of frame (mm)	0.6	0.8	1	1.2	1.5	2	2.5

2. Installation requirements

2.1 Horizontally put the slewing ring on the installing frame. The soft zone and the loading plug shall be located in the non-loading, infrequently loading or lightly loading zone.

2.2 Slewing rings shall adopt high-strength bolts, and select the appropriate strength according to the load case. Installing bolts and nuts of slewing rings shall comply with GB/T 3098.1 and GB/T 3098.2

a. For general construction machinery, Grade 10.9 bolts are recommended.

b. If there are critical requirements on bolt static strength under rated load and bolt yield strength under maximum load while no emphasis on fatigue strength, Grade 12.9 bolts are recommended.

c. For occasions with frequently changing loads which requires critical fatigue strength, Grade 8.8 bolts are recommended.

2.3 It is recommended to use tempered flat washers. The spring washer is not allowed.

2.4 Bolts installation requires adequate pre-tightening force, which shall be ≥0.7 times of bolts yield limit. The pre-tightening force shall conform to value in Table 4.

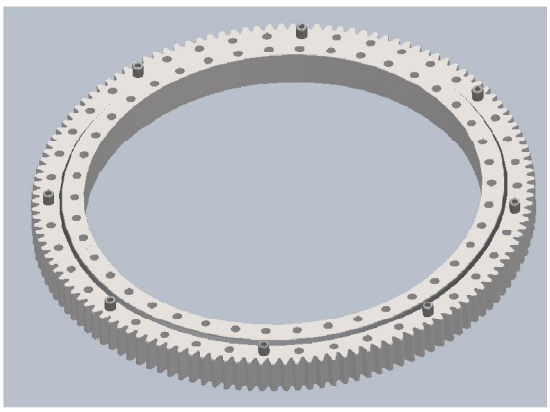
2.5 When tightening the bolts, it shall use torque wrench to tighten bolts symmetrically several times along the 180°direction (The threads shall be lightly oiled). See Figure 2.

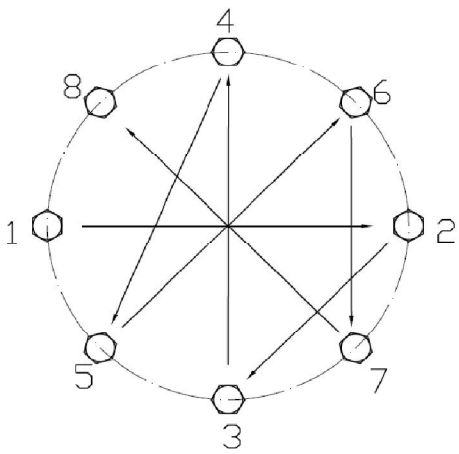
2.6 It shall check the pre-tightening force of bolts after first 100 hours operation, then check it every 500 hours, and shall always maintain adequate pre-tightening force.

Table 4: The pre-tightening torque and force of bolts

Specification of bolts	Thread stress cross-sectional area (mm²)	Bolts strength grade(GB/T3098.1-2000)		
		8.8	10.9	12.9
		Yield strength limit of bolt material(MPa)		
		640	900	1080
		Pre-tightening torque M_A(N·m)		
M10	58	44	62	75
M12	84.3	77.5	110	130
M14	115	120	170	210
M16	157	190	265	320
M18	192	260	365	435
M20	245	370	520	620
M22	303	500	700	840
M24	353	640	900	1080
M27	459	950	1350	1620
M30	561	1300	1800	2160
Pre-tightening force F_A(10^3 N)				
M33	694	293	412	495
M36	817	344	484	581
M39	976	414	584	698
M42	1121	473	665	798
M45	1306	553	777	932
M48	1473	623	876	1050
M52	1758	749	1054	1265
M56	2030	863	1214	1457
M60	2362	1008	1418	1621

Figure 2: Sequence of tightening bolts





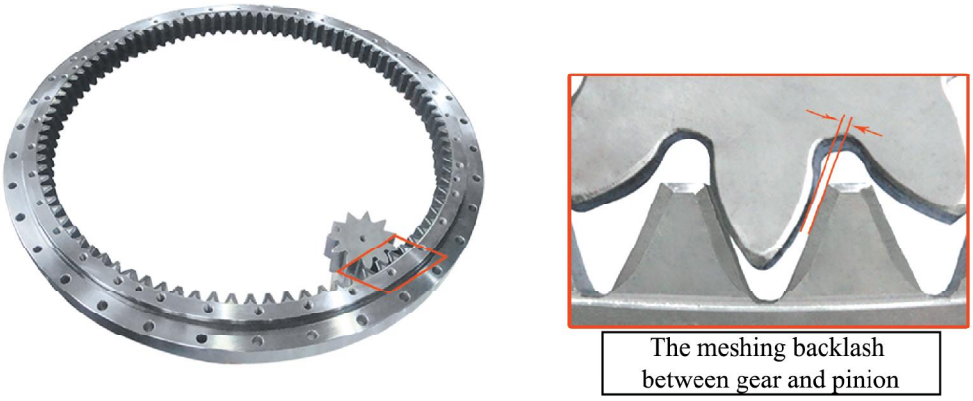
3. Adjusting the meshing backlash between gear and pinion

Before pre-tightening installing bolts, it is necessary to test the meshing backlash between gear and pinion (see Figure 3), especially for gear hardened products, it shall be ensured that the backlash between maximum runout point of slewing ring (marked with green paint) and the pinion meet the following requirements:

a. Meshing of soft teeth surface: the backlash shall not be less than 0.03*m (m is the gear module).

b. Meshing of hard teeth surface: the backlash shall not be less than 0.06*m (m is the gear module).

Figure 3: Backlash inspection diagram



4. Adjustment after installation

4.1 After pre-tightening all the bolts, clear debris between gears and those around slewing ring away in time. Ensure there is no interference during working.

4.2 Slowly rotate the slewing ring for more than 3 rounds, and carefully check whether it operates smoothly, whether there is abnormal noise, stagnant phenomenon, and whether the gear and pinion mesh well.

4.3 Welding operation is not allowed on or near the equipment which have already installed with slewing ring.

5. Lubrication

The slewing ring raceway has been lubricated with a small amount of EP2 grease before delivery. Consumers shall re-lubricate with suitable grease according to actual working condition. When filling the grease, the slewing ring shall be rotated slowly, and be injected grease while rotating, so that the grease can be filled evenly until a small amount of grease is extruded from the sealing, which indicates that it has been fully filled while the lubrication shall be stopped. The frequency of lubrication is as follow:

a. Generally, it is necessary to fill in grease once every 100 operating hours for ball slewing ring, and once every 50 operating hours for roller type.

b. The filling period shall be shortened to at least once a week if there is special working condition such as in the tropics, high humidity, severe dust, large temperature difference and long continuous working.

c. The slewing ring shall be re-lubricated before and after long time shutdown.

d. The gear shall be cleaned and lubricated every 8-10 working days, while no contaminants are allowed.

6. Other instructions

6.1 Cleaning

It is forbidden to flush the slewing ring directly with water during use to prevent water from entering the raceway. It shall critically prevent hard contaminants from approaching or entering the meshing area.

6.2 Checking of the seal

It shall check seals at least every 6 months, replace the seal if it is damaged.

6.3 Inspecting the gear

Gear may be worn at the meshing area. A permissible wear limit depends on the application. The wear limit at each flank of the gear shall not exceed 0.15 times of module.

6.4 Storage

The slewing ring shall be stored in roofed area with specific features: dry, flat and no corrosive medium; no immersing, drenching or vertical placing allowed.

Seven Parameters Affecting the Load Capacity of Ball Slewing Ring

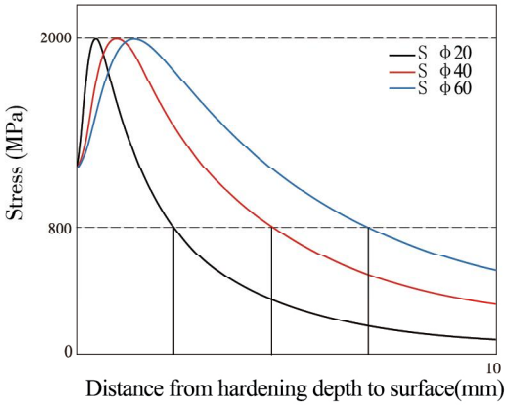
1. Raceway Surface Hardness

The load capacity is positively correlated with surface hardness of the raceway.

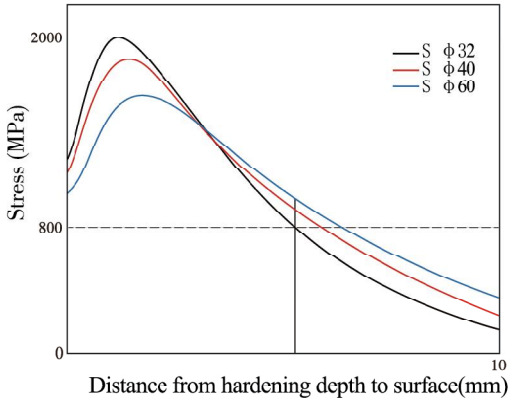
Raceway surface hardness (HRC)	55	56	57	58	59	60
Tensile strength (MPa)	2090	2181	2281	2390	2509	2639

2. Raceway Hardening Depth

The raceway hardening depth shall match diameter of the rolling element. A mismatch of small hardening depth with big ball diameter may reduce the load capacity.



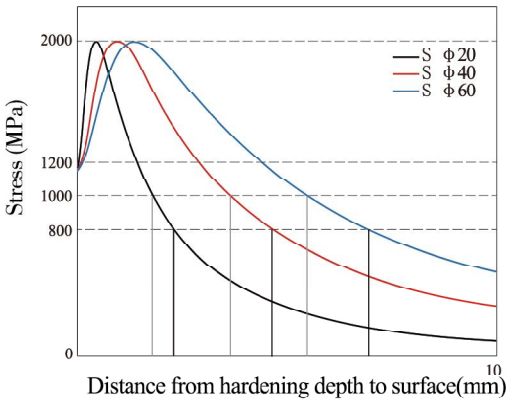
Mises stress changes in raceway with different ball diameters



Mises stress changes in raceway with the same load and different ball diameters

3. Forging Hardness

The required raceway hardening depth is negatively correlated with the forging hardness.

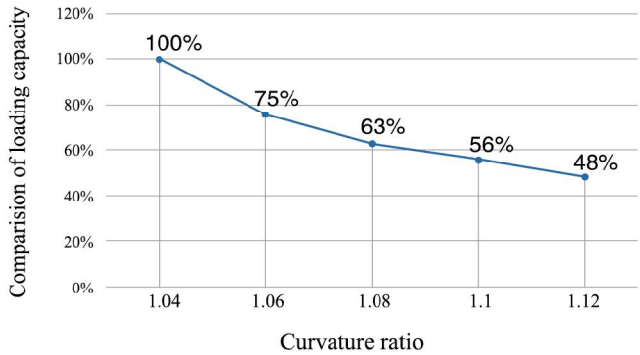


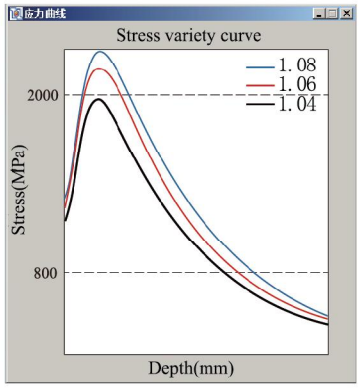
Mises stress changes in raceway with different ball diameters

Forging hardness(HB)	Tensile strength (MPa)
232	803
245	854
287	1002
306	1065
350	1207

4. Curvature Ratio

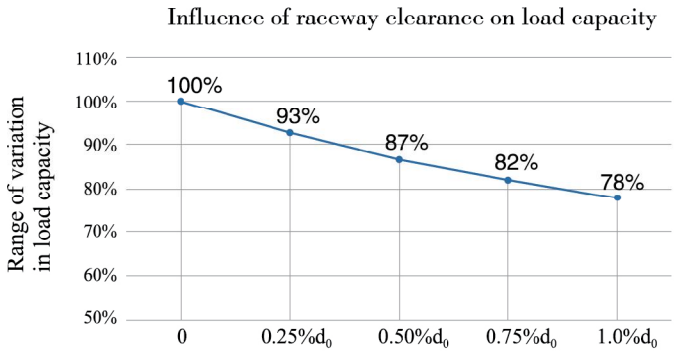
The load capacity is negatively correlated with the curvature ratio, i.e. the ratio of the raceway radius to that of the steel ball.





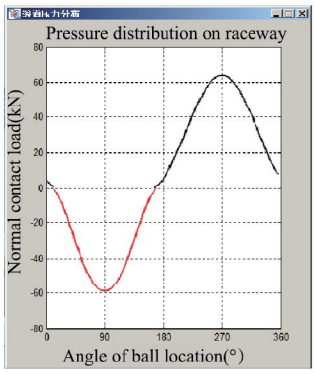
5. Clearance

The load capacity is negatively correlated with the clearance.

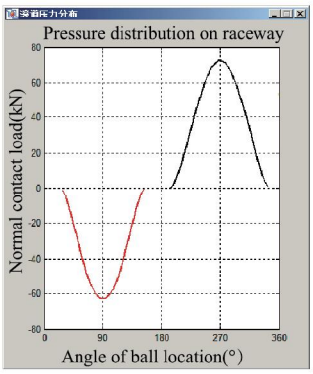


(d_0: Ball diameter)

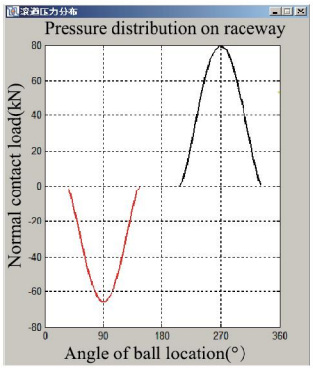
1000·32 Under the load Fa=400kN, Fr=30kN, M=976kN·m, the pressure distribution of raceway with different clearances is shown in the figure below:



Clearance 0



Clearance 0.16



Clearance 0.32

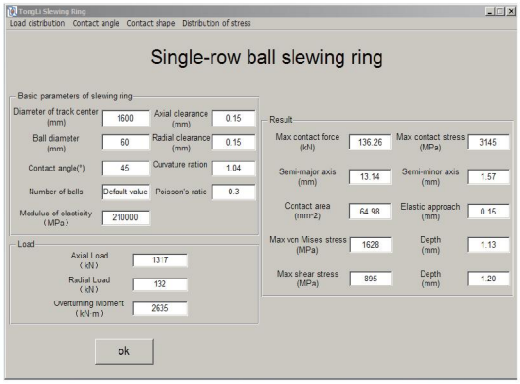
6. Clearance Difference between Two Raceways of Double-Row Ball Slewing Ring

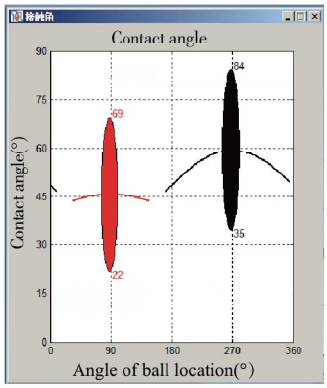
The load capacity is negatively correlated with the clearance difference between two raceways in double-row ball structure.

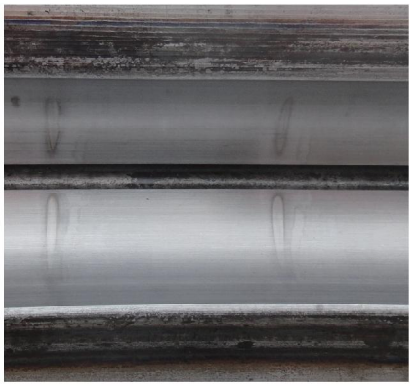
Positive clearance difference		Negative clearance difference	
Clearance difference	Equivalent loads of raceway	Clearance difference	Equivalent loads of raceway
0.03	1.91	0.03	1.80
0.06	1.79	0.06	1.74
0.10	1.68	0.10	1.62

7. Contact Angle

The actual contact angle is positively correlated with the clearance, while a small curvature ratio shall contribute to a large contact angle.

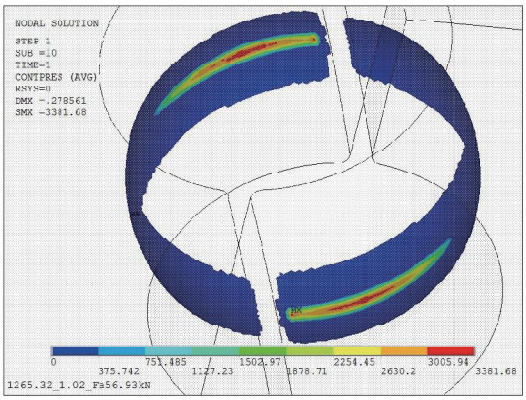




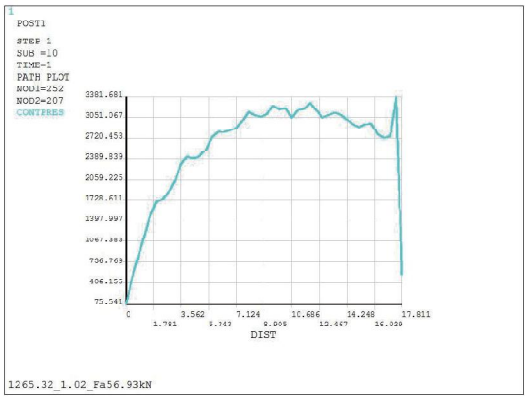


The actual contact angle is positively correlated with the stress concentration at the edge of raceway during loading.

Ball diameter	Initial contact angle	Axial clearance	Actual contact angle
S Φ 32	45°	0.08	50°
		0.16	56°
		0.24	63°
		0.32	73°



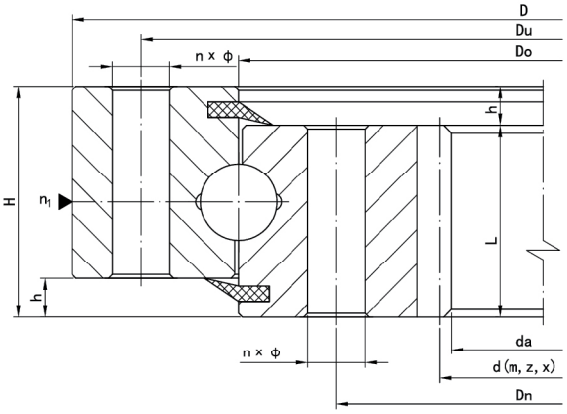
Influence of contact angle on static load capacity



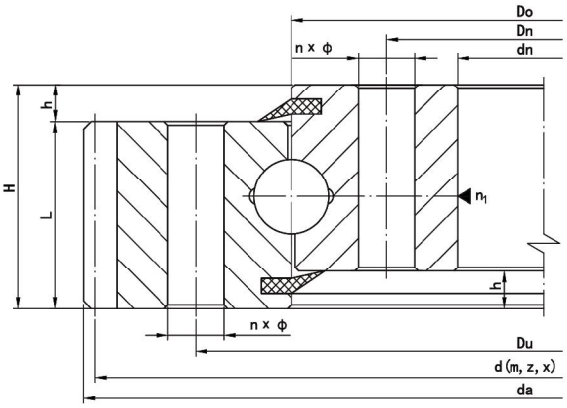
Contact stress distribution curve along major axis of ellipse

1. Q Series of Single-Row Ball

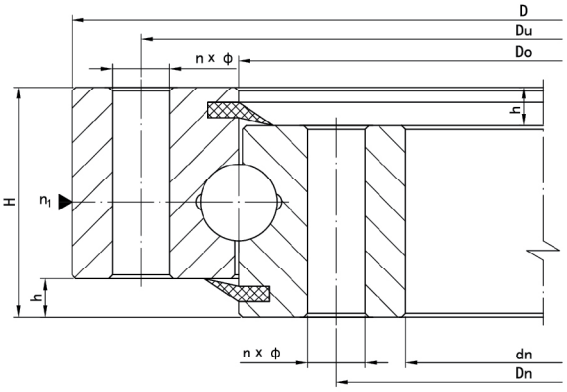
Internal gear



External gear



Without gear



Basic Data of Q Series of Single-Row Ball

Type of QN JB/T 10839-2023

No.	Drawing Number	Dimension				Installing Hole Data			
						Through Hole			
		D	d_a	H	h	D_u	D_n	ϕ	n
		mm				mm			
1	QN□200. 16 QN□200. 16A	275	105 100	52	10	245	155	15	10
2	QN□224. 16 QN□224. 16A	299	129 124	52	10	269	179	15	10
3	QN□250. 16 QN□250. 16A	325	156 148	52	10	295	205	15	10
4	QN□280. 16 QN□280. 16A	355	186 180	52	10	325	235	15	12
5	QN□315. 16 QN□315. 16A	390	219 216	52	10	360	270	15	14
6	QN□355. 16 QN□355. 16A	430	261 256	52	10	400	310	15	14
7	QN□400. 16 QN□400. 16A	475	306 300	52	10	445	355	15	16
8	QN□450. 16 QN□450. 16A	525	354 348	52	10	495	405	15	18
9	QN□280. 20 QN□280. 20A	365	171. 5 168	60	10	331	229	17	12
10	QN□315. 20 QN□315. 20A	400	206. 5 204	60	10	366	264	17	12
11	QN□355. 20 QN□355. 20A	440	245 244	60	10	406	304	17	14
12	QN□400. 20 QN□400. 20A	485	290. 5 288	60	10	451	349	17	16
13	QN□450. 20 QN□450. 20A	535	340 330	60	10	501	399	17	16
14	QN□500. 20 QN□500. 20A	585	388 380	60	10	551	449	17	18
15	QN□560. 20 QN□560. 20A	645	448 440	60	10	611	509	17	20
16	QN□630. 20 QN□630. 20A	715	520 510	60	10	681	579	17	24
17	QN□710. 20 QN□710. 20A	795	590 588	60	10	761	659	17	24
18	QN□500. 25 QN□500. 25A	607	364. 5 365	70	10	563	437	22	16
19	QN□560. 25 QN□560. 25A	667	427. 5 425	70	10	623	497	22	16
20	QN□630. 25 QN□630. 25A	737	495 486	70	10	693	567	22	18
21	QN□710. 25 QN□710. 25A	817	575 570	70	10	773	647	22	20
22	QN□800. 25 QN□800. 25A	907	660 648	70	10	863	737	22	24
23	QN□900. 25 QN□900. 25A	1007	744 730	70	10	963	837	22	24
24	QN□1000. 25 QN□1000. 25A	1107	848 830	70	10	1063	937	22	28
25	QN□1120. 25 QN□1120. 25A	1227	968 950	70	10	1183	1057	22	30
26	QN□560. 32 QN□560. 32A	680	410 408	84	10	632	488	24	18
27	QN□630. 32 QN□630. 32A	750	474 464	84	10	702	558	24	20
28	QN□710. 32 QN□710. 32A	830	558 544	84	10	782	638	24	24
29	QN□800. 32 QN□800. 32A	920	632 620	84	10	872	728	24	24
30	QN□900. 32 QN□900. 32A	1020	736 720	84	10	972	828	24	28

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Basic Data of Q Series of Single-Row Ball

Installing Hole Data					Gear Data					Weight	Corresponding chart number of load curve
Threaded Hole											
D_u	D_n	ϕ	T	n	z	m	d	L	x	kg	
mm						mm					
245	155	M14	28	10	37 27	3 4	111 108	42	0	14	Chart A.1
269	179	M14	28	10	45 33	3 4	135 132	42	0	16	Chart A.2
295	205	M14	28	10	54 39	3 4	162 156	42	0	18 19	Chart A.3
325	235	M14	28	12	64 47	3 4	192 188	42	0	20 21	Chart A.4
360	270	M14	28	14	75 56	3 4	225 224	42	0	23 23	Chart A.5
400	310	M14	28	14	89 66	3 4	267 264	42	0	26 27	Chart A.6
445	355	M14	28	16	104 77	3 4	312 308	42	0	30 30	Chart A.7
495	405	M14	28	18	120 89	3 4	360 356	42	0	34 35	Chart A.8
331	229	M16	32	12	51 44	3.5 4	178.5 176	50	0	28 28	Chart A.4
366	264	M16	32	12	61 53	3.5 4	213.5 212	50	0	31 32	Chart A.5
406	304	M16	32	14	72 63	3.5 4	252 252	50	0	36 36	Chart A.6
451	349	M16	32	16	85 74	3.5 4	297.5 296	50	0	40 41	Chart A.7
501	399	M16	32	16	87 68	4 5	348 340	50	0	46 47	Chart A.8
551	449	M16	32	18	99 78	4 5	396 390	50	0	52 53	Chart A.9
611	509	M16	32	20	114 90	4 5	456 450	50	0	58 60	Chart A.10
681	579	M16	32	24	132 104	4 5	528 520	50	0	65 67	Chart A.11
761	659	M16	32	24	120 100	5 6	600 600	50	0	73 73	Chart A.12
563	437	M20	40	16	83 75	4.5 5	373.5 375	60	0	76 75	Chart A.9
623	497	M20	40	16	97 87	4.5 5	436.5 435	60	0	85 85	Chart A.10
693	567	M20	40	18	101 83	5 6	505 498	60	0	96 99	Chart A.11
773	647	M20	40	20	117 97	5 6	585 582	60	0	109 110	Chart A.12
863	737	M20	40	24	112 83	6 8	672 664	60	0	124 127	Chart A.13
963	837	M20	40	24	95 75	8 10	760 750	60	0	147 152	Chart A.14
1063	937	M20	40	28	108 85	8 10	864 850	60	0	161 169	Chart A.15
1183	1057	M20	40	30	123 97	8 10	984 970	60	0	181 190	Chart A.16
632	488	M22	44	18	84 70	5 6	420 420	74	0	109 109	Chart A.10
702	558	M22	44	20	81 60	6 8	486 480	74	0	125 127	Chart A.11
782	638	M22	44	24	95 70	6 8	570 560	74	0	146 151	Chart A.12
872	728	M22	44	24	81 64	8 10	648 640	74	0	174 178	Chart A.13
972	828	M22	44	28	94 74	8 10	752 740	74	0	193 200	Chart A.14

Basic Data of Q Series of Single-Row Ball

Type of QN JB/T 10839-2023

No.	Drawing Number	Dimension				Installing Hole Data			
						Through Hole			
		D	d_a	H	h	D_u	D_n	ϕ	n
		mm				mm			
31	QN□1000. 32 QN□1000. 32A	1120	832 820	84	10	1072	928	24	30
32	QN□1120. 32 QN□1120. 32A	1240	940 936	84	10	1192	1048	24	32
33	QN□1250. 32 QN□1250. 32A	1370	1070 1056	84	10	1322	1178	24	36
34	QN□1400. 32 QN□1400. 32A	1520	1212 1204	84	10	1472	1328	24	40
35	QN□1600. 32 QN□1600. 32A	1720	1416 1400	84	10	1672	1528	24	44
36	QN□1000. 40 QN□1000. 40A	1134	810 792	100	10	1082	918	26	32
37	QN□1120. 40 QN□1120. 40A	1254	930 912	100	10	1202	1038	26	36
38	QN□1250. 40 QN□1250. 40A	1384	1060 1044	100	10	1332	1168	26	40
39	QN□1400. 40 QN□1400. 40A	1534	1200 1190	100	10	1482	1318	26	44
40	QN□1600. 40 QN□1600. 40A	1734	1392 1386	100	10	1682	1518	26	48
41	QN□1800. 40 QN□1800. 40A	1934	1582 1568	100	10	1882	1718	26	54
42	QN□2000. 40 QN□2000. 40A	2134	1778 1776	100	10	2082	1918	26	60
43	QN□1250. 50 QN□1250. 50A	1414	1020 1008	120	10	1350	1150	32	32
44	QN□1400. 50 QN□1400. 50A	1564	1164 1162	120	10	1500	1300	32	36
45	QN□1600. 50 QN□1600. 50A	1764	1372 1360	120	10	1700	1500	32	40
46	QN□1800. 50 QN□1800. 50A	1964	1554 1552	120	10	1900	1700	32	44
47	QN□2000. 50 QN□2000. 50A	2164	1744 1728	120	10	2100	1900	32	48
48	QN□2240. 50 QN□2240. 50A	2404	1984 1980	120	10	2340	2140	32	54
49	QN□2500. 50 QN□2500. 50A	2664	2232 2220	120	10	2600	2400	32	60
50	QN□2800. 50 QN□2800. 50A	2964	2538 2520	120	10	2900	2700	32	66
51	QN□3150. 50 QN□3150. 50A	3314	2880 2880	120	10	3250	3050	32	72
52	QN□1800. 60 QN□1800. 60A	1994	1520 1512	144	12	1918	1682	38	36
53	QN□2000. 60 QN□2000. 60A	2194	1710 1700	144	12	2118	1882	38	40
54	QN□2240. 60 QN□2240. 60A	2434	1944 1940	144	12	2358	2122	38	44
55	QN□2500. 60 QN□2500. 60A	2694	2196 2200	144	12	2618	2382	38	48
56	QN□2800. 60 QN□2800. 60A	2994	2502 2500	144	12	2918	2682	38	54
57	QN□3150. 60 QN□3150. 60A	3344	2840 2838	144	12	3268	3032	38	60
58	QN□3550. 60 QN□3550. 60A	3744	3240 3234	144	12	3668	3432	38	68
59	QN□4000. 60 QN□4000. 60A	4194	3674 3650	144	12	4118	3882	38	78

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Basic Data of Q Series of Single-Row Ball

Installing Hole Data					Gear Data					Weight	Corresponding chart number of load curve
Threaded Hole											
D_u	D_n	Φ	T	n	z	m	d	L	x	kg	
mm						mm					
1072	928	M22	44	30	106 84	8 10	848 840	74	0	218 224	Chart A. 15
1192	1048	M22	44	32	96 80	10 12	960 960	74	0	252 252	Chart A. 16
1322	1178	M22	44	36	109 90	10 12	1090 1080	74	0	282 291	Chart A. 17
1472	1328	M22	44	40	103 88	12 14	1236 1232	74	0	321 324	Chart A. 18
1672	1528	M22	44	44	120 102	12 14	1440 1428	74	0	363 378	Chart A. 19
1082	918	M24	48	32	83 68	10 12	830 816	90	0	292 304	Chart A. 15
1202	1038	M24	48	36	95 78	10 12	950 936	90	0	327 342	Chart A. 16
1332	1168	M24	48	40	108 89	10 12	1080 1068	90	0	366 380	Chart A. 17
1482	1318	M24	48	44	102 87	12 14	1224 1218	90	0	419 426	Chart A. 18
1682	1518	M24	48	48	118 101	12 14	1416 1414	90	0	494 496	Chart A. 19
1882	1718	M24	48	54	115 100	14 16	1610 1600	90	0	567 584	Chart A. 20
2082	1918	M24	48	60	129 113	14 16	1806 1808	90	0	639 634	Chart A. 21
1350	1150	M30	60	32	87 74	12 14	1044 1036	110	0	545 555	Chart A. 17
1500	1300	M30	60	36	99 85	12 14	1188 1190	110	0	621 616	Chart A. 18
1700	1500	M30	60	40	100 87	14 16	1400 1392	110	0	689 703	Chart A. 19
1900	1700	M30	60	44	113 99	14 16	1582 1584	110	0	817 811	Chart A. 20
2100	1900	M30	60	48	111 98	16 18	1776 1764	110	0	924 951	Chart A. 21
2340	2140	M30	60	54	126 112	16 18	2016 2016	110	0	1036 1034	Chart A. 22
2600	2400	M30	60	60	126 113	18 20	2268 2260	110	0	1181 1204	Chart A. 23
2900	2700	M30	60	66	143 128	18 20	2574 2560	110	0	1306 1353	Chart A. 24
3250	3050	M30	60	72	162 146	18 20	2916 2920	110	0	1507 1489	Chart A. 25
1918	1682	M36	72	36	97 86	16 18	1552 1548	132	0	1131 1140	Chart A. 20
2118	1882	M36	72	40	97 87	18 20	1746 1740	132	0	1275 1290	Chart A. 21
2358	2122	M36	72	44	110 99	18 20	1980 1980	132	0	1452 1450	Chart A. 22
2618	2382	M36	72	48	124 112	18 20	2232 2240	132	0	1655 1624	Chart A. 23
2918	2682	M36	72	54	141 127	18 20	2538 2540	132	0	1831 1820	Chart A. 24
3268	3032	M36	72	60	144 131	20 22	2880 2882	132	0	2101 2089	Chart A. 25
3668	3432	M36	72	68	164 149	20 22	3280 3278	132	0	2370 2377	Chart A. 26
4118	3882	M36	72	78	169 148	22 25	3718 3700	132	0	2740 2844	Chart A. 27

Basic Data of Q Series of Single-Row Ball

Type of QW JB/T 10839-2023

No.	Drawing Number	Dimension				Installing Hole Data			
						Through Hole			
		d_a	d_n	H	h	D_u	D_n	ϕ	n
		mm				mm			
1	QW□200.16 QW□200.16A	294 300	125	52	10	245	155	15	10
2	QW□224.16 QW□224.16A	318 324	149	52	10	269	179	15	10
3	QW□250.16 QW□250.16A	345 348	175	52	10	295	205	15	10
4	QW□280.16 QW□280.16A	375 380	205	52	10	325	235	15	12
5	QW□315.16 QW□315.16A	411 416	240	52	10	360	270	15	14
6	QW□355.16 QW□355.16A	450 456	280	52	10	400	310	15	14
7	QW□400.16 QW□400.16A	495 500	325	52	10	445	355	15	16
8	QW□450.16 QW□450.16A	546 552	375	52	10	495	405	15	18
9	QW□280.20 QW□280.20A	388.5 392	195	60	10	331	229	17	12
10	QW□315.20 QW□315.20A	423.5 428	230	60	10	366	264	17	12
11	QW□355.20 QW□355.20A	465.5 468	270	60	10	406	304	17	14
12	QW□400.20 QW□400.20A	507.5 512	315	60	10	451	349	17	16
13	QW□450.20 QW□450.20A	560 570	365	60	10	501	399	17	16
14	QW□500.20 QW□500.20A	612 620	415	60	10	551	449	17	18
15	QW□560.20 QW□560.20A	672 680	475	60	10	611	509	17	20
16	QW□630.20 QW□630.20A	740 750	545	60	10	681	579	17	24
17	QW□710.20 QW□710.20A	830 834	625	60	10	761	659	17	24
18	QW□500.25 QW□500.25A	634.5 635	393	70	10	563	437	22	16
19	QW□560.25 QW□560.25A	693 695	453	70	10	623	497	22	16
20	QW□630.25 QW□630.25A	765 774	523	70	10	693	567	22	18
21	QW□710.25 QW□710.25A	845 852	603	70	10	773	647	22	20
22	QW□800.25 QW□800.25A	942 952	693	70	10	863	737	22	24
23	QW□900.25 QW□900.25A	1056 1070	793	70	10	963	837	22	24
24	QW□1000.25 QW□1000.25A	1152 1170	893	70	10	1063	937	22	28
25	QW□1120.25 QW□1120.25A	1272 1290	1013	70	10	1183	1057	22	30
26	QW□560.32 QW□560.32A	710 714	440	84	10	632	488	24	18
27	QW□630.32 QW□630.32A	786 792	510	84	10	702	558	24	20
28	QW□710.32 QW□710.32A	864 872	590	84	10	782	638	24	24
29	QW□800.32 QW□800.32A	968 980	680	84	10	872	728	24	24
30	QW□900.32 QW□900.32A	1064 1080	780	84	10	972	828	24	28

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Installing Hole Data					Gear Data					Weight	Corresponding chart number of load curve
Threaded Hole											
D_u	D_n	ϕ	T	n	z	m	d	L	x	kg	
mm						mm					
245	155	M14	28	10	96 73	3 4	288 292	42	0	15 16	Chart A.1
269	179	M14	28	10	104 79	3 4	312 316	42	0	17 18	Chart A.2
295	205	M14	28	10	113 85	3 4	339 340	42	0	19 20	Chart A.3
325	235	M14	28	12	123 93	3 4	369 372	42	0	22 22	Chart A.4
360	270	M14	28	14	135 102	3 4	405 408	42	0	25 25	Chart A.5
400	310	M14	28	14	148 112	3 4	444 448	42	0	28 29	Chart A.6
445	355	M14	28	16	163 123	3 4	489 492	42	0	31 32	Chart A.7
495	405	M14	28	18	180 136	3 4	540 544	42	0	35 36	Chart A.8
331	229	M16	32	12	109 96	3.5 4	381.5 384	50	0	29 30	Chart A.4
366	264	M16	32	12	119 105	3.5 4	416.5 420	50	0	33 34	Chart A.5
406	304	M16	32	14	131 115	3.5 4	458.5 460	50	0	38 38	Chart A.6
451	349	M16	32	16	143 126	3.5 4	500.5 504	50	0	42 43	Chart A.7
501	399	M16	32	16	138 112	4 5	552 560	50	0	48 50	Chart A.8
551	449	M16	32	18	151 122	4 5	604 610	50	0	54 56	Chart A.9
611	509	M16	32	20	166 134	4 5	664 670	50	0	60 62	Chart A.10
681	579	M16	32	24	183 148	4 5	732 740	50	0	66 70	Chart A.11
761	659	M16	32	24	164 137	5 6	820 822	50	0	76 77	Chart A.12
563	437	M20	40	16	139 125	4.5 5	625.5 625	60	0	79 78	Chart A.9
623	497	M20	40	16	152 137	4.5 5	684 685	60	0	88 88	Chart A.10
693	567	M20	40	18	151 127	5 6	755 762	60	0	99 103	Chart A.11
773	647	M20	40	20	167 140	5 6	835 840	60	0	112 115	Chart A.12
863	737	M20	40	24	155 117	6 8	930 936	60	0	128 132	Chart A.13
963	837	M20	40	24	130 105	8 10	1040 1050	60	0	153 160	Chart A.14
1063	937	M20	40	28	142 115	8 10	1136 1150	60	0	166 177	Chart A.15
1183	1057	M20	40	30	157 127	8 10	1256 1270	60	0	186 198	Chart A.16
632	488	M22	44	18	140 117	5 6	700 702	74	0	113 115	Chart A.10
702	558	M22	44	20	129 97	6 8	774 776	74	0	130 131	Chart A.11
782	638	M22	44	24	142 107	6 8	852 856	74	0	152 155	Chart A.12
872	728	M22	44	24	119 96	8 10	952 960	74	0	181 188	Chart A.13
972	828	M22	44	28	131 106	8 10	1048 1060	74	0	199 210	Chart A.14

Basic Data of Q Series of Single-Row Ball

Type of QW JB/T 10839-2023

No.	Drawing Number	Dimension				Installing Hole Data			
						Through Hole			
		d_a	d_n	H	h	D_u	D_n	ϕ	n
		mm				mm			
31	QW□1000.32 QW□1000.32A	1168 1180	880	84	10	1072	928	24	30
32	QW□1120.32 QW□1120.32A	1300 1308	1000	84	10	1192	1048	24	32
33	QW□1250.32 QW□1250.32A	1430 1440	1130	84	10	1322	1178	24	36
34	QW□1400.32 QW□1400.32A	1584 1596	1280	84	10	1472	1328	24	40
35	QW□1600.32 QW□1600.32A	1788 1806	1480	84	10	1672	1528	24	44
36	QW□1000.40 QW□1000.40A	1190 1200	866	100	10	1082	918	26	32
37	QW□1120.40 QW□1120.40A	1310 1320	986	100	10	1202	1038	26	36
38	QW□1250.40 QW□1250.40A	1440 1452	1116	100	10	1332	1168	26	40
39	QW□1400.40 QW□1400.40A	1608 1610	1266	100	10	1482	1318	26	44
40	QW□1600.40 QW□1600.40A	1800 1820	1466	100	10	1682	1518	26	48
41	QW□1800.40 QW□1800.40A	2016 2032	1666	100	10	1882	1718	26	54
42	QW□2000.40 QW□2000.40A	2212 2224	1866	100	10	2082	1918	26	60
43	QW□1250.50 QW□1250.50A	1476 1498	1086	120	10	1350	1150	32	32
44	QW□1400.50 QW□1400.50A	1632 1652	1236	120	10	1500	1300	32	36
45	QW□1600.50 QW□1600.50A	1834 1840	1436	120	10	1700	1500	32	40
46	QW□1800.50 QW□1800.50A	2044 2048	1636	120	10	1900	1700	32	44
47	QW□2000.50 QW□2000.50A	2256 2268	1836	120	10	2100	1900	32	48
48	QW□2240.50 QW□2240.50A	2496 2502	2076	120	10	2340	2140	32	54
49	QW□2500.50 QW□2500.50A	2772 2780	2336	120	10	2600	2400	32	60
50	QW□2800.50 QW□2800.50A	3060 3080	2636	120	10	2900	2700	32	66
51	QW□3150.50 QW□3150.50A	3420 3420	2986	120	10	3250	3050	32	72
52	QW□1800.60 QW□1800.60A	2080 2088	1606	144	12	1918	1682	38	36
53	QW□2000.60 QW□2000.60A	2304 2300	1806	144	12	2118	1882	38	40
54	QW□2240.60 QW□2240.60A	2538 2540	2046	144	12	2358	2122	38	44
55	QW□2500.60 QW□2500.60A	2790 2800	2306	144	12	2618	2382	38	48
56	QW□2800.60 QW□2800.60A	3096 3100	2606	144	12	2918	2682	38	54
57	QW□3150.60 QW□3150.60A	3460 3476	2956	144	12	3268	3032	38	60
58	QW□3550.60 QW□3550.60A	3860 3872	3356	144	12	3668	3432	38	68
59	QW□4000.60 QW□4000.60A	4312 4350	3806	144	12	4118	3882	38	78

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Installing Hole Data					Gear Data					Weight	Corresponding chart number of load curve
Threaded Hole											
D_u	D_n	Φ	T	n	z	m	d	L	x	kg	
mm						mm					
1072	928	M22	44	30	144 116	8 10	1152 1160	74	0	226 234	Chart A. 15
1192	1048	M22	44	32	128 107	10 12	1280 1284	74	0	262 266	Chart A. 16
1322	1178	M22	44	36	141 118	10 12	1410 1416	74	0	292 299	Chart A. 17
1472	1328	M22	44	40	130 112	12 14	1560 1568	74	0	326 337	Chart A. 18
1672	1528	M22	44	44	147 127	12 14	1764 1778	74	0	379 401	Chart A. 19
1082	918	M24	48	32	117 98	10 12	1170 1176	90	0	303 311	Chart A. 15
1202	1038	M24	48	36	129 108	10 12	1290 1296	90	0	339 347	Chart A. 16
1332	1168	M24	48	40	142 119	10 12	1420 1428	90	0	378 390	Chart A. 17
1482	1318	M24	48	44	132 113	12 14	1584 1582	90	0	447 443	Chart A. 18
1682	1518	M24	48	48	148 128	12 14	1776 1792	90	0	496 526	Chart A. 19
1882	1718	M24	48	54	142 125	14 16	1988 2000	90	0	582 608	Chart A. 20
2082	1918	M24	48	60	156 137	14 16	2184 2192	90	0	636 655	Chart A. 21
1350	1150	M30	60	32	121 105	12 14	1452 1470	110	0	557 592	Chart A. 17
1500	1300	M30	60	36	134 116	12 14	1608 1624	110	0	636 670	Chart A. 18
1700	1500	M30	60	40	129 113	14 16	1806 1808	110	0	721 725	Chart A. 19
1900	1700	M30	60	44	144 126	14 16	2016 2016	110	0	838 837	Chart A. 20
2100	1900	M30	60	48	139 124	16 18	2224 2232	110	0	955 977	Chart A. 21
2340	2140	M30	60	54	154 137	16 18	2464 2466	110	0	1067 1072	Chart A. 22
2600	2400	M30	60	60	152 137	18 20	2736 2740	110	0	1232 1245	Chart A. 23
2900	2700	M30	60	66	168 152	18 20	3024 3040	110	0	1330 1394	Chart A. 24
3250	3050	M30	60	72	188 169	18 20	3384 3380	110	0	1544 1523	Chart A. 25
1918	1682	M36	72	36	128 114	16 18	2048 2052	132	0	1169 1181	Chart A. 20
2118	1882	M36	72	40	126 113	18 20	2268 2260	132	0	1369 1338	Chart A. 21
2358	2122	M36	72	44	139 125	18 20	2502 2500	132	0	1507 1498	Chart A. 22
2618	2382	M36	72	48	153 138	18 20	2754 2760	132	0	1647 1672	Chart A. 23
2918	2682	M36	72	54	170 153	18 20	3060 3060	132	0	1870 1868	Chart A. 24
3268	3032	M36	72	60	171 156	20 22	3420 3432	132	0	2157 2221	Chart A. 25
3668	3432	M36	72	68	191 174	20 22	3820 3828	132	0	2426 2473	Chart A. 26
4118	3882	M36	72	78	194 172	22 25	4268 4300	132	0	2710 2928	Chart A. 27

Basic Data of Q Series of Single-Row Ball

Type of QU JB/T 10839-2023

No.	Drawing Number	Dimension				Installing Hole Data									Weight	Corresponding chart number of load curve
						Through Hole				Threaded Hole						
		D	d_n	H	h	D_u	D_n	Φ	n	D_u	D_n	Φ	T	n	kg	
		mm				mm				mm						
1	QU□200.16	275	125	52	10	245	155	15	10	245	155	M14	28	10	13	Chart A.1
2	QU□224.16	299	149	52	10	269	179	15	10	269	179	M14	28	10	15	Chart A.2
3	QU□250.16	325	175	52	10	295	205	15	10	295	205	M14	28	10	17	Chart A.3
4	QU□280.16	355	205	52	10	325	235	15	12	325	235	M14	28	12	19	Chart A.4
5	QU□315.16	390	240	52	10	360	270	15	14	360	270	M14	28	14	22	Chart A.5
6	QU□355.16	430	280	52	10	400	310	15	14	400	310	M14	28	14	25	Chart A.6
7	QU□400.16	475	325	52	10	445	355	15	16	445	355	M14	28	16	28	Chart A.7
8	QU□450.16	525	375	52	10	495	405	15	18	495	405	M14	28	18	31	Chart A.8
9	QU□280.20	365	195	60	10	331	229	17	12	331	229	M16	32	12	26	Chart A.4
10	QU□315.20	400	230	60	10	366	264	17	12	366	264	M16	32	12	29	Chart A.5
11	QU□355.20	440	270	60	10	406	304	17	14	406	304	M16	32	14	33	Chart A.6
12	QU□400.20	485	315	60	10	451	349	17	16	451	349	M16	32	16	37	Chart A.7
13	QU□450.20	535	365	60	10	501	399	17	16	501	399	M16	32	16	42	Chart A.8
14	QU□500.20	585	415	60	10	551	449	17	18	551	449	M16	32	18	47	Chart A.9
15	QU□560.20	645	475	60	10	611	509	17	20	611	509	M16	32	20	53	Chart A.10
16	QU□630.20	715	545	60	10	681	579	17	24	681	579	M16	32	24	59	Chart A.11
17	QU□710.20	795	625	60	10	761	659	17	24	761	659	M16	32	24	64	Chart A.12
18	QU□500.25	607	393	70	10	563	437	22	16	563	437	M20	40	16	71	Chart A.9
19	QU□560.25	667	453	70	10	623	497	22	16	623	497	M20	40	16	80	Chart A.10
20	QU□630.25	737	523	70	10	693	567	22	18	693	567	M20	40	18	90	Chart A.11
21	QU□710.25	817	603	70	10	773	647	22	20	773	647	M20	40	20	101	Chart A.12
22	QU□800.25	907	693	70	10	863	737	22	24	863	737	M20	40	24	114	Chart A.13
23	QU□900.25	1007	793	70	10	963	837	22	24	963	837	M20	40	24	129	Chart A.14
24	QU□1000.25	1107	893	70	10	1063	937	22	28	1063	937	M20	40	28	143	Chart A.15
25	QU□1120.25	1227	1013	70	10	1183	1057	22	30	1183	1057	M20	40	30	161	Chart A.16
26	QU□560.32	680	440	84	10	632	488	24	18	632	488	M22	44	18	102	Chart A.10
27	QU□630.32	750	510	84	10	702	558	24	20	702	558	M22	44	20	114	Chart A.11
28	QU□710.32	830	590	84	10	782	638	24	24	782	638	M22	44	24	137	Chart A.12
29	QU□800.32	920	680	84	10	872	728	24	24	872	728	M22	44	24	156	Chart A.13
30	QU□900.32	1020	780	84	10	972	828	24	28	972	828	M22	44	28	175	Chart A.14

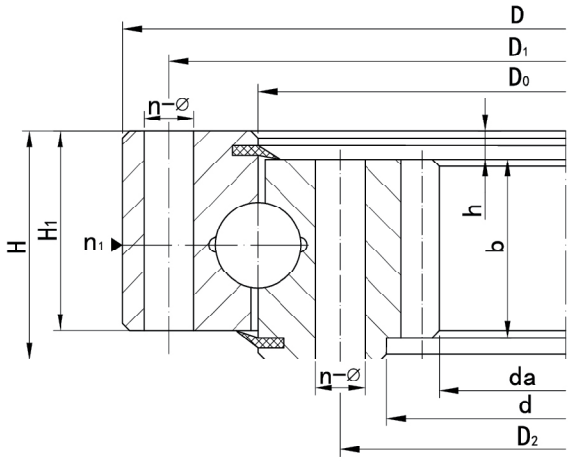
Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

No.	Drawing Number	Dimension				Installing Hole Data									Weight	Corresponding chart number of load curve
						Through Hole				Threaded Hole						
		D	d_n	H	h	D_u	D_n	ϕ	n	D_u	D_n	ϕ	T	n	kg	
		mm				mm				mm						
31	QU□1000.32	1120	880	84	10	1072	928	24	30	1072	928	M22	44	30	195	Chart A.15
32	QU□1120.32	1240	1000	84	10	1192	1048	24	32	1192	1048	M22	44	32	219	Chart A.16
33	QU□1250.32	1370	1130	84	10	1322	1178	24	36	1322	1178	M22	44	36	244	Chart A.17
34	QU□1400.32	1520	1280	84	10	1472	1328	24	40	1472	1328	M22	44	40	274	Chart A.18
35	QU□1600.32	1720	1480	84	10	1672	1528	24	44	1672	1528	M22	44	44	314	Chart A.19
36	QU□1000.40	1134	866	100	10	1082	918	26	32	1082	918	M24	48	32	260	Chart A.15
37	QU□1120.40	1254	986	100	10	1202	1038	26	36	1202	1038	M24	48	36	292	Chart A.16
38	QU□1250.40	1384	1116	100	10	1332	1168	26	40	1332	1168	M24	48	40	326	Chart A.17
39	QU□1400.40	1534	1266	100	10	1482	1318	26	44	1482	1318	M24	48	44	365	Chart A.18
40	QU□1600.40	1734	1466	100	10	1682	1518	26	48	1682	1518	M24	48	48	419	Chart A.19
41	QU□1800.40	1934	1666	100	10	1882	1718	26	54	1882	1718	M24	48	54	472	Chart A.20
42	QU□2000.40	2134	1866	100	10	2082	1918	26	60	2082	1918	M24	48	60	525	Chart A.21
43	QU□1250.50	1414	1086	120	10	1350	1150	32	32	1350	1150	M30	60	32	489	Chart A.17
44	QU□1400.50	1564	1236	120	10	1500	1300	32	36	1500	1300	M30	60	36	547	Chart A.18
45	QU□1600.50	1764	1436	120	10	1700	1500	32	40	1700	1500	M30	60	40	627	Chart A.19
46	QU□1800.50	1964	1636	120	10	1900	1700	32	44	1900	1700	M30	60	44	707	Chart A.20
47	QU□2000.50	2164	1836	120	10	2100	1900	32	48	2100	1900	M30	60	48	787	Chart A.21
48	QU□2240.50	2404	2076	120	10	2340	2140	32	54	2340	2140	M30	60	54	881	Chart A.22
49	QU□2500.50	2664	2336	120	10	2600	2400	32	60	2600	2400	M30	60	60	984	Chart A.23
50	QU□2800.50	2964	2636	120	10	2900	2700	32	66	2900	2700	M30	60	66	1104	Chart A.24
51	QU□3150.50	3314	2986	120	10	3250	3050	32	72	3250	3050	M30	60	72	1245	Chart A.25
52	QU□1800.60	1994	1606	144	12	1918	1682	38	36	1918	1682	M36	72	36	1003	Chart A.20
53	QU□2000.60	2194	1806	144	12	2118	1882	38	40	2118	1882	M36	72	40	1115	Chart A.21
54	QU□2240.60	2434	2046	144	12	2358	2122	38	44	2358	2122	M36	72	44	1251	Chart A.22
55	QU□2500.60	2694	2306	144	12	2618	2382	38	48	2618	2382	M36	72	48	1400	Chart A.23
56	QU□2800.60	2994	2606	144	12	2918	2682	38	54	2918	2682	M36	72	54	1566	Chart A.24
57	QU□3150.60	3344	2956	144	12	3268	3032	38	60	3268	3032	M36	72	60	1765	Chart A.25
58	QU□3550.60	3744	3356	144	12	3668	3432	38	68	3668	3432	M36	72	68	1988	Chart A.26
59	QU□4000.60	4194	3806	144	12	4118	3882	38	78	4118	3882	M36	72	78	2237	Chart A.27

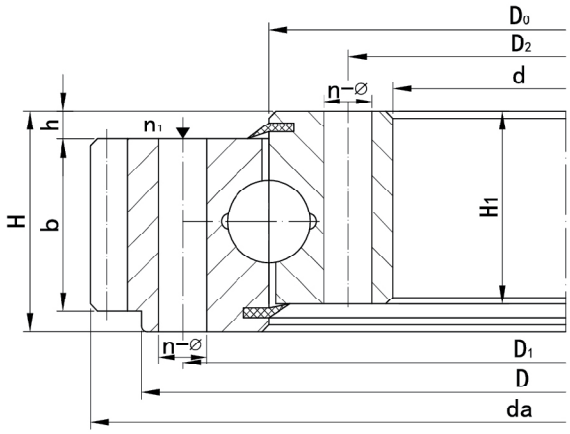
Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

2. 01 Series of Single-Row Ball

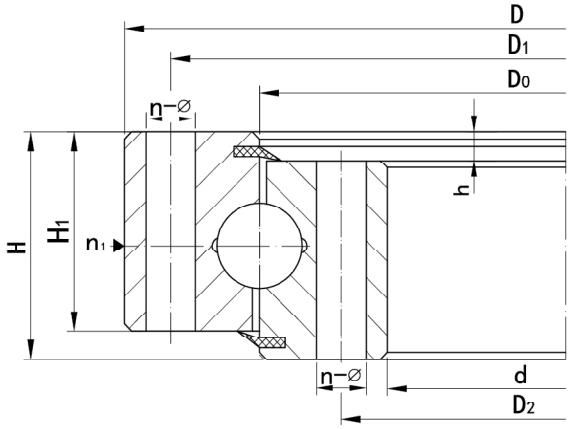
Internal gear



External gear



Without gear



Internal gear JB/T 2300-2018

No.	Drawing Number	Dimension			Installing Hole Data						Structural Size			Gear Data					Weight	Corresponding chart number of load curve
		D	d	H	D_1	D_2	n	Through Hole Model O	Threaded Hole Model 1, 2, 3		n_1	H_1	h	b	x	m	d_a	Z	kg	
								ϕ	ϕ	T										
1	013.25.315	408	222	70	372	258	20	18	M16	32	2	60	10	50	0	5	190	40	41	Chart A.32
2	013.25.355	448	262	70	412	298	20	18	M16	32	2	60	10	50	0	5	235	49	46	Chart A.33
3	013.25.400	493	307	70	457	343	24	18	M16	32	2	60	10	50	0	6	276	48	54	Chart A.34
4	013.25.450	543	357	70	507	393	24	18	M16	32	2	60	10	50	0	6	324	56	60	Chart A.35
5	013.30.500	602	398	80	566	434	20	18	M16	32	4	70	10	60	+0.5	5	367	74	85	Chart A.36
	014.30.500															6	368.4	62		
6	013.30.560	662	458	80	626	494	20	18	M16	32	4	70	10	60	+0.5	5	427	86	95	Chart A.37
	014.30.560															6	428.4	72		
7	013.30.630	732	528	80	696	564	24	18	M16	32	4	70	10	60	+0.5	6	494.4	83	110	Chart A.38
	014.30.630															8	491.2	62		
8	013.30.710	812	608	80	776	644	24	18	M16	32	4	70	10	60	+0.5	6	572.4	96	120	Chart A.39
	014.30.710															8	571.2	72		
9	013.40.800	922	678	100	878	722	30	22	M20	40	6	90	10	80	+0.5	8	635.2	80	220	Chart A.40
	014.40.800															10	634	64		
10	013.40.900	1022	778	100	978	822	30	22	M20	40	6	90	10	80	+0.5	8	739.2	93	240	Chart A.41
	014.40.900															10	734	74		
11	013.40.1000	1122	878	100	1078	922	36	22	M20	40	6	90	10	80	+0.5	10	824	83	270	Chart A.42
	014.40.1000															12	820.8	69		
12	013.40.1120	1242	998	100	1198	1042	36	22	M20	40	6	90	10	80	+0.5	10	944	95	300	Chart A.43
	014.40.1120															12	940.8	79		
13	013.45.1250	1390	1110	110	1337	1163	40	26	M24	48	5	100	10	90	+0.5	12	1048.8	88	420	Chart A.44
	014.45.1250															14	1041.6	75		
14	013.45.1400	1540	1260	110	1487	1313	40	26	M24	48	5	100	10	90	+0.5	12	1192.8	100	480	Chart A.45
	014.45.1400															14	1195.6	86		
15	013.45.1600	1740	1460	110	1687	1513	45	26	M24	48	5	100	10	90	+0.5	14	1391.6	100	550	Chart A.46
	014.45.1600															16	1382.4	87		
16	013.45.1800	1940	1660	110	1887	1713	45	26	M24	48	5	100	10	90	+0.5	14	1573.6	113	610	Chart A.47
	014.45.1800															16	1574.4	99		
17	013.60.2000	2178	1825	144	2110	1891	48	33	M30	60	8	132	12	120	+0.5	16	1734.4	109	1100	Chart A.48
	014.60.2000															18	1735.2	97		
18	013.60.2240	2418	2065	144	2350	2131	48	33	M30	60	8	132	12	120	+0.5	16	1990.4	125	1250	Chart A.49
	014.60.2240															18	1987.2	111		
19	013.60.2500	2678	2325	144	2610	2391	56	33	M30	60	8	132	12	120	+0.5	18	2339.2	125	1400	Chart A.50
	014.60.2500															20	2228	112		
20	013.60.2800	2978	2625	144	2910	2691	56	33	M30	60	8	132	12	120	+0.5	18	2527.2	141	1650	Chart A.51
	014.60.2800															20	2528	127		
21	013.75.3150	3376	2922	174	3286	3014	56	45	M42	84	8	162	12	150	+0.5	20	2828	142	1950	Chart A.52
	014.75.3150															22	2824.8	129		
22	013.75.3550	3776	3322	174	3686	3414	56	45	M42	84	8	162	12	150	+0.5	20	3228	162	2300	Chart A.53
	014.75.3550															22	3220.8	147		
23	013.75.4000	4226	3772	174	4136	3864	60	45	M42	84	10	162	12	150	+0.5	22	3660.8	167	3600	Chart A.54
	014.75.4000															25	3660	147		

Basic Data of 01 Series of Single-Row Ball

External gear JB/T 2300-2018

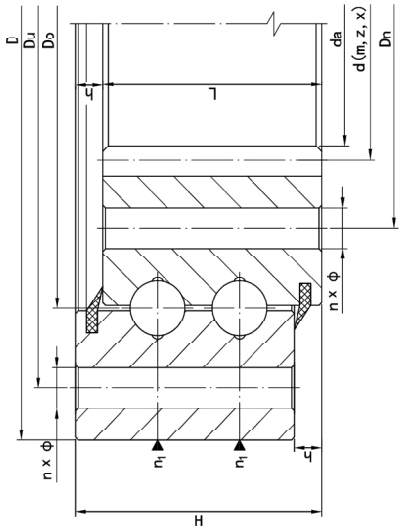
No.	Drawing Number	Dimension			Installing Hole Data						Structural Size			Gear Data					Weight kg	Corresponding chart number of load curve
		D	d	H	D_1	D_2	n	Through Hole Model O ϕ	Threaded Hole Model 1, 2, 3 ϕ	T	n_1	H_1	h	b	x	m	d_a	Z		
1	011.20.200	280	120	60	248	152	12	16	M14	28	2	50	10	40	0	3	300	98	19	Chart A.28
2	011.20.224	304	144	60	272	176	12	16	M14	28	2	50	10	40	0	3	321	105	21	Chart A.29
3	011.20.250	330	170	60	298	202	18	16	M14	28	2	50	10	40	0	4	352	86	23	Chart A.30
4	011.20.280	360	200	60	328	232	18	16	M14	28	2	50	10	40	0	4	384	94	26	Chart A.31
5	011.25.315	408	222	70	372	258	20	18	M16	32	2	60	10	50	0	5	435	85	41	Chart A.32
6	011.25.355	448	262	70	412	298	20	18	M16	32	2	60	10	50	0	5	475	93	46	Chart A.33
7	011.25.400	493	307	70	457	343	24	18	M16	32	2	60	10	50	0	6	528	86	54	Chart A.34
8	011.25.450	543	357	70	507	393	24	18	M16	32	2	60	10	50	0	6	576	94	60	Chart A.35
9	011.30.500 012.30.500	602	398	80	566	434	20	18	M16	32	4	70	10	60	+0.5	5 6	629 628.8	123 102	85	Chart A.36
10	011.30.560 012.30.560	662	458	80	626	494	20	18	M16	32	4	70	10	60	+0.5	5 6	689 688.8	135 112	95	Chart A.37
11	011.30.630 012.30.630	732	528	80	696	564	24	18	M16	32	4	70	10	60	+0.5	6 8	772.8 774.4	126 94	110	Chart A.38
12	011.30.710 012.30.710	812	608	80	776	644	24	18	M16	32	4	70	10	60	+0.5	6 8	850.8 854.4	139 104	120	Chart A.39
13	011.40.800 012.40.800	922	678	100	878	722	30	22	M20	40	6	90	10	80	+0.5	8 10	966.4 968	118 94	220	Chart A.40
14	011.40.900 012.40.900	1022	778	100	978	822	30	22	M20	40	6	90	10	80	+0.5	8 10	1062.4 1068	130 104	240	Chart A.41
15	011.40.1000 012.40.1000	1122	878	100	1078	922	36	22	M20	40	6	90	10	80	+0.5	10 12	1188 1185.6	116 96	270	Chart A.42
16	011.40.1120 012.40.1120	1242	998	100	1198	1042	36	22	M20	40	6	90	10	80	+0.5	10 12	1298 1305.6	127 106	300	Chart A.43
17	011.45.1250 012.45.1250	1390	1110	110	1337	1163	40	26	M24	48	5	100	10	90	+0.5	12 14	1449.6 1453.2	118 101	420	Chart A.44
18	011.45.1400 012.45.1400	1540	1260	110	1487	1313	40	26	M24	48	5	100	10	90	+0.5	12 14	1605.6 1607.2	131 112	480	Chart A.45
19	011.45.1600 012.45.1600	1740	1460	110	1687	1513	45	26	M24	48	5	100	10	90	+0.5	14 16	1817.2 1820.8	127 111	550	Chart A.46
20	011.45.1800 012.45.1800	1940	1660	110	1887	1713	45	26	M24	48	5	100	10	90	+0.5	14 16	2013.2 2012.8	141 123	610	Chart A.47
21	011.60.2000 012.60.2000	2178	1825	144	2110	1891	48	33	M30	60	8	132	12	120	+0.5	16 18	2268.8 2264.4	139 123	1100	Chart A.48
22	011.60.2240 012.60.2240	2418	2065	144	2350	2131	48	33	M30	60	8	132	12	120	+0.5	16 18	2492.8 2498.4	153 136	1250	Chart A.49
23	011.60.2500 012.60.2500	2678	2325	144	2610	2391	56	33	M30	60	8	132	12	120	+0.5	18 20	2768.4 2776	151 136	1400	Chart A.50
24	011.60.2800 012.60.2800	2978	2625	144	2910	2691	56	33	M30	60	8	132	12	120	+0.5	18 20	3074.4 3076	168 151	1650	Chart A.51
25	011.75.3150 012.75.3150	3376	2922	174	3286	3014	56	45	M42	84	8	162	12	150	+0.5	20 22	3476 3471.6	171 155	1950	Chart A.52
26	011.75.3550 012.75.3550	3776	3322	174	3686	3414	56	45	M42	84	8	162	12	150	+0.5	20 22	3876 3889.6	191 174	2300	Chart A.53
27	011.75.4000 012.75.4000	4226	3772	174	4136	3864	60	45	M42	84	10	162	12	150	+0.5	22 25	4329.6 4345	194 171	3600	Chart A.54

Without gear JB/T 2300-2018

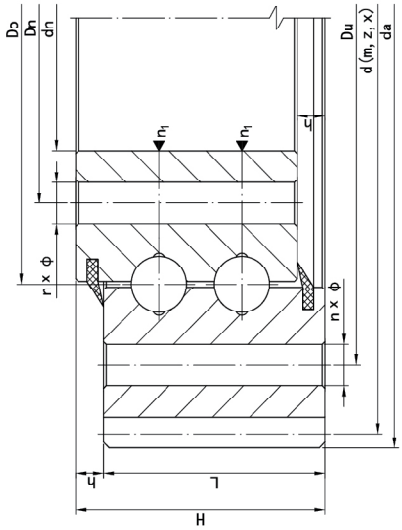
No.	Drawing Number	Dimension			Installing Hole Data						Structural Size			Weight	Corresponding chart number of load curve
								Through Hole Model O	Threaded Hole Model 1, 2, 3						
		D	d	H	D_1	D_2	n	ϕ	ϕ	T	n_1	H_1	h	kg	
1	010.20.200	280	120	60	248	152	12	16	M14	28	2	50	10	19	Chart A.28
2	010.20.224	304	144	60	272	176	12	16	M14	28	2	50	10	21	Chart A.29
3	010.20.250	330	170	60	298	202	18	16	M14	28	2	50	10	23	Chart A.30
4	010.20.280	360	200	60	328	232	18	16	M14	28	2	50	10	26	Chart A.31
5	010.25.315	408	222	70	372	258	20	18	M16	32	2	60	10	41	Chart A.32
6	010.25.355	448	262	70	412	298	20	18	M16	32	2	60	10	46	Chart A.33
7	010.25.400	493	307	70	457	343	24	18	M16	32	2	60	10	54	Chart A.34
8	010.25.450	543	357	70	507	393	24	18	M16	32	2	60	10	60	Chart A.35
9	010.30.500	602	398	80	566	434	20	18	M16	32	4	70	10	85	Chart A.36
10	010.30.560	662	458	80	626	494	20	18	M16	32	4	70	10	95	Chart A.37
11	010.30.630	732	528	80	696	564	24	18	M16	32	4	70	10	110	Chart A.38
12	010.30.710	812	608	80	776	644	24	18	M16	32	4	70	10	120	Chart A.39
13	010.40.800	922	678	100	878	722	30	22	M20	40	6	90	10	220	Chart A.40
14	010.40.900	1022	778	100	978	822	30	22	M20	40	6	90	10	240	Chart A.41
15	010.40.1000	1122	878	100	1078	922	36	22	M20	40	6	90	10	270	Chart A.42
16	010.40.1120	1242	998	100	1198	1042	36	22	M20	40	6	90	10	300	Chart A.43
17	010.45.1250	1390	1110	110	1337	1163	40	26	M24	48	5	100	10	420	Chart A.44
18	010.45.1400	1540	1260	110	1487	1313	40	26	M24	48	5	100	10	480	Chart A.45
19	010.45.1600	1740	1460	110	1687	1513	45	26	M24	48	5	100	10	550	Chart A.46
20	010.45.1800	1940	1660	110	1887	1713	45	26	M24	48	5	100	10	610	Chart A.47
21	010.60.2000	2178	1825	144	2110	1891	48	33	M30	60	8	132	12	1100	Chart A.48
22	010.60.2240	2418	2065	144	2350	2131	48	33	M30	60	8	132	12	1250	Chart A.49
23	010.60.2500	2678	2325	144	2610	2391	56	33	M30	60	8	132	12	1400	Chart A.50
24	010.60.2800	2978	2625	144	2910	2691	56	33	M30	60	8	132	12	1650	Chart A.51
25	010.75.3150	3376	2922	174	3286	3014	56	45	M42	84	8	162	12	1950	Chart A.52
26	010.75.3550	3776	3322	174	3686	3414	56	45	M42	84	8	162	12	2300	Chart A.53
27	010.75.4000	4226	3772	174	4136	3864	60	45	M42	84	10	162	12	3600	Chart A.54

3. Double-Row Ball

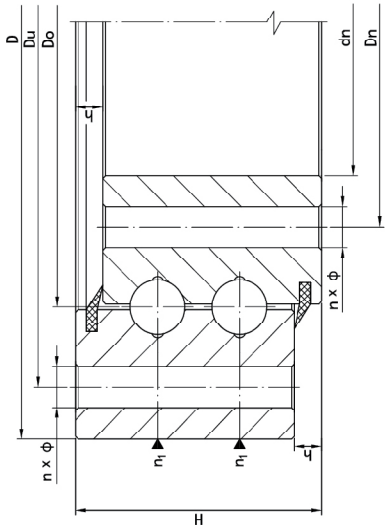
Internal gear



External gear



Without gear



Type of DQN

No.	Drawing Number	Dimension				Installing Hole Data									Gear Data					Weight kg	Corresponding chart number of load curve
						Through Hole				Threaded Hole											
		D	d_a	H	h	D_u	D_n	ϕ	n	D_u	D_n	ϕ	T	n	z	m	d	L	x		
		mm				mm				mm						mm					
1	DQN□500.20	587	372	90	10	553	447	17	36	553	447	M16	32	36	64	6	384	80	0	82	Chart B.1
2	DQN□560.20	647	432	90	10	613	507	17	40	613	507	M16	32	40	74	6	444	80	0	93	Chart B.2
3	DQN□630.20	717	504	90	10	683	577	17	46	683	577	M16	32	46	86	6	516	80	0	103	Chart B.3
4	DQN□710.20	797	568	90	10	763	657	17	52	763	657	M16	32	52	73	8	584	80	0	123	Chart B.4
5	DQN□800.20	887	664	90	10	853	747	17	60	853	747	M16	32	60	85	8	680	80	0	136	Chart B.5
6	DQN□800.25	909	640	108	10	865	735	22	48	865	735	M20	40	48	82	8	656	98	0	201	Chart B.5
7	DQN□900.25	1009	730	108	10	965	835	22	54	965	835	M20	40	54	75	10	750	98	0	232	Chart B.6
8	DQN□1000.25	1109	830	108	10	1065	935	22	60	1065	935	M20	40	60	85	10	850	98	0	259	Chart B.7
9	DQN□1120.25	1229	950	108	10	1185	1055	22	66	1185	1055	M20	40	66	97	10	970	98	0	291	Chart B.8
10	DQN□1250.25	1359	1068	108	10	1315	1185	22	74	1315	1185	M20	40	74	91	12	1092	98	0	335	Chart B.9
11	DQN□1120.32	1250	912	132	10	1198	1042	26	56	1198	1042	M24	48	56	78	12	936	122	0	436	Chart B.8
12	DQN□1250.32	1380	1044	132	10	1328	1172	26	64	1328	1172	M24	48	64	89	12	1068	122	0	483	Chart B.9
13	DQN□1400.32	1530	1190	132	10	1478	1322	26	72	1478	1322	M24	48	72	87	14	1218	122	0	541	Chart B.10
14	DQN□1600.32	1730	1386	132	10	1678	1522	26	80	1678	1522	M24	48	80	101	14	1414	122	0	631	Chart B.11
15	DQN□1800.32	1930	1568	132	10	1878	1722	26	92	1878	1722	M24	48	92	100	16	1600	122	0	742	Chart B.12
16	DQN□2000.32	2130	1776	132	10	2078	1922	26	100	2078	1922	M24	48	100	113	16	1808	122	0	807	Chart B.13
17	DQN□2240.40	2370	2016	132	10	2318	2162	26	112	2318	2162	M24	48	112	128	16	2048	122	0	906	Chart B.14
18	DQN□1400.40	1560	1152	160	10	1496	1304	32	56	1496	1304	M30	60	56	74	16	1184	150	0	802	Chart B.10
19	DQN□1600.40	1760	1344	160	10	1696	1504	32	66	1696	1504	M30	60	66	86	16	1376	150	0	936	Chart B.11
20	DQN□1800.40	1960	1552	160	10	1896	1704	32	74	1896	1704	M30	60	74	99	16	1584	150	0	1034	Chart B.12
21	DQN□2000.40	2160	1728	160	10	2096	1904	32	82	2096	1904	M30	60	82	98	18	1764	150	0	1215	Chart B.13
22	DQN□2240.40	2400	1980	160	10	2336	2144	32	92	2336	2144	M30	60	92	112	18	2016	150	0	1319	Chart B.14
23	DQN□2500.40	2660	2232	160	10	2596	2404	32	100	2596	2404	M30	60	100	126	18	2268	150	0	1514	Chart B.15
24	DQN□2000.50	2192	1710	195	10	2116	1884	38	68	2116	1884	M36	72	68	97	18	1746	185	0	1688	Chart B.13
25	DQN□2240.50	2432	1944	195	10	2356	2124	38	76	2356	2124	M36	72	76	110	18	1980	185	0	1921	Chart B.14
26	DQN□2500.50	2692	2200	195	10	2616	2384	38	86	2616	2384	M36	72	86	112	20	2240	185	0	2141	Chart B.15
27	DQN□2800.50	2992	2500	195	10	2916	2684	38	96	2916	2684	M36	72	96	127	20	2540	185	0	2404	Chart B.16
28	DQN□3150.50	3342	2840	195	10	3266	3034	38	108	3266	3034	M36	72	108	144	20	2880	185	0	2776	Chart B.17
29	DQN□3550.50	3742	3240	195	10	3666	3434	38	124	3666	3434	M36	72	124	164	20	3280	185	0	3126	Chart B.18
30	DQN□4000.50	4192	3700	195	10	4116	3884	38	140	4116	3884	M36	72	140	187	20	3740	185	0	3441	Chart B.19

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Type of DQW

No.	Drawing Number	Dimension				Installing Hole Data									Gear Data					Weight	Corresponding chart number of load curve
						Through Hole				Threaded Hole											
		d_a	d_n	H	h	D_u	D_n	ϕ	n	D_u	D_n	ϕ	T	n	z	m	d	L	x	kg	
		mm				mm				mm						mm					
1	DQW□500.20	624	413	90	10	553	447	17	36	553	447	M16	32	36	102	6	612	80	0	85	Chart B.1
2	DQW□560.20	684	473	90	10	613	507	17	40	613	507	M16	32	40	112	6	672	80	0	96	Chart B.2
3	DQW□630.20	750	543	90	10	683	577	17	46	683	577	M16	32	46	123	6	738	80	0	104	Chart B.3
4	DQW□710.20	848	623	90	10	763	657	17	52	763	657	M16	32	52	104	8	832	80	0	128	Chart B.4
5	DQW□800.20	936	713	90	10	853	747	17	60	853	747	M16	32	60	115	8	920	80	0	142	Chart B.5
6	DQW□800.25	960	691	108	10	865	735	22	48	865	735	M20	40	48	118	8	944	98	0	212	Chart B.5
7	DQW□900.25	1070	791	108	10	965	835	22	54	965	835	M20	40	54	105	10	1050	98	0	245	Chart B.6
8	DQW□1000.25	1170	891	108	10	1065	935	22	60	1065	935	M20	40	60	115	10	1150	98	0	271	Chart B.7
9	DQW□1120.25	1290	1011	108	10	1185	1055	22	66	1185	1055	M20	40	66	127	10	1270	98	0	304	Chart B.8
10	DQW□1250.25	1428	1141	108	10	1315	1185	22	74	1315	1185	M20	40	74	117	12	1404	98	0	344	Chart B.9
11	DQW□1120.32	1320	990	132	10	1198	1042	26	56	1198	1042	M24	48	56	108	12	1296	122	0	445	Chart B.8
12	DQW□1250.32	1452	1120	132	10	1328	1172	26	64	1328	1172	M24	48	64	119	12	1428	122	0	498	Chart B.9
13	DQW□1400.32	1610	1270	132	10	1478	1322	26	72	1478	1322	M24	48	72	113	14	1582	122	0	565	Chart B.10
14	DQW□1600.32	1820	1470	132	10	1678	1522	26	80	1678	1522	M24	48	80	128	14	1792	122	0	673	Chart B.11
15	DQW□1800.32	2032	1670	132	10	1878	1722	26	92	1878	1722	M24	48	92	125	16	2000	122	0	776	Chart B.12
16	DQW□2000.32	2224	1870	132	10	2078	1922	26	100	2078	1922	M24	48	100	137	16	2192	122	0	837	Chart B.13
17	DQW□2240.32	2464	2110	132	10	2318	2162	26	112	2318	2162	M24	48	112	152	16	2432	122	0	936	Chart B.14
18	DQW□1400.40	1648	1240	160	10	1496	1304	32	56	1496	1304	M30	60	56	101	16	1616	150	0	840	Chart B.10
19	DQW□1600.40	1856	1440	160	10	1696	1504	32	66	1696	1504	M30	60	66	114	16	1824	150	0	980	Chart B.11
20	DQW□1800.40	2048	1640	160	10	1896	1704	32	74	1896	1704	M30	60	74	126	16	2016	150	0	1072	Chart B.12
21	DQW□2000.40	2268	1840	160	10	2096	1904	32	82	2096	1904	M30	60	82	124	18	2232	150	0	1253	Chart B.13
22	DQW□2240.40	2502	2080	160	10	2336	2144	32	92	2336	2144	M30	60	92	137	18	2466	150	0	1373	Chart B.14
23	DQW□2500.40	2772	2340	160	10	2596	2404	32	100	2596	2404	M30	60	100	152	18	2736	150	0	1586	Chart B.15
24	DQW□2000.50	2304	1808	195	10	2116	1884	38	68	2116	1884	M36	72	68	126	18	2268	185	0	1822	Chart B.13
25	DQW□2240.50	2538	2048	195	10	2356	2124	38	76	2356	2124	M36	72	76	139	18	2502	185	0	2001	Chart B.14
26	DQW□2500.50	2800	2308	195	10	2616	2384	38	86	2616	2384	M36	72	86	138	20	2760	185	0	2210	Chart B.15
27	DQW□2800.50	3100	2608	195	10	2916	2684	38	96	2916	2684	M36	72	96	153	20	3060	185	0	2473	Chart B.16
28	DQW□3150.50	3460	2958	195	10	3266	3034	38	108	3266	3034	M36	72	108	171	20	3420	185	0	2856	Chart B.17
29	DQW□3550.50	3860	3358	195	10	3666	3434	38	124	3666	3434	M36	72	124	191	20	3820	185	0	3207	Chart B.18
30	DQW□4000.50	4300	3808	195	10	4116	3884	38	140	4116	3884	M36	72	140	213	20	4260	185	0	3510	Chart B.19

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

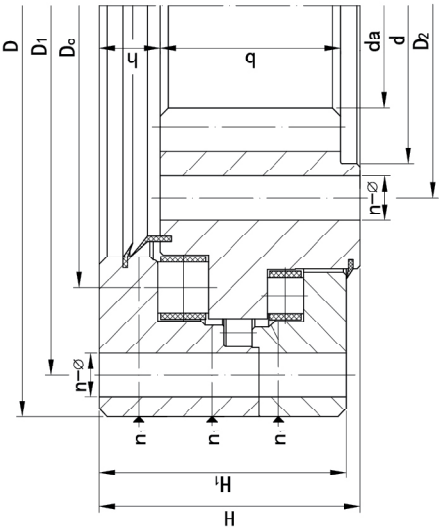
Type of DQU

No.	Drawing Number	Dimension				Installing Hole Data									Weight	Corresponding chart number of load curve
						Through Hole				Threaded Hole						
		D	d_n	H	h	D_u	D_n	ϕ	n	D_u	D_n	ϕ	T	n	kg	
		mm				mm				mm						
1	DQU□500.20	587	413	90	10	553	447	17	36	553	447	M16	32	36	72	Chart B.1
2	DQU□560.20	647	473	90	10	613	507	17	40	613	507	M16	32	40	81	Chart B.2
3	DQU□630.20	717	543	90	10	683	577	17	46	683	577	M16	32	46	90	Chart B.3
4	DQU□710.20	797	623	90	10	763	657	17	52	763	657	M16	32	52	102	Chart B.4
5	DQU□800.20	887	713	90	10	853	747	17	60	853	747	M16	32	60	115	Chart B.5
6	DQU□800.25	909	691	108	10	865	735	22	48	865	735	M20	40	48	175	Chart B.5
7	DQU□900.25	1009	791	108	10	965	835	22	54	965	835	M20	40	54	197	Chart B.6
8	DQU□1000.25	1109	891	108	10	1065	935	22	60	1065	935	M20	40	60	219	Chart B.7
9	DQU□1120.25	1229	1011	108	10	1185	1055	22	66	1185	1055	M20	40	66	246	Chart B.8
10	DQU□1250.25	1359	1141	108	10	1315	1185	22	74	1315	1185	M20	40	74	274	Chart B.9
11	DQU□1120.32	1250	990	132	10	1198	1042	26	56	1198	1042	M24	48	56	363	Chart B.8
12	DQU□1250.32	1380	1120	132	10	1328	1172	26	64	1328	1172	M24	48	64	403	Chart B.9
13	DQU□1400.32	1530	1270	132	10	1478	1322	26	72	1478	1322	M24	48	72	451	Chart B.10
14	DQU□1600.32	1730	1470	132	10	1678	1522	26	80	1678	1522	M24	48	80	518	Chart B.11
15	DQU□1800.32	1930	1670	132	10	1878	1722	26	92	1878	1722	M24	48	92	581	Chart B.12
16	DQU□2000.32	2130	1870	132	10	2078	1922	26	100	2078	1922	M24	48	100	648	Chart B.13
17	DQU□2240.32	2370	2110	132	10	2318	2162	26	112	2318	2162	M24	48	112	726	Chart B.14
18	DQU□1400.40	1560	1240	160	10	1496	1304	32	56	1496	1304	M30	60	56	687	Chart B.10
19	DQU□1600.40	1760	1440	160	10	1696	1504	32	66	1696	1504	M30	60	66	781	Chart B.11
20	DQU□1800.40	1960	1640	160	10	1896	1704	32	74	1896	1704	M30	60	74	880	Chart B.12
21	DQU□2000.40	2160	1840	160	10	2096	1904	32	82	2096	1904	M30	60	82	978	Chart B.13
22	DQU□2240.40	2400	2080	160	10	2336	2144	32	92	2336	2144	M30	60	92	1095	Chart B.14
23	DQU□2500.40	2660	2340	160	10	2596	2404	32	100	2596	2404	M30	60	100	1228	Chart B.15
24	DQU□2000.50	2192	1808	195	10	2116	1884	38	68	2116	1884	M36	72	68	1457	Chart B.13
25	DQU□2240.50	2432	2048	195	10	2356	2124	38	76	2356	2124	M36	72	76	1631	Chart B.14
26	DQU□2500.50	2692	2308	195	10	2616	2384	38	86	2616	2384	M36	72	86	1817	Chart B.15
27	DQN□2800.50	2992	2608	195	10	2916	2684	38	96	2916	2684	M36	72	96	2037	Chart B.16
28	DQU□3150.50	3342	2958	195	10	3266	3034	38	108	3266	3034	M36	72	108	2292	Chart B.17
29	DQU□3550.50	3742	3358	195	10	3666	3434	38	124	3666	3434	M36	72	124	2576	Chart B.18
30	DQU□4000.50	4192	3808	195	10	4116	3884	38	140	4116	3884	M36	72	140	2901	Chart B.19

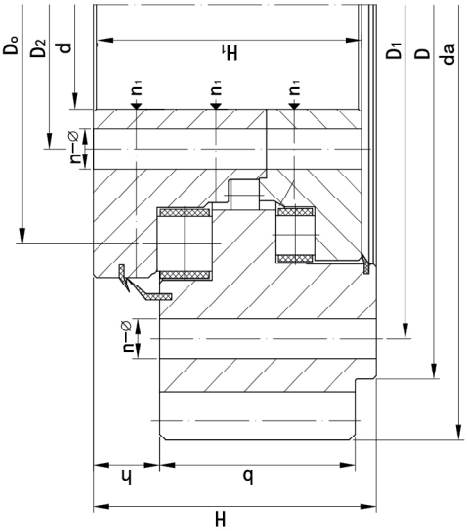
Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

4. Triple-Row Roller

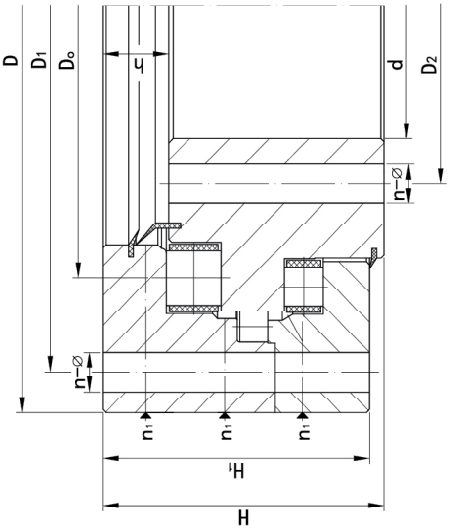
Internal gear



External gear



Without gear



Type of SN JB/T 10837-2023

No.	Drawing Number	Dimension			Installing Hole Data						Structural Size			Gear Data			Internal Gear Data		Weight	Corresponding chart number of load curve
								Through Hole	Threaded Hole											
								Model A	Model B, C, D											
		D	d	H	D_1	D_2	n	ϕ	ϕ	T	n_1	H_1	h	b	x	m	da	Z	Kg	
1	SN□1000.20	1146	844	128	1094	894	28	26	M24	45	4	118	26	98	+0.5	10	790	80	418	Chart C.1
2	SN□1120.20	1266	964	128	1214	1014	32	26	M24	45	4	118	26	98	+0.5	12	900	76	470	Chart C.2
3	SN□1250.20	1396	1094	128	1344	1144	36	26	M24	45	4	118	26	98	+0.5	12	1032	87	524	Chart C.3
4	SN□1400.20	1546	1240	128	1494	1294	36	26	M24	45	4	118	26	98	+0.5	14	1162	84	614	Chart C.4
5	SN□1600.20	1746	1444	128	1694	1494	40	26	M24	45	4	118	26	98	+0.5	14	1372	99	686	Chart C.5
6	SN□1600.25	1782	1400	148	1716	1474	32	33	M30	56	4	138	30	110	+0.5	14	1330	96	966	Chart C.6
7	SN□1800.25	1982	1600	148	1916	1674	36	33	M30	56	6	138	30	110	+0.5	16	1520	96	1096	Chart C.7
8	SN□2000.25	2182	1810	148	2116	1874	44	33	M30	56	6	138	30	110	+0.5	16	1728	109	1196	Chart C.8
9	SN□2240.25	2422	2040	148	2356	2114	48	33	M30	56	6	138	30	110	+0.5	18	1944	109	1396	Chart C.9
10	SN□2500.25	2682	2310	148	2616	2374	54	33	M30	56	6	138	30	110	+0.5	18	2214	124	1532	Chart C.10
11	SN□2240.32	2458	2000	182	2380	2086	40	39	M36	66	6	172	42	130	+0.5	18	1908	107	2002	Chart C.11
12	SN□2500.32	2718	2270	182	2640	2346	44	39	M36	66	6	172	42	130	+0.5	18	2178	122	2199	Chart C.12
13	SN□2800.32	3018	2560	182	2940	2646	48	39	M36	66	6	172	42	130	+0.5	20	2460	124	2526	Chart C.13
14	SN□3150.32	3368	2920	182	3290	2996	56	39	M36	66	8	172	42	130	+0.5	20	2820	142	2788	Chart C.14
15	SN□2800.40	3038	2560	220	2960	2638	56	39	M36	66	8	210	50	160	+0.5	20	2460	124	3213	Chart C.15
16	SN□3150.40	3388	2910	220	3310	2988	64	39	M36	66	8	210	50	160	+0.5	22	2794	128	3683	Chart C.16
17	SN□3550.40	3788	3300	220	3710	3388	72	39	M36	66	8	210	50	160	+0.5	22	3190	146	4171	Chart C.17
18	SN□4000.40	4238	3750	220	4160	3838	84	39	M36	66	8	210	50	160	+0.5	24	3624	152	4810	Chart C.18
19	SN□3150.50	3416	2870	268	3326	2960	56	45	M42	80	8	258	64	190	+0.5	24	2736	115	5072	Chart C.19
20	SN□3550.50	3816	3270	268	3726	3360	64	45	M42	80	8	258	64	190	+0.5	24	3144	132	5816	Chart C.20
21	SN□4000.50	4266	3720	268	4176	3810	72	45	M42	80	8	258	64	190	+0.5	24	3600	151	6512	Chart C.21

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Type of SW JB/T 10837-2023

No.	Drawing Number	Dimension			Installing Hole Data						Structural Size			Gear Data			External Gear Data		Weight	Corresponding chart number of load curve
								Through Hole Model A	Threaded Hole Model B, C, D											
		D	d	H	D_1	D_2	n	ϕ	ϕ	T	n_1	H_1	h	b	x	m	da	Z	kg	
1	SW□1000.20	1156	854	128	1106	906	28	26	M24	45	4	118	26	98	+0.5	10	1210	118	426	Chart C.1
2	SW□1120.20	1280	974	128	1226	1026	32	26	M24	45	4	118	26	98	+0.5	12	1344	109	478	Chart C.2
3	SW□1250.20	1410	1104	128	1356	1156	36	26	M24	45	4	118	26	98	+0.5	12	1476	120	540	Chart C.3
4	SW□1400.20	1560	1254	128	1506	1306	36	26	M24	45	4	118	26	98	+0.5	14	1638	114	626	Chart C.4
5	SW□1600.20	1760	1454	128	1706	1506	40	26	M24	45	4	118	26	98	+0.5	14	1834	128	708	Chart C.5
6	SW□1600.25	1790	1418	148	1726	1484	32	33	M30	56	4	138	30	110	+0.5	14	1862	130	992	Chart C.6
7	SW□1800.25	2000	1618	148	1926	1684	36	33	M30	56	6	138	30	110	+0.5	16	2080	127	1121	Chart C.7
8	SW□2000.25	2190	1818	148	2126	1884	44	33	M30	56	6	138	30	110	+0.5	16	2272	139	1211	Chart C.8
9	SW□2240.25	2430	2058	148	2366	2124	48	33	M30	56	6	138	30	110	+0.5	18	2520	137	1373	Chart C.9
10	SW□2500.25	2700	2318	148	2626	2384	54	33	M30	56	6	138	30	110	+0.5	18	2790	152	1561	Chart C.10
11	SW□2240.32	2464	2022	182	2394	2100	40	39	M36	66	6	172	42	130	+0.5	18	2556	139	1968	Chart C.11
12	SW□2500.32	2730	2282	182	2654	2360	44	39	M36	66	6	172	42	130	+0.5	18	2826	154	2245	Chart C.12
13	SW□2800.32	3040	2582	182	2954	2660	48	39	M36	66	6	172	42	130	+0.5	20	3140	154	2566	Chart C.13
14	SW□3150.32	3380	2932	182	3304	3010	56	39	M36	66	8	172	42	130	+0.5	20	3480	171	2316	Chart C.14
15	SW□2800.40	3040	2562	220	2962	2640	56	39	M36	66	8	210	50	160	+0.5	20	3140	154	3264	Chart C.15
16	SW□3150.40	3380	2912	220	3312	2990	64	39	M36	66	8	210	50	160	+0.5	22	3498	156	3740	Chart C.16
17	SW□3550.40	3780	3312	220	3712	3390	72	39	M36	66	8	210	50	160	+0.5	22	3894	174	4175	Chart C.17
18	SW□4000.40	4240	3762	220	4162	3840	84	39	M36	66	8	210	50	160	+0.5	24	4368	179	4801	Chart C.18
19	SW□3150.50	3430	2884	268	3340	2974	56	45	M42	80	8	258	64	190	+0.5	24	3552	145	5176	Chart C.19
20	SW□3550.50	3840	3284	268	3740	3374	64	45	M42	80	8	258	64	190	+0.5	24	3960	162	5798	Chart C.20
21	SW□4000.50	4290	3734	268	4190	3824	72	45	M42	80	8	258	64	190	+0.5	24	4416	181	6544	Chart C.21

Note: Content in □ can be A, B, C or D to indicate installation hole type of inner and outer ring.

Type of 13 JB/T 2300-2018

No.	Drawing Number			Dimension			Installing Hole Data						Structural Size			Gear Data			External Gear Data		Internal Gear Data		Weight	Corresponding chart number of load curve
	Without Gear	External Gear	Internal Gear							Through Hole Model A	Threaded Hole Model B, C, D													
	Do	Do	Do	D	d	H	D_1	D_2	n	Φ	Φ	T	n_1	H_1	h	b	x	m	d_a	Z	d_a	Z	kg	
1	130.25.500	131.25.500 132.25.500	133.25.500 134.25.500	634	366	148	598	402	24	18	M16	32	4	138	32	80	+0.5	5 6	664 664.8	130 108	337 338.4	68 57	224	Chart C. 22
2	130.25.560	131.25.560 132.25.560	133.25.560 134.25.560	694	426	148	658	462	24	18	M16	32	4	138	32	80	+0.5	5 6	724 724.8	142 118	397 398.4	80 67	240	Chart C. 23
3	130.25.630	131.25.630 132.25.630	133.25.630 134.25.630	764	496	148	728	532	28	18	M16	32	4	138	32	80	+0.5	6 8	808.8 806.4	132 98	458.4 459.2	77 58	270	Chart C. 24
4	130.25.710	131.25.710 132.25.710	133.25.710 134.25.710	844	576	148	808	612	28	18	M16	32	4	138	32	80	+0.5	6 8	886.8 886.4	145 108	536.4 539.2	90 68	300	Chart C. 25
5	130.32.800	131.32.800 132.32.800	133.32.800 134.32.800	964	636	182	920	680	36	22	M20	40	4	172	40	120	+0.5	8 10	1006.4 1008	123 98	595.2 594	75 60	500	Chart C. 26
6	130.32.900	131.32.900 132.32.900	133.32.900 134.32.900	1064	736	182	1020	780	36	22	M20	40	4	172	40	120	+0.5	8 10	1102.4 1108	135 108	691.2 694	87 70	600	Chart C. 27
7	130.32.1000	131.32.1000 132.32.1000	133.32.1000 134.32.1000	1164	836	182	1120	880	40	22	M20	40	5	172	40	120	+0.5	10 12	1218 1221.6	119 99	784 784.8	79 66	680	Chart C. 28
8	130.32.1120	131.32.1120 132.32.1120	133.32.1120 134.32.1120	1284	956	182	1240	1000	40	22	M20	40	5	172	40	120	+0.5	10 12	1338 1341.6	131 109	904 904.8	91 76	820	Chart C. 29
9	130.40.1250	131.40.1250 132.40.1250	133.40.1250 134.40.1250	1445	1055	220	1393	1107	45	26	M24	48	5	210	50	150	+0.5	12 14	1509.6 1509.2	123 105	988.8 985.6	83 71	1200	Chart C. 30
10	130.40.1400	131.40.1400 132.40.1400	133.40.1400 134.40.1400	1595	1205	220	1543	1257	45	26	M24	48	5	210	50	150	+0.5	12 14	1665.6 1663.2	136 116	1144.8 1139.6	96 82	1300	Chart C. 31
11	130.40.1600	131.40.1600 132.40.1600	133.40.1600 134.40.1600	1795	1405	220	1743	1457	48	26	M24	48	6	210	50	150	+0.5	14 16	1873.2 1868.8	131 114	1335.6 1334.4	96 84	1520	Chart C. 32
12	130.40.1800	131.40.1800 132.40.1800	133.40.1800 134.40.1800	1995	1605	220	1943	1657	48	26	M24	48	6	210	50	150	+0.5	14 16	2069.2 2076.8	145 127	1531.6 1526.4	110 96	1750	Chart C. 33
13	130.45.2000	131.45.2000 132.45.2000	133.45.2000 134.45.2000	2221	1779	231	2155	1845	60	33	M30	60	6	219	54	160	+0.5	16 18	2300.8 2300.4	141 125	1702.4 1699.2	107 95	2400	Chart C. 34
14	130.45.2240	131.45.2240 132.45.2240	133.45.2240 134.45.2240	2461	2019	231	2395	2085	60	33	M30	60	6	219	54	160	+0.5	16 18	2556.8 2552.4	157 139	1926.4 1933.2	121 108	2700	Chart C. 35
15	130.45.2500	131.45.2500 132.45.2500	133.45.2500 134.45.2500	2721	2279	231	2655	2345	72	33	M30	60	8	219	54	160	+0.5	18 20	2822.4 2816	154 138	2185.2 2188	122 110	3000	Chart C. 36
16	130.45.2800	131.45.2800 132.45.2800	133.45.2800 134.45.2800	3021	2579	231	2955	2645	72	33	M30	60	8	219	54	160	+0.5	18 20	3110.4 3116	170 153	2491.2 2488	139 125	3400	Chart C. 37
17	130.50.3150	131.50.3150 132.50.3150	133.50.3150 134.50.3150	3432	2868	270	3342	2958	72	45	M42	84	8	258	65	180	+0.5	20 22	3536 3537.6	174 158	2768 2758.8	139 126	5000	Chart C. 38
18	130.50.3550	131.50.3550 132.50.3550	133.50.3550 134.50.3550	3832	3268	270	3742	3358	72	45	M42	84	8	258	65	180	+0.5	20 22	3936 3933.6	194 176	3168 3154.8	159 144	5600	Chart C. 39
19	130.50.4000	131.50.4000 132.50.4000	133.50.4000 134.50.4000	4282	3718	270	4192	3808	80	45	M42	84	8	258	65	180	+0.5	22 25	4395.6 4395	197 173	3616.8 3610	165 145	6400	Chart C. 40

1. Load curve A.1- A.27: Q series of single-row ball

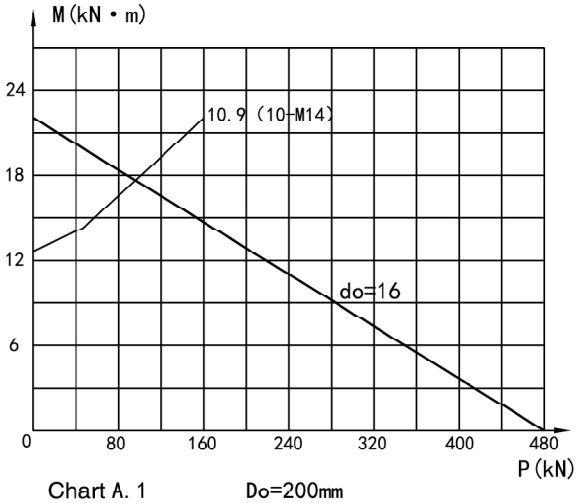


Chart A. 1 Do=200mm

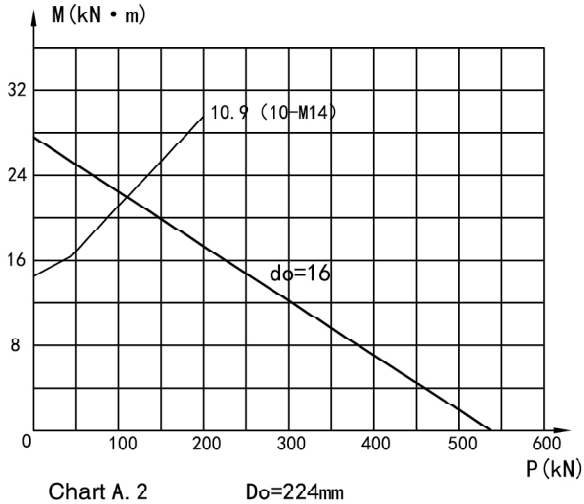


Chart A. 2 Do=224mm

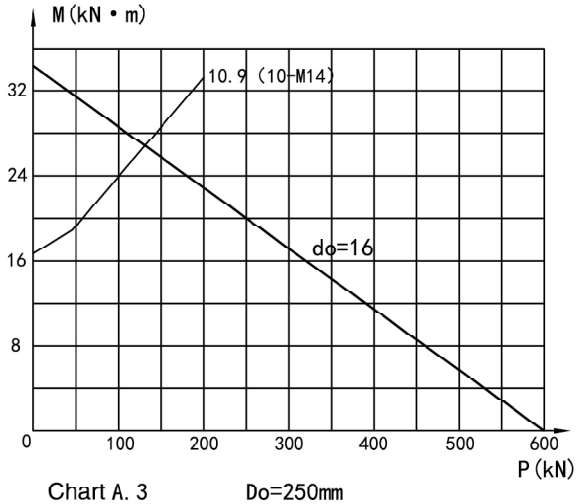


Chart A. 3 Do=250mm

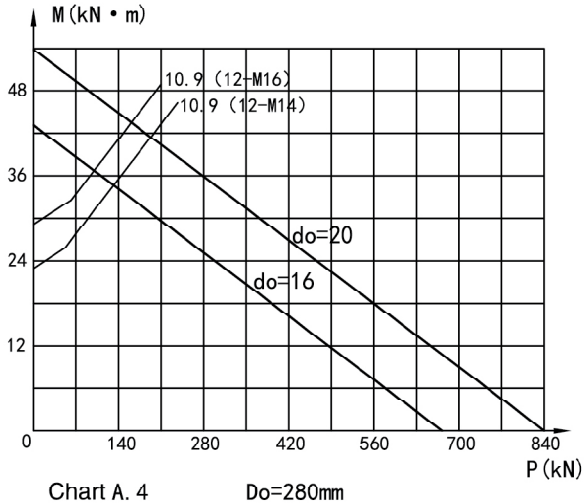


Chart A. 4 Do=280mm

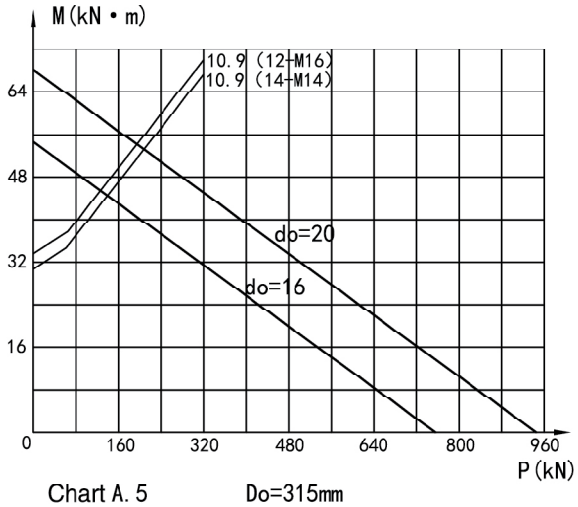


Chart A. 5 Do=315mm

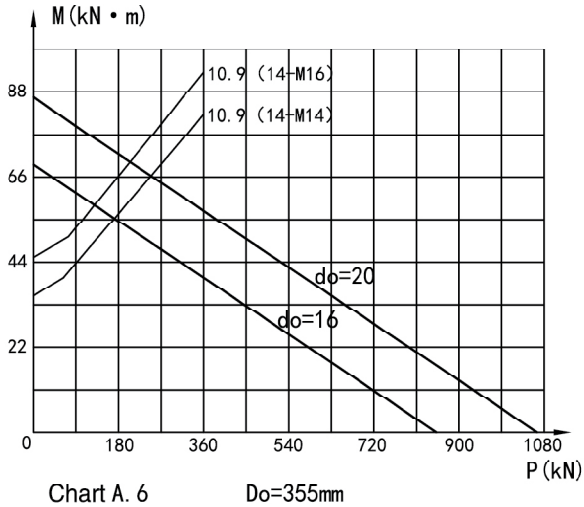


Chart A. 6 Do=355mm

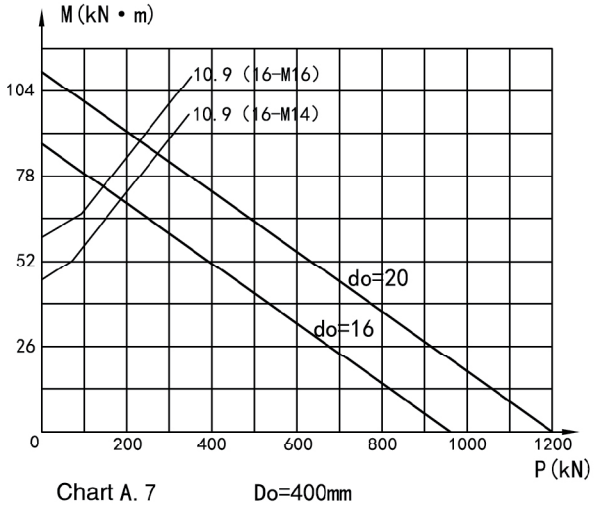


Chart A. 7 Do=400mm

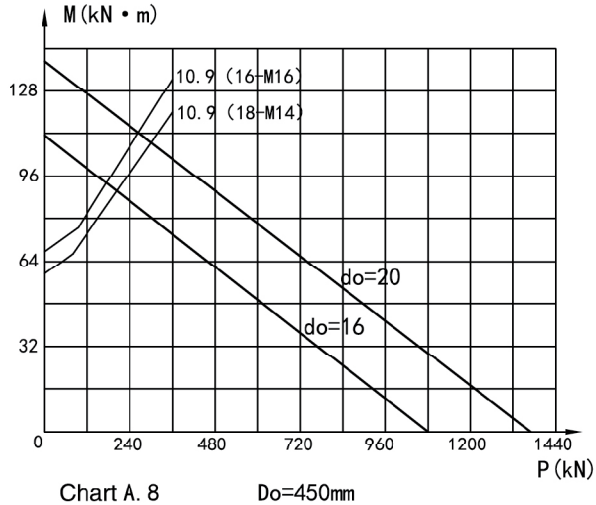


Chart A. 8 Do=450mm

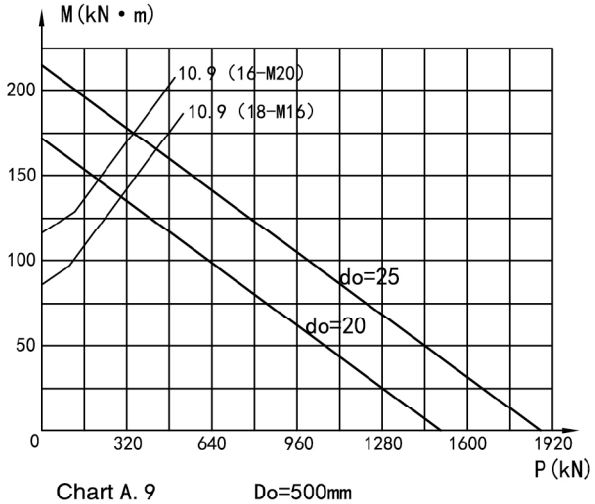


Chart A. 9 Do=500mm

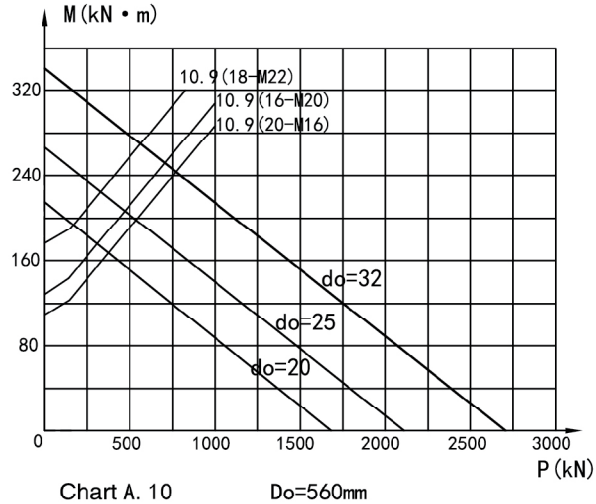


Chart A. 10 Do=560mm

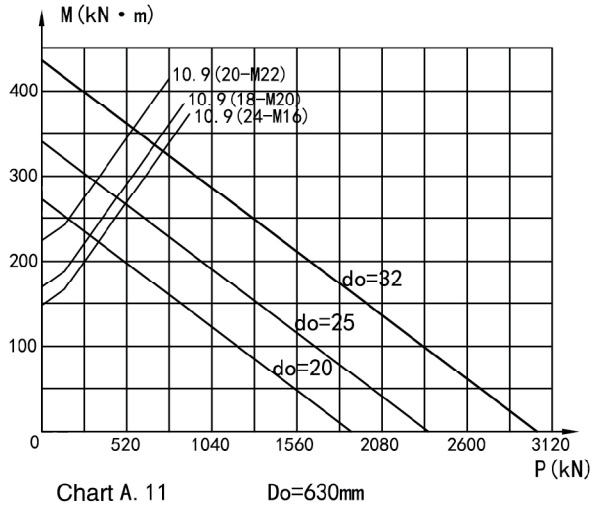


Chart A. 11 Do=630mm

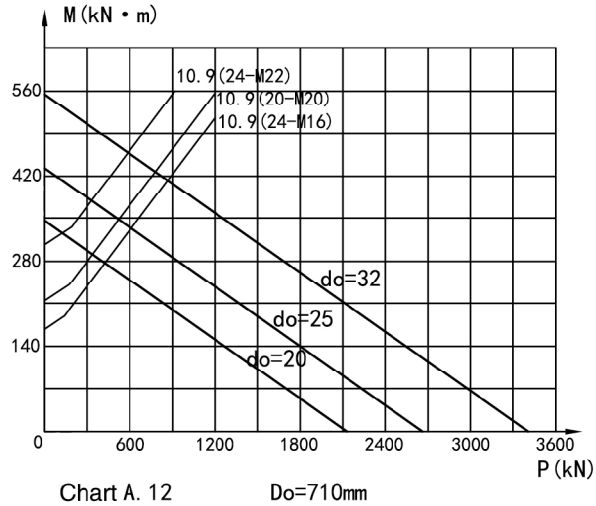


Chart A. 12 Do=710mm

Load Curve of Q Series of Single–Row Ball

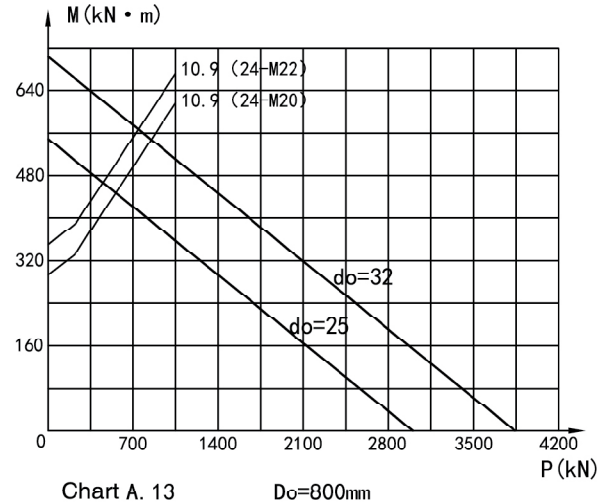


Chart A. 13 Do=800mm

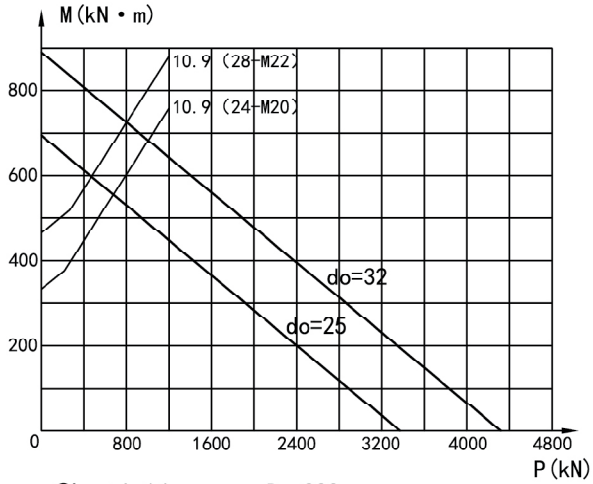


Chart A. 14 Do=900mm

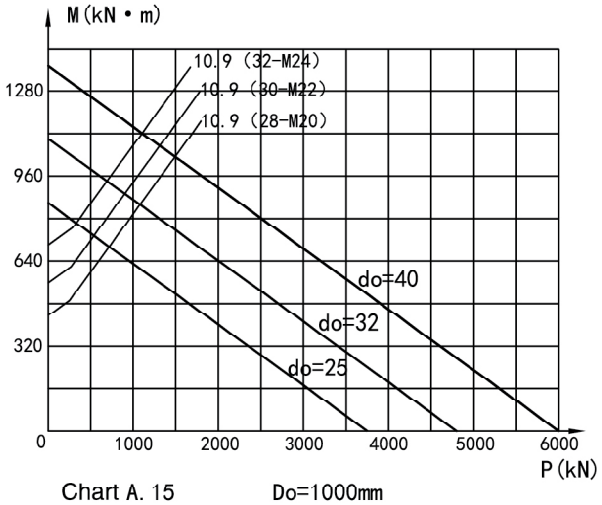


Chart A. 15 Do=1000mm

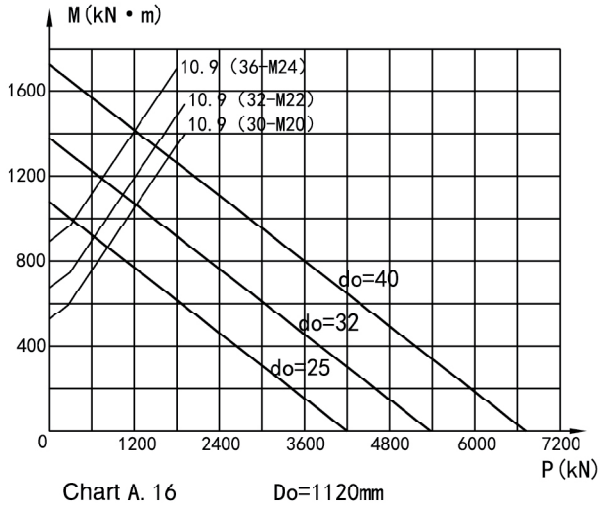


Chart A. 16 Do=1120mm

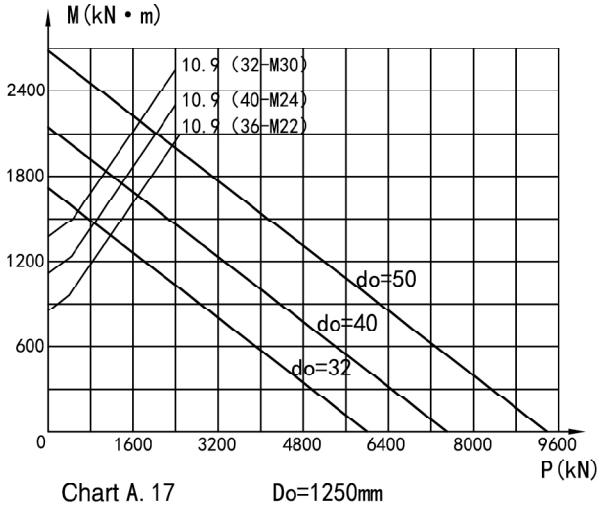


Chart A. 17 Do=1250mm

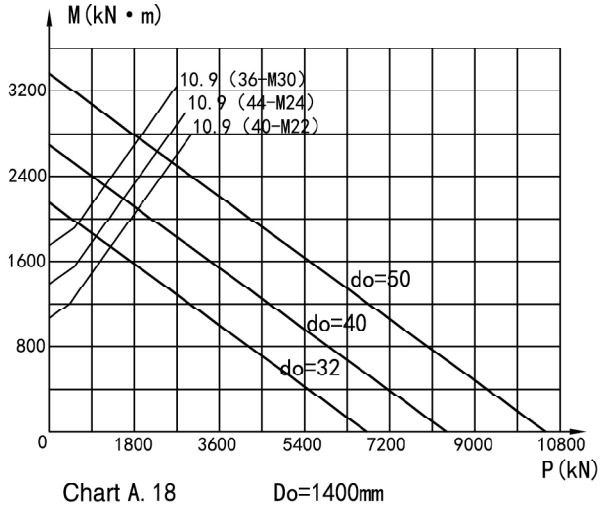


Chart A. 18 Do=1400mm

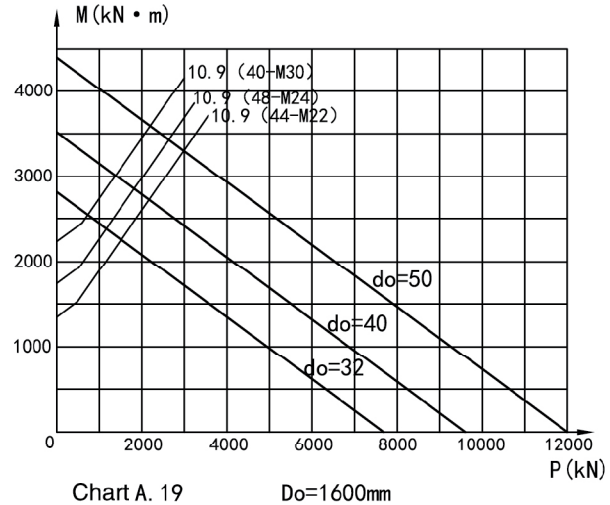


Chart A. 19 Do=1600mm

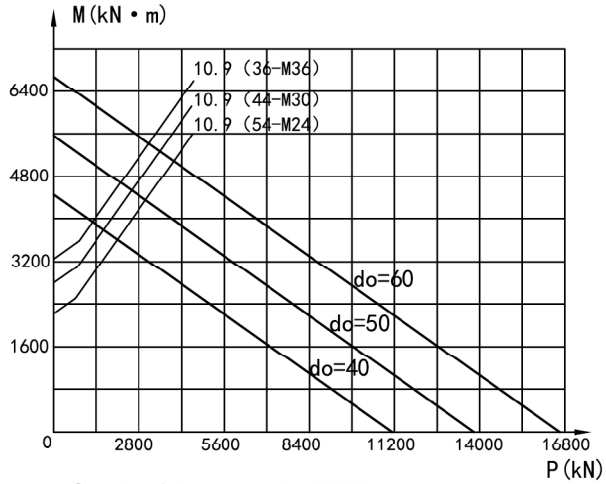


Chart A. 20 Do=1800mm

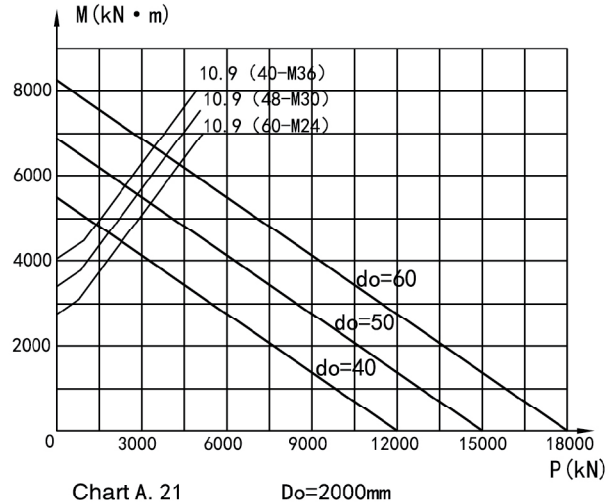


Chart A. 21 Do=2000mm

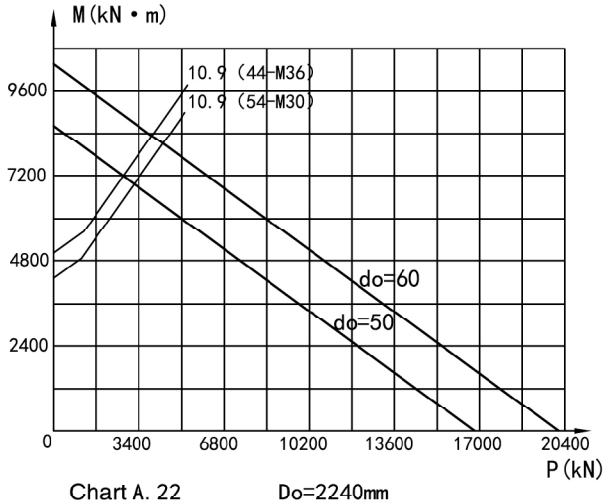


Chart A. 22 Do=2240mm

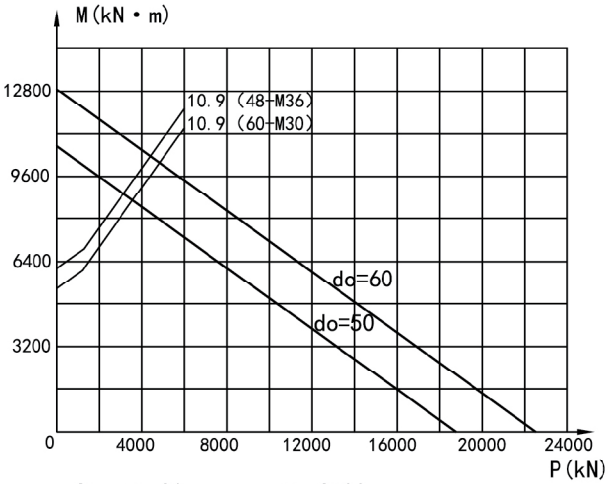


Chart A. 23 Do=2500mm

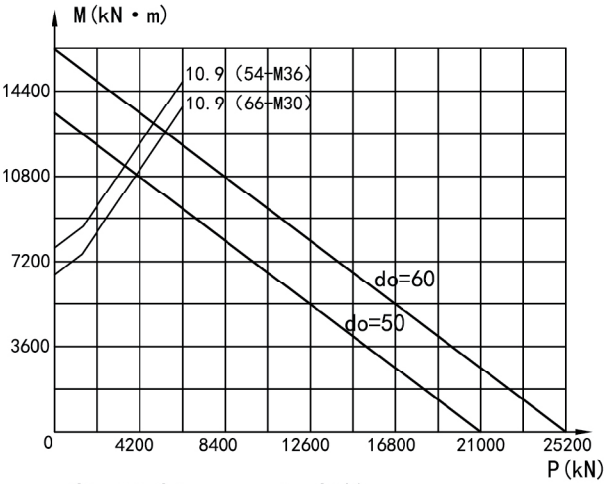


Chart A. 24 Do=2800mm

Load Curve of Q Series of Single–Row Ball

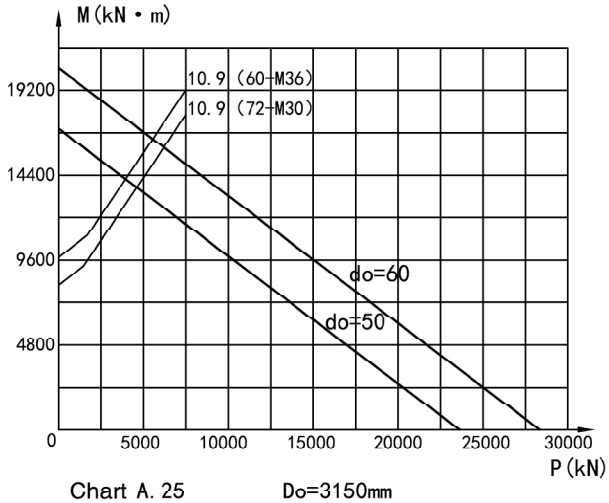


Chart A. 25 Do=3150mm

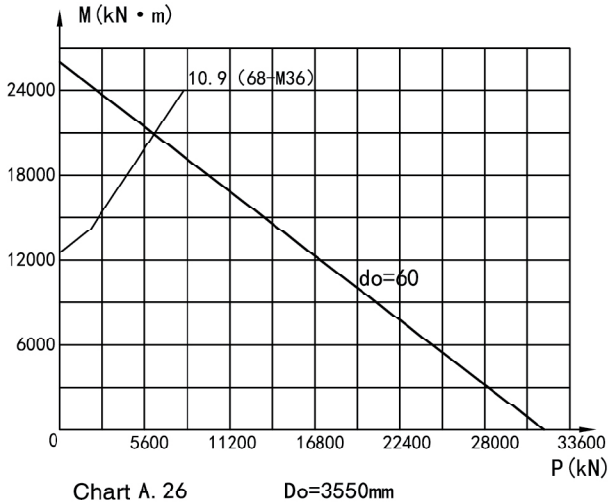


Chart A. 26 Do=3550mm

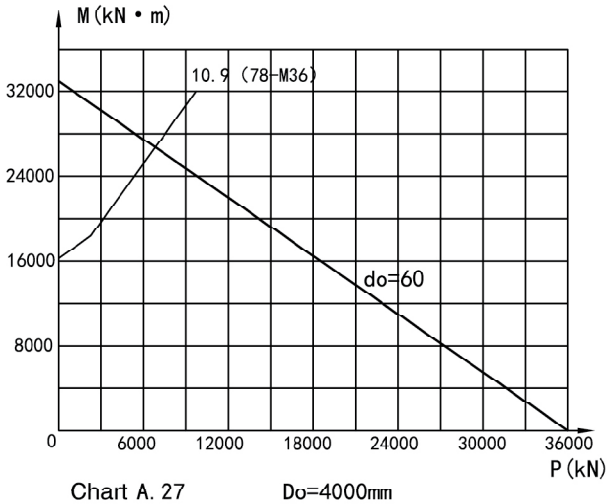


Chart A. 27 Do=4000mm

Note: Compared with the industry standard JB/T 10839-2023, the load capacity of Tongli Slewing Ring's Q series products is double.

2. Load curve A.28- A.54: 01 series of single-row ball

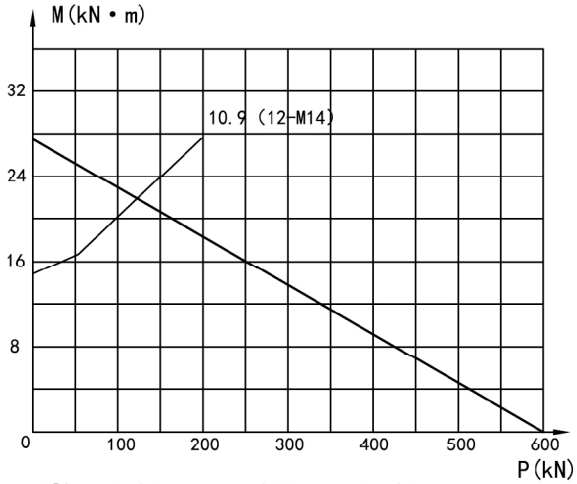


Chart A. 28 Do=200mm do=20mm

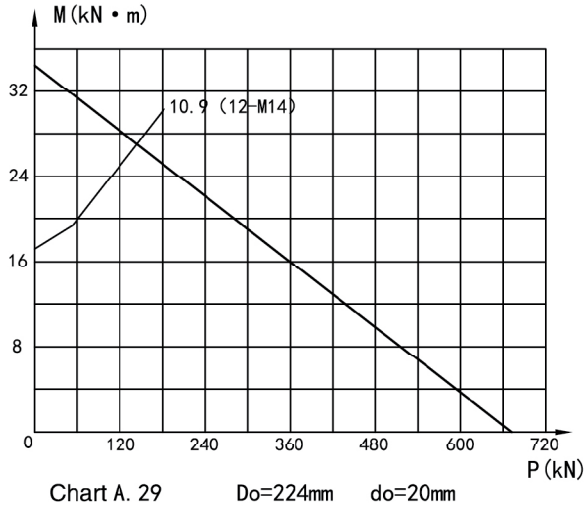


Chart A. 29 Do=224mm do=20mm

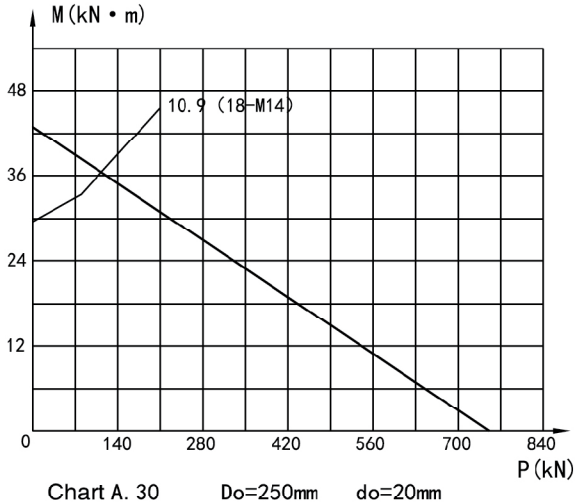


Chart A. 30 Do=250mm do=20mm

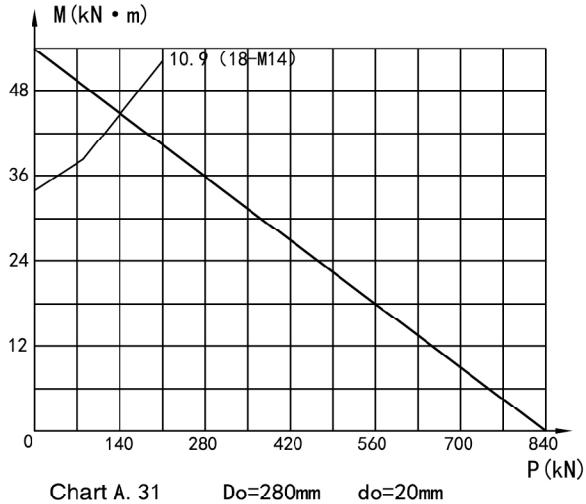


Chart A. 31 Do=280mm do=20mm

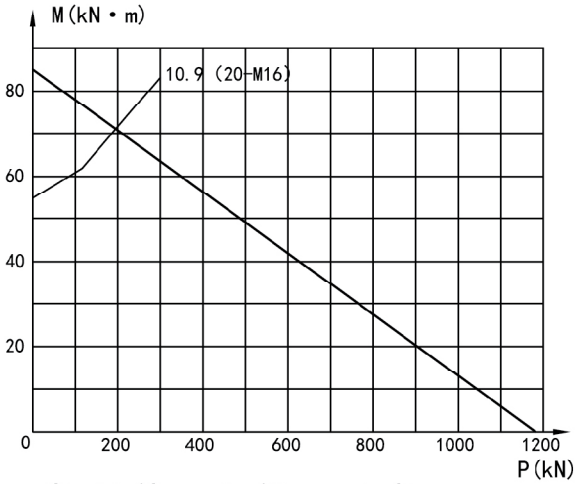


Chart A. 32 Do=315mm do=25mm

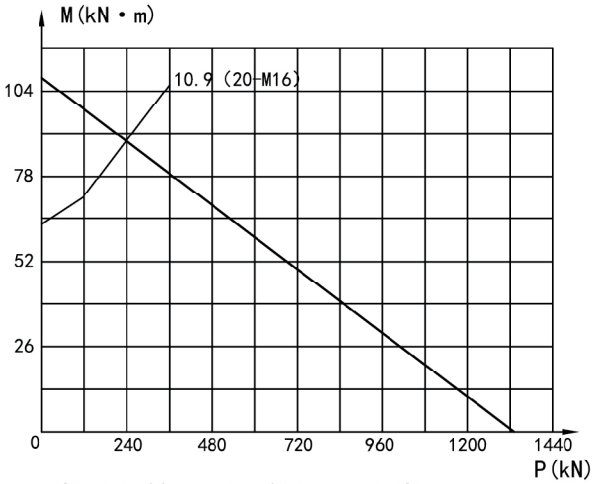


Chart A. 33 Do=355mm do=25mm

Load Curve of 01 Series of Single–Row Ball

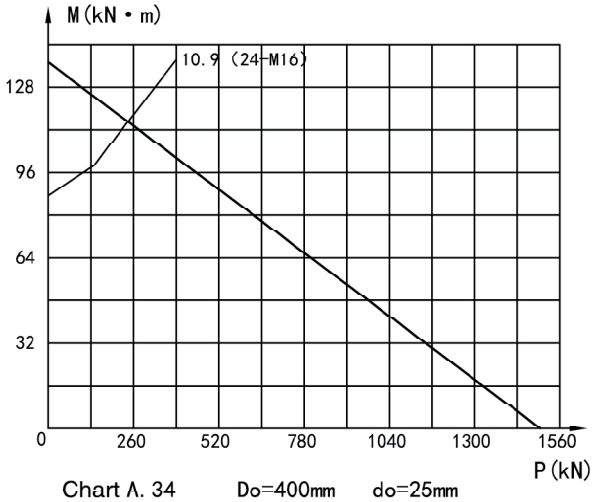


Chart A. 34 Do=400mm do=25mm

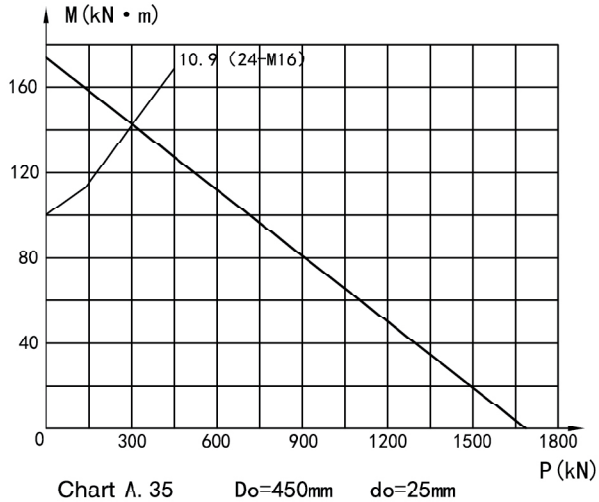


Chart A. 35 Do=450mm do=25mm

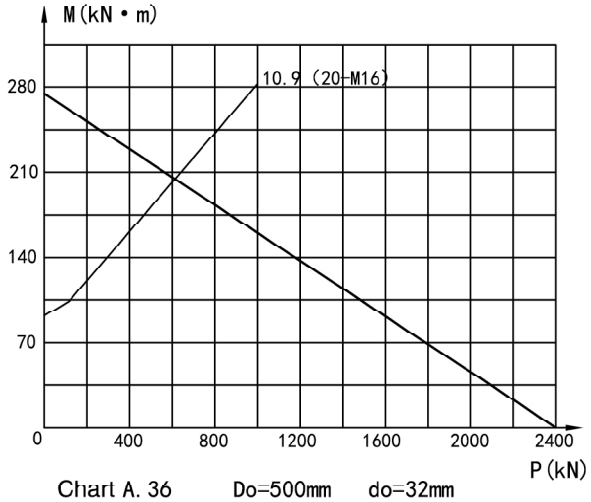


Chart A. 36 Do=500mm do=32mm

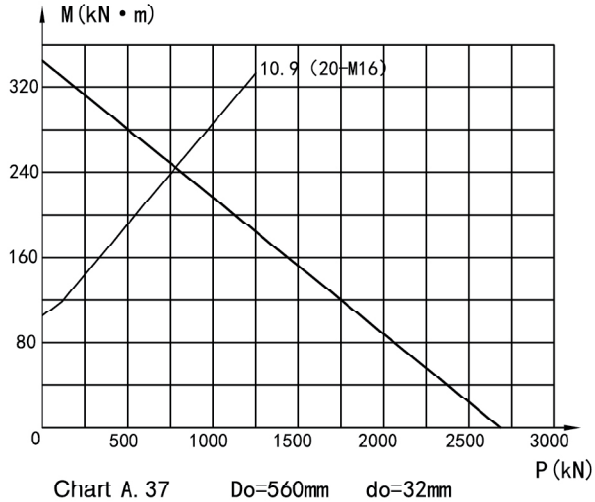


Chart A. 37 Do=560mm do=32mm

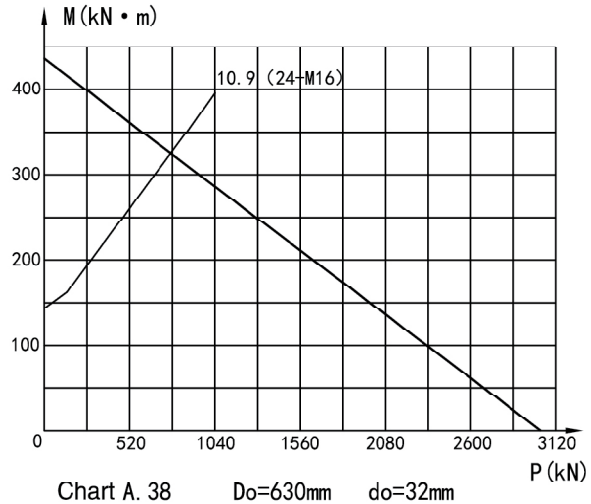


Chart A. 38 Do=630mm do=32mm

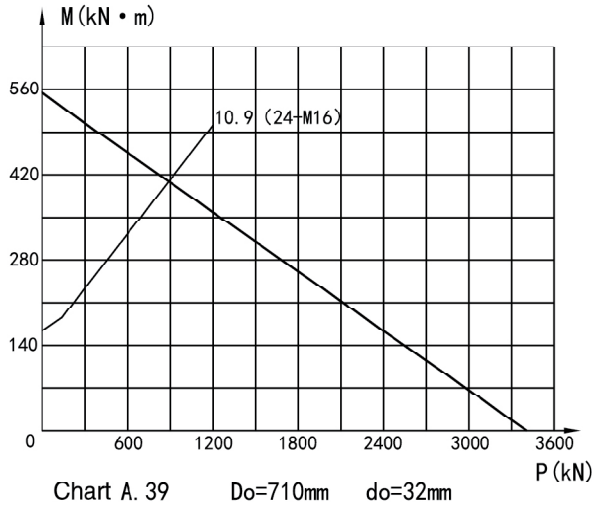


Chart A. 39 Do=710mm do=32mm

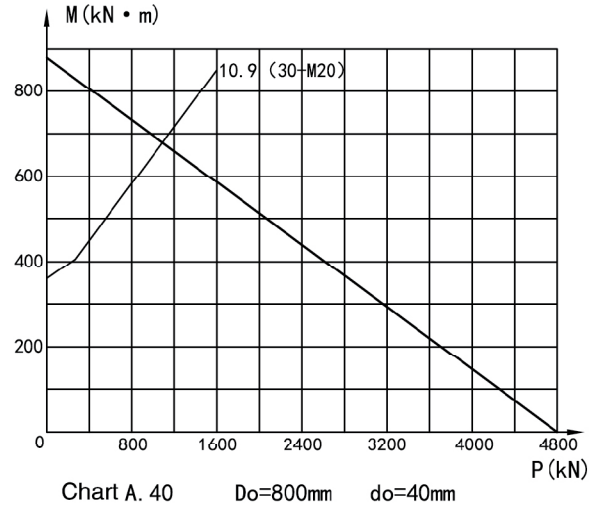


Chart A. 40 Do=800mm do=40mm

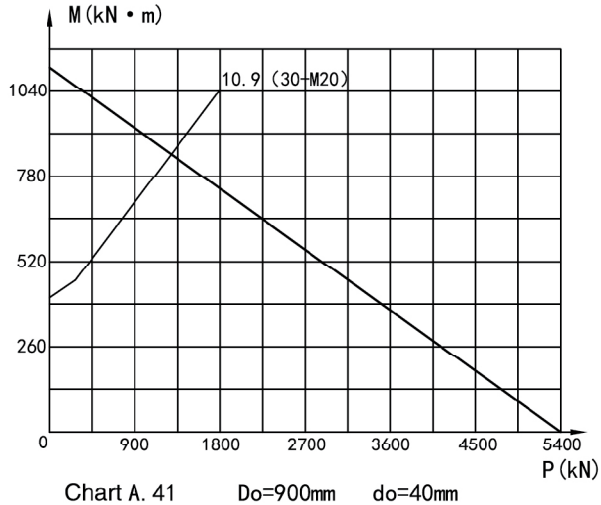


Chart A. 41 Do=900mm do=40mm

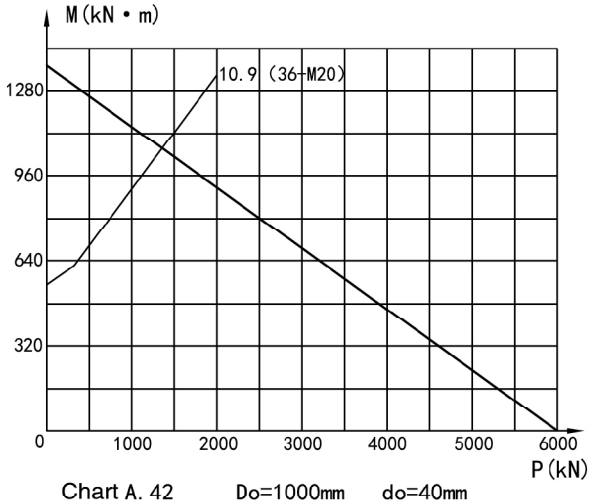


Chart A. 42 Do=1000mm do=40mm

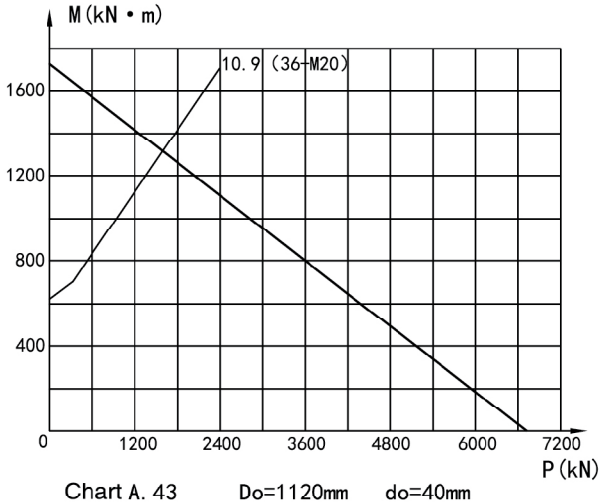


Chart A. 43 Do=1120mm do=40mm

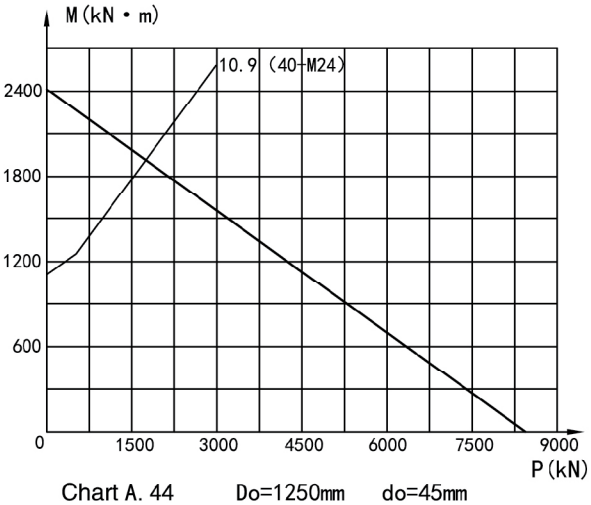


Chart A. 44 Do=1250mm do=45mm

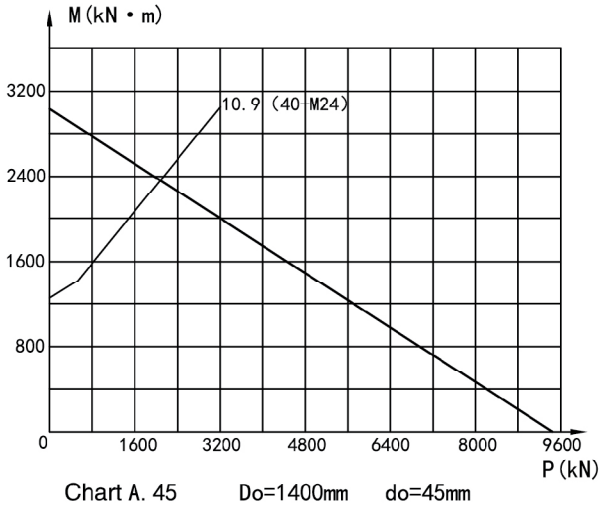


Chart A. 45 Do=1400mm do=45mm

Load Curve of 01 Series of Single-Row Ball

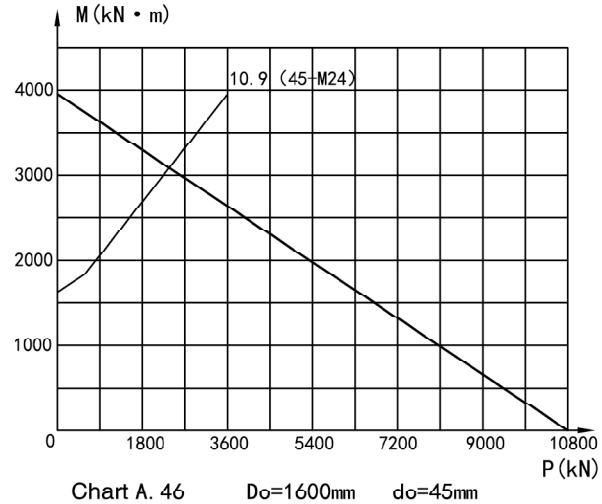


Chart A. 46 Do=1600mm do=45mm

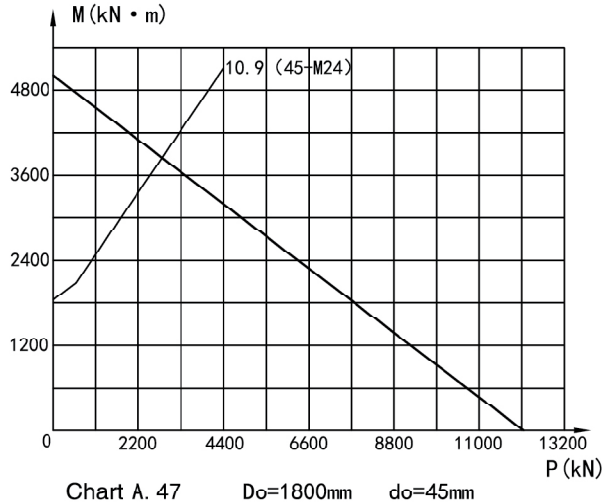


Chart A. 47 Do=1800mm do=45mm

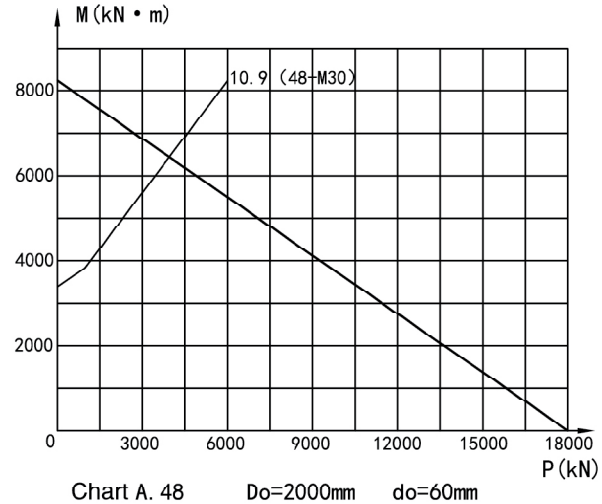


Chart A. 48 Do=2000mm do=60mm

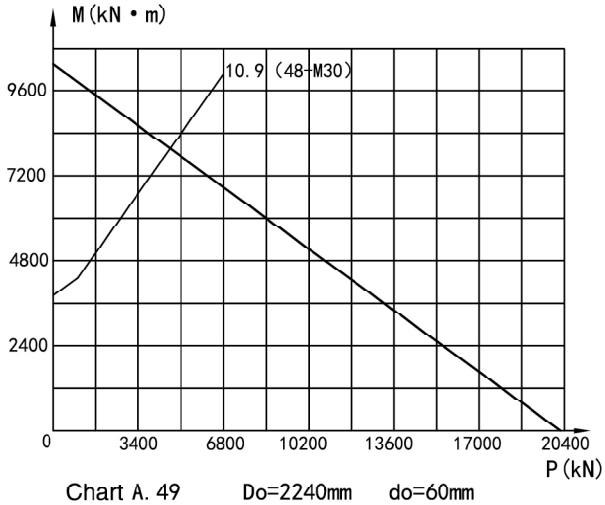


Chart A. 49 Do=2240mm do=60mm

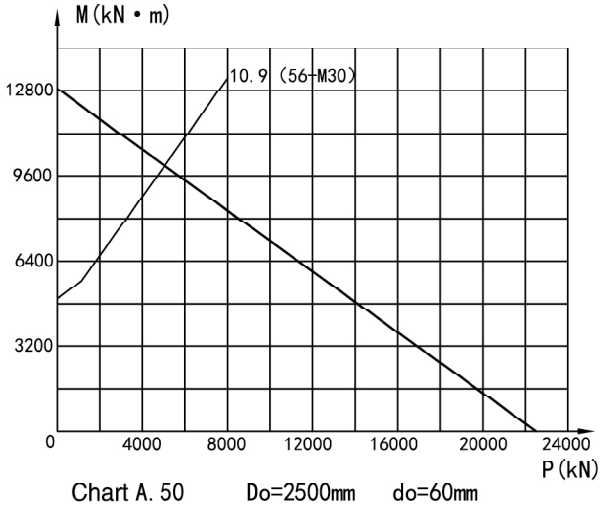


Chart A. 50 Do=2500mm do=60mm

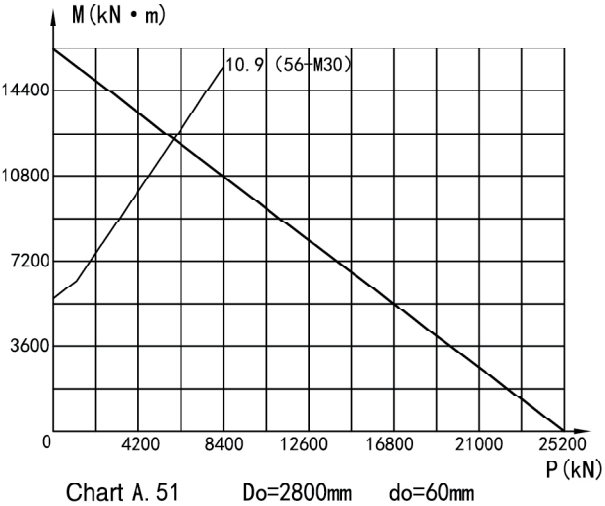


Chart A. 51 Do=2800mm do=60mm

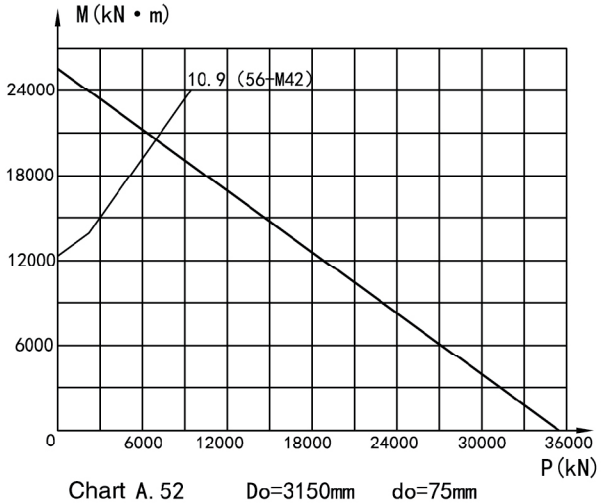


Chart A. 52 Do=3150mm do=75mm

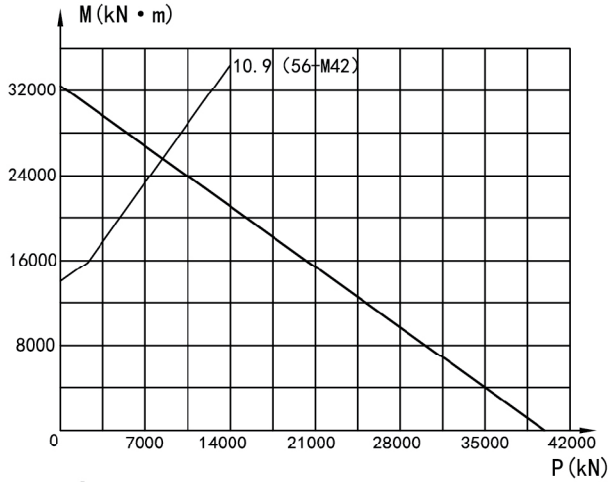


Chart A. 53 Do=3550mm do=75mm

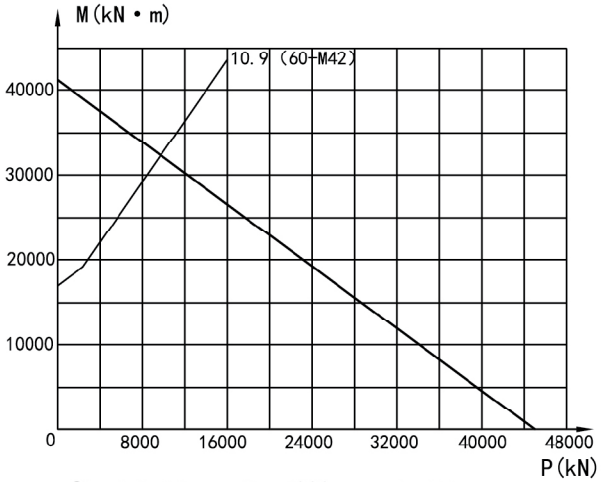


Chart A. 54 Do=4000mm do=75mm

Note: Compared with the industry standard JB/T 2300-2018, the load capacity of 01 series product from Tongli Slewing Ring is increadd by 40% to 110%.

3. Load curve B.1- B.19: Double-row ball

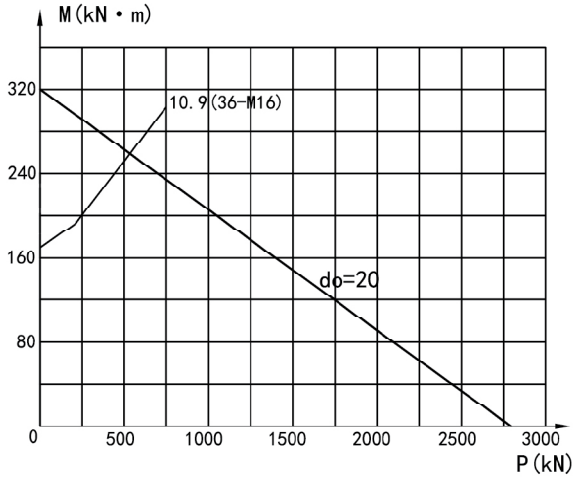


Chart B. 1 Do=500mm

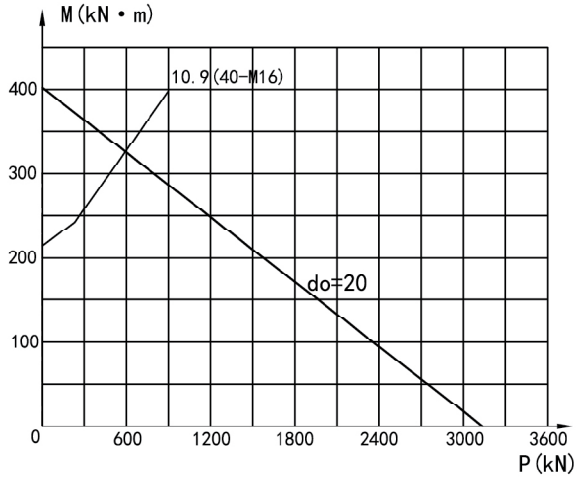


Chart B. 2 Do=560mm

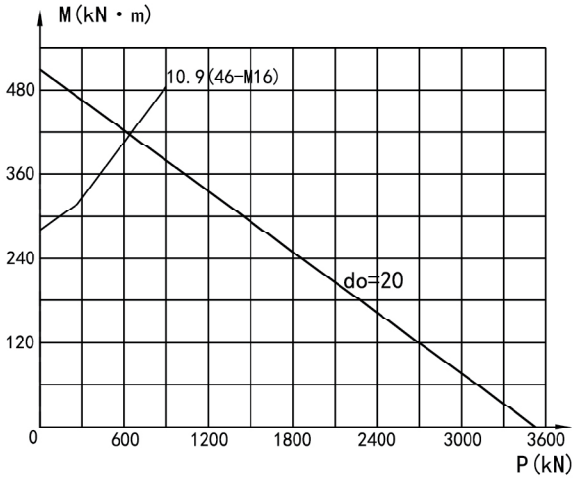


Chart B. 3 Do=630mm

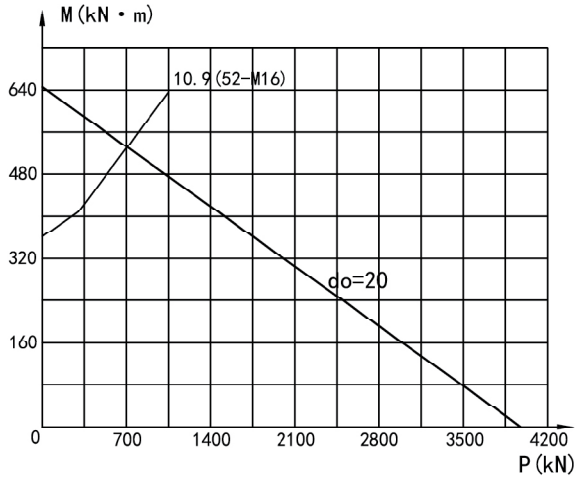


Chart B. 4 Do=710mm

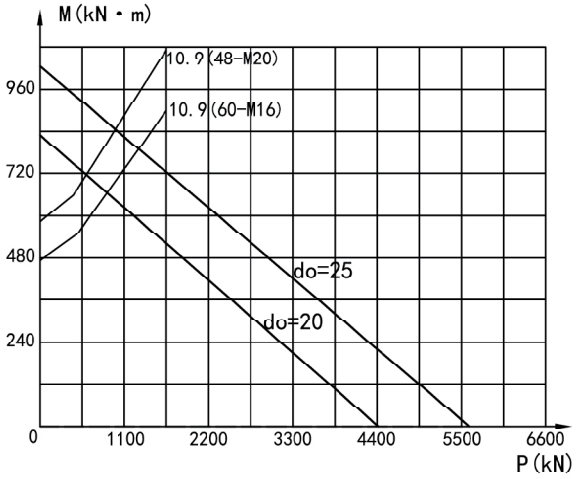


Chart B. 5 Do=800mm

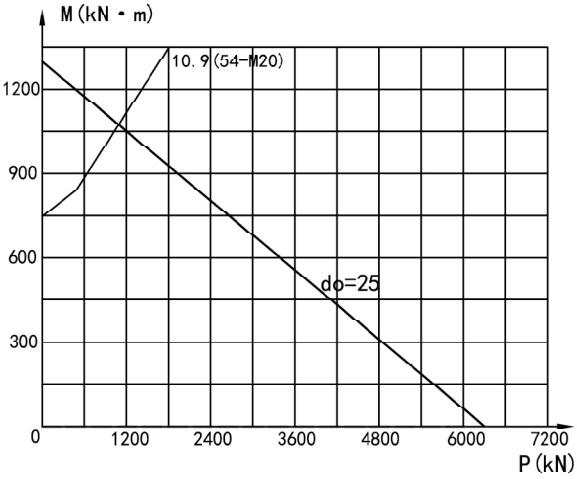


Chart B. 6 Do=900mm

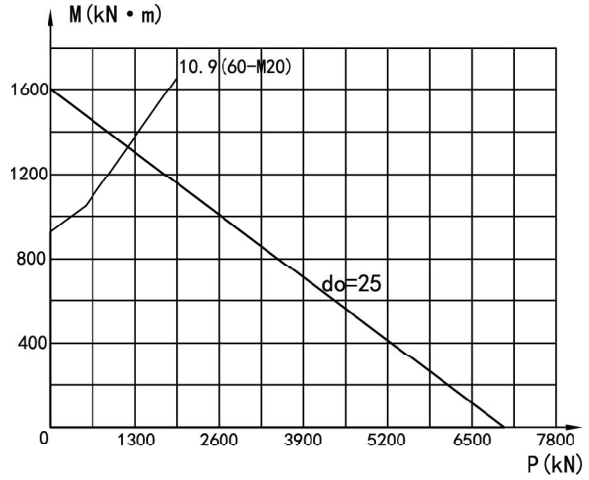


Chart B. 7 Do=1000mm

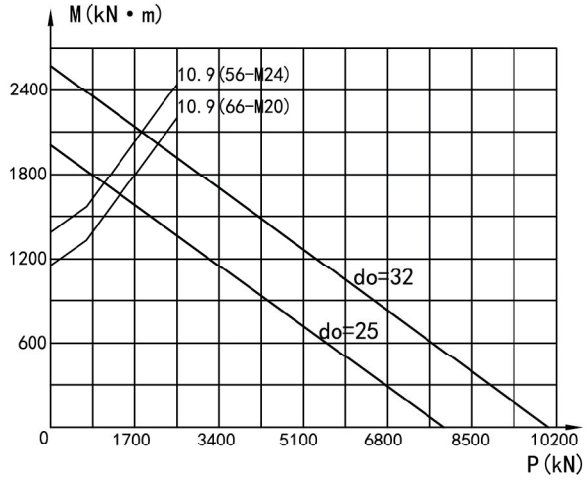


Chart B. 8 Do=1120mm

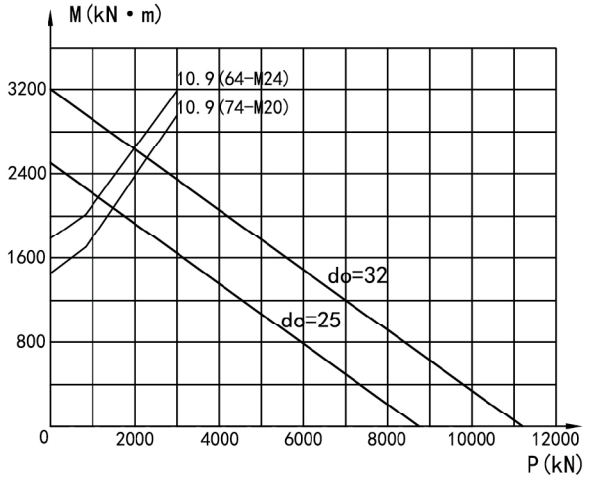


Chart B. 9 Do=1250mm

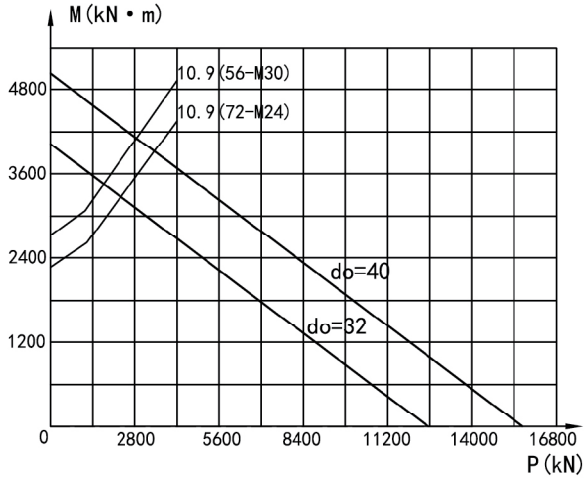


Chart B. 10 Do=1400mm

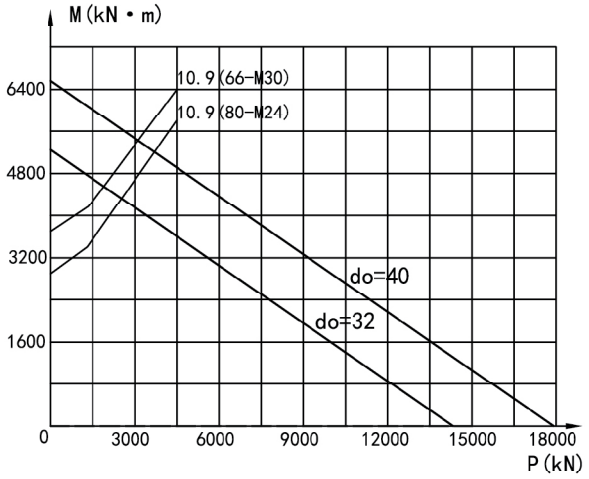


Chart B. 11 Do=1600mm

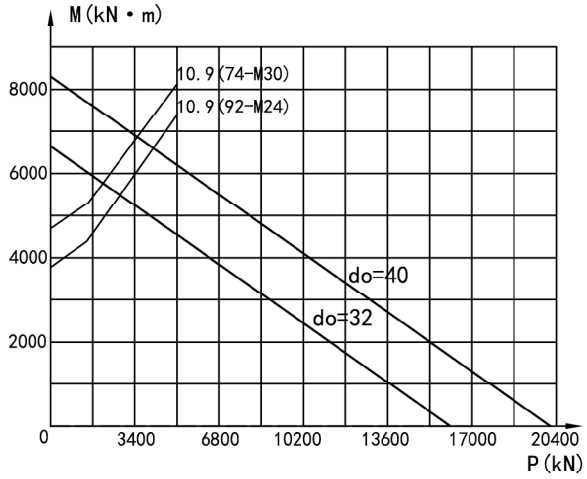


Chart B. 12 Do=1800mm

Load Curve of Double-Row Ball

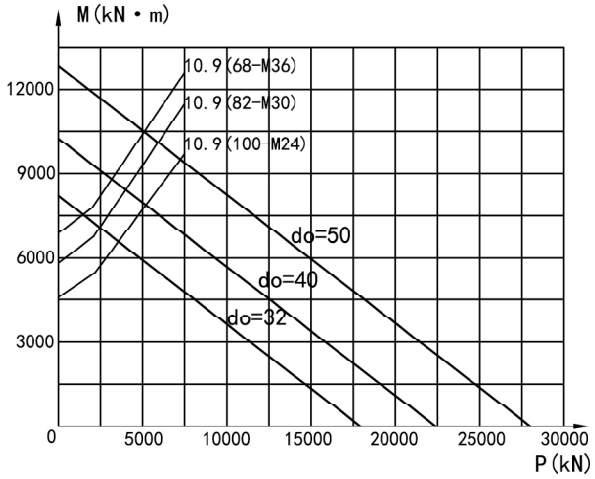


Chart B. 13 Do=2000mm

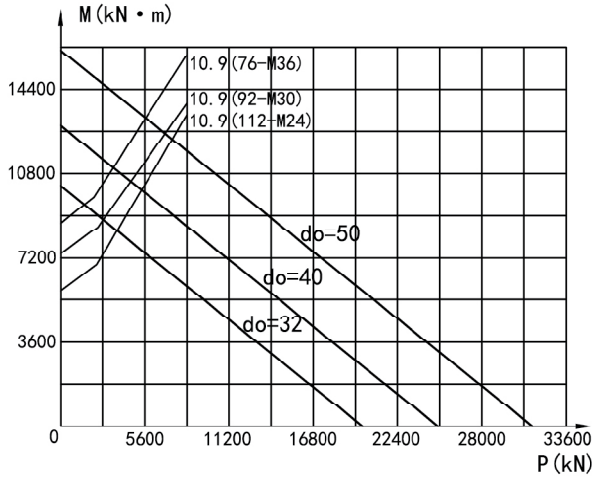


Chart B. 14 Do=2240mm

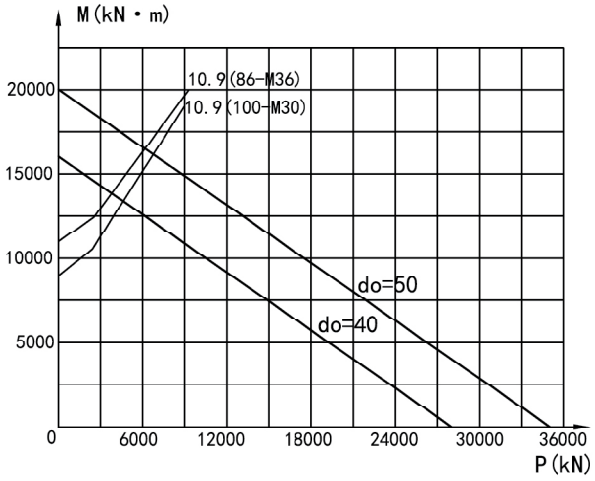


Chart B. 15 Do=2500mm

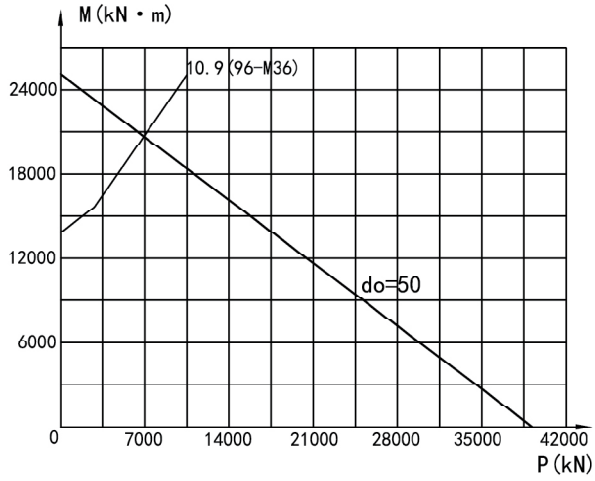


Chart B. 16 Do=2800mm

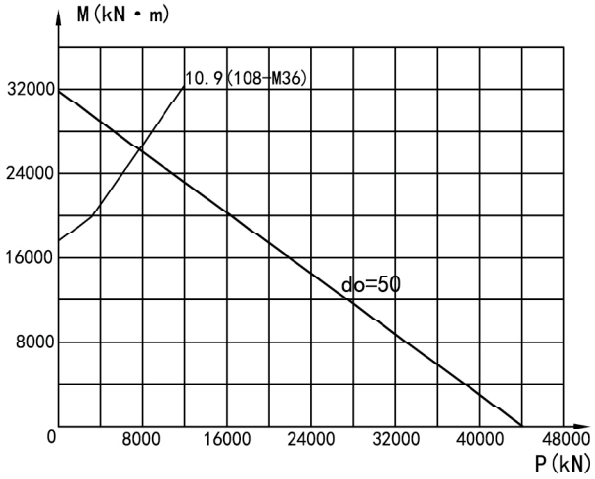


Chart B. 17 Do=3150mm

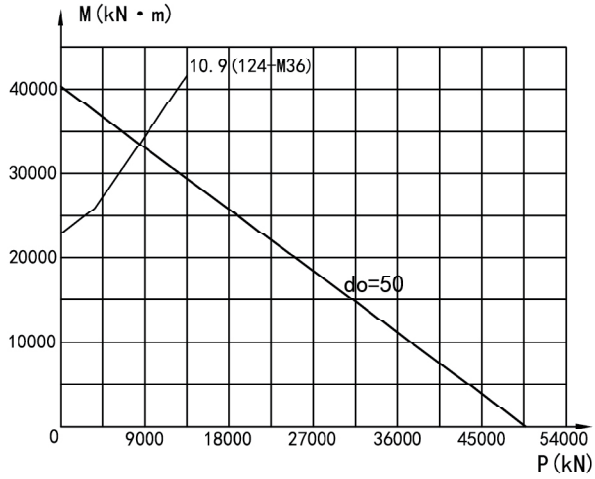


Chart B. 18 Do=3550mm

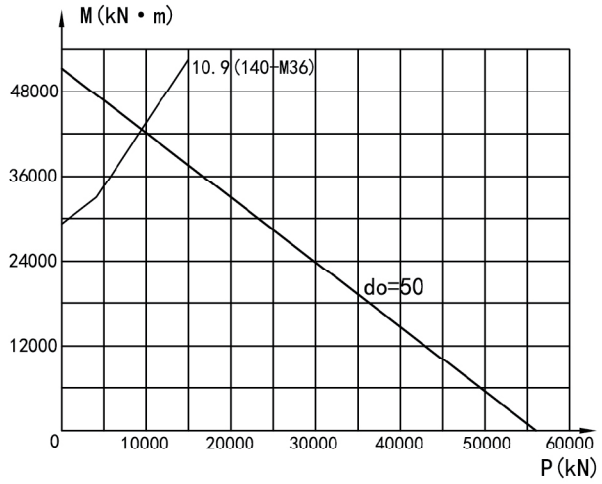


Chart B.19 Do=4000mm

4. Load curve C.1- C.21: S series of triple-row roller

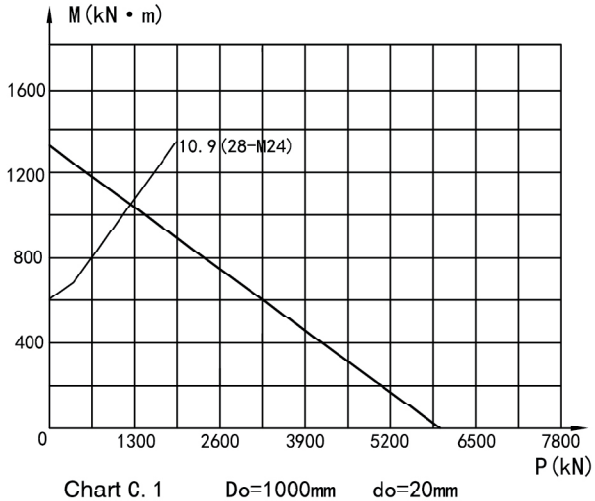


Chart C. 1 Do=1000mm do=20mm

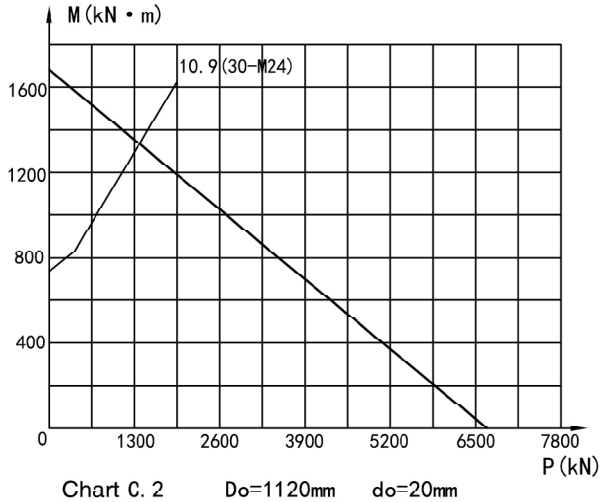


Chart C. 2 Do=1120mm do=20mm

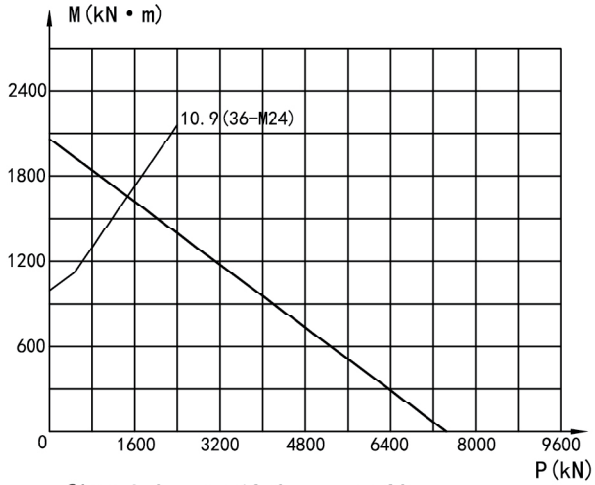


Chart C. 3 Do=1250mm do=20mm

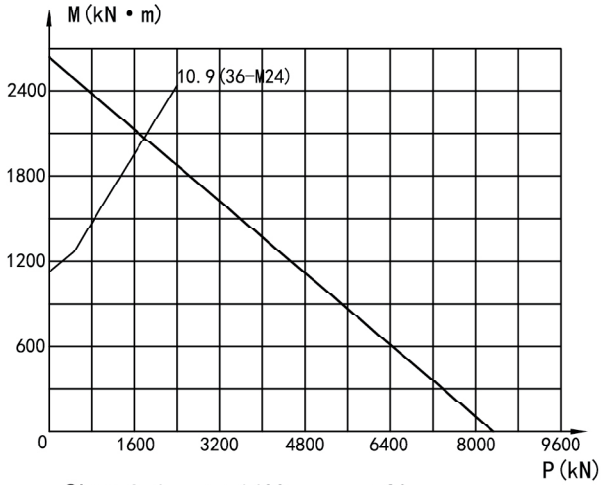


Chart C. 4 Do=1400mm do=20mm

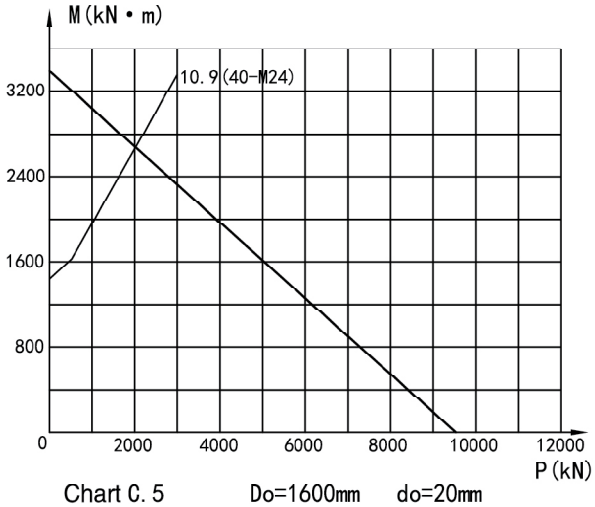


Chart C. 5 Do=1600mm do=20mm

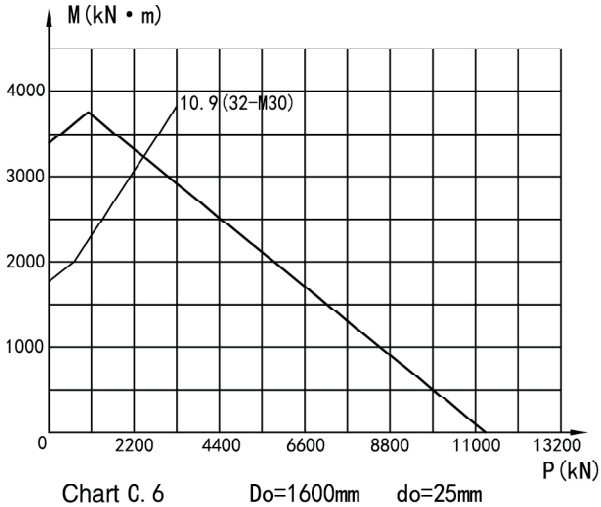


Chart C. 6 Do=1600mm do=25mm

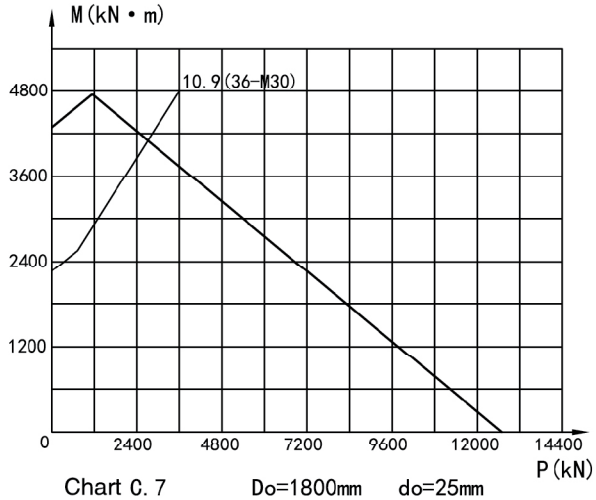


Chart C. 7 Do=1800mm do=25mm

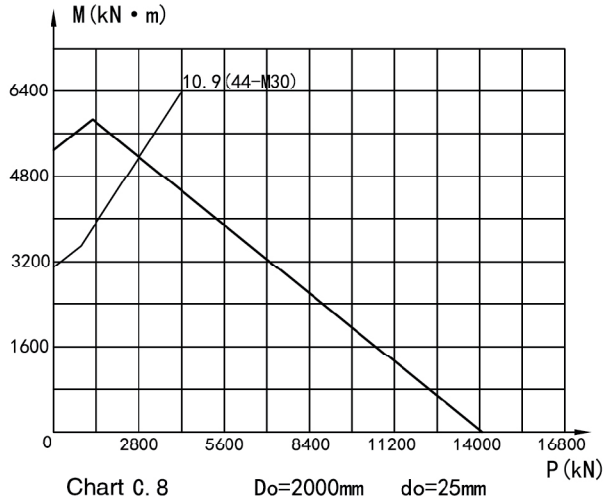


Chart C. 8 Do=2000mm do=25mm

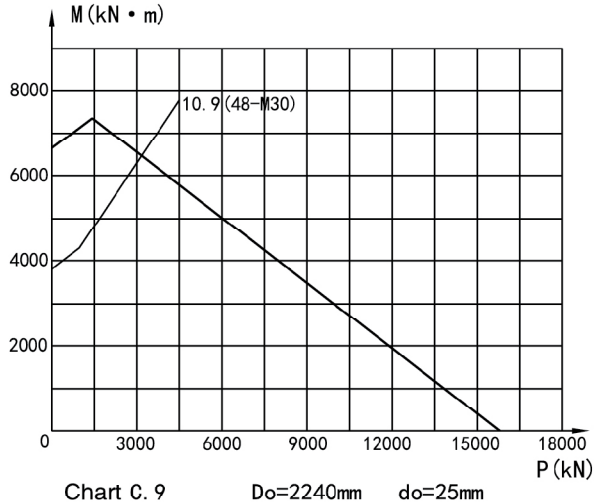


Chart C. 9 Do=2240mm do=25mm

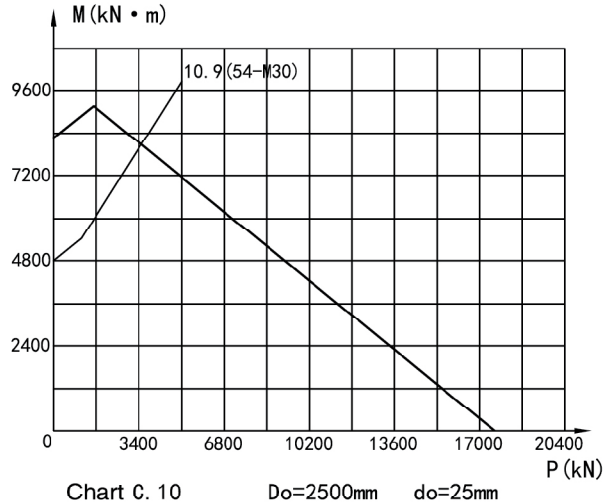


Chart C. 10 Do=2500mm do=25mm

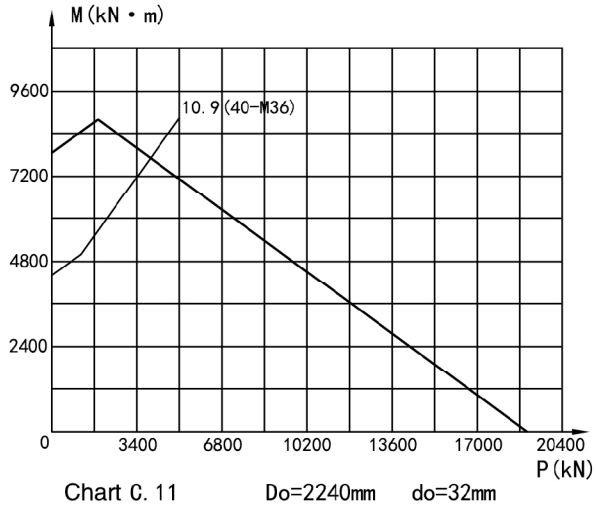


Chart C. 11 Do=2240mm do=32mm

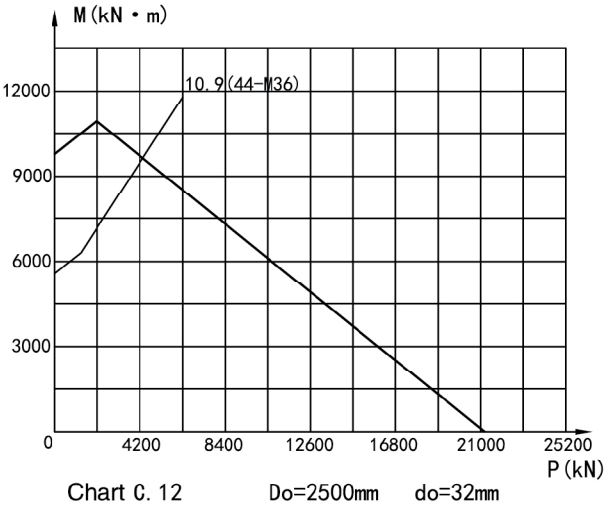


Chart C. 12 Do=2500mm do=32mm

Load Curve of S Series of Triple-Row Roller

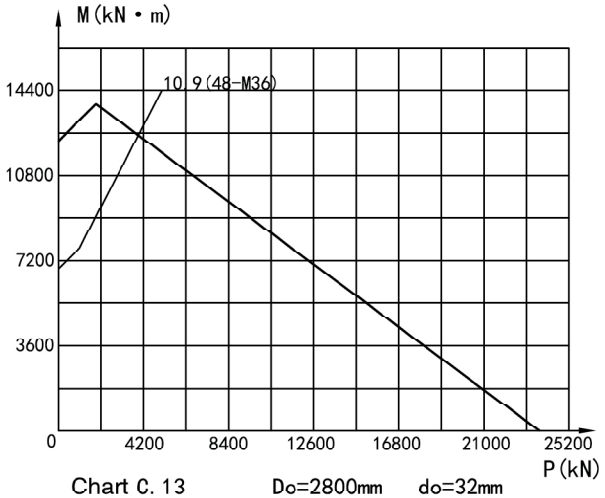


Chart C. 13 Do=2800mm do=32mm

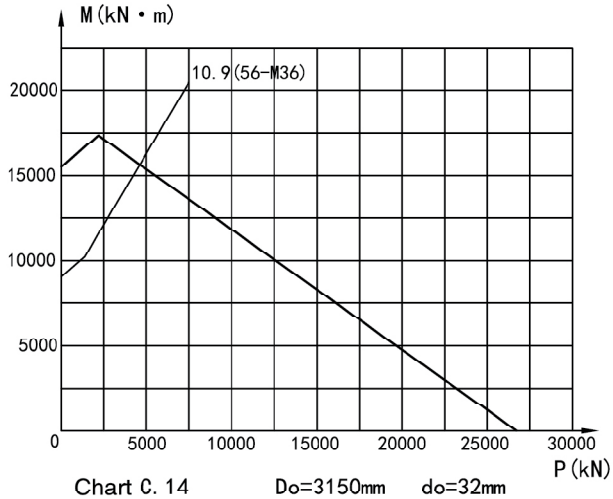


Chart C. 14 Do=3150mm do=32mm

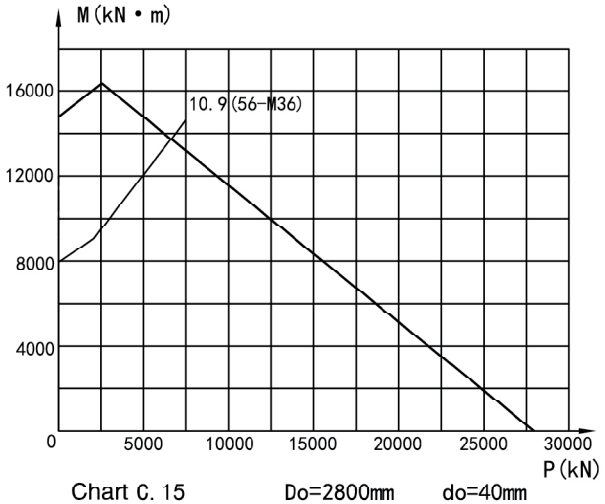


Chart C. 15 Do=2800mm do=40mm

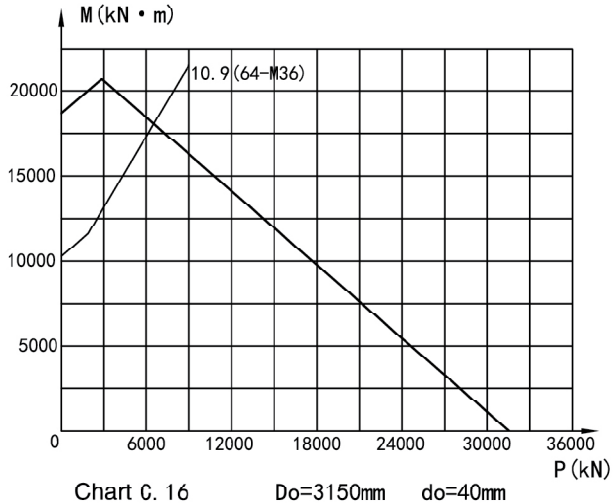


Chart C. 16 Do=3150mm do=40mm

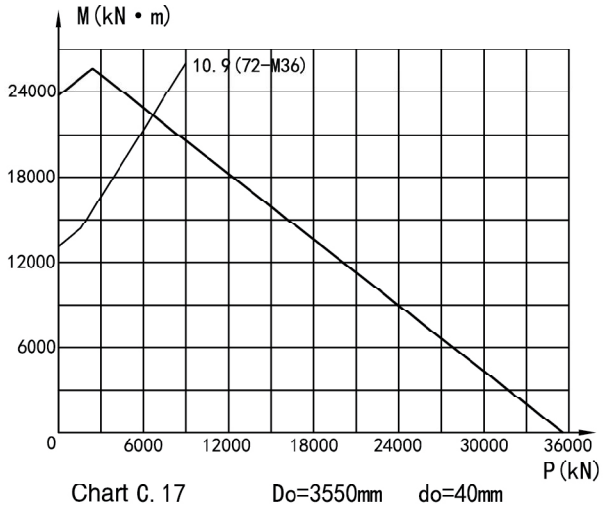


Chart C. 17 Do=3550mm do=40mm

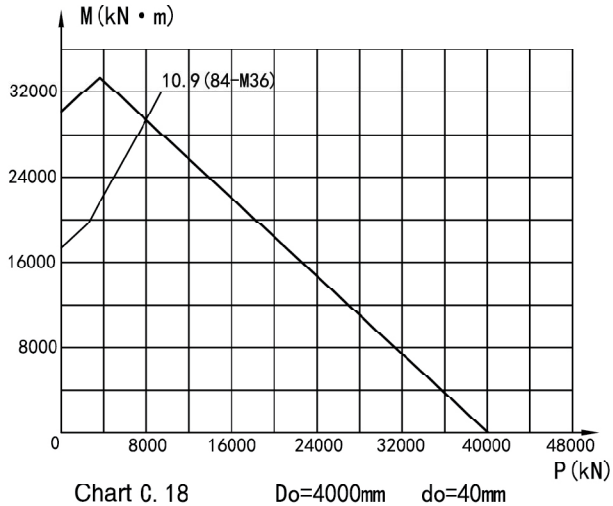


Chart C. 18 Do=4000mm do=40mm

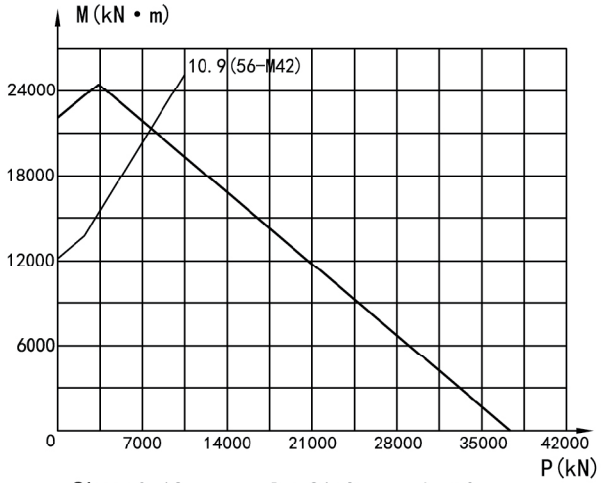


Chart C.19 Do=3150mm do=50mm

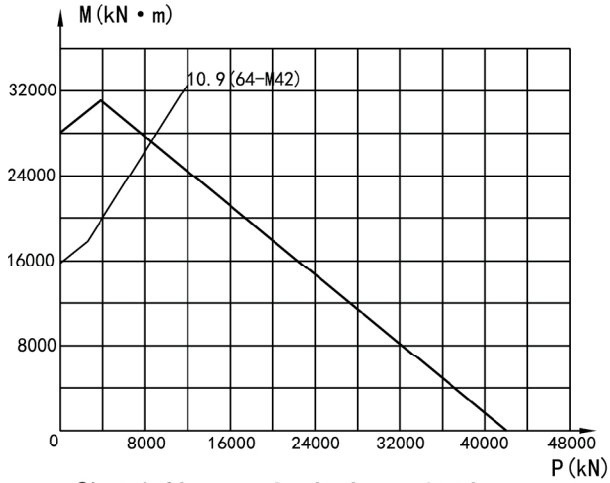


Chart C.20 Do=3550mm do=50mm

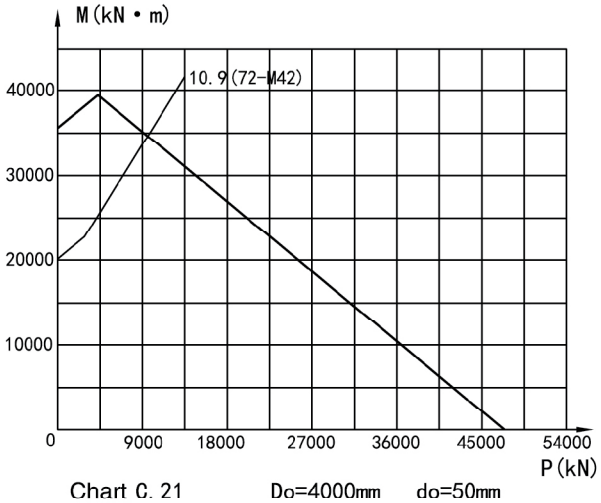


Chart C.21 Do=4000mm do=50mm

5. Load curve C.22- C.40: 13 series of triple-row roller

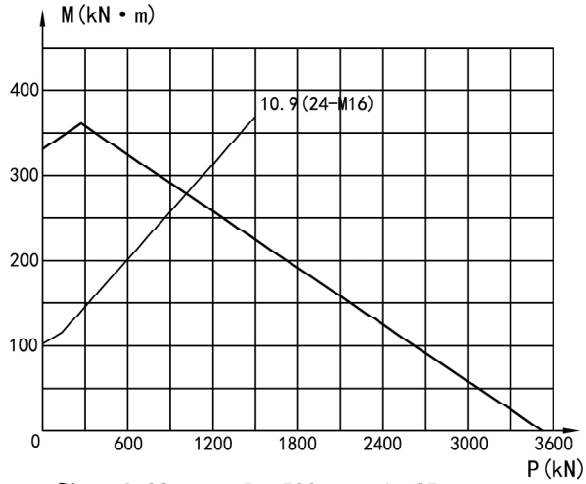


Chart C. 22 Do=500mm do=25mm

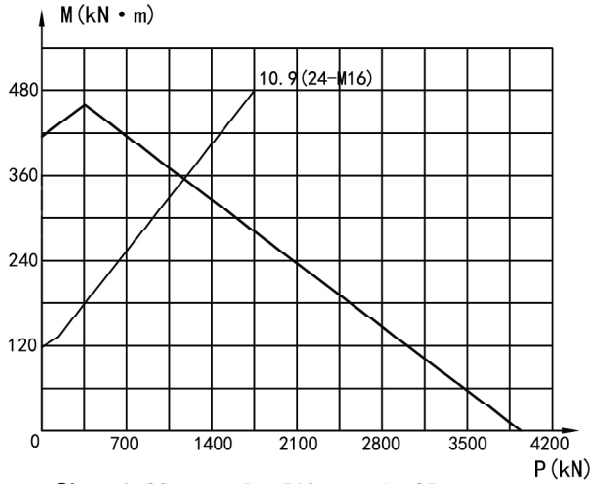


Chart C. 23 Do=560mm do=25mm

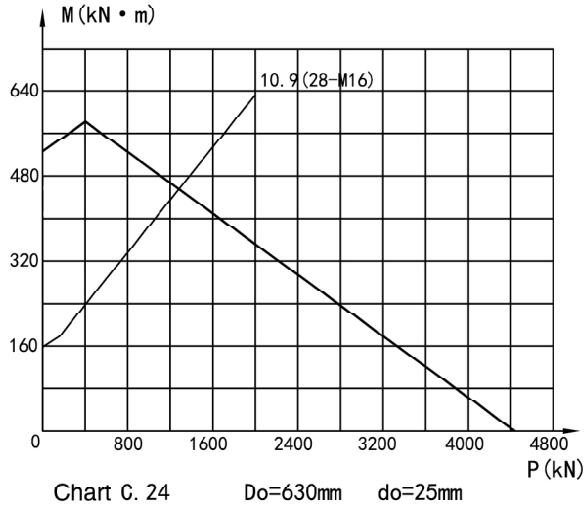


Chart C. 24 Do=630mm do=25mm

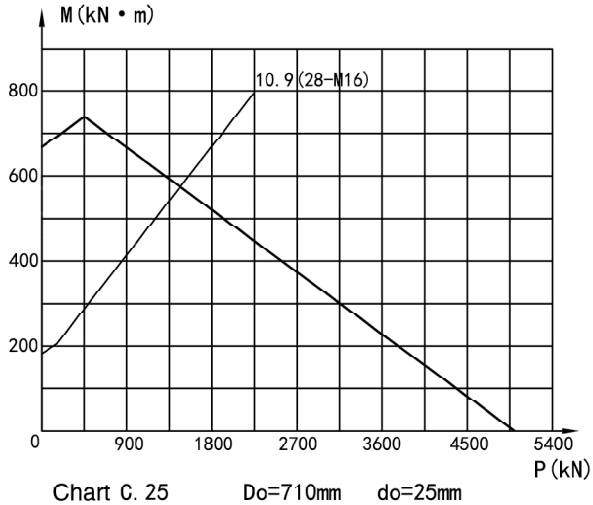


Chart C. 25 Do=710mm do=25mm

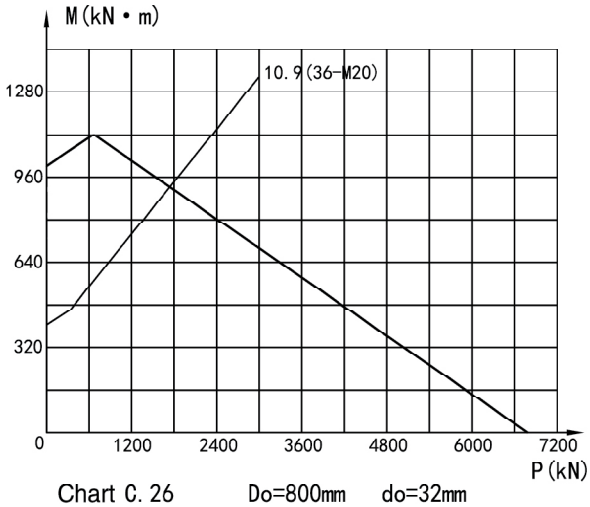


Chart C. 26 Do=800mm do=32mm

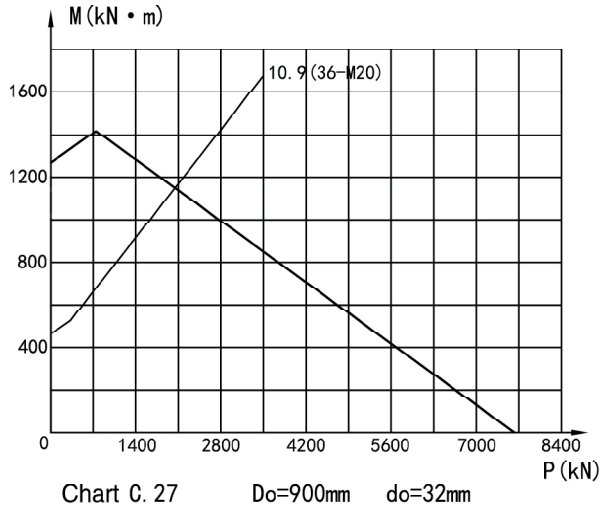


Chart C. 27 Do=900mm do=32mm

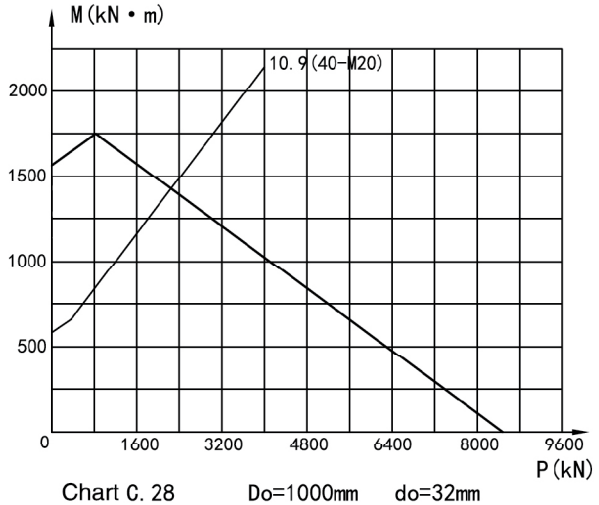


Chart C. 28 Do=1000mm do=32mm

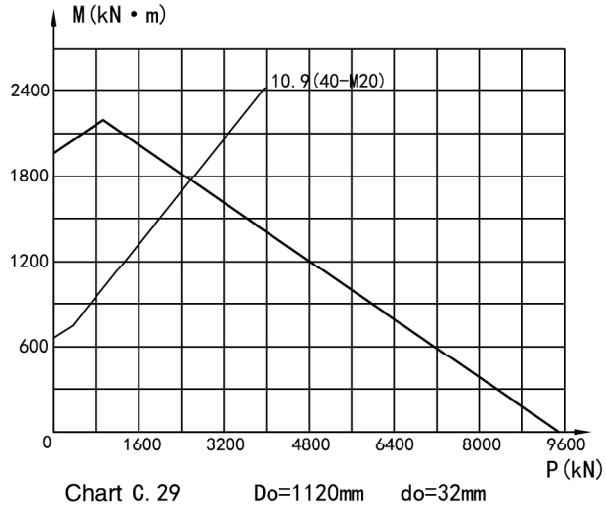


Chart C. 29 Do=1120mm do=32mm

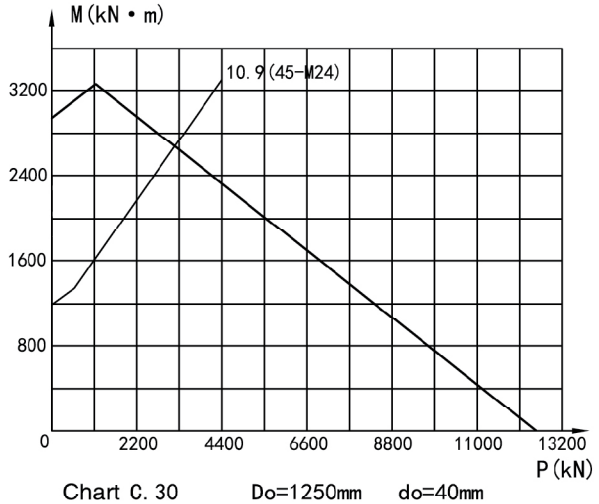


Chart C. 30 Do=1250mm do=40mm

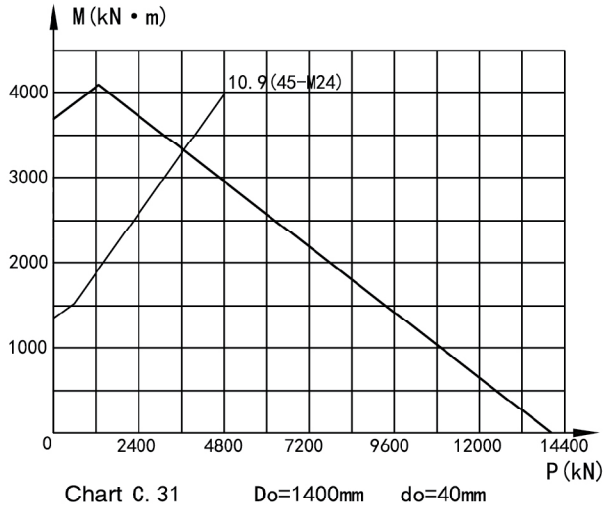


Chart C. 31 Do=1400mm do=40mm

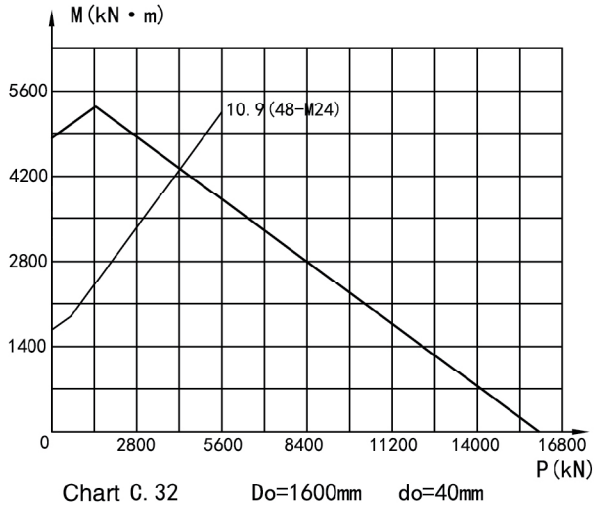


Chart C. 32 Do=1600mm do=40mm

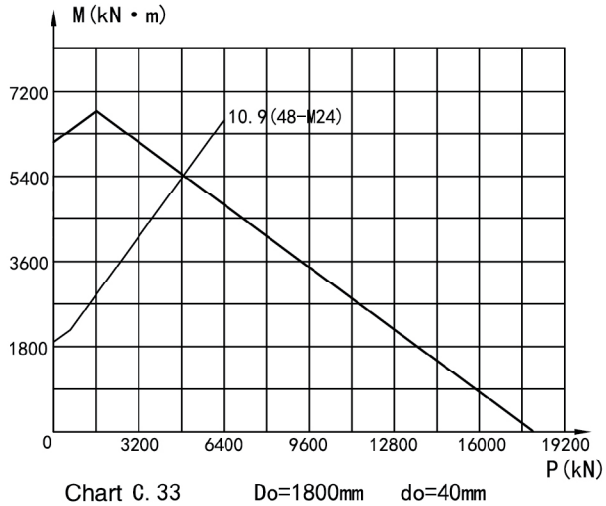


Chart C. 33 Do=1800mm do=40mm

Load Curve of 13 Series of Triple–Row Roller

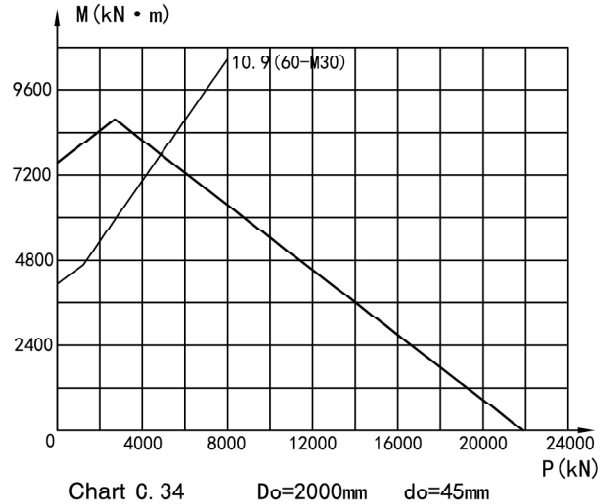


Chart C. 34 Do=2000mm do=45mm

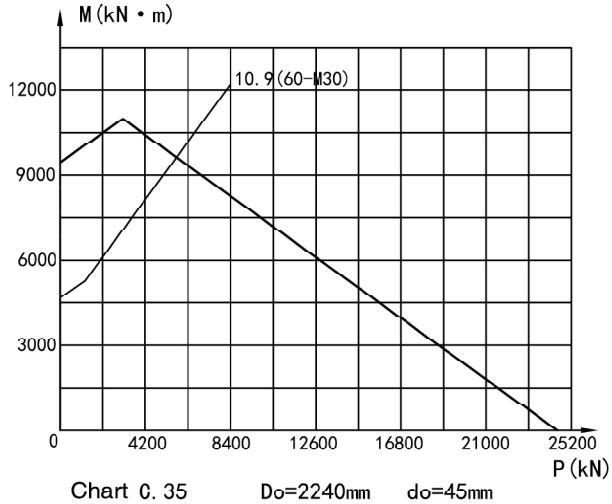


Chart C. 35 Do=2240mm do=45mm

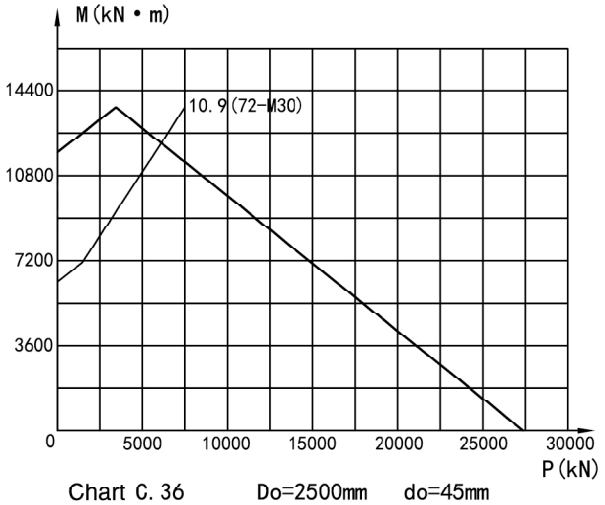


Chart C. 36 Do=2500mm do=45mm

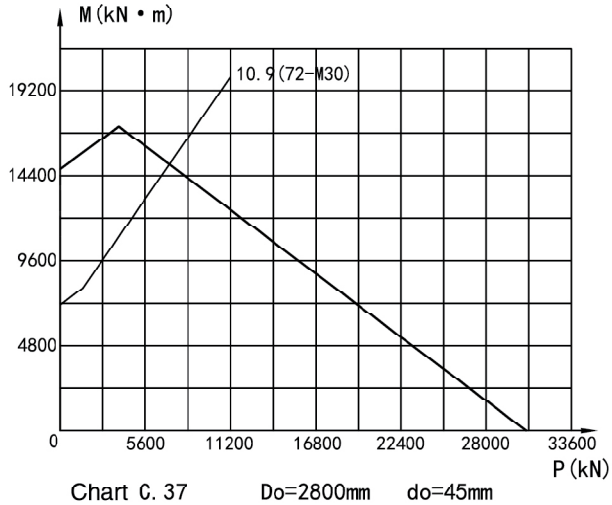


Chart C. 37 Do=2800mm do=45mm

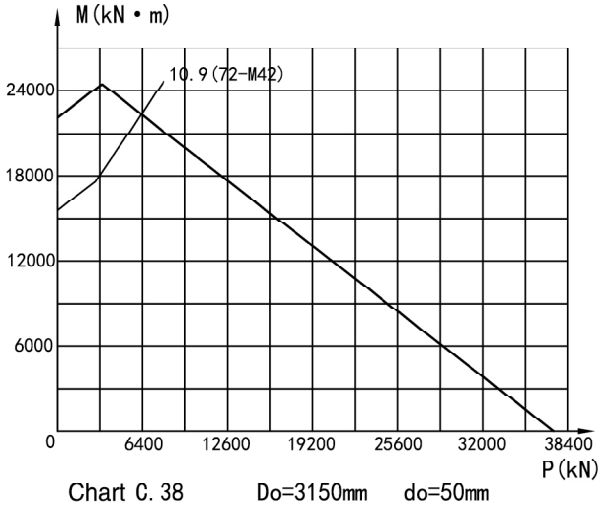


Chart C. 38 Do=3150mm do=50mm

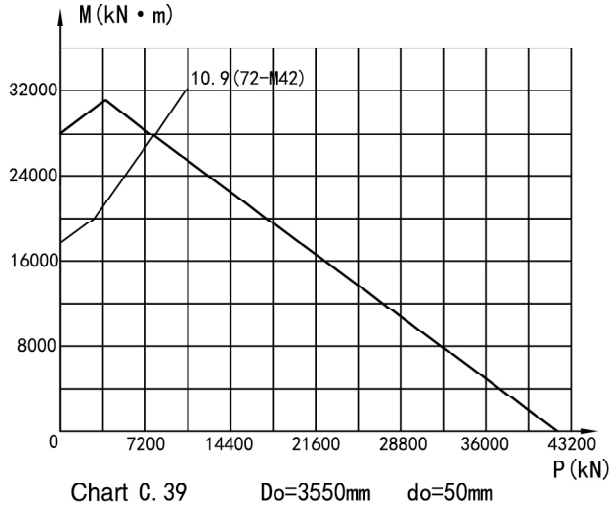


Chart C. 39 Do=3550mm do=50mm

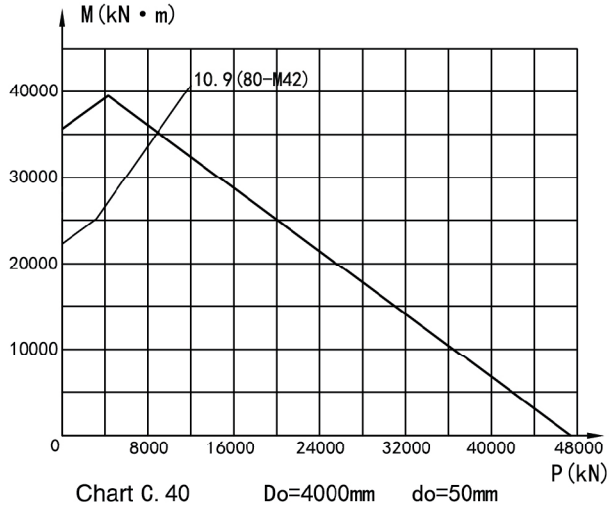


Chart C. 40 Do=4000mm do=50mm

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